APPENDIX B

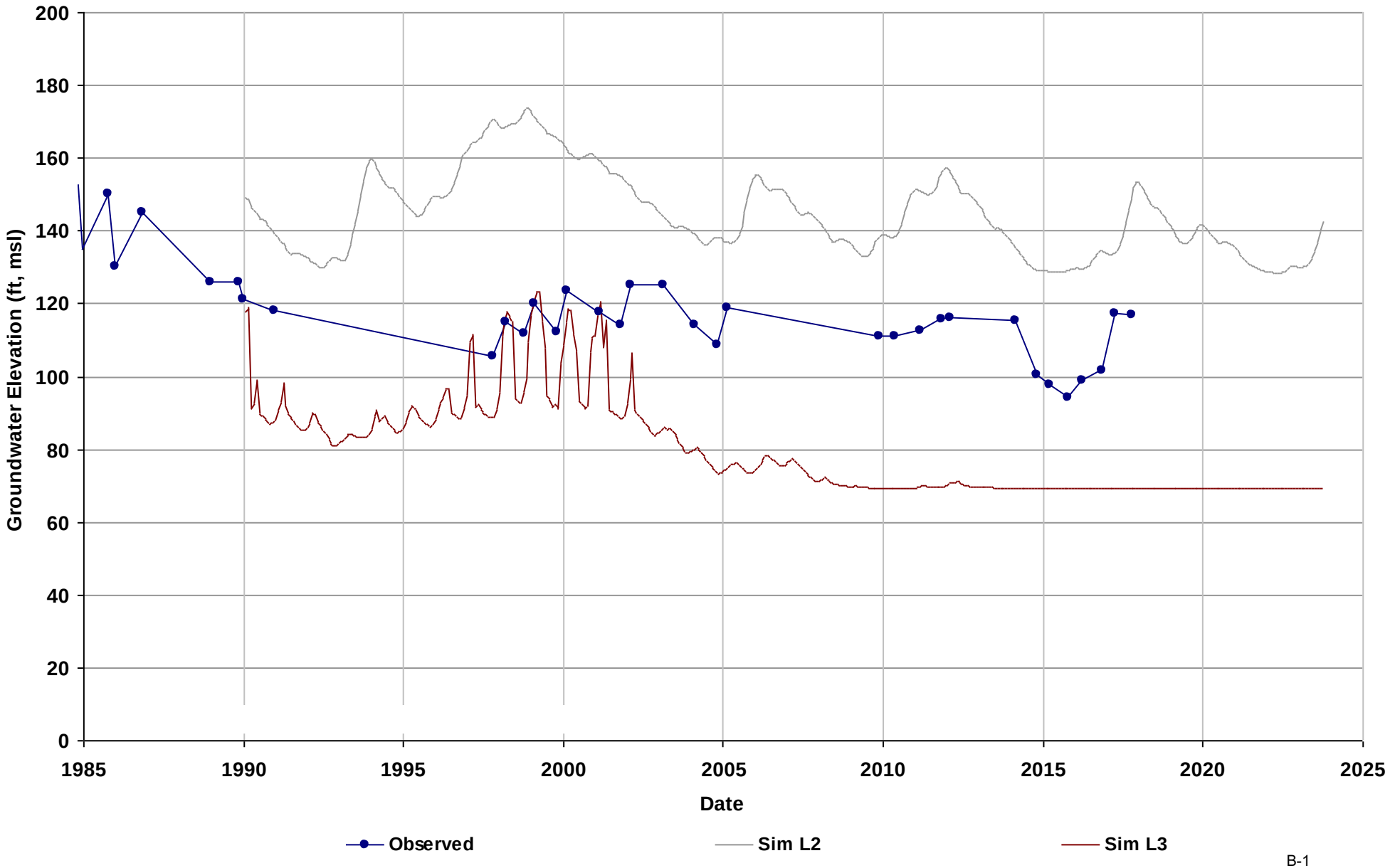
Groundwater Elevation Calibration Hydrographs

LSCE

Well Name: 09S14E14R001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 179

Average Residual (feet): 2.98
Layer 1:
Layer 2: 34.39
Layer 3: -28.42
Layer 4:
Layer 5:
Layer 6:

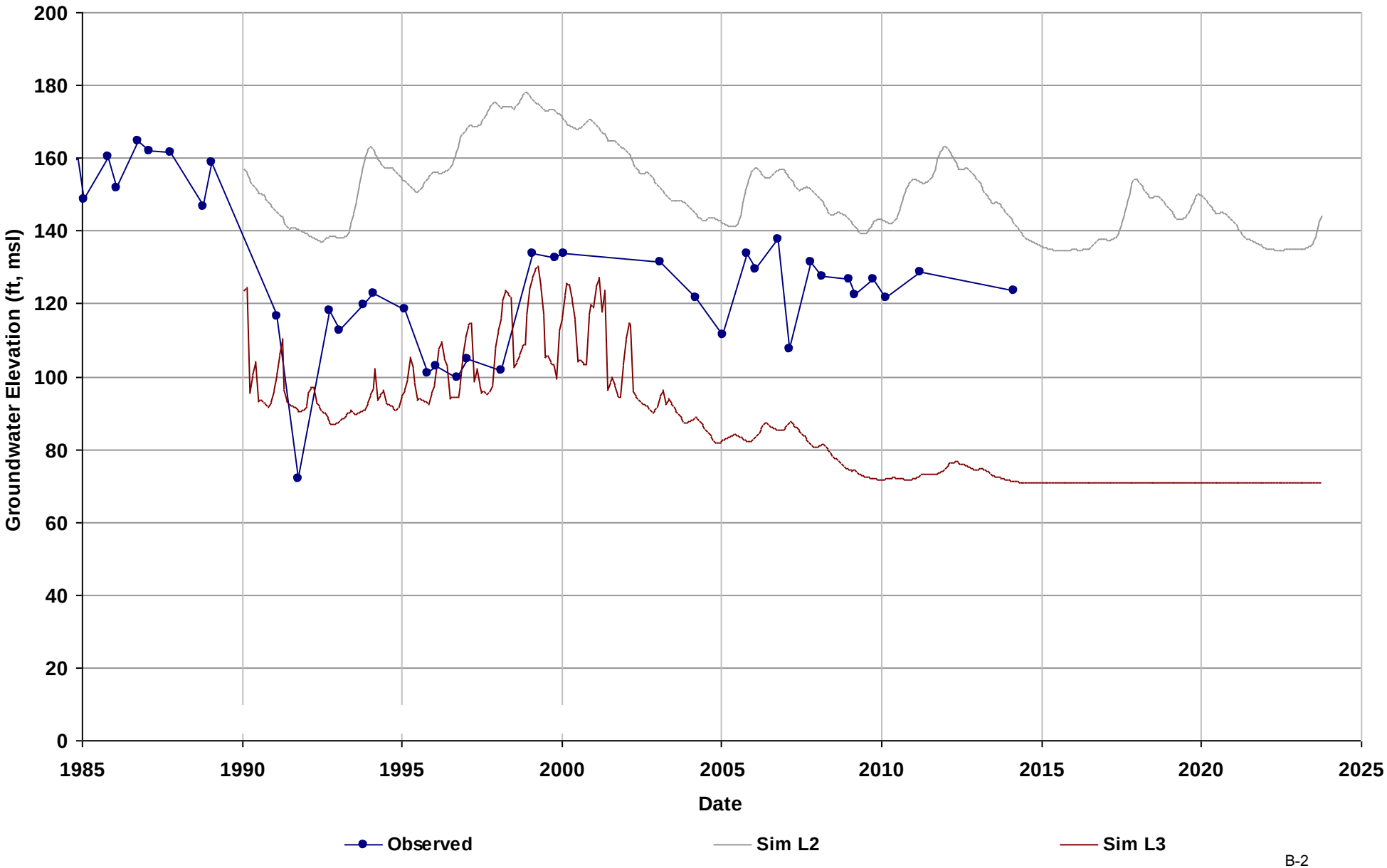
Total Depth (ft): 560
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 3



Well Name: 09S14E25A001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 187

Average Residual (feet): 2.12
Layer 1:
Layer 2: 32.79
Layer 3: -28.55
Layer 4:
Layer 5:
Layer 6:

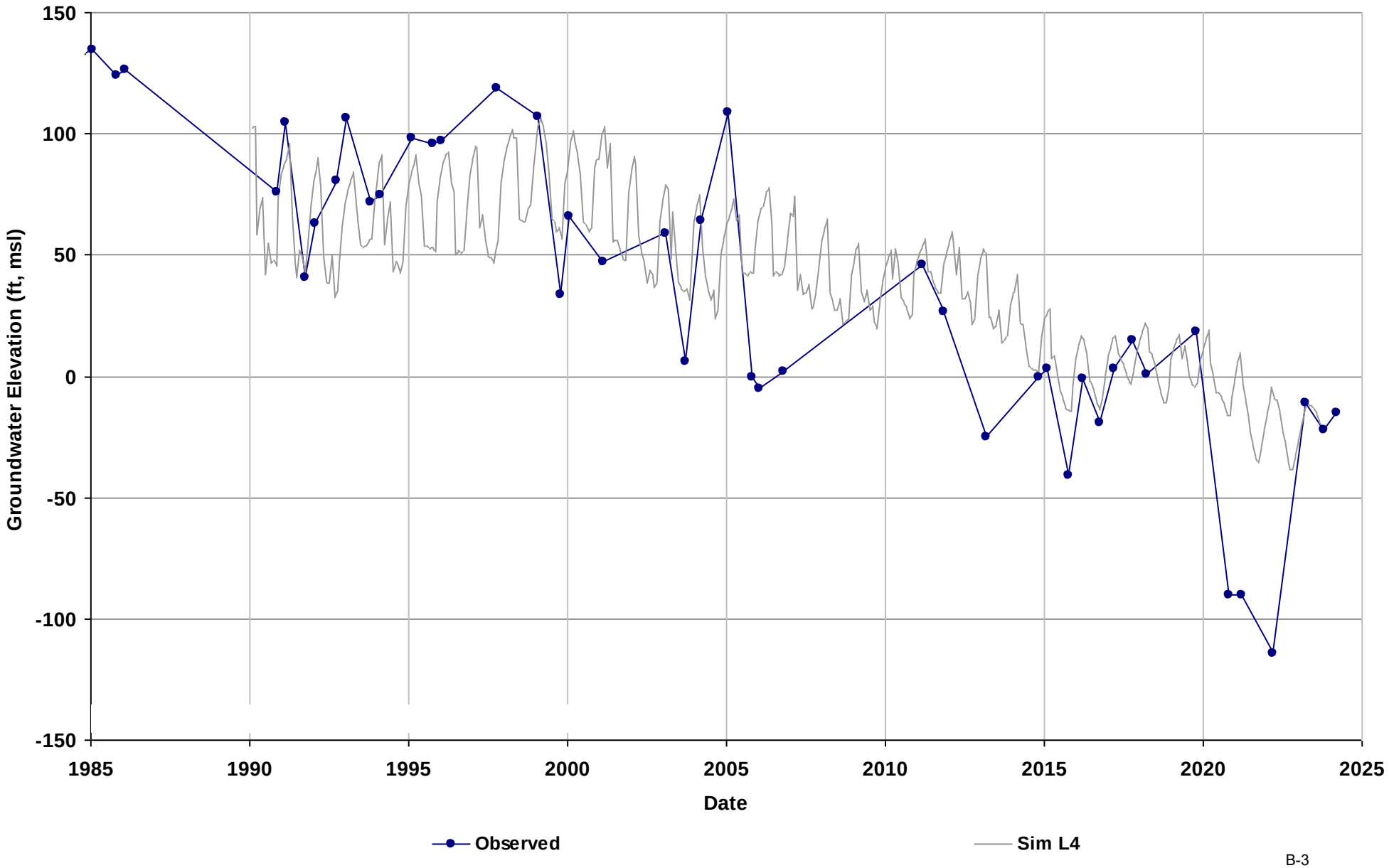
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 3



Well Name: 09S14E27R001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 168

Average Residual (feet): 12.42
Layer 1:
Layer 2:
Layer 3:
Layer 4: 12.42
Layer 5:
Layer 6:

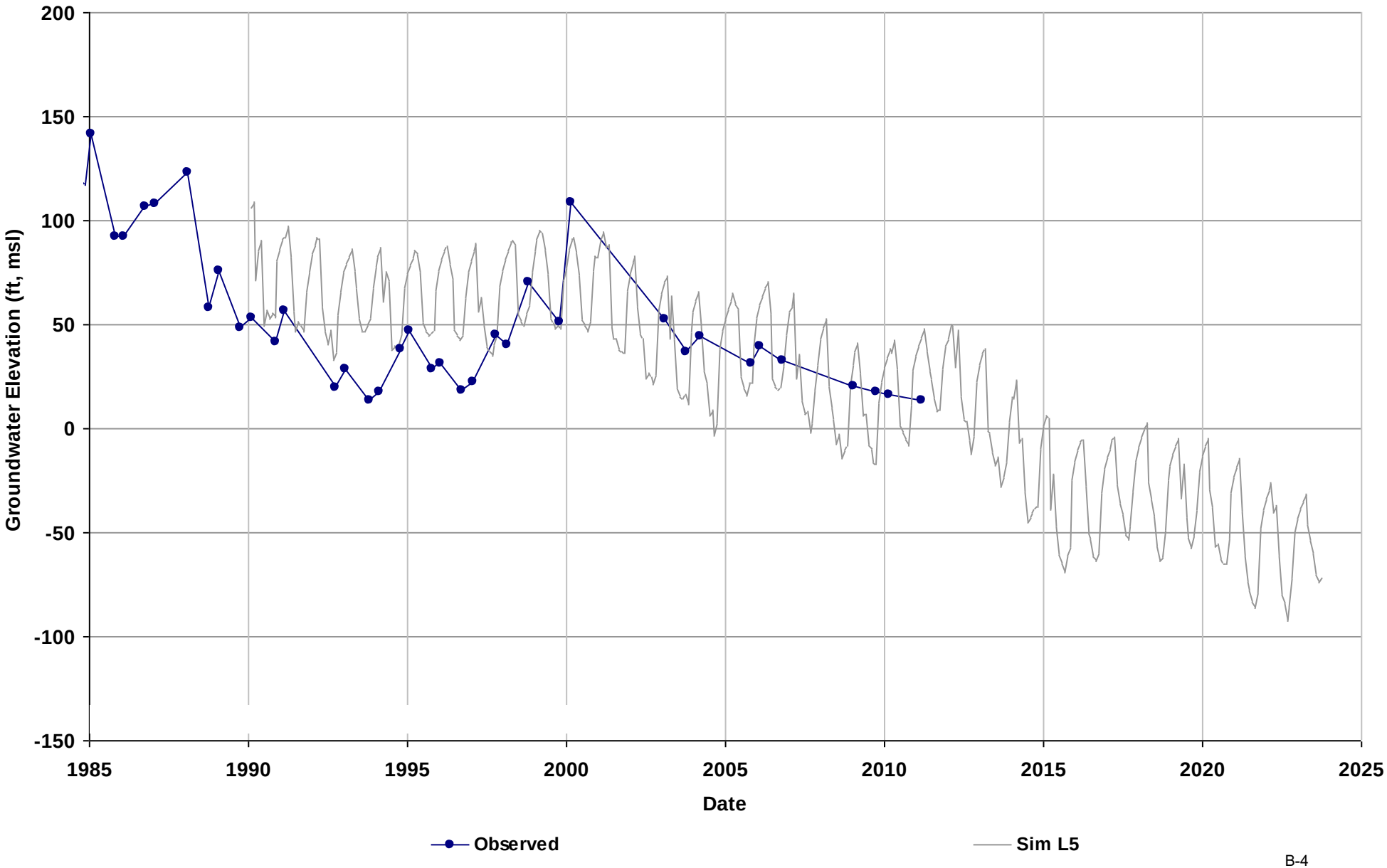
Total Depth (ft): 275
Perf Top (ft): 160
Perf Bottom (ft): 275
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 09S15E04R001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 214

Average Residual (feet): 19.47
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 19.47
Layer 6:

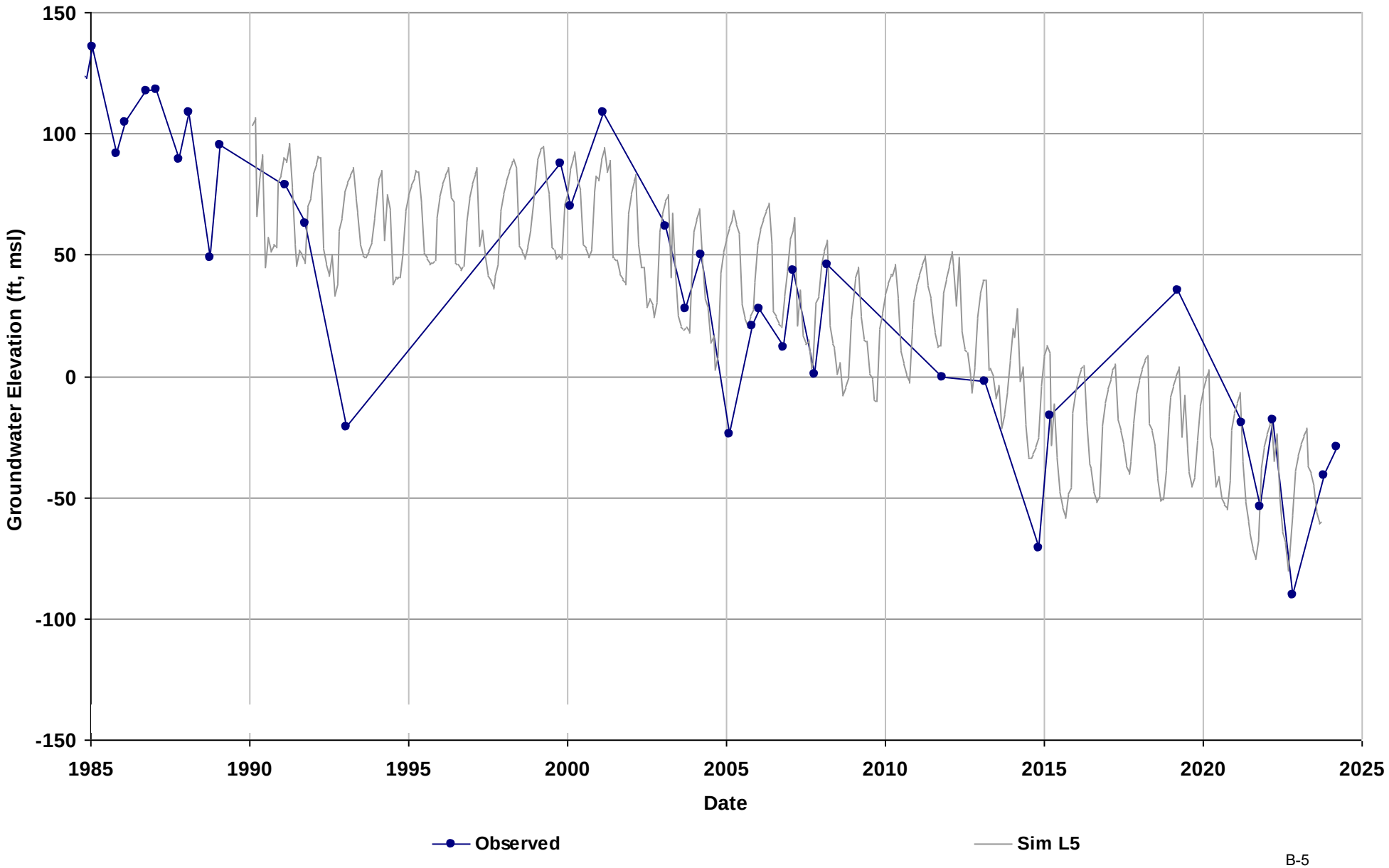
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 09S15E06P001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 191

Average Residual (feet): 15.59
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 15.59
Layer 6:

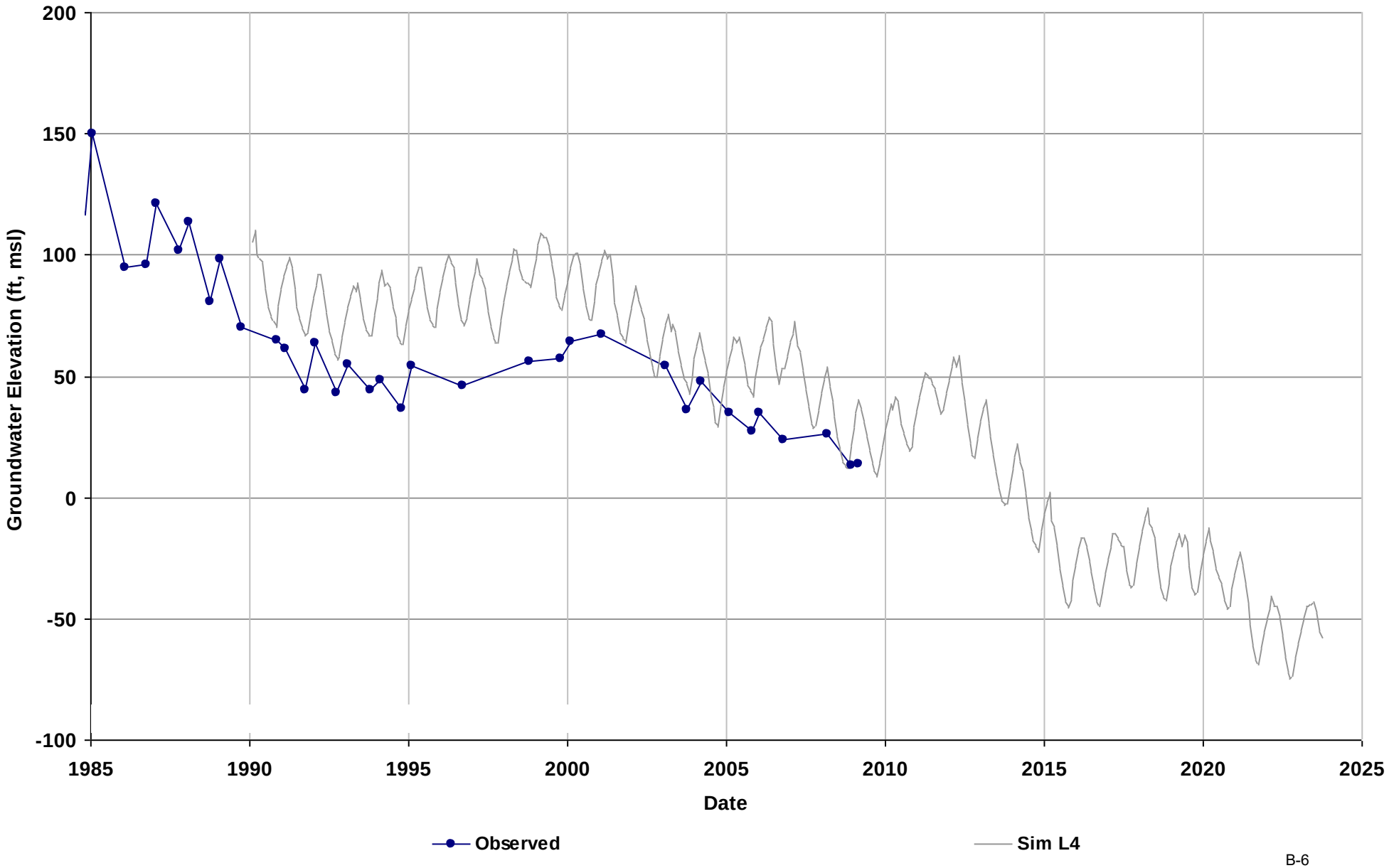
Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 09S15E13E002M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 233

Average Residual (feet): 21.82
Layer 1:
Layer 2:
Layer 3:
Layer 4: 21.82
Layer 5:
Layer 6:

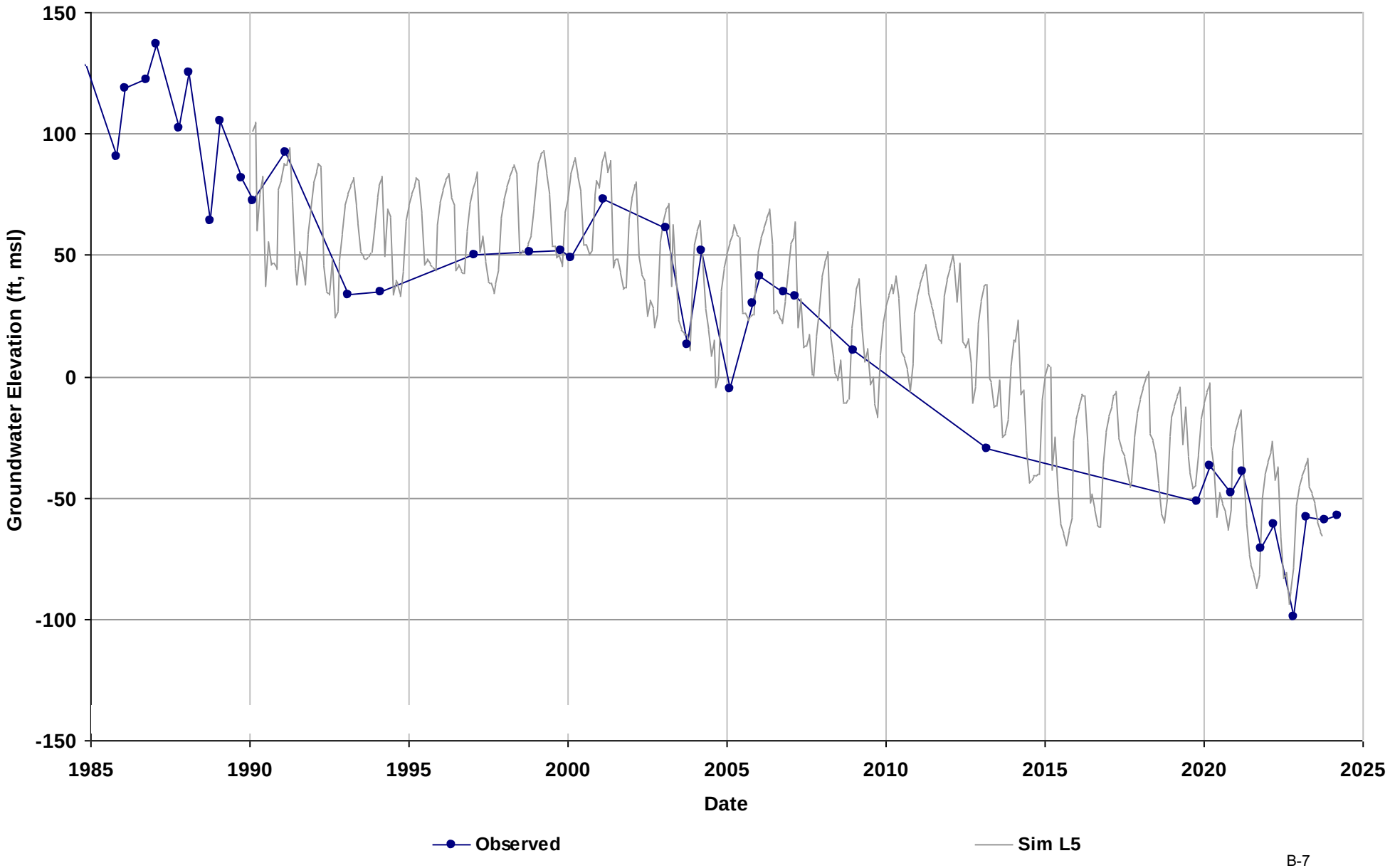
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 09S15E17R001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 206

Average Residual (feet): 16.84
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 16.84
Layer 6:

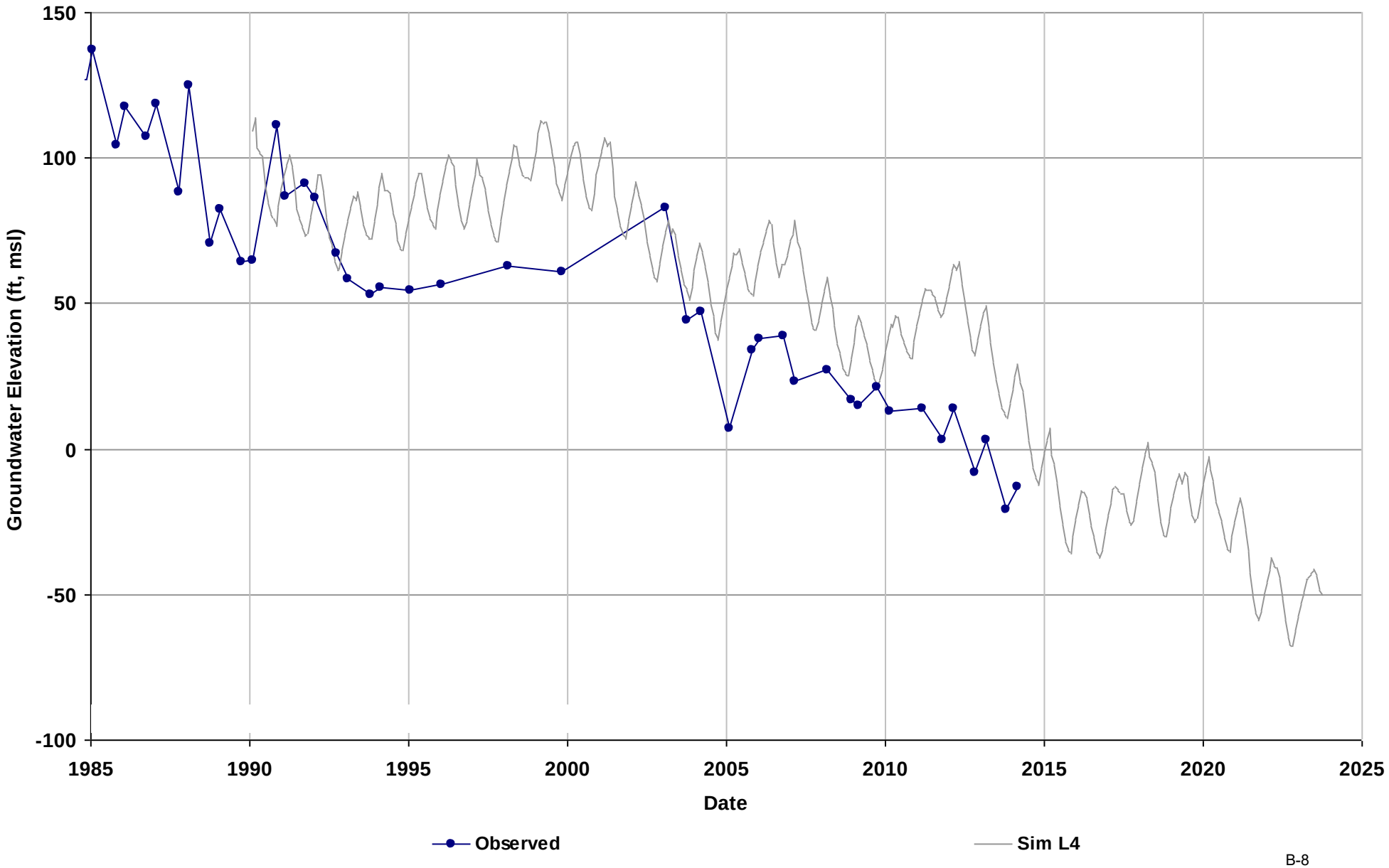
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 09S15E23J2
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 228

Average Residual (feet): 24.47
Layer 1:
Layer 2:
Layer 3:
Layer 4: 24.47
Layer 5:
Layer 6:

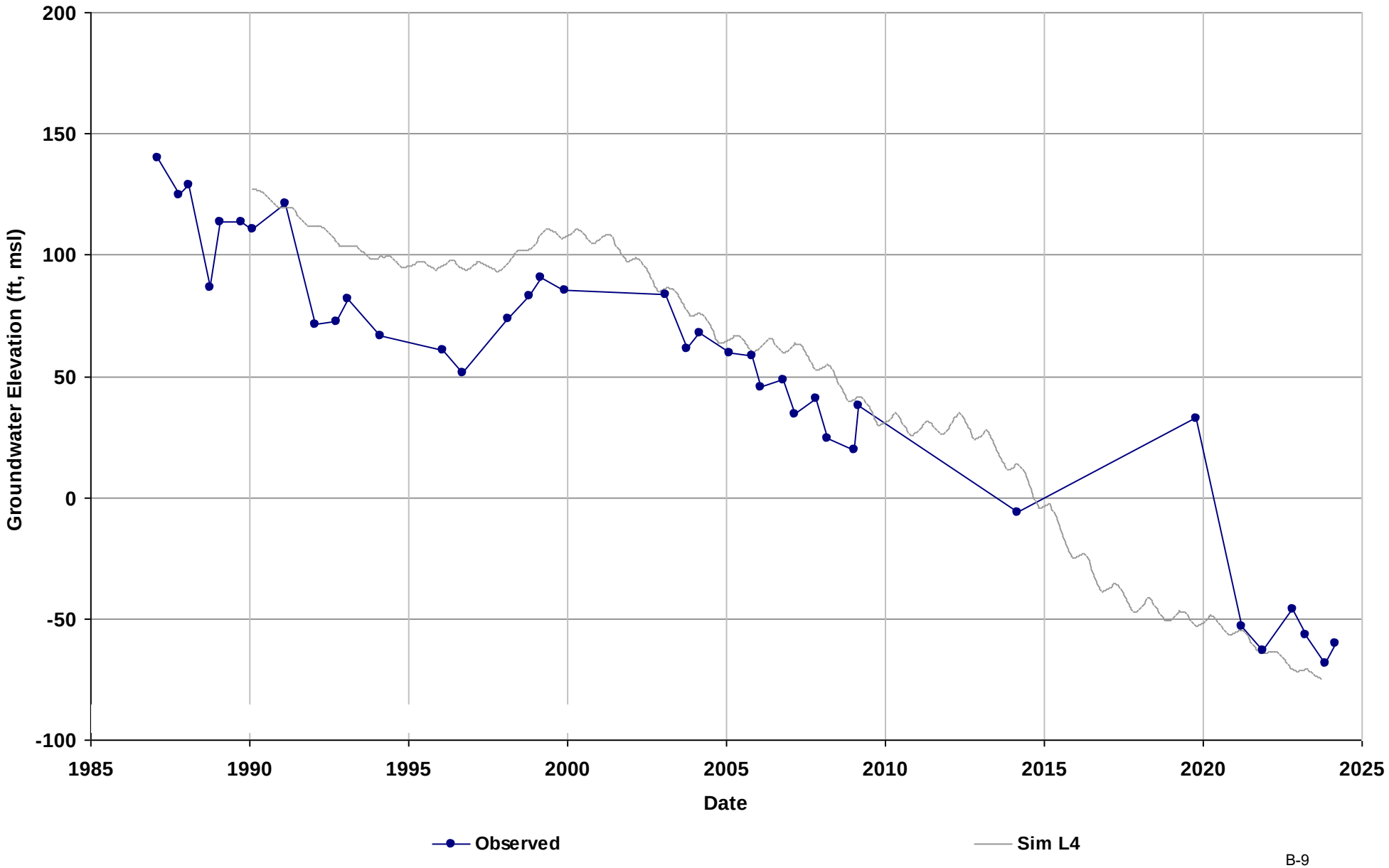
Total Depth (ft): 291
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 09S16E15B001M
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 276

Average Residual (feet): 12.74
Layer 1:
Layer 2:
Layer 3:
Layer 4: 12.74
Layer 5:
Layer 6:

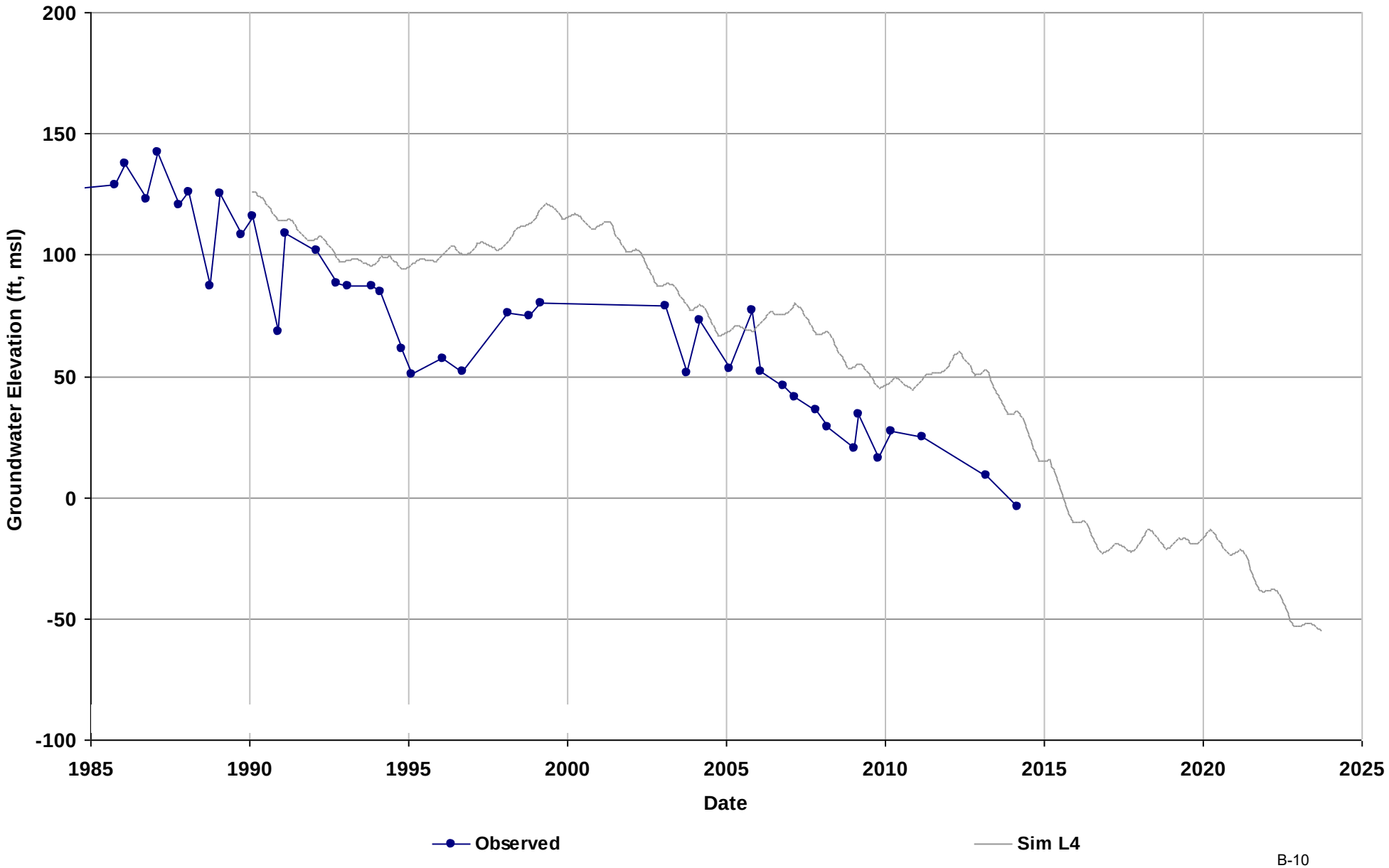
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 09S16E15Q001M
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 271

Average Residual (feet): 24.99
Layer 1:
Layer 2:
Layer 3:
Layer 4: 24.99
Layer 5:
Layer 6:

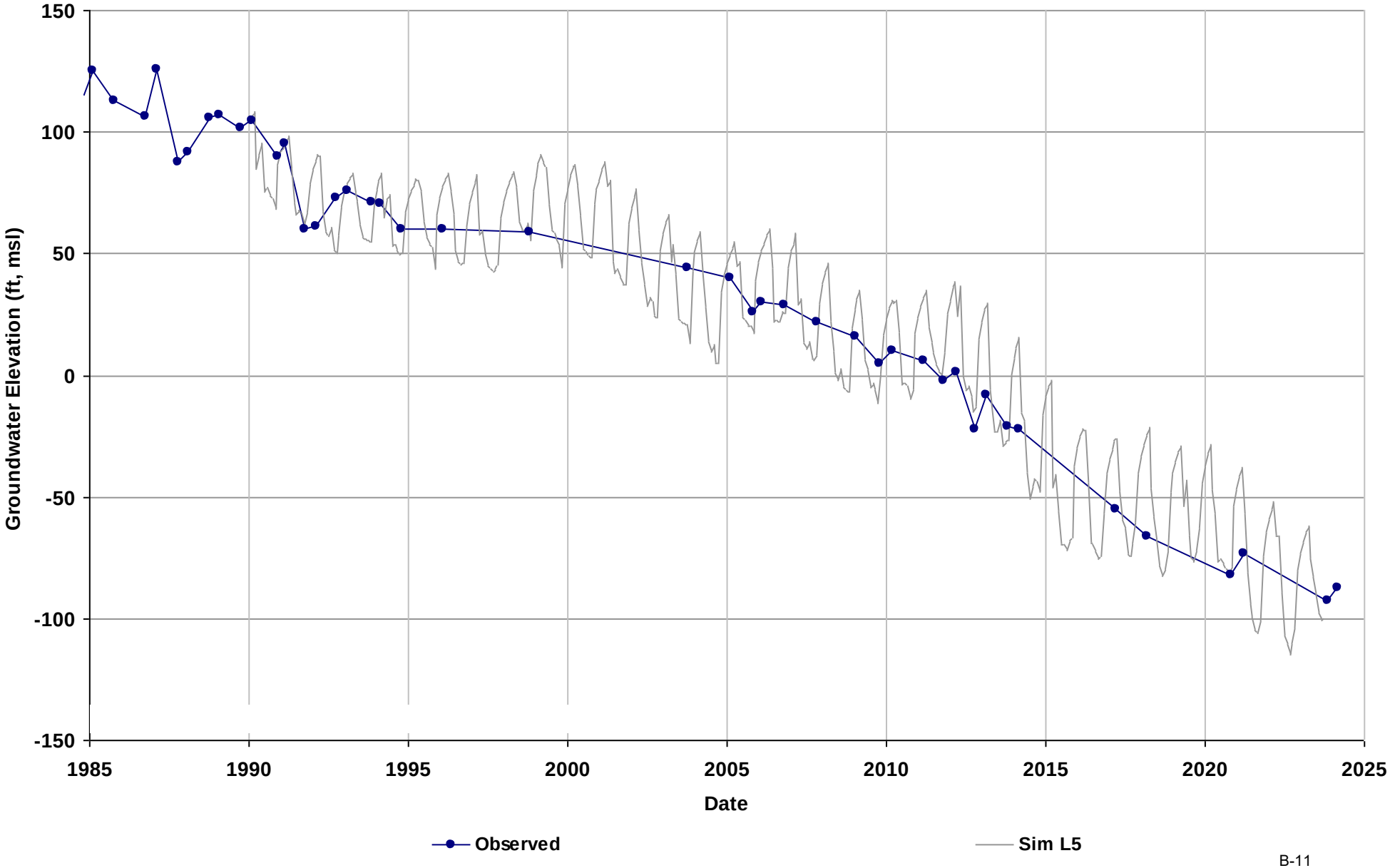
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 09S16E16N001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 272

Average Residual (feet): 6.09
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 6.09
Layer 6:

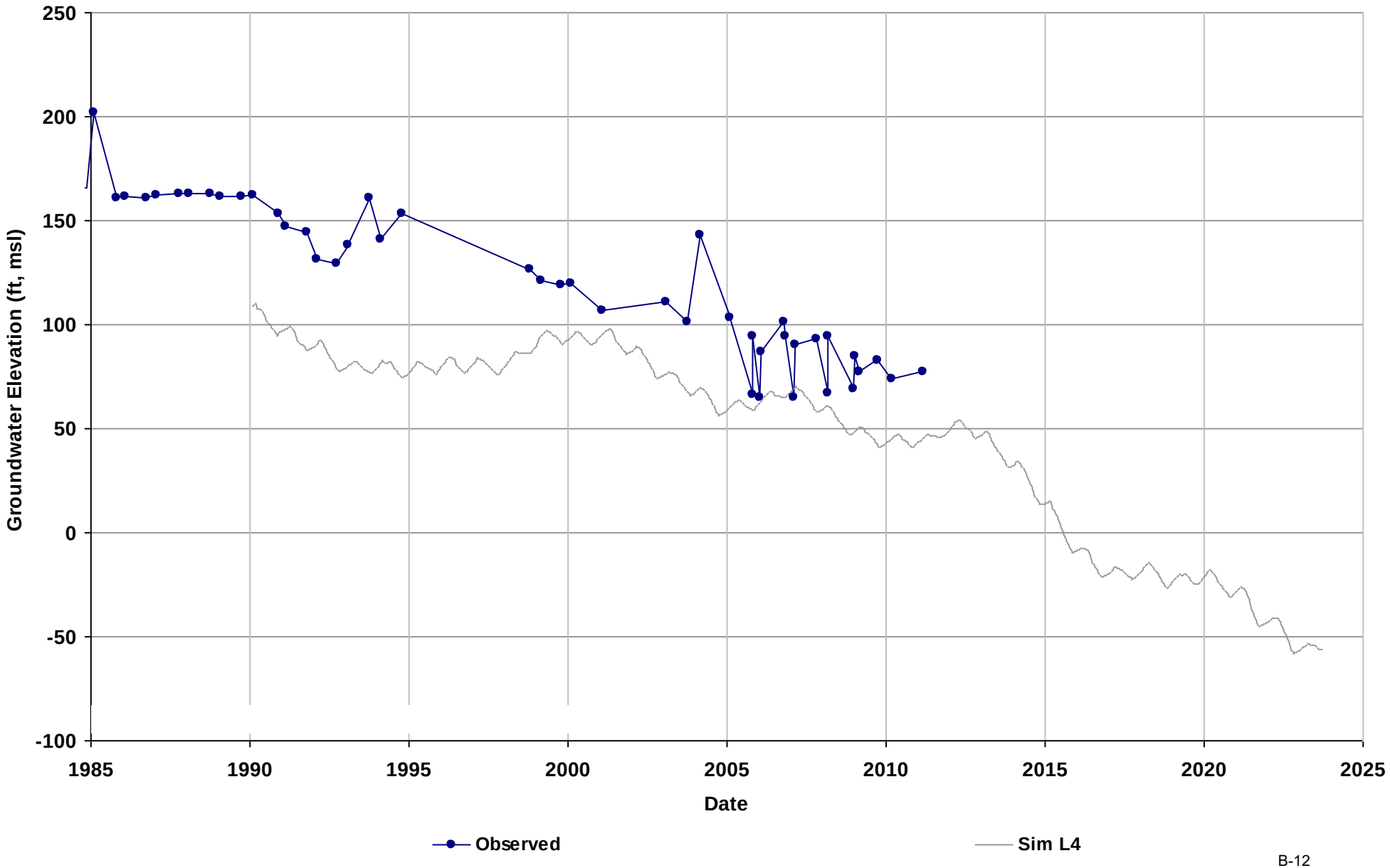
Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 09S16E34J001M
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 261

Average Residual (feet): 17.57
Layer 1:
Layer 2:
Layer 3: 72.51
Layer 4: -37.37
Layer 5:
Layer 6:

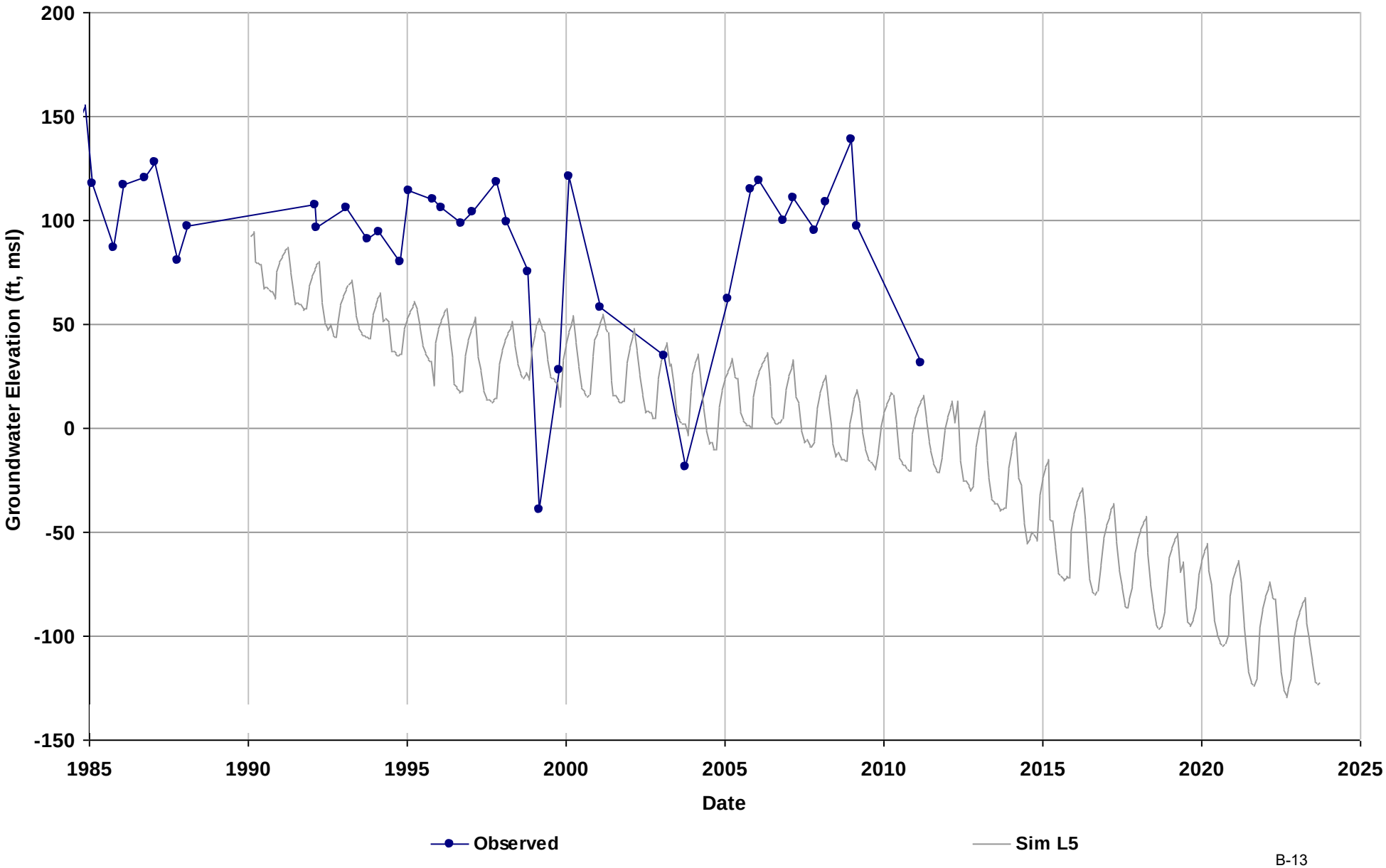
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 09S16E36J001M
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 280

Average Residual (feet): -46.54
Layer 1:
Layer 2:
Layer 3:
Layer 4: -40.6
Layer 5: -52.48
Layer 6:

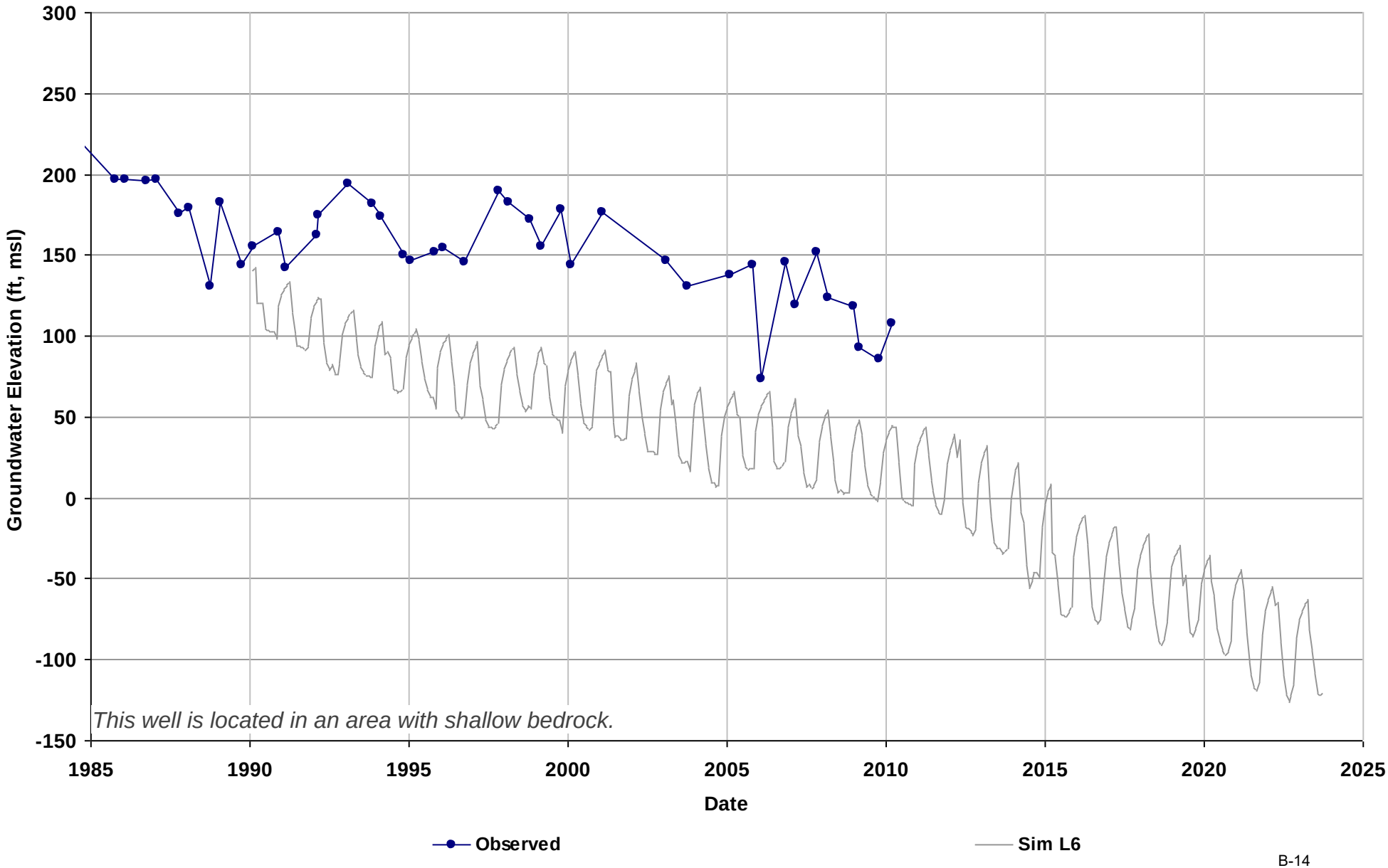
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 09S17E17F001M
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 292

Average Residual (feet): -73.89
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: -73.89

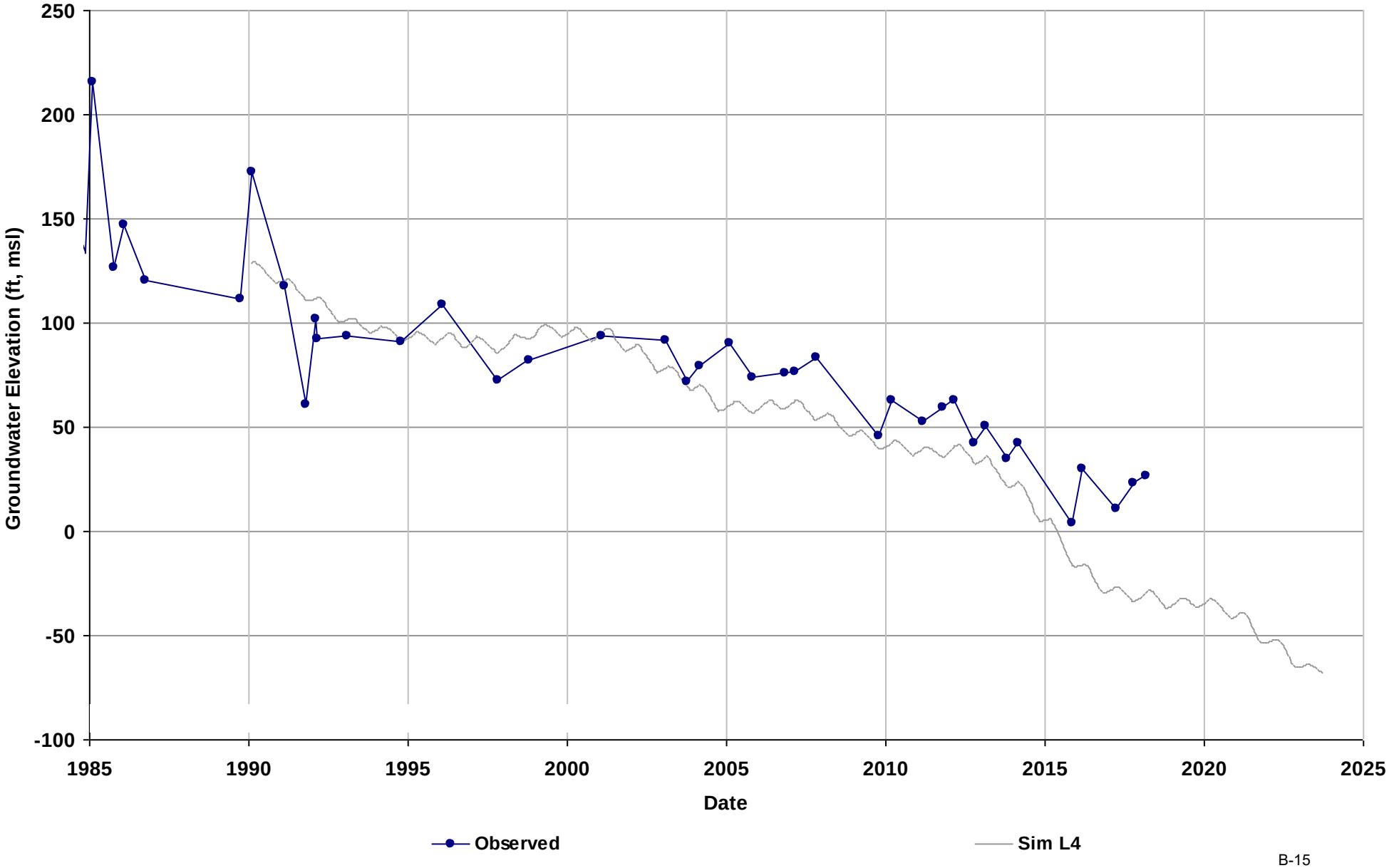
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 09S17E19L001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 299

Average Residual (feet): -12.34
Layer 1:
Layer 2:
Layer 3:
Layer 4: -12.34
Layer 5:
Layer 6:

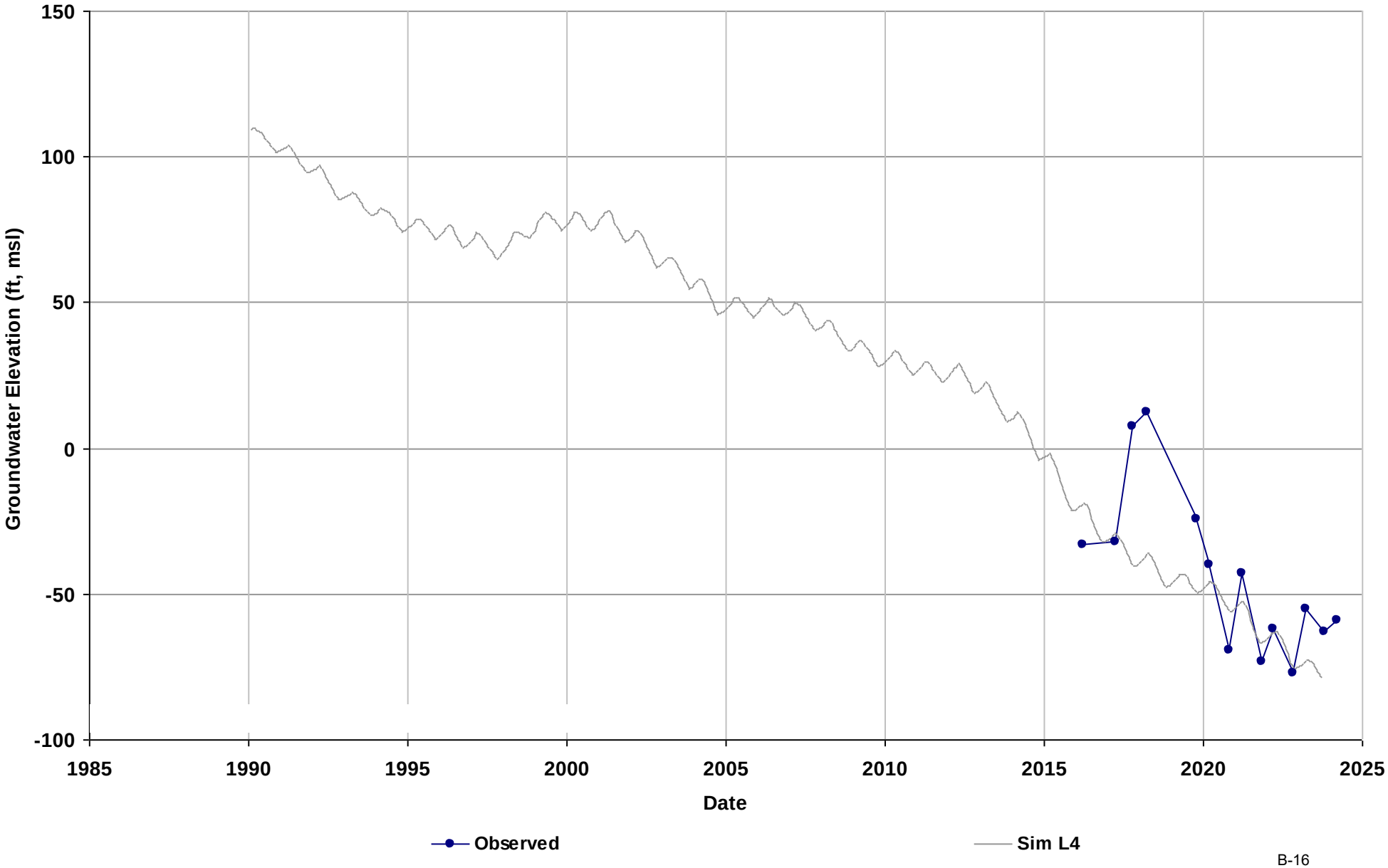
Total Depth (ft): 648
Perf Top (ft): 240
Perf Bottom (ft): 620
Top Model Layer: 3
Bottom Model Layer: 4



Well Name: 09S17E30A001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 275

Average Residual (feet): -9.92
Layer 1:
Layer 2:
Layer 3:
Layer 4: -9.92
Layer 5:
Layer 6:

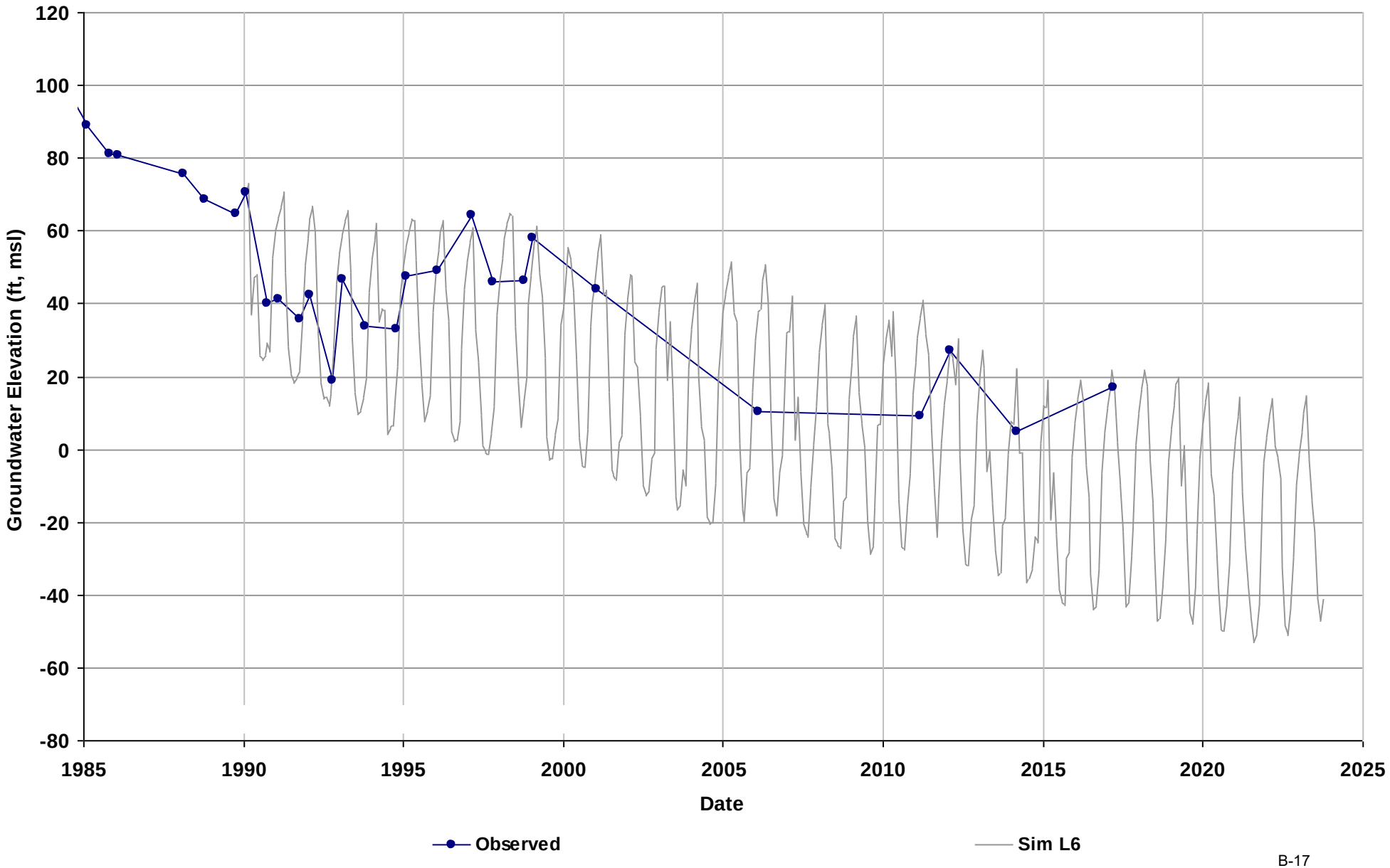
Total Depth (ft): 820
Perf Top (ft): 257
Perf Bottom (ft): 726
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S13E13J001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 133

Average Residual (feet): -2.05
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: -2.05

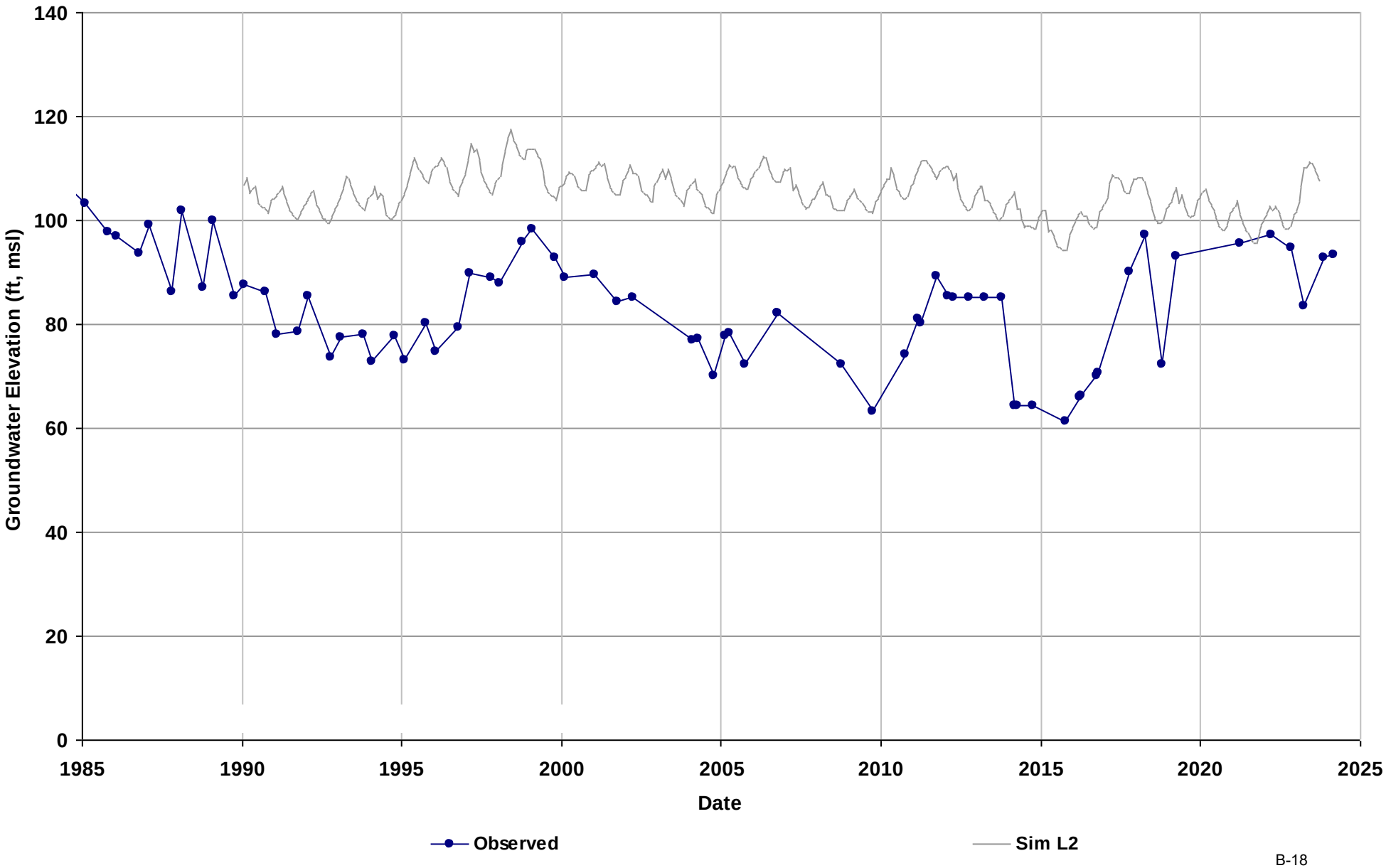
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S13E22R001M
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 12127

Average Residual (feet): 25.3
Layer 1: 26.73
Layer 2: 23.86
Layer 3:
Layer 4:
Layer 5:
Layer 6:

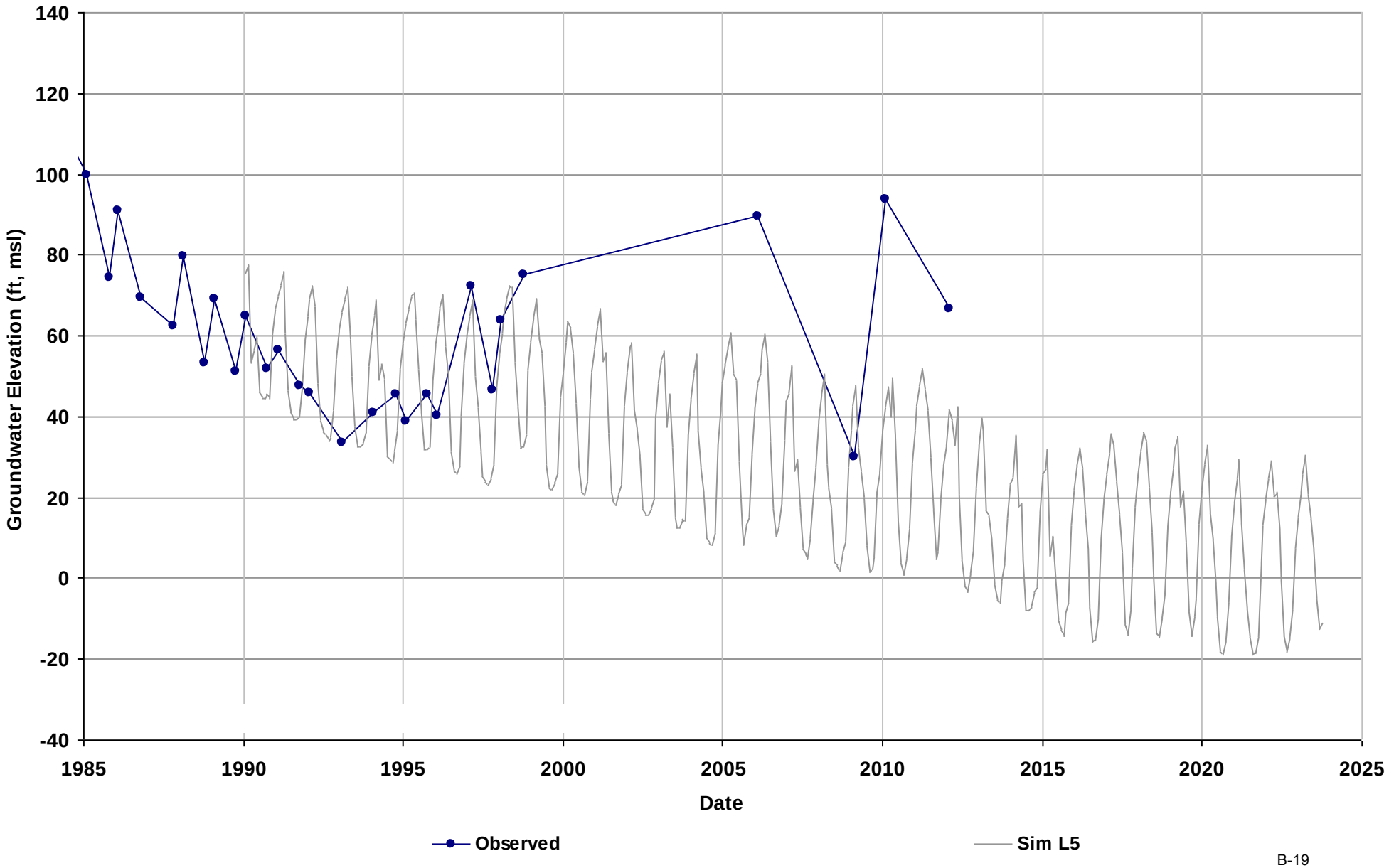
Total Depth (ft): 150
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 10S13E24L001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 129

Average Residual (feet): -3.33
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -2.58
Layer 6: -4.09

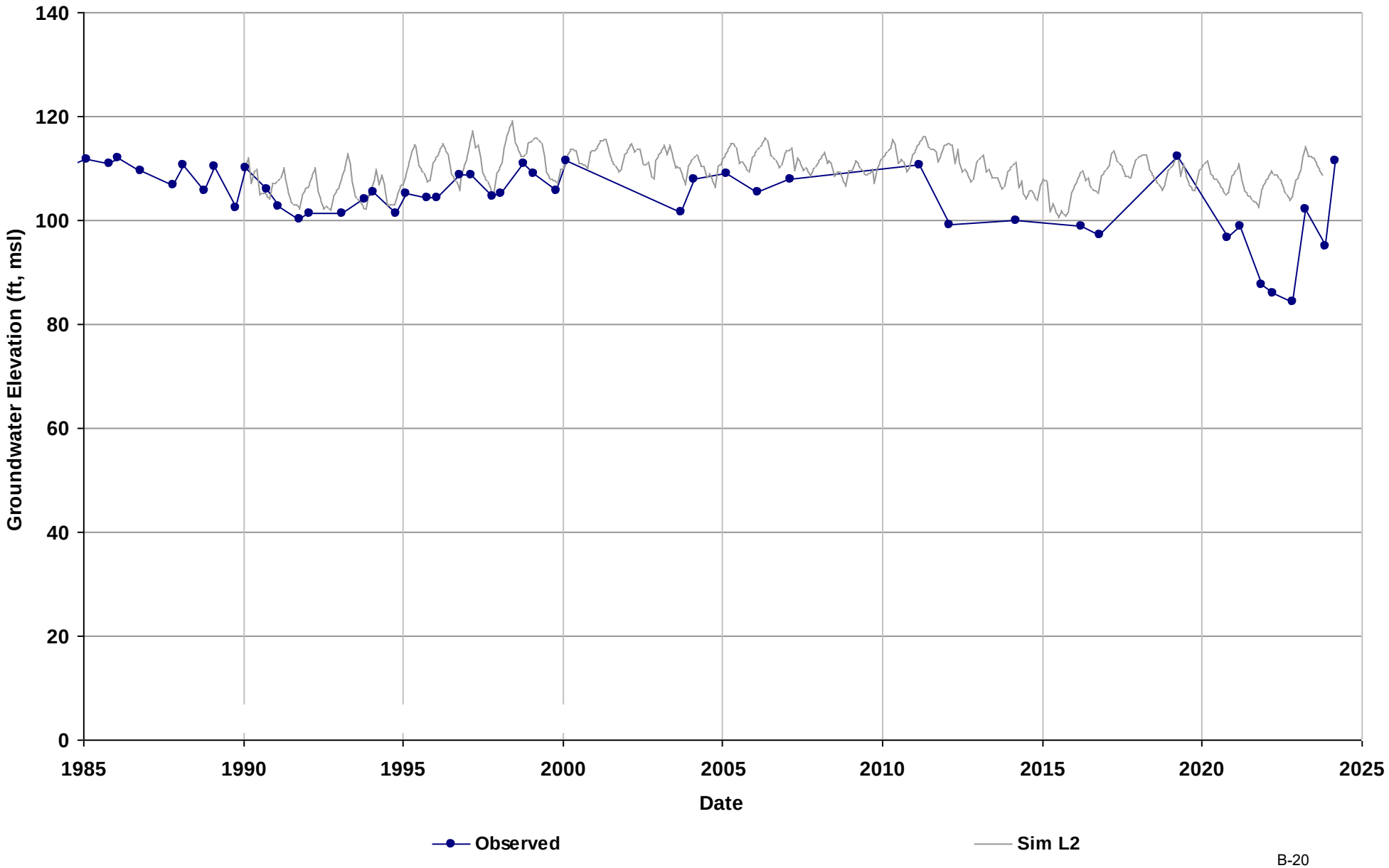
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S13E34G001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 123

Average Residual (feet): 6.1
Layer 1:
Layer 2: 6.1
Layer 3:
Layer 4:
Layer 5:
Layer 6:

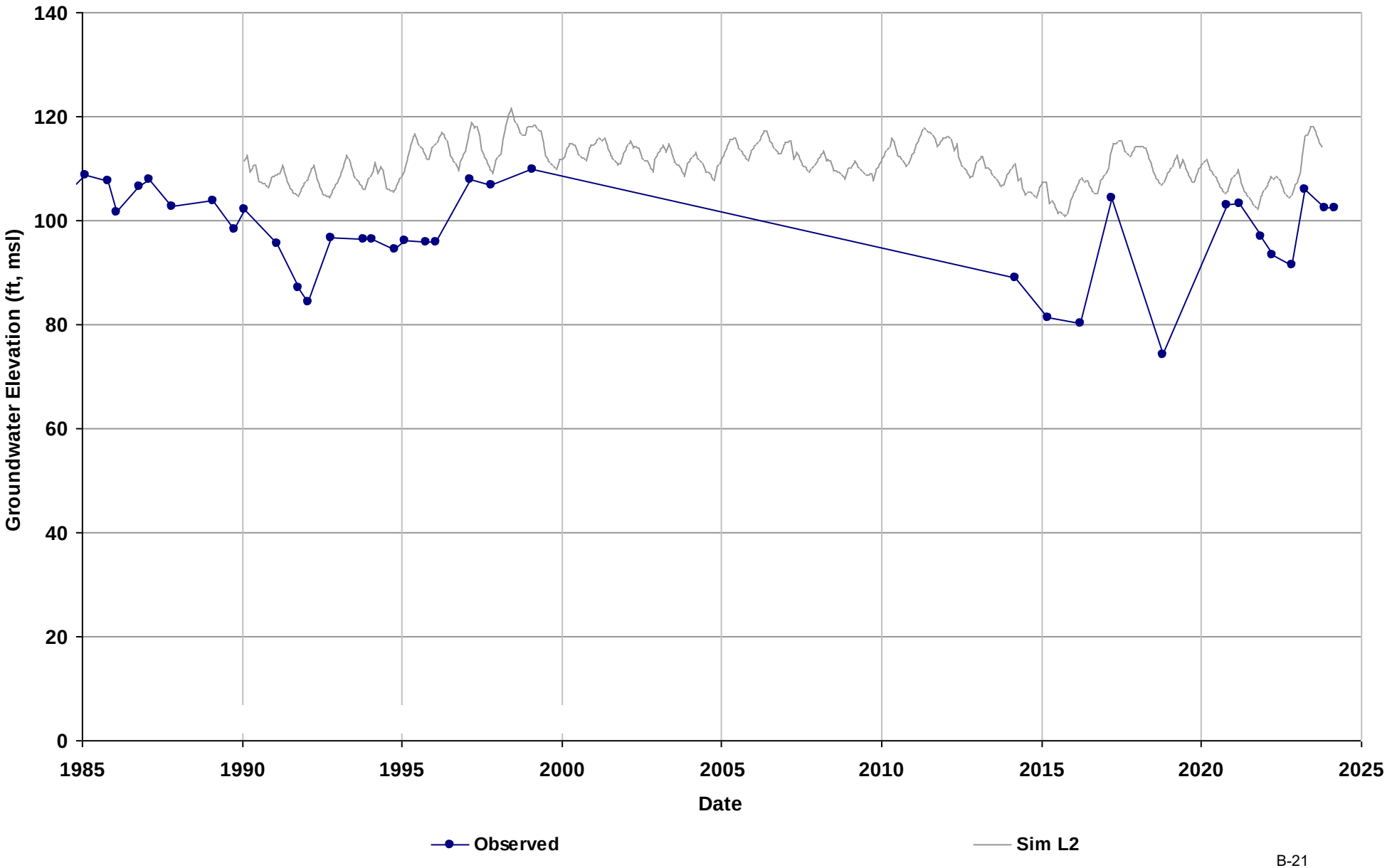
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 10S13E35K001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 124

Average Residual (feet): -6.03
Layer 1:
Layer 2: 13.57
Layer 3: -25.64
Layer 4:
Layer 5:
Layer 6:

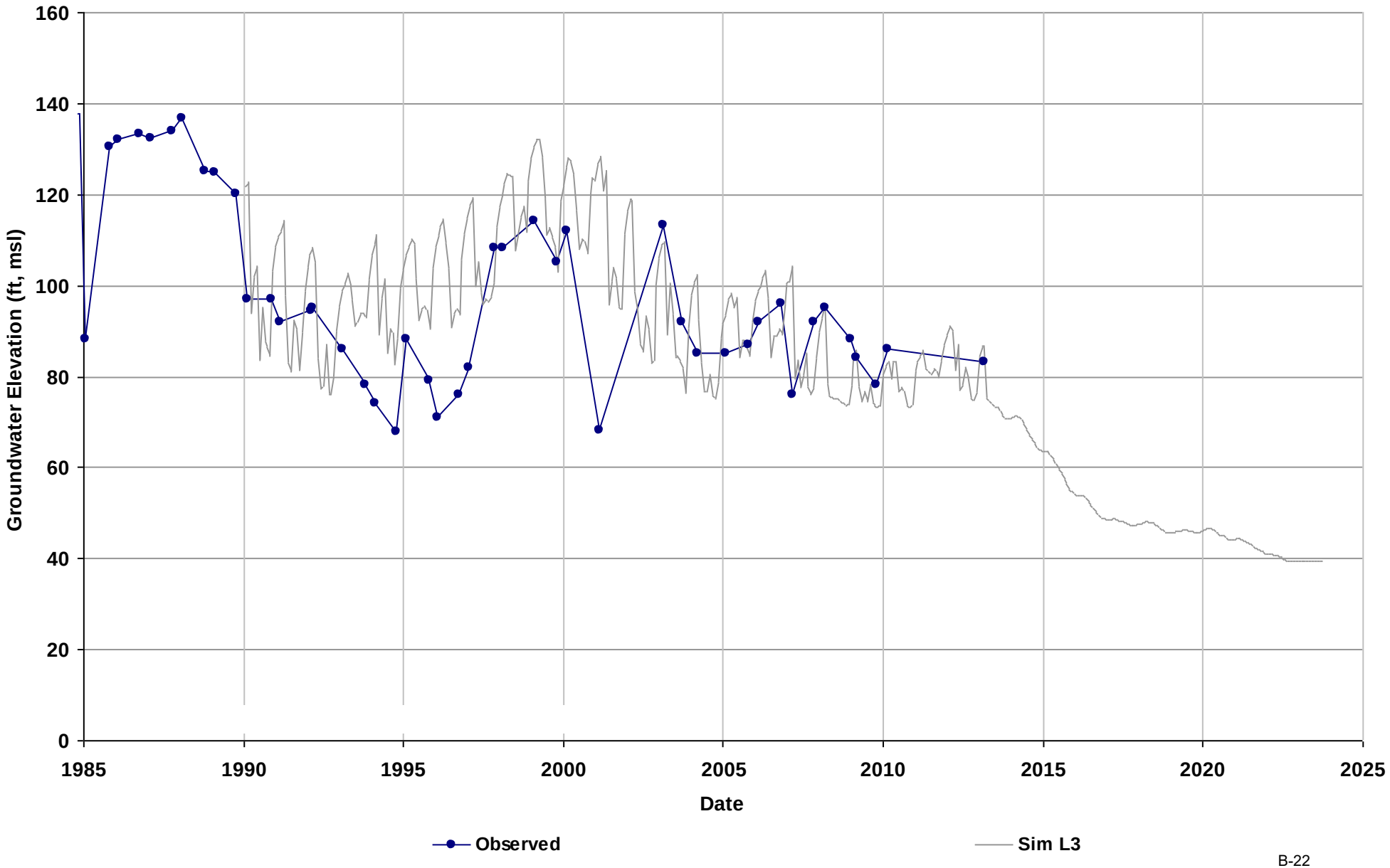
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 10S14E01R002M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 179

Average Residual (feet): 9.12
Layer 1:
Layer 2:
Layer 3: 9.12
Layer 4:
Layer 5:
Layer 6:

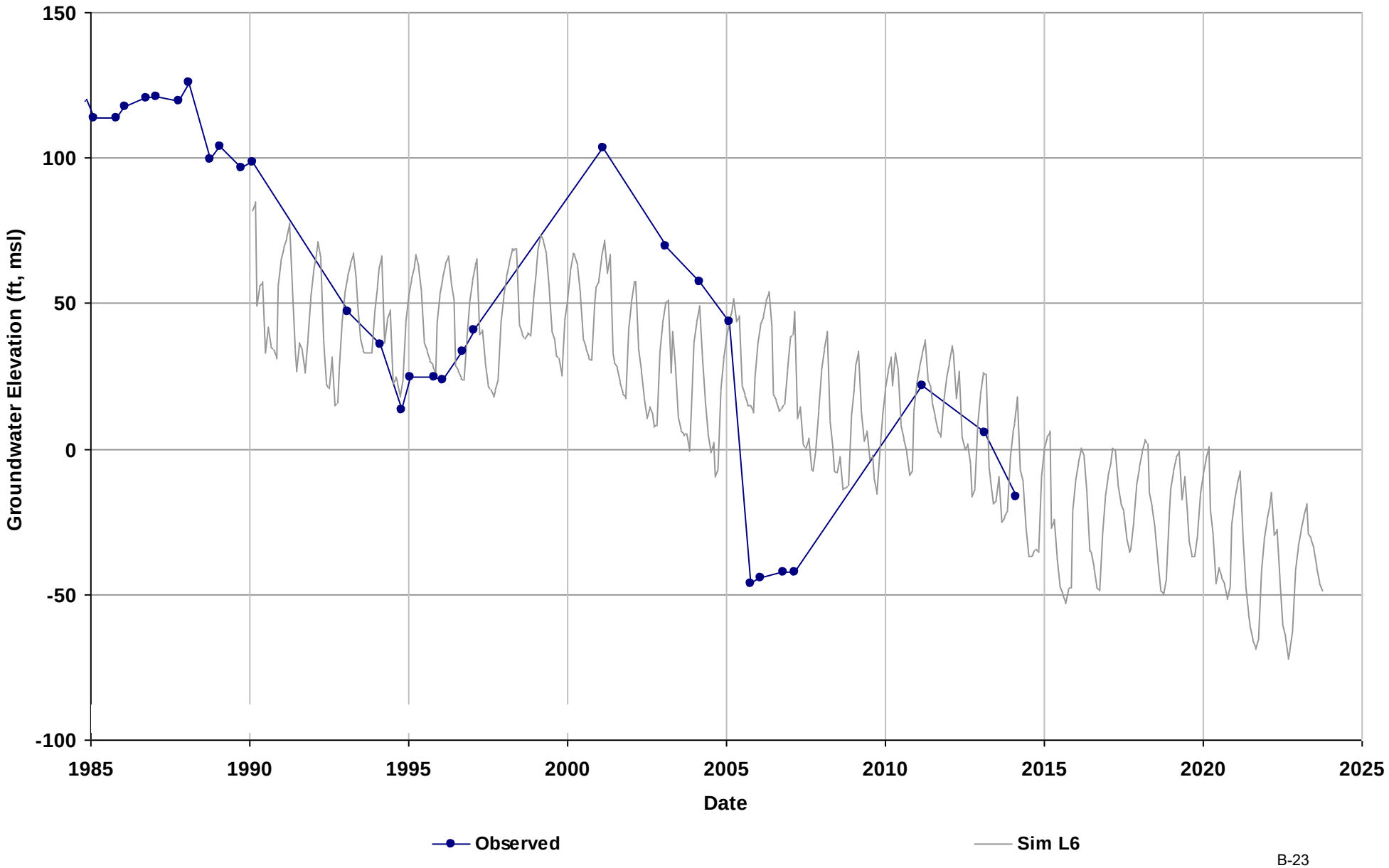
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 10S14E03A001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 167

Average Residual (feet): 15.29
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 17.38
Layer 6: 13.19

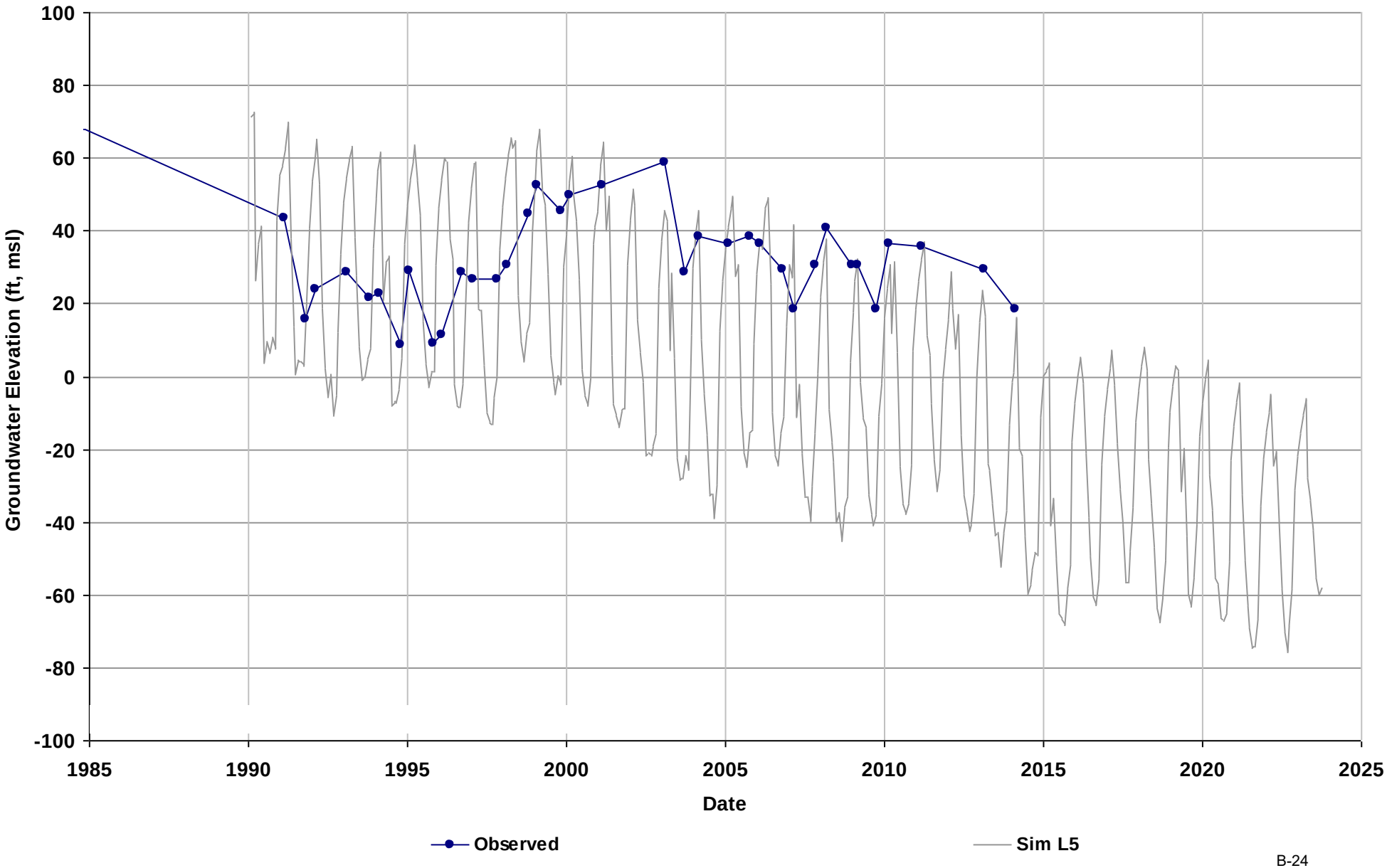
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S14E05C003M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 148

Average Residual (feet): -6.95
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -6.52
Layer 6: -7.39

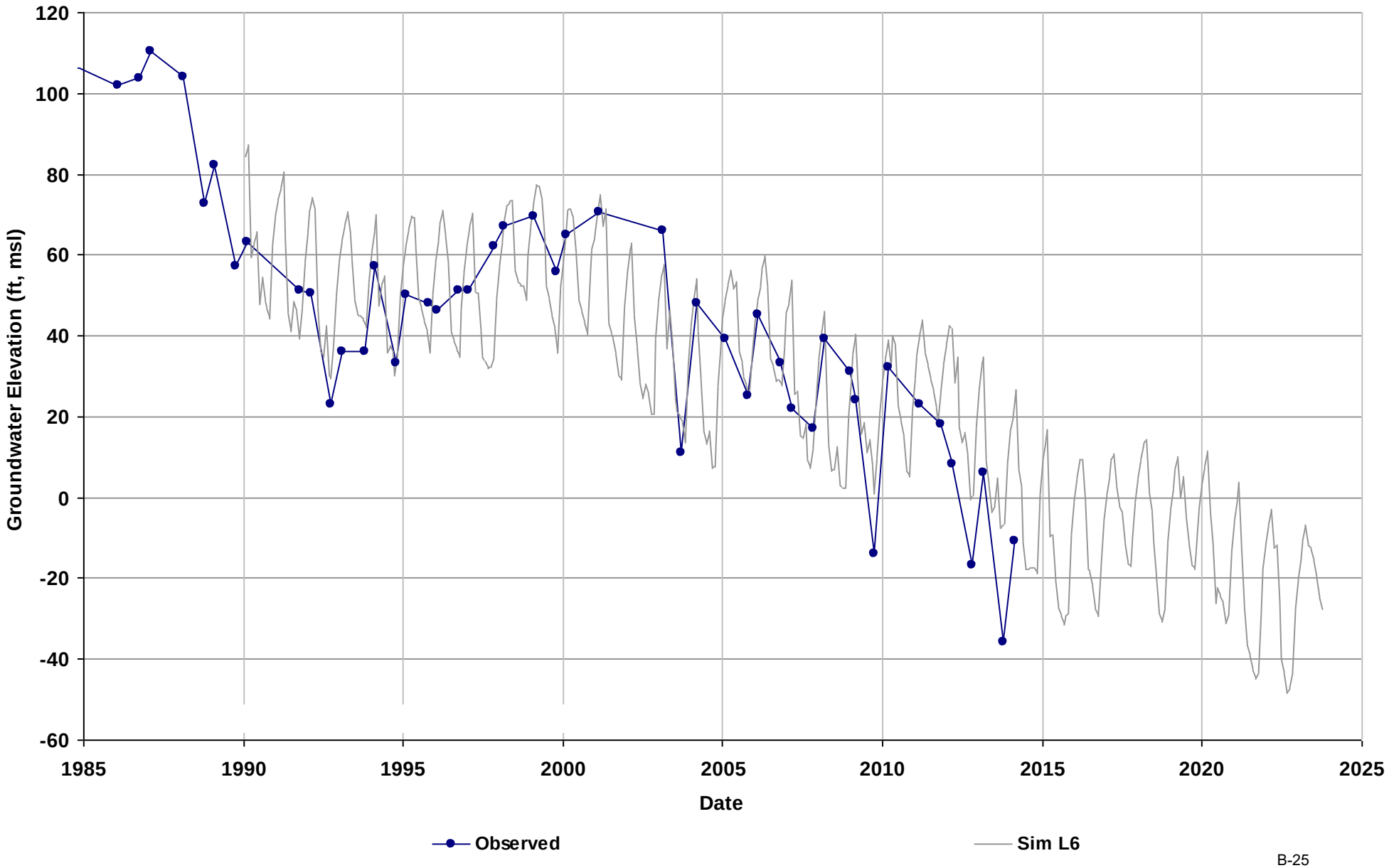
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S14E15H001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 162

Average Residual (feet): 7.7
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 8.35
Layer 6: 7.04

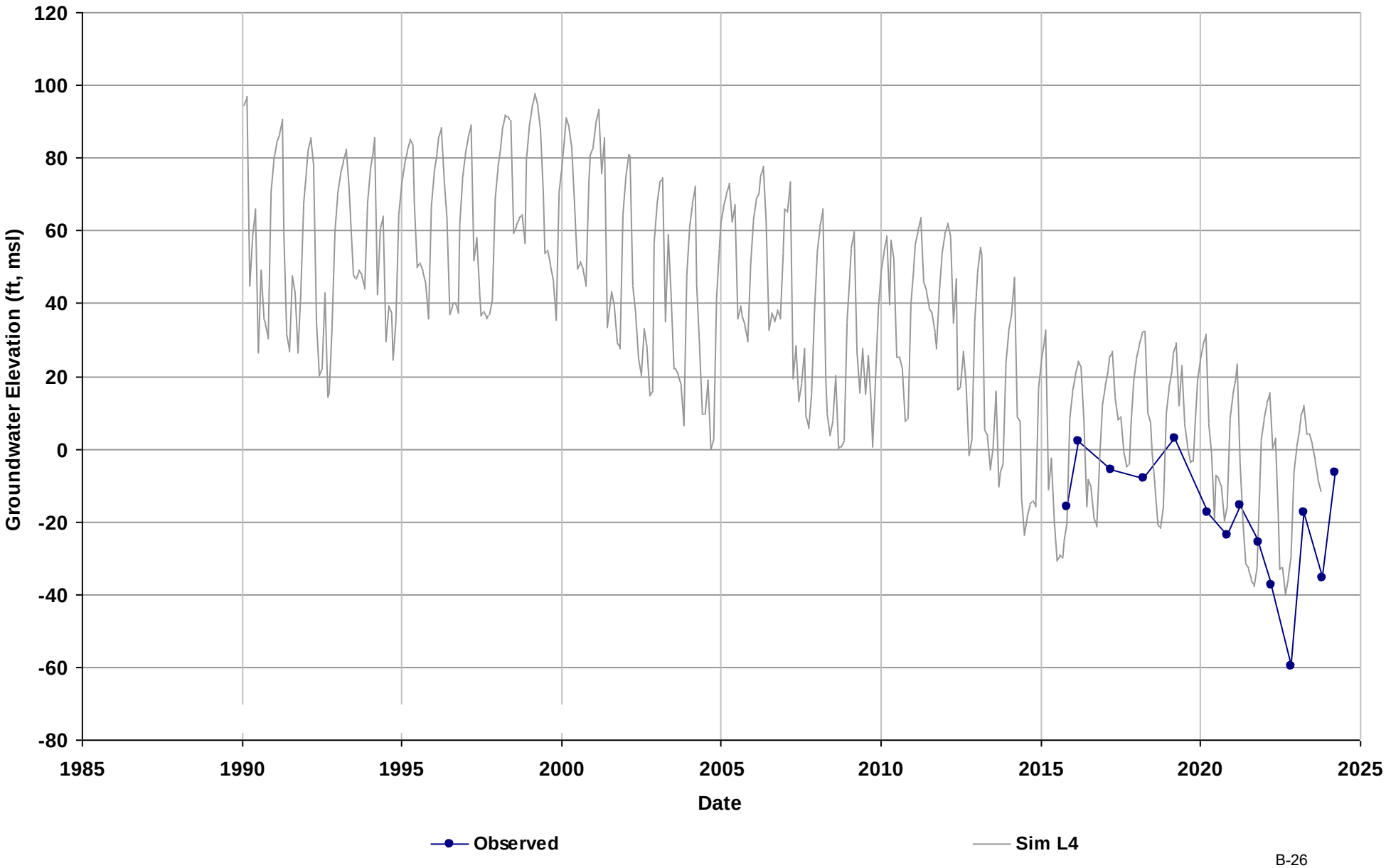
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S14E15J1
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 169

Average Residual (feet): 25.09
Layer 1:
Layer 2:
Layer 3:
Layer 4: 25.09
Layer 5:
Layer 6:

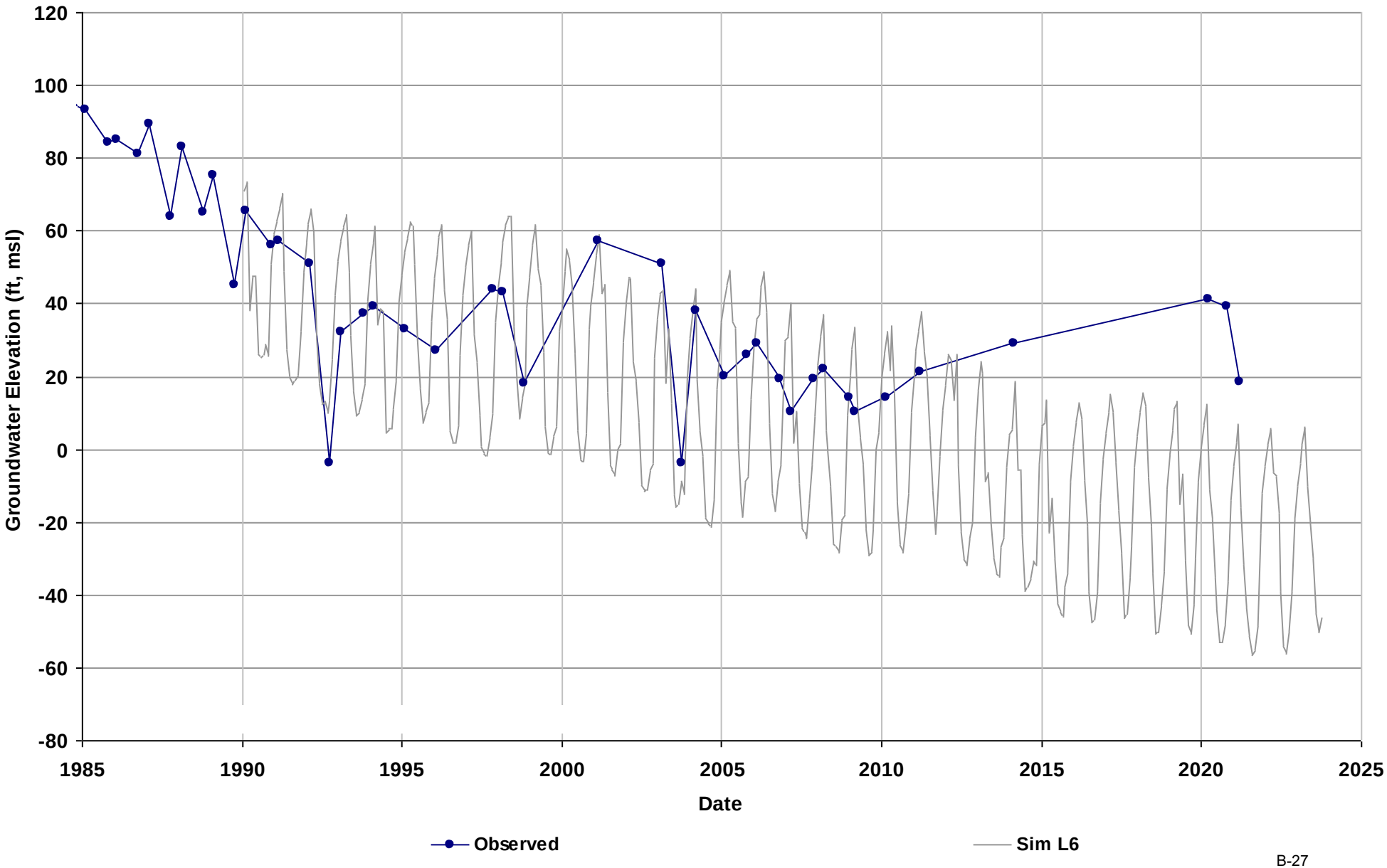
Total Depth (ft): 330
Perf Top (ft): 135
Perf Bottom (ft): 288
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S14E18K001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 137

Average Residual (feet): -0.81
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 0.68
Layer 6: -2.31

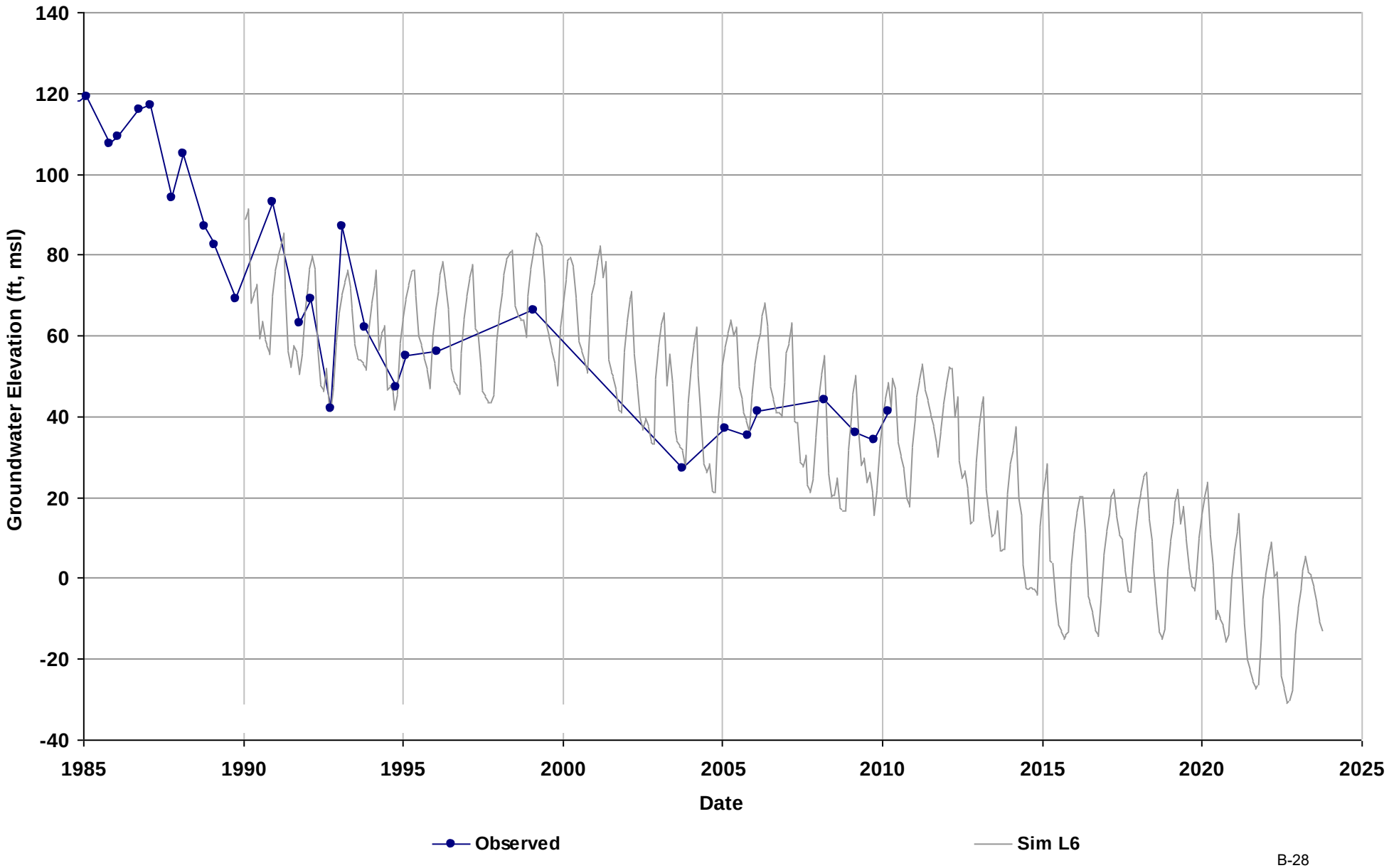
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S14E26C002M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 159

Average Residual (feet): 1.95
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 1.76
Layer 6: 2.15

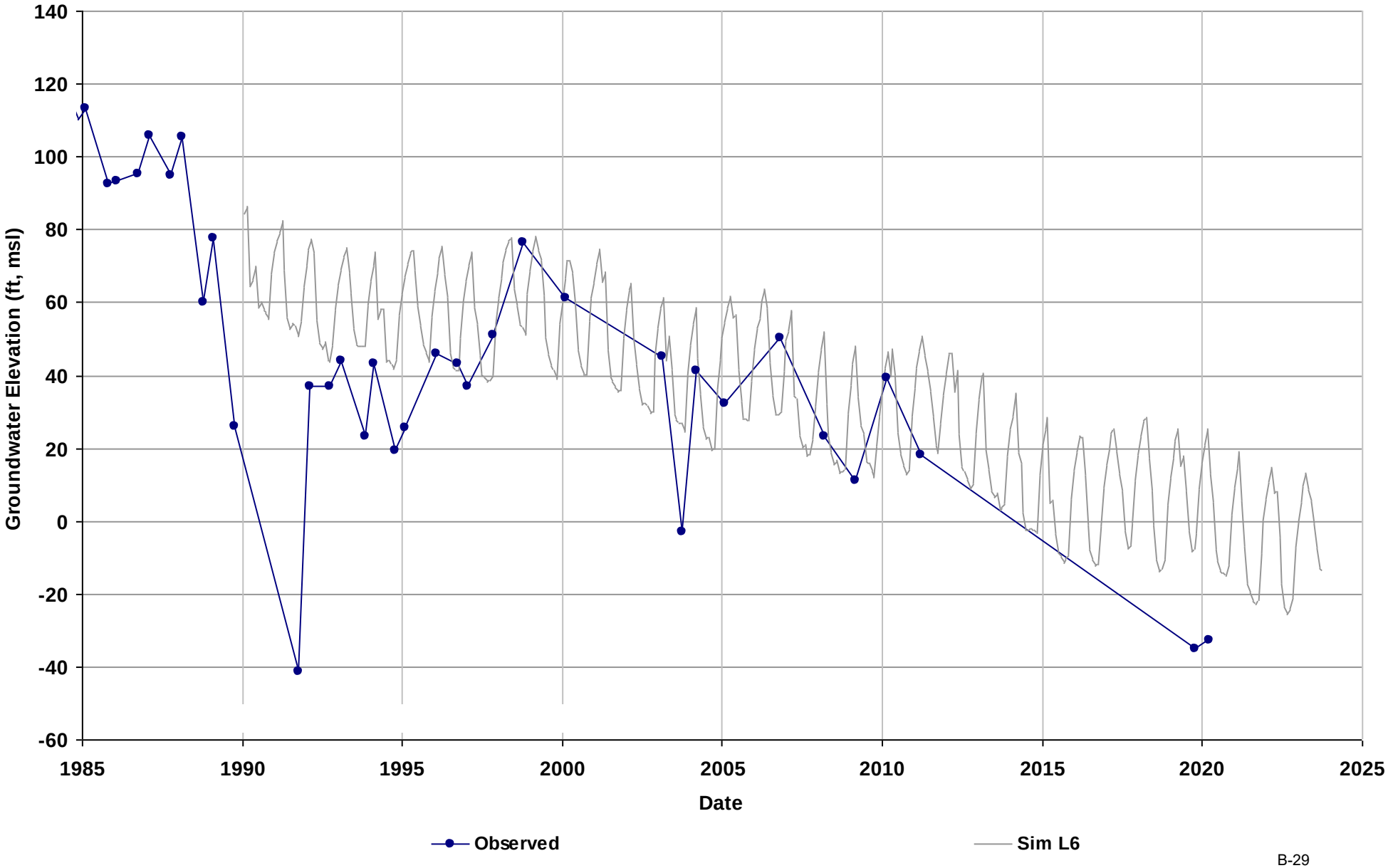
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S14E28B001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 146

Average Residual (feet): 21.42
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 21.42

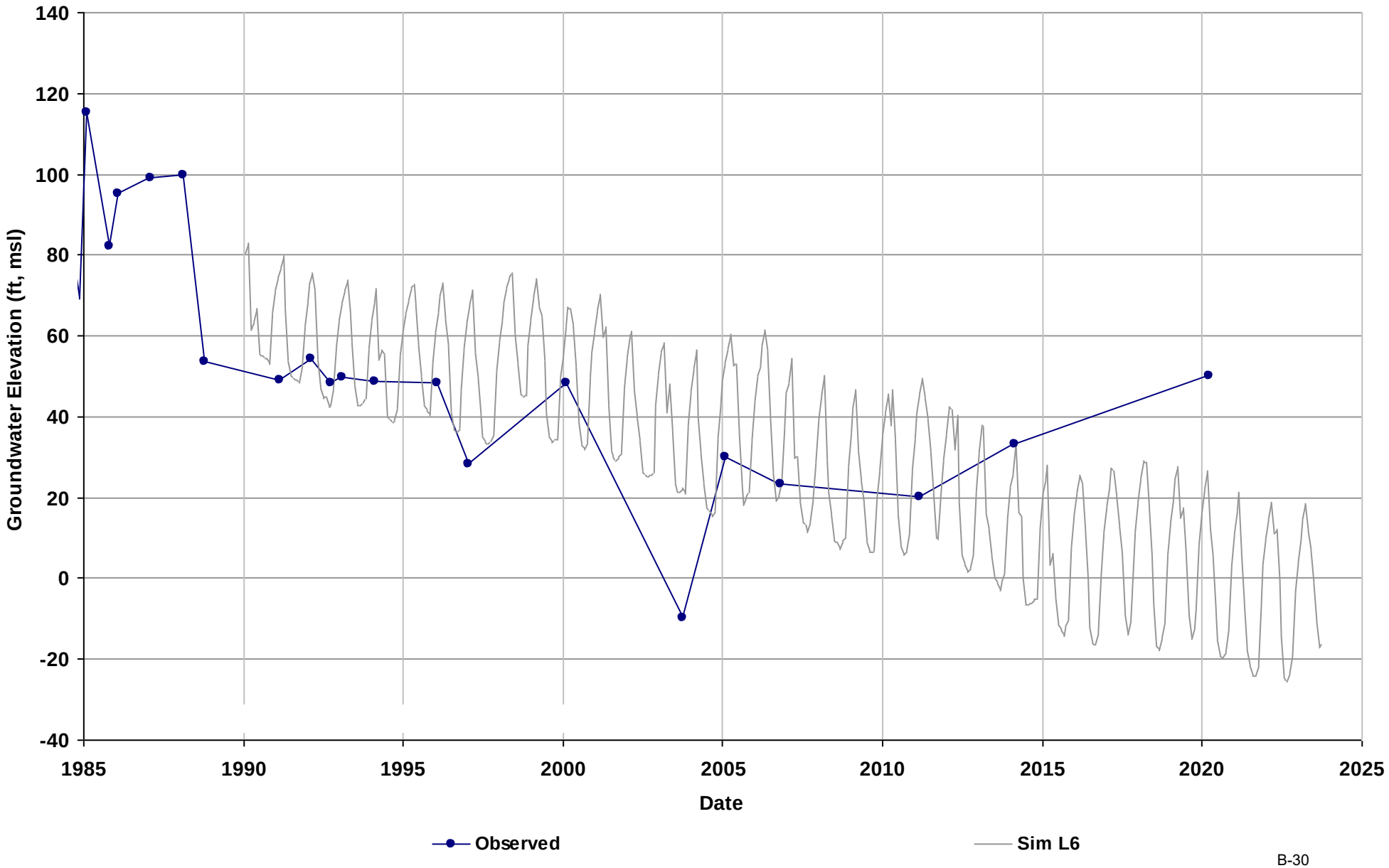
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S14E29C002M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 139

Average Residual (feet): 13.36
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 13.36

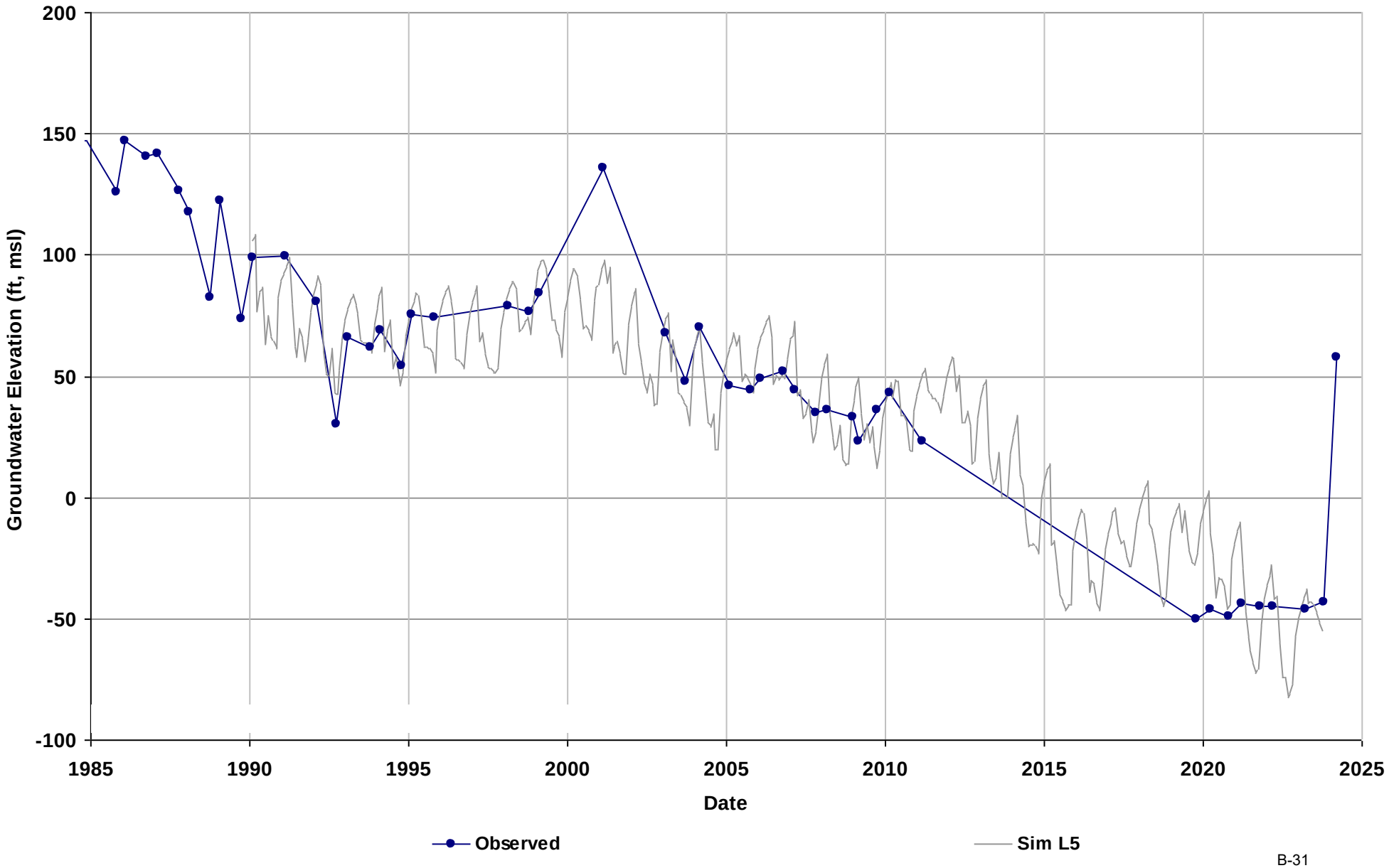
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S15E01E001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 219

Average Residual (feet): 5.25
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 5.25
Layer 6:

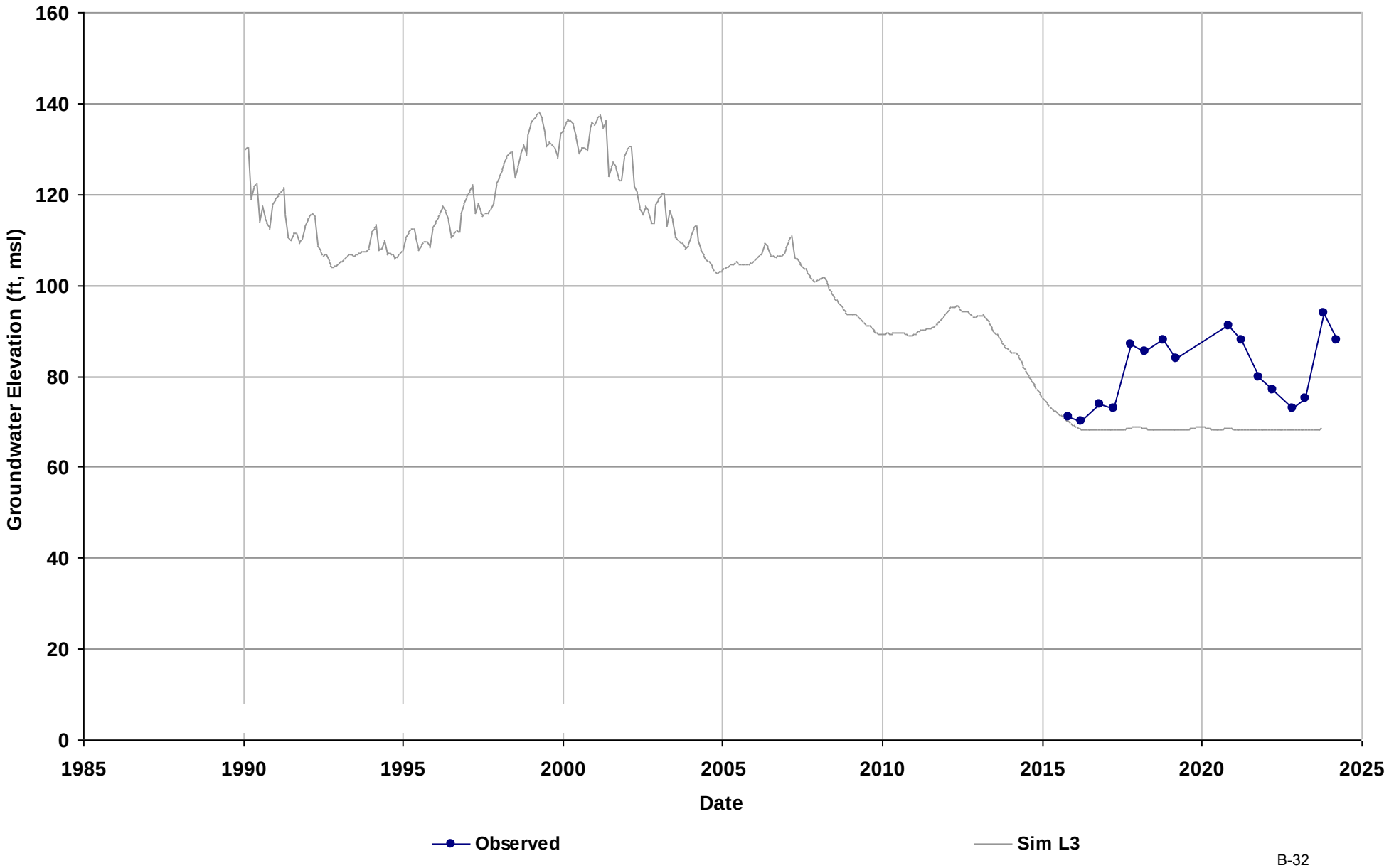
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S15E05J001M
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 164

Average Residual (feet): -11.27
Layer 1:
Layer 2:
Layer 3: -11.27
Layer 4:
Layer 5:
Layer 6:

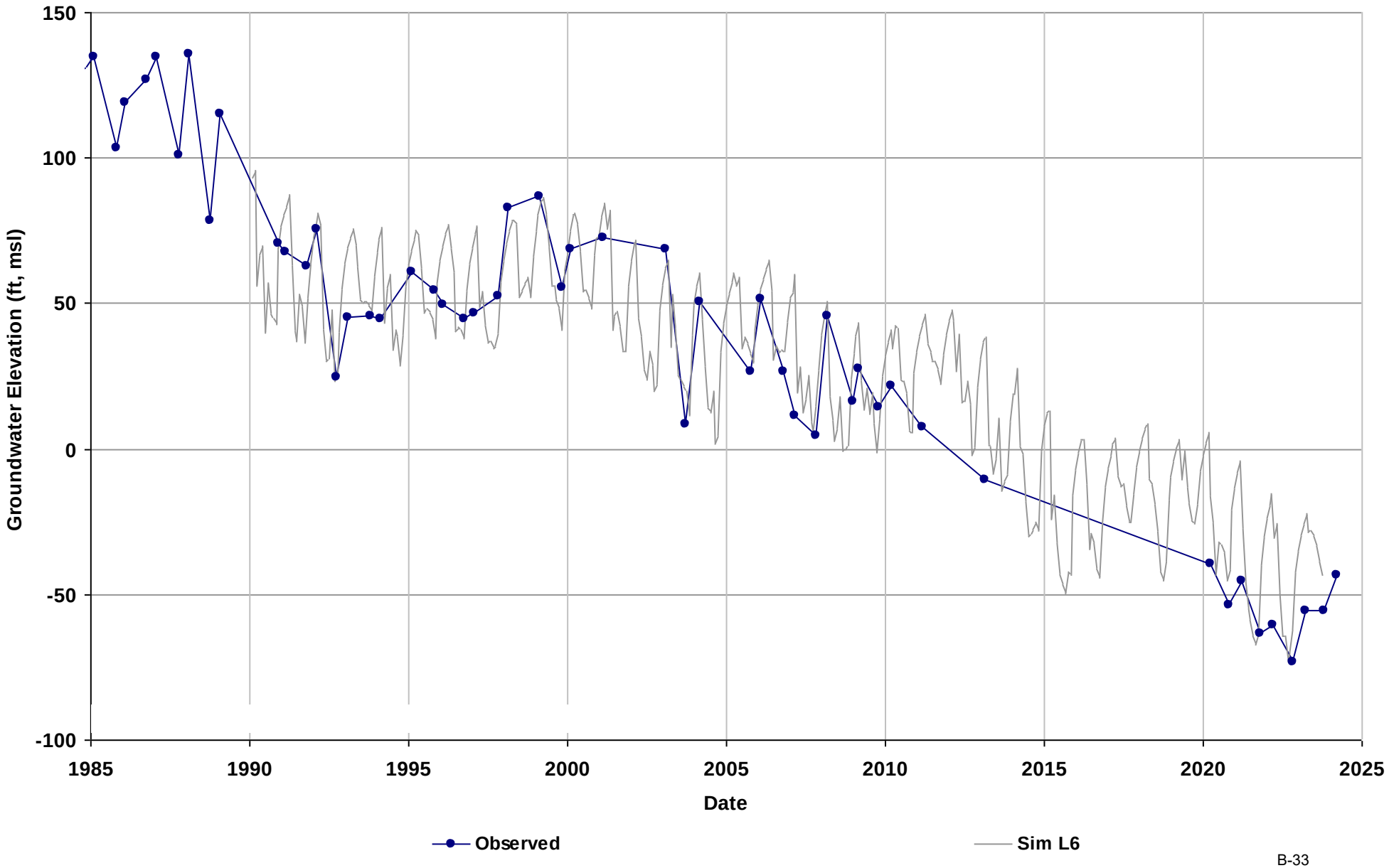
Total Depth (ft): 97
Perf Top (ft): 82
Perf Bottom (ft): 97
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 10S15E06L001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 182

Average Residual (feet): 11.74
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 14.05
Layer 6: 9.42

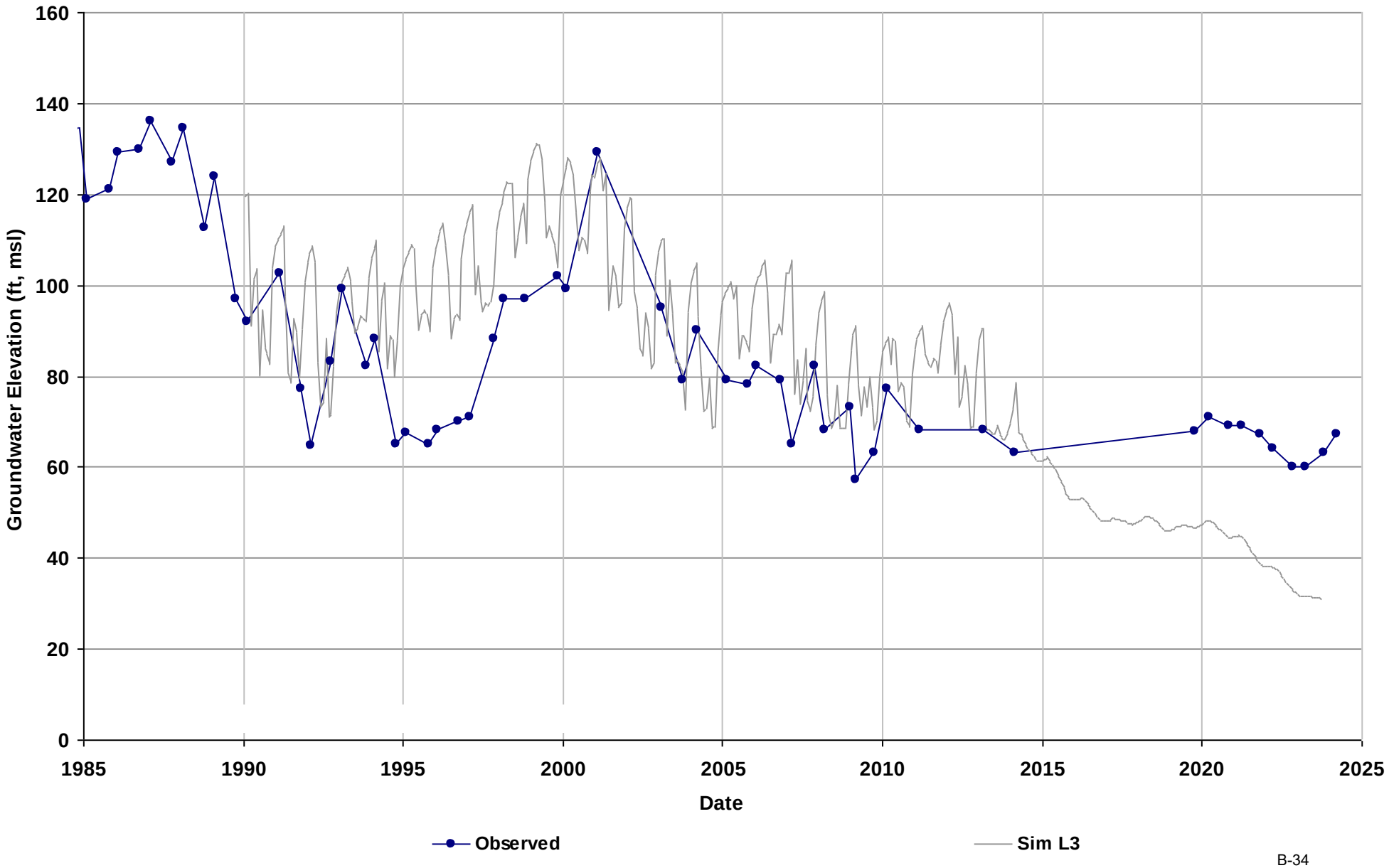
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S15E18L001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 176

Average Residual (feet): 9.37
Layer 1:
Layer 2:
Layer 3: 9.37
Layer 4:
Layer 5:
Layer 6:

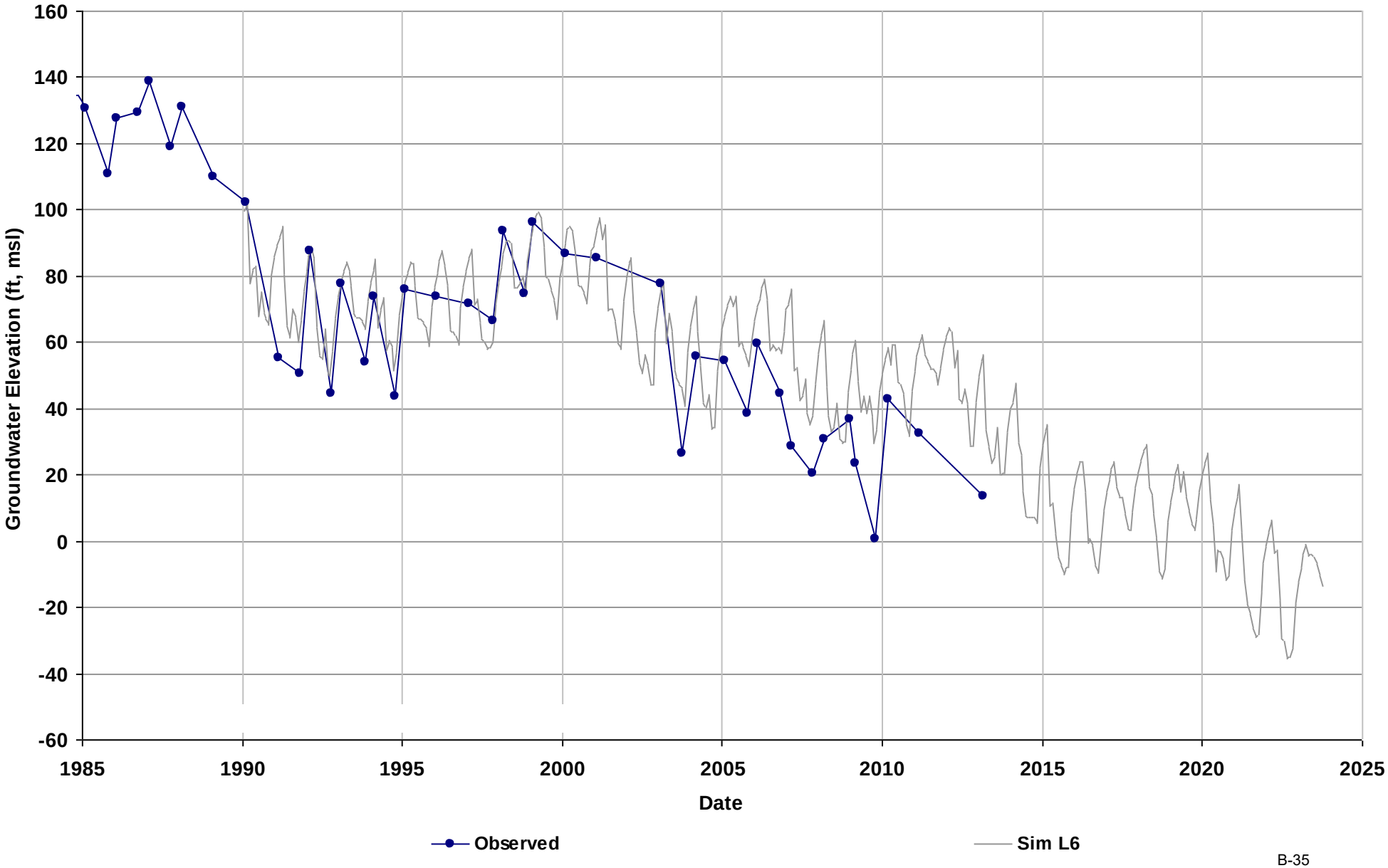
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 10S15E29A002M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 179

Average Residual (feet): 13.69
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 14.77
Layer 6: 12.62

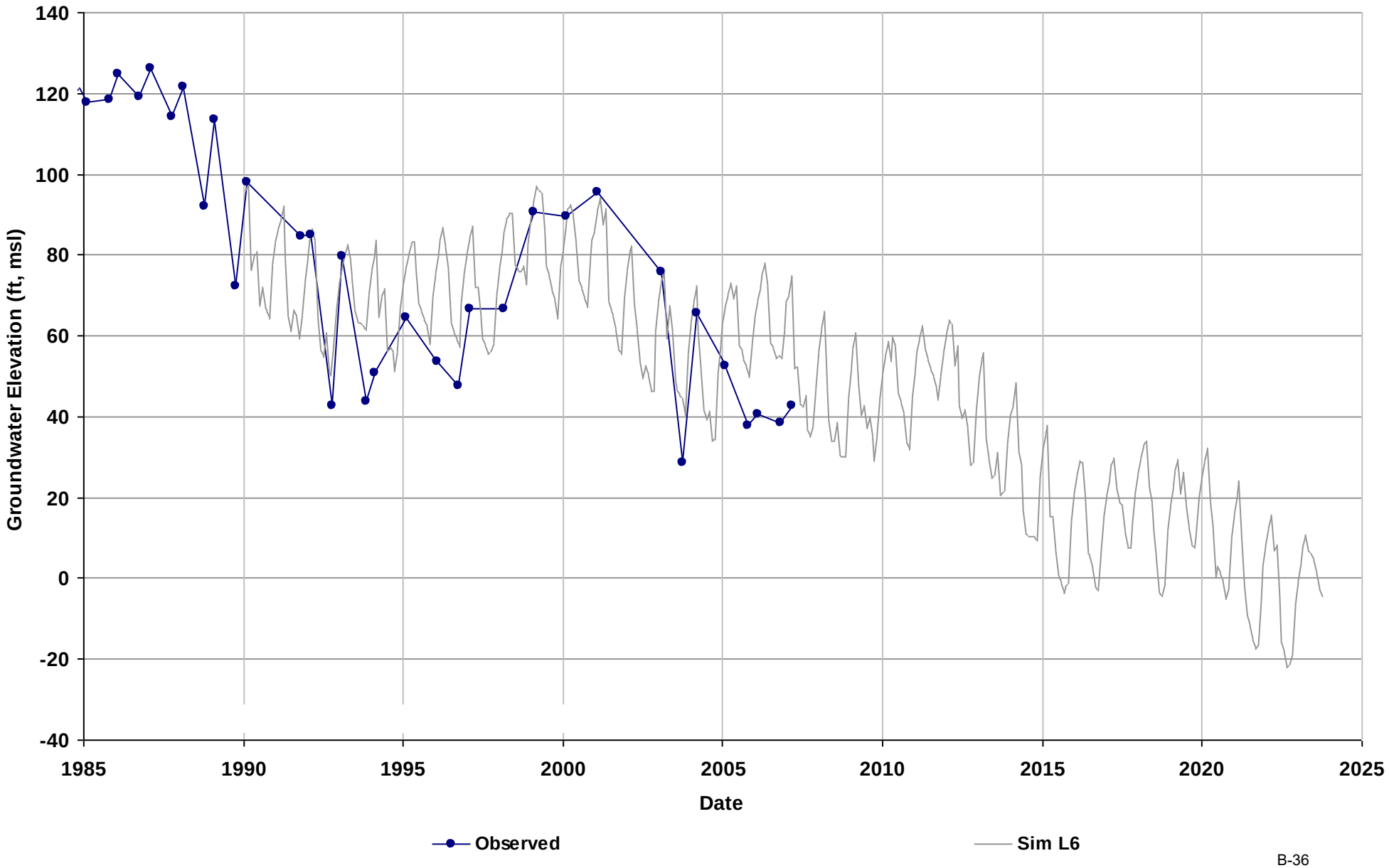
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S15E31C001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 164

Average Residual (feet): 8.68
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 8.99
Layer 6: 8.37

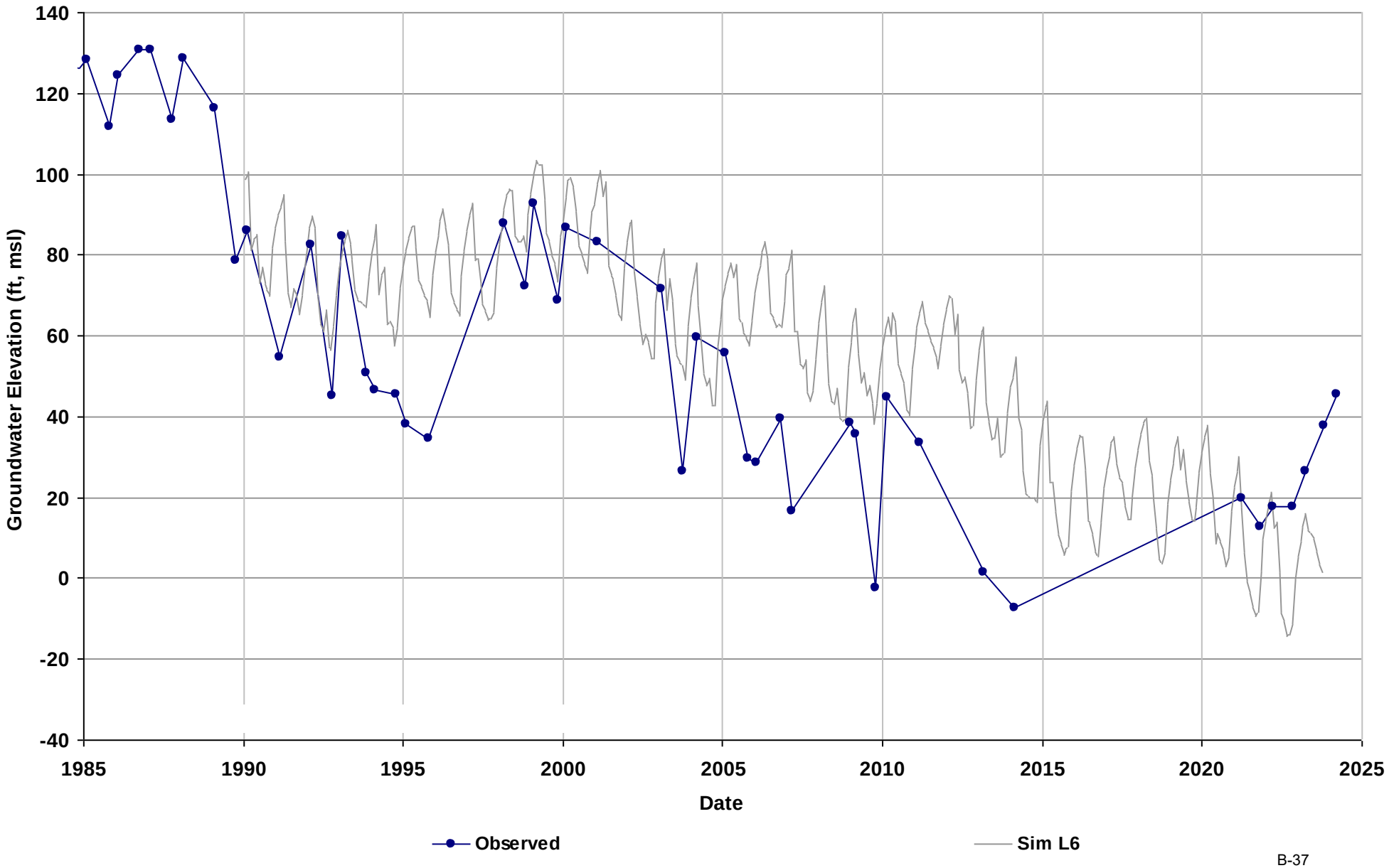
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S15E32L001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 167

Average Residual (feet): 18.14
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 18.37
Layer 6: 17.92

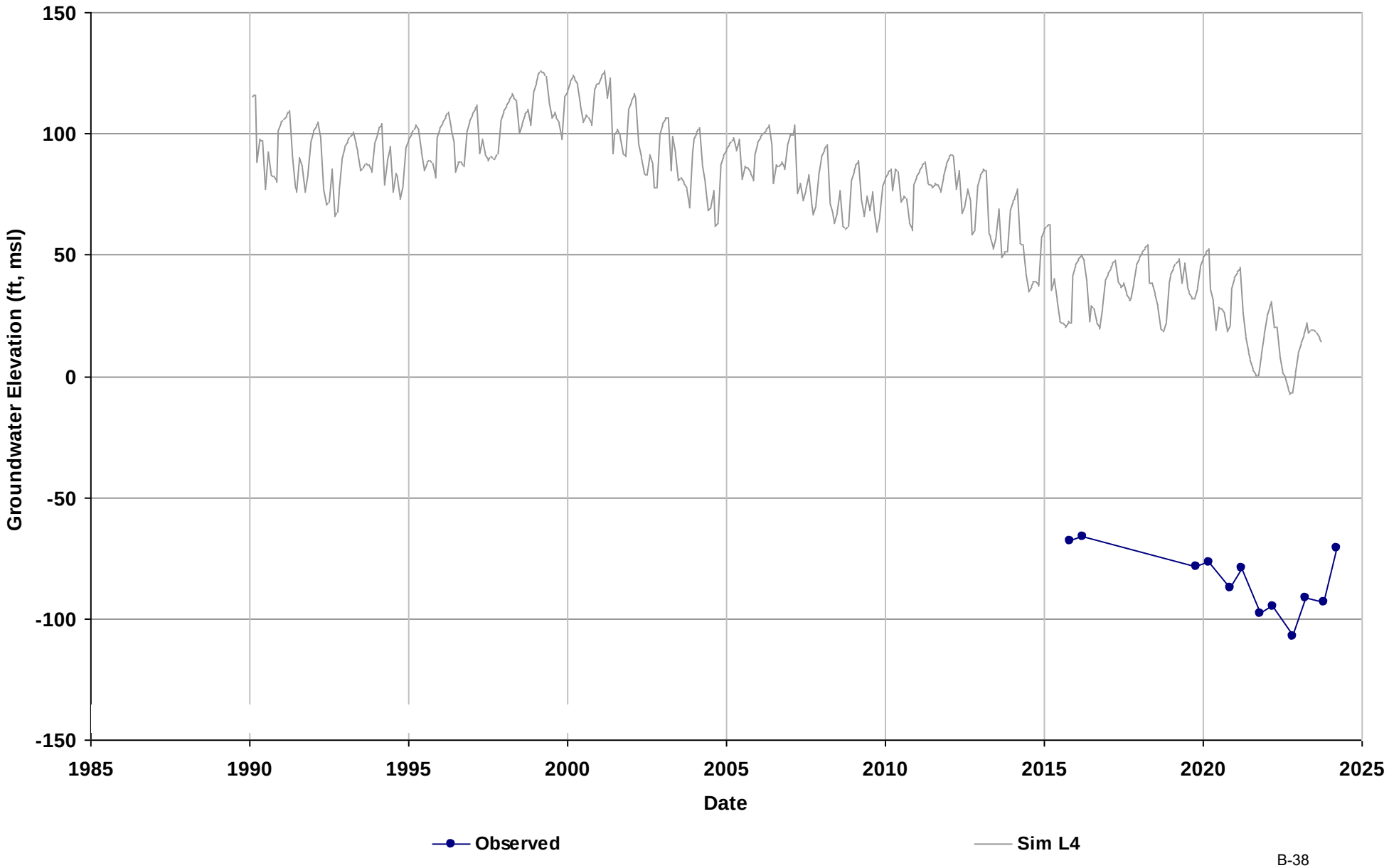
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S15E34A001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 152

Average Residual (feet): 110.06
Layer 1:
Layer 2:
Layer 3:
Layer 4: 110.06
Layer 5:
Layer 6:

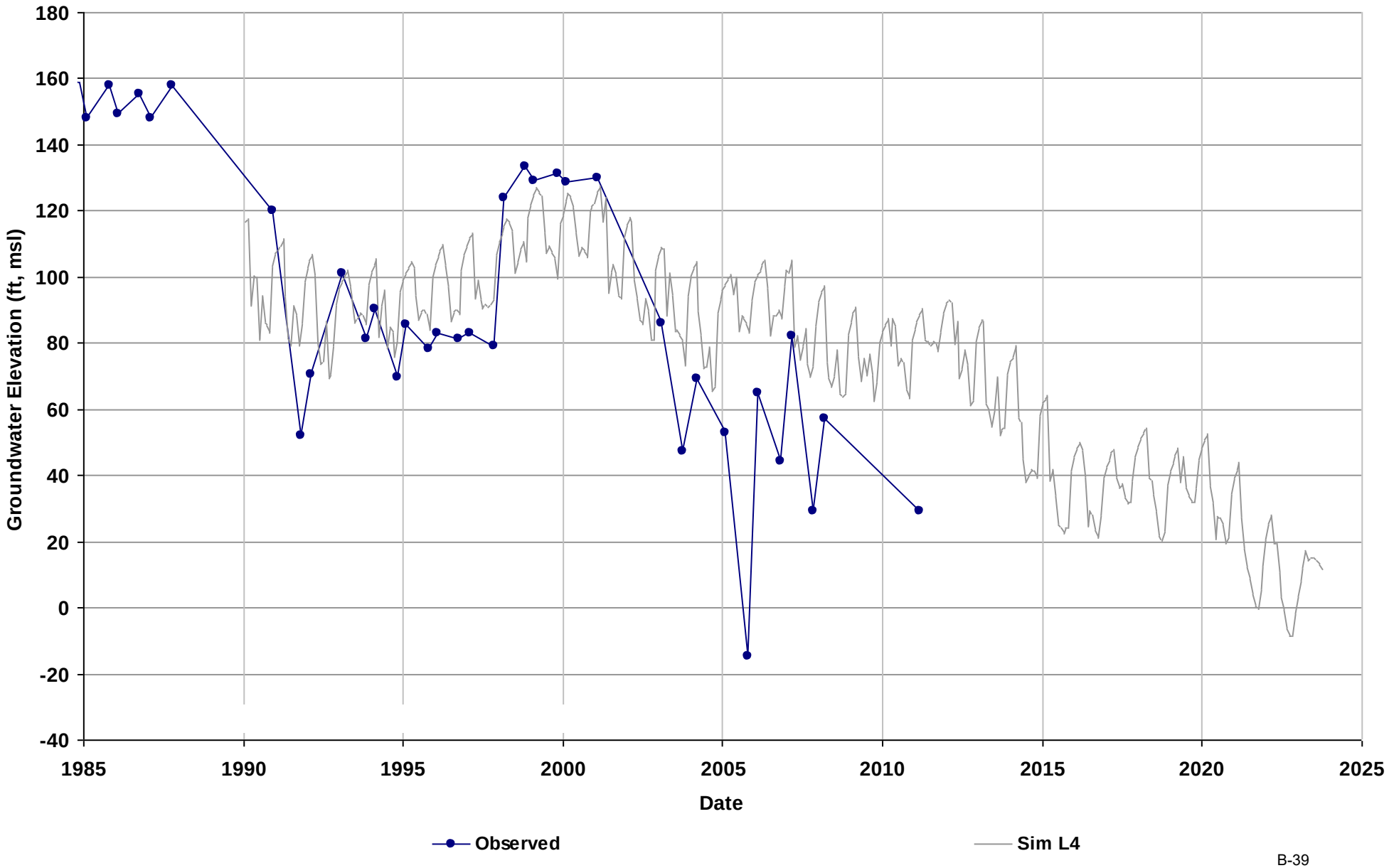
Total Depth (ft): 455
Perf Top (ft): 185
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S15E35A002M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 188

Average Residual (feet): 18.74
Layer 1:
Layer 2:
Layer 3:
Layer 4: 18.74
Layer 5:
Layer 6:

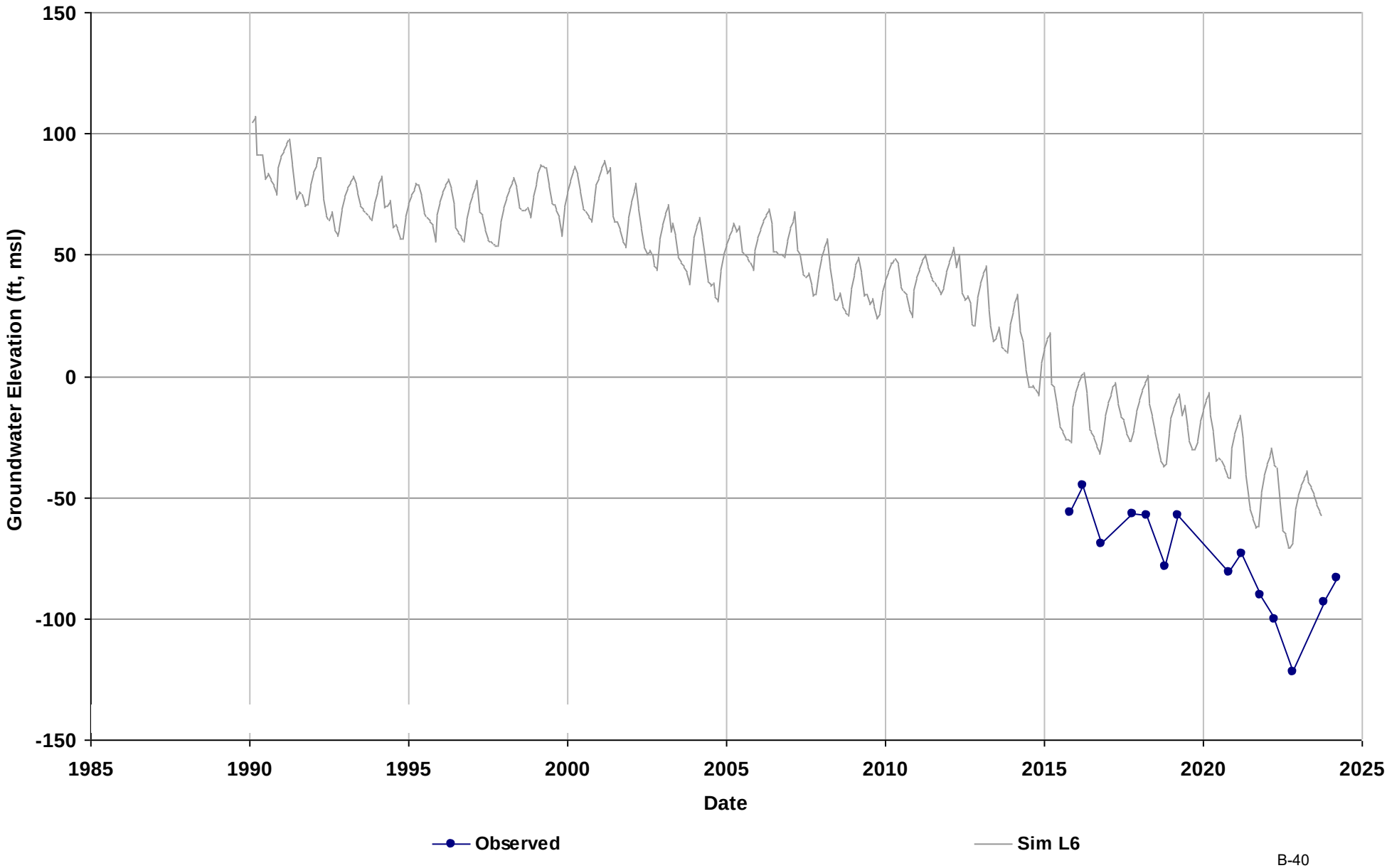
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S16E09M001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 213

Average Residual (feet): 44.69
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 44.69

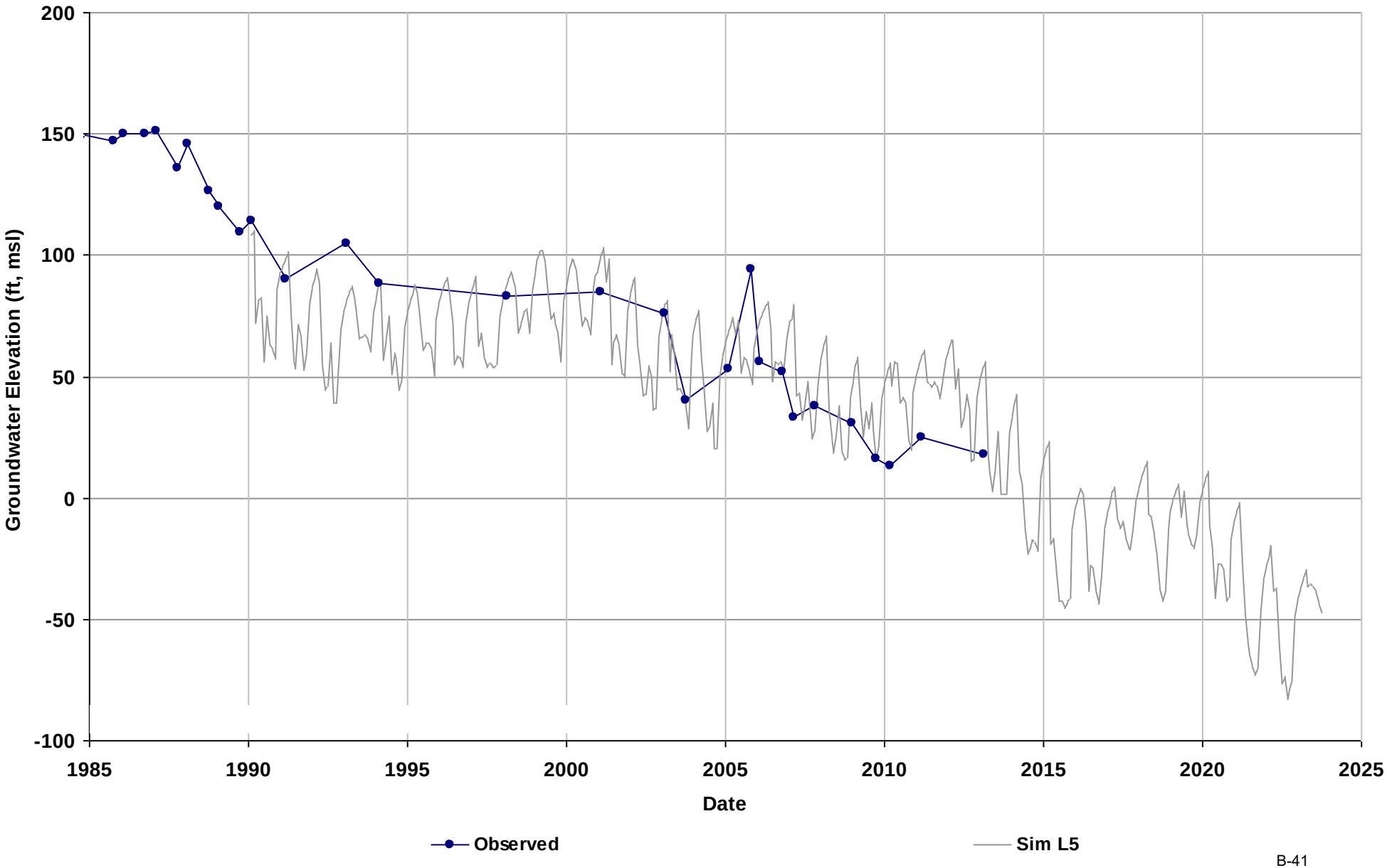
Total Depth (ft): 955
Perf Top (ft): 290
Perf Bottom (ft): 935
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S16E18D002M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 214

Average Residual (feet): 3.17
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 3.92
Layer 6: 2.43

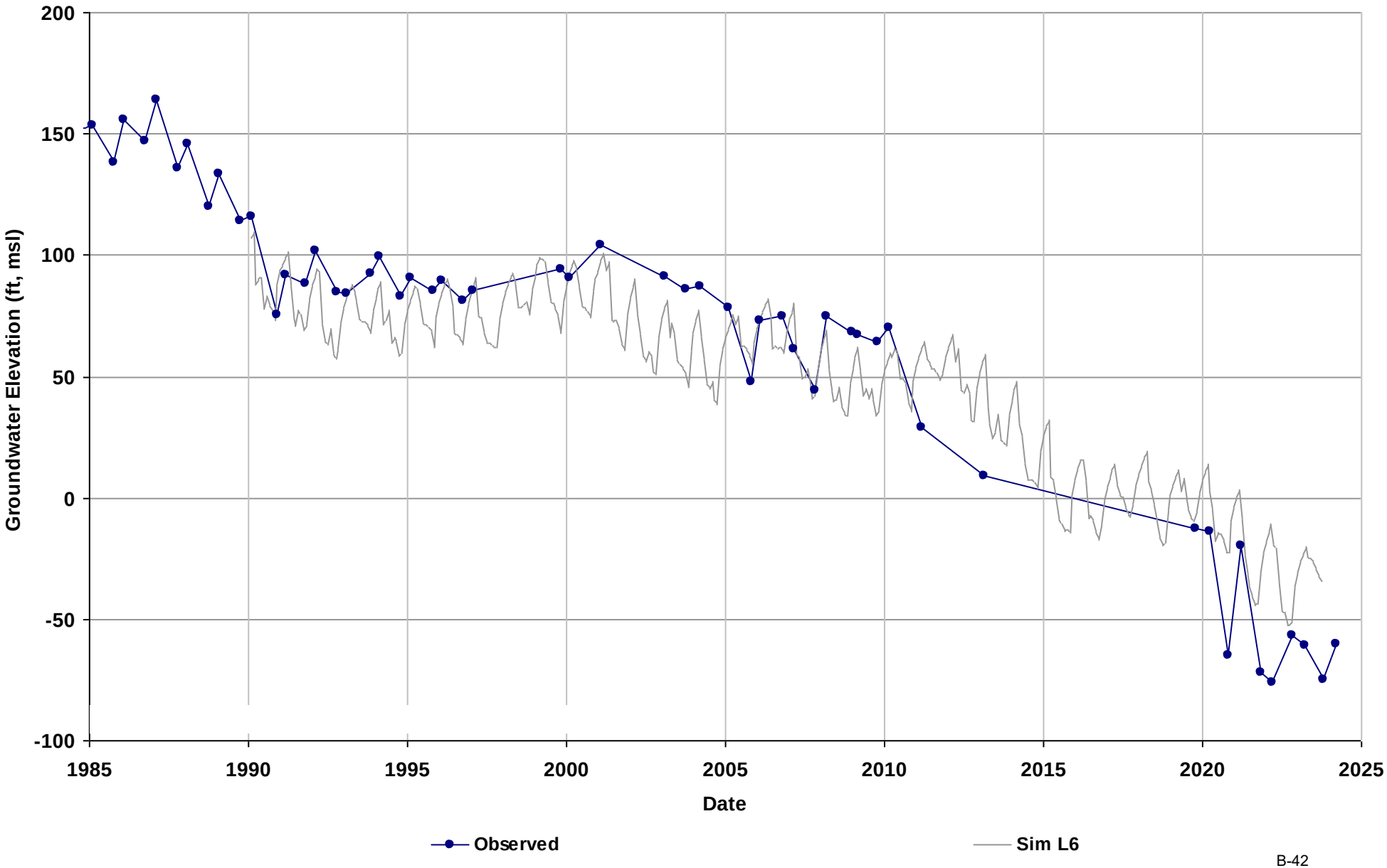
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S16E19A002M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 212

Average Residual (feet): -2.22
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -2.88
Layer 6: -1.57

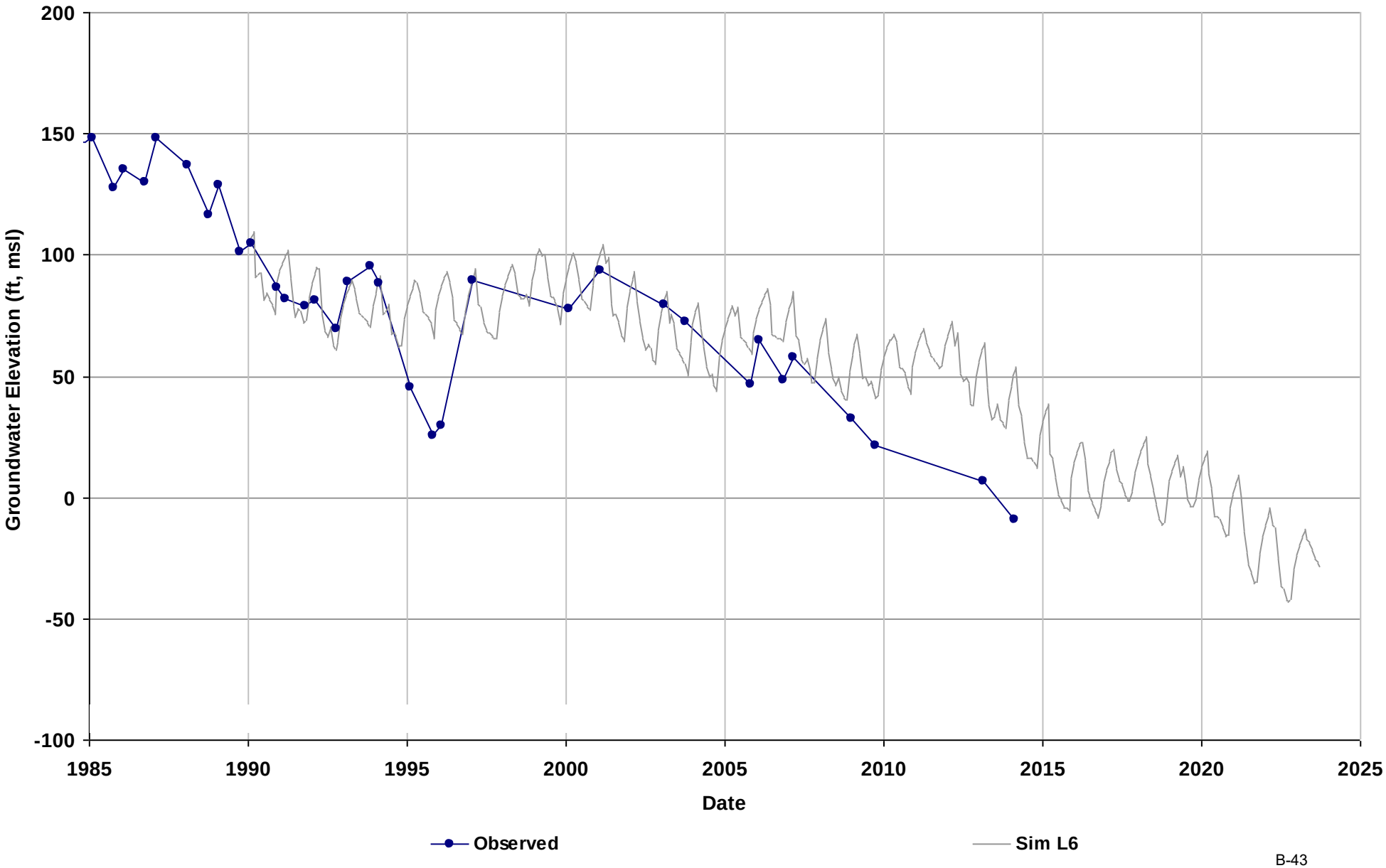
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S16E29A001M
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 216

Average Residual (feet): 11.55
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 11.55

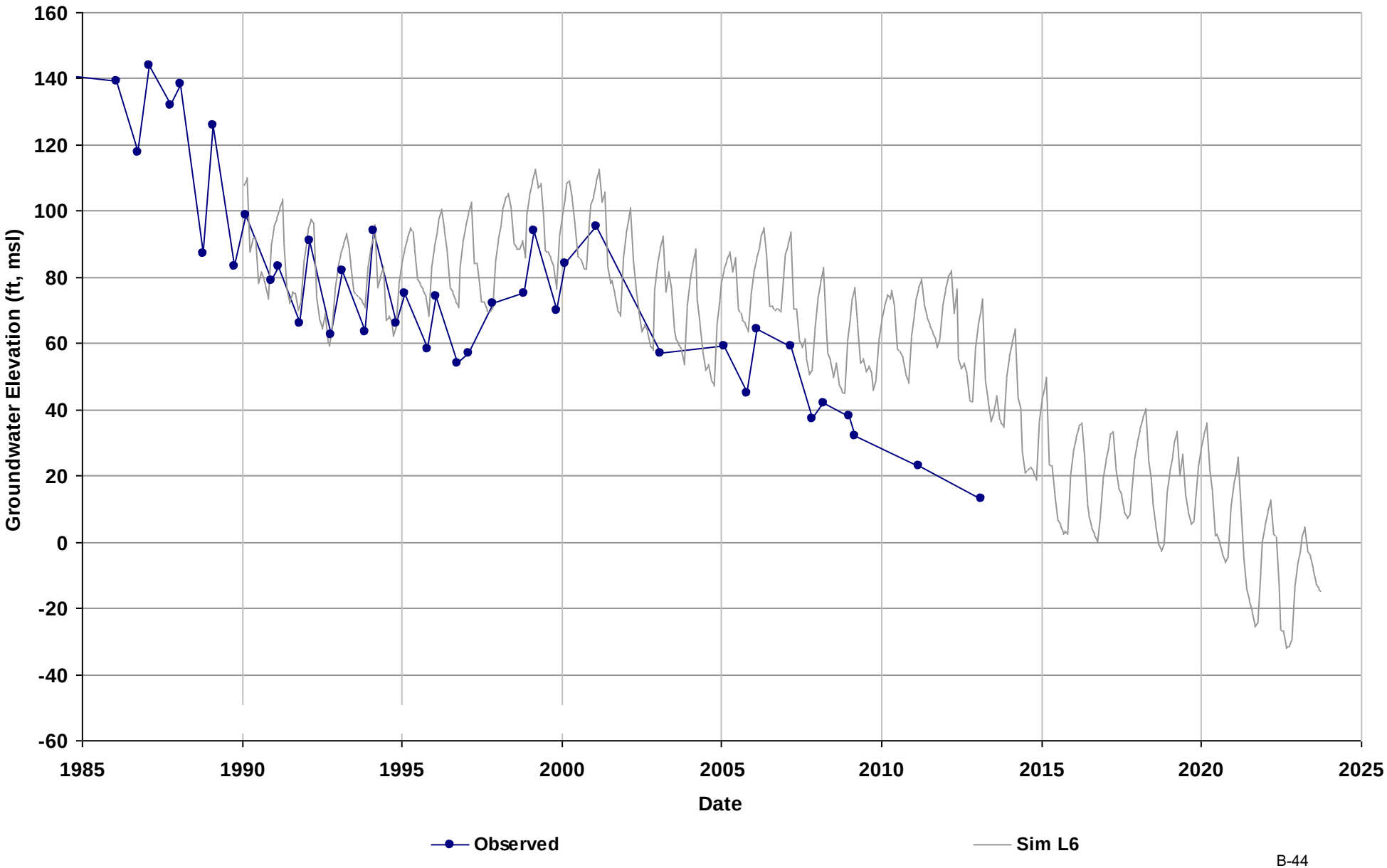
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S16E31J001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 200

Average Residual (feet): 18.02
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 18.86
Layer 6: 17.18

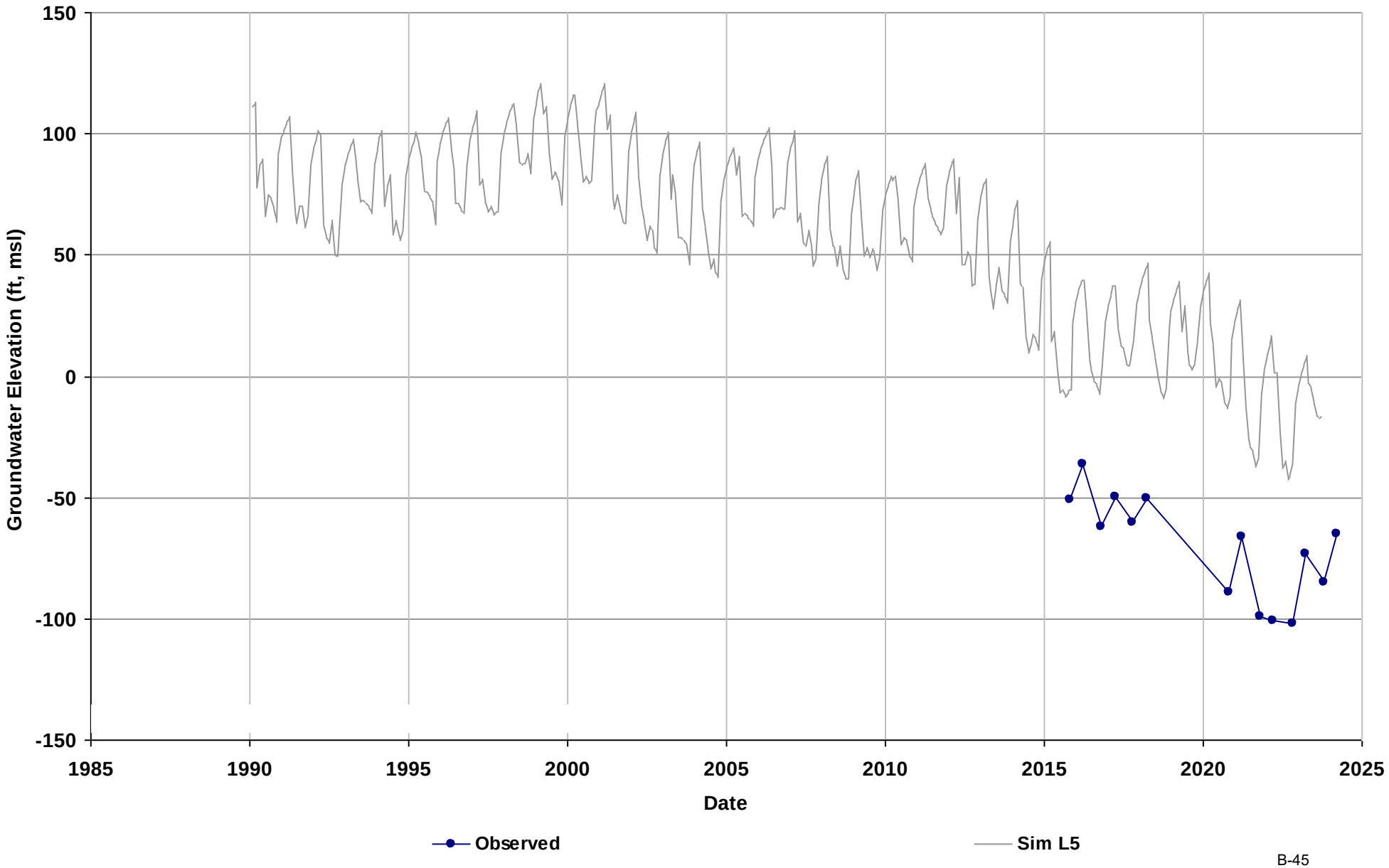
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S16E32K001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Average Residual (feet): 78.26
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 78.26
Layer 6:

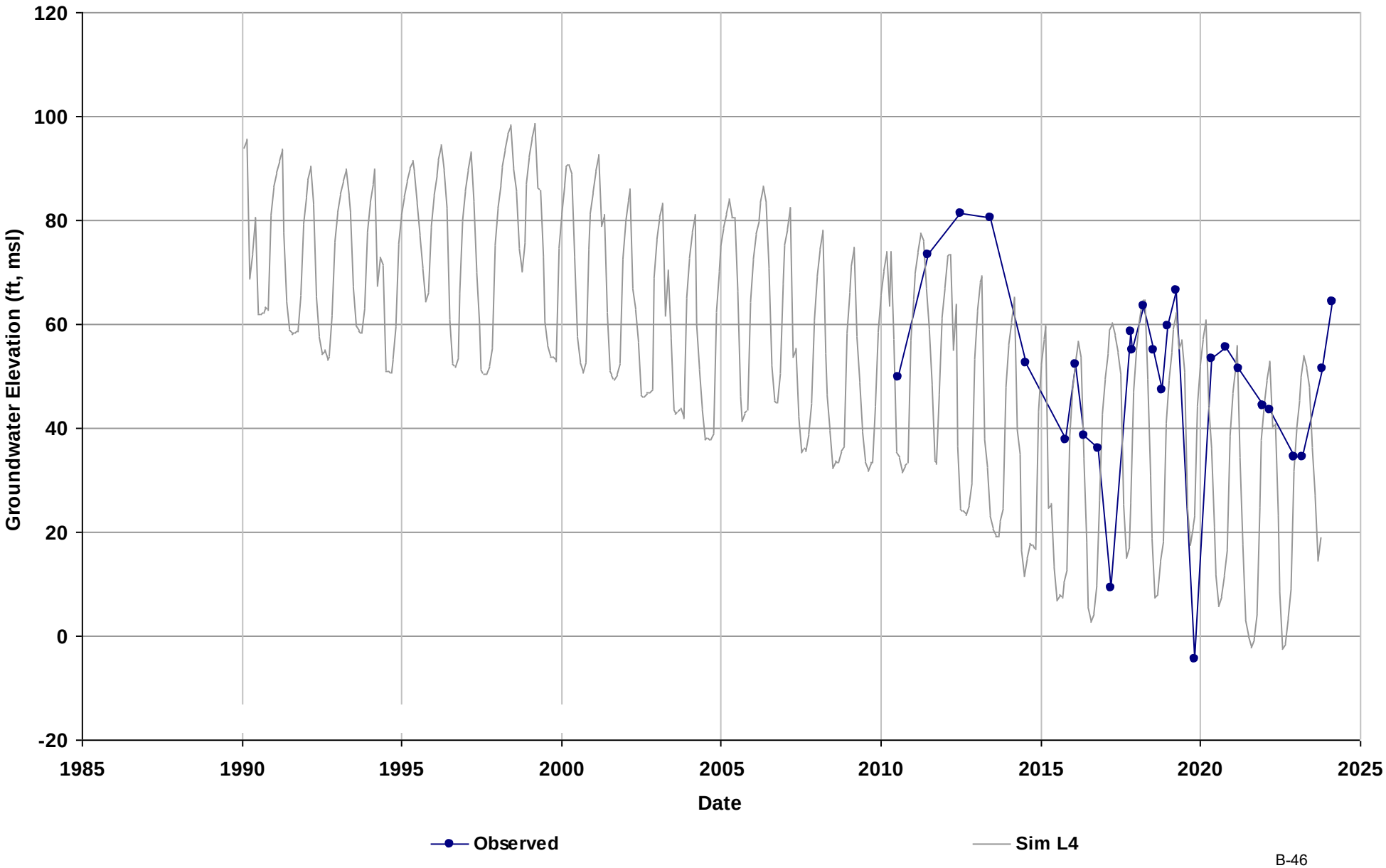
Total Depth (ft): 624
Perf Top (ft): 278
Perf Bottom (ft): 588
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S14E05J001M
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 135

Average Residual (feet): -12.5
Layer 1:
Layer 2:
Layer 3:
Layer 4: -12.5
Layer 5:
Layer 6:

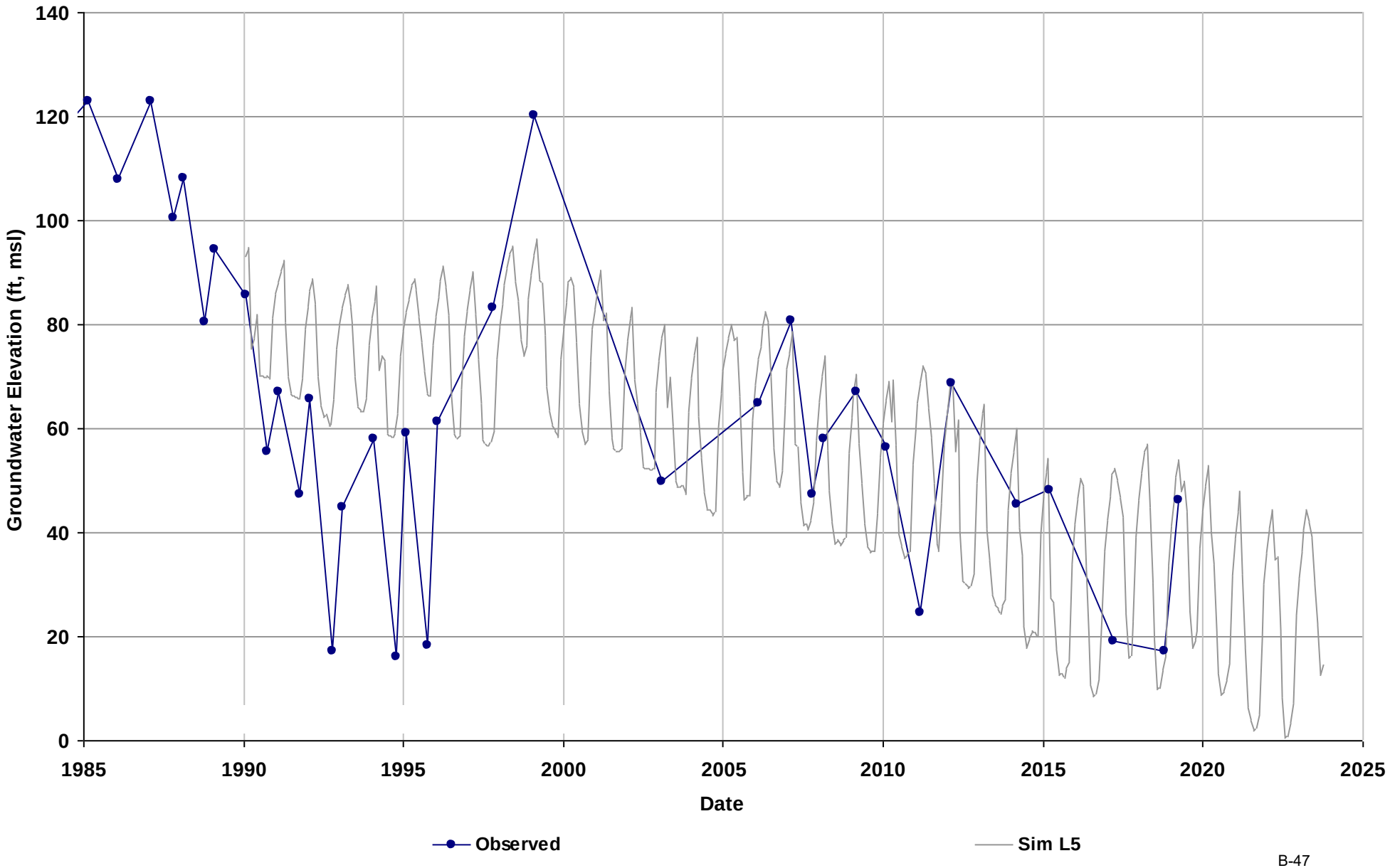
Total Depth (ft): 500
Perf Top (ft): 300
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 11S14E09A003M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 138

Average Residual (feet): 13.99
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 13.87
Layer 6: 14.12

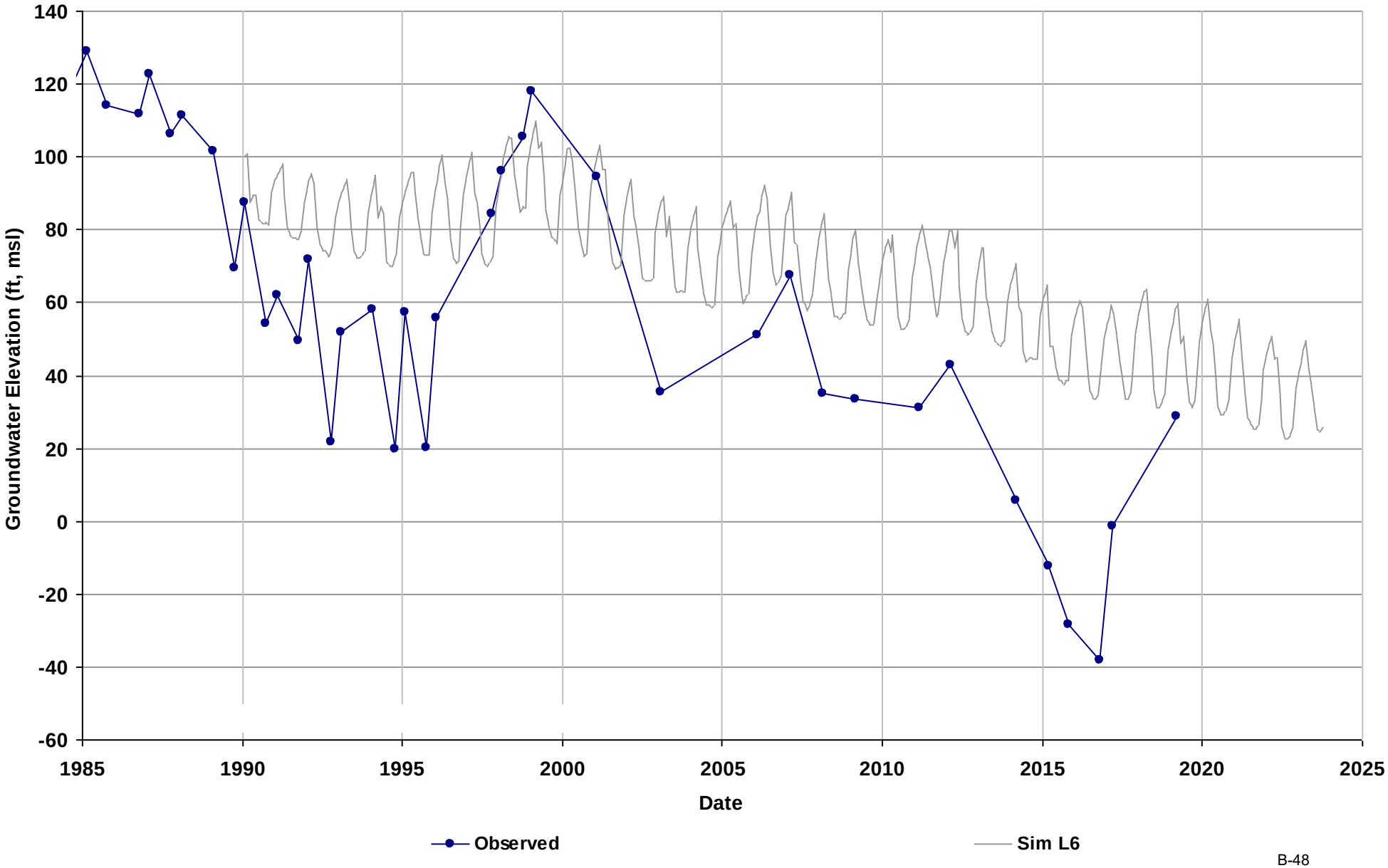
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S14E13R001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 152

Average Residual (feet): 33.09
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 33.4
Layer 6: 32.78

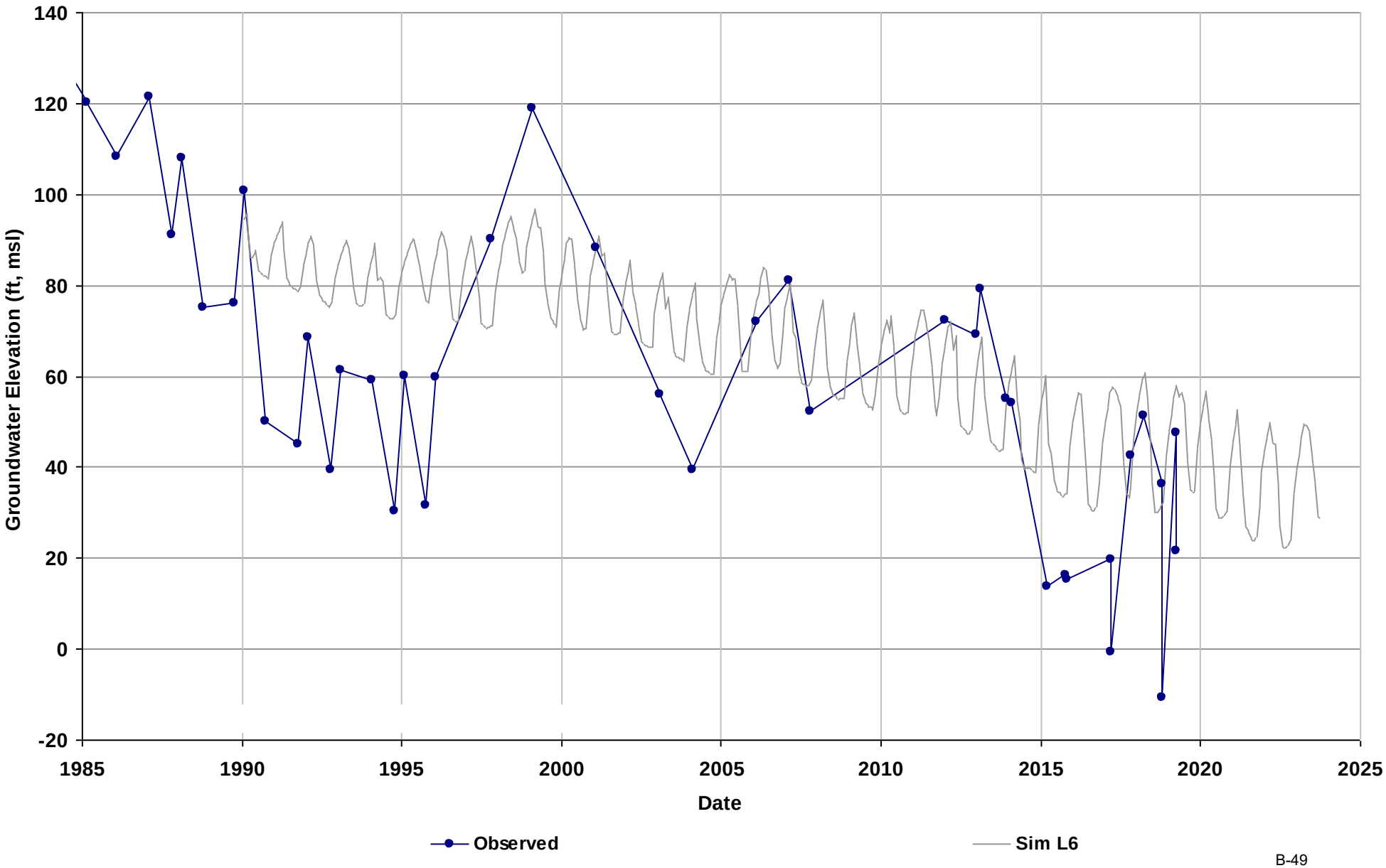
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S14E16A001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 138

Average Residual (feet): 15.74
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 15.73
Layer 6: 15.74

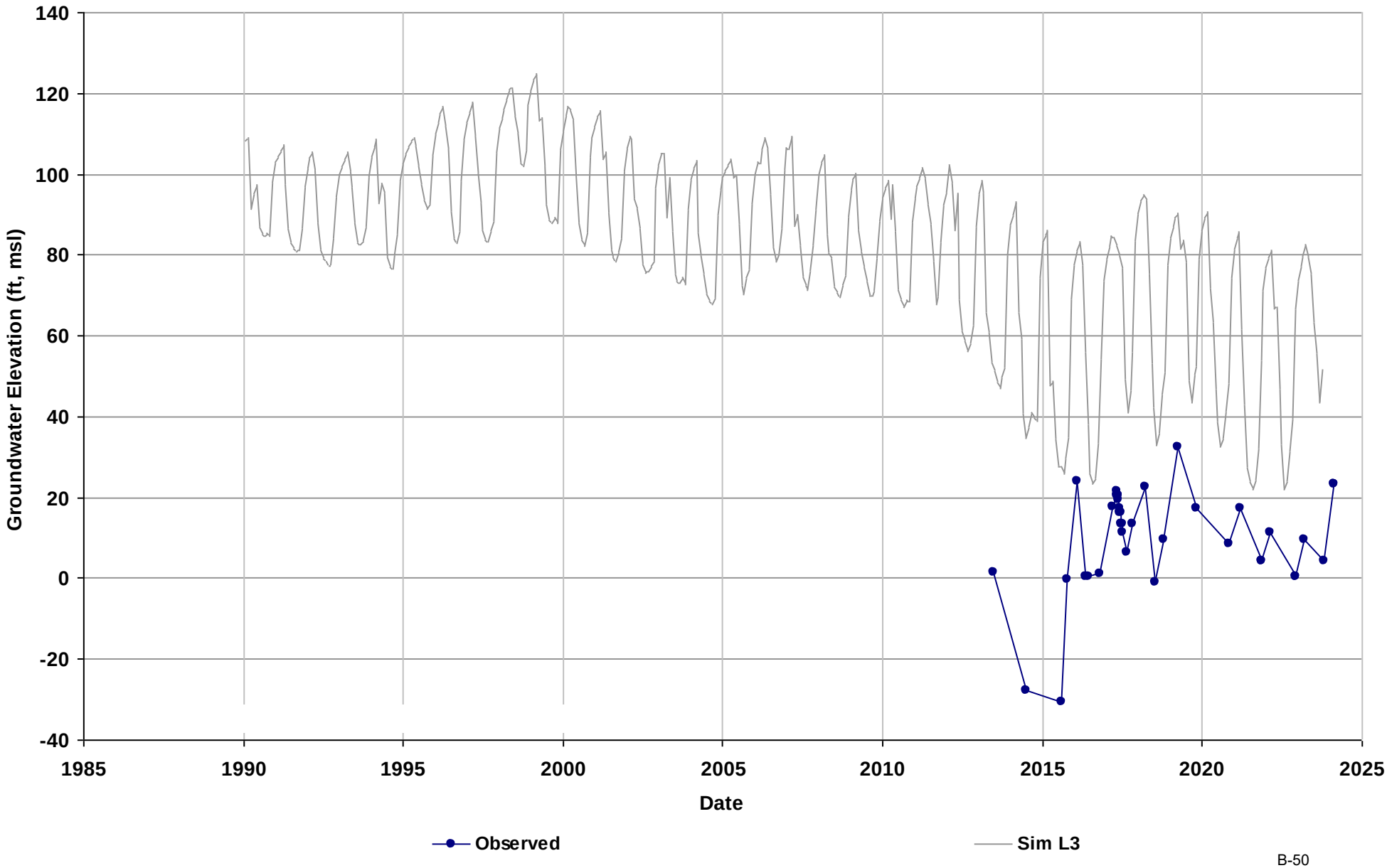
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S14E22F001M
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 141

Average Residual (feet): 55.74
Layer 1:
Layer 2:
Layer 3: 55.74
Layer 4:
Layer 5:
Layer 6:

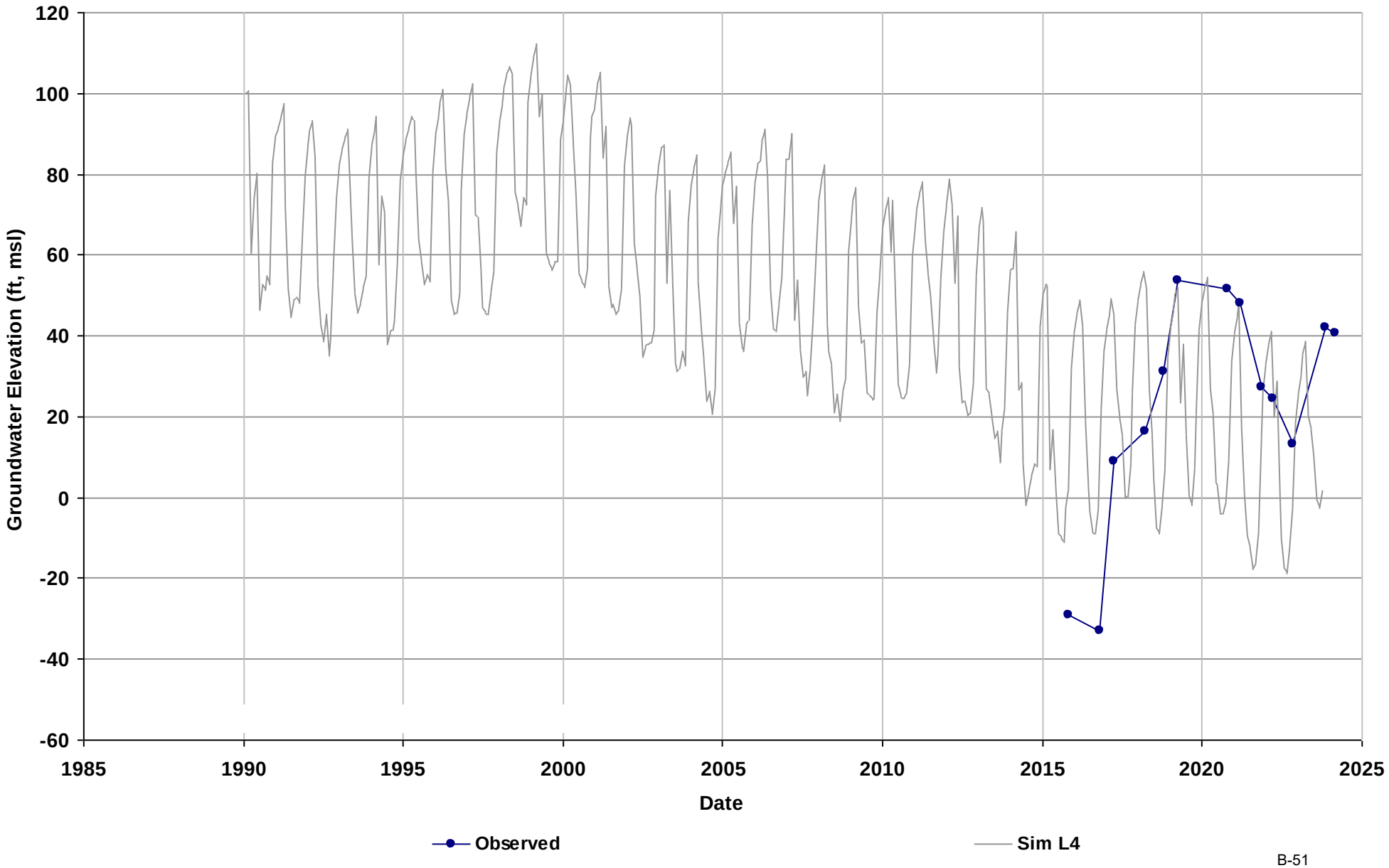
Total Depth (ft): 840
Perf Top (ft): 190
Perf Bottom (ft): 260
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 11S15E01F001M
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 142

Average Residual (feet): 3.44
Layer 1:
Layer 2:
Layer 3:
Layer 4: 3.44
Layer 5:
Layer 6:

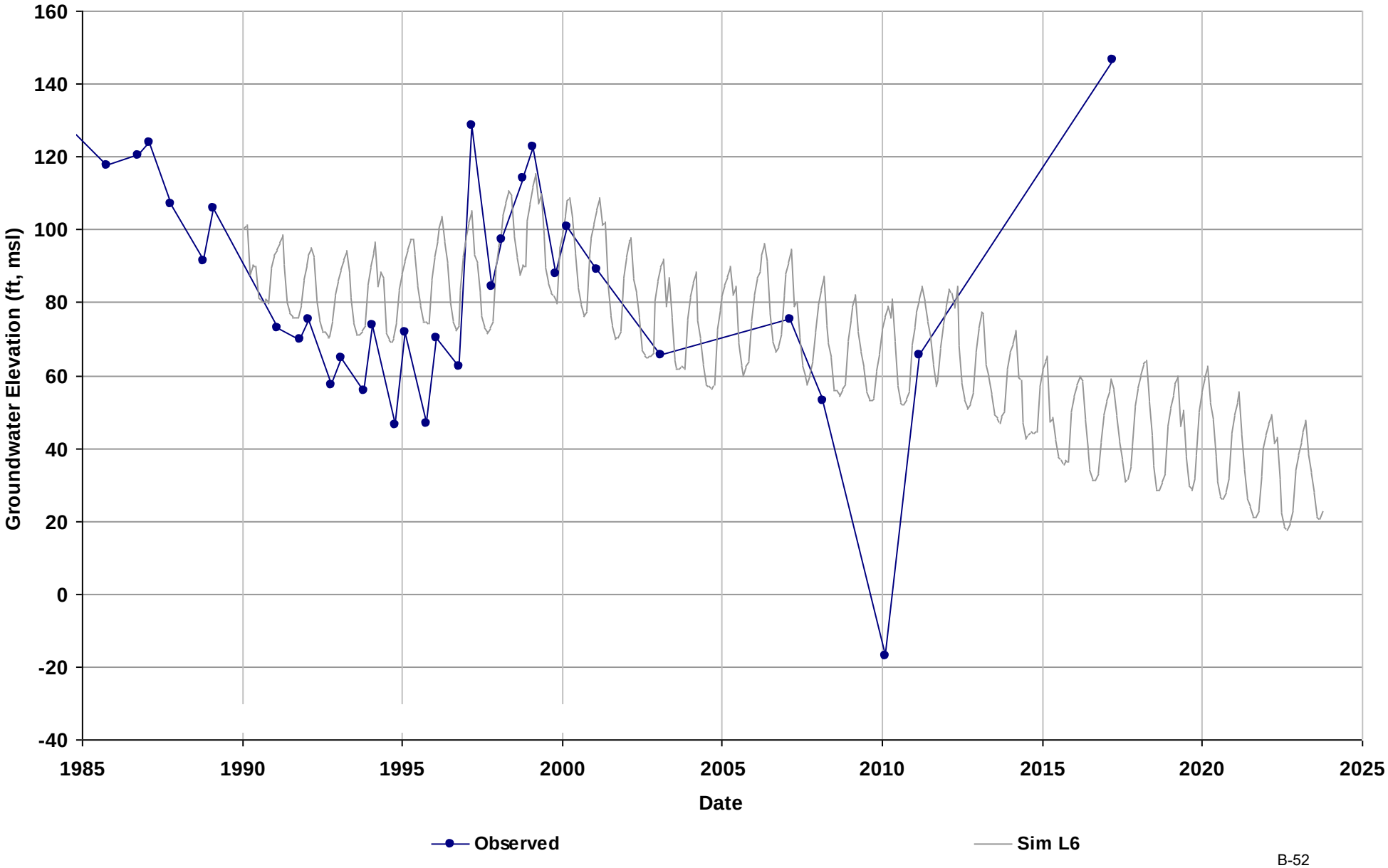
Total Depth (ft): 480
Perf Top (ft): 160
Perf Bottom (ft): 475
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 11S15E17P001M
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 158

Average Residual (feet): 10.44
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 11.52
Layer 6: 9.37

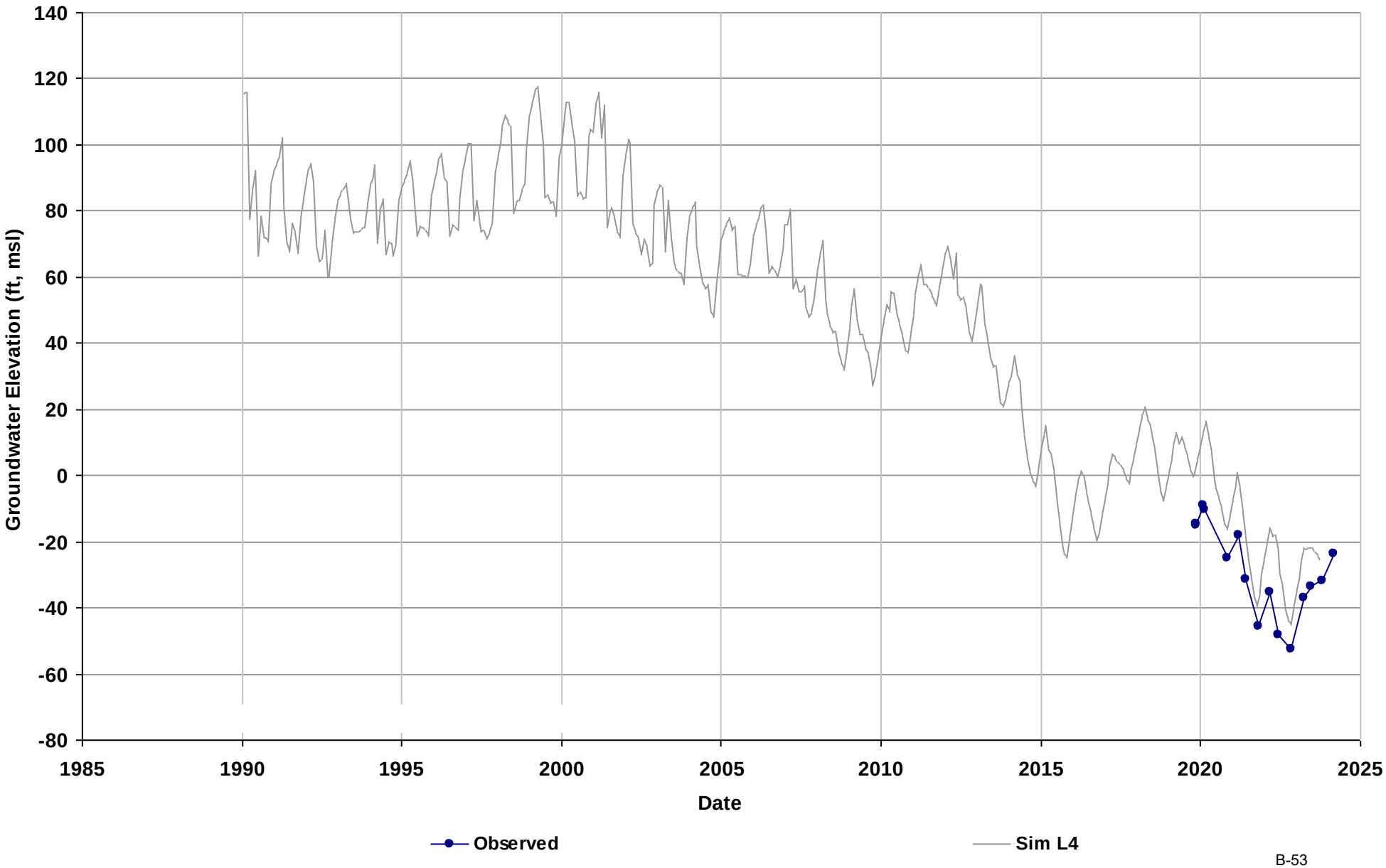
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: CSB01A
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 185

Average Residual (feet): 15.47
Layer 1:
Layer 2:
Layer 3:
Layer 4: 15.47
Layer 5:
Layer 6:

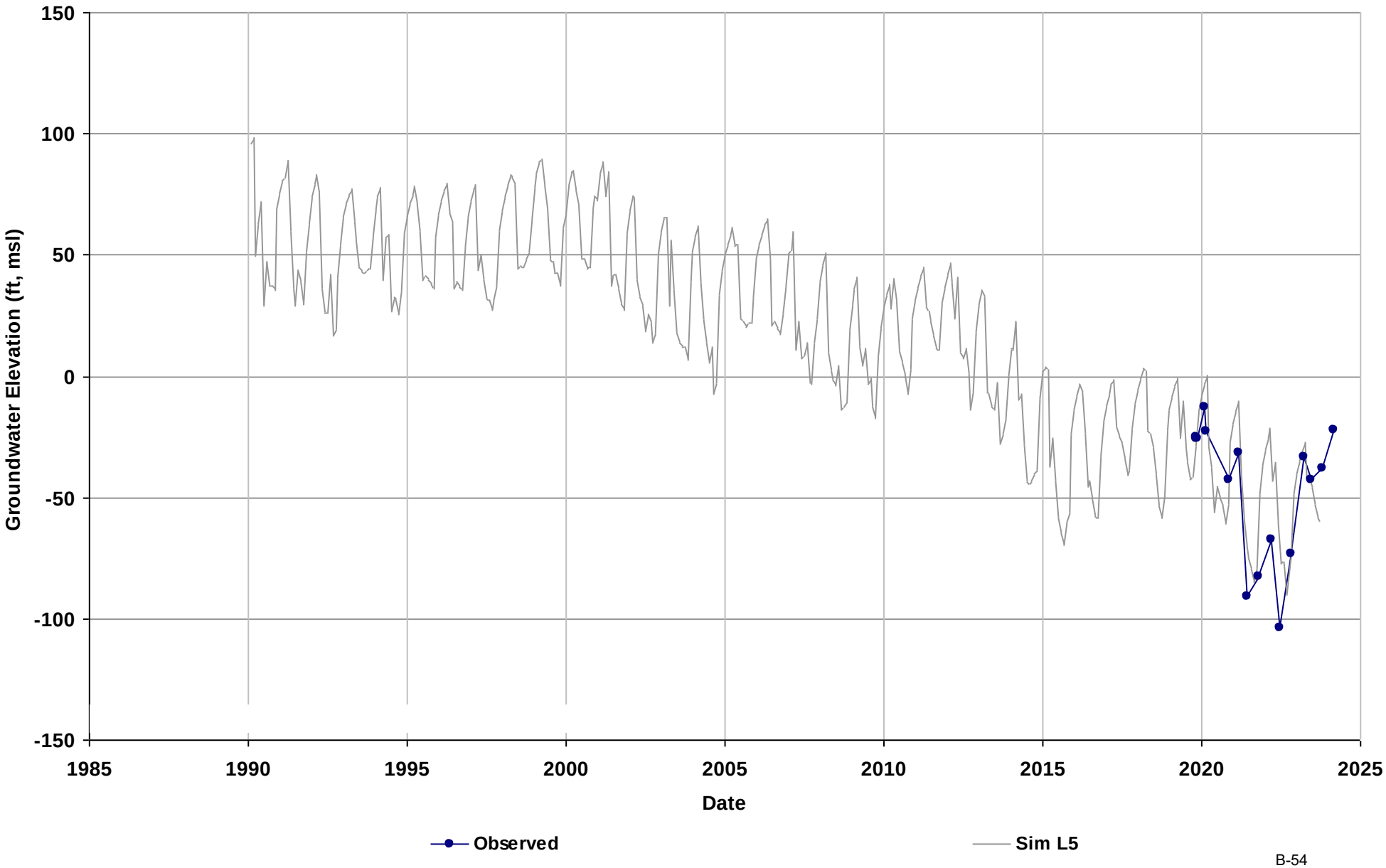
Total Depth (ft): 305
Perf Top (ft): 140
Perf Bottom (ft): 255
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB01B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 185

Average Residual (feet): 10.93
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 10.93
Layer 6:

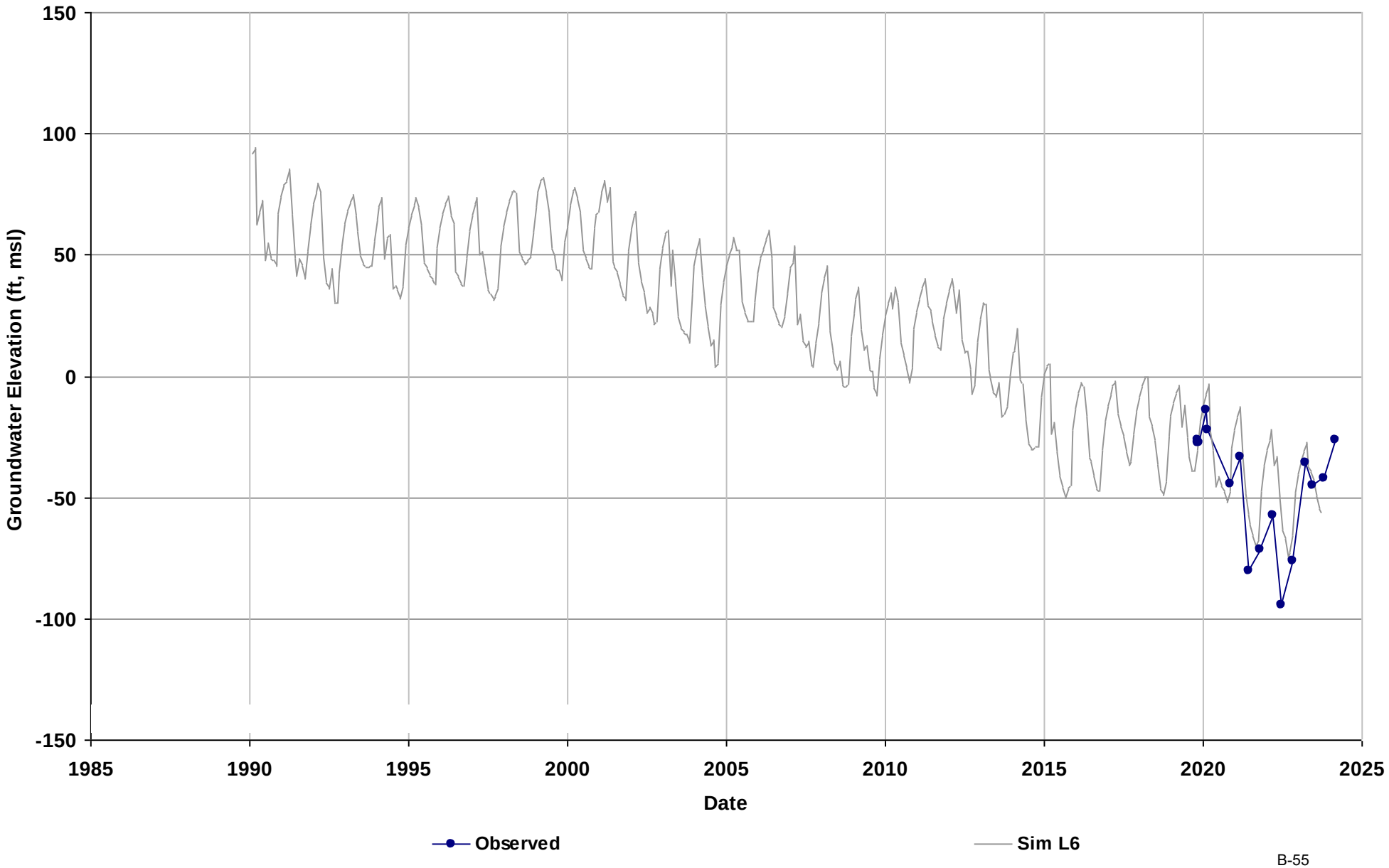
Total Depth (ft): 710
Perf Top (ft): 535
Perf Bottom (ft): 700
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB01C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 185

Average Residual (feet): 10.34
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 9.17
Layer 6: 11.52

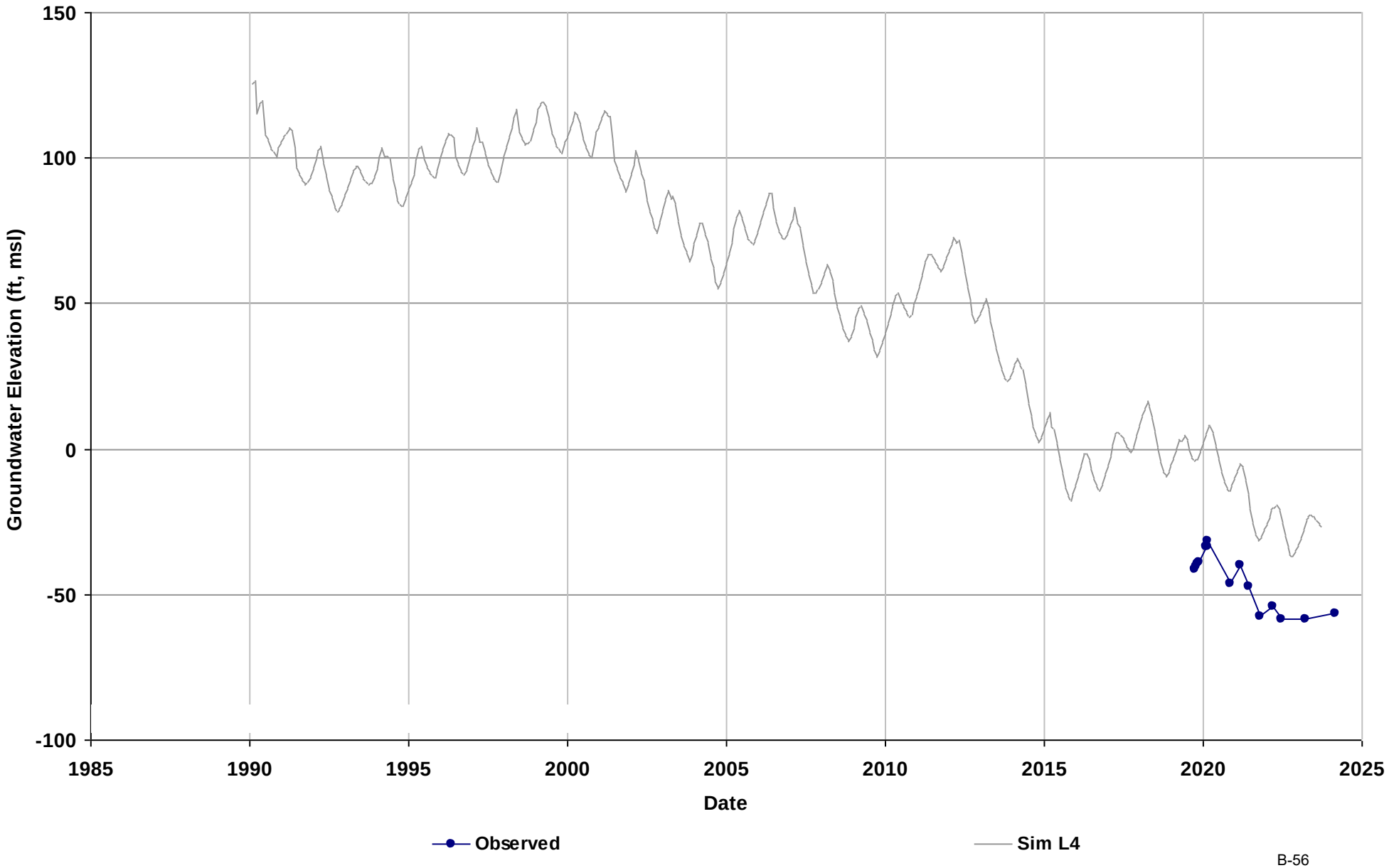
Total Depth (ft): 960
Perf Top (ft): 865
Perf Bottom (ft): 950
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: CSB02A
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 221

Average Residual (feet): 34.9
Layer 1:
Layer 2:
Layer 3:
Layer 4: 34.9
Layer 5:
Layer 6:

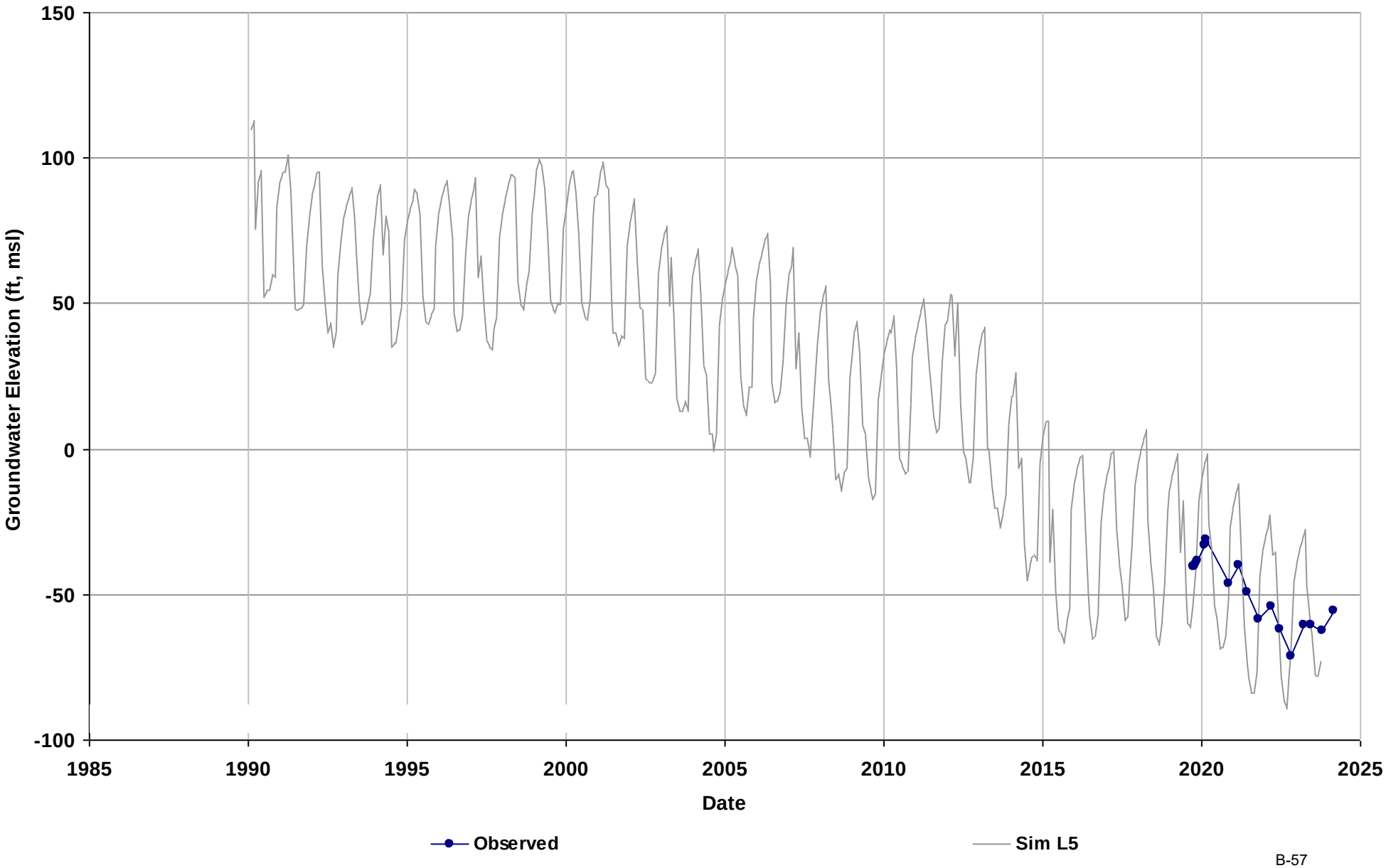
Total Depth (ft): 290
Perf Top (ft): 105
Perf Bottom (ft): 280
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB02B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 221

Average Residual (feet): 7.86
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 7.86
Layer 6:

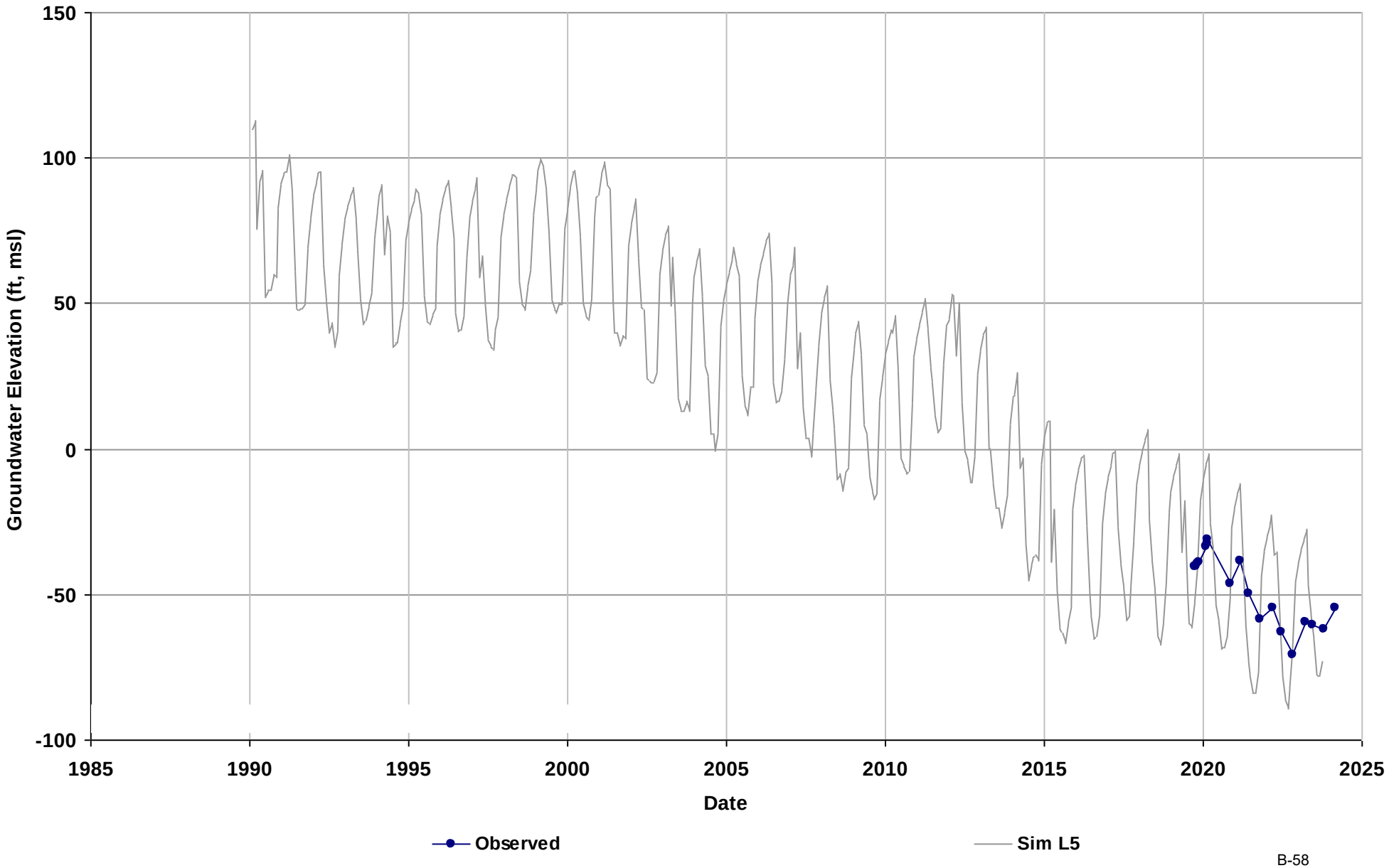
Total Depth (ft): 490
Perf Top (ft): 320
Perf Bottom (ft): 480
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB02C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 221

Average Residual (feet): 7.96
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 7.96
Layer 6:

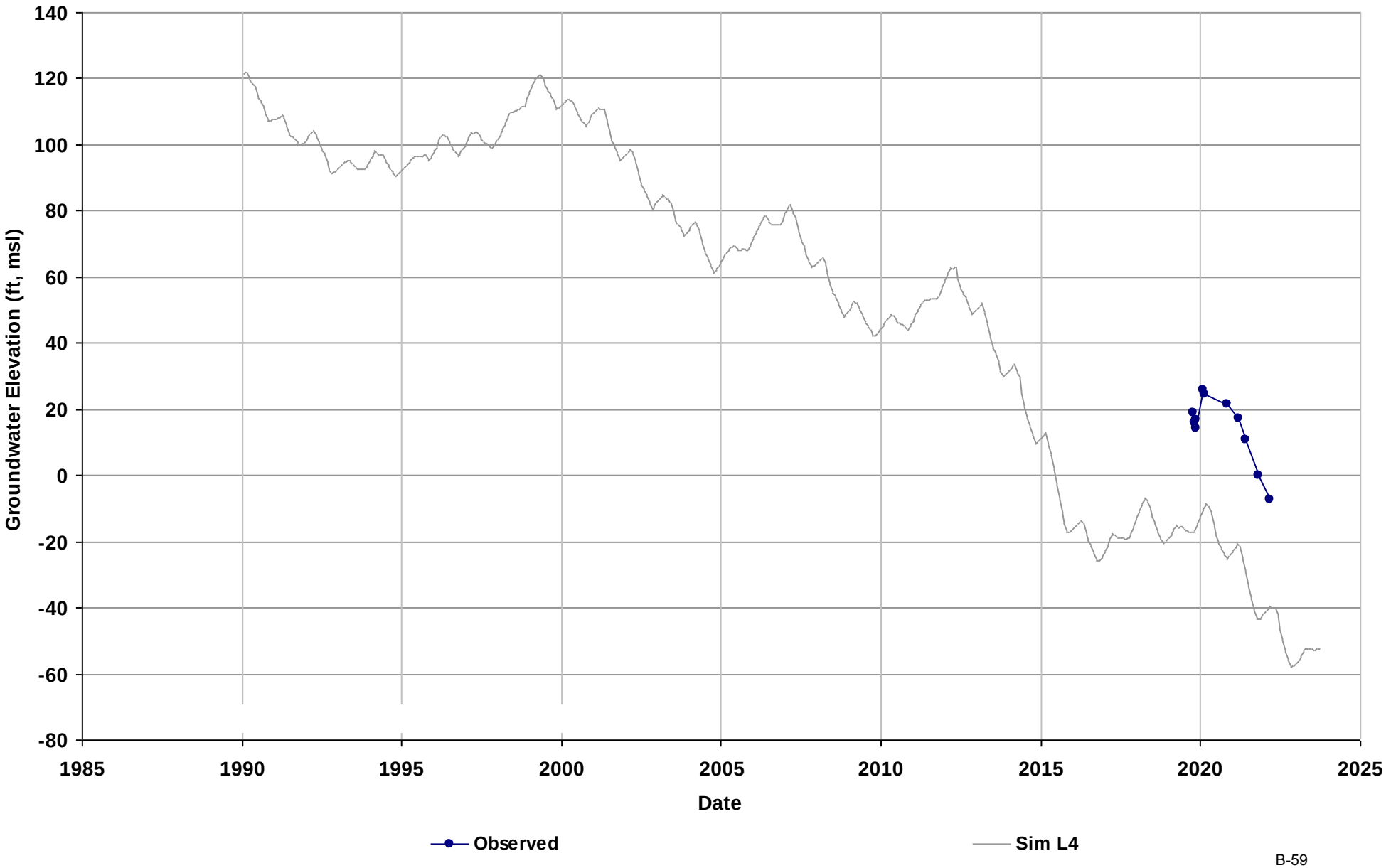
Total Depth (ft): 760
Perf Top (ft): 660
Perf Bottom (ft): 750
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB03A
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 265

Average Residual (feet): -36.78
Layer 1:
Layer 2:
Layer 3:
Layer 4: -36.78
Layer 5:
Layer 6:

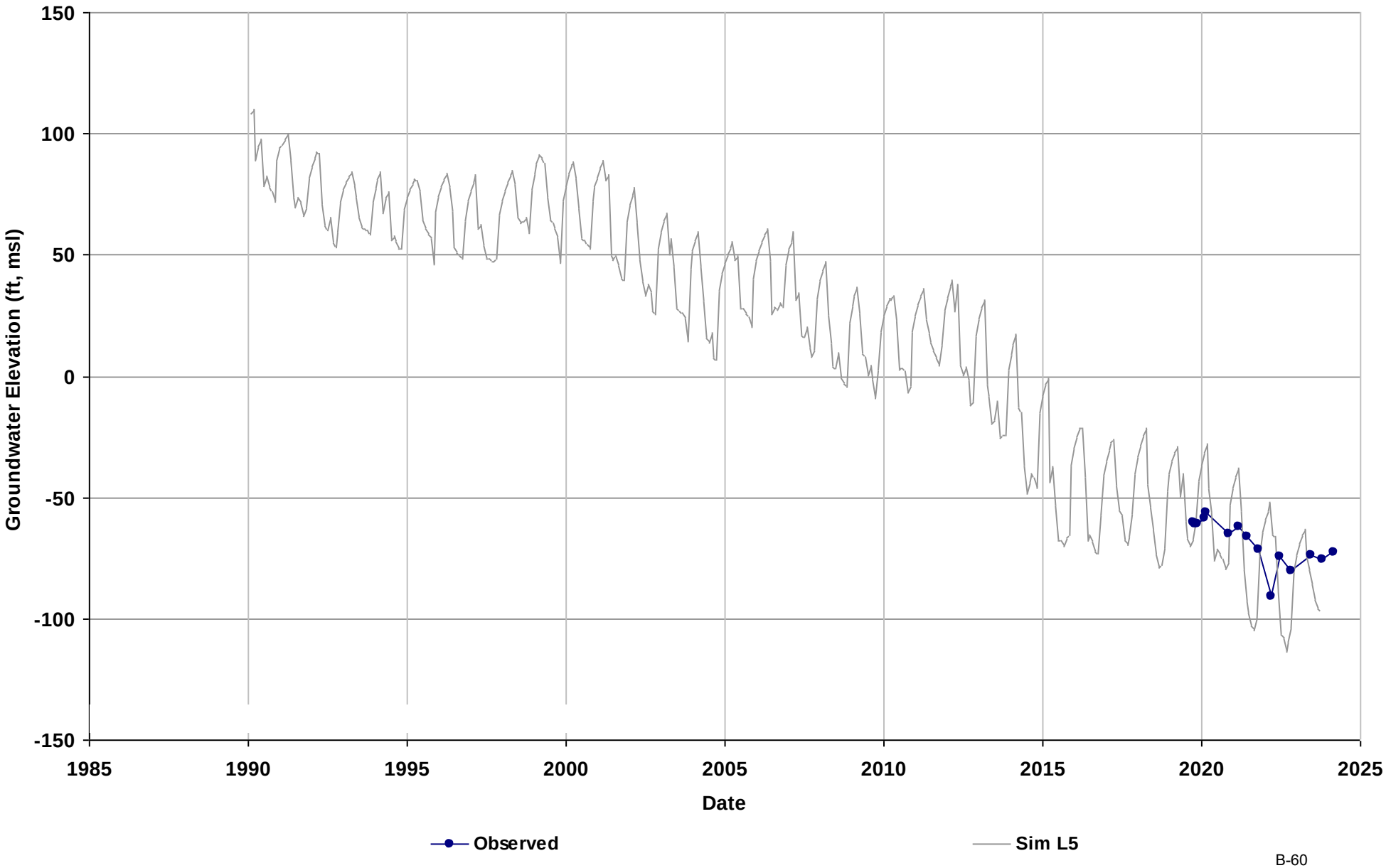
Total Depth (ft): 285
Perf Top (ft): 225
Perf Bottom (ft): 275
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB03B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 265

Average Residual (feet): 0.01
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 0.01
Layer 6:

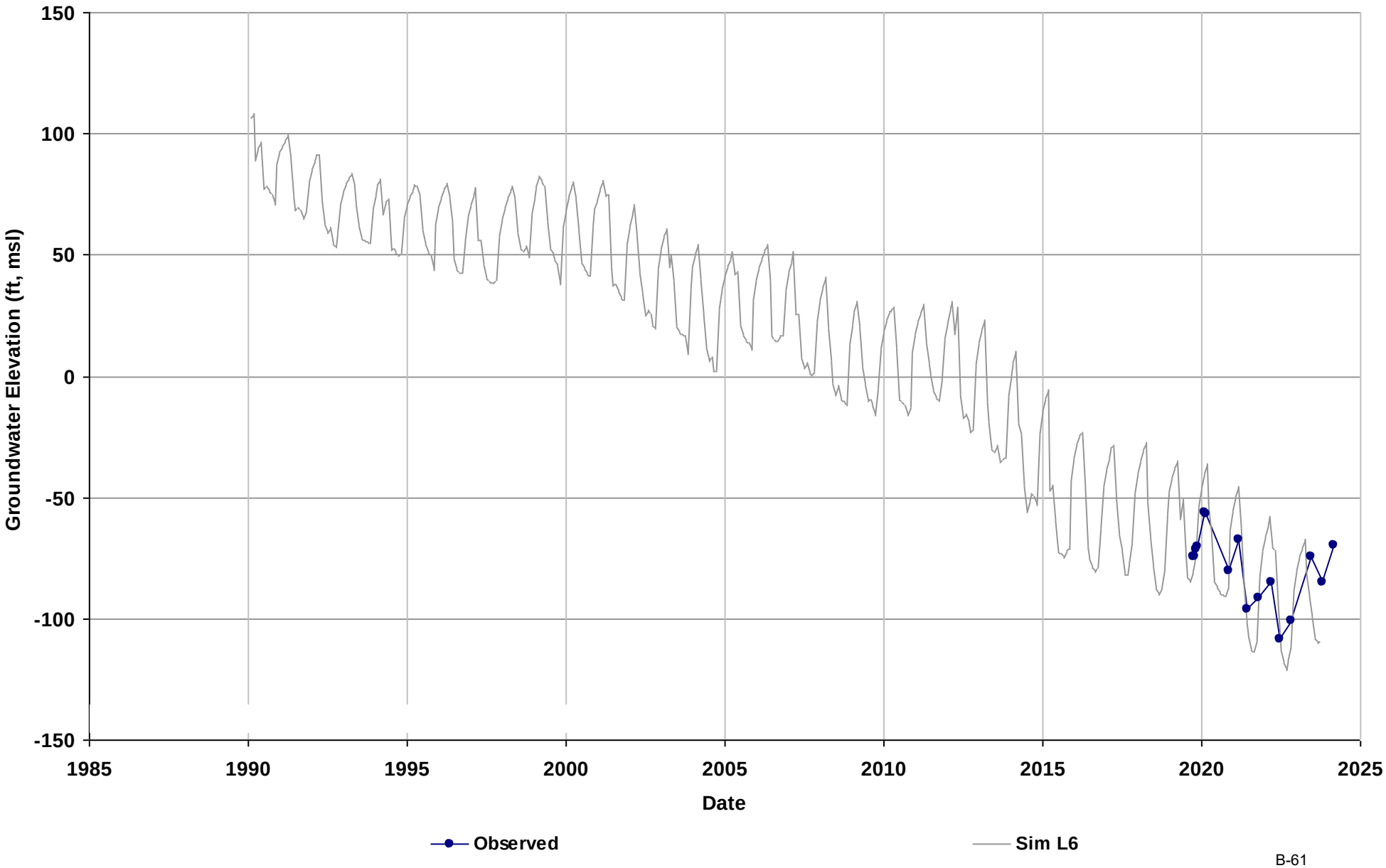
Total Depth (ft): 540
Perf Top (ft): 420
Perf Bottom (ft): 530
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB03C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 265

Average Residual (feet): 2.16
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 2.16

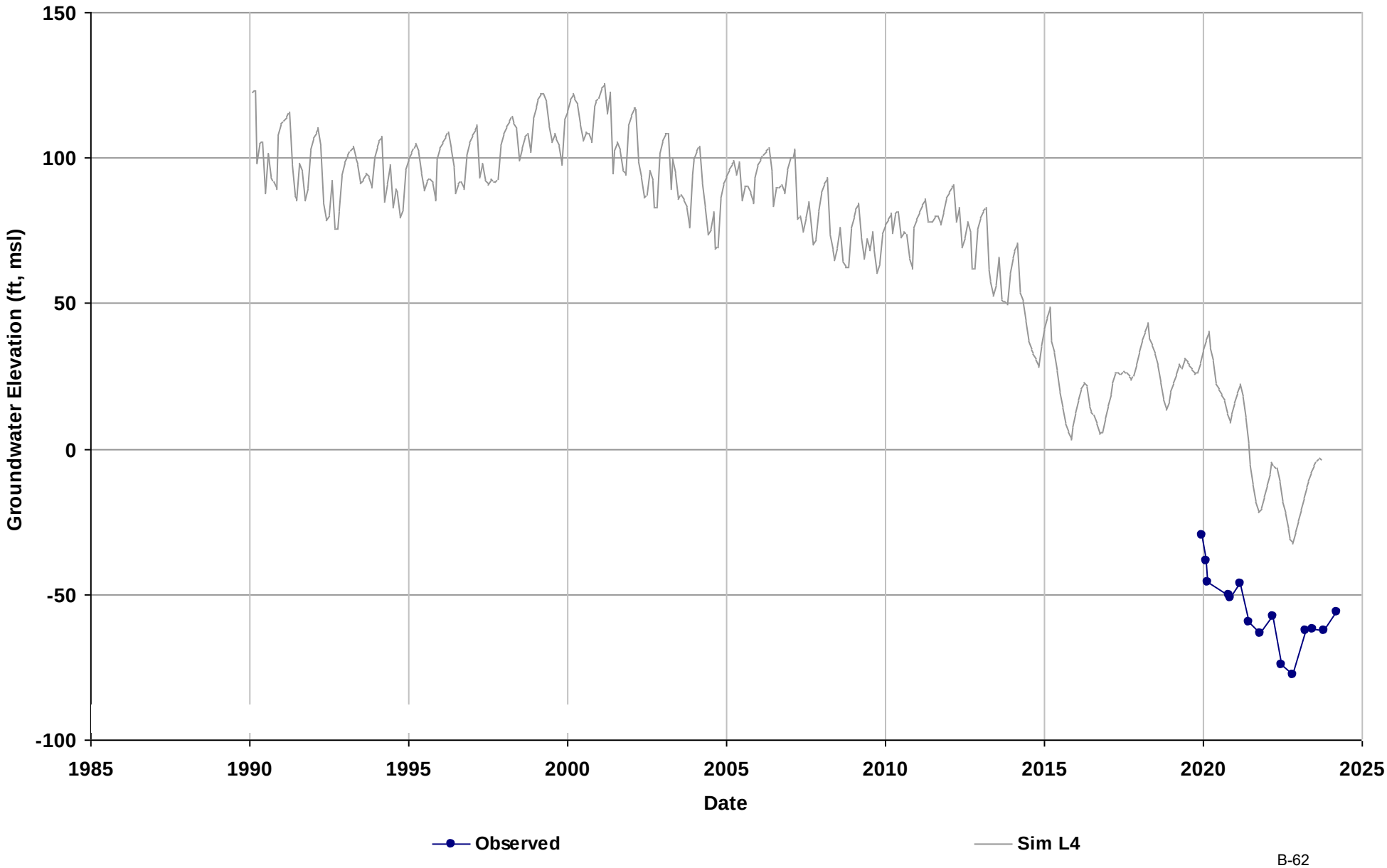
Total Depth (ft): 830
Perf Top (ft): 660
Perf Bottom (ft): 820
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: CSB05A
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Average Residual (feet): 59.34
Layer 1:
Layer 2:
Layer 3:
Layer 4: 59.34
Layer 5:
Layer 6:

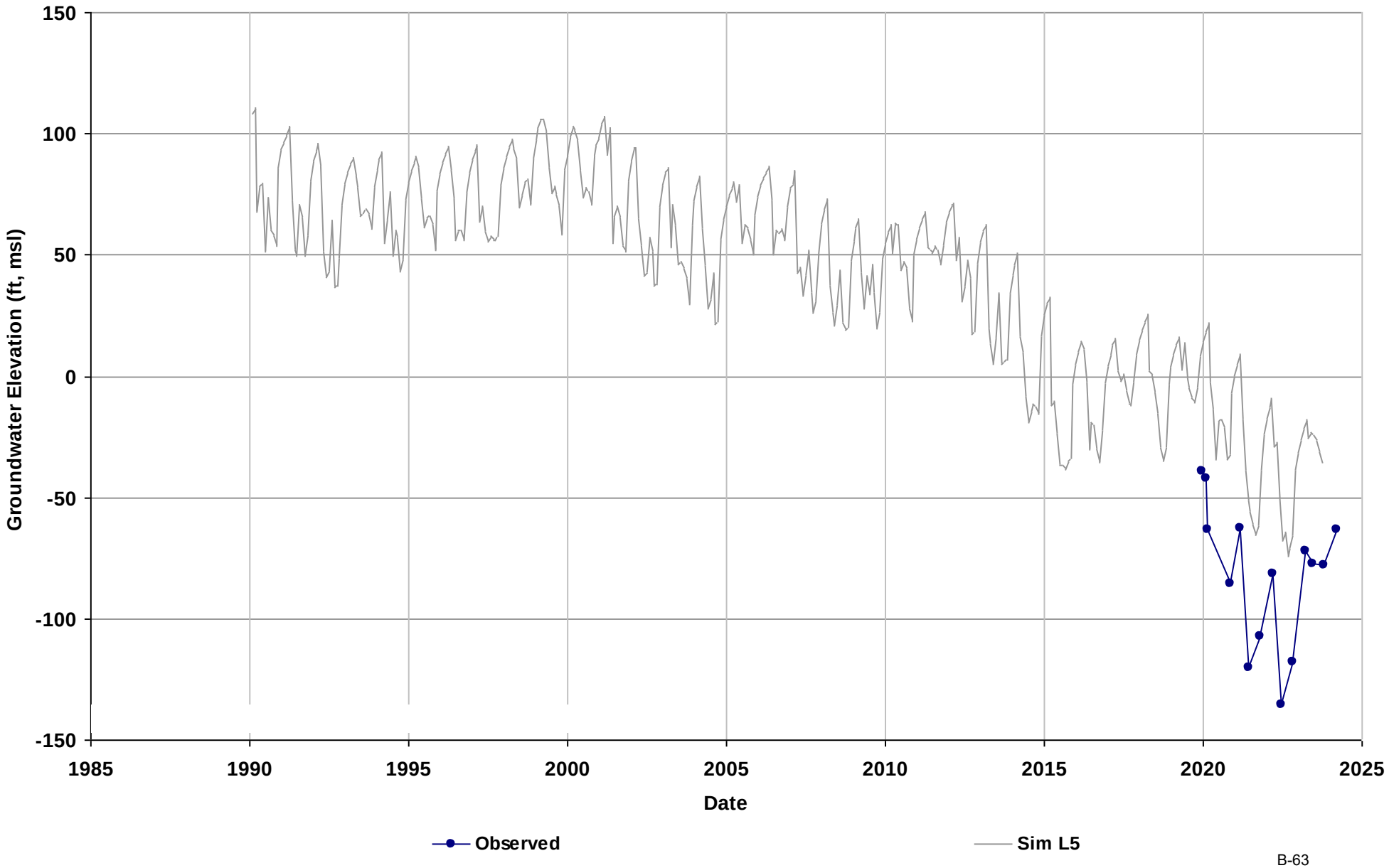
Total Depth (ft): 390
Perf Top (ft): 150
Perf Bottom (ft): 380
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB05B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Average Residual (feet): 61.98
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 61.98
Layer 6:

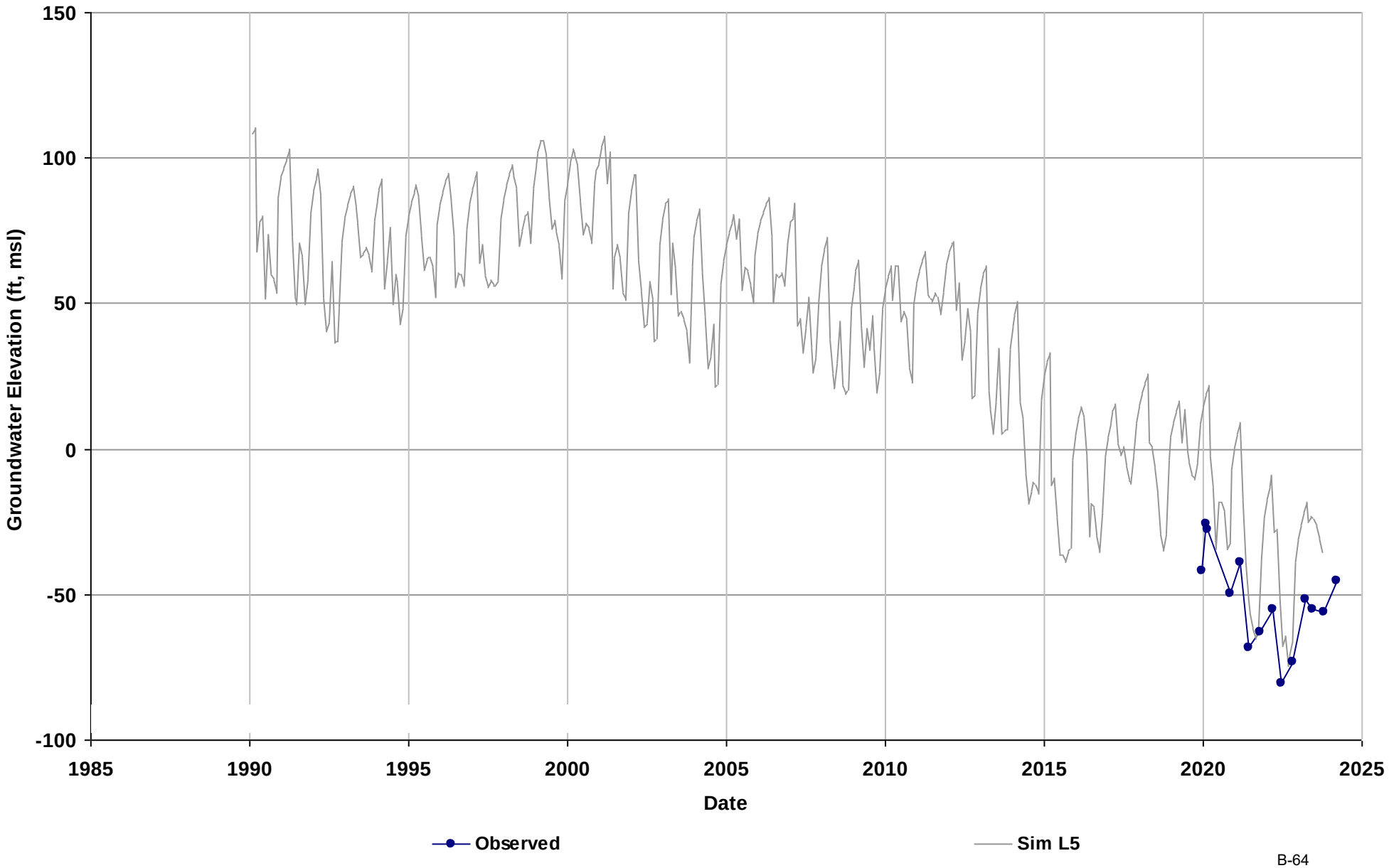
Total Depth (ft): 610
Perf Top (ft): 440
Perf Bottom (ft): 600
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB05C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Average Residual (feet): 30.94
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 30.94
Layer 6:

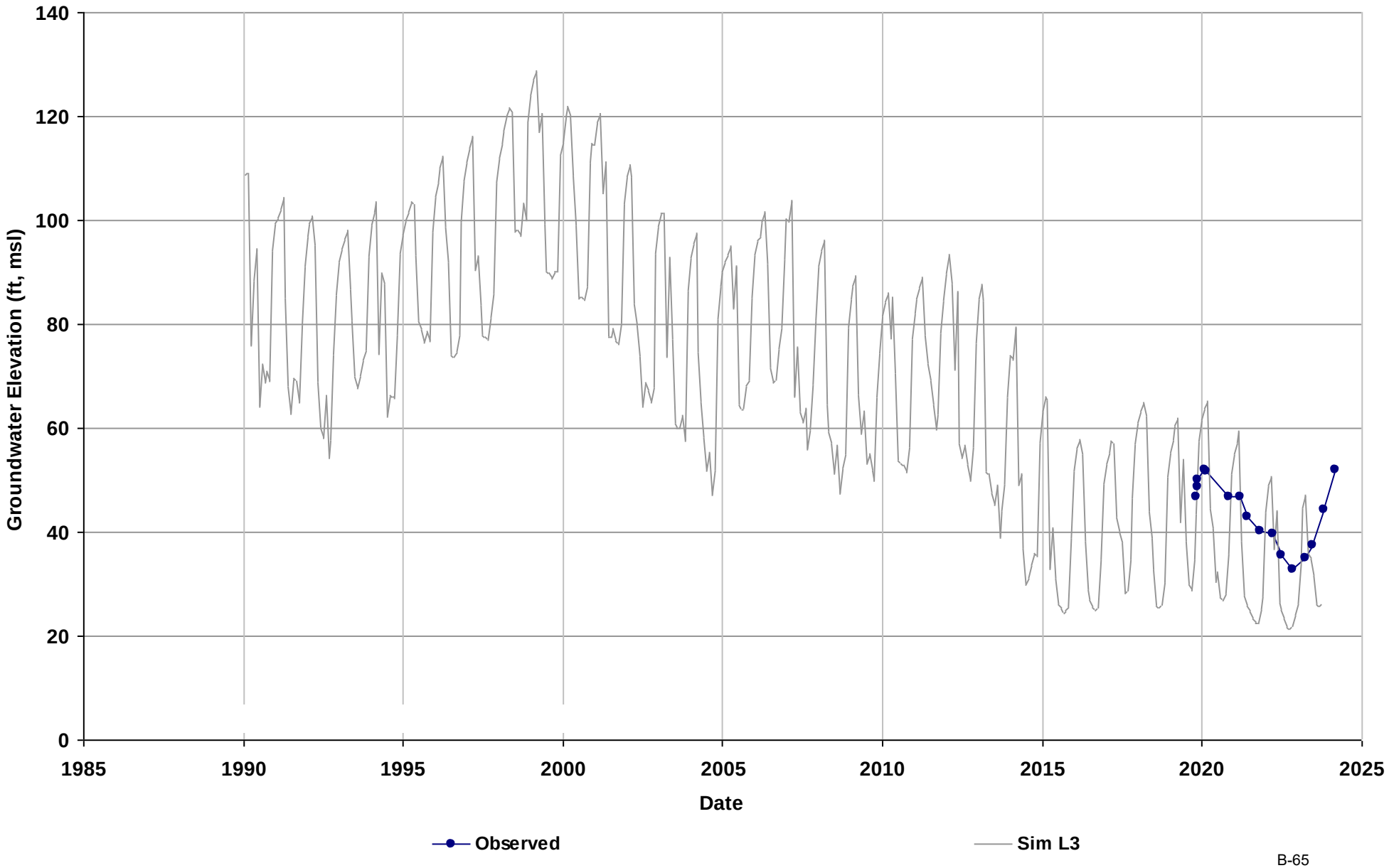
Total Depth (ft): 840
Perf Top (ft): 730
Perf Bottom (ft): 830
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB06A
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 149

Average Residual (feet): -2.21
Layer 1:
Layer 2:
Layer 3: -2.21
Layer 4:
Layer 5:
Layer 6:

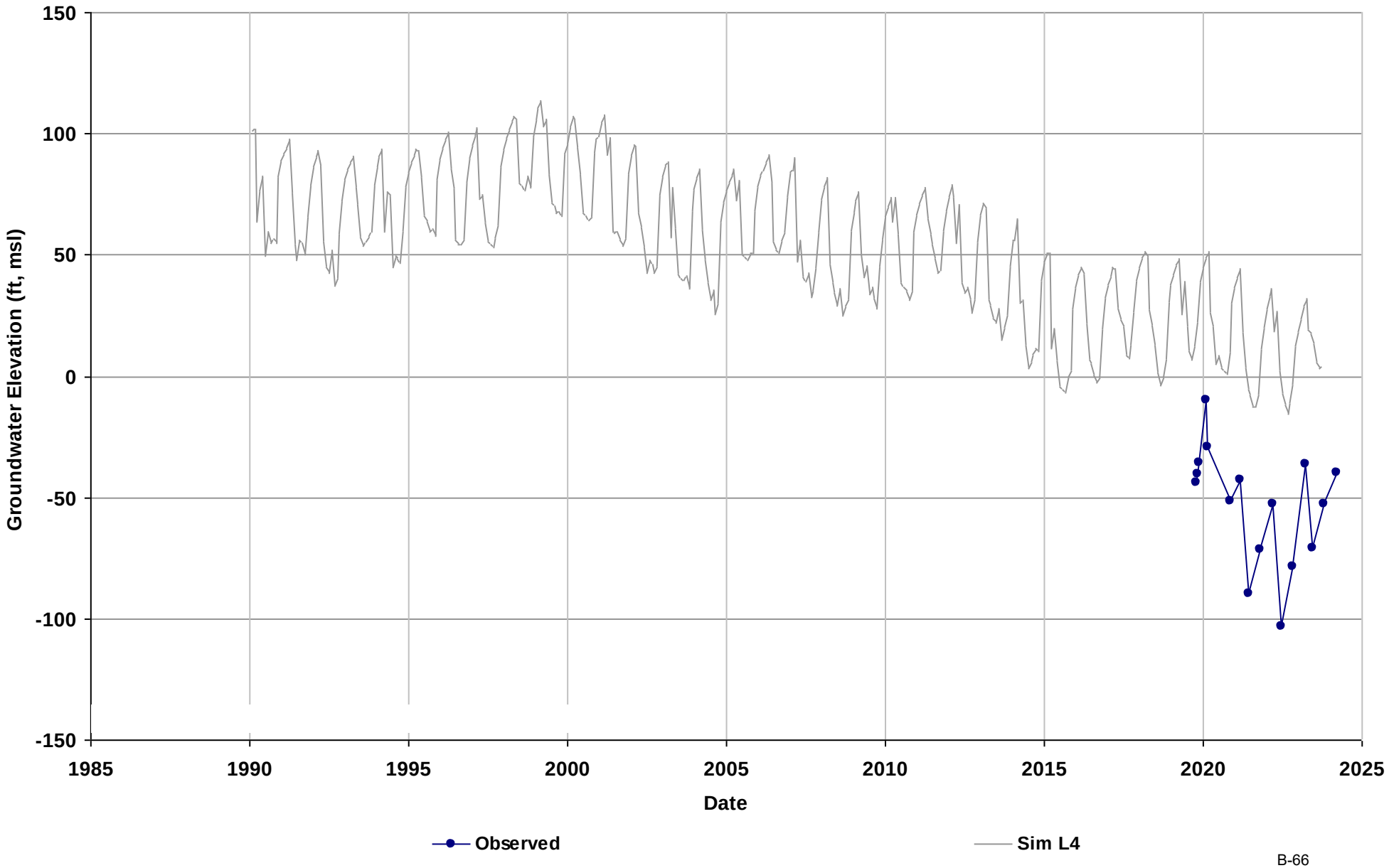
Total Depth (ft): 197
Perf Top (ft): 92
Perf Bottom (ft): 192
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: CSB06B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 149

Average Residual (feet): 74.45
Layer 1:
Layer 2:
Layer 3:
Layer 4: 74.45
Layer 5:
Layer 6:

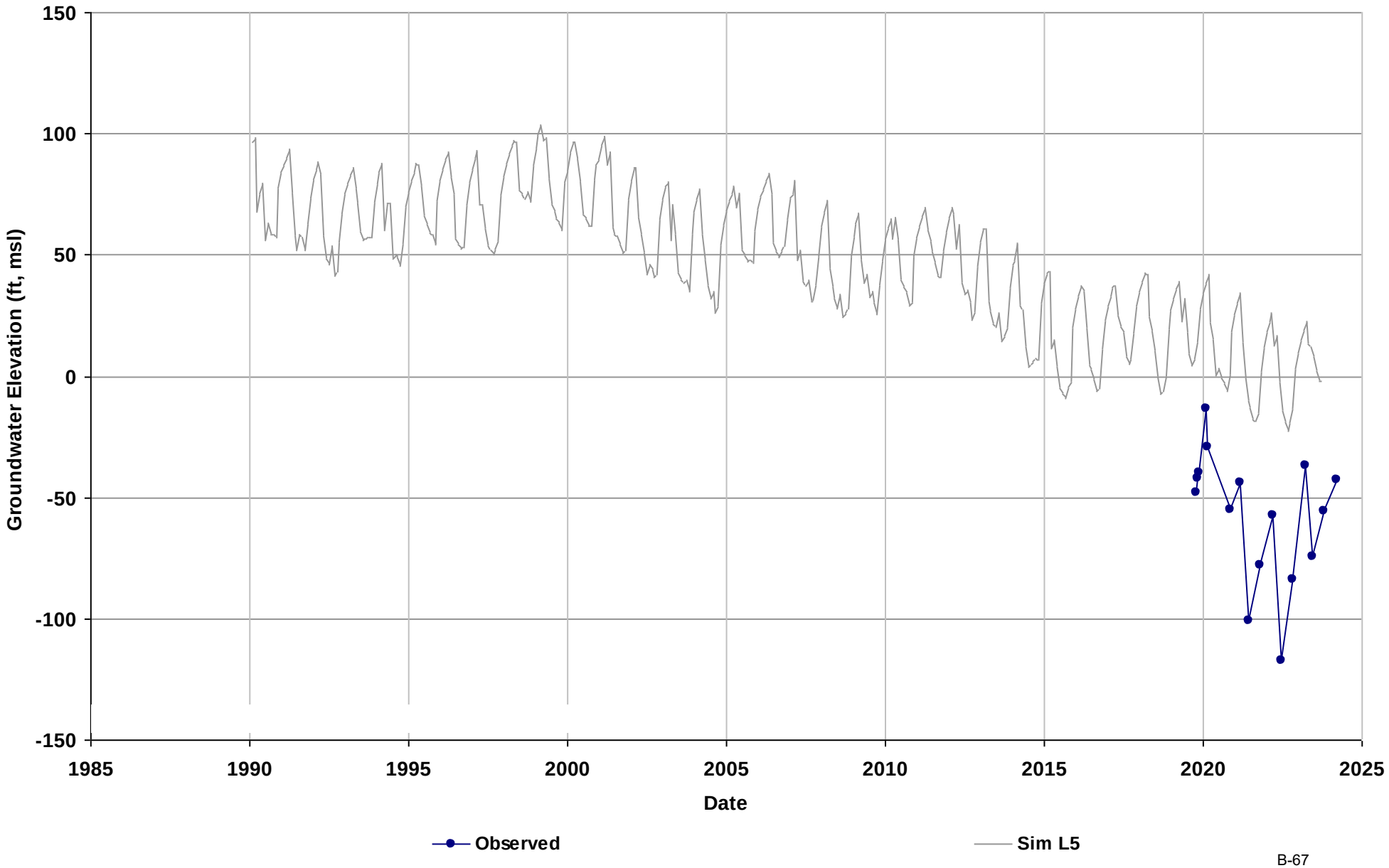
Total Depth (ft): 370
Perf Top (ft): 240
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB06C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 149

Average Residual (feet): 70.71
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 70.71
Layer 6:

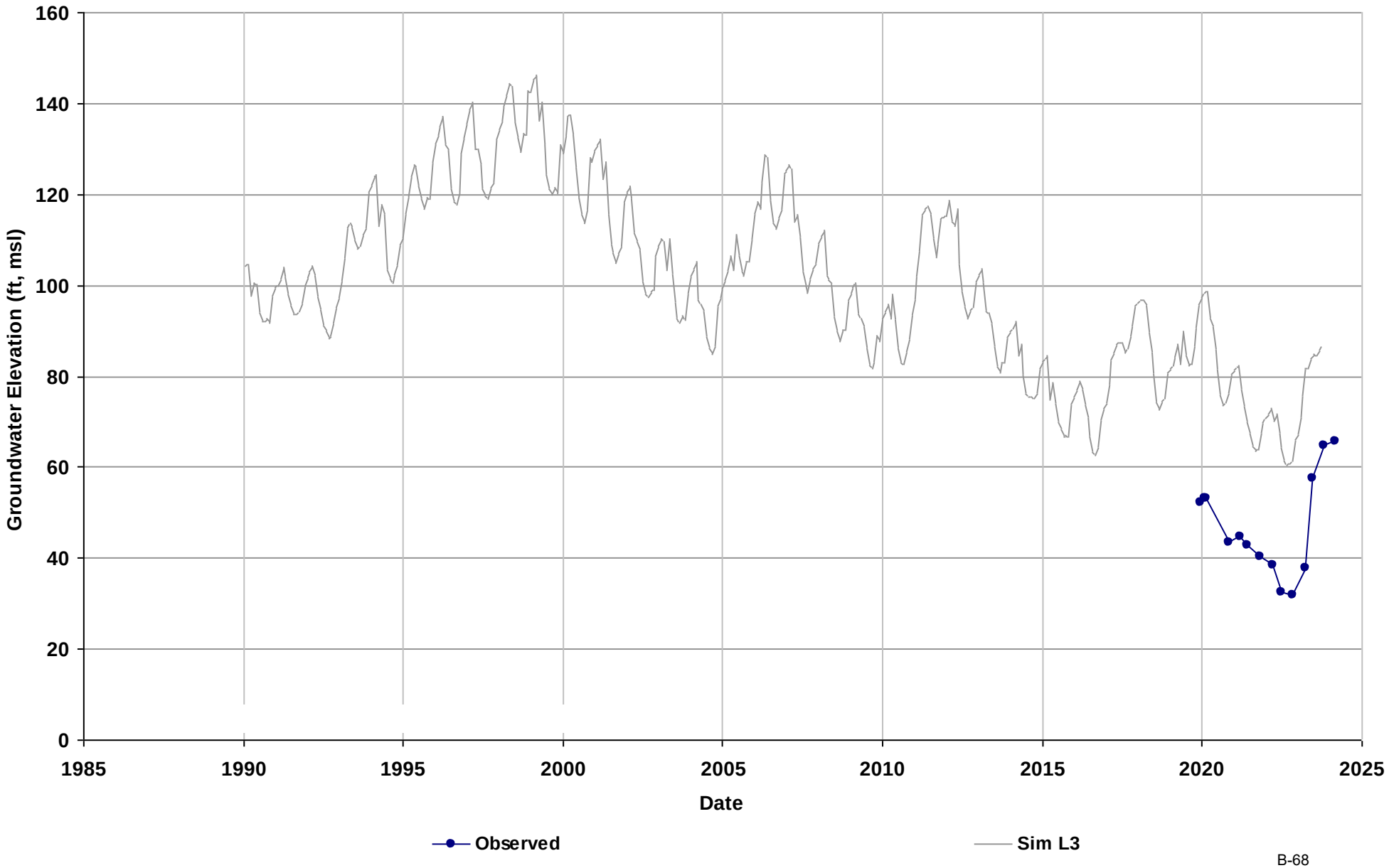
Total Depth (ft): 570
Perf Top (ft): 420
Perf Bottom (ft): 565
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB07A
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 154

Average Residual (feet): 35.2
Layer 1:
Layer 2:
Layer 3: 35.2
Layer 4:
Layer 5:
Layer 6:

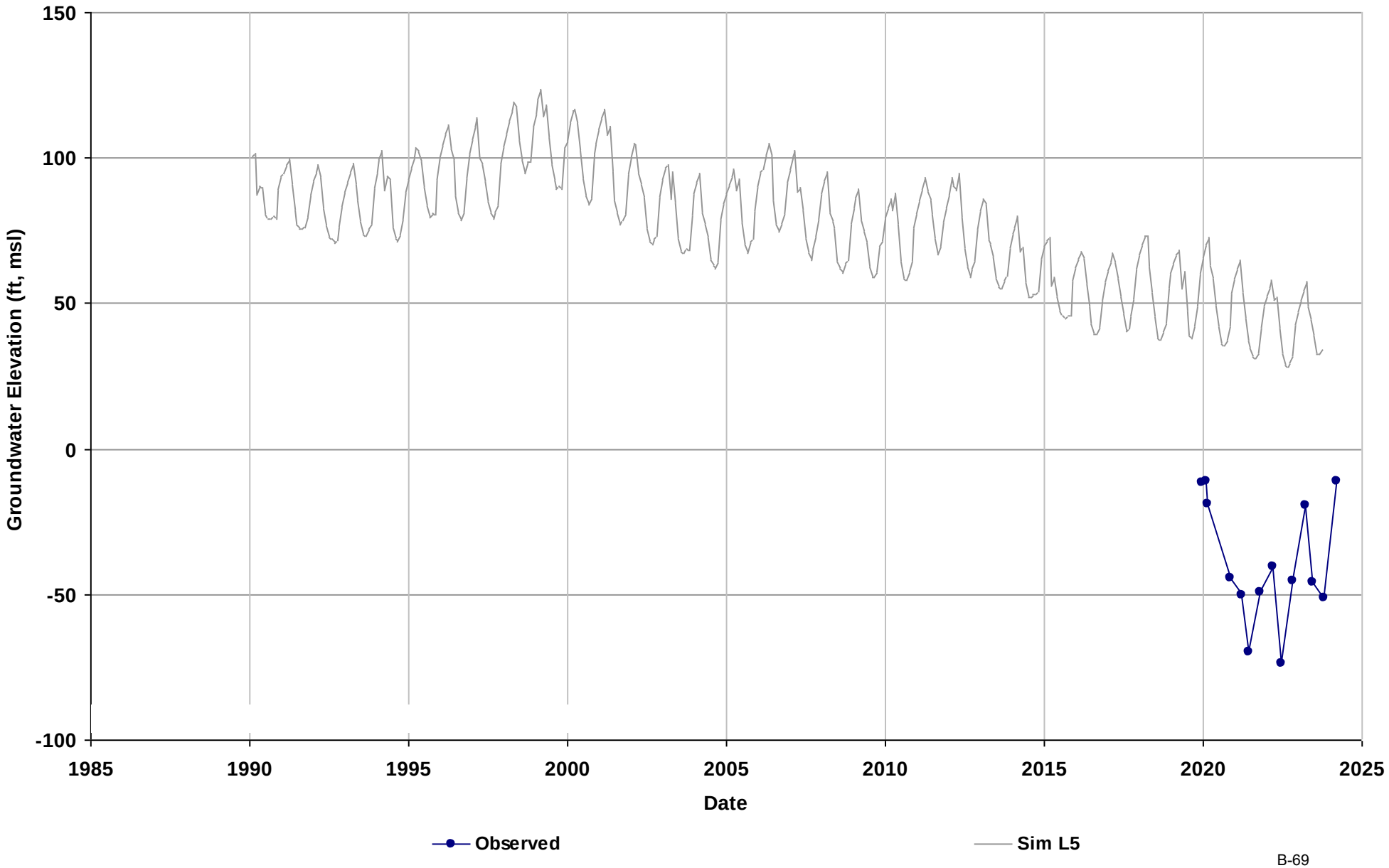
Total Depth (ft): 230
Perf Top (ft): 110
Perf Bottom (ft): 220
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: CSB07B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 154

Average Residual (feet): 90.56
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 90.56
Layer 6:

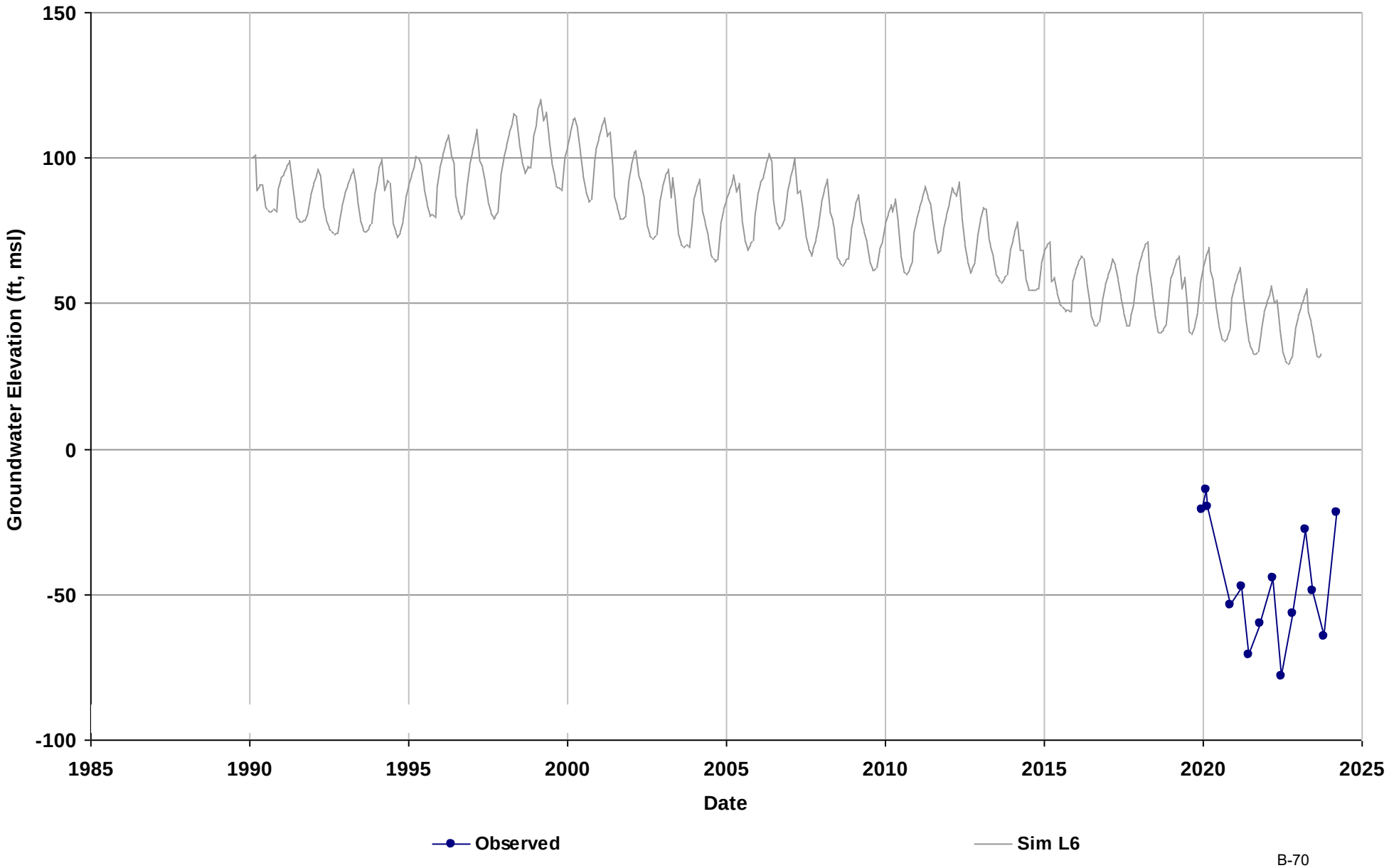
Total Depth (ft): 495
Perf Top (ft): 330
Perf Bottom (ft): 485
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB07C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 154

Average Residual (feet): 94.99
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 95.71
Layer 6: 94.28

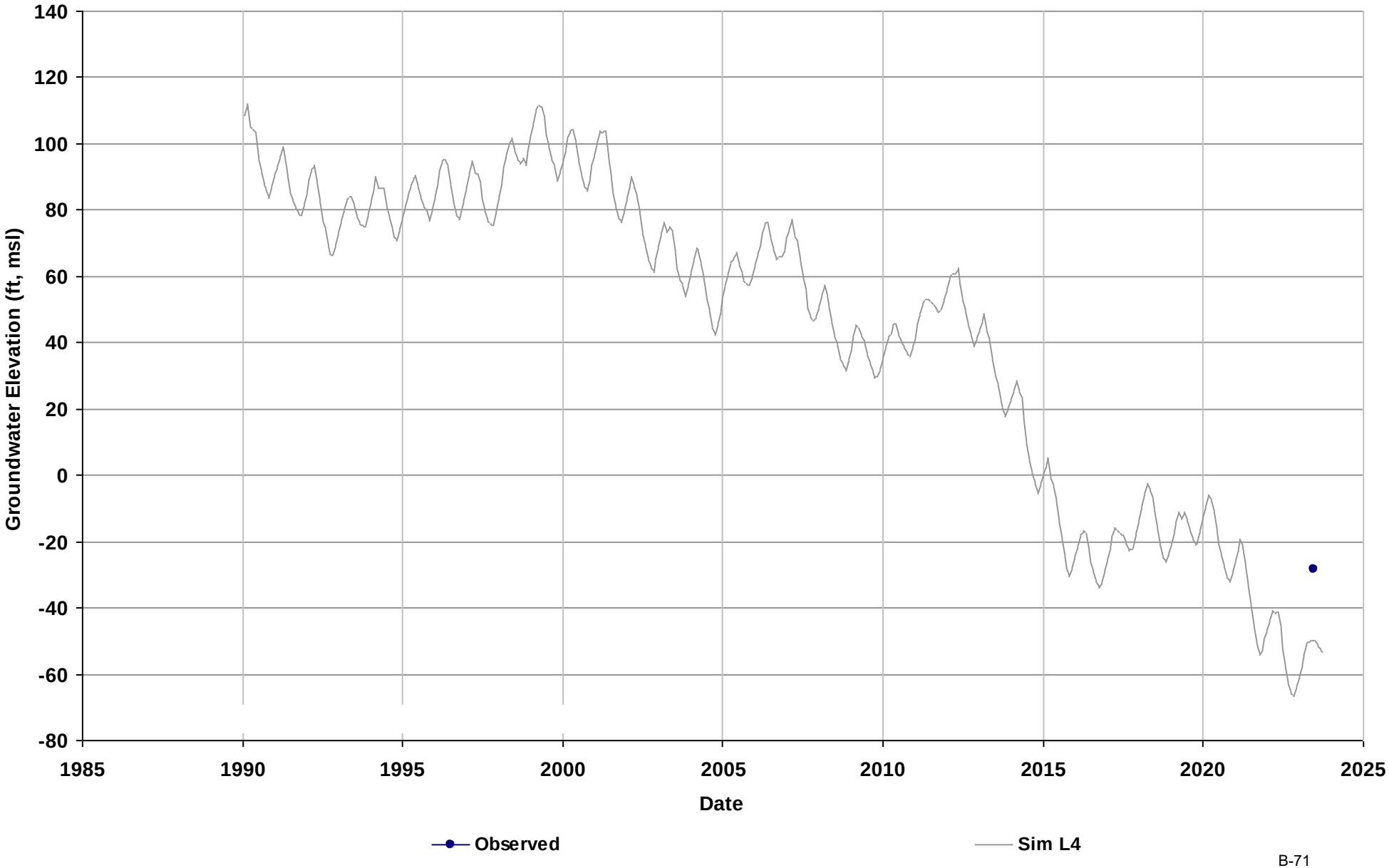
Total Depth (ft): 710
Perf Top (ft): 630
Perf Bottom (ft): 700
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: CSB08A
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 235

Average Residual (feet): -21.75
Layer 1:
Layer 2:
Layer 3:
Layer 4: -21.75
Layer 5:
Layer 6:

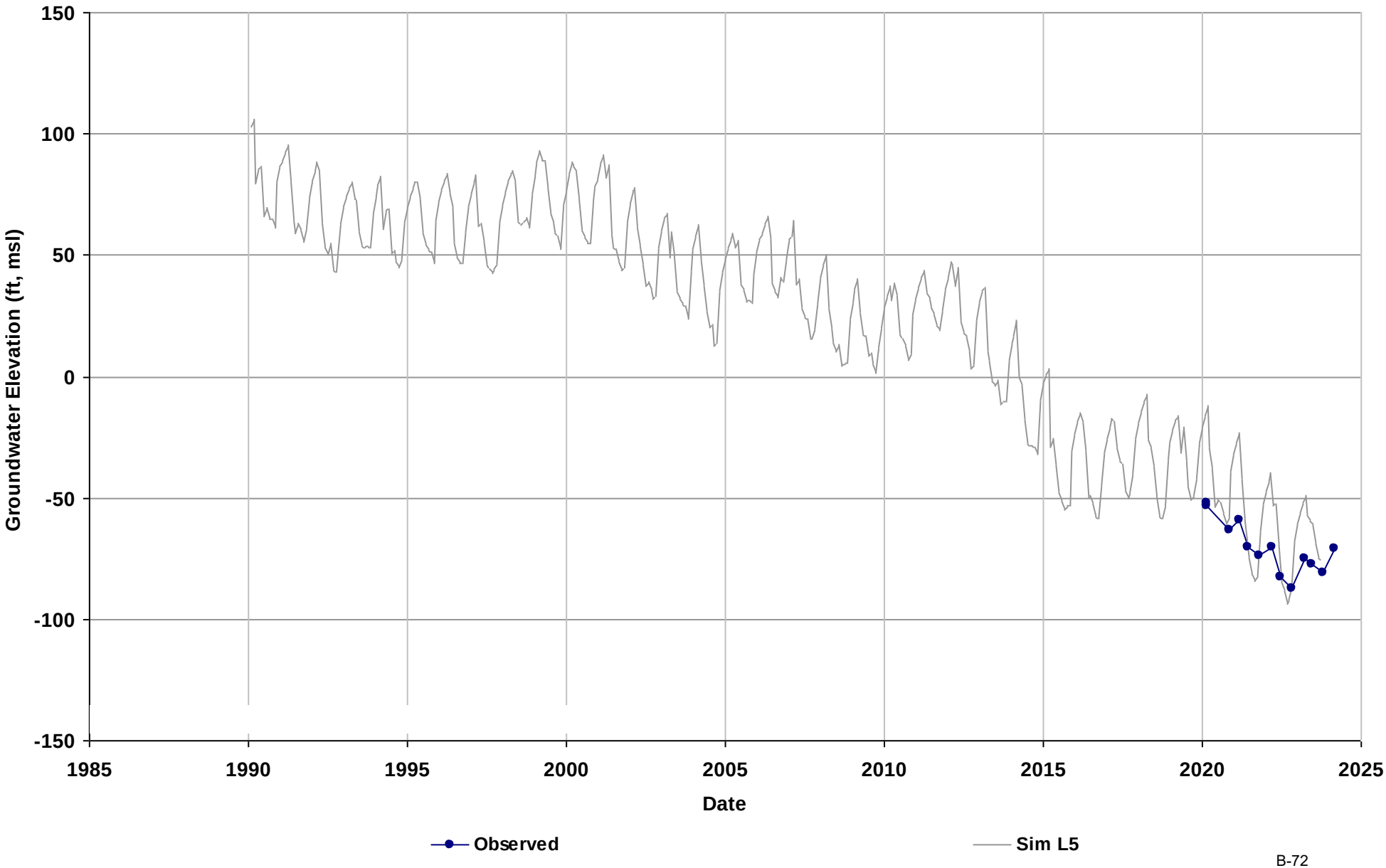
Total Depth (ft): 272
Perf Top (ft): 202
Perf Bottom (ft): 262
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB08B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 235

Average Residual (feet): 17.53
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 17.53
Layer 6:

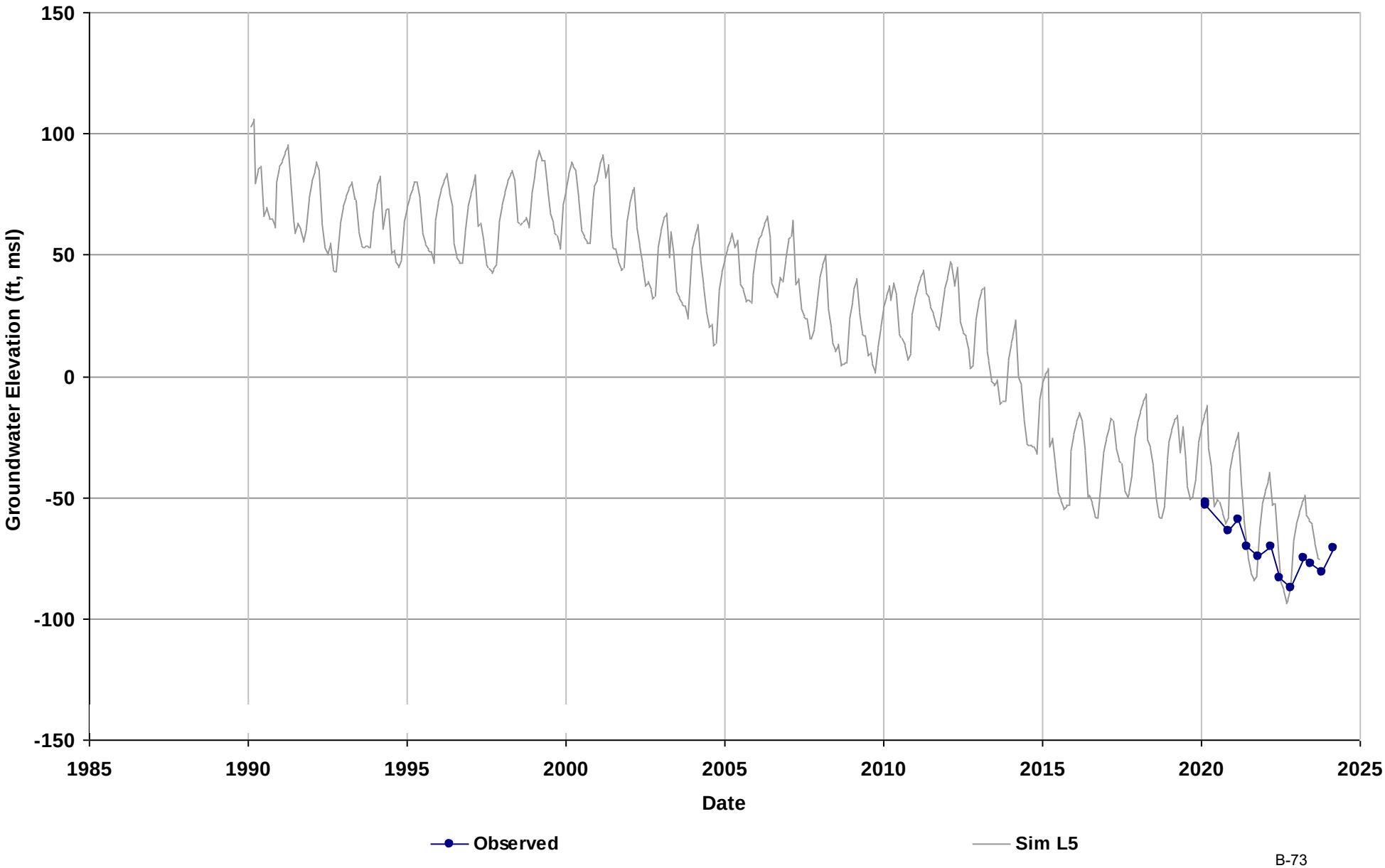
Total Depth (ft): 608
Perf Top (ft): 478
Perf Bottom (ft): 598
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB08C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 235

Average Residual (feet): 17.69
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 17.69
Layer 6:

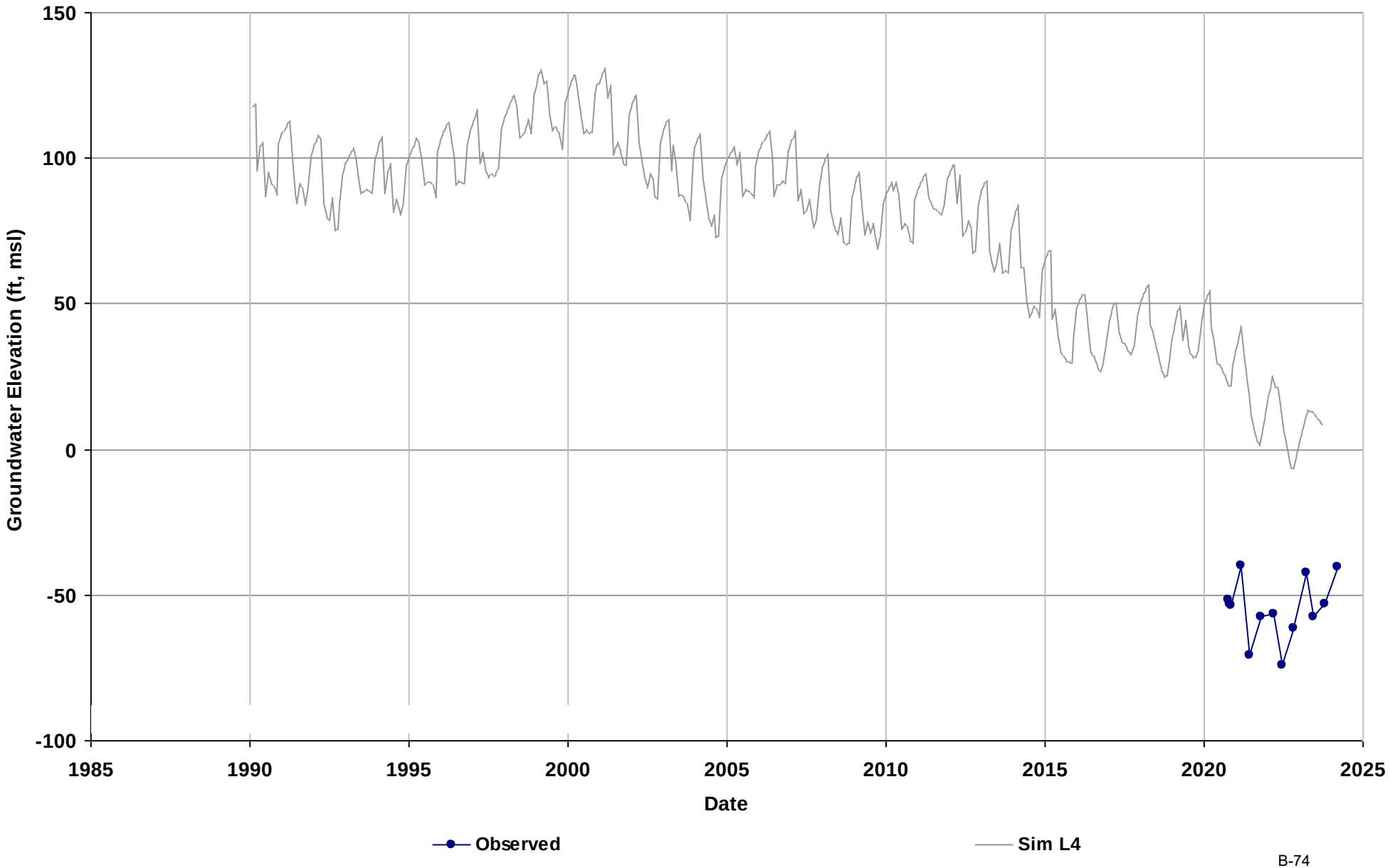
Total Depth (ft): 830
Perf Top (ft): 765
Perf Bottom (ft): 820
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB09A
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 186

Average Residual (feet): 72.62
Layer 1:
Layer 2:
Layer 3:
Layer 4: 72.62
Layer 5:
Layer 6:

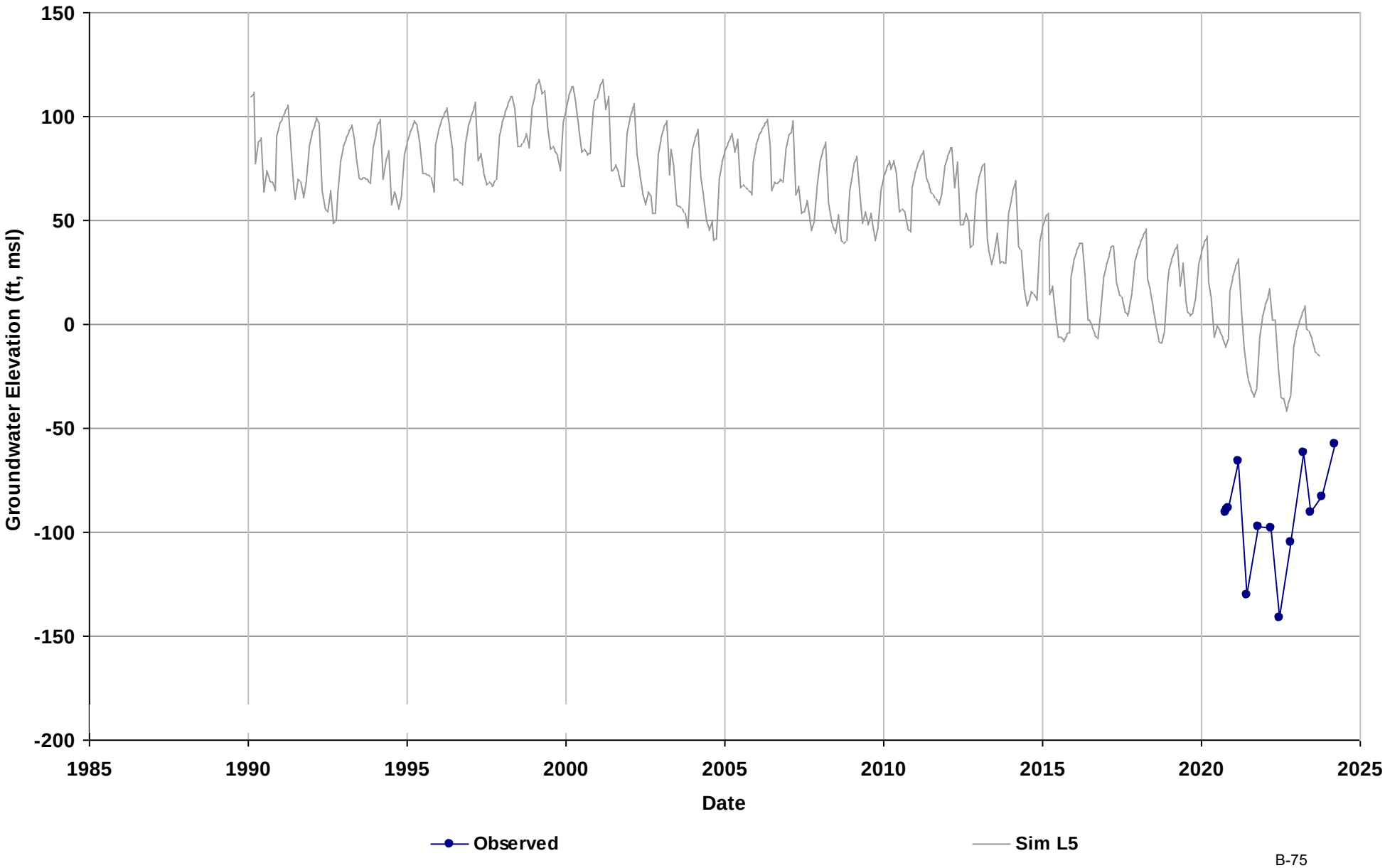
Total Depth (ft): 375
Perf Top (ft): 190
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB09B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 186

Average Residual (feet): 89.07
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 89.07
Layer 6:

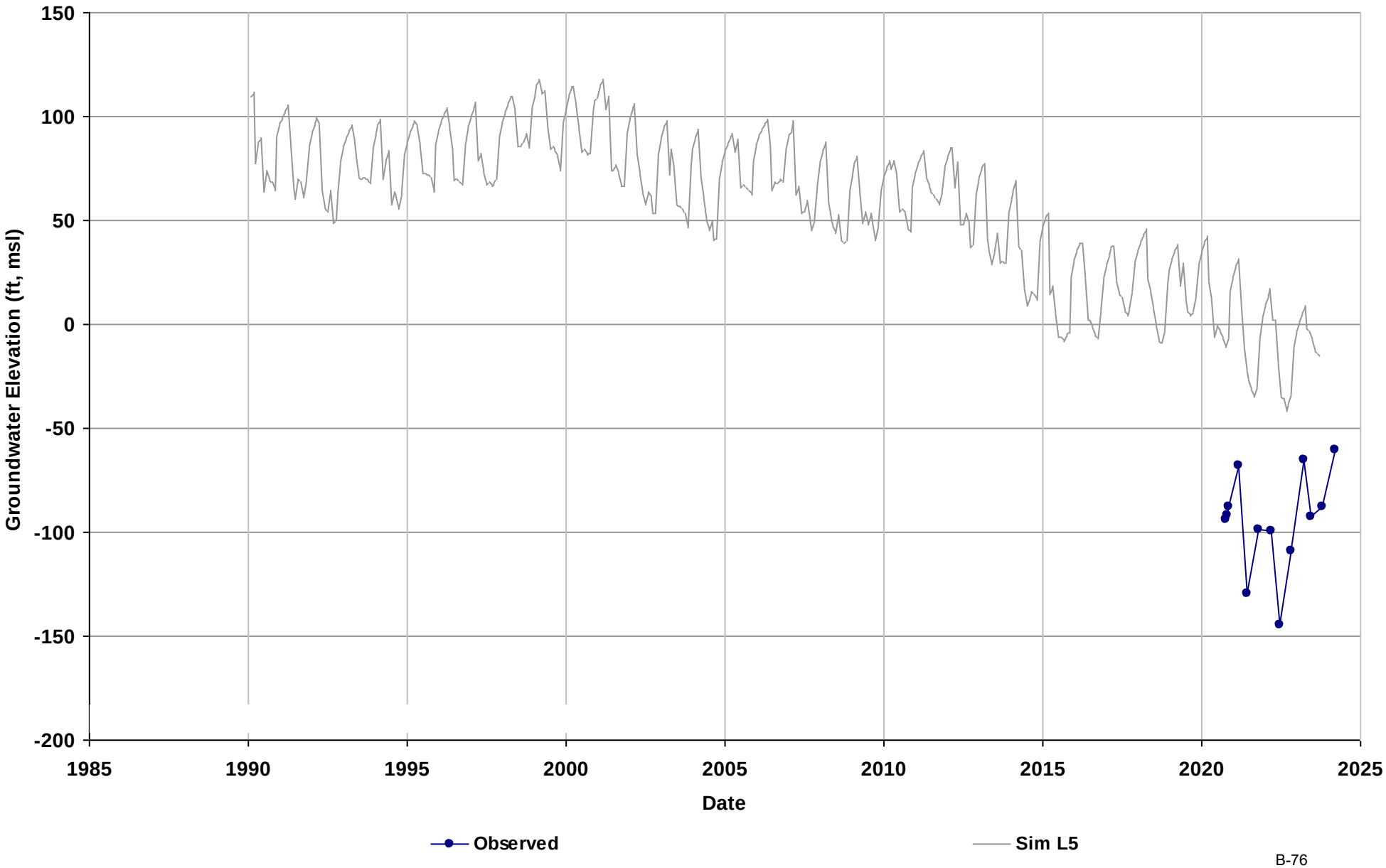
Total Depth (ft): 550
Perf Top (ft): 435
Perf Bottom (ft): 540
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB09C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 186

Average Residual (feet): 91.11
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 91.11
Layer 6:

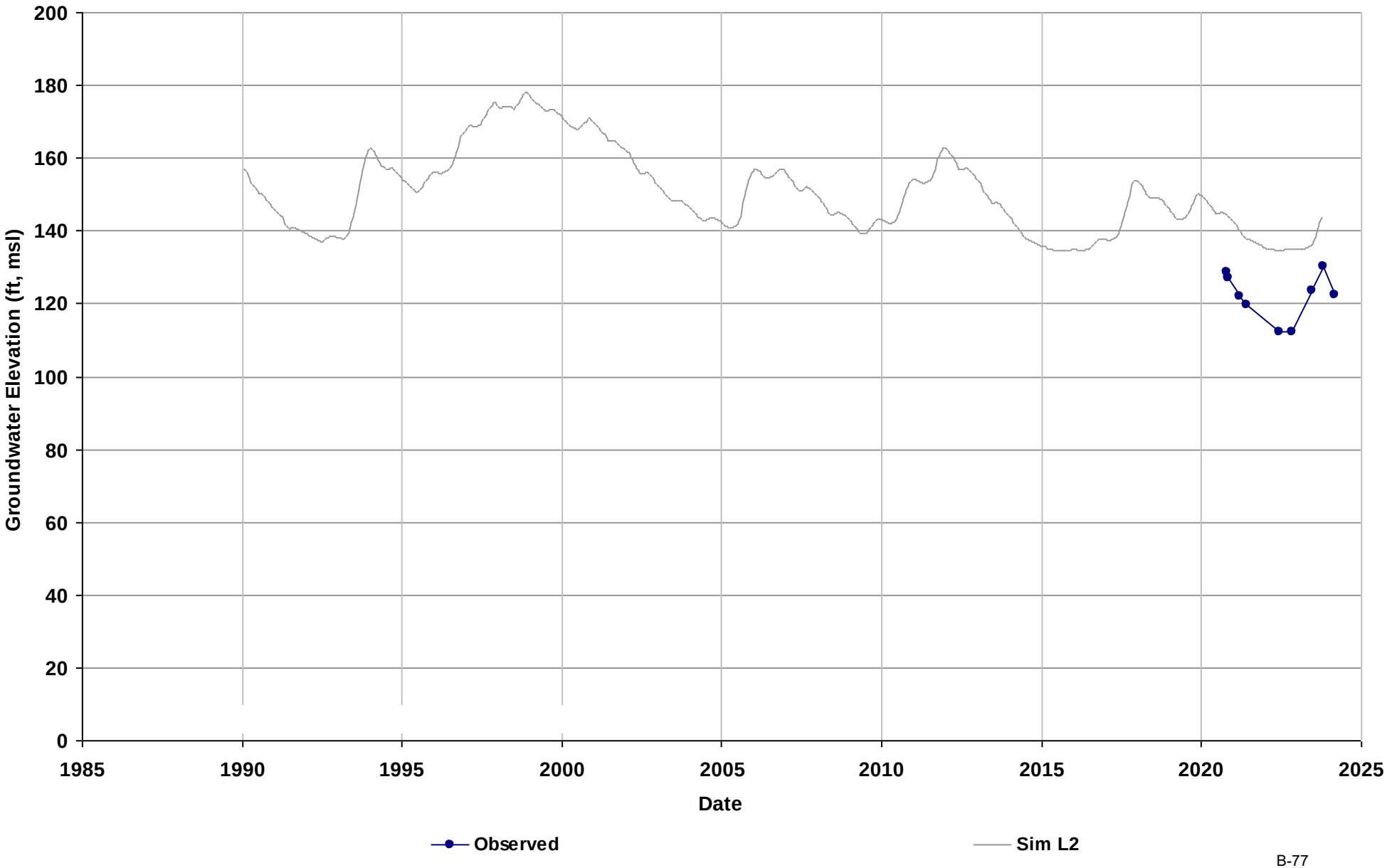
Total Depth (ft): 730
Perf Top (ft): 640
Perf Bottom (ft): 720
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB10
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 184

Average Residual (feet): 17.91
Layer 1:
Layer 2:
Layer 3: 17.91
Layer 4:
Layer 5:
Layer 6:

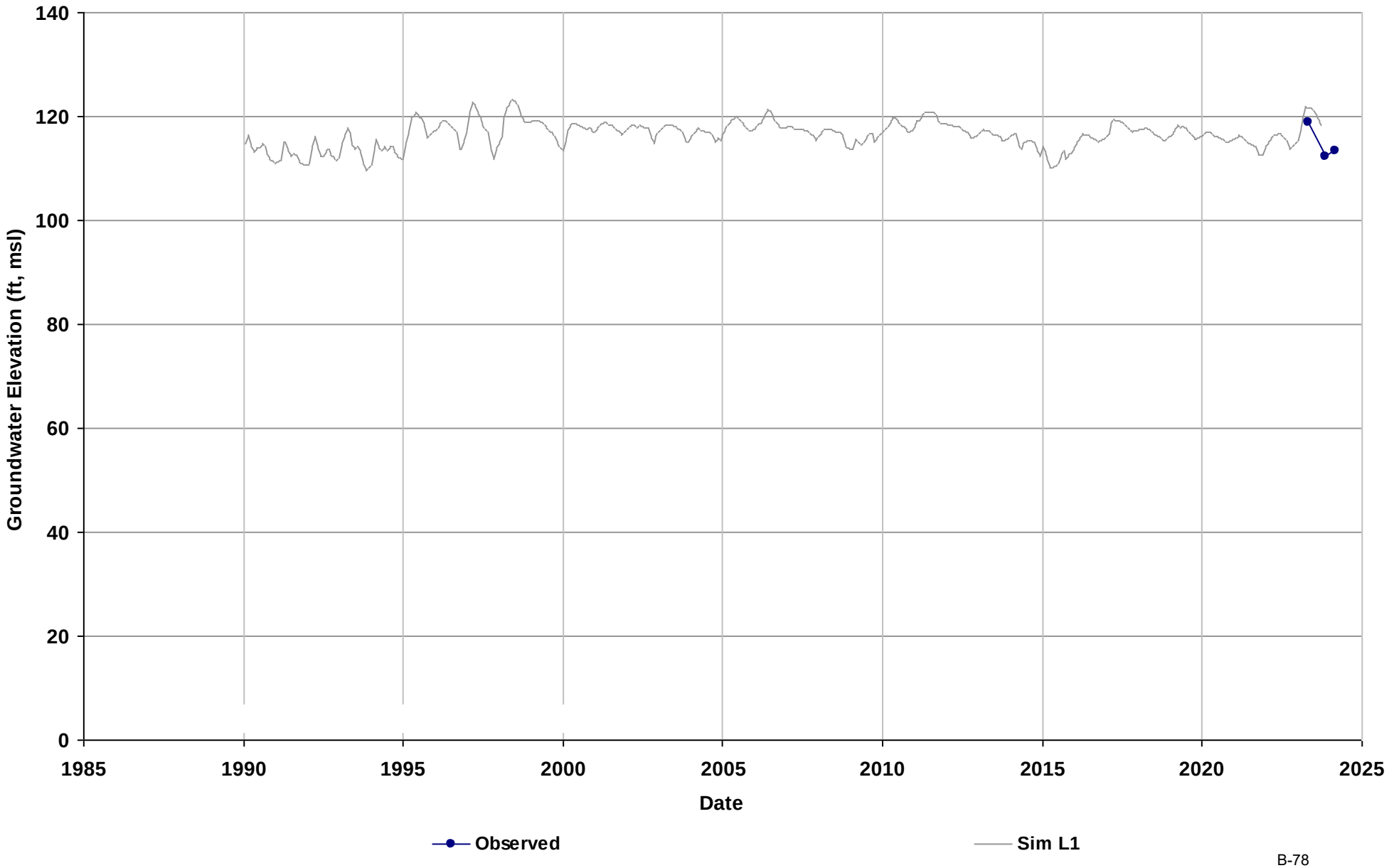
Total Depth (ft): 80
Perf Top (ft): 60
Perf Bottom (ft): 80
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: CSB14
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 122

Average Residual (feet): 2.87
Layer 1: 2.87
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

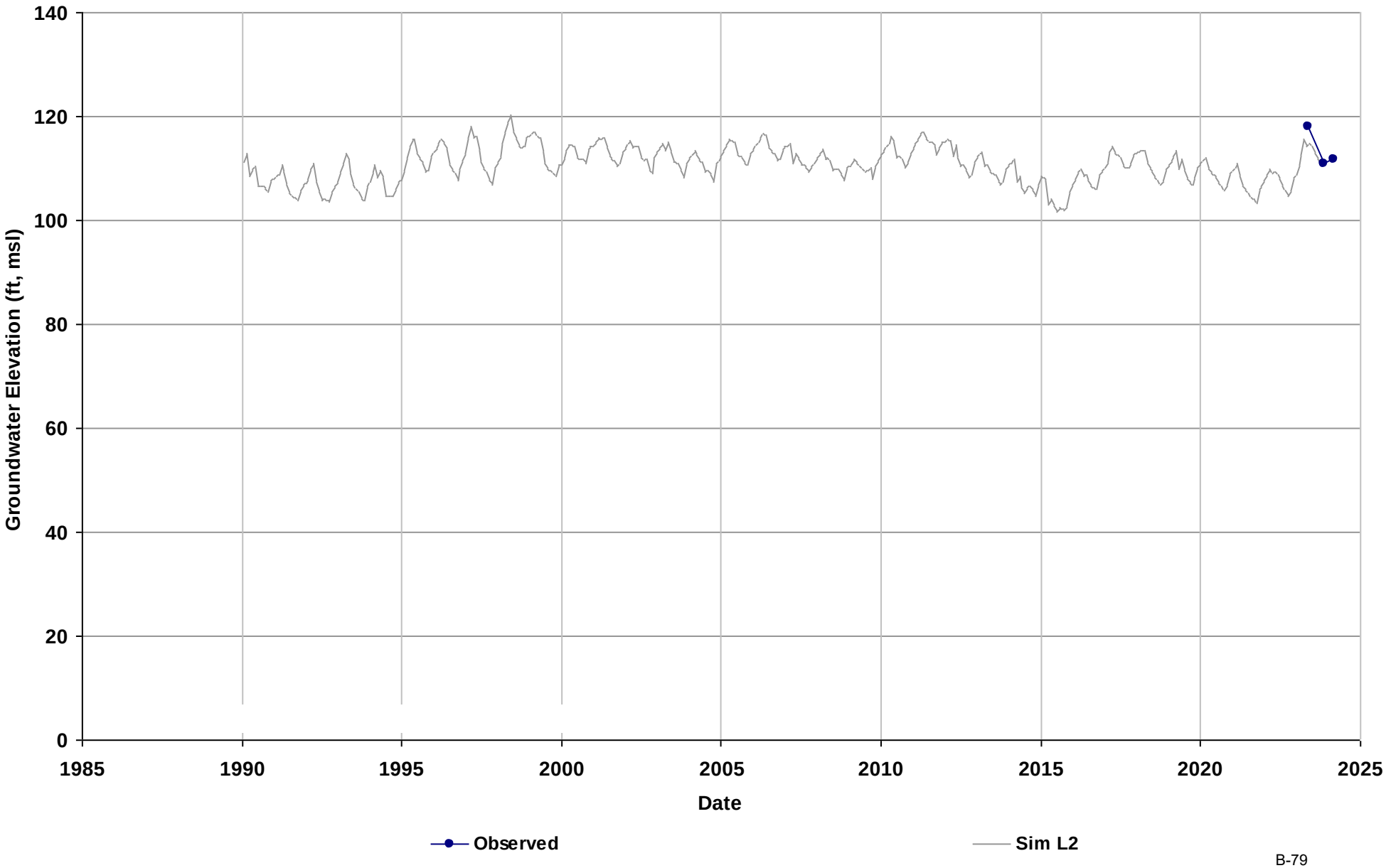
Total Depth (ft): 30
Perf Top (ft): 20
Perf Bottom (ft): 30
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: CSB15
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 122

Average Residual (feet): -3.58
Layer 1:
Layer 2: -3.58
Layer 3:
Layer 4:
Layer 5:
Layer 6:

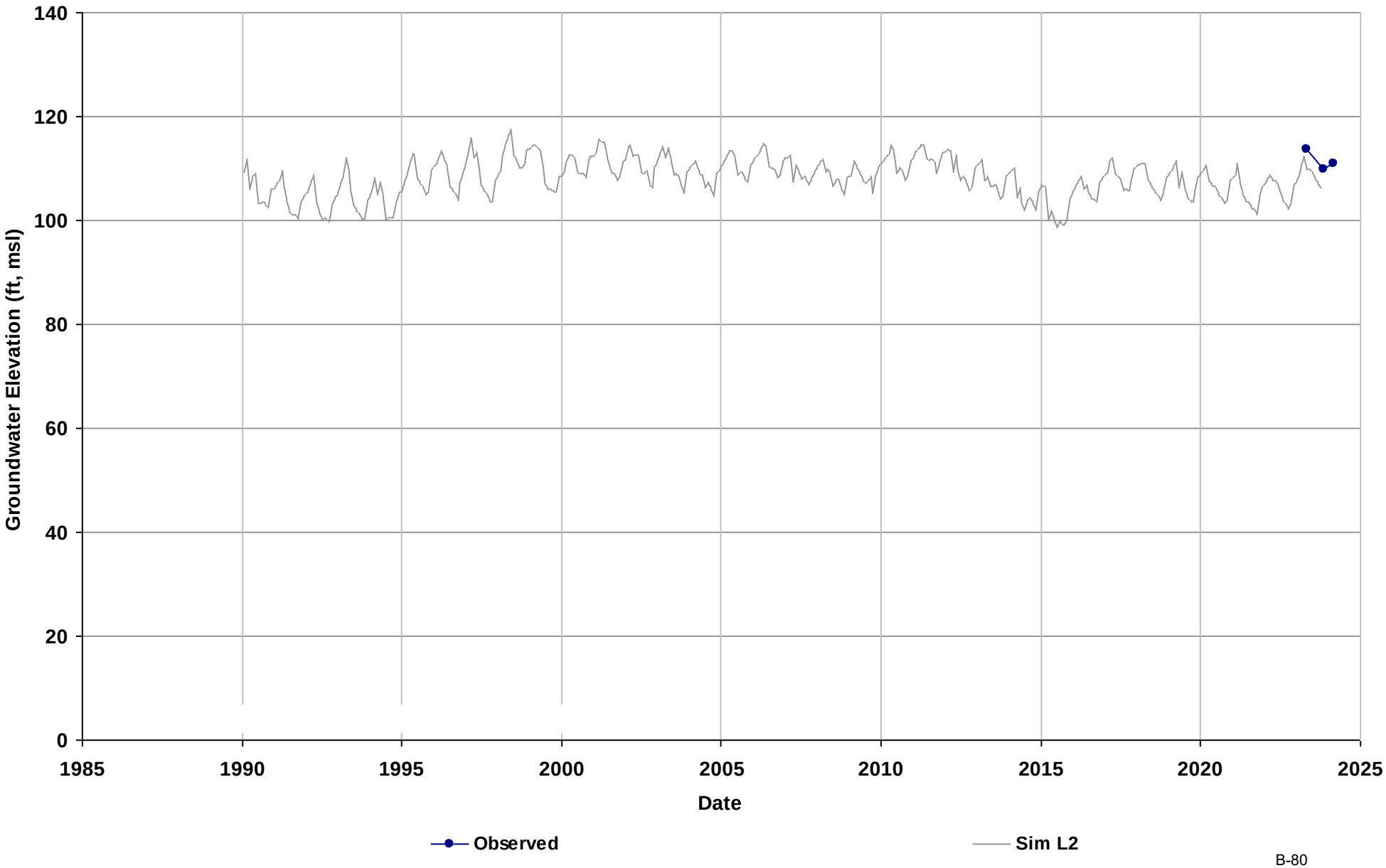
Total Depth (ft): 90
Perf Top (ft): 80
Perf Bottom (ft): 90
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: CSB16
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 123

Average Residual (feet): -3.64
Layer 1:
Layer 2: -3.64
Layer 3:
Layer 4:
Layer 5:
Layer 6:

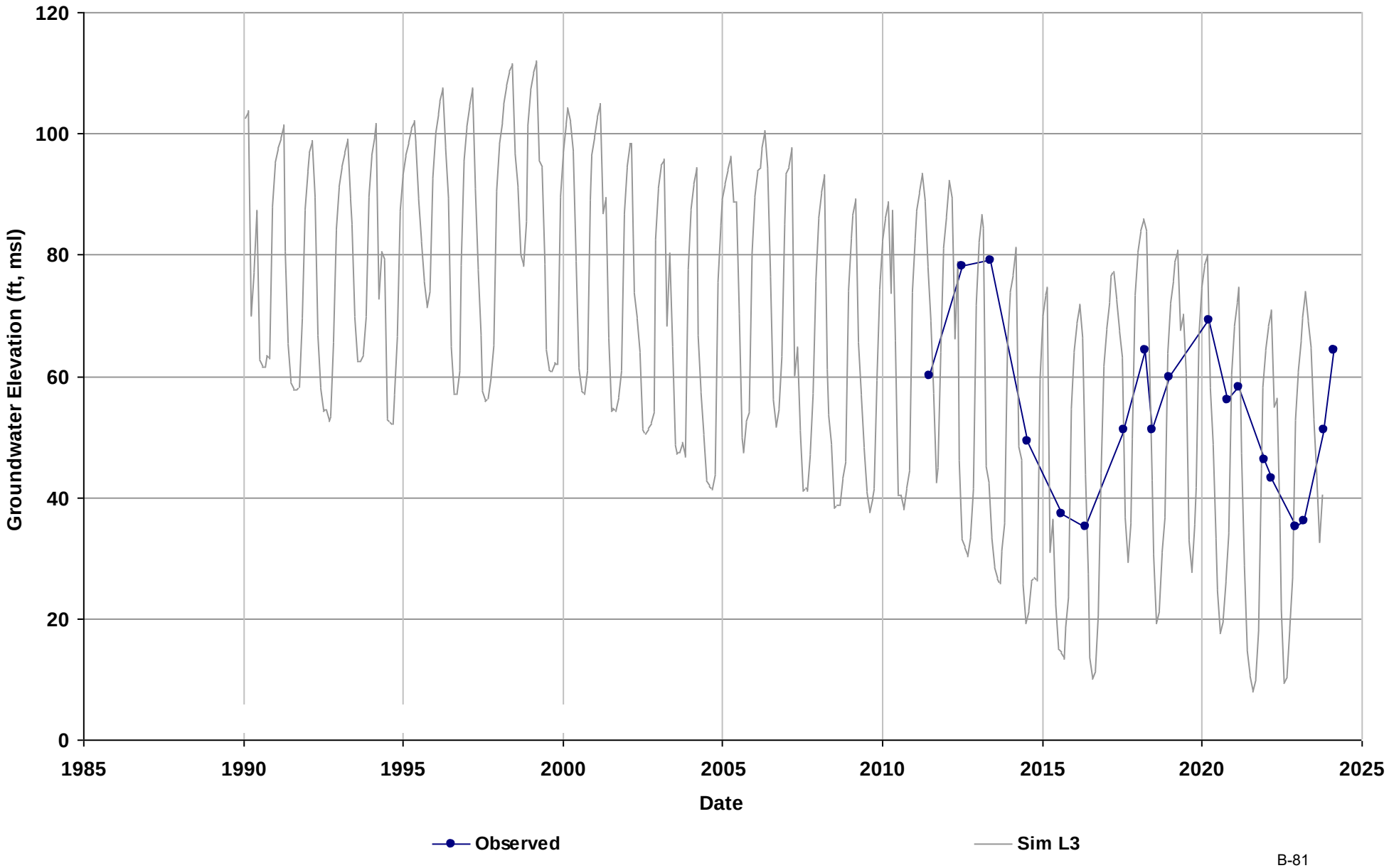
Total Depth (ft): 90
Perf Top (ft): 80
Perf Bottom (ft): 90
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: TTR-6
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 134

Average Residual (feet): 0.69
Layer 1:
Layer 2:
Layer 3: 0.69
Layer 4:
Layer 5:
Layer 6:

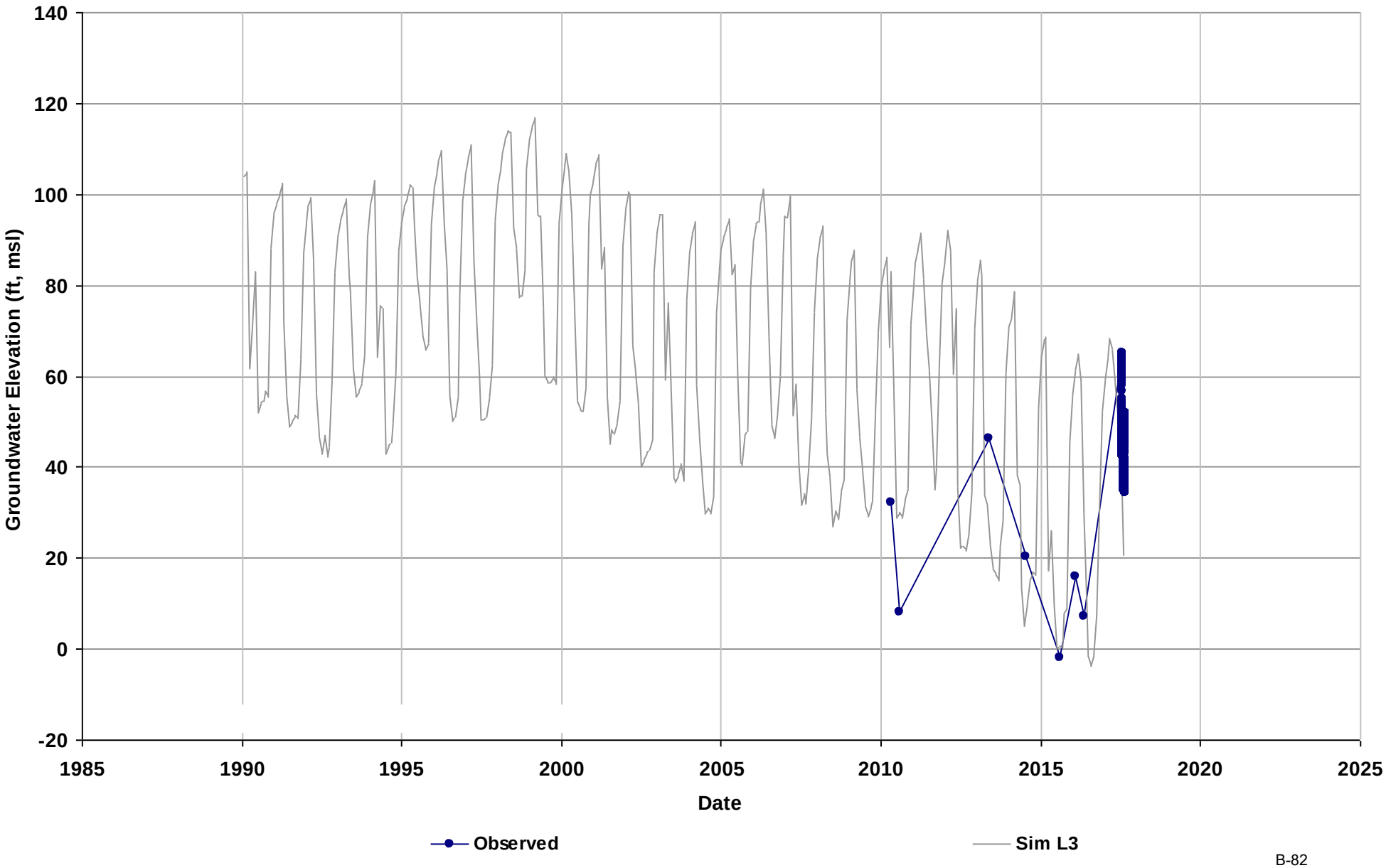
Total Depth (ft): 196
Perf Top (ft): 158
Perf Bottom (ft): 192
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: TTR-10
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 144

Average Residual (feet): 13.05
Layer 1:
Layer 2:
Layer 3: 13.05
Layer 4:
Layer 5:
Layer 6:

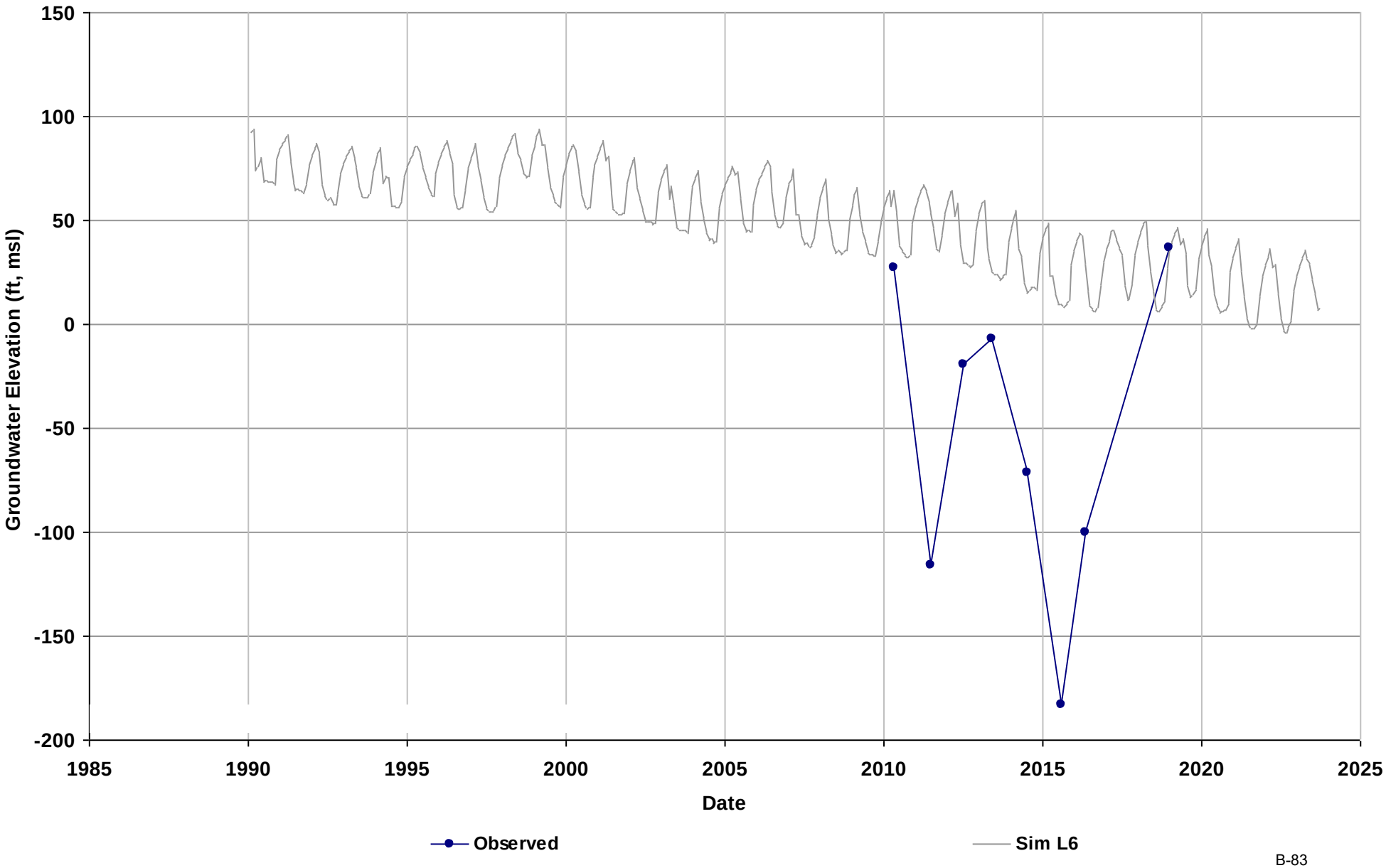
Total Depth (ft): 222
Perf Top (ft): 158
Perf Bottom (ft): 222
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: TTR-13
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl):

Average Residual (feet): 86.58
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 86.58

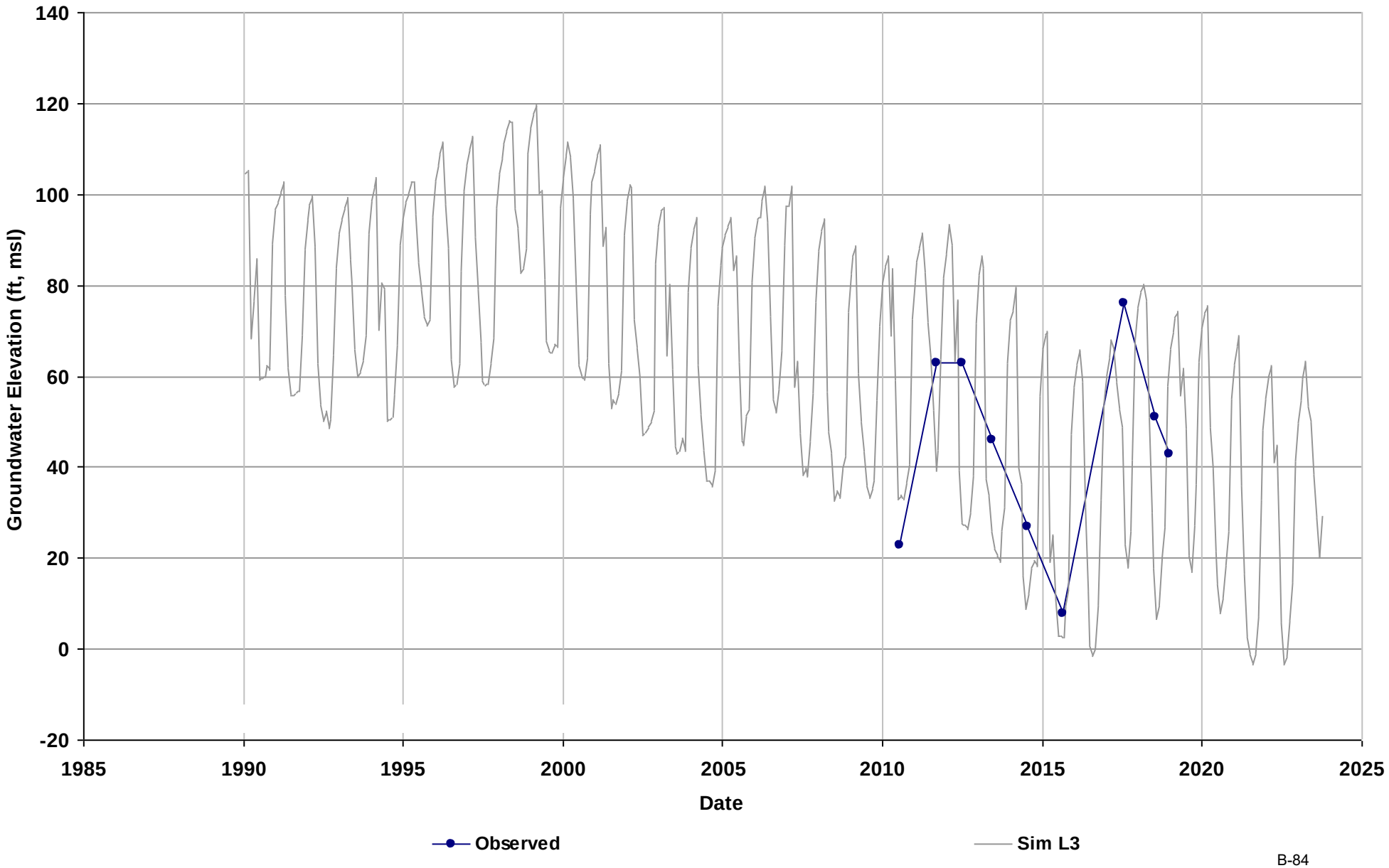
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: TTR-15
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl):

Average Residual (feet): -16.4
Layer 1:
Layer 2:
Layer 3: -16.4
Layer 4:
Layer 5:
Layer 6:

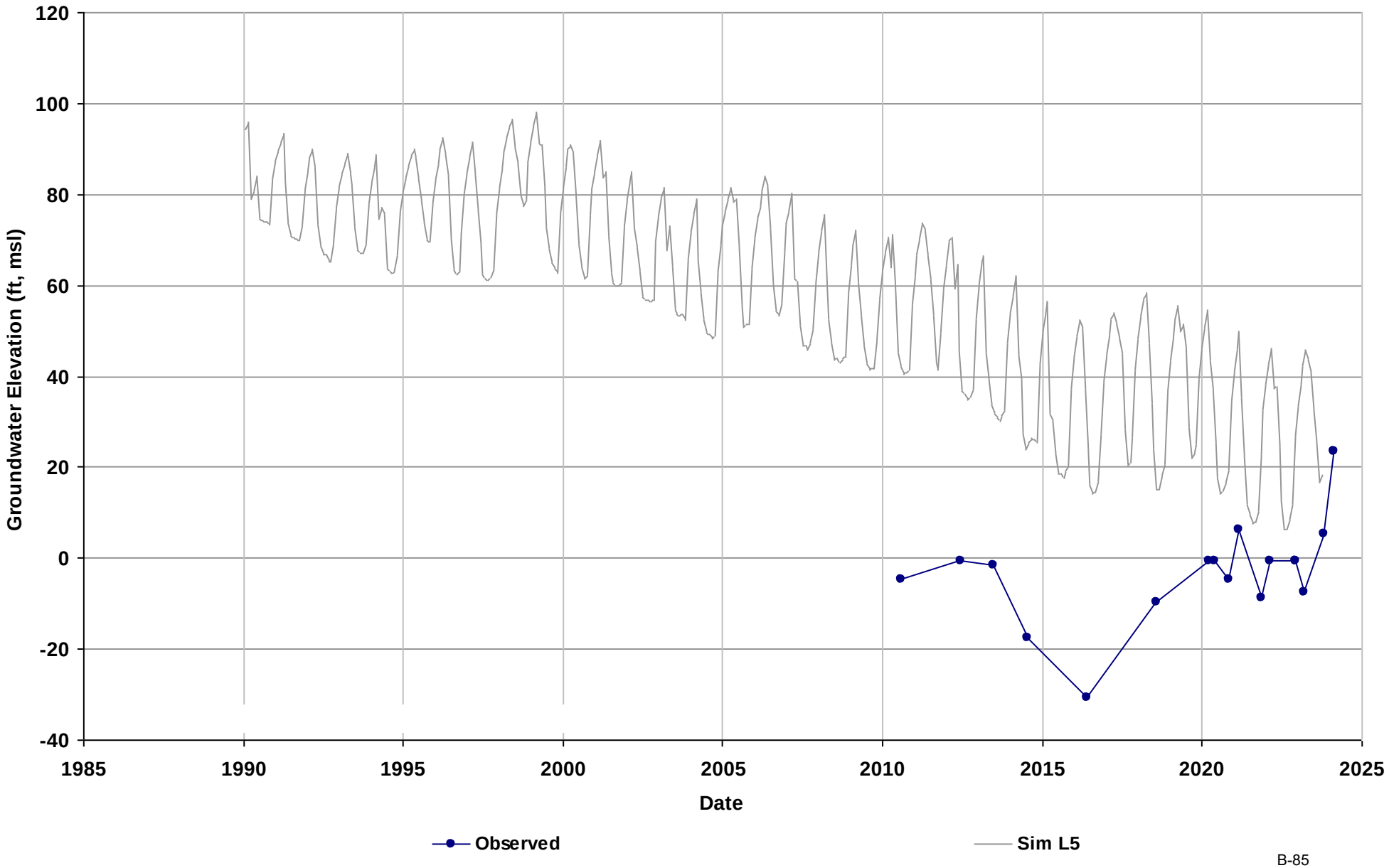
Total Depth (ft): 194
Perf Top (ft): 148
Perf Bottom (ft): 194
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: TTR-27
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 137

Average Residual (feet): 40.01
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 38.98
Layer 6: 41.04

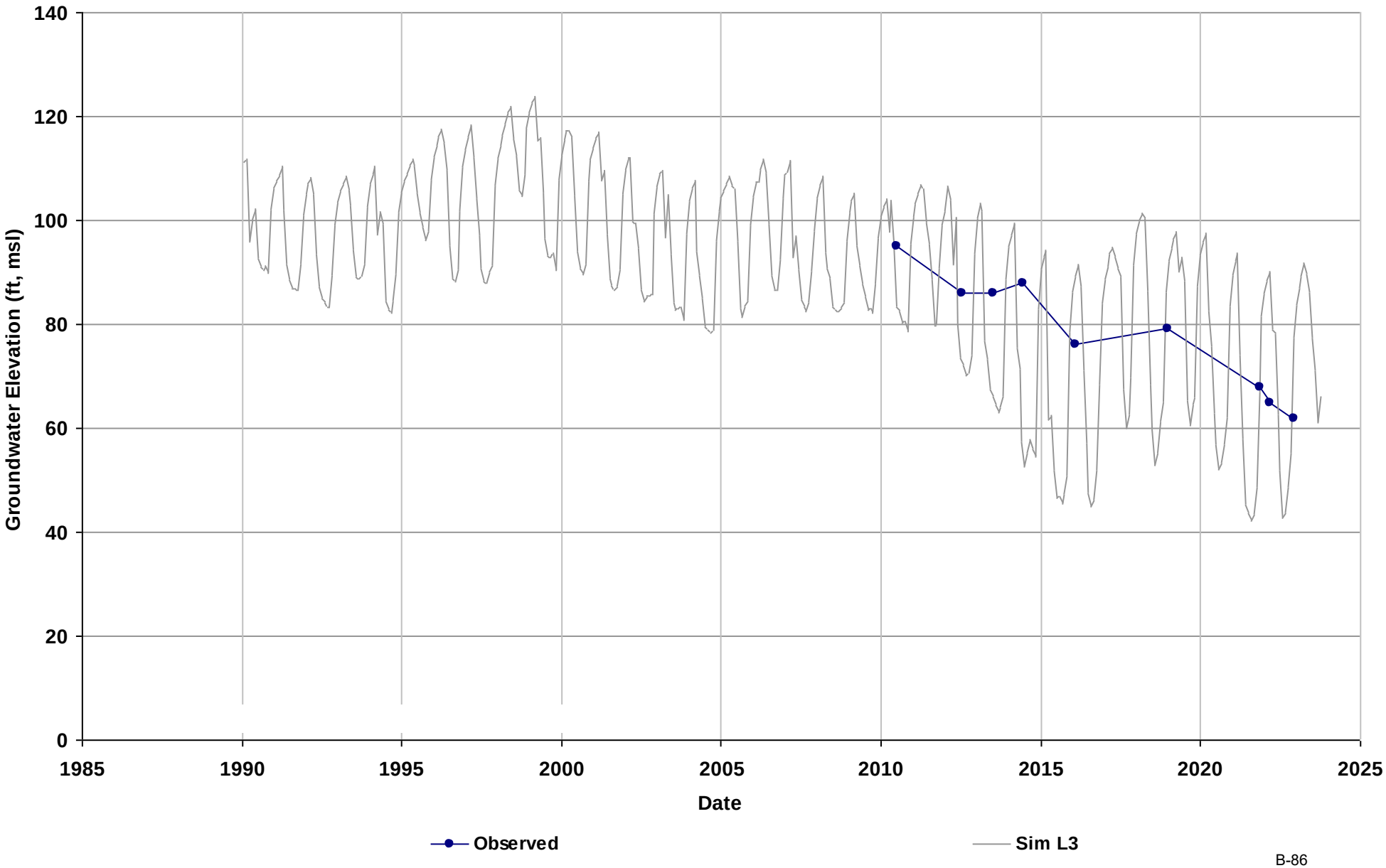
Total Depth (ft): 799
Perf Top (ft): 168
Perf Bottom (ft): 790
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: TTR-60
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl):

Average Residual (feet): -0.81
Layer 1:
Layer 2:
Layer 3: -0.81
Layer 4:
Layer 5:
Layer 6:

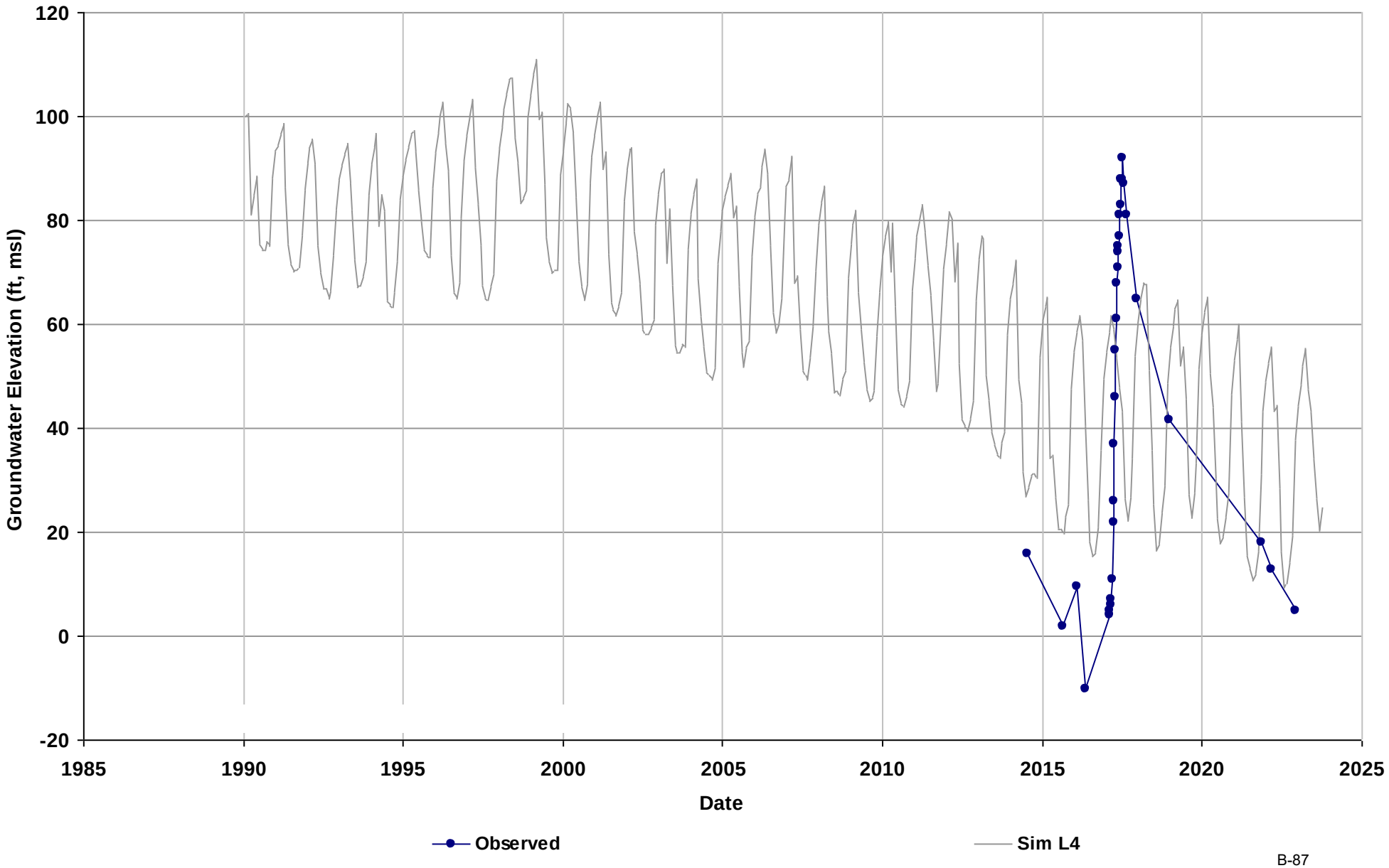
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: TTR-71
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl):

Average Residual (feet): 4.22
Layer 1:
Layer 2:
Layer 3:
Layer 4: 4.76
Layer 5: 3.33
Layer 6: 4.57

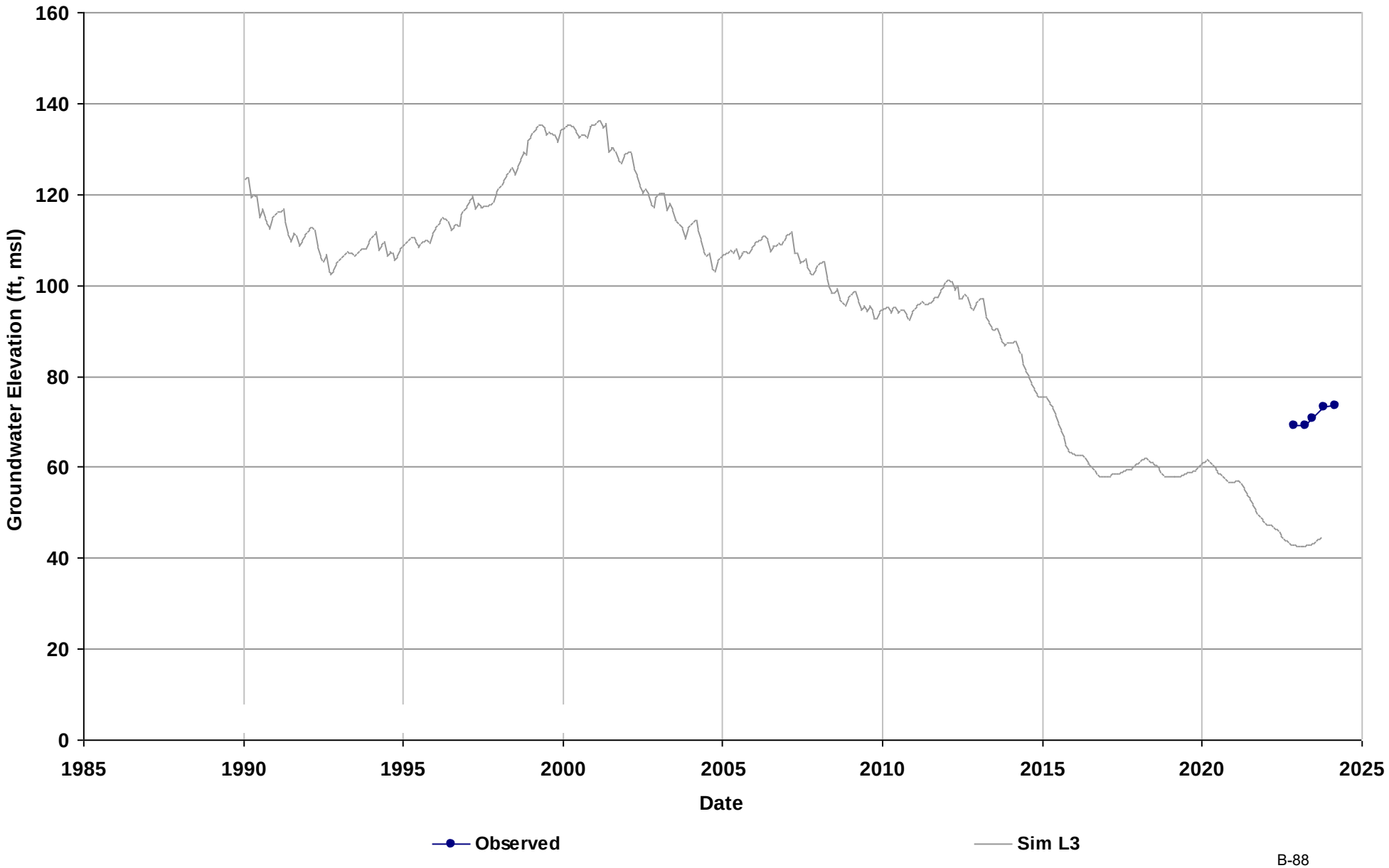
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB11A
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 186

Average Residual (feet): -26.86
Layer 1:
Layer 2:
Layer 3: -26.86
Layer 4:
Layer 5:
Layer 6:

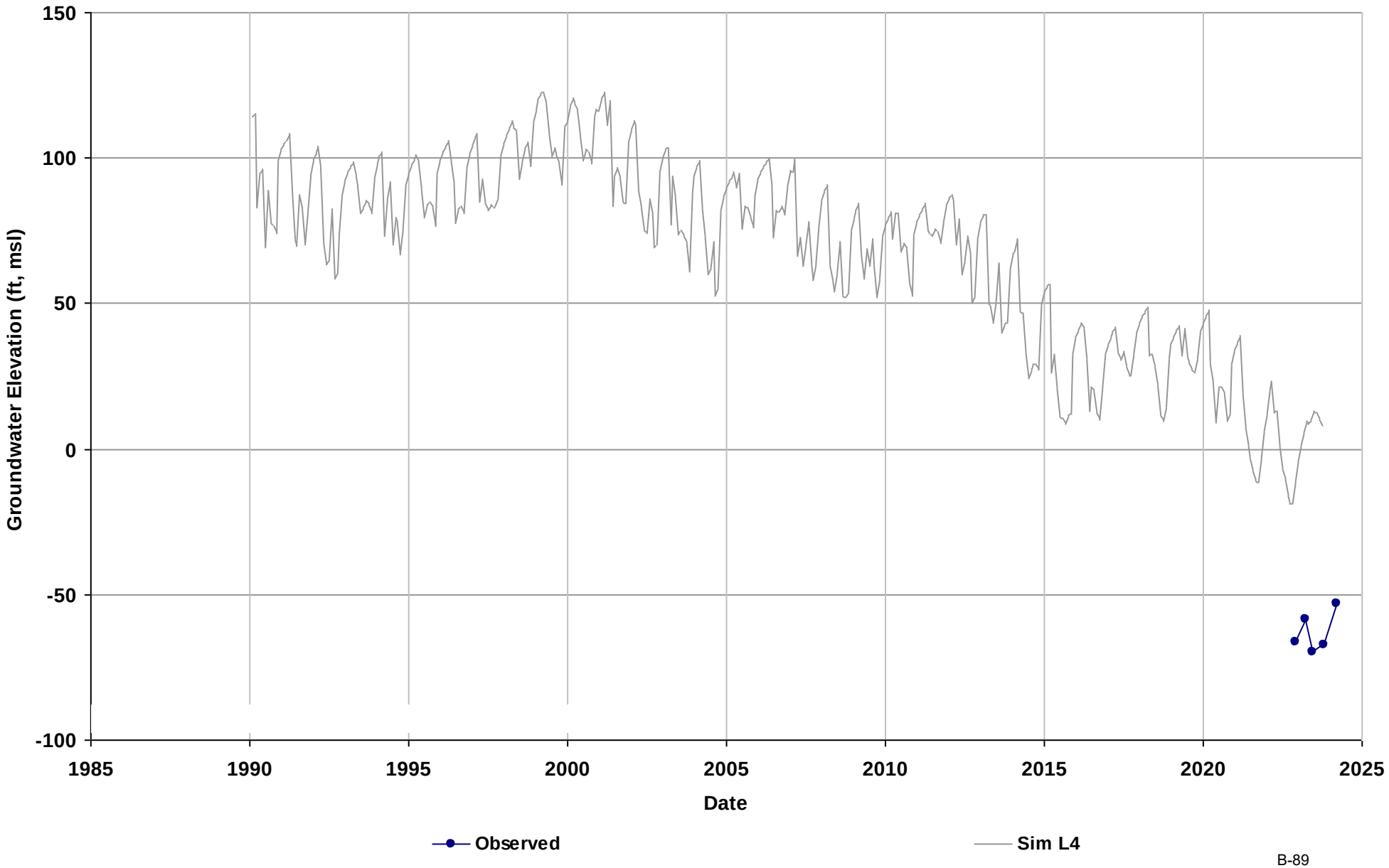
Total Depth (ft): 157
Perf Top (ft): 122
Perf Bottom (ft): 152
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: CSB11B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 186

Average Residual (feet): 66.41
Layer 1:
Layer 2:
Layer 3:
Layer 4: 66.41
Layer 5:
Layer 6:

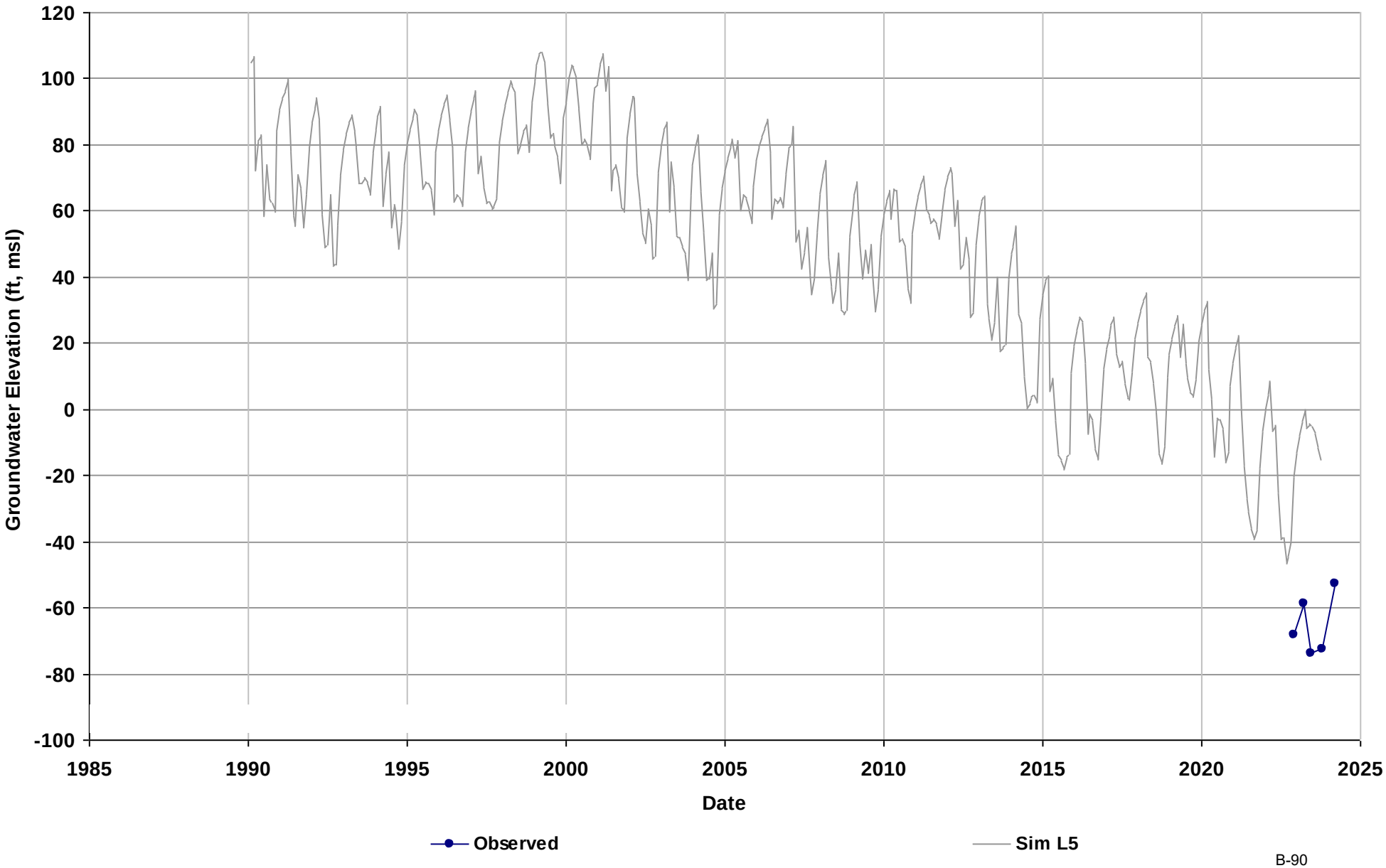
Total Depth (ft): 401
Perf Top (ft): 206
Perf Bottom (ft): 396
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB11C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 186

Average Residual (feet): 55.76
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 55.76
Layer 6:

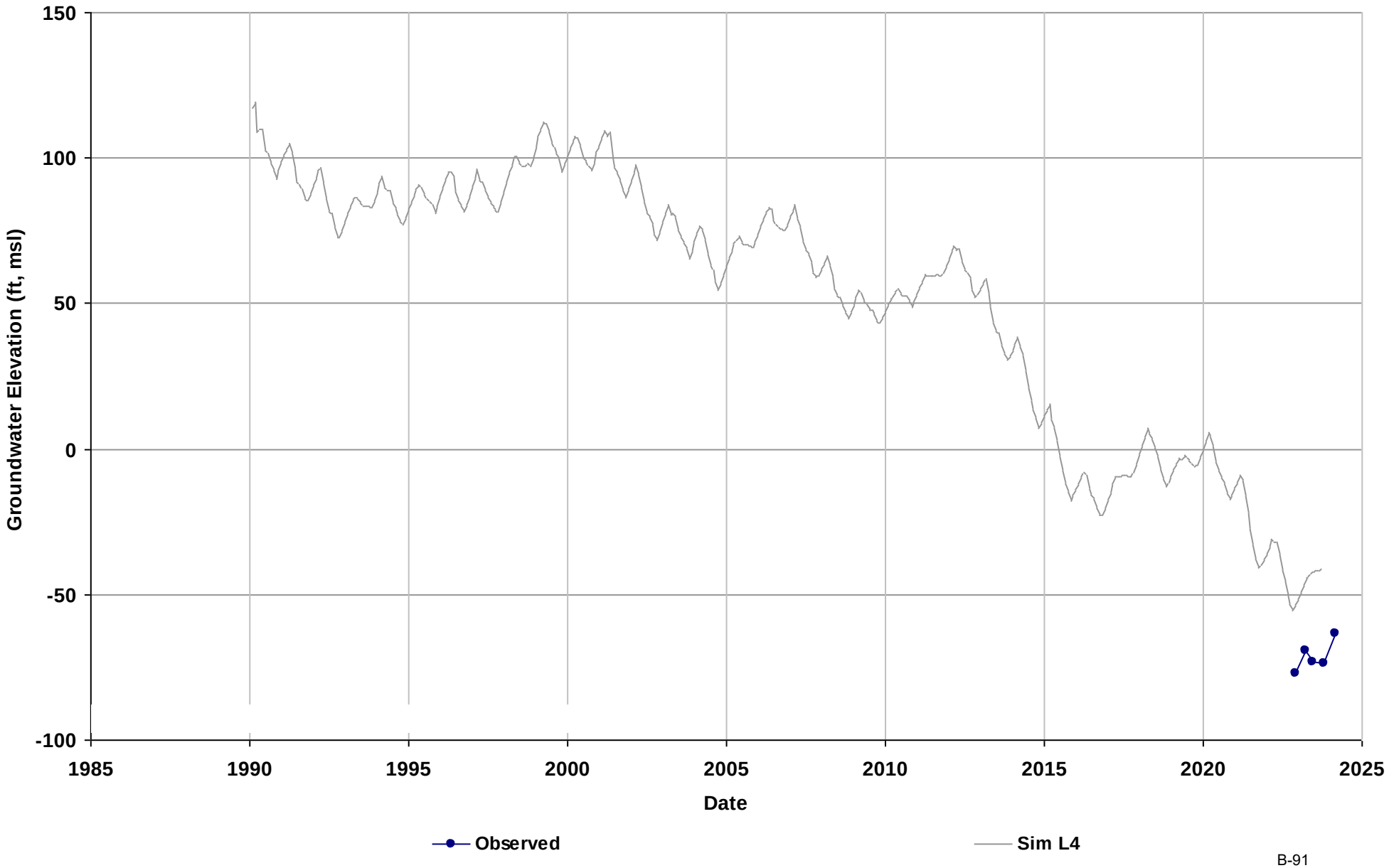
Total Depth (ft): 555
Perf Top (ft): 460
Perf Bottom (ft): 550
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB12A
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 227

Average Residual (feet): 25.88
Layer 1:
Layer 2:
Layer 3:
Layer 4: 25.88
Layer 5:
Layer 6:

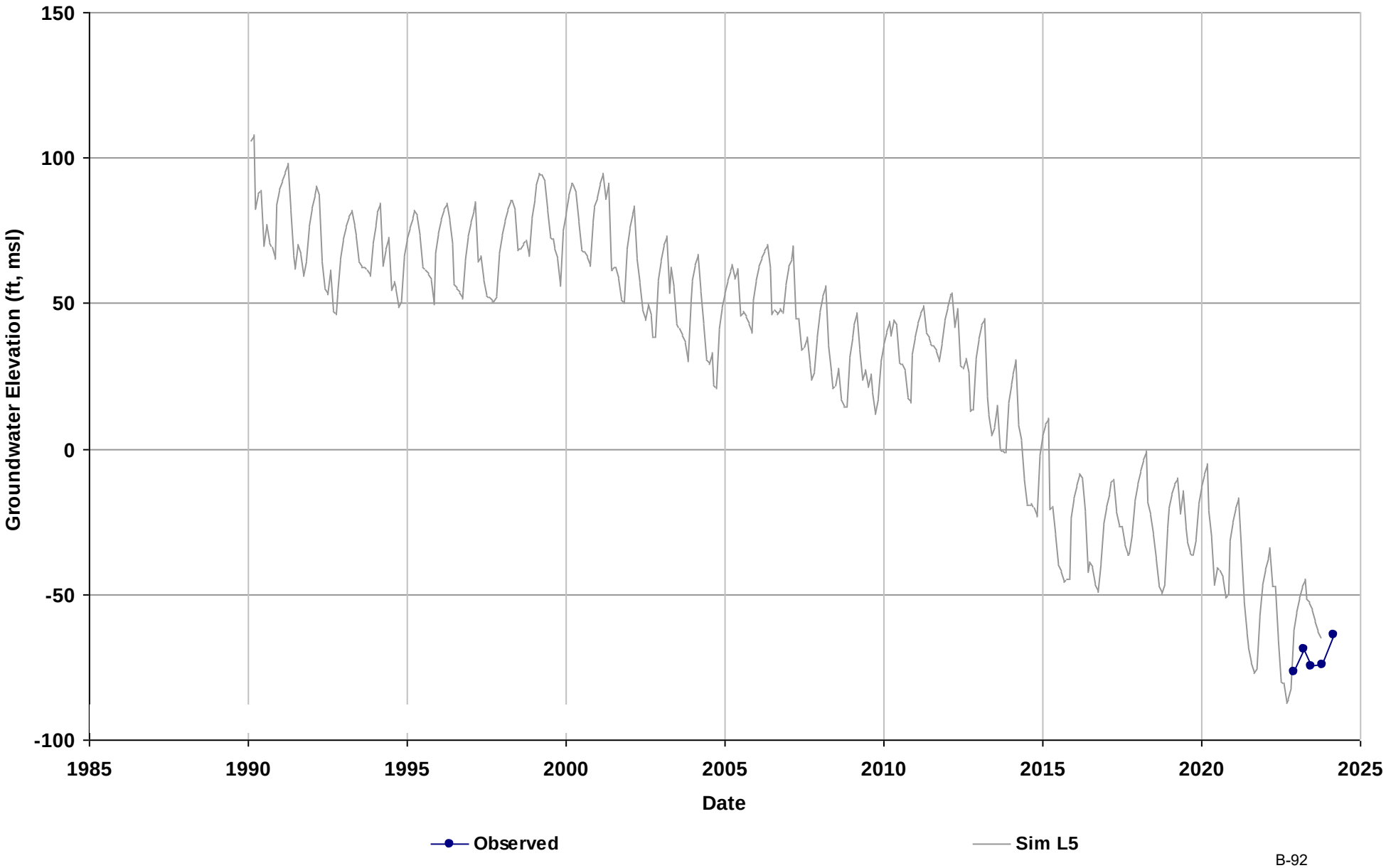
Total Depth (ft): 462
Perf Top (ft): 372
Perf Bottom (ft): 452
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB12B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 227

Average Residual (feet): 17.74
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 17.74
Layer 6:

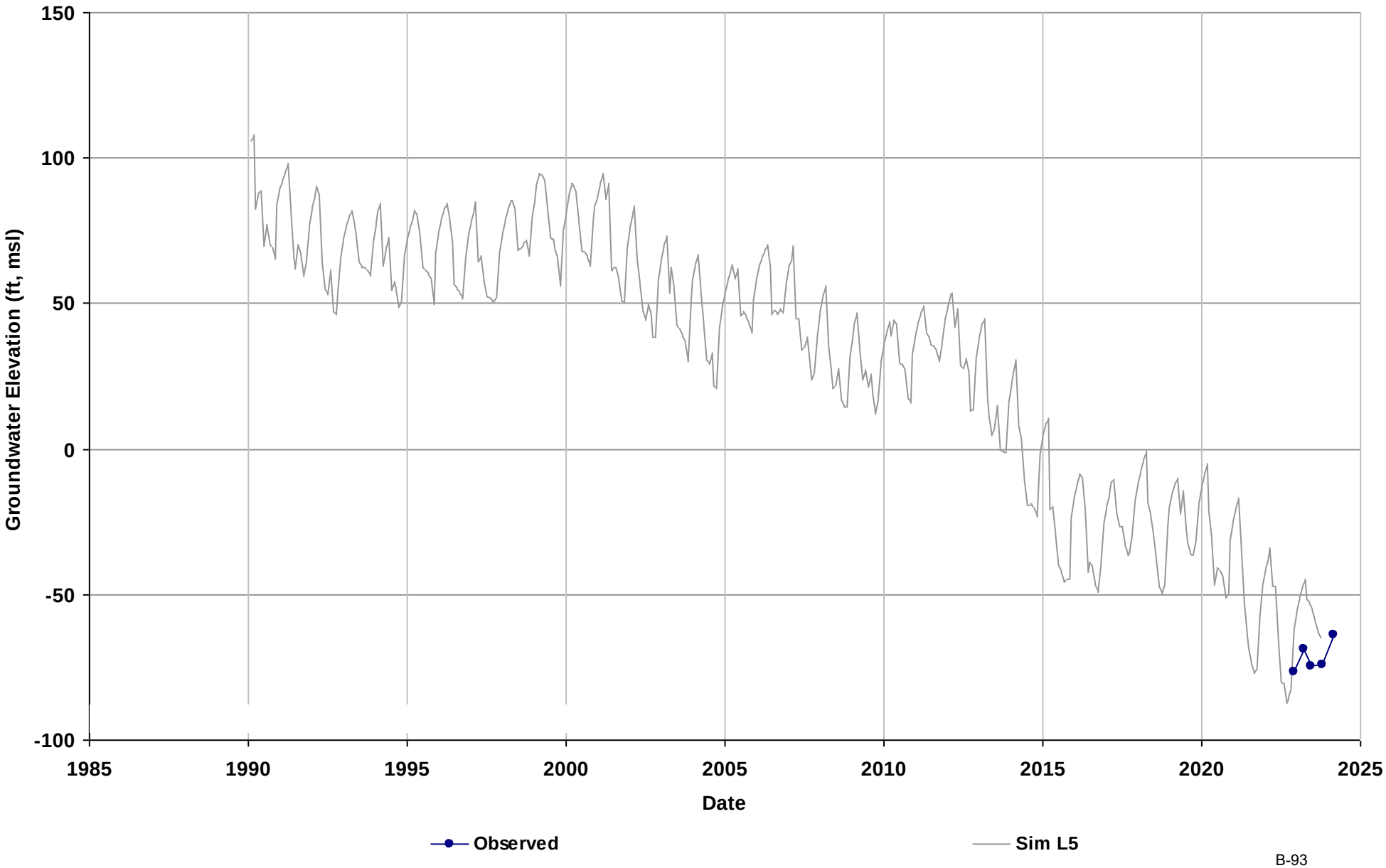
Total Depth (ft): 581
Perf Top (ft): 551
Perf Bottom (ft): 571
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB12C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 227

Average Residual (feet): 17.87
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 17.87
Layer 6:

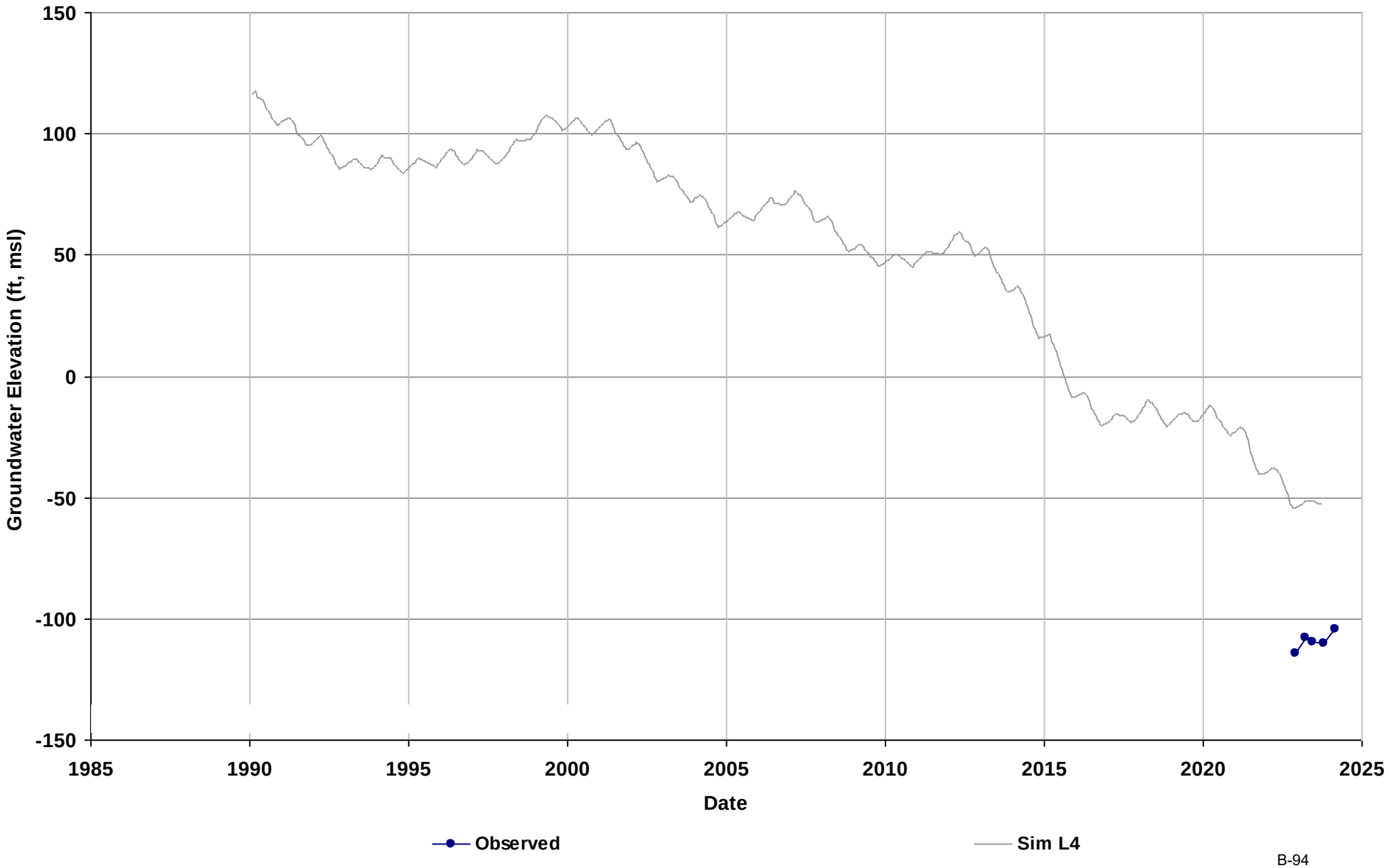
Total Depth (ft): 724
Perf Top (ft): 694
Perf Bottom (ft): 714
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB13A
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 236

Average Residual (feet): 58.08
Layer 1:
Layer 2:
Layer 3:
Layer 4: 58.08
Layer 5:
Layer 6:

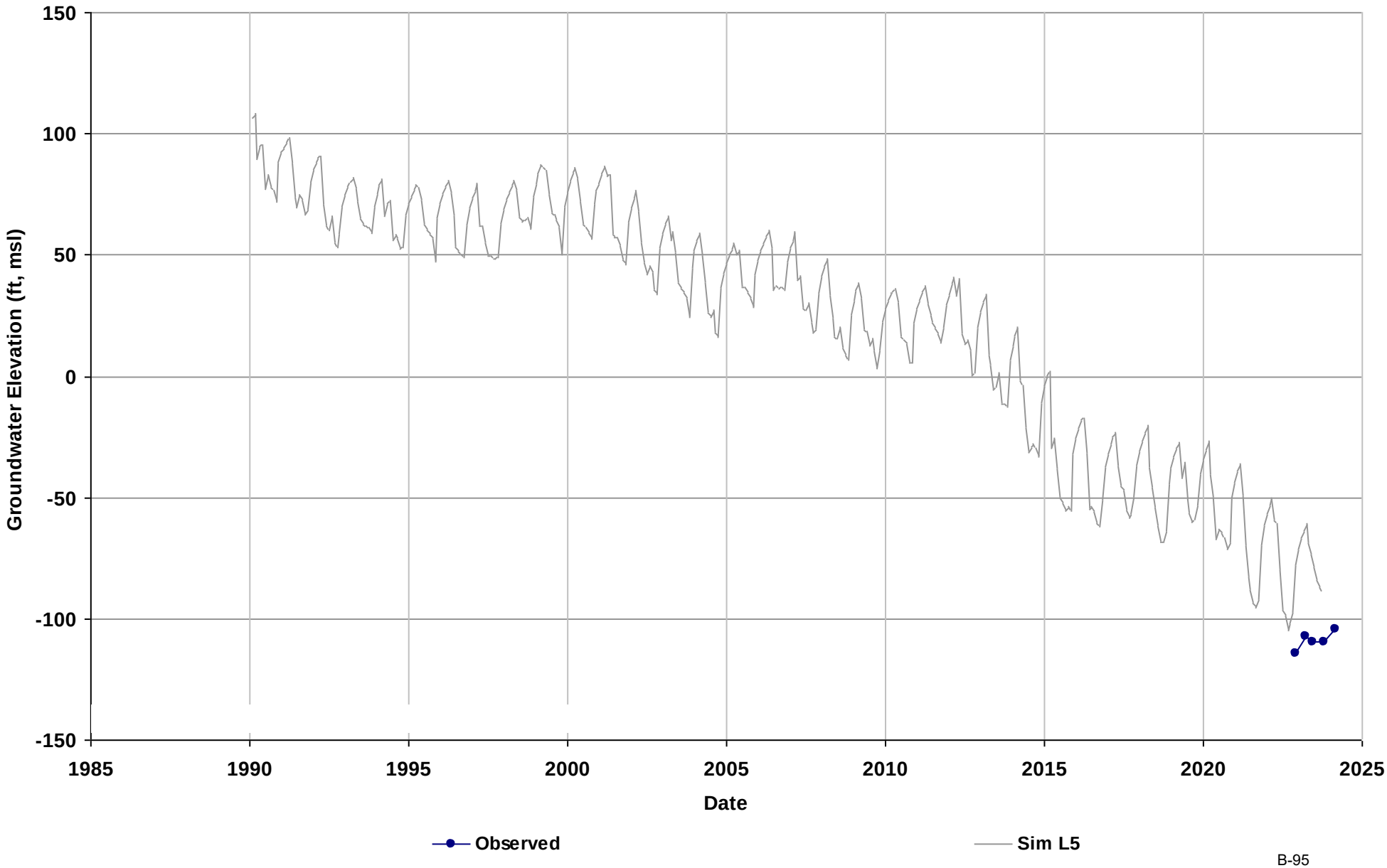
Total Depth (ft): 420
Perf Top (ft): 210
Perf Bottom (ft): 415
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: CSB13B
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 236

Average Residual (feet): 37.72
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 37.72
Layer 6:

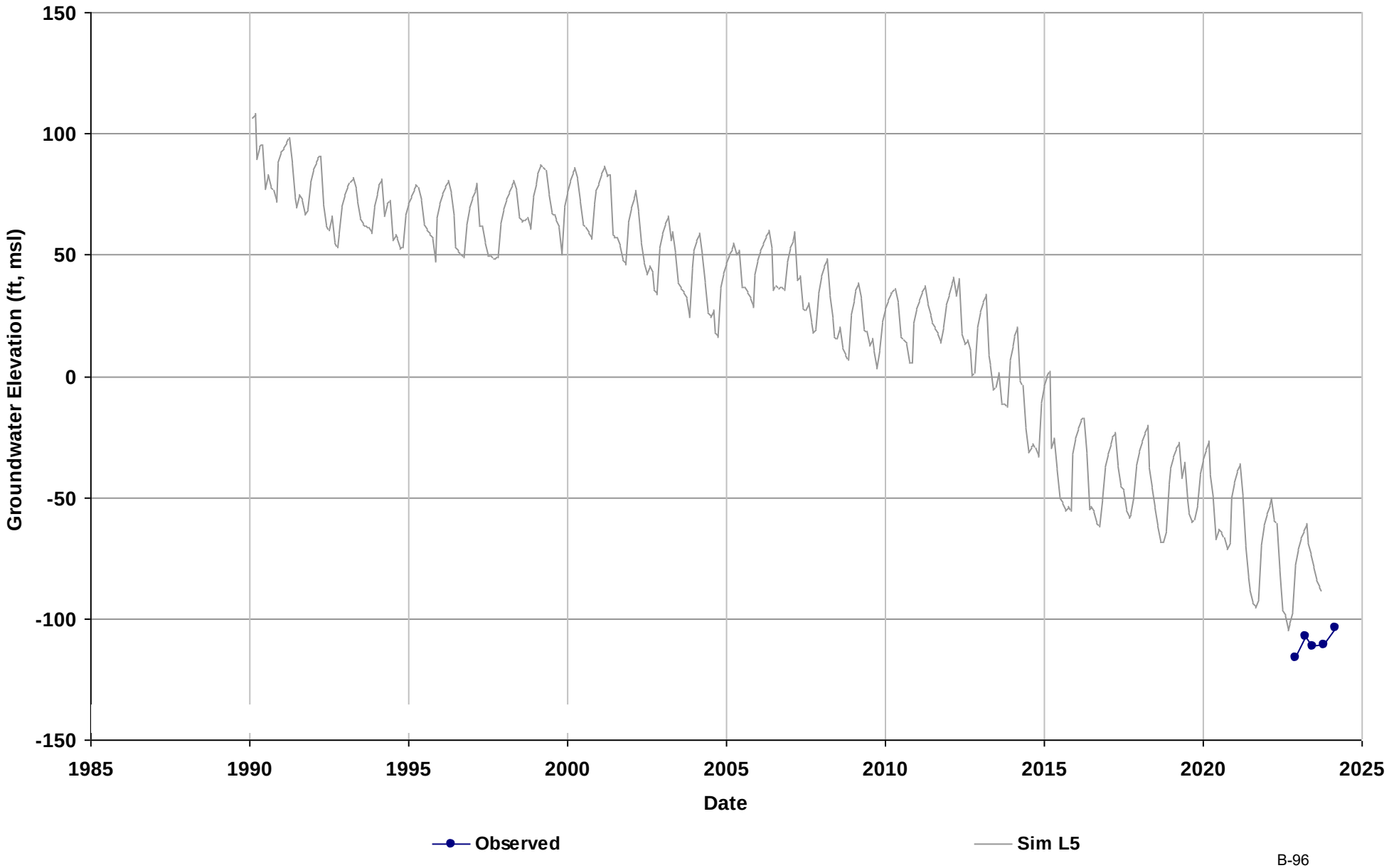
Total Depth (ft): 585
Perf Top (ft): 510
Perf Bottom (ft): 580
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: CSB13C
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 236

Average Residual (feet): 39.15
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 39.15
Layer 6:

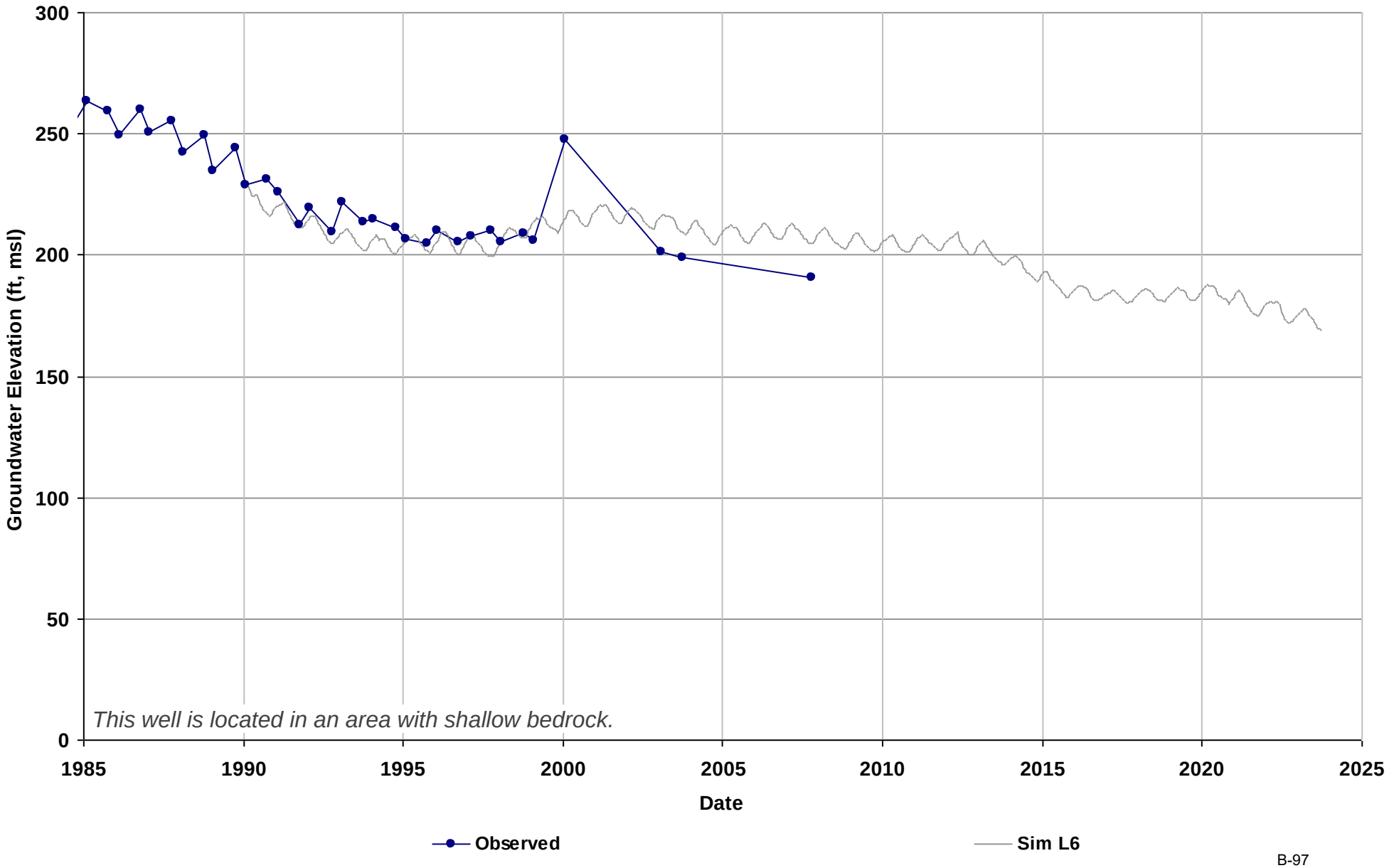
Total Depth (ft): 710
Perf Top (ft): 670
Perf Bottom (ft): 705
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 09S17E25B001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 342

Average Residual (feet): -5.15
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: -5.15

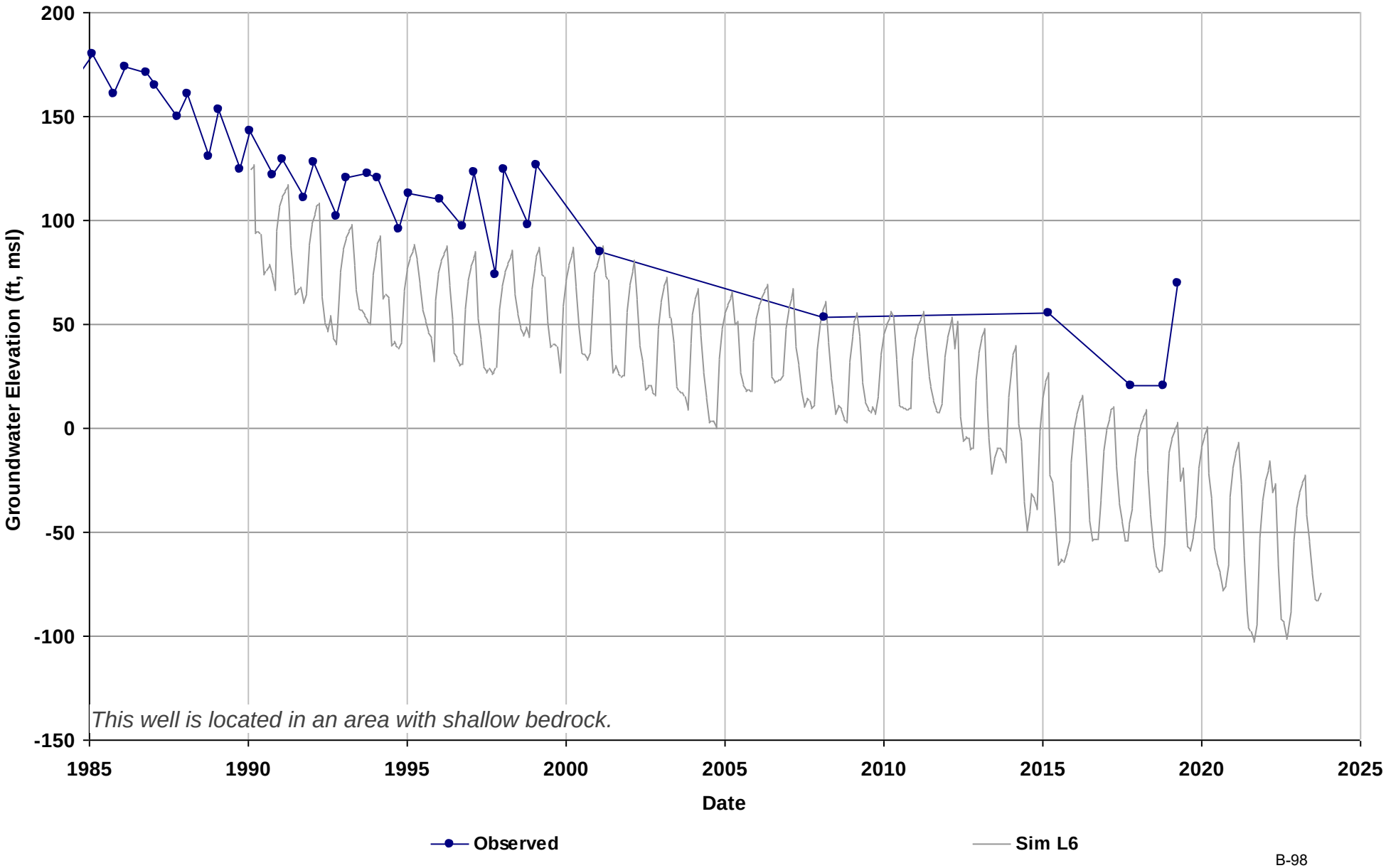
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 09S17E35L001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 318

Average Residual (feet): -40.82
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: -40.82

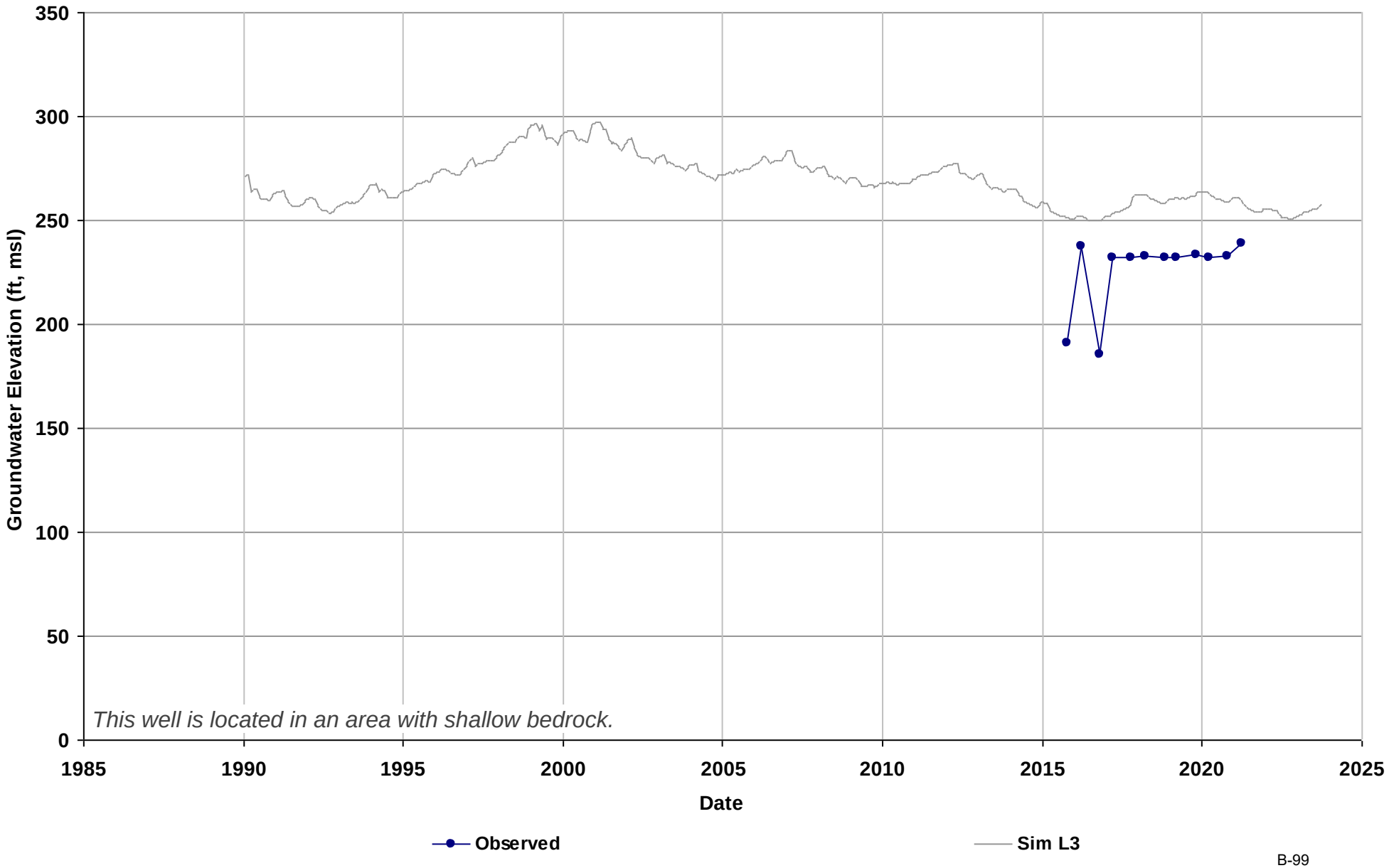
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 09S18E31H001M
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 344

Average Residual (feet): 31.48
Layer 1:
Layer 2:
Layer 3: 31.48
Layer 4:
Layer 5:
Layer 6:

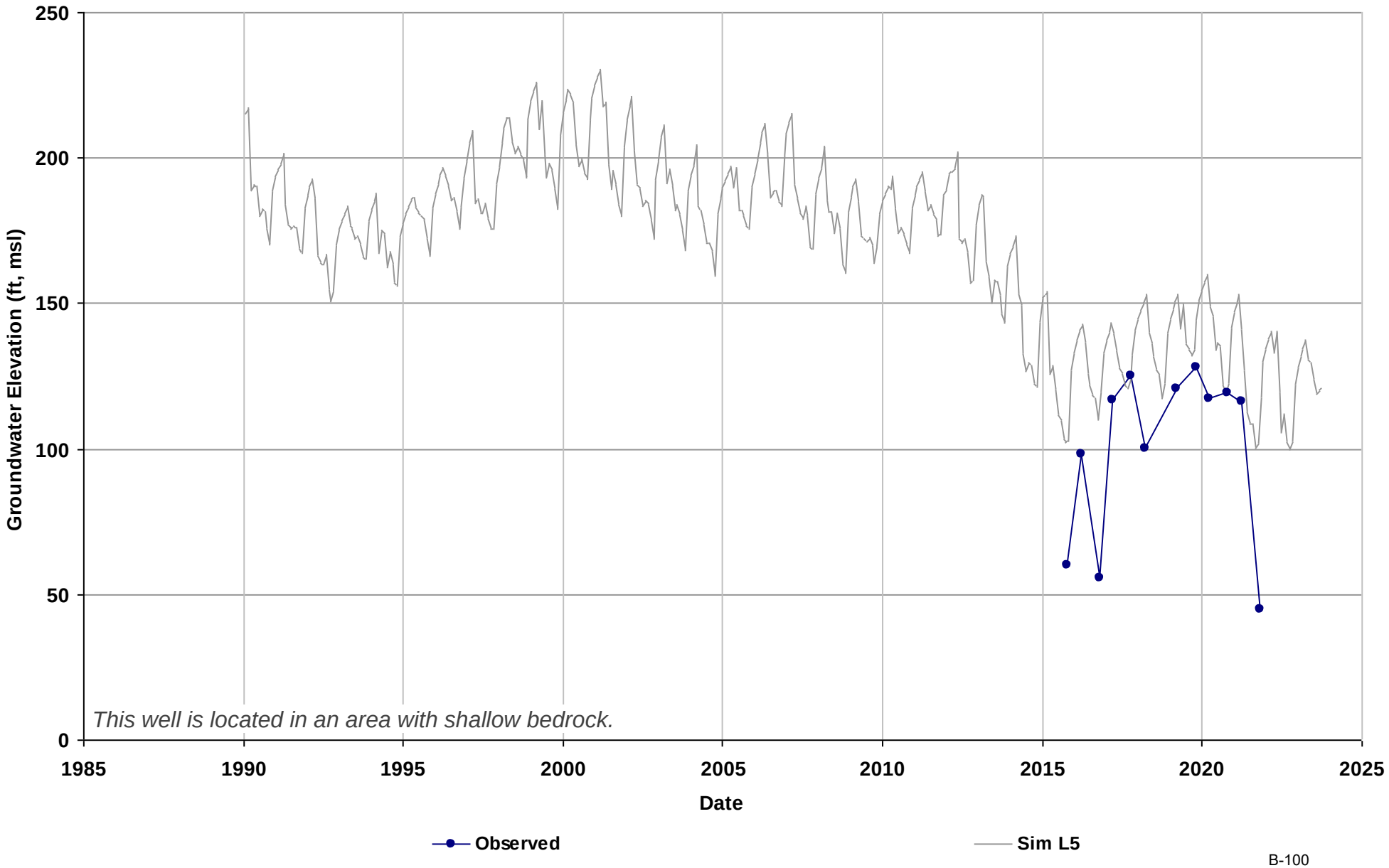
Total Depth (ft): 724
Perf Top (ft): 105
Perf Bottom (ft): 350
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 09S18E31L001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 336

Average Residual (feet): 33.68
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 33.68
Layer 6:

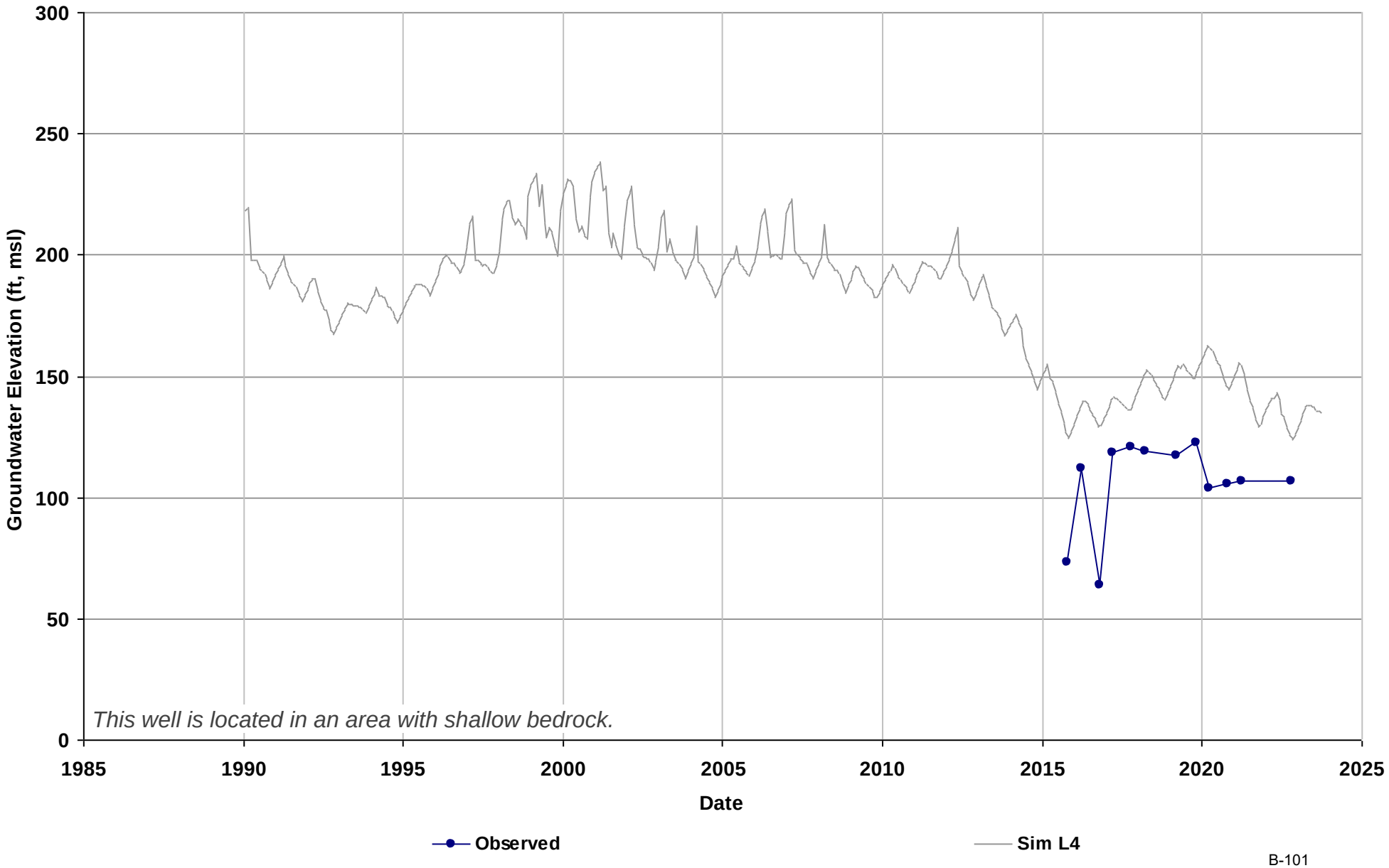
Total Depth (ft): 906
Perf Top (ft): 298
Perf Bottom (ft): 470
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 09S18E31M001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 338

Average Residual (feet): 36.67
Layer 1:
Layer 2:
Layer 3:
Layer 4: 36.67
Layer 5:
Layer 6:

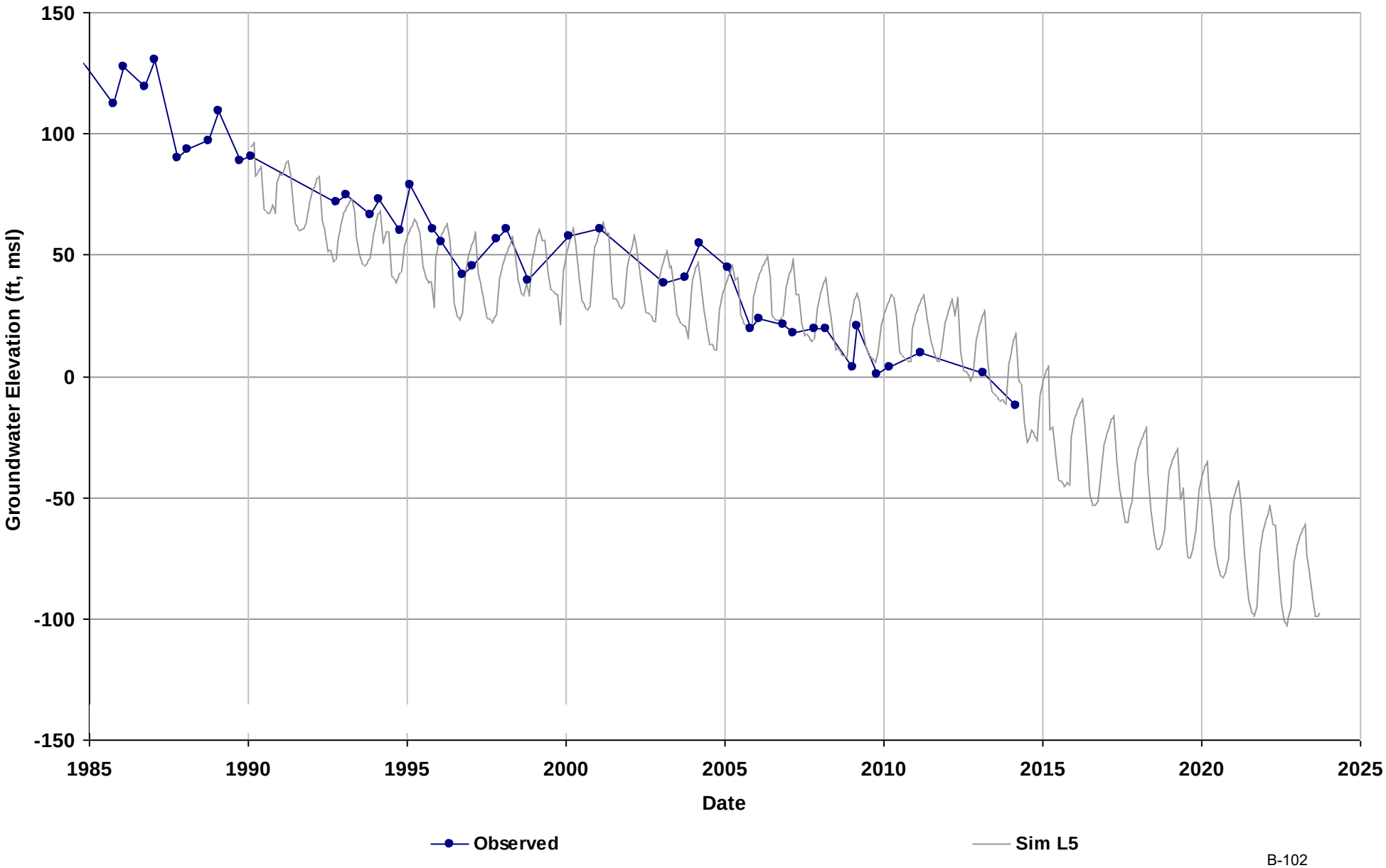
Total Depth (ft): 680
Perf Top (ft): 240
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S16E12K001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 262

Average Residual (feet): -0.01
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -0.01
Layer 6:

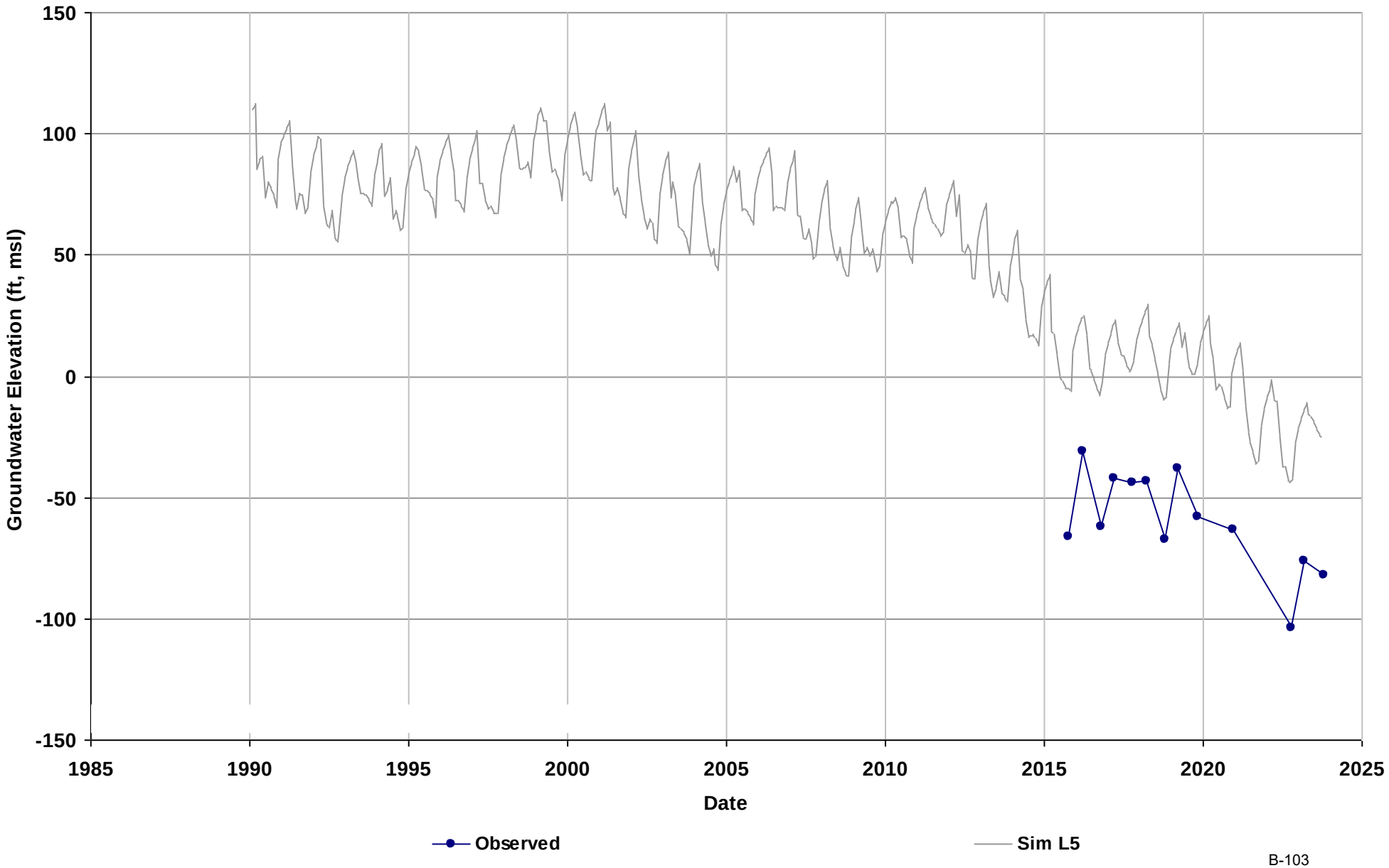
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S16E21N001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 294

Average Residual (feet): 60.09
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 60.09
Layer 6:

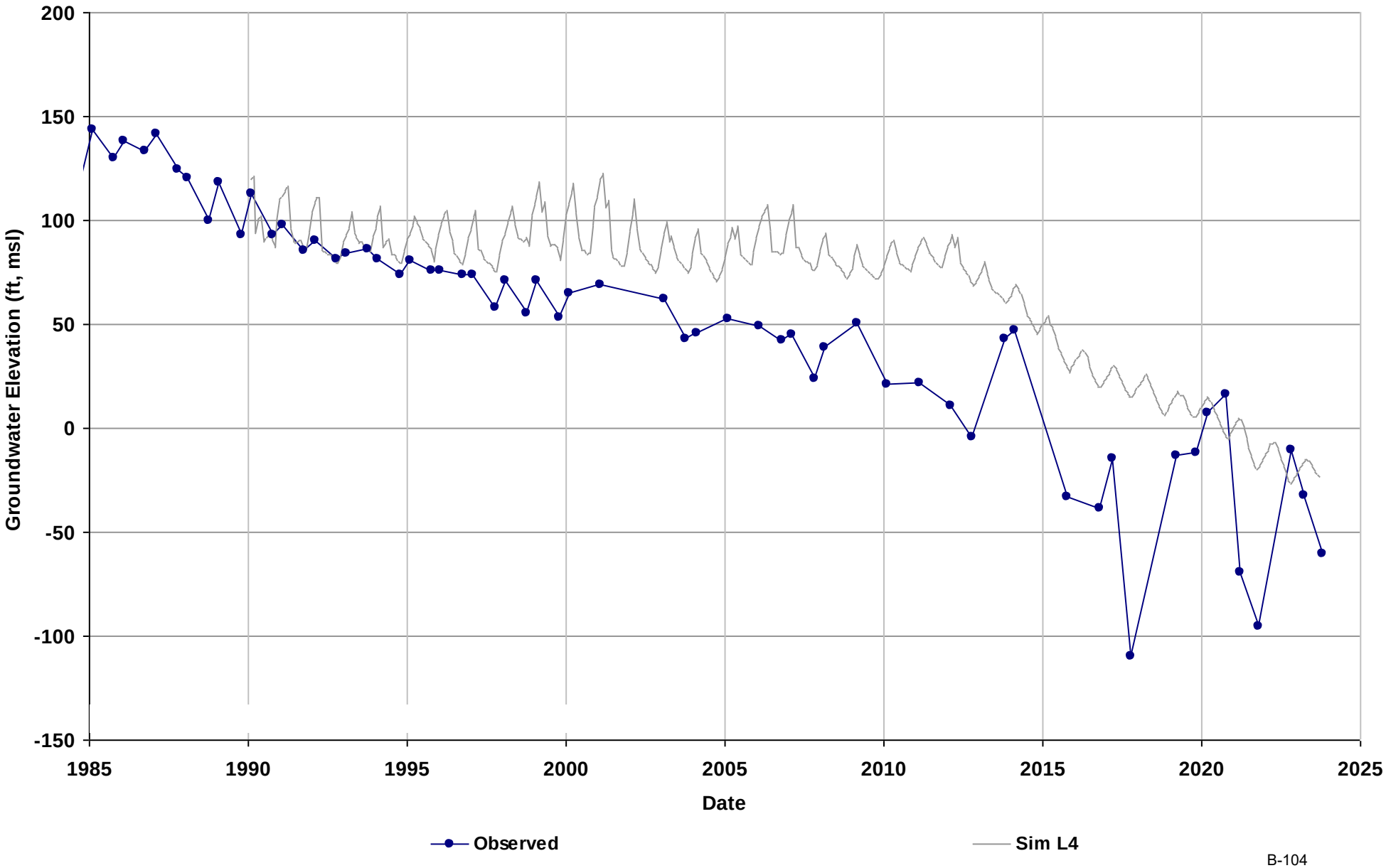
Total Depth (ft): 563
Perf Top (ft): 298
Perf Bottom (ft): 509
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S16E25F004M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Average Residual (feet): 29.85
Layer 1:
Layer 2:
Layer 3:
Layer 4: 29.85
Layer 5:
Layer 6:

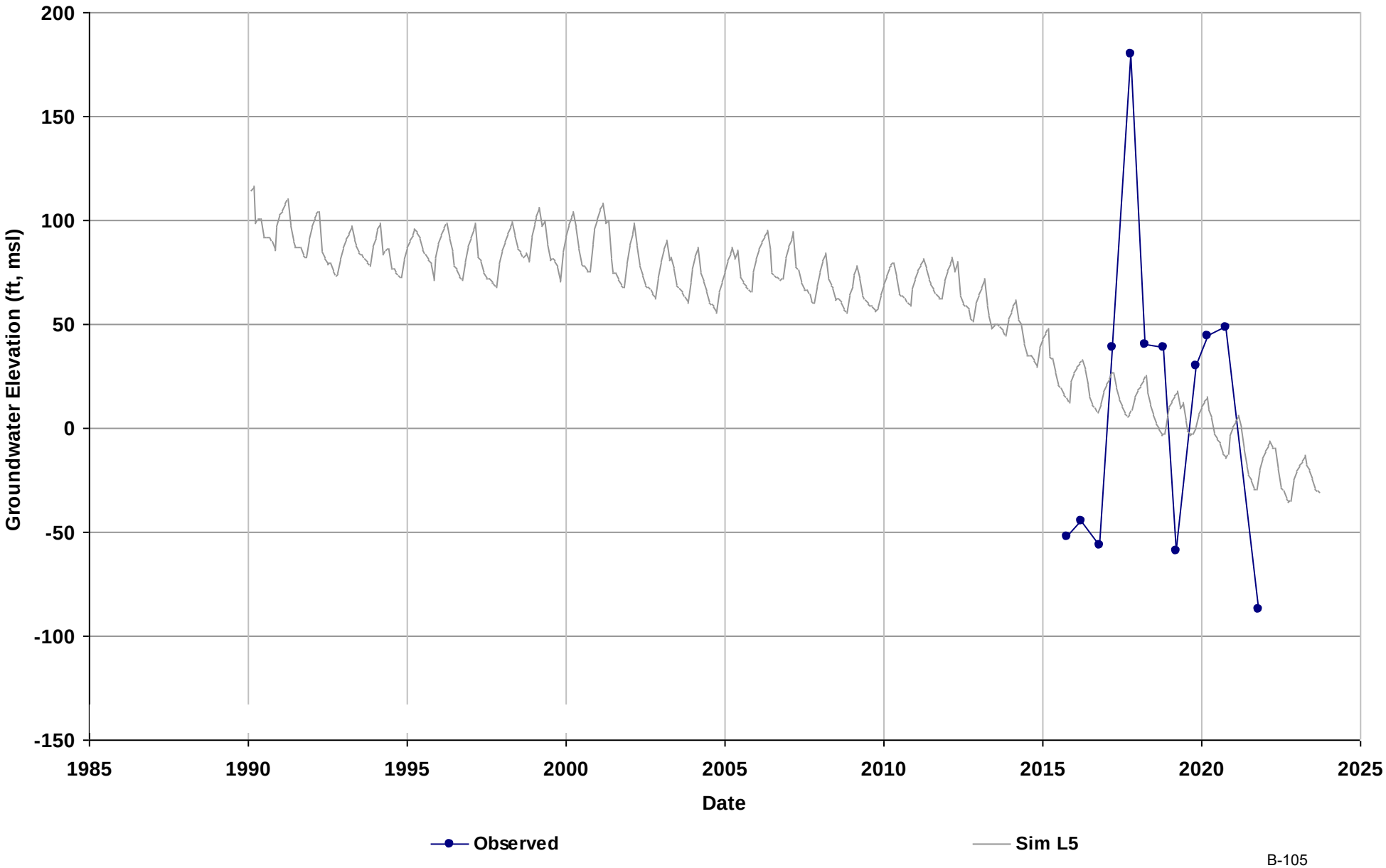
Total Depth (ft): 516
Perf Top (ft): 260
Perf Bottom (ft): 507
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S16E25L001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 239

Average Residual (feet): -1.79
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -1.79
Layer 6:

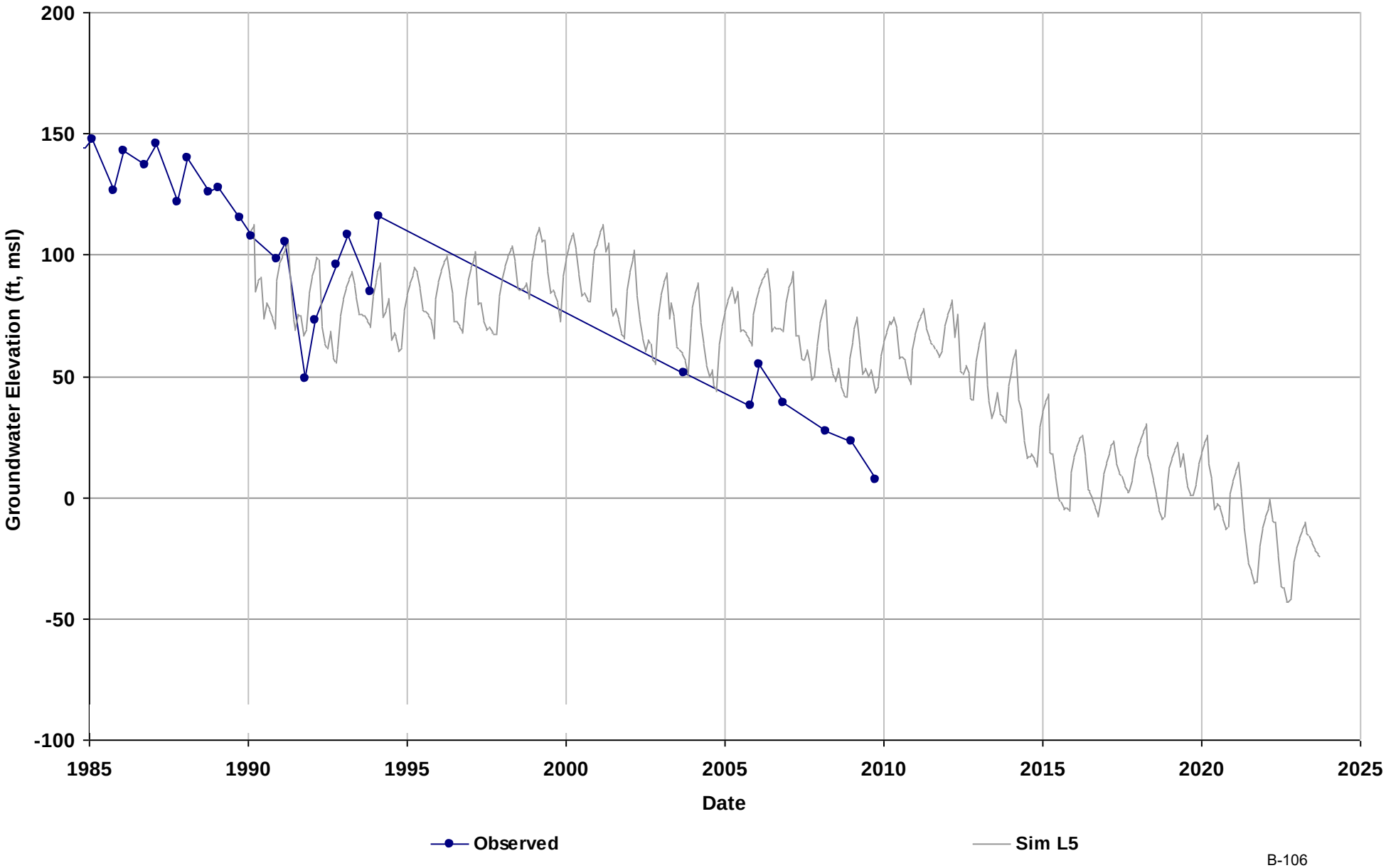
Total Depth (ft): 800
Perf Top (ft): 400
Perf Bottom (ft): 800
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S16E28D001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 218

Average Residual (feet): 4.9
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 4.9
Layer 6:

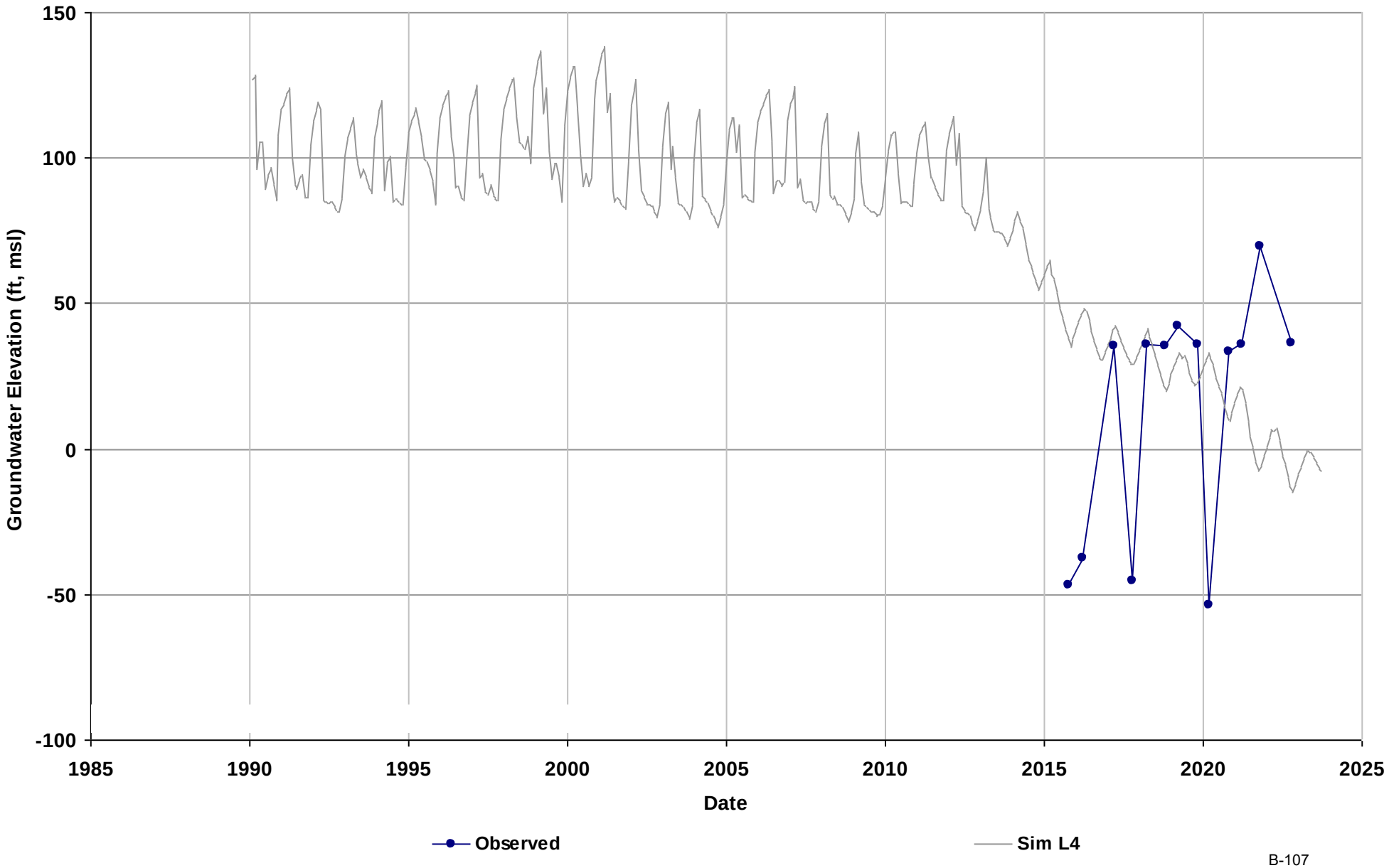
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S16E36C002M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 238

Average Residual (feet): 8.77
Layer 1:
Layer 2:
Layer 3:
Layer 4: 8.77
Layer 5:
Layer 6:

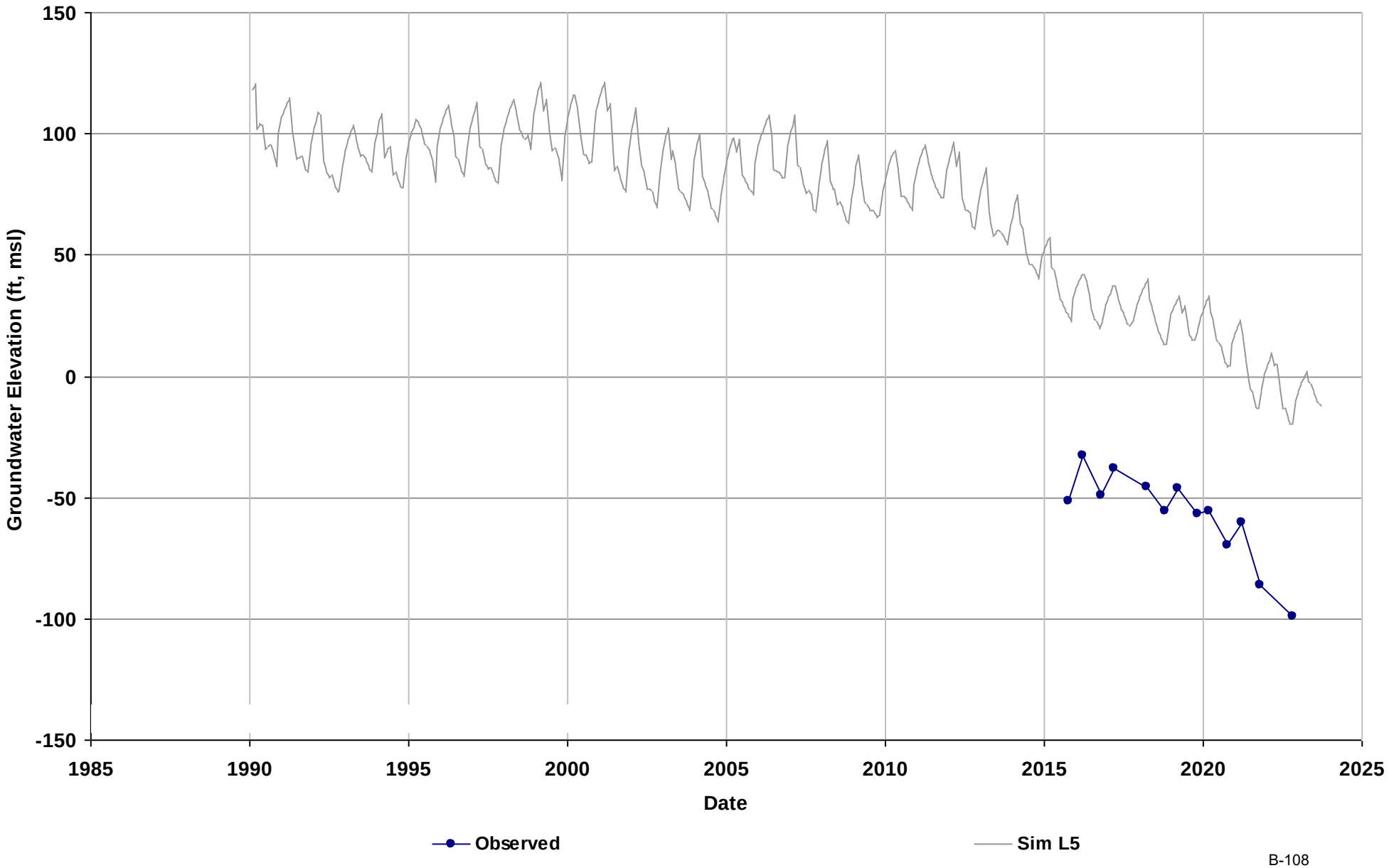
Total Depth (ft): 440
Perf Top (ft): 360
Perf Bottom (ft): 440
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S16E36E001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 234

Average Residual (feet): 76.54
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 76.54
Layer 6:

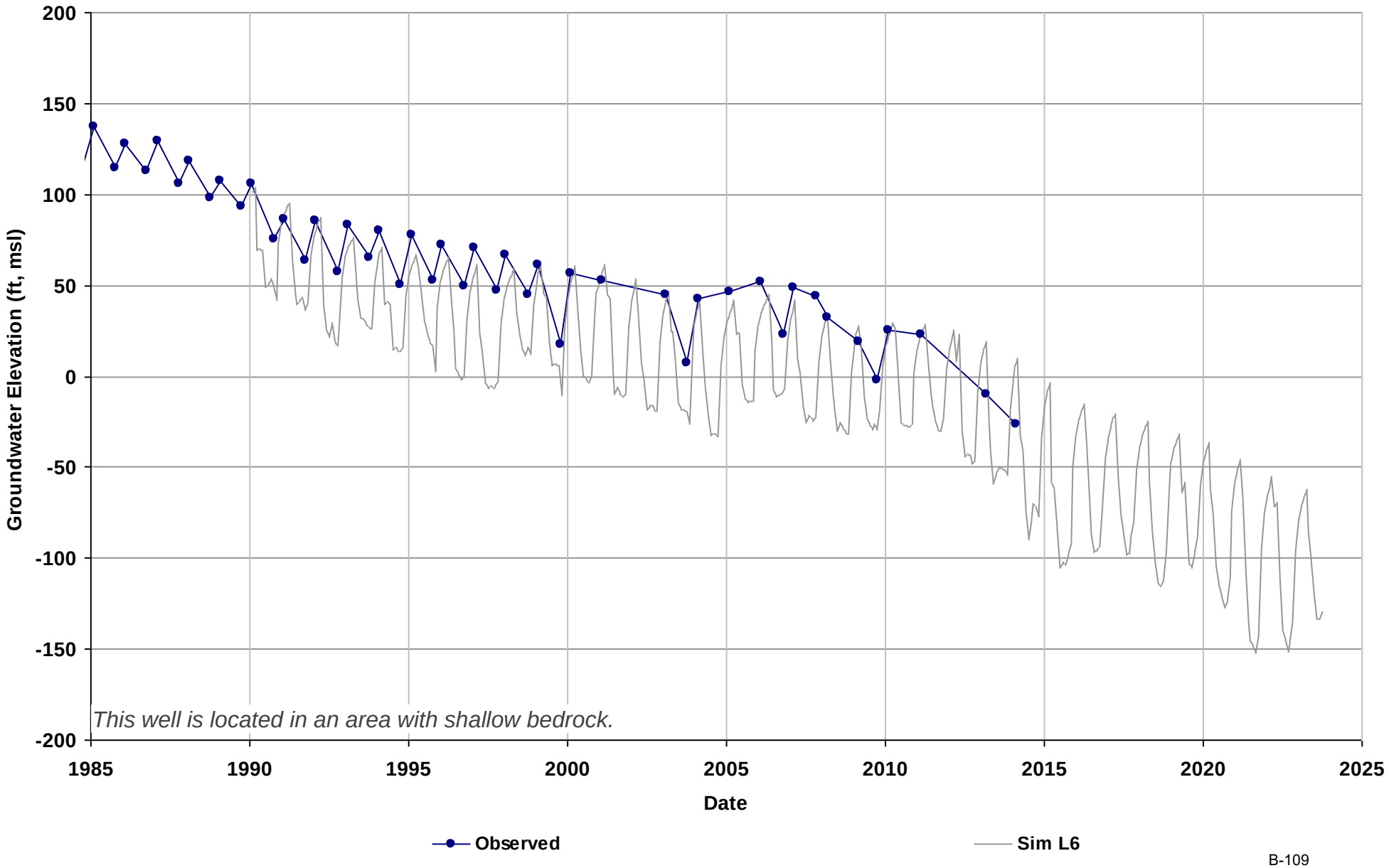
Total Depth (ft): 500
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S17E03F001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 302

Average Residual (feet): -16.5
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: -16.5

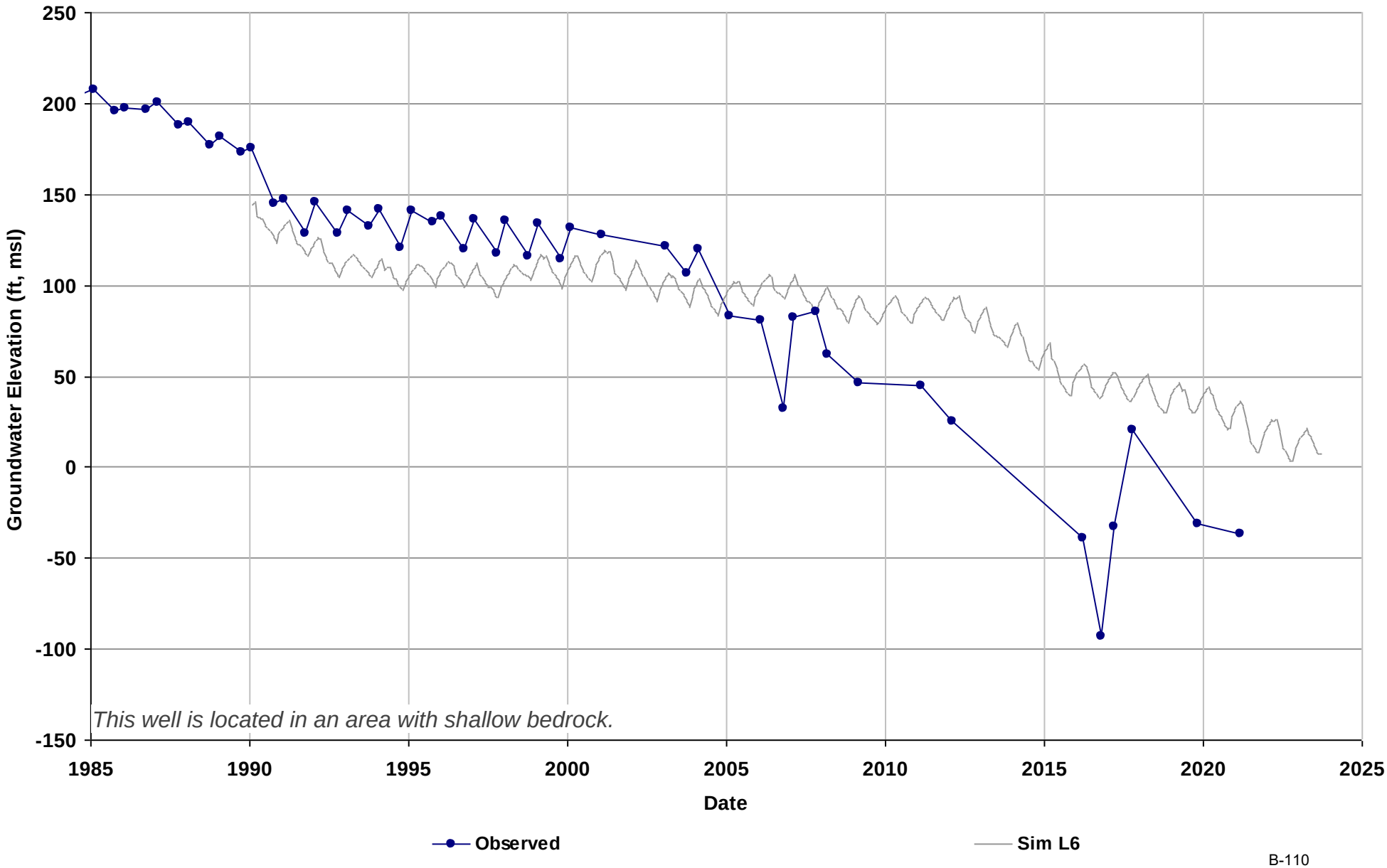
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S17E12C001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 324

Average Residual (feet): 2.87
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 2.87

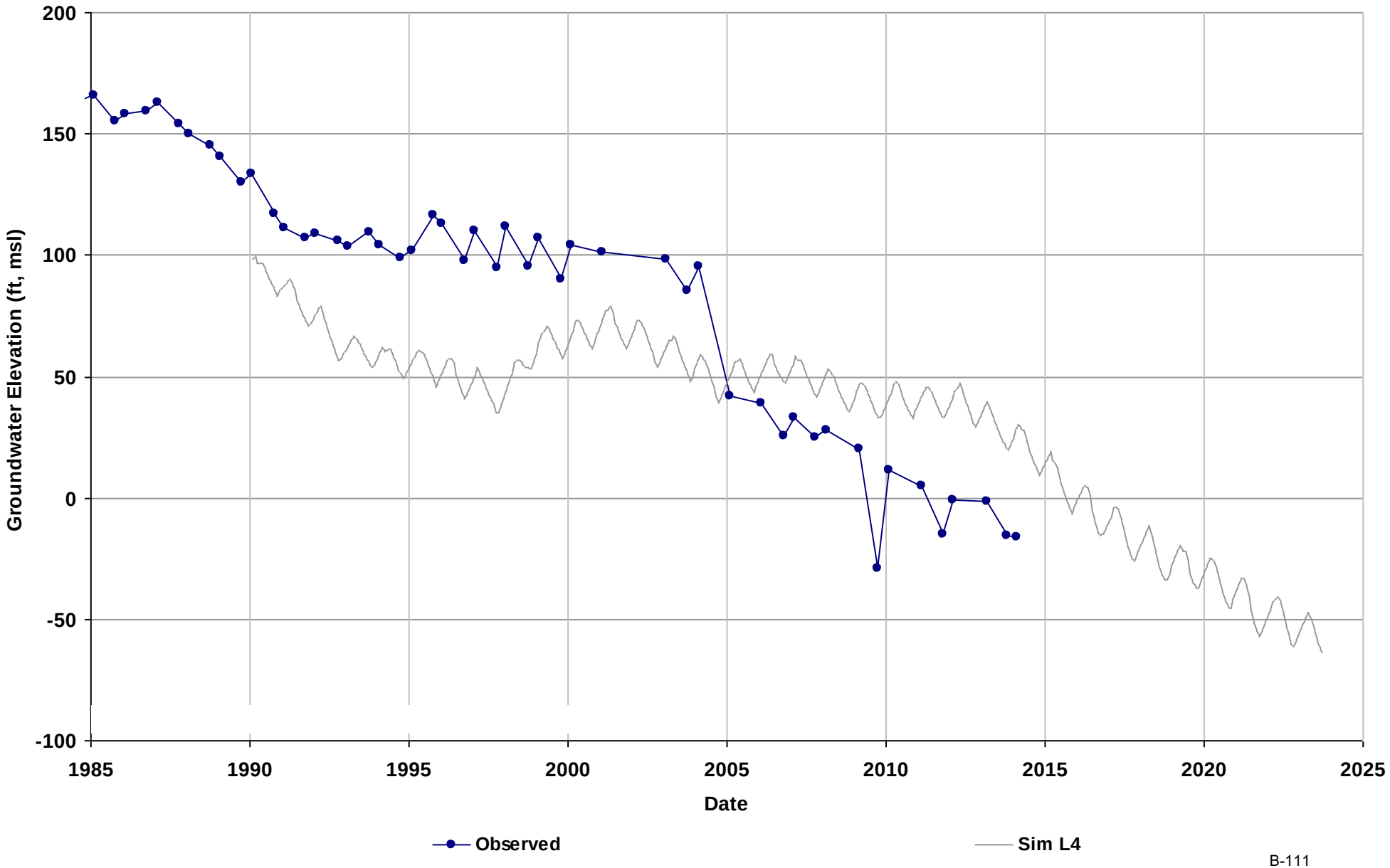
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S17E22D001M
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 277

Average Residual (feet): -17.3
Layer 1:
Layer 2:
Layer 3:
Layer 4: -17.3
Layer 5:
Layer 6:

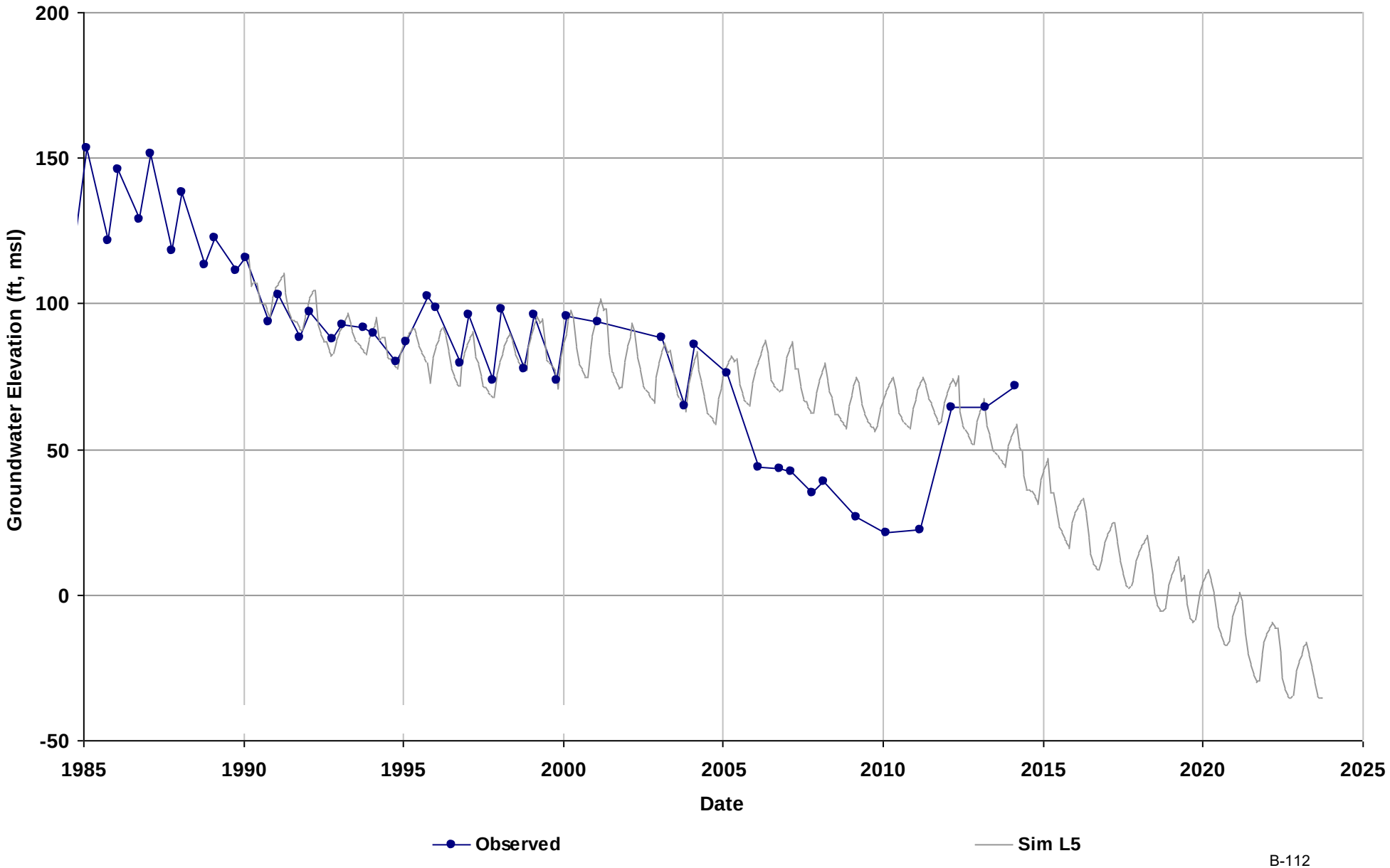
Total Depth (ft): 250
Perf Top (ft): 140
Perf Bottom (ft): 250
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S17E30B002M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 252

Average Residual (feet): 3.33
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 5.51
Layer 6: 1.15

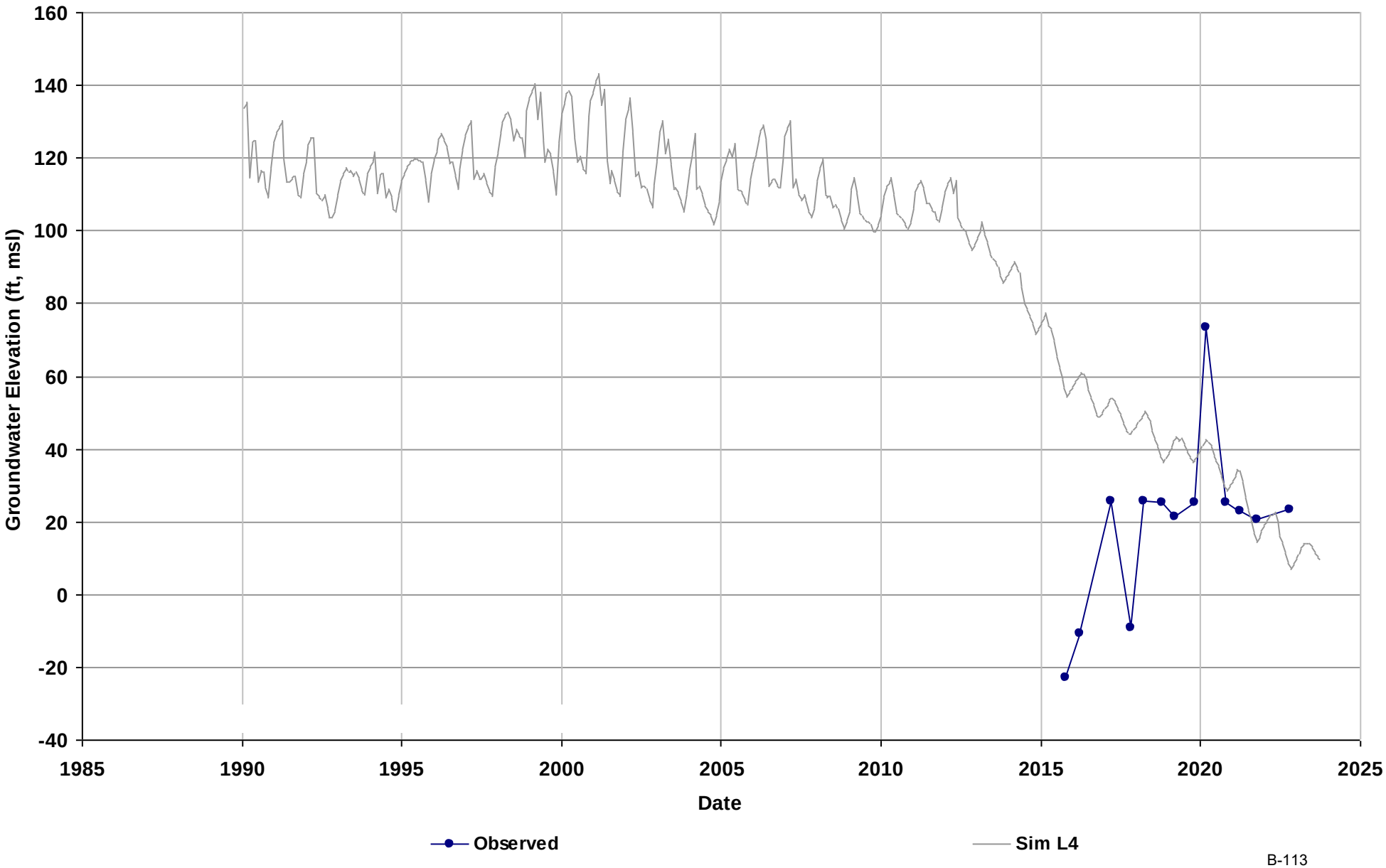
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S17E32K001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 249

Average Residual (feet): 20.07
Layer 1:
Layer 2:
Layer 3:
Layer 4: 20.07
Layer 5:
Layer 6:

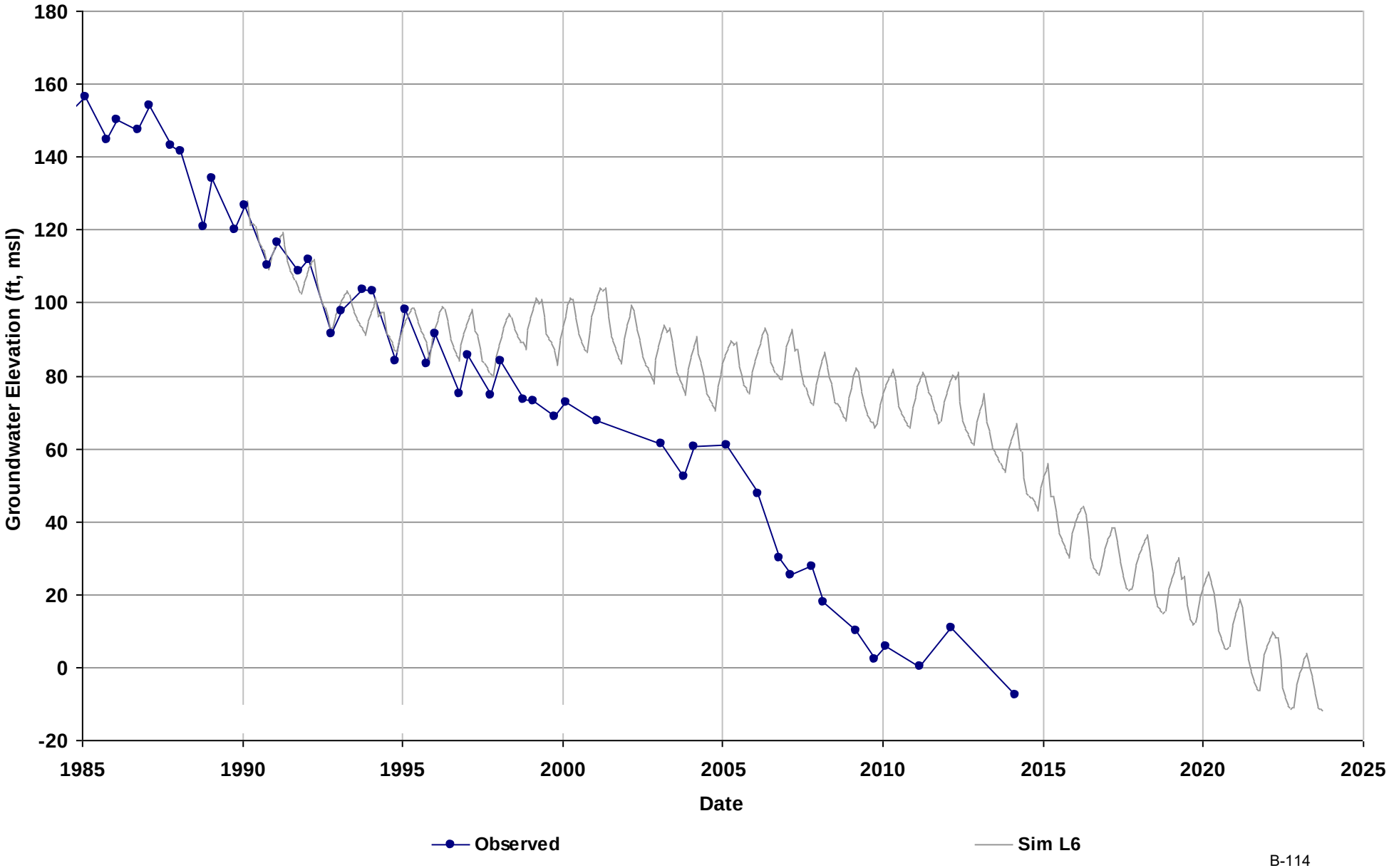
Total Depth (ft): 288
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 10S17E34A002M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 267

Average Residual (feet): 23.99
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 24.49
Layer 6: 23.49

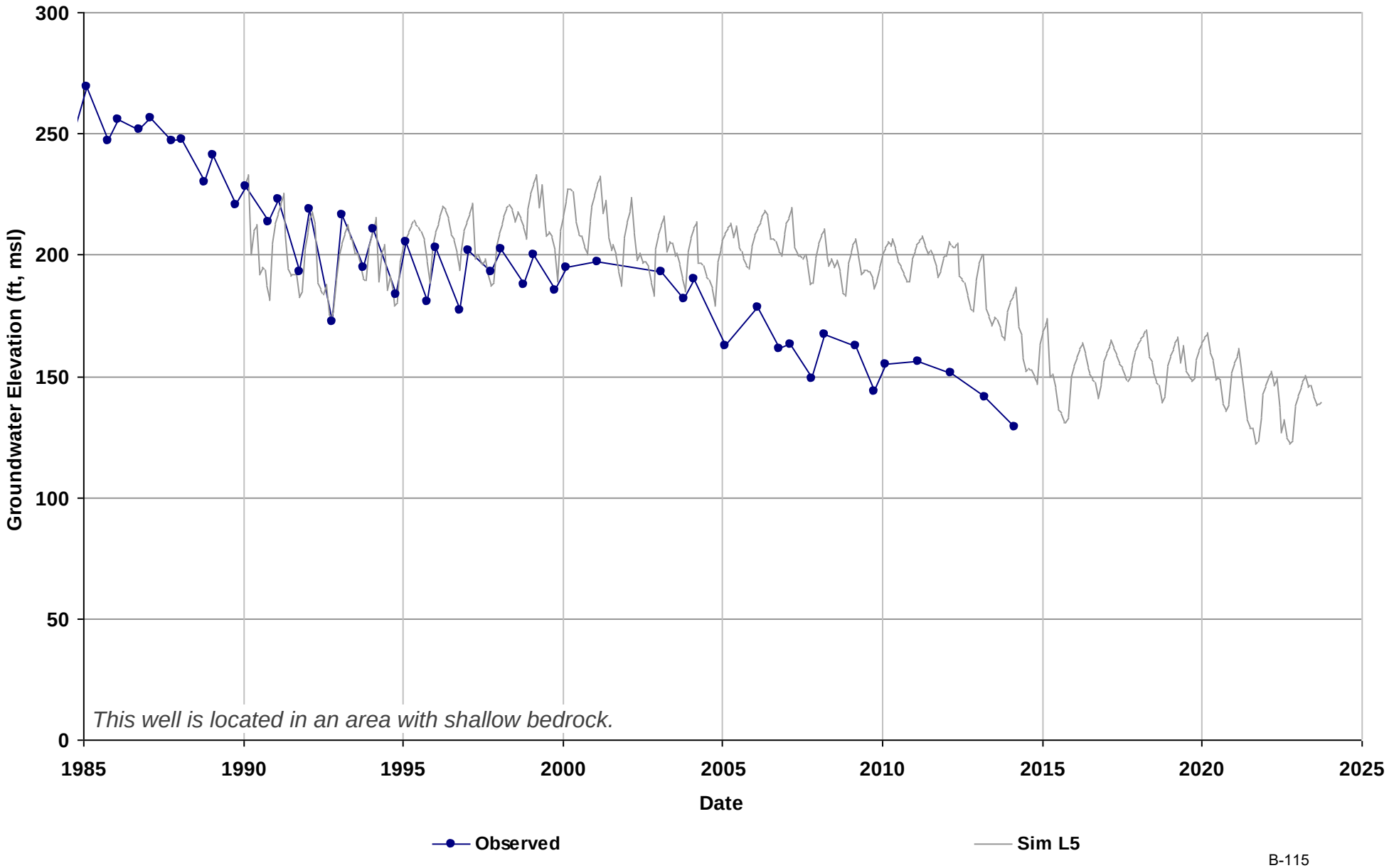
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S18E09C001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 350

Average Residual (feet): 17.42
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 17.42
Layer 6:

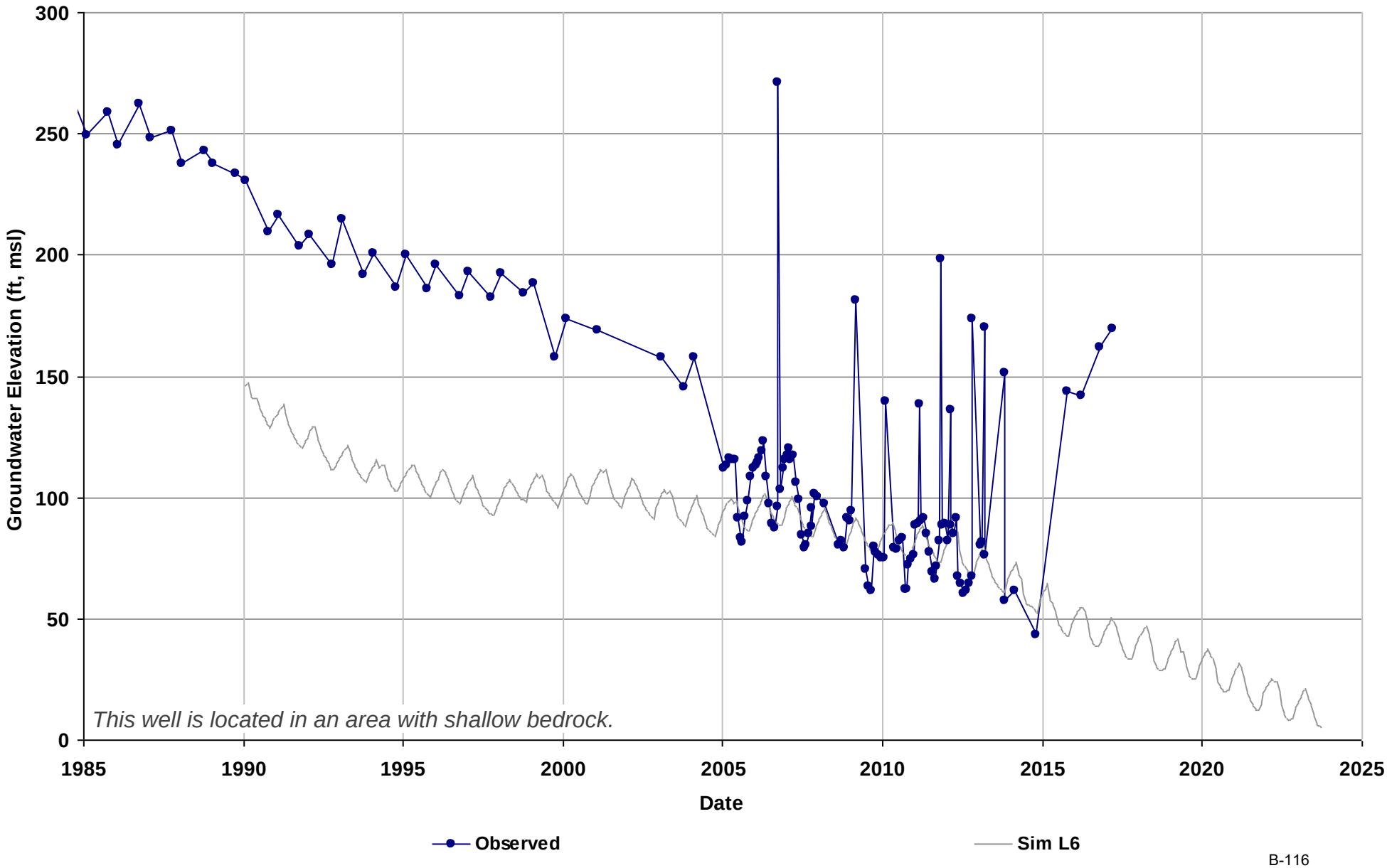
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S18E27N001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 333

Average Residual (feet): -30.3
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: -30.3

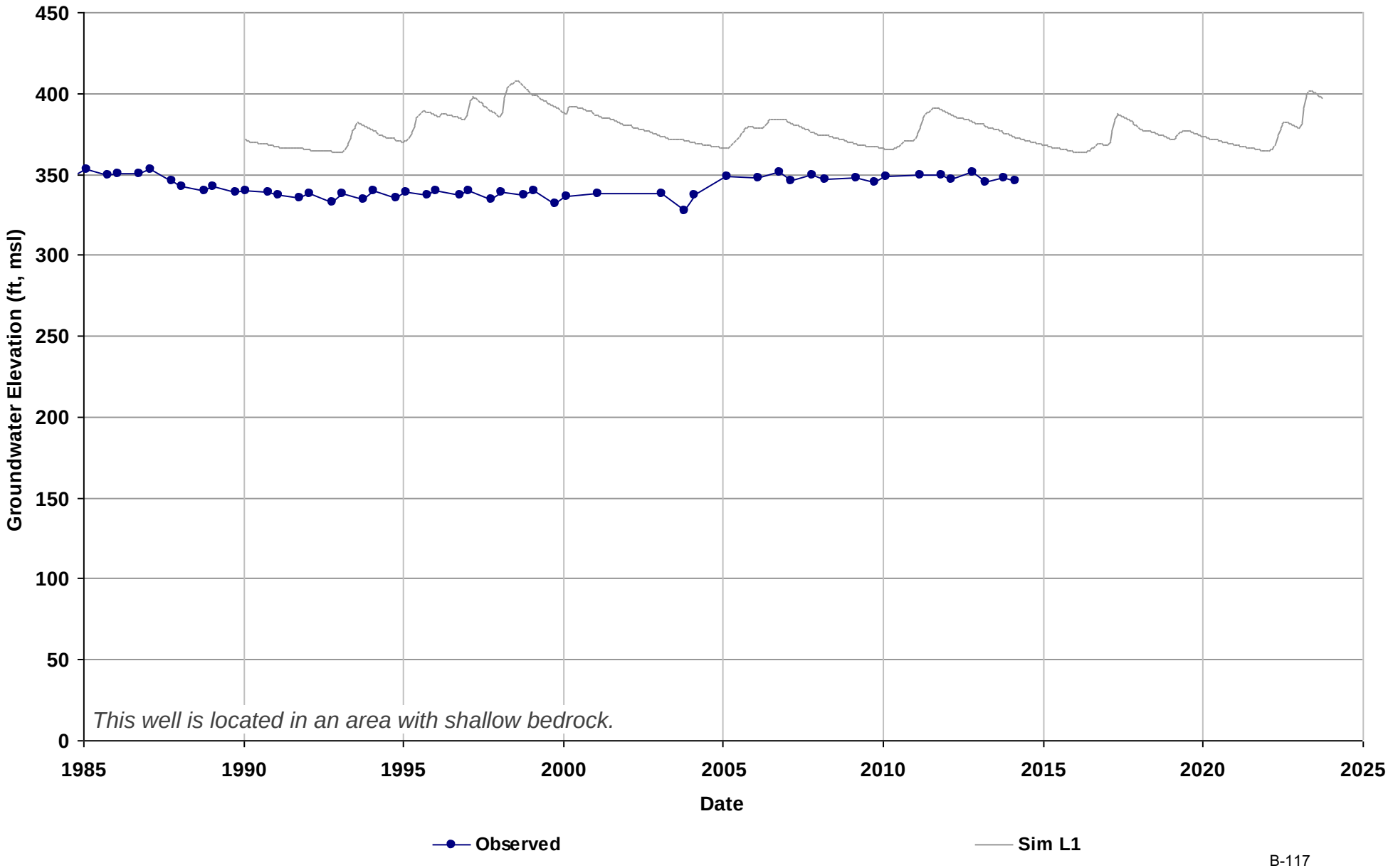
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 10S19E17H001M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 370

Average Residual (feet):
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

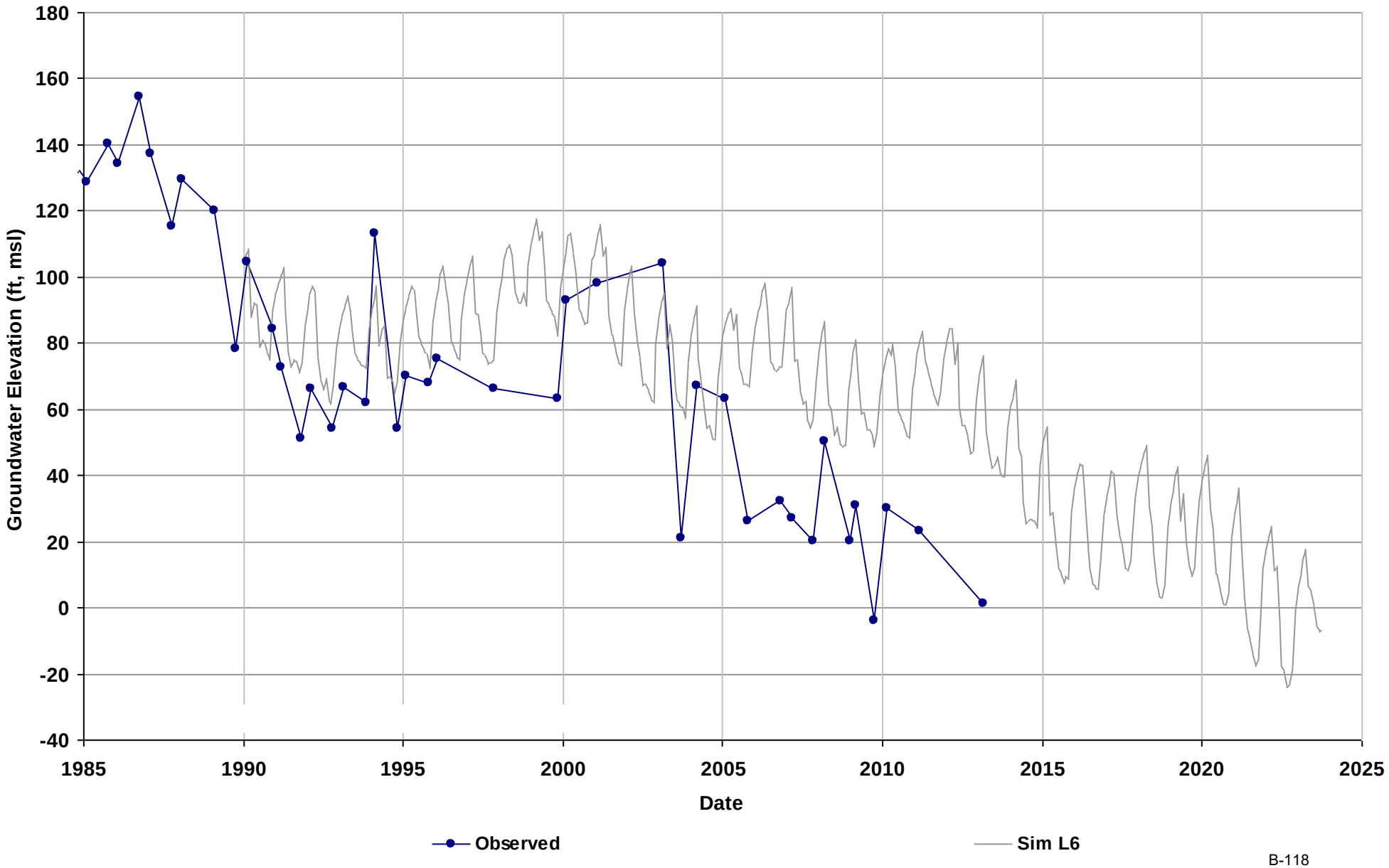
Total Depth (ft): 92
Perf Top (ft): 32
Perf Bottom (ft): 92
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 11S15E01H002M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 189

Average Residual (feet): 26.16
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 27.22
Layer 6: 25.11

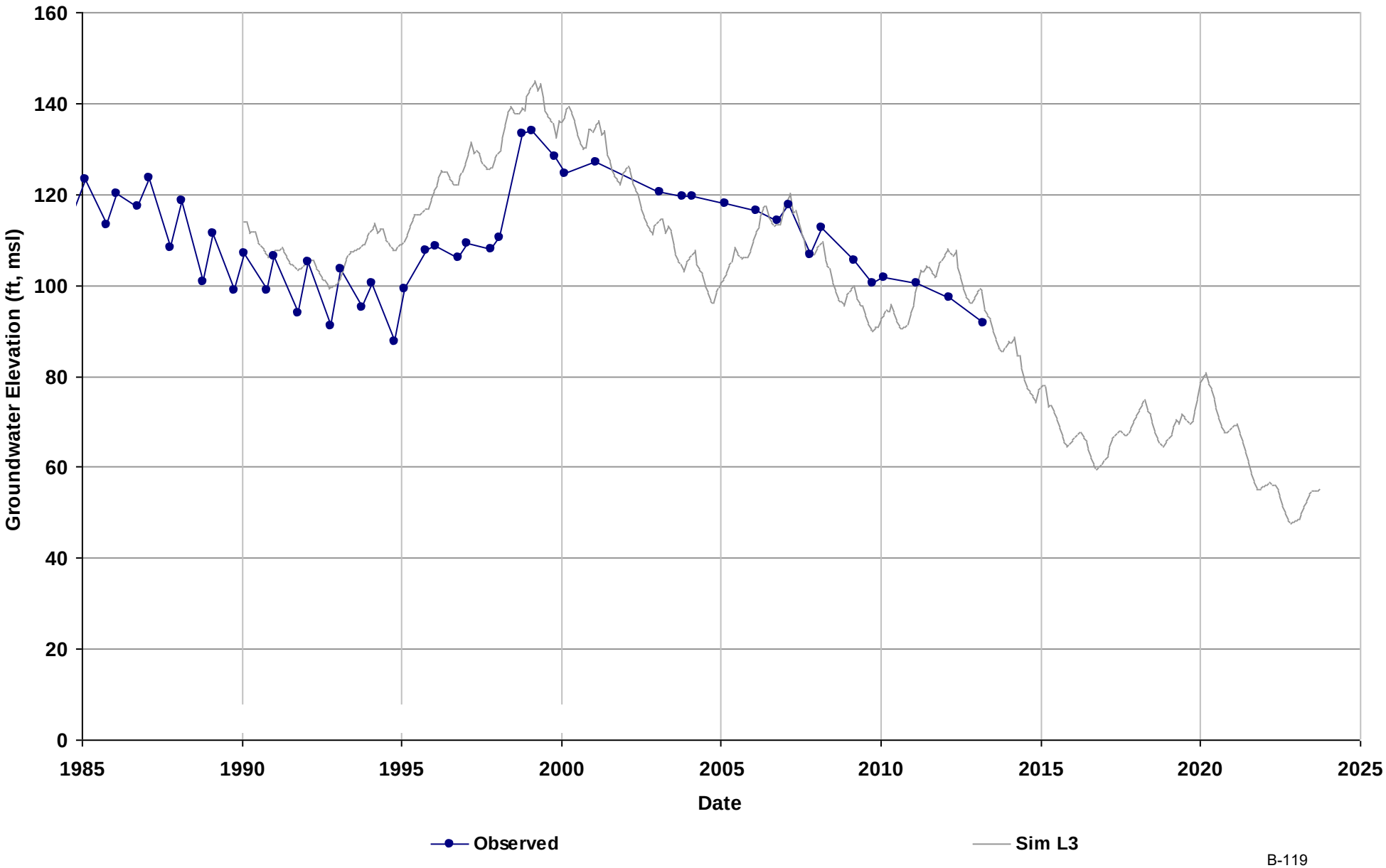
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S15E10J001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 174

Average Residual (feet): 5.29
Layer 1:
Layer 2: 5.68
Layer 3: 4.89
Layer 4:
Layer 5:
Layer 6:

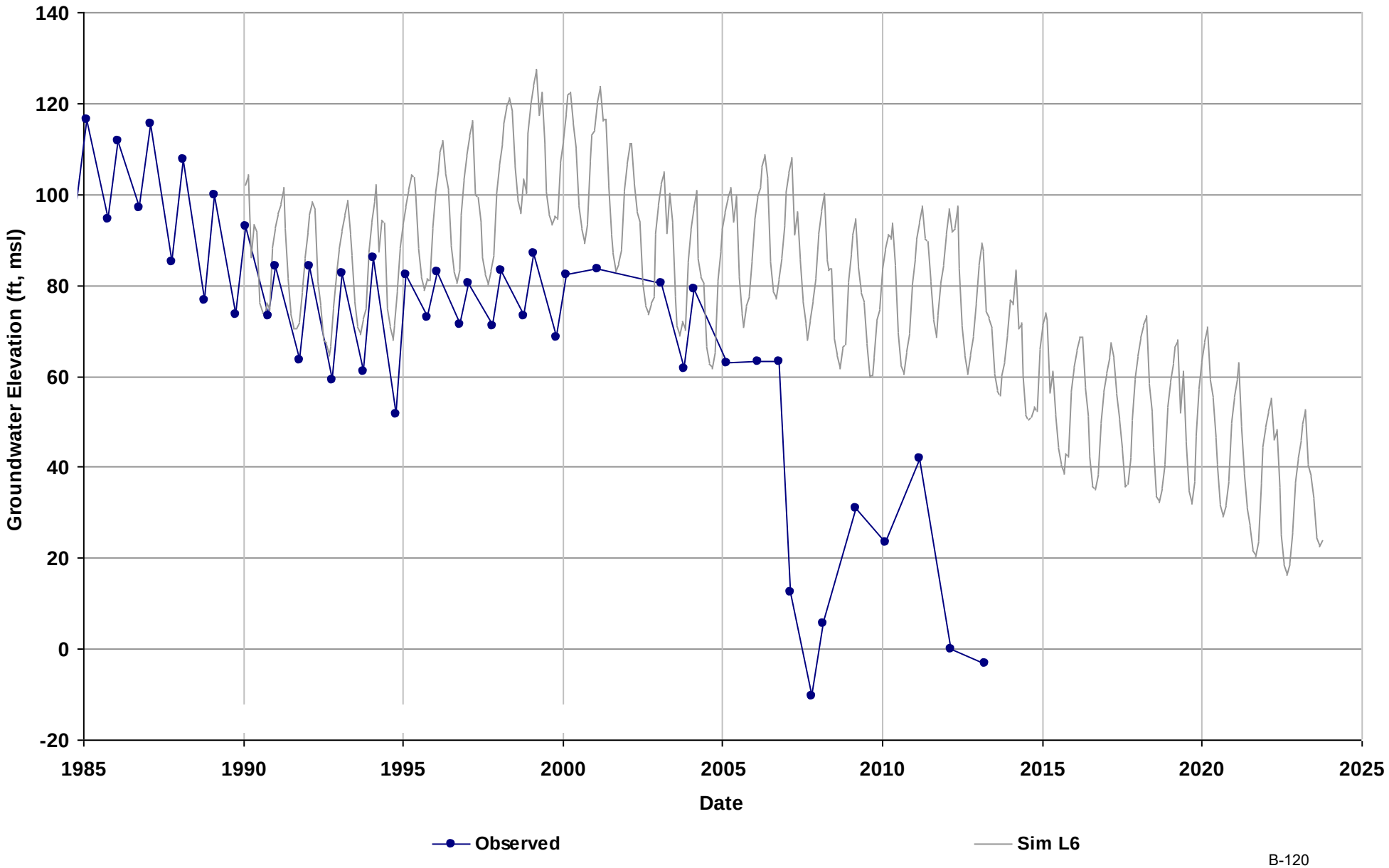
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 11S15E25A001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 182

Average Residual (feet): 31.73
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 33
Layer 6: 30.45

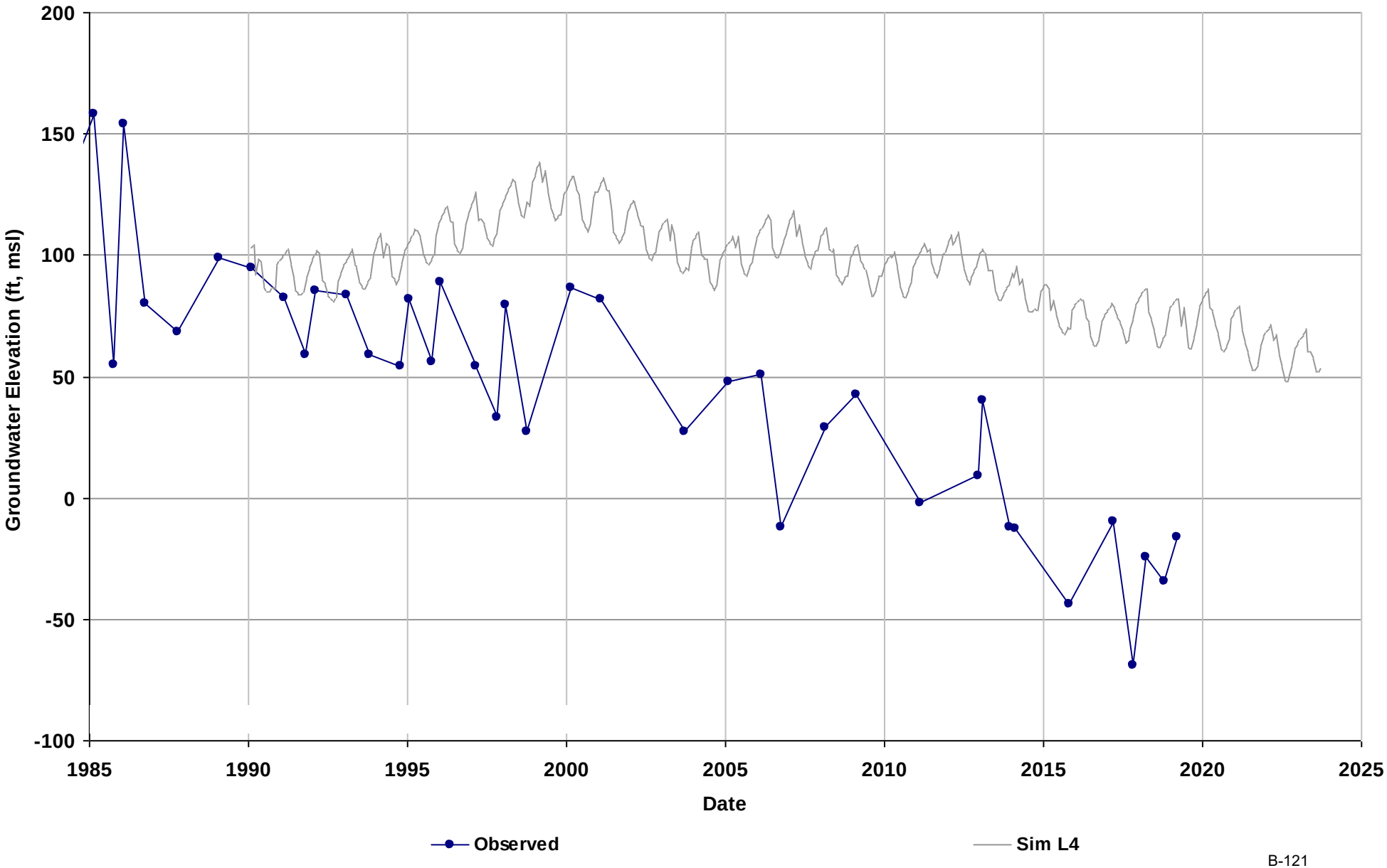
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S15E26R001M
Depth Zone: Composite
Subbasin: Madera
GSE (ft, msl): 177

Average Residual (feet): 63.93
Layer 1:
Layer 2:
Layer 3:
Layer 4: 63.93
Layer 5:
Layer 6:

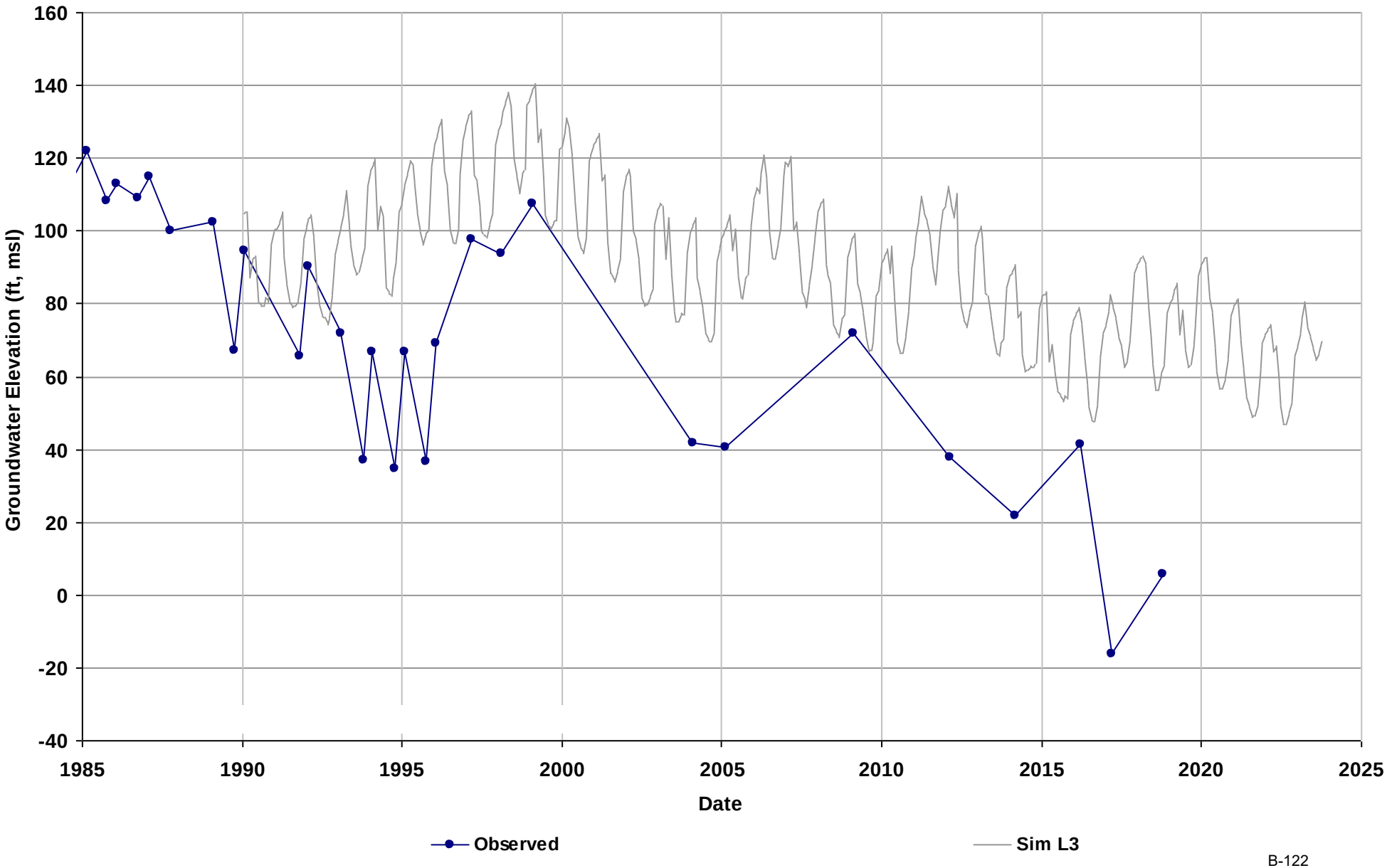
Total Depth (ft): 425
Perf Top (ft): 190
Perf Bottom (ft): 418
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 11S15E30A001M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 155

Average Residual (feet): 27.69
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 28.47
Layer 6: 26.92

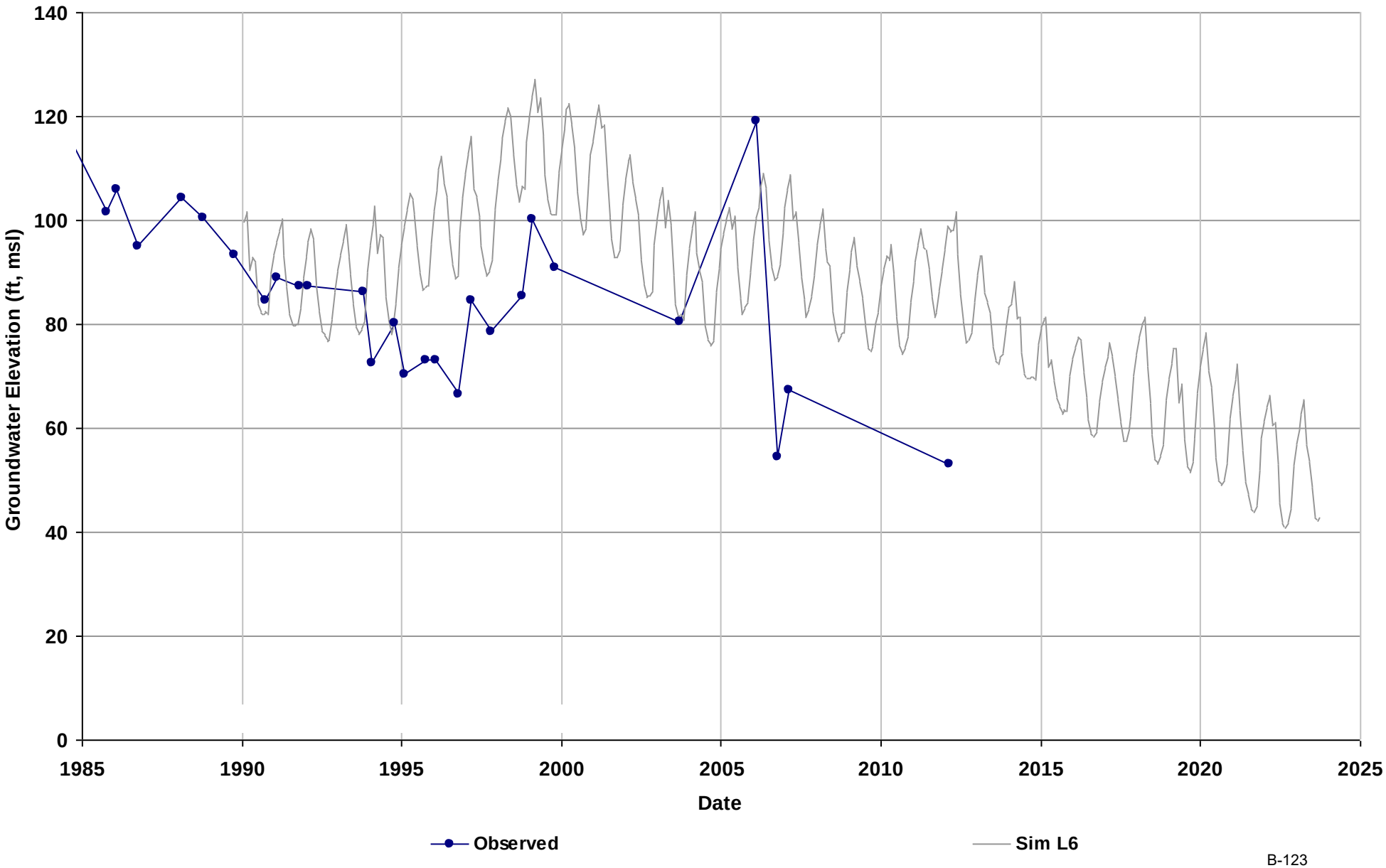
Total Depth (ft): 216
Perf Top (ft): 174
Perf Bottom (ft): 212
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 11S15E35P001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 172

Average Residual (feet): 13.92
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 14.56
Layer 6: 13.29

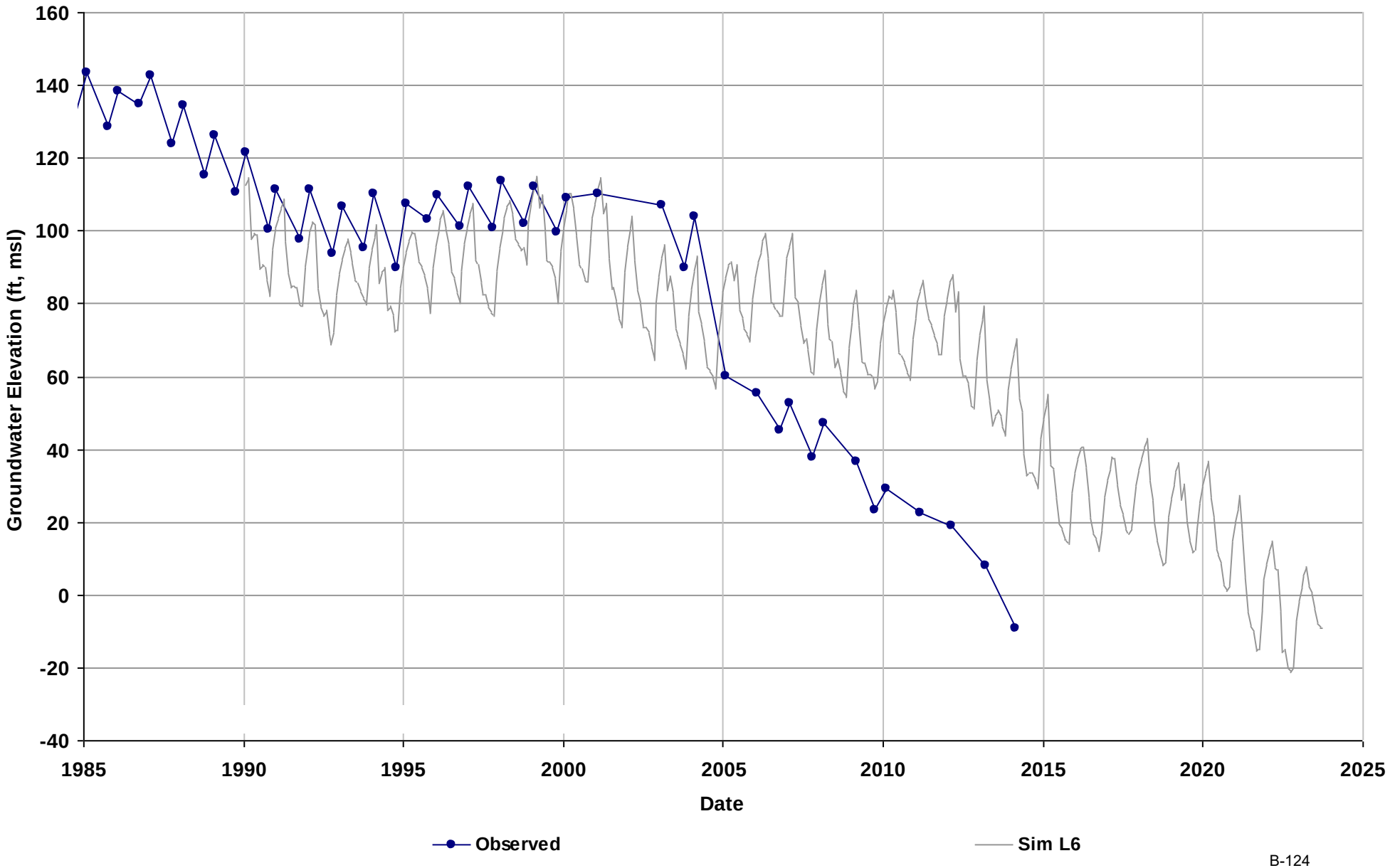
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S16E03A001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 222

Average Residual (feet): 5.57
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 5.57

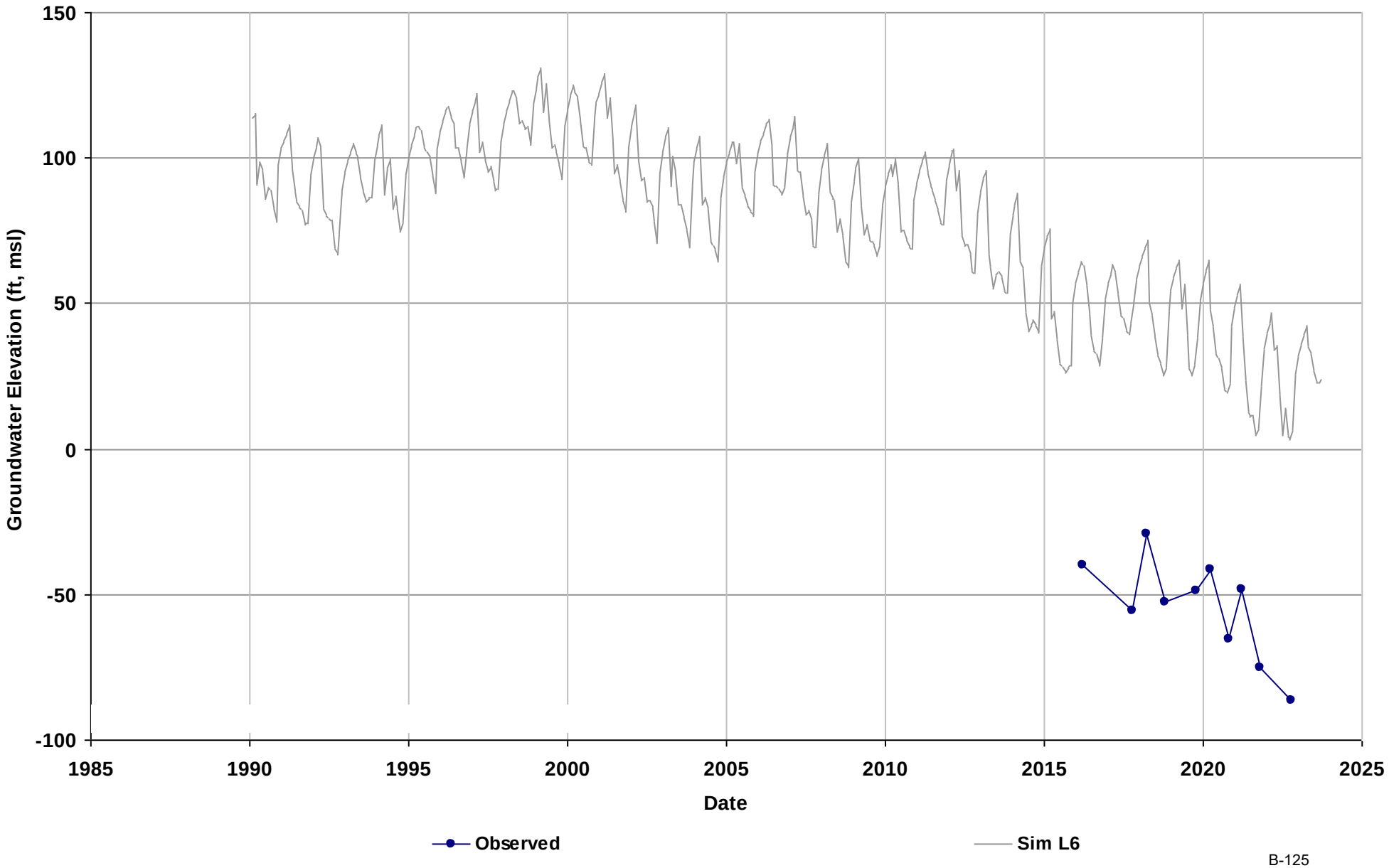
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S16E15P001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 208

Average Residual (feet): 95.57
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 98.53
Layer 6: 92.62

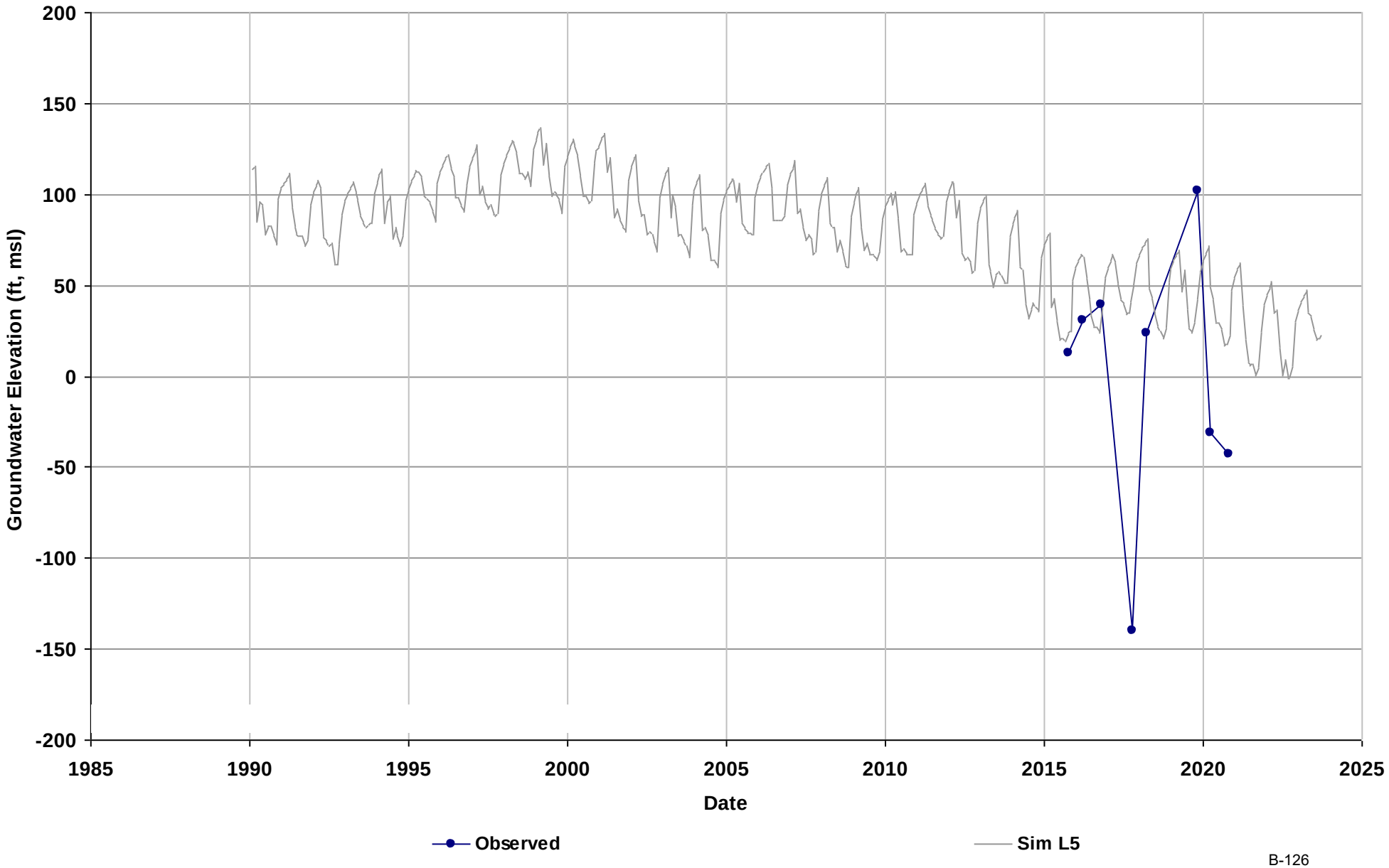
Total Depth (ft): 800
Perf Top (ft): 220
Perf Bottom (ft): 800
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S16E16K001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 202

Average Residual (feet): 45.18
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 45.18
Layer 6:

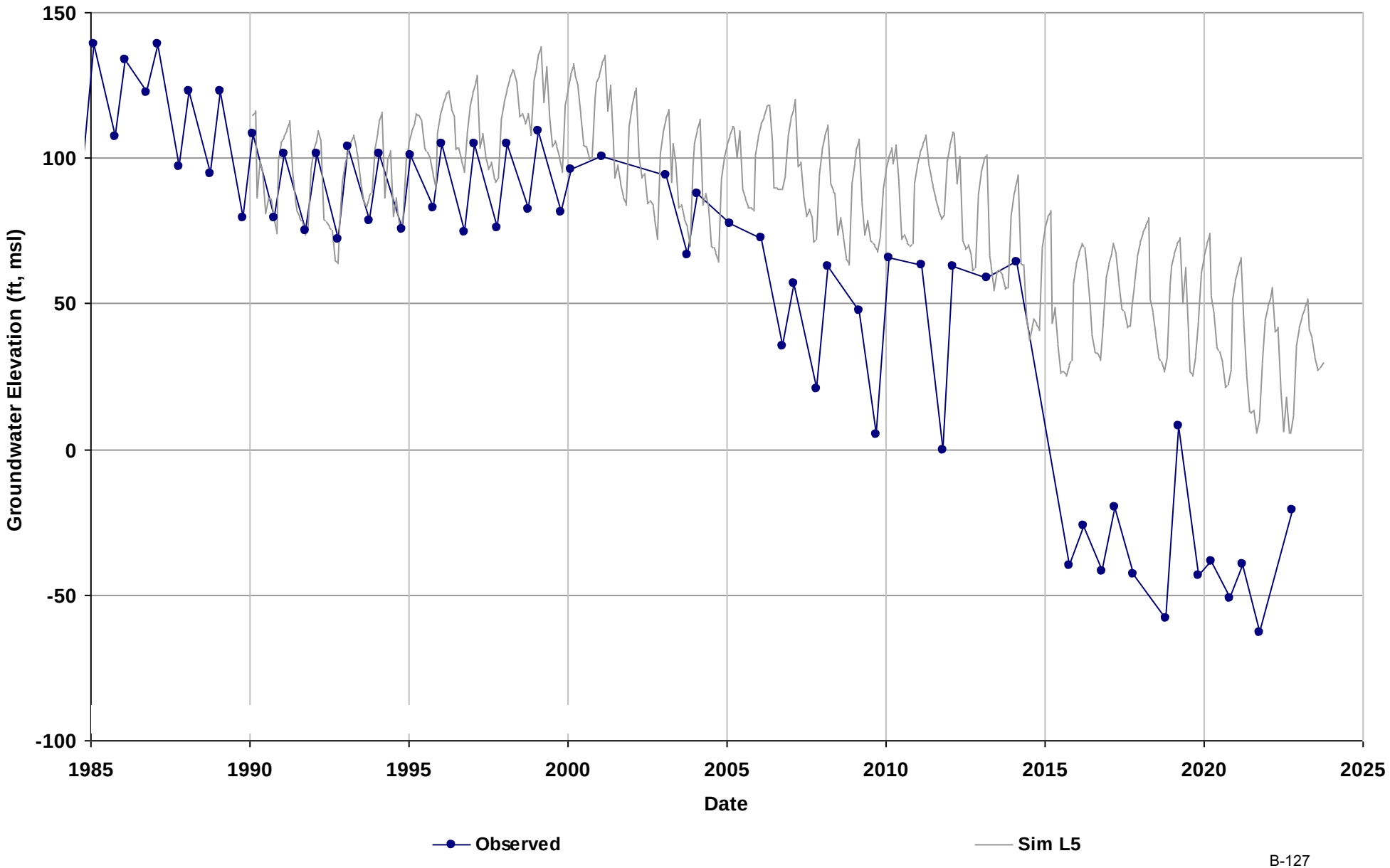
Total Depth (ft): 474
Perf Top (ft): 204
Perf Bottom (ft): 474
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S16E21A001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 203

Average Residual (feet): 37.03
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 37.03
Layer 6:

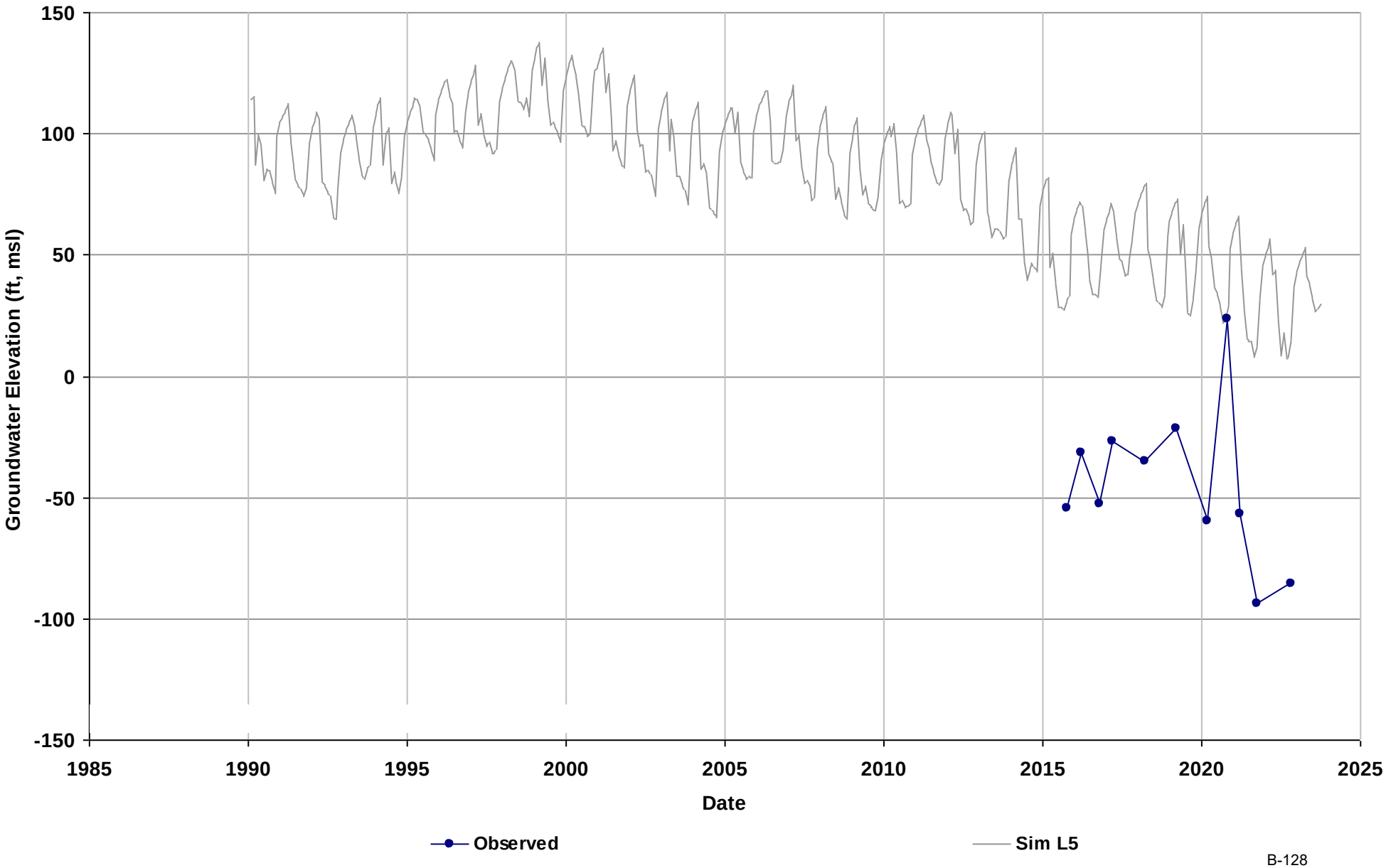
Total Depth (ft): 514
Perf Top (ft): 245
Perf Bottom (ft): 496
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S16E21H001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 201

Average Residual (feet): 94.04
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 94.04
Layer 6:

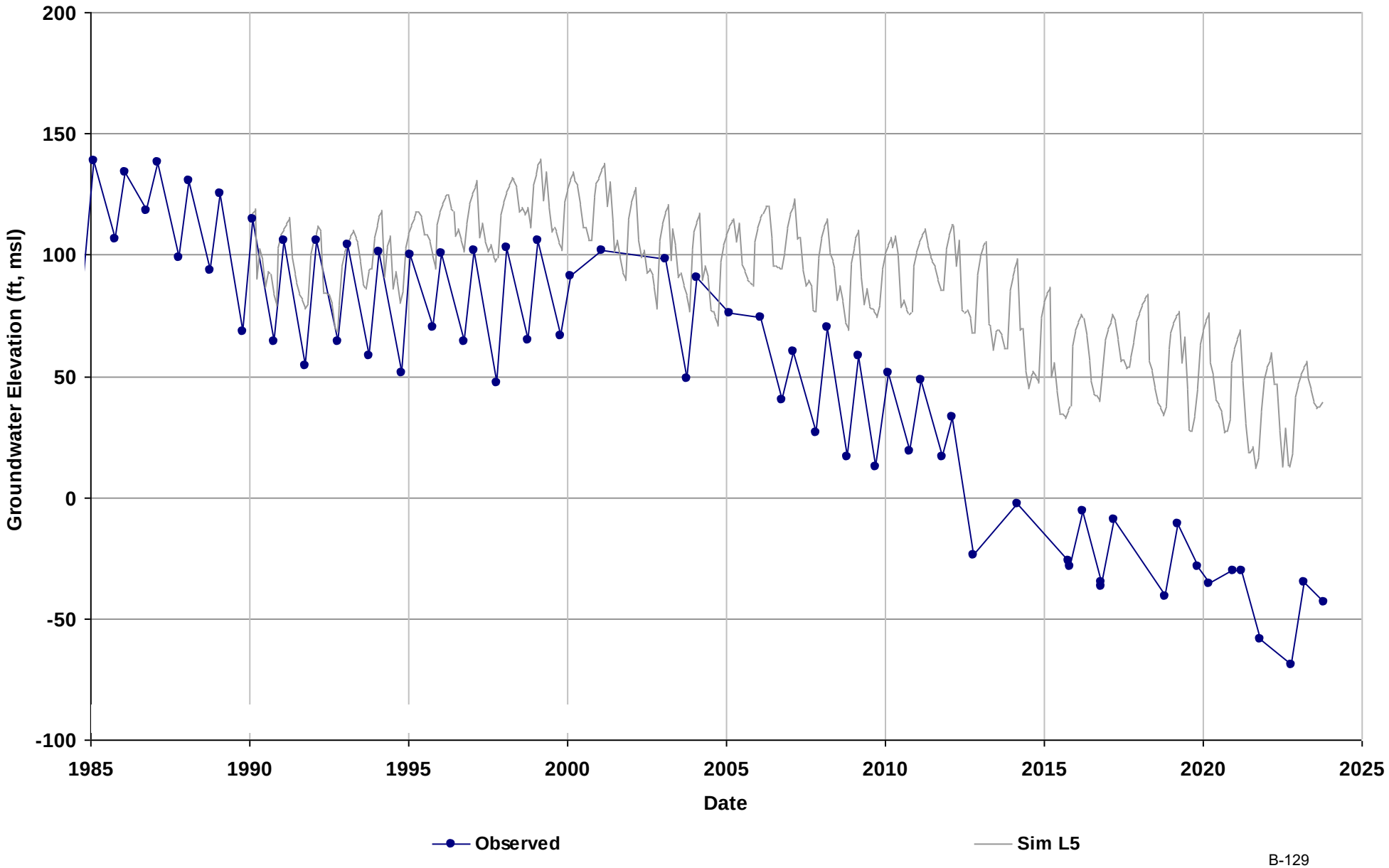
Total Depth (ft): 600
Perf Top (ft): 400
Perf Bottom (ft): 600
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S16E22K002M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 239

Average Residual (feet): 51.16
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 51.16
Layer 6:

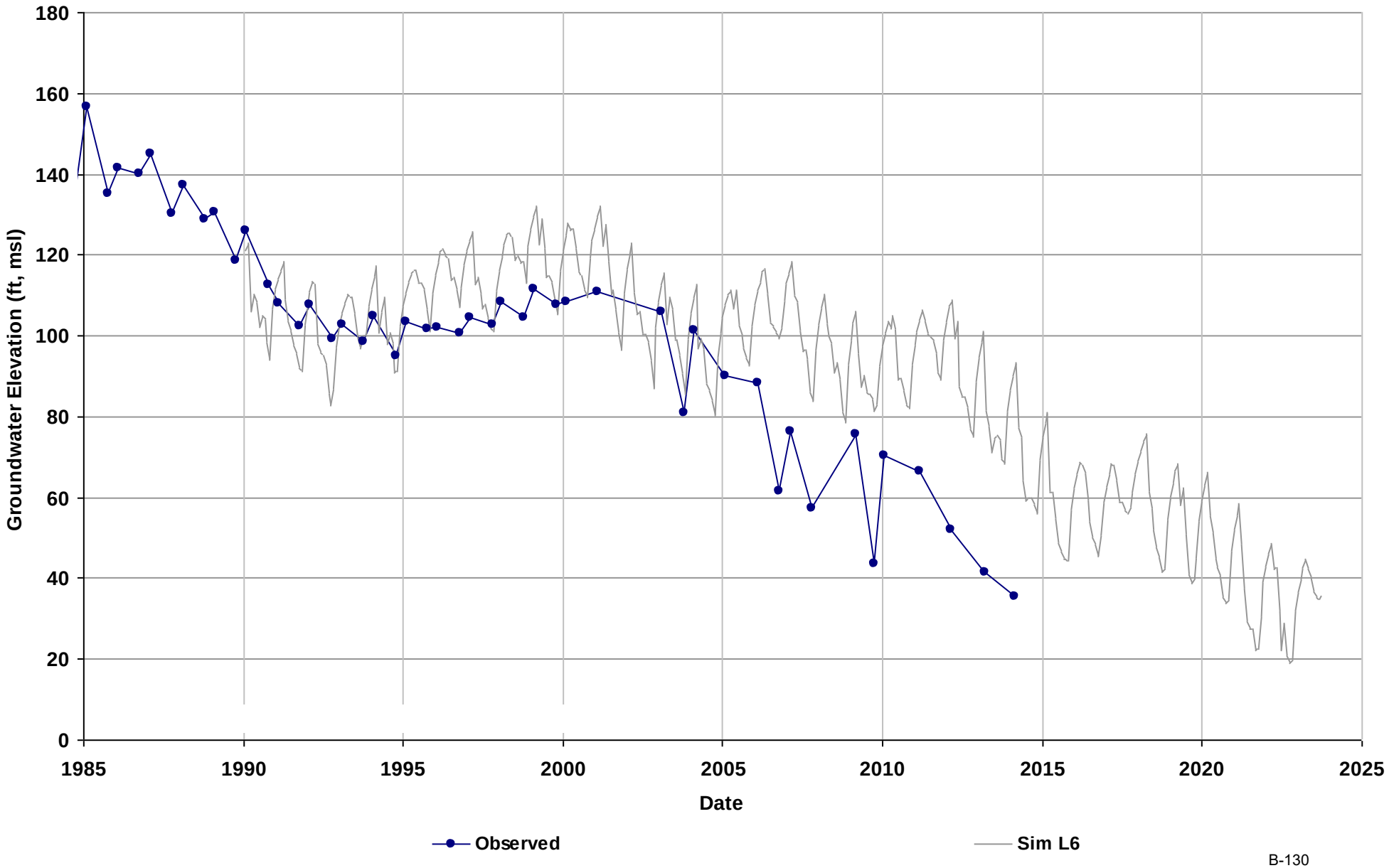
Total Depth (ft): 570
Perf Top (ft): 270
Perf Bottom (ft): 570
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S16E24M001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 219

Average Residual (feet): 13.27
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 13.27

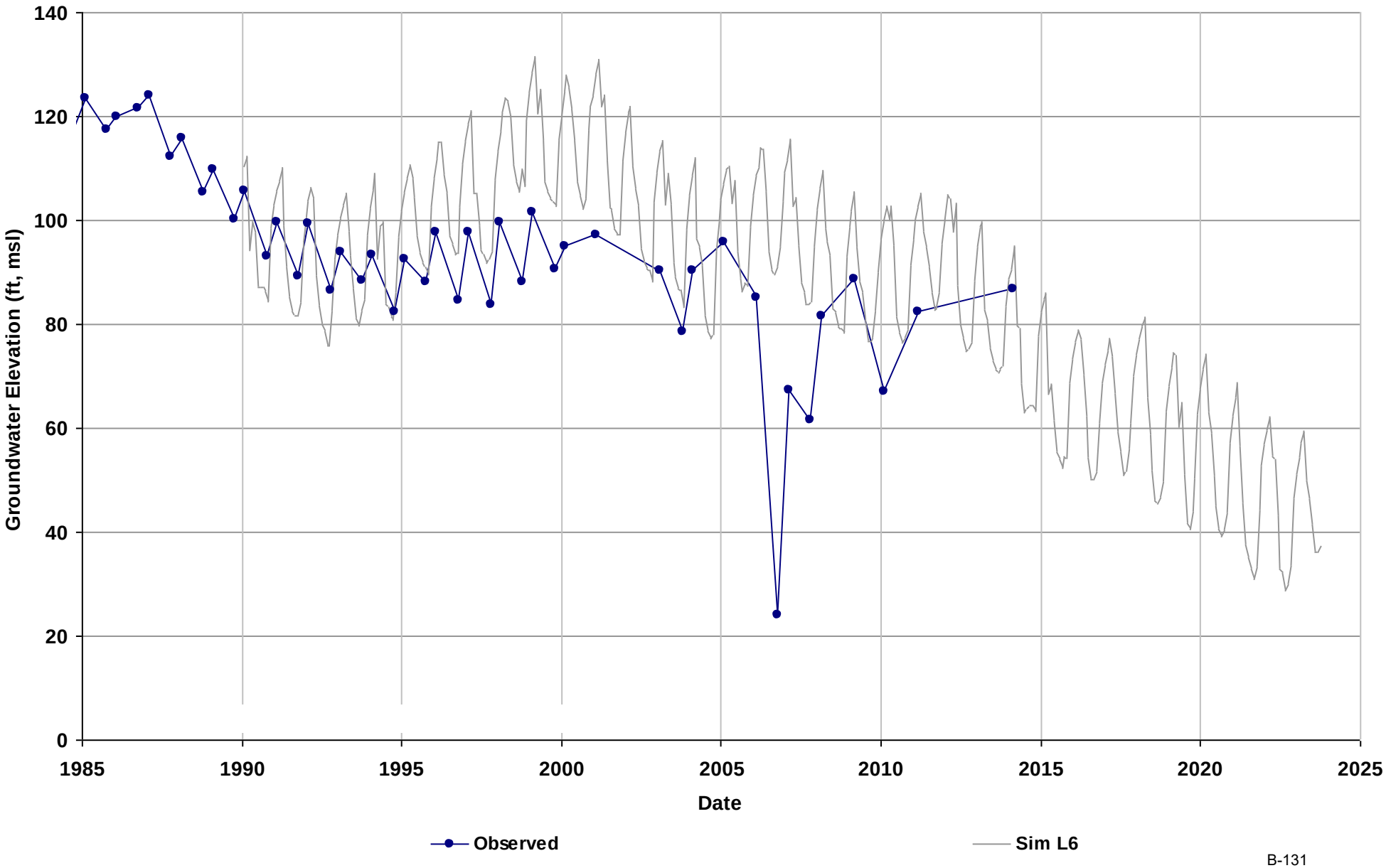
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S16E34D001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 202

Average Residual (feet): 14.68
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 15.93
Layer 6: 13.43

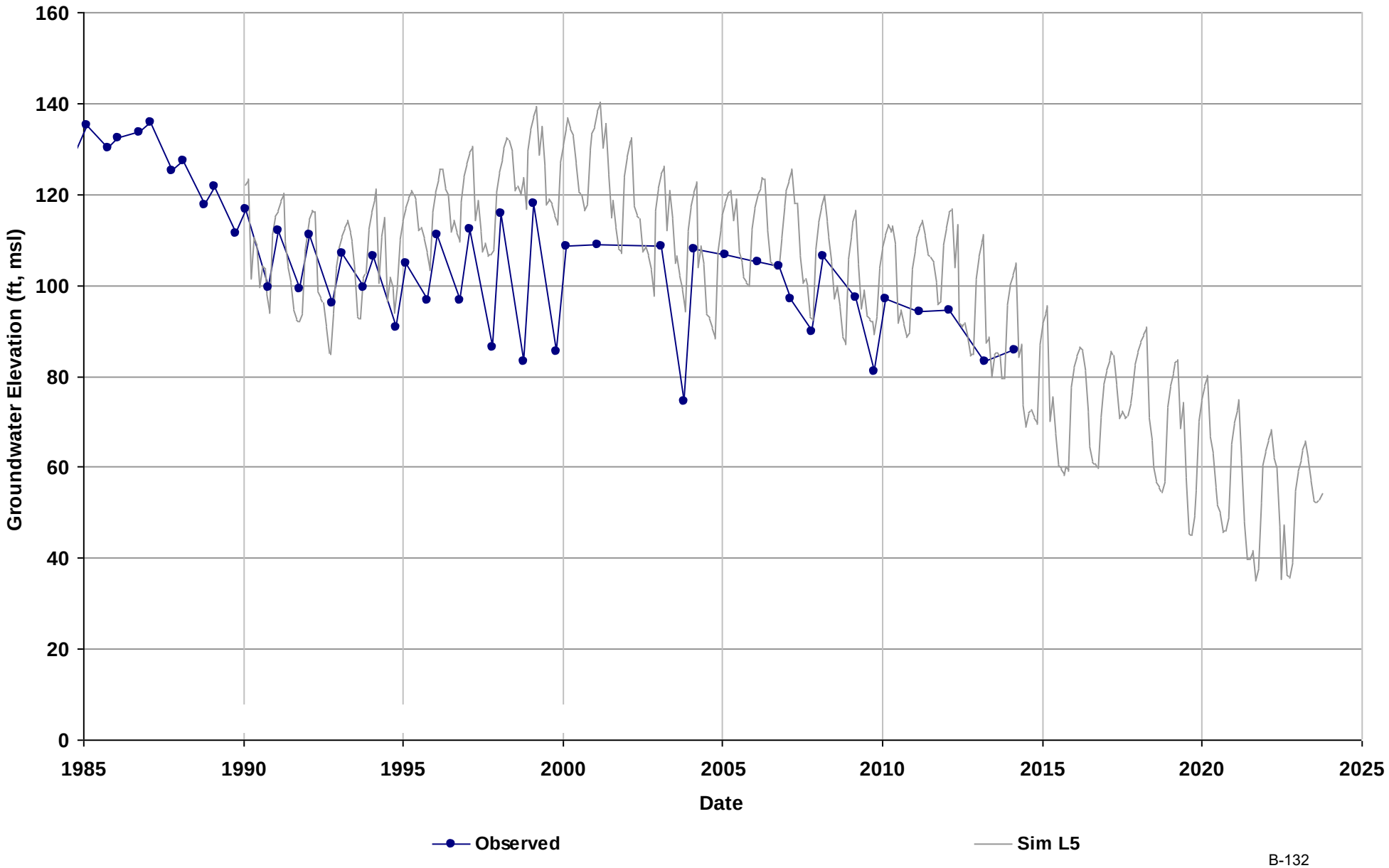
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S16E35H001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 215

Average Residual (feet): 10.65
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 11.75
Layer 6: 9.54

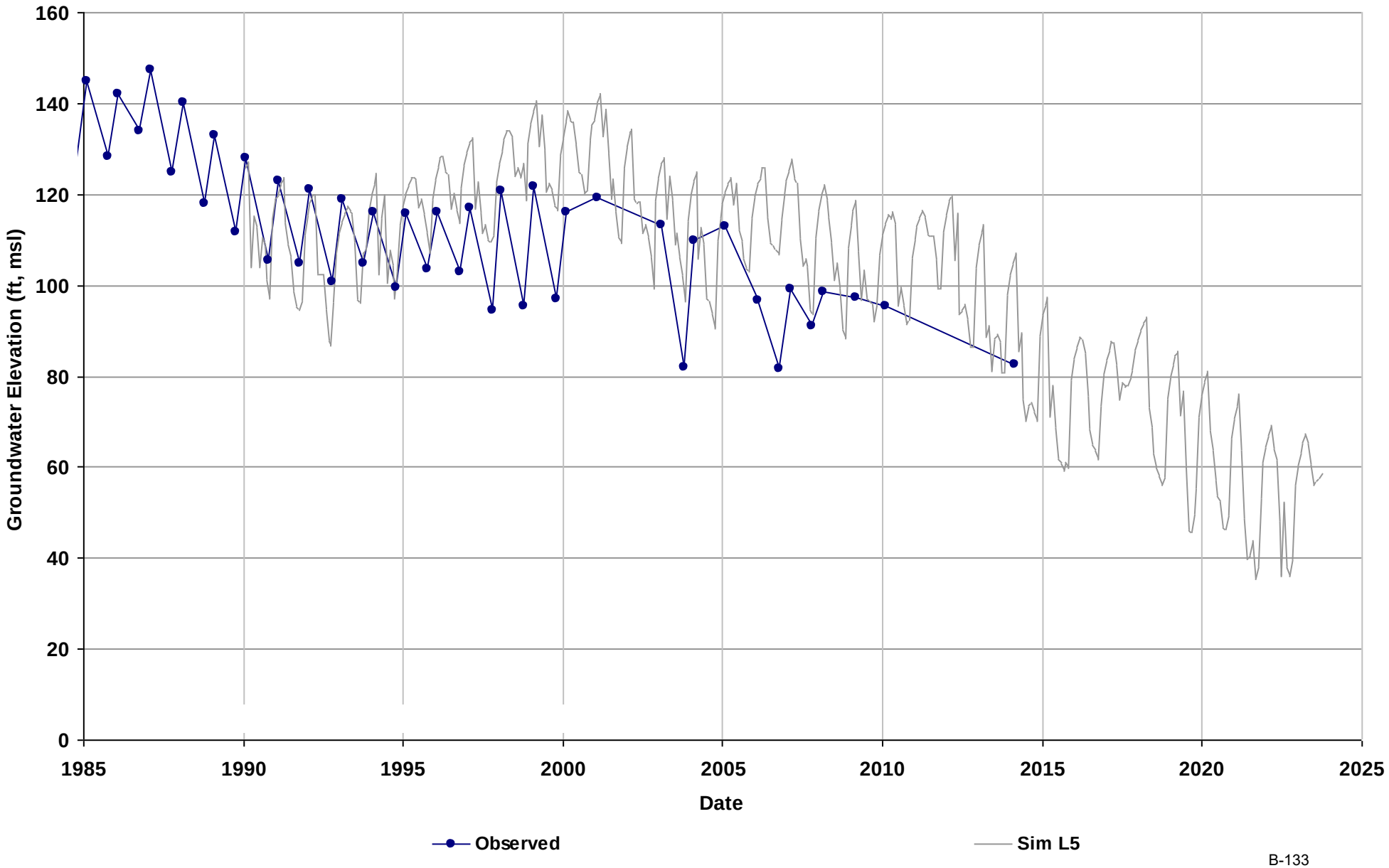
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S16E36J001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 221

Average Residual (feet): 8.67
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 9.48
Layer 6: 7.86

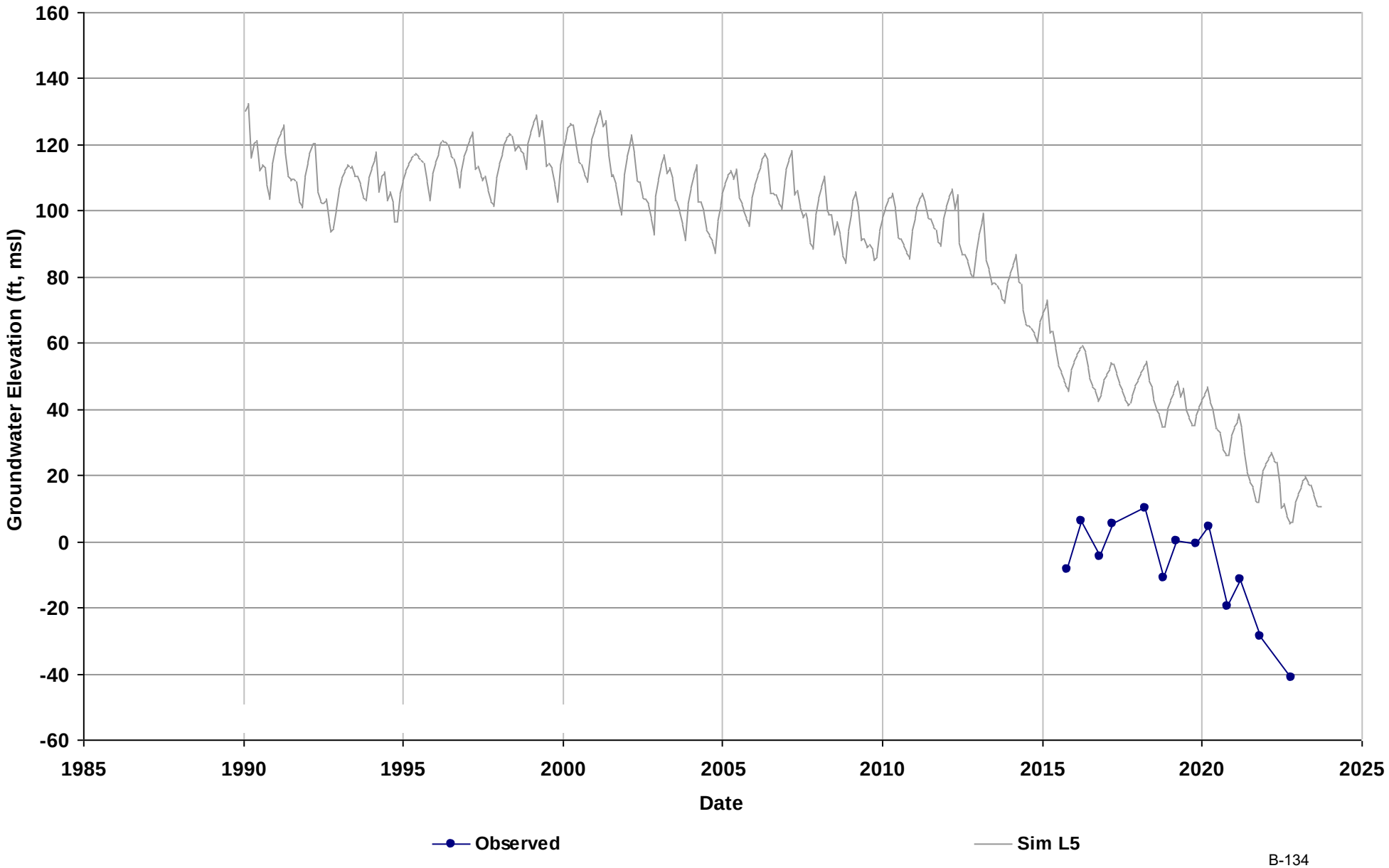
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S17E05R001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 246

Average Residual (feet): 46.28
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 46.28
Layer 6:

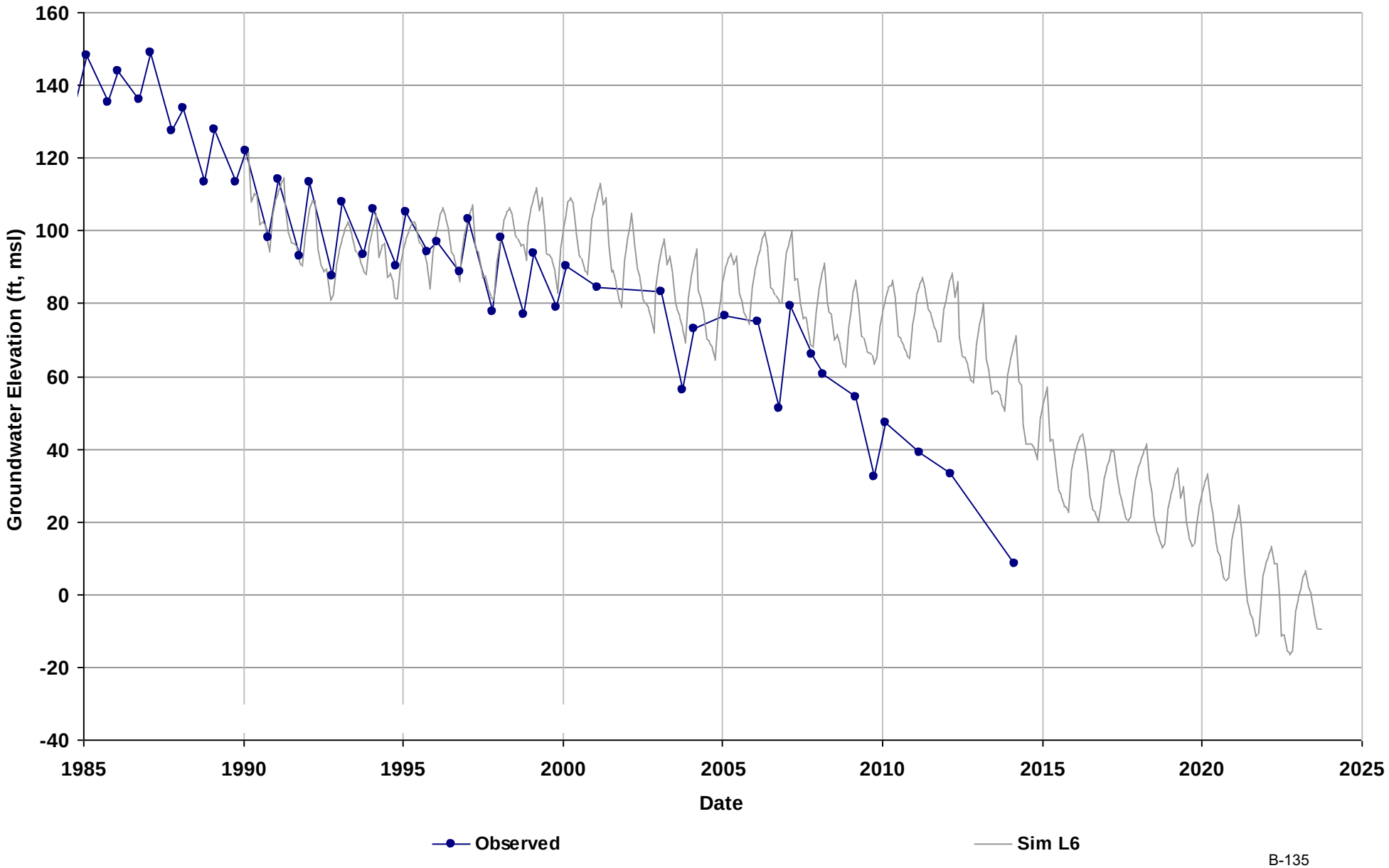
Total Depth (ft): 700
Perf Top (ft): 265
Perf Bottom (ft): 696
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S17E06C001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 235

Average Residual (feet): 10.78
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 10.78

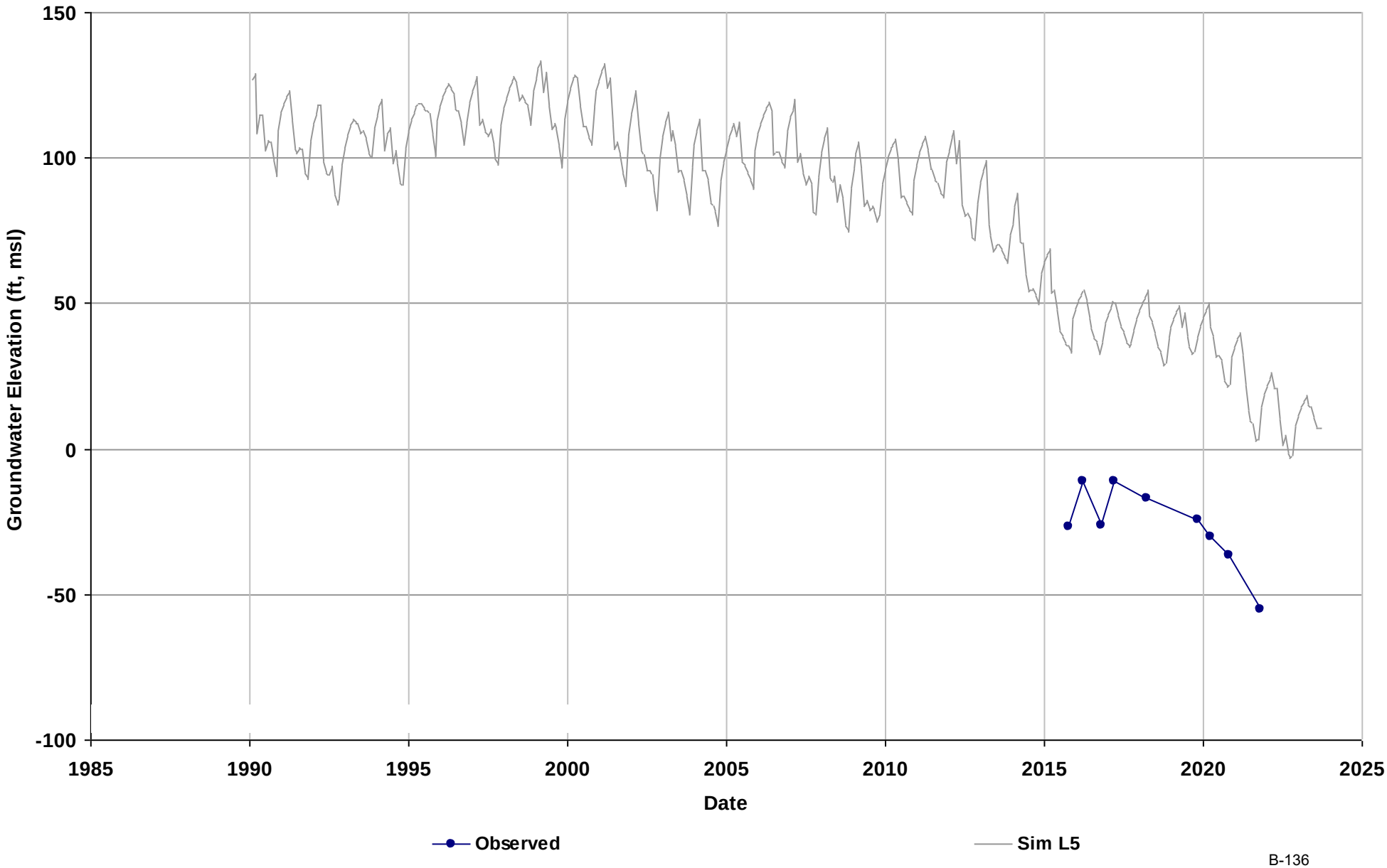
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S17E06L003M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 237

Average Residual (feet): 64.4
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 64.4
Layer 6:

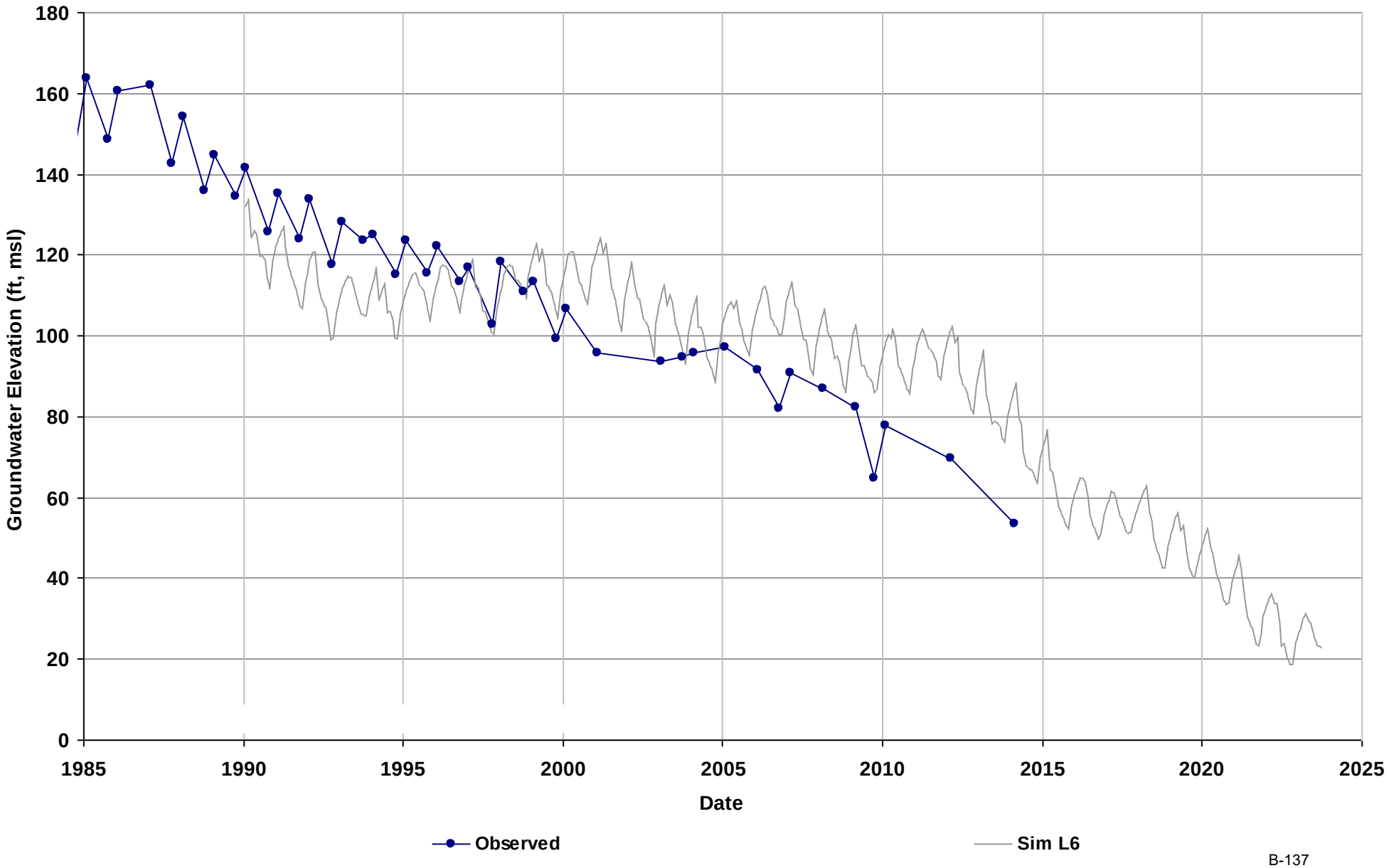
Total Depth (ft): 680
Perf Top (ft): 320
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S17E16H001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 250

Average Residual (feet): 1.94
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 1.94

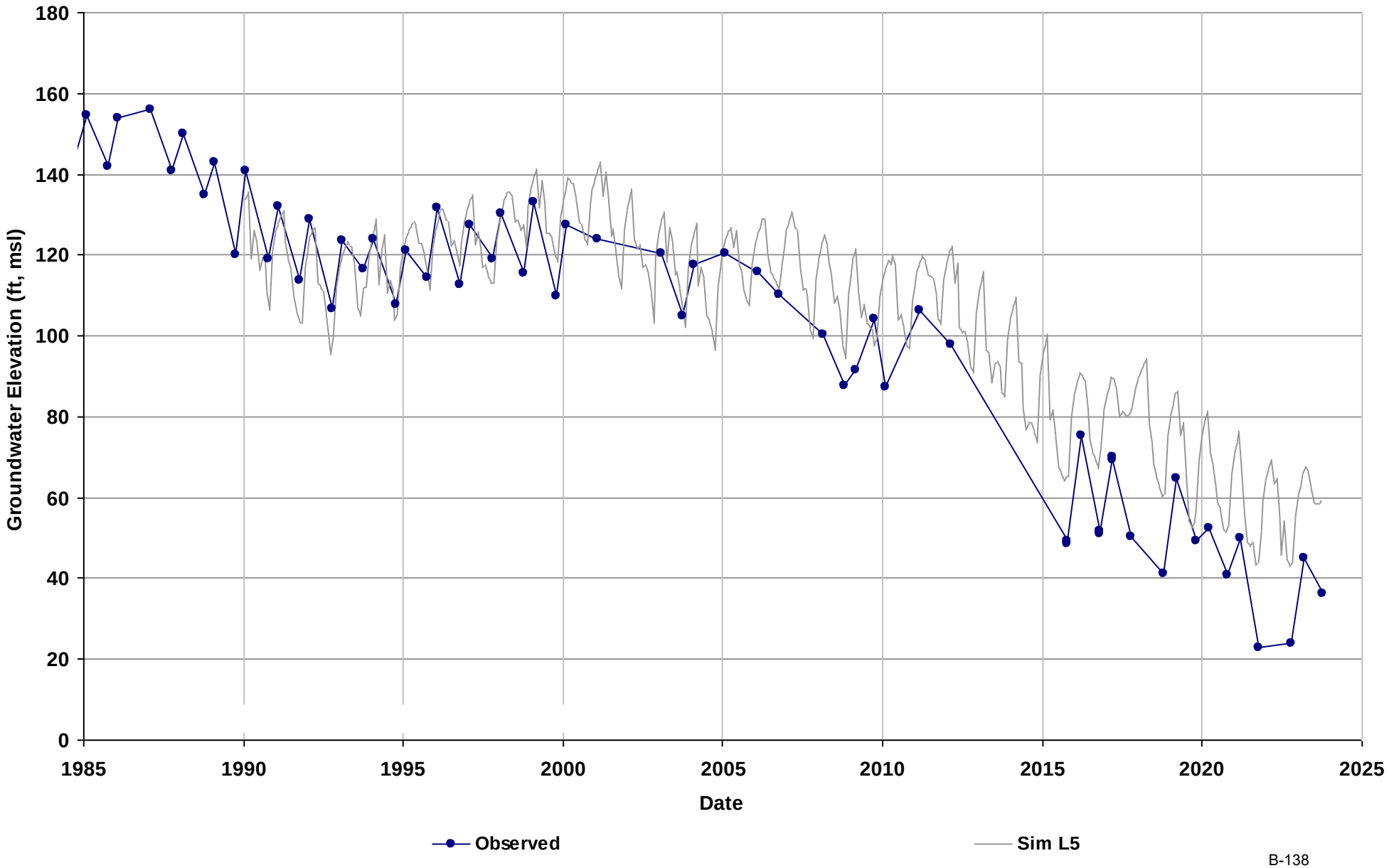
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S17E32R002M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 238

Average Residual (feet): 9.54
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 9.54
Layer 6:

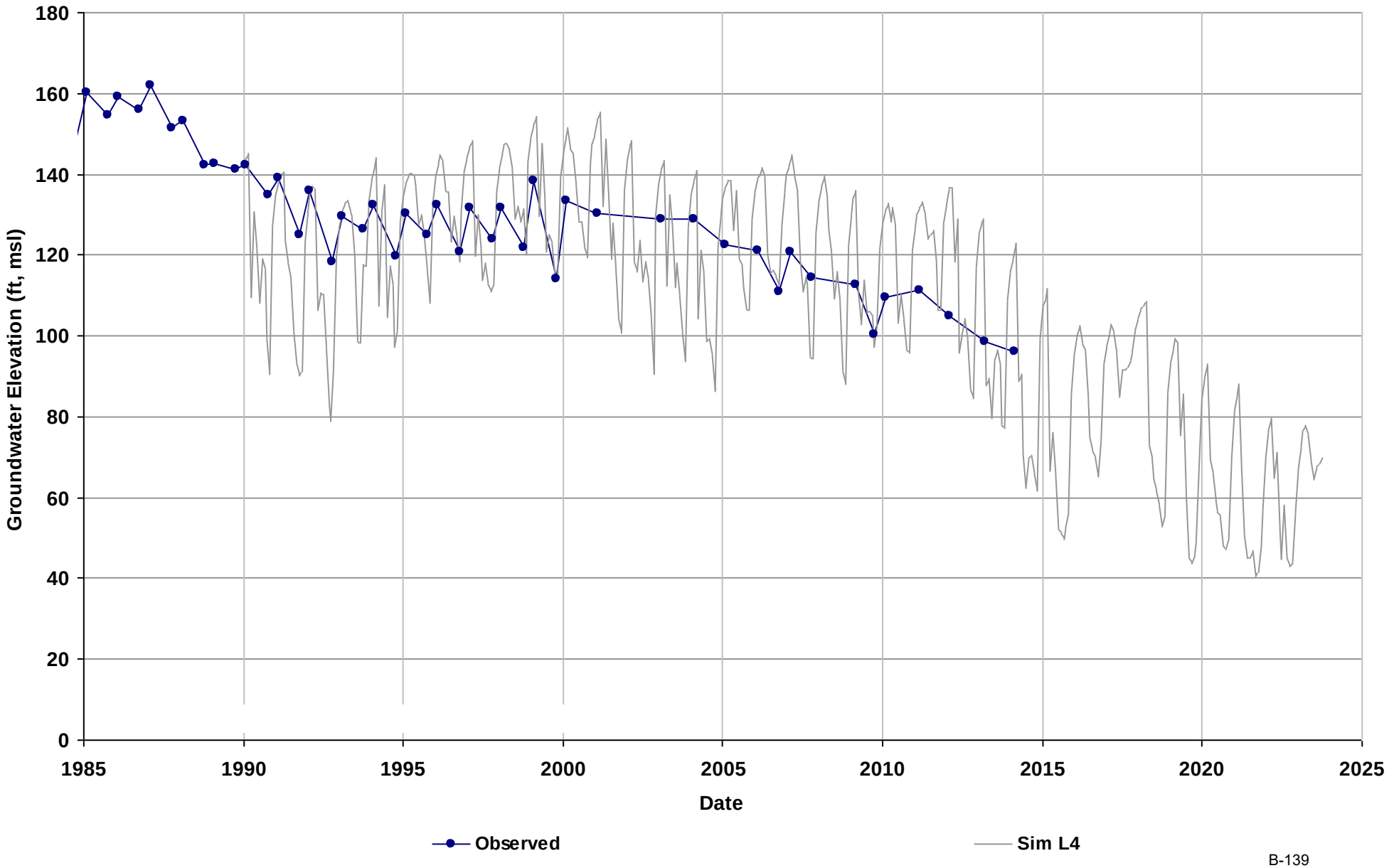
Total Depth (ft): 656
Perf Top (ft): 290
Perf Bottom (ft): 635
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 11S17E33H001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 247

Average Residual (feet): 2.28
Layer 1:
Layer 2:
Layer 3:
Layer 4: 2.28
Layer 5:
Layer 6:

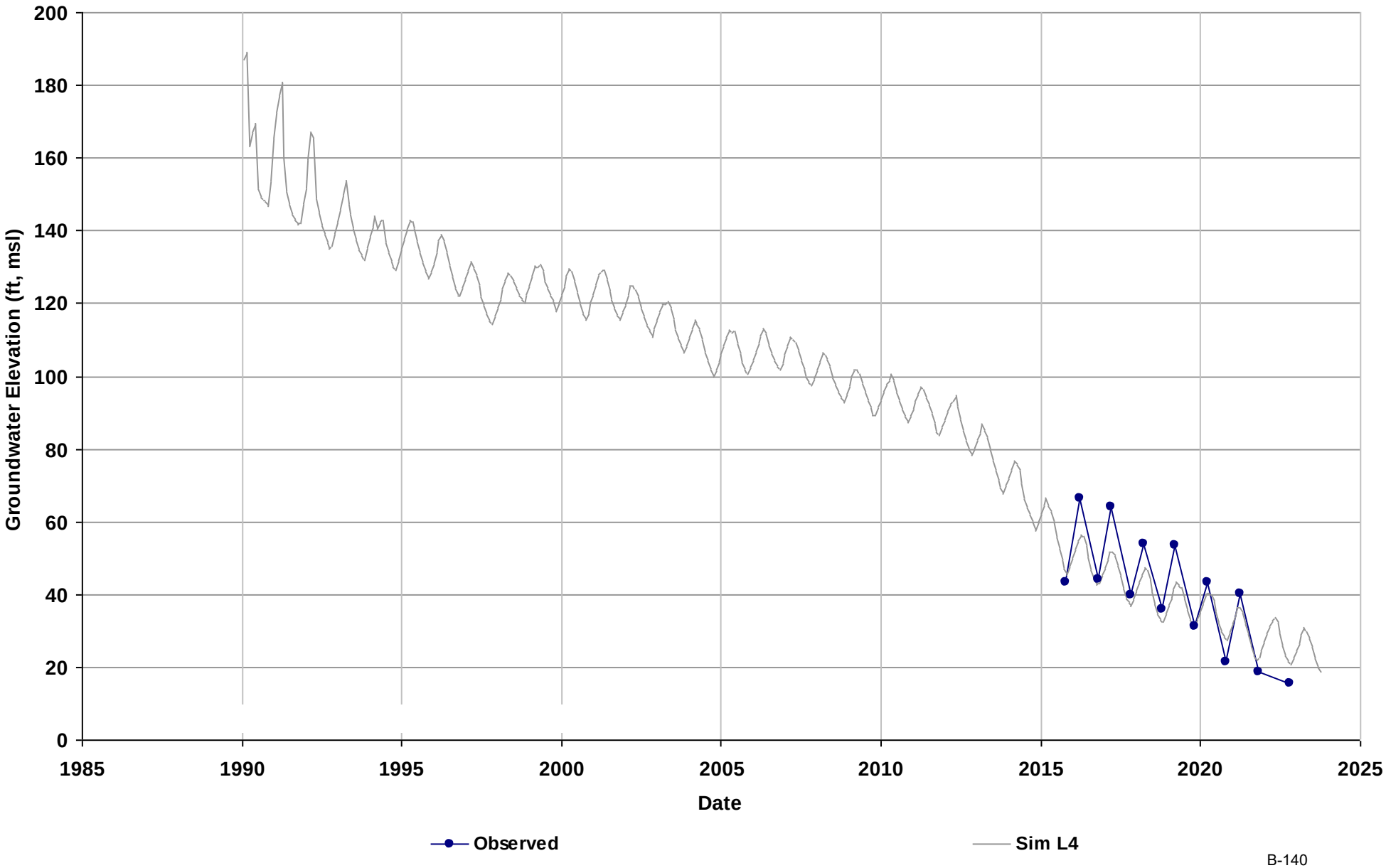
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 11S18E02M002M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 334

Average Residual (feet): -2.82
Layer 1:
Layer 2:
Layer 3:
Layer 4: -2.82
Layer 5:
Layer 6:

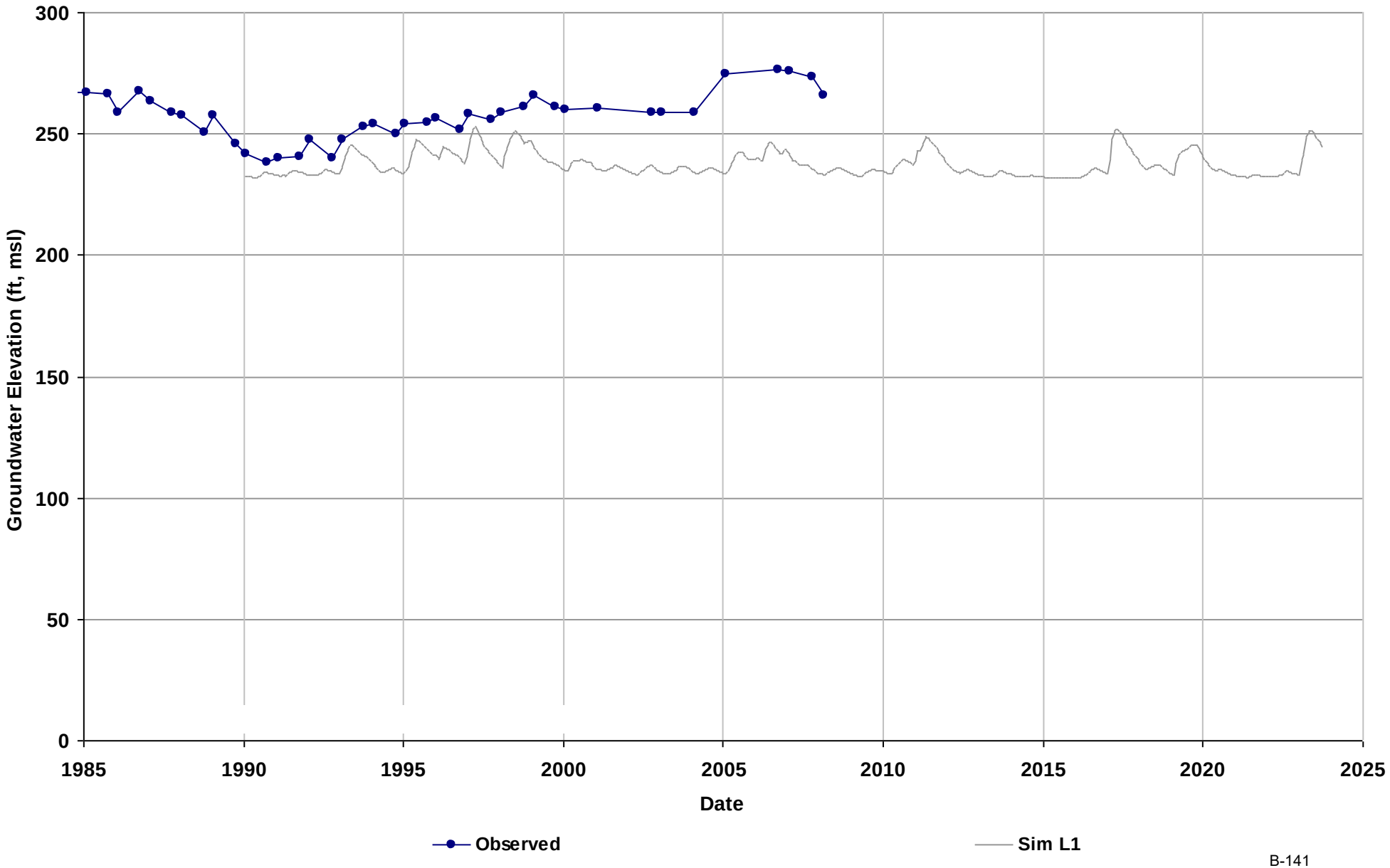
Total Depth (ft): 400
Perf Top (ft): 320
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 11S18E08Q002M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 292

Average Residual (feet): -18.9
Layer 1: -18.9
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

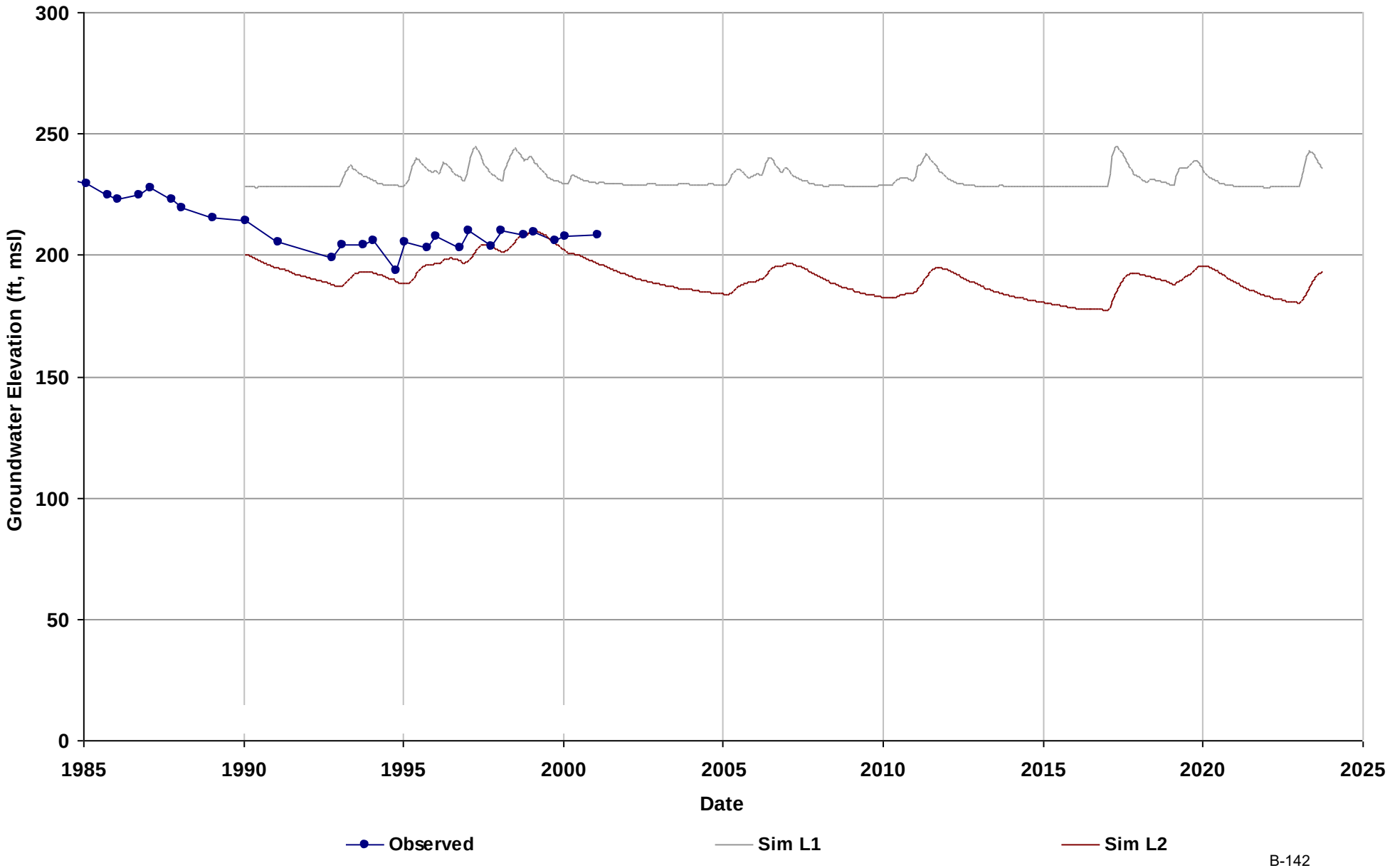
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 11S18E18A001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 287

Average Residual (feet): 8.52
Layer 1: 25.56
Layer 2: -8.53
Layer 3:
Layer 4:
Layer 5:
Layer 6:

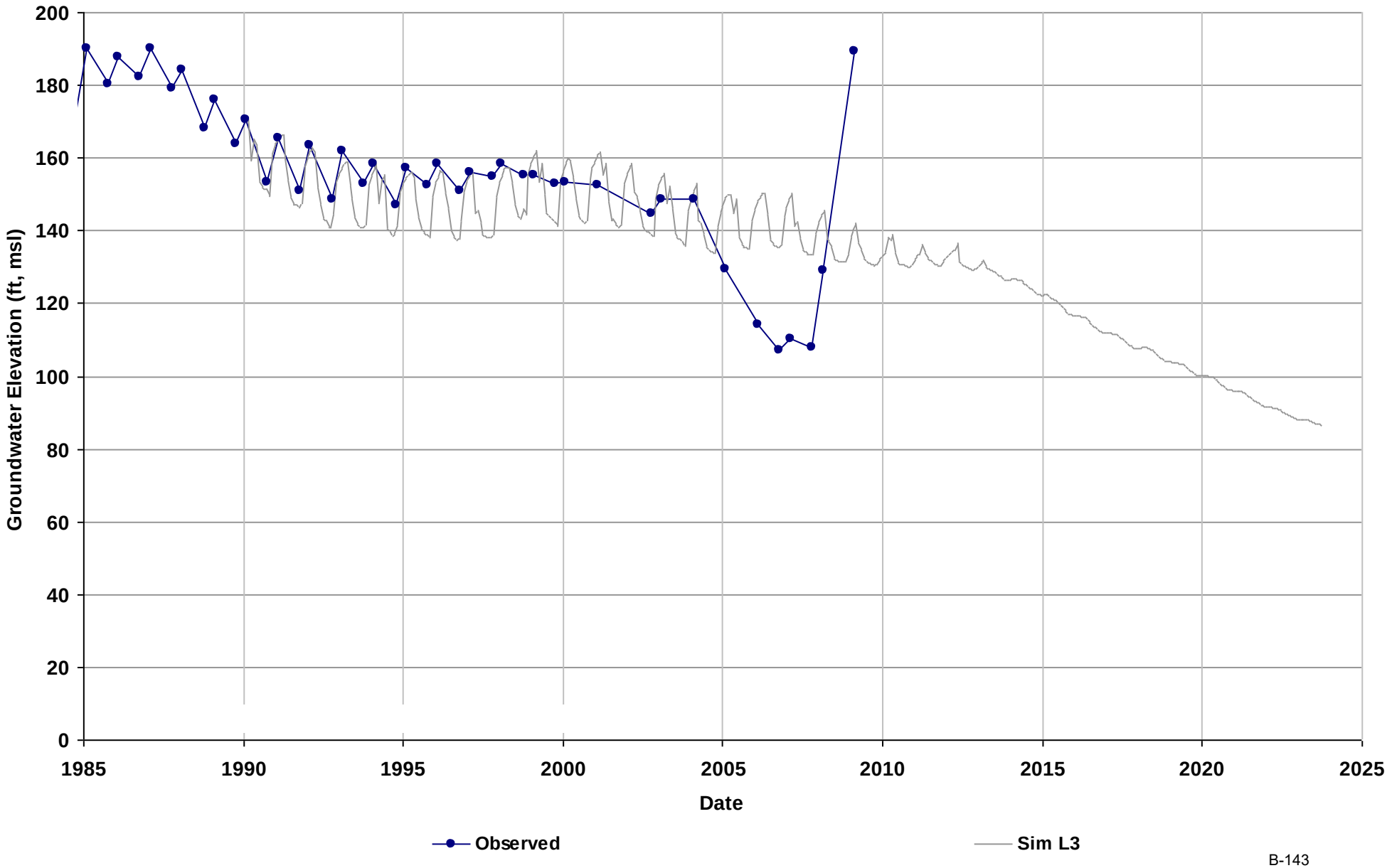
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 2



Well Name: 11S18E31A003M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 267

Average Residual (feet): -0.18
Layer 1:
Layer 2:
Layer 3: -0.18
Layer 4:
Layer 5:
Layer 6:

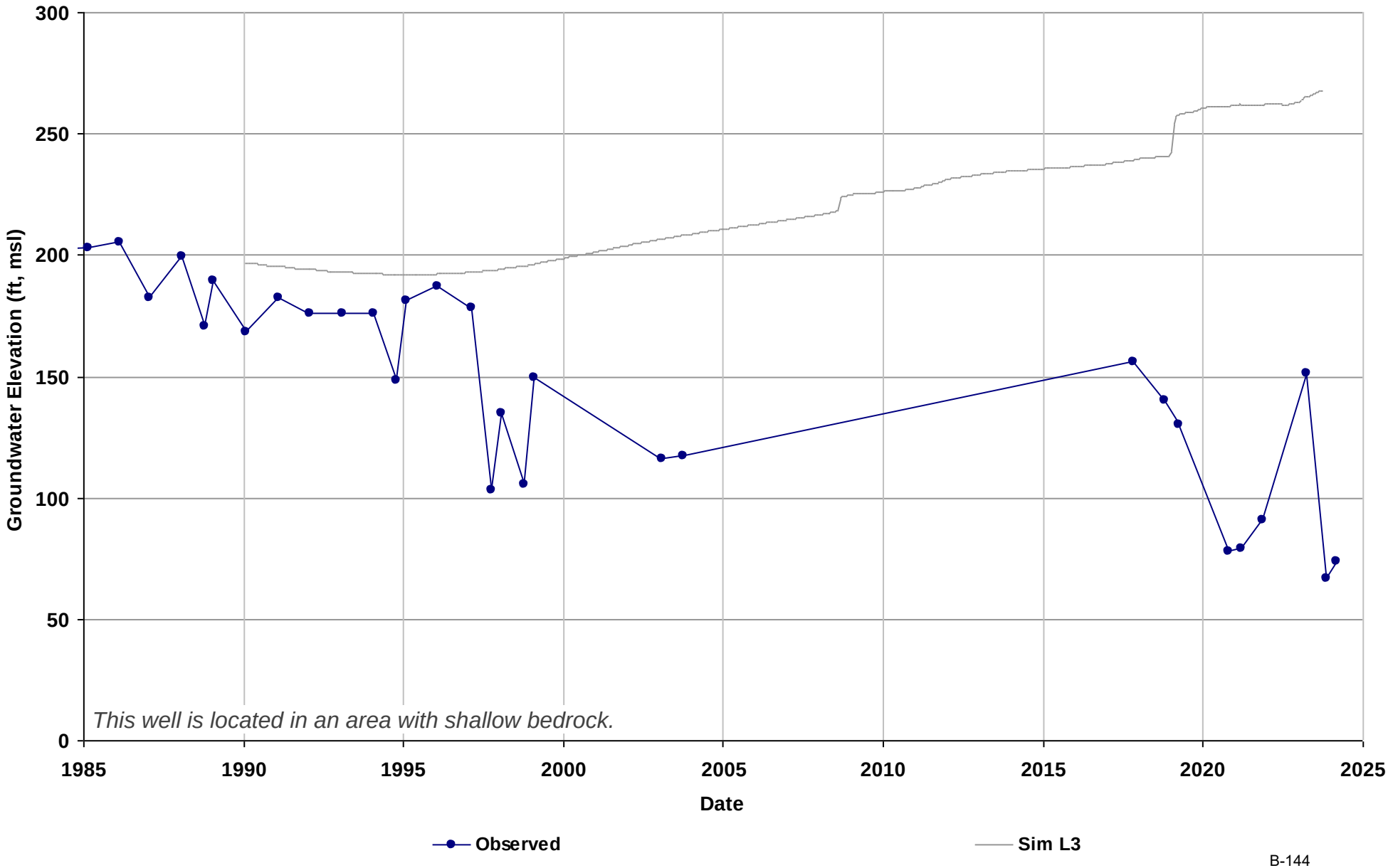
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 11S19E10J002M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 378

Average Residual (feet): -13.58
Layer 1:
Layer 2:
Layer 3: 67.96
Layer 4: -95.12
Layer 5:
Layer 6:

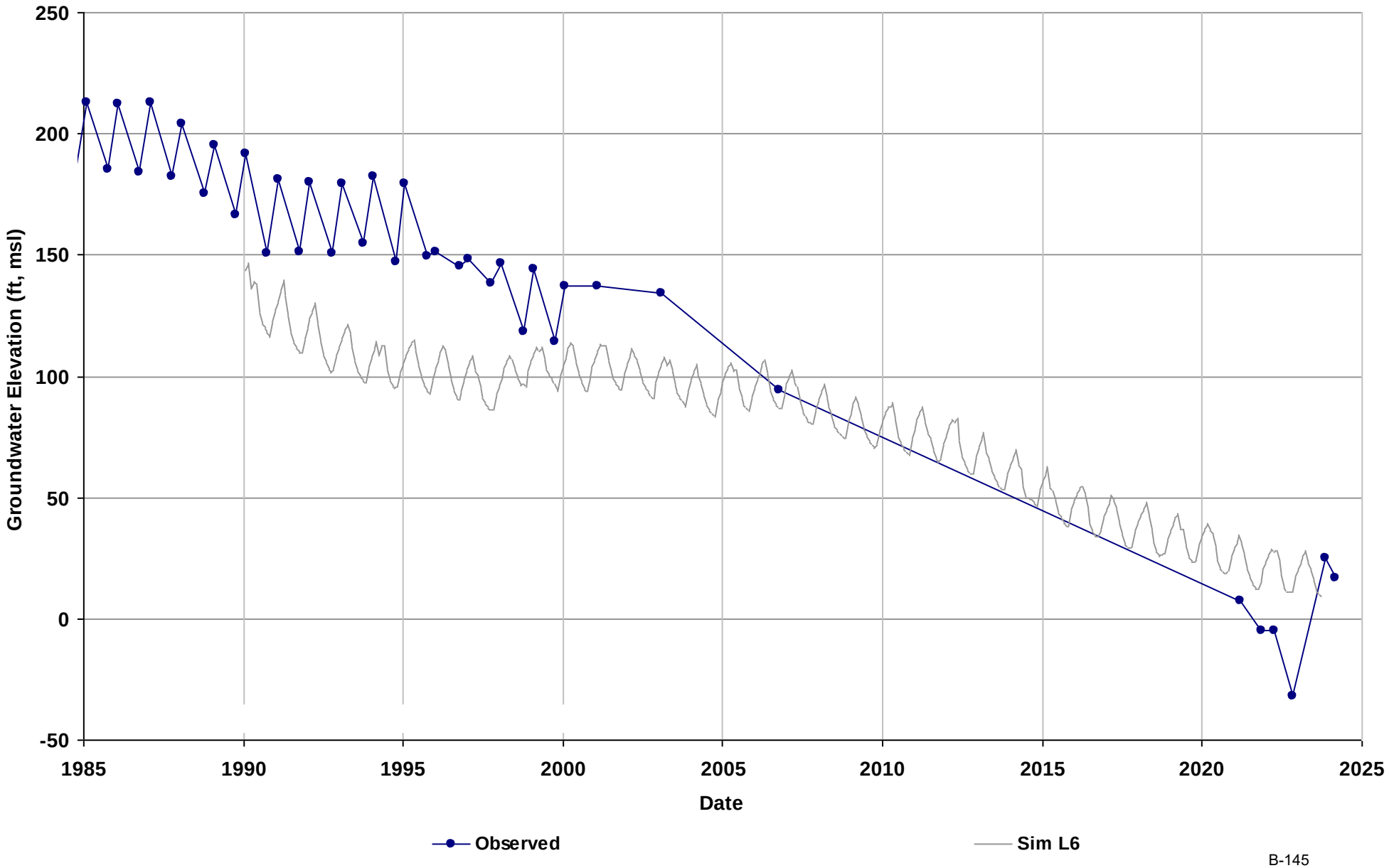
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 11S19E19N001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 325

Average Residual (feet): -49.98
Layer 1:
Layer 2:
Layer 3:
Layer 4: -64.76
Layer 5: -50.51
Layer 6: -34.68

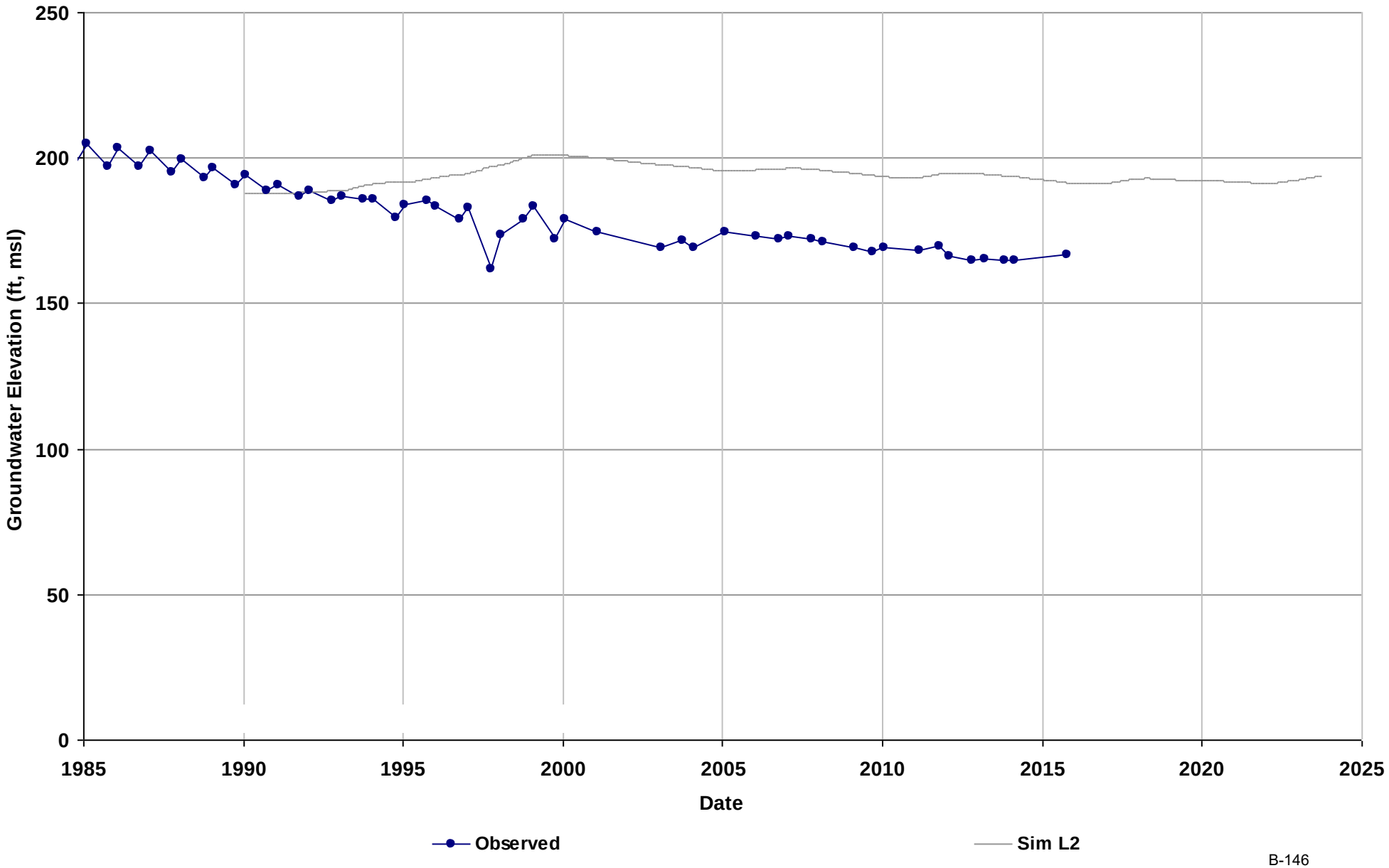
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 11S19E32R001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 323

Average Residual (feet): 16.5
Layer 1:
Layer 2: 16.5
Layer 3:
Layer 4:
Layer 5:
Layer 6:

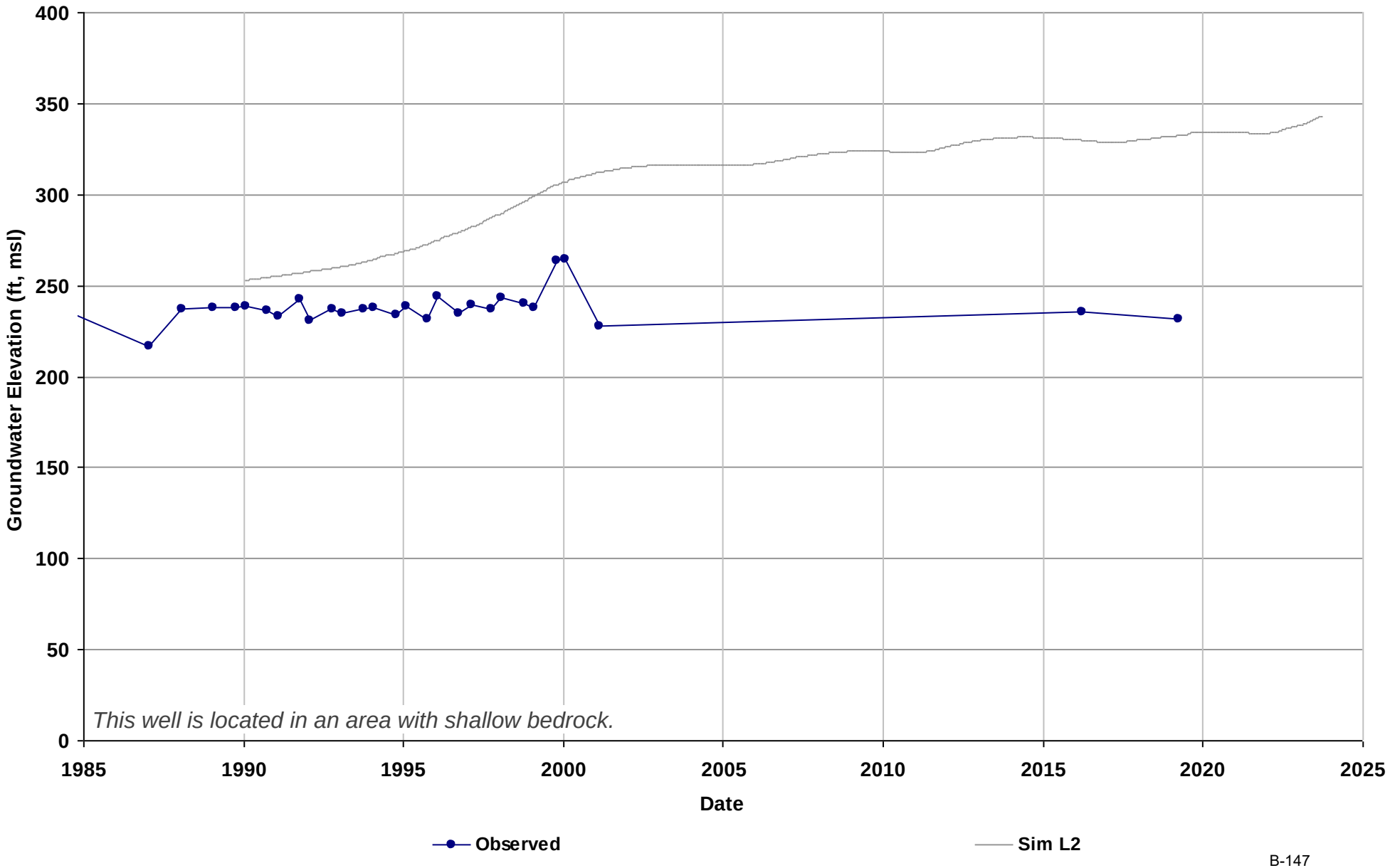
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 11S20E18L001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 391

Average Residual (feet): -10.72
Layer 1:
Layer 2: 39.15
Layer 3: -60.59
Layer 4:
Layer 5:
Layer 6:

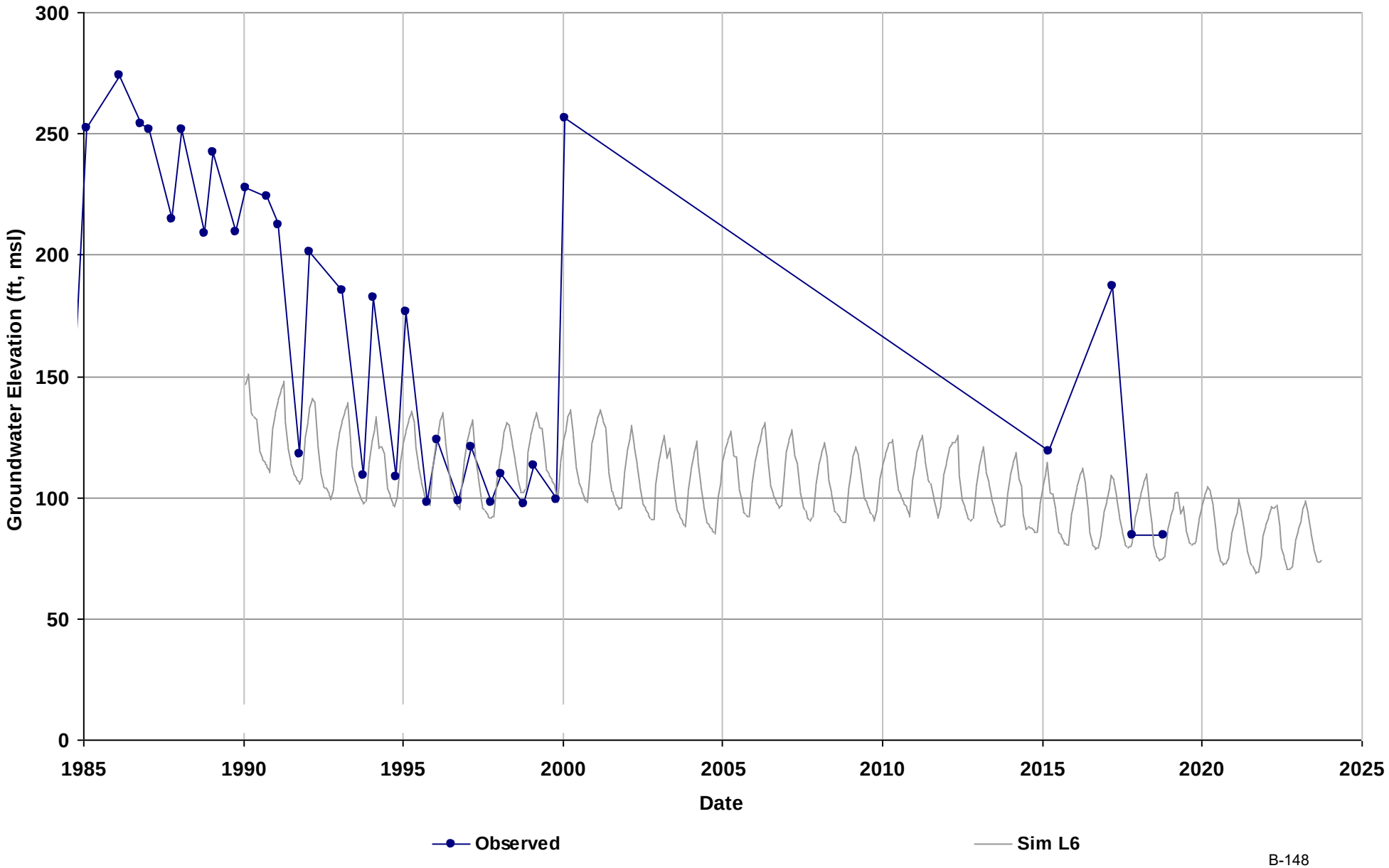
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 11S20E31P001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 383

Average Residual (feet): -36.68
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: -36.68

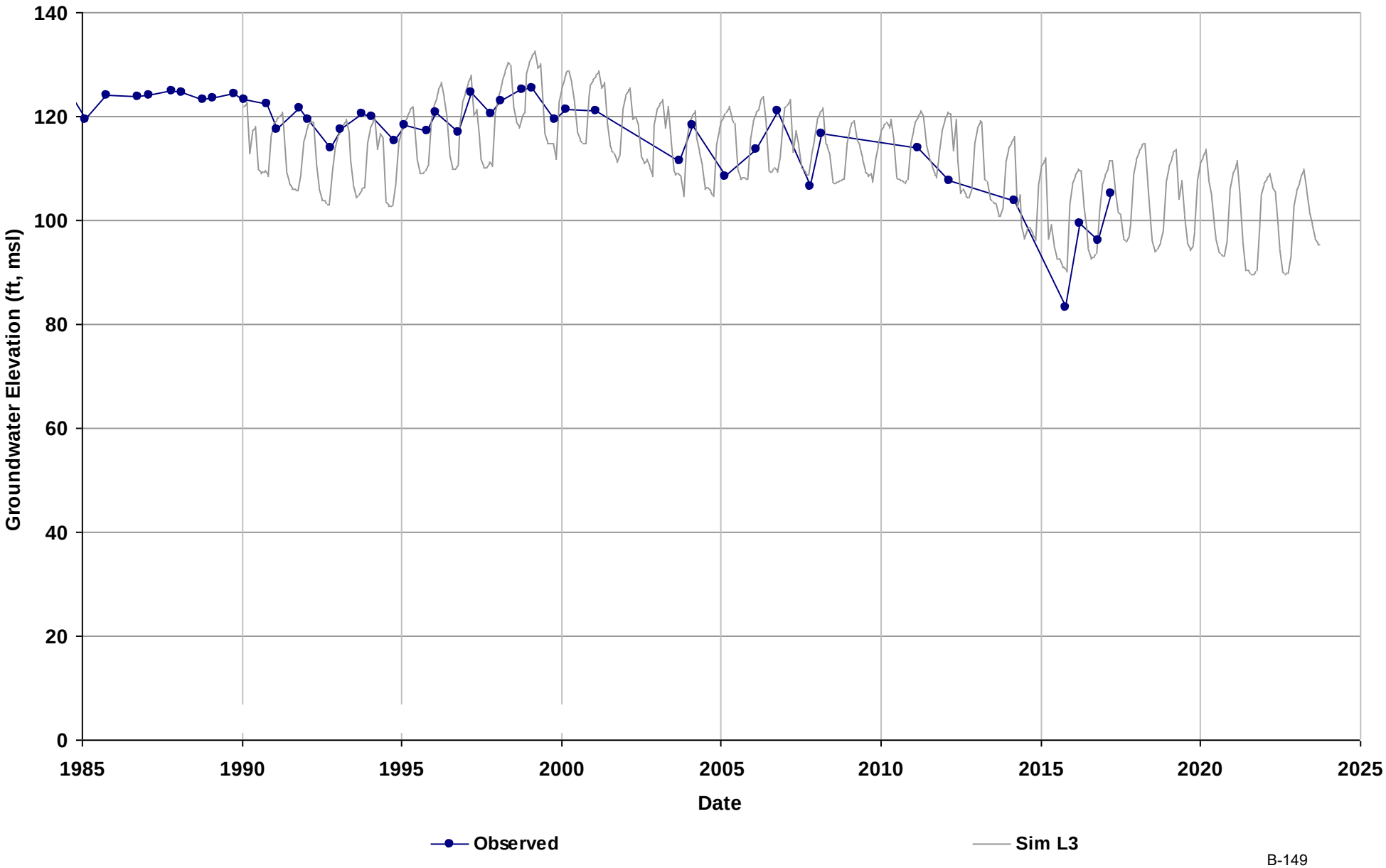
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S14E04P001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 137

Average Residual (feet): -0.5
Layer 1:
Layer 2:
Layer 3: -0.5
Layer 4:
Layer 5:
Layer 6:

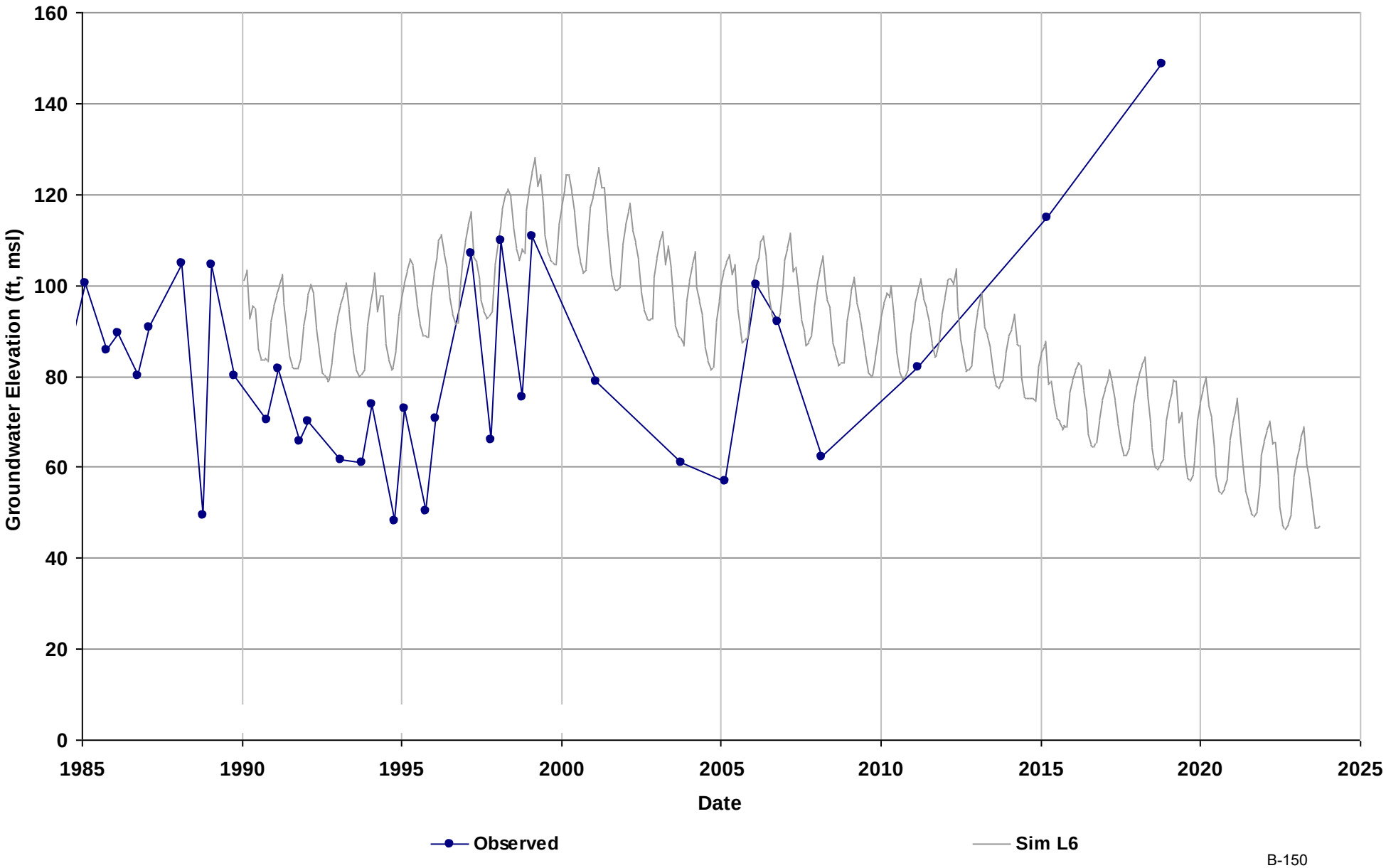
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S15E01R001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 177

Average Residual (feet): 18.22
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 19.24
Layer 6: 17.2

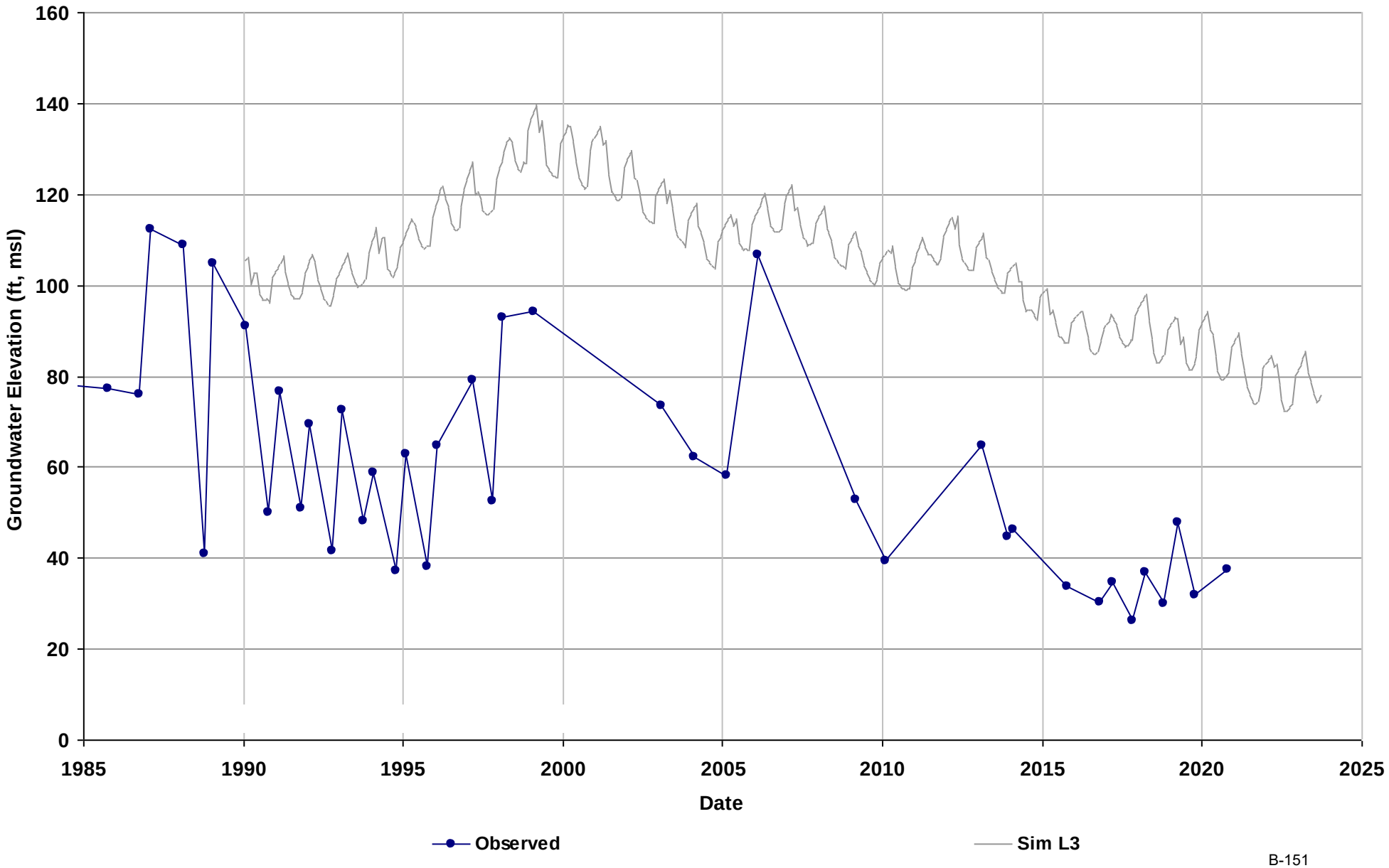
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S15E11R001M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 173

Average Residual (feet): 48.29
Layer 1:
Layer 2:
Layer 3: 48.29
Layer 4:
Layer 5:
Layer 6:

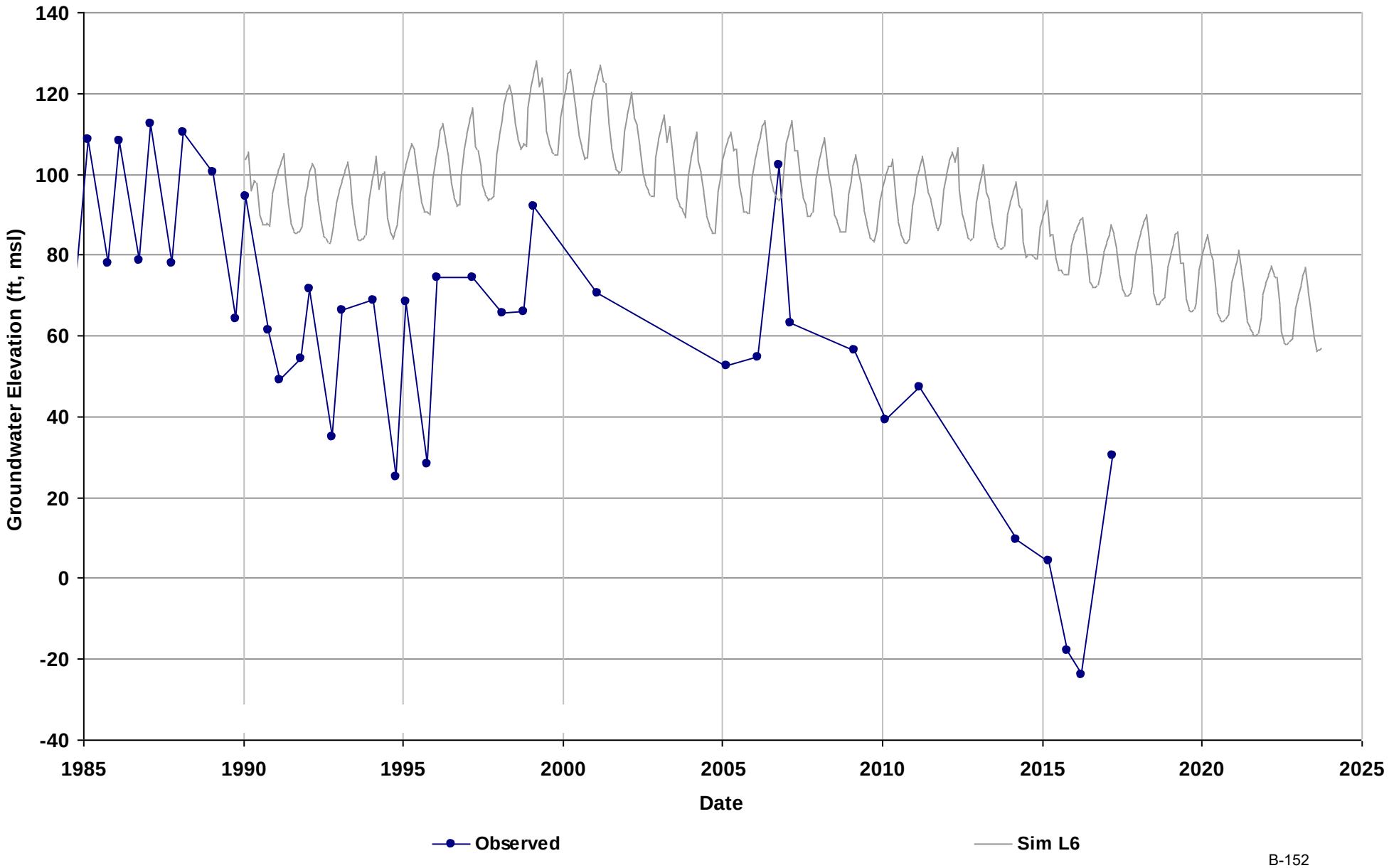
Total Depth (ft): 216
Perf Top (ft): 205
Perf Bottom (ft): 212
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S15E13R001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 176

Average Residual (feet): 47.18
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 47.85
Layer 6: 46.51

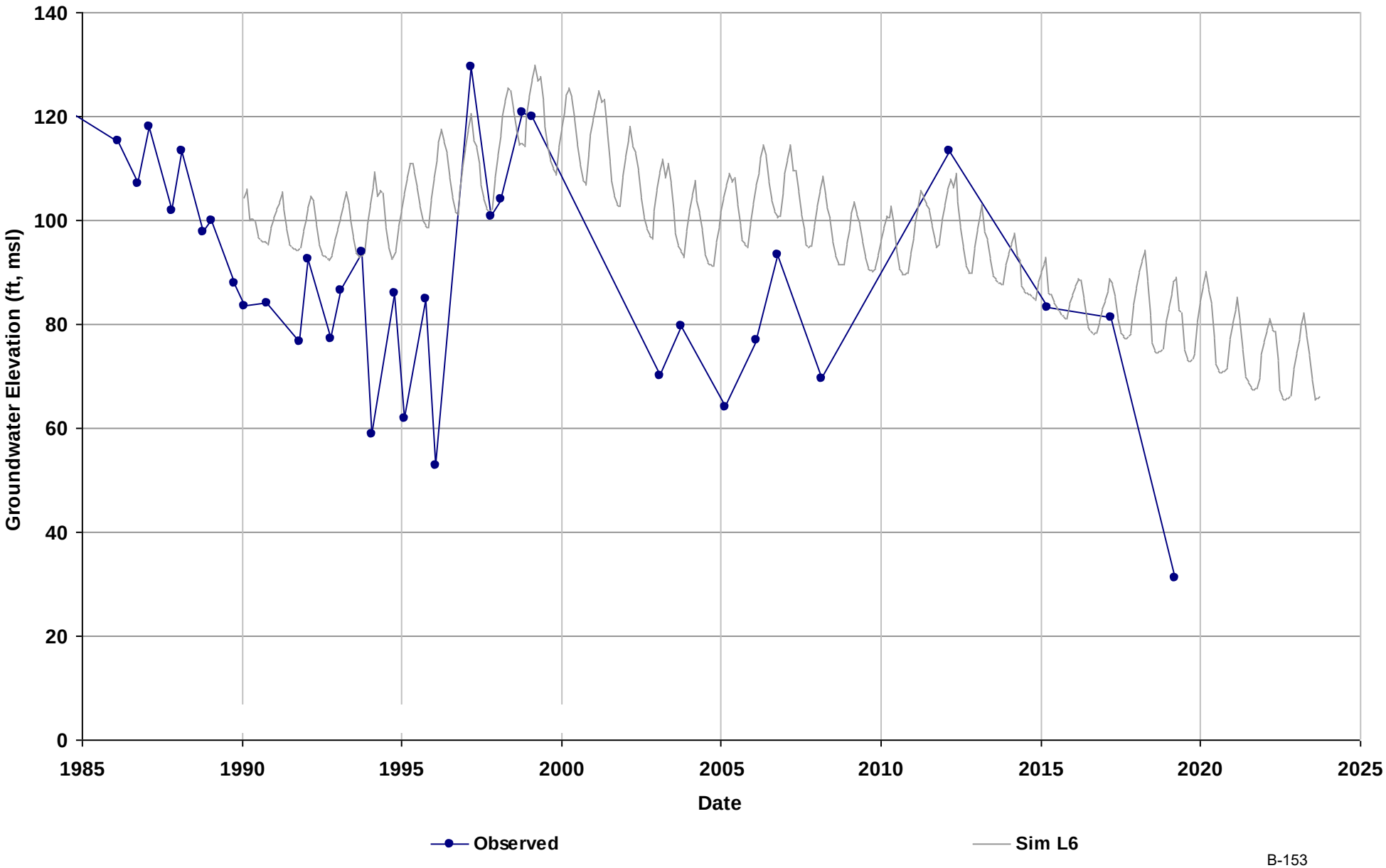
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S15E16A001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 163

Average Residual (feet): 17.56
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 17.99
Layer 6: 17.13

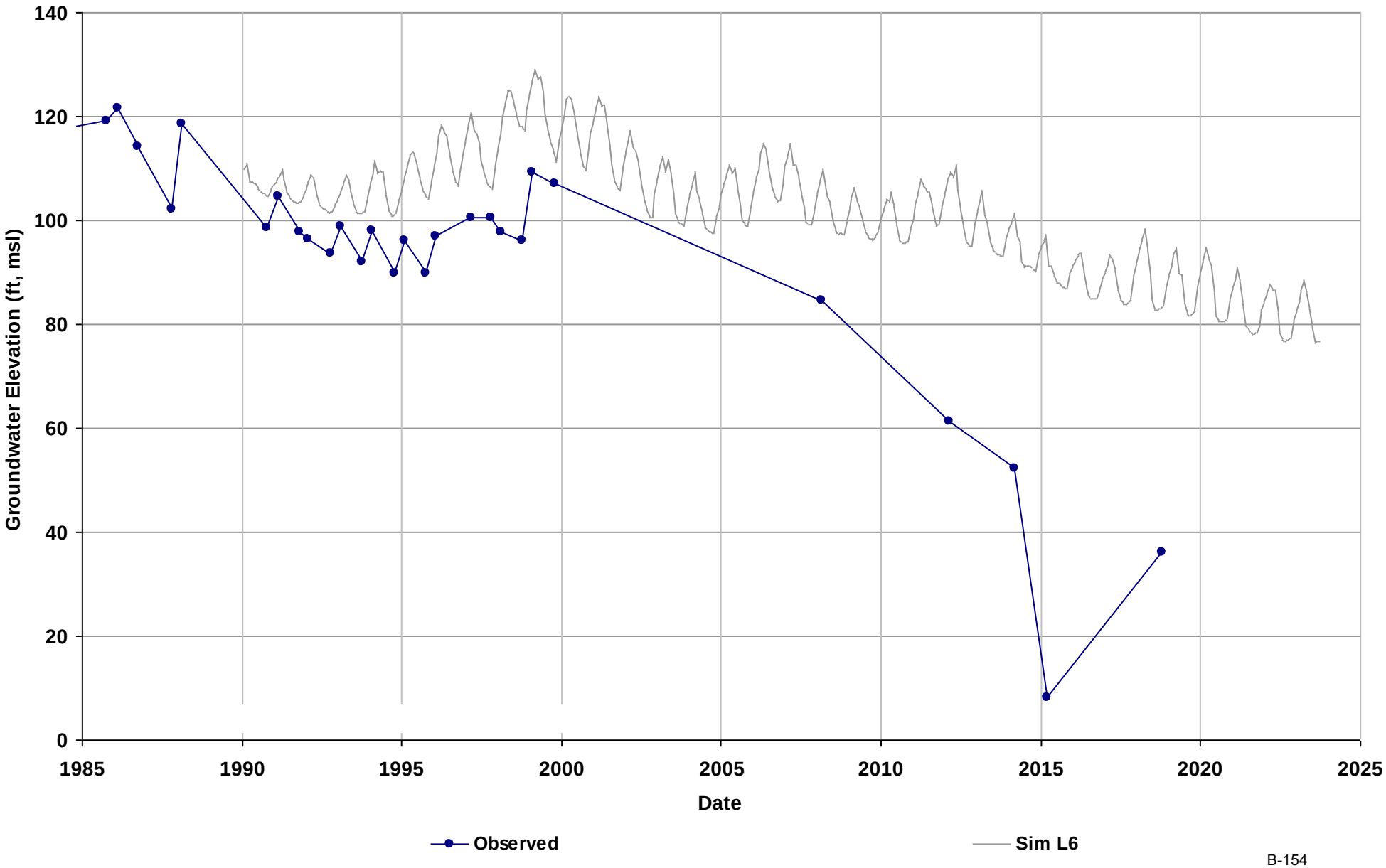
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S15E17E001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 154

Average Residual (feet): 20.29
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 20.68
Layer 6: 19.91

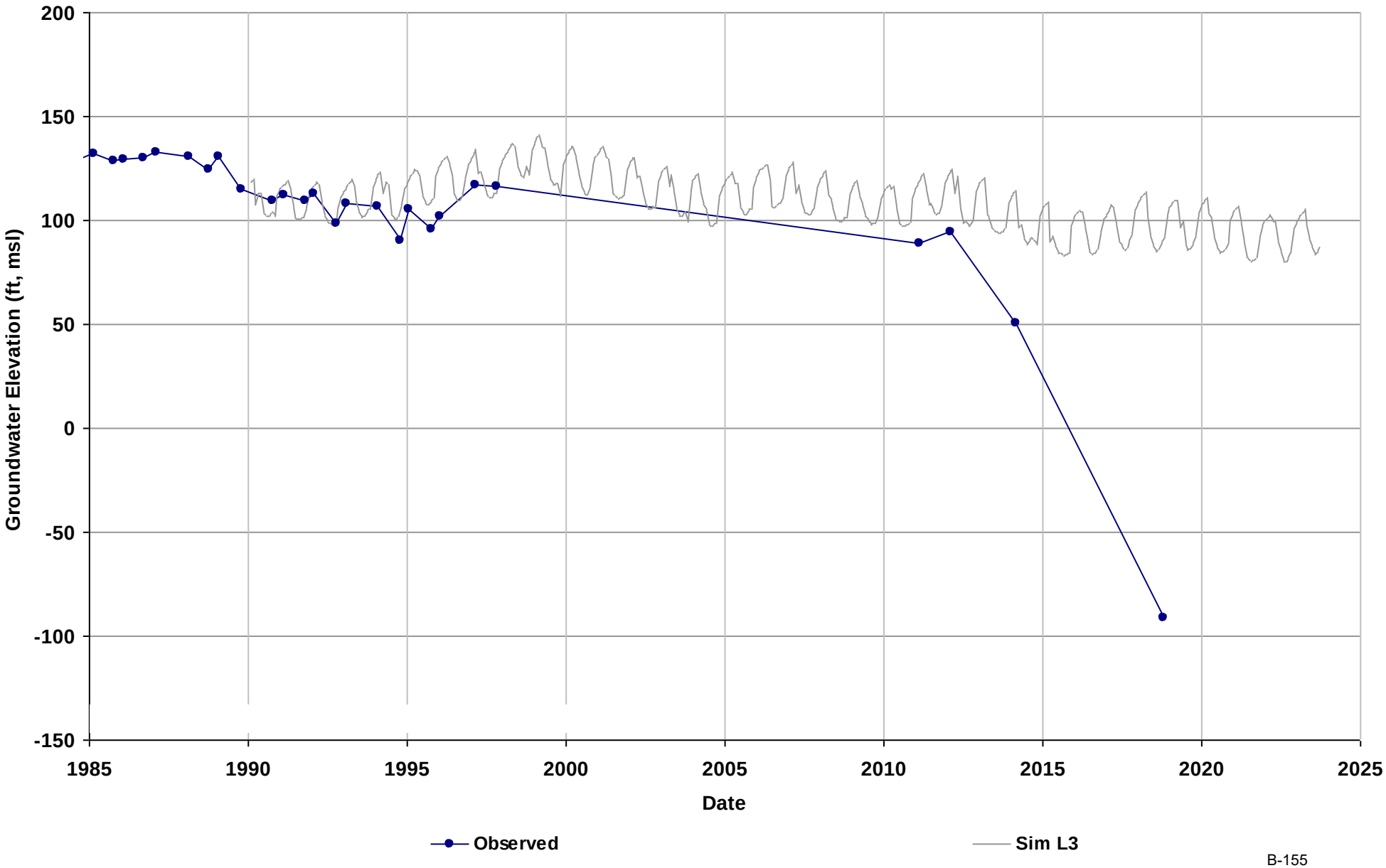
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S15E29C001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 156

Average Residual (feet): 18.44
Layer 1:
Layer 2:
Layer 3: 18.44
Layer 4:
Layer 5:
Layer 6:

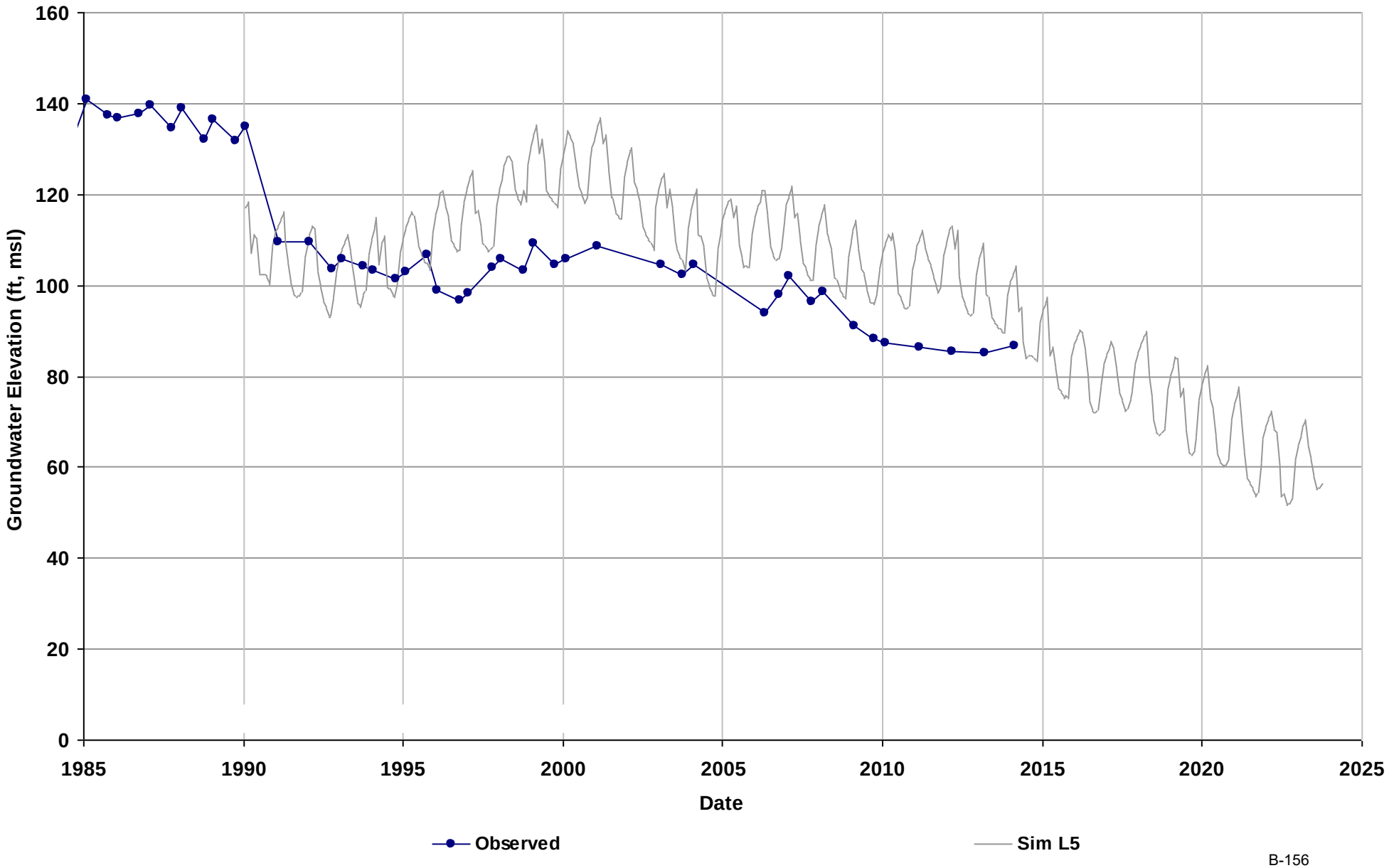
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S16E02N001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 202

Average Residual (feet): 8.23
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 9.2
Layer 6: 7.27

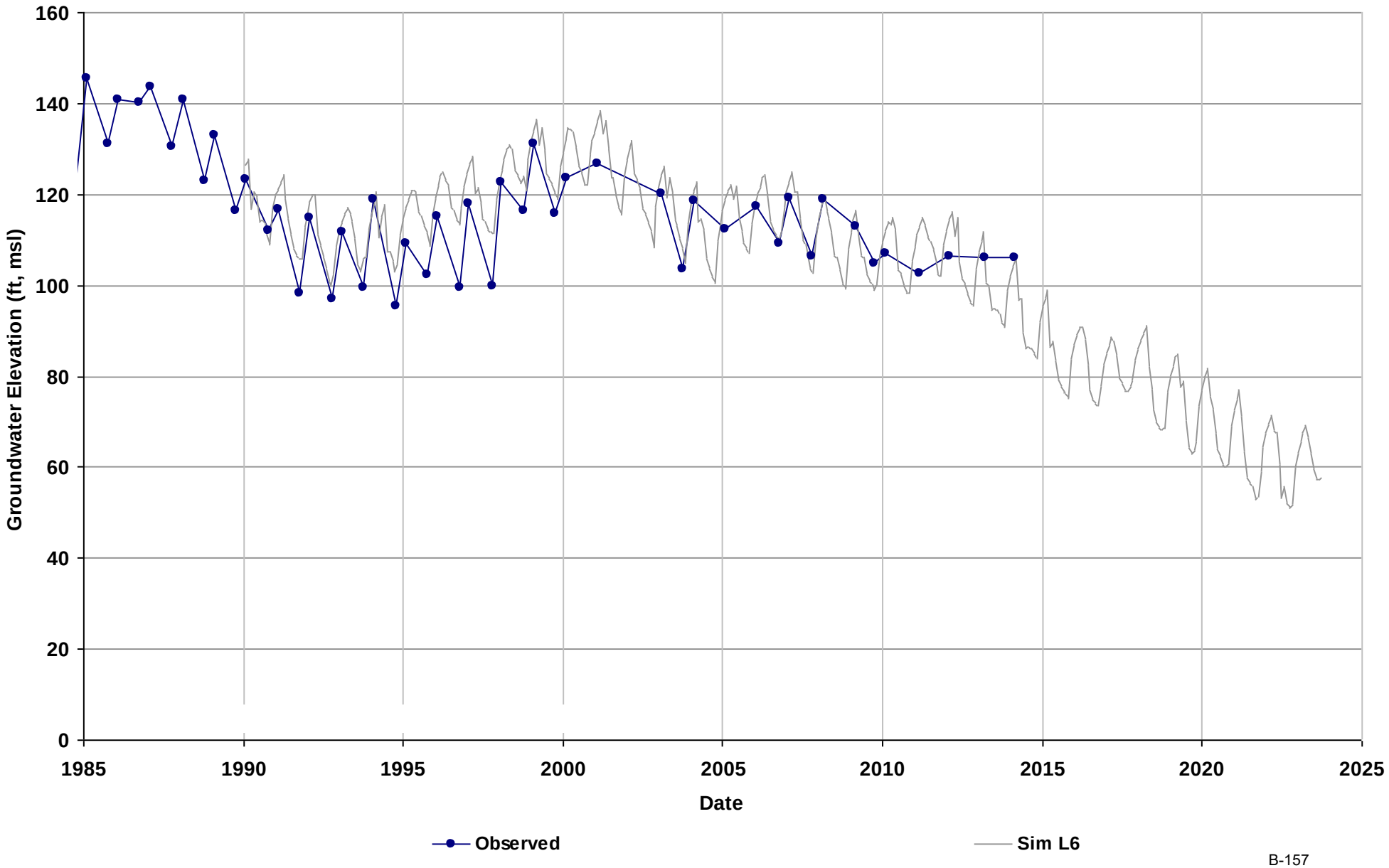
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 12S16E12H001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 217

Average Residual (feet): 4
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 4.14
Layer 6: 3.86

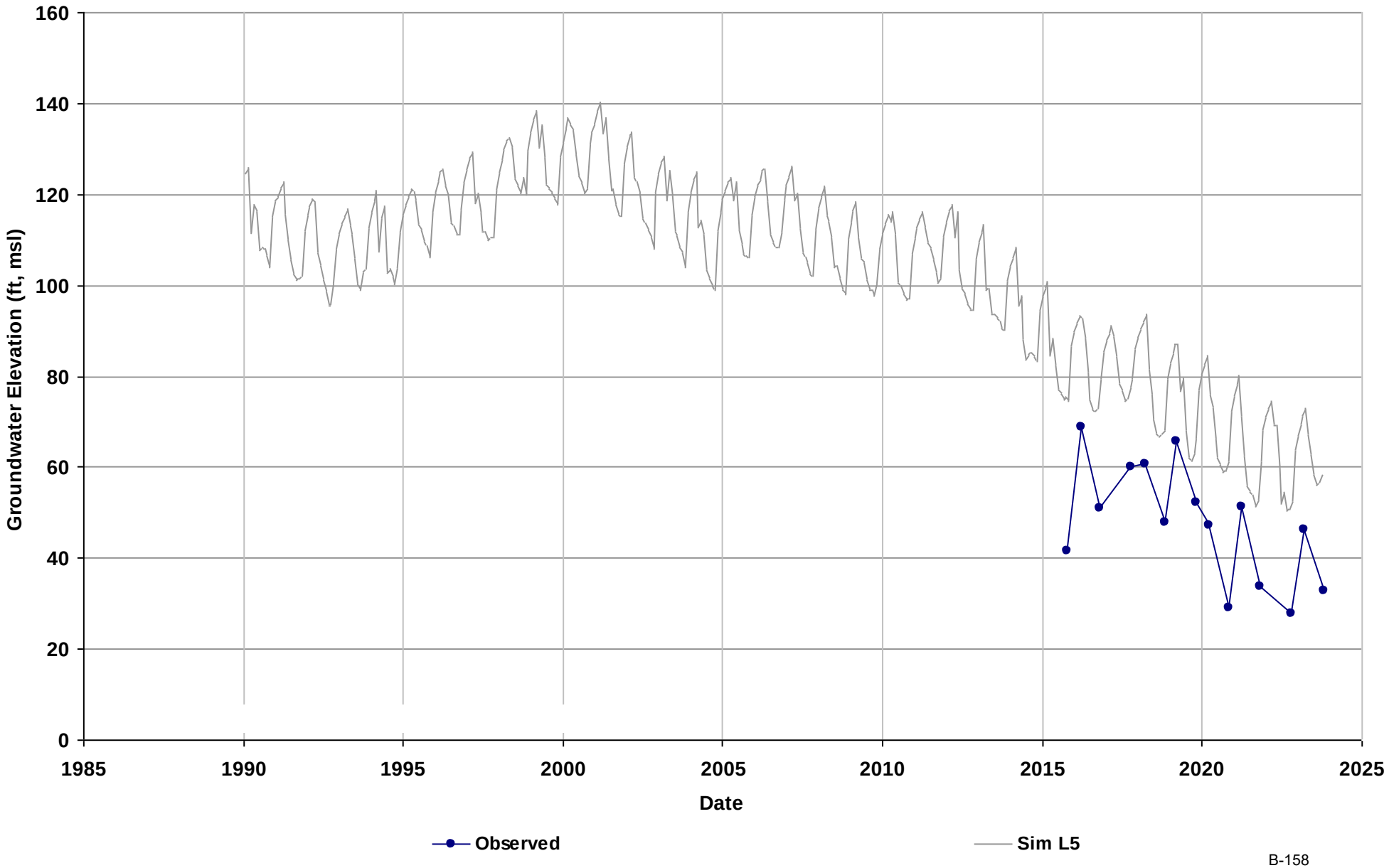
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S16E12L002M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 213

Average Residual (feet): 24.72
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 24.72
Layer 6:

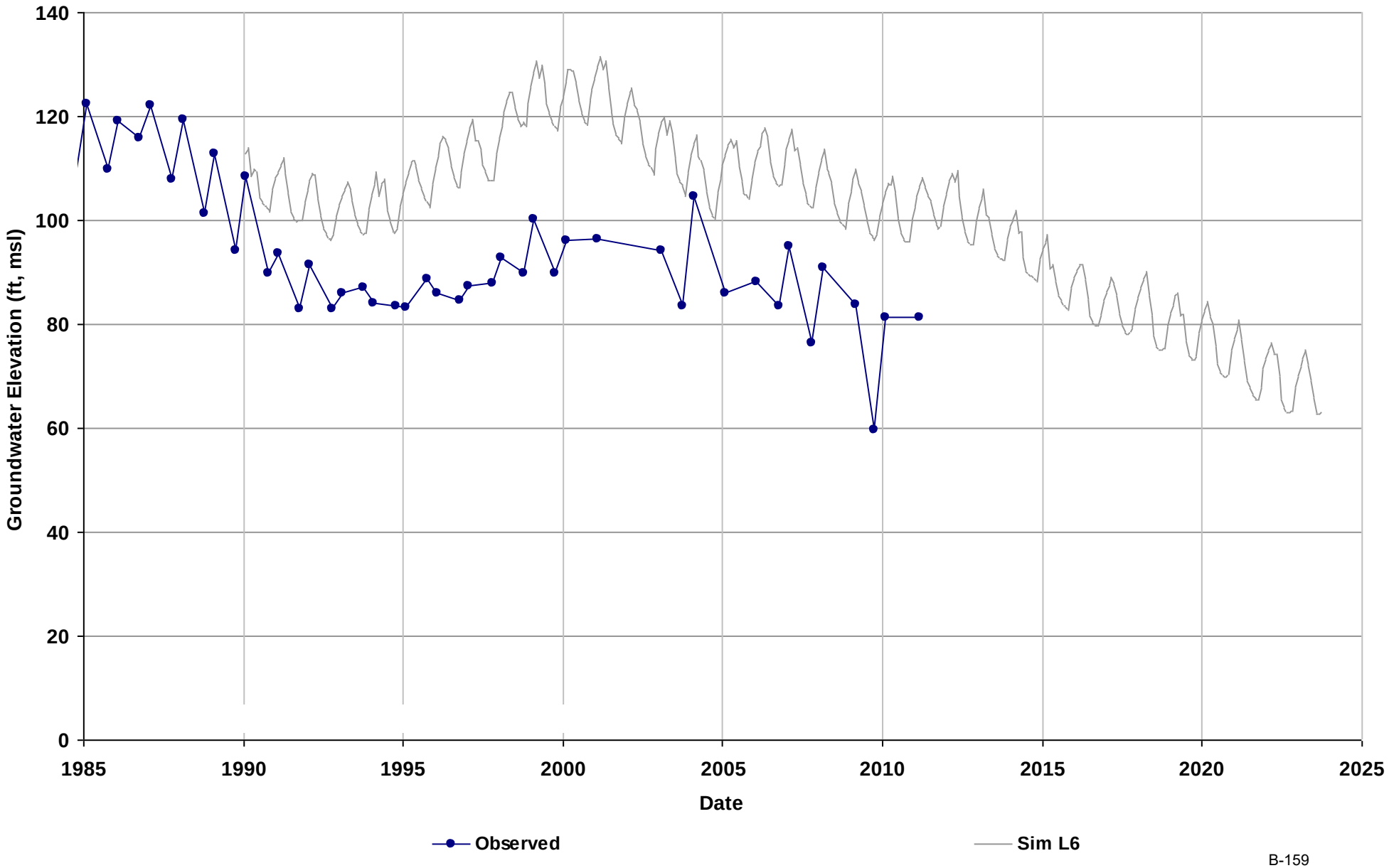
Total Depth (ft): 615
Perf Top (ft): 315
Perf Bottom (ft): 615
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 12S16E16R001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 193

Average Residual (feet): 22.17
Layer 1:
Layer 2:
Layer 3:
Layer 4: 24.53
Layer 5: 21.4
Layer 6: 20.58

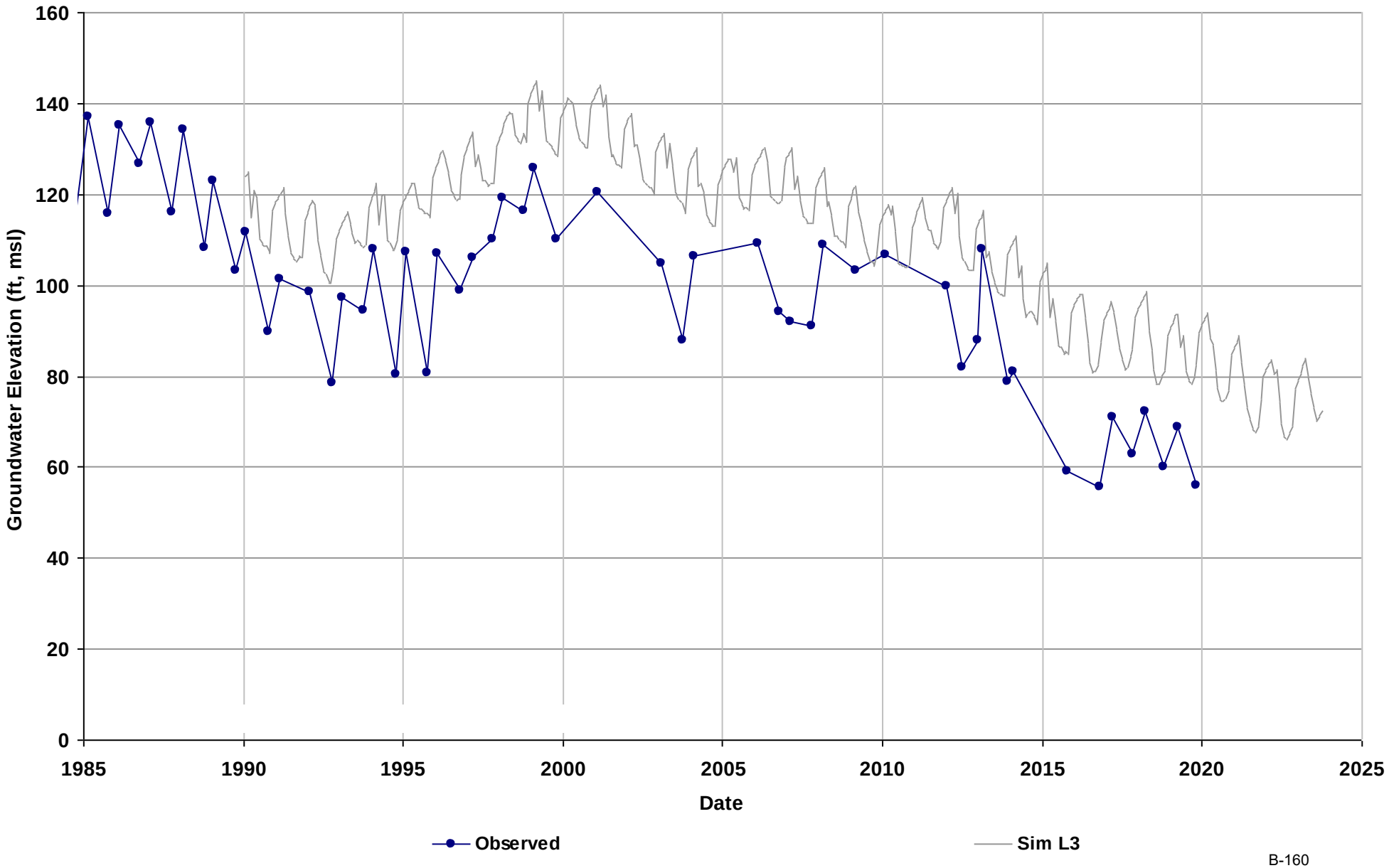
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S16E26H001M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 203

Average Residual (feet): 20.48
Layer 1:
Layer 2:
Layer 3: 20.48
Layer 4:
Layer 5:
Layer 6:

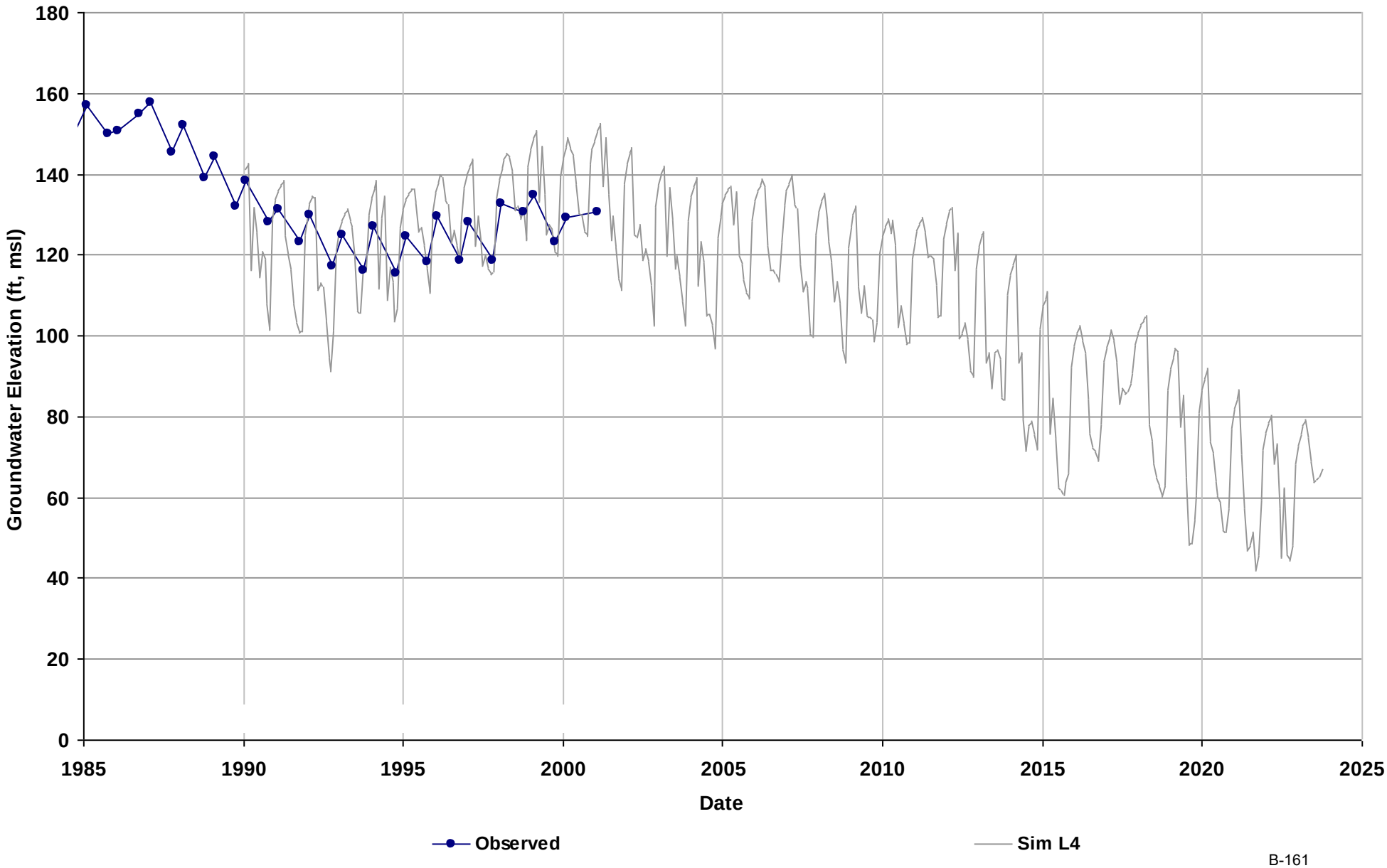
Total Depth (ft): 286
Perf Top (ft): 228
Perf Bottom (ft): 284
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S17E04L001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 239

Average Residual (feet): -0.32
Layer 1:
Layer 2:
Layer 3:
Layer 4: -0.32
Layer 5:
Layer 6:

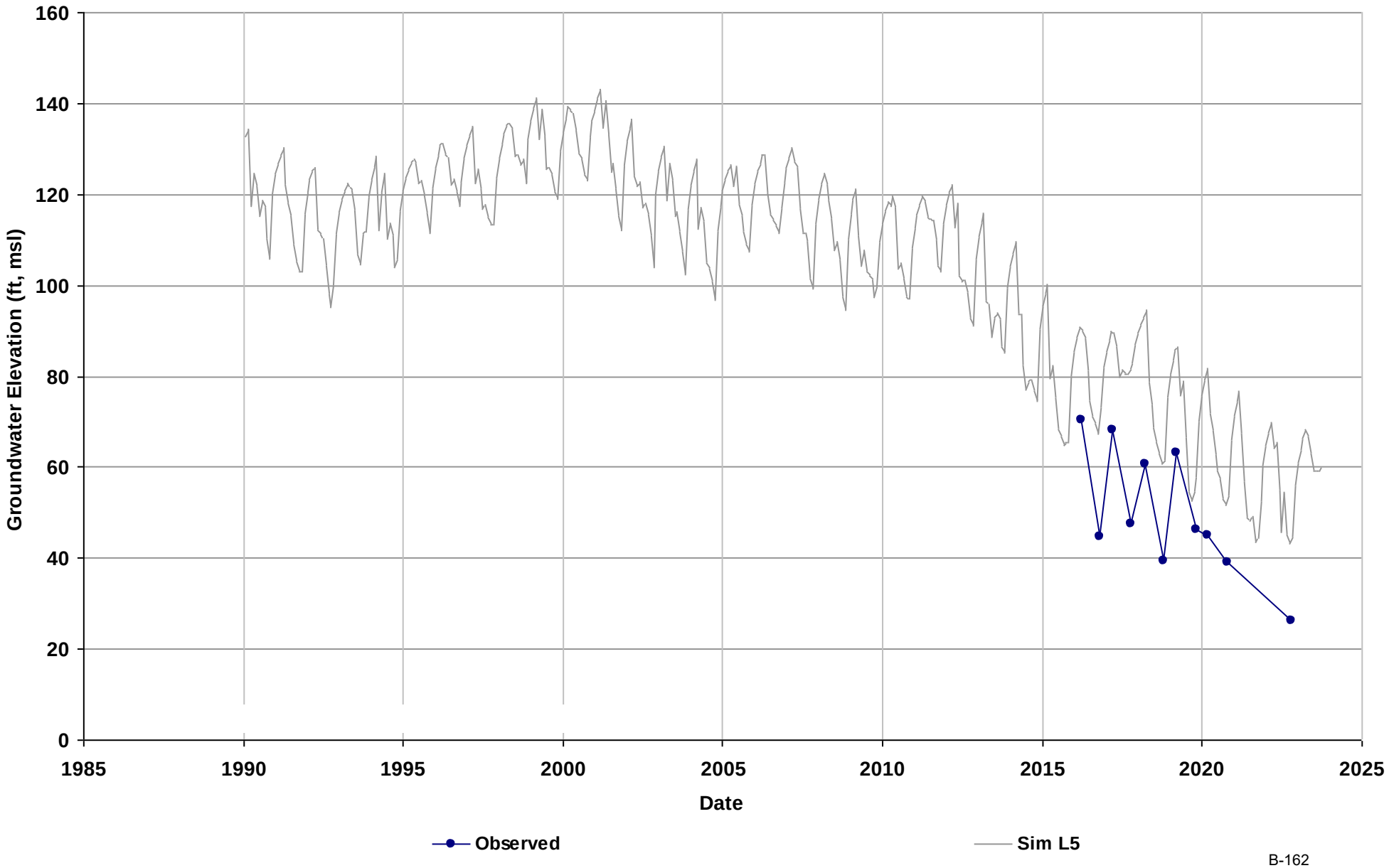
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S17E05B001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 234

Average Residual (feet): 23
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 23
Layer 6:

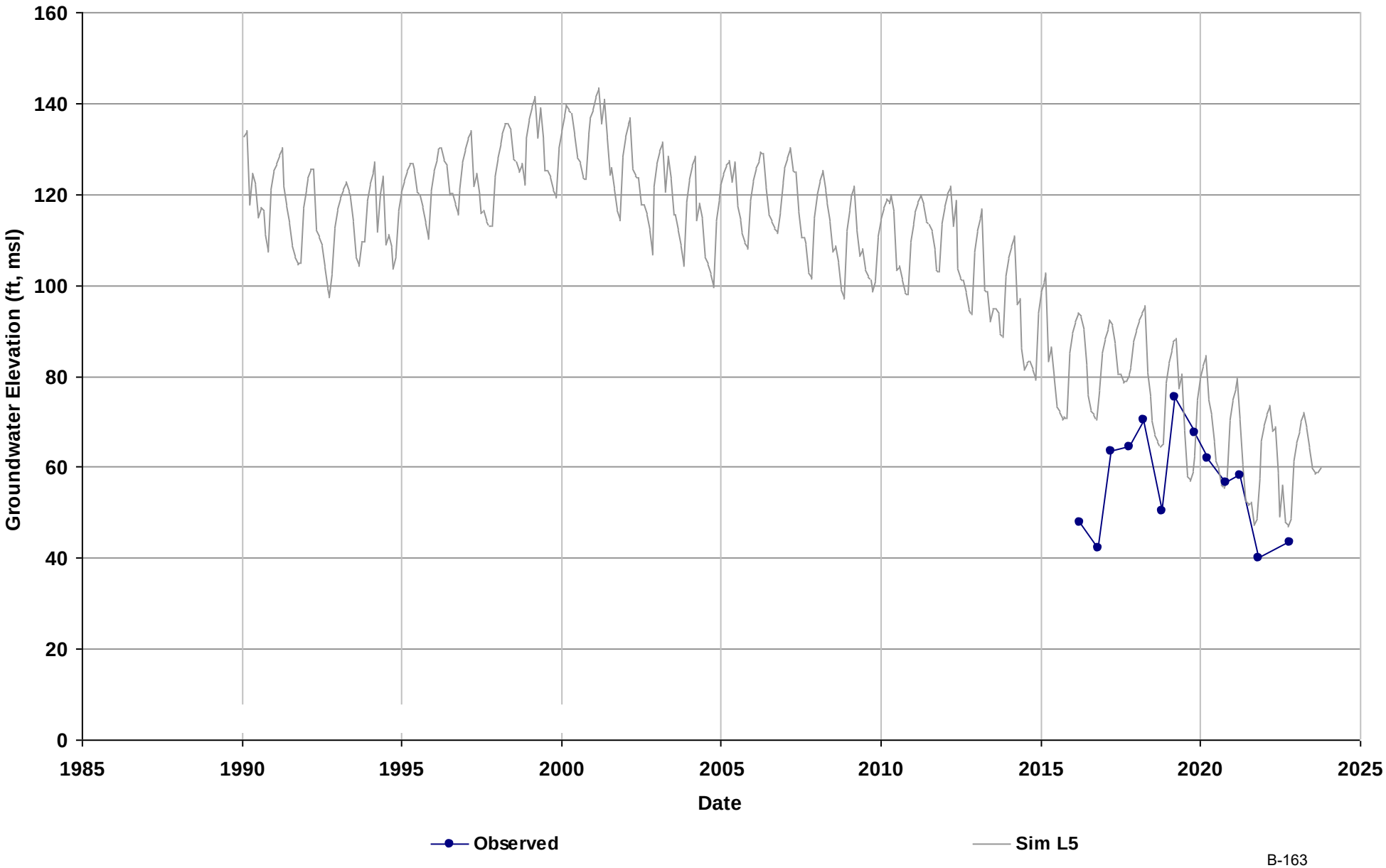
Total Depth (ft): 724
Perf Top (ft): 430
Perf Bottom (ft): 715
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 12S17E05P001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Average Residual (feet): 16.9
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 16.9
Layer 6:

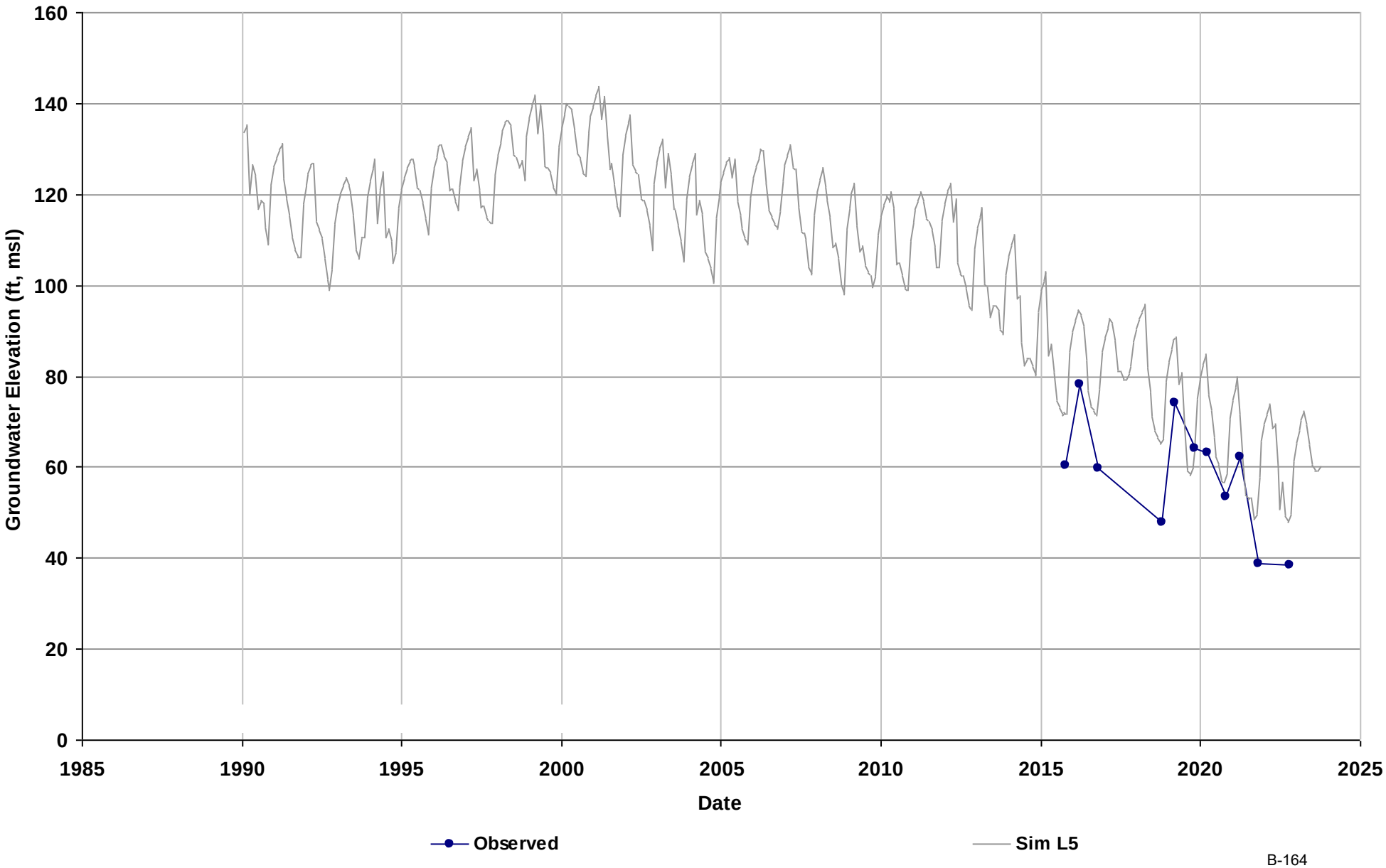
Total Depth (ft): 680
Perf Top (ft): 300
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 12S17E08B001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 234

Average Residual (feet): 12.02
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 12.02
Layer 6:

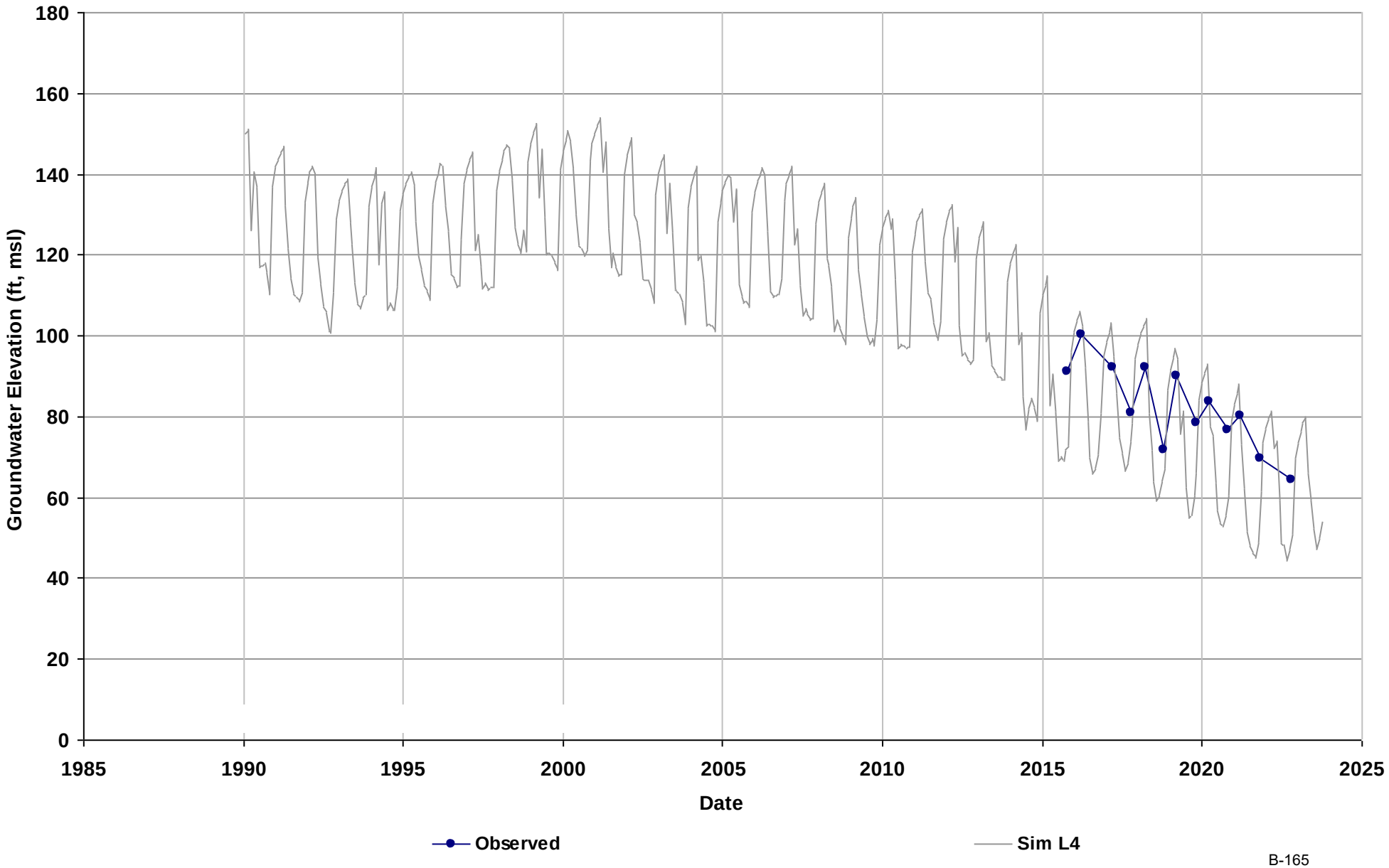
Total Depth (ft): 612
Perf Top (ft): 220
Perf Bottom (ft): 548
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 12S17E11P001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 244

Average Residual (feet): -5.13
Layer 1:
Layer 2:
Layer 3:
Layer 4: -4.52
Layer 5: -5.75
Layer 6:

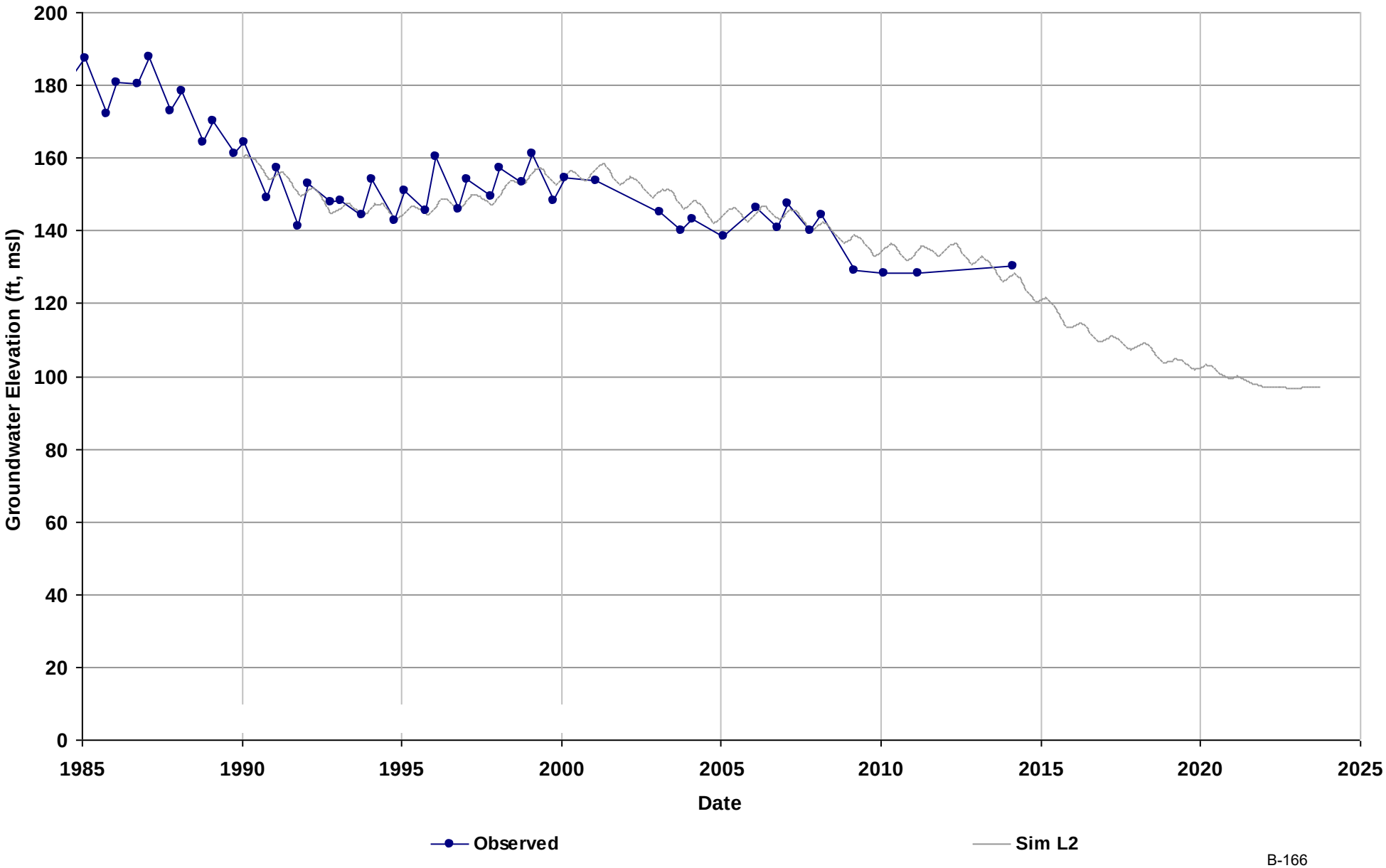
Total Depth (ft): 660
Perf Top (ft): 300
Perf Bottom (ft): 660
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S17E13J001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 252

Average Residual (feet): -0.19
Layer 1:
Layer 2: -0.19
Layer 3:
Layer 4:
Layer 5:
Layer 6:

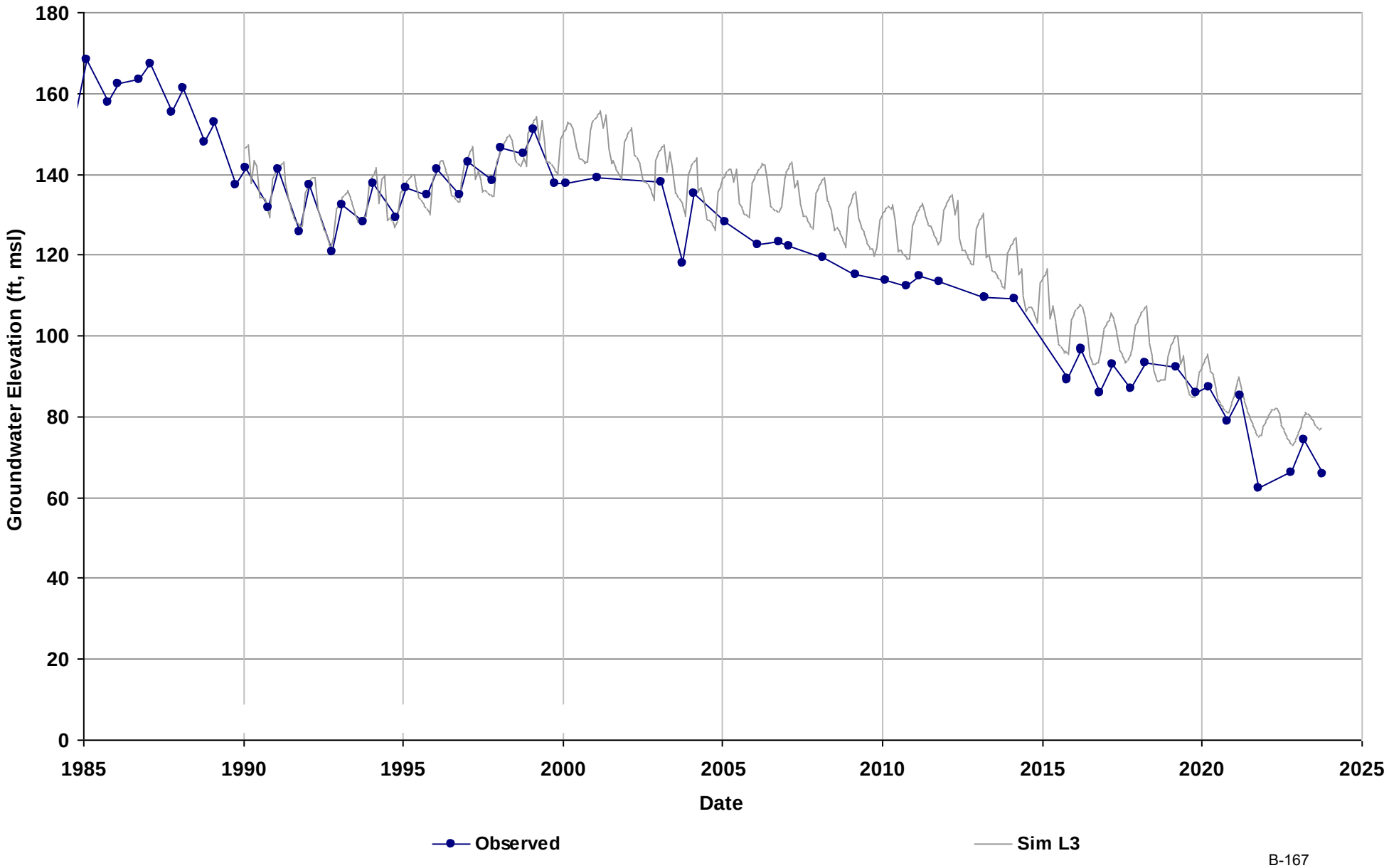
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S17E16A003M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 233

Average Residual (feet): 6.75
Layer 1:
Layer 2:
Layer 3: 6.75
Layer 4:
Layer 5:
Layer 6:

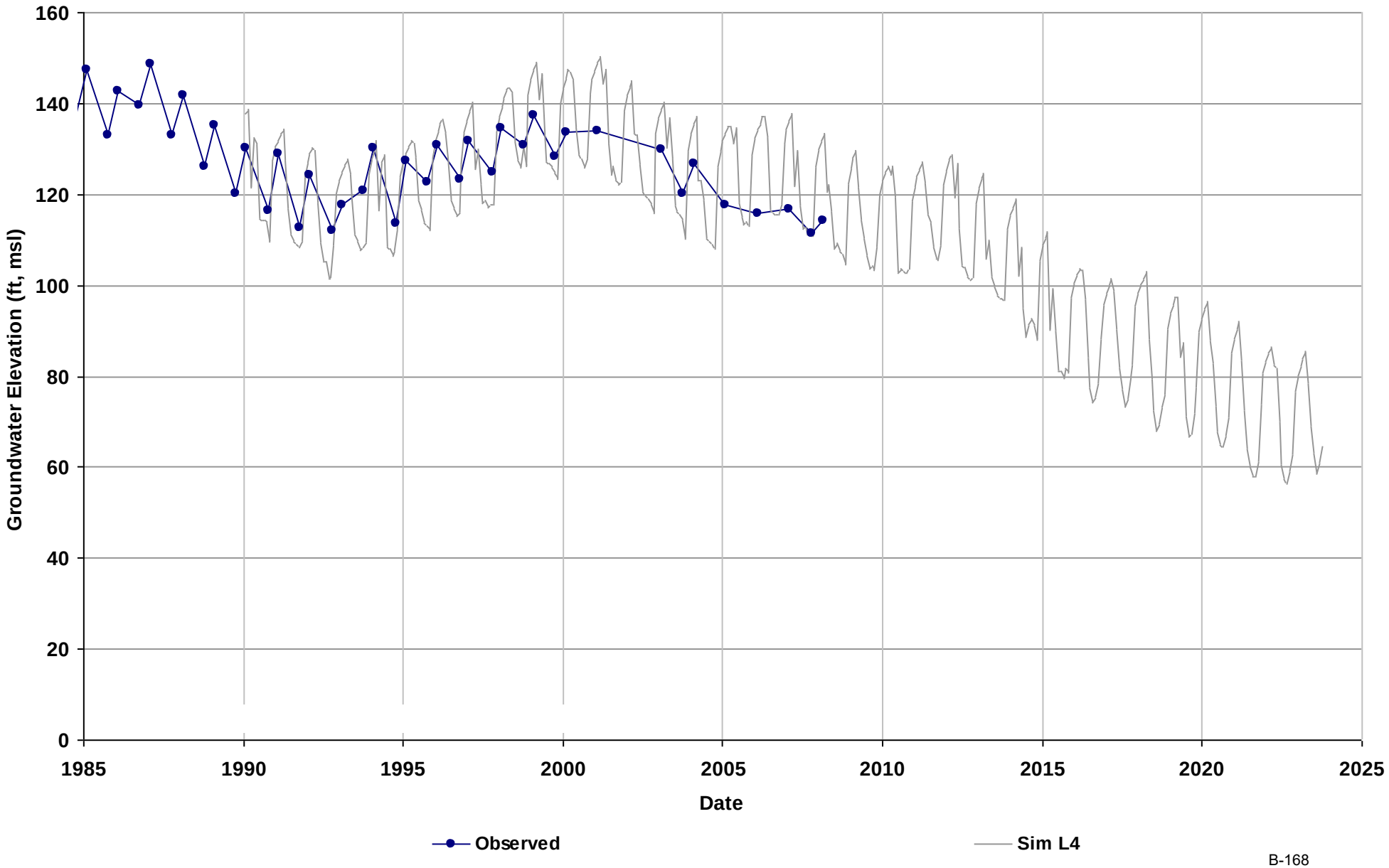
Total Depth (ft): 315
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S17E20P001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 220

Average Residual (feet): 1.59
Layer 1:
Layer 2:
Layer 3:
Layer 4: 2.9
Layer 5: 0.56
Layer 6: 1.3

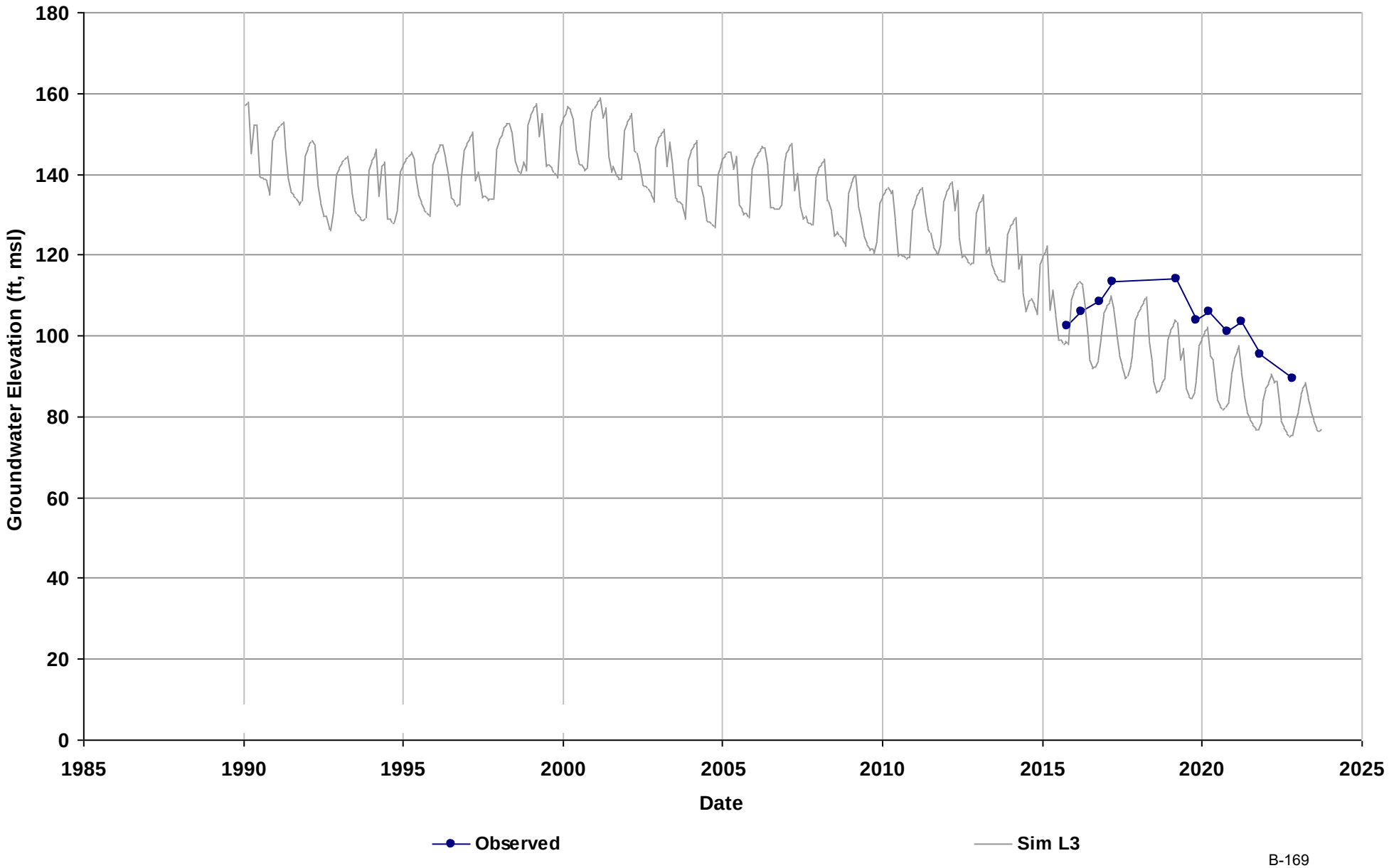
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S17E24D001M
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 244

Average Residual (feet): -9.7
Layer 1:
Layer 2:
Layer 3: -9.7
Layer 4:
Layer 5:
Layer 6:

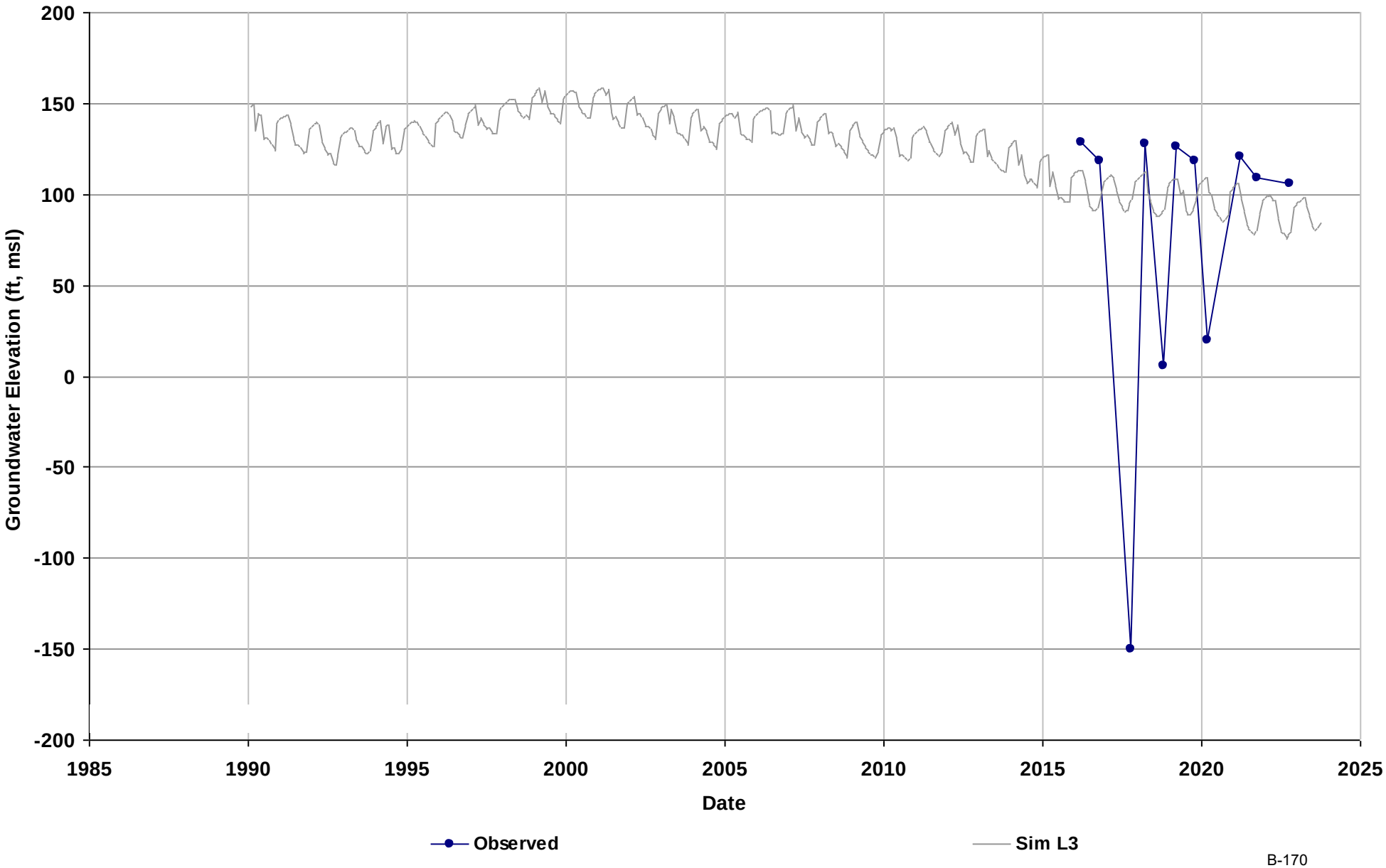
Total Depth (ft): 510
Perf Top (ft): 240
Perf Bottom (ft): 510
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S17E33K001M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 226

Average Residual (feet): 28
Layer 1:
Layer 2: 33.52
Layer 3: 22.48
Layer 4:
Layer 5:
Layer 6:

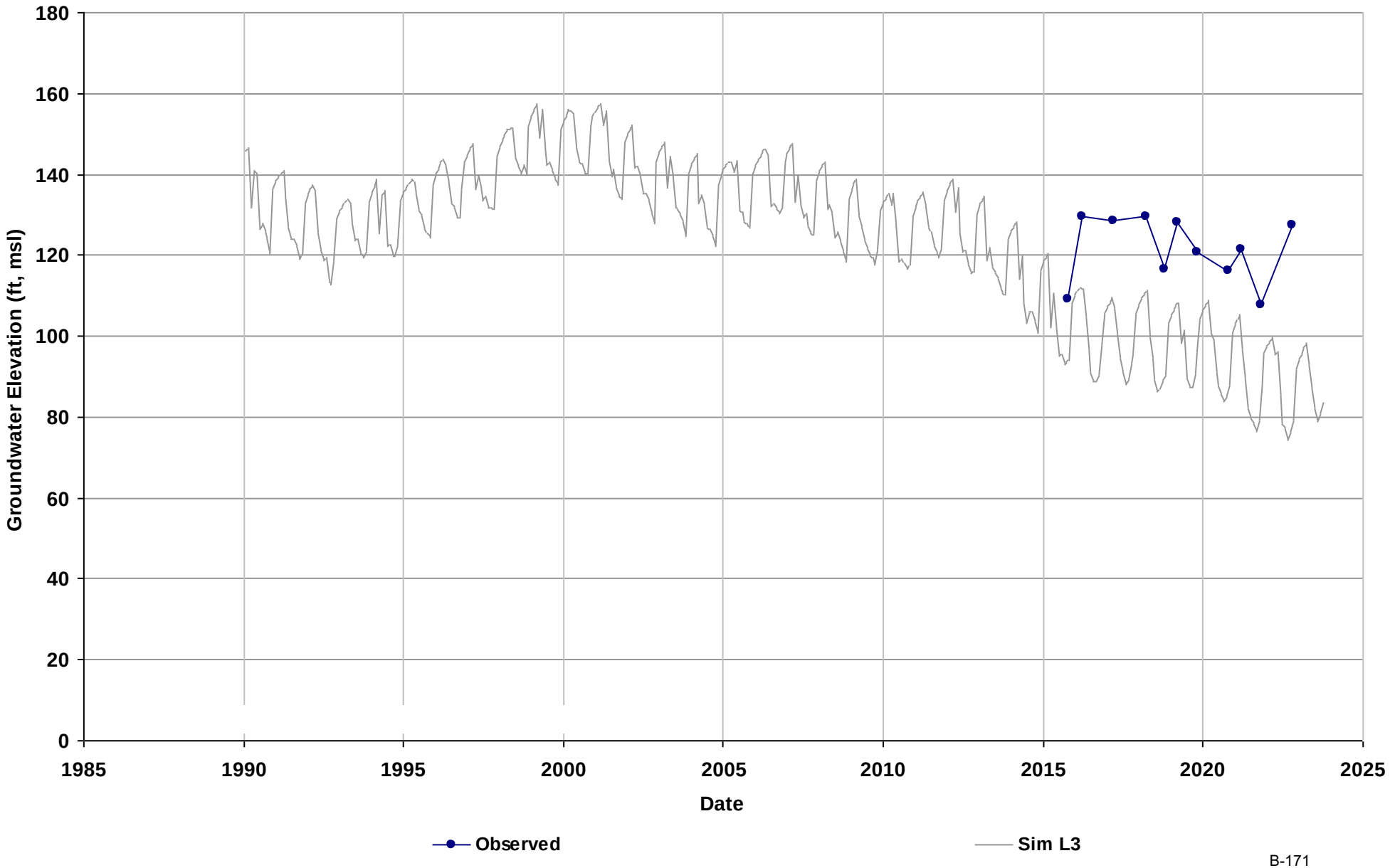
Total Depth (ft): 268
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S17E33N001M
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 223

Average Residual (feet): -26.8
Layer 1:
Layer 2:
Layer 3: -24.62
Layer 4: -28.99
Layer 5:
Layer 6:

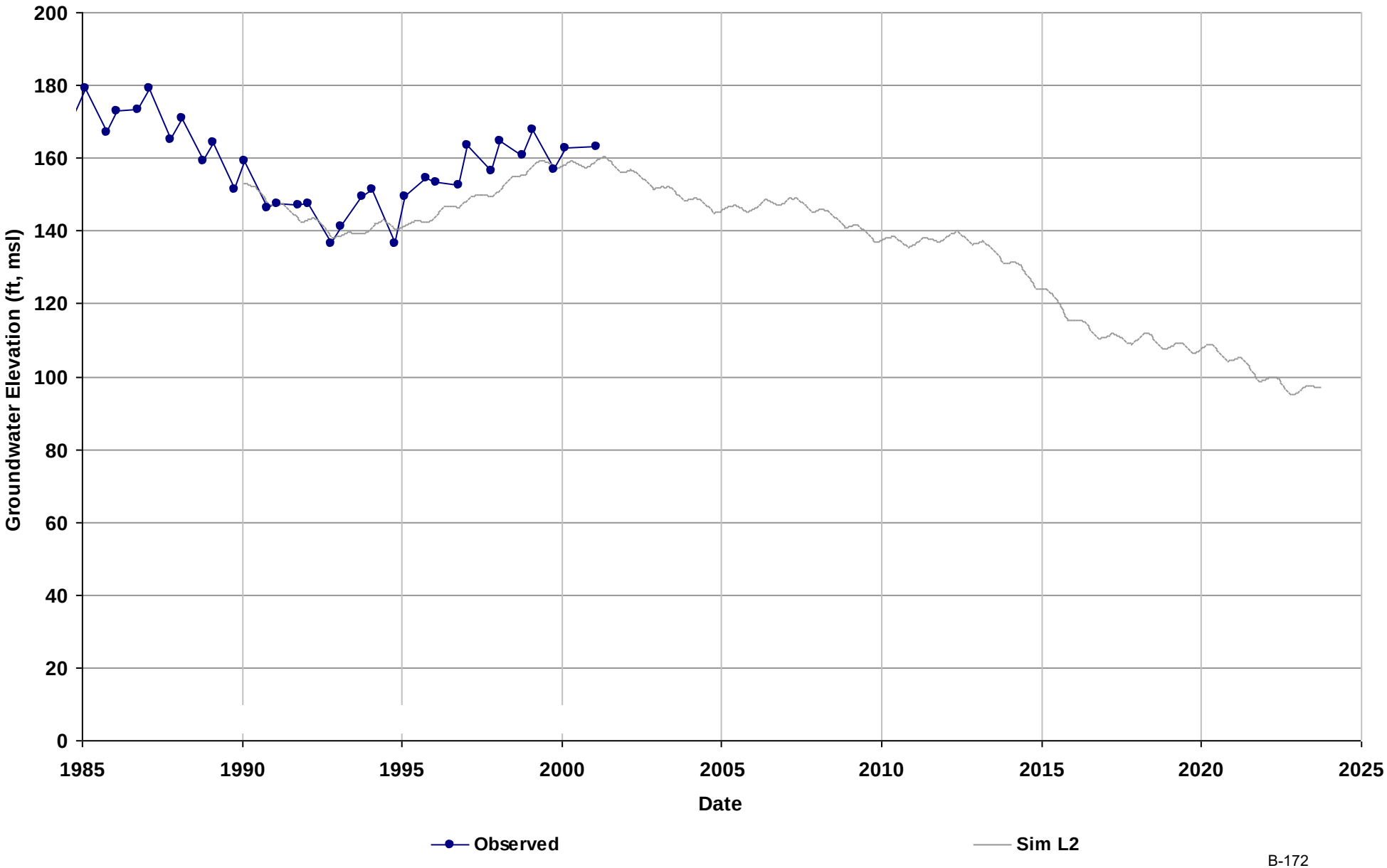
Total Depth (ft): 580
Perf Top (ft): 230
Perf Bottom (ft): 580
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S17E34D001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 229

Average Residual (feet): -5.39
Layer 1:
Layer 2: -5.39
Layer 3:
Layer 4:
Layer 5:
Layer 6:

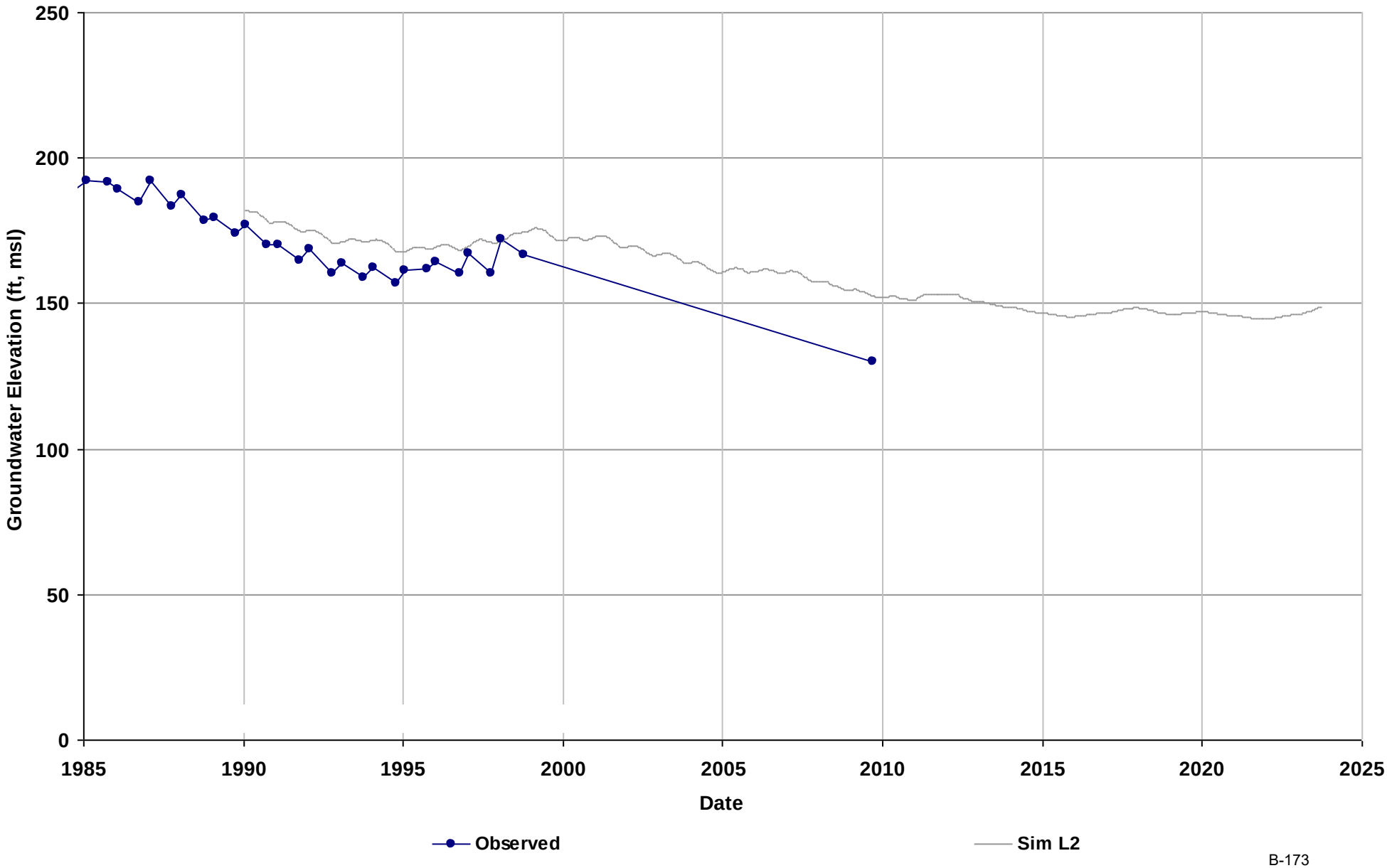
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S18E04C001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 275

Average Residual (feet): 7.98
Layer 1:
Layer 2: 7.98
Layer 3:
Layer 4:
Layer 5:
Layer 6:

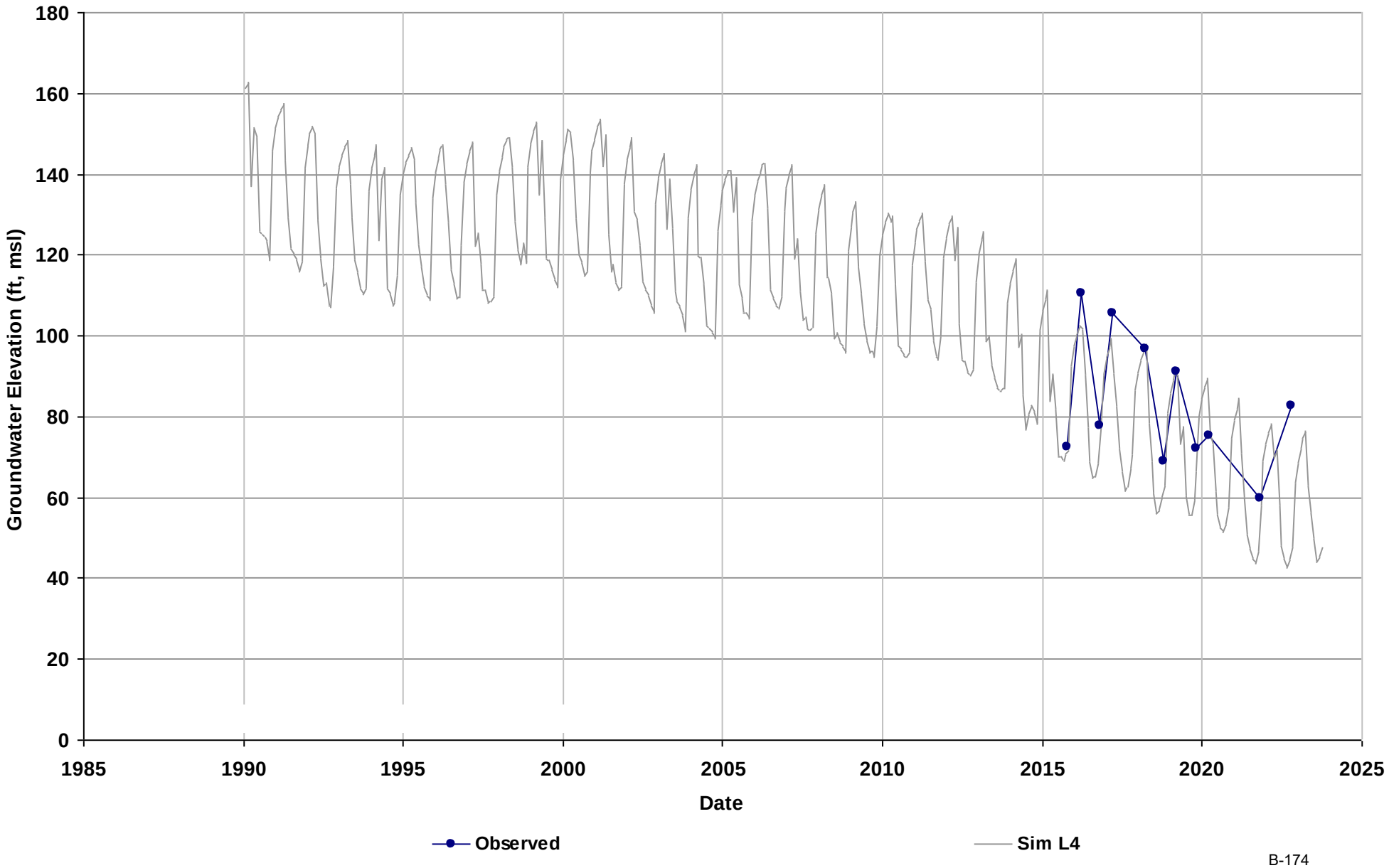
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S18E04J001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Average Residual (feet): -6.92
Layer 1:
Layer 2:
Layer 3:
Layer 4: -6.92
Layer 5:
Layer 6:

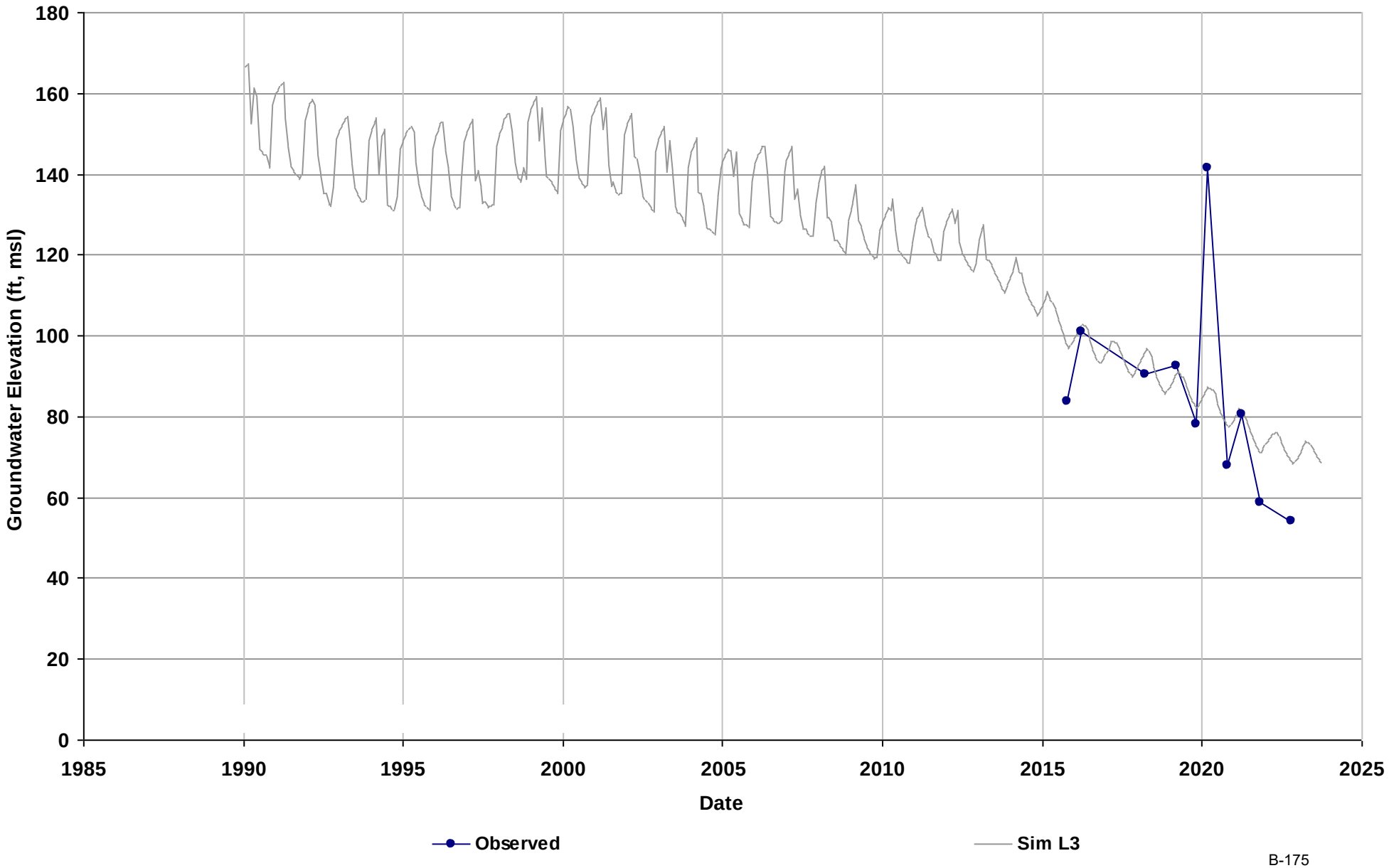
Total Depth (ft): 560
Perf Top (ft): 272
Perf Bottom (ft): 556
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S18E05F001M
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 268

Average Residual (feet): 0.63
Layer 1:
Layer 2:
Layer 3: 0.63
Layer 4:
Layer 5:
Layer 6:

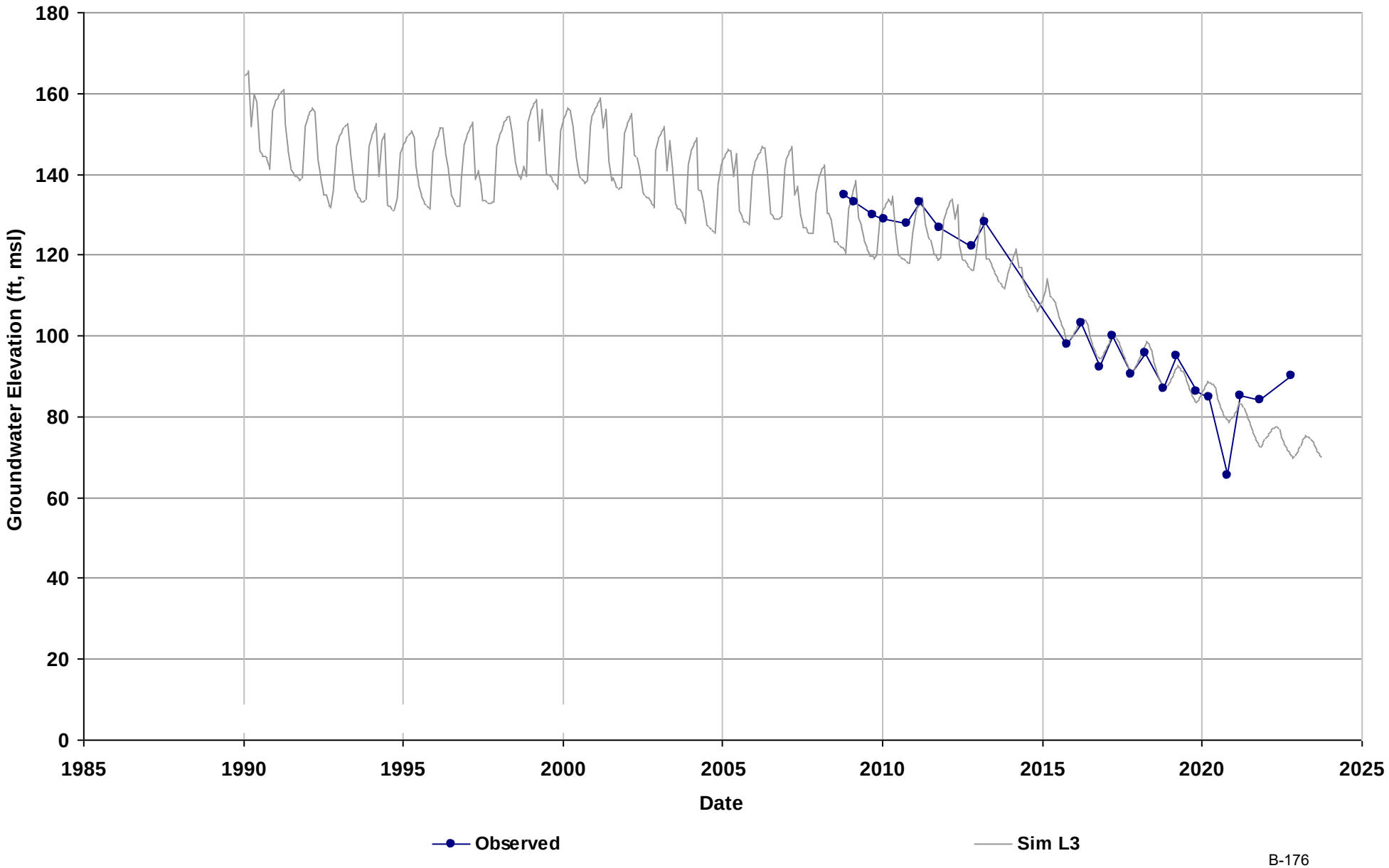
Total Depth (ft): 570
Perf Top (ft): 240
Perf Bottom (ft): 570
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S18E06J003M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 263

Average Residual (feet): -2.44
Layer 1:
Layer 2:
Layer 3: -2.44
Layer 4:
Layer 5:
Layer 6:

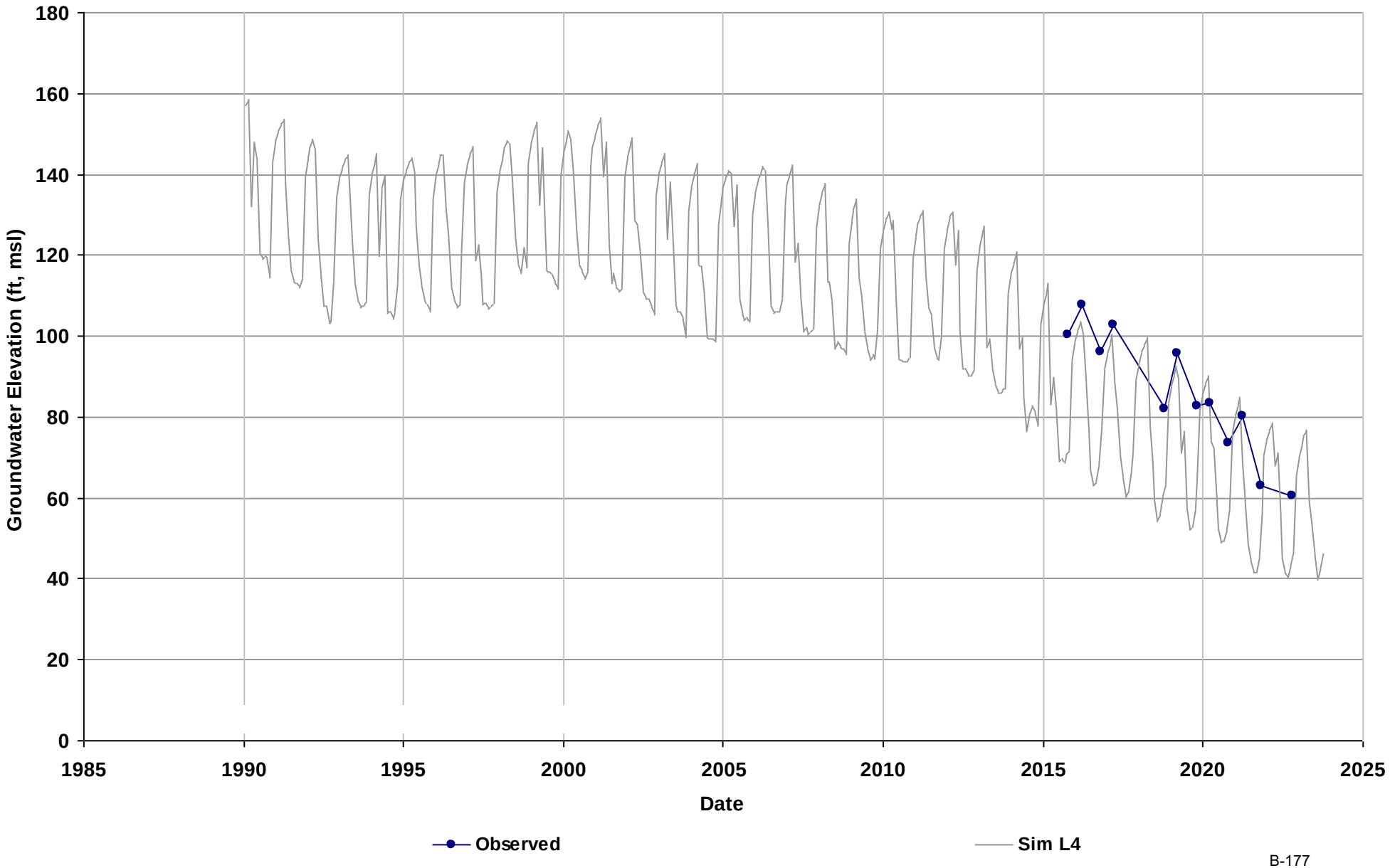
Total Depth (ft): 176
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S18E07B001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 260

Average Residual (feet): -13.27
Layer 1:
Layer 2:
Layer 3:
Layer 4: -13.51
Layer 5: -13.03
Layer 6:

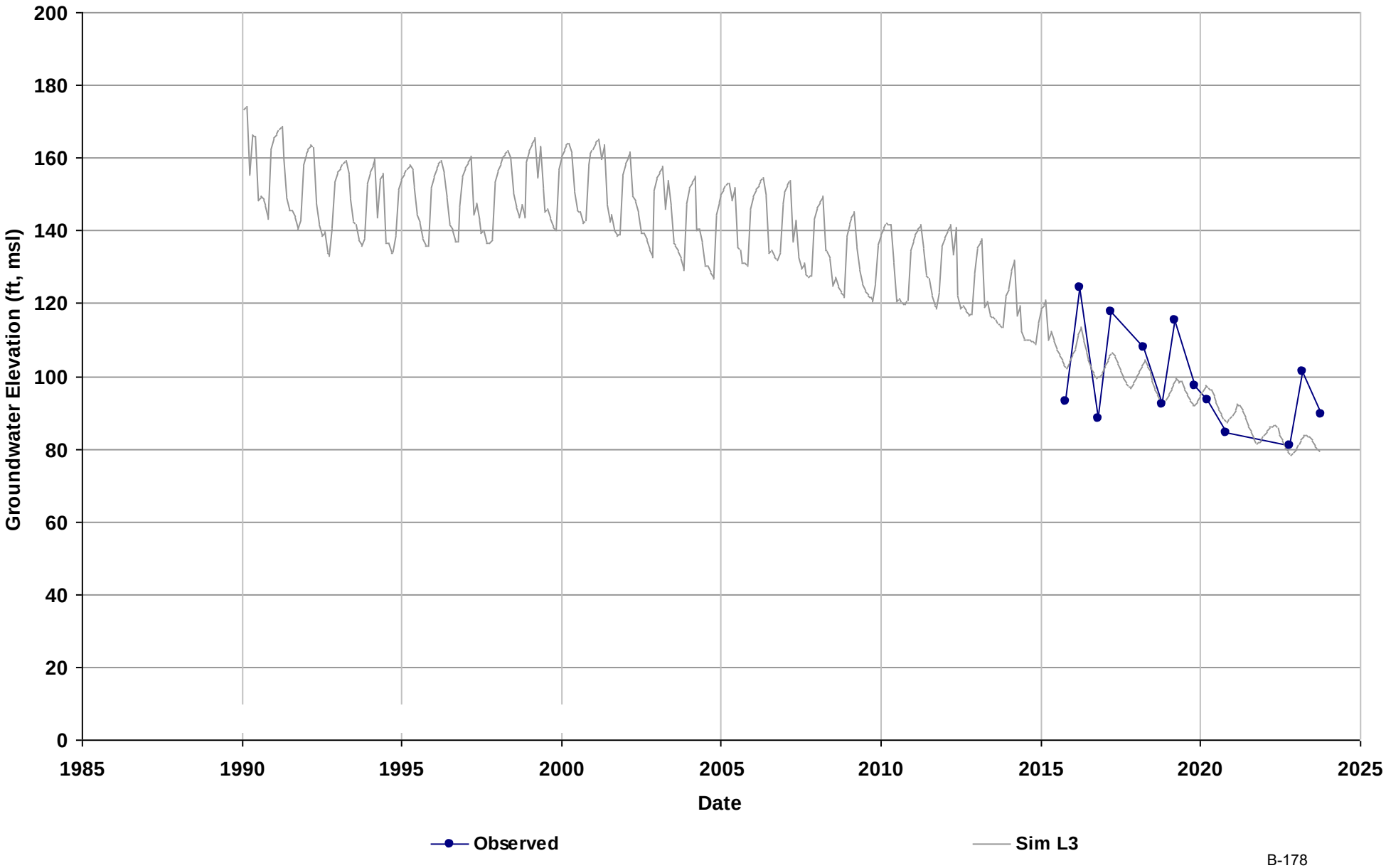
Total Depth (ft): 660
Perf Top (ft): 300
Perf Bottom (ft): 600
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S18E10K002M
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 272

Average Residual (feet): -11.28
Layer 1:
Layer 2:
Layer 3: -4.64
Layer 4: -17.92
Layer 5:
Layer 6:

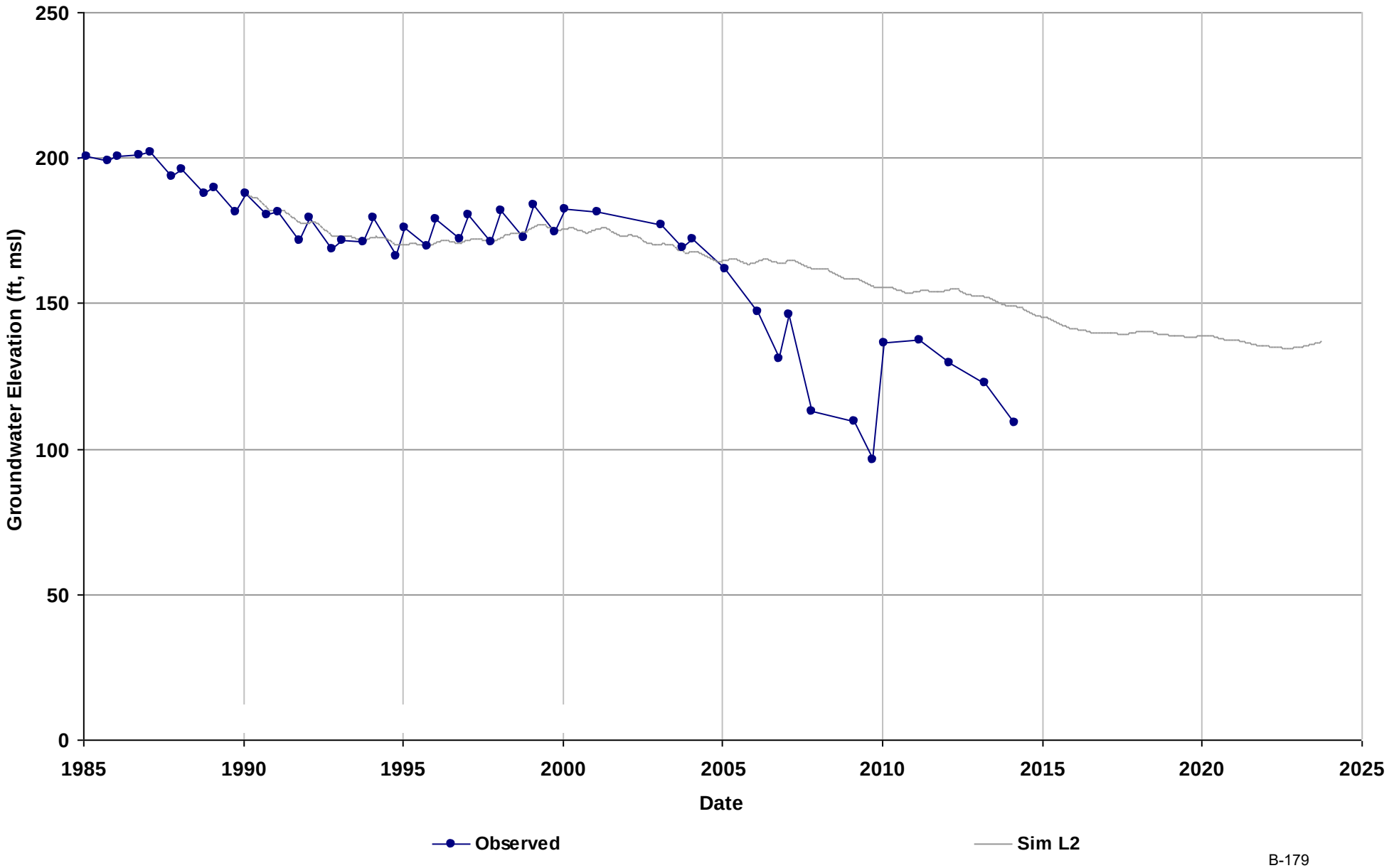
Total Depth (ft): 600
Perf Top (ft): 228
Perf Bottom (ft): 552
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S18E12N001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 282

Average Residual (feet): -4.33
Layer 1:
Layer 2: 8.01
Layer 3: -16.68
Layer 4:
Layer 5:
Layer 6:

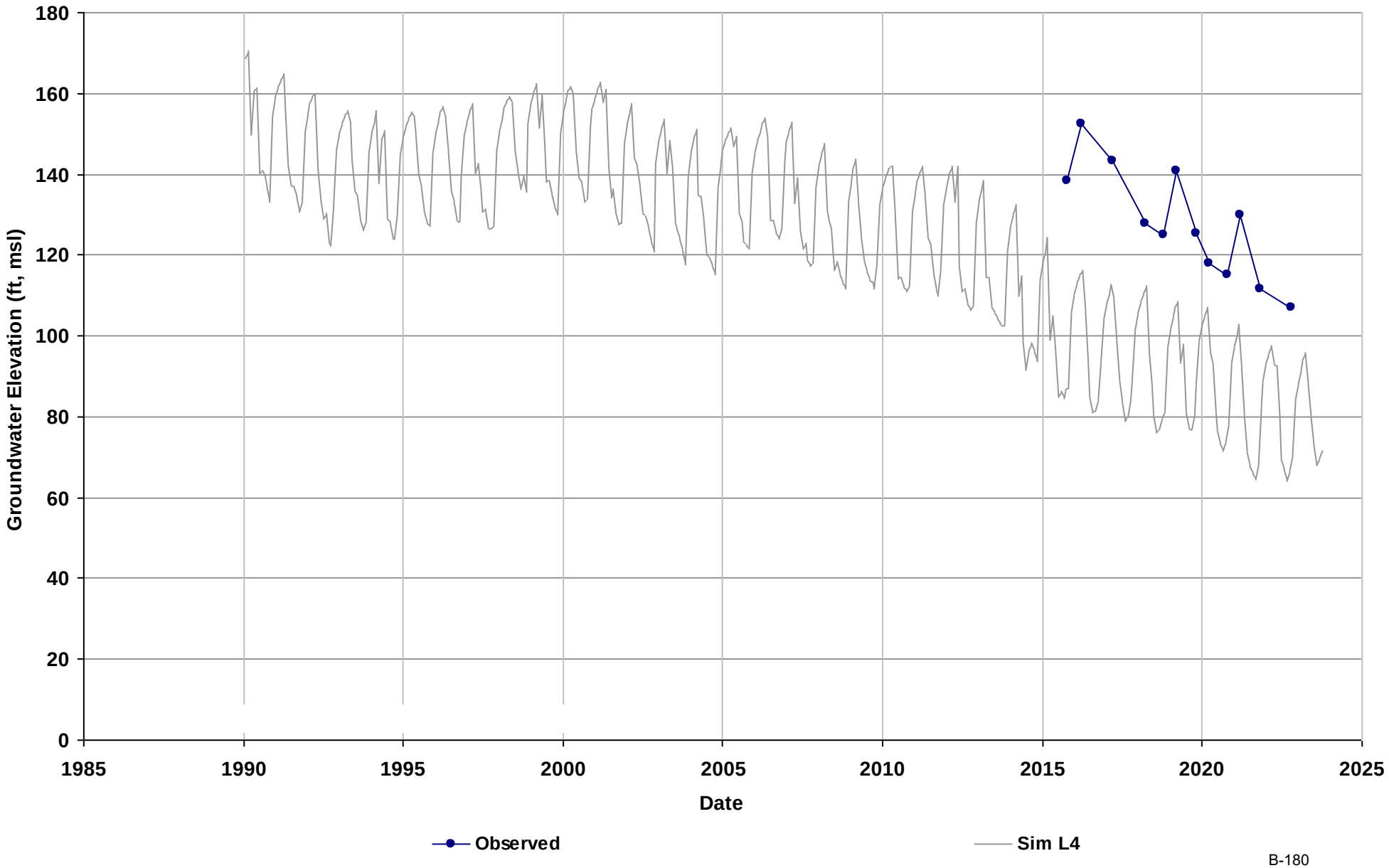
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S18E13K001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 287

Average Residual (feet): -34.68
Layer 1:
Layer 2:
Layer 3:
Layer 4: -34.68
Layer 5:
Layer 6:

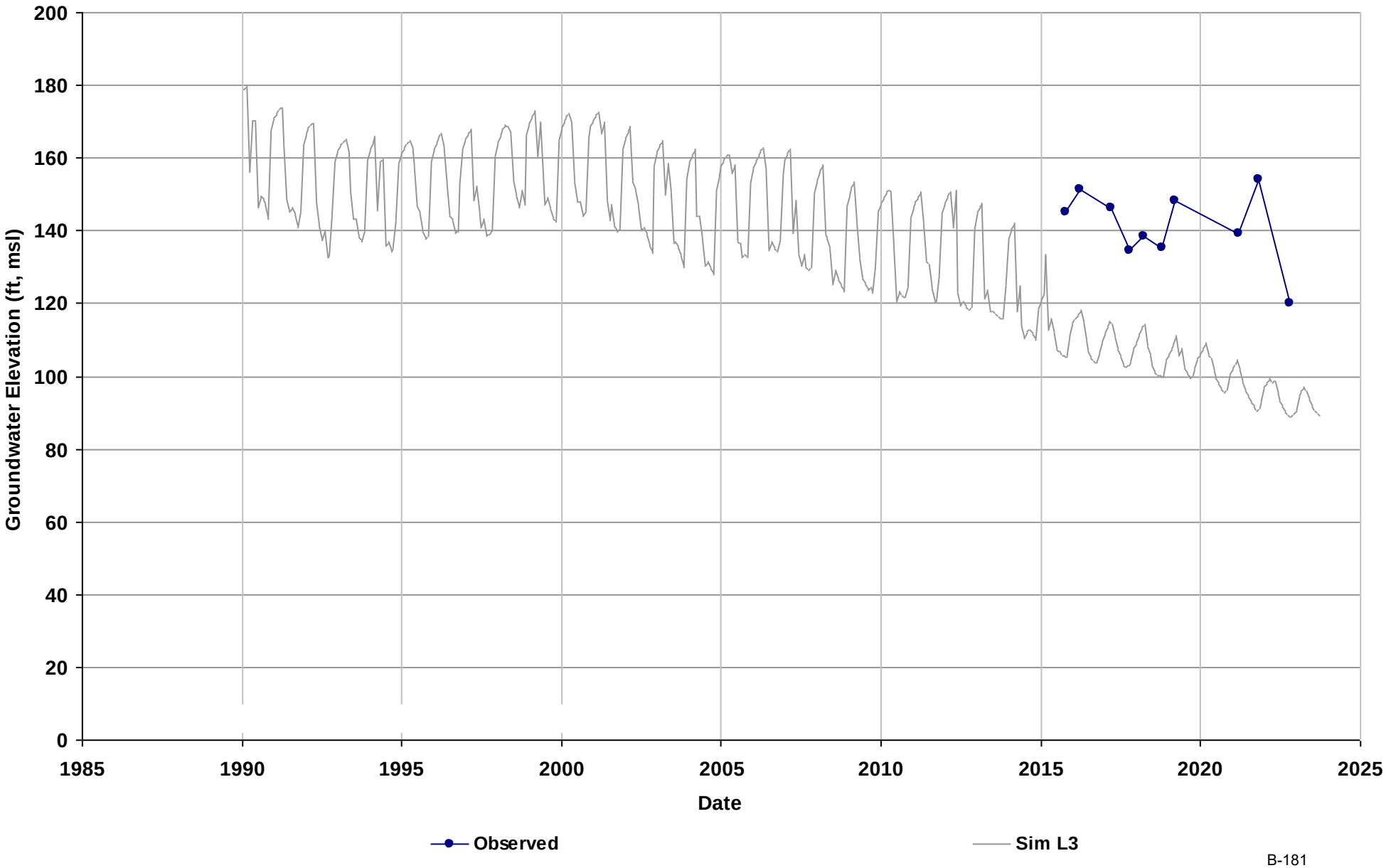
Total Depth (ft): 600
Perf Top (ft): 320
Perf Bottom (ft): 600
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S18E13L001M
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 288

Average Residual (feet): -42.12
Layer 1:
Layer 2:
Layer 3: -36.57
Layer 4: -47.67
Layer 5:
Layer 6:

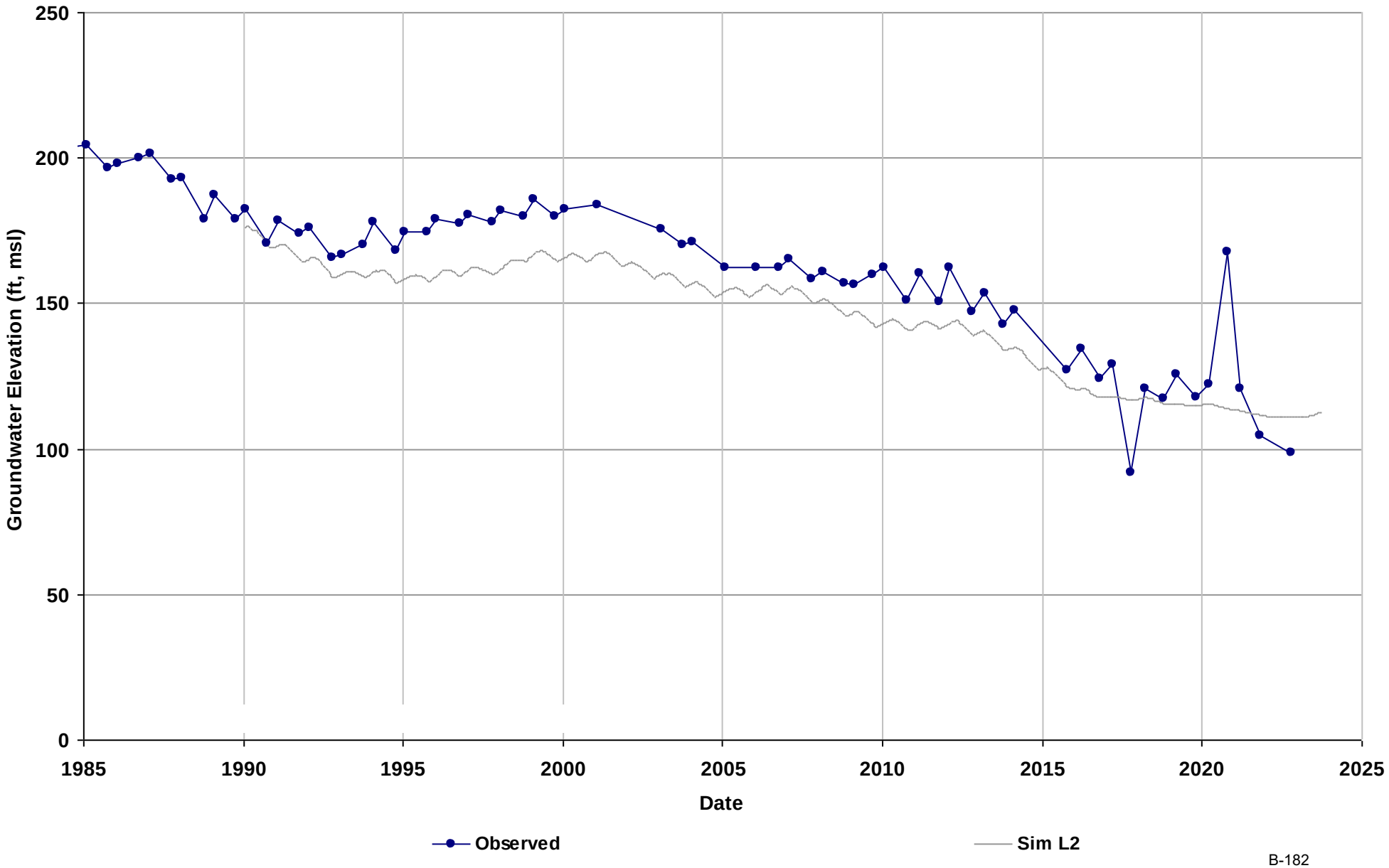
Total Depth (ft): 510
Perf Top (ft): 240
Perf Bottom (ft): 510
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S18E16A002M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 271

Average Residual (feet): -10.63
Layer 1:
Layer 2: -10.63
Layer 3:
Layer 4:
Layer 5:
Layer 6:

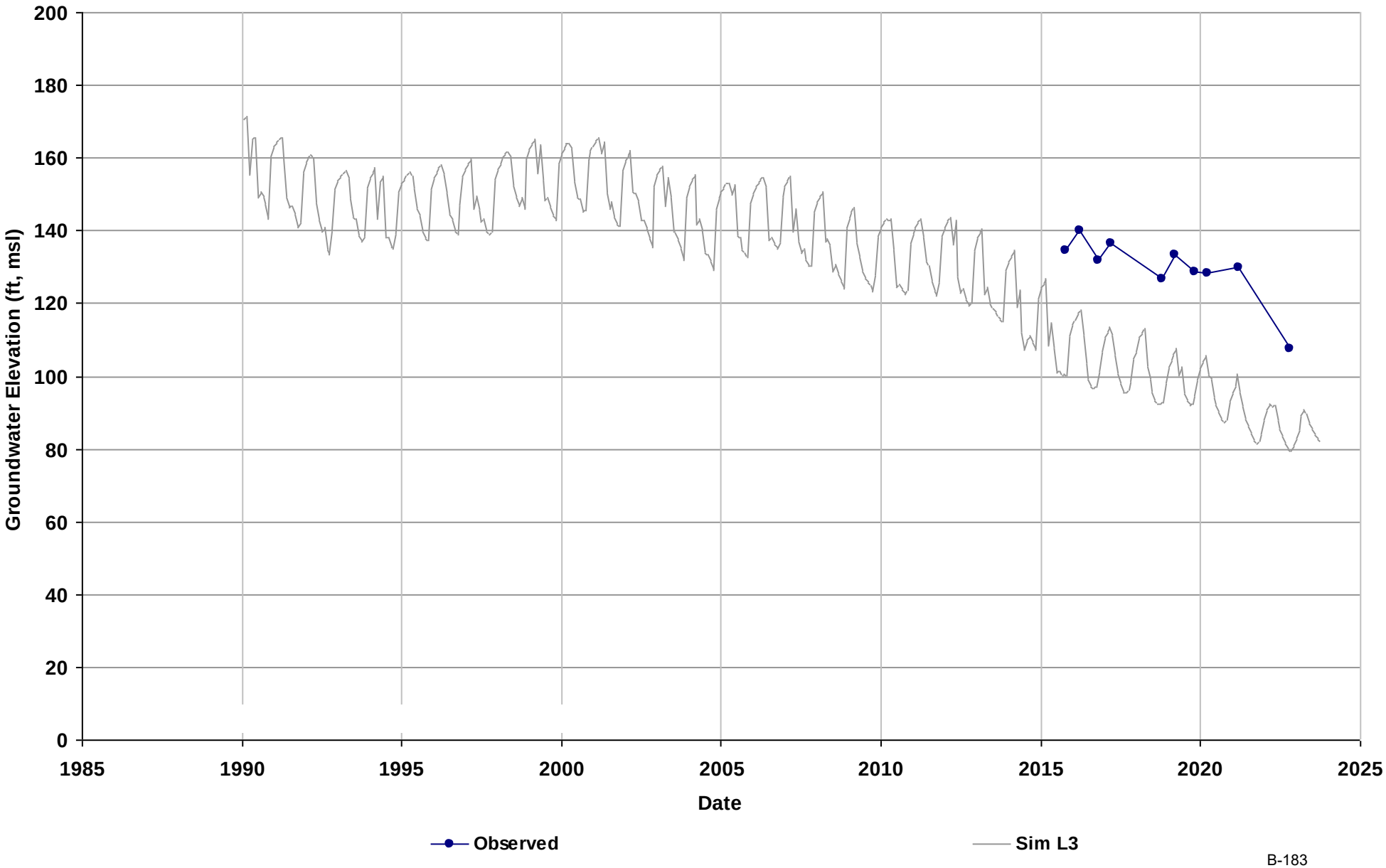
Total Depth (ft): 200
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S18E16K002M
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 268

Average Residual (feet): -33.46
Layer 1:
Layer 2:
Layer 3: -29.22
Layer 4: -37.7
Layer 5:
Layer 6:

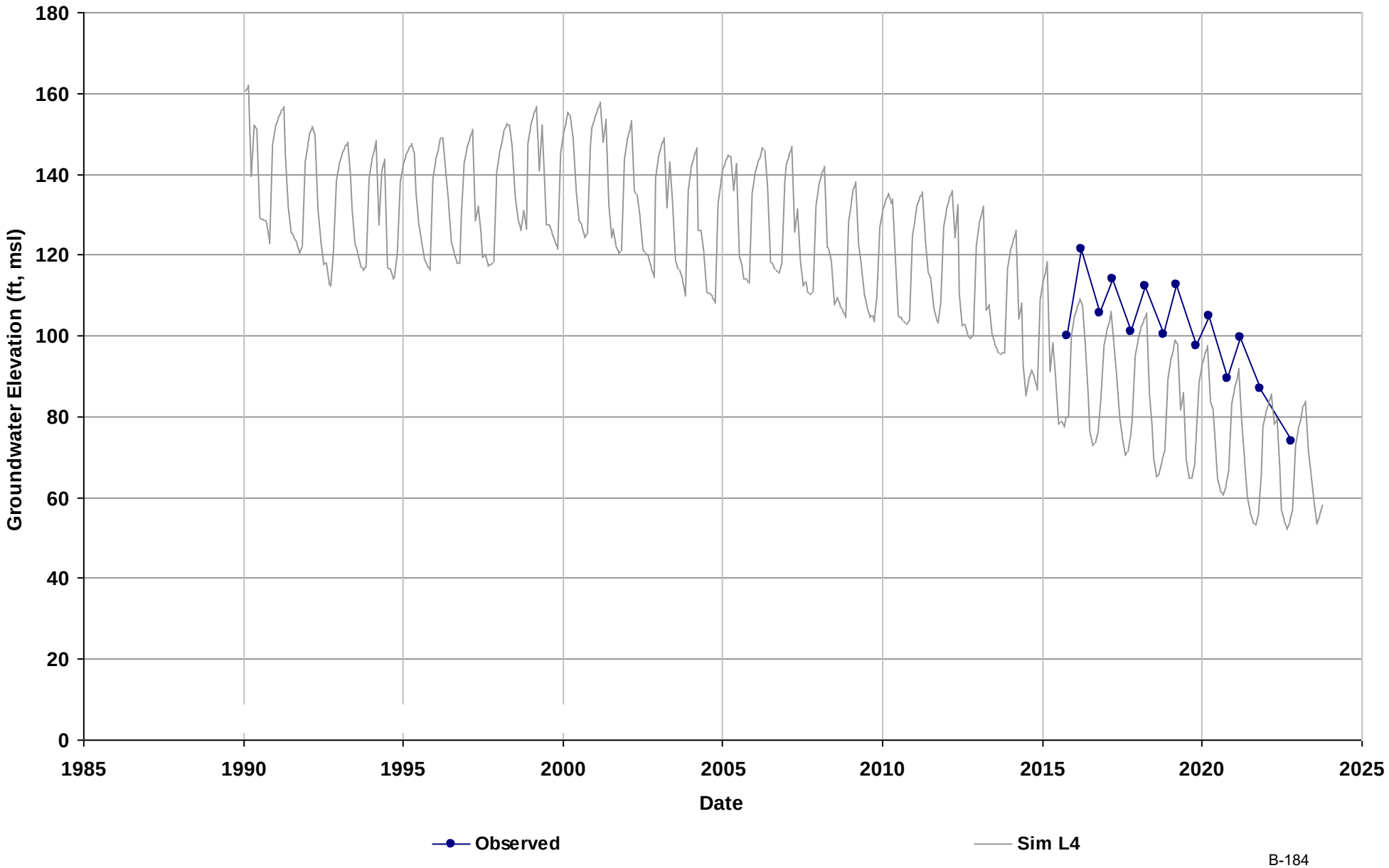
Total Depth (ft): 340
Perf Top (ft): 240
Perf Bottom (ft): 340
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S18E17C001M
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 260

Average Residual (feet): -19.12
Layer 1:
Layer 2:
Layer 3:
Layer 4: -19.02
Layer 5: -19.21
Layer 6:

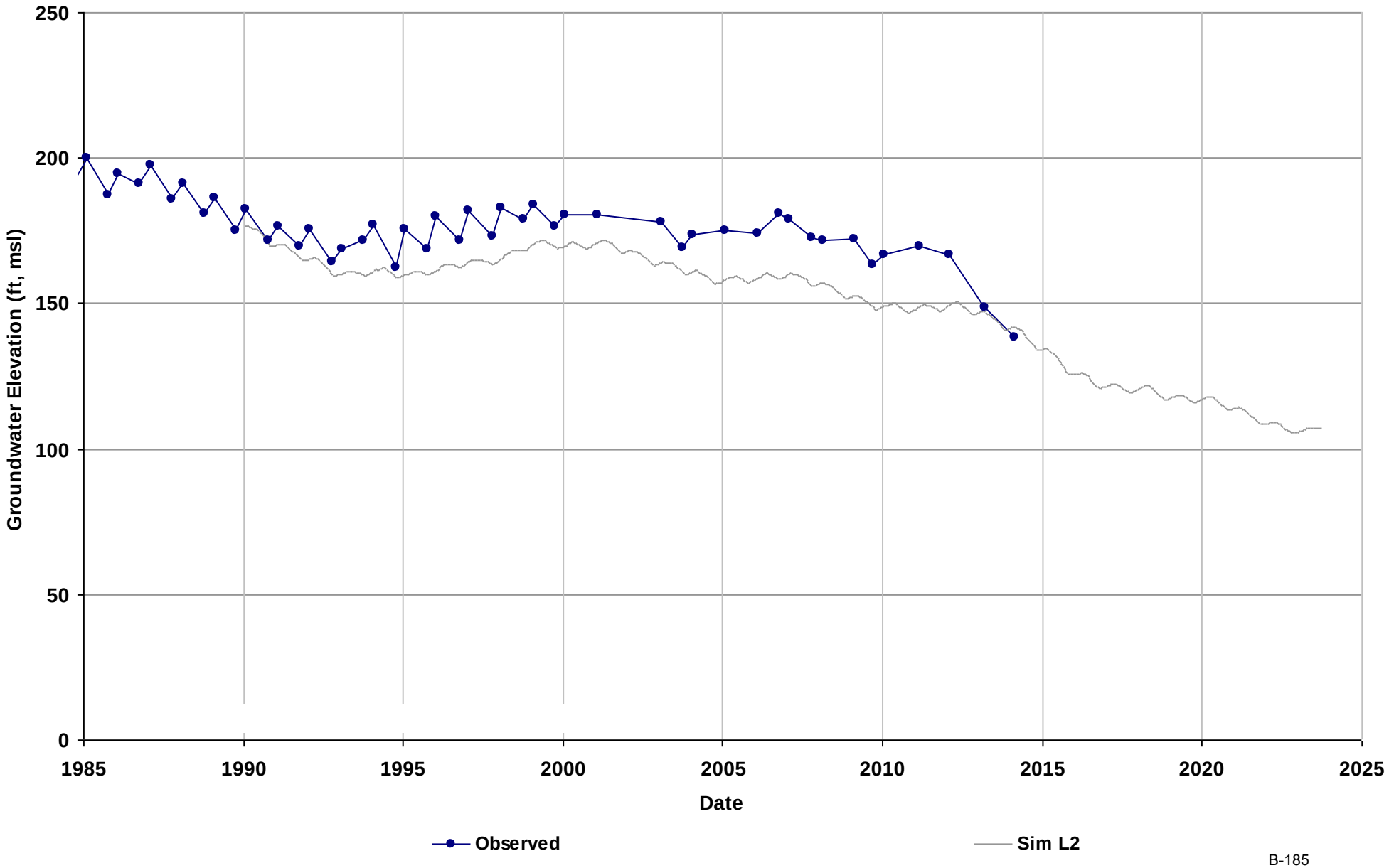
Total Depth (ft): 600
Perf Top (ft): 280
Perf Bottom (ft): 600
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S18E21G001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 267

Average Residual (feet): -11.05
Layer 1:
Layer 2: -11.05
Layer 3:
Layer 4:
Layer 5:
Layer 6:

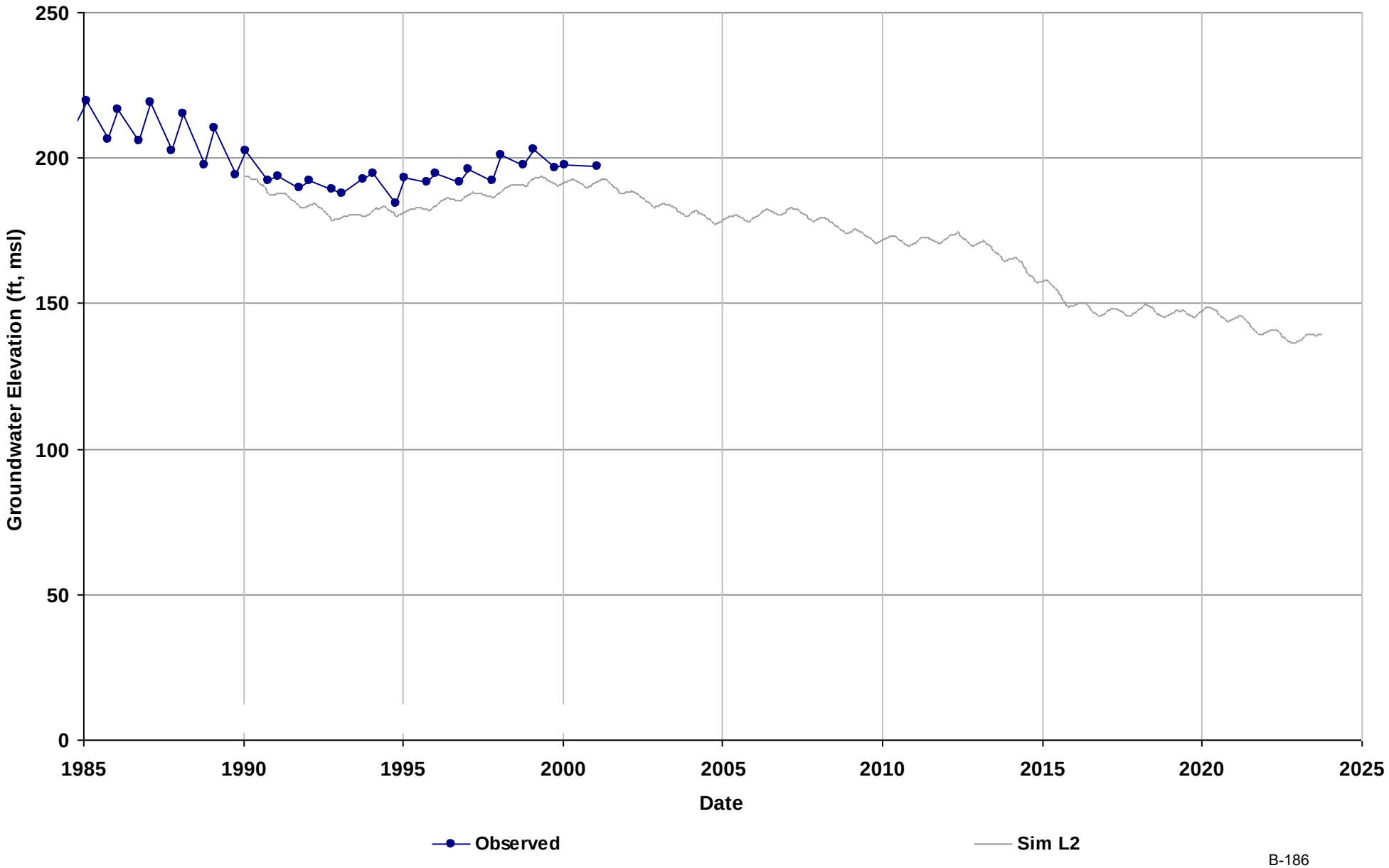
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S18E25L001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 284

Average Residual (feet): -7.81
Layer 1:
Layer 2: -7.81
Layer 3:
Layer 4:
Layer 5:
Layer 6:

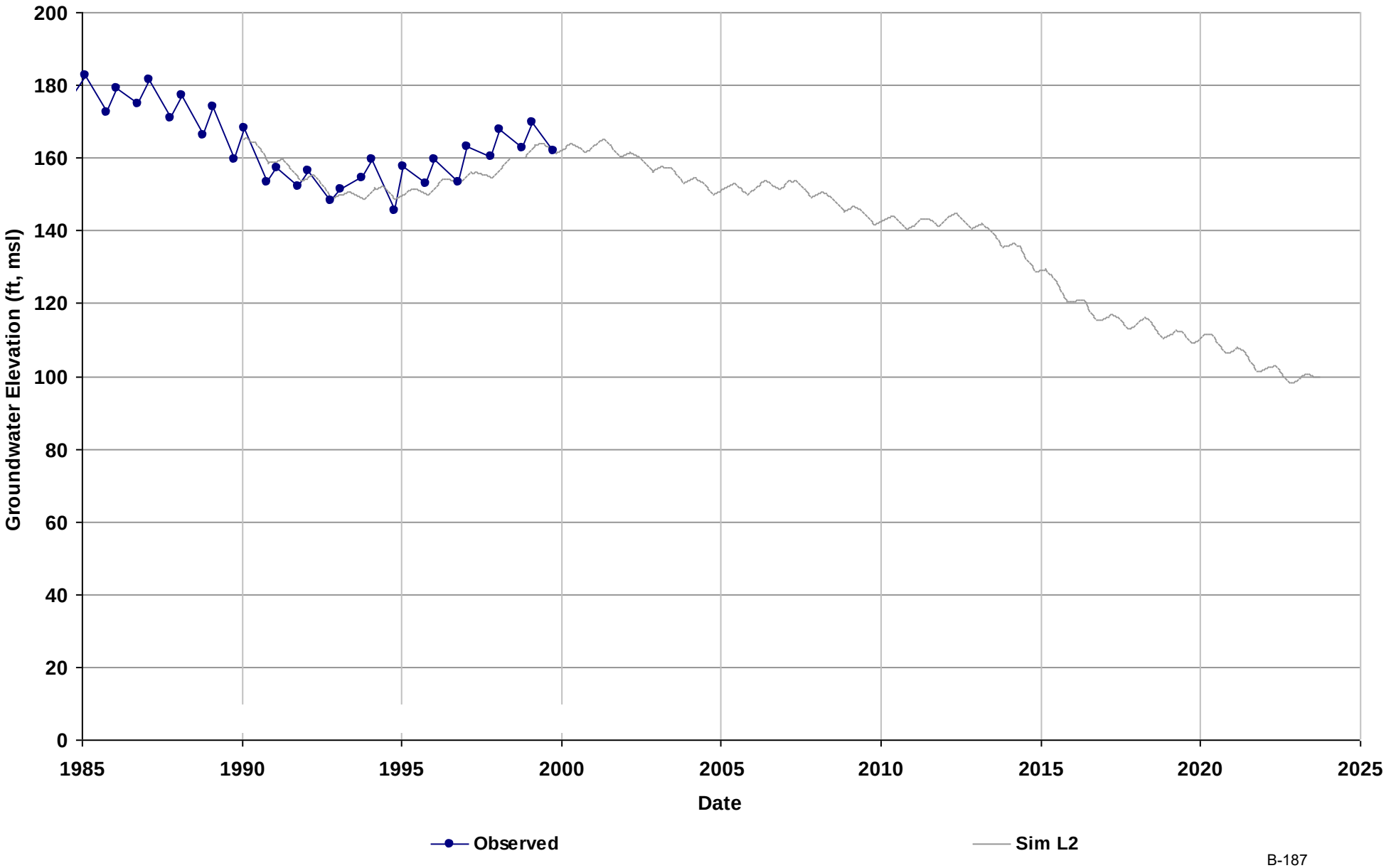
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S18E30D001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 247

Average Residual (feet): -2.42
Layer 1:
Layer 2: -2.42
Layer 3:
Layer 4:
Layer 5:
Layer 6:

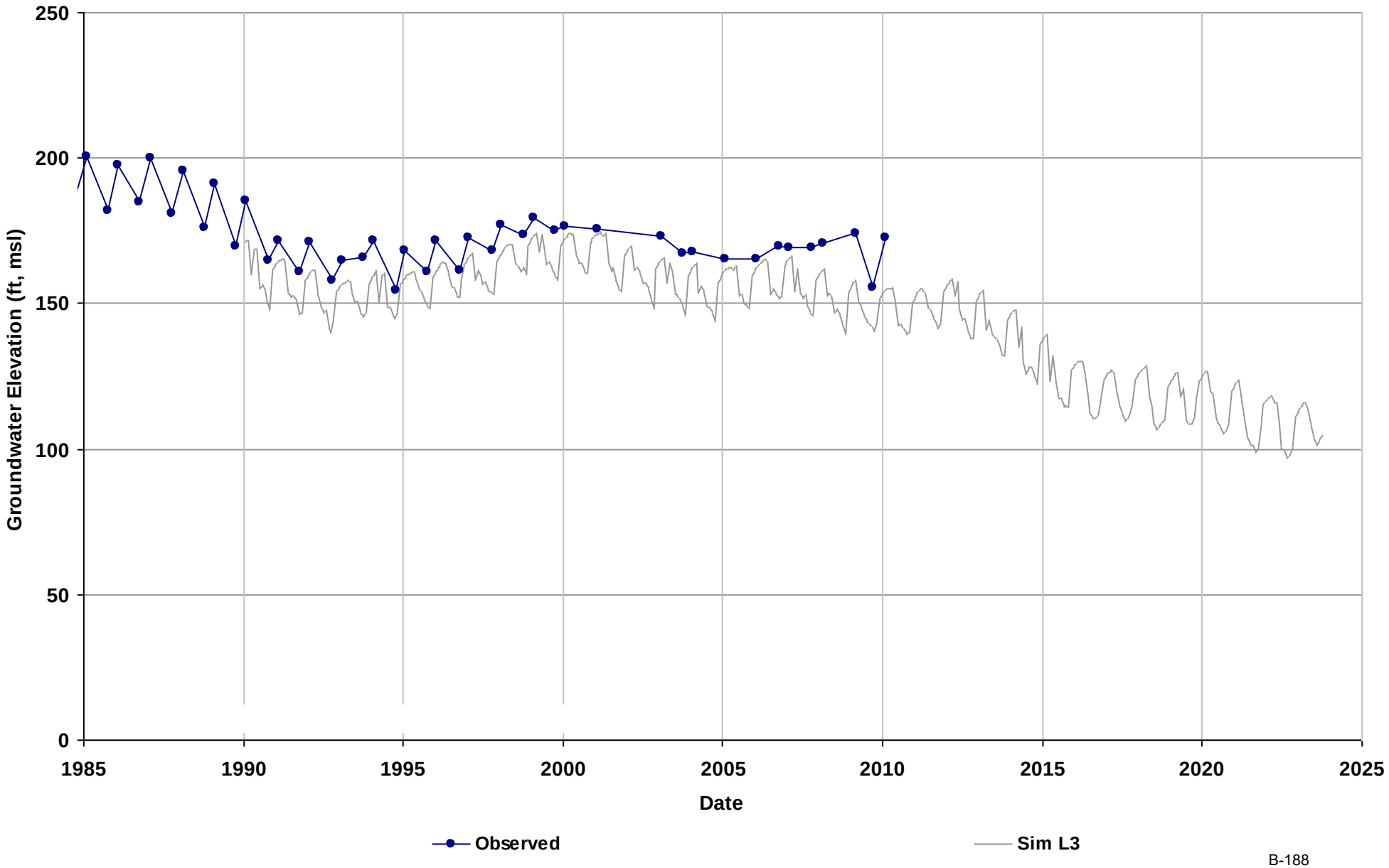
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S18E31J001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 256

Average Residual (feet): -11.33
Layer 1:
Layer 2:
Layer 3: -11.33
Layer 4:
Layer 5:
Layer 6:

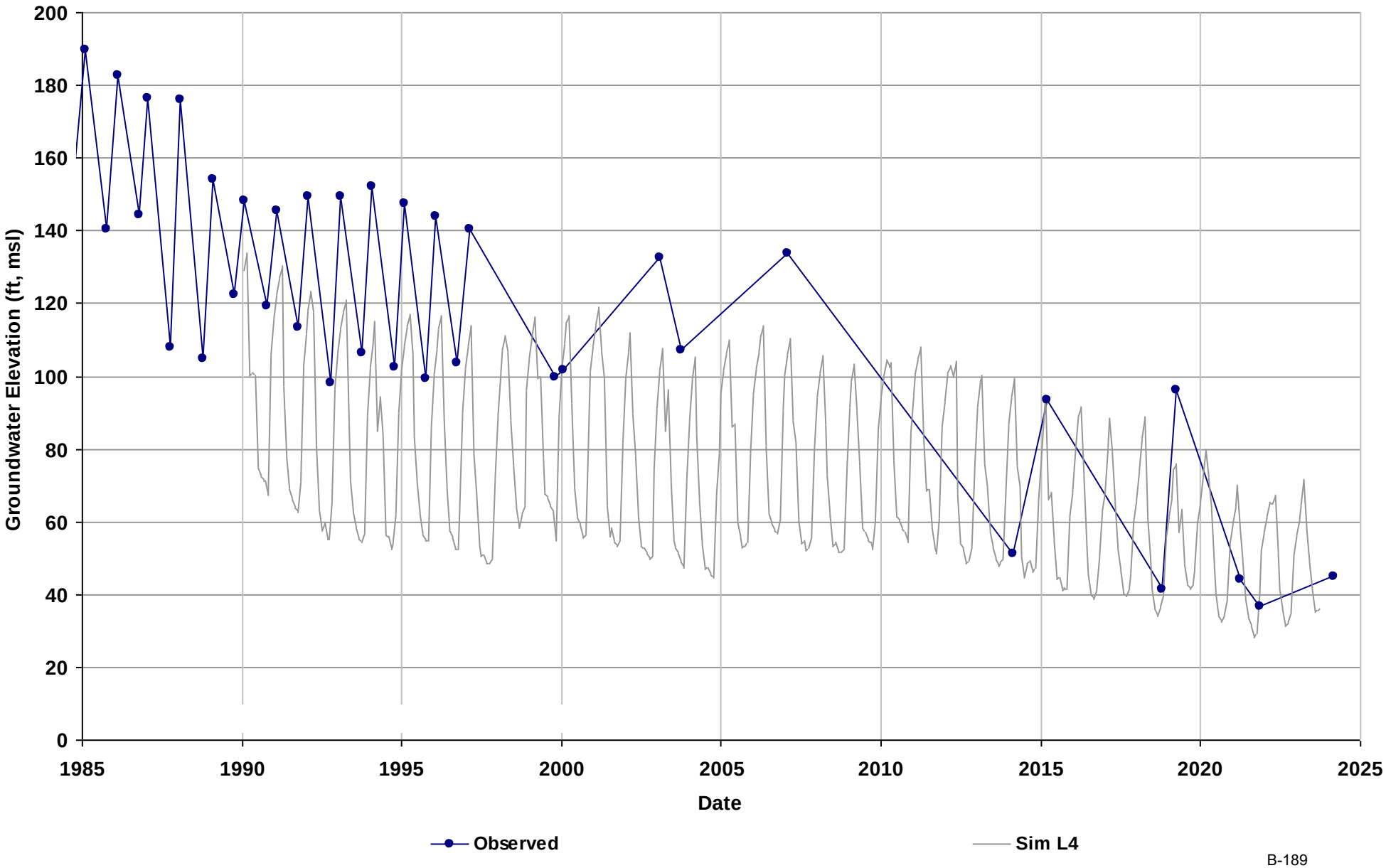
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S19E11B001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 340

Average Residual (feet): -27.65
Layer 1:
Layer 2:
Layer 3:
Layer 4: -27.65
Layer 5:
Layer 6:

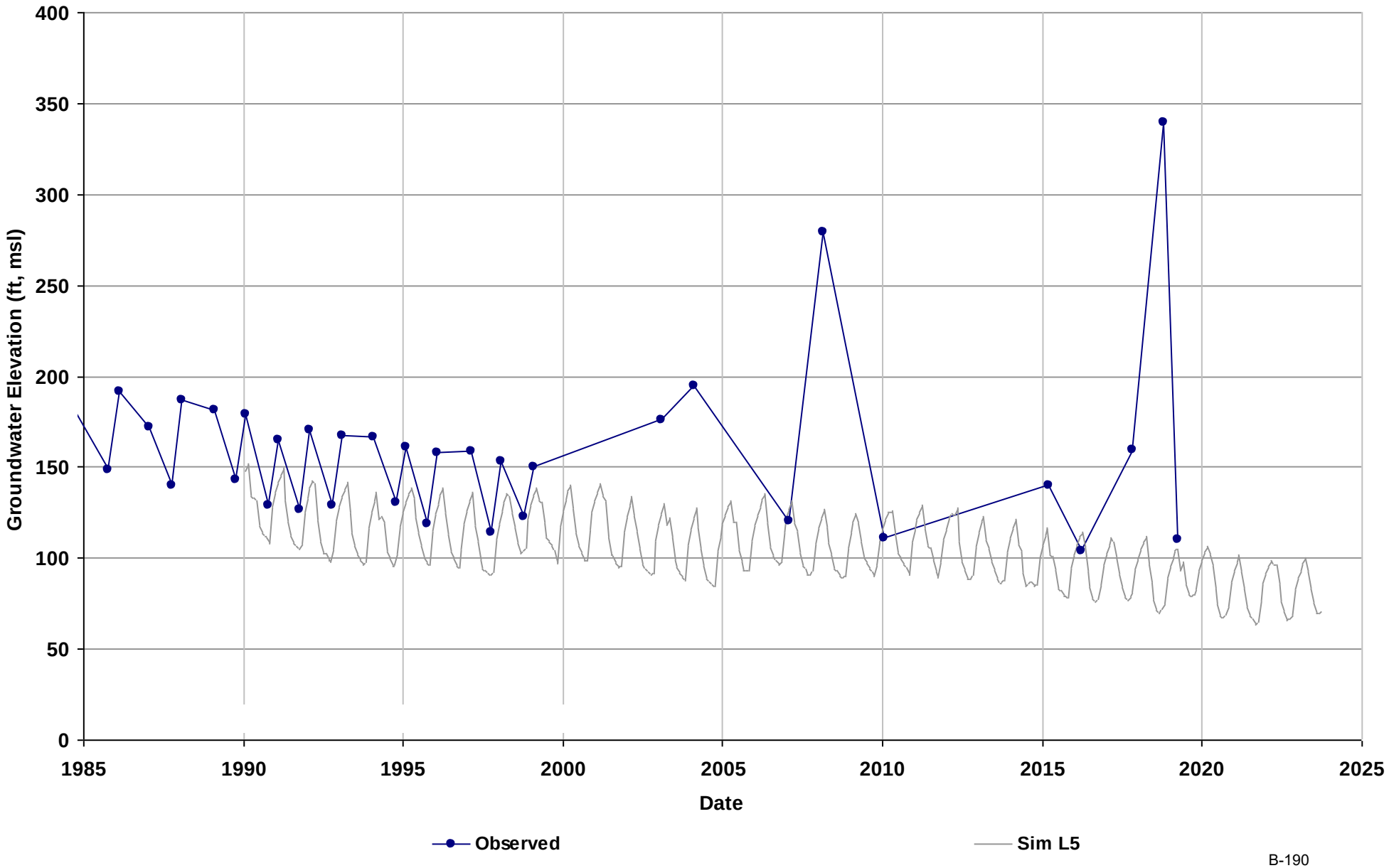
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S19E13E001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 339

Average Residual (feet): -39.77
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -39.77
Layer 6:

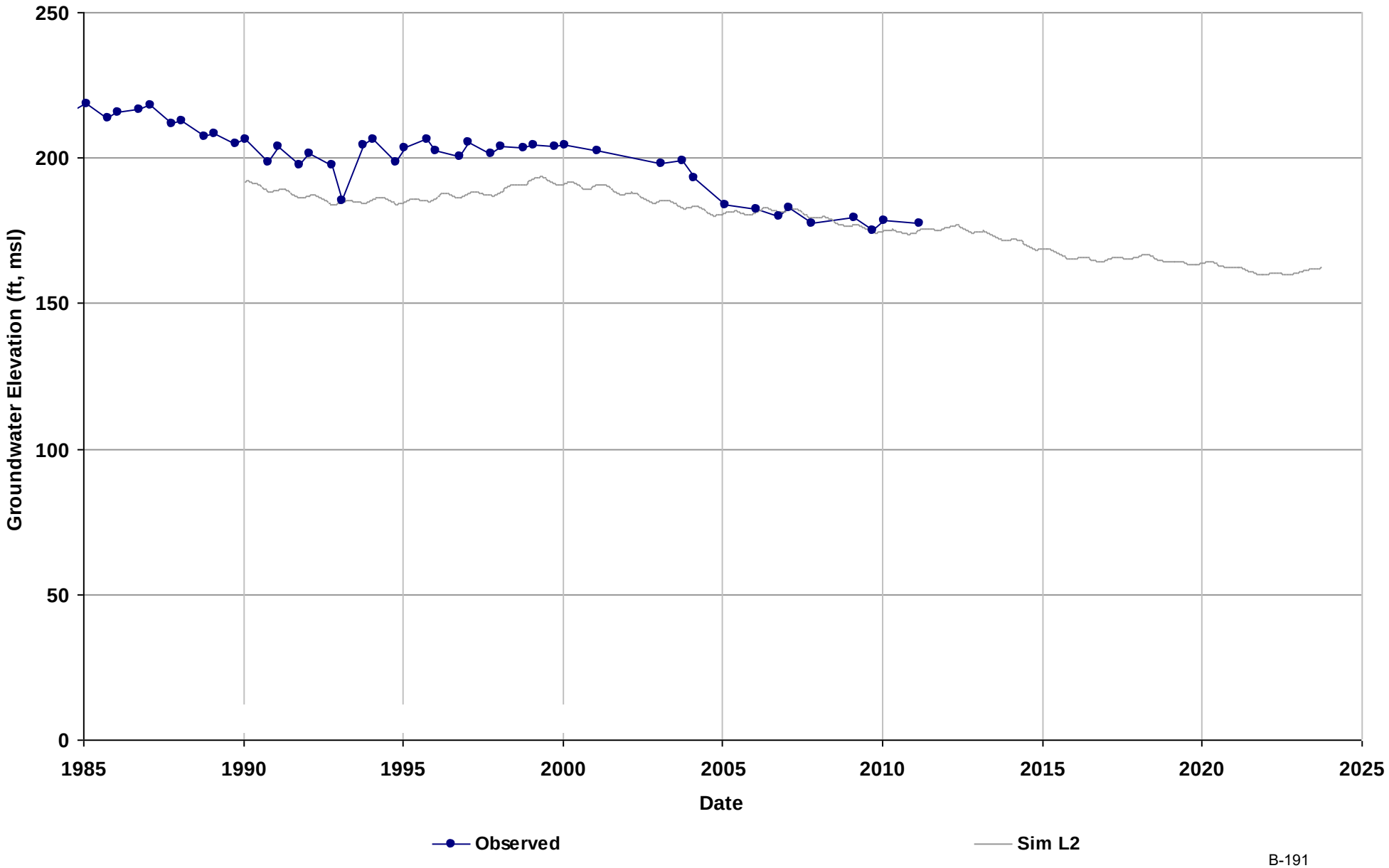
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 12S19E21B001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 302

Average Residual (feet): -10.95
Layer 1:
Layer 2: -10.95
Layer 3:
Layer 4:
Layer 5:
Layer 6:

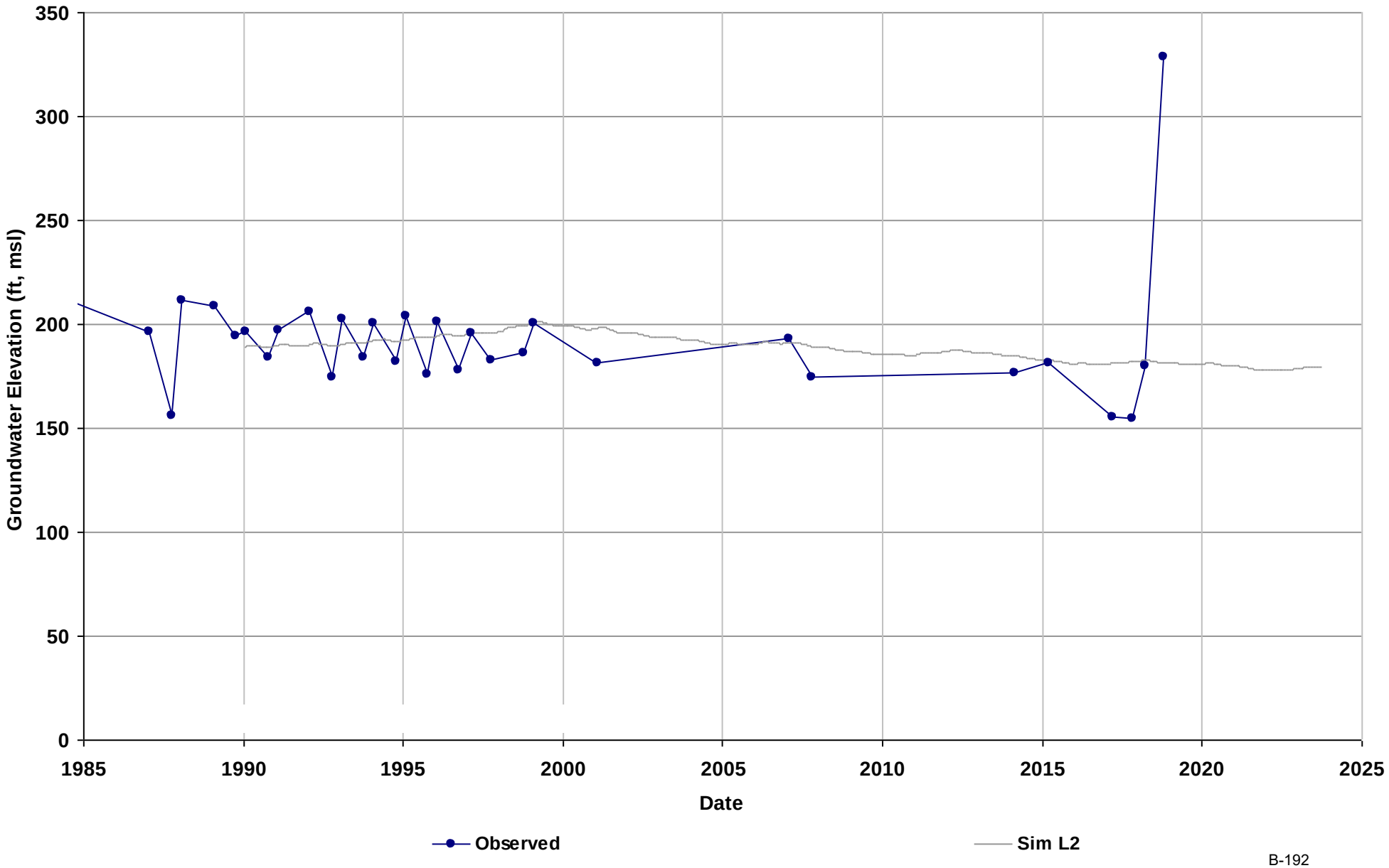
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S19E23K001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 329

Average Residual (feet): -1.94
Layer 1:
Layer 2: -1.94
Layer 3:
Layer 4:
Layer 5:
Layer 6:

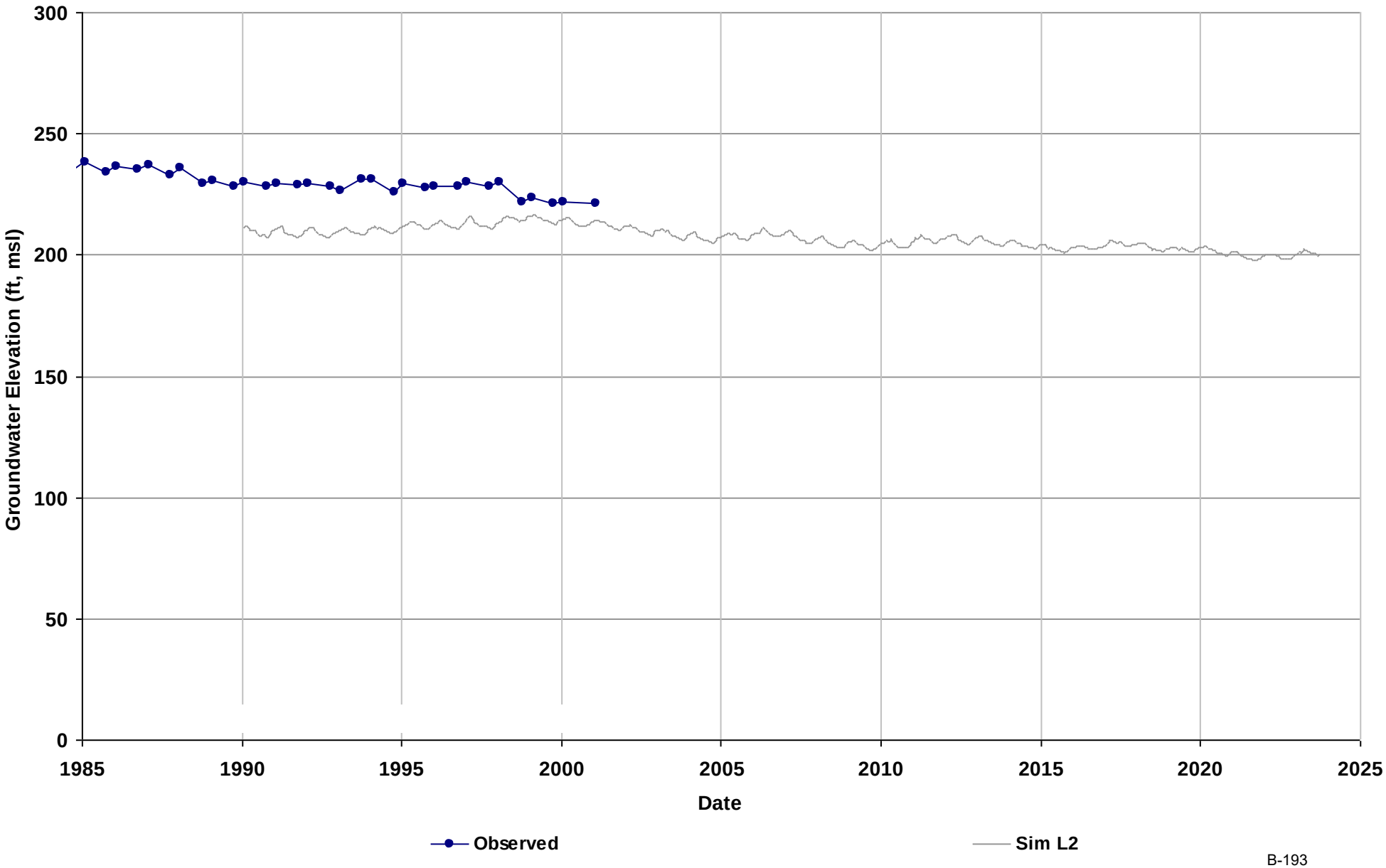
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S19E25E001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 261

Average Residual (feet): -16.52
Layer 1:
Layer 2: -16.52
Layer 3:
Layer 4:
Layer 5:
Layer 6:

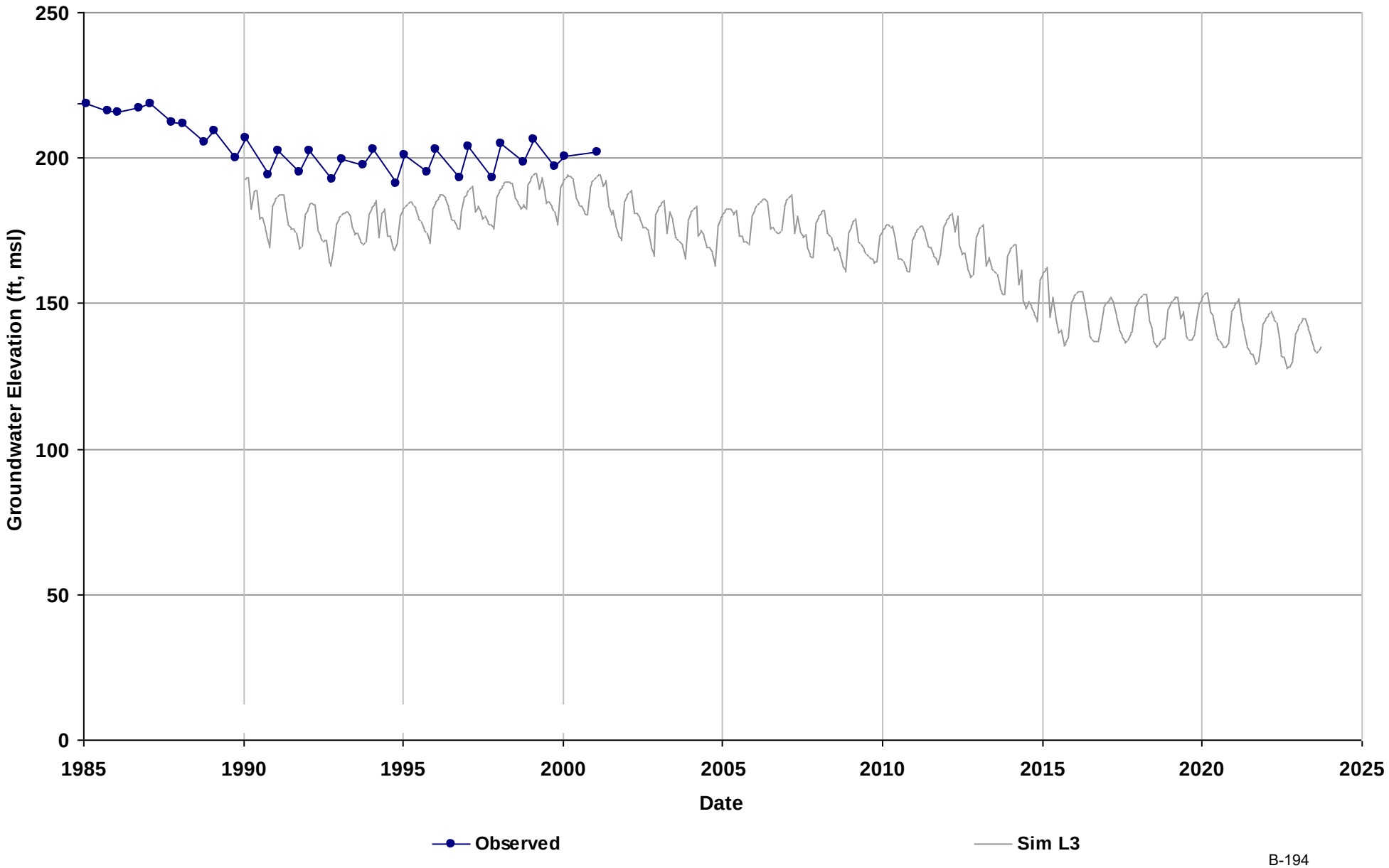
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S19E31M003M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 288

Average Residual (feet): -17.91
Layer 1:
Layer 2:
Layer 3: -17.91
Layer 4:
Layer 5:
Layer 6:

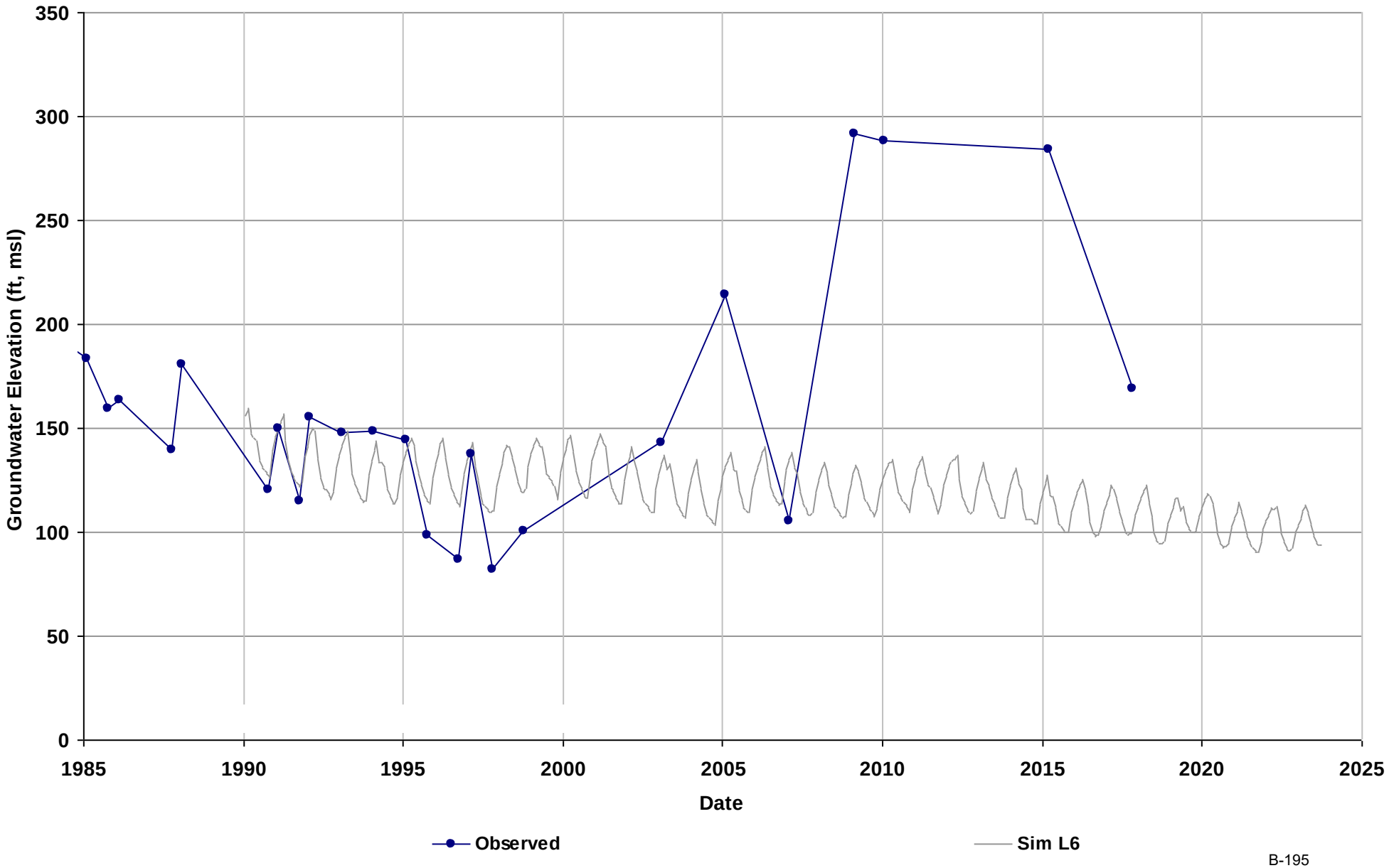
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S20E05P001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 368

Average Residual (feet): -28.75
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: -28.75

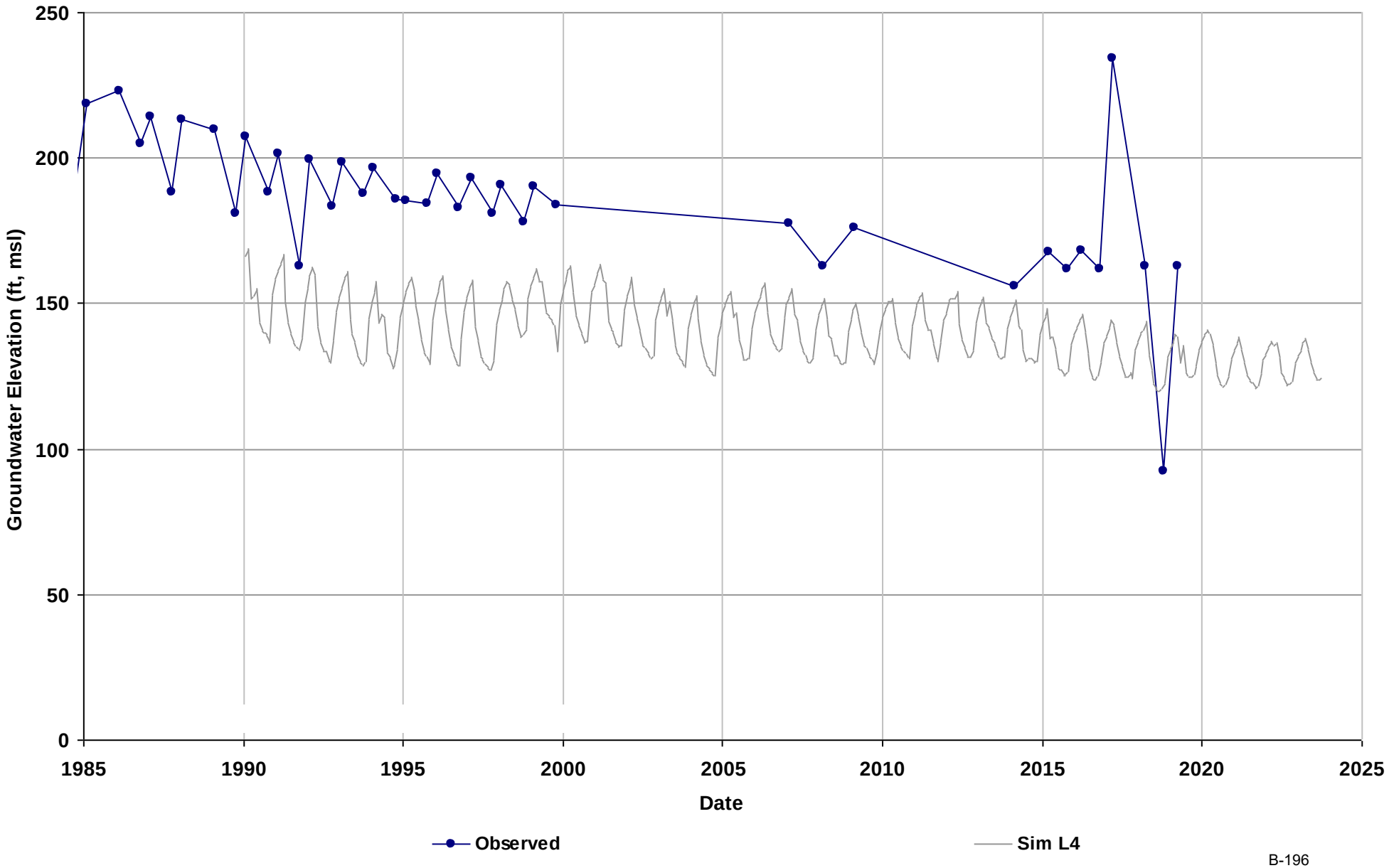
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S20E17A001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 367

Average Residual (feet): -36.94
Layer 1:
Layer 2:
Layer 3:
Layer 4: -36.94
Layer 5:
Layer 6:

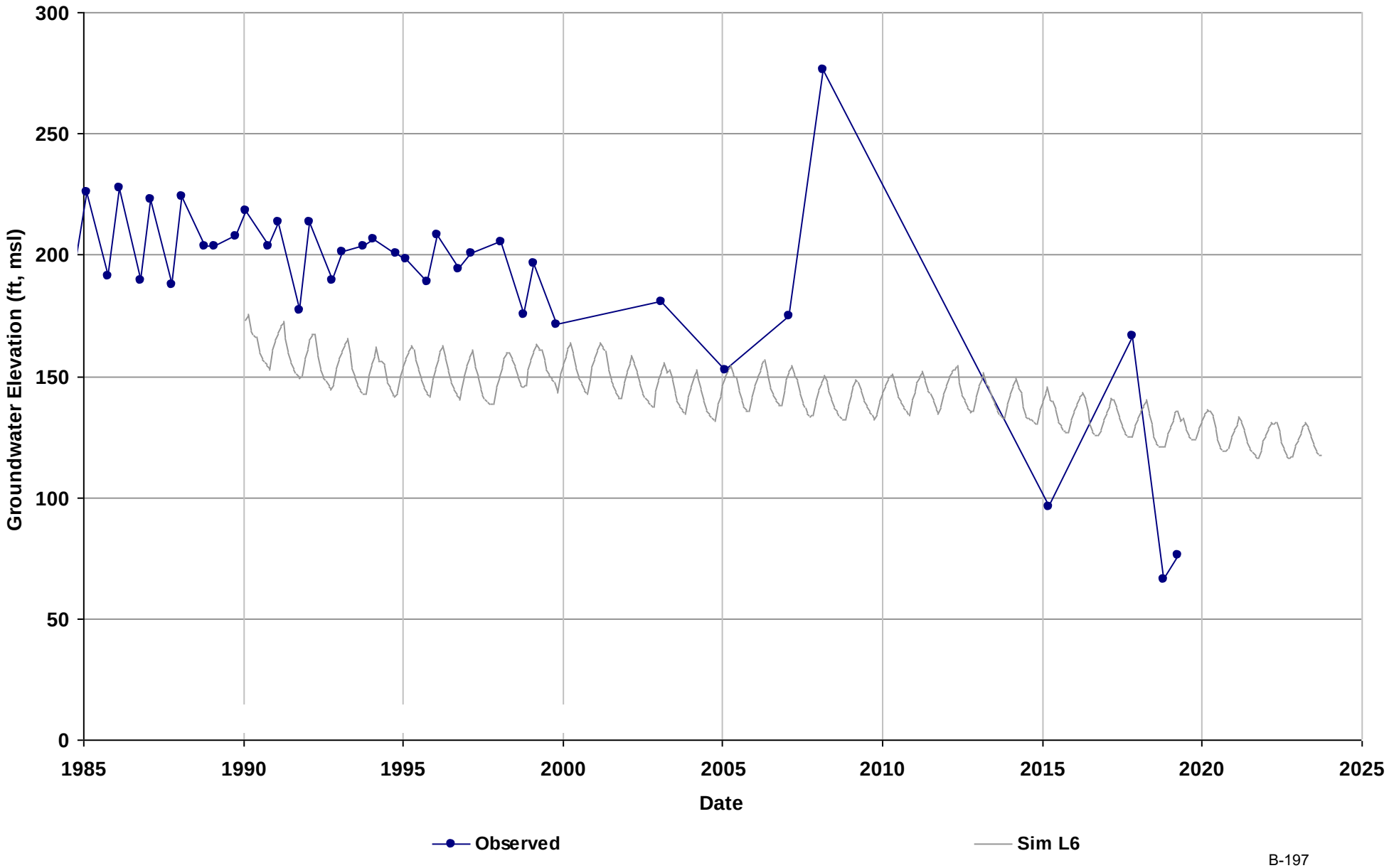
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S20E17H002M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 365

Average Residual (feet): -36.94
Layer 1:
Layer 2:
Layer 3:
Layer 4: -39.12
Layer 5: -37.09
Layer 6: -34.6

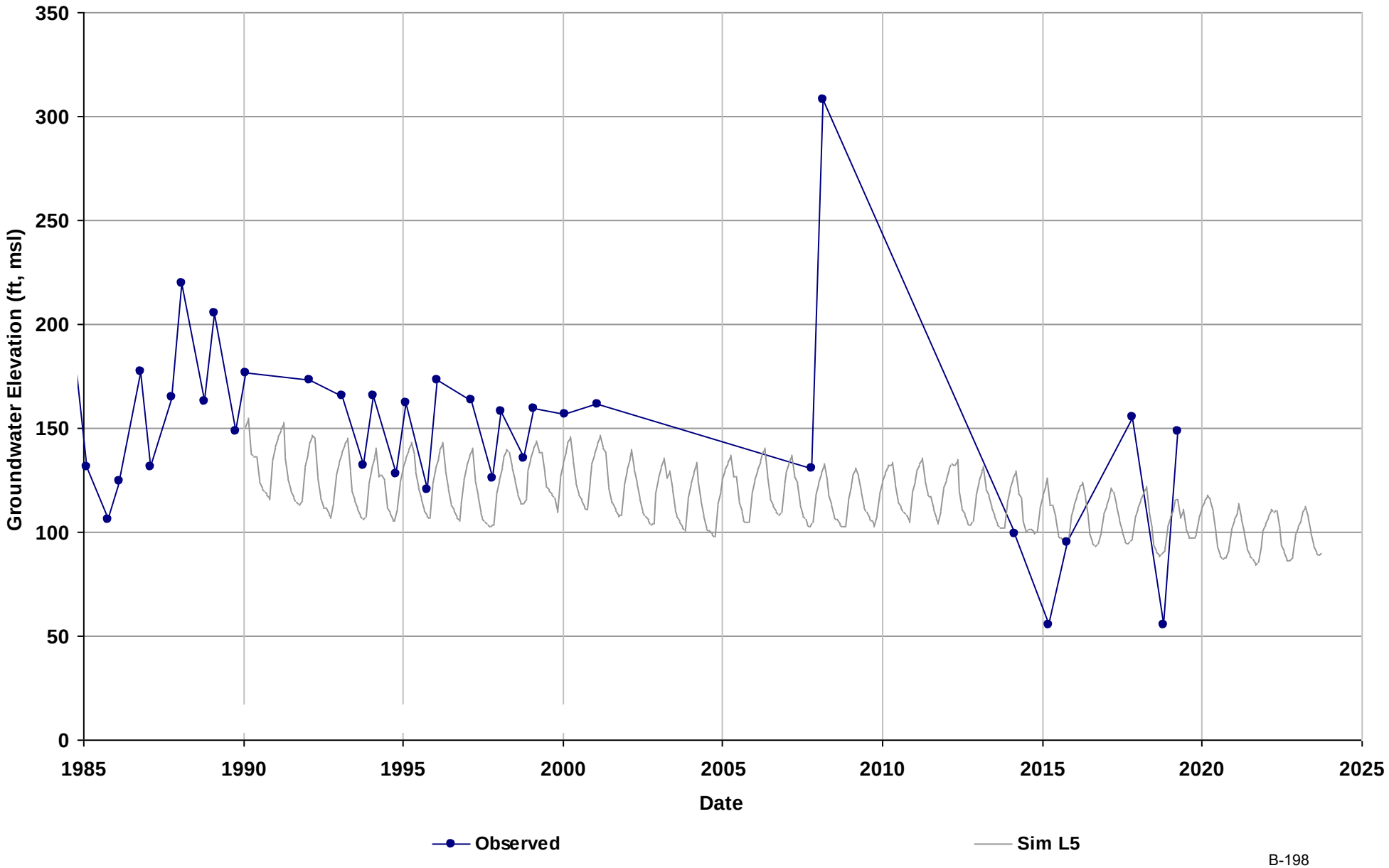
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S20E18B001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 354

Average Residual (feet): -28.72
Layer 1:
Layer 2:
Layer 3:
Layer 4: -32.19
Layer 5: -25.25
Layer 6:

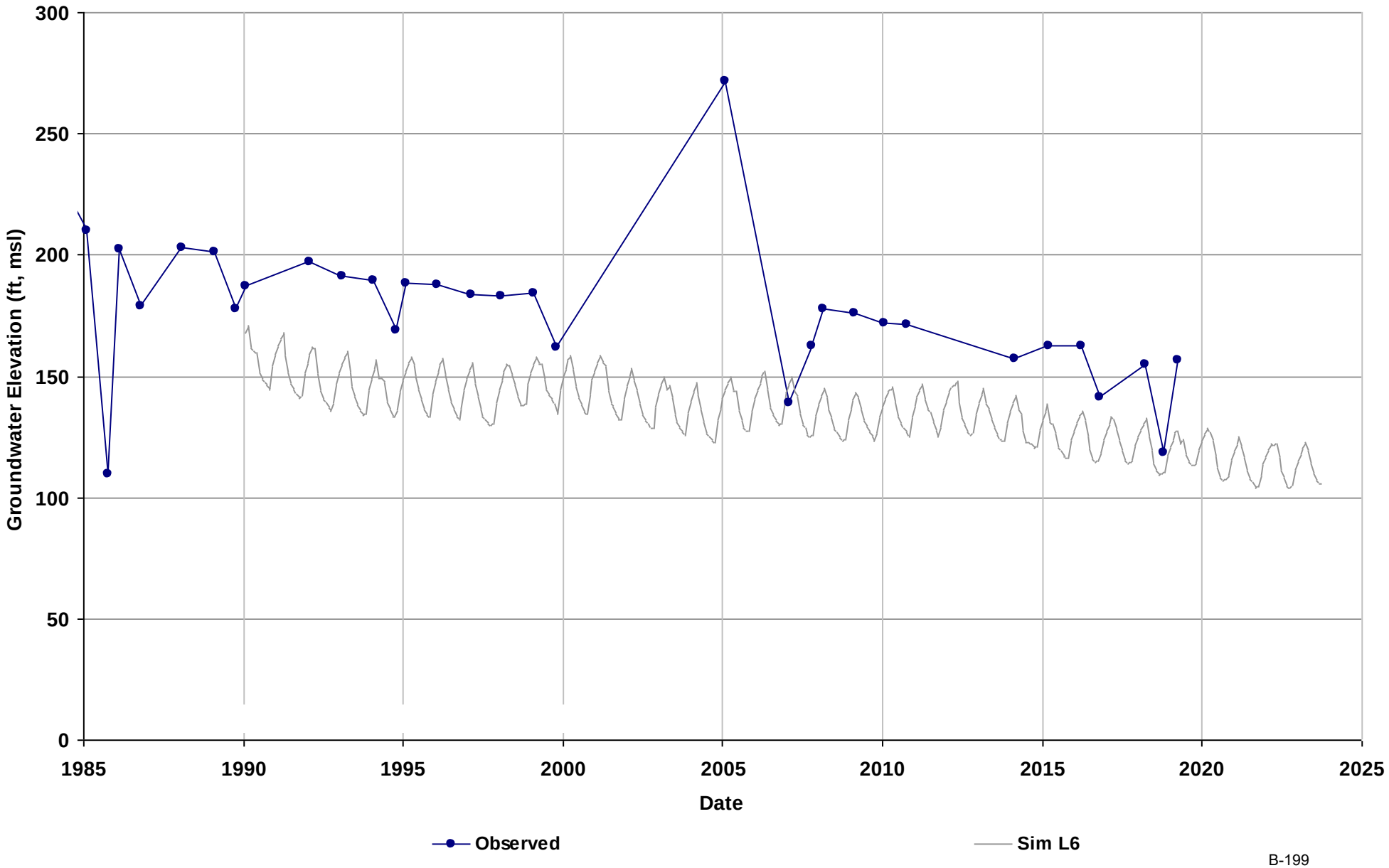
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 12S20E18N001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 347

Average Residual (feet): -36.26
Layer 1:
Layer 2:
Layer 3:
Layer 4: -39.06
Layer 5: -37.01
Layer 6: -32.7

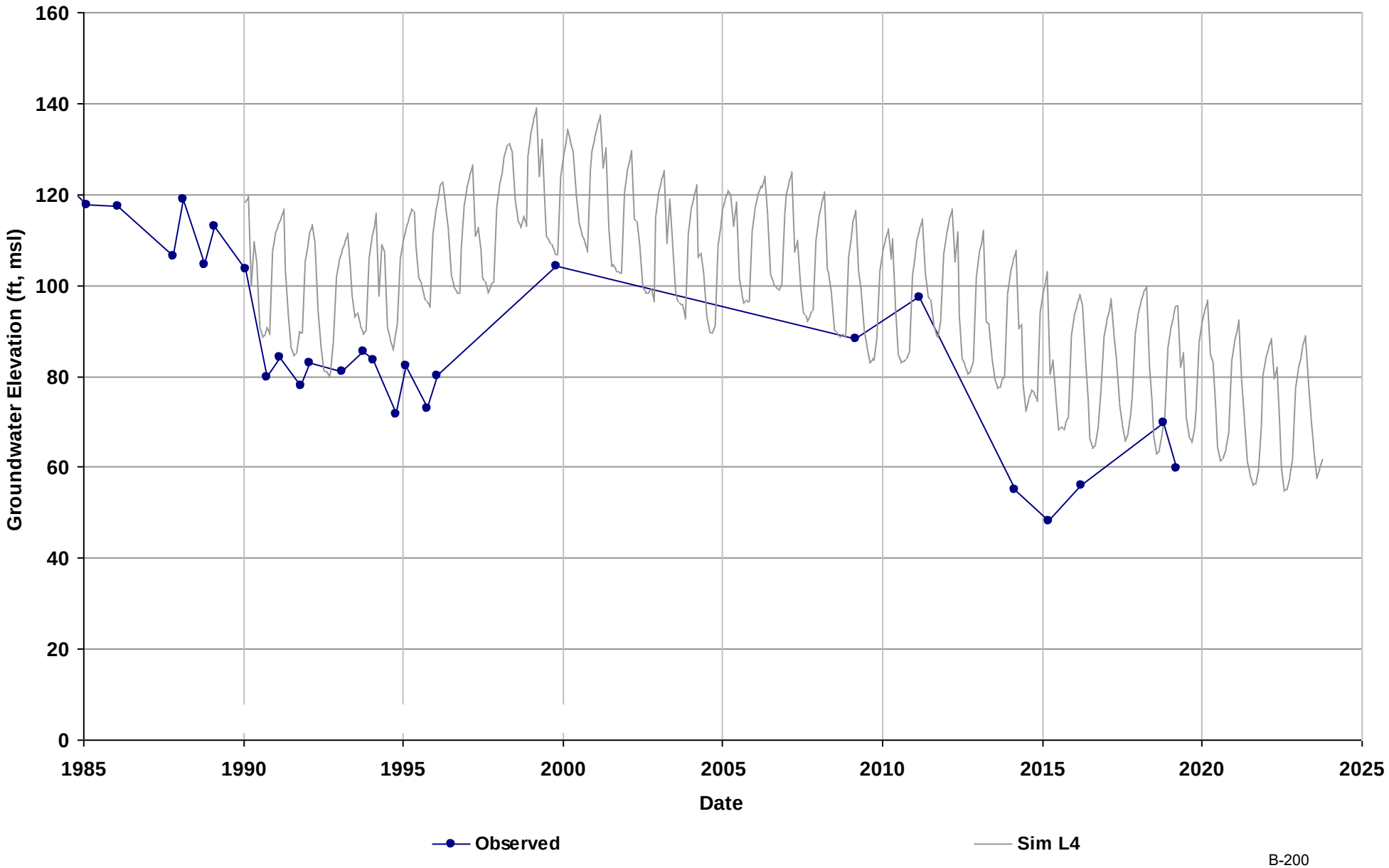
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S16E03L001M
Depth Zone: Unknown
Subbasin: Madera
GSE (ft, msl): 190

Average Residual (feet): 22.74
Layer 1:
Layer 2:
Layer 3:
Layer 4: 22.26
Layer 5: 22.31
Layer 6: 23.65

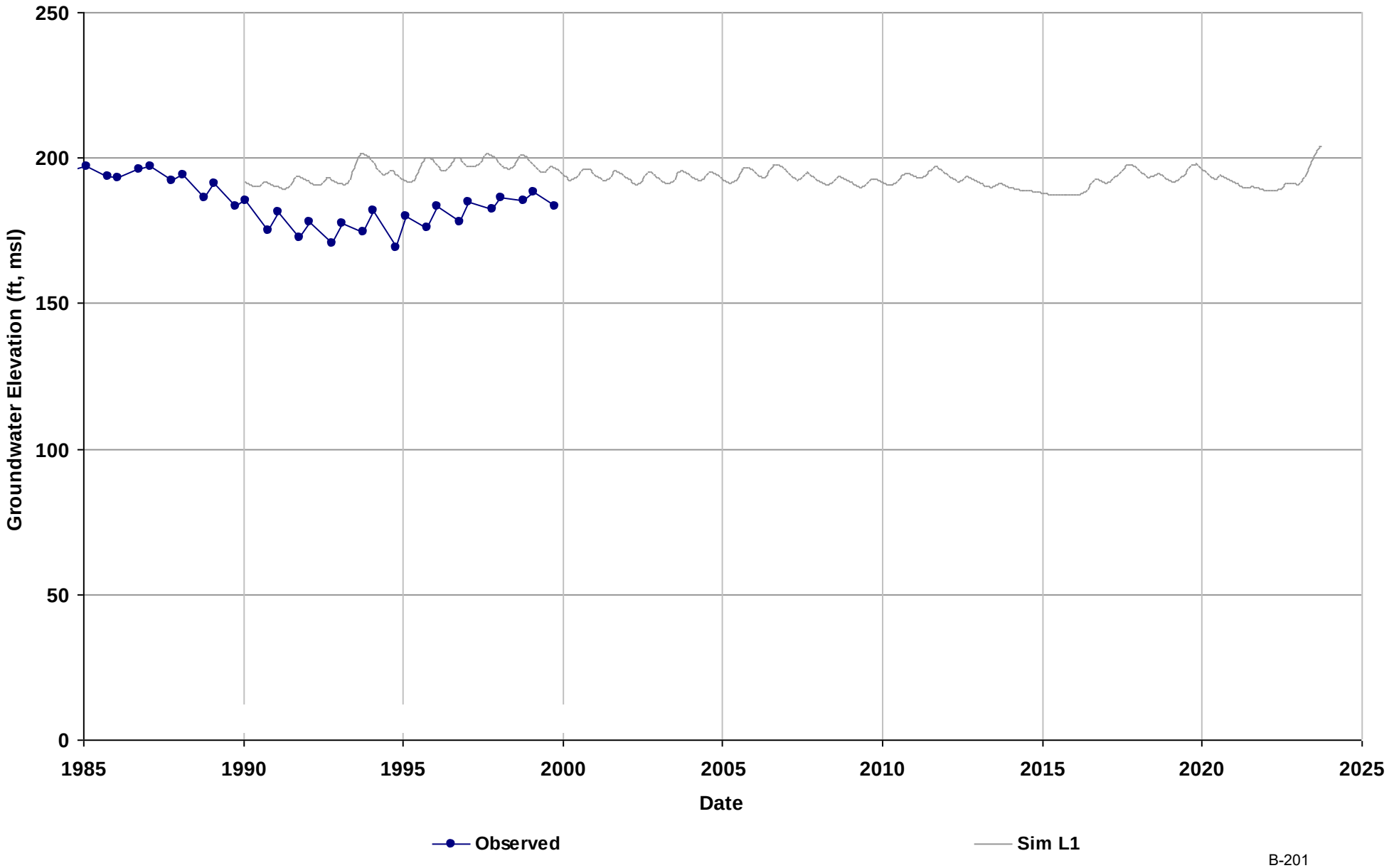
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 13S17E02M001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 236

Average Residual (feet): -3.51
Layer 1: 15.06
Layer 2: -22.08
Layer 3:
Layer 4:
Layer 5:
Layer 6:

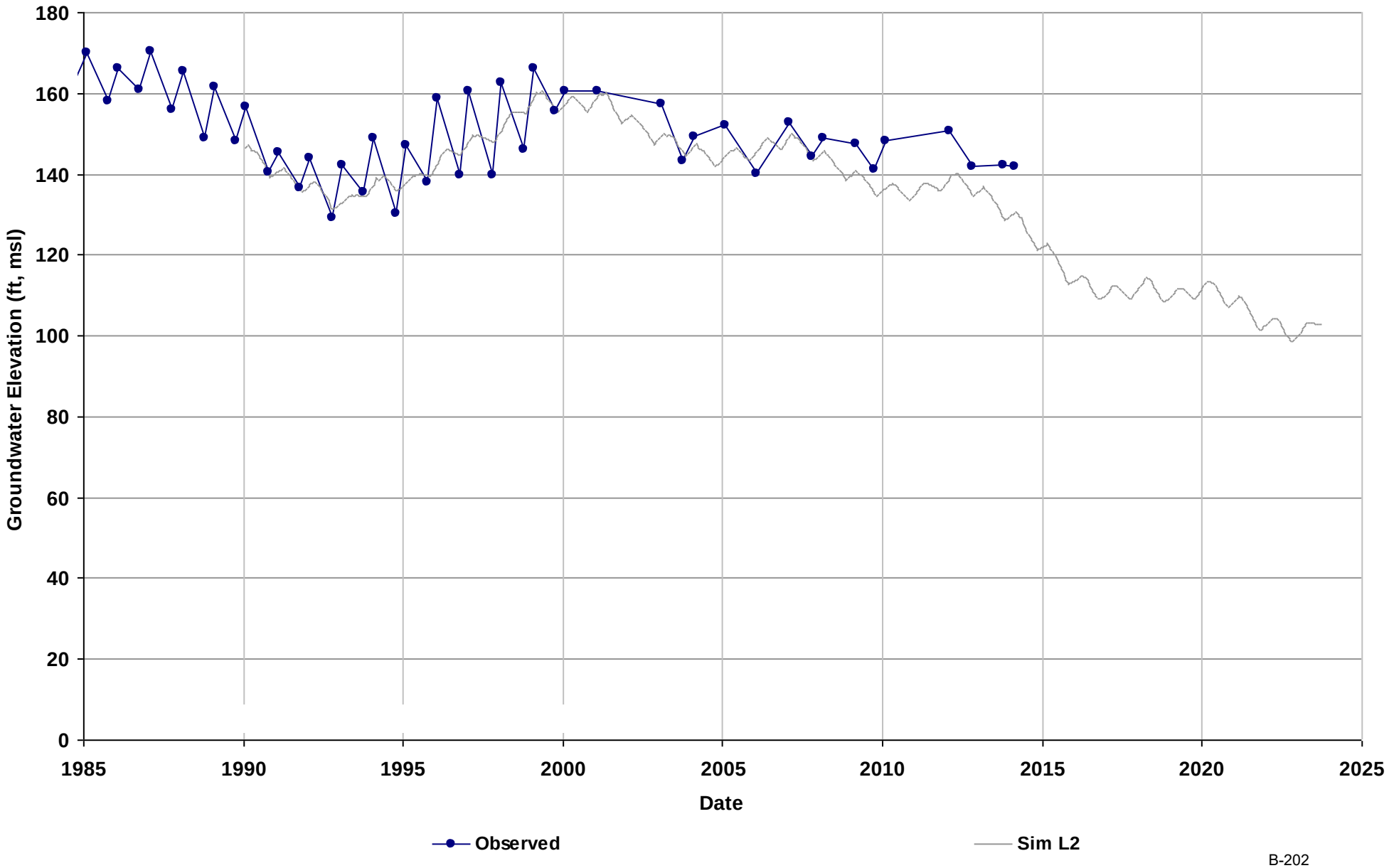
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 13S17E05P002M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 214

Average Residual (feet): -4.42
Layer 1:
Layer 2: -4.42
Layer 3:
Layer 4:
Layer 5:
Layer 6:

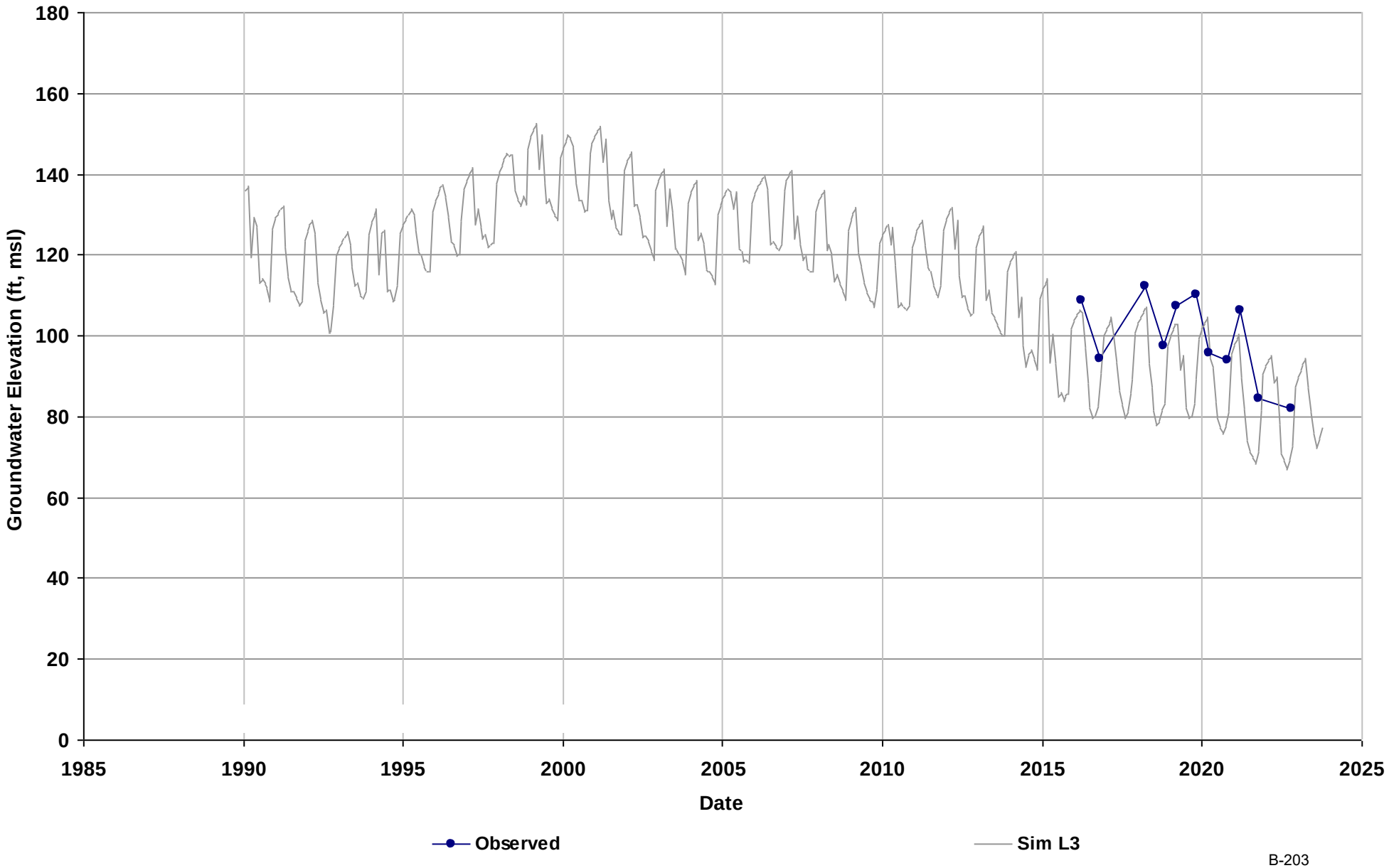
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 13S17E06H001M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 212

Average Residual (feet): -9.67
Layer 1:
Layer 2:
Layer 3: -9.67
Layer 4:
Layer 5:
Layer 6:

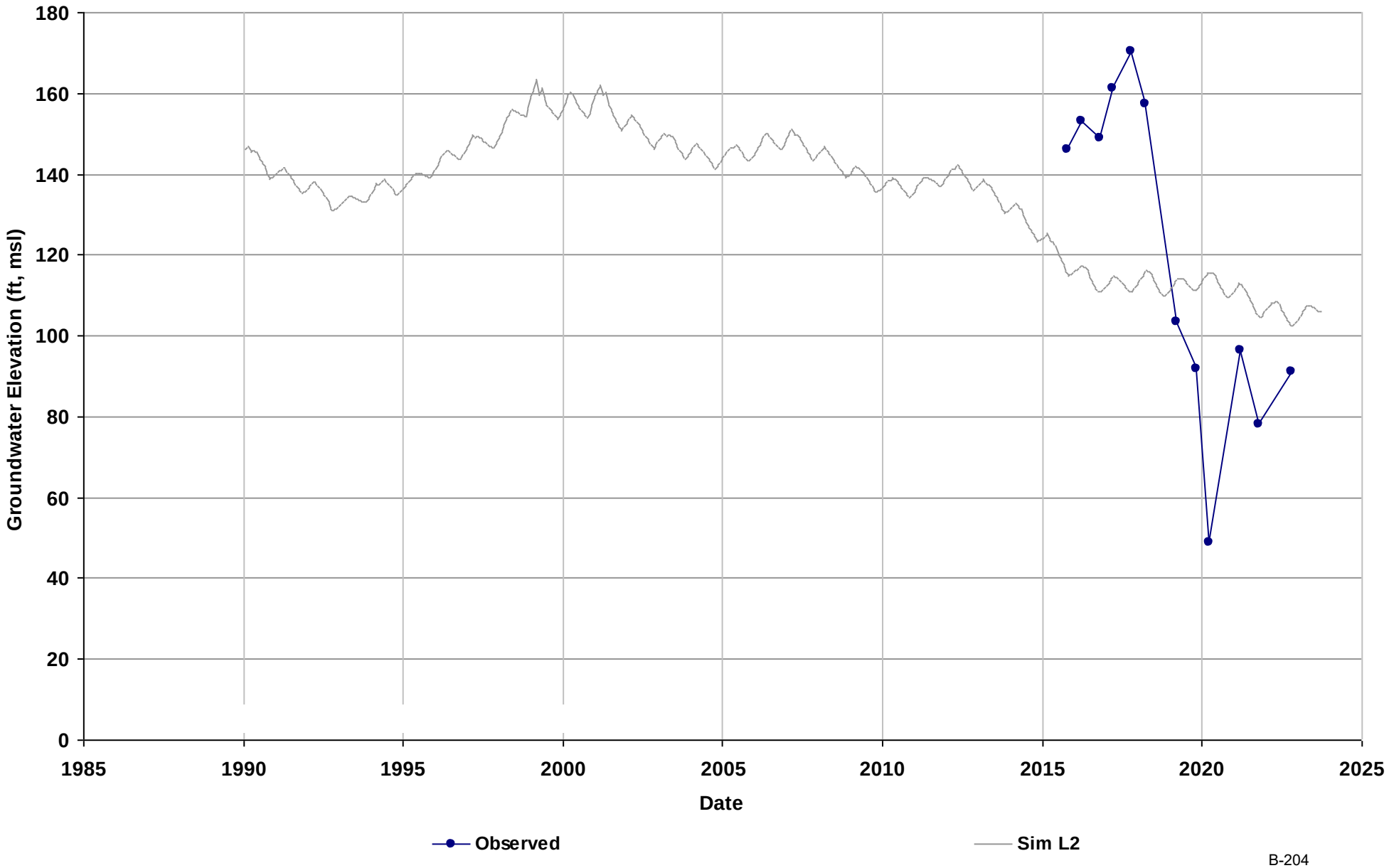
Total Depth (ft): 260
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 13S17E08P001M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 209

Average Residual (feet): -16.12
Layer 1:
Layer 2: -8.56
Layer 3: -23.68
Layer 4:
Layer 5:
Layer 6:

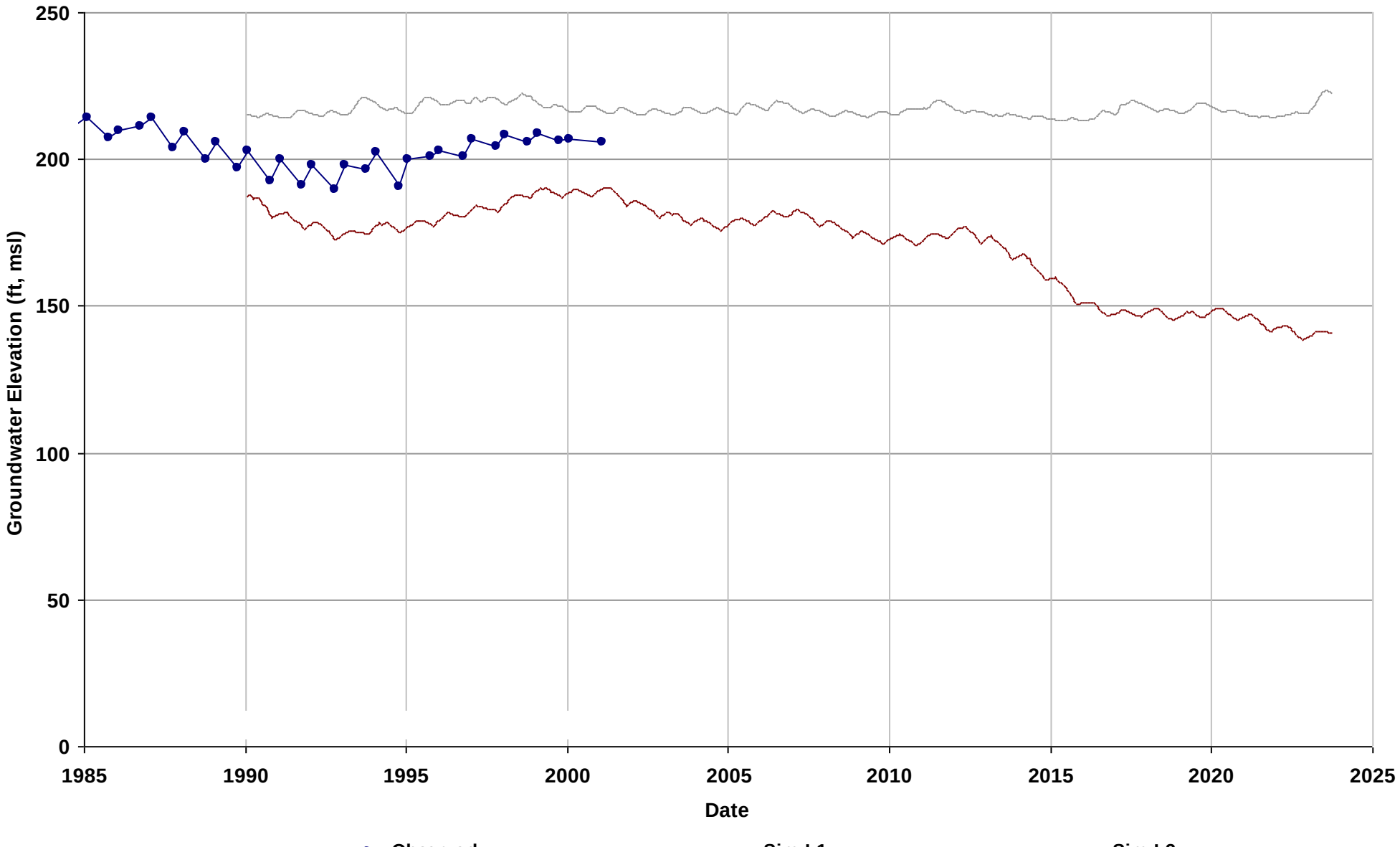
Total Depth (ft): 320
Perf Top (ft): 160
Perf Bottom (ft): 320
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 13S18E03C002M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 267

Average Residual (feet): -0.95
Layer 1: 16.81
Layer 2: -18.7
Layer 3:
Layer 4:
Layer 5:
Layer 6:

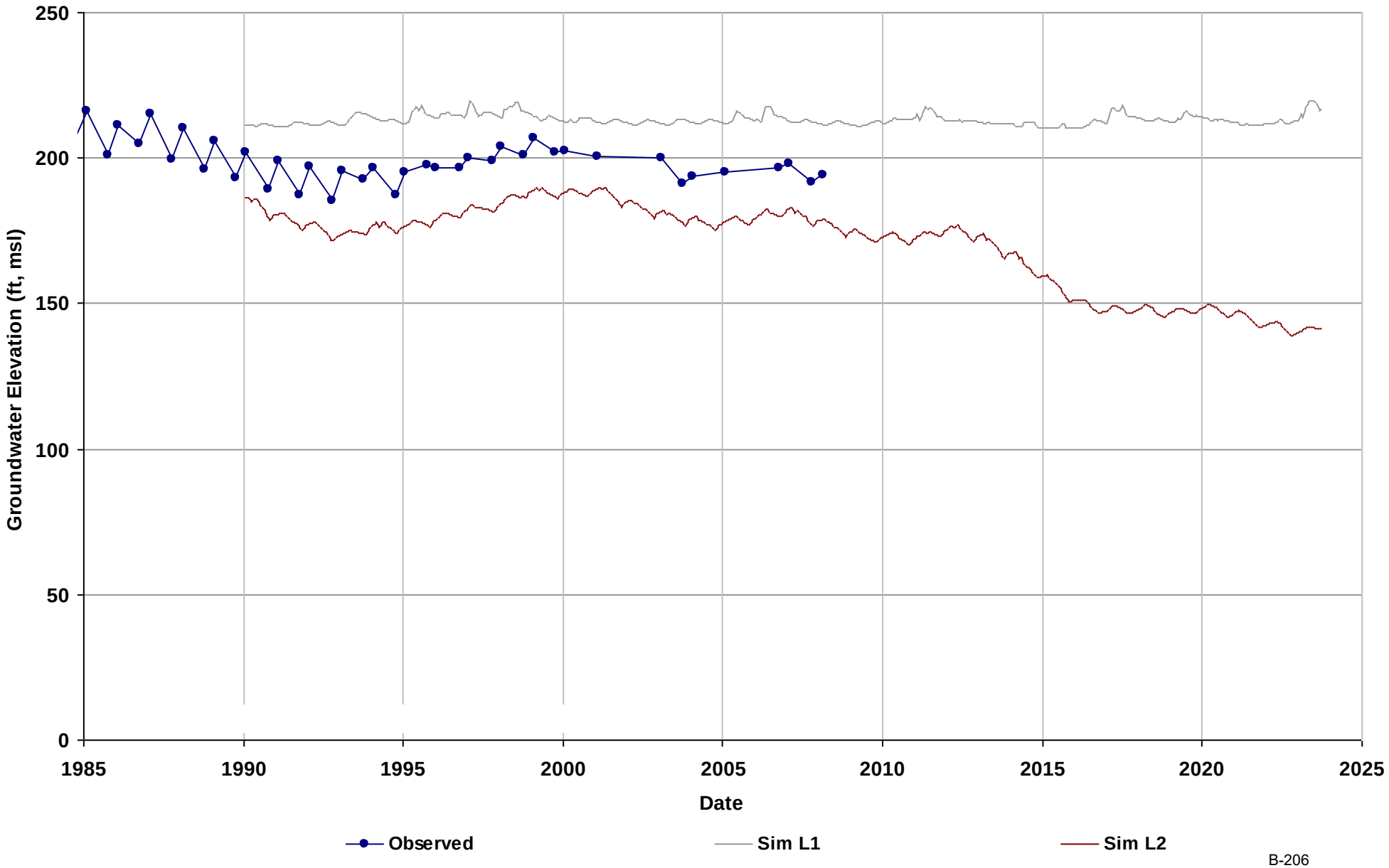
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 2



Well Name: 13S18E04A001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 263

Average Residual (feet): 0.35
Layer 1: 16.42
Layer 2: -15.72
Layer 3:
Layer 4:
Layer 5:
Layer 6:

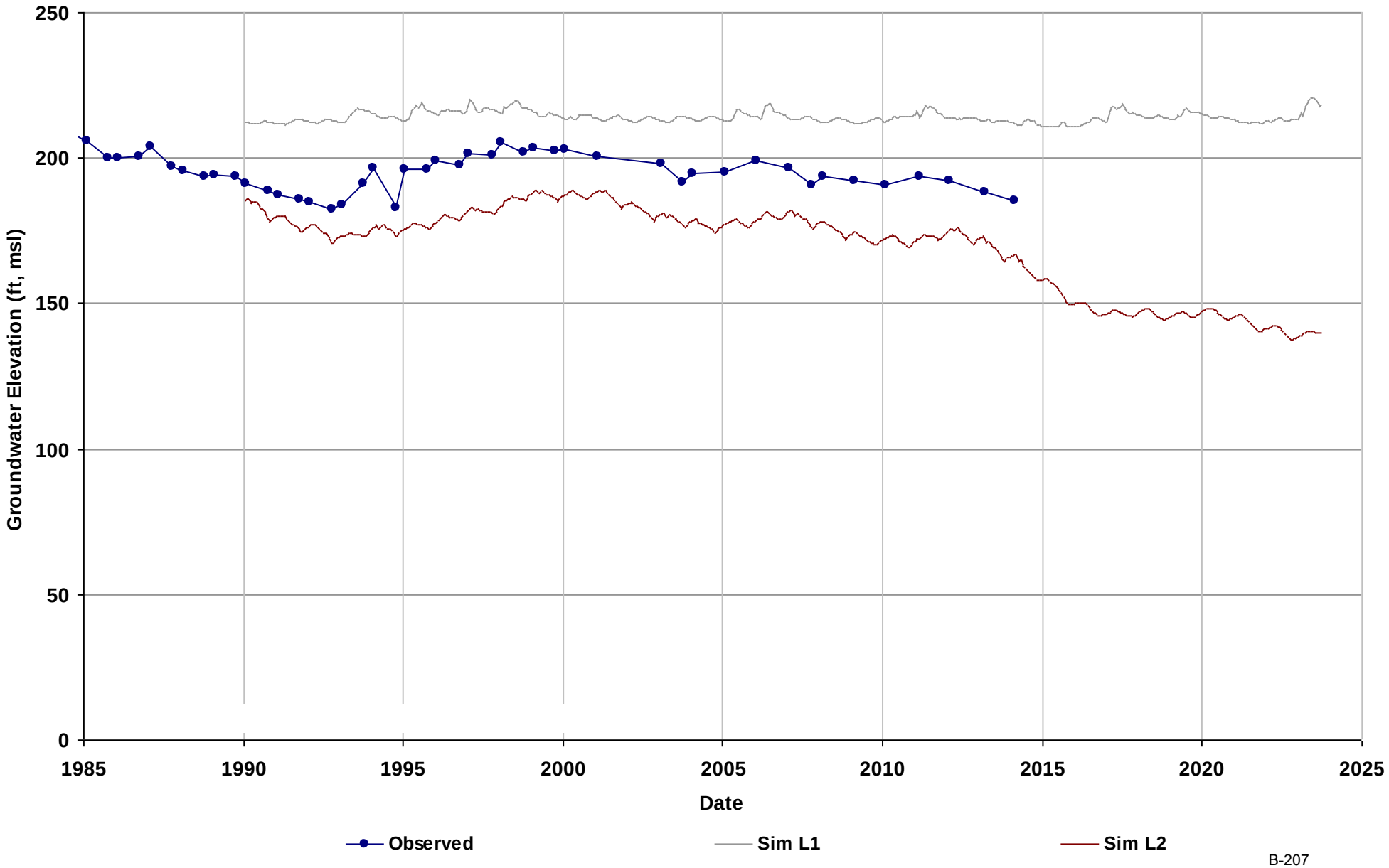
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 2



Well Name: 13S18E04B001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 264

Average Residual (feet): 2.38
Layer 1: 19.92
Layer 2: -15.15
Layer 3:
Layer 4:
Layer 5:
Layer 6:

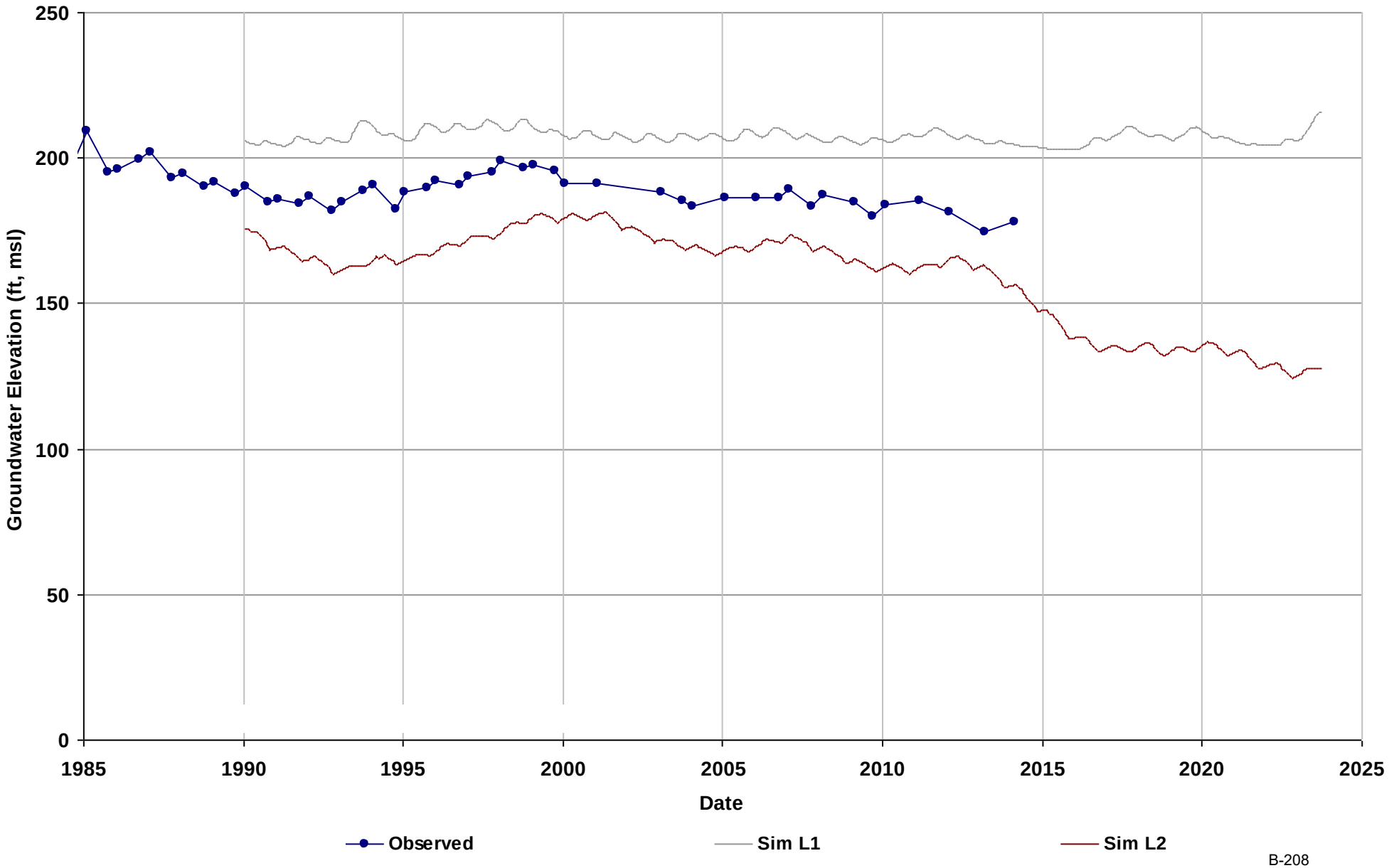
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 2



Well Name: 13S18E06K001M
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 252

Average Residual (feet): 0.97
Layer 1: 20.31
Layer 2: -18.36
Layer 3:
Layer 4:
Layer 5:
Layer 6:

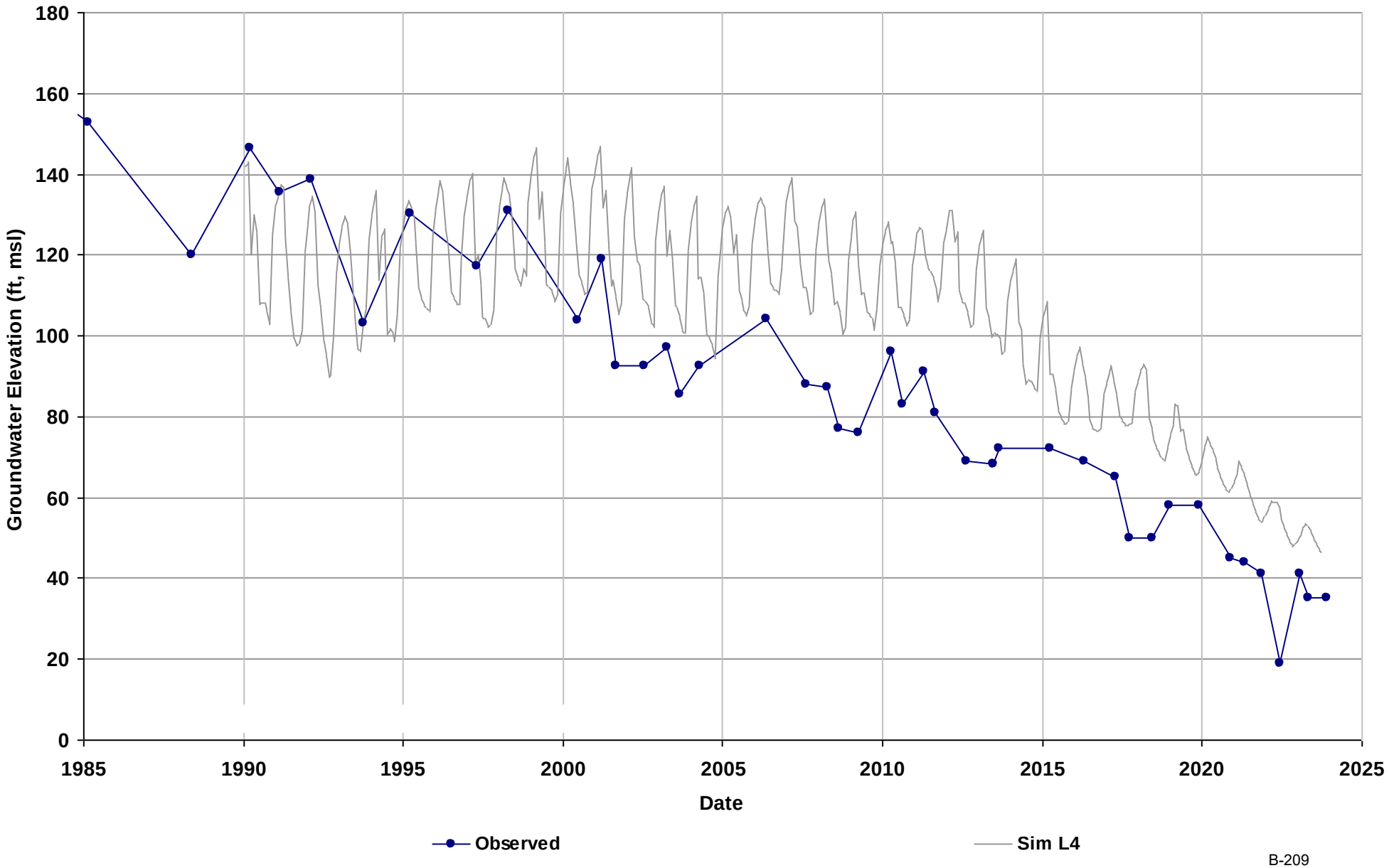
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 2



Well Name: City_of_Madera_15
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 258

Average Residual (feet): 19.52
Layer 1:
Layer 2:
Layer 3:
Layer 4: 19.52
Layer 5:
Layer 6:

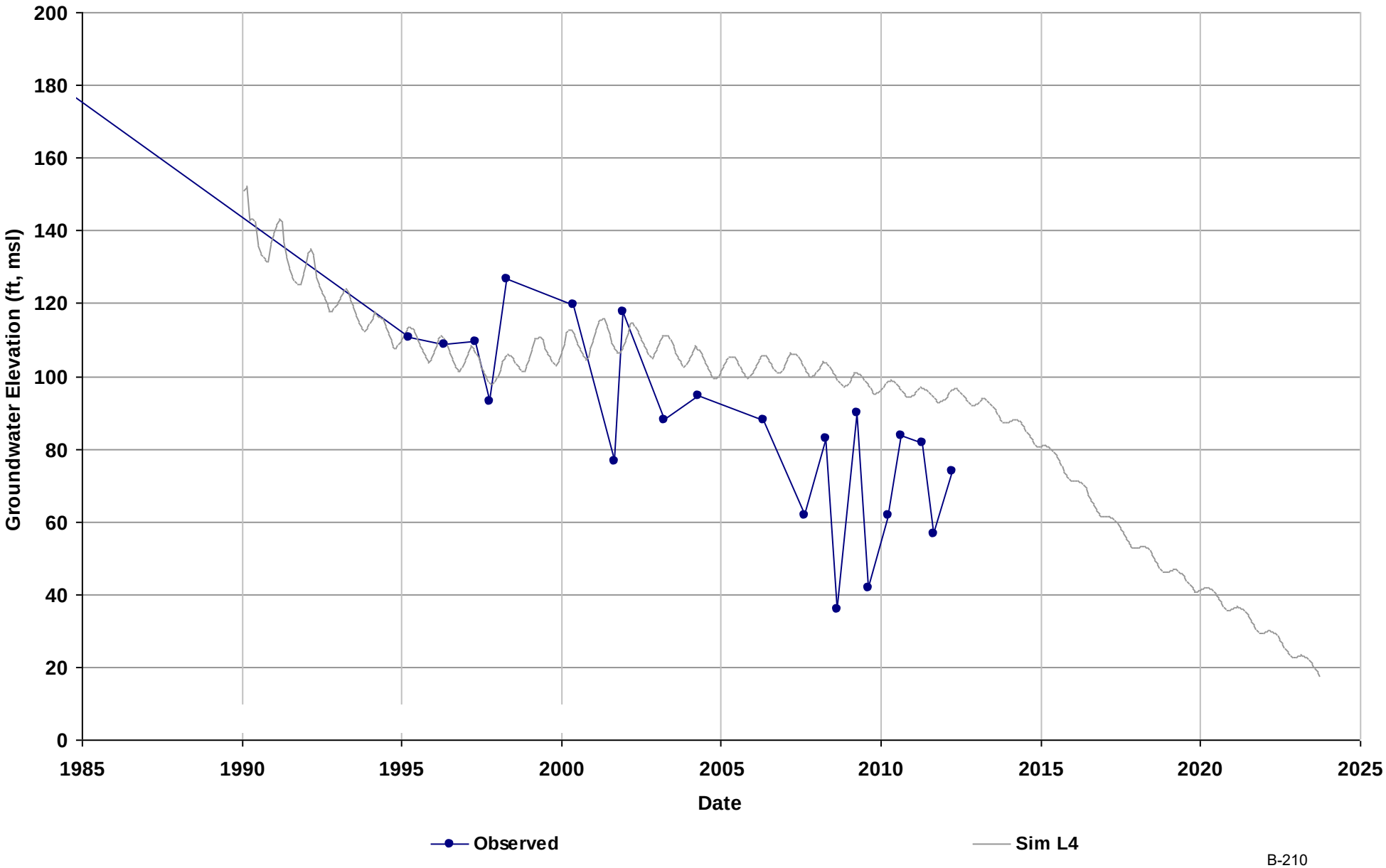
Total Depth (ft): 465
Perf Top (ft): 195
Perf Bottom (ft): 465
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_16
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 276

Average Residual (feet): 17.47
Layer 1:
Layer 2:
Layer 3:
Layer 4: 17.47
Layer 5:
Layer 6:

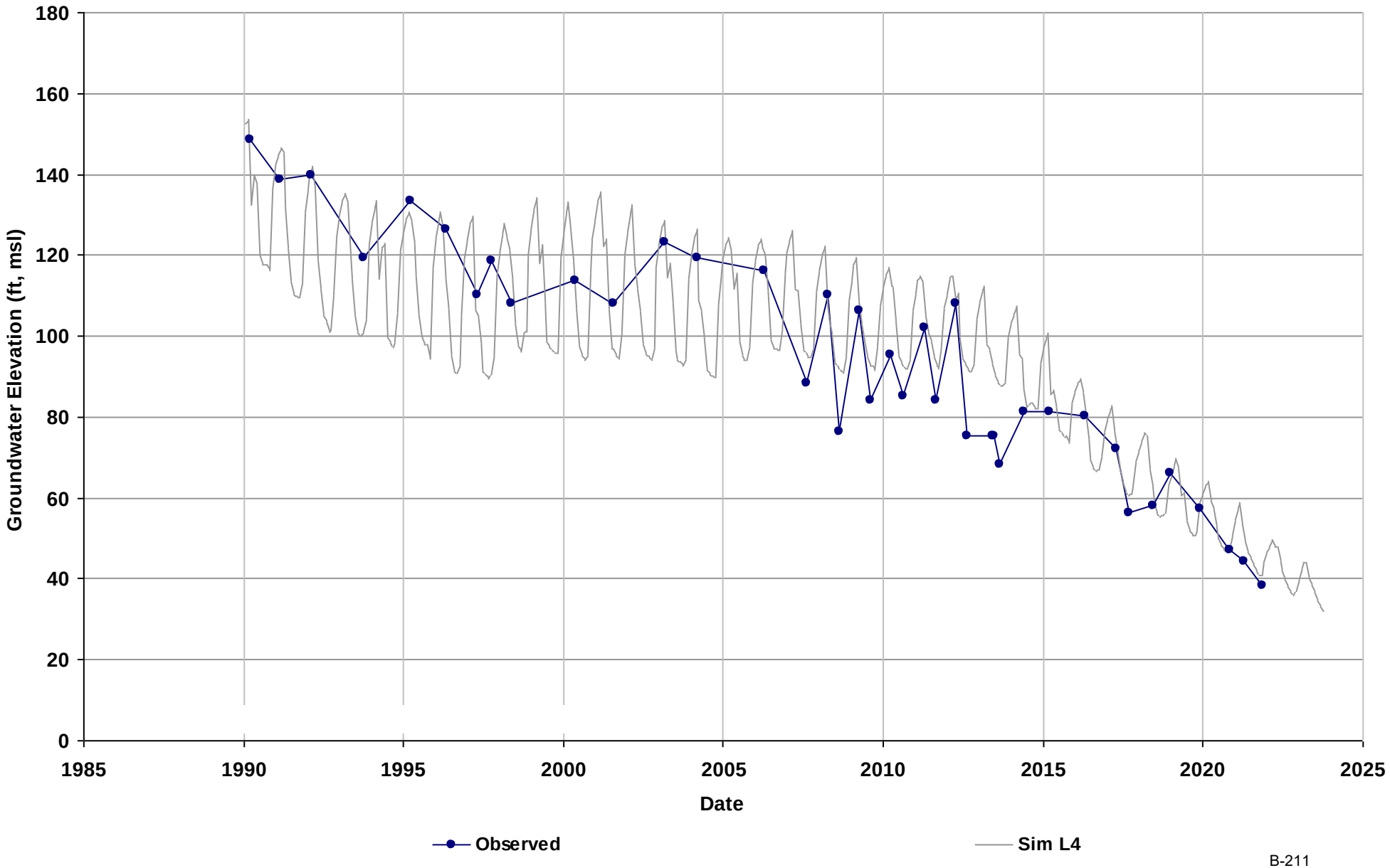
Total Depth (ft): 520
Perf Top (ft): 190
Perf Bottom (ft): 504
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_17
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Average Residual (feet): 3.2
Layer 1:
Layer 2:
Layer 3:
Layer 4: 3.85
Layer 5: 2.54
Layer 6:

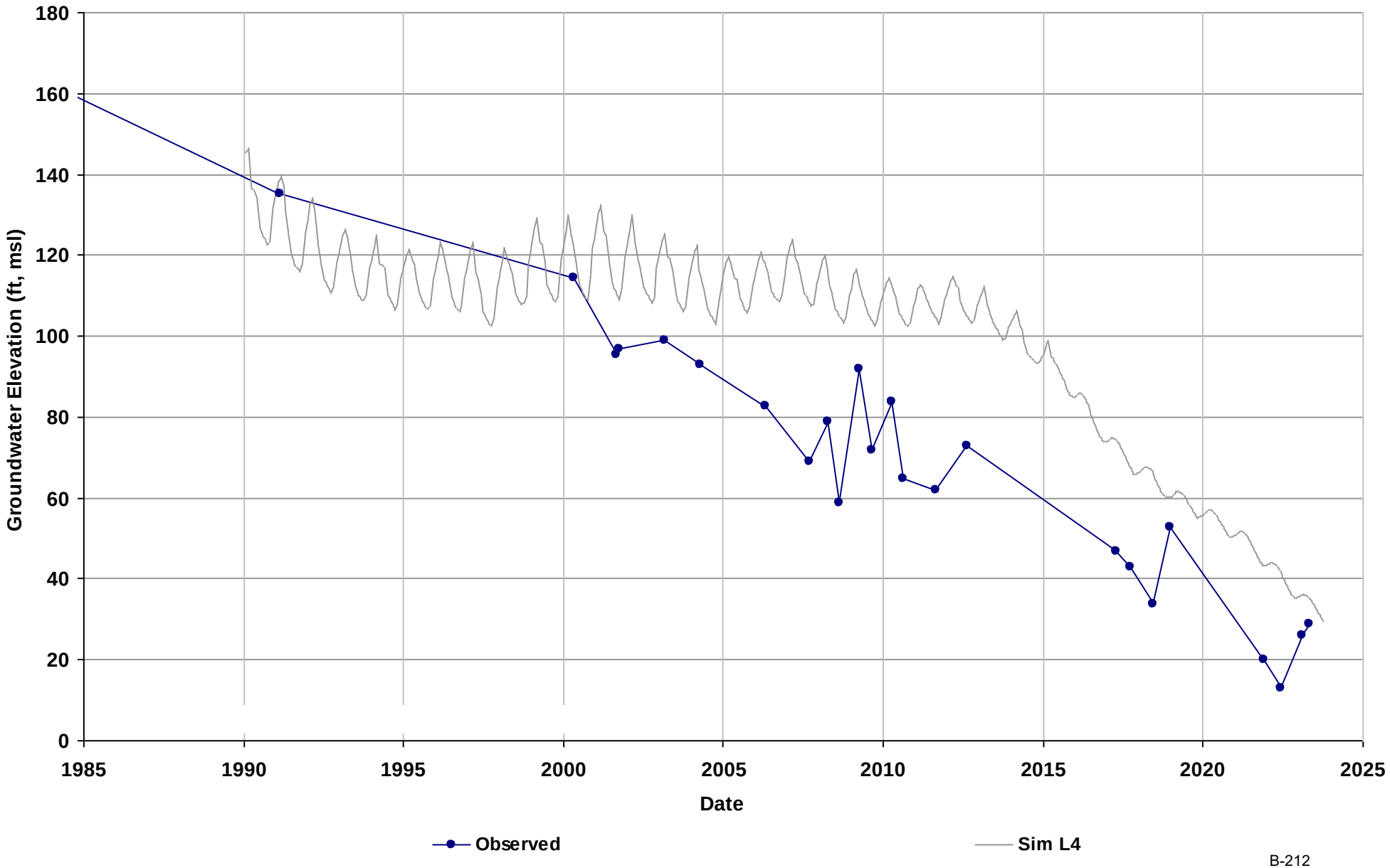
Total Depth (ft): 620
Perf Top (ft): 260
Perf Bottom (ft): 620
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_18
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 272

Average Residual (feet): 21.69
Layer 1:
Layer 2:
Layer 3:
Layer 4: 24.96
Layer 5: 18.42
Layer 6:

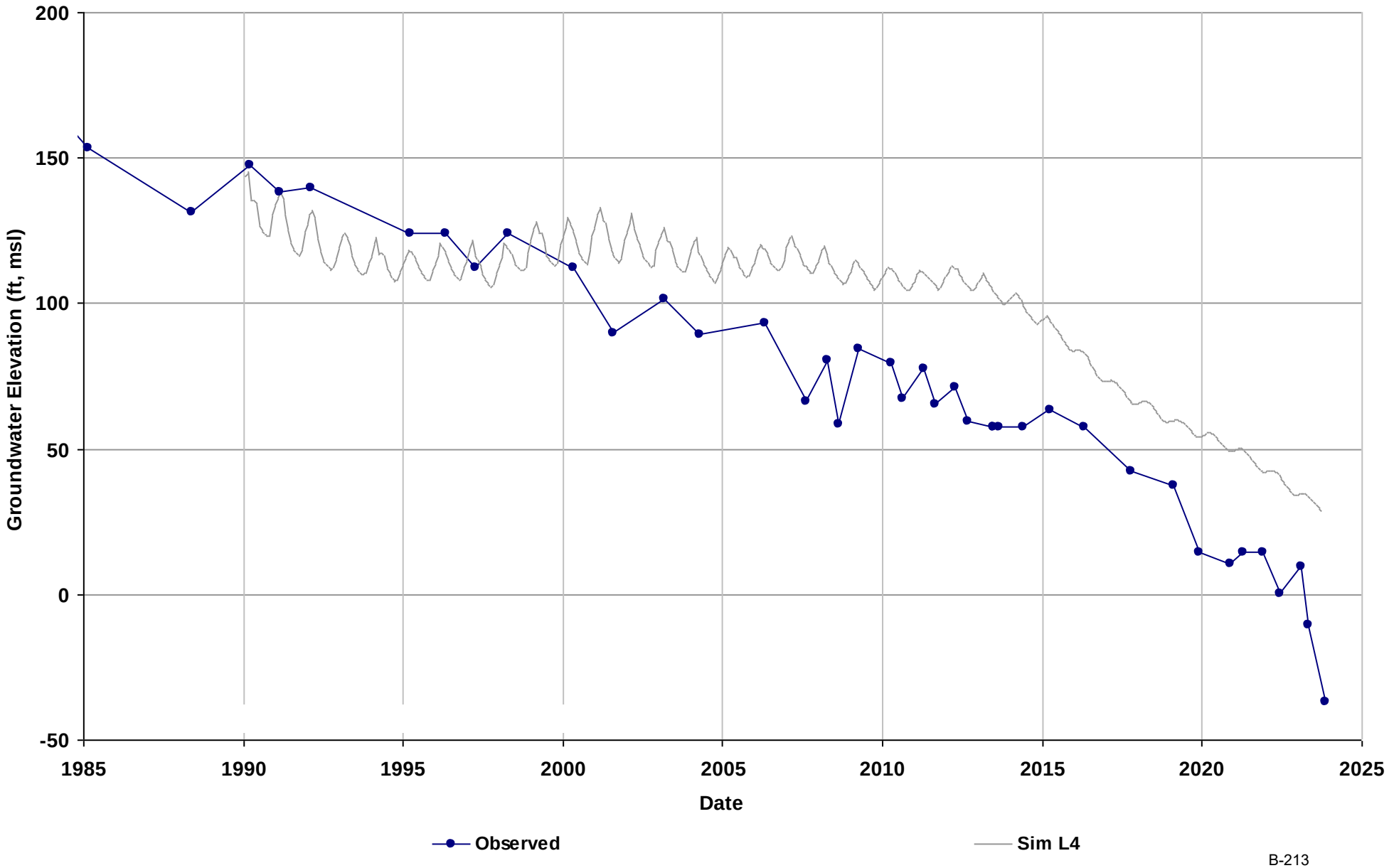
Total Depth (ft): 610
Perf Top (ft): 285
Perf Bottom (ft): 605
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_20
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 267

Average Residual (feet): 23.13
Layer 1:
Layer 2:
Layer 3:
Layer 4: 27.49
Layer 5: 18.77
Layer 6:

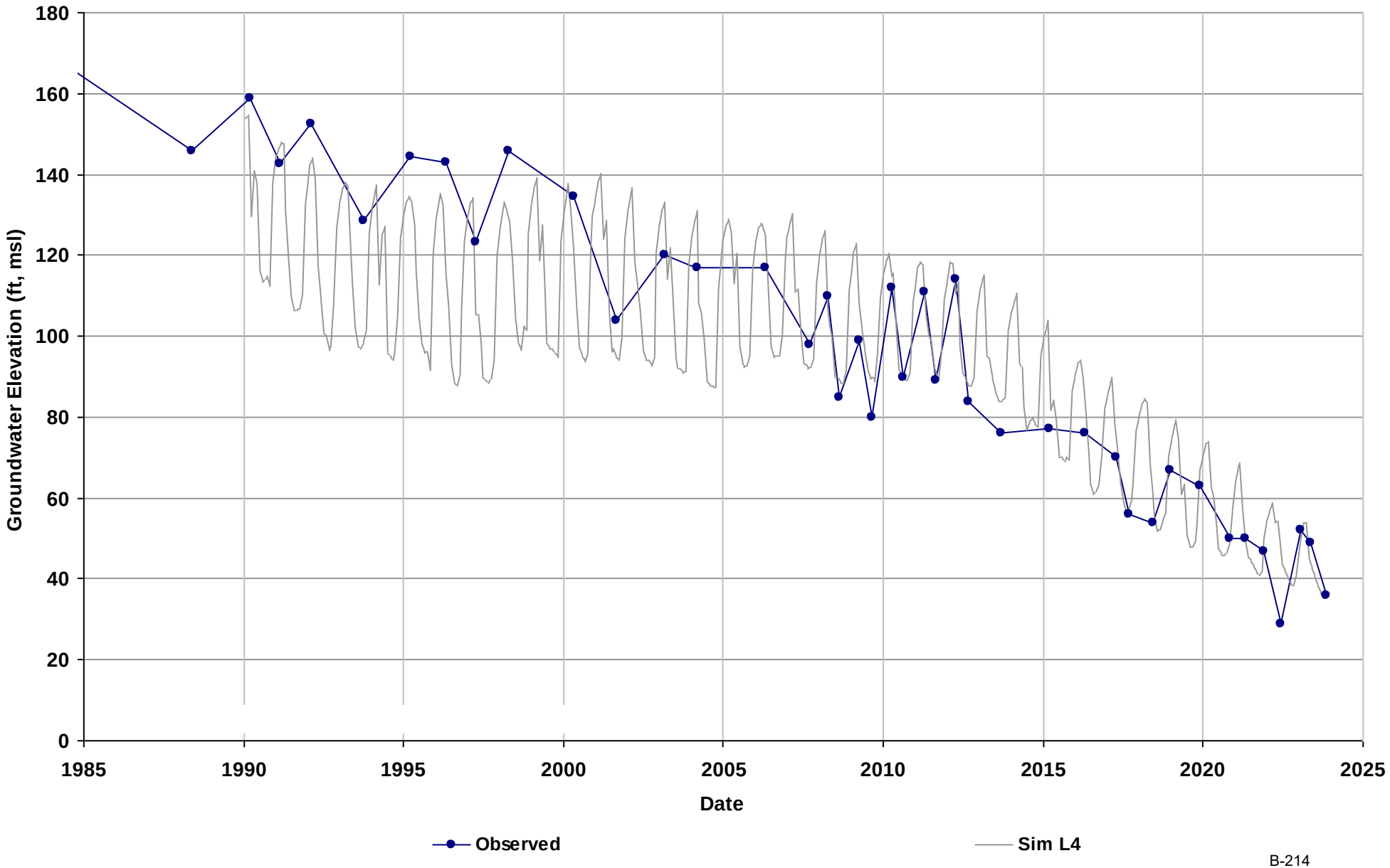
Total Depth (ft): 600
Perf Top (ft): 201
Perf Bottom (ft): 576
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_21
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 265

Average Residual (feet): -0.85
Layer 1:
Layer 2:
Layer 3:
Layer 4: -0.67
Layer 5: -1.04
Layer 6:

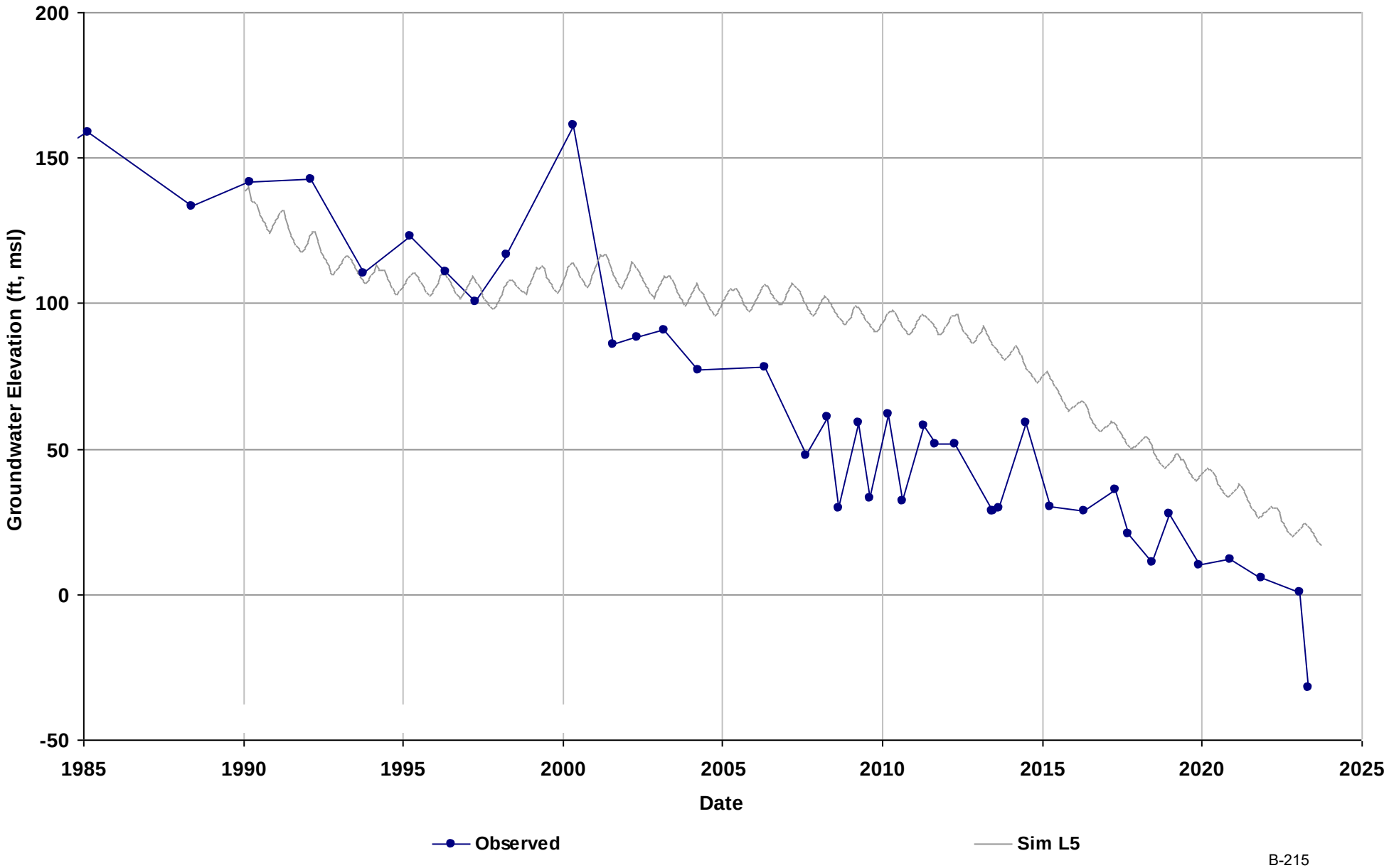
Total Depth (ft): 600
Perf Top (ft): 230
Perf Bottom (ft): 600
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_23
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 278

Average Residual (feet): 29.96
Layer 1:
Layer 2:
Layer 3:
Layer 4: 32.77
Layer 5: 27.15
Layer 6:

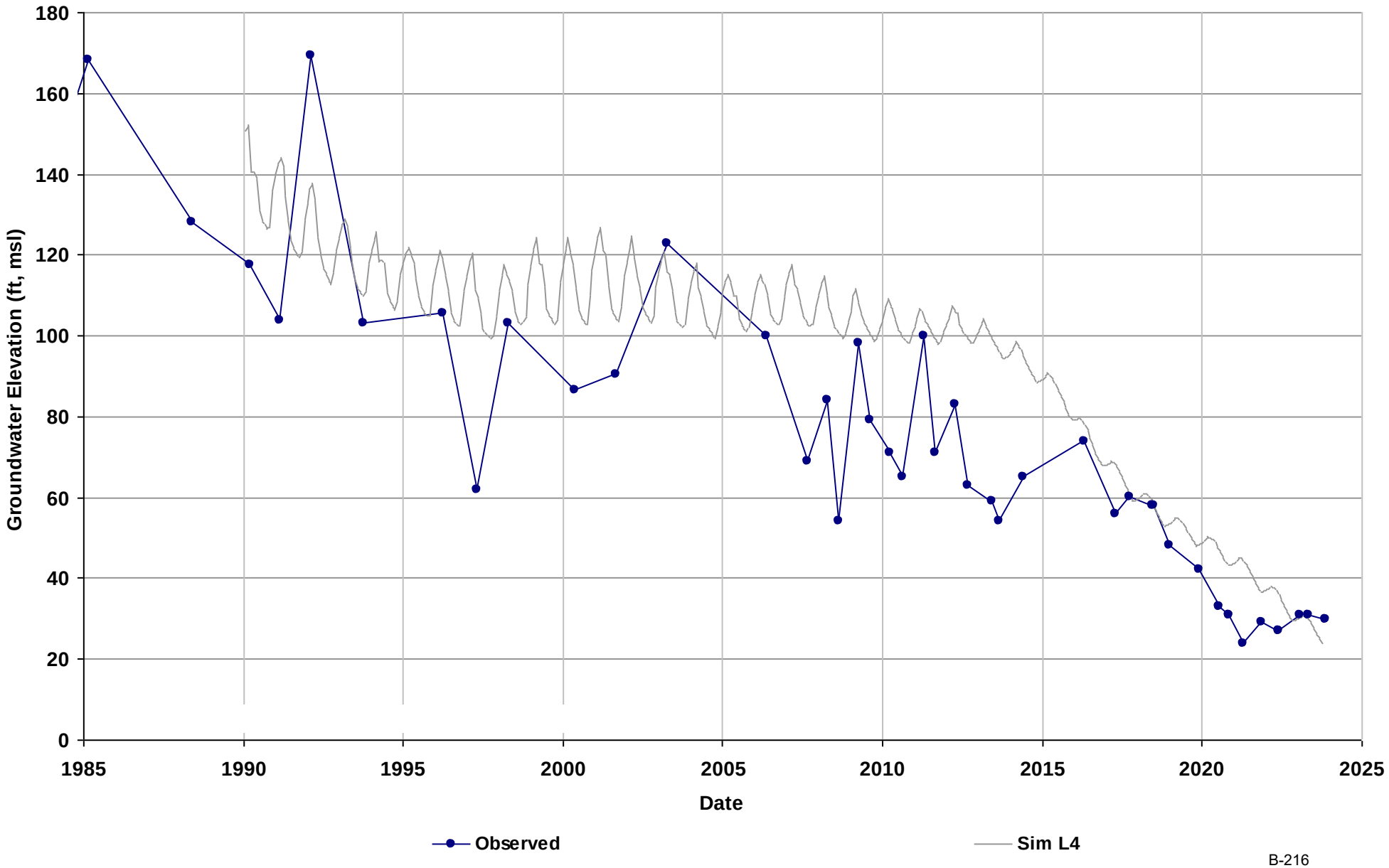
Total Depth (ft): 790
Perf Top (ft): 210
Perf Bottom (ft): 770
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: City_of_Madera_24
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 278

Average Residual (feet): 16.4
Layer 1:
Layer 2:
Layer 3:
Layer 4: 16.4
Layer 5:
Layer 6:

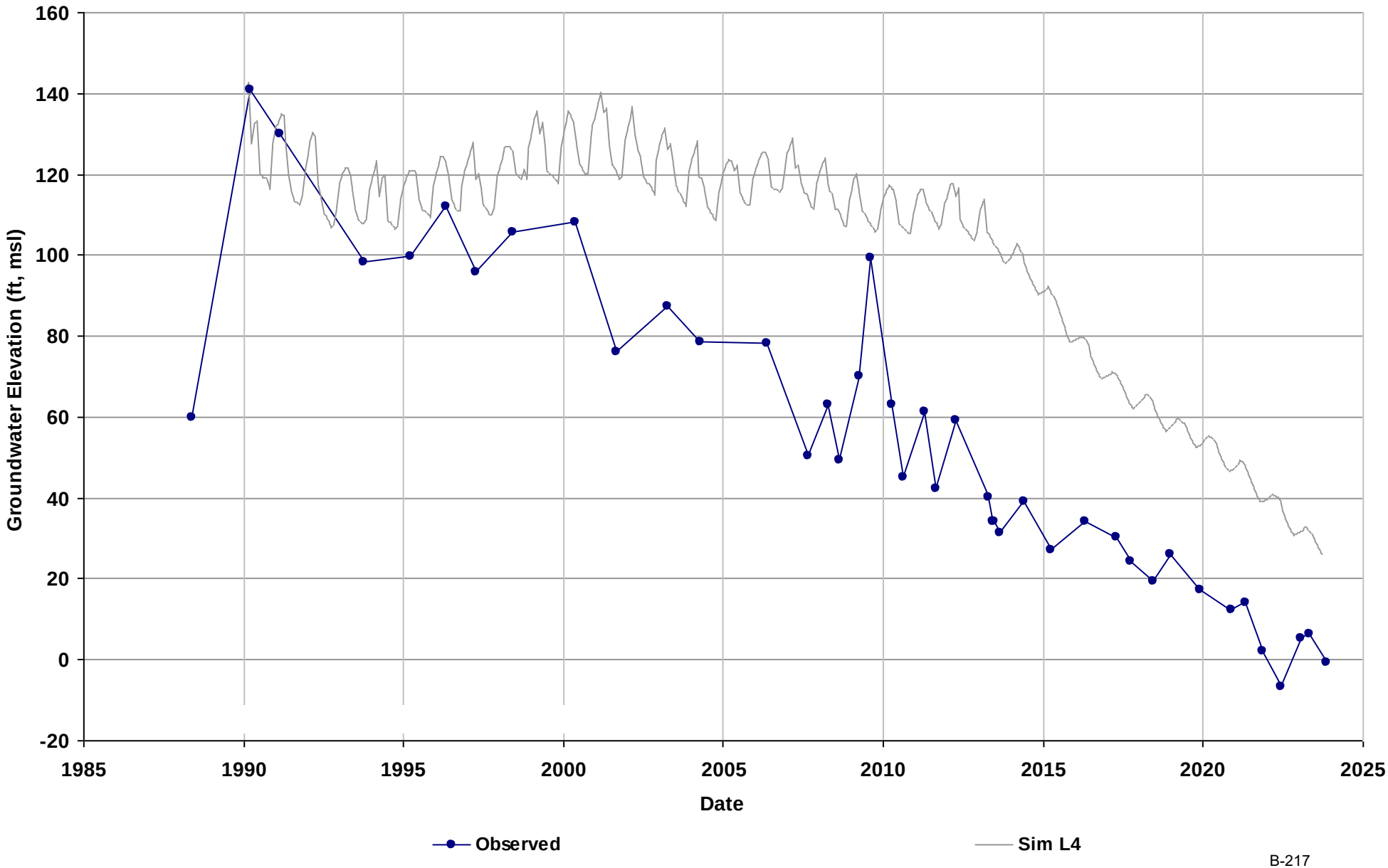
Total Depth (ft): 520
Perf Top (ft): 210
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_25
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 261

Average Residual (feet): 40.93
Layer 1:
Layer 2:
Layer 3:
Layer 4: 40.93
Layer 5:
Layer 6:

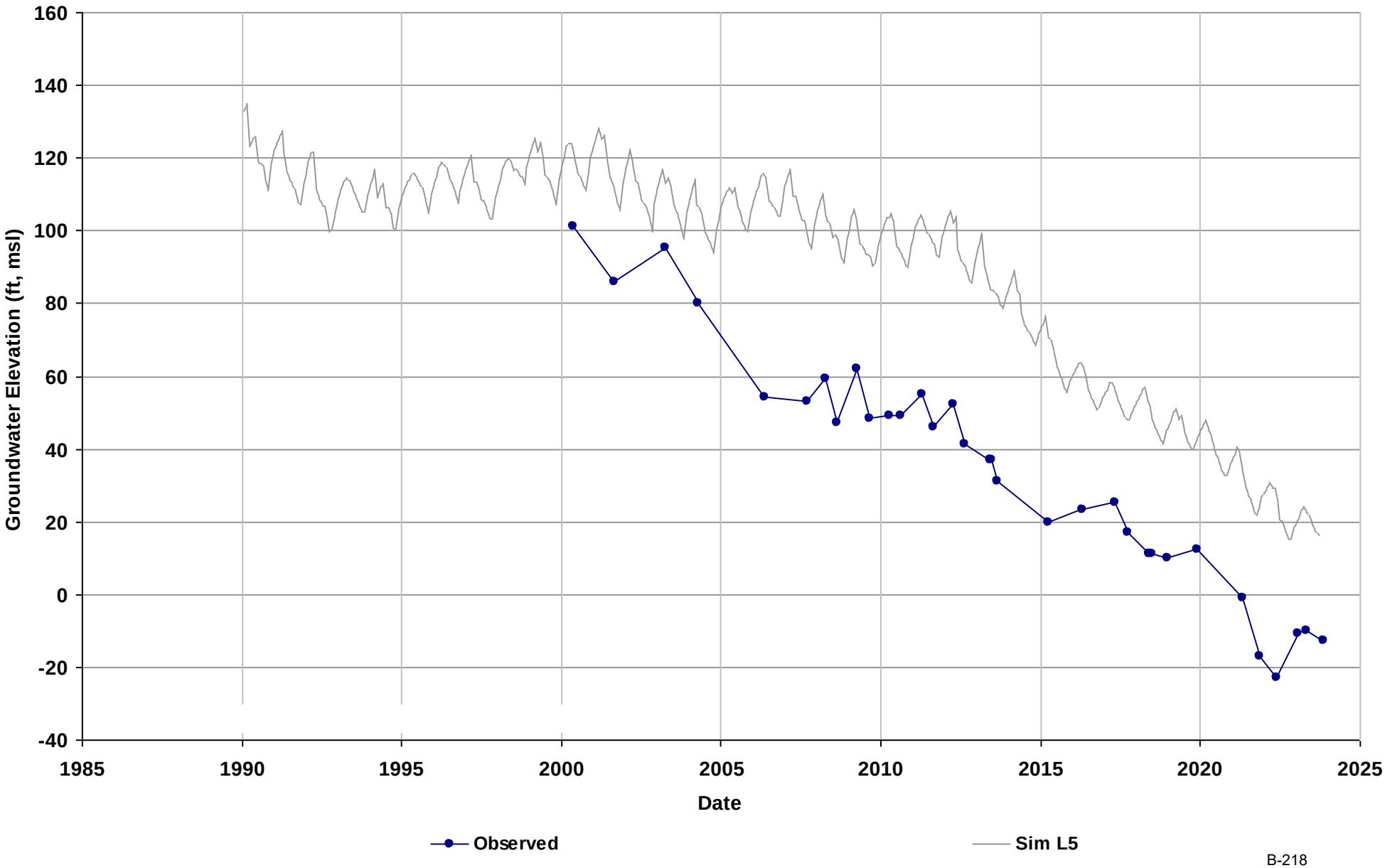
Total Depth (ft): 513
Perf Top (ft): 275
Perf Bottom (ft): 505
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_26
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 253

Average Residual (feet): 41
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 41
Layer 6:

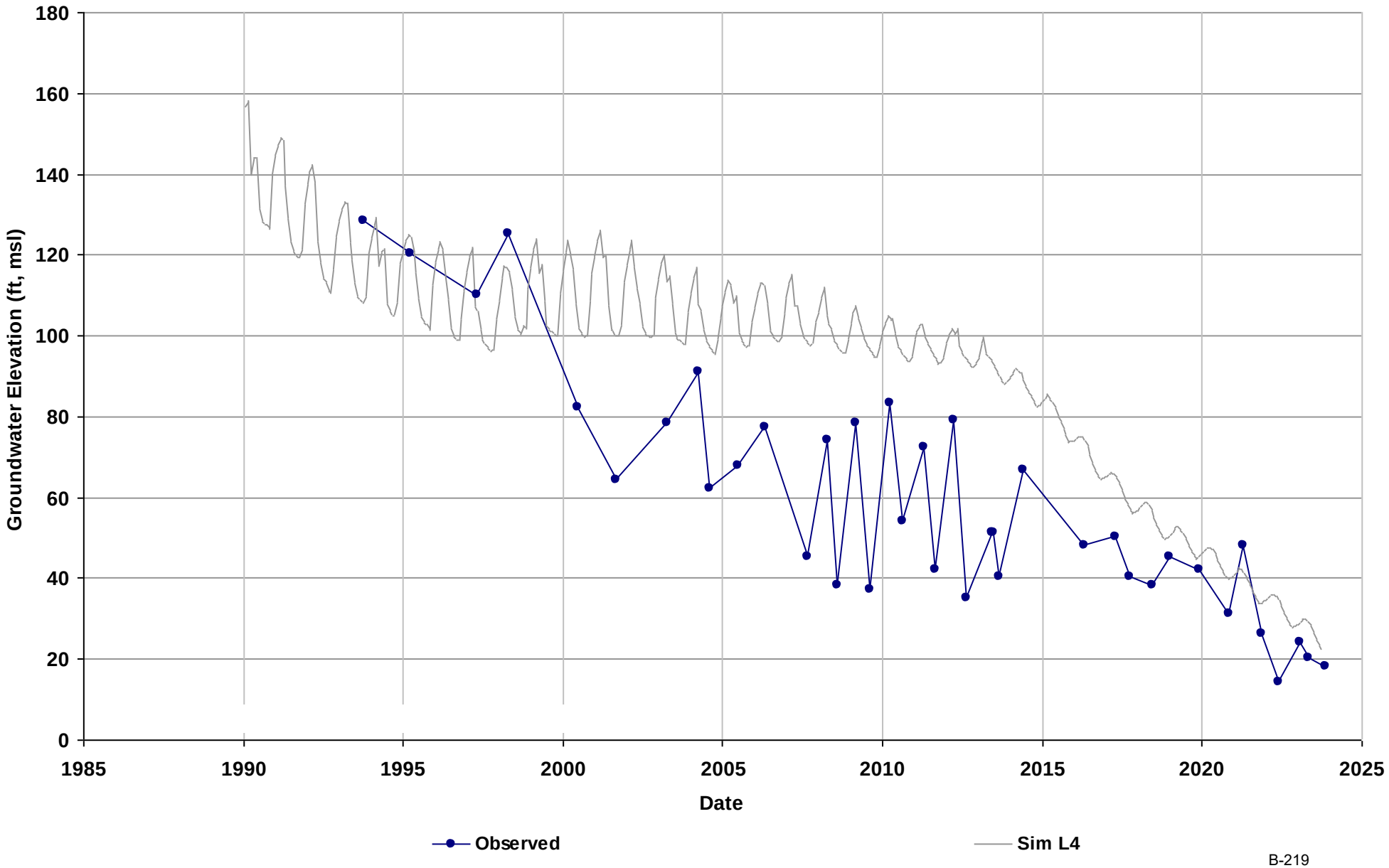
Total Depth (ft): 600
Perf Top (ft): 220
Perf Bottom (ft): 600
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: City_of_Madera_28
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 284

Average Residual (feet): 24.48
Layer 1:
Layer 2:
Layer 3:
Layer 4: 24.48
Layer 5:
Layer 6:

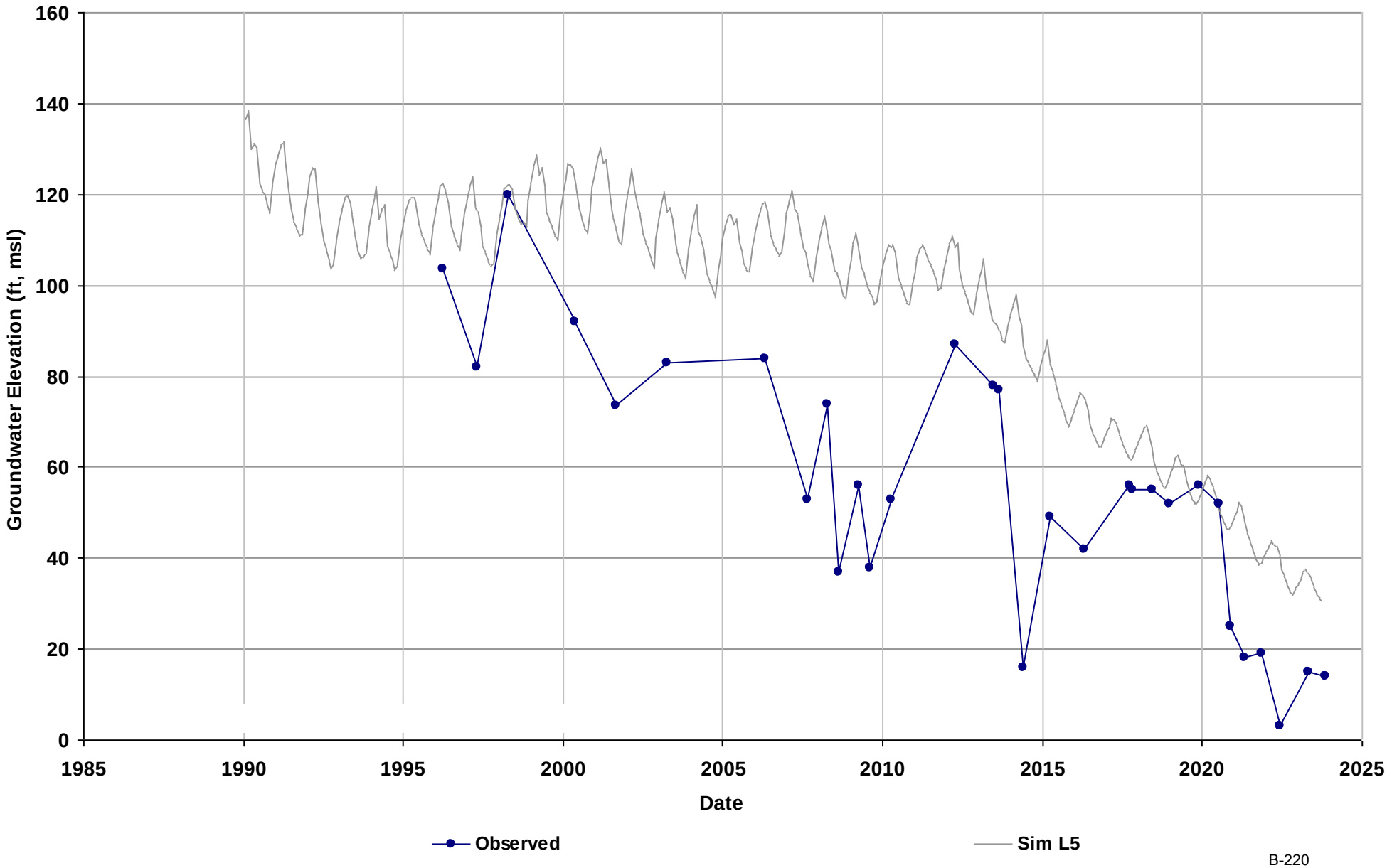
Total Depth (ft): 522
Perf Top (ft): 270
Perf Bottom (ft): 540
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_29
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 262

Average Residual (feet): 27.56
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 27.56
Layer 6:

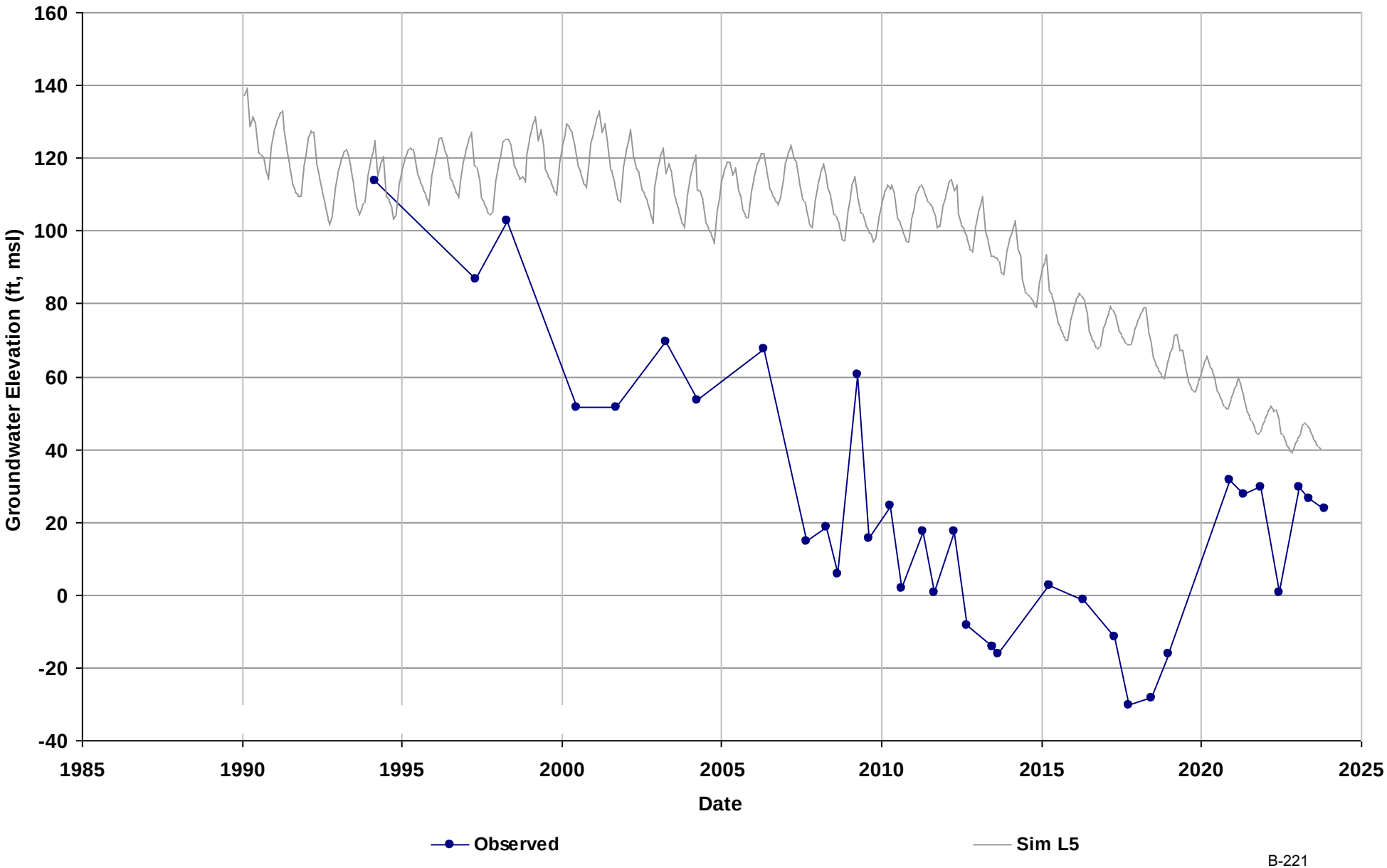
Total Depth (ft): 590
Perf Top (ft): 370
Perf Bottom (ft): 590
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: City_of_Madera_30
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 257

Average Residual (feet): 69.6
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 69.6
Layer 6:

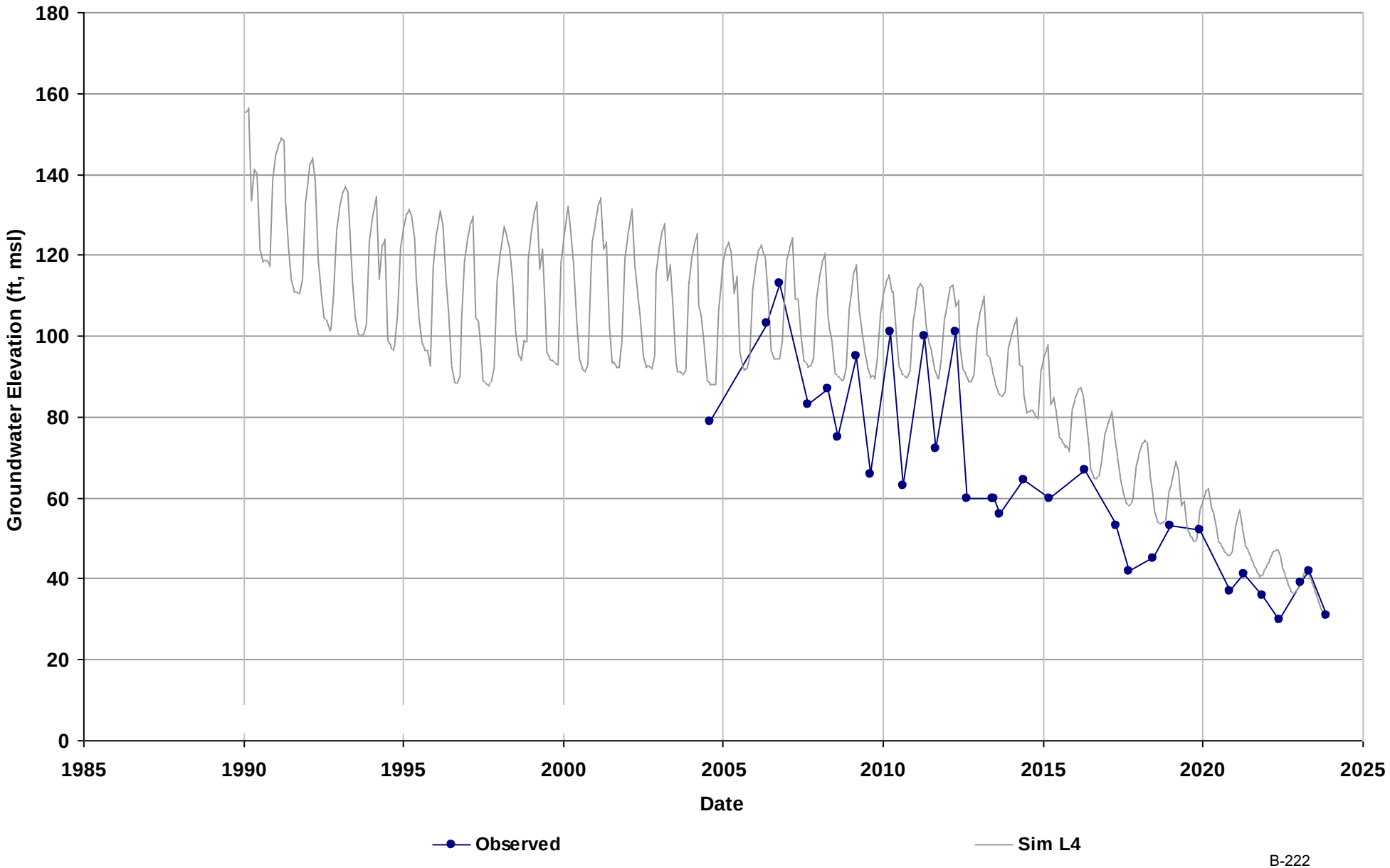
Total Depth (ft): 720
Perf Top (ft): 430
Perf Bottom (ft): 720
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: City_of_Madera_31
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Average Residual (feet): 14.69
Layer 1:
Layer 2:
Layer 3:
Layer 4: 14.69
Layer 5:
Layer 6:

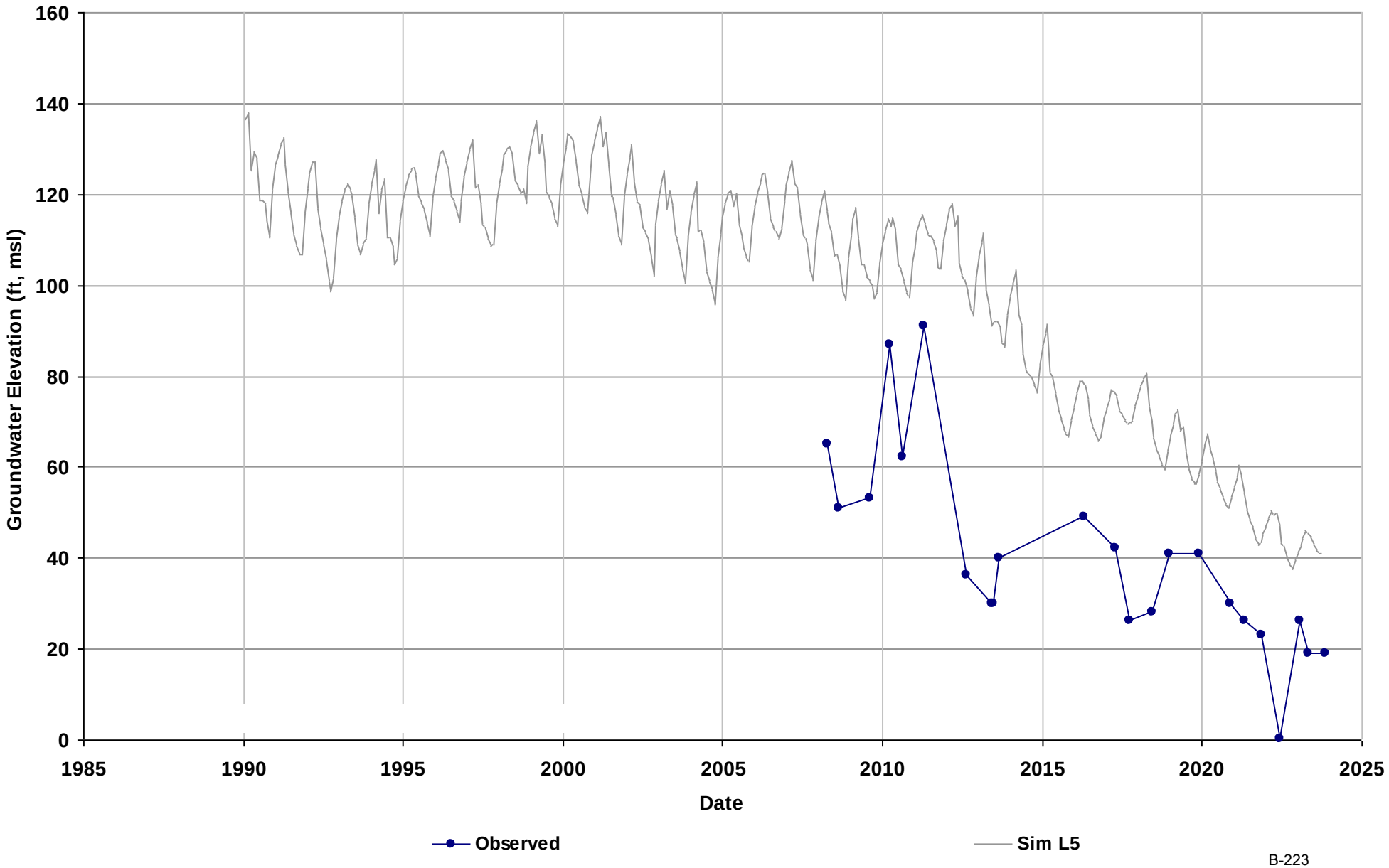
Total Depth (ft): 520
Perf Top (ft): 265
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: City_of_Madera_32
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 252

Average Residual (feet): 37.69
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 37.69
Layer 6:

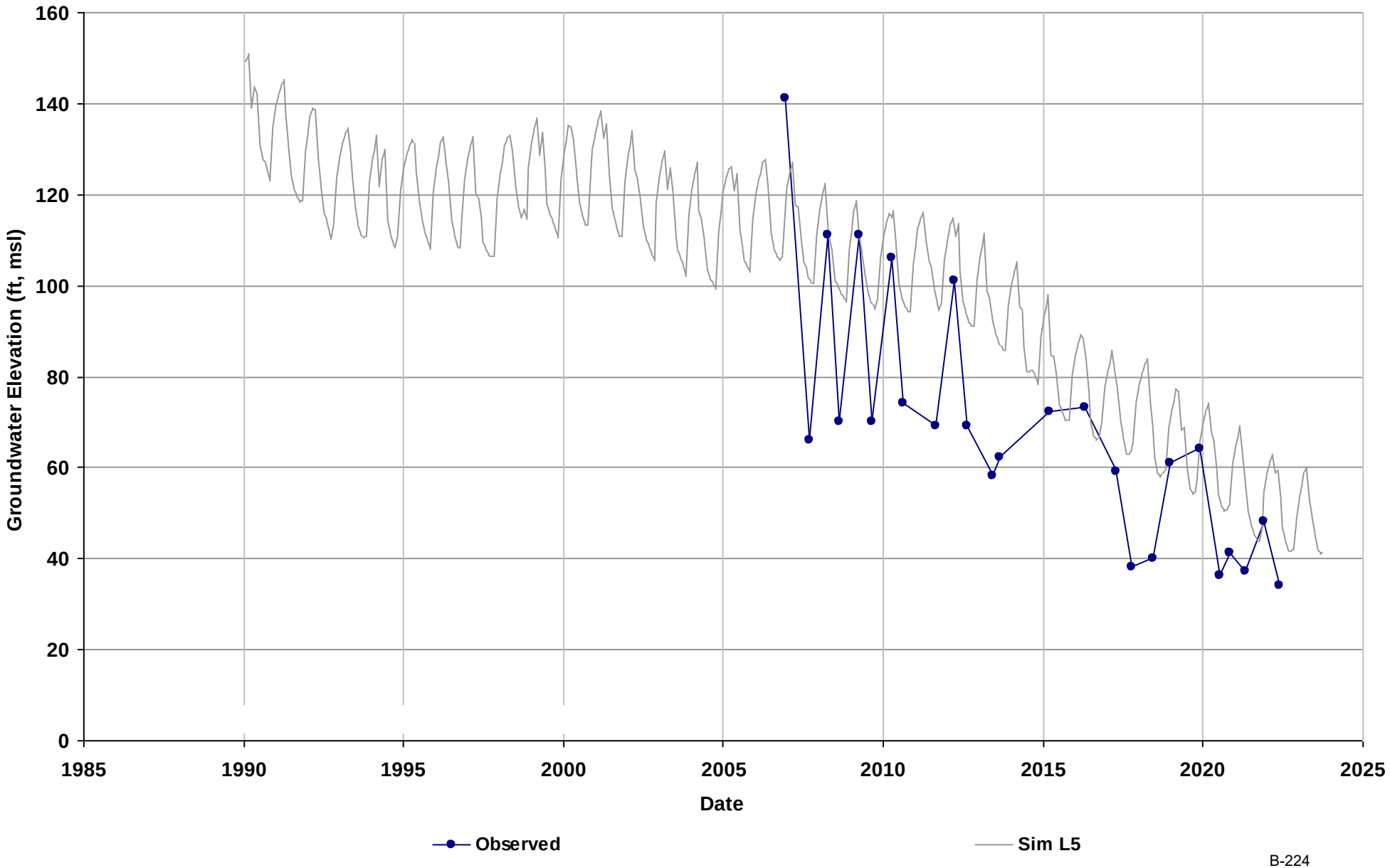
Total Depth (ft): 700
Perf Top (ft): 320
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: City_of_Madera_33
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 264

Average Residual (feet): 15.45
Layer 1:
Layer 2:
Layer 3:
Layer 4: 14.59
Layer 5: 16.31
Layer 6:

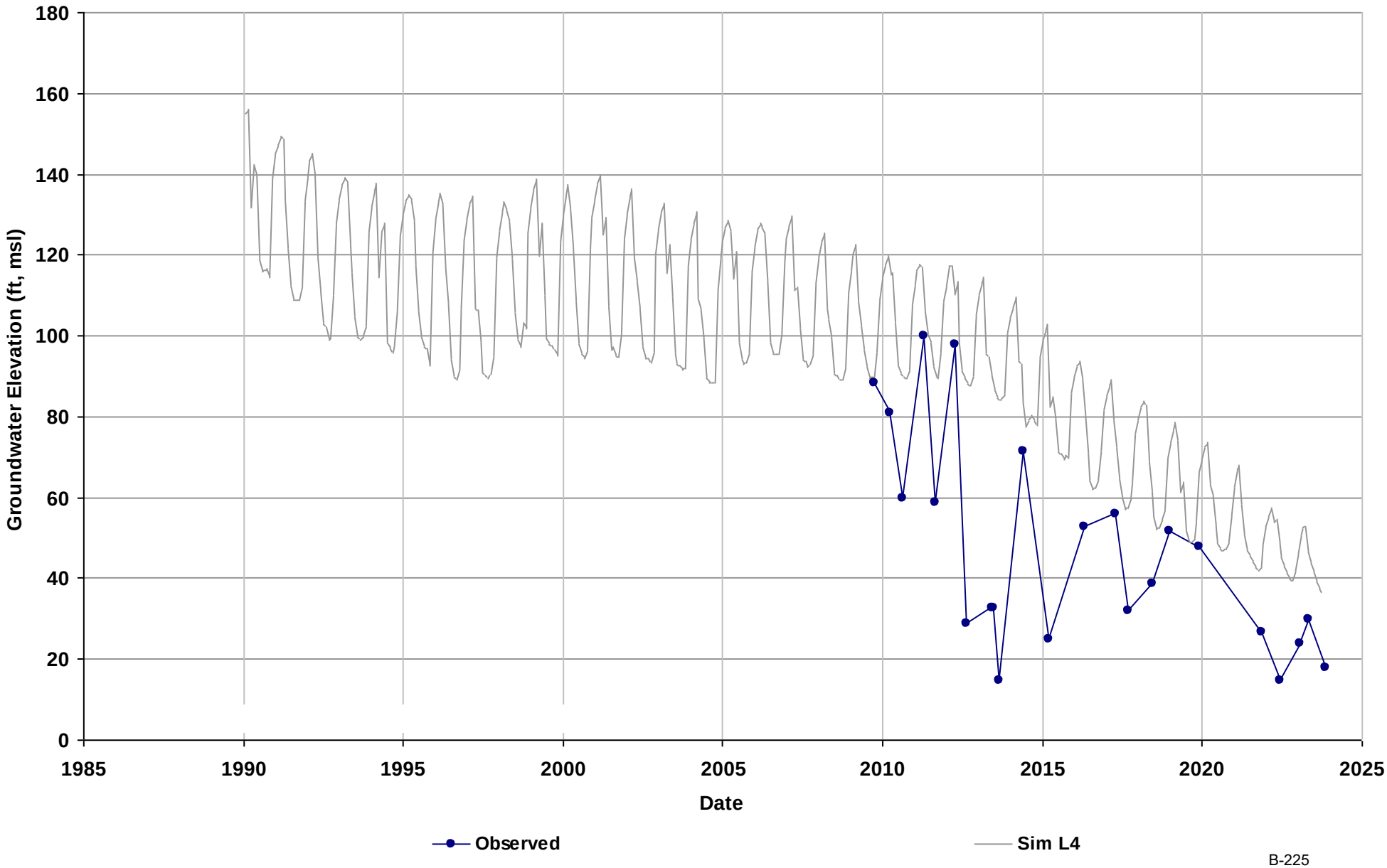
Total Depth (ft): 620
Perf Top (ft): 310
Perf Bottom (ft): 600
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: City_of_Madera_34
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 267

Average Residual (feet): 30.62
Layer 1:
Layer 2:
Layer 3:
Layer 4: 30.62
Layer 5:
Layer 6:

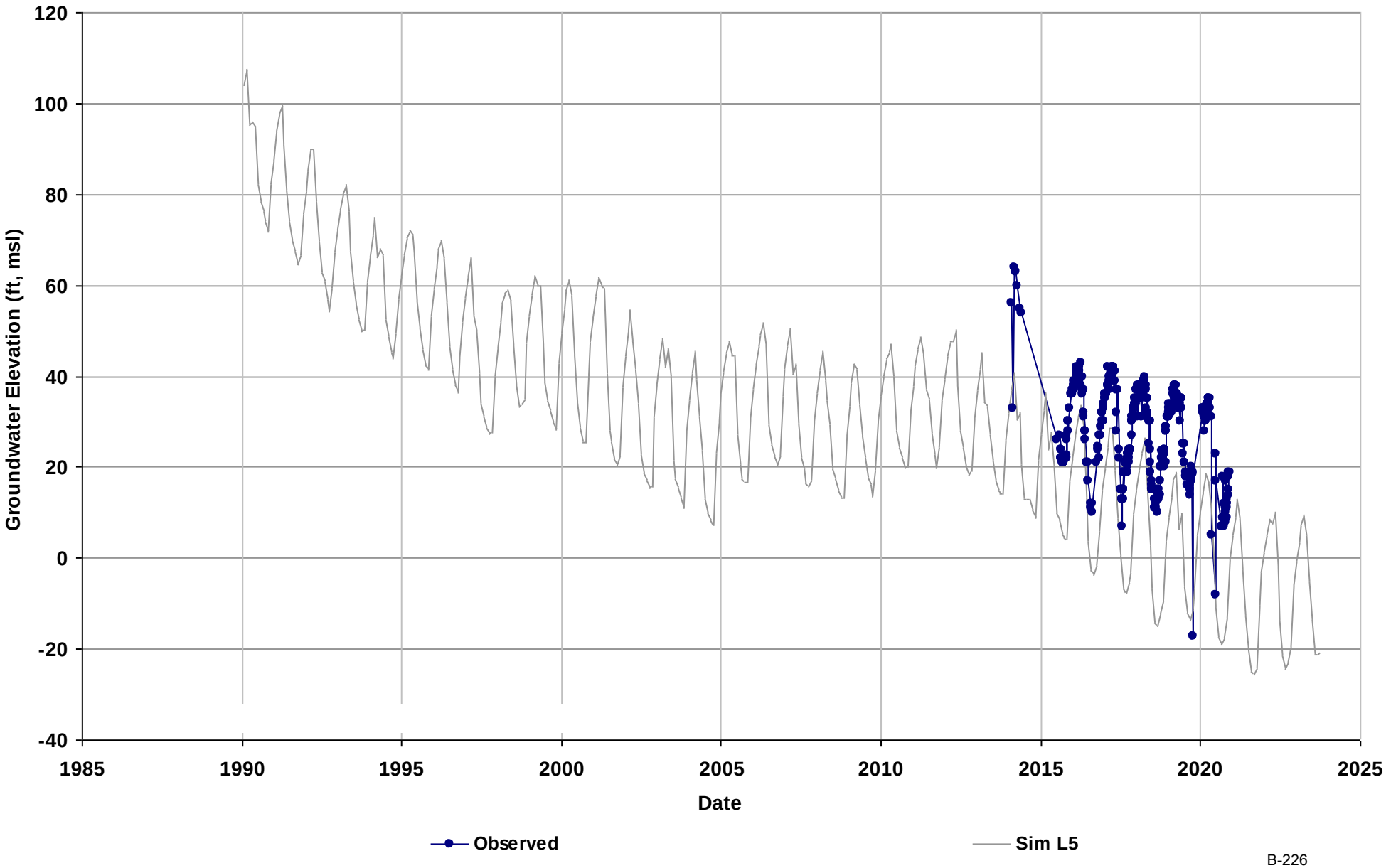
Total Depth (ft): 588
Perf Top (ft): 433
Perf Bottom (ft): 568
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MD10A Dublin
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 355

Average Residual (feet): -19.5
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -19.5
Layer 6:

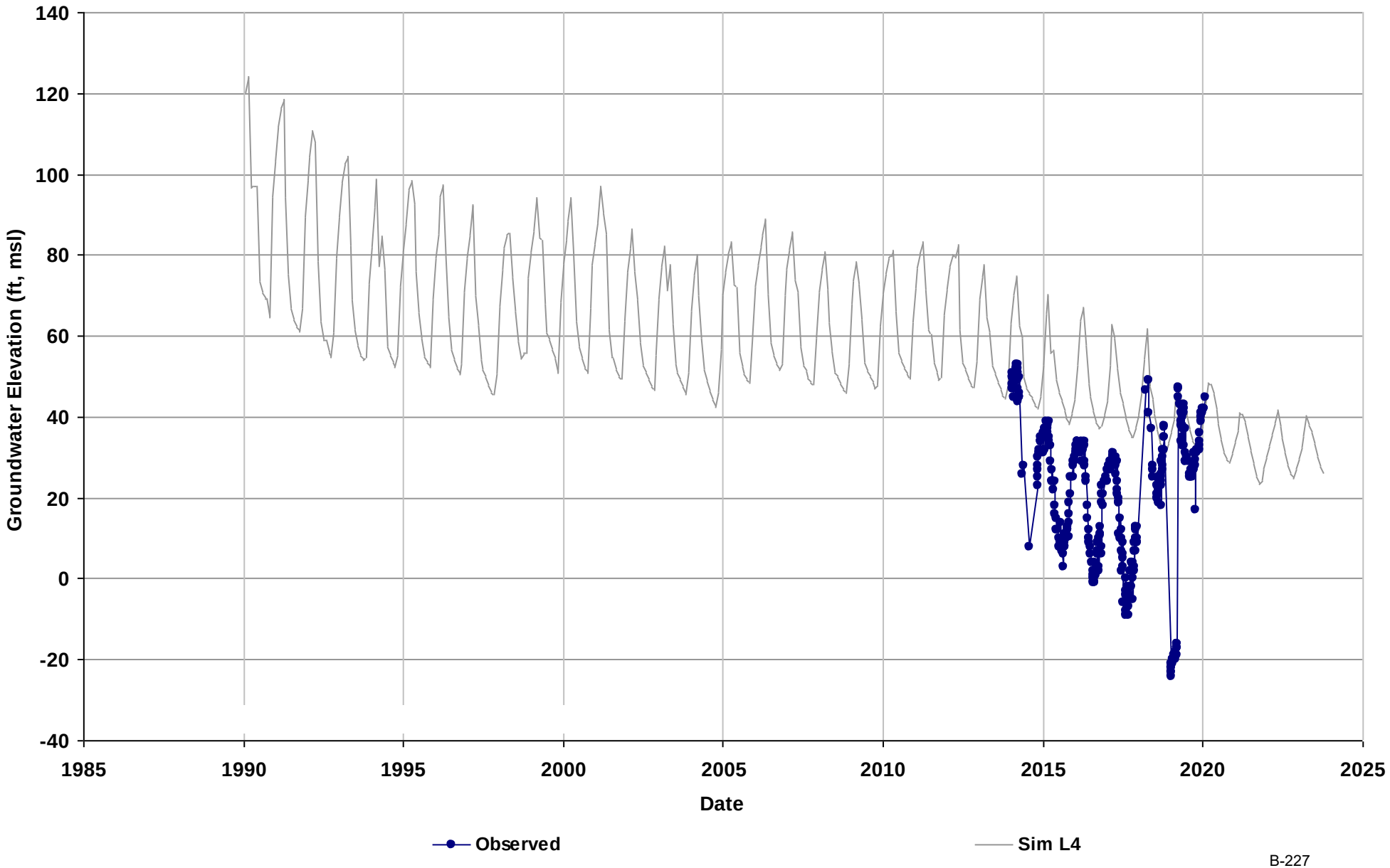
Total Depth (ft): 545
Perf Top (ft): 454
Perf Bottom (ft): 540
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MD10A Kensington
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 343

Average Residual (feet): 25.31
Layer 1:
Layer 2:
Layer 3:
Layer 4: 25.31
Layer 5:
Layer 6:

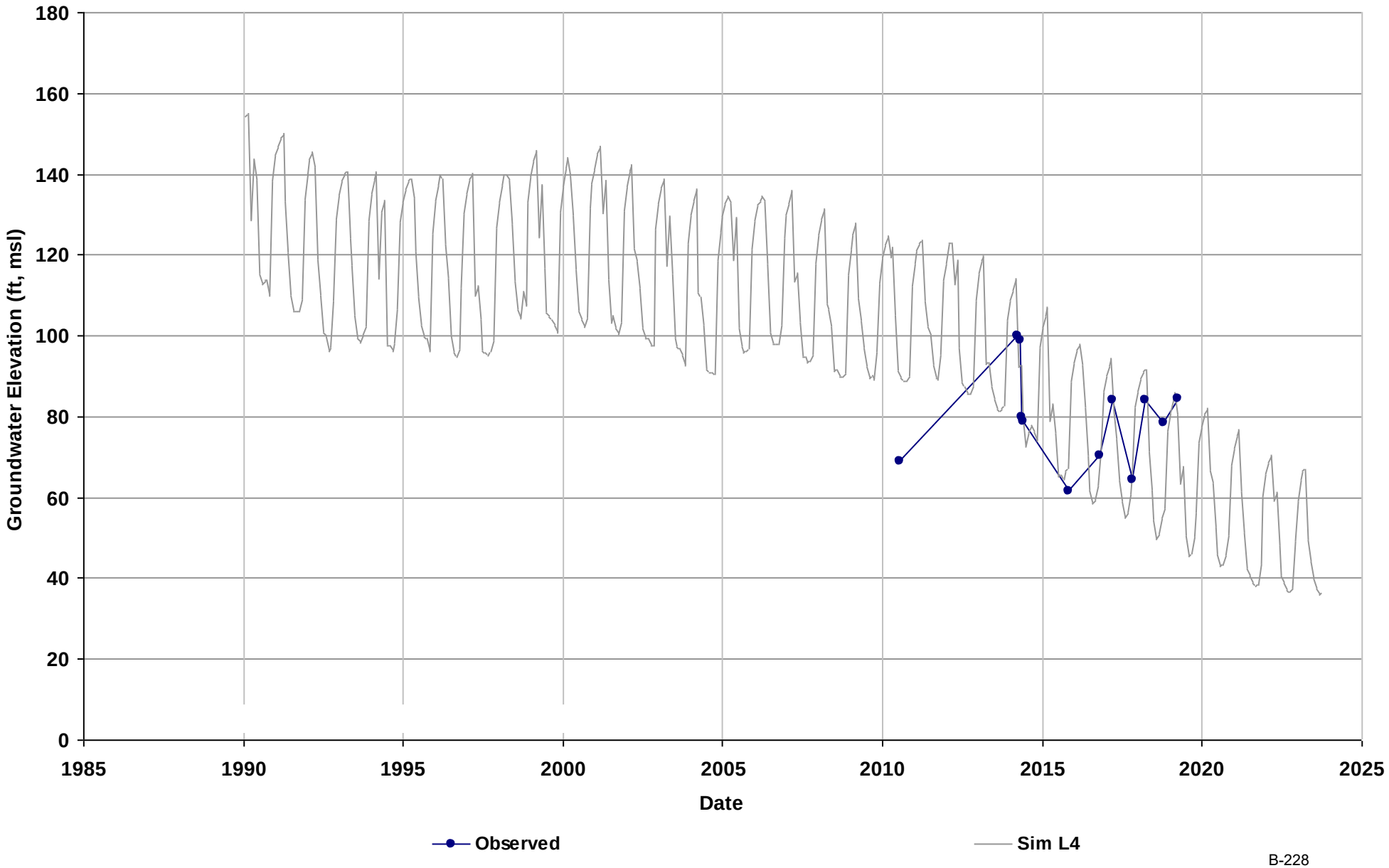
Total Depth (ft): 535
Perf Top (ft): 405
Perf Bottom (ft): 525
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MD19A #3 Parkwood
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 264

Average Residual (feet): 1.89
Layer 1:
Layer 2:
Layer 3:
Layer 4: 1.89
Layer 5:
Layer 6:

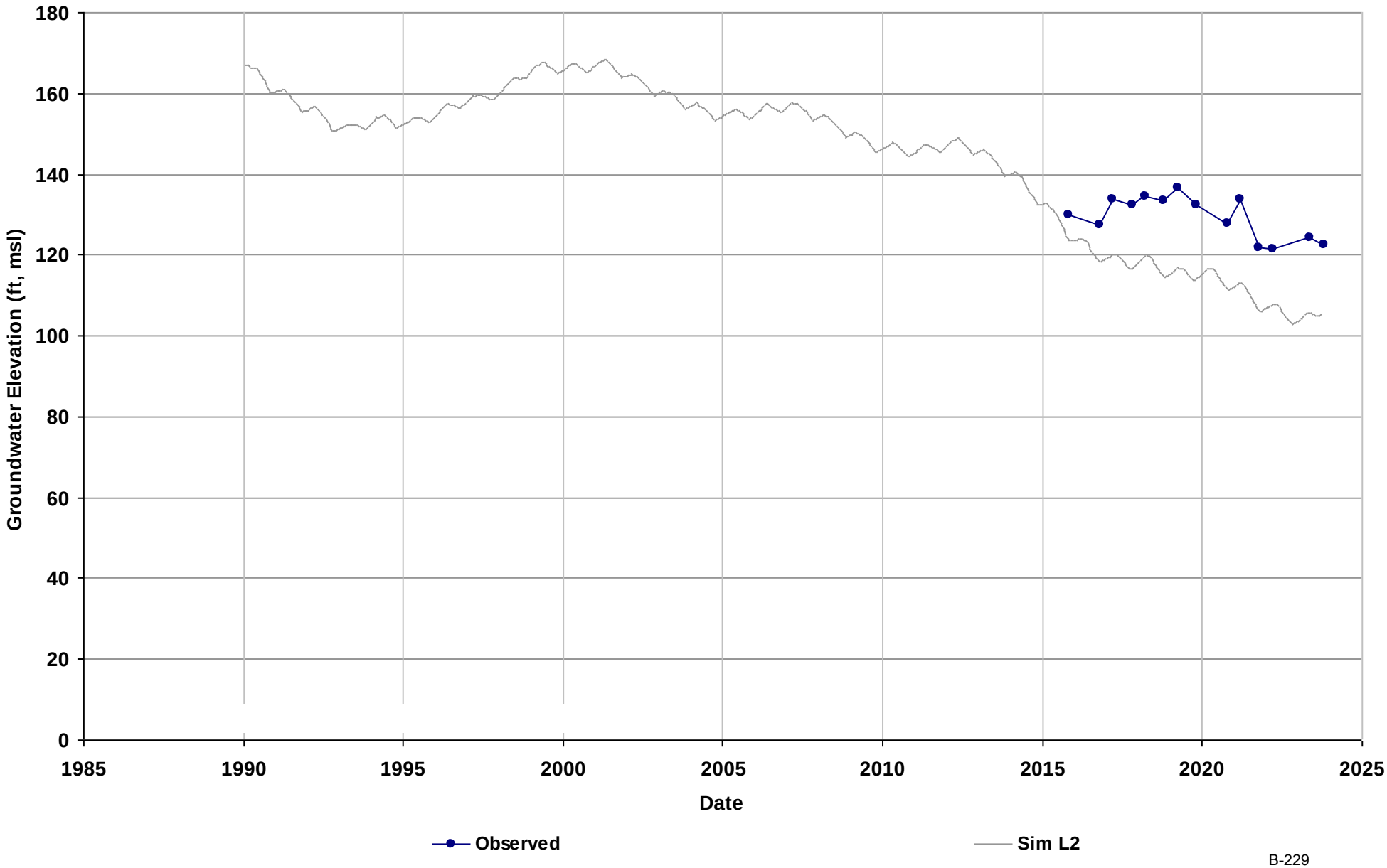
Total Depth (ft): 456
Perf Top (ft): 240
Perf Bottom (ft): 456
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MD28 Ripperdan
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 247

Average Residual (feet): -15.55
Layer 1:
Layer 2: -15.55
Layer 3:
Layer 4:
Layer 5:
Layer 6:

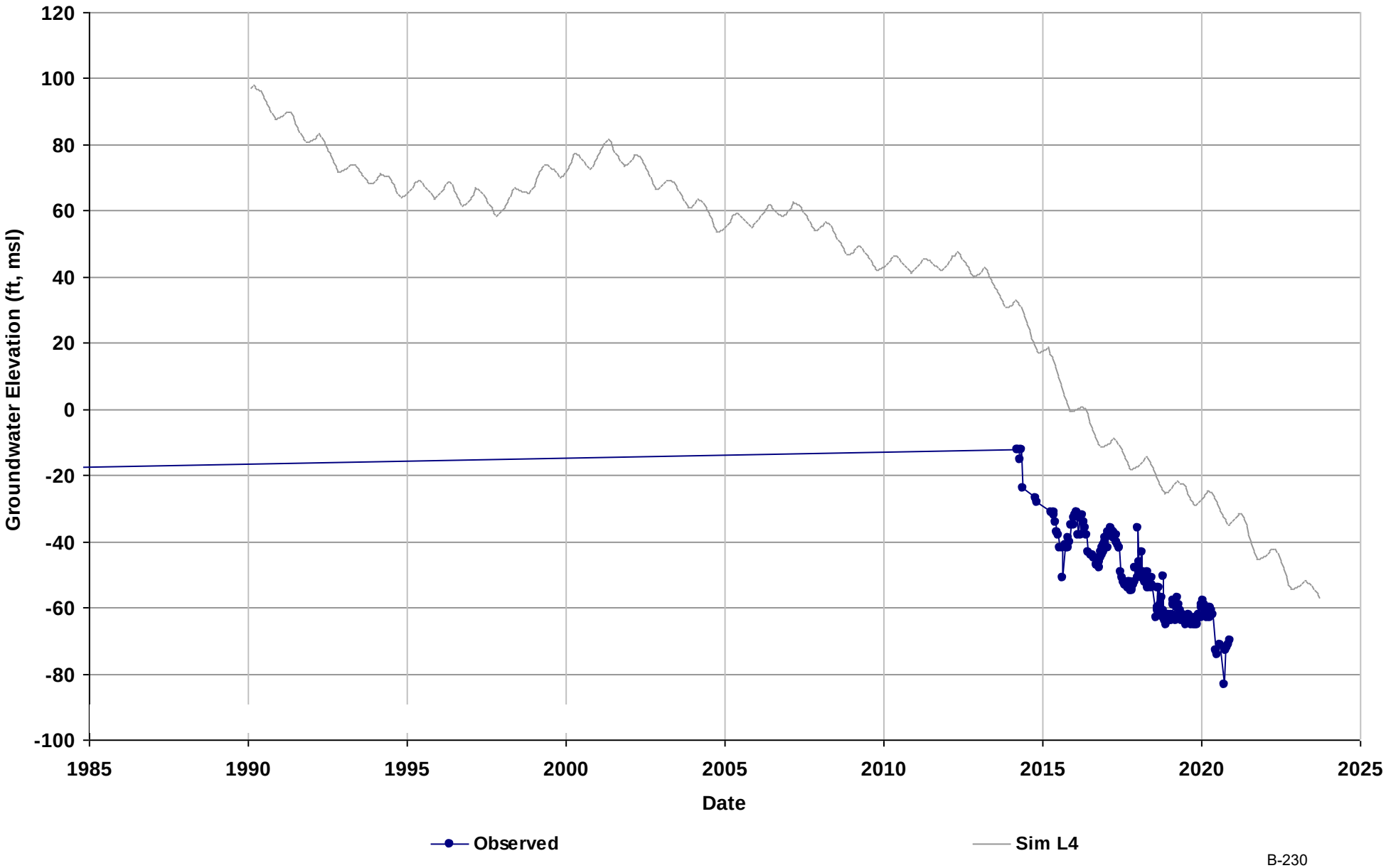
Total Depth (ft): 502
Perf Top (ft): 160
Perf Bottom (ft): 200
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: MD33 Fairmead
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 253

Average Residual (feet): 36.52
Layer 1:
Layer 2:
Layer 3:
Layer 4: 36.52
Layer 5:
Layer 6:

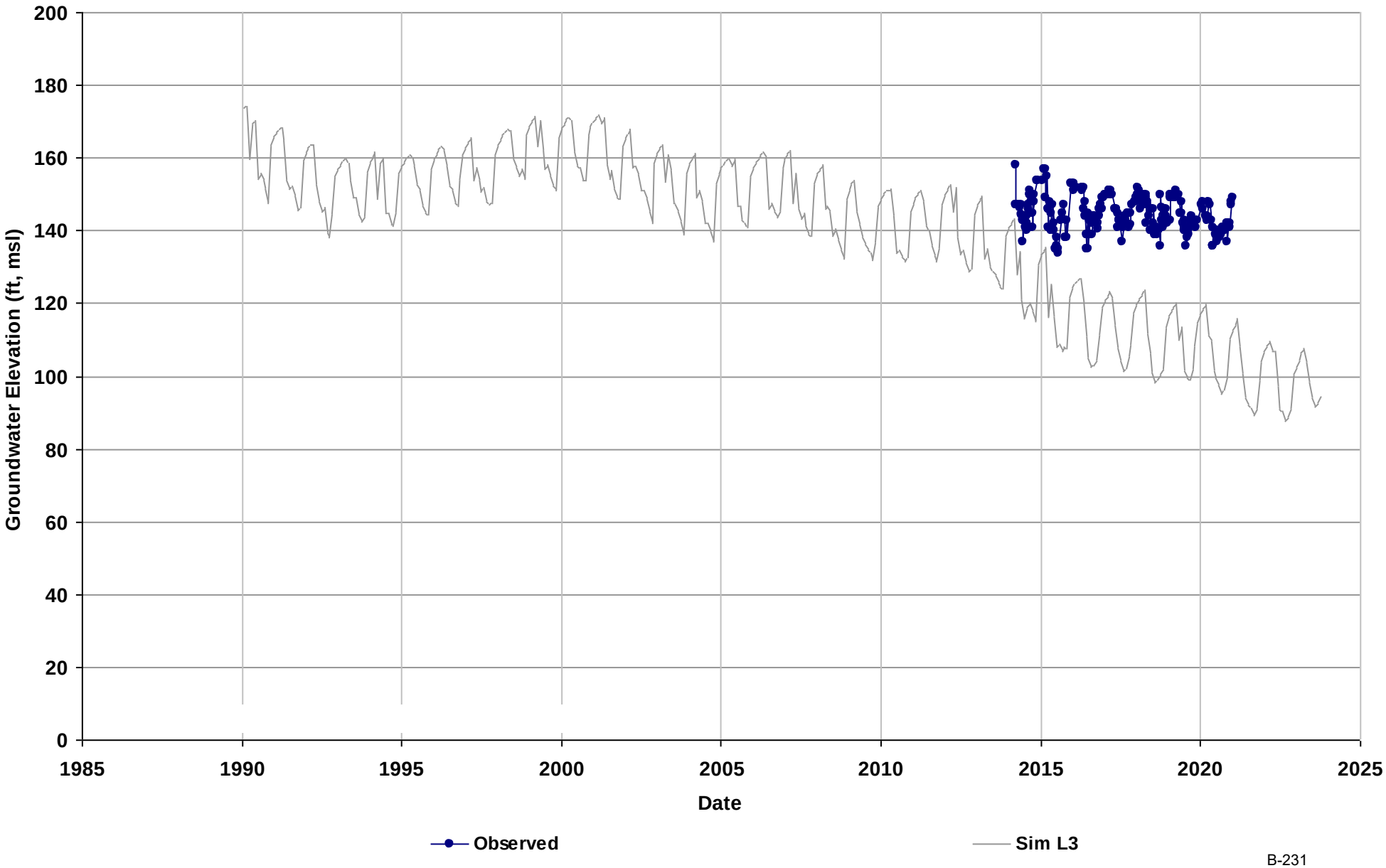
Total Depth (ft): 552
Perf Top (ft): 240
Perf Bottom (ft): 552
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MD36 Eastin Arcola
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 268

Average Residual (feet): -35.9
Layer 1:
Layer 2:
Layer 3: -32.15
Layer 4: -39.66
Layer 5:
Layer 6:

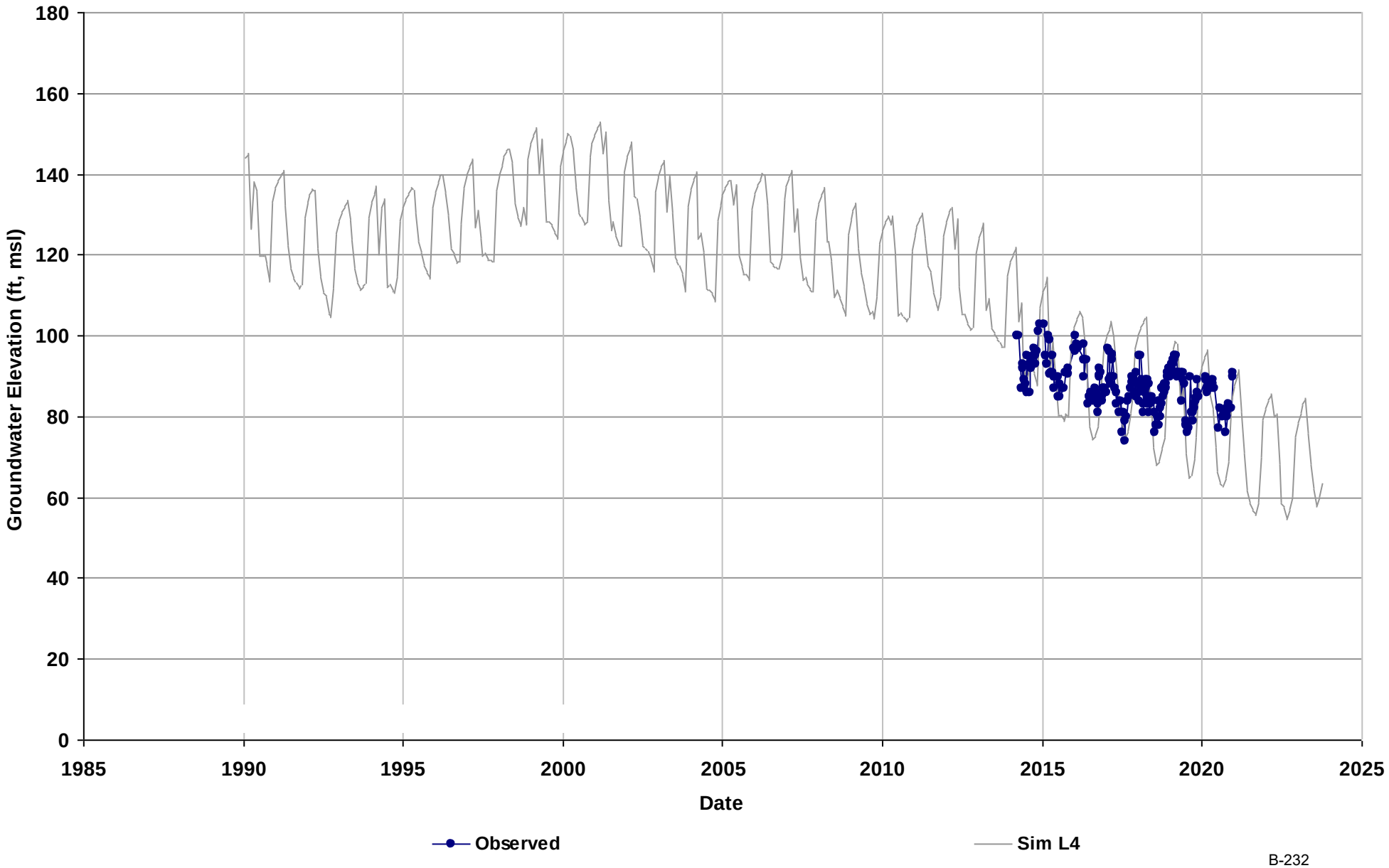
Total Depth (ft): 360
Perf Top (ft): 280
Perf Bottom (ft): 360
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: MD37 EAST La Vina
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 230

Average Residual (feet): -0.24
Layer 1:
Layer 2:
Layer 3:
Layer 4: -0.24
Layer 5:
Layer 6:

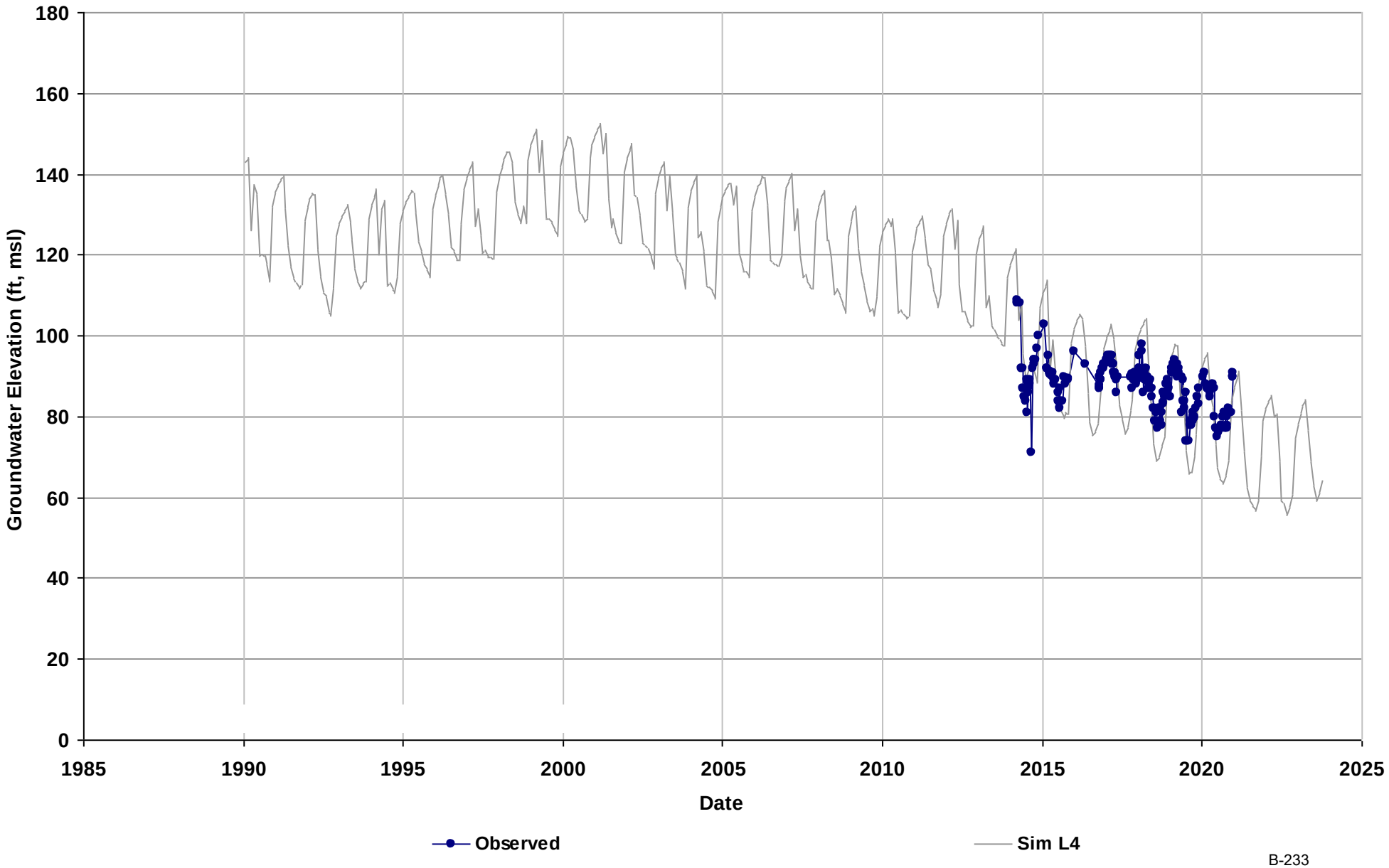
Total Depth (ft): 392
Perf Top (ft): 320
Perf Bottom (ft): 392
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MD37 WEST La Vina
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 229

Average Residual (feet): 0.27
Layer 1:
Layer 2:
Layer 3:
Layer 4: 0.27
Layer 5:
Layer 6:

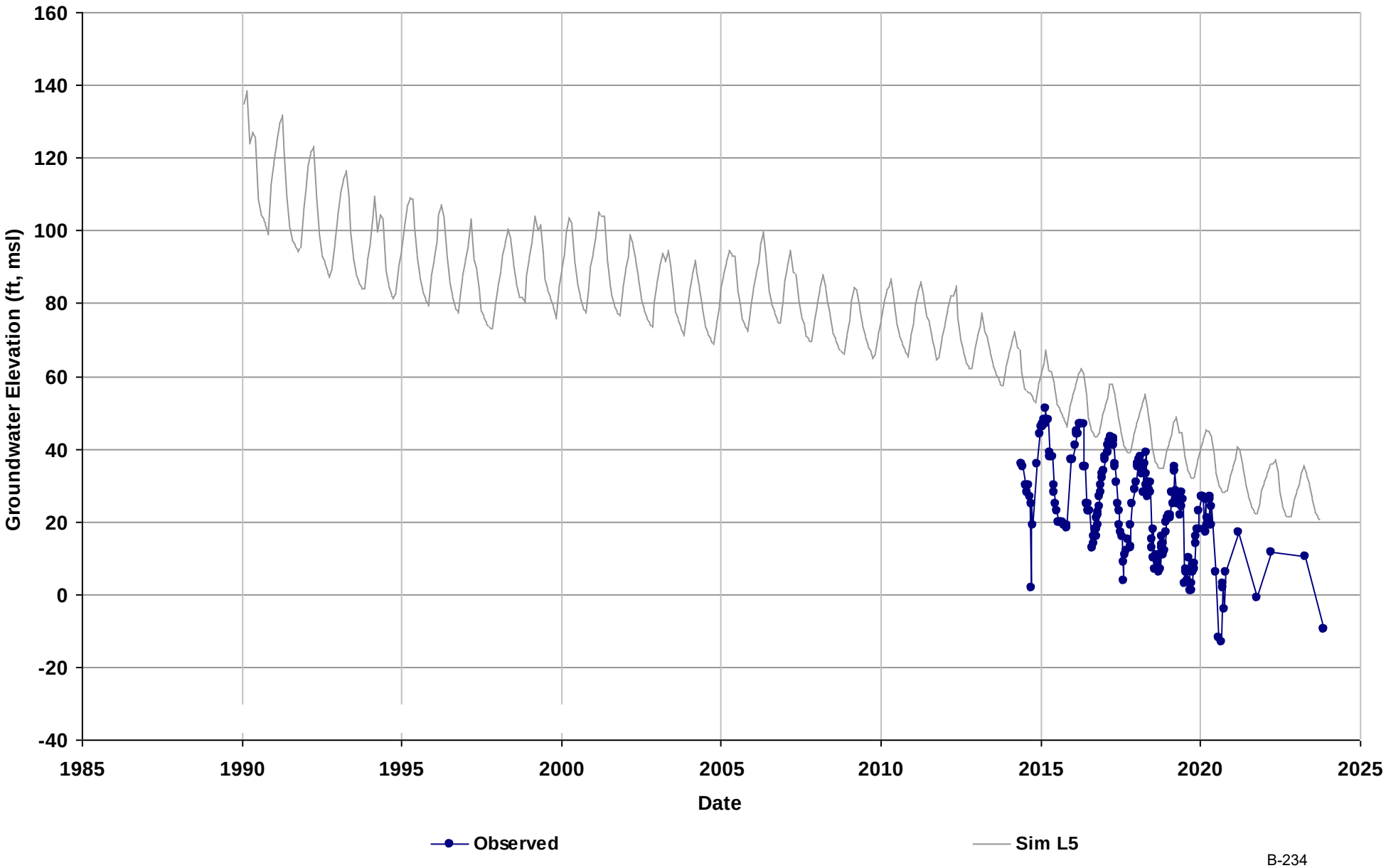
Total Depth (ft): 393
Perf Top (ft): 297
Perf Bottom (ft): 393
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MD95 Cont. Est. #1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 328

Average Residual (feet): 22.27
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 22.27
Layer 6:

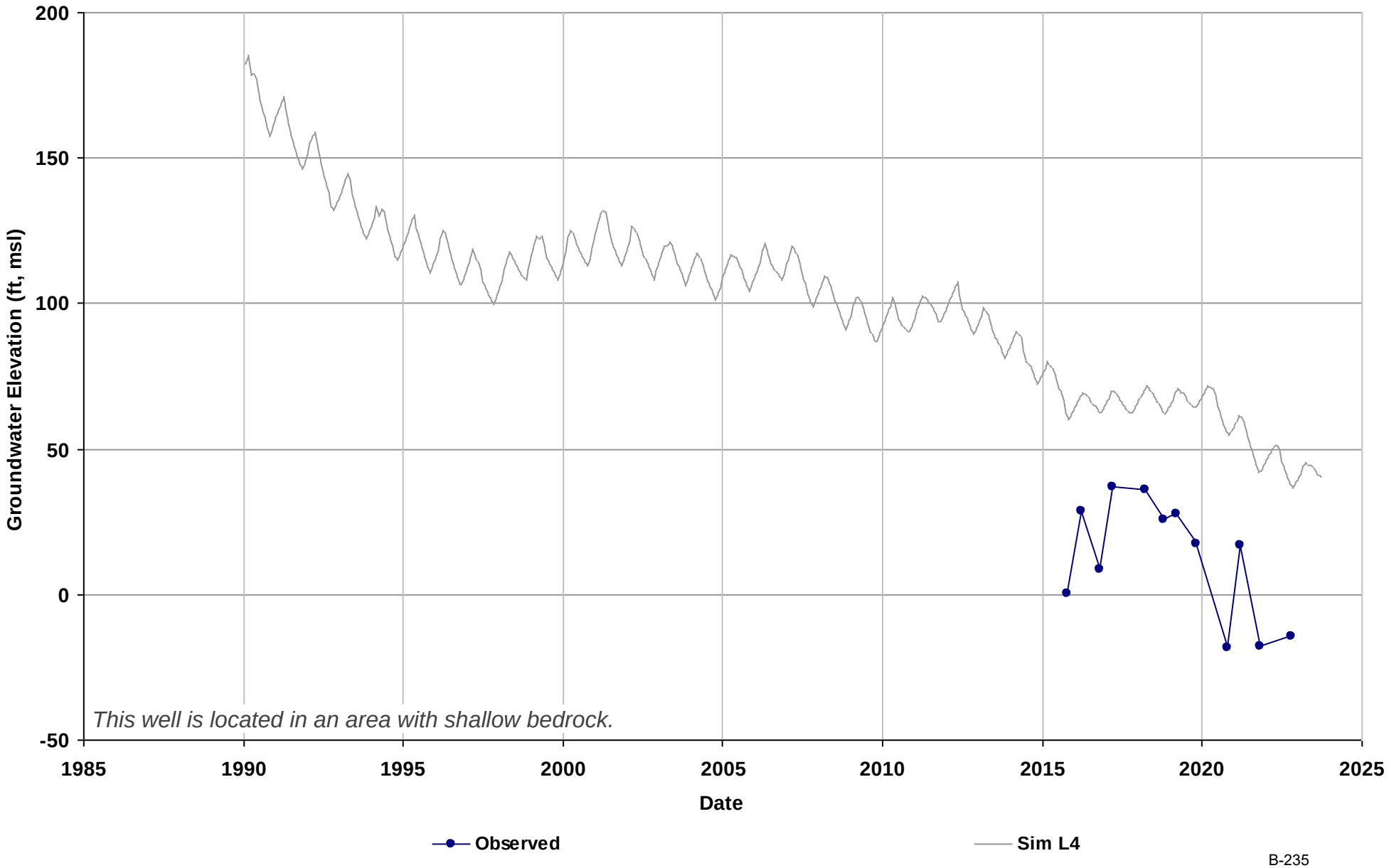
Total Depth (ft): 550
Perf Top (ft): 450
Perf Bottom (ft): 550
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MID 08
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 340

Average Residual (feet): 48.19
Layer 1:
Layer 2:
Layer 3:
Layer 4: 48.19
Layer 5:
Layer 6:

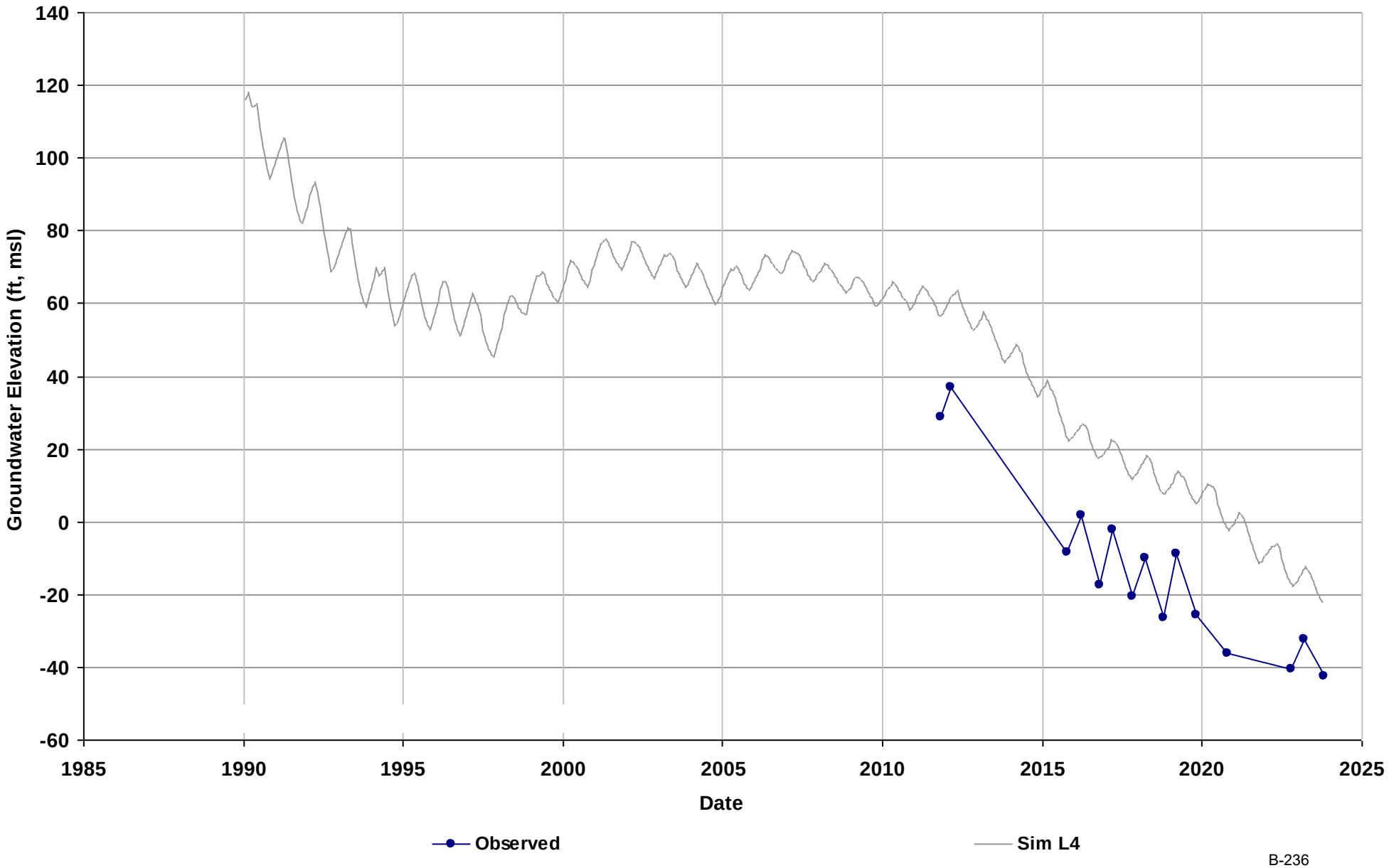
Total Depth (ft): 1000
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MID 09
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Average Residual (feet): 27.98
Layer 1:
Layer 2:
Layer 3:
Layer 4: 27.98
Layer 5:
Layer 6:

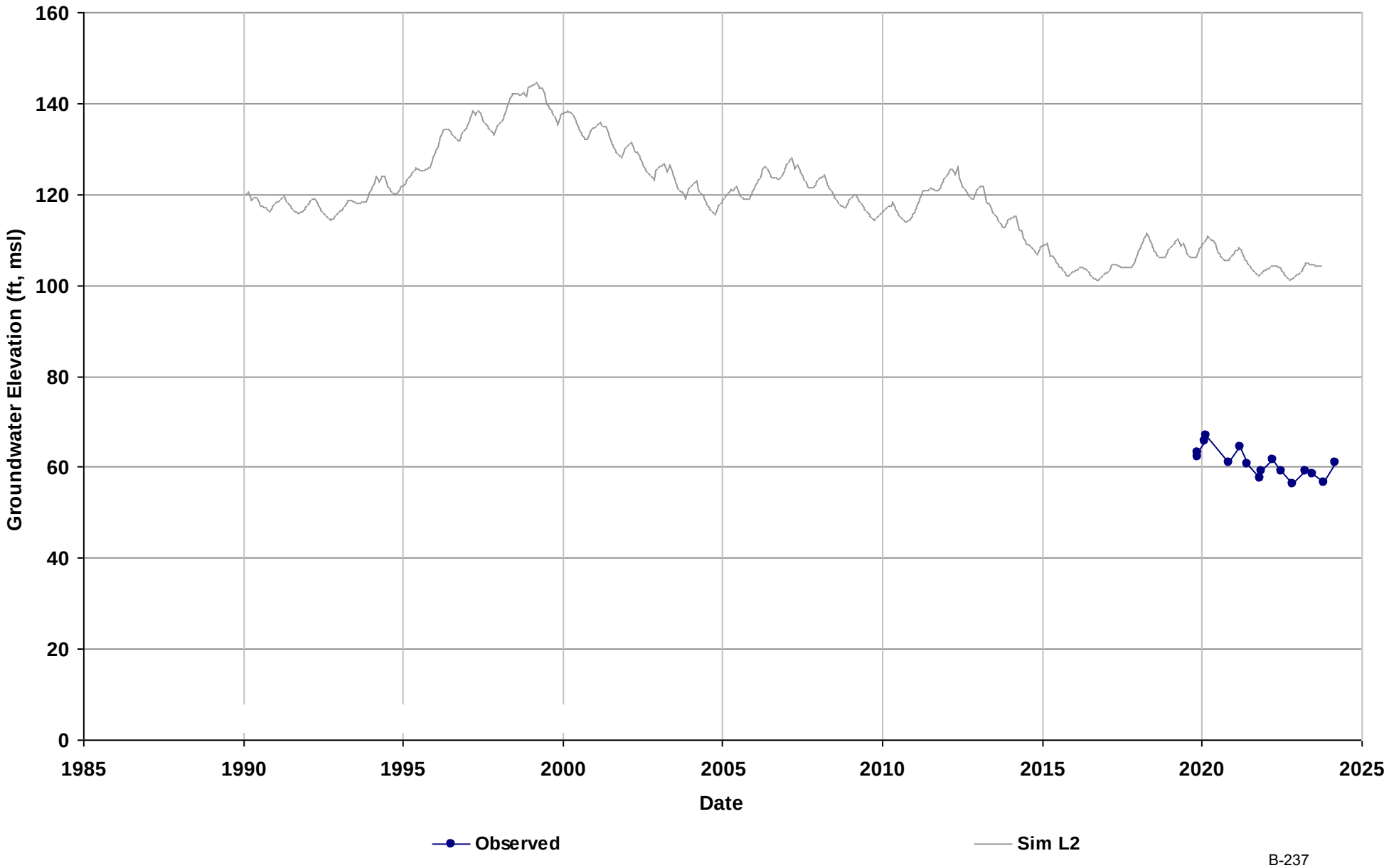
Total Depth (ft): 452
Perf Top (ft): 348
Perf Bottom (ft): 388
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB03A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 148

Average Residual (feet): 44.1
Layer 1:
Layer 2: 44.1
Layer 3:
Layer 4:
Layer 5:
Layer 6:

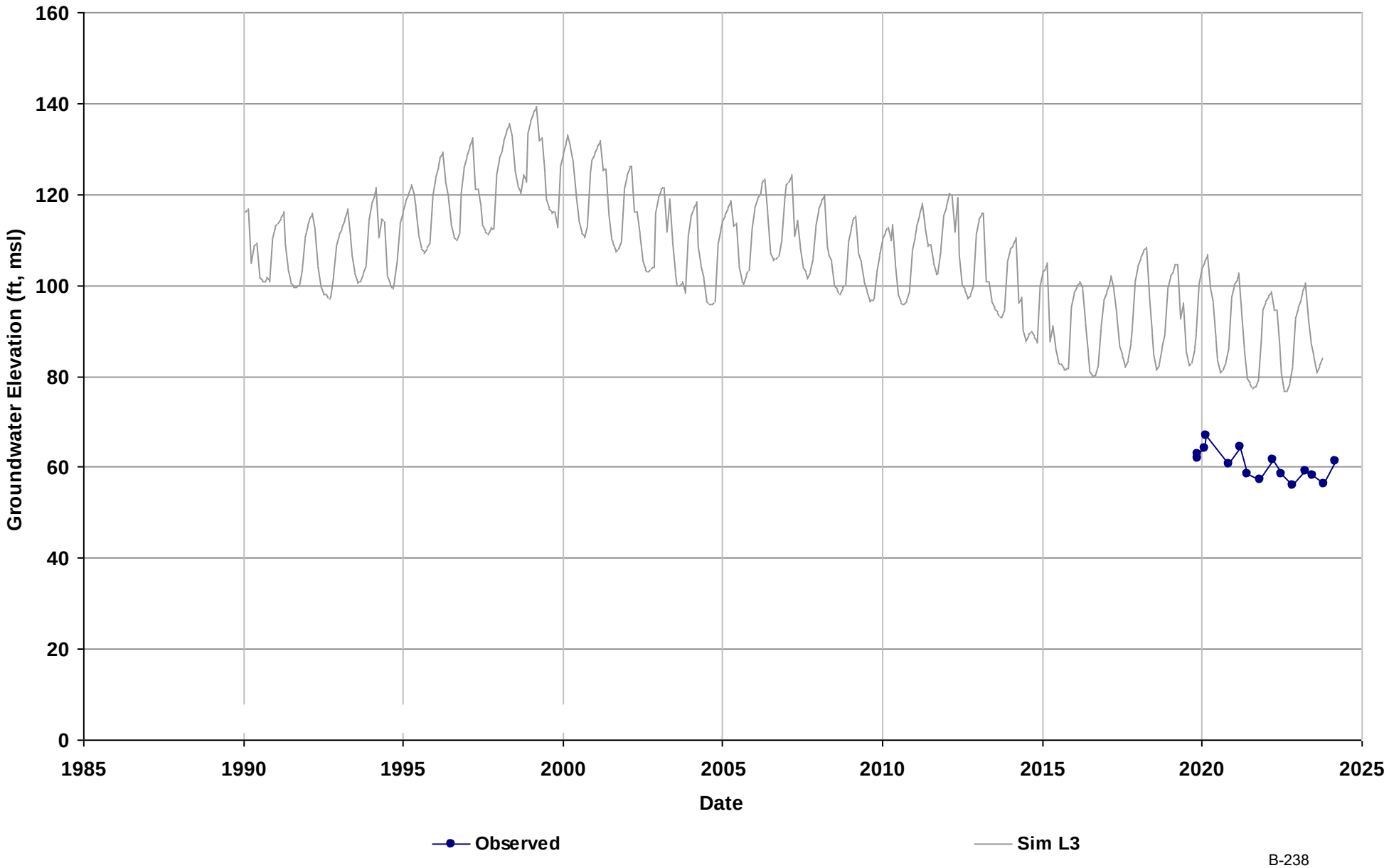
Total Depth (ft): 139
Perf Top (ft): 74
Perf Bottom (ft): 134
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: MSB03B
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 148

Average Residual (feet): 31.21
Layer 1:
Layer 2:
Layer 3: 31.21
Layer 4:
Layer 5:
Layer 6:

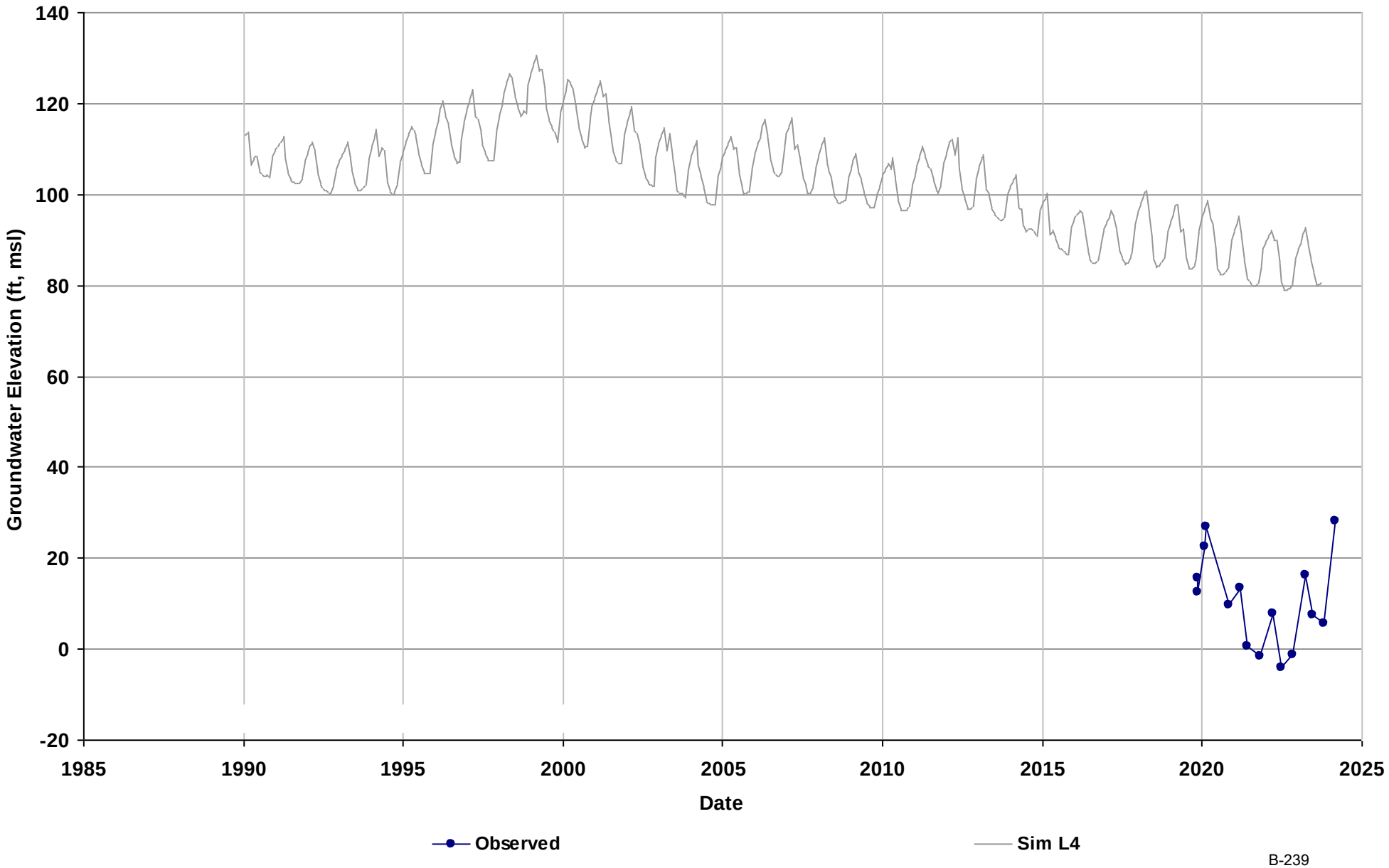
Total Depth (ft): 295
Perf Top (ft): 215
Perf Bottom (ft): 285
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: MSB03C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 148

Average Residual (feet): 80.31
Layer 1:
Layer 2:
Layer 3: 82.32
Layer 4: 78.31
Layer 5:
Layer 6:

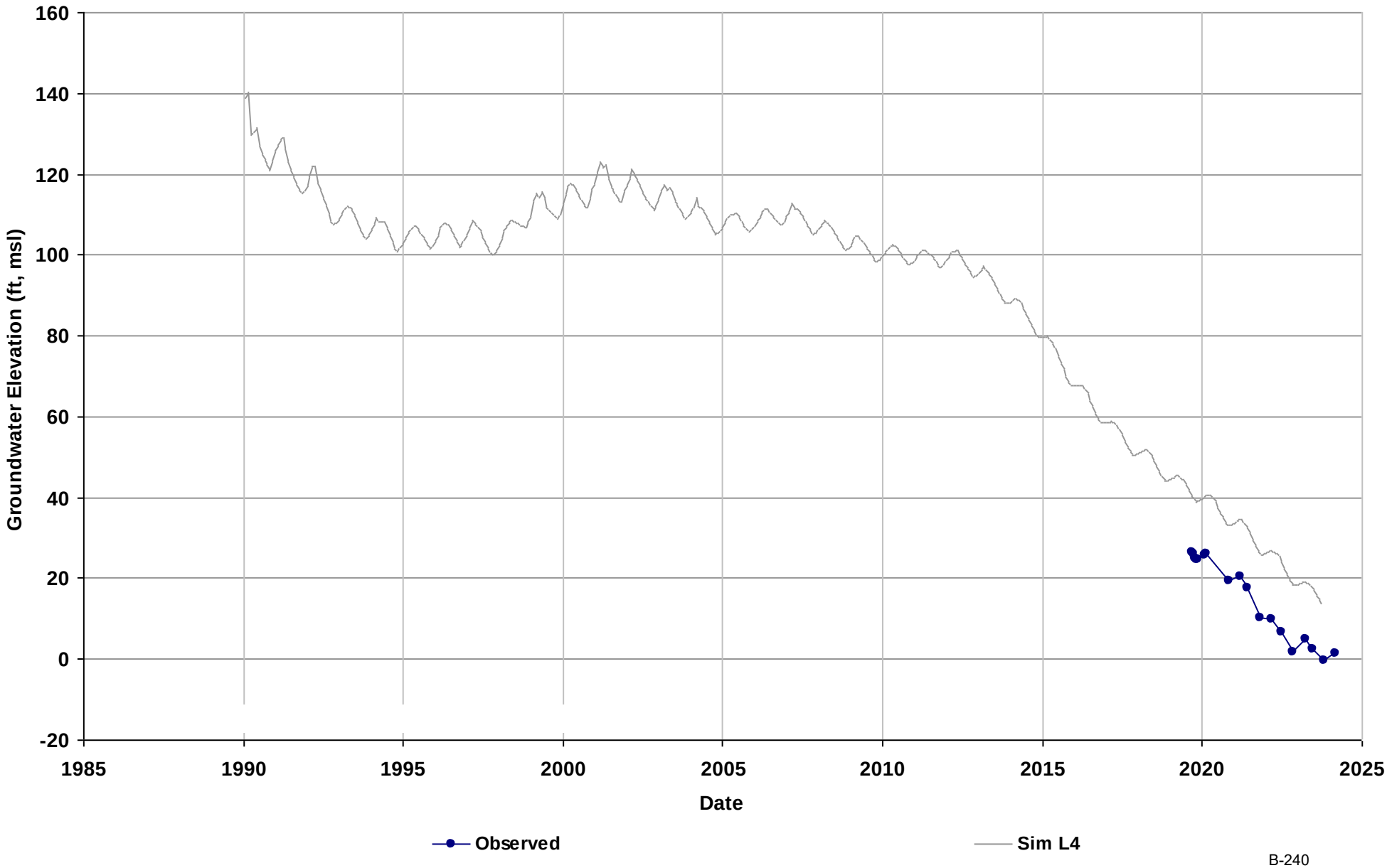
Total Depth (ft): 430
Perf Top (ft): 355
Perf Bottom (ft): 420
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB04A
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Average Residual (feet): 14.86
Layer 1:
Layer 2:
Layer 3:
Layer 4: 14.86
Layer 5:
Layer 6:

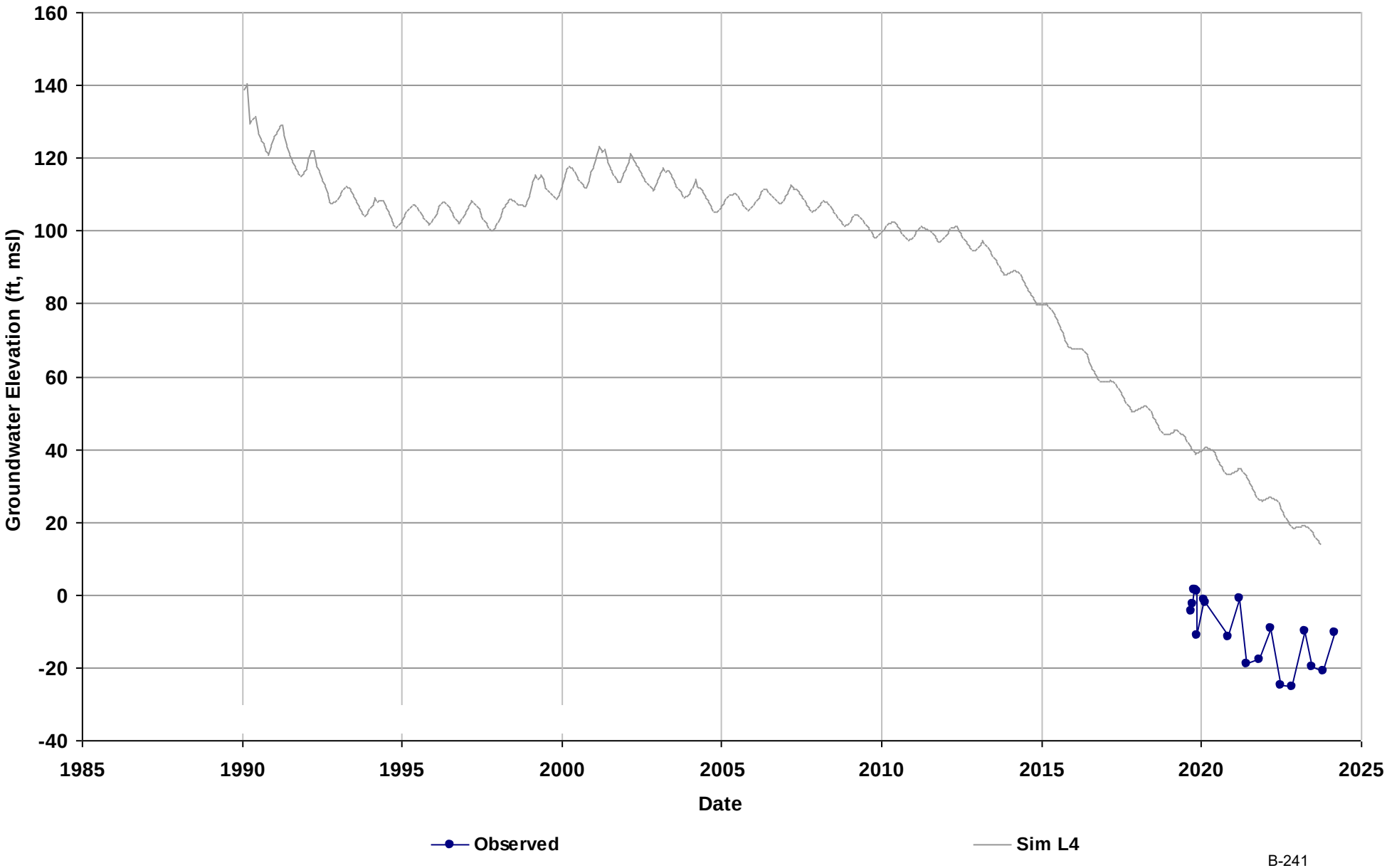
Total Depth (ft): 375
Perf Top (ft): 180
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB04B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Average Residual (feet): 39.84
Layer 1:
Layer 2:
Layer 3:
Layer 4: 41.45
Layer 5: 38.23
Layer 6:

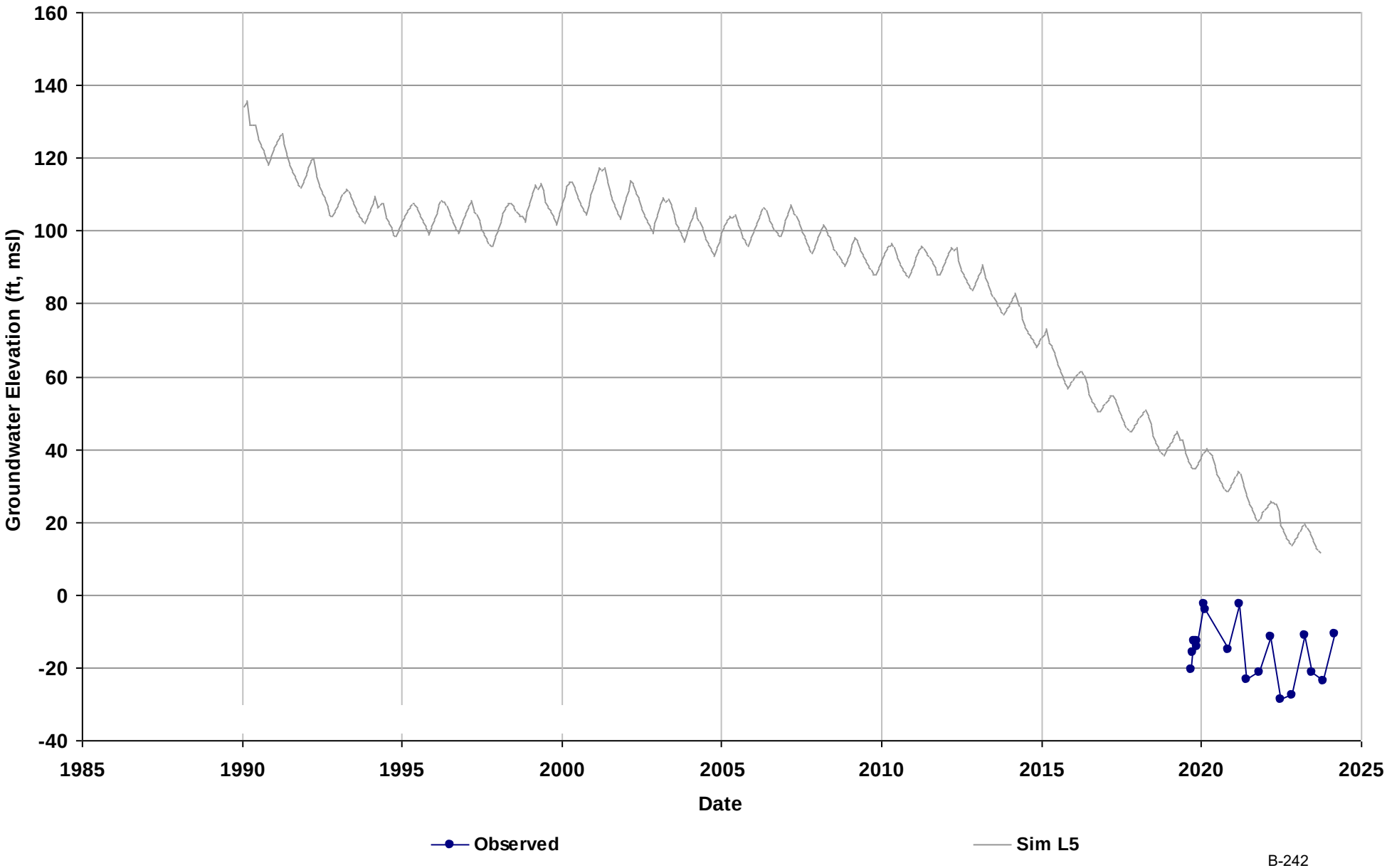
Total Depth (ft): 695
Perf Top (ft): 530
Perf Bottom (ft): 685
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB04C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Average Residual (feet): 44.14
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 44.14
Layer 6:

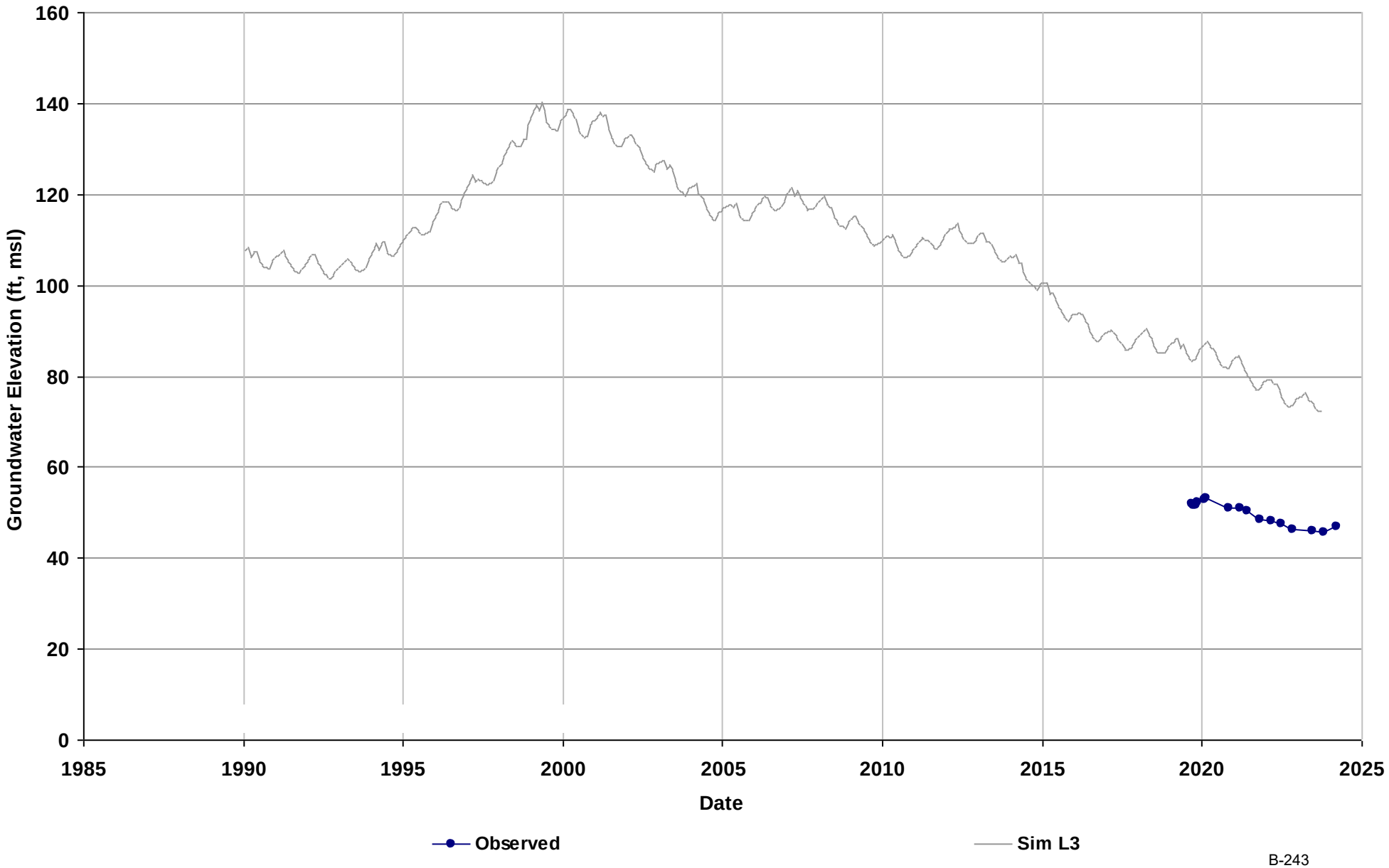
Total Depth (ft): 905
Perf Top (ft): 750
Perf Bottom (ft): 895
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MSB05A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 177

Average Residual (feet): 31.09
Layer 1:
Layer 2:
Layer 3: 31.09
Layer 4:
Layer 5:
Layer 6:

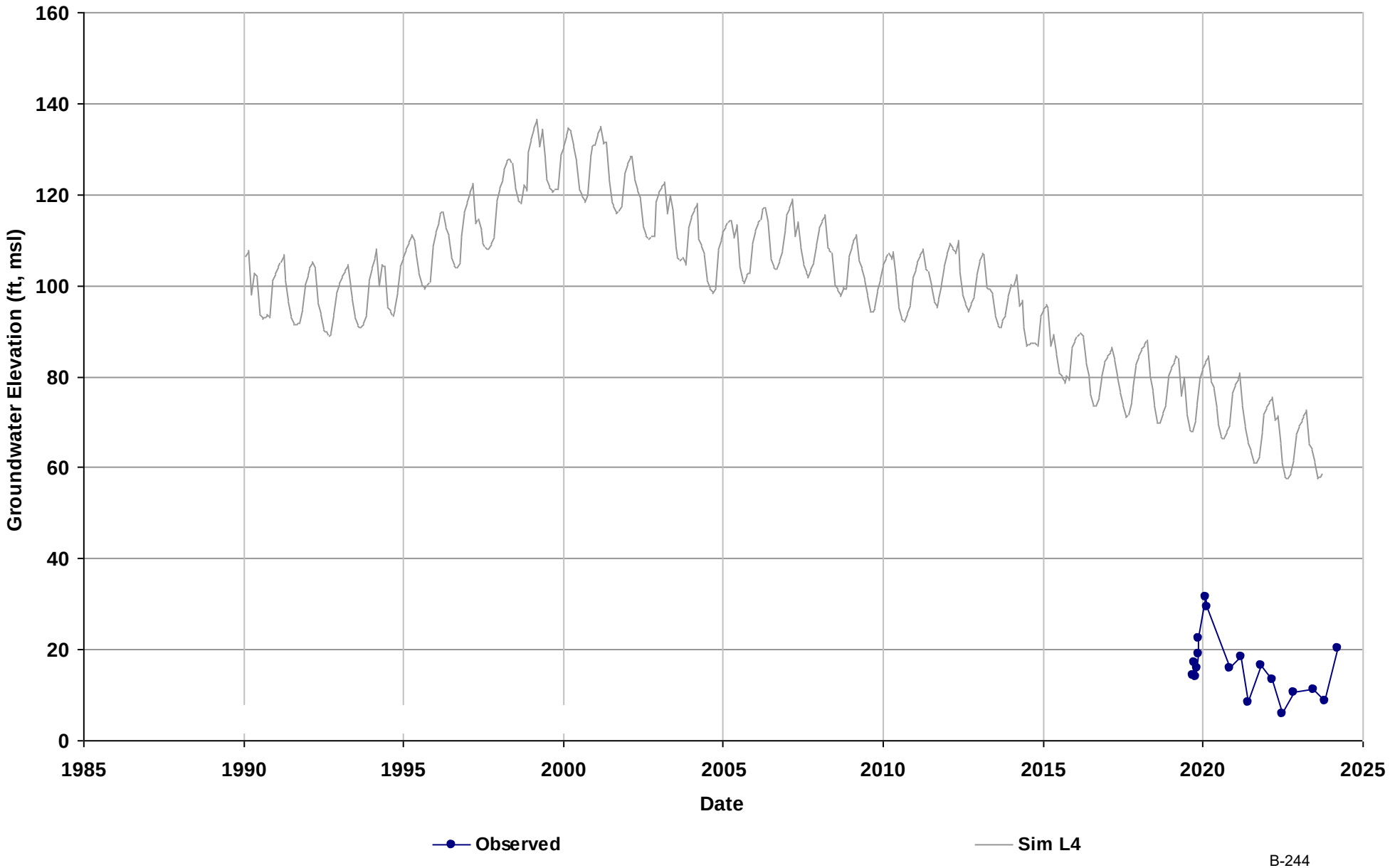
Total Depth (ft): 210
Perf Top (ft): 140
Perf Bottom (ft): 200
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: MSB05B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 177

Average Residual (feet): 54.64
Layer 1:
Layer 2:
Layer 3:
Layer 4: 54.64
Layer 5:
Layer 6:

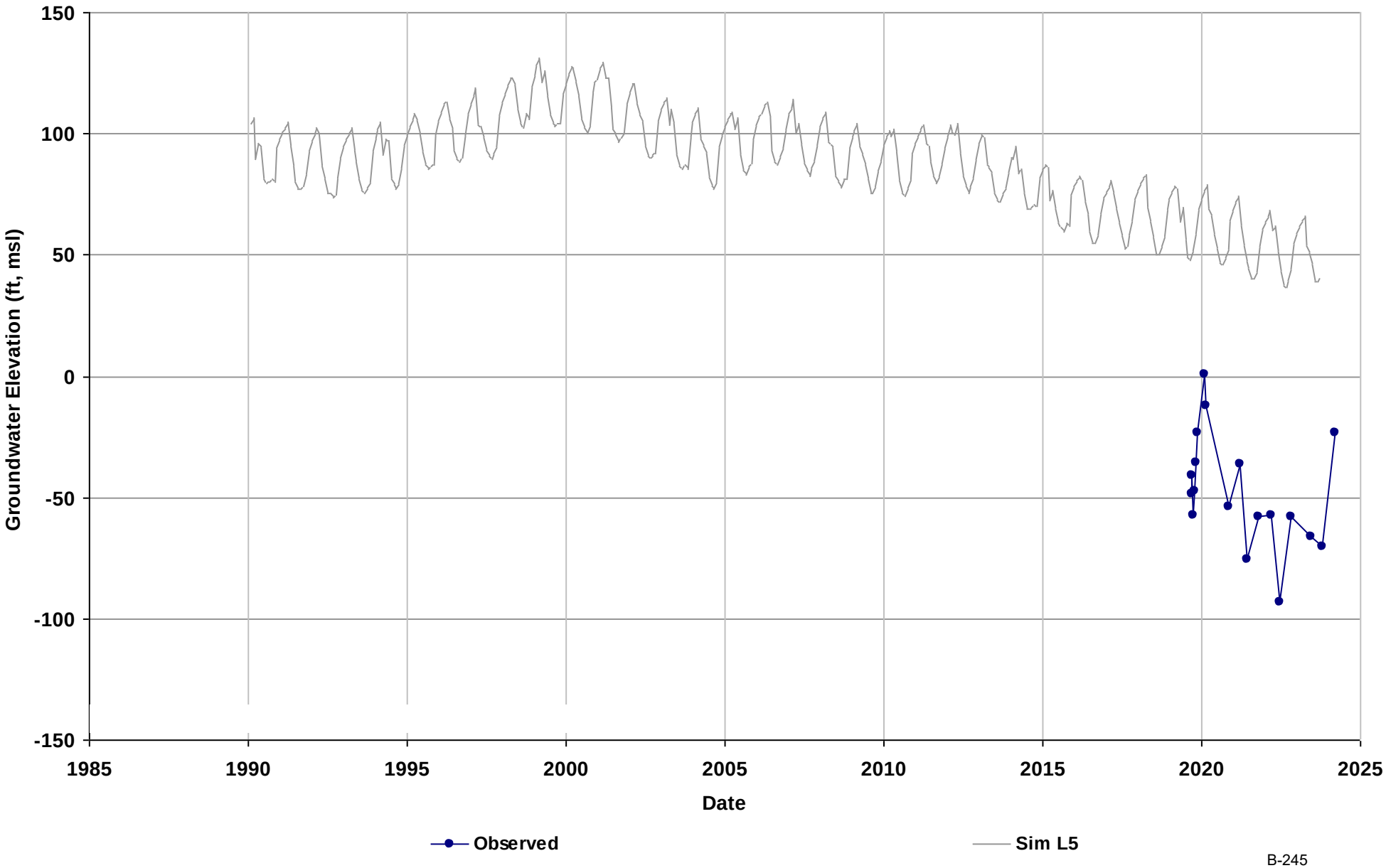
Total Depth (ft): 375
Perf Top (ft): 240
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB05C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 177

Average Residual (feet): 104.48
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 104.48
Layer 6:

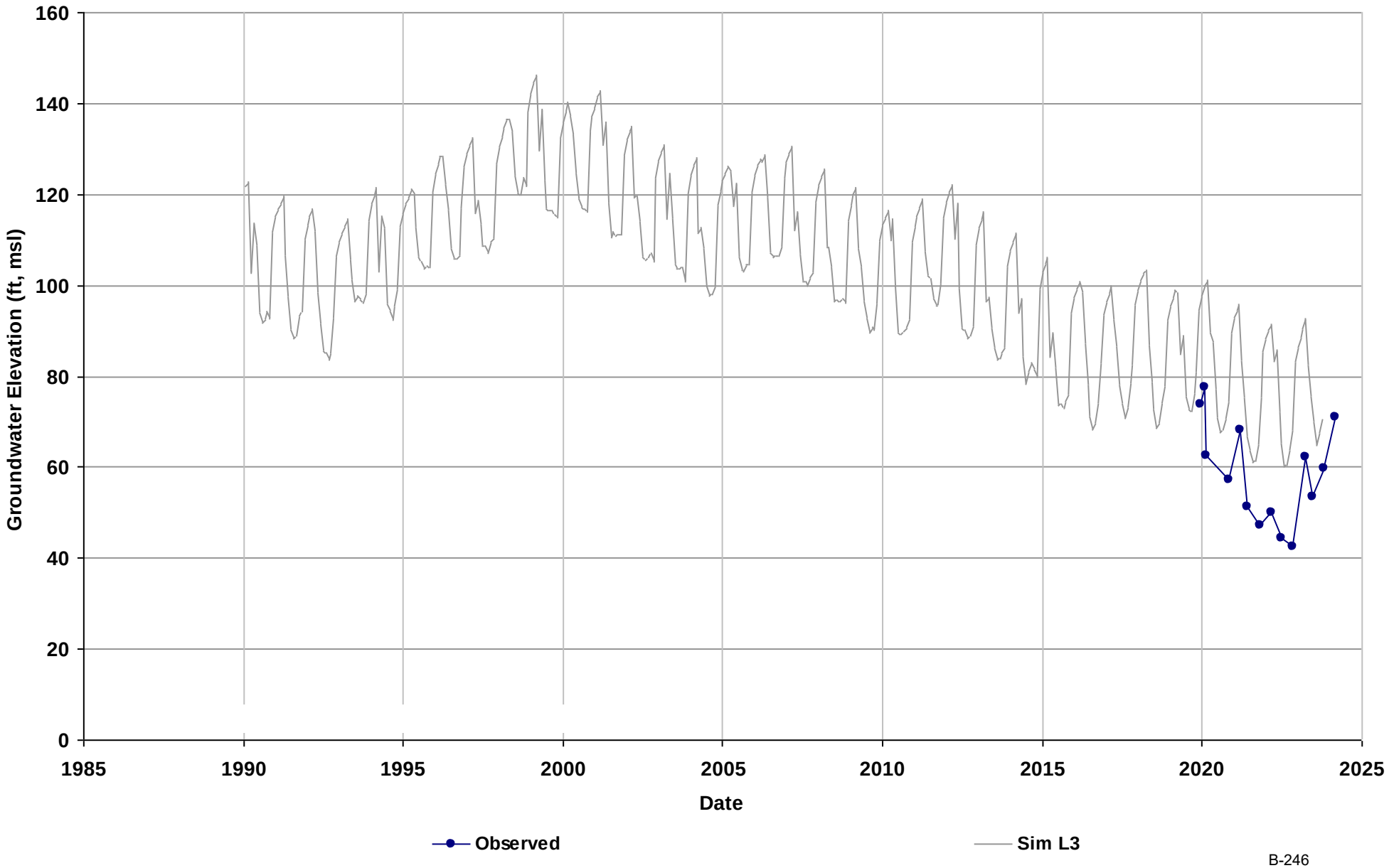
Total Depth (ft): 585
Perf Top (ft): 420
Perf Bottom (ft): 585
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MSB06A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 192

Average Residual (feet): 25.34
Layer 1:
Layer 2:
Layer 3: 25.34
Layer 4:
Layer 5:
Layer 6:

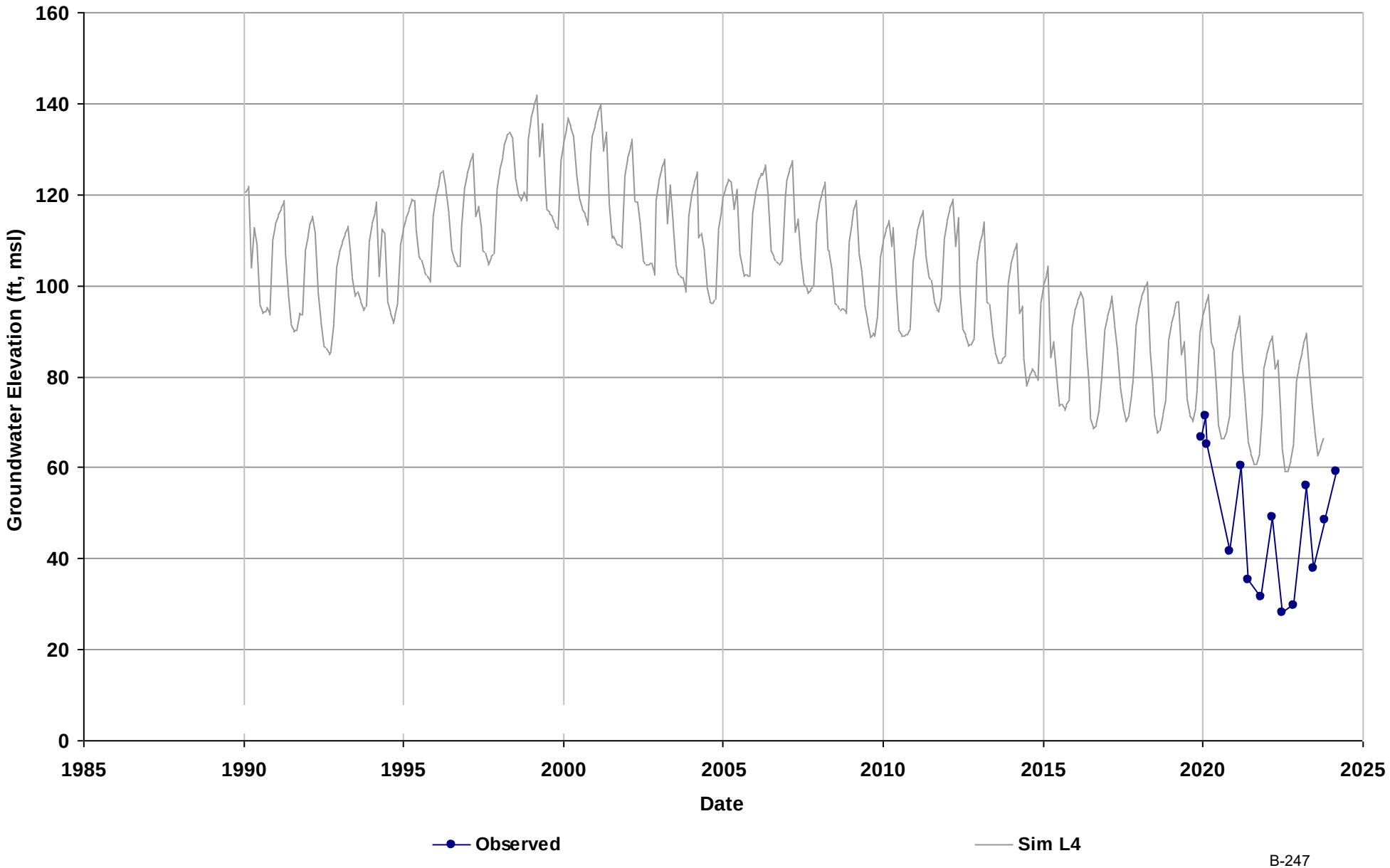
Total Depth (ft): 350
Perf Top (ft): 135
Perf Bottom (ft): 340
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: MSB06B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 192

Average Residual (feet): 32.6
Layer 1:
Layer 2:
Layer 3:
Layer 4: 32.6
Layer 5:
Layer 6:

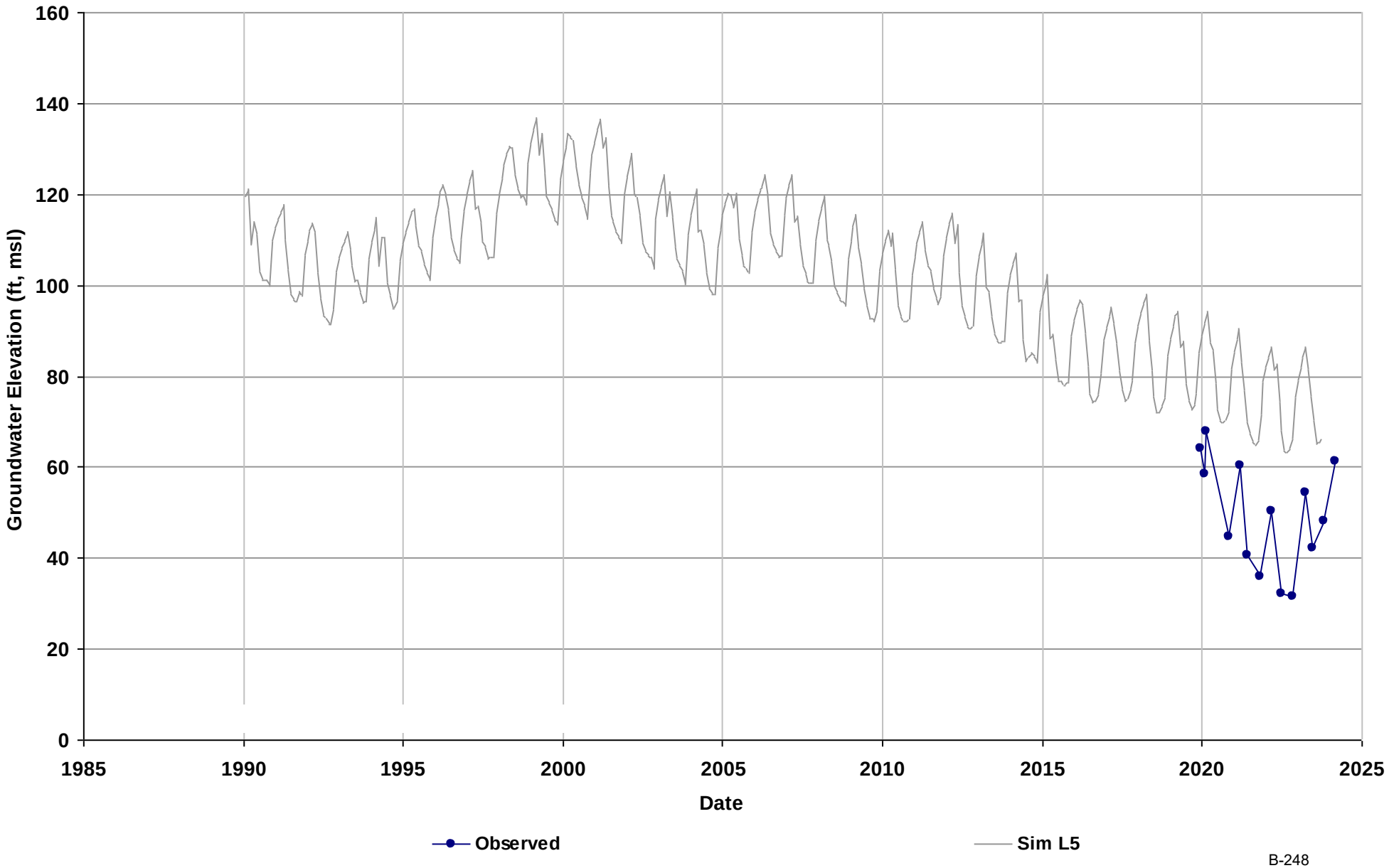
Total Depth (ft): 520
Perf Top (ft): 425
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB06C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 192

Average Residual (feet): 30.96
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 30.96
Layer 6:

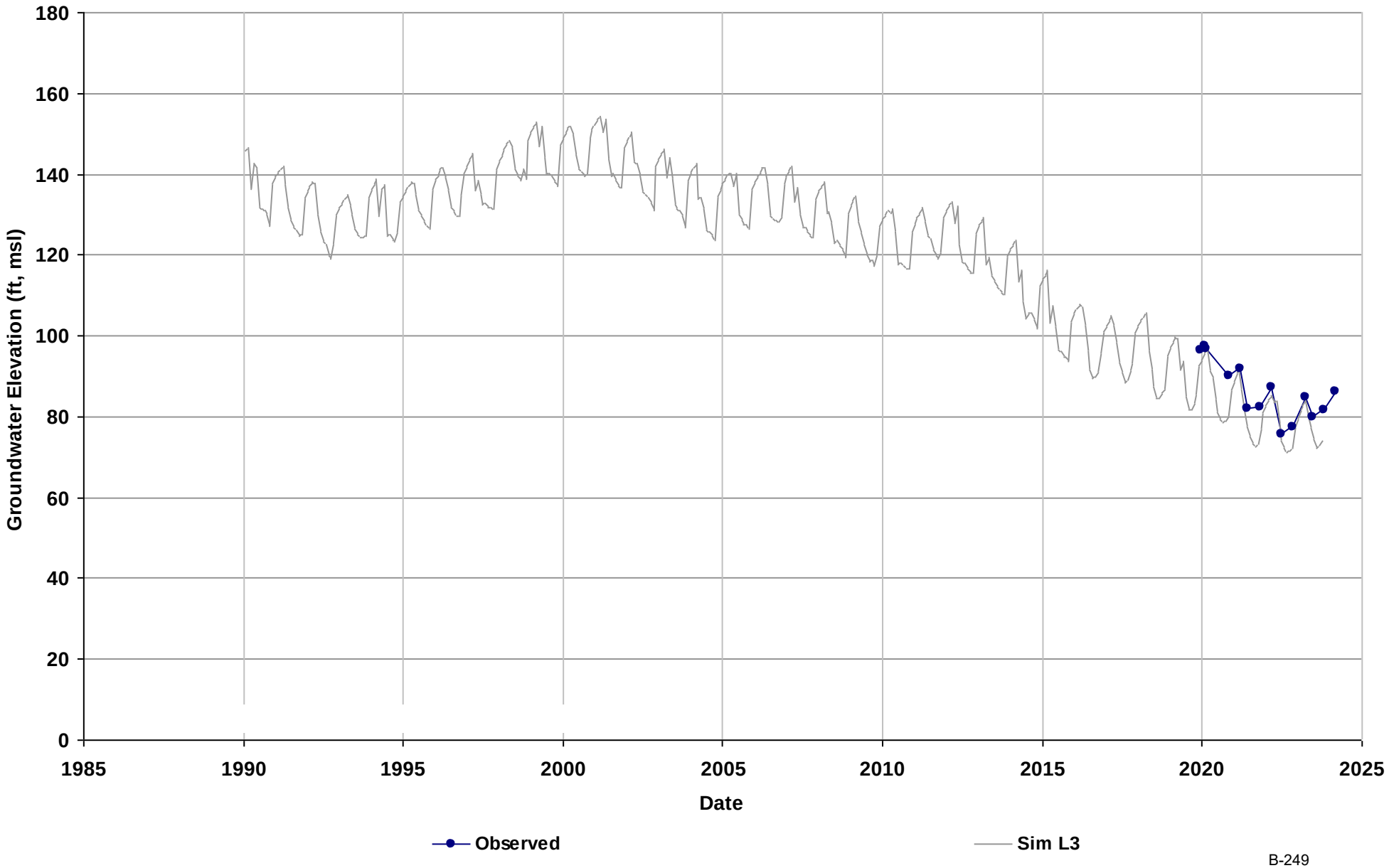
Total Depth (ft): 715
Perf Top (ft): 630
Perf Bottom (ft): 705
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MSB09A
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 233

Average Residual (feet): -6.75
Layer 1:
Layer 2:
Layer 3: -3.3
Layer 4: -10.2
Layer 5:
Layer 6:

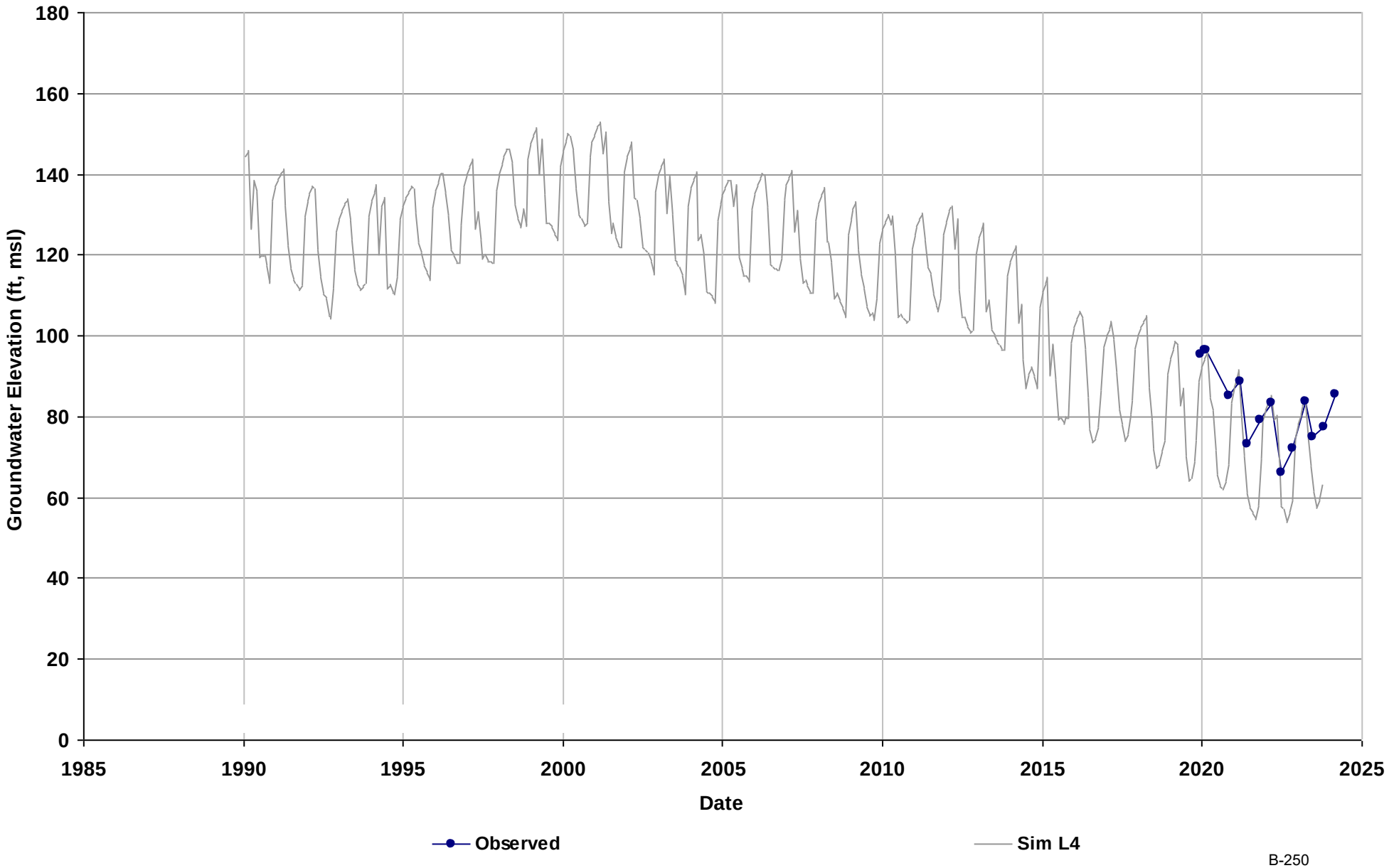
Total Depth (ft): 320
Perf Top (ft): 200
Perf Bottom (ft): 310
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: MSB09B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Average Residual (feet): -7.25
Layer 1:
Layer 2:
Layer 3:
Layer 4: -6.23
Layer 5: -8.27
Layer 6:

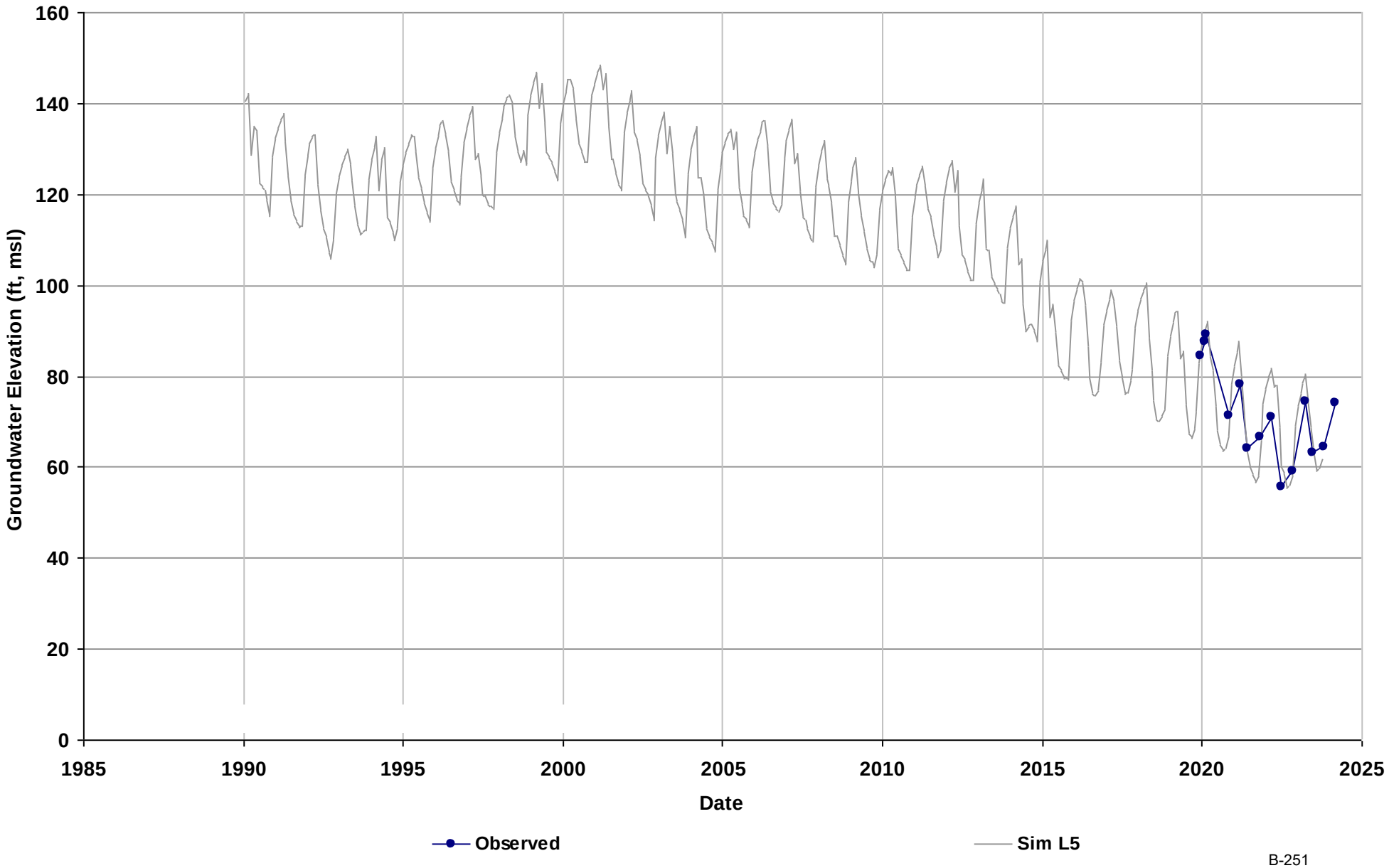
Total Depth (ft): 725
Perf Top (ft): 520
Perf Bottom (ft): 715
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB09C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Average Residual (feet): 2.99
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 2.56
Layer 6: 3.42

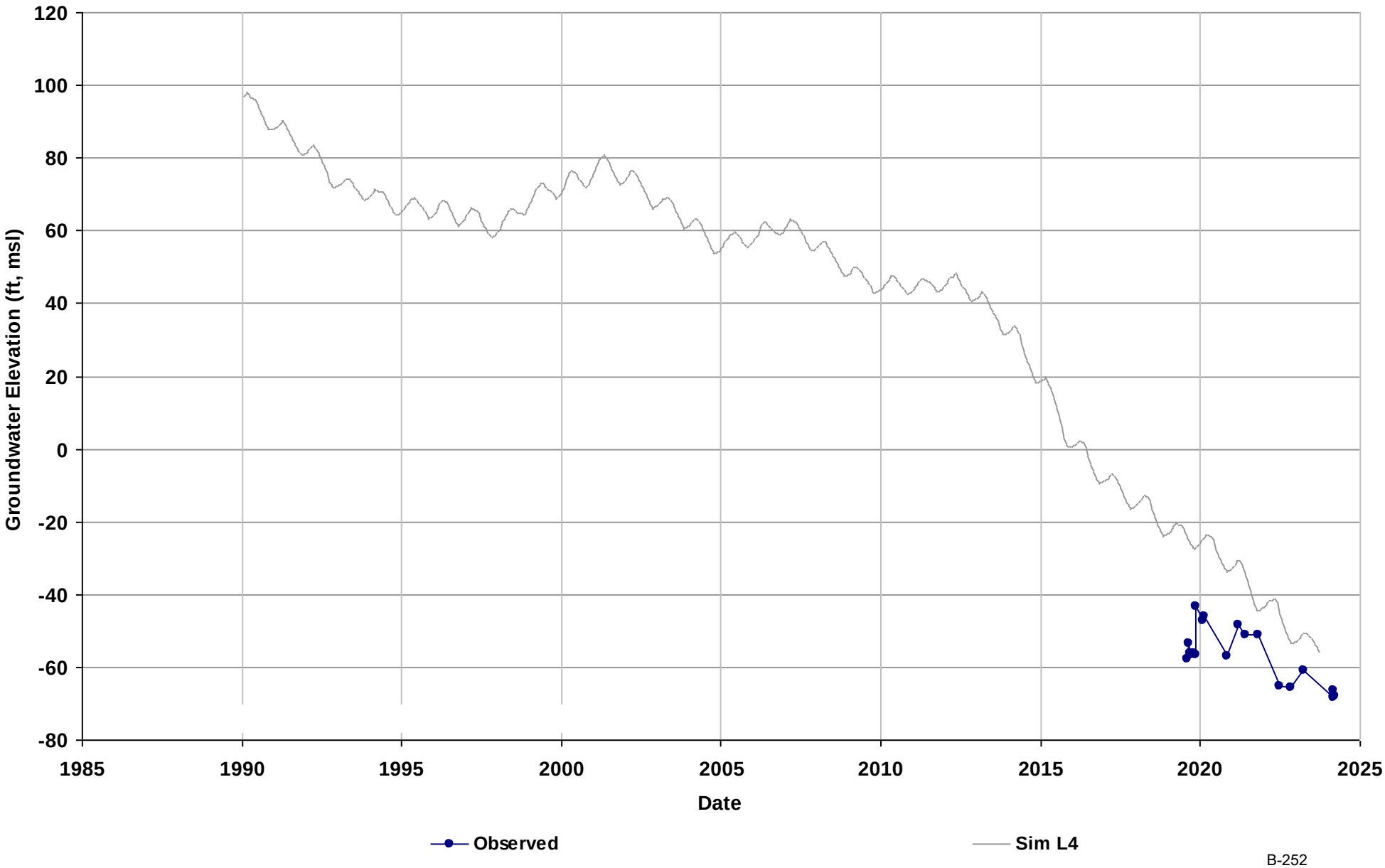
Total Depth (ft): 955
Perf Top (ft): 880
Perf Bottom (ft): 945
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MSB10A
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Average Residual (feet): 22.07
Layer 1:
Layer 2:
Layer 3:
Layer 4: 22.07
Layer 5:
Layer 6:

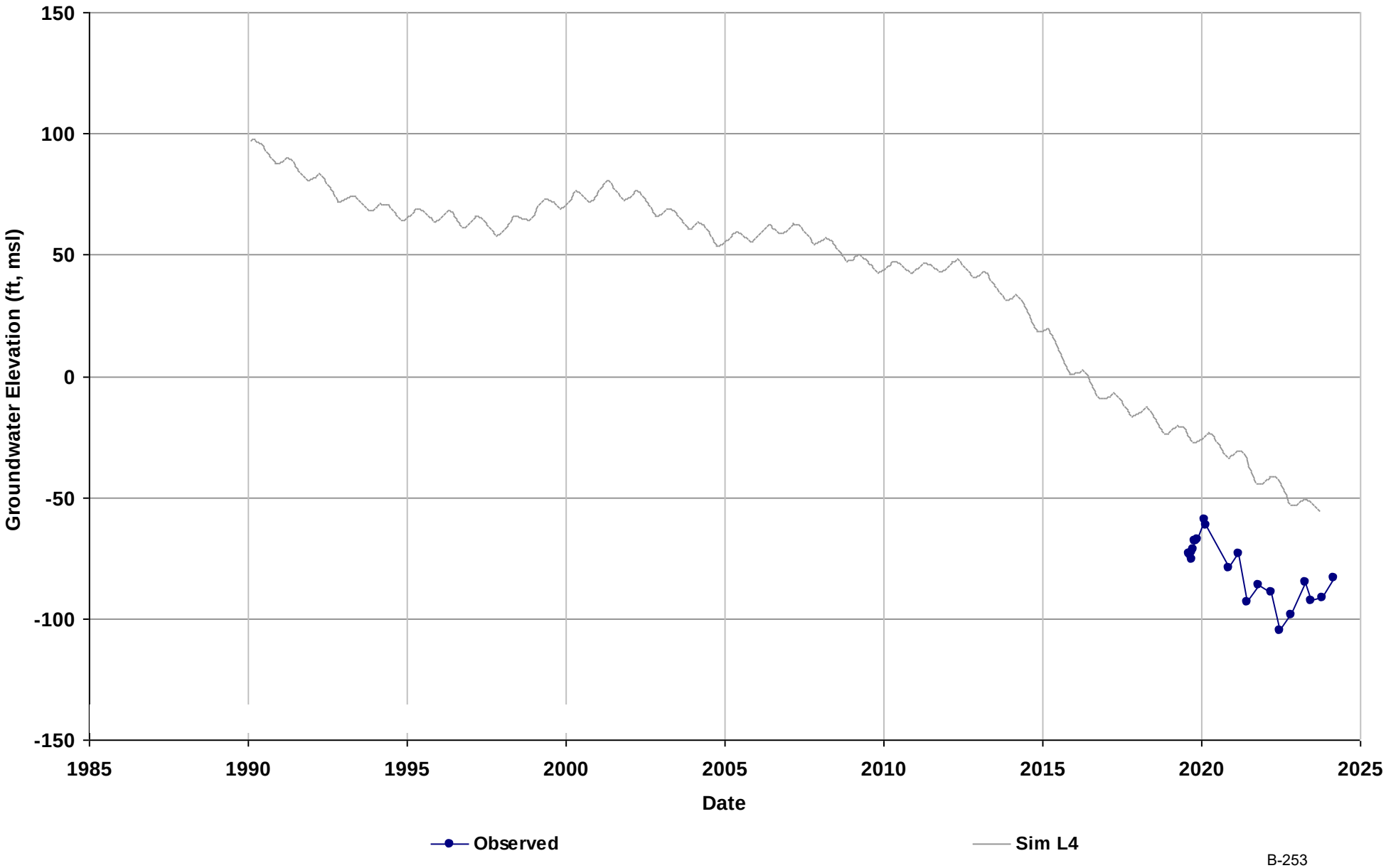
Total Depth (ft): 330
Perf Top (ft): 190
Perf Bottom (ft): 320
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB10B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Average Residual (feet): 44.47
Layer 1:
Layer 2:
Layer 3:
Layer 4: 44.47
Layer 5:
Layer 6:

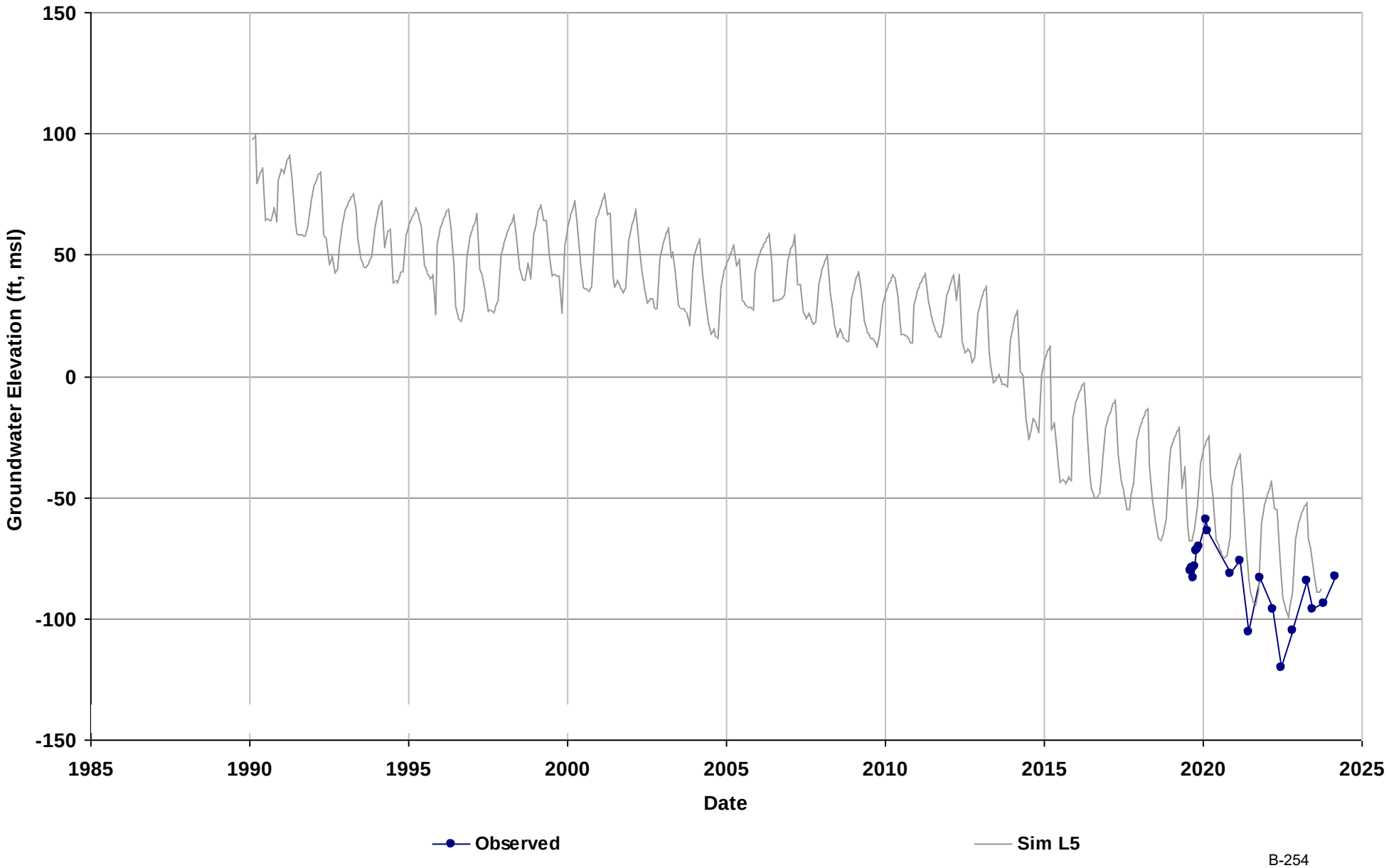
Total Depth (ft): 510
Perf Top (ft): 400
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB10C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Average Residual (feet): 23.43
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 23.43
Layer 6:

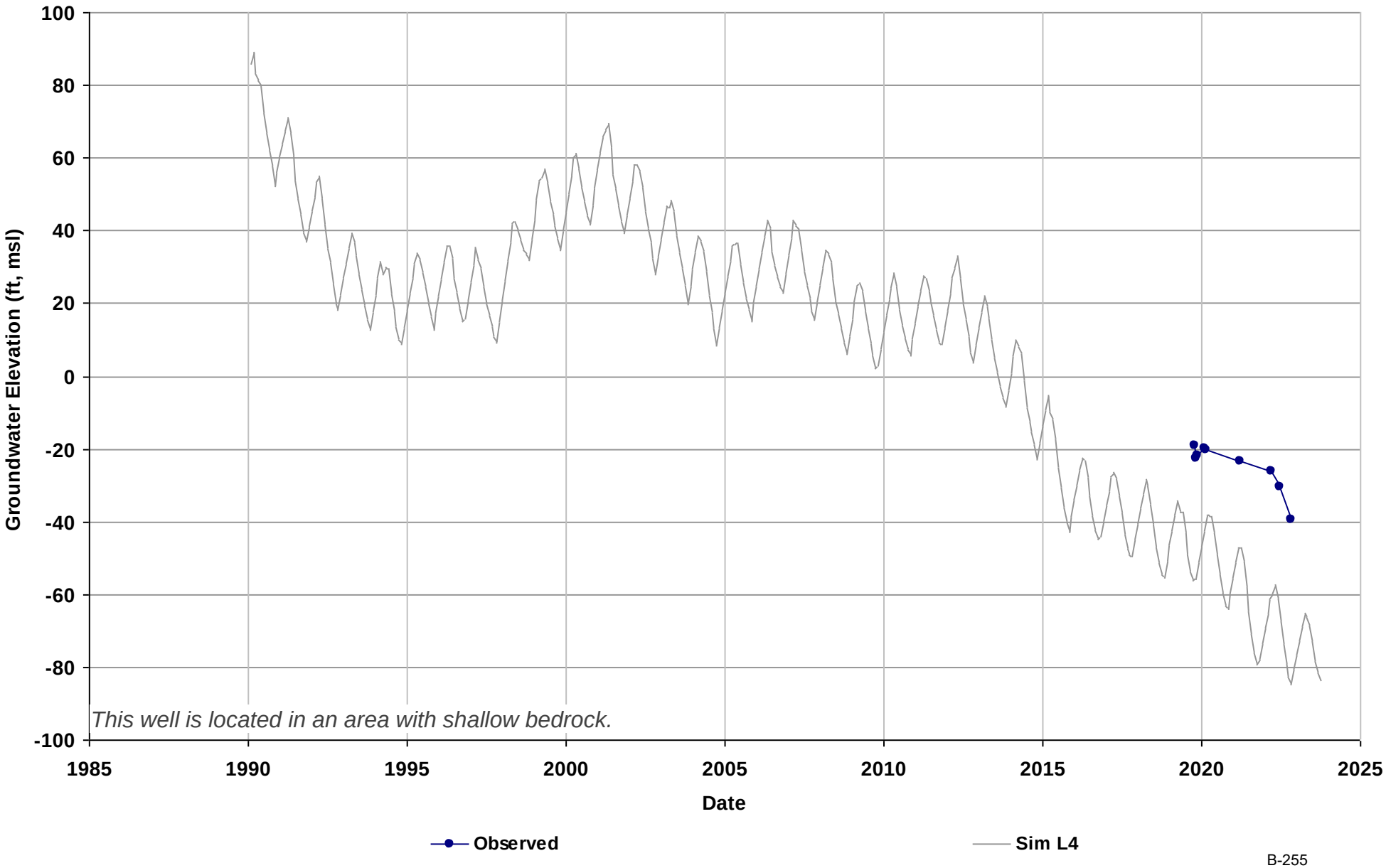
Total Depth (ft): 880
Perf Top (ft): 790
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MSB11A
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Average Residual (feet): -31.53
Layer 1:
Layer 2:
Layer 3:
Layer 4: -31.53
Layer 5:
Layer 6:

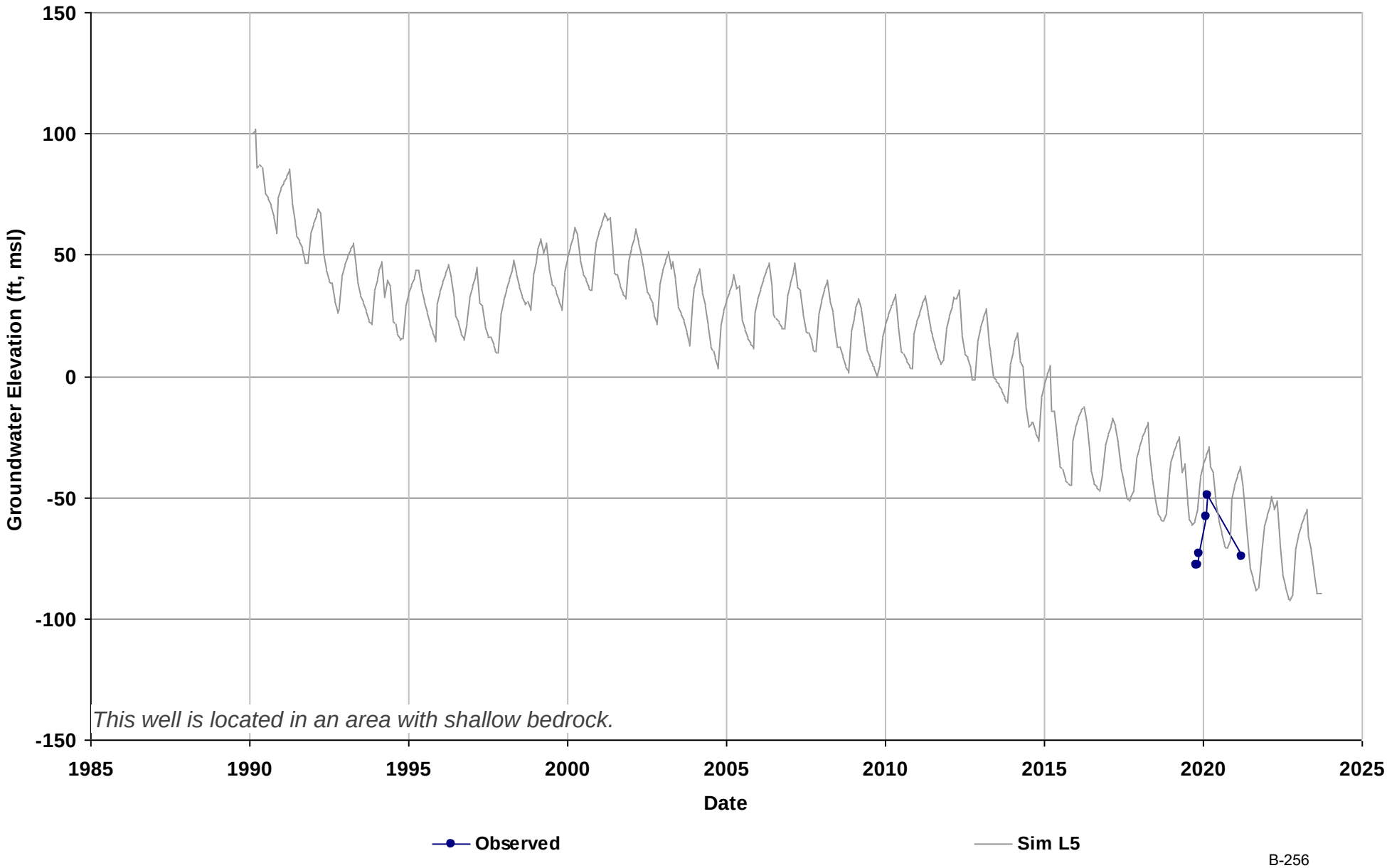
Total Depth (ft): 345
Perf Top (ft): 185
Perf Bottom (ft): 335
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB11B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Average Residual (feet): 24.42
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 24.42
Layer 6:

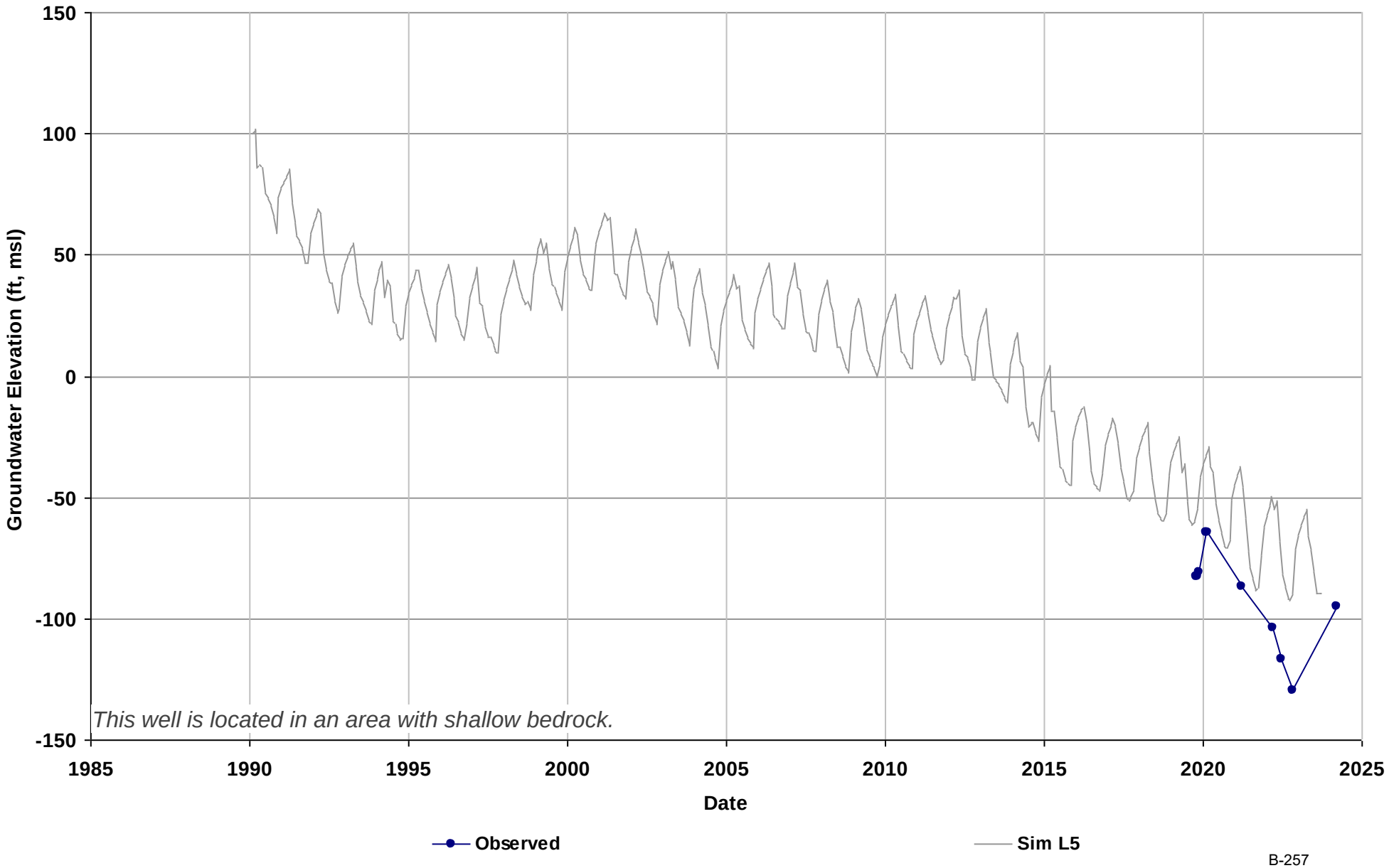
Total Depth (ft): 700
Perf Top (ft): 550
Perf Bottom (ft): 690
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MSB11C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Average Residual (feet): 36.83
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 36.83
Layer 6:

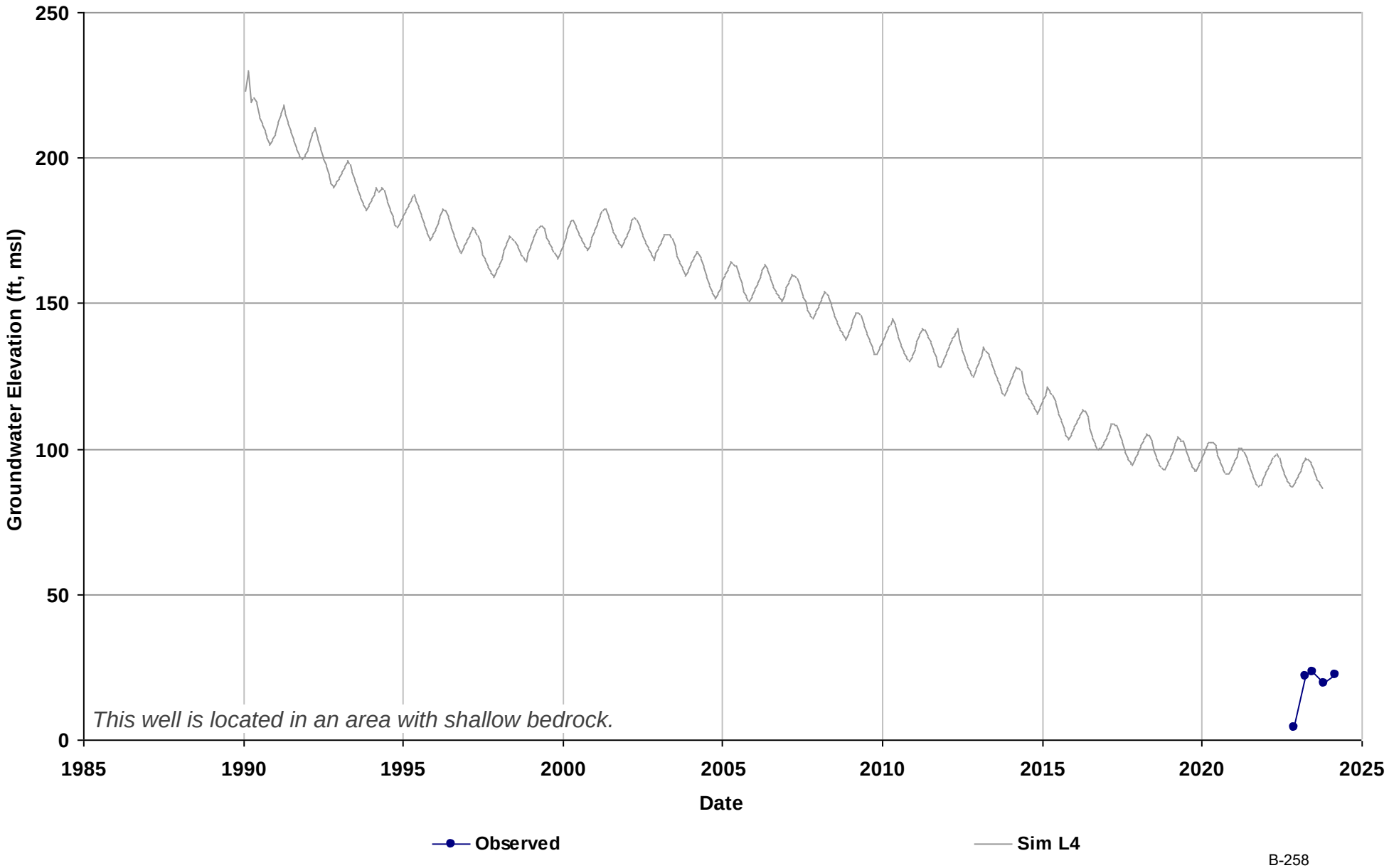
Total Depth (ft): 880
Perf Top (ft): 775
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MSB12
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Average Residual (feet): 76.19
Layer 1:
Layer 2:
Layer 3:
Layer 4: 76.19
Layer 5:
Layer 6:

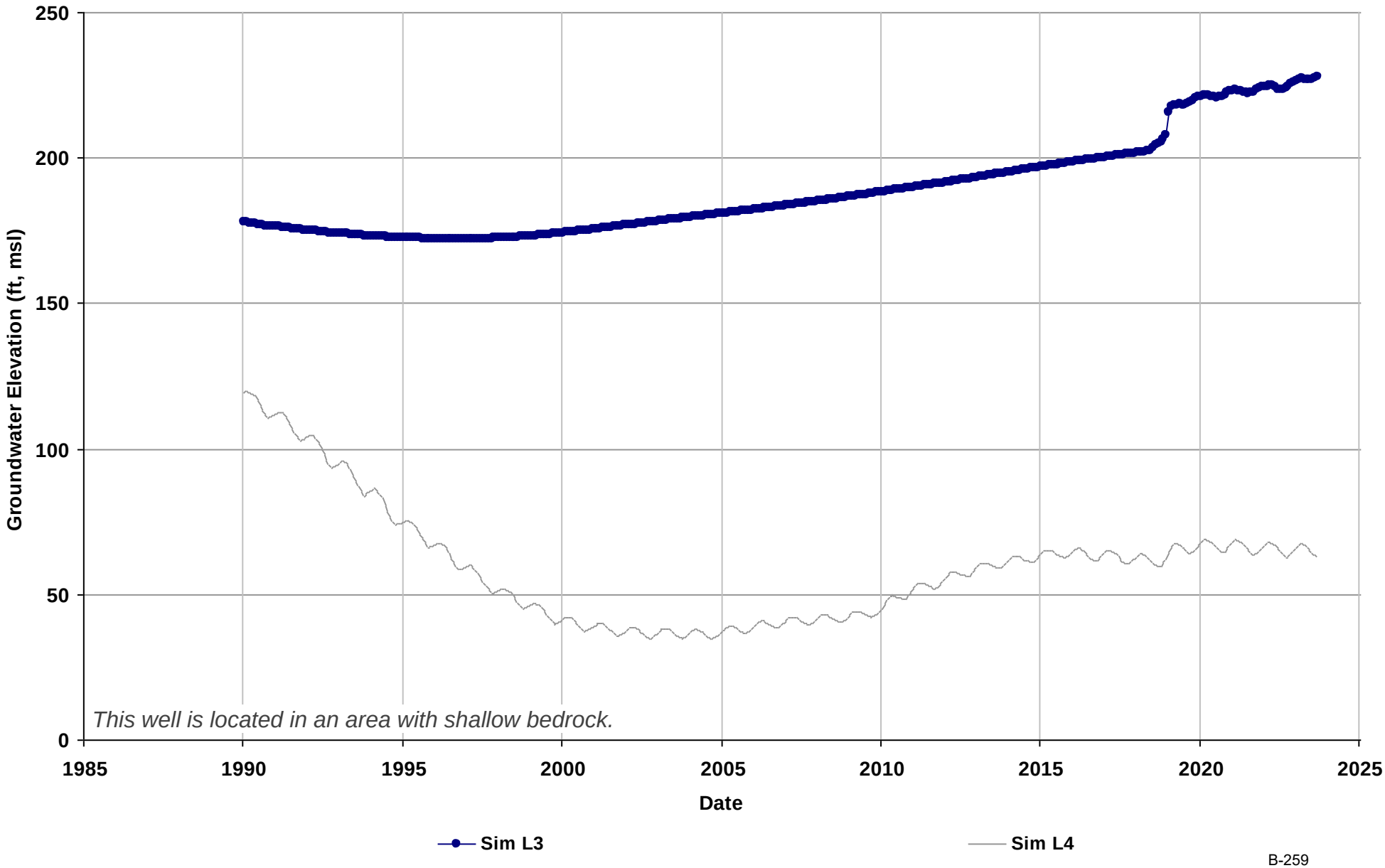
Total Depth (ft): 465
Perf Top (ft): 355
Perf Bottom (ft): 465
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB13A
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 342

Average Residual (feet):
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

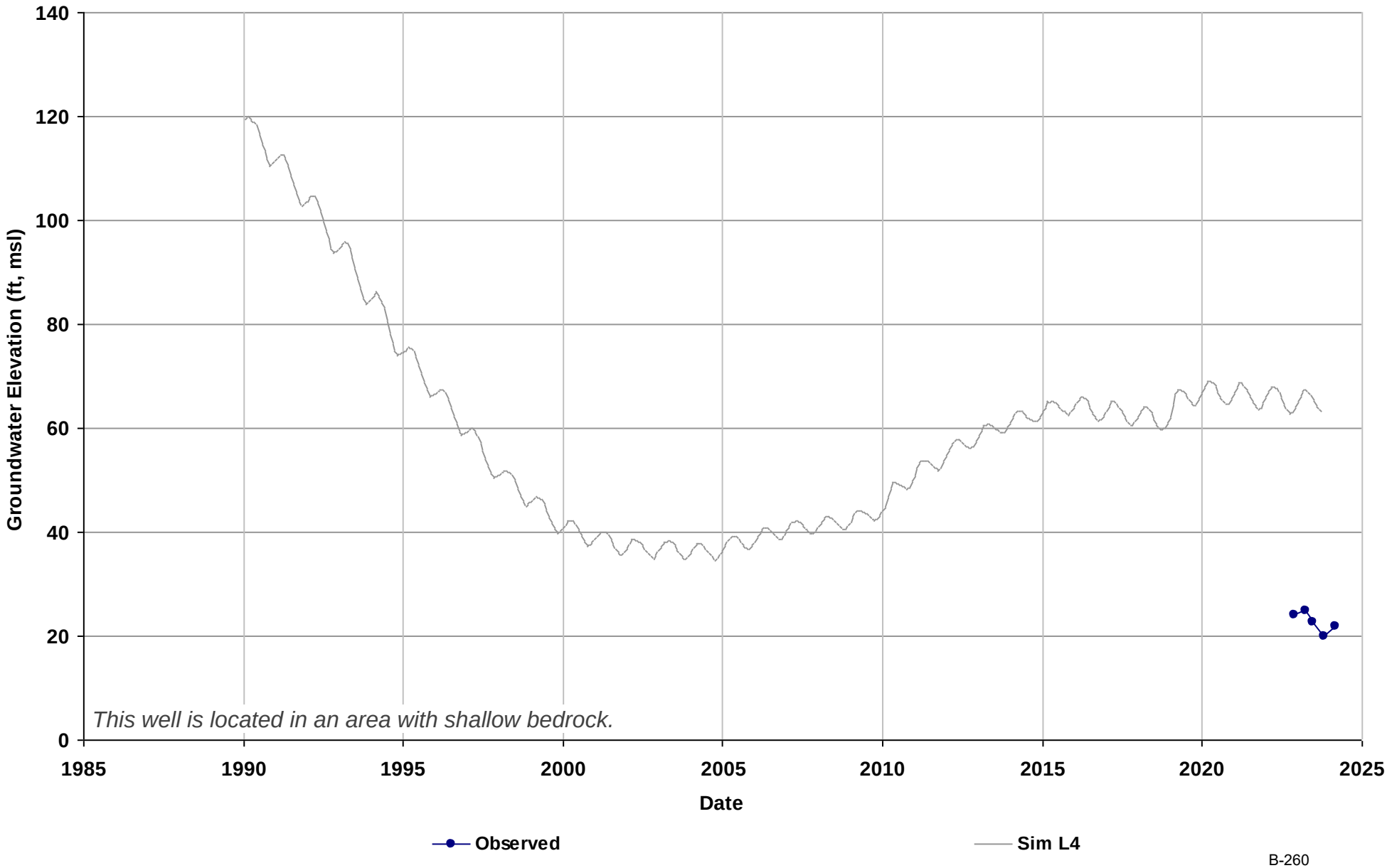
Total Depth (ft): 290
Perf Top (ft): 200
Perf Bottom (ft): 280
Top Model Layer: 3
Bottom Model Layer: 4



Well Name: MSB13B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 342

Average Residual (feet): 41.74
Layer 1:
Layer 2:
Layer 3:
Layer 4: 41.74
Layer 5:
Layer 6:

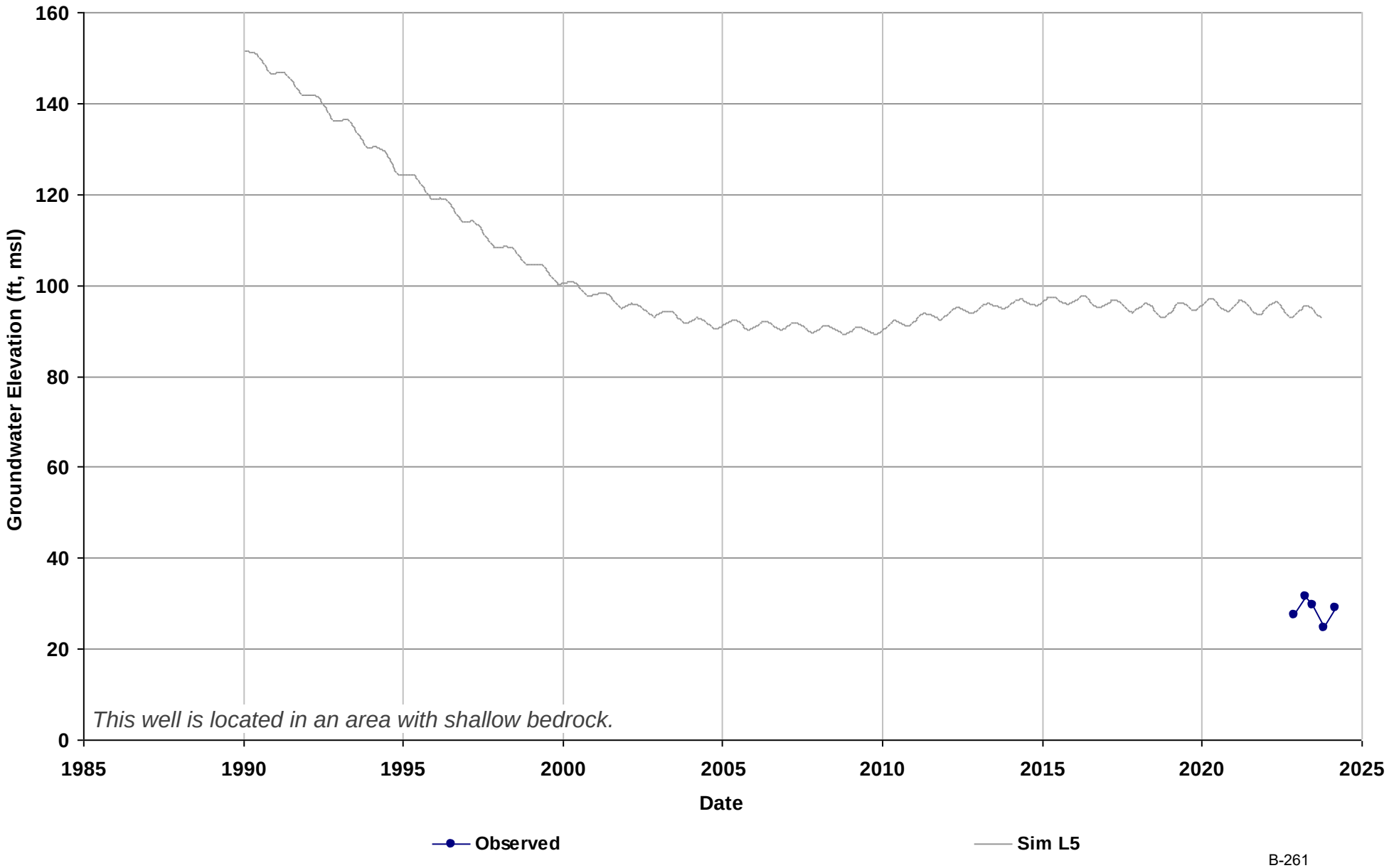
Total Depth (ft): 446
Perf Top (ft): 396
Perf Bottom (ft): 436
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MSB13C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 342

Average Residual (feet): 64.96
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 64.96
Layer 6:

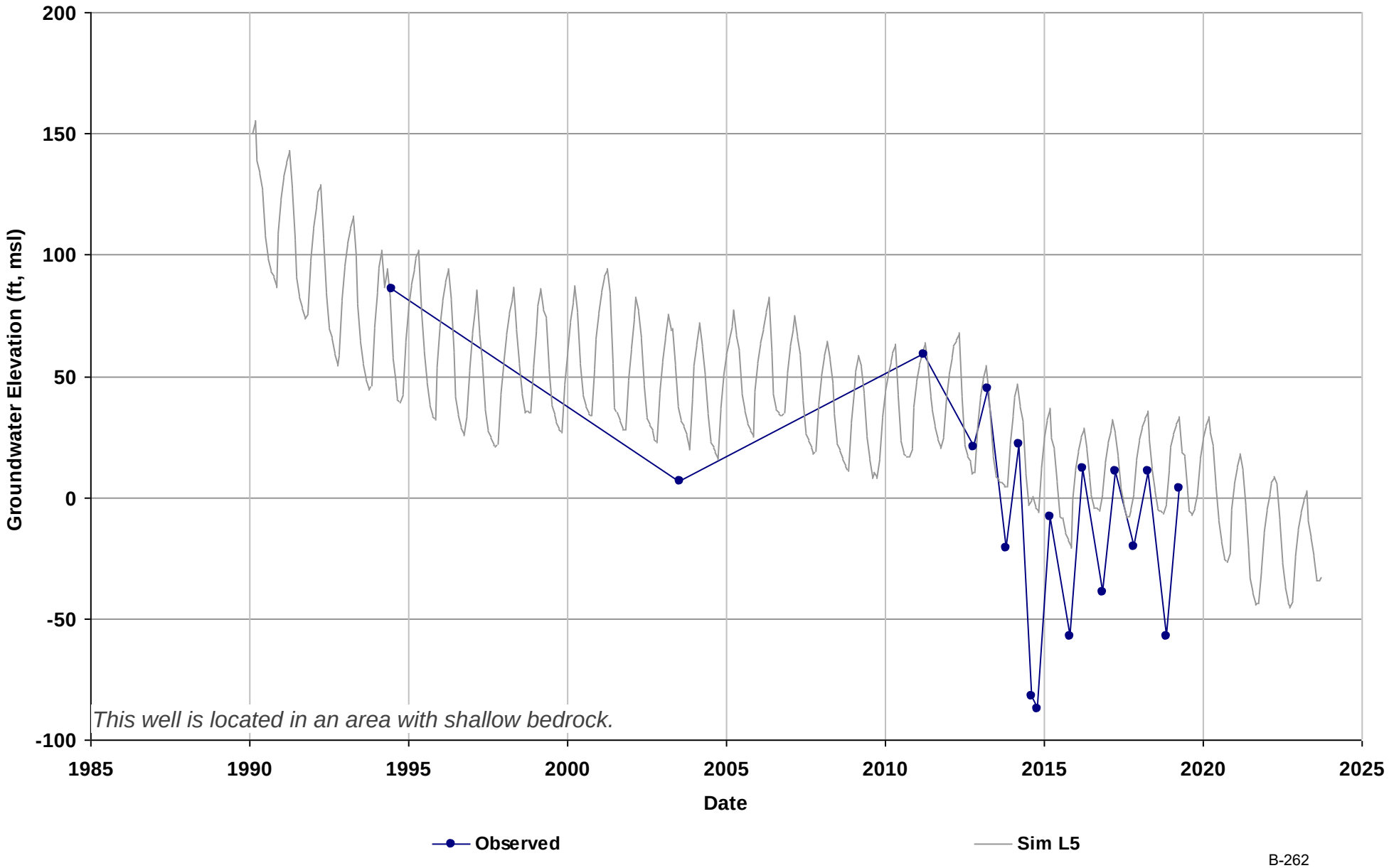
Total Depth (ft): 532
Perf Top (ft): 522
Perf Bottom (ft): 532
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 01
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 325

Average Residual (feet): 27.08
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 27.08
Layer 6:

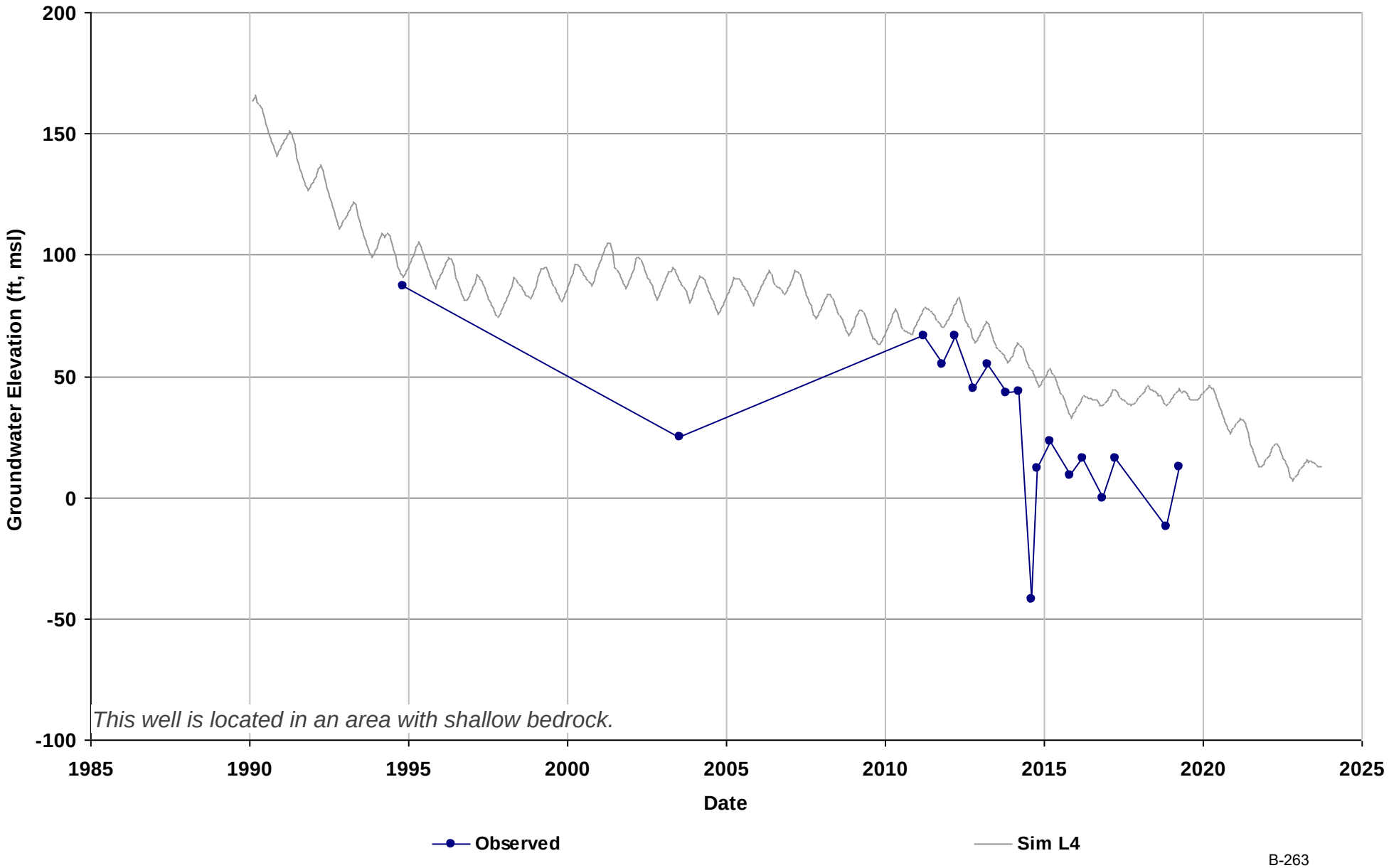
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 02
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 335

Average Residual (feet): 11.81
Layer 1:
Layer 2:
Layer 3:
Layer 4: 29.65
Layer 5: -6.04
Layer 6:

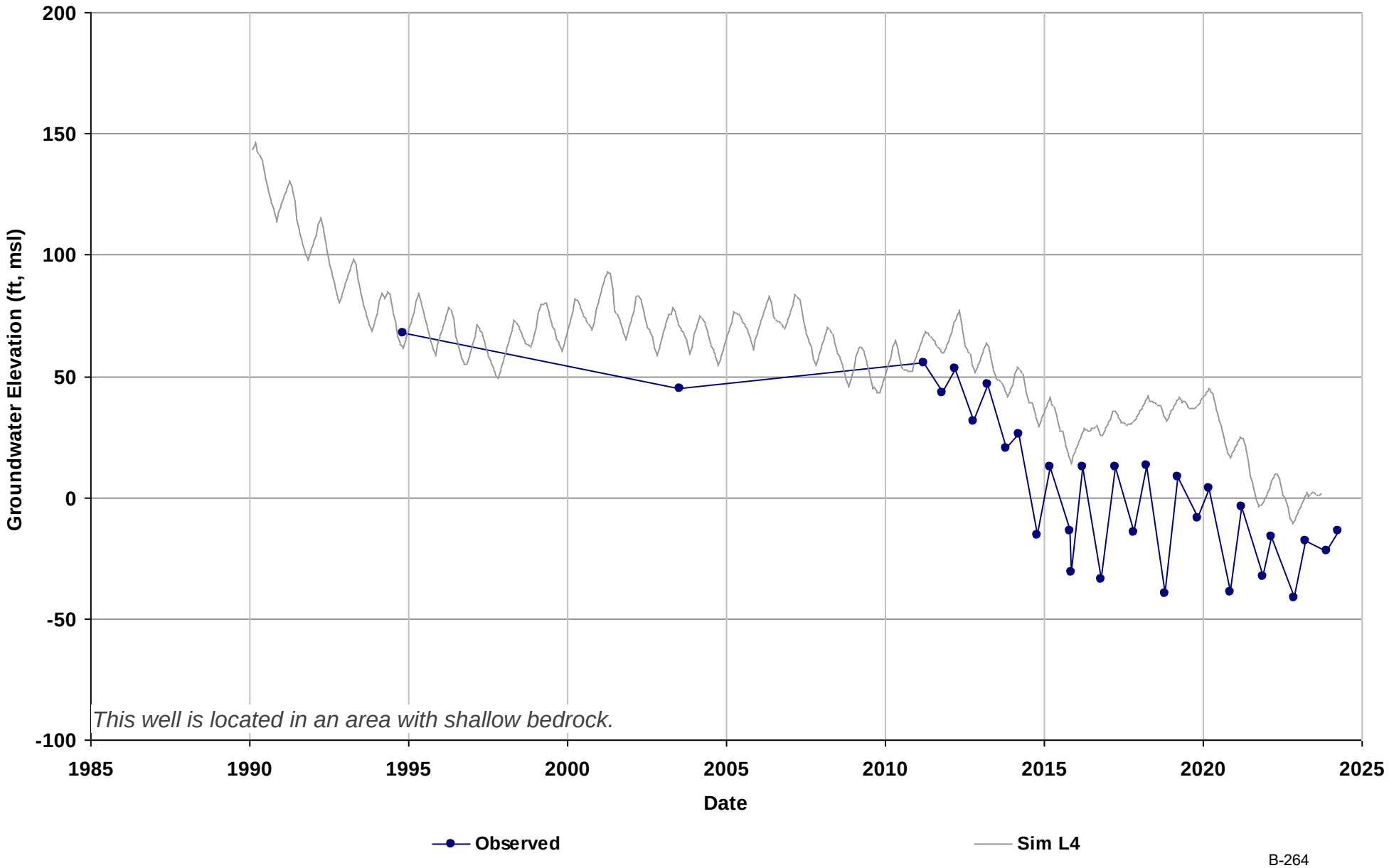
Total Depth (ft): 500
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MWD 04
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Average Residual (feet): 30.42
Layer 1:
Layer 2:
Layer 3:
Layer 4: 30.42
Layer 5:
Layer 6:

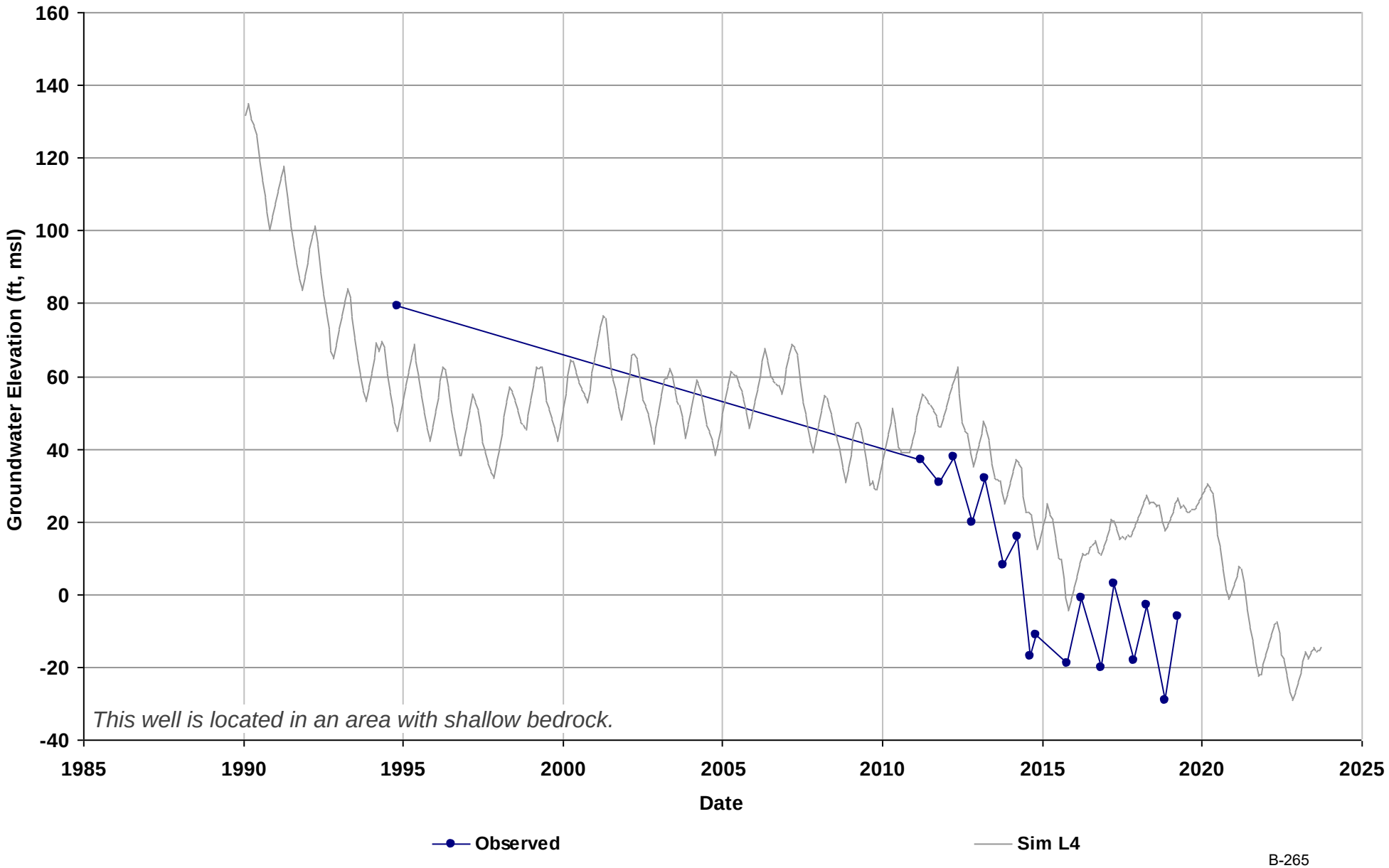
Total Depth (ft): 504
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MWD 05
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 320

Average Residual (feet): 20.87
Layer 1:
Layer 2:
Layer 3:
Layer 4: 20.87
Layer 5:
Layer 6:

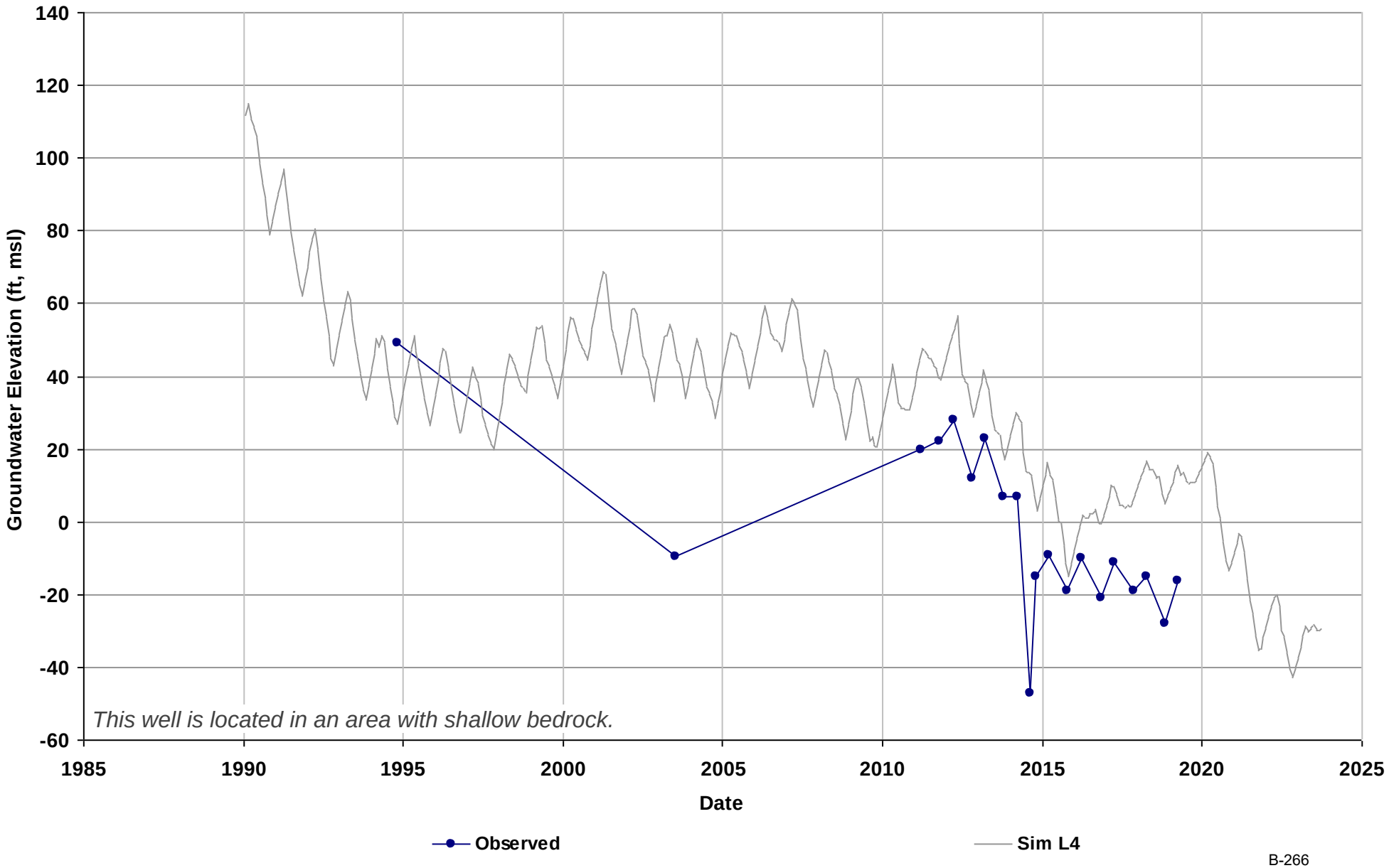
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MWD 06
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 310

Average Residual (feet): 22.76
Layer 1:
Layer 2:
Layer 3:
Layer 4: 22.76
Layer 5:
Layer 6:

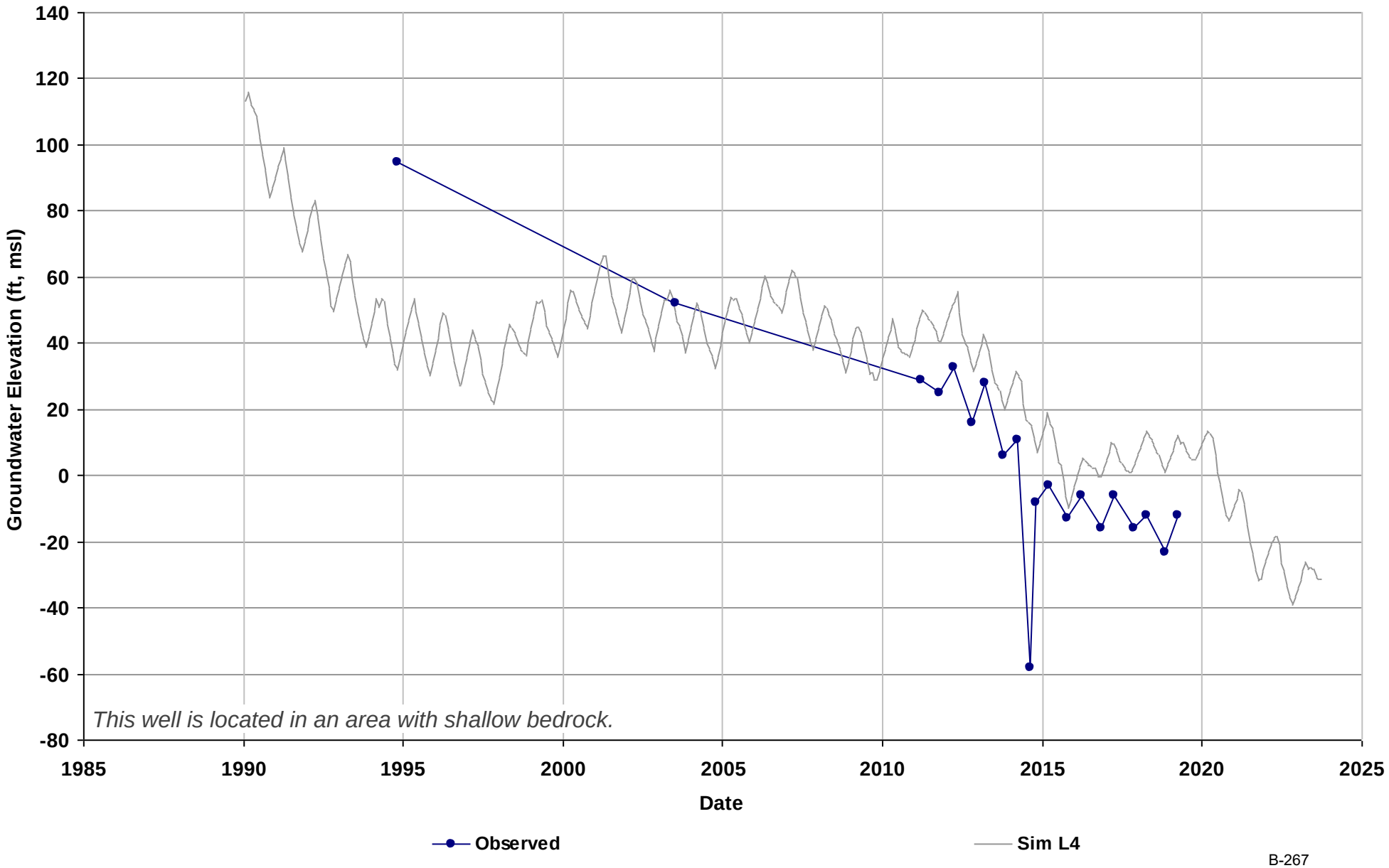
Total Depth (ft): 500
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MWD 07
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 320

Average Residual (feet): 15.16
Layer 1:
Layer 2:
Layer 3:
Layer 4: 15.16
Layer 5:
Layer 6:

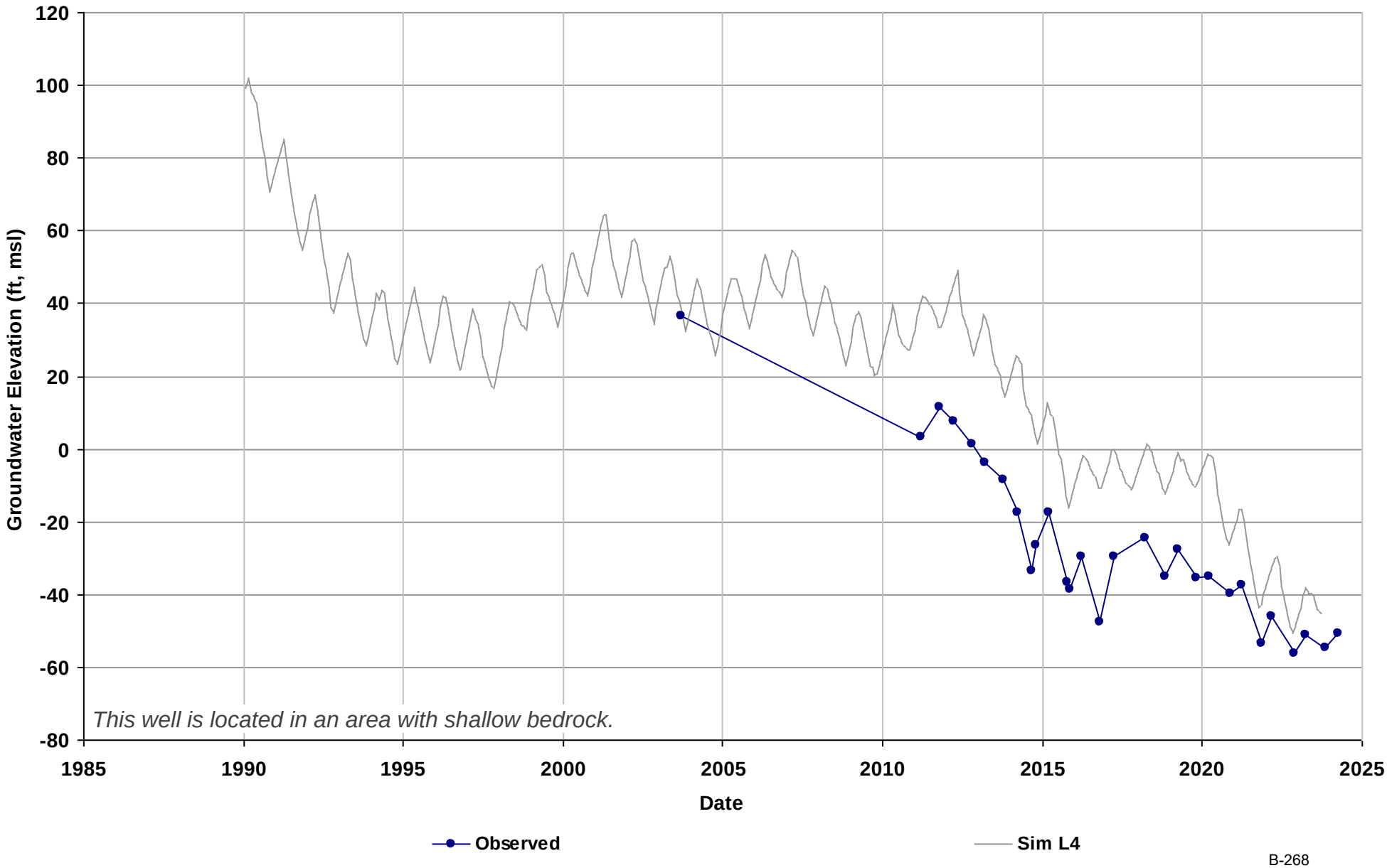
Total Depth (ft): 500
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MWD 08
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 365

Average Residual (feet): 25.17
Layer 1:
Layer 2:
Layer 3:
Layer 4: 25.17
Layer 5:
Layer 6:

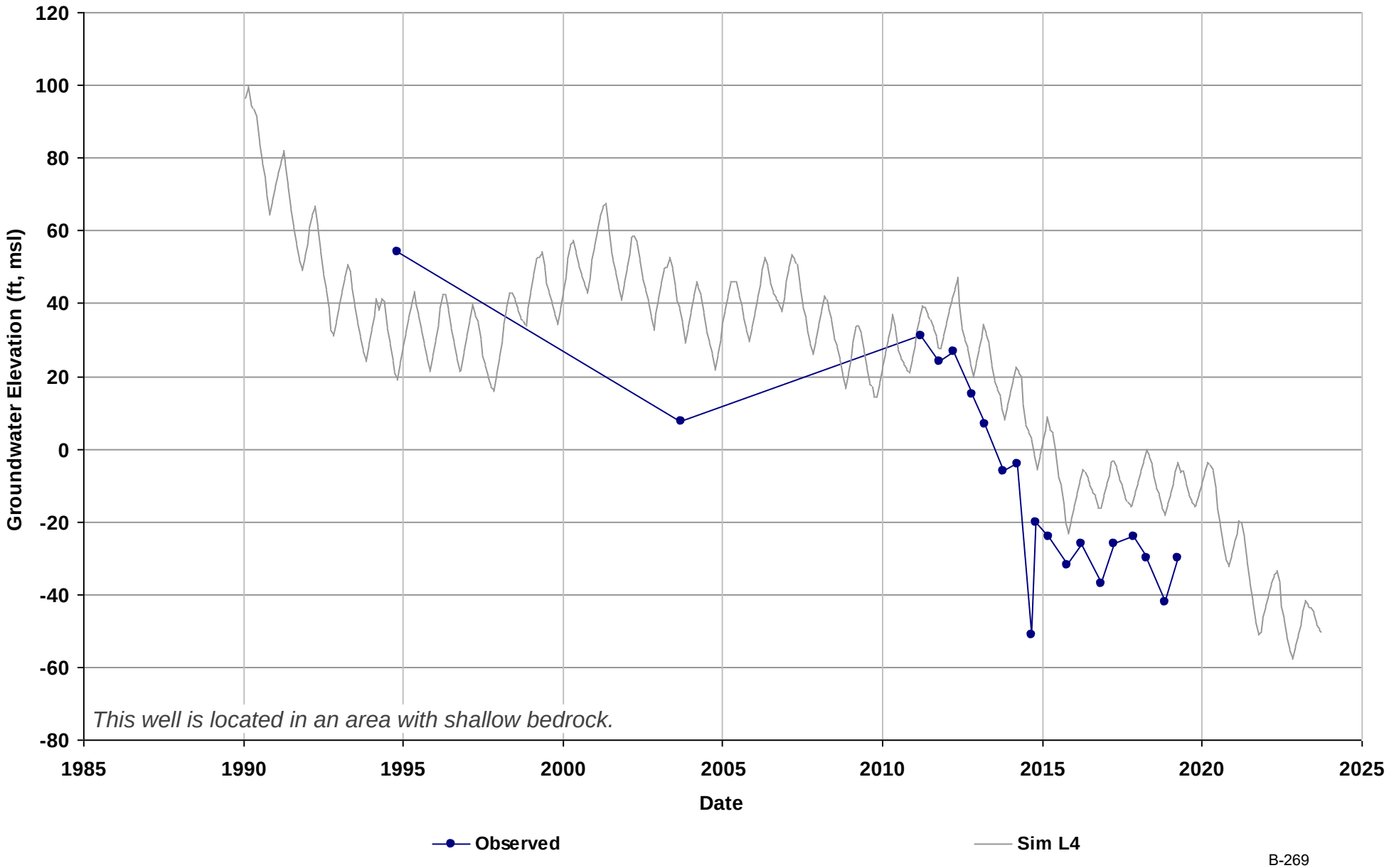
Total Depth (ft): 537
Perf Top (ft): 200
Perf Bottom (ft): 537
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MWD 09
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 310

Average Residual (feet): 17.95
Layer 1:
Layer 2:
Layer 3:
Layer 4: 17.95
Layer 5:
Layer 6:

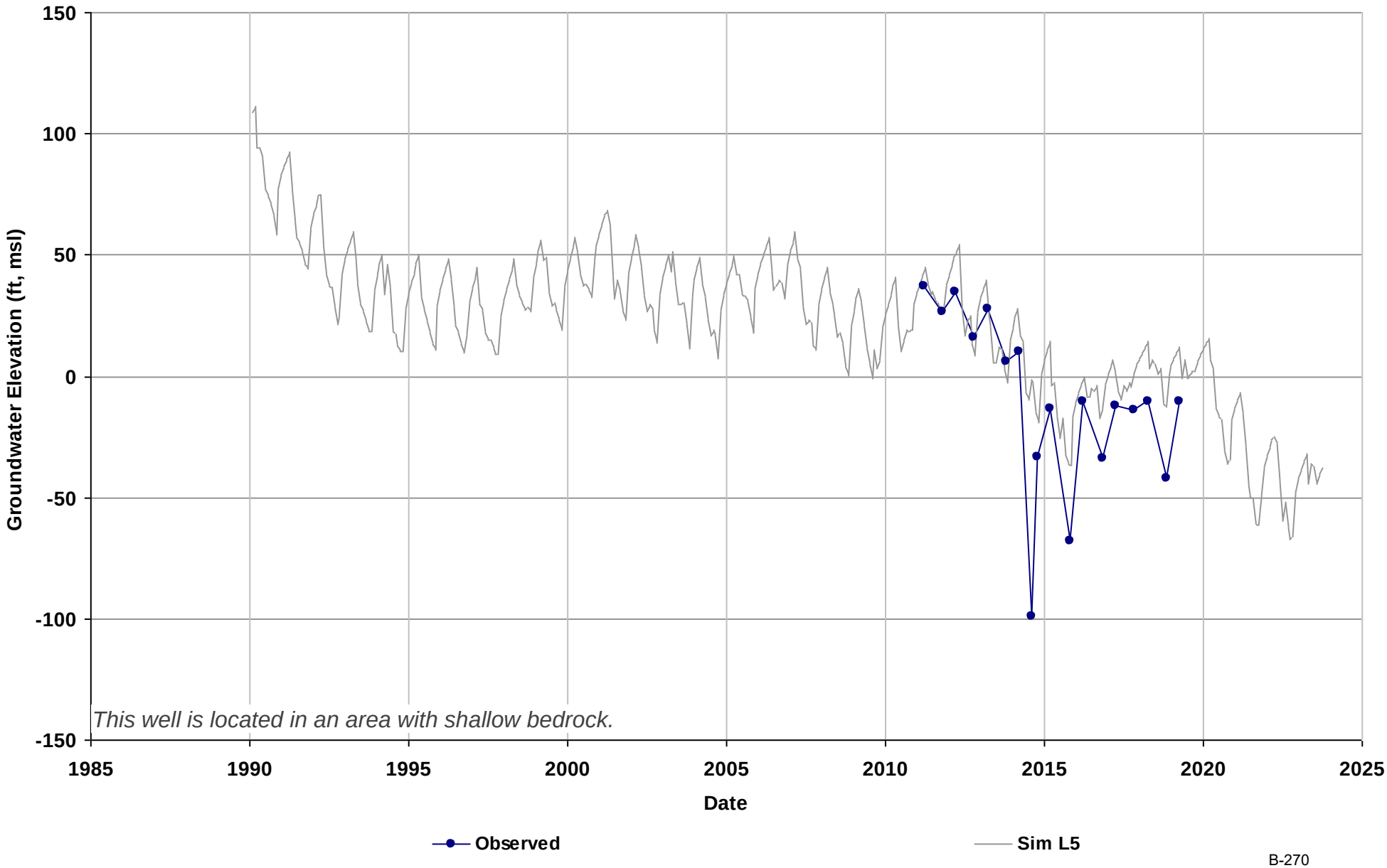
Total Depth (ft): 536
Perf Top (ft): 200
Perf Bottom (ft): 536
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MWD 10
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 310

Average Residual (feet): 18.04
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 18.04
Layer 6:

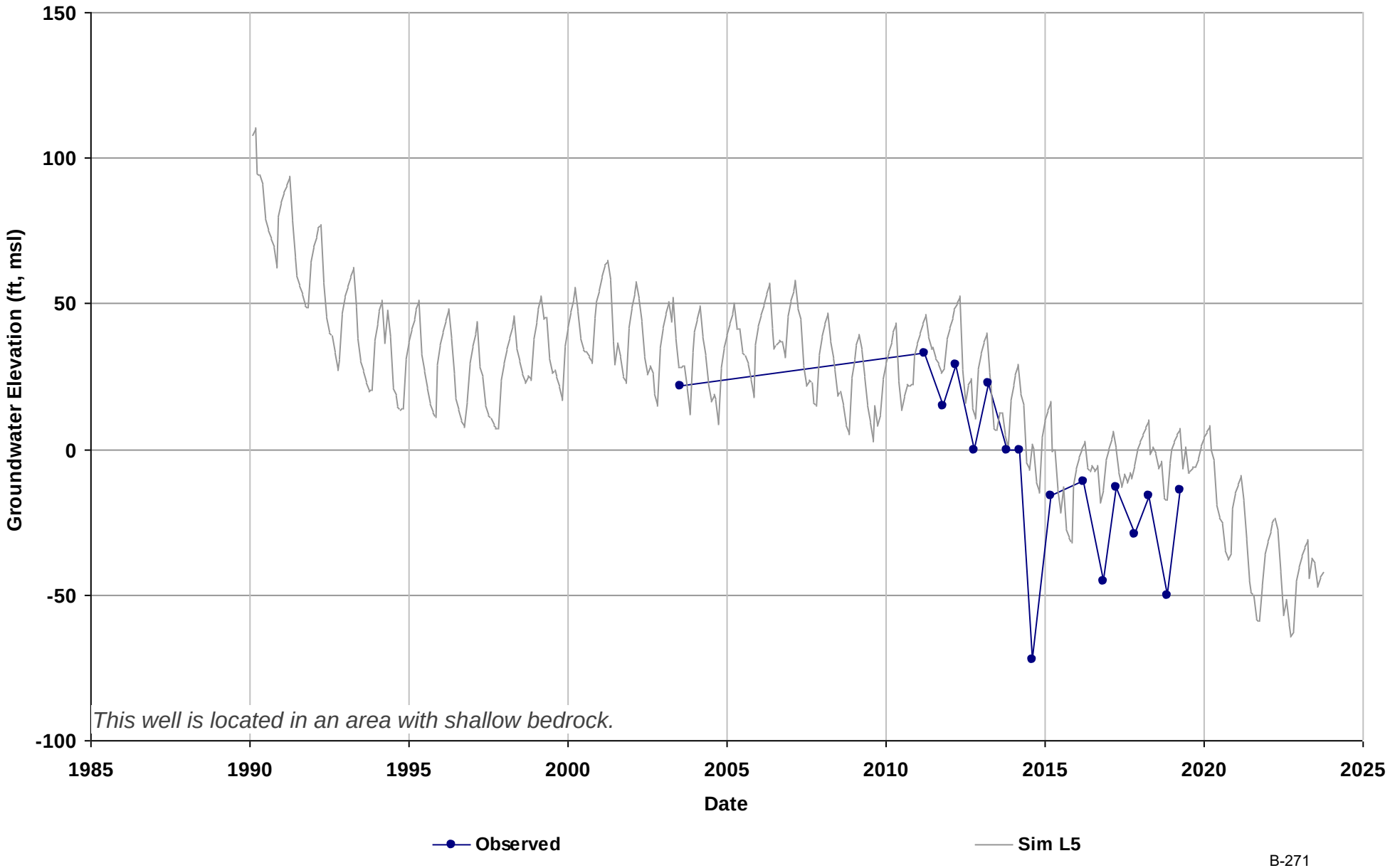
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 14
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 300

Average Residual (feet): 21.09
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 21.09
Layer 6:

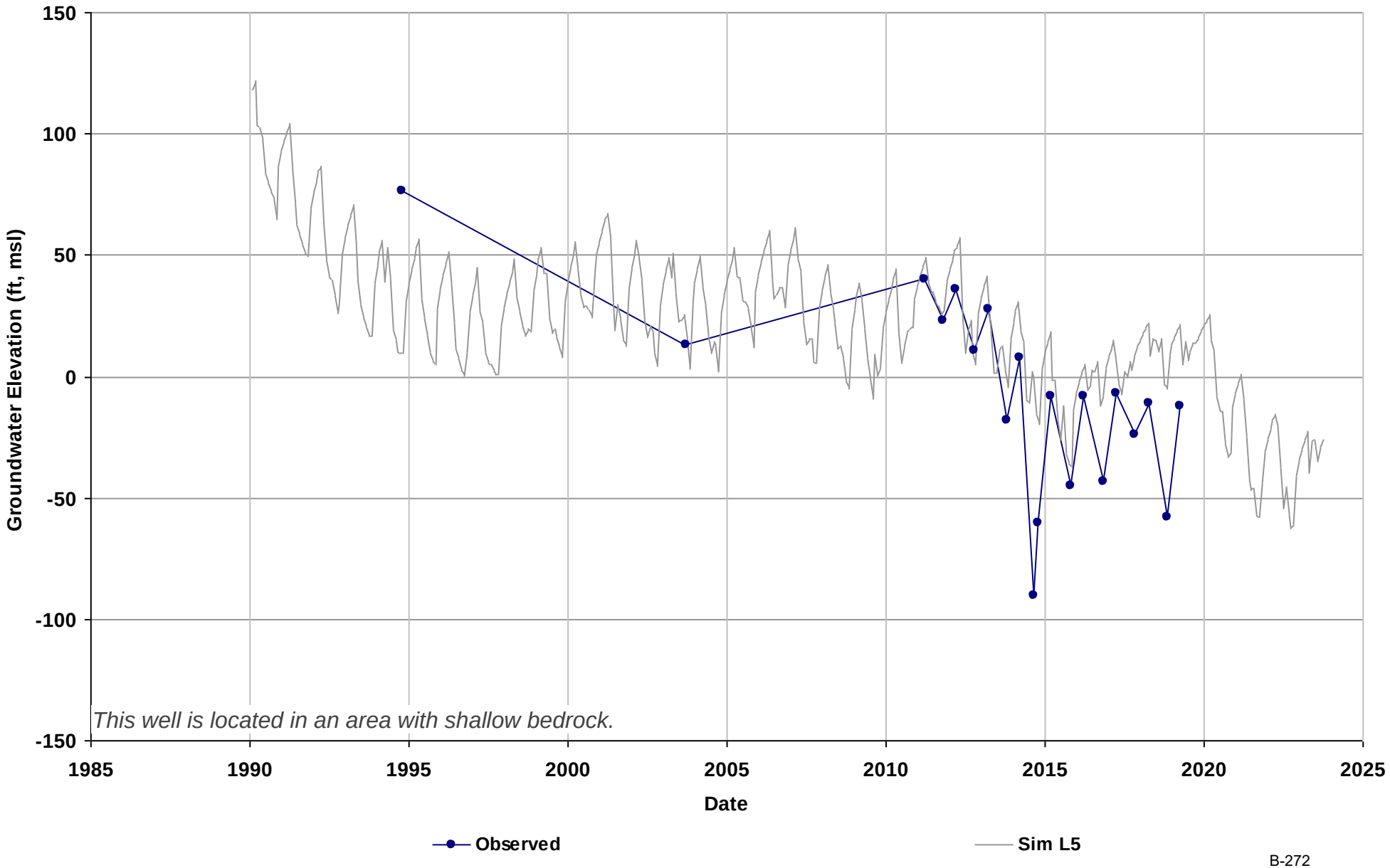
Total Depth (ft): 780
Perf Top (ft): 300
Perf Bottom (ft): 770
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 15
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 320

Average Residual (feet): 18.84
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 18.84
Layer 6:

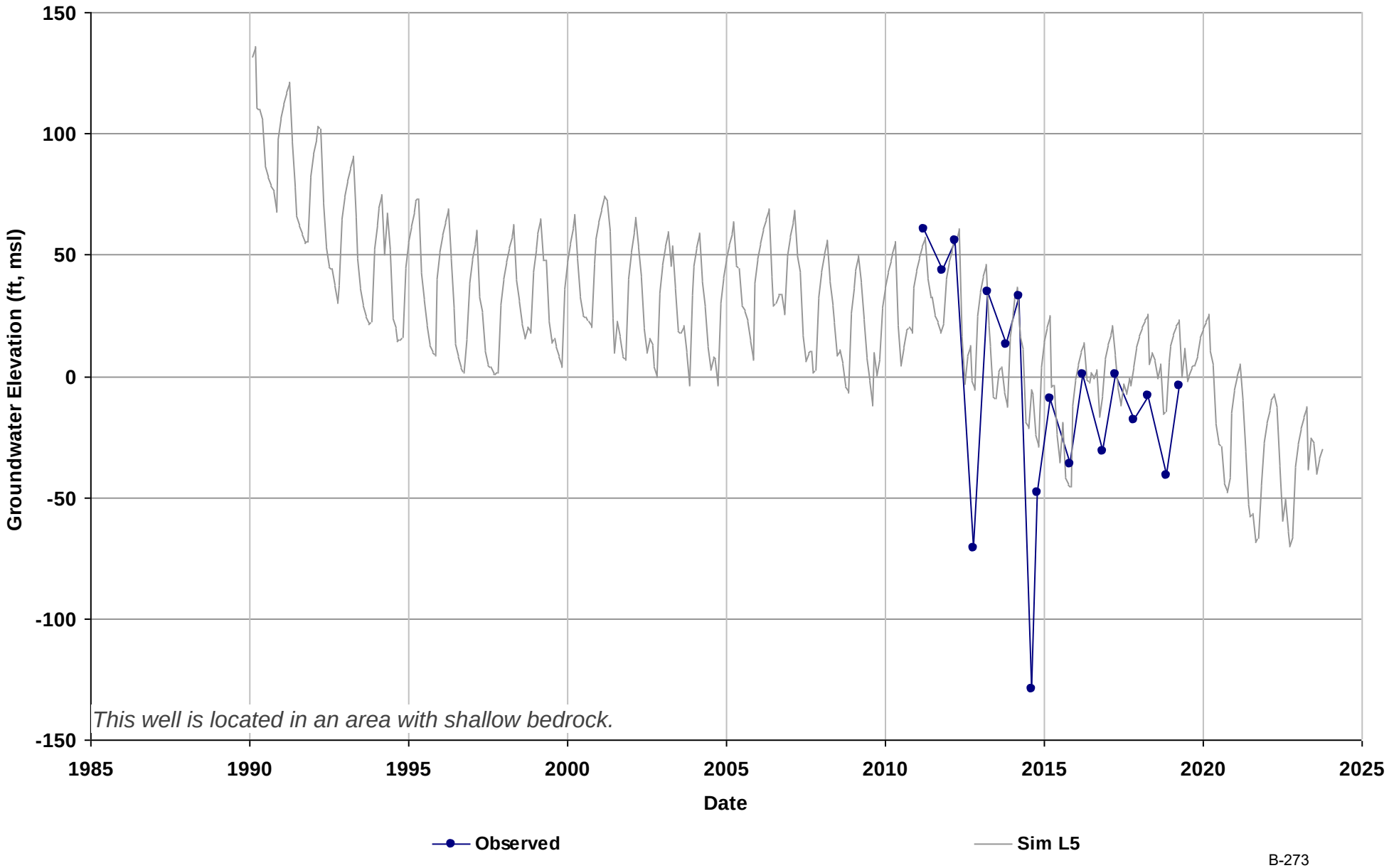
Total Depth (ft): 680
Perf Top (ft): 300
Perf Bottom (ft): 670
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 17
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 335

Average Residual (feet): 17.59
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 17.59
Layer 6:

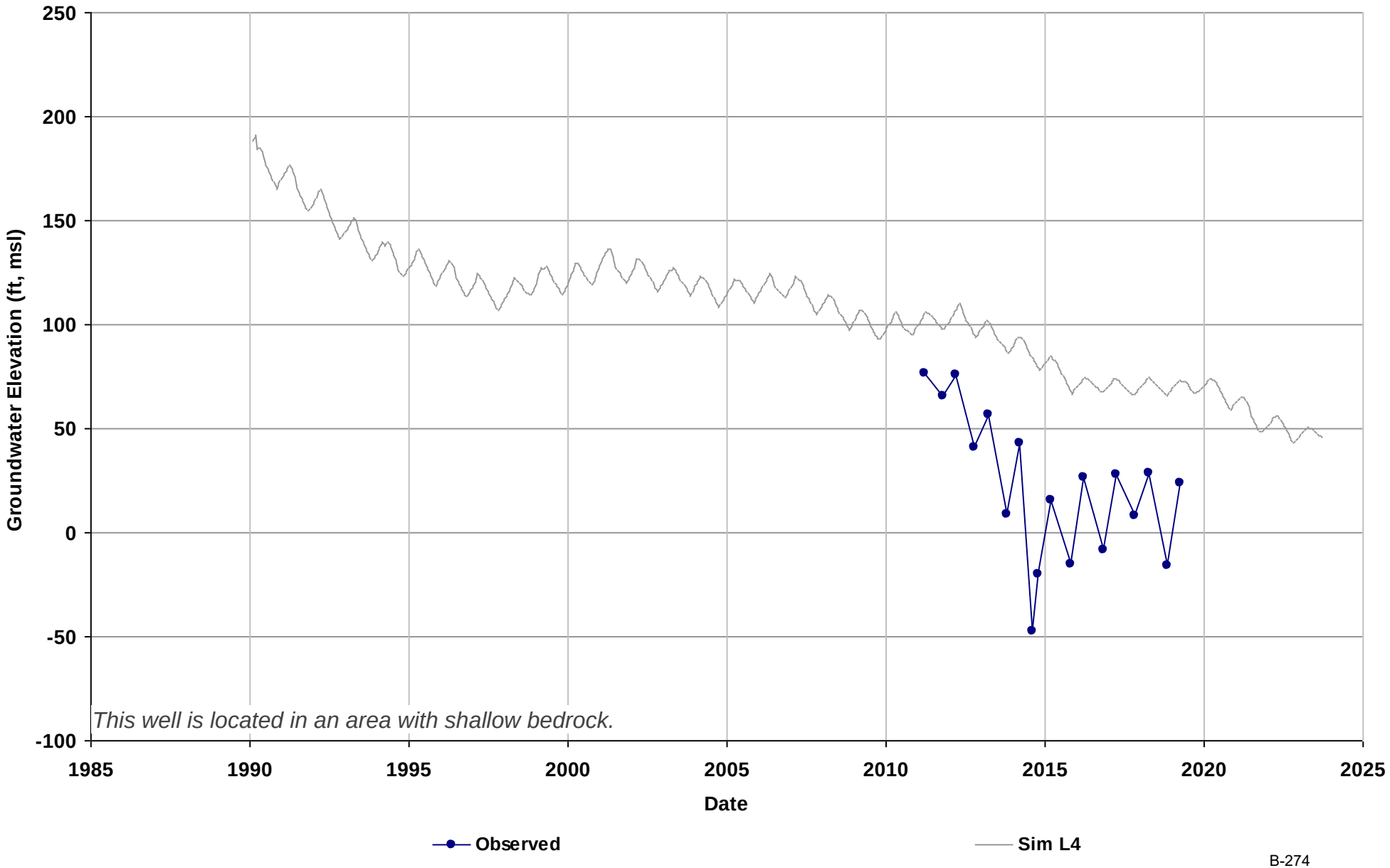
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 18
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 330

Average Residual (feet): 61.33
Layer 1:
Layer 2:
Layer 3:
Layer 4: 61.33
Layer 5:
Layer 6:

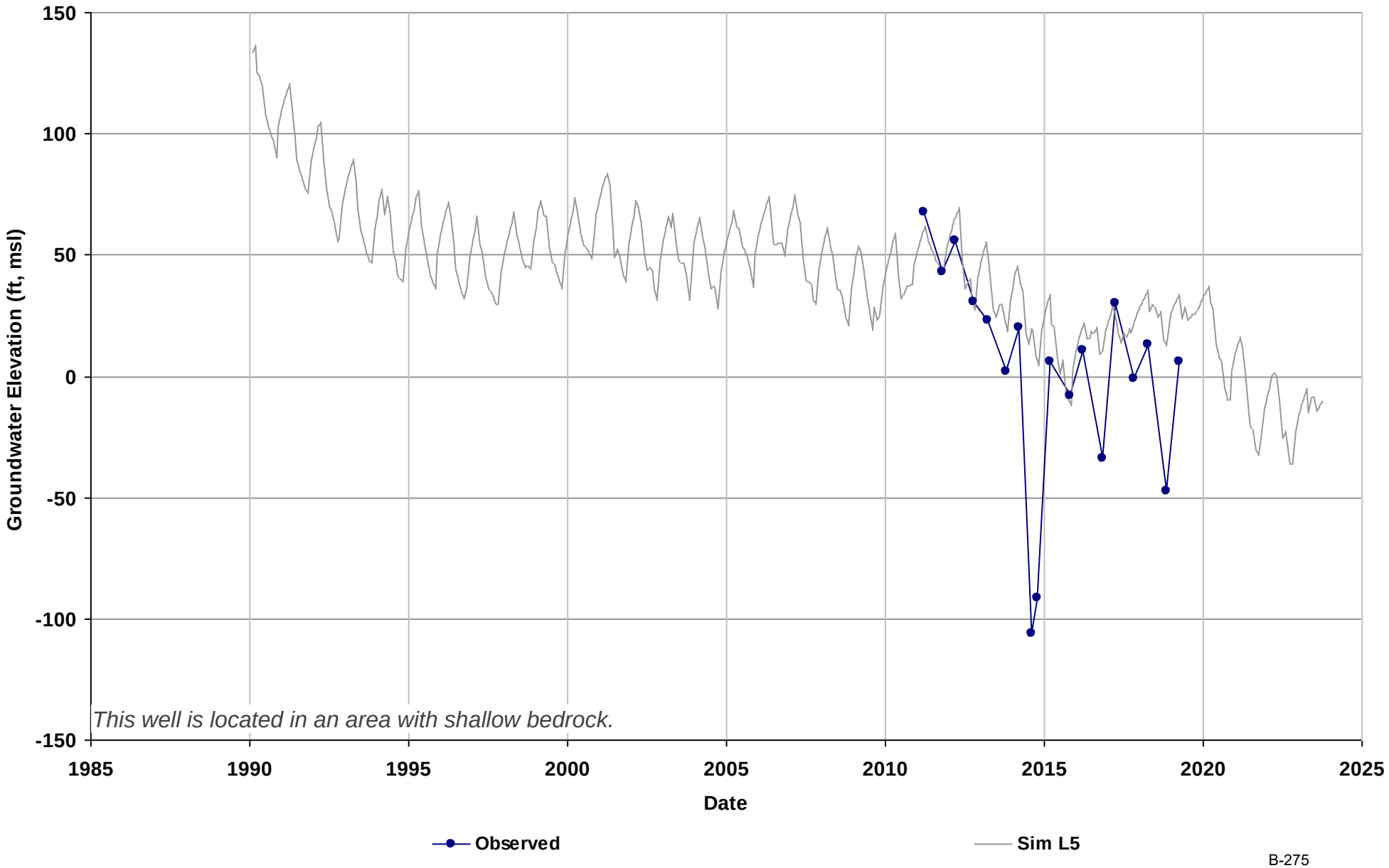
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: MWD 19
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 320

Average Residual (feet): 27.43
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 27.43
Layer 6:

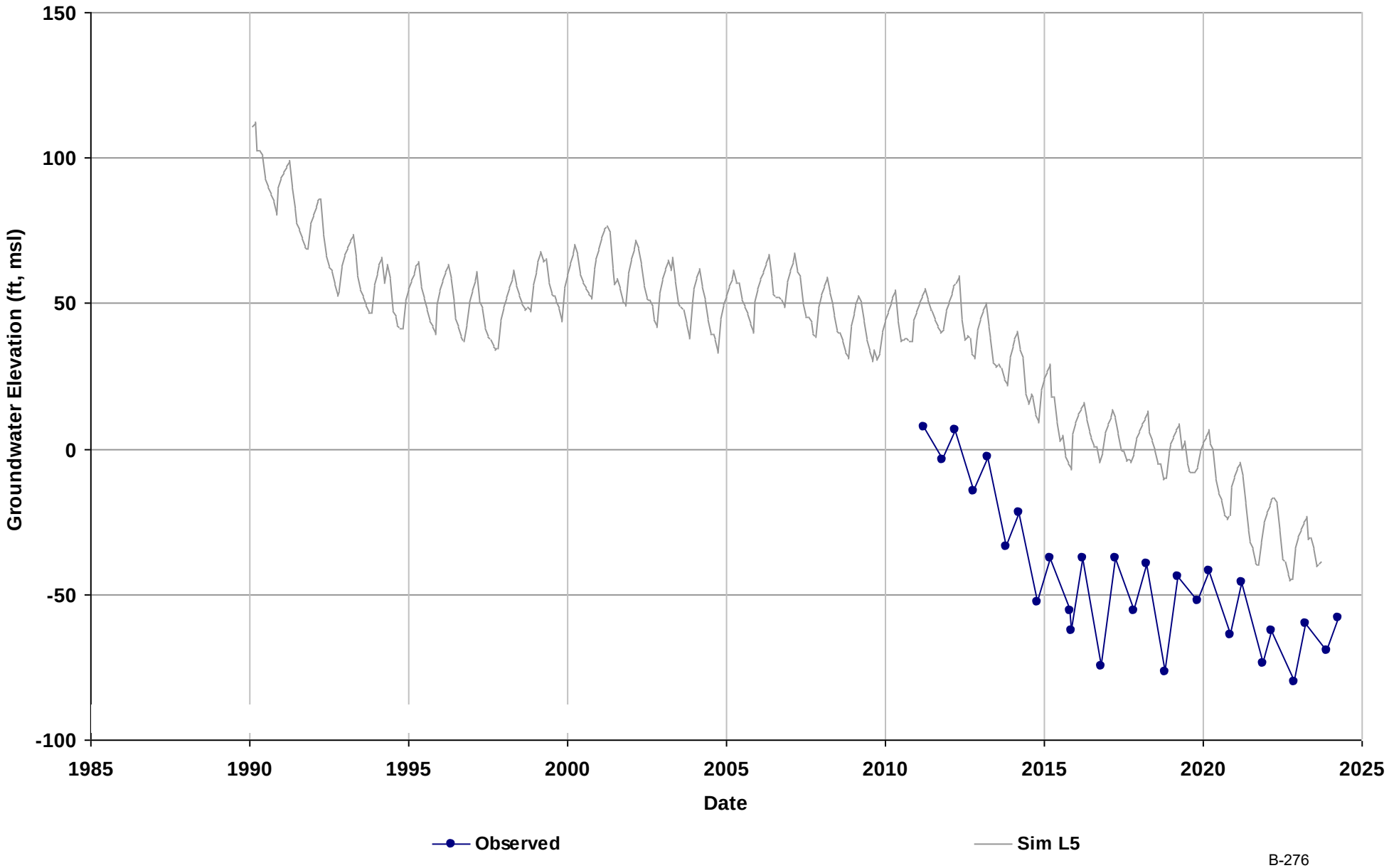
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 20
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 358

Average Residual (feet): 50.55
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 50.55
Layer 6:

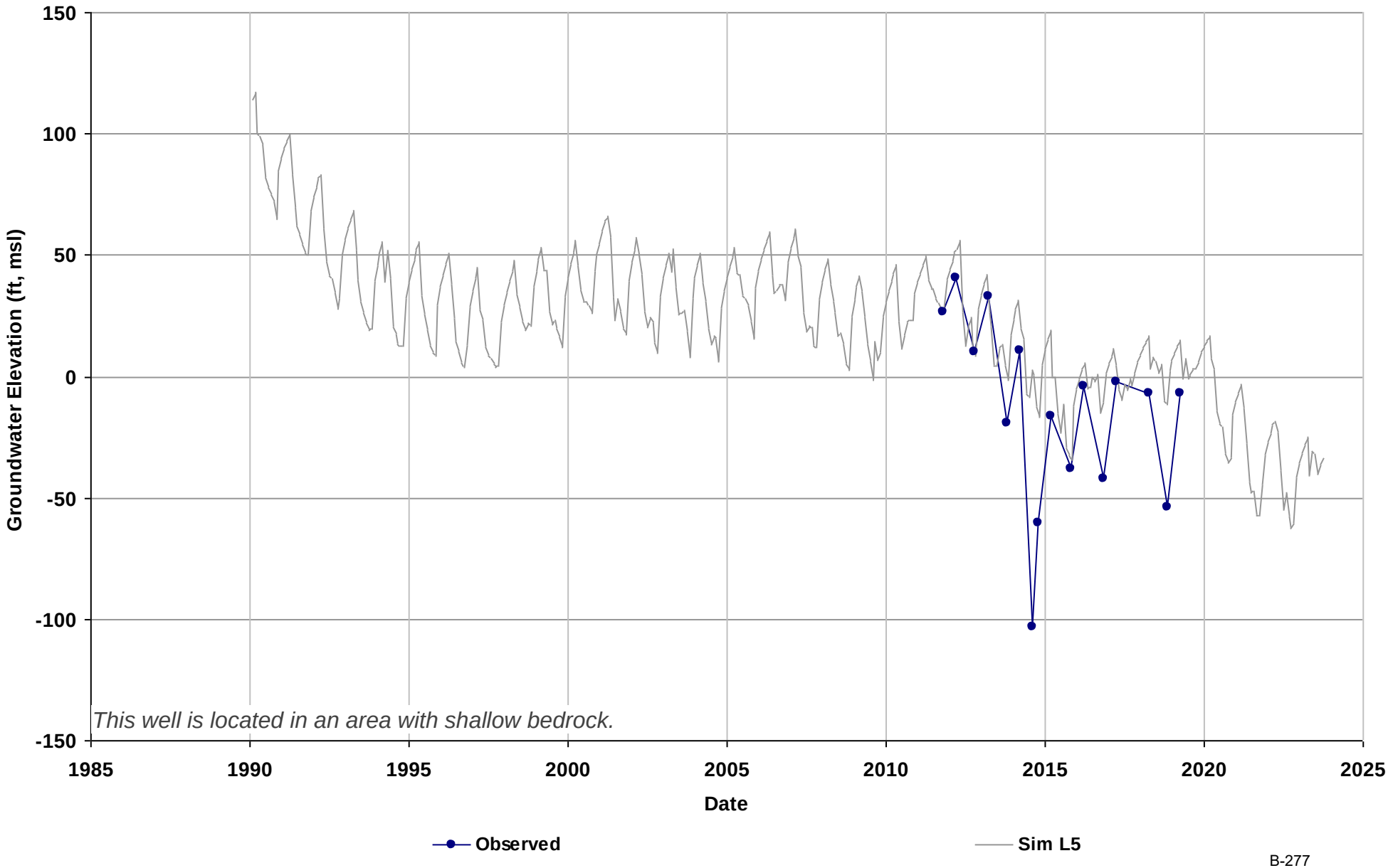
Total Depth (ft): 800
Perf Top (ft): 380
Perf Bottom (ft): 800
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 21
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 315

Average Residual (feet): 22.81
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 22.81
Layer 6:

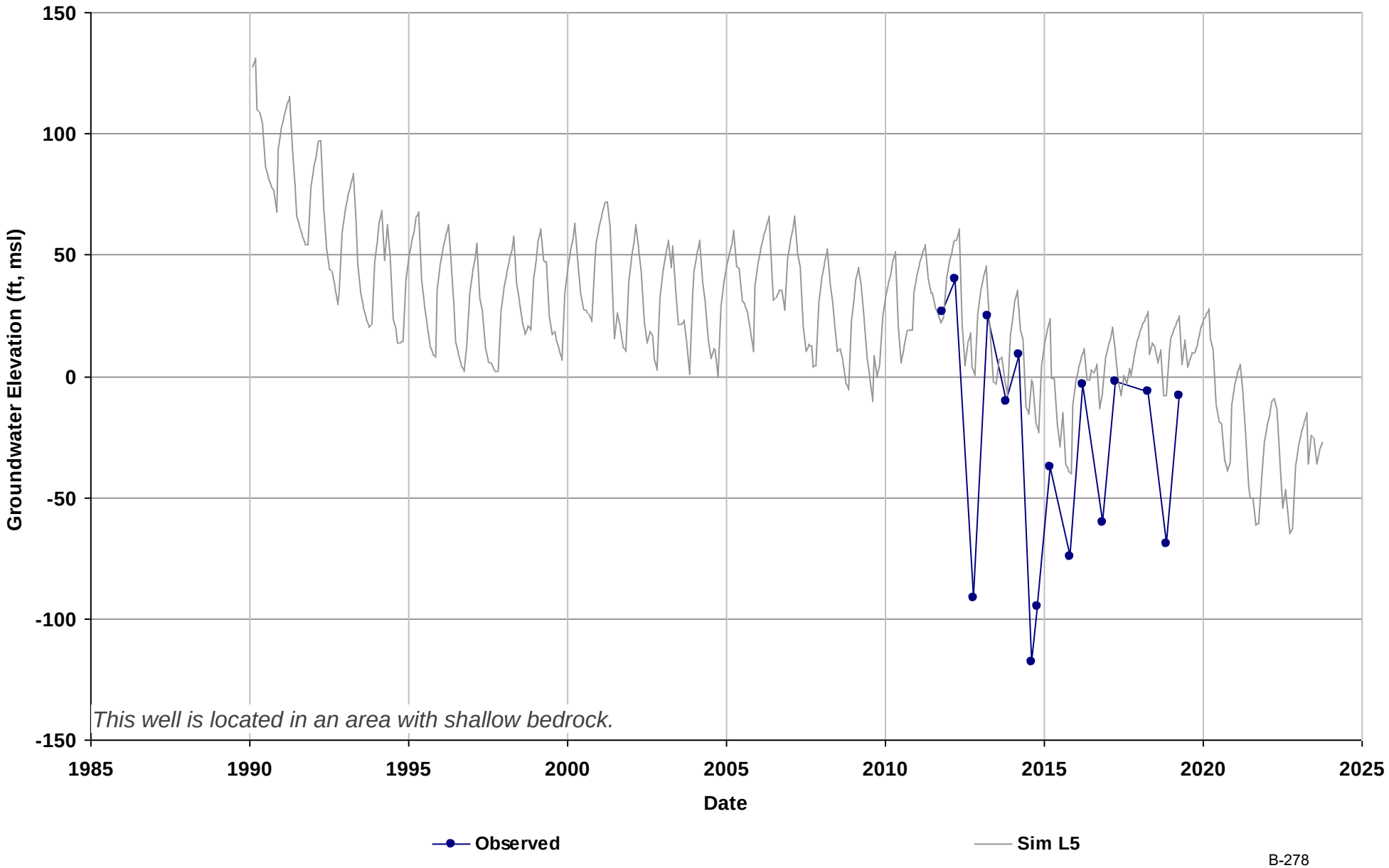
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: MWD 23
Depth Zone: Unconfined
Subbasin: Madera
GSE (ft, msl): 320

Average Residual (feet): 38.77
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 38.77
Layer 6:

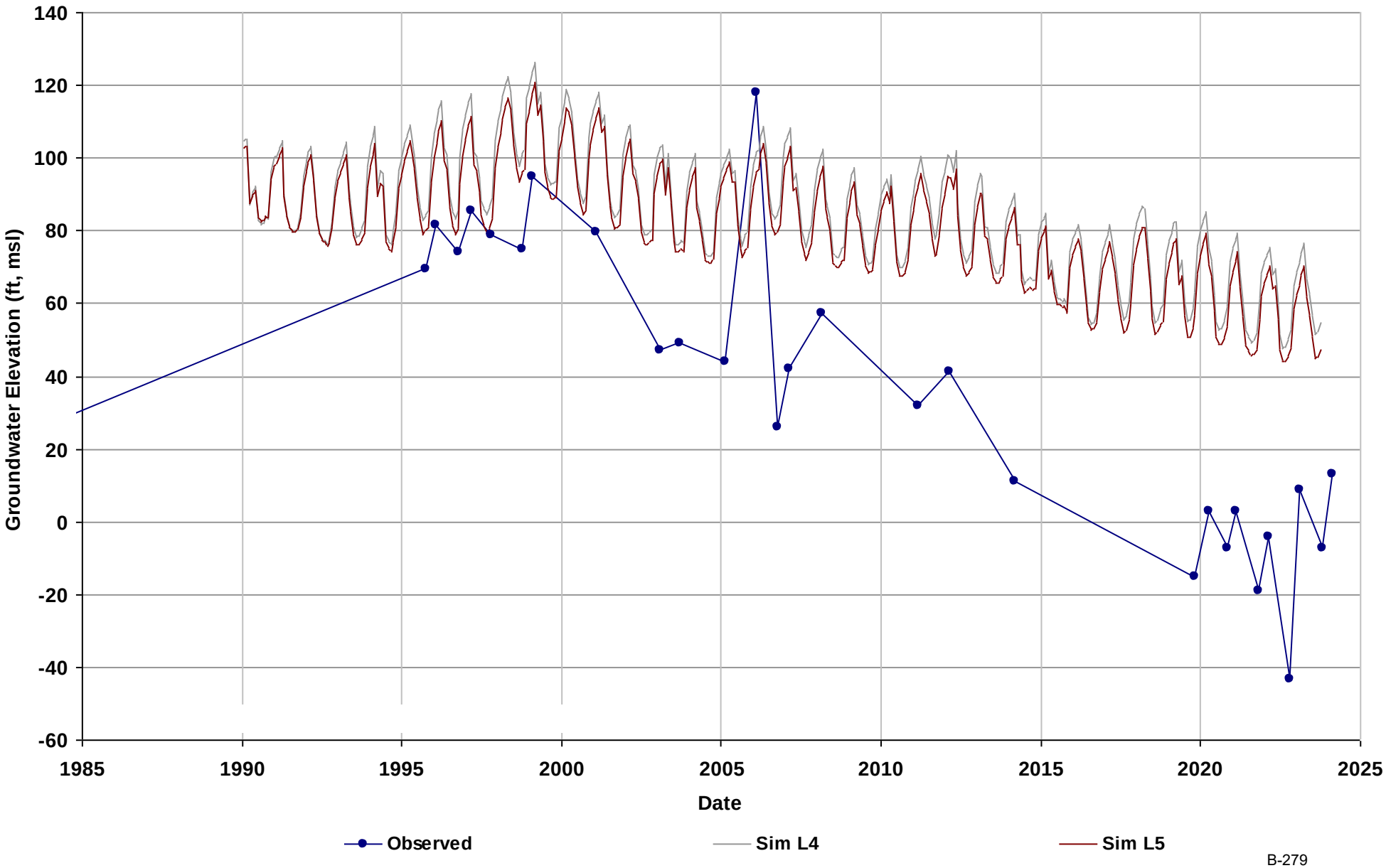
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: NSWD 34
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 145

Average Residual (feet): 49.24
Layer 1:
Layer 2:
Layer 3:
Layer 4: 51.78
Layer 5: 46.69
Layer 6:

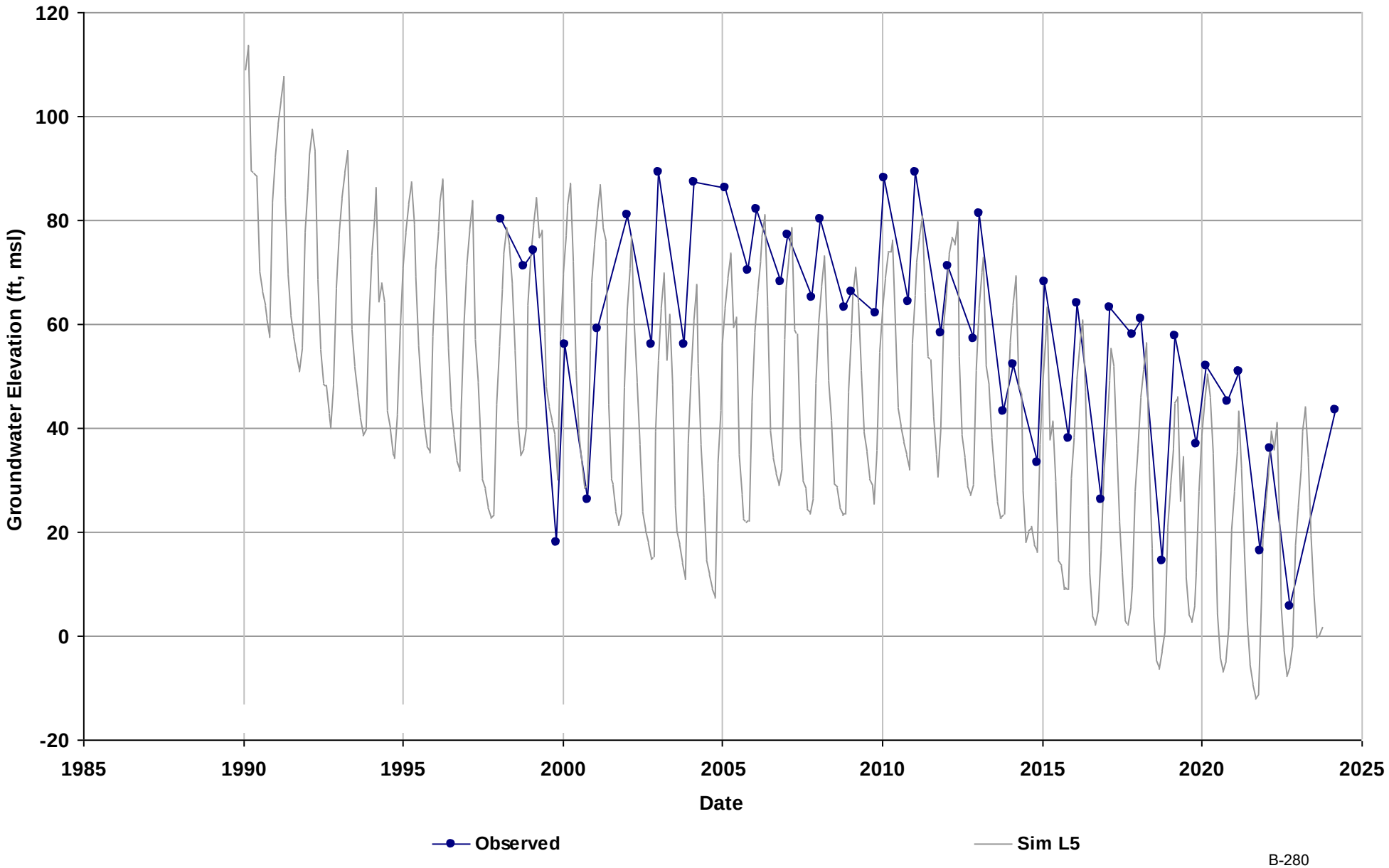
Total Depth (ft): 570
Perf Top (ft): 270
Perf Bottom (ft): 570
Top Model Layer: 4
Bottom Model Layer: 5



Well Name: RCWD 130
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 356

Average Residual (feet): -22
Layer 1:
Layer 2:
Layer 3:
Layer 4: -25.73
Layer 5: -18.27
Layer 6:

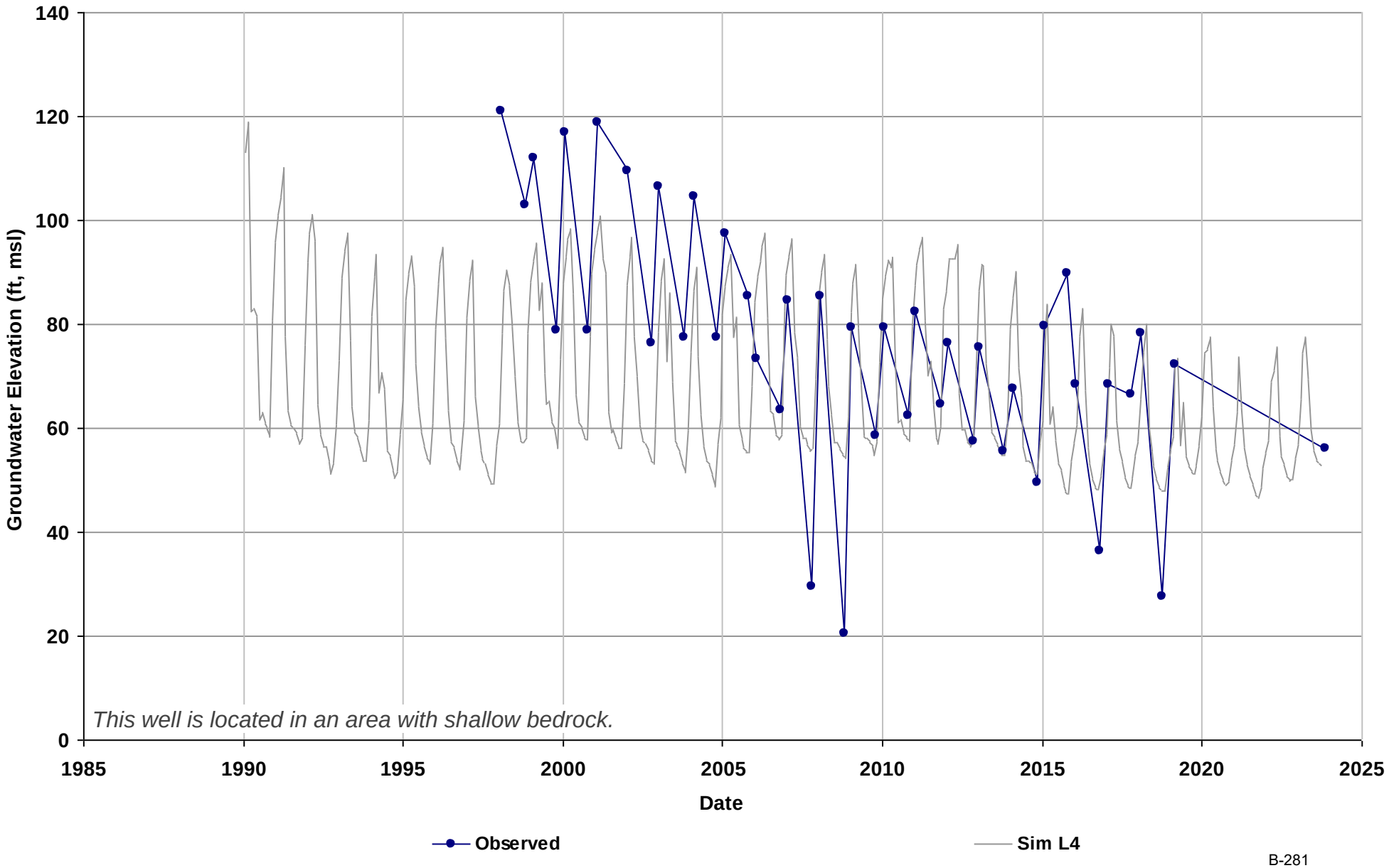
Total Depth (ft): 760
Perf Top (ft): 370
Perf Bottom (ft): 750
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: RCWD 142
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 372

Average Residual (feet): -7.82
Layer 1:
Layer 2:
Layer 3:
Layer 4: -7.82
Layer 5:
Layer 6:

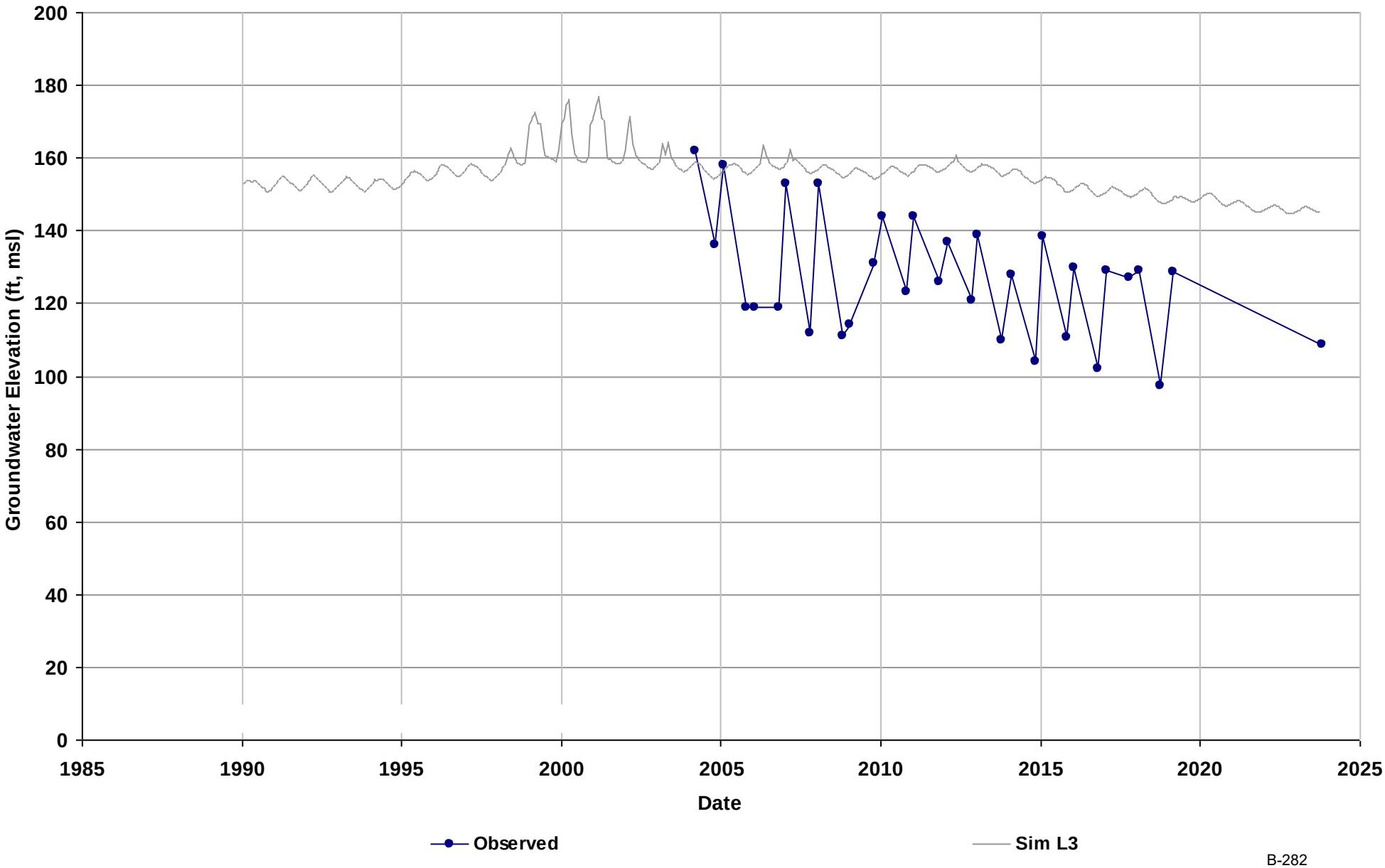
Total Depth (ft): 521
Perf Top (ft): 309
Perf Bottom (ft): 517
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: RCWD 145
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 356

Average Residual (feet): 26.78
Layer 1:
Layer 2:
Layer 3: 26.78
Layer 4:
Layer 5:
Layer 6:

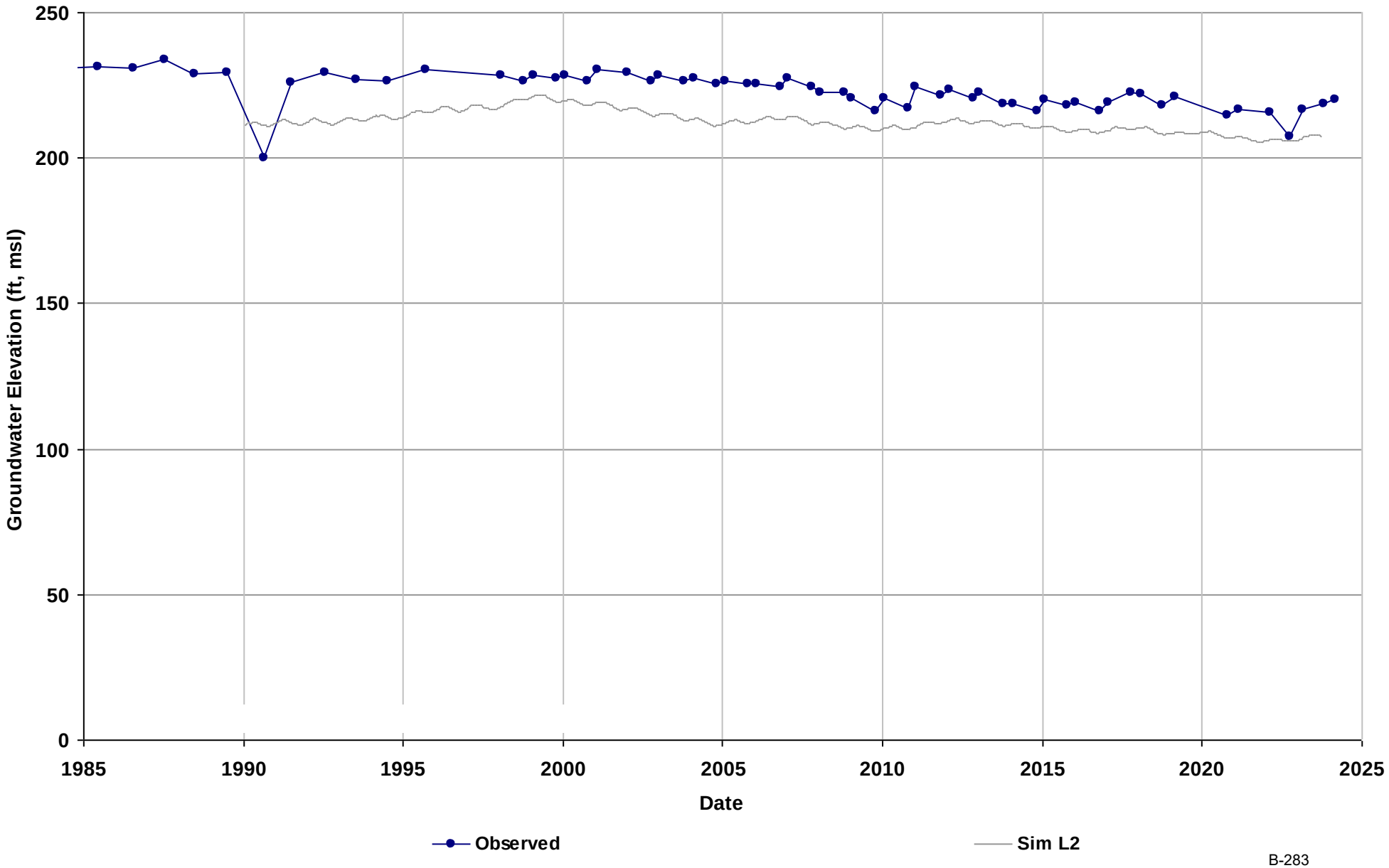
Total Depth (ft): 452
Perf Top (ft): 224
Perf Bottom (ft): 244
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: RCWD 22
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 352

Average Residual (feet): -9.18
Layer 1:
Layer 2: -9.18
Layer 3:
Layer 4:
Layer 5:
Layer 6:

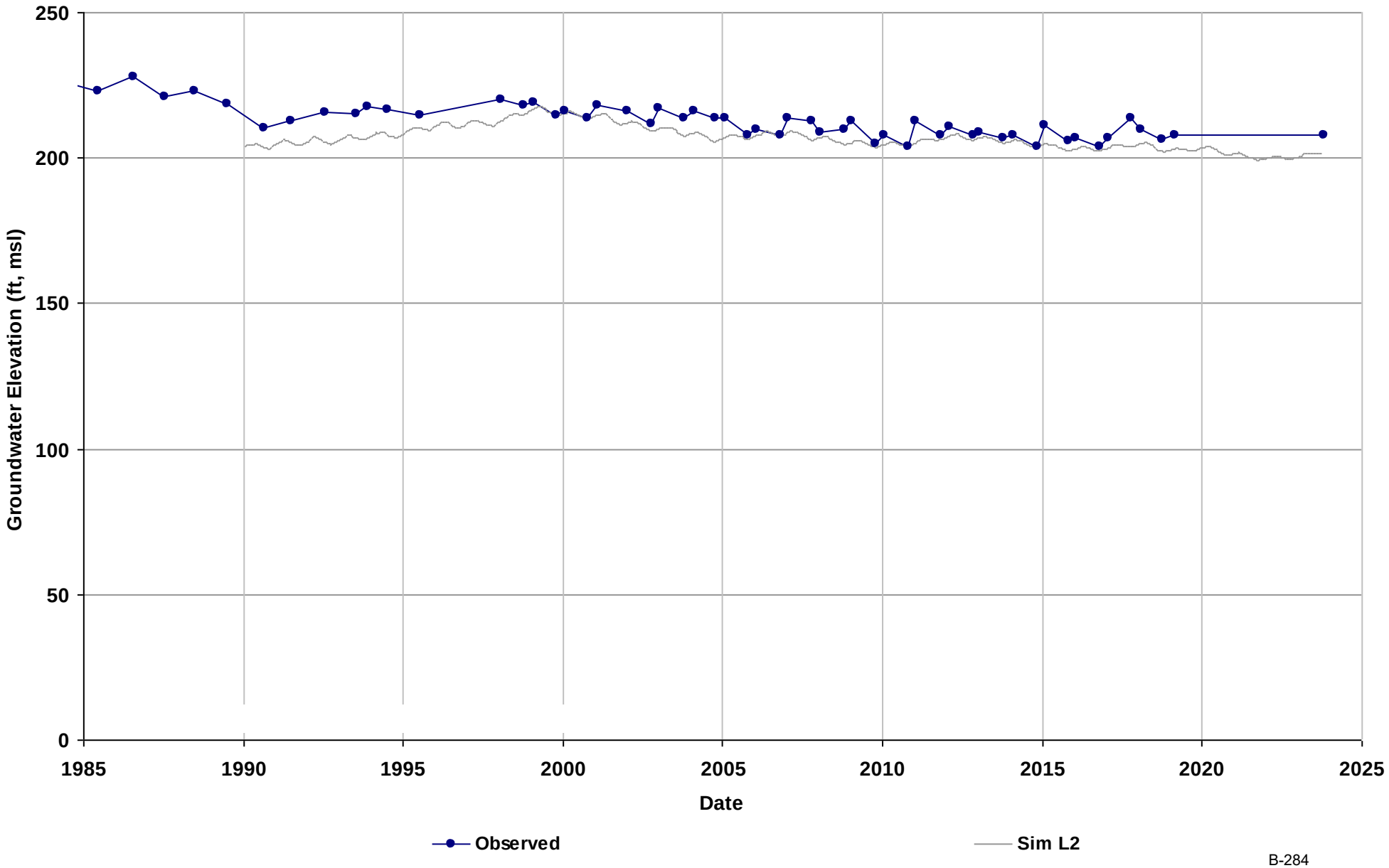
Total Depth (ft): 236
Perf Top (ft): 160
Perf Bottom (ft): 228
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: RCWD 23
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 349

Average Residual (feet): -4.67
Layer 1:
Layer 2: -4.67
Layer 3:
Layer 4:
Layer 5:
Layer 6:

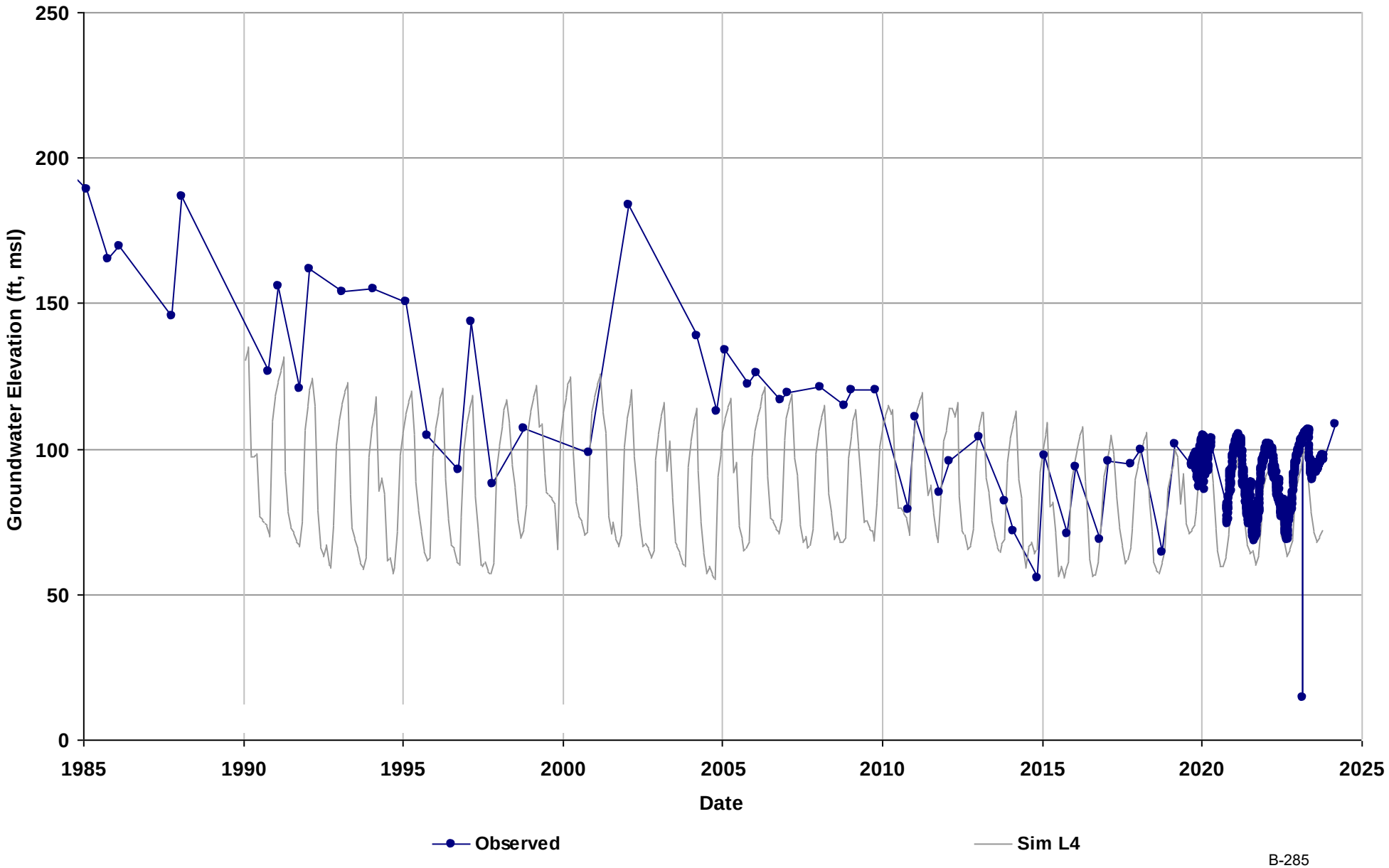
Total Depth (ft): 236
Perf Top (ft): 160
Perf Bottom (ft): 228
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: RCWD 65
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 363

Average Residual (feet): -10.13
Layer 1:
Layer 2:
Layer 3:
Layer 4: -10.13
Layer 5:
Layer 6:

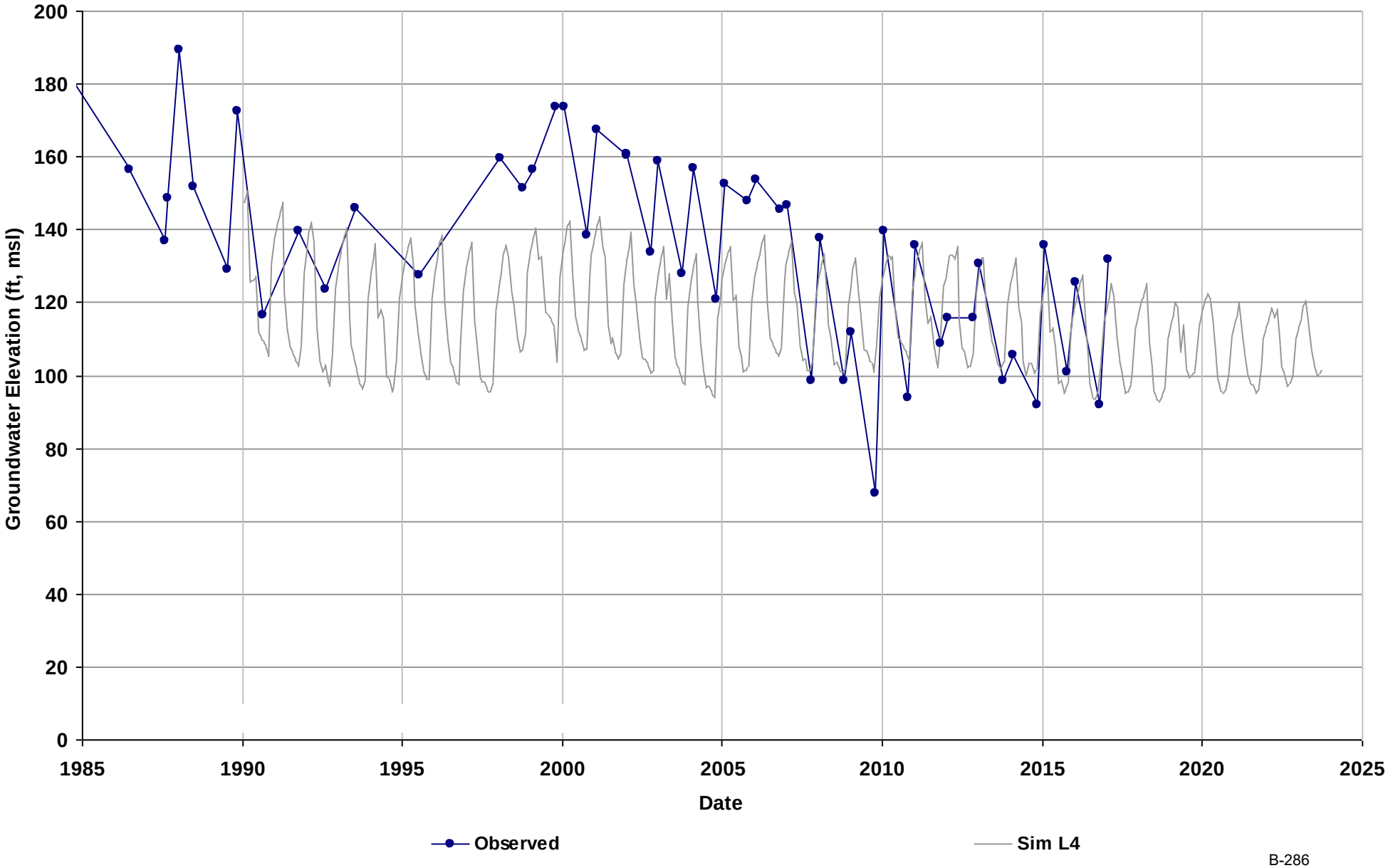
Total Depth (ft): 496
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: RCWD 66
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 374

Average Residual (feet): -15.86
Layer 1:
Layer 2:
Layer 3:
Layer 4: -15.86
Layer 5:
Layer 6:

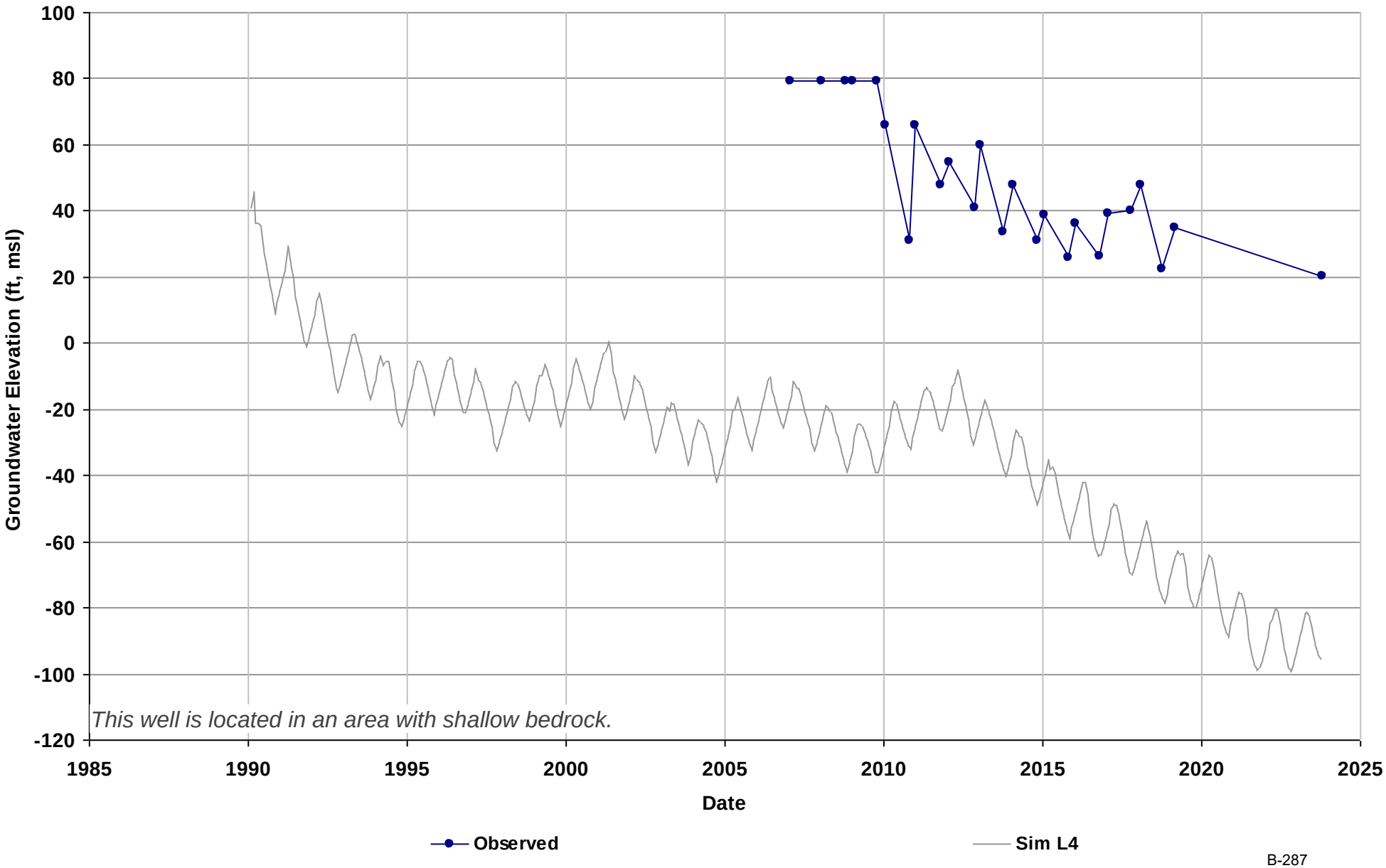
Total Depth (ft):
Perf Top (ft): 256
Perf Bottom (ft): 497
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: RCWD 73
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 387

Average Residual (feet): -90.83
Layer 1:
Layer 2:
Layer 3:
Layer 4: -90.83
Layer 5:
Layer 6:

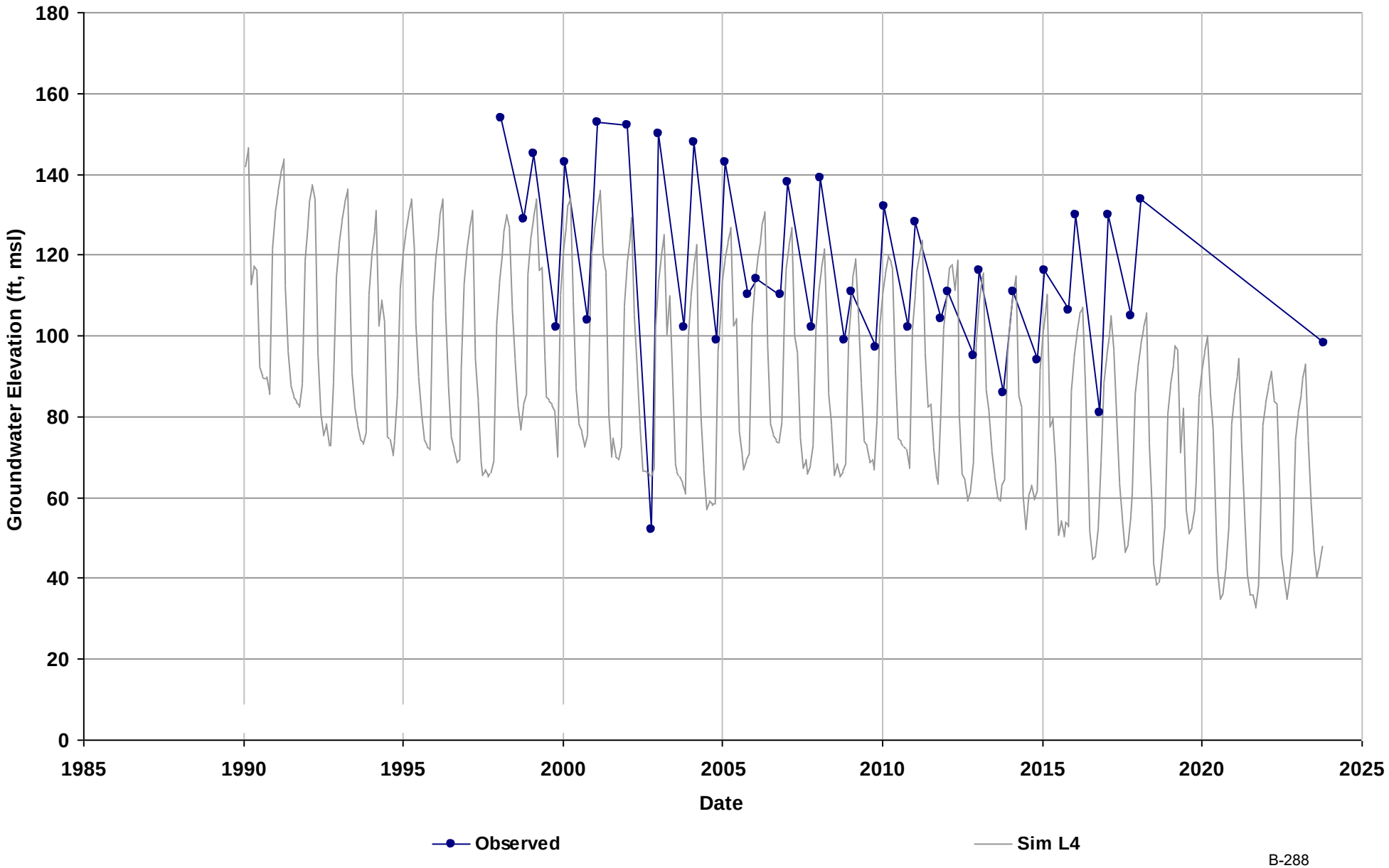
Total Depth (ft): 470
Perf Top (ft): 260
Perf Bottom (ft): 440
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: RCWD 76
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 332

Average Residual (feet): -24.28
Layer 1:
Layer 2:
Layer 3:
Layer 4: -24.28
Layer 5:
Layer 6:

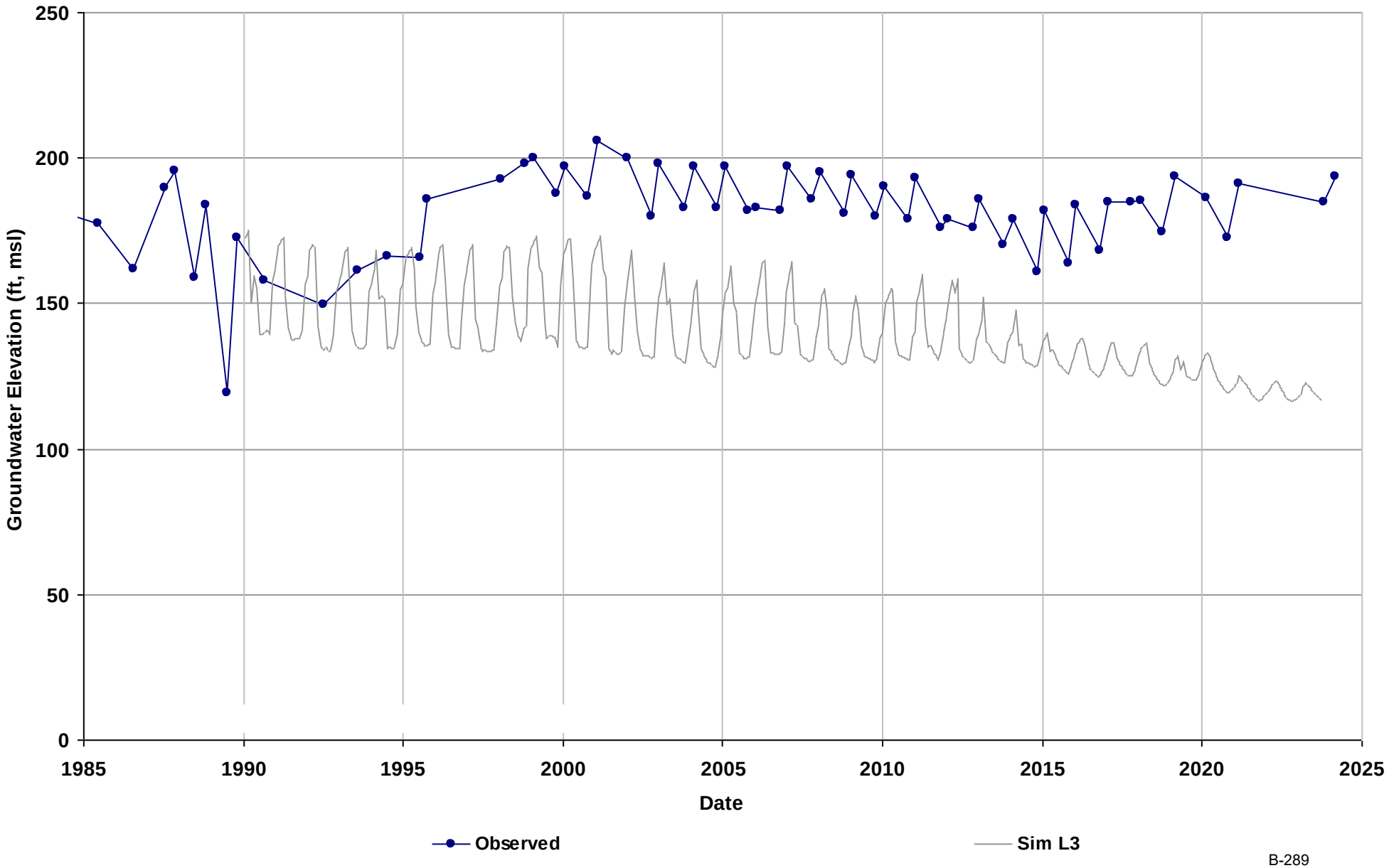
Total Depth (ft): 636
Perf Top (ft): 232
Perf Bottom (ft): 628
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: RCWD 83
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 332

Average Residual (feet): -42.55
Layer 1:
Layer 2:
Layer 3: -42.55
Layer 4:
Layer 5:
Layer 6:

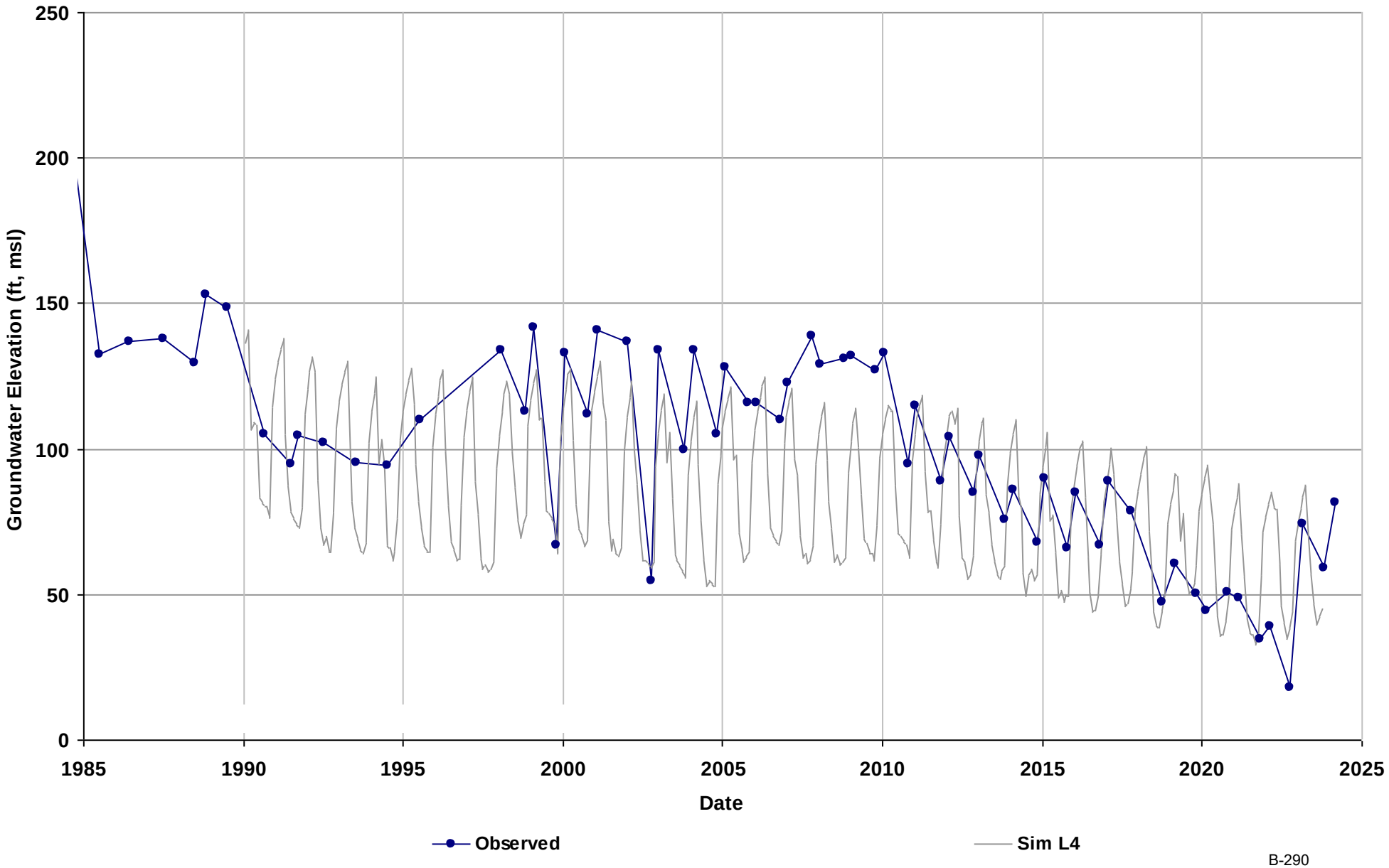
Total Depth (ft): 492
Perf Top (ft): 240
Perf Bottom (ft): 492
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: RCWD 85
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 337

Average Residual (feet): 8.85
Layer 1:
Layer 2:
Layer 3:
Layer 4: 8.85
Layer 5:
Layer 6:

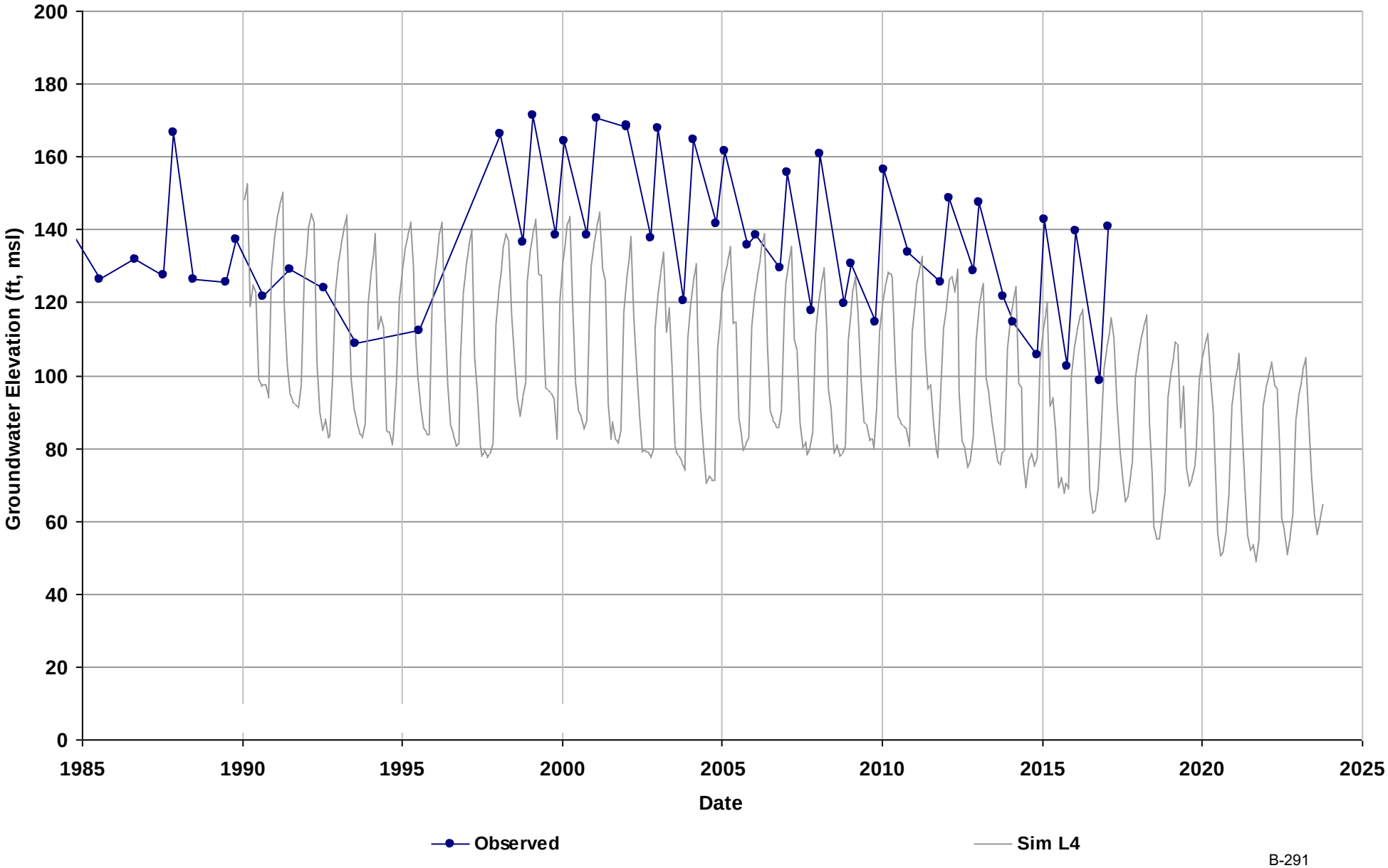
Total Depth (ft): 412
Perf Top (ft): 250
Perf Bottom (ft): 420
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: RCWD 88
Depth Zone: Composite/Unconfined
Subbasin: Madera
GSE (ft, msl): 338

Average Residual (feet): -33.64
Layer 1:
Layer 2:
Layer 3:
Layer 4: -33.64
Layer 5:
Layer 6:

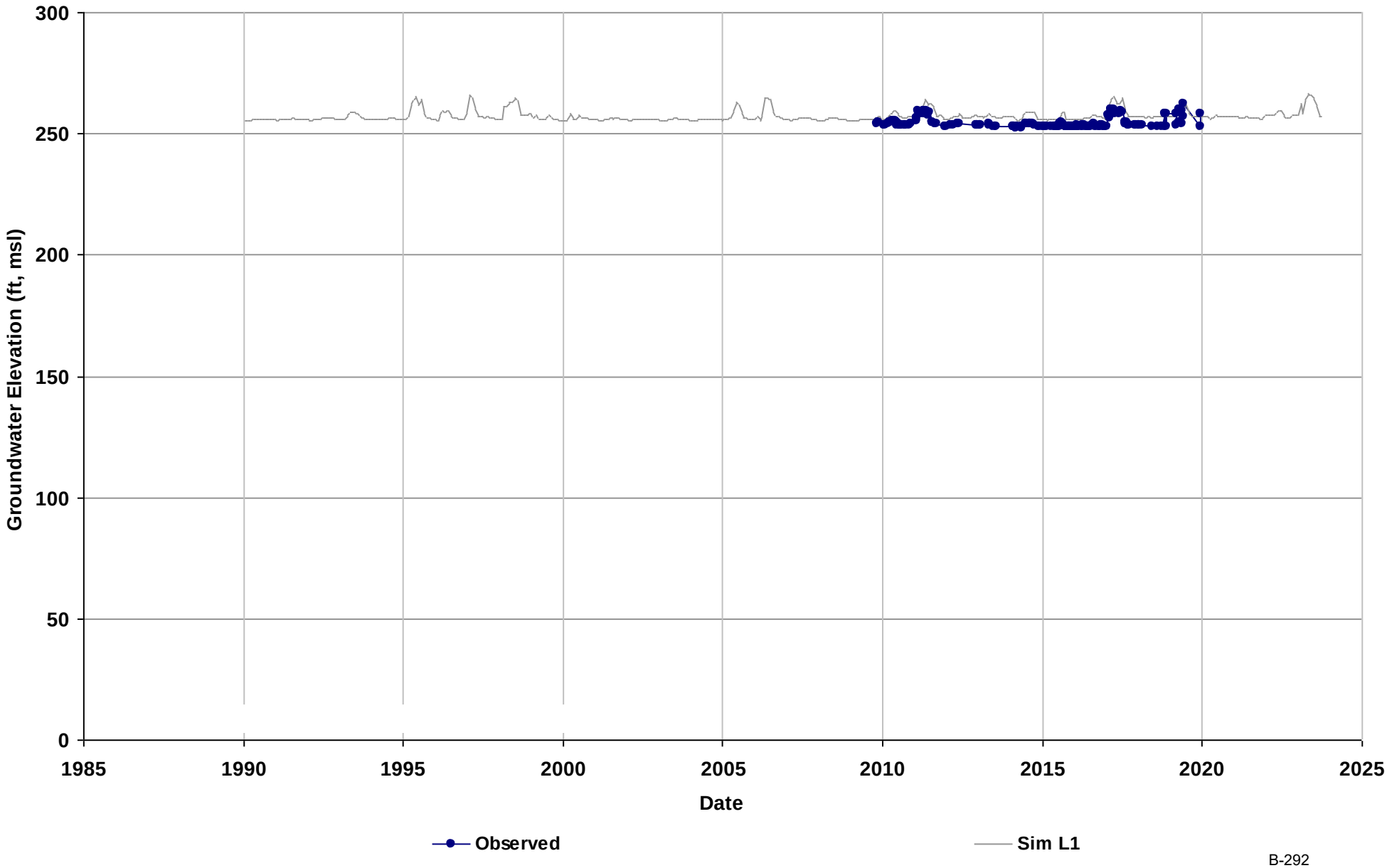
Total Depth (ft):
Perf Top (ft): 258
Perf Bottom (ft): 480
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: SJRRP_MW-09-1
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 270

Average Residual (feet): 1.04
Layer 1: 1.04
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

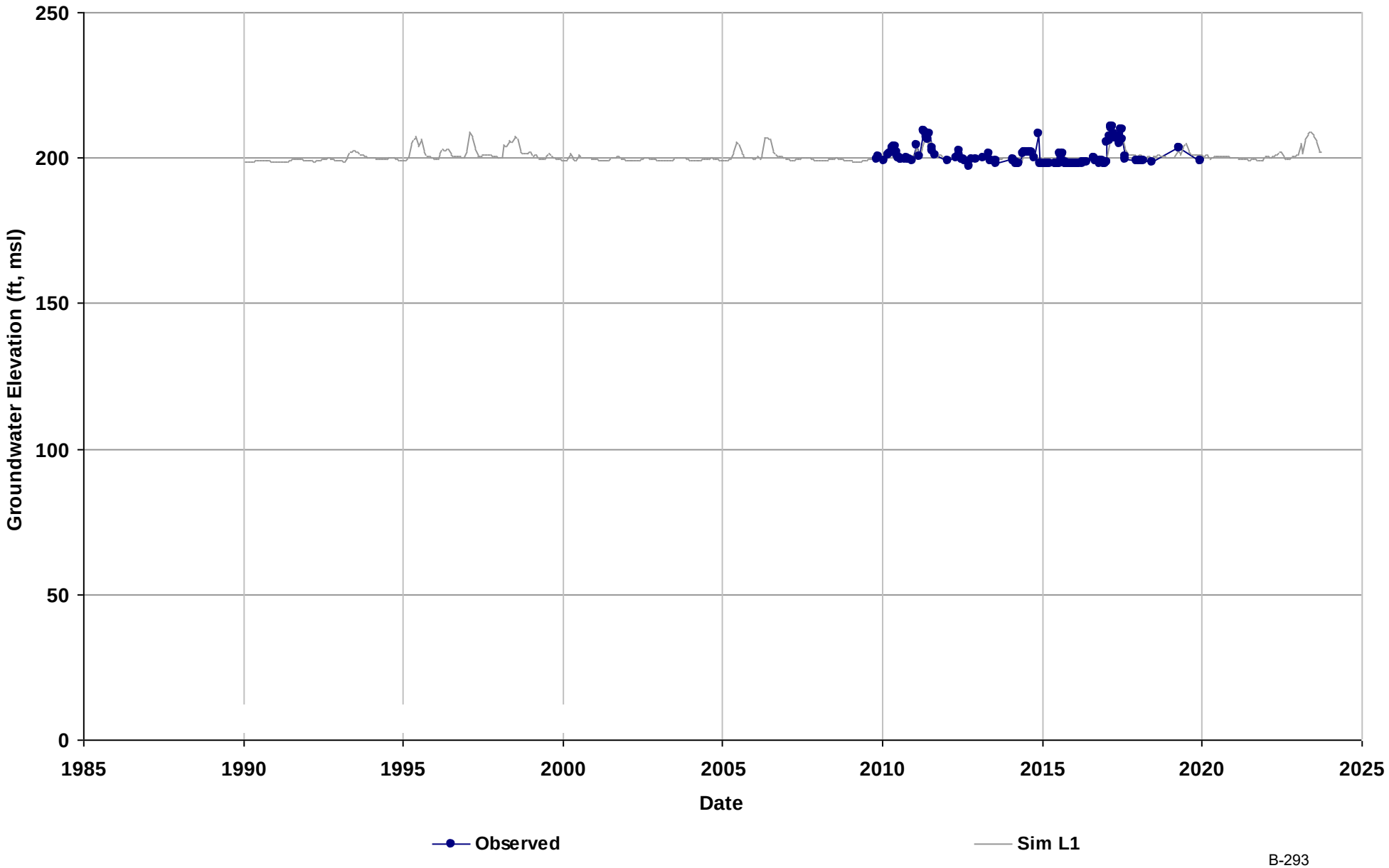
Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-09-25
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 224

Average Residual (feet):
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

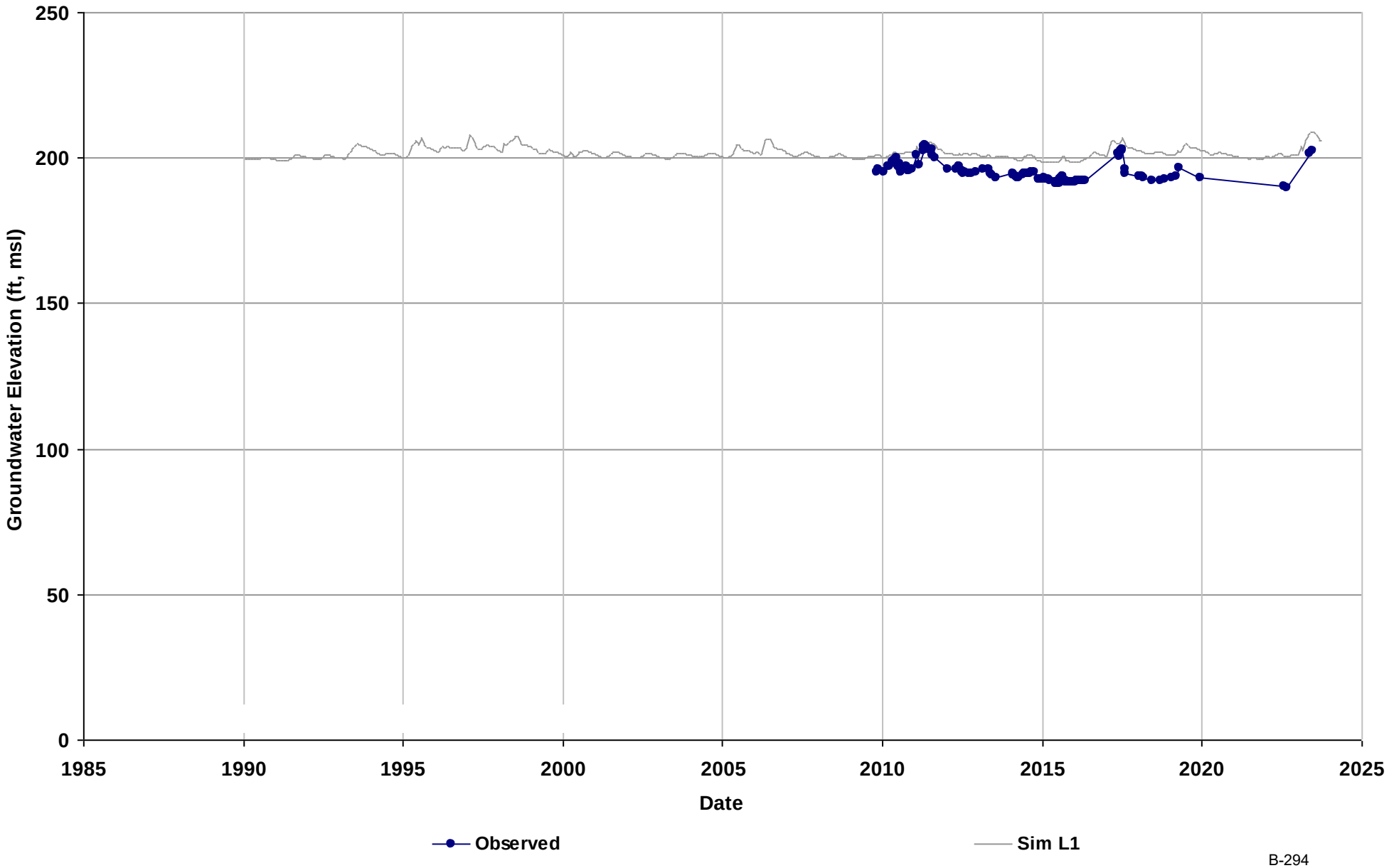
Total Depth (ft): 47
Perf Top (ft): 26
Perf Bottom (ft): 46
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-09-26
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 228

Average Residual (feet):
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

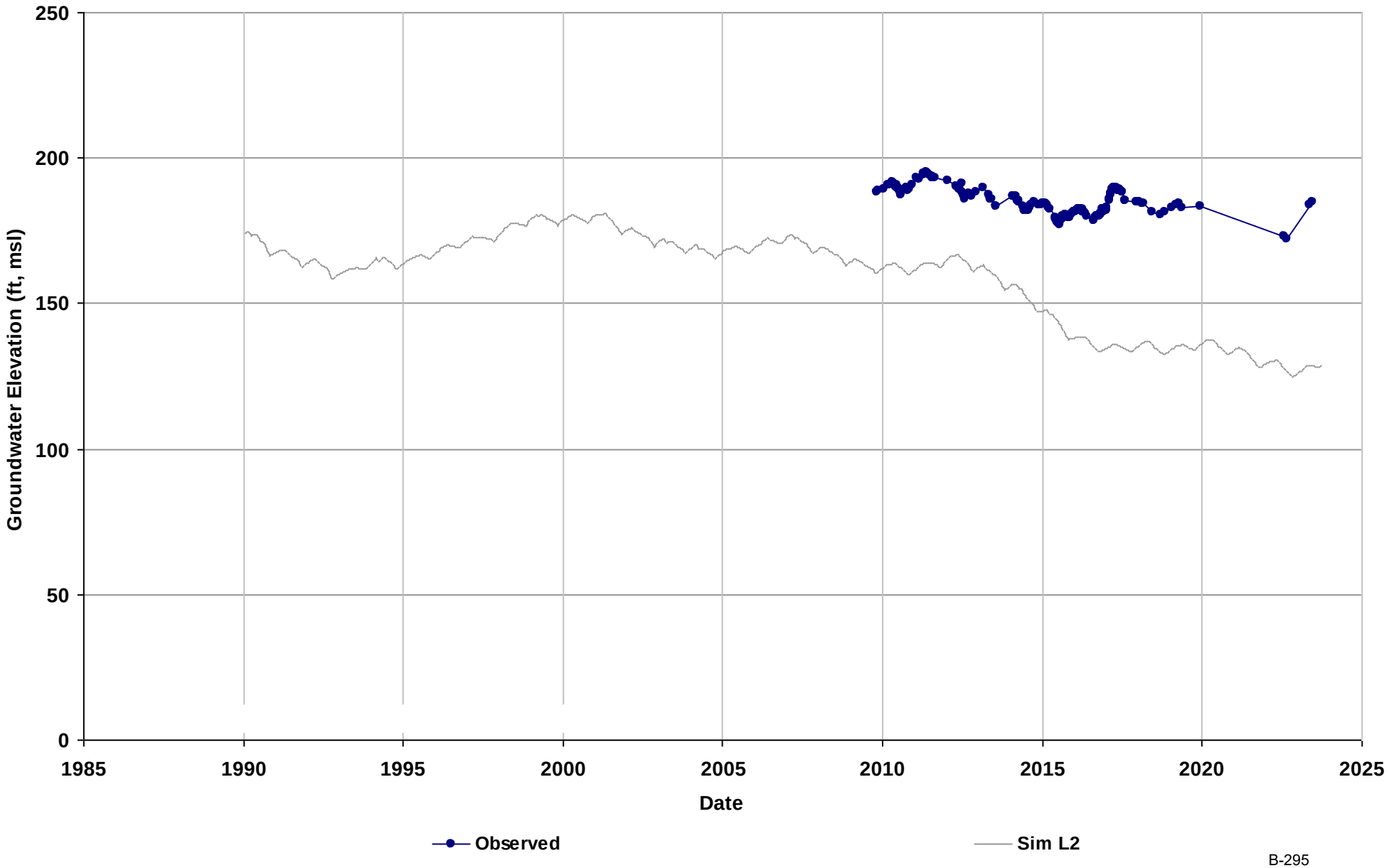
Total Depth (ft): 57.5
Perf Top (ft): 37
Perf Bottom (ft): 57
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-09-27
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 236

Average Residual (feet):
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

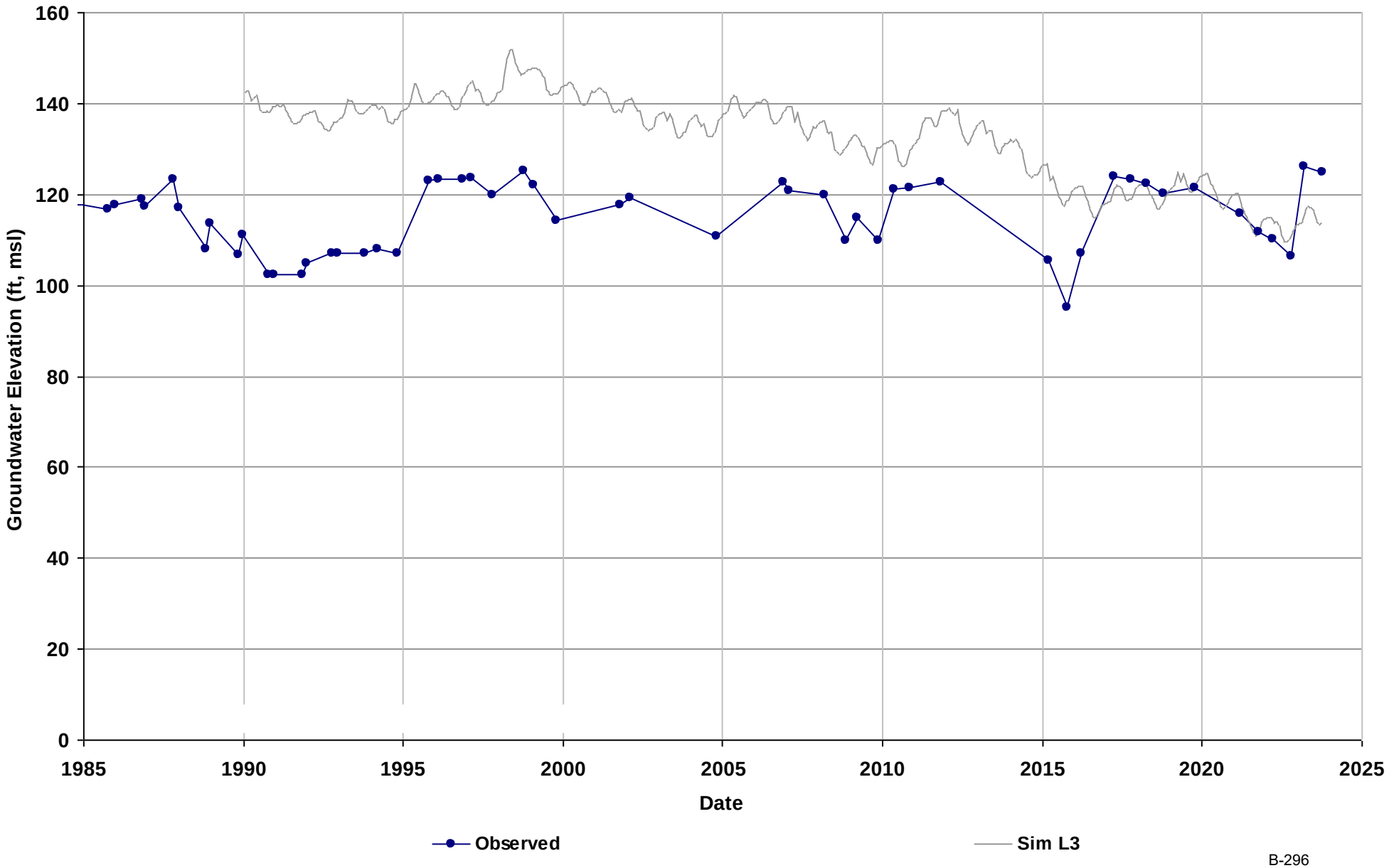
Total Depth (ft): 70
Perf Top (ft): 50
Perf Bottom (ft): 70
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 08S13E28A001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 132

Average Residual (feet): 19.43
Layer 1: 19.99
Layer 2: 19.85
Layer 3: 18.46
Layer 4:
Layer 5:
Layer 6:

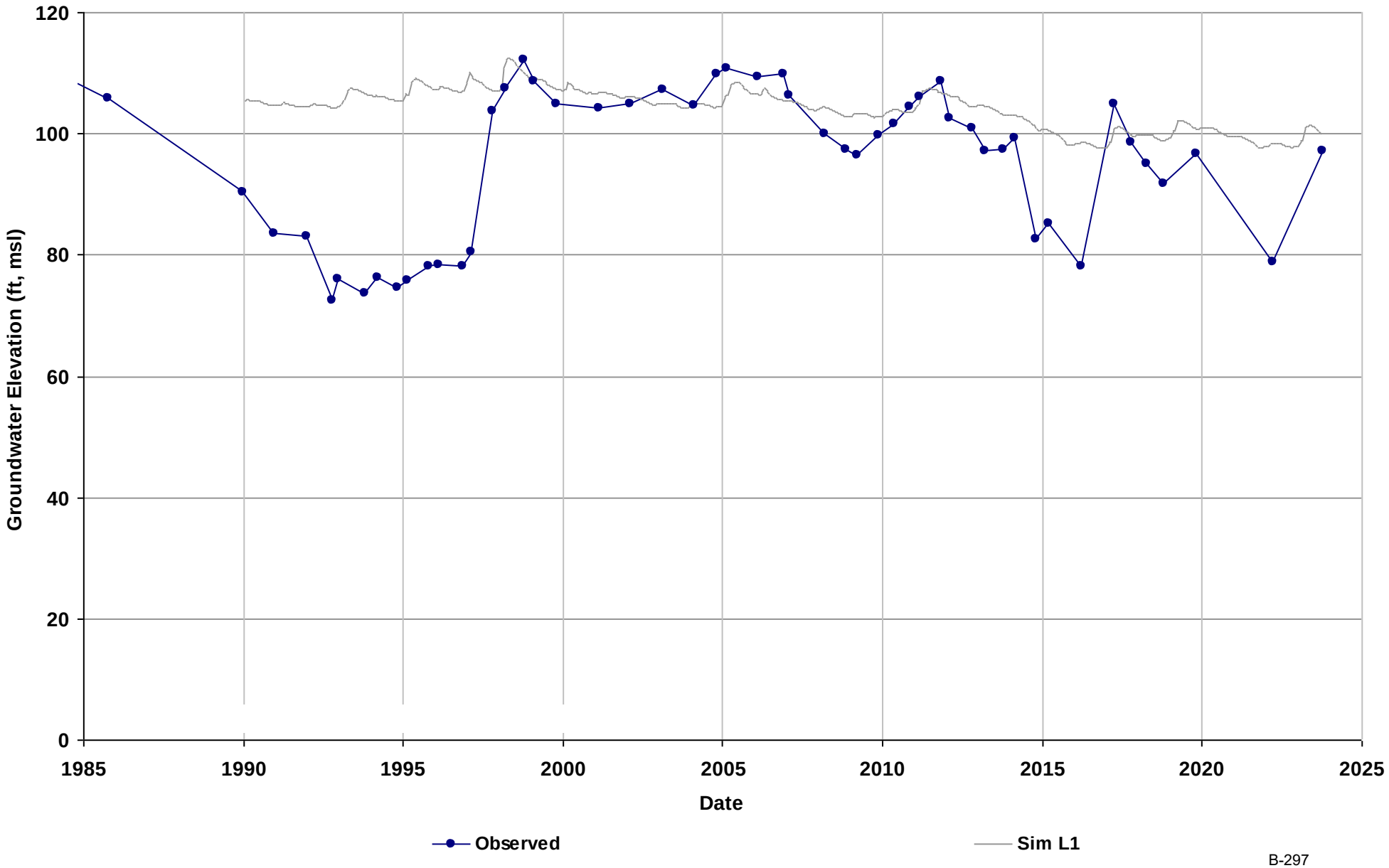
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 08S13E31A001M
Depth Zone: Shallow
Subbasin: Merced
GSE (ft, msl): 120

Average Residual (feet): 9.73
Layer 1: 9.73
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

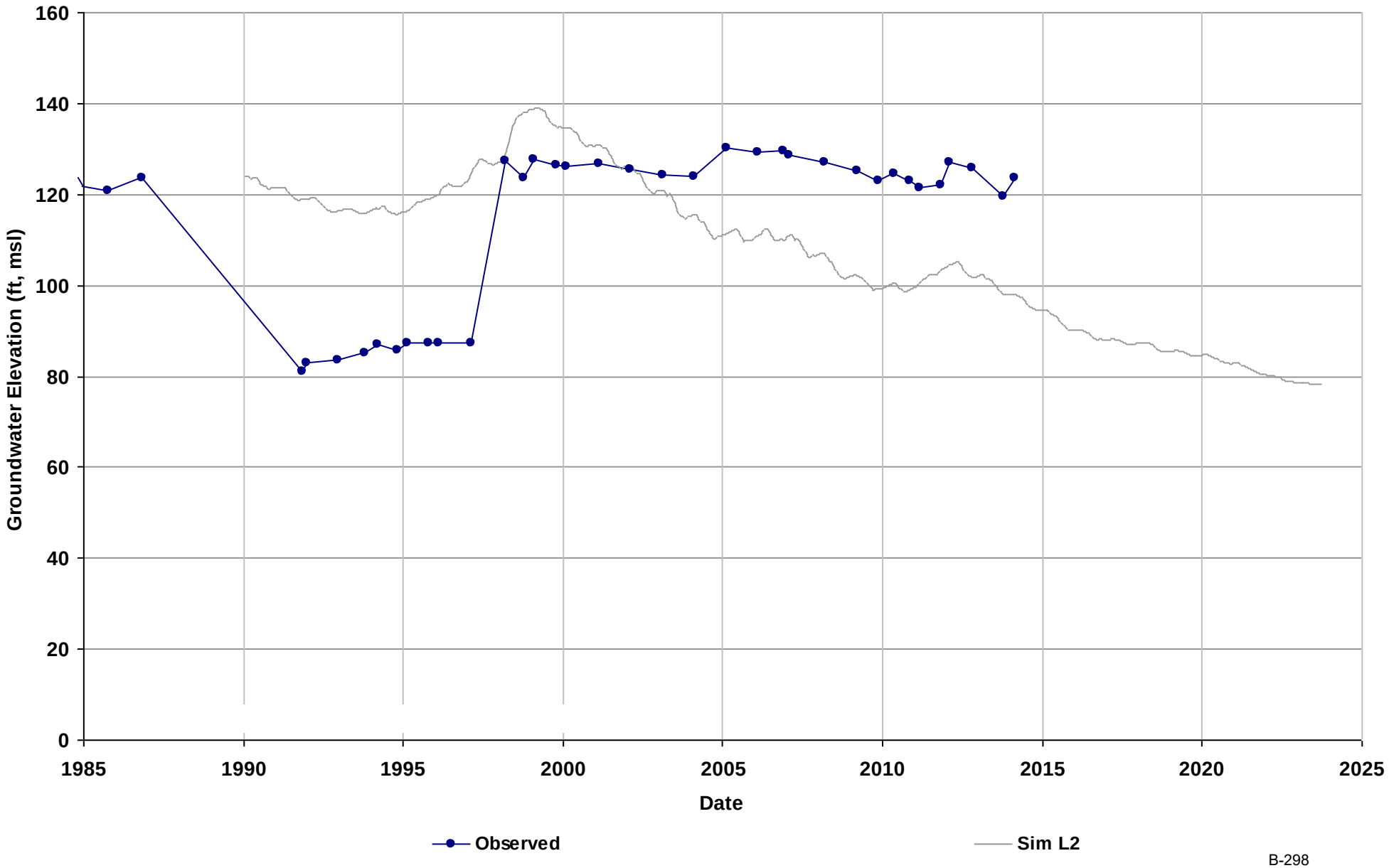
Total Depth (ft): 50
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 08S13E36H001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 147

Average Residual (feet): 1.59
Layer 1: 1.99
Layer 2: 1.19
Layer 3:
Layer 4:
Layer 5:
Layer 6:

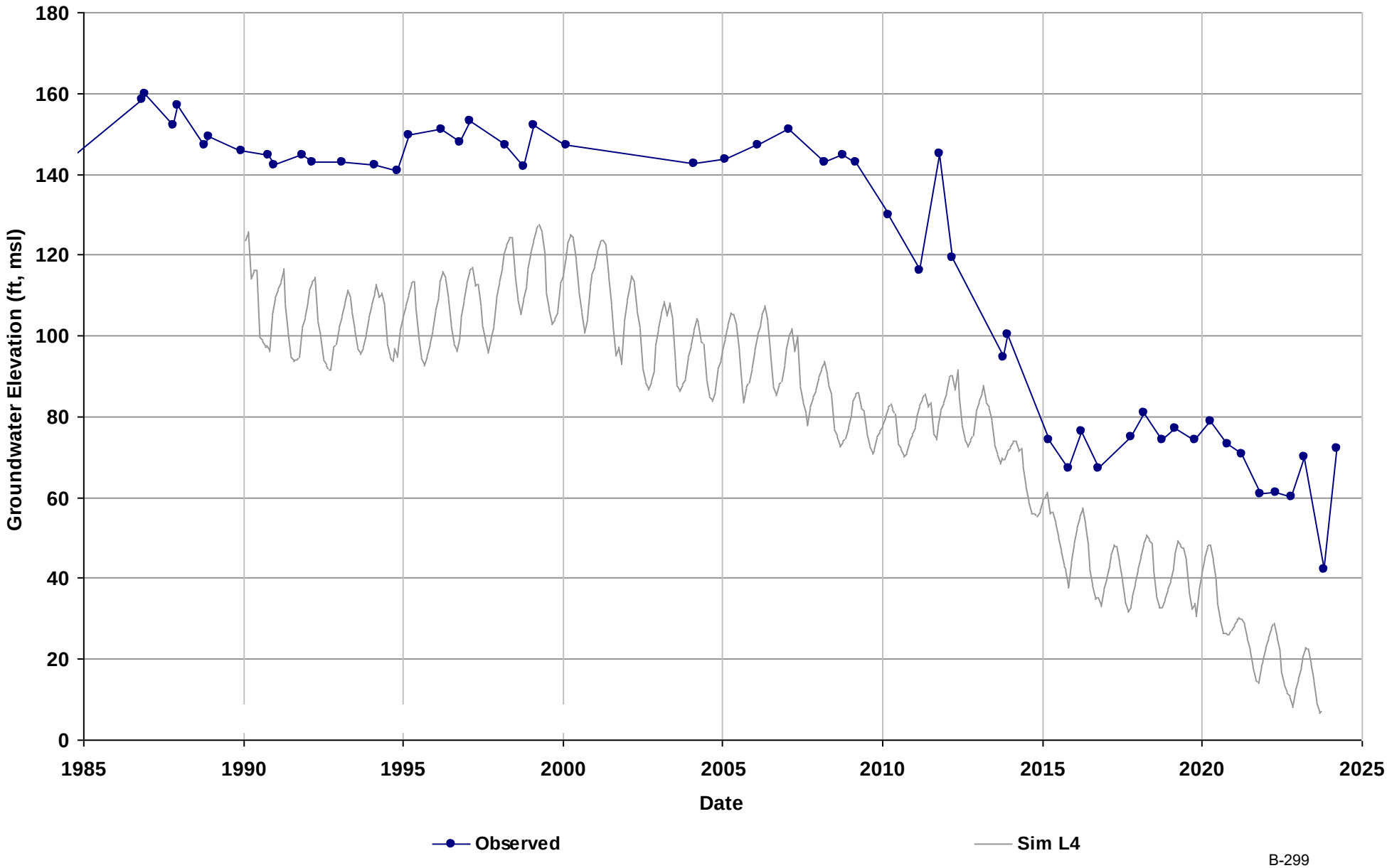
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 08S14E15R002M
Depth Zone: Lower
Subbasin: Merced
GSE (ft, msl): 178

Average Residual (feet): -39.01
Layer 1:
Layer 2:
Layer 3:
Layer 4: -39.01
Layer 5:
Layer 6:

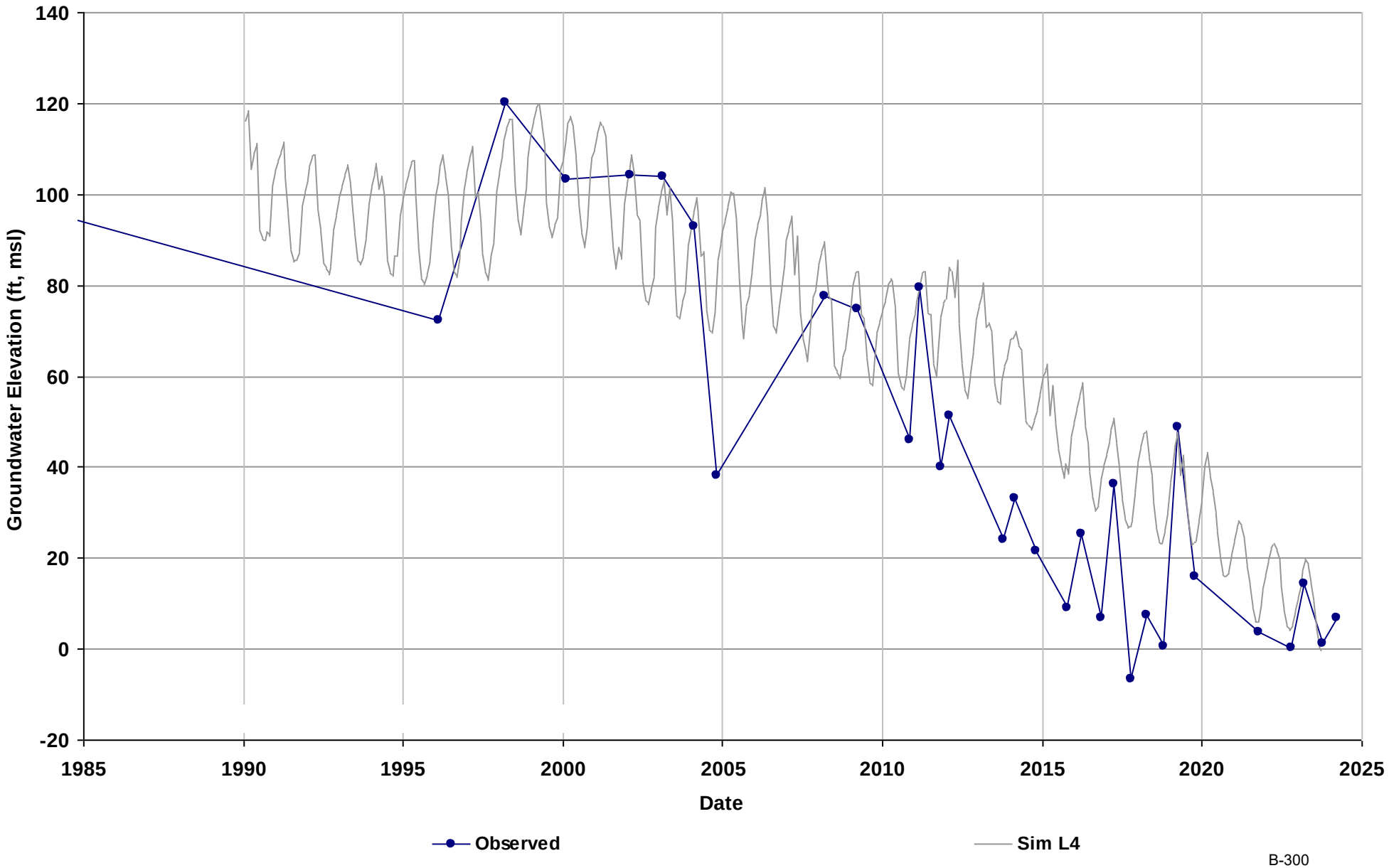
Total Depth (ft): 265
Perf Top (ft): 230
Perf Bottom (ft): 265
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 08S14E20J001M
Depth Zone: Lower
Subbasin: Merced
GSE (ft, msl): 163

Average Residual (feet): 17.97
Layer 1:
Layer 2:
Layer 3:
Layer 4: 17.97
Layer 5:
Layer 6:

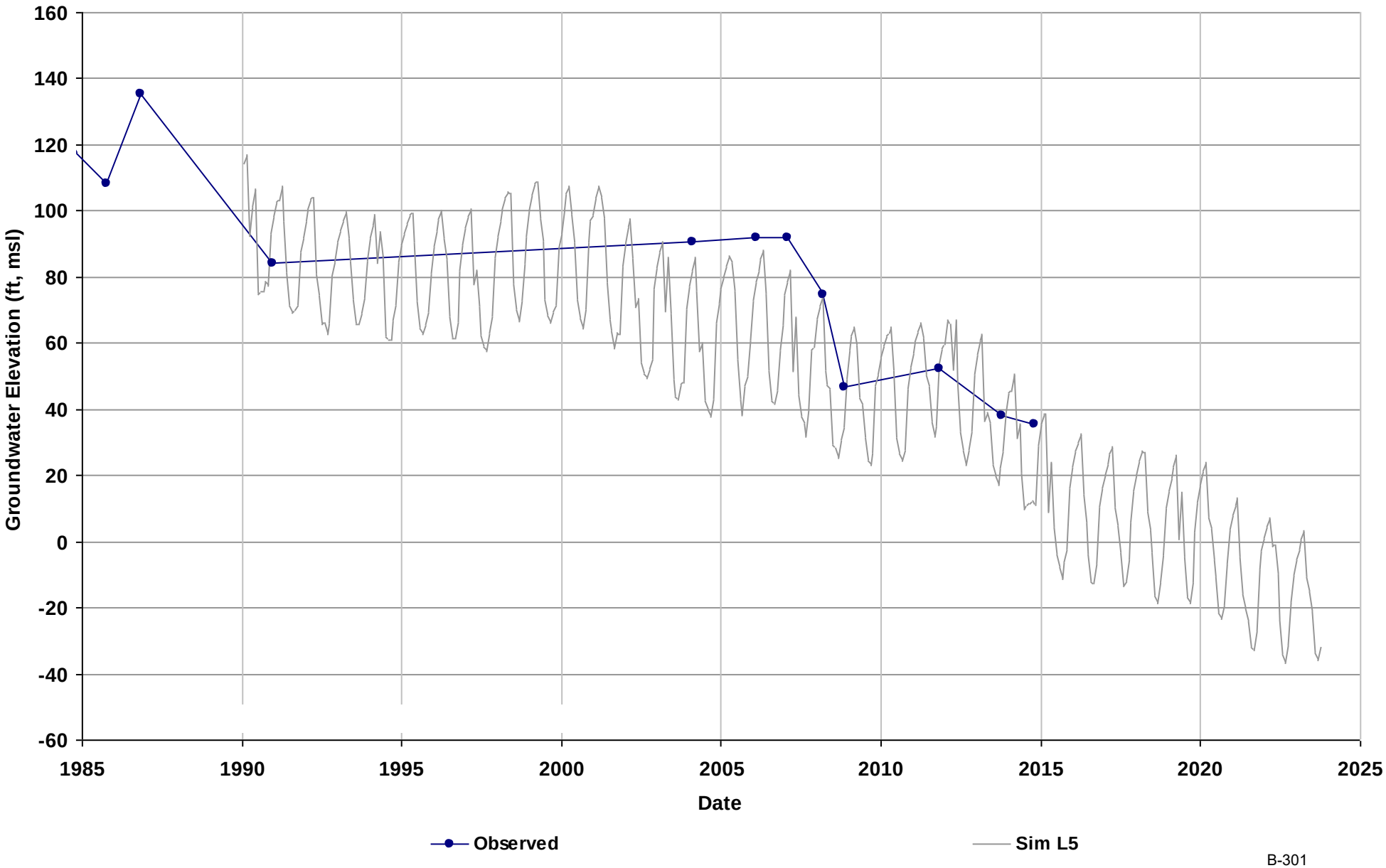
Total Depth (ft): 435
Perf Top (ft): 150
Perf Bottom (ft): 430
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 08S14E26H001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 185

Average Residual (feet): -9.94
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -8.38
Layer 6: -11.49

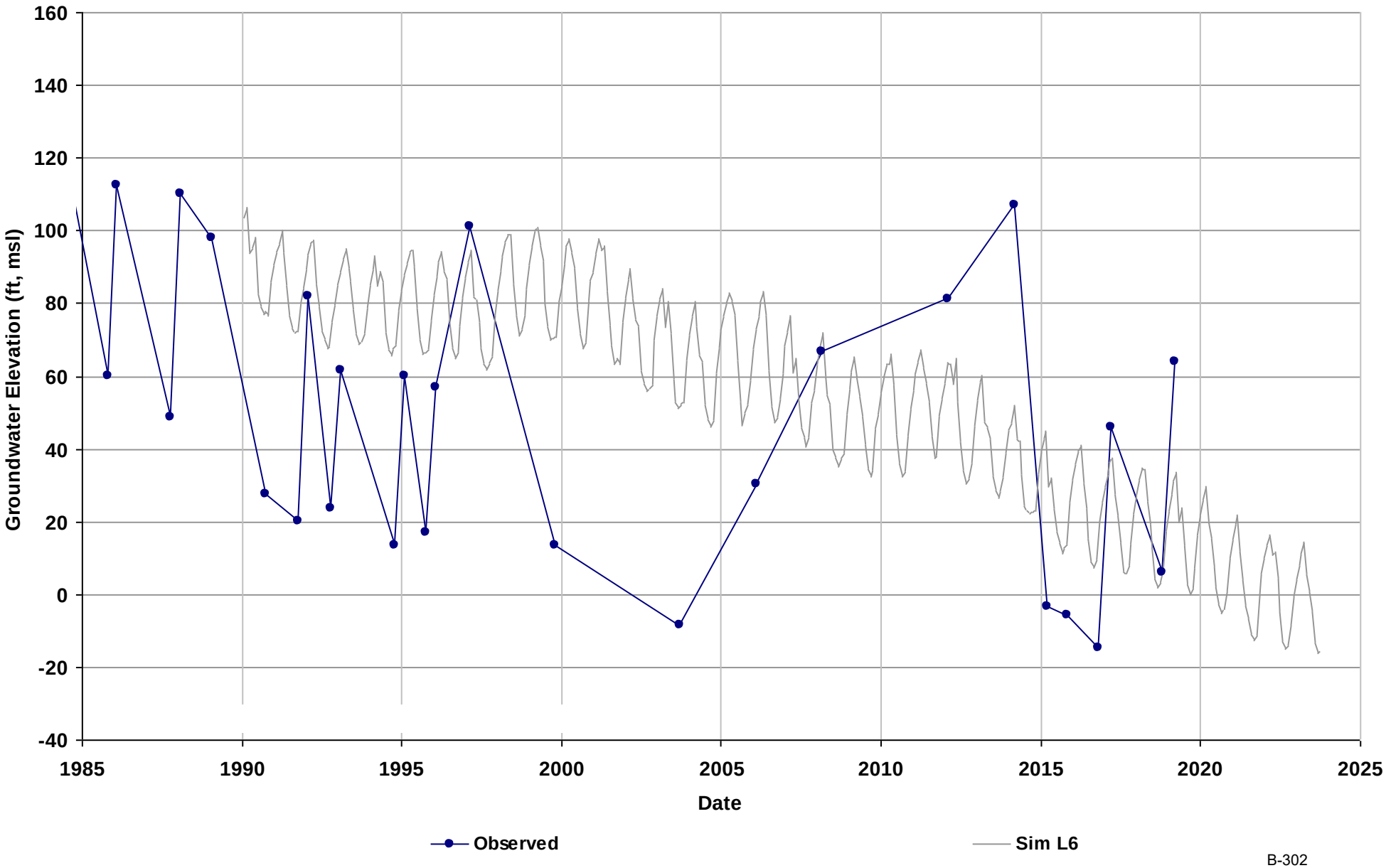
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 08S14E32L001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 155

Average Residual (feet): 22.29
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 23.63
Layer 6: 20.95

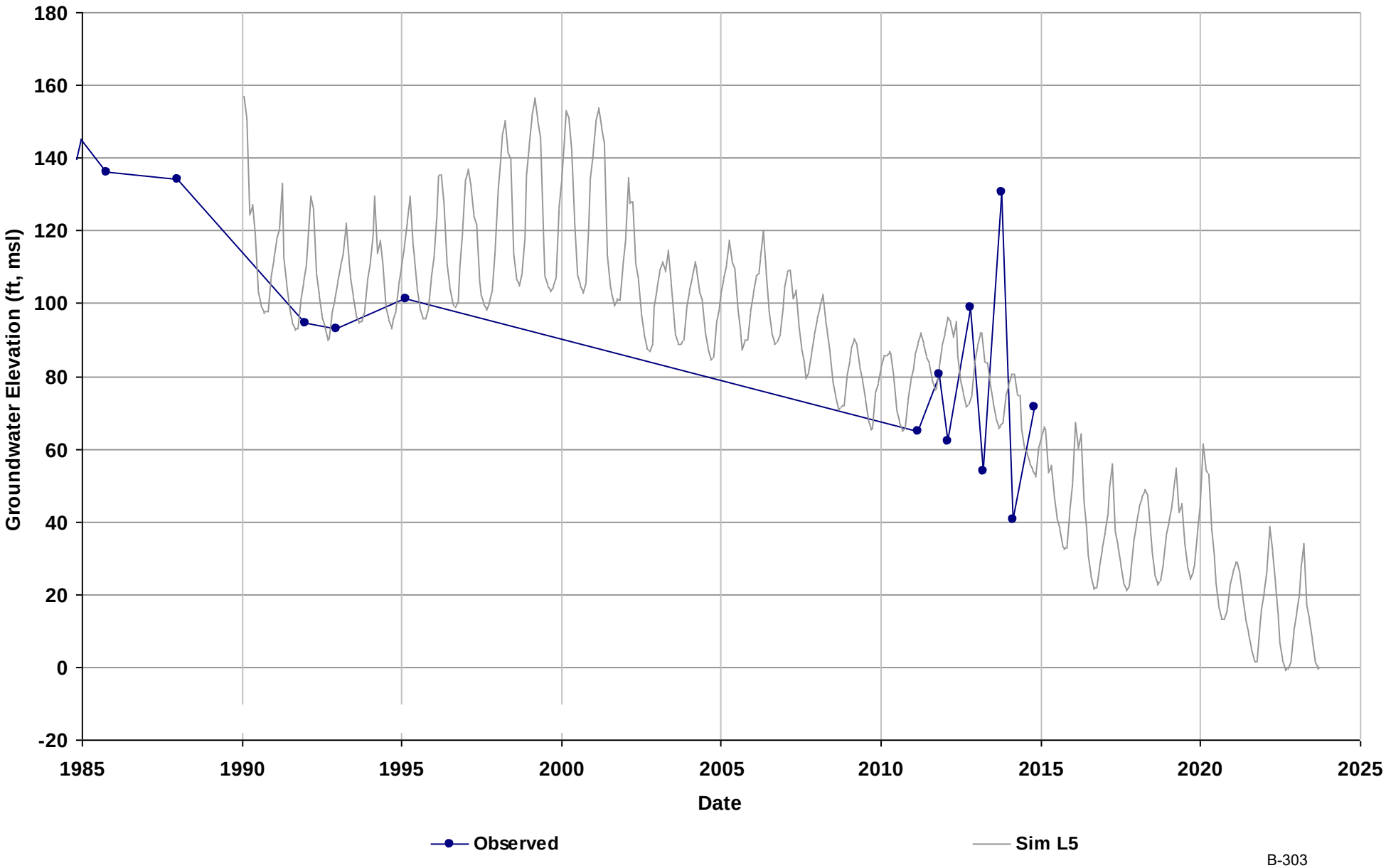
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 08S15E16C001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 217

Average Residual (feet): 6.13
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 6.13
Layer 6:

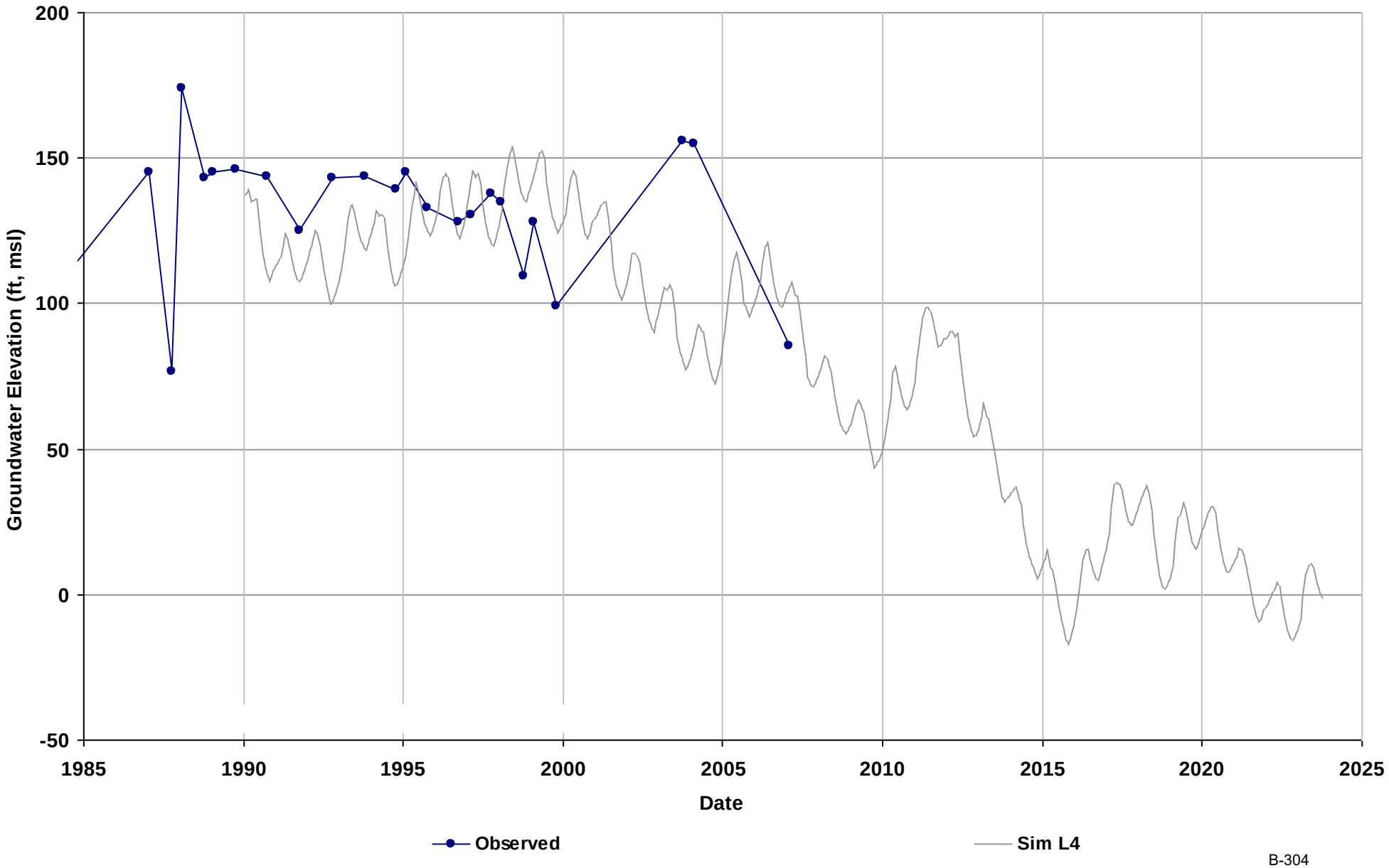
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 08S15E25J001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 238

Average Residual (feet): -13.02
Layer 1:
Layer 2:
Layer 3:
Layer 4: -13.02
Layer 5:
Layer 6:

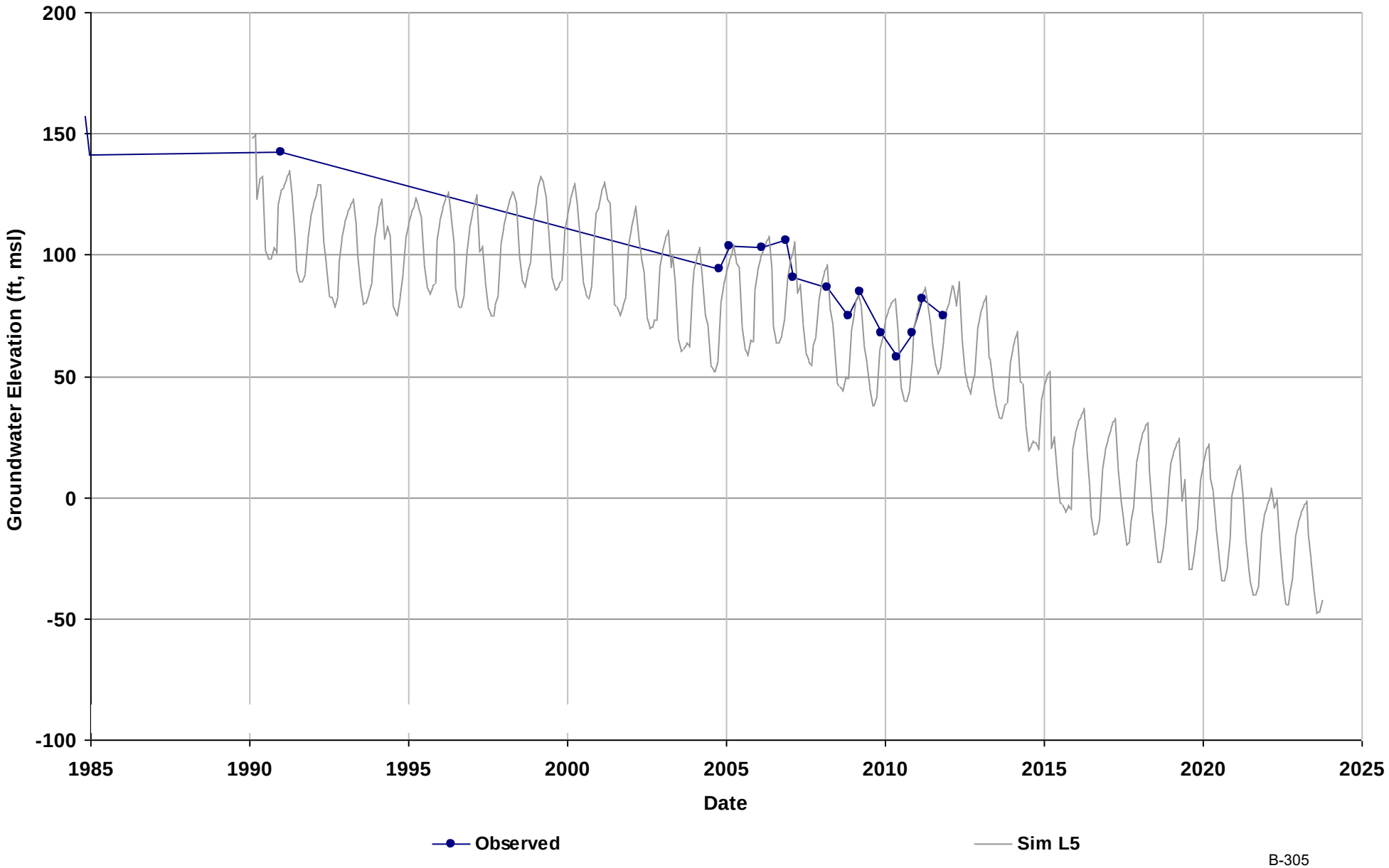
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 08S16E19D001M
Depth Zone: Unconfined
Subbasin: Merced
GSE (ft, msl): 245

Average Residual (feet): -6.76
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -6.76
Layer 6:

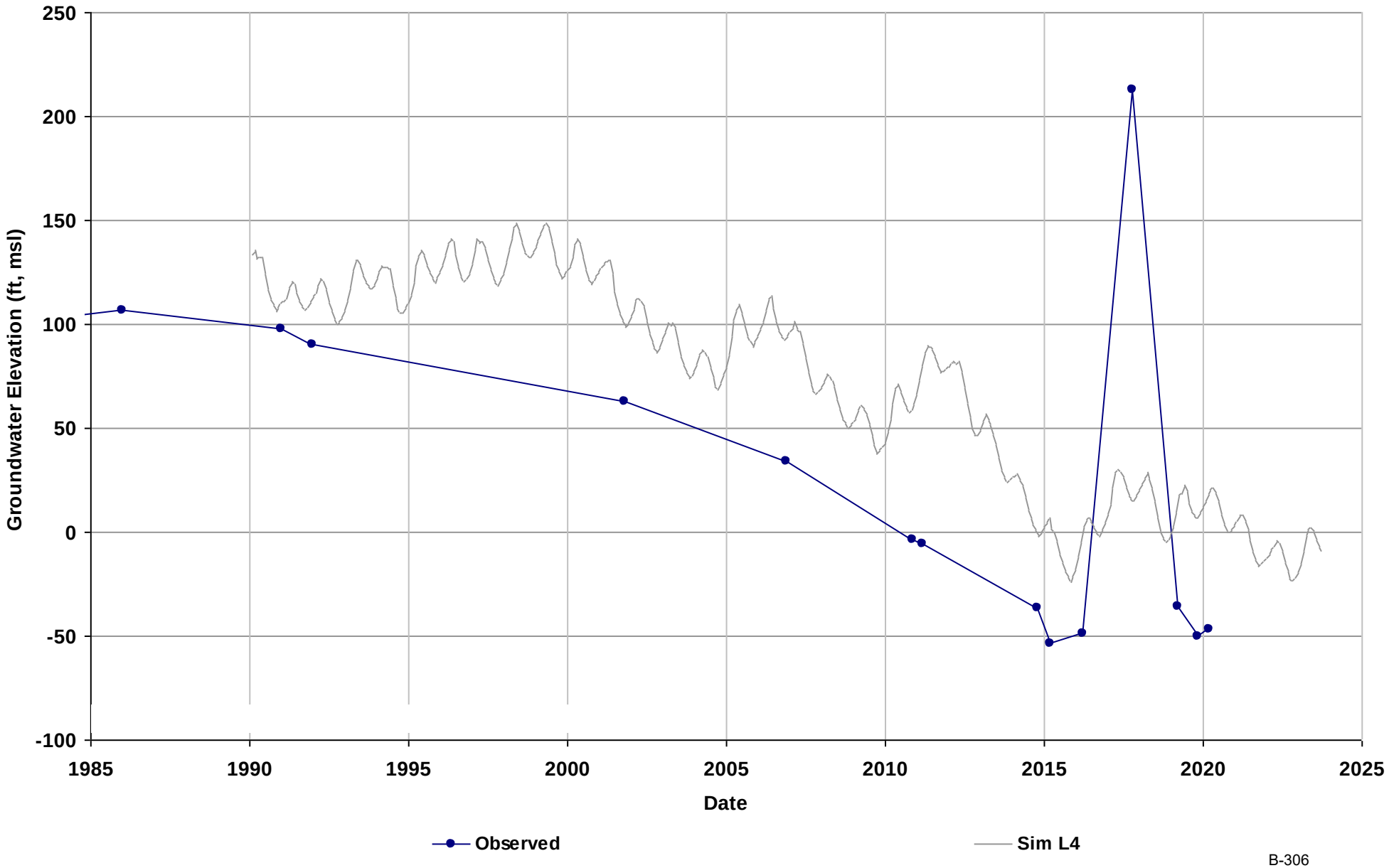
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 08S16E31C001M
Depth Zone: Unconfined
Subbasin: Merced
GSE (ft, msl): 240

Average Residual (feet): 49.37
Layer 1:
Layer 2:
Layer 3:
Layer 4: 49.37
Layer 5:
Layer 6:

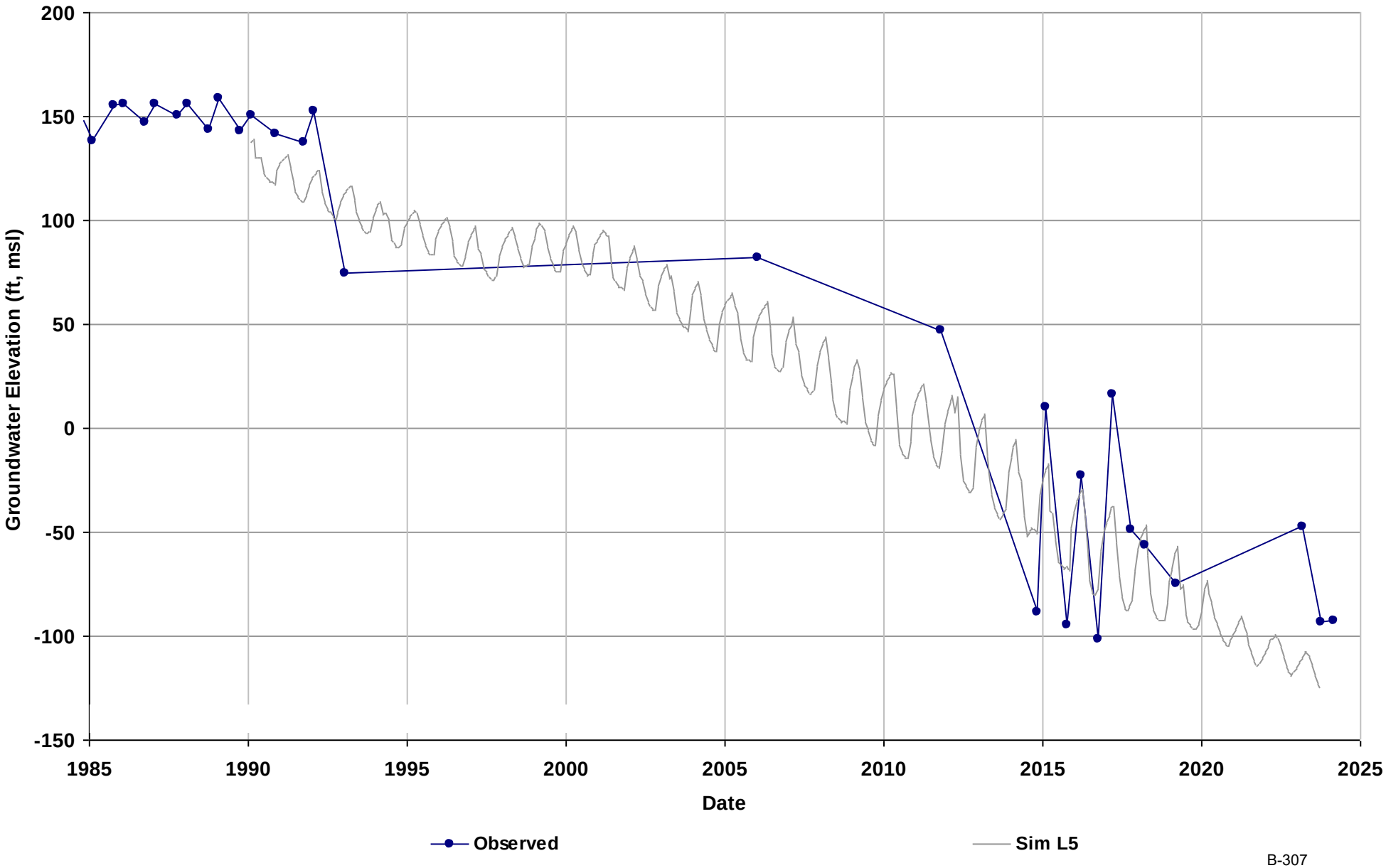
Total Depth (ft): 412
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 08S16E34J001M
Depth Zone: Lower
Subbasin: Merced
GSE (ft, msl): 280

Average Residual (feet): -13.3
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -13.3
Layer 6:

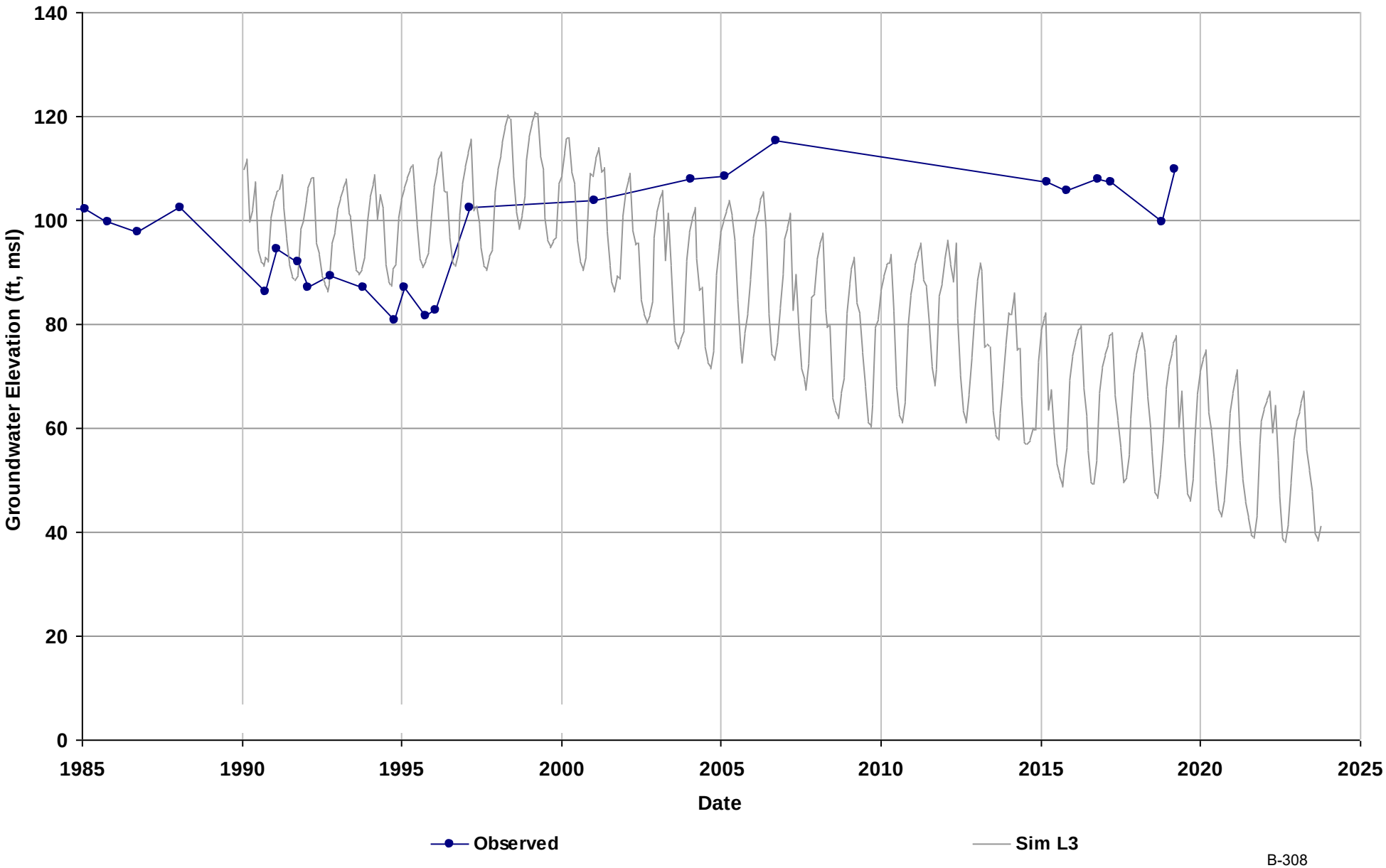
Total Depth (ft): 639
Perf Top (ft): 180
Perf Bottom (ft): 639
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 09S13E02D001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 129

Average Residual (feet): 3.56
Layer 1: 9.83
Layer 2: 8.95
Layer 3: -8.1
Layer 4:
Layer 5:
Layer 6:

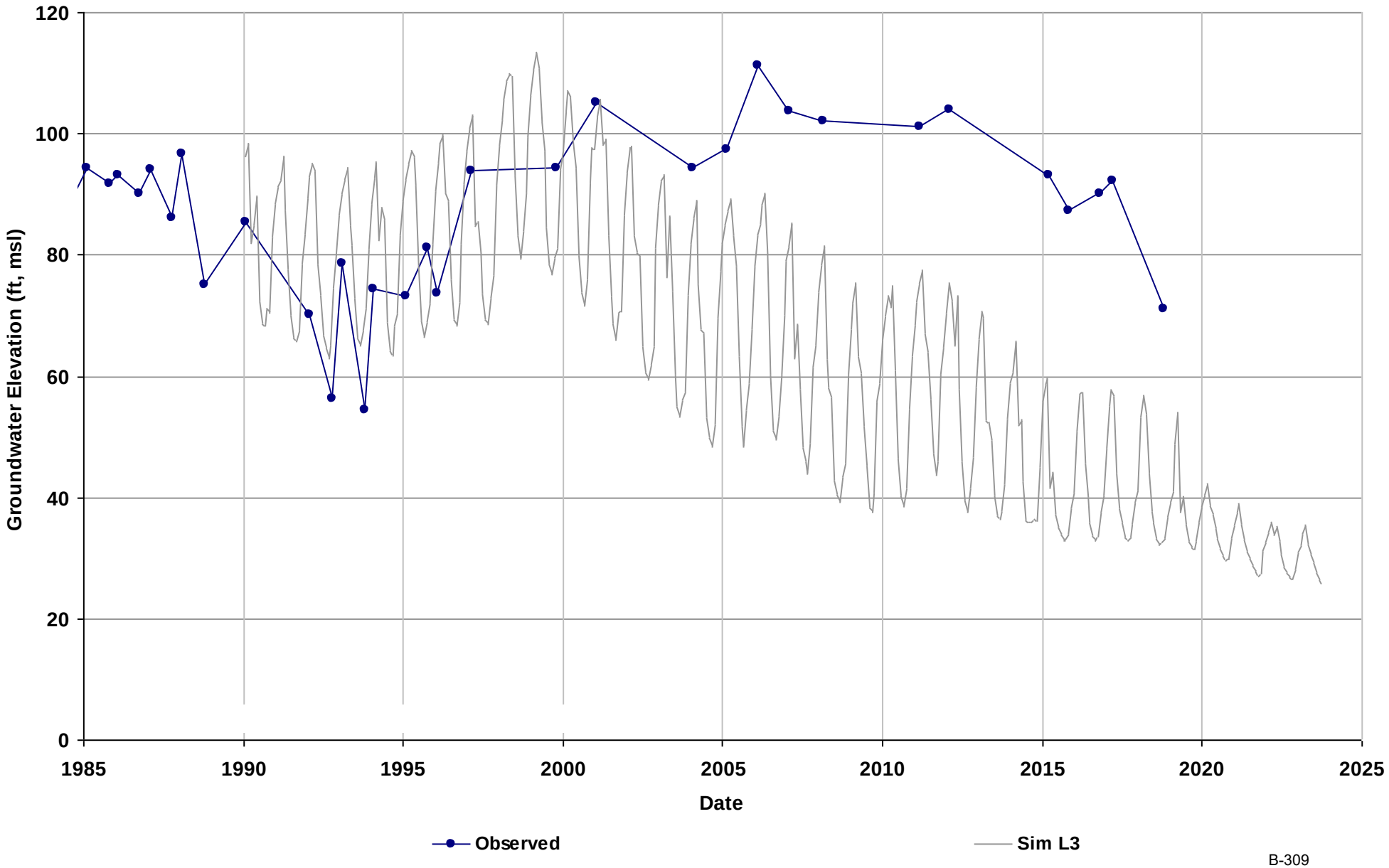
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 09S13E12R001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 141

Average Residual (feet): 3.97
Layer 1:
Layer 2: 18.85
Layer 3: -10.9
Layer 4:
Layer 5:
Layer 6:

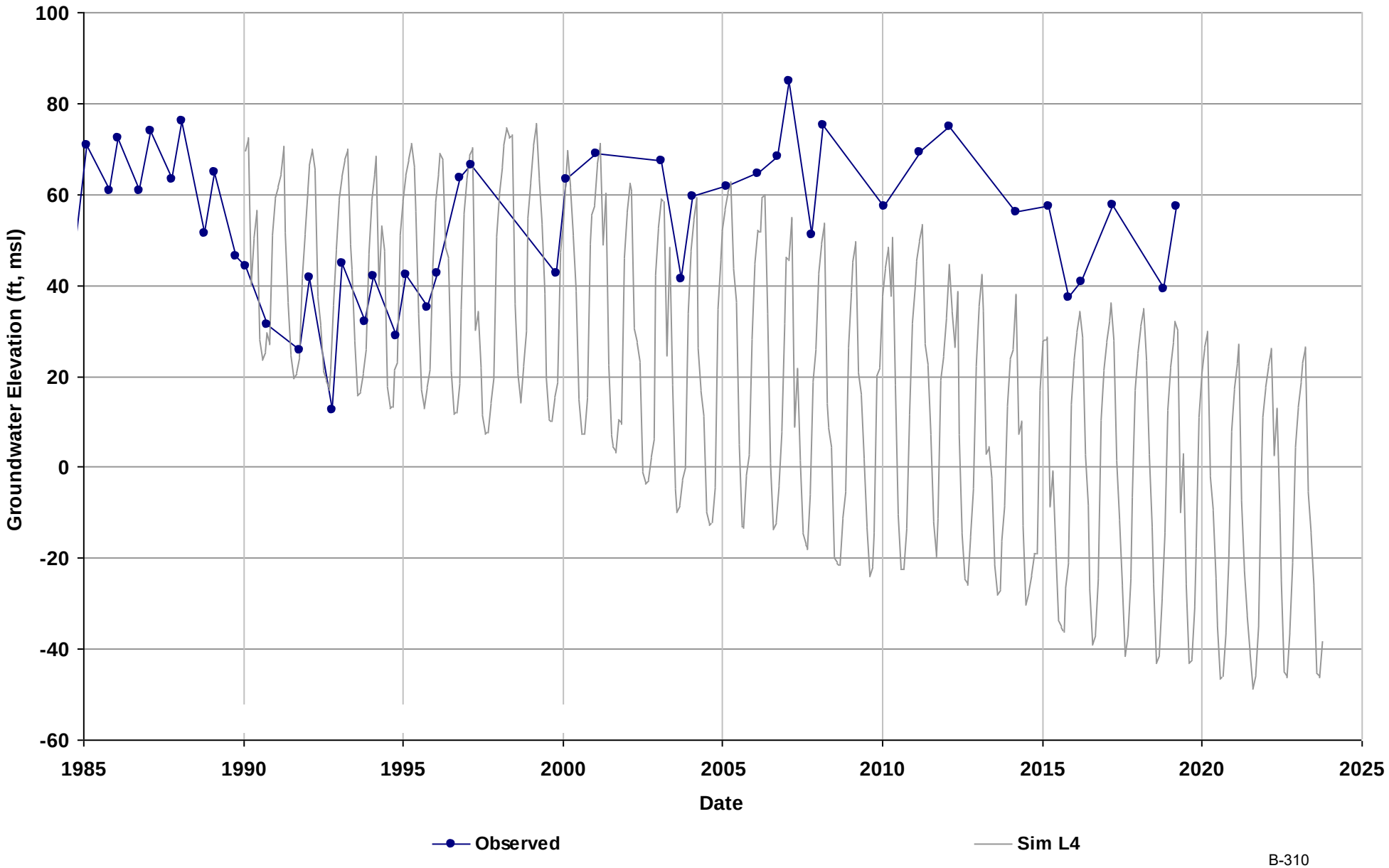
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 09S13E22H002M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 127

Average Residual (feet): -14.16
Layer 1:
Layer 2:
Layer 3:
Layer 4: -14.16
Layer 5:
Layer 6:

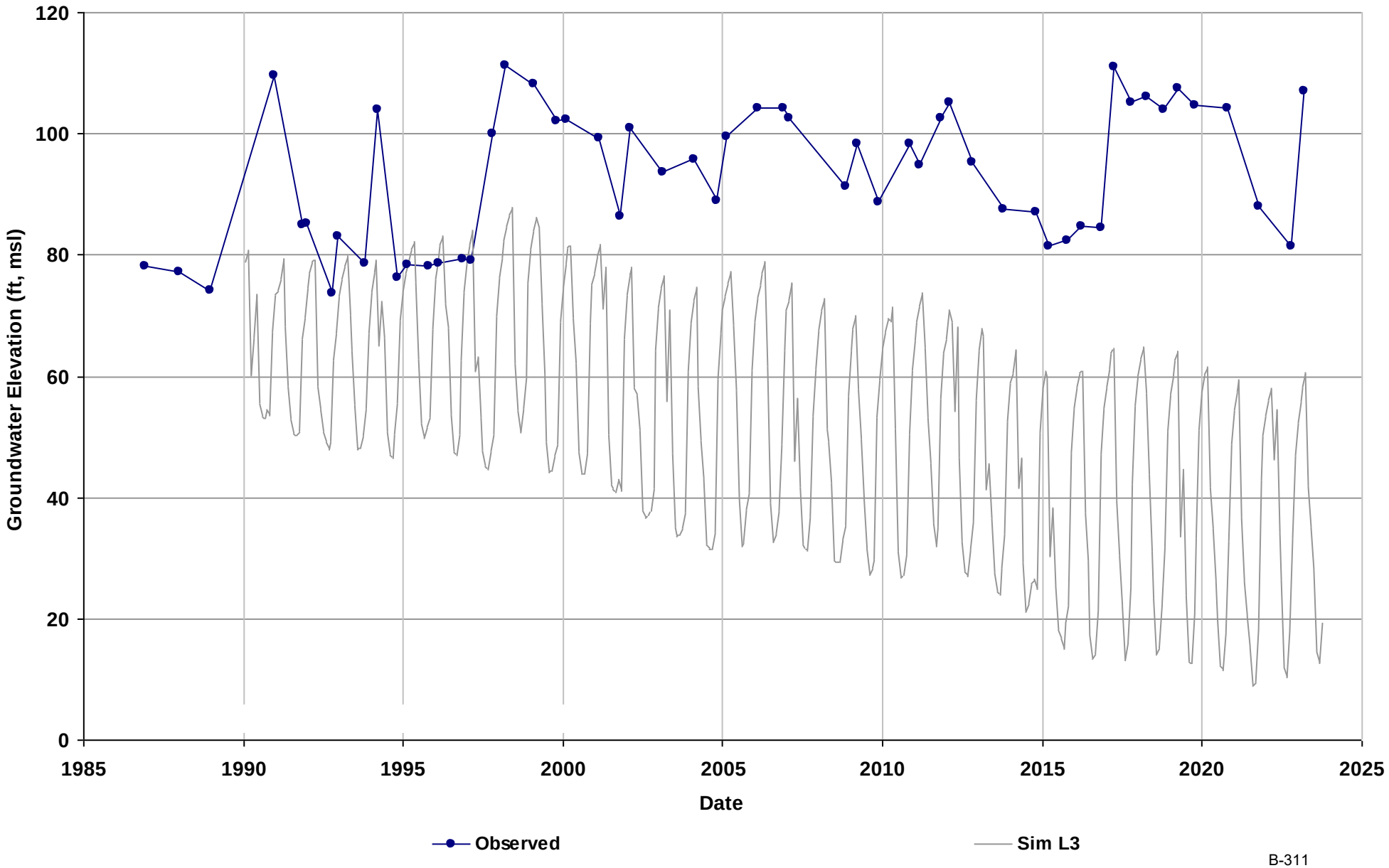
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 09S13E32A001M
Depth Zone: Composite
Subbasin: Merced
GSE (ft, msl): 116

Average Residual (feet): -36.85
Layer 1:
Layer 2:
Layer 3: -36.85
Layer 4:
Layer 5:
Layer 6:

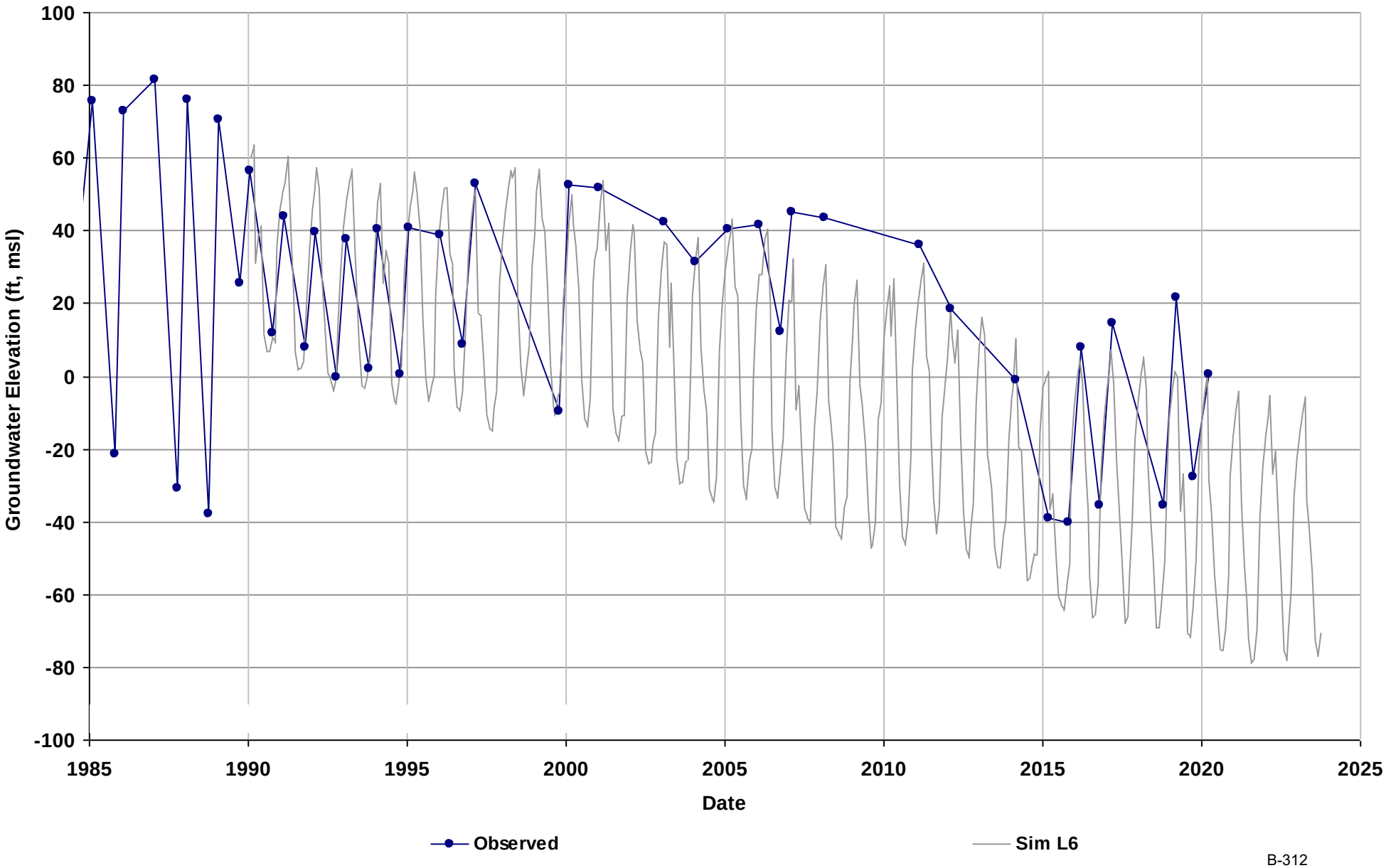
Total Depth (ft): 616
Perf Top (ft): 150
Perf Bottom (ft): 509
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 09S13E36A001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 138

Average Residual (feet): -3.06
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -2.36
Layer 6: -3.76

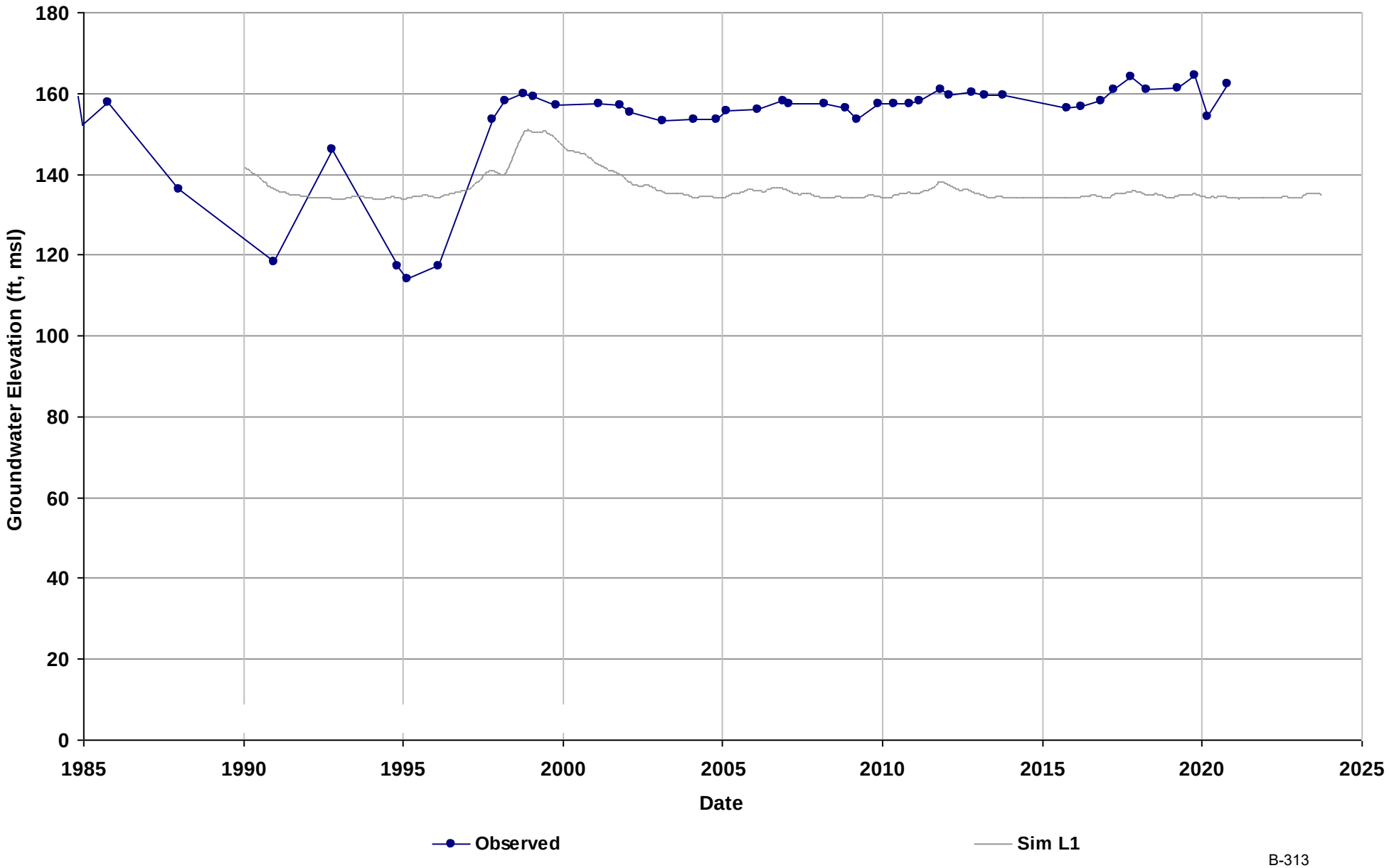
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 09S14E01B003M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 182

Average Residual (feet): -19.5
Layer 1: -17.03
Layer 2: -21.96
Layer 3:
Layer 4:
Layer 5:
Layer 6:

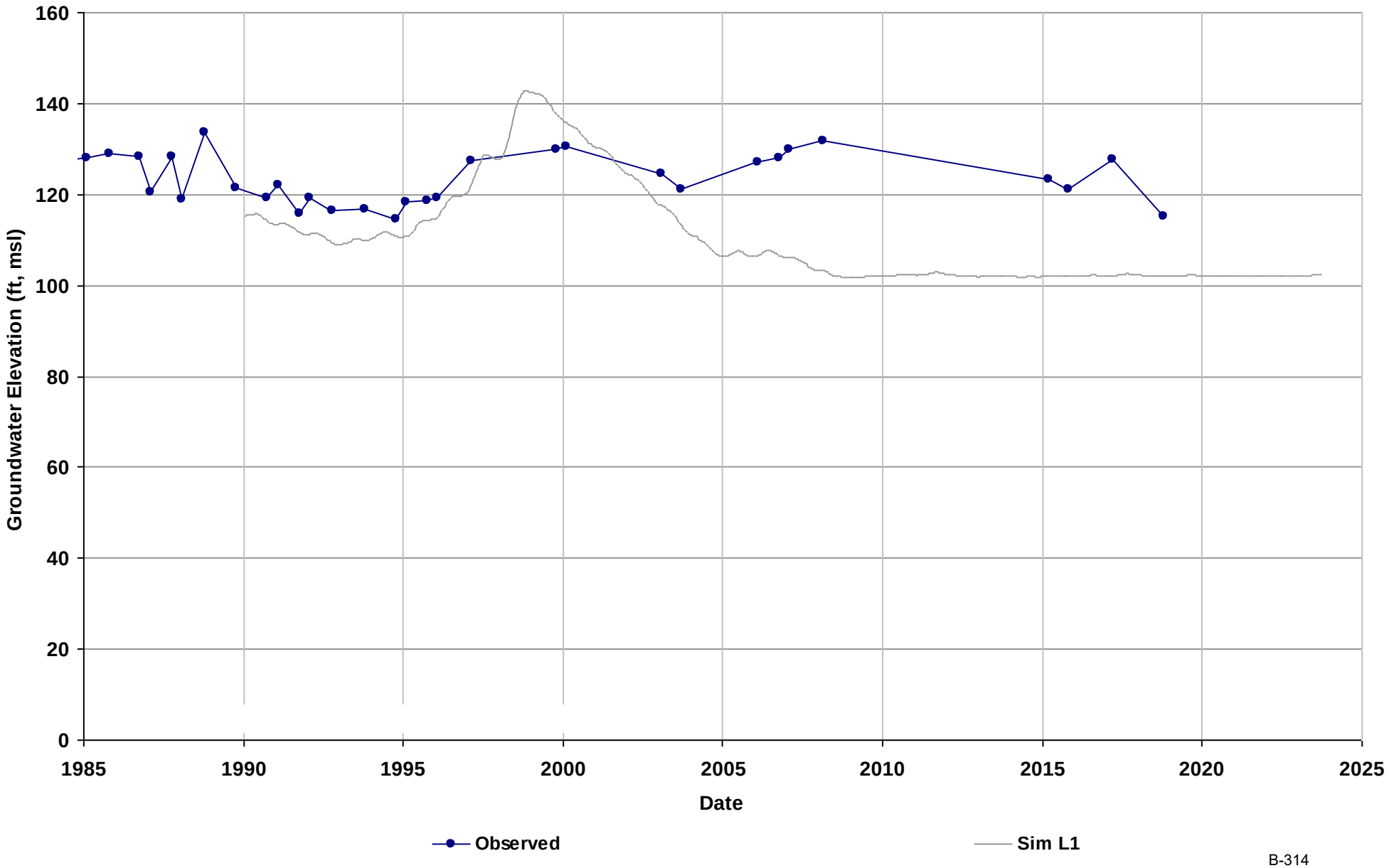
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 09S14E05P001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 152

Average Residual (feet): -12.01
Layer 1: -10.64
Layer 2: -13.39
Layer 3:
Layer 4:
Layer 5:
Layer 6:

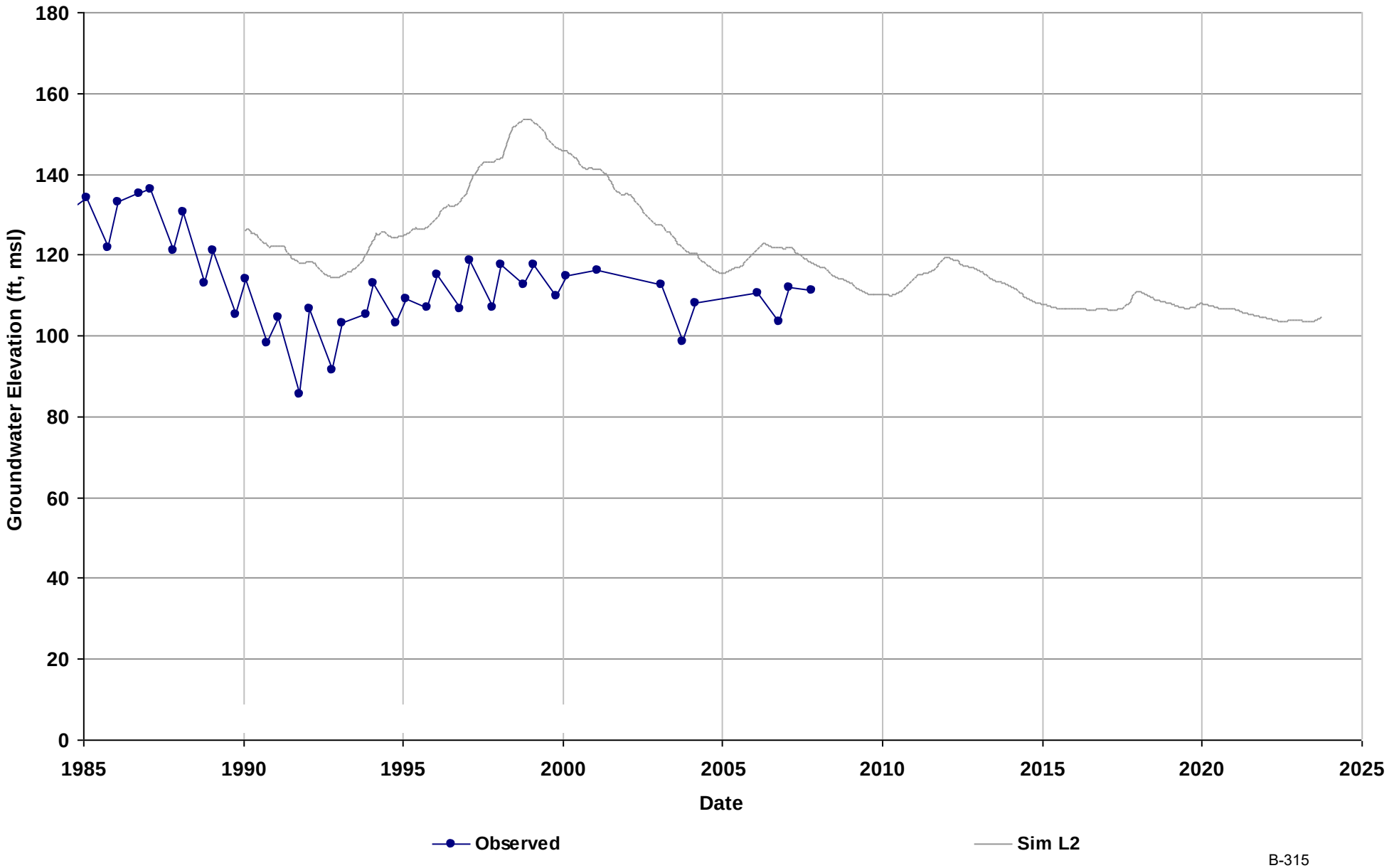
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 09S14E21C001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 162

Average Residual (feet): 3.88
Layer 1: 21.34
Layer 2: 19.79
Layer 3: -29.5
Layer 4:
Layer 5:
Layer 6:

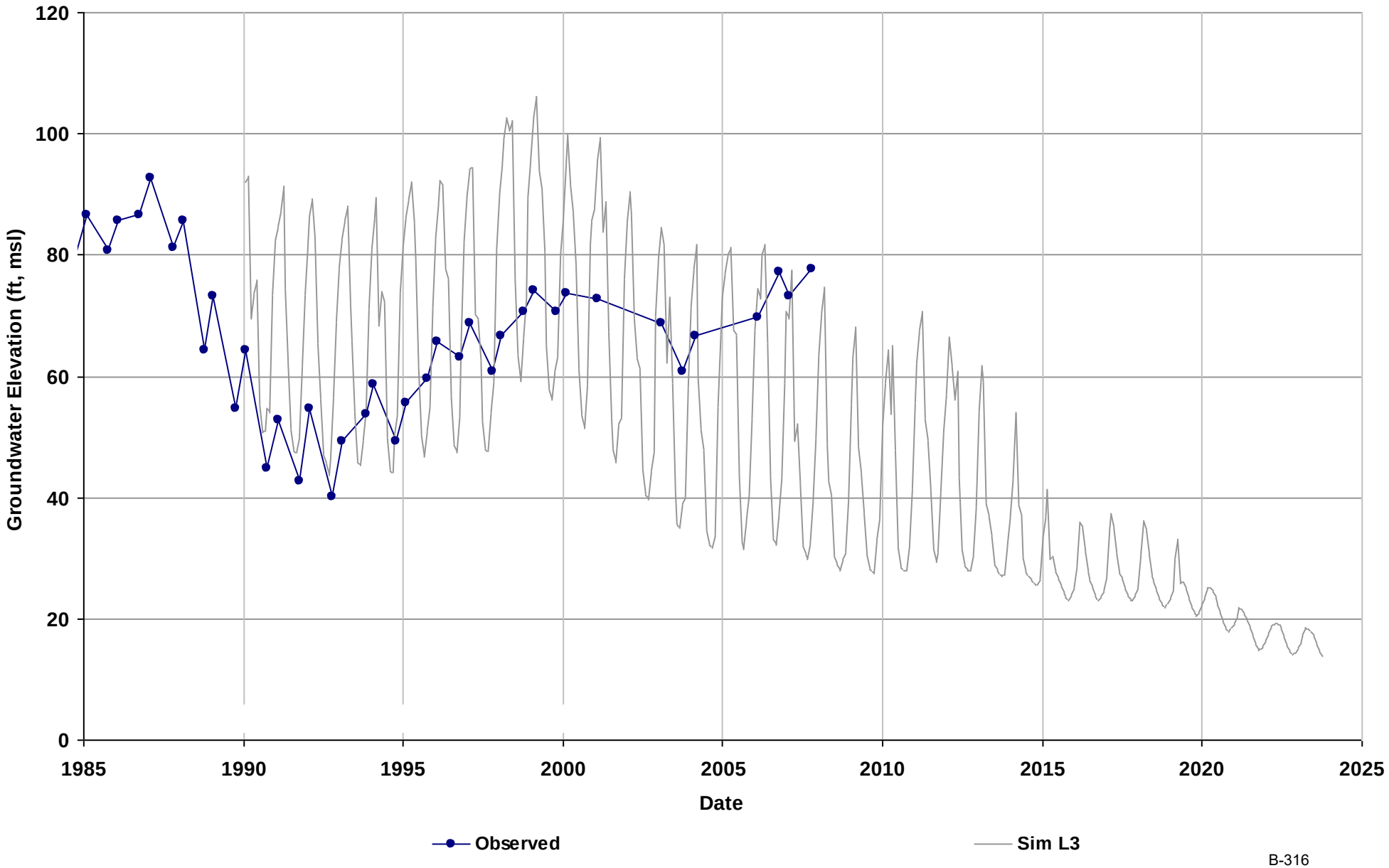
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 09S14E30B002M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 147

Average Residual (feet): 8.09
Layer 1:
Layer 2:
Layer 3: 8.09
Layer 4:
Layer 5:
Layer 6:

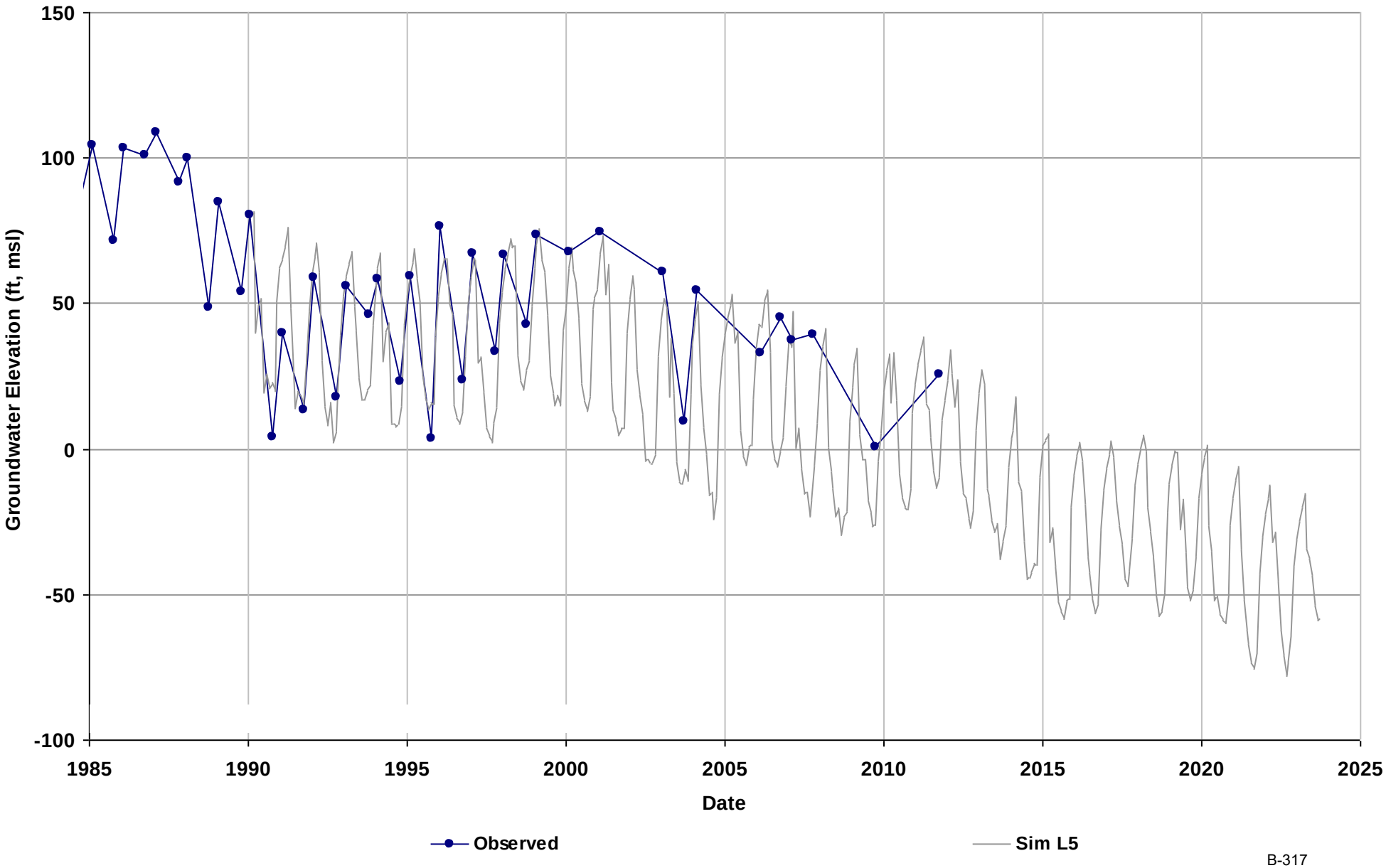
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 09S14E33A001M
Depth Zone: Lower
Subbasin: Merced
GSE (ft, msl): 163

Average Residual (feet): -8.25
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: -8.25
Layer 6:

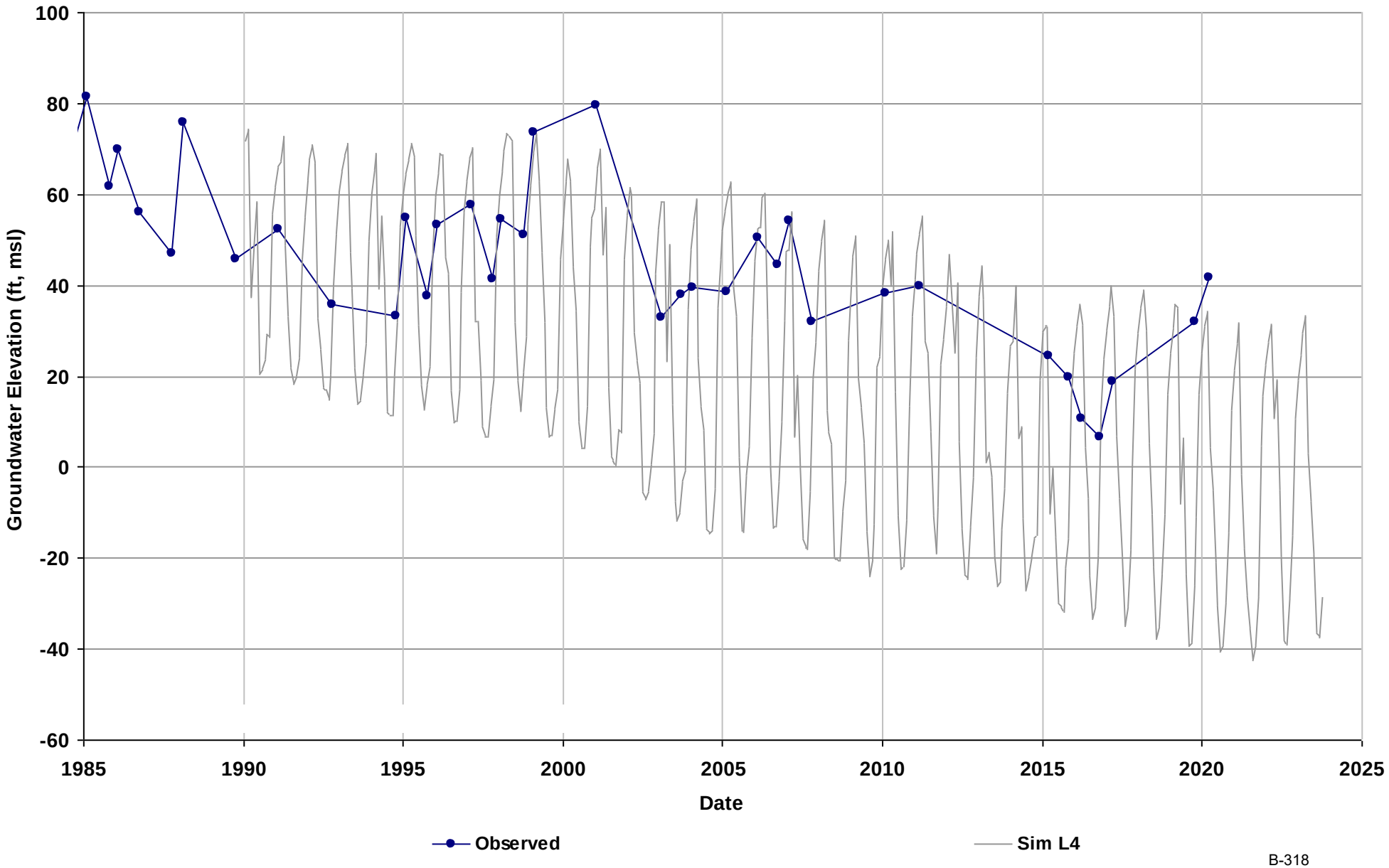
Total Depth (ft): 632
Perf Top (ft): 240
Perf Bottom (ft): 580
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 10S13E02F001M
Depth Zone: Unknown
Subbasin: Merced
GSE (ft, msl): 128

Average Residual (feet): -7.21
Layer 1:
Layer 2:
Layer 3:
Layer 4: -7.21
Layer 5:
Layer 6:

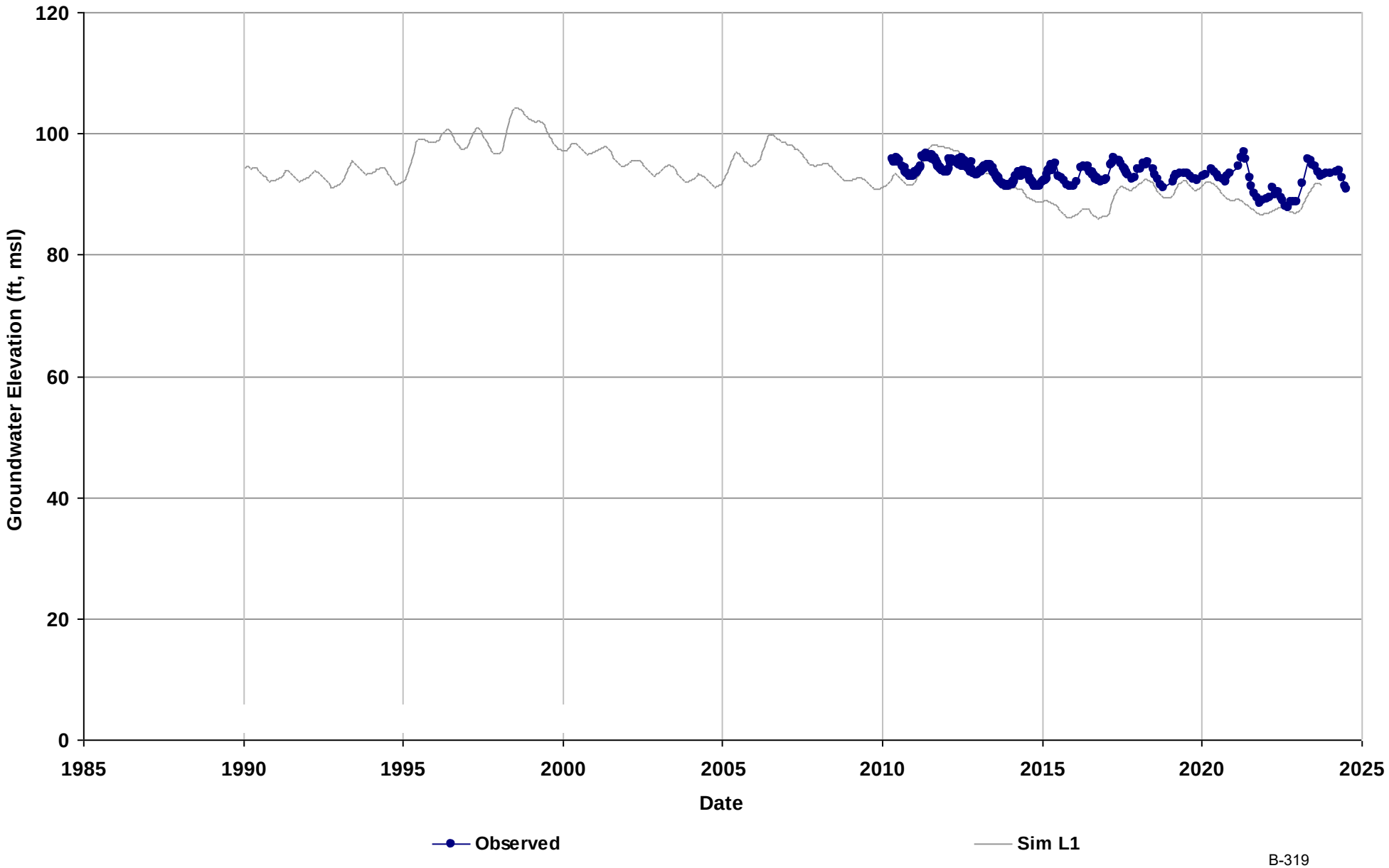
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: SJRRP_MW-10-97
Depth Zone: Shallow
Subbasin: Merced
GSE (ft, msl): 101

Average Residual (feet): -1.73
Layer 1: -1.73
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

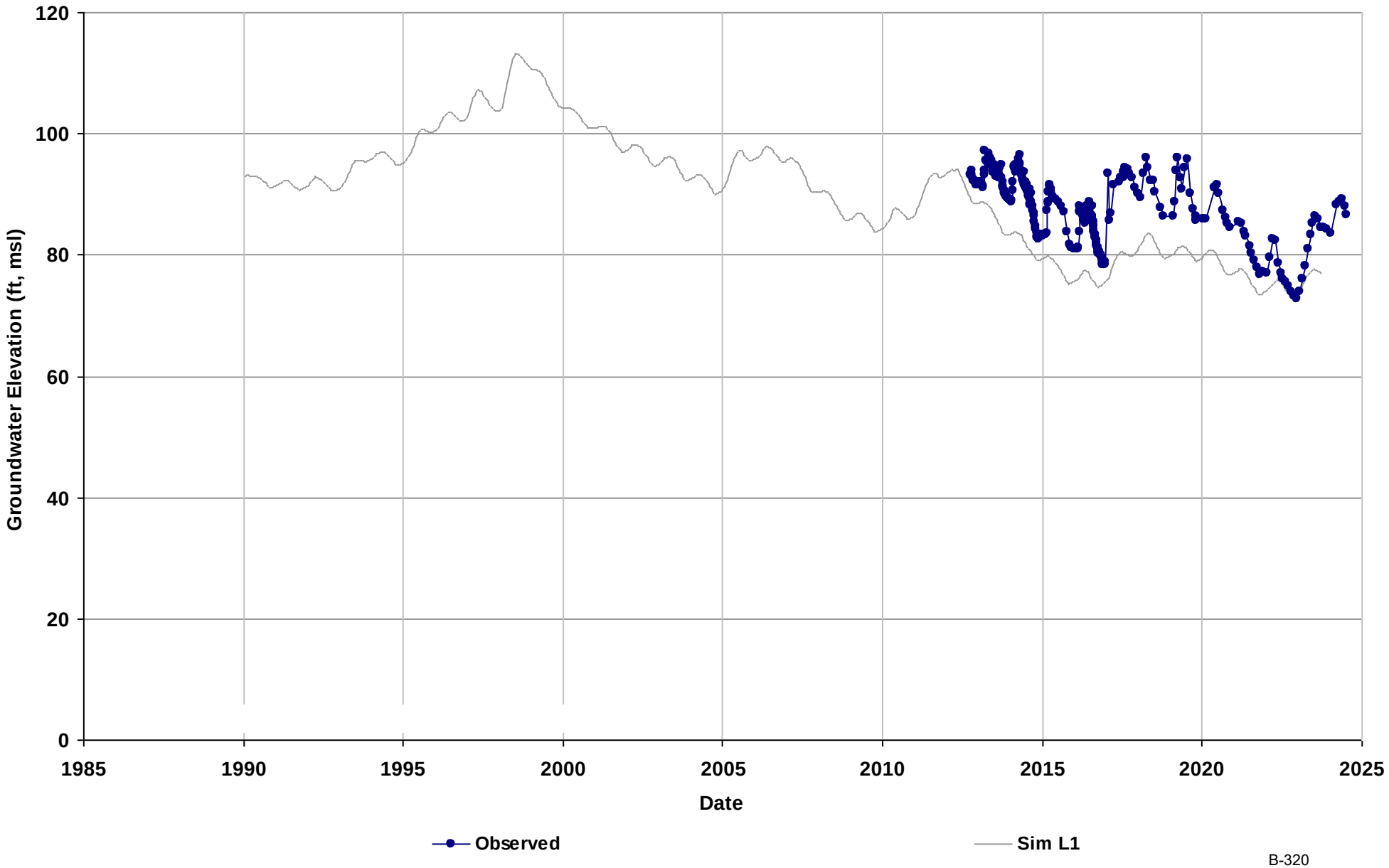
Total Depth (ft): 26.8
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-12-173
Depth Zone: Upper
Subbasin: Merced
GSE (ft, msl): 102

Average Residual (feet): -7.68
Layer 1: -7.68
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

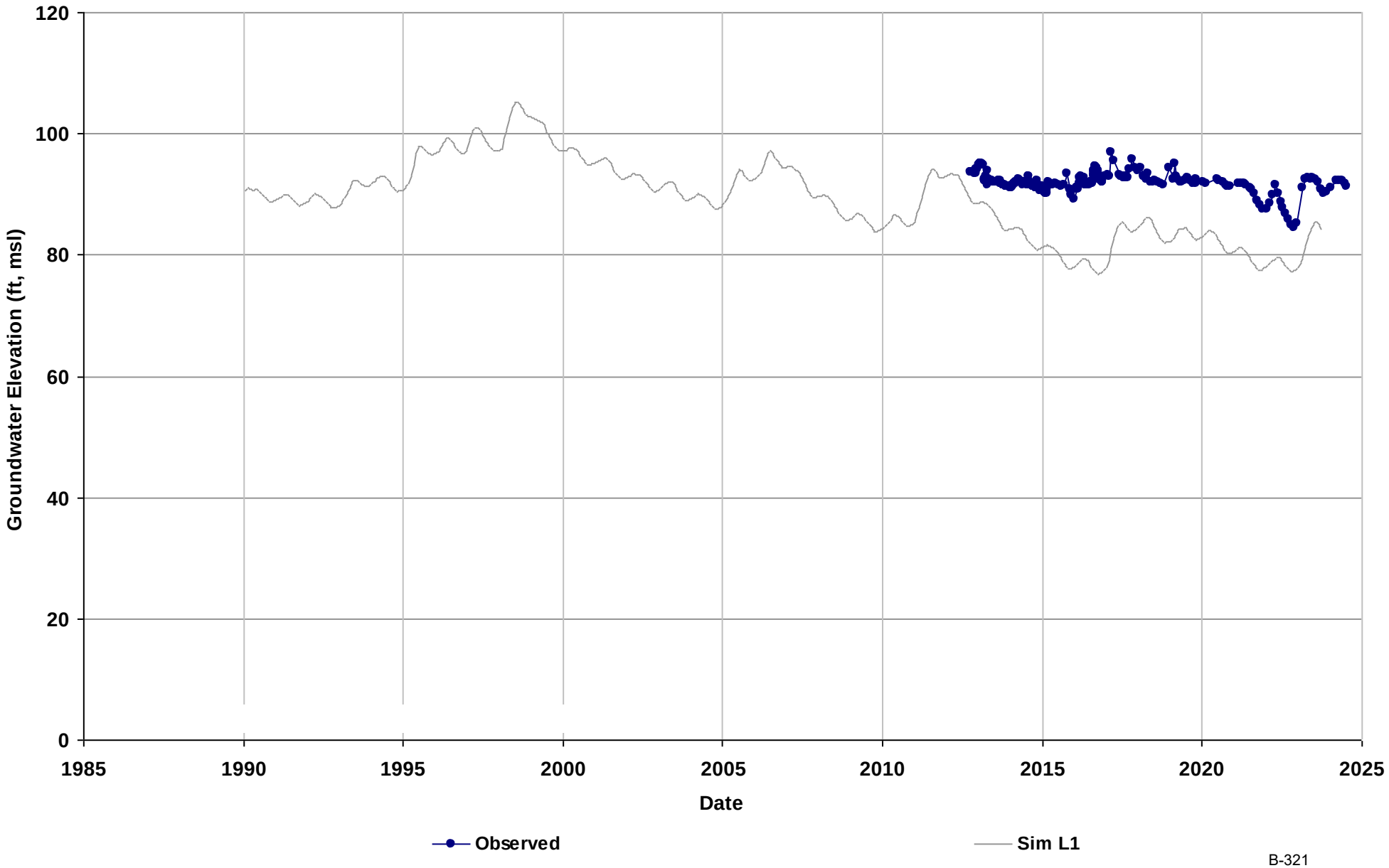
Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-12-174
Depth Zone: Upper
Subbasin: Merced
GSE (ft, msl): 100

Average Residual (feet): -9.92
Layer 1: -9.92
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

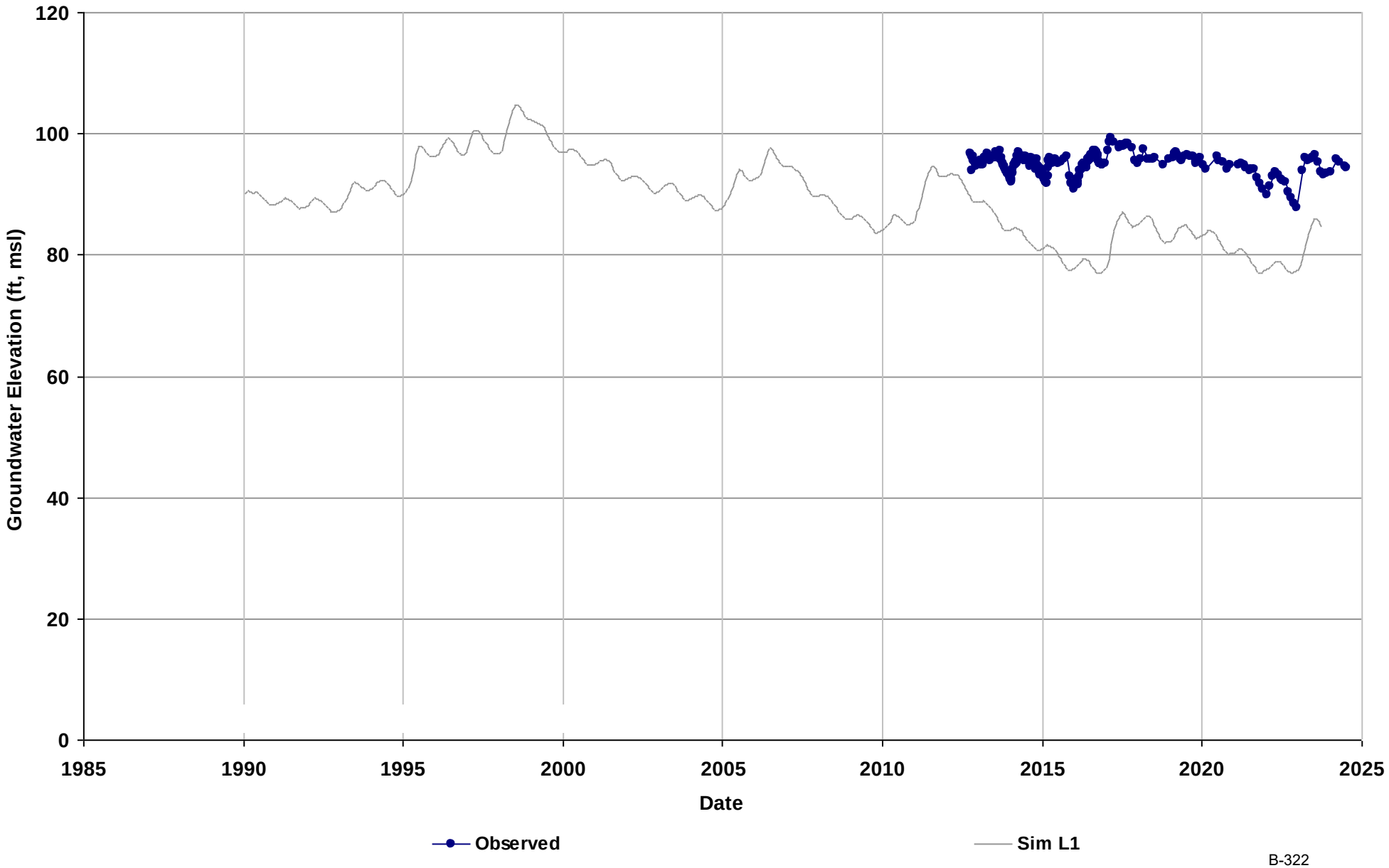
Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-12-176
Depth Zone: Upper
Subbasin: Merced
GSE (ft, msl): 100

Average Residual (feet): -12.91
Layer 1: -12.91
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

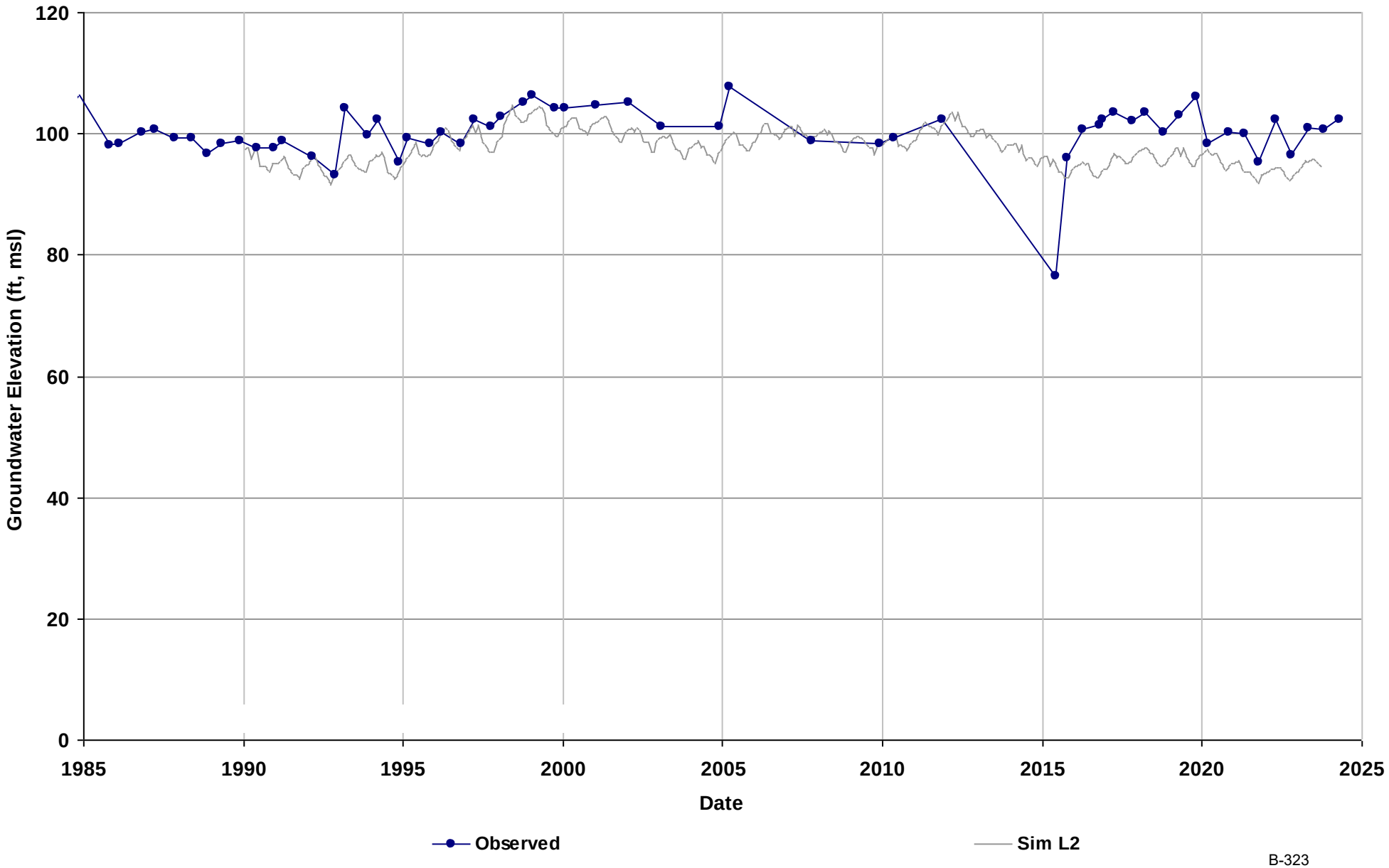
Total Depth (ft): 30.8
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 10S12E13L001M
Depth Zone: Upper
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Average Residual (feet): -3.26
Layer 1:
Layer 2: -3.26
Layer 3:
Layer 4:
Layer 5:
Layer 6:

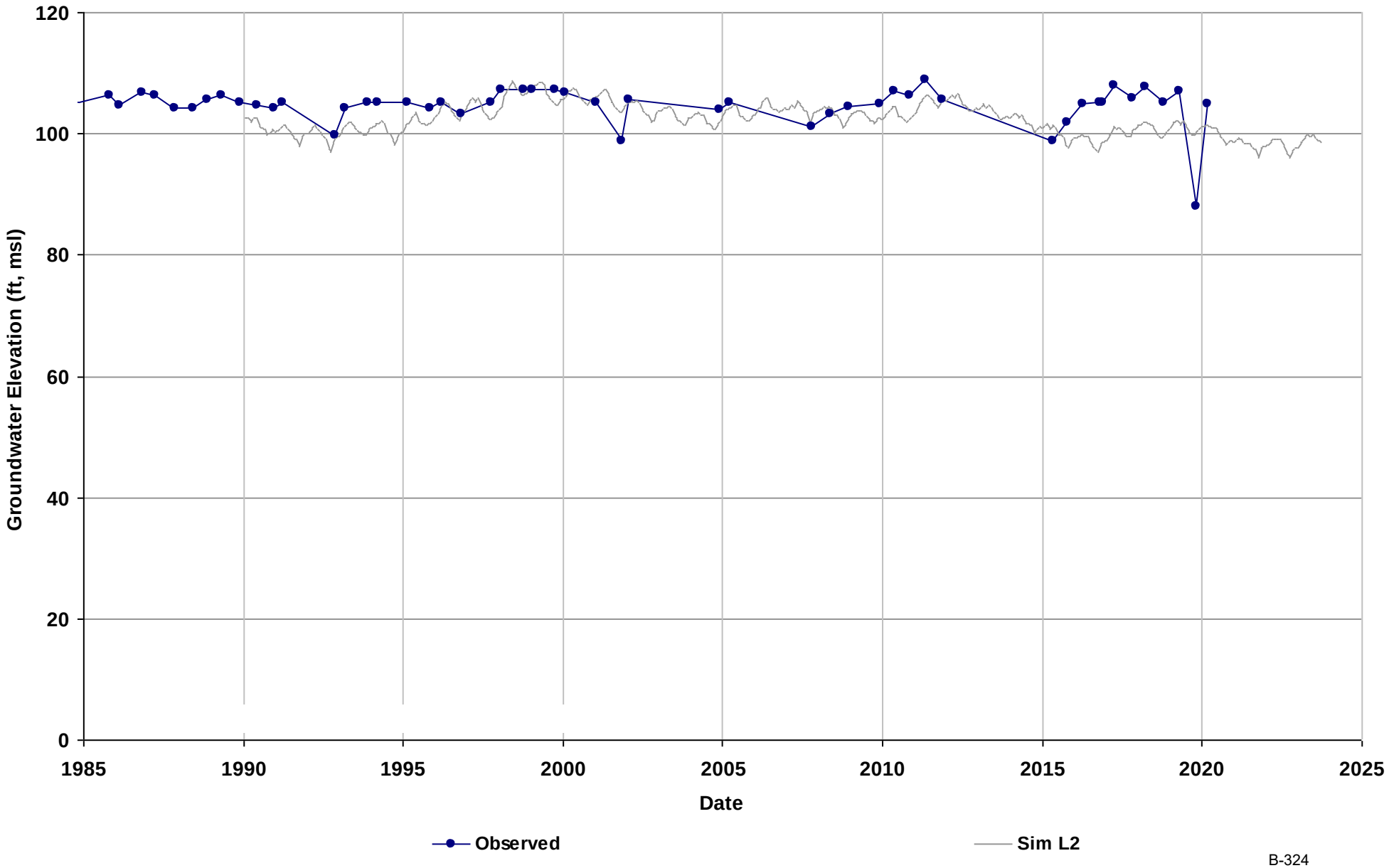
Total Depth (ft): 200
Perf Top (ft): 80
Perf Bottom (ft): 180
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 10S12E26H001M
Depth Zone: Upper
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Average Residual (feet): -2.22
Layer 1:
Layer 2: -2.22
Layer 3:
Layer 4:
Layer 5:
Layer 6:

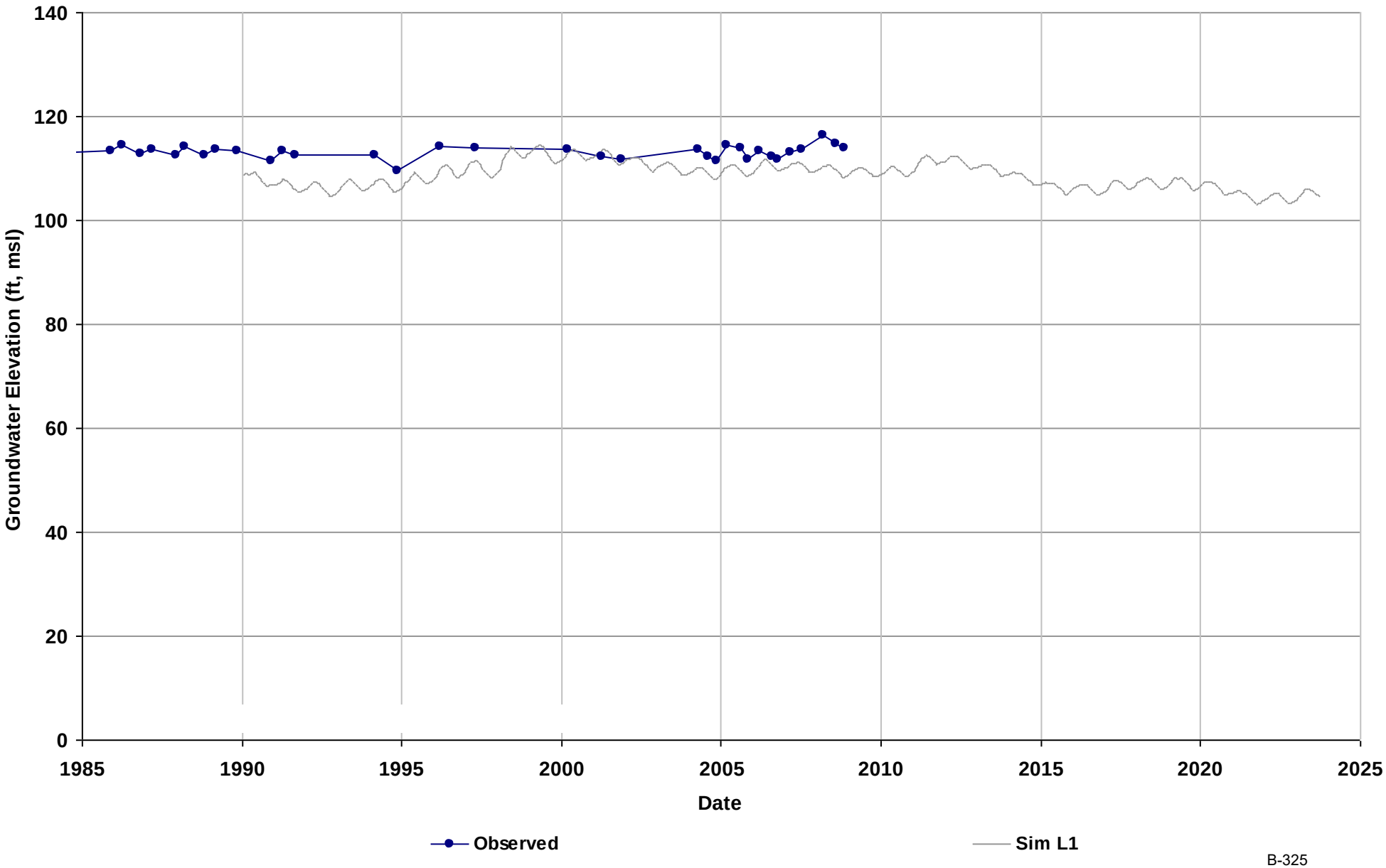
Total Depth (ft): 158
Perf Top (ft): 60
Perf Bottom (ft): 150
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 11S12E12A001M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 119

Average Residual (feet): -4.7
Layer 1: -3.59
Layer 2: -3.66
Layer 3: -6.84
Layer 4:
Layer 5:
Layer 6:

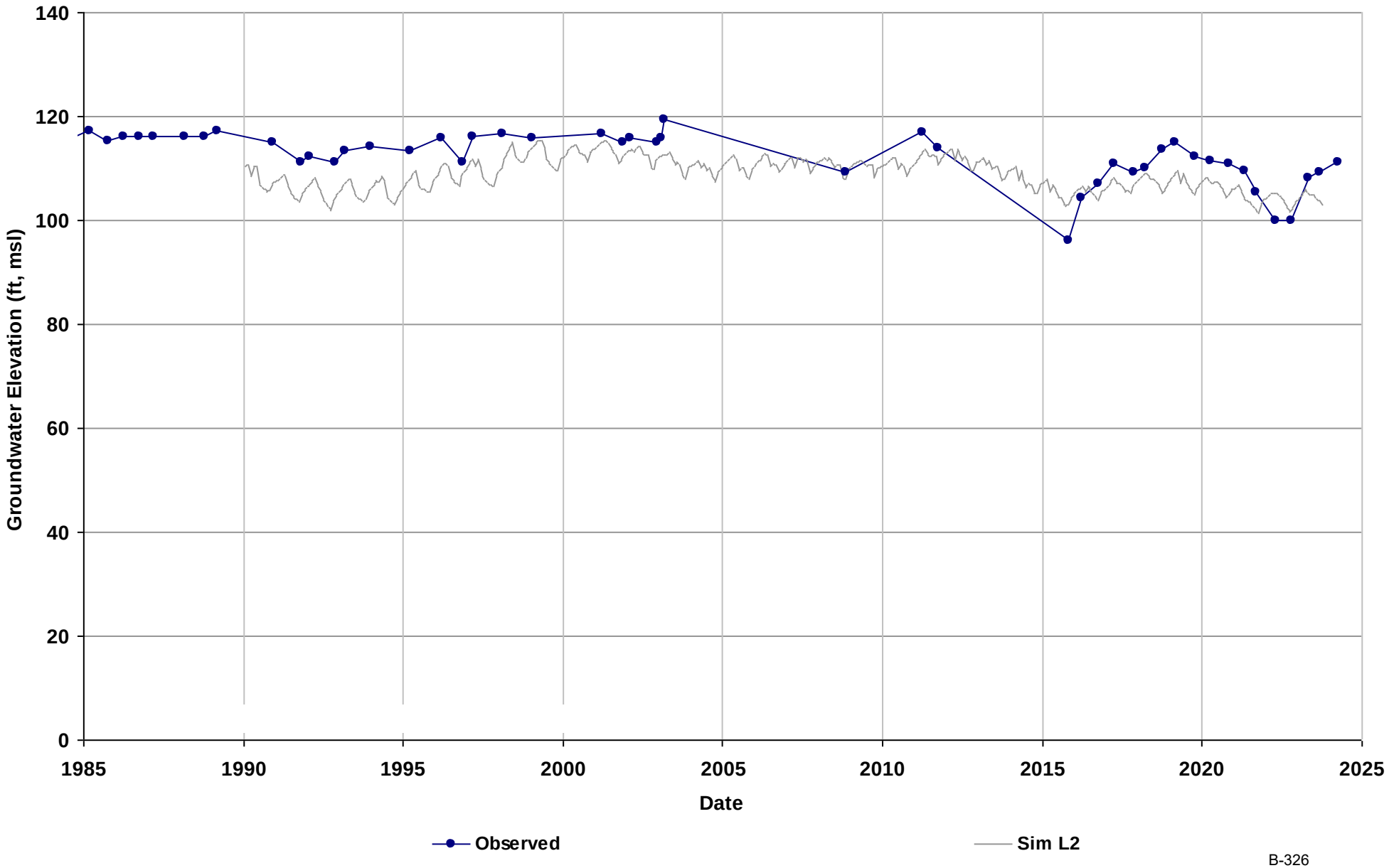
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 11S13E17E001M
Depth Zone: Upper
Subbasin: Delta-Mendota
GSE (ft, msl): 122

Average Residual (feet): -3.78
Layer 1:
Layer 2: -3.78
Layer 3:
Layer 4:
Layer 5:
Layer 6:

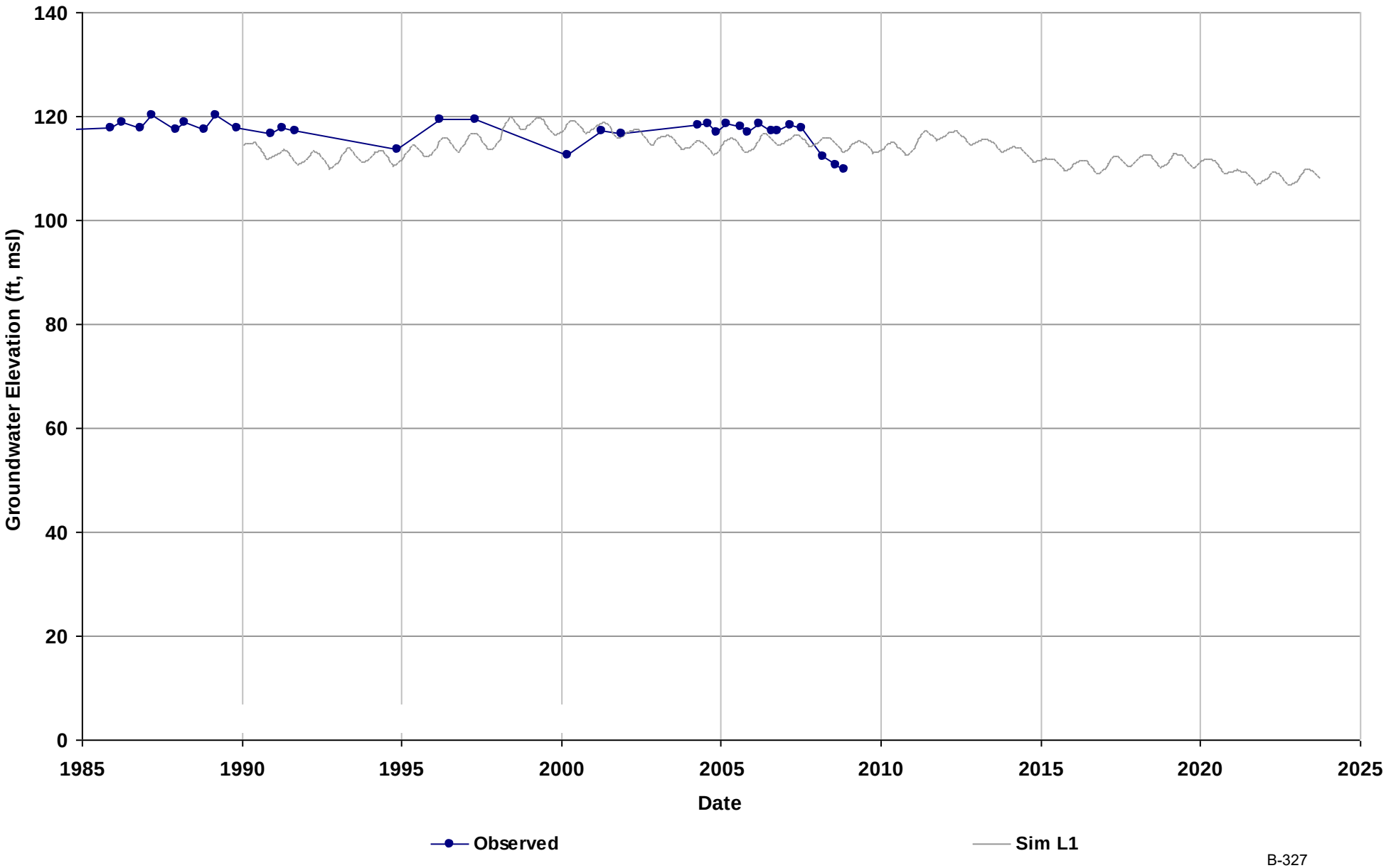
Total Depth (ft): 175
Perf Top (ft): 60
Perf Bottom (ft): 170
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 11S13E20N001M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 123

Average Residual (feet): -2.39
Layer 1: -2
Layer 2: -2.11
Layer 3: -3.06
Layer 4:
Layer 5:
Layer 6:

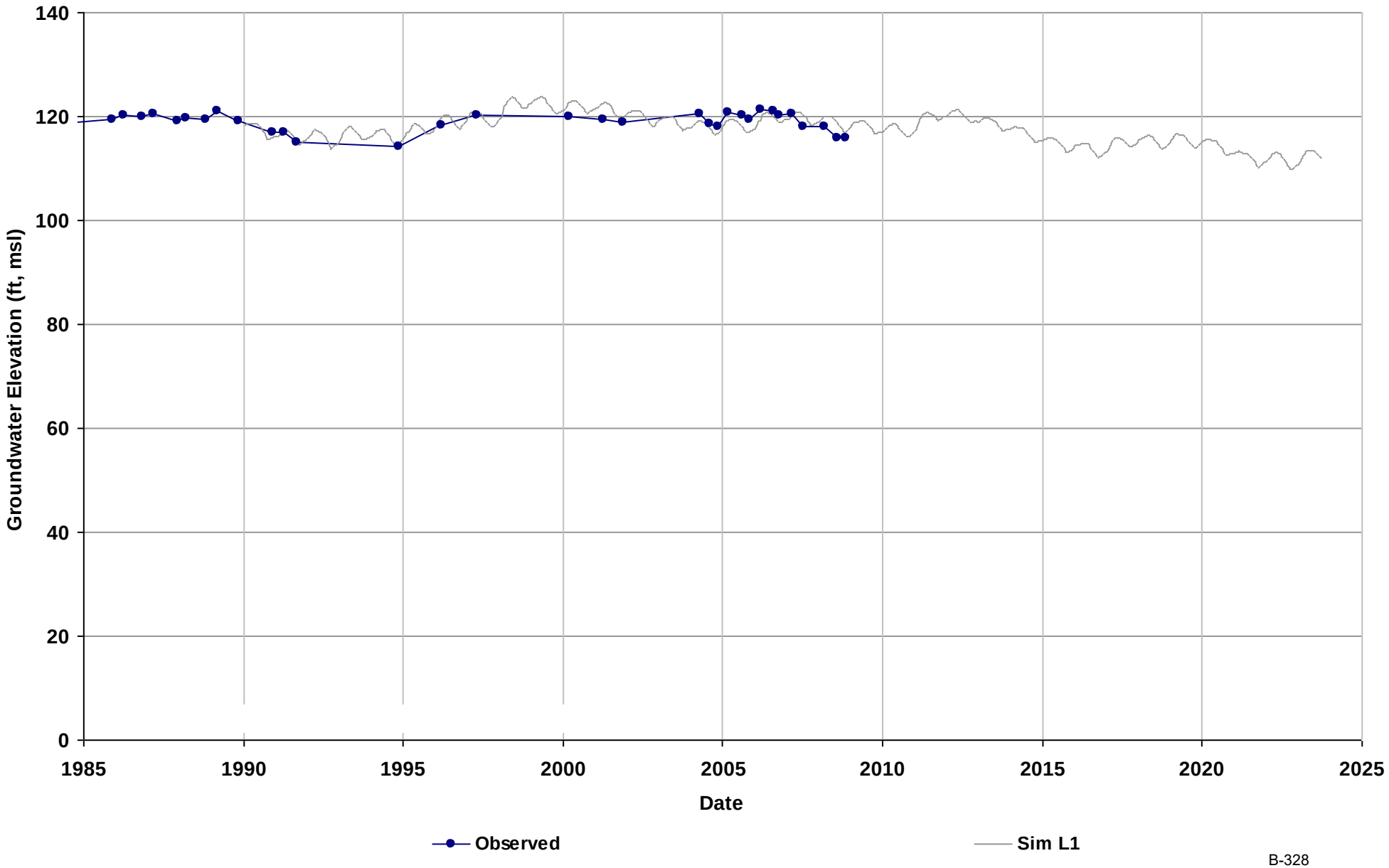
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 11S13E29R001M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 127

Average Residual (feet): -0.23
Layer 1: -0.08
Layer 2: -0.15
Layer 3: -0.46
Layer 4:
Layer 5:
Layer 6:

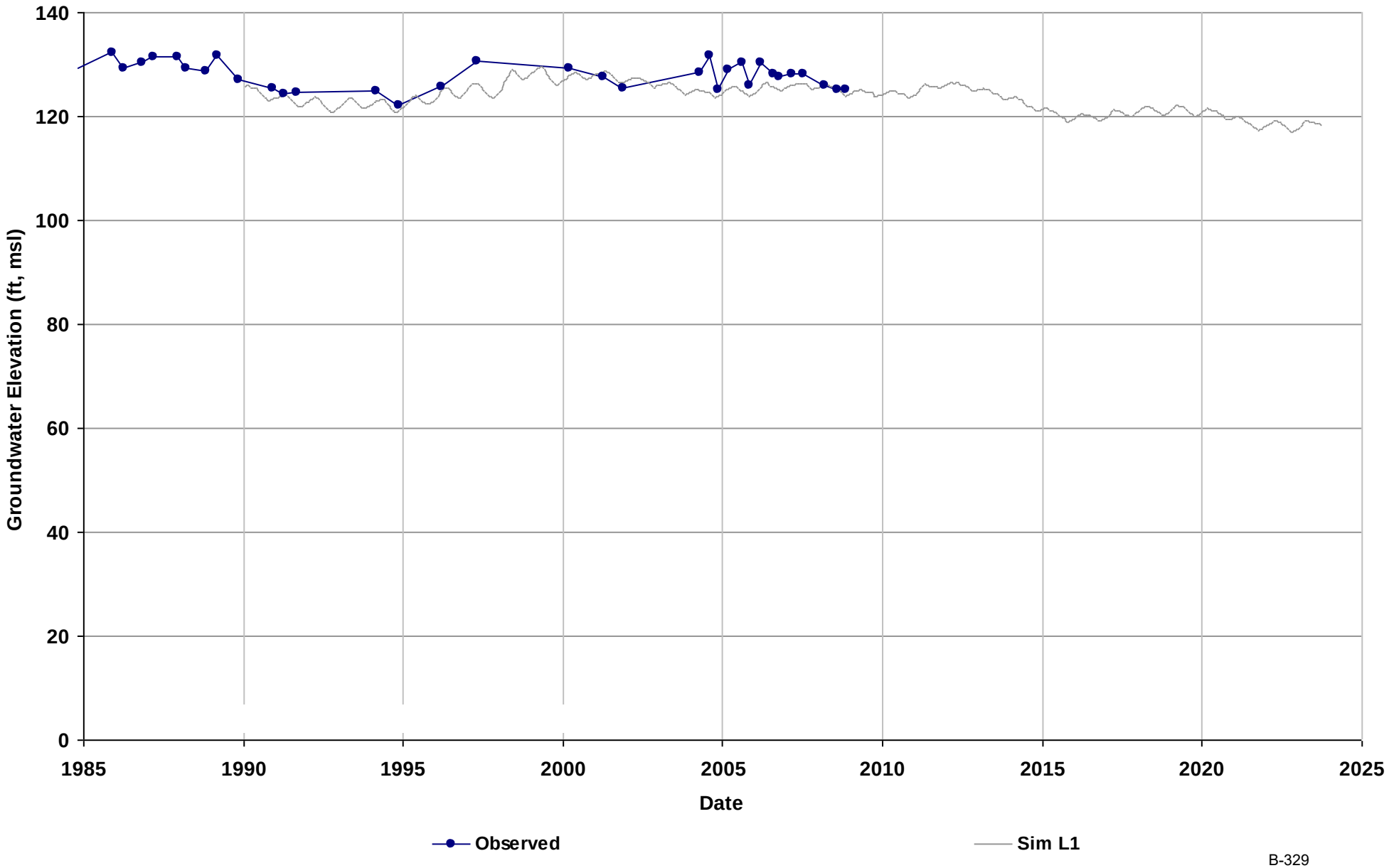
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 12S13E03N002M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 137

Average Residual (feet): -2.51
Layer 1: -2.21
Layer 2: -2.42
Layer 3: -2.91
Layer 4:
Layer 5:
Layer 6:

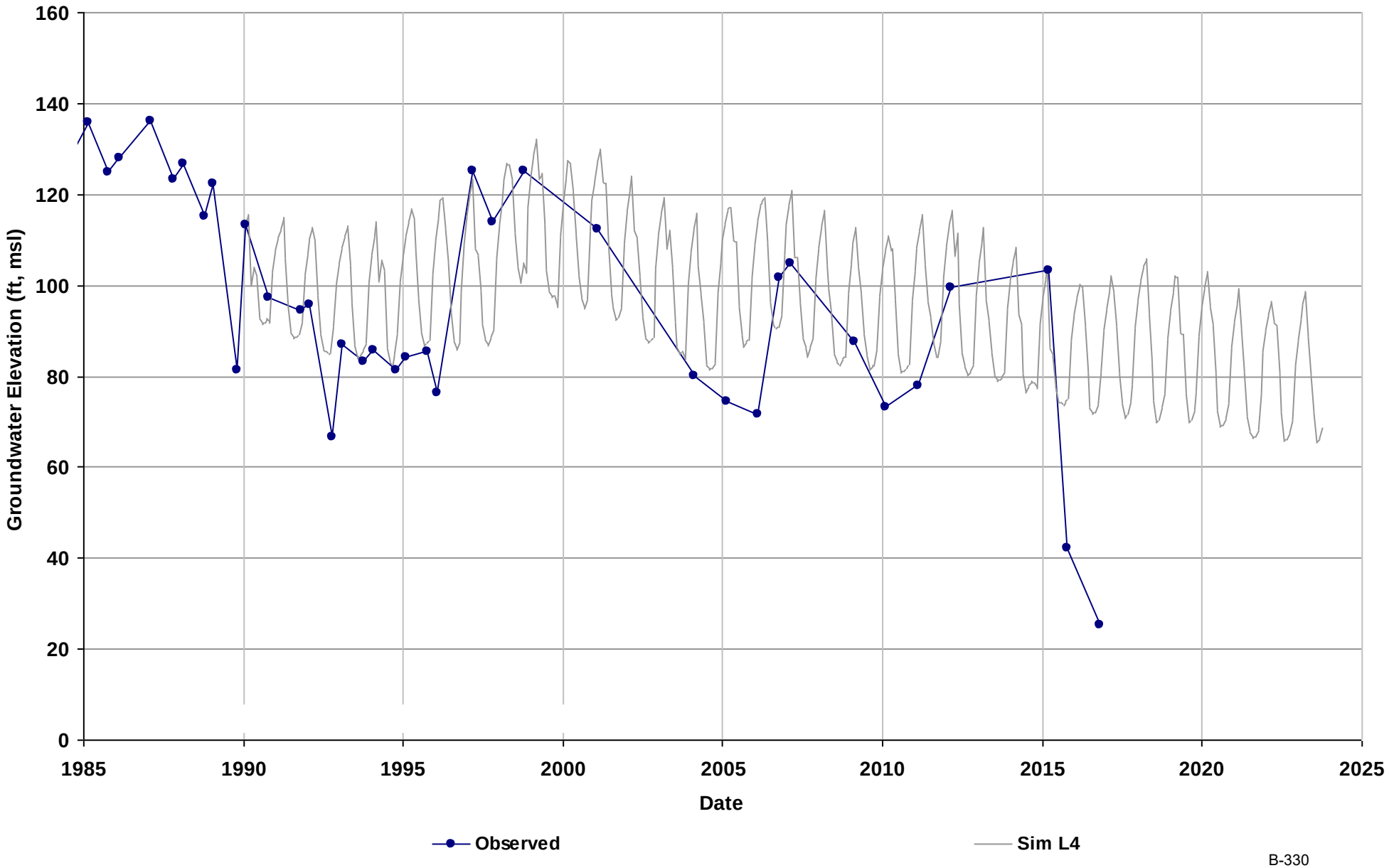
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: 12S15E34K001M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 165

Average Residual (feet): 12.78
Layer 1:
Layer 2:
Layer 3:
Layer 4: 12.96
Layer 5: 12.6
Layer 6: 12.78

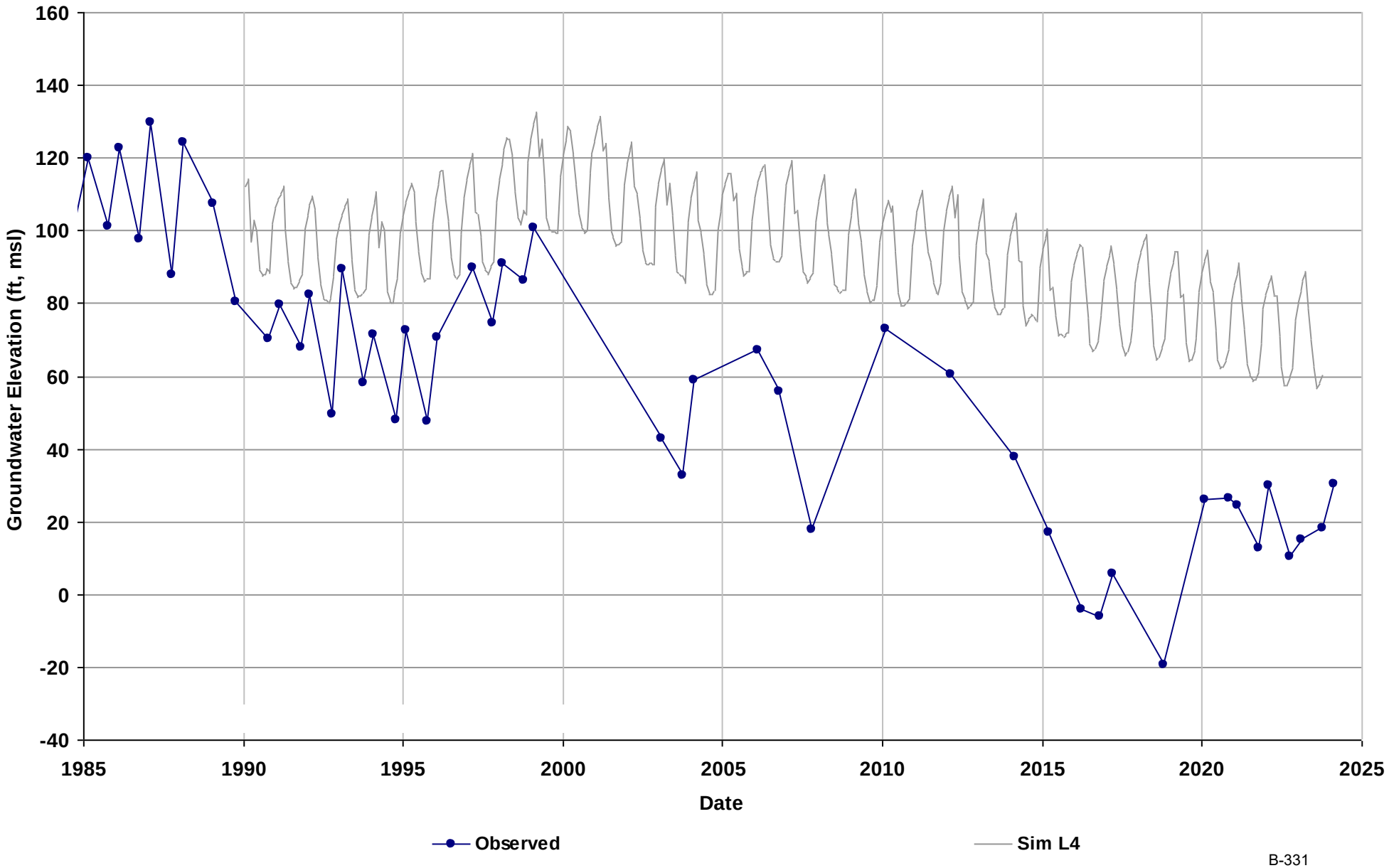
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 12S16E31G001M
Depth Zone: Composite
Subbasin: Delta-Mendota
GSE (ft, msl): 179

Average Residual (feet): 46.09
Layer 1:
Layer 2:
Layer 3: 47.02
Layer 4: 45.16
Layer 5:
Layer 6:

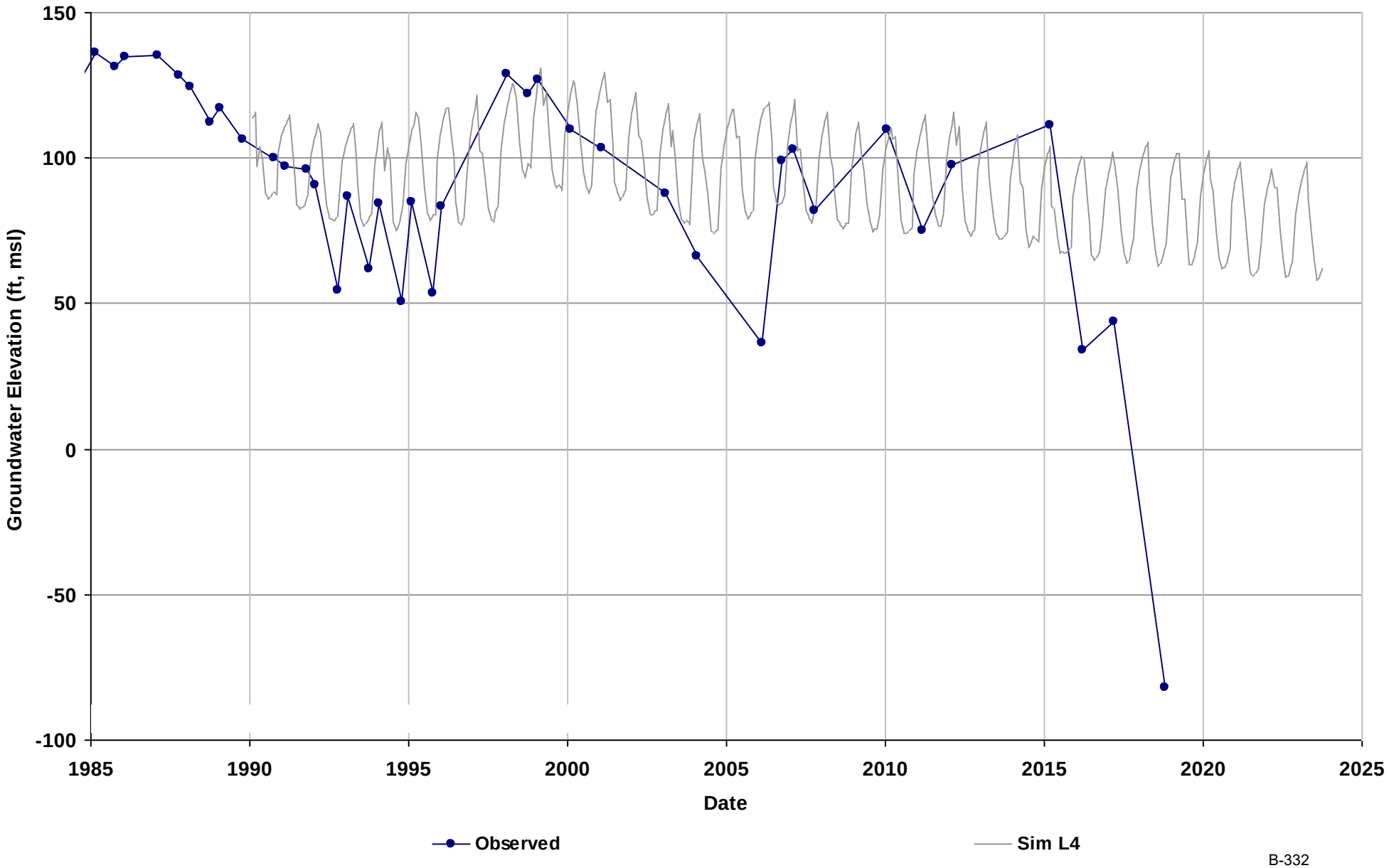
Total Depth (ft): 510
Perf Top (ft): 210
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 13S15E02G001M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 166

Average Residual (feet): 19.15
Layer 1:
Layer 2:
Layer 3:
Layer 4: 19.08
Layer 5: 19.07
Layer 6: 19.32

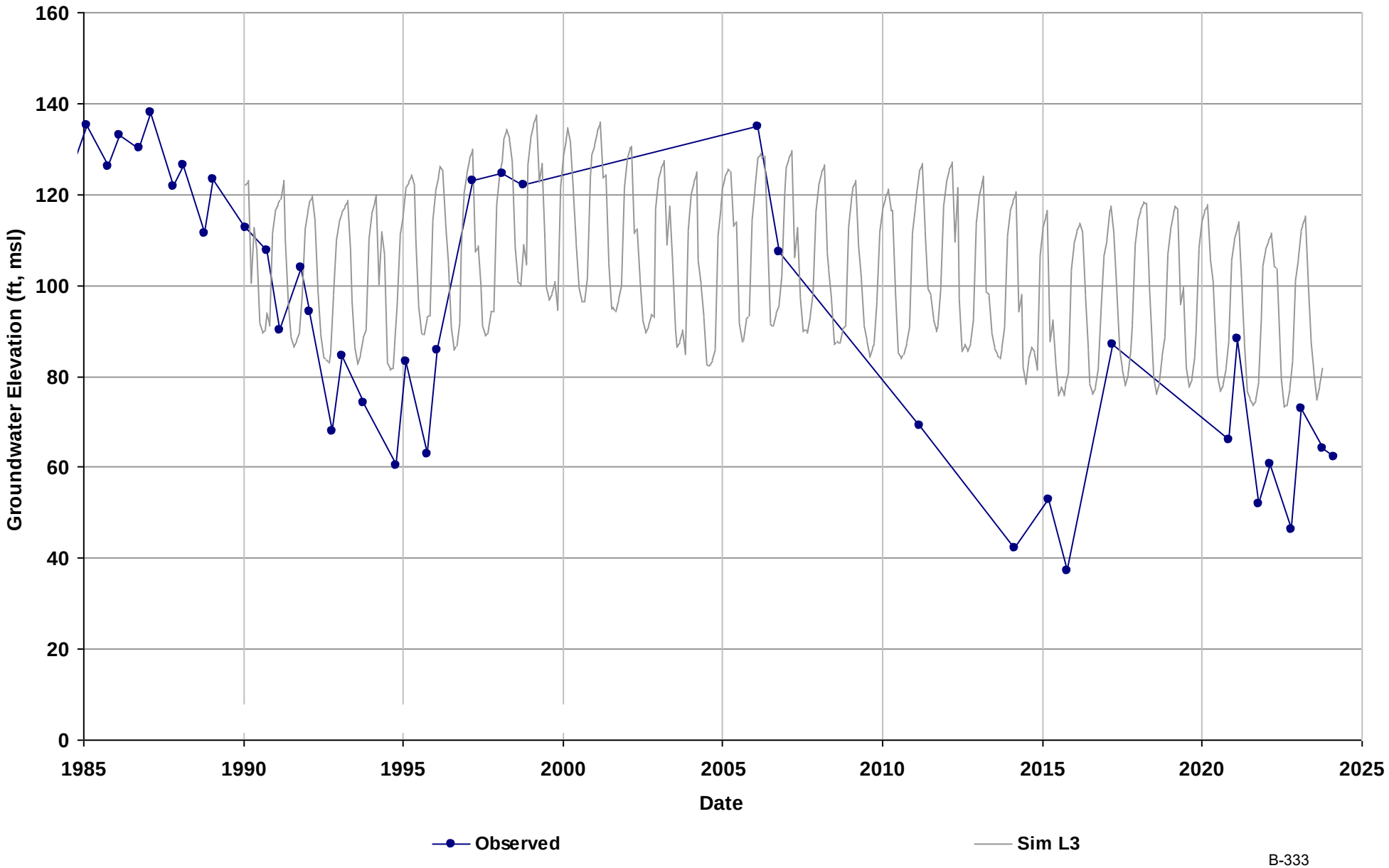
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 13S15E14M001M
Depth Zone: Upper
Subbasin: Delta-Mendota
GSE (ft, msl): 166

Average Residual (feet): 21.94
Layer 1:
Layer 2:
Layer 3: 21.94
Layer 4:
Layer 5:
Layer 6:

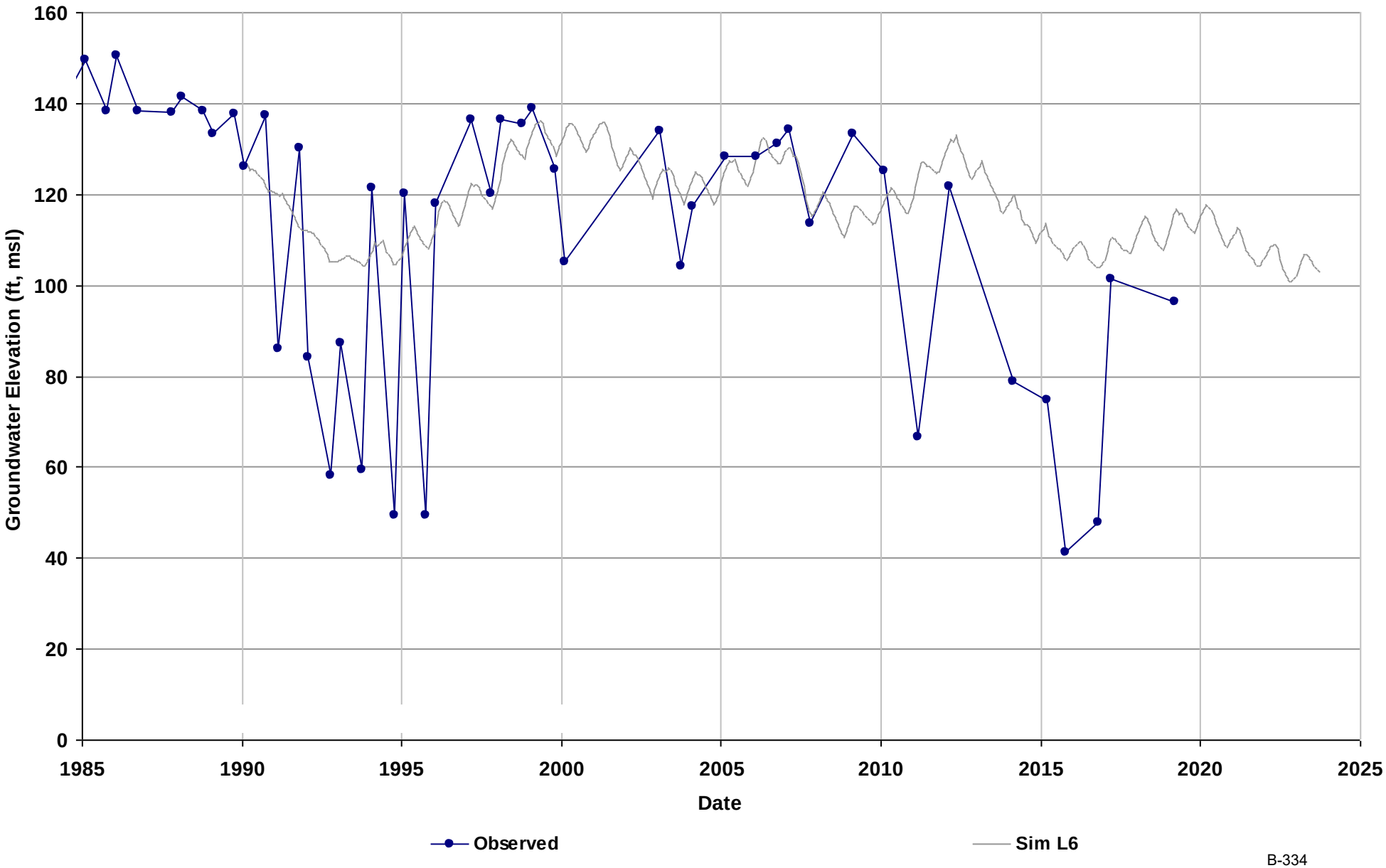
Total Depth (ft): 304
Perf Top (ft): 180
Perf Bottom (ft): 304
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 13S15E20G001M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 162

Average Residual (feet): 11.63
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 12.03
Layer 6: 11.23

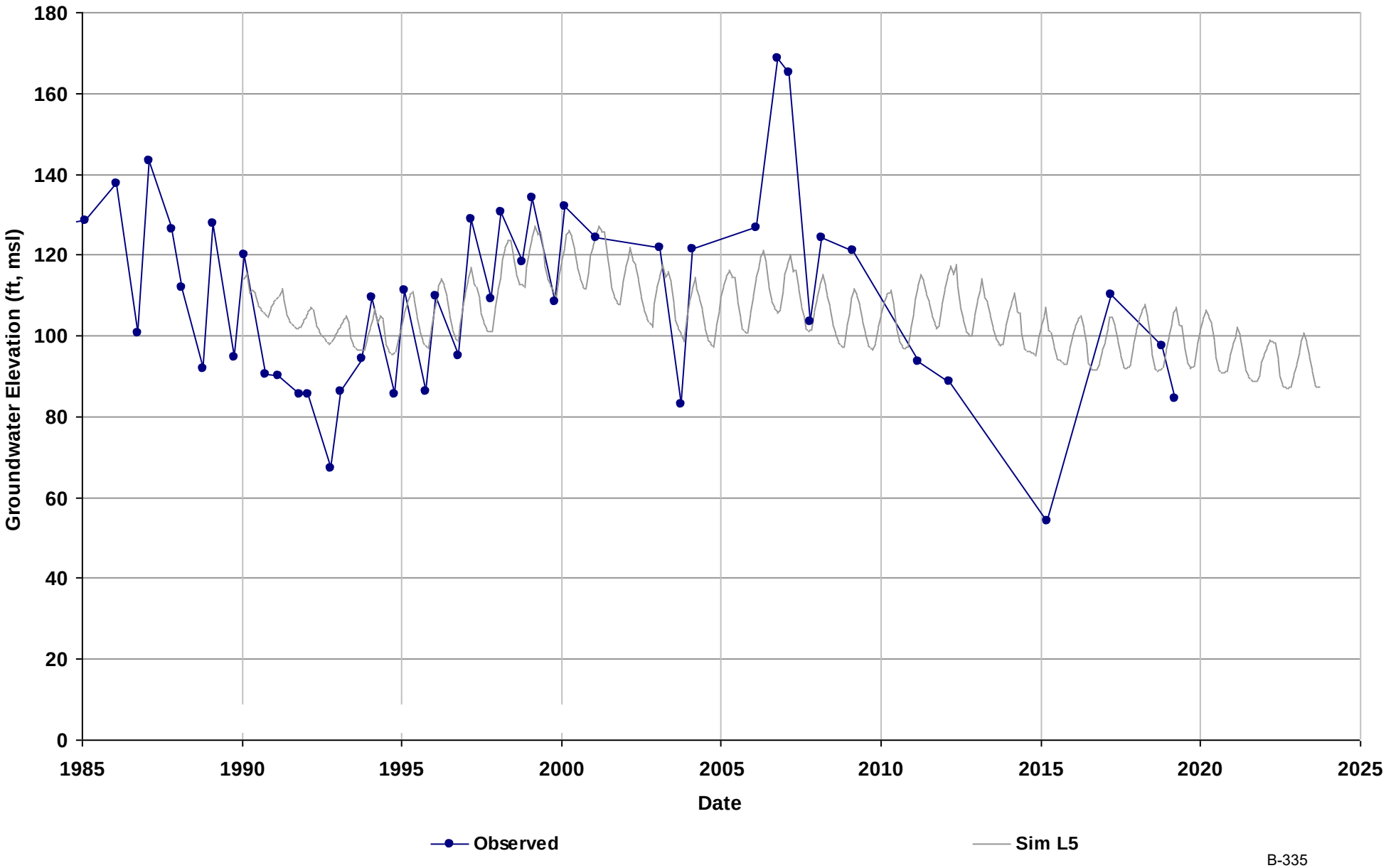
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S15E25F001M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 172

Average Residual (feet): 1.08
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 1.25
Layer 6: 0.91

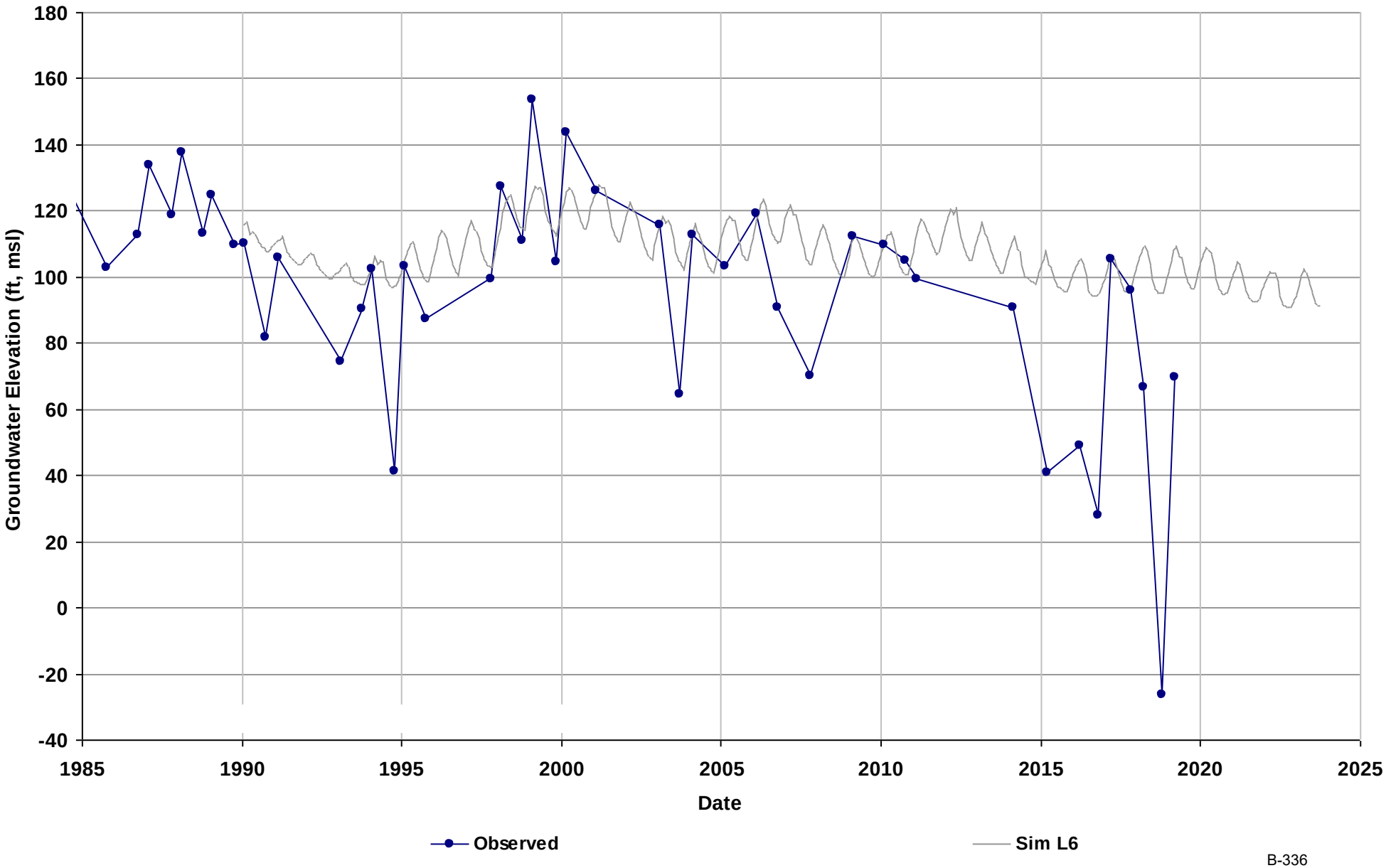
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 13S15E26B001M
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 167

Average Residual (feet): 16.27
Layer 1:
Layer 2:
Layer 3:
Layer 4: 16.97
Layer 5: 16.08
Layer 6: 15.77

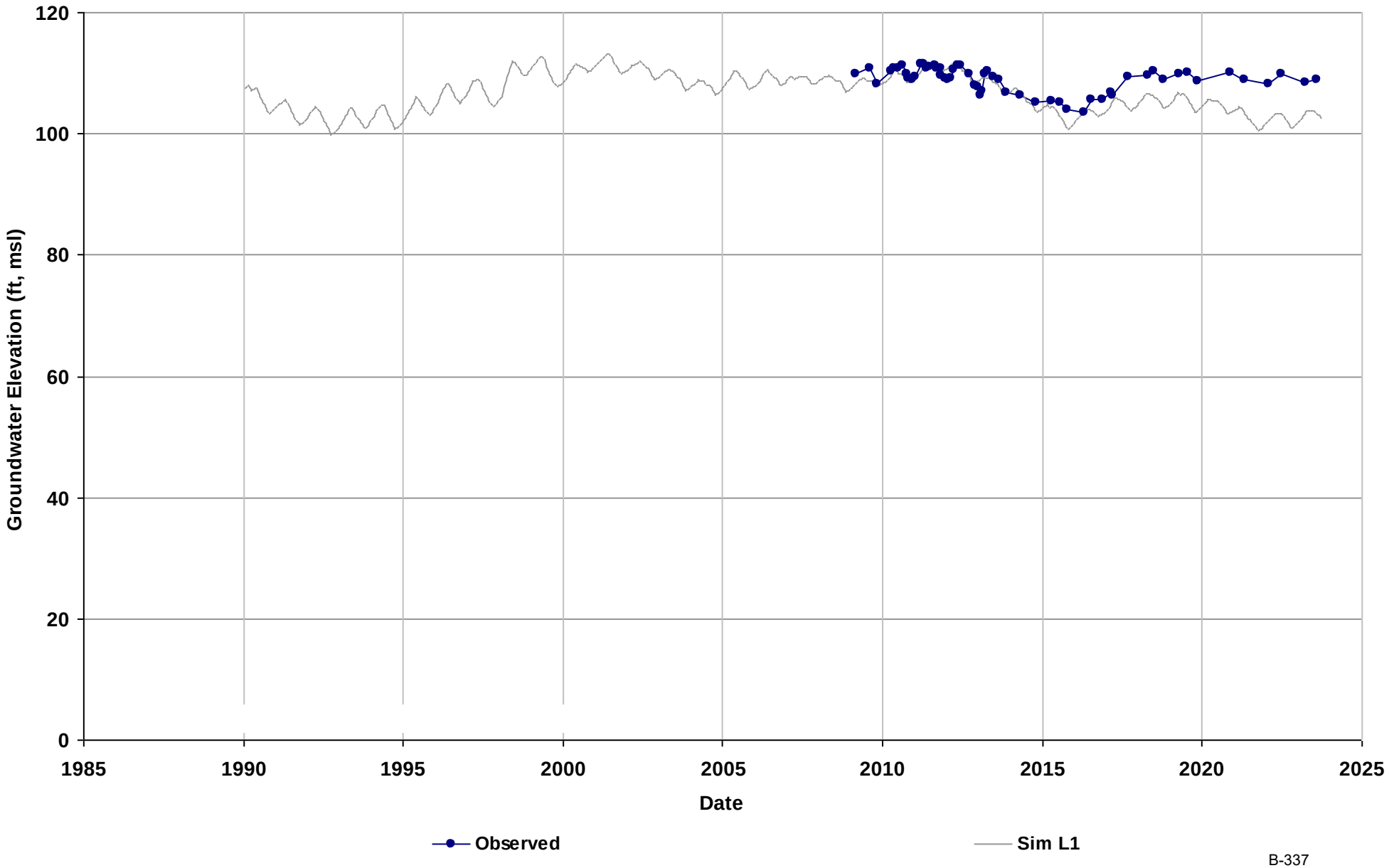
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: SJRRP_121A
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 116

Average Residual (feet): -1.04
Layer 1: -1.04
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

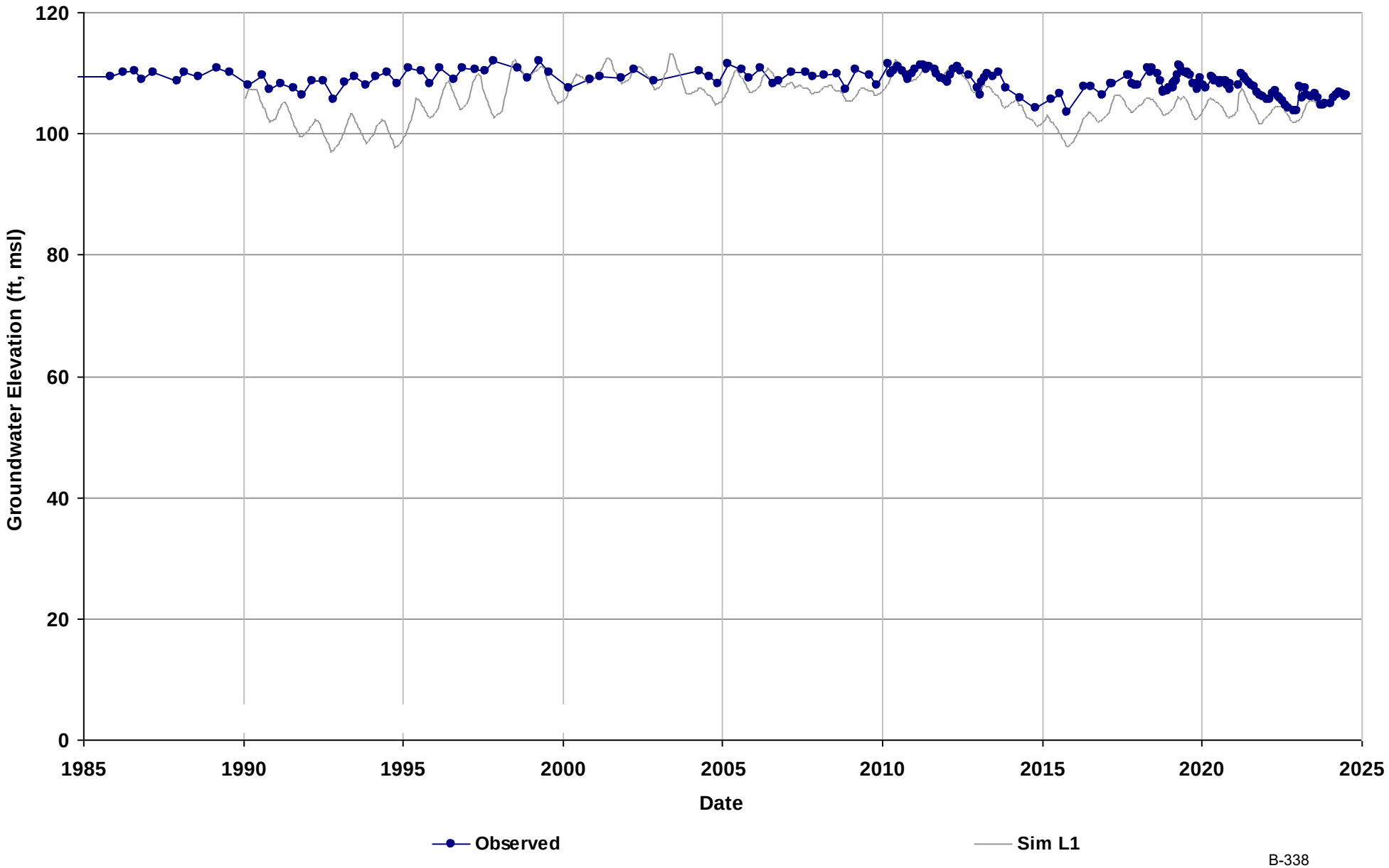
Total Depth (ft):
Perf Top (ft): 8.6
Perf Bottom (ft): 17.7
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_129
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 114

Average Residual (feet): -3.11
Layer 1: -3.11
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

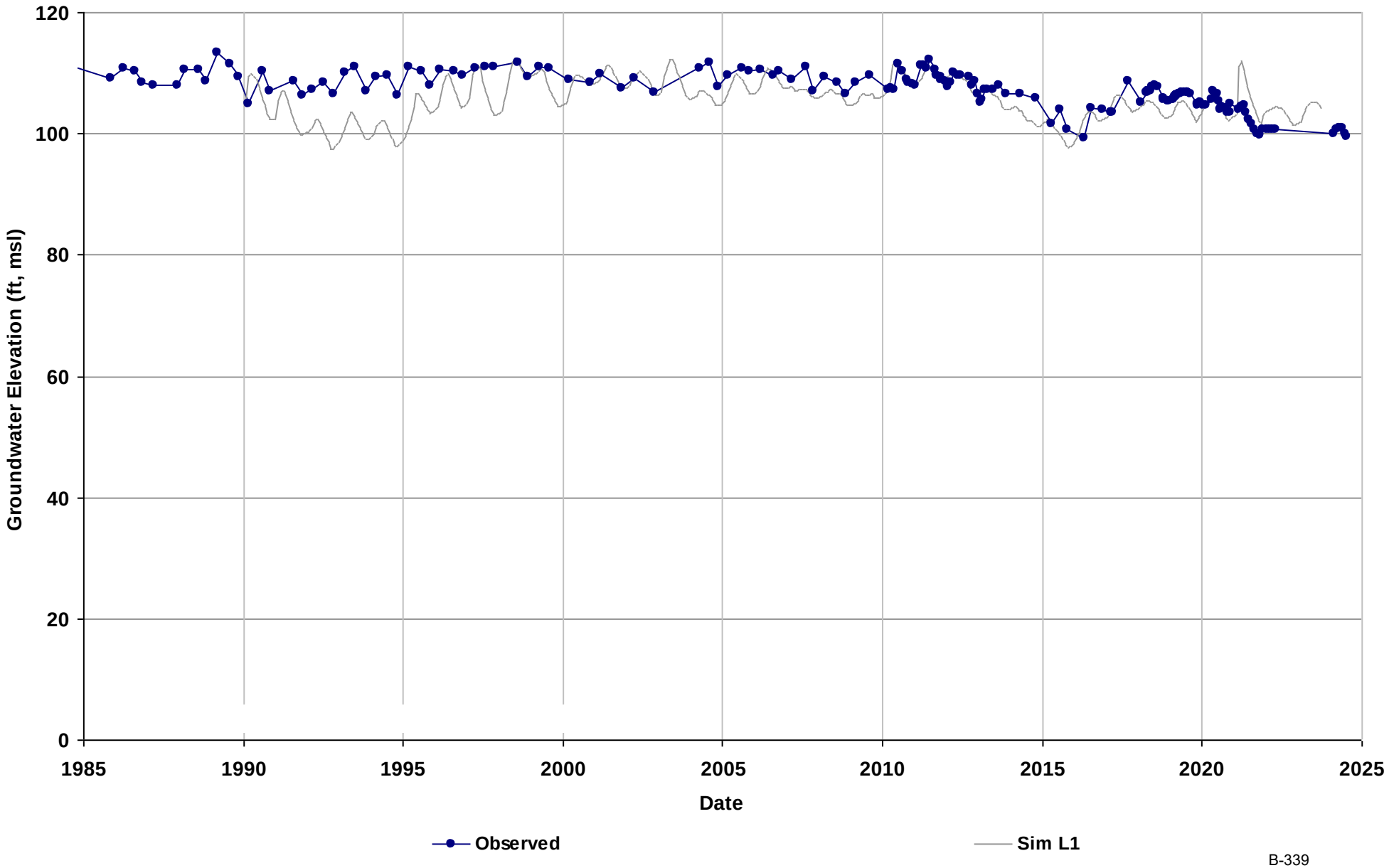
Total Depth (ft):
Perf Top (ft): 8.2
Perf Bottom (ft): 17.2
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_130
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 114

Average Residual (feet): -1.56
Layer 1: -1.56
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

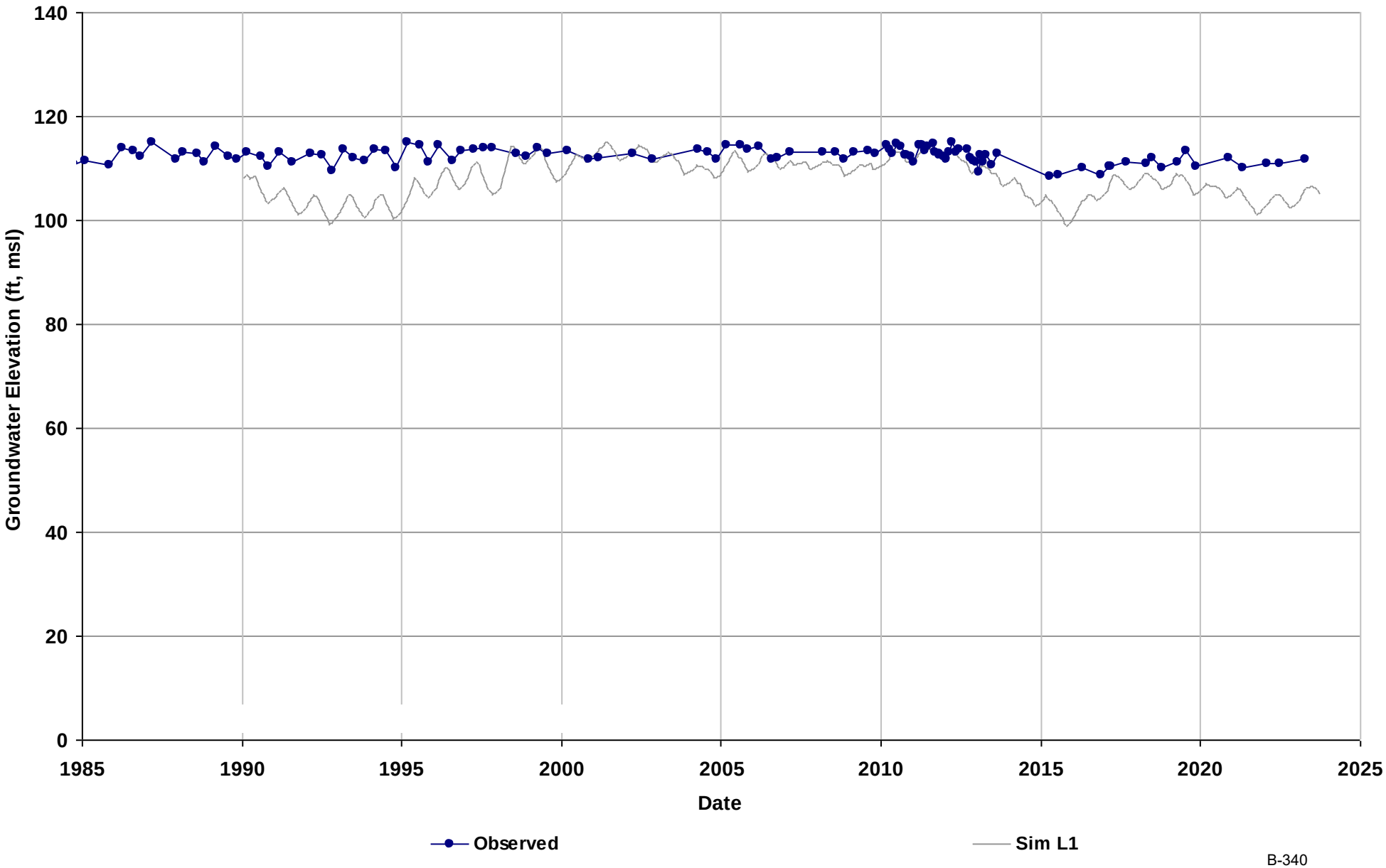
Total Depth (ft):
Perf Top (ft): 8.6
Perf Bottom (ft): 17.6
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_134
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 117

Average Residual (feet): -3.48
Layer 1: -3.48
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

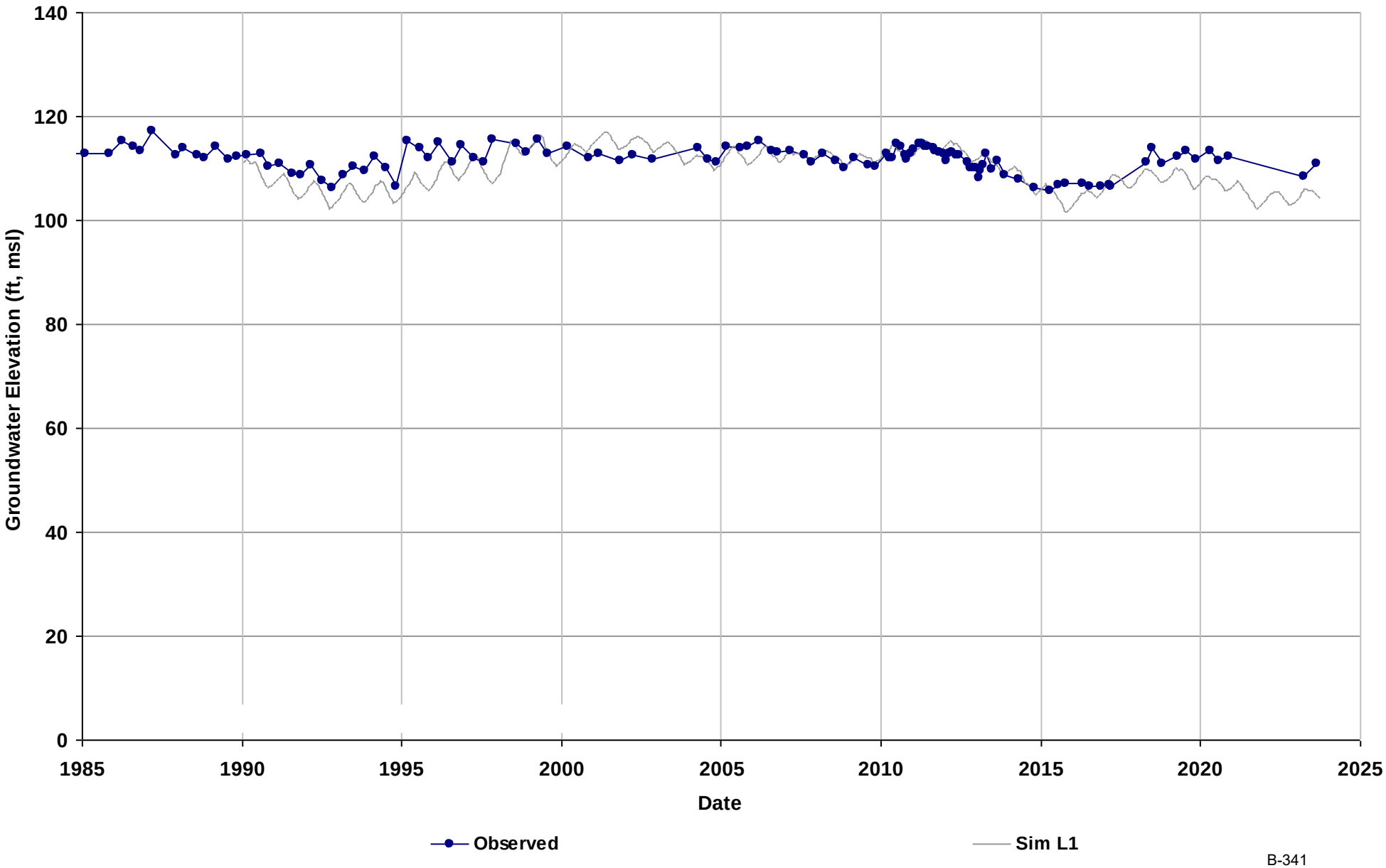
Total Depth (ft):
Perf Top (ft): 8.2
Perf Bottom (ft): 17.2
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_136
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 121

Average Residual (feet): -1.13
Layer 1: -1.13
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

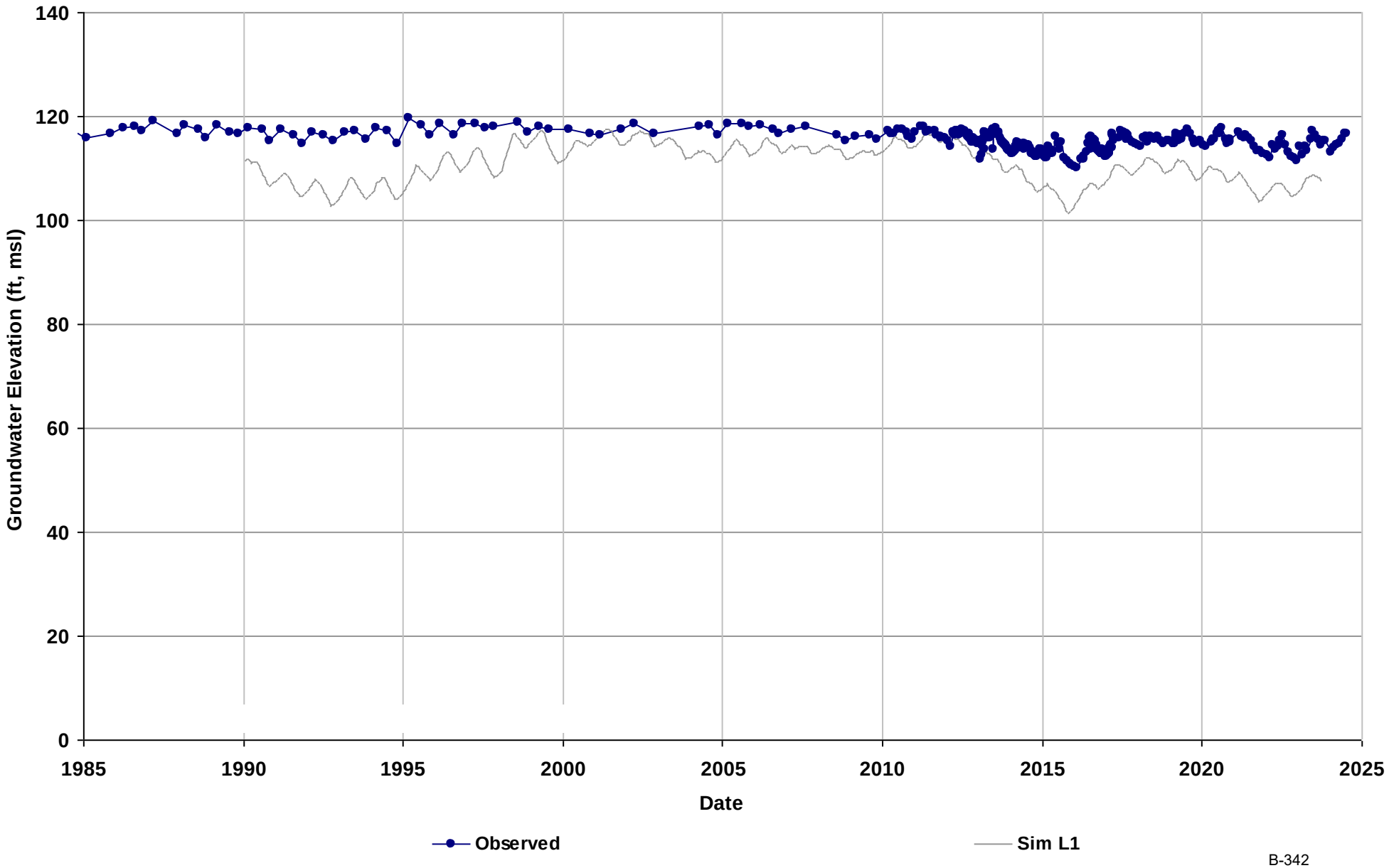
Total Depth (ft):
Perf Top (ft): 7.7
Perf Bottom (ft): 16.7
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_142
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 121

Average Residual (feet): -5.27
Layer 1: -5.27
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

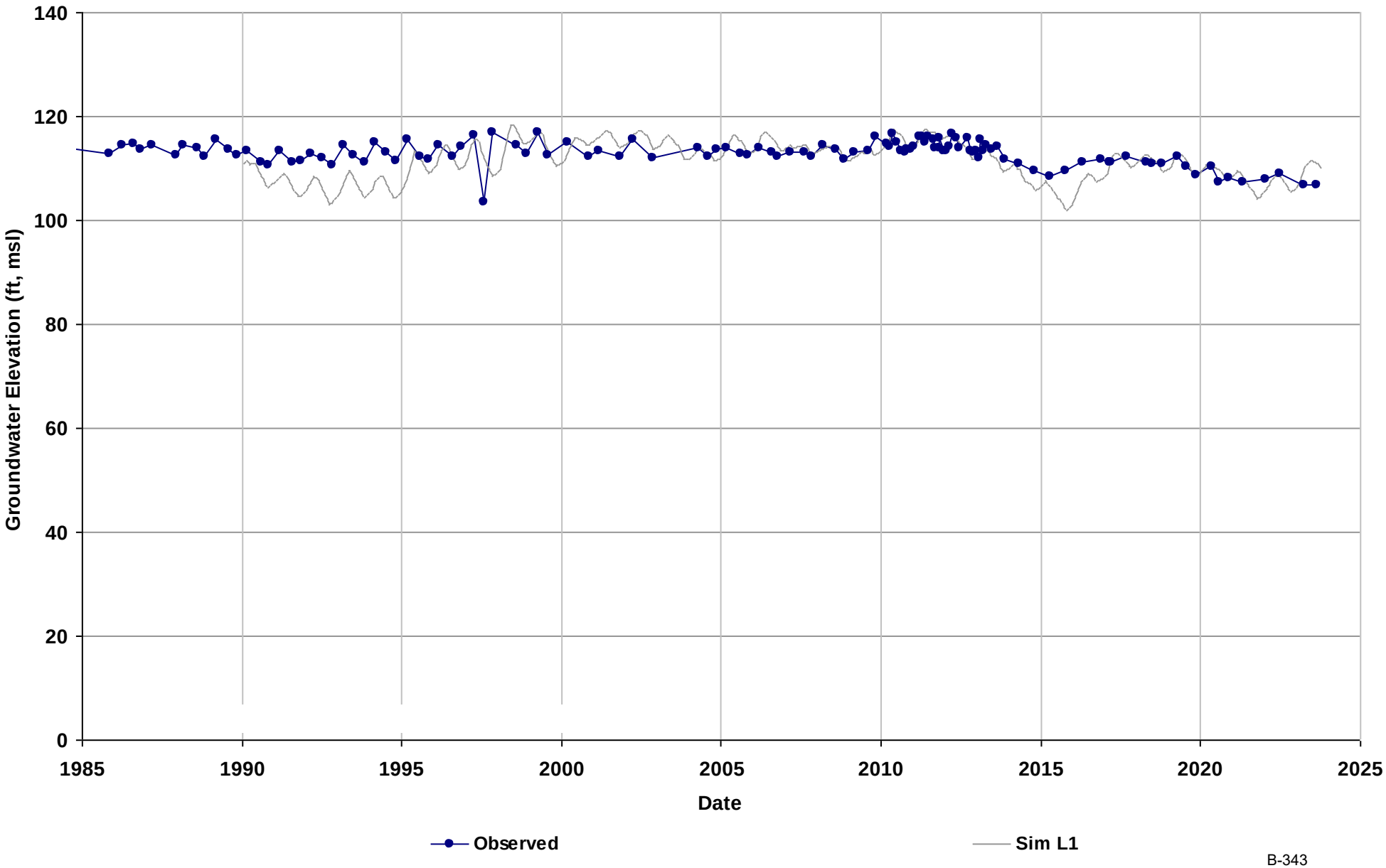
Total Depth (ft):
Perf Top (ft): 7
Perf Bottom (ft): 16
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_143
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 119

Average Residual (feet): -0.92
Layer 1: -0.92
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

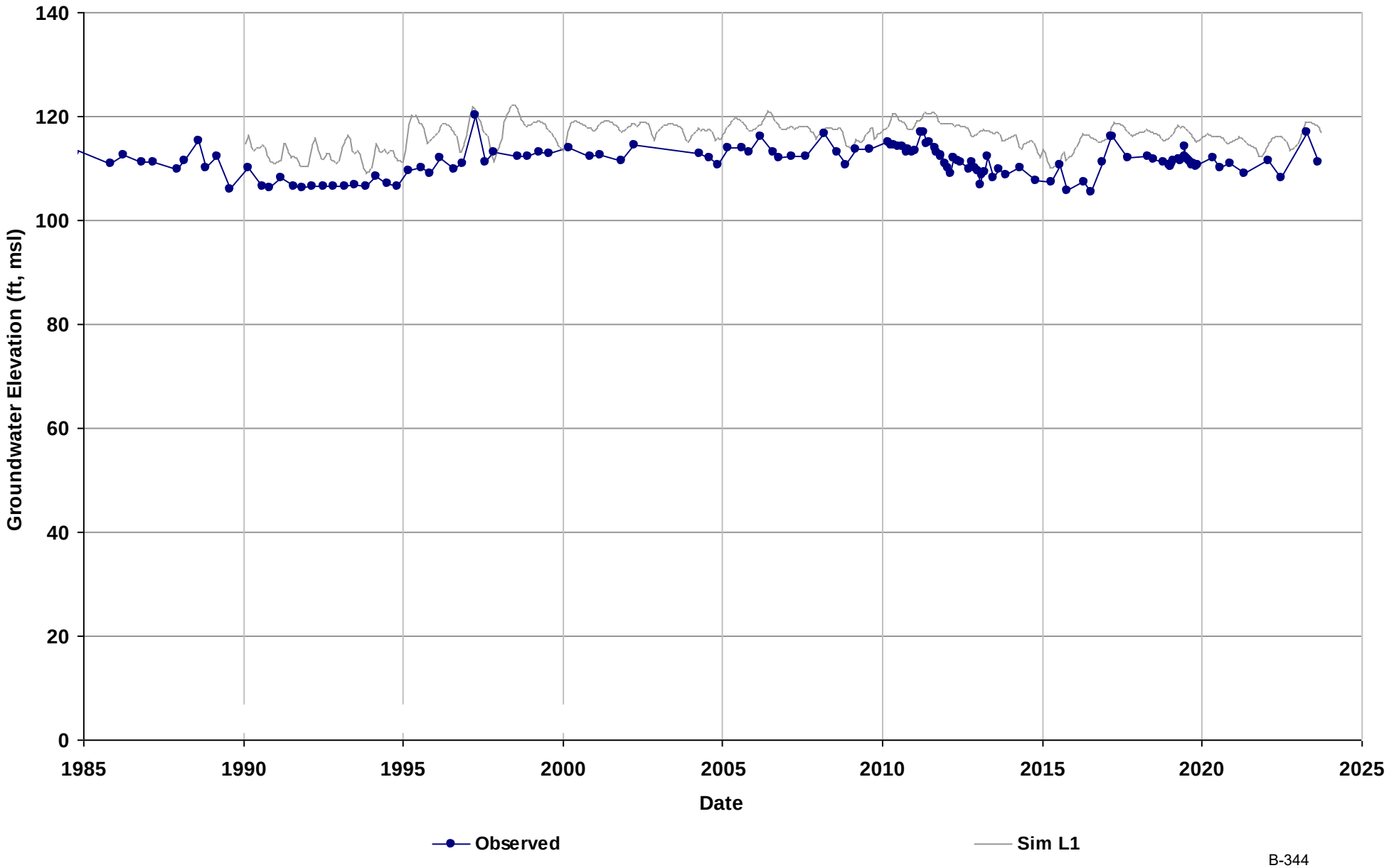
Total Depth (ft):
Perf Top (ft): 8.1
Perf Bottom (ft): 17.1
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_144A
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 121

Average Residual (feet): 5.43
Layer 1: 5.43
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

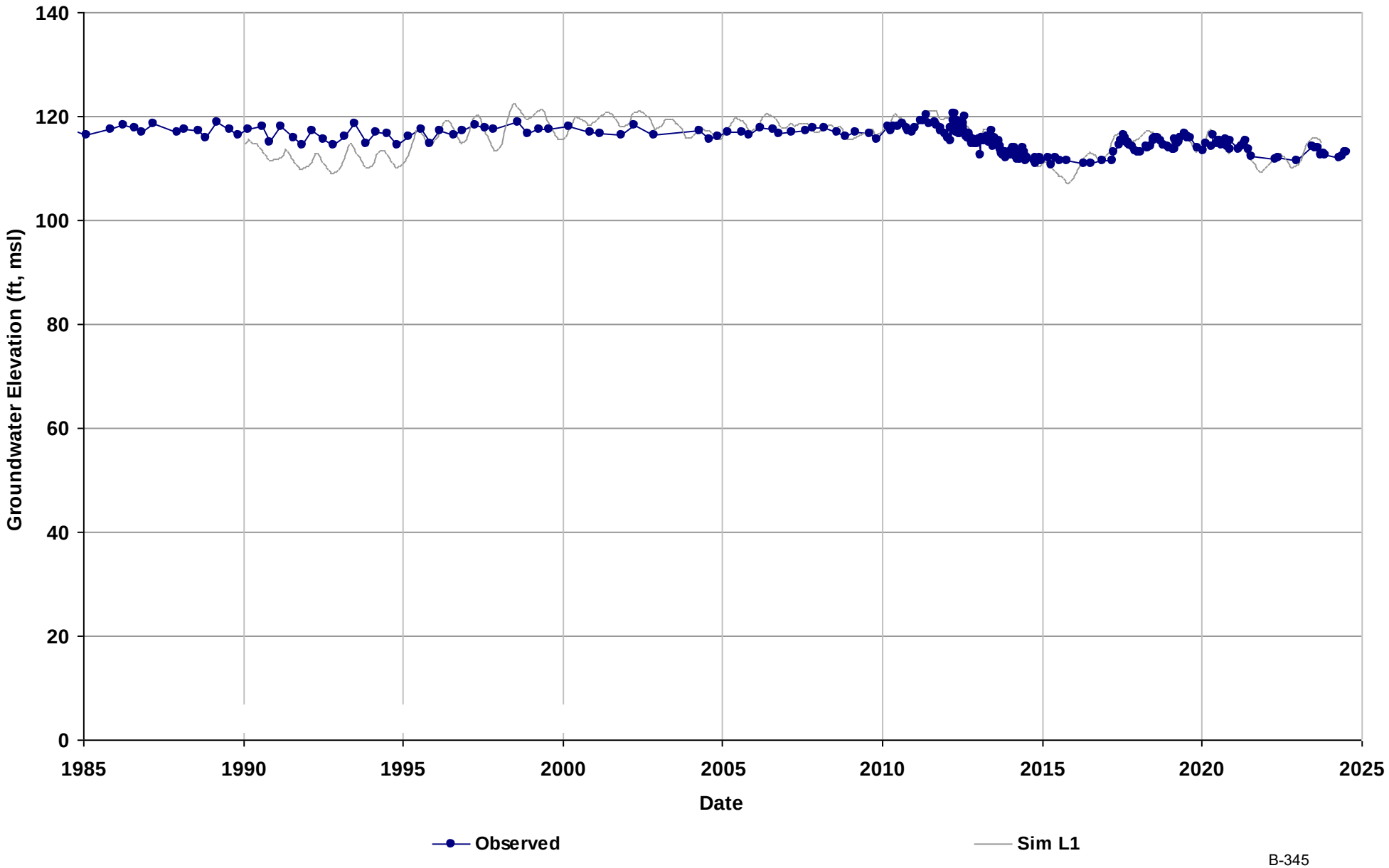
Total Depth (ft):
Perf Top (ft): 7.1
Perf Bottom (ft): 16.1
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_145
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 123

Average Residual (feet): 0.65
Layer 1: 0.65
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

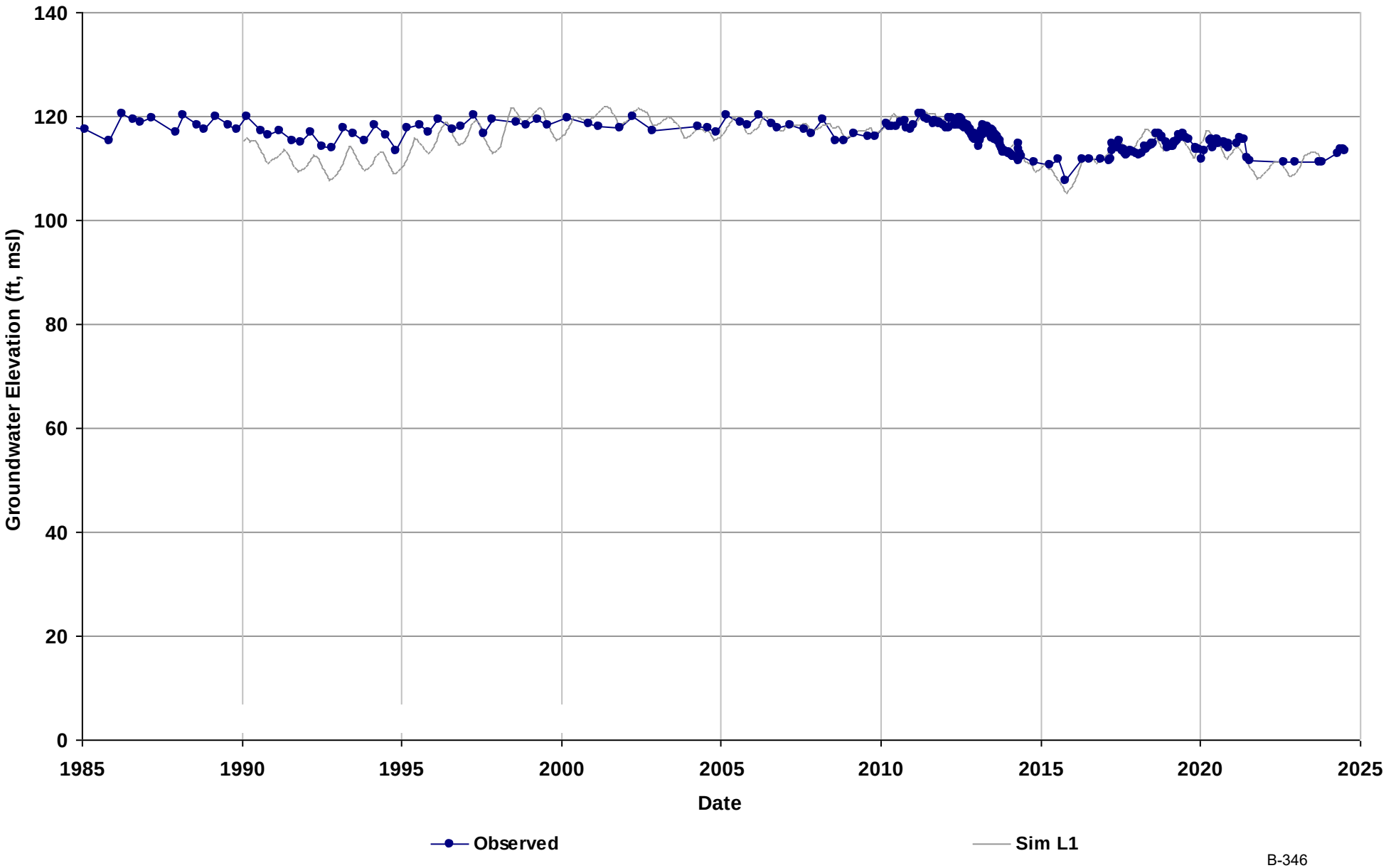
Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_146
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 124

Average Residual (feet): -0.3
Layer 1: -0.3
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

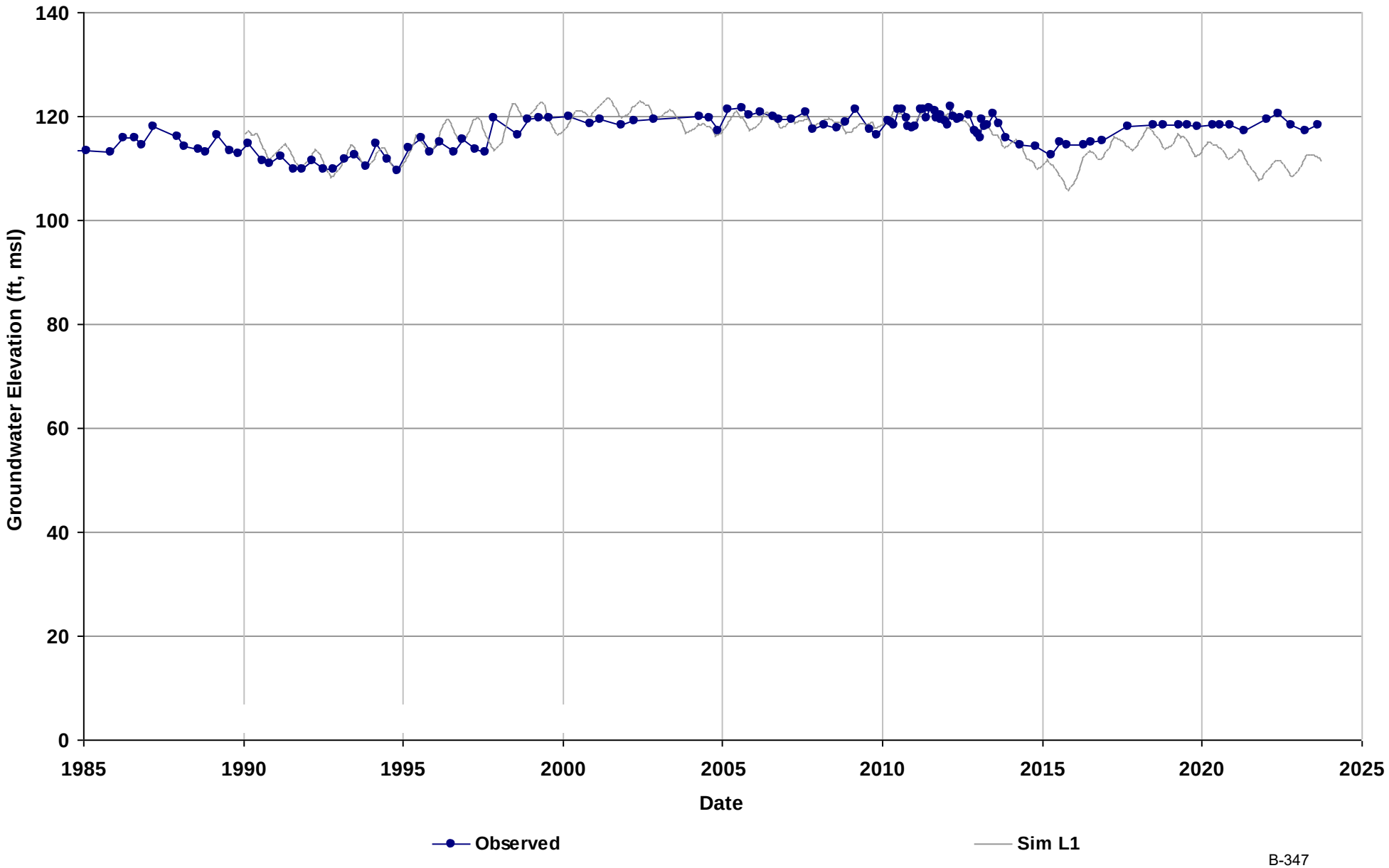
Total Depth (ft):
Perf Top (ft): 8.6
Perf Bottom (ft): 17.6
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_147
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 126

Average Residual (feet): -0.33
Layer 1: -0.33
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

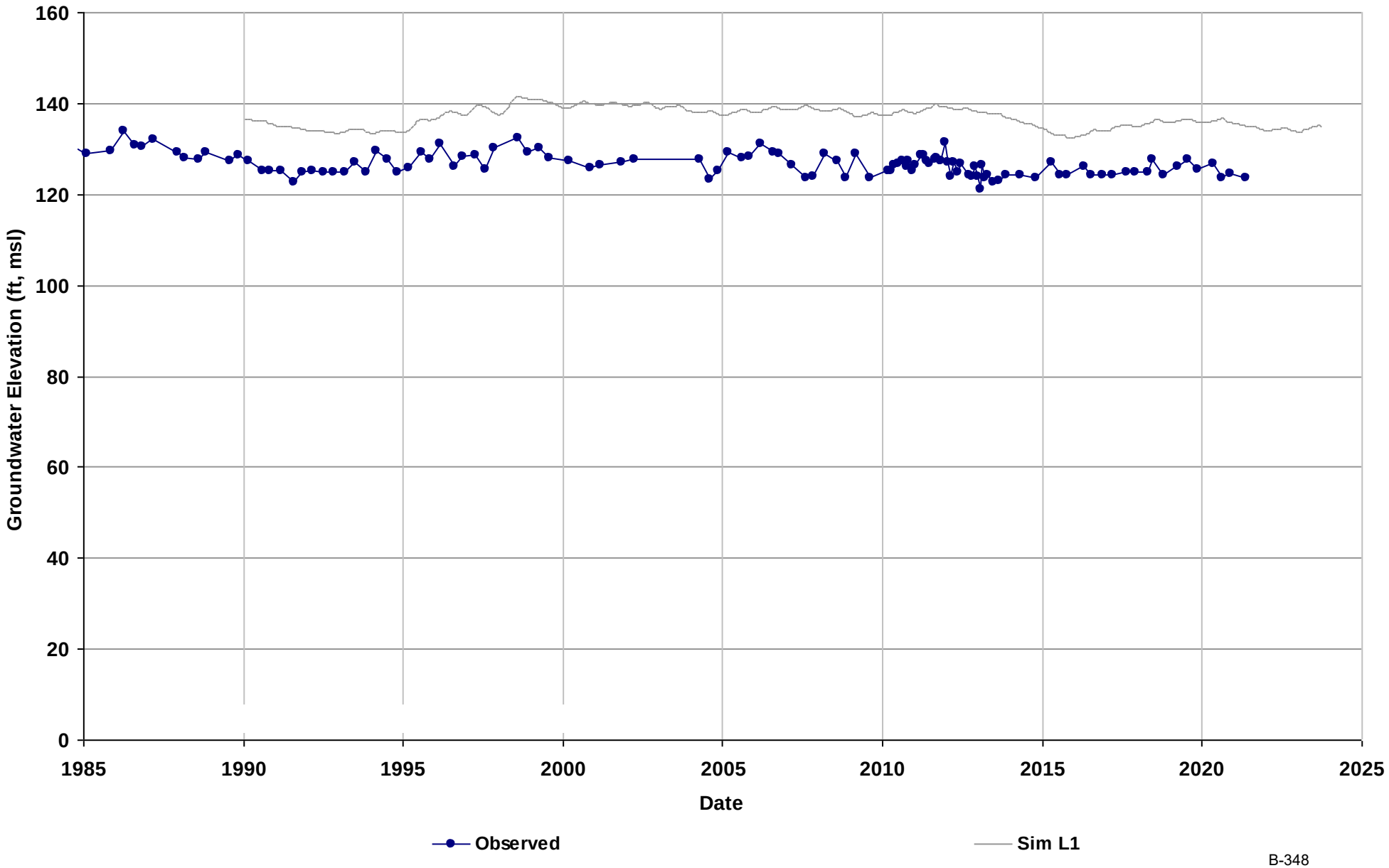
Total Depth (ft):
Perf Top (ft): 9.6
Perf Bottom (ft): 18.6
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_158
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 139

Average Residual (feet): 10.91
Layer 1: 10.91
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

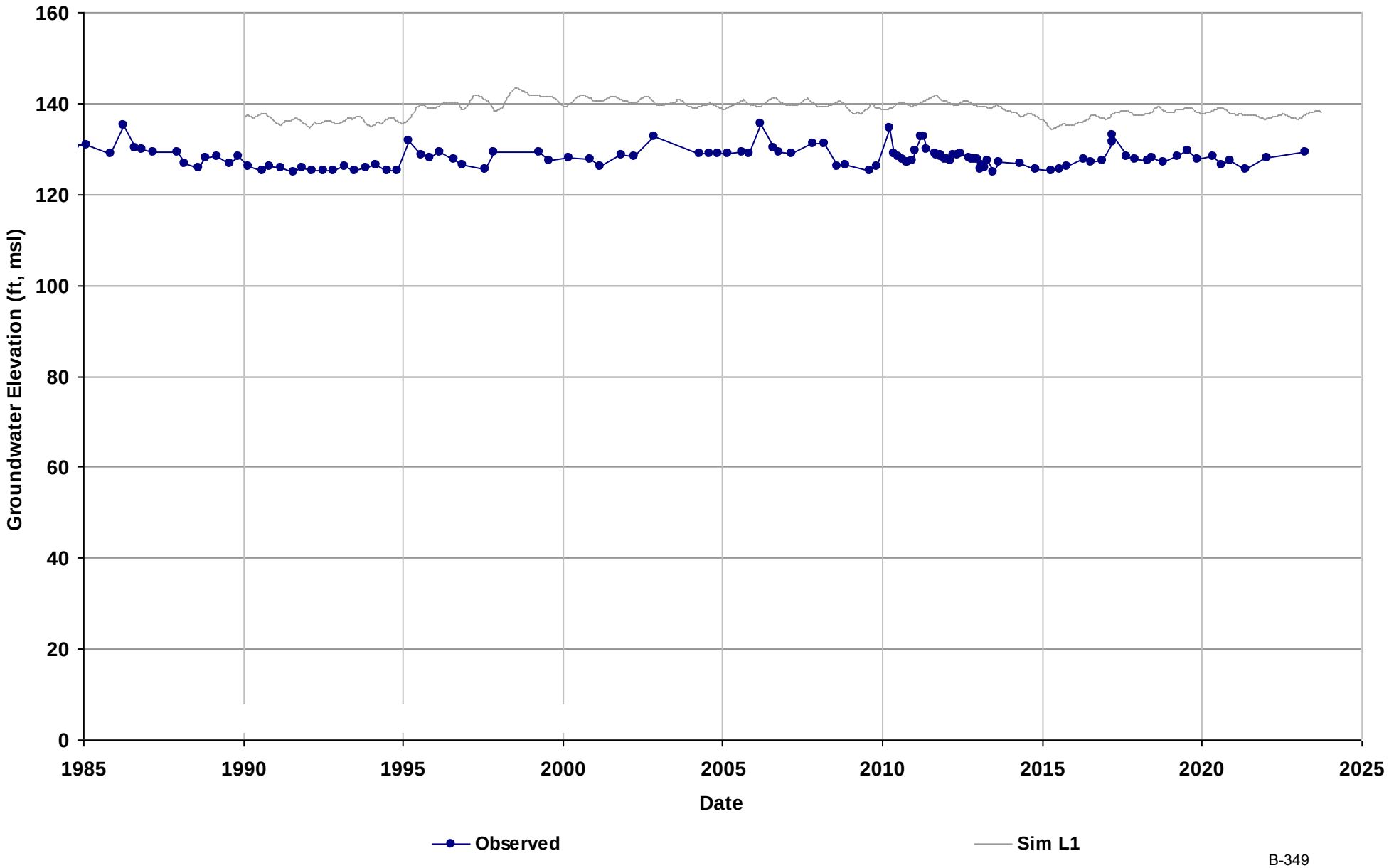
Total Depth (ft):
Perf Top (ft): 7.1
Perf Bottom (ft): 16.1
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_159
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 140

Average Residual (feet): 10.9
Layer 1: 10.9
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

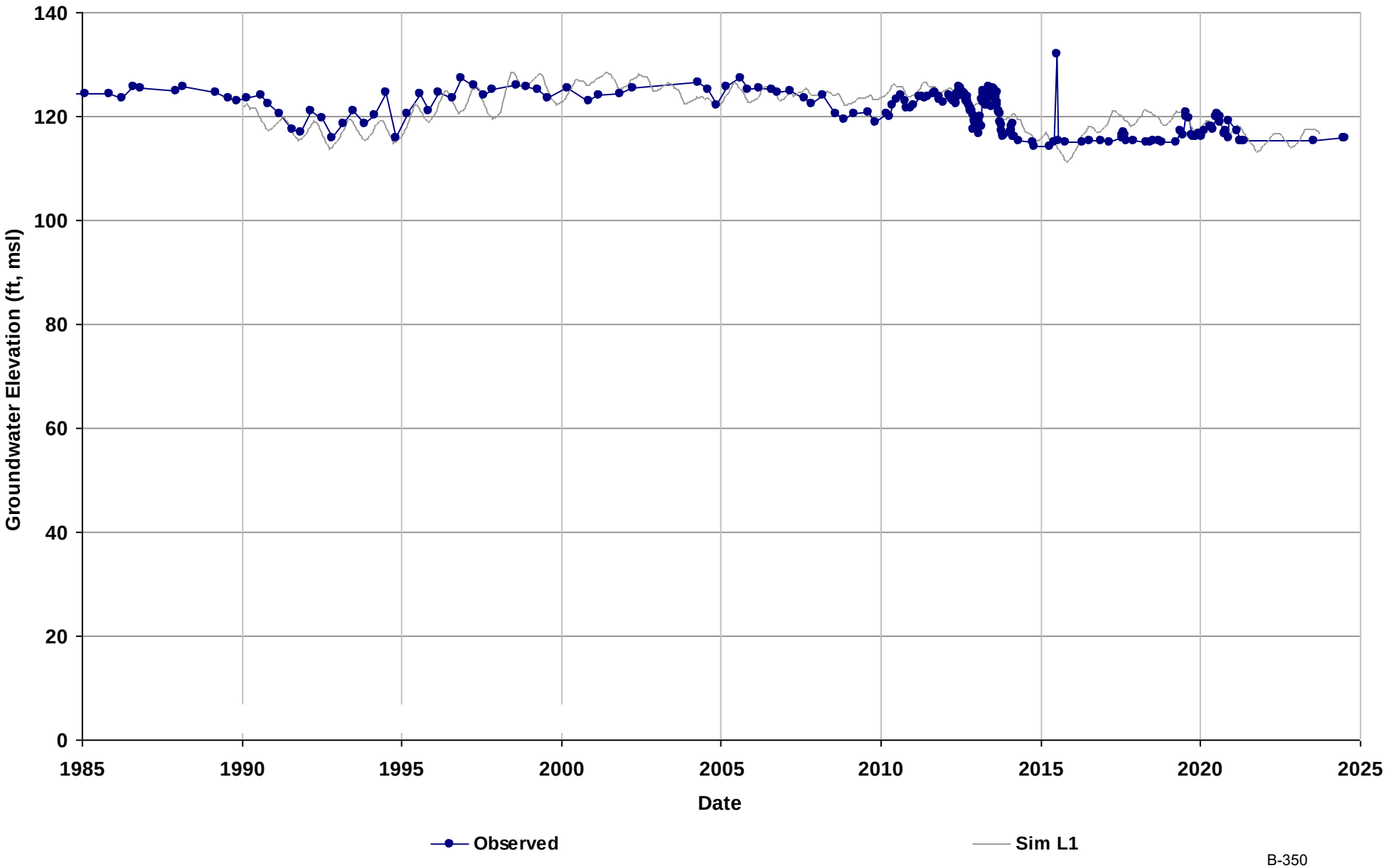
Total Depth (ft):
Perf Top (ft): 9
Perf Bottom (ft): 18
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_164
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 129

Average Residual (feet): 0.56
Layer 1: 0.56
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

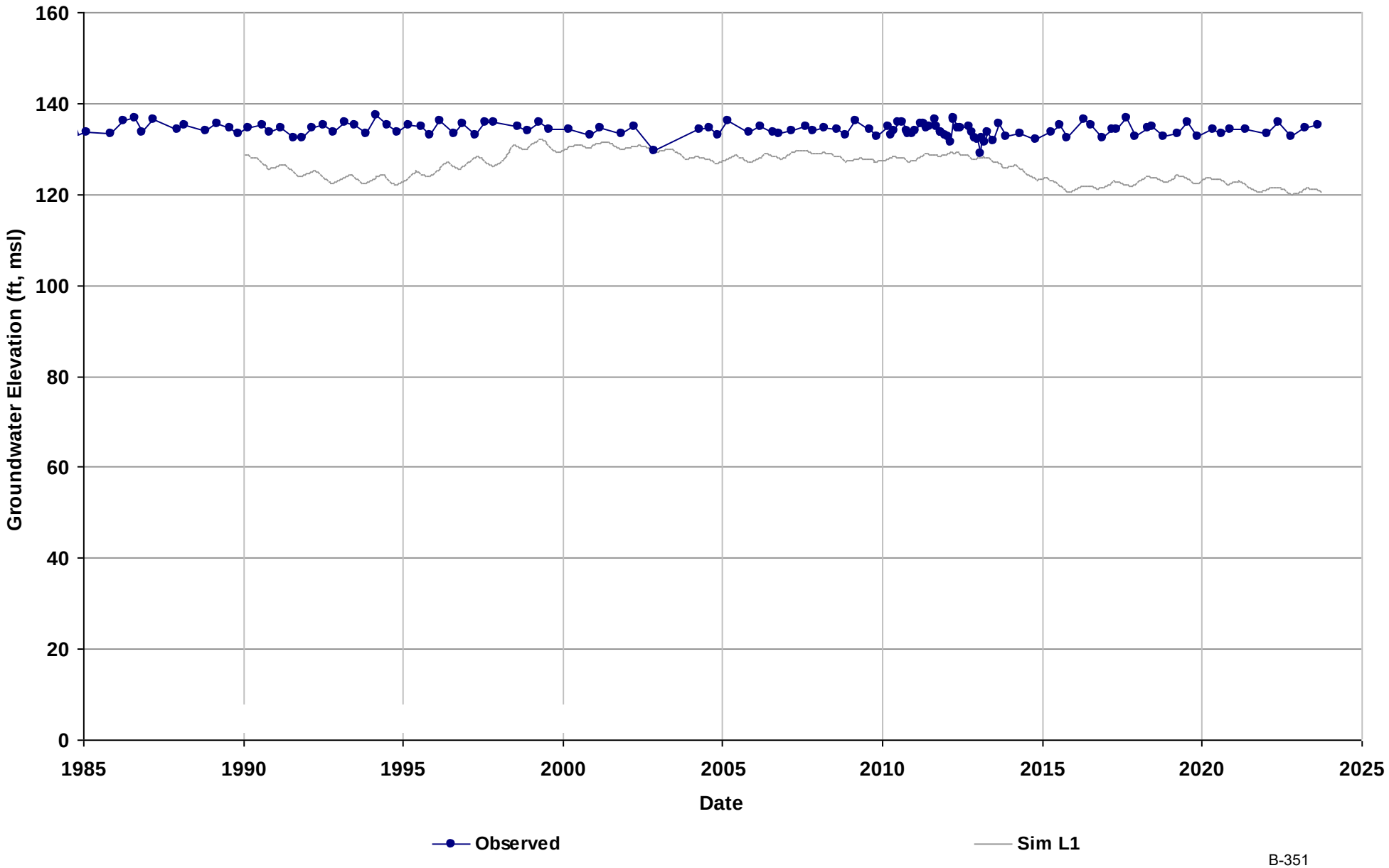
Total Depth (ft):
Perf Top (ft): 8.4
Perf Bottom (ft): 17.4
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_167A
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 140

Average Residual (feet): -7.48
Layer 1: -7.48
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

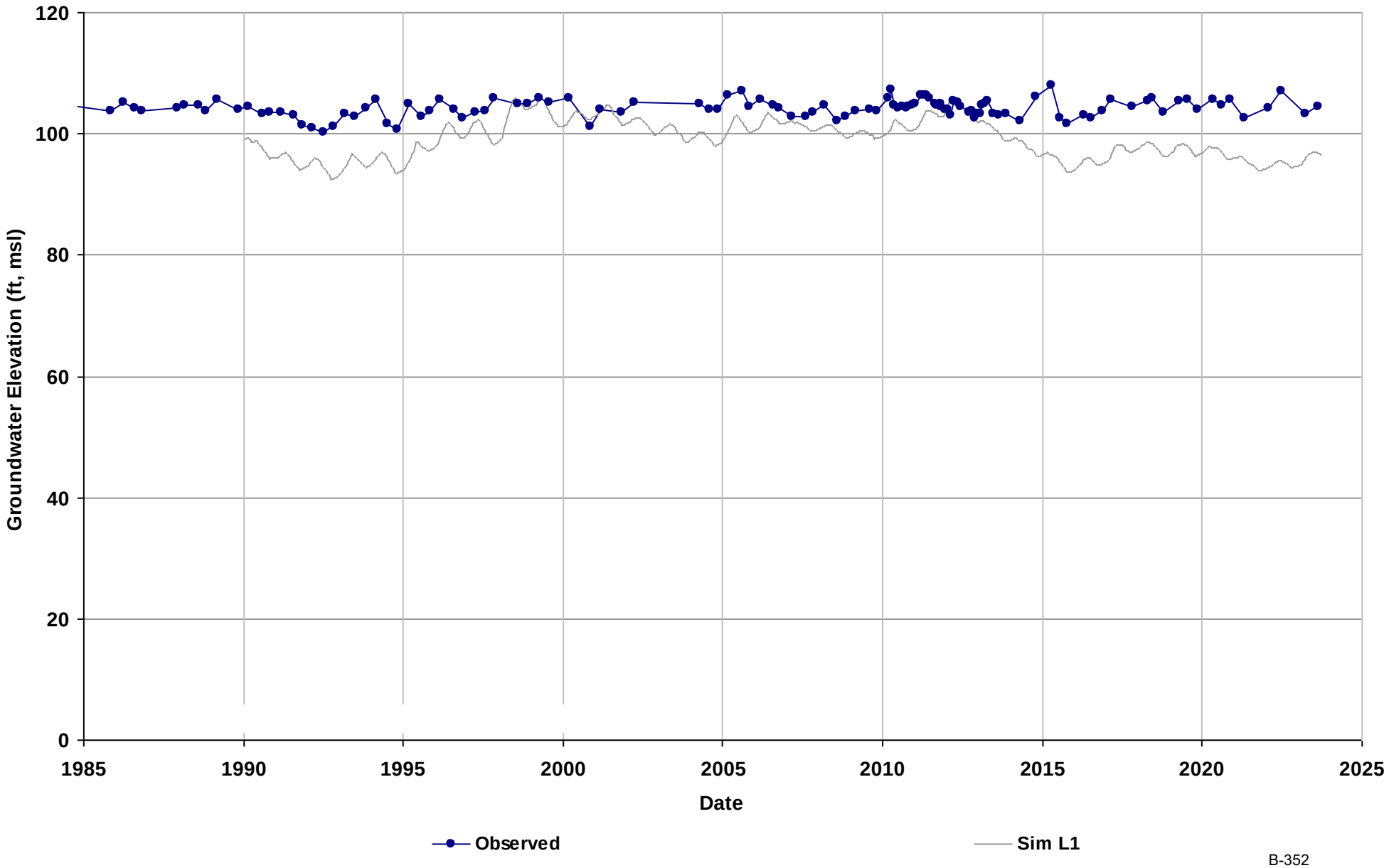
Total Depth (ft):
Perf Top (ft): 6.9
Perf Bottom (ft): 15.9
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_181
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 114

Average Residual (feet): -4.36
Layer 1: -4.36
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

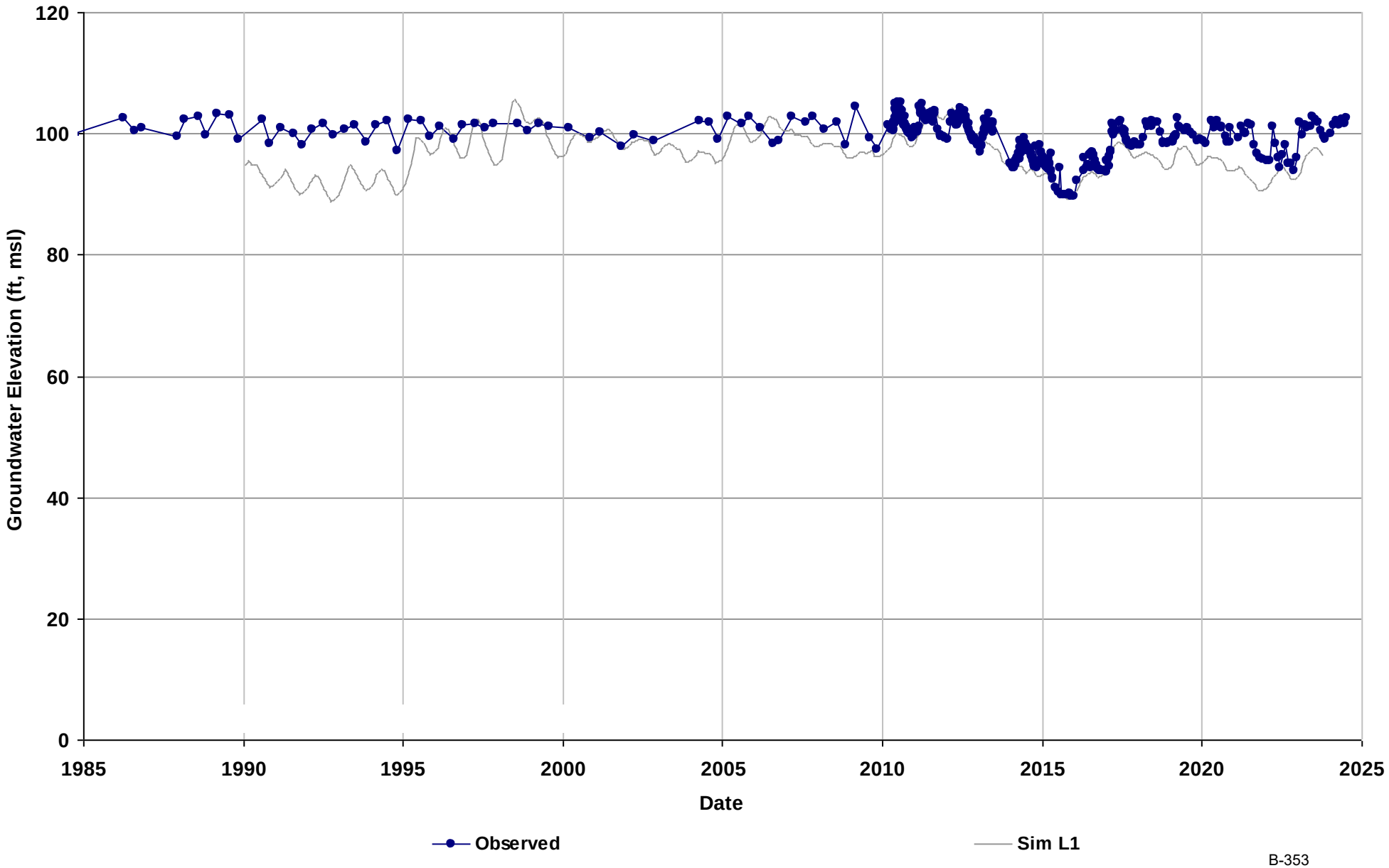
Total Depth (ft):
Perf Top (ft): 9.2
Perf Bottom (ft): 18.2
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_186A
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 105

Average Residual (feet): -2.27
Layer 1: -2.27
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

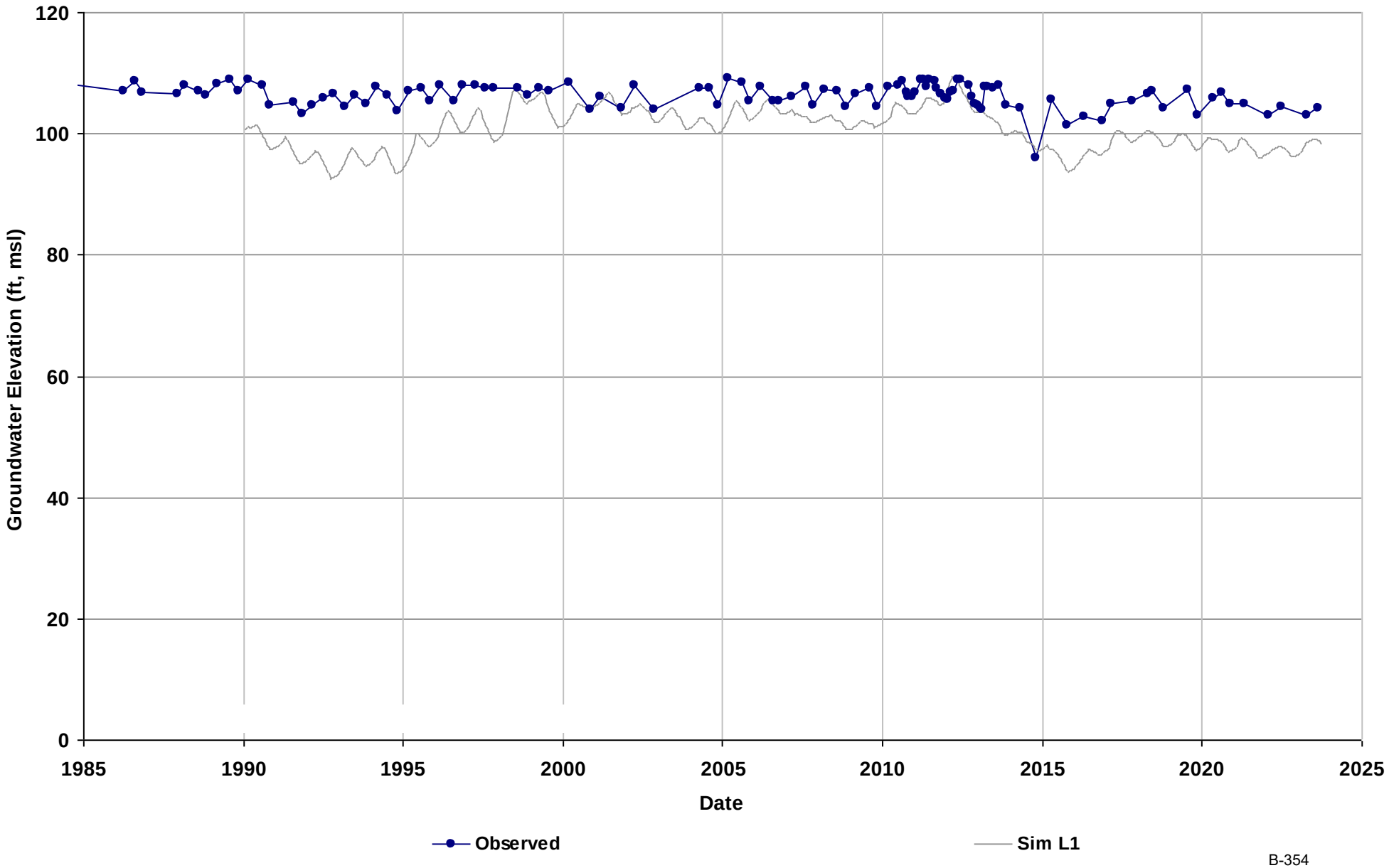
Total Depth (ft):
Perf Top (ft): 9
Perf Bottom (ft): 18
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_188A
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Average Residual (feet): -4.75
Layer 1: -4.75
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

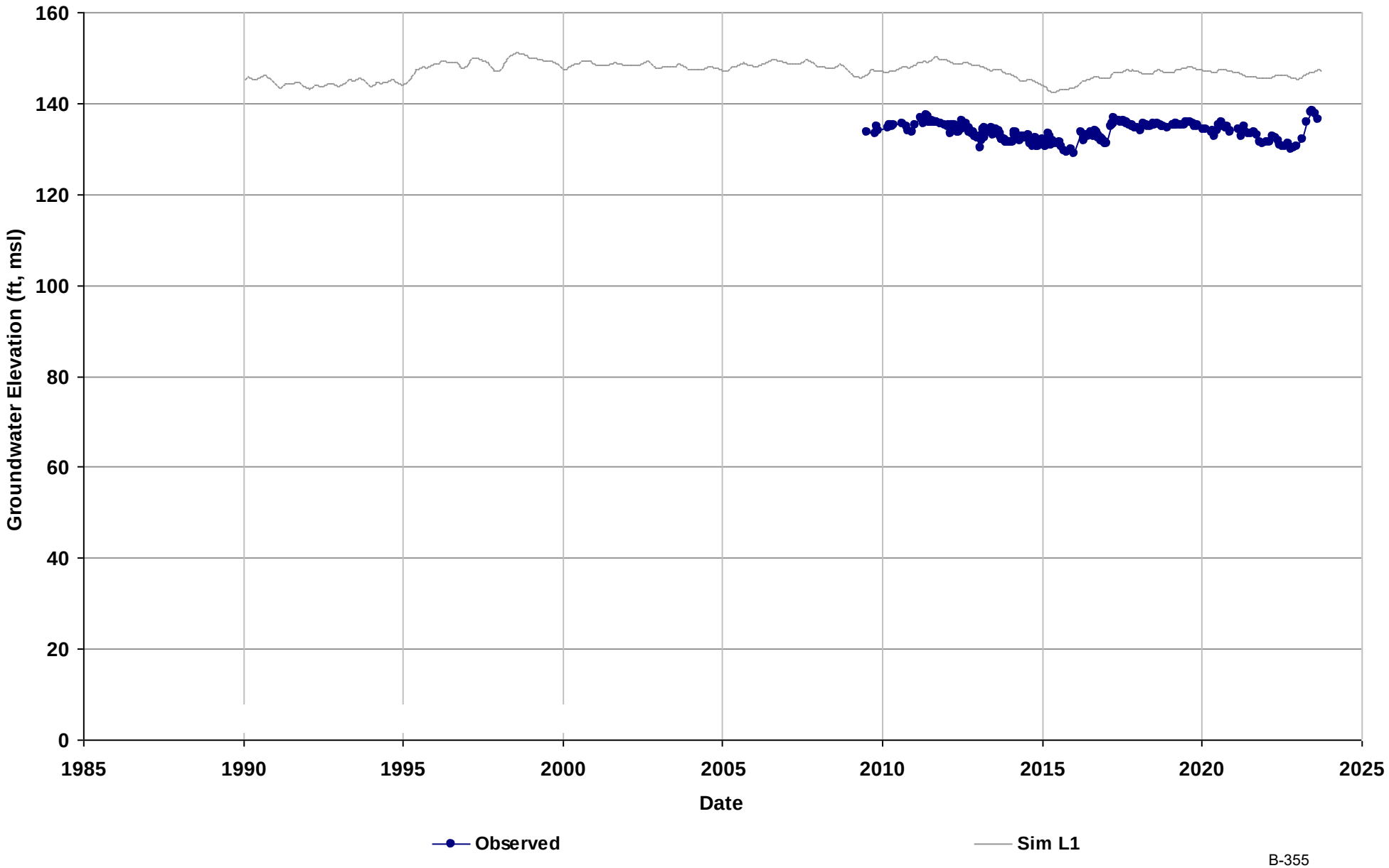
Total Depth (ft):
Perf Top (ft): 9.1
Perf Bottom (ft): 18.1
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_355
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 145

Average Residual (feet): 13.22
Layer 1: 13.22
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

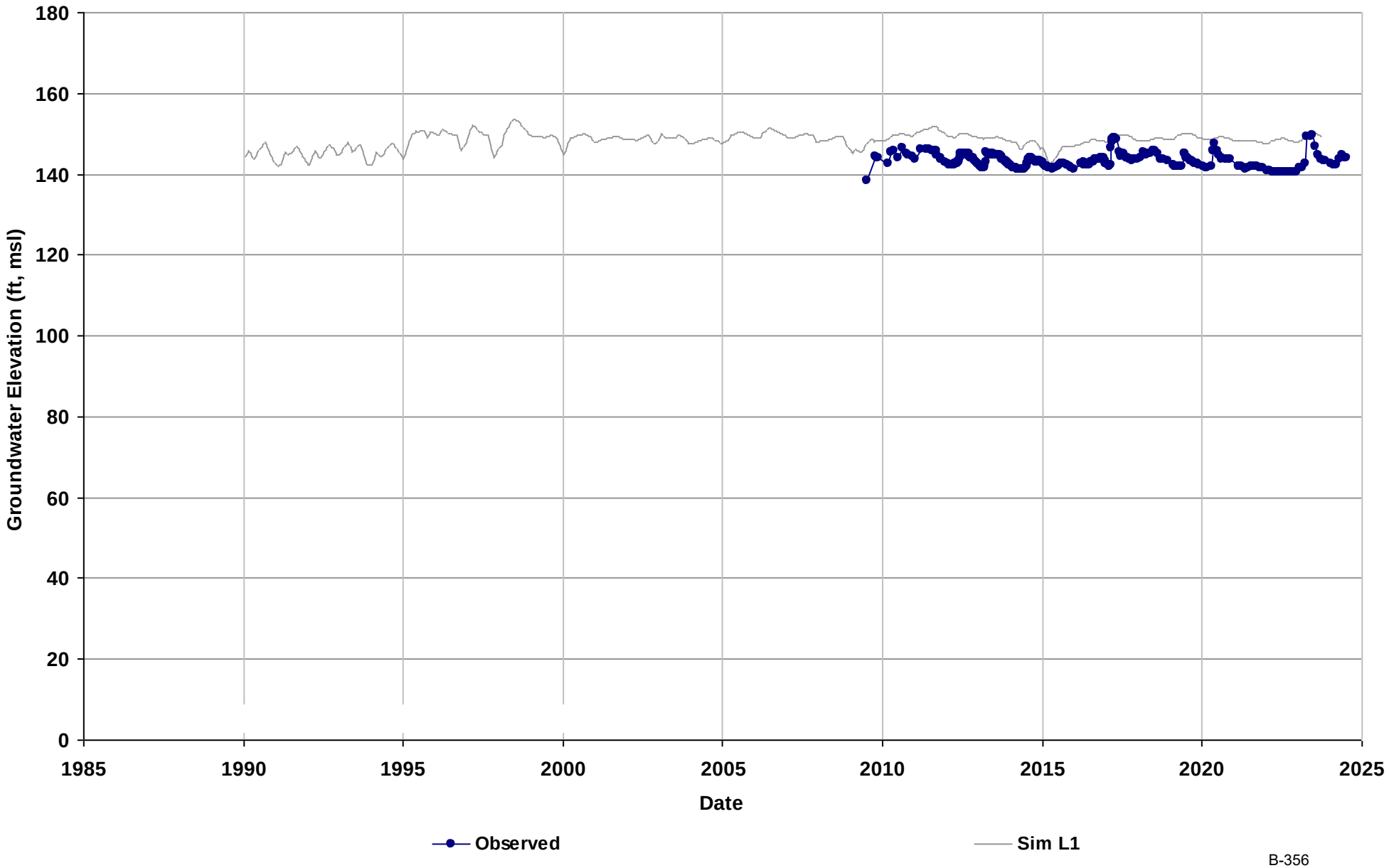
Total Depth (ft):
Perf Top (ft): 7.7
Perf Bottom (ft): 16.7
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_364
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 154

Average Residual (feet): 5.17
Layer 1: 5.17
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

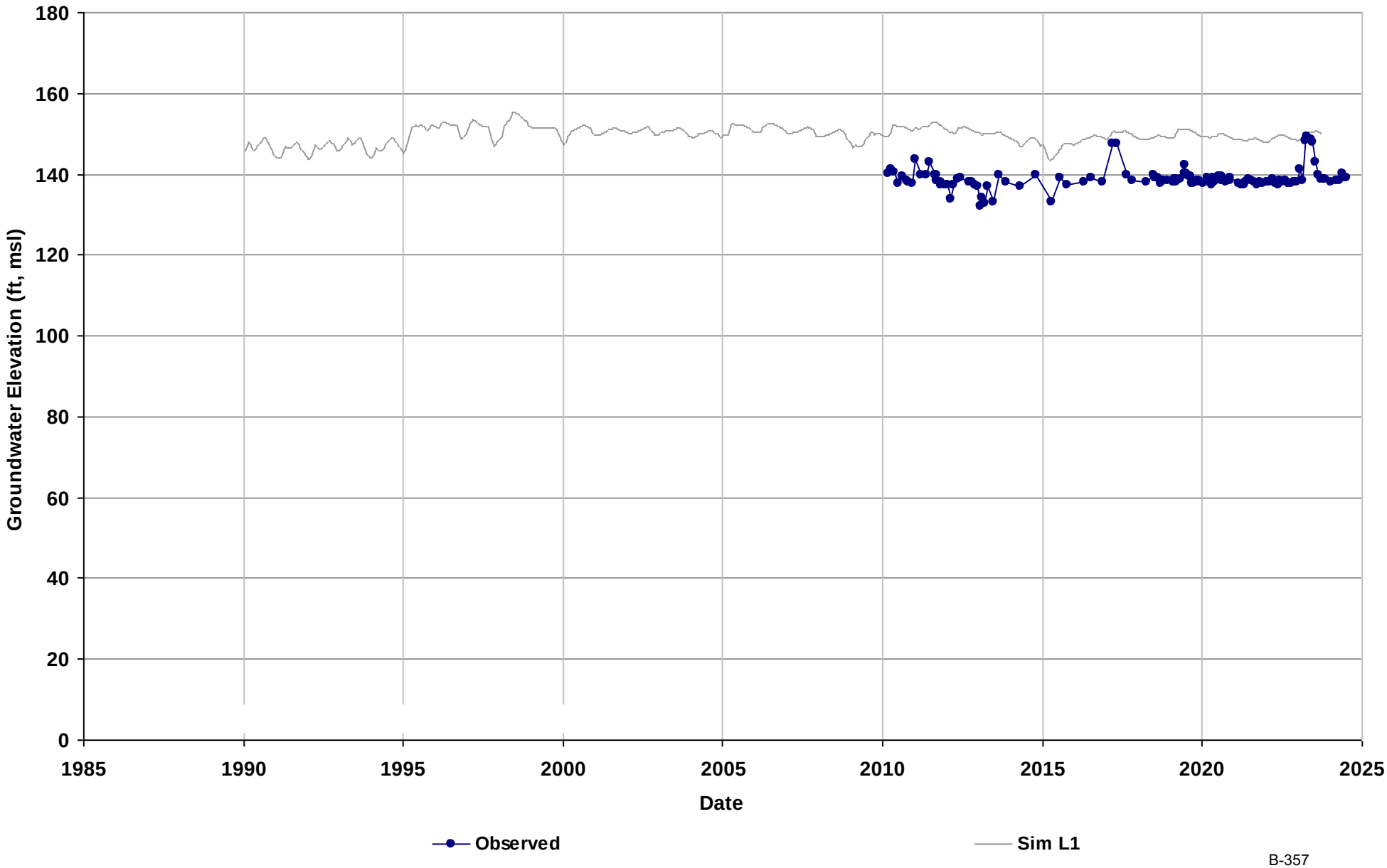
Total Depth (ft):
Perf Top (ft): 4.4
Perf Bottom (ft): 13.4
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_368
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 153

Average Residual (feet): 11.04
Layer 1: 11.04
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

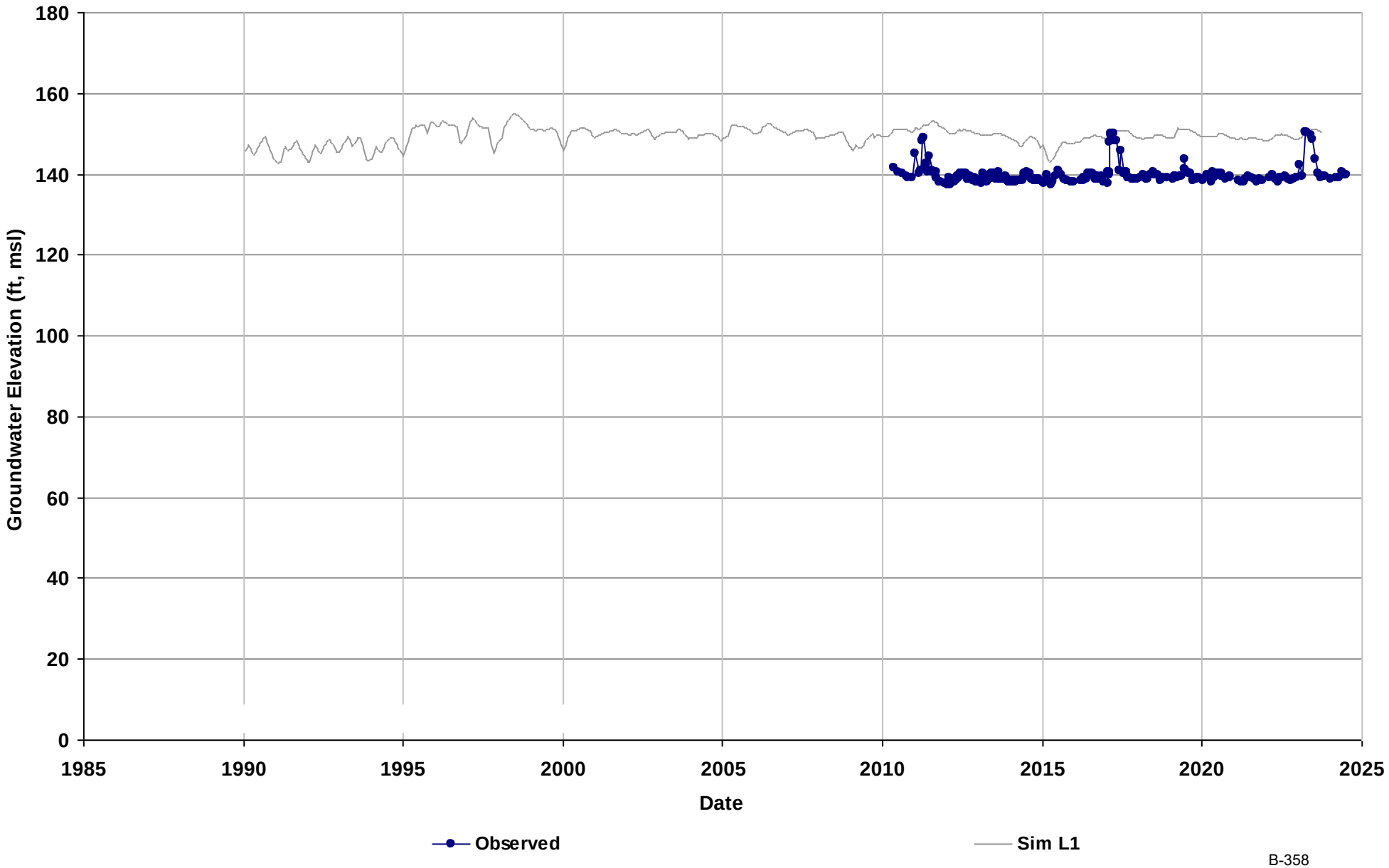
Total Depth (ft):
Perf Top (ft): 5
Perf Bottom (ft): 14
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_371
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 150

Average Residual (feet): 9.74
Layer 1: 9.74
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

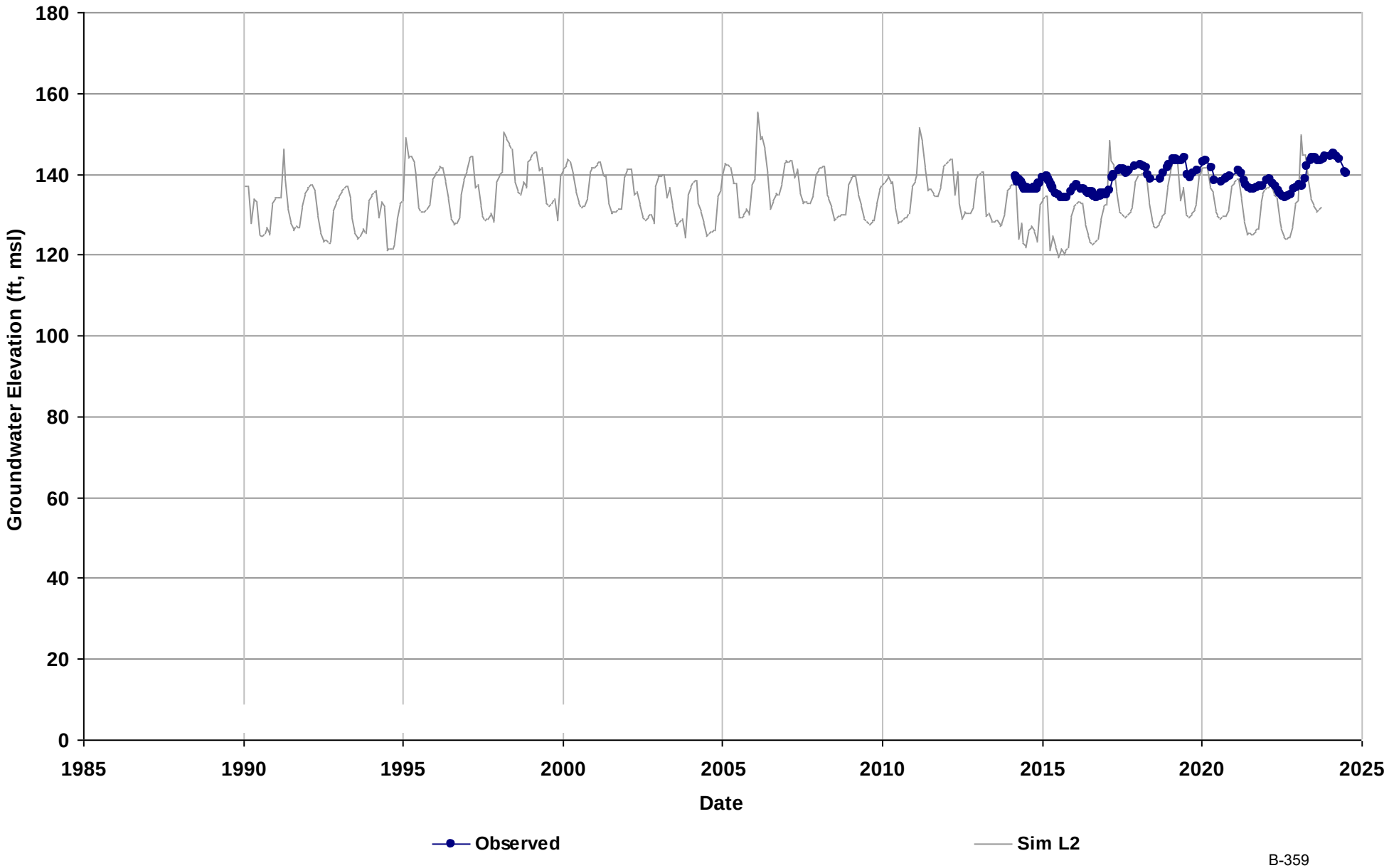
Total Depth (ft):
Perf Top (ft): 7.7
Perf Bottom (ft): 16.7
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_CWOW-14-15
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 153

Average Residual (feet): -7.87
Layer 1:
Layer 2: -7.87
Layer 3:
Layer 4:
Layer 5:
Layer 6:

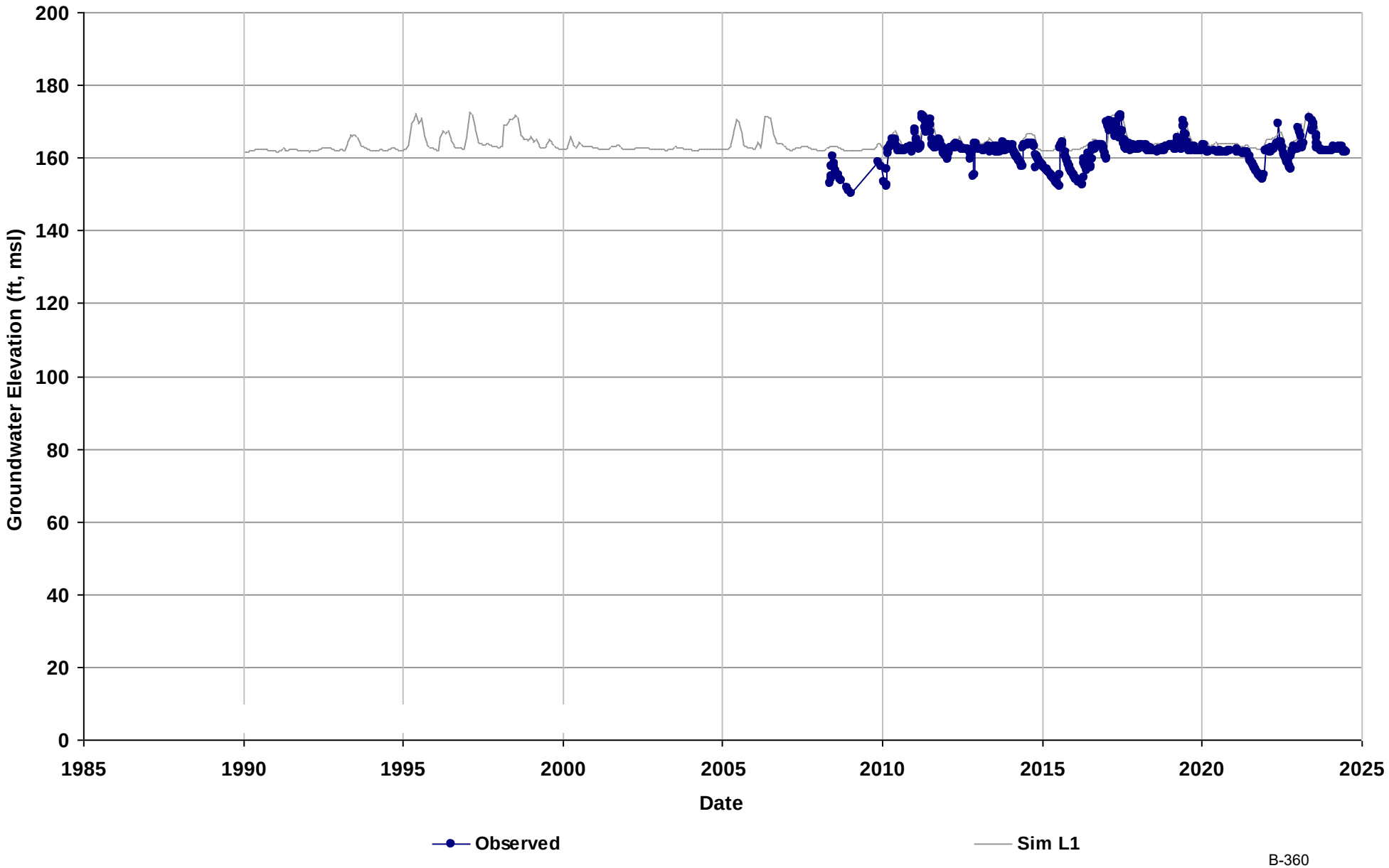
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: SJRRP_MA-4
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 174

Average Residual (feet): 2.88
Layer 1: 2.88
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

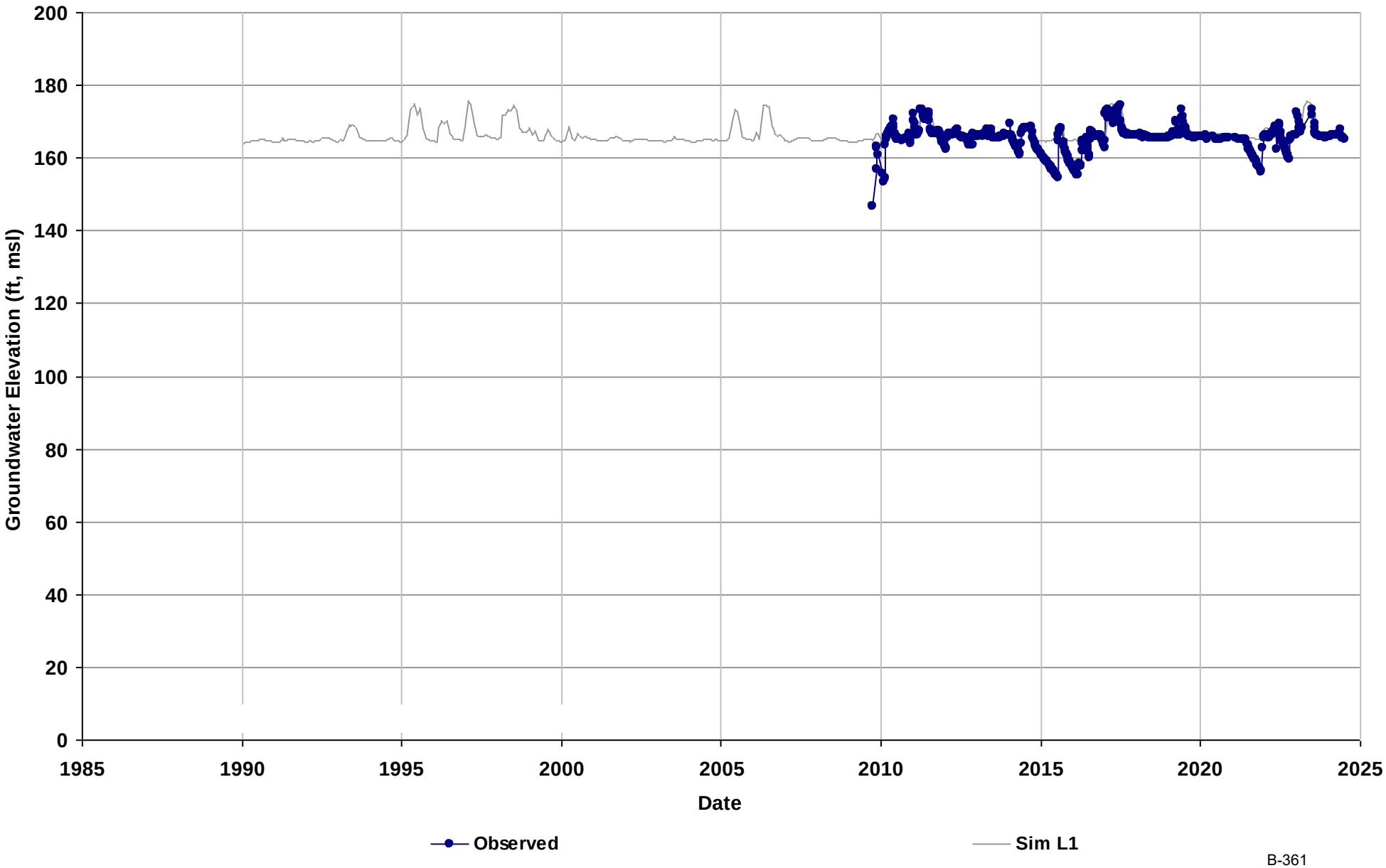
Total Depth (ft): 23
Perf Top (ft): 15
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-09-47
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 174

Average Residual (feet): 2.01
Layer 1: 2.01
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

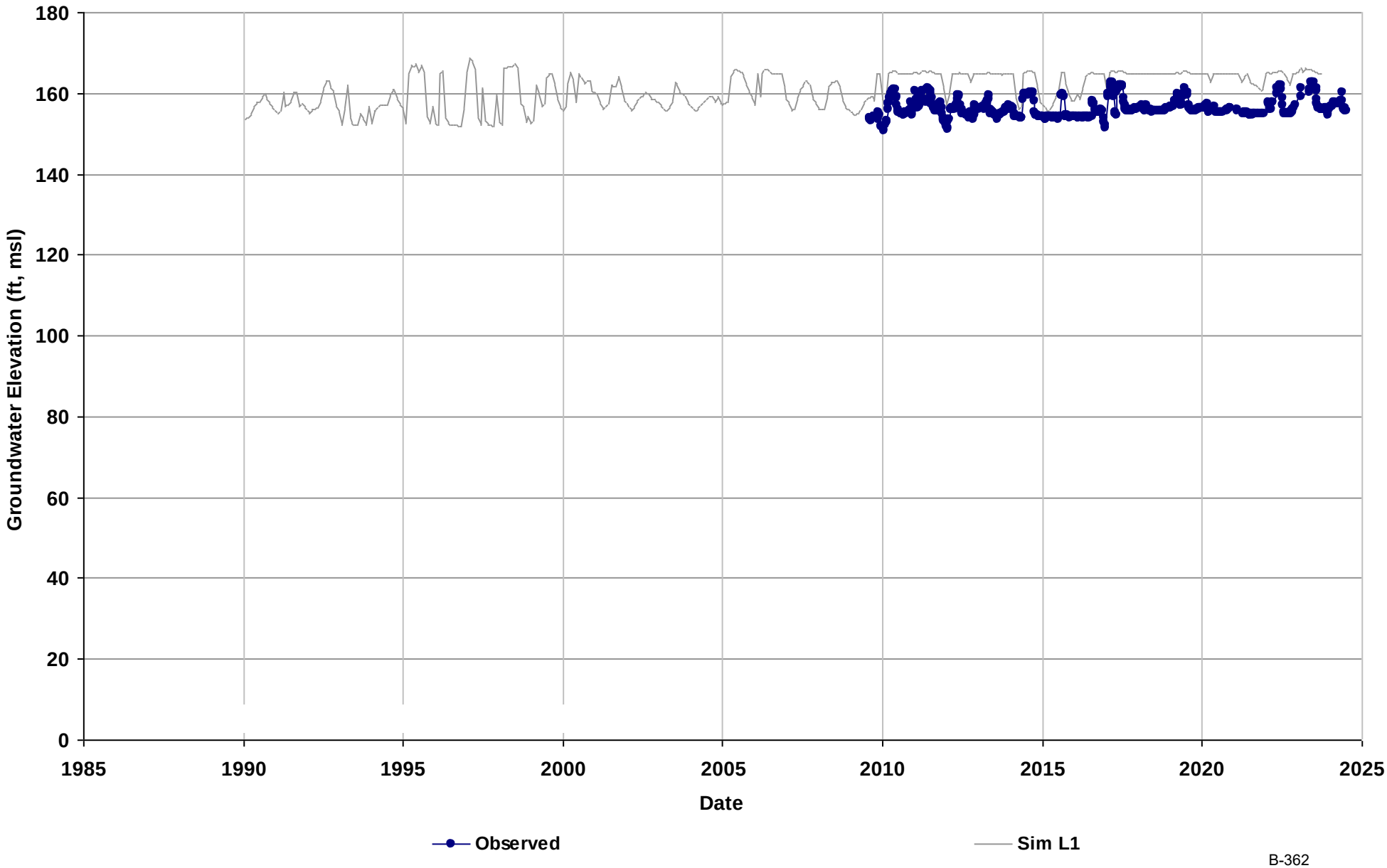
Total Depth (ft): 40.6
Perf Top (ft): 20
Perf Bottom (ft): 40
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-09-55B
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 165

Average Residual (feet): 7.5
Layer 1: 7.5
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

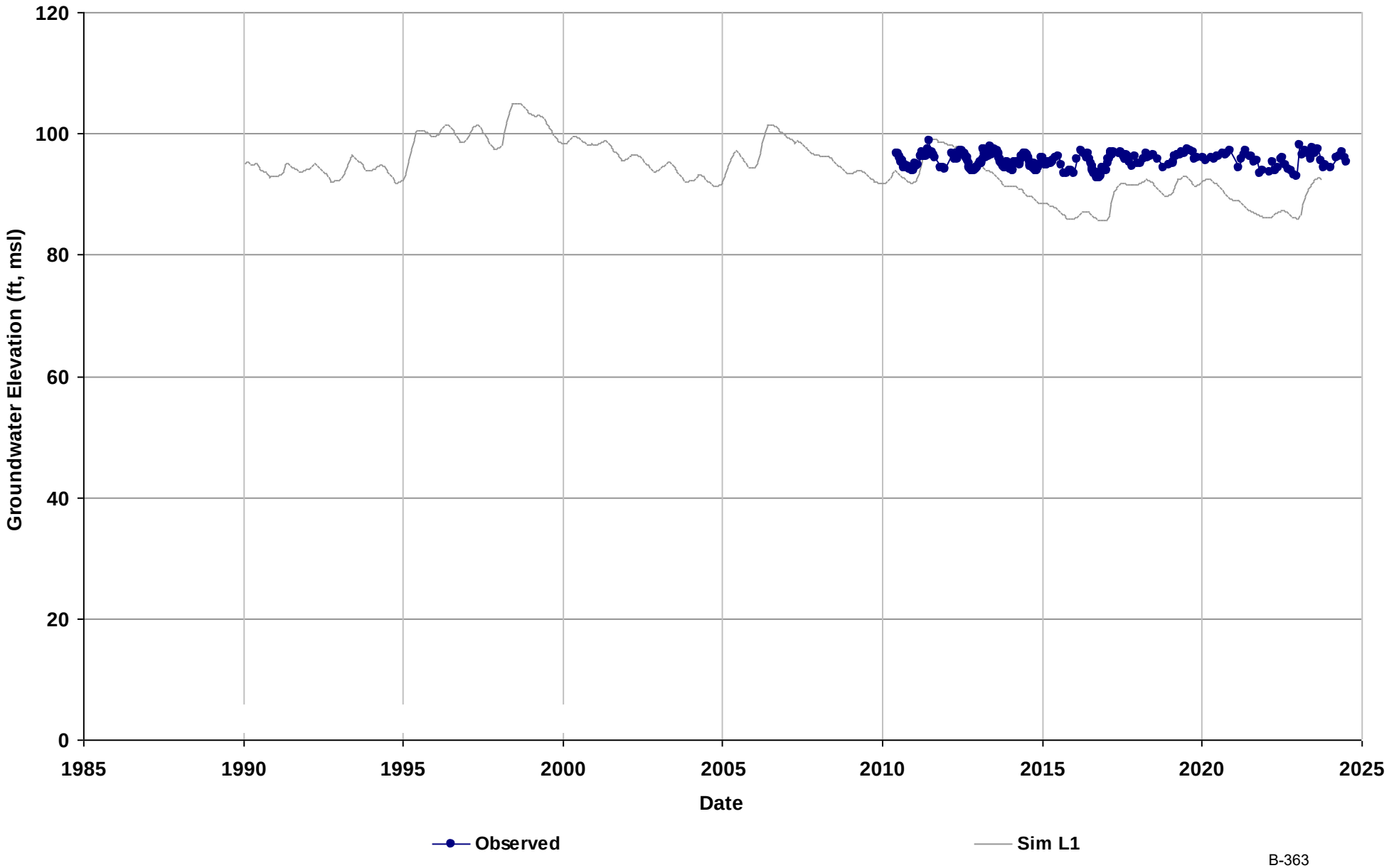
Total Depth (ft): 15
Perf Top (ft): 10
Perf Bottom (ft): 15
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-10-100
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 102

Average Residual (feet): -4.03
Layer 1: -4.03
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

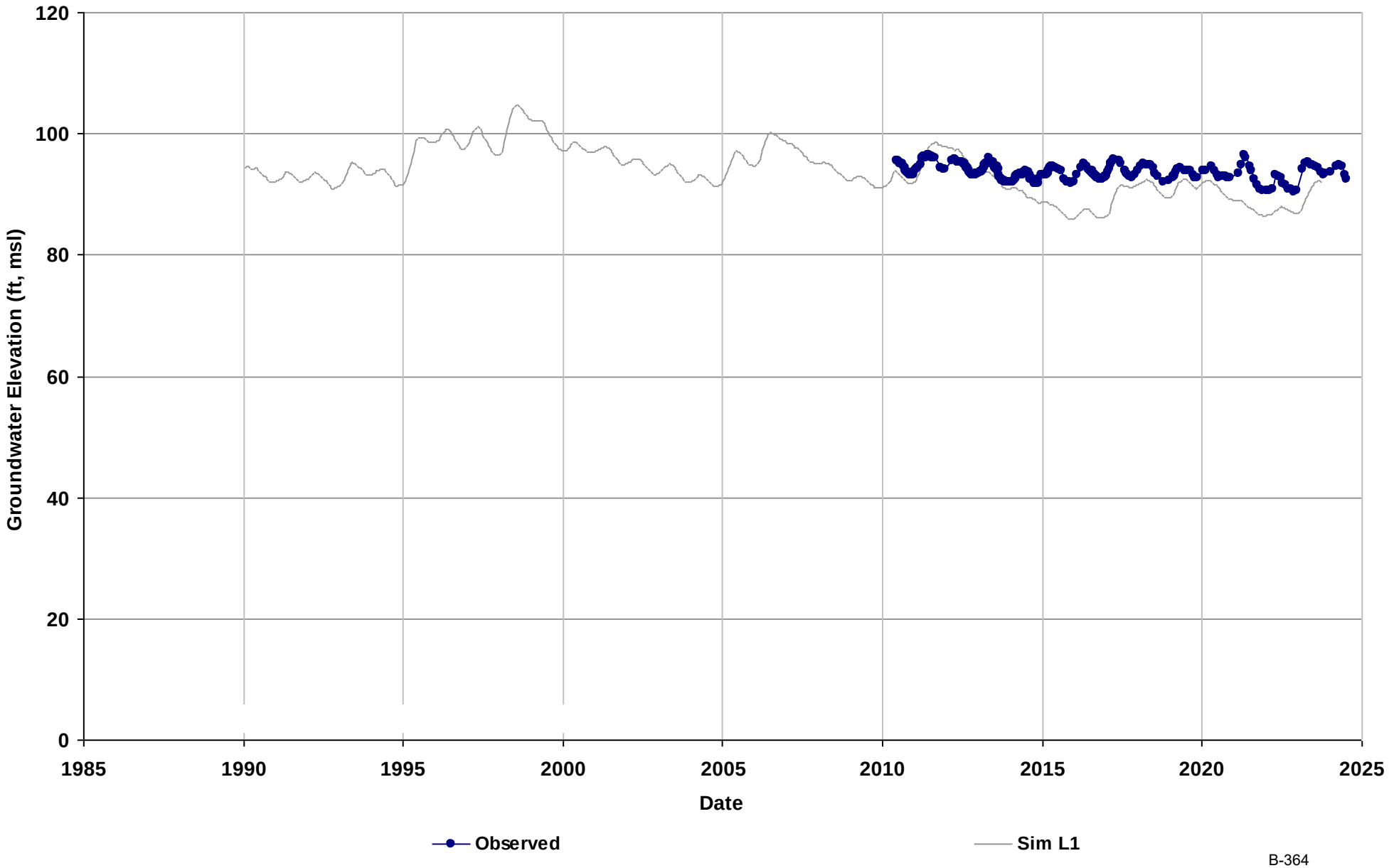
Total Depth (ft): 30.6
Perf Top (ft): 13.8
Perf Bottom (ft): 28.8
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-10-98
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 102

Average Residual (feet): -2.42
Layer 1: -2.42
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

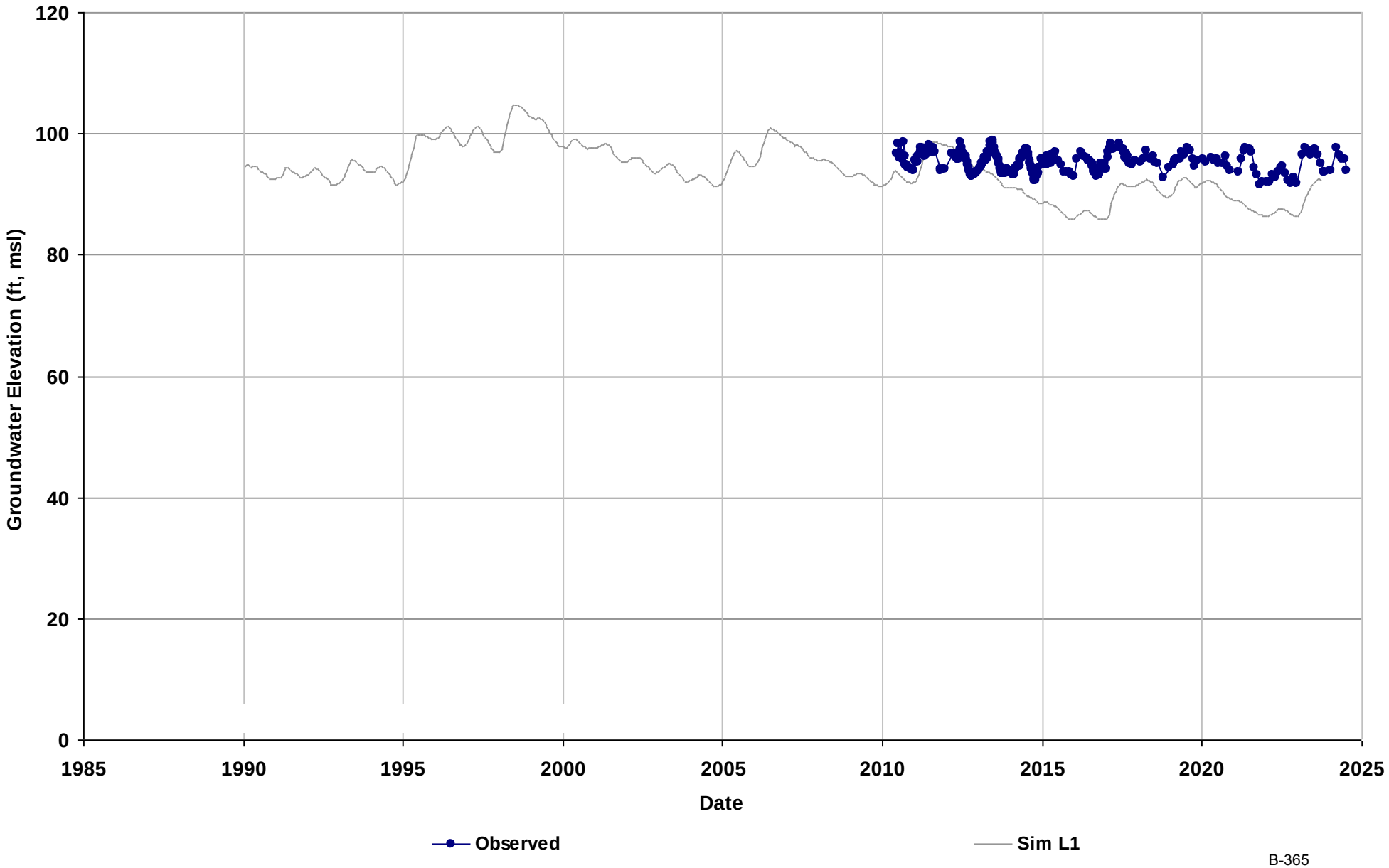
Total Depth (ft): 25.8
Perf Top (ft): 9
Perf Bottom (ft): 24
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-10-99
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 104

Average Residual (feet): -3.96
Layer 1: -3.96
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

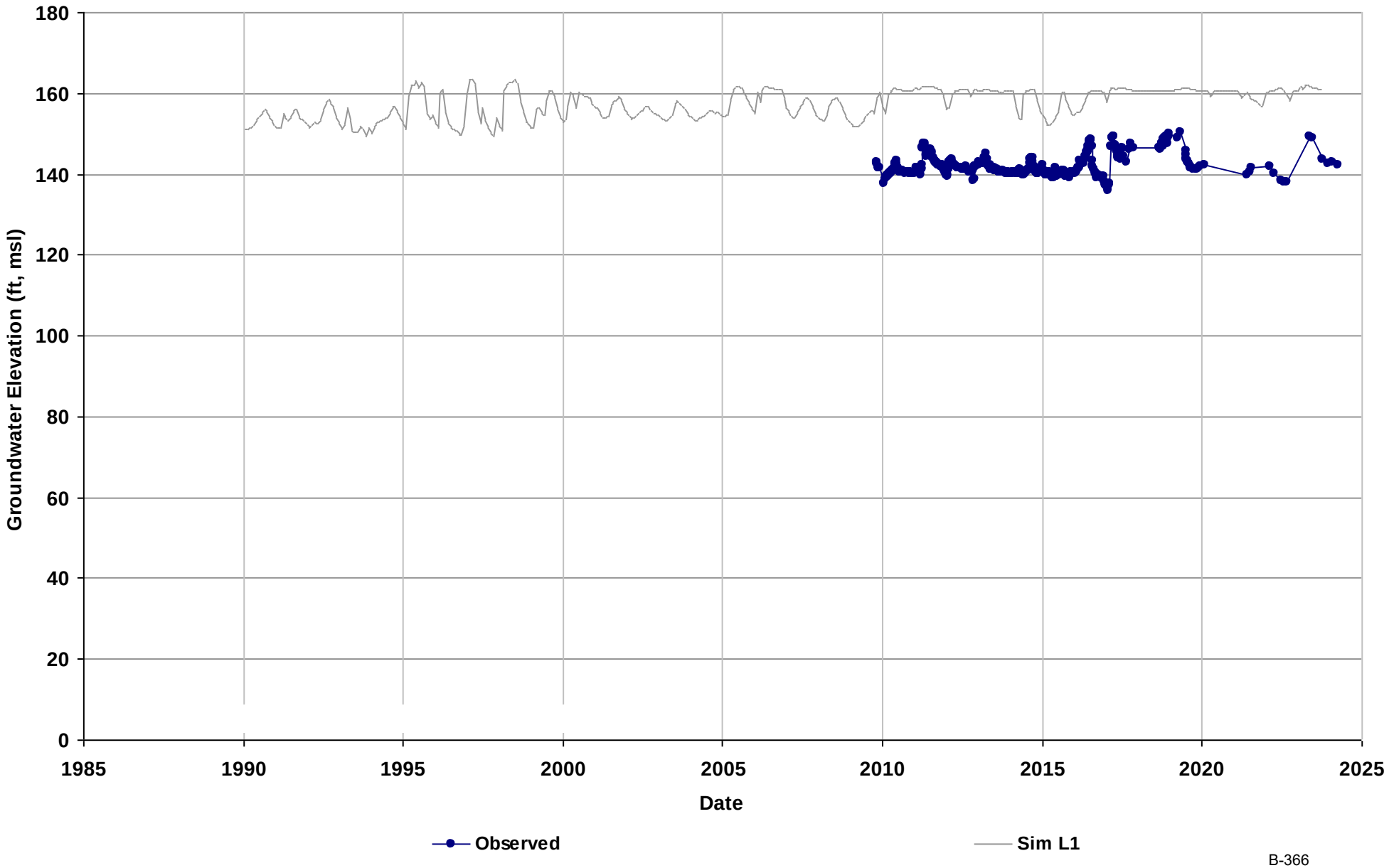
Total Depth (ft): 27.2
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_PZ-09-R2B-2
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 152

Average Residual (feet): 17.58
Layer 1: 17.58
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

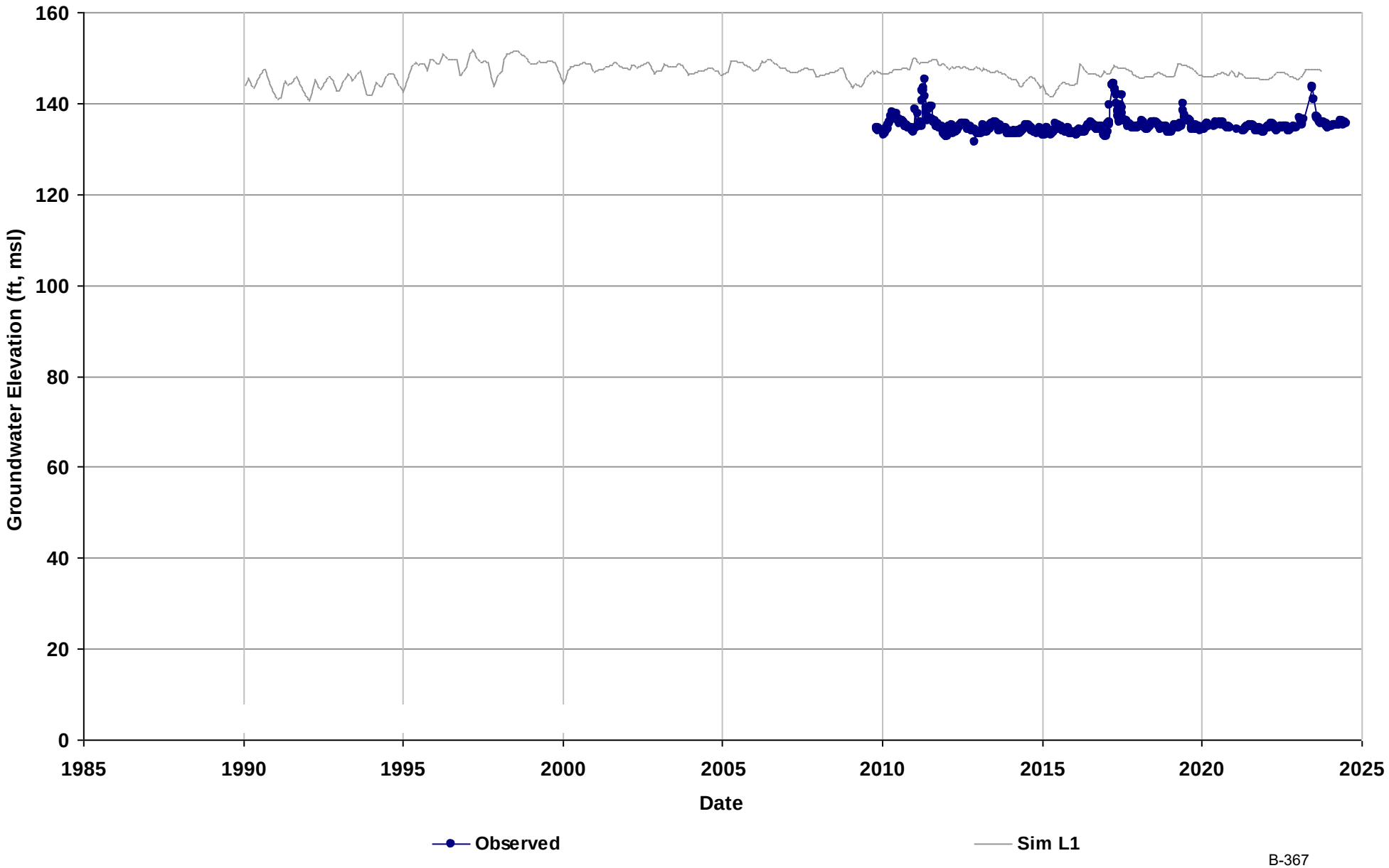
Total Depth (ft): 19.1
Perf Top (ft): 17
Perf Bottom (ft): 20
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_PZ-09-R3-5
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 145

Average Residual (feet): 11.41
Layer 1: 11.41
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

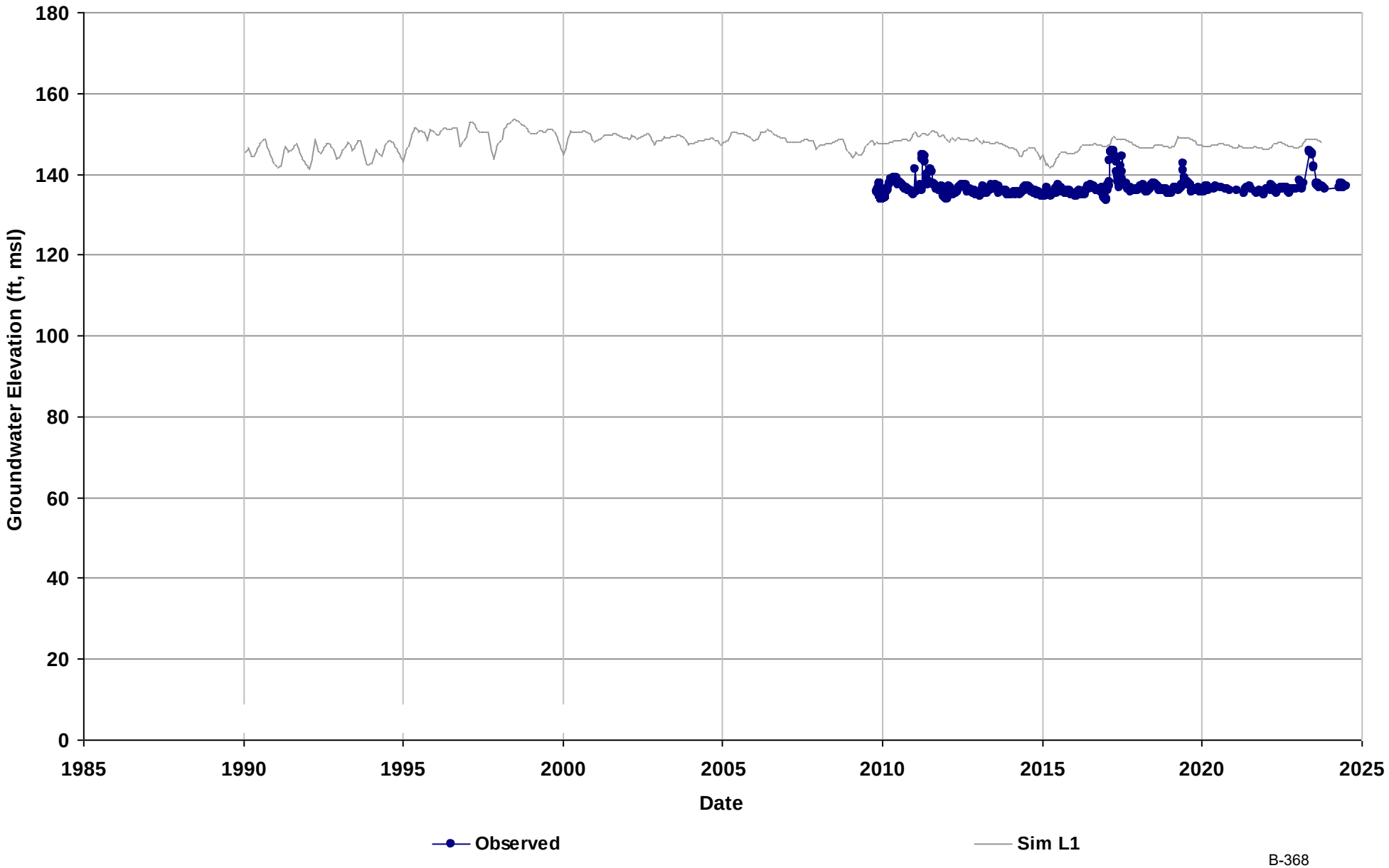
Total Depth (ft): 19
Perf Top (ft): 17
Perf Bottom (ft): 20
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_PZ-09-R3-7
Depth Zone: Shallow
Subbasin: Delta-Mendota
GSE (ft, msl): 144

Average Residual (feet): 12.35
Layer 1: 12.35
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

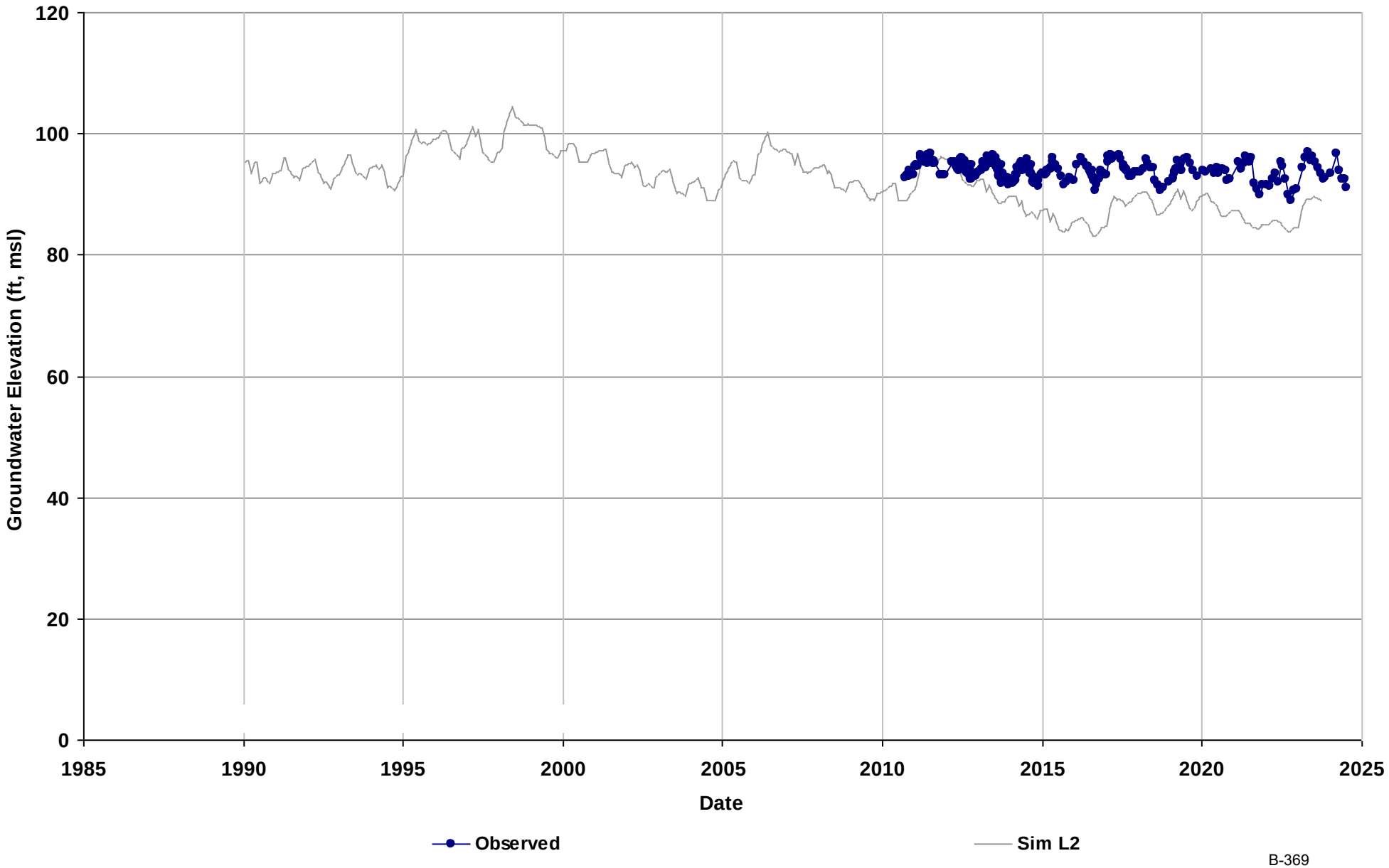
Total Depth (ft): 19.2
Perf Top (ft): 17
Perf Bottom (ft): 20
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_SJR W-1
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 100

Average Residual (feet): -3.18
Layer 1: -1.45
Layer 2: -4.9
Layer 3:
Layer 4:
Layer 5:
Layer 6:

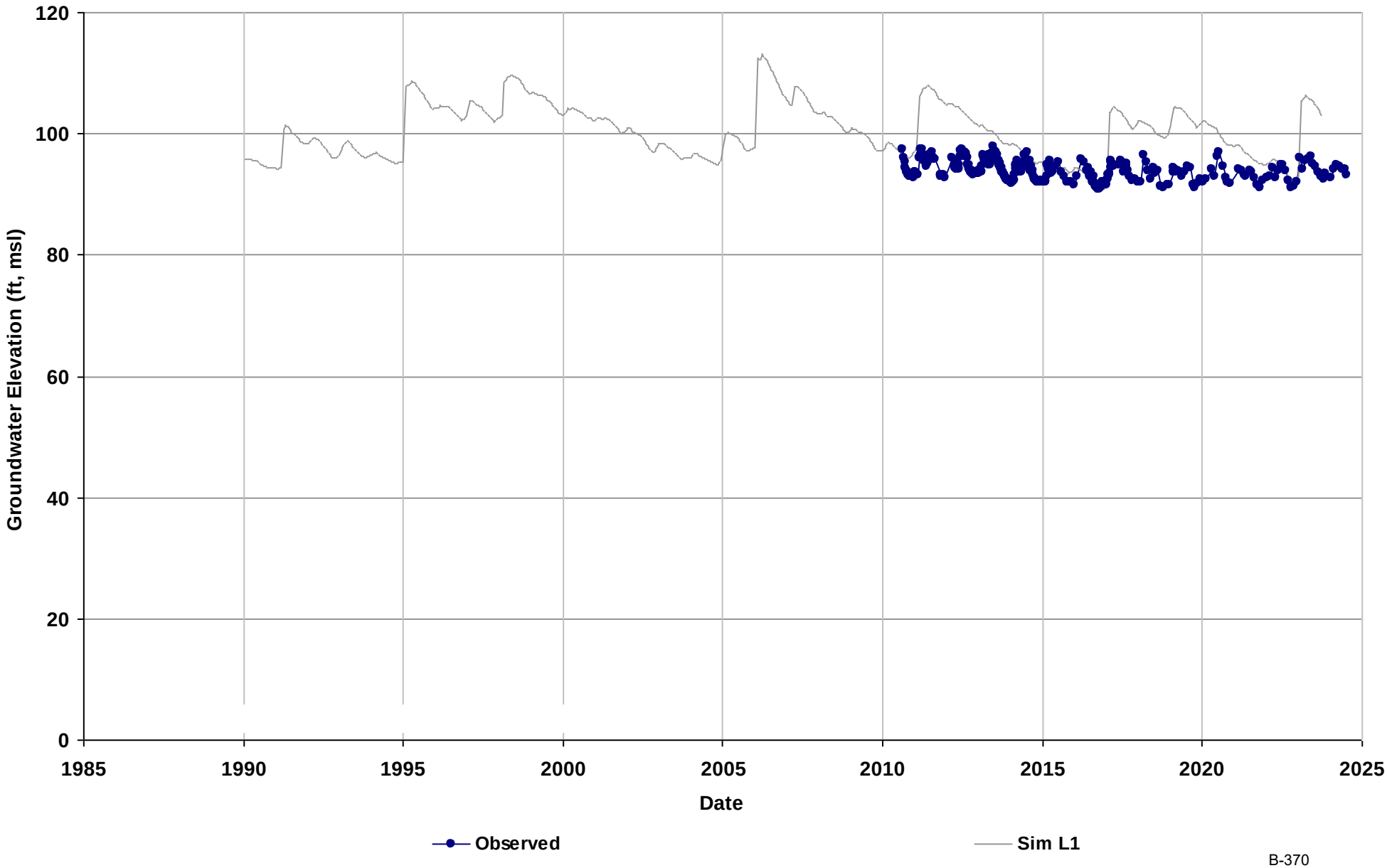
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: SJRRP_SJR W-2
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 103

Average Residual (feet): 5.23
Layer 1: 5.23
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

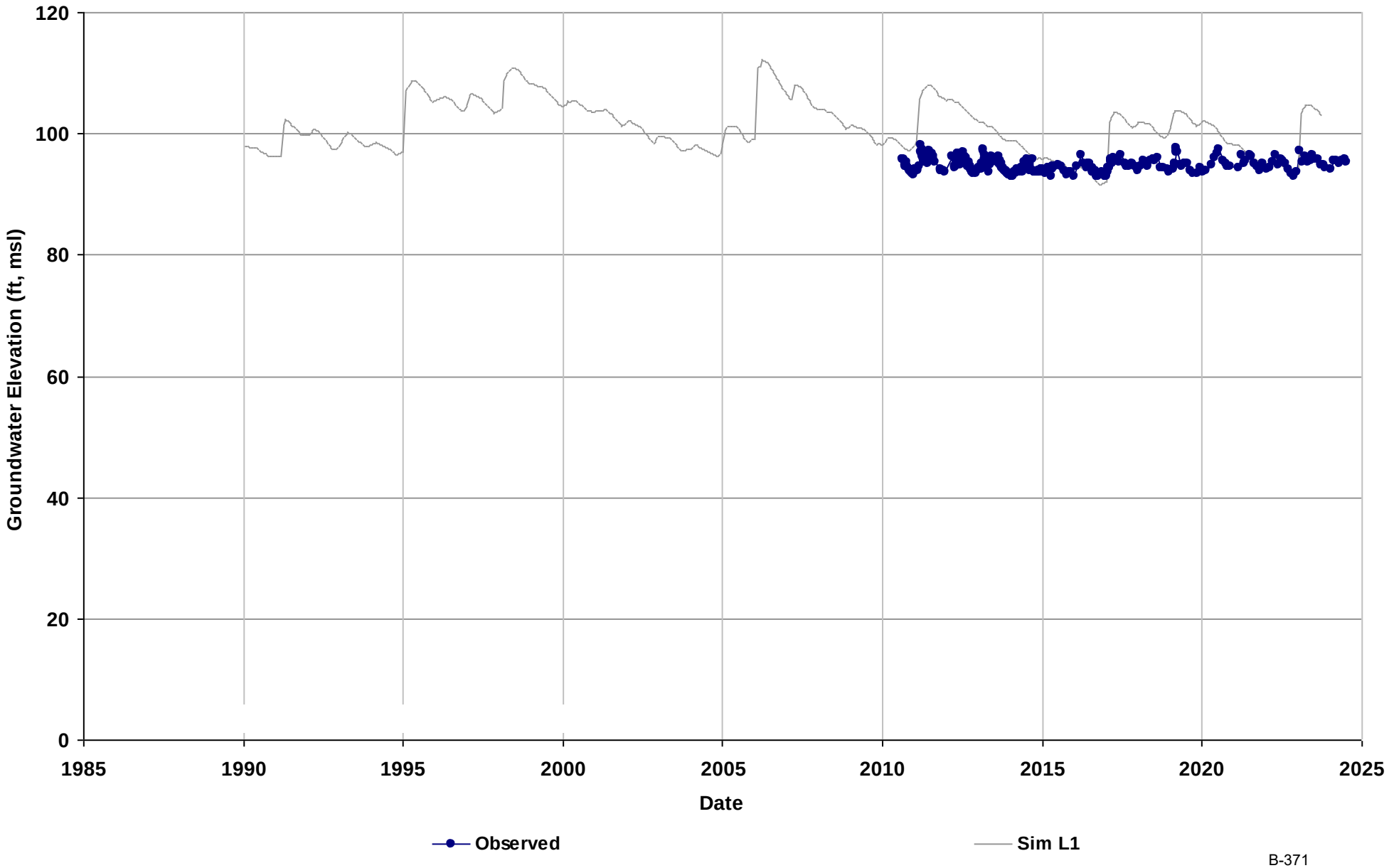
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_SJR W-3
Depth Zone: Unknown
Subbasin: Delta-Mendota
GSE (ft, msl): 102

Average Residual (feet): 4.93
Layer 1: 4.93
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

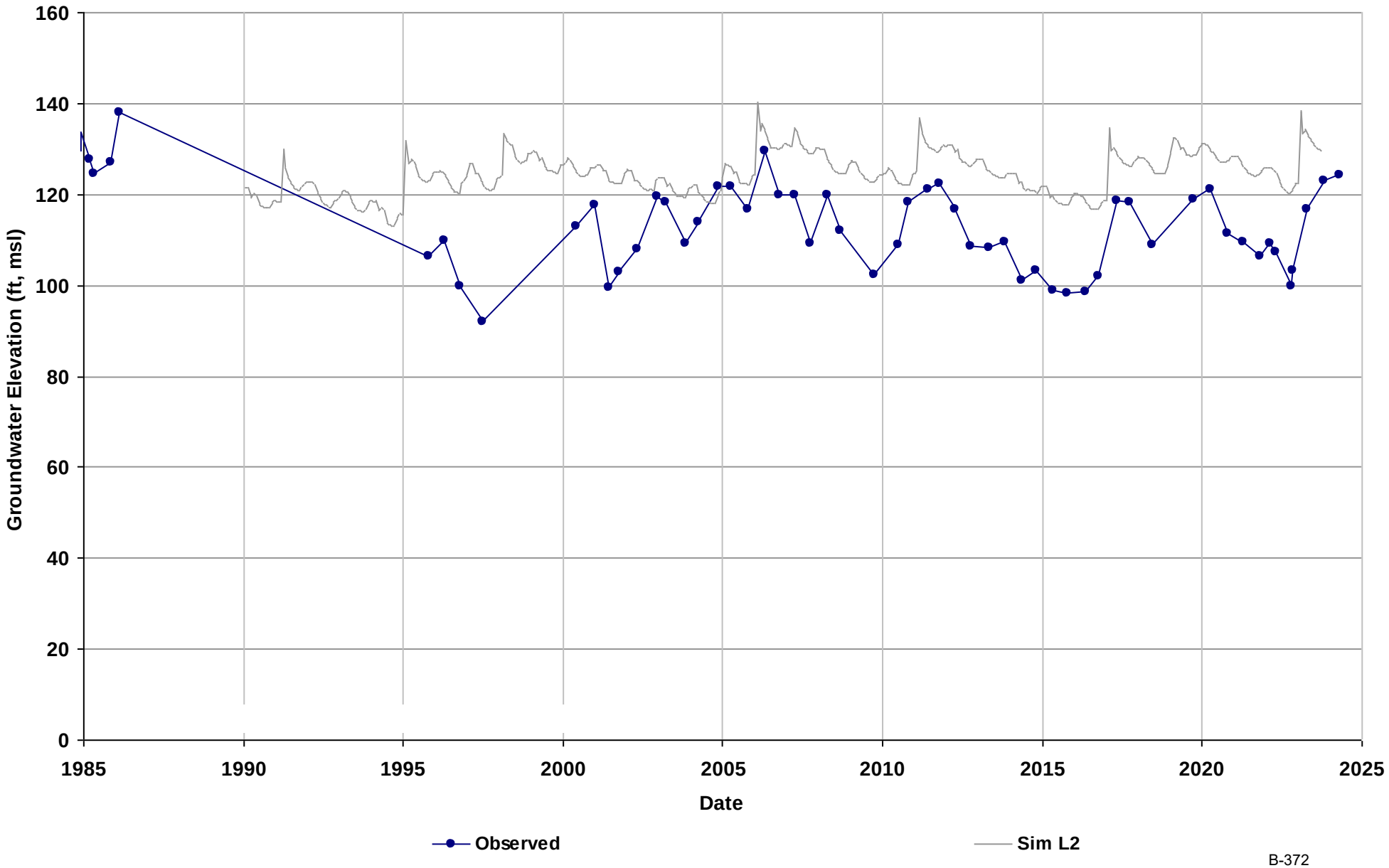
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SPRECK-MW-7
Depth Zone: Upper
Subbasin: Delta-Mendota
GSE (ft, msl): 160

Average Residual (feet): 13.67
Layer 1:
Layer 2: 13.67
Layer 3:
Layer 4:
Layer 5:
Layer 6:

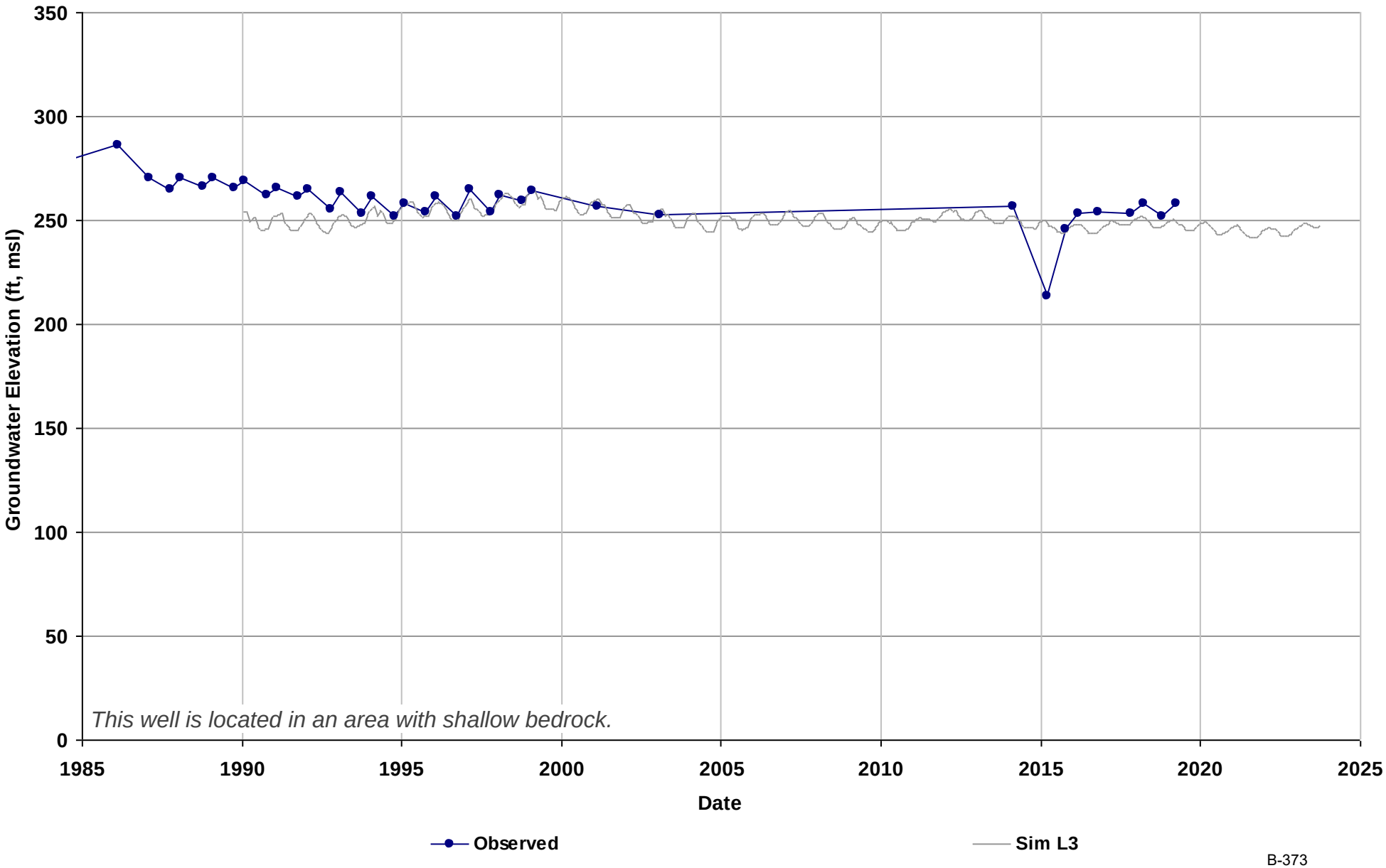
Total Depth (ft): 150
Perf Top (ft): 110
Perf Bottom (ft): 150
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 11S20E36P001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 303

Average Residual (feet): 2.02
Layer 1:
Layer 2: 9.73
Layer 3: -5.68
Layer 4:
Layer 5:
Layer 6:

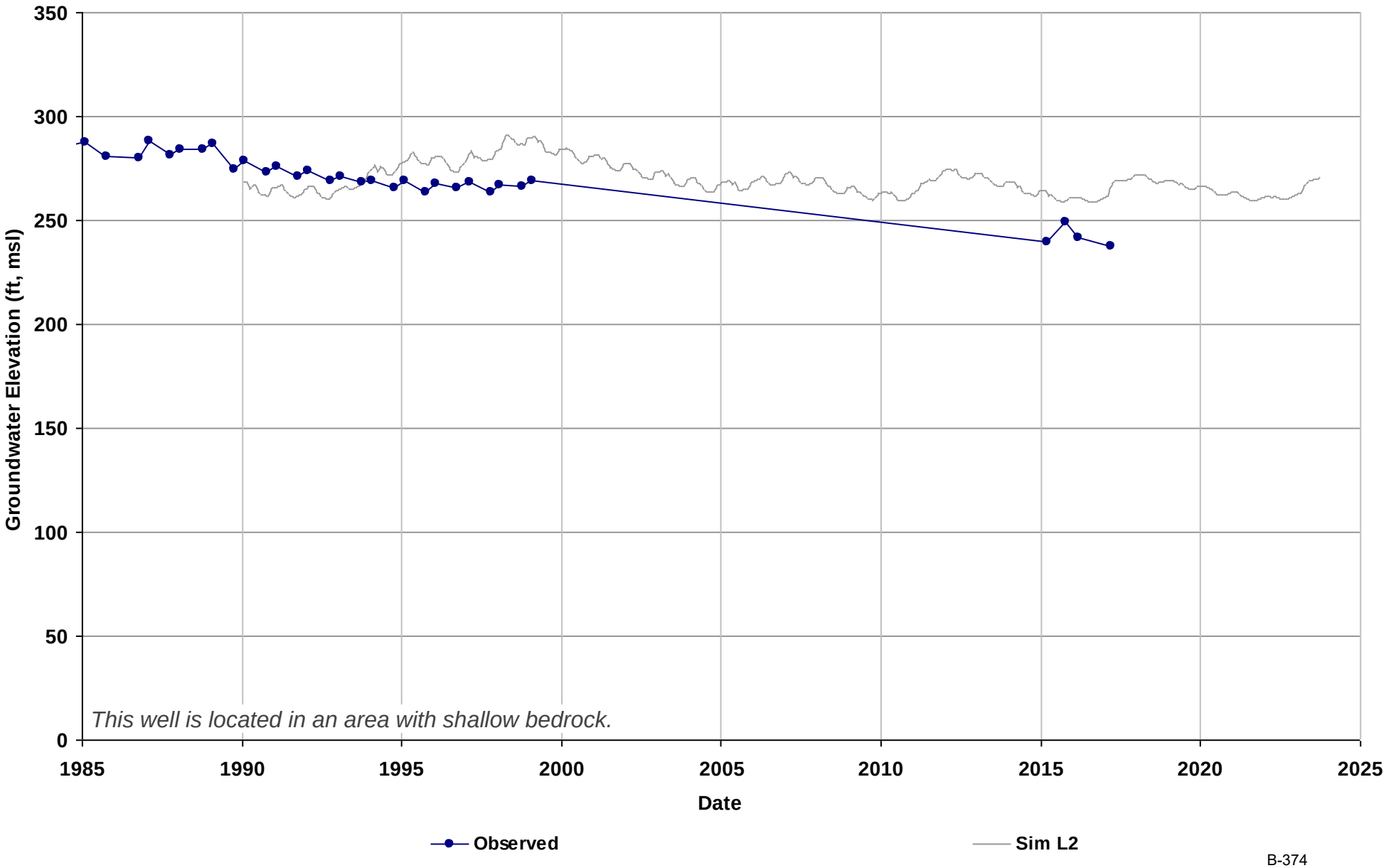
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S20E01H001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 317

Average Residual (feet): -2.45
Layer 1:
Layer 2: 4.51
Layer 3: -9.41
Layer 4:
Layer 5:
Layer 6:

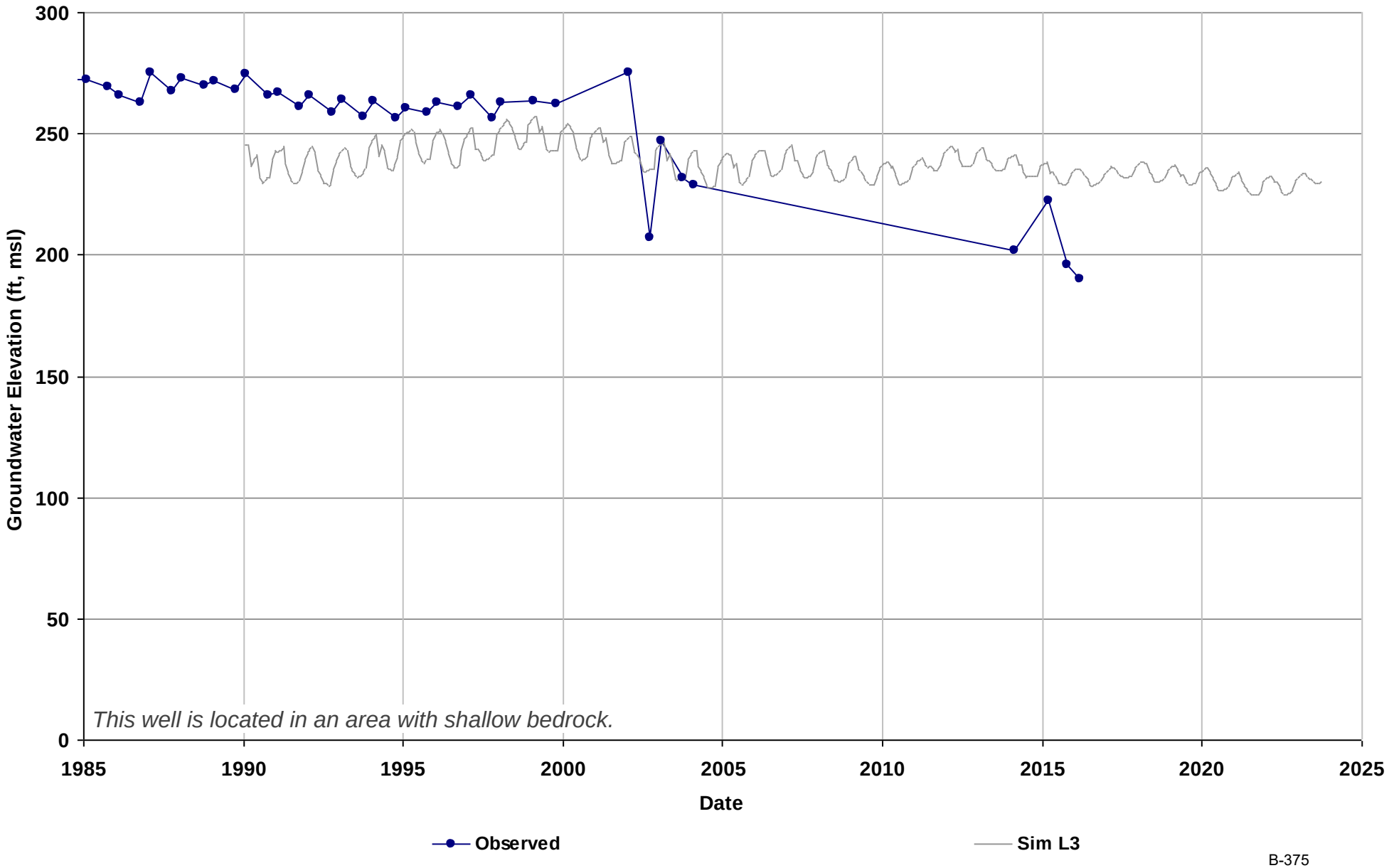
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S20E02R001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 300

Average Residual (feet): -10.46
Layer 1:
Layer 2:
Layer 3: -10.46
Layer 4:
Layer 5:
Layer 6:

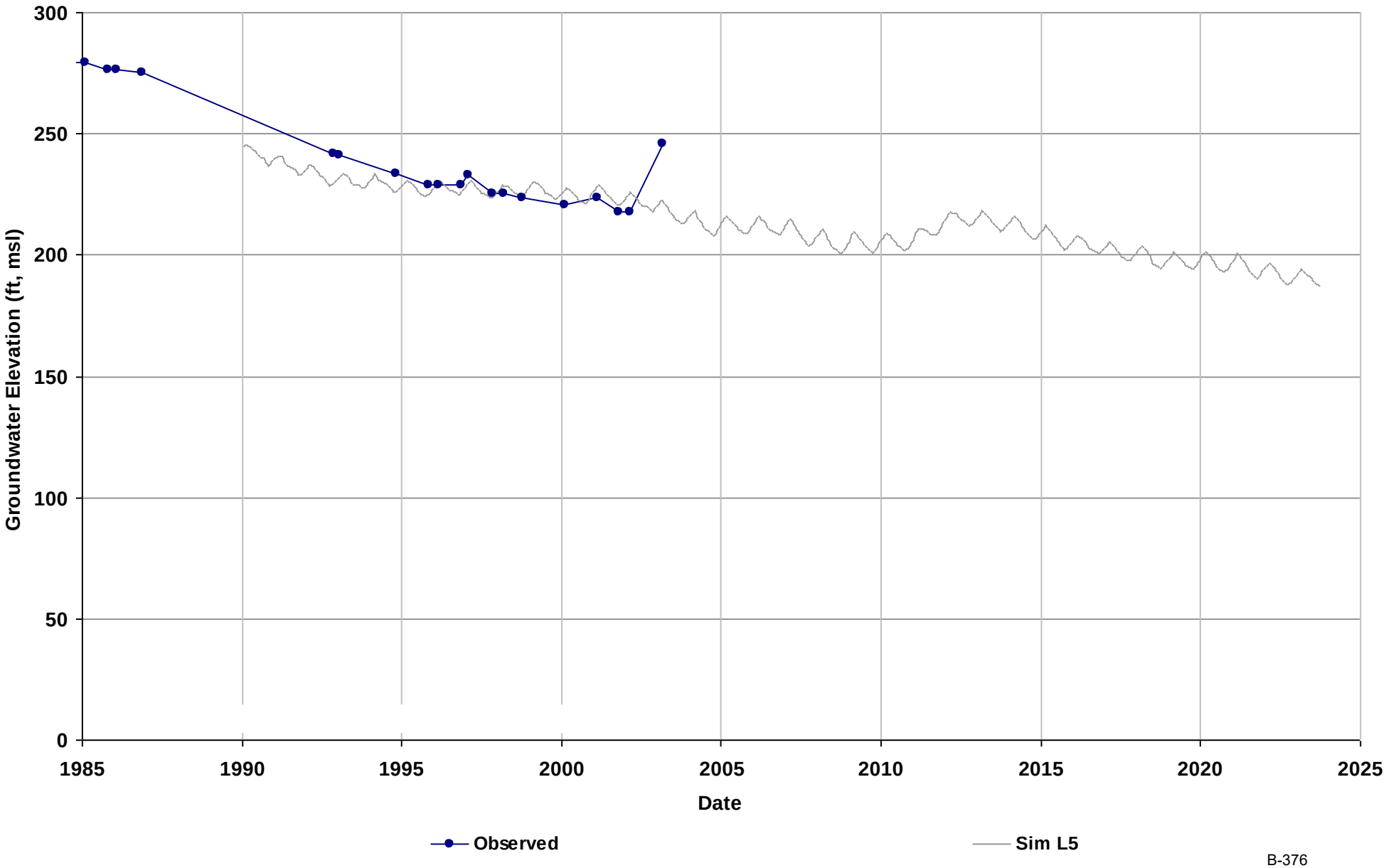
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S20E25E002M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 364

Average Residual (feet): -2.66
Layer 1:
Layer 2:
Layer 3:
Layer 4: -3.16
Layer 5: -2.65
Layer 6: -2.18

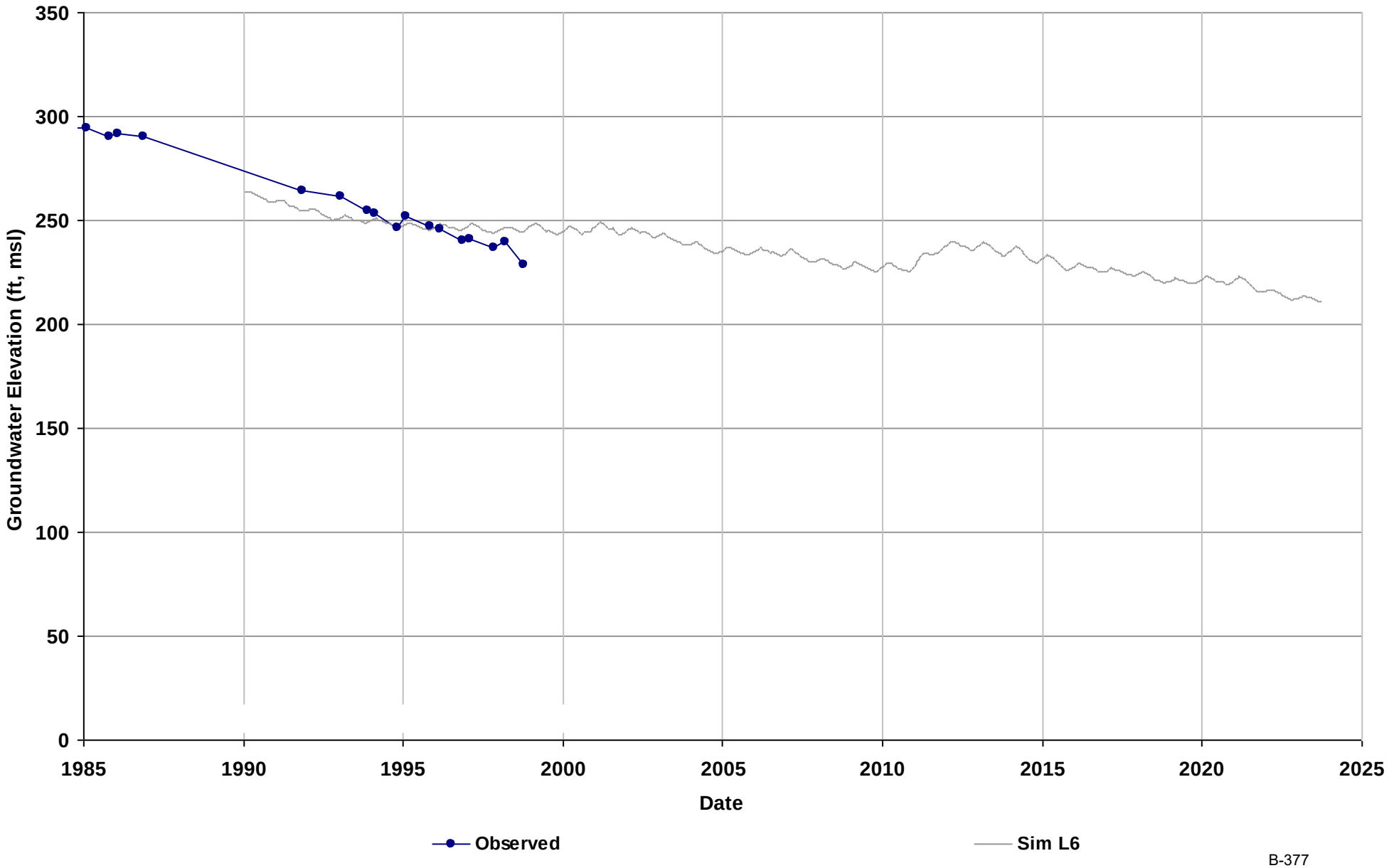
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



Well Name: 12S20E25H001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 368

Average Residual (feet): 0.73
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6: 0.73

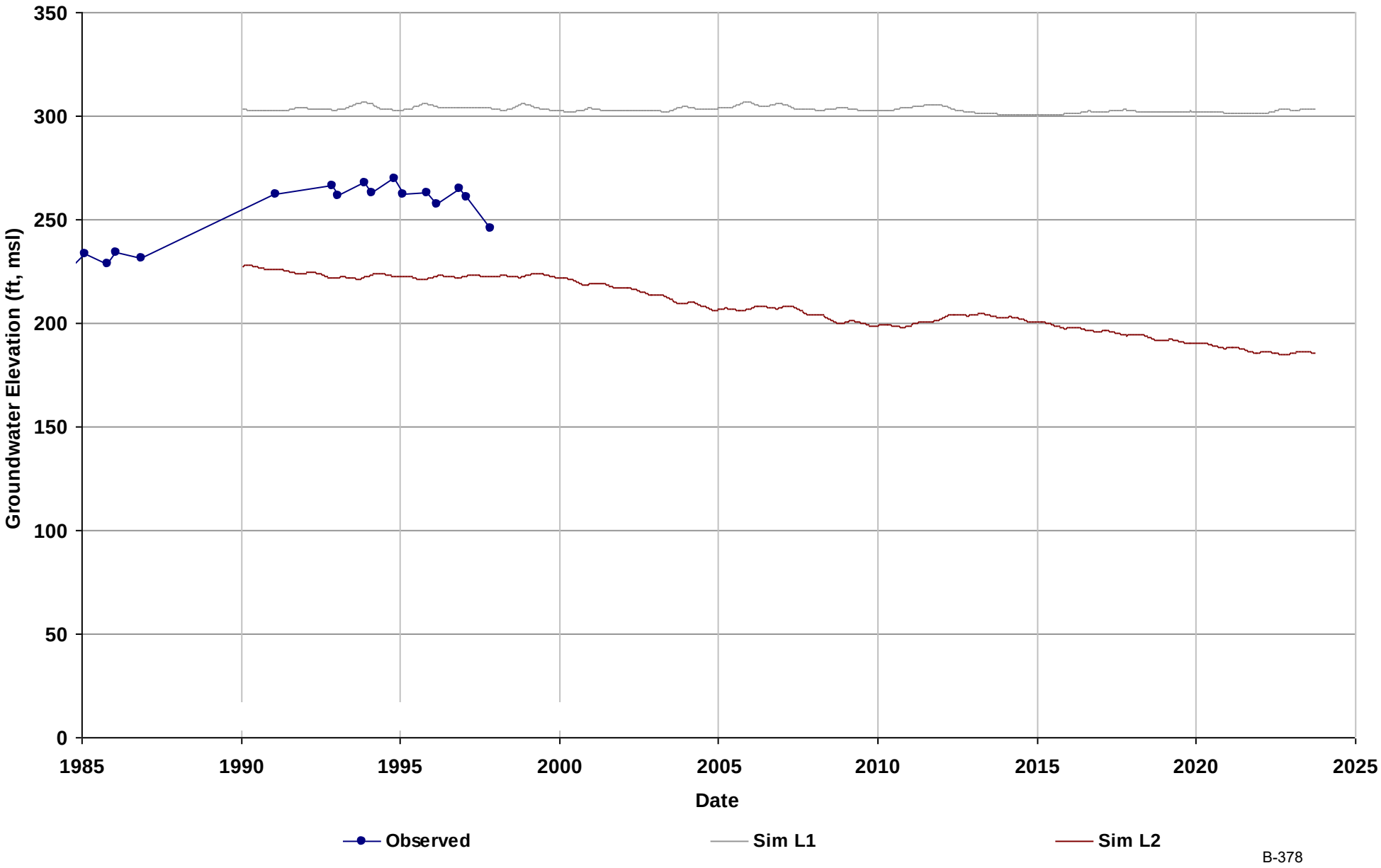
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 12S20E34N002M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 342

Average Residual (feet): 1.33
Layer 1: 42.09
Layer 2: -39.44
Layer 3:
Layer 4:
Layer 5:
Layer 6:

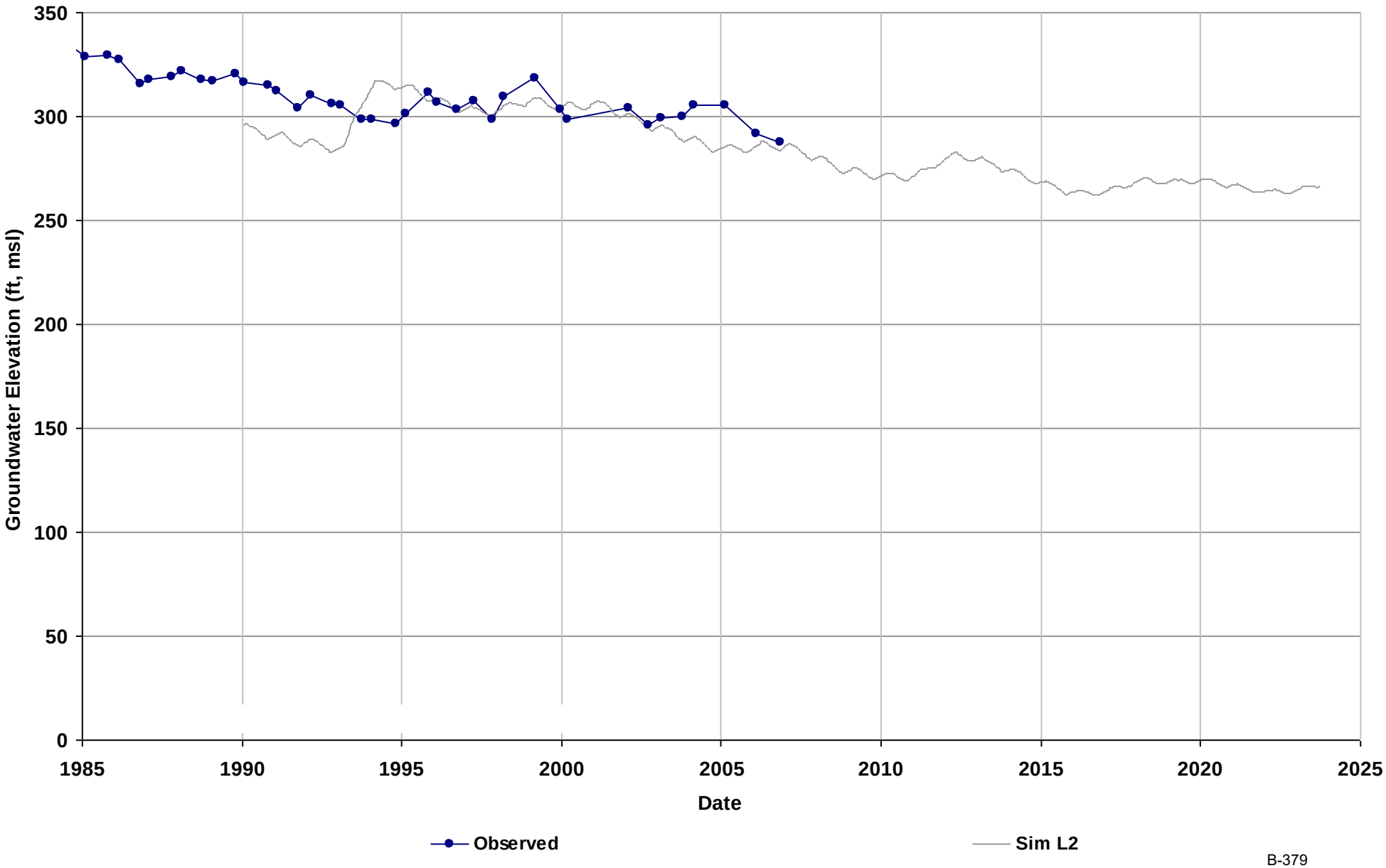
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 2



Well Name: 12S21E17L001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 390

Average Residual (feet): -7.25
Layer 1:
Layer 2: -7.25
Layer 3:
Layer 4:
Layer 5:
Layer 6:

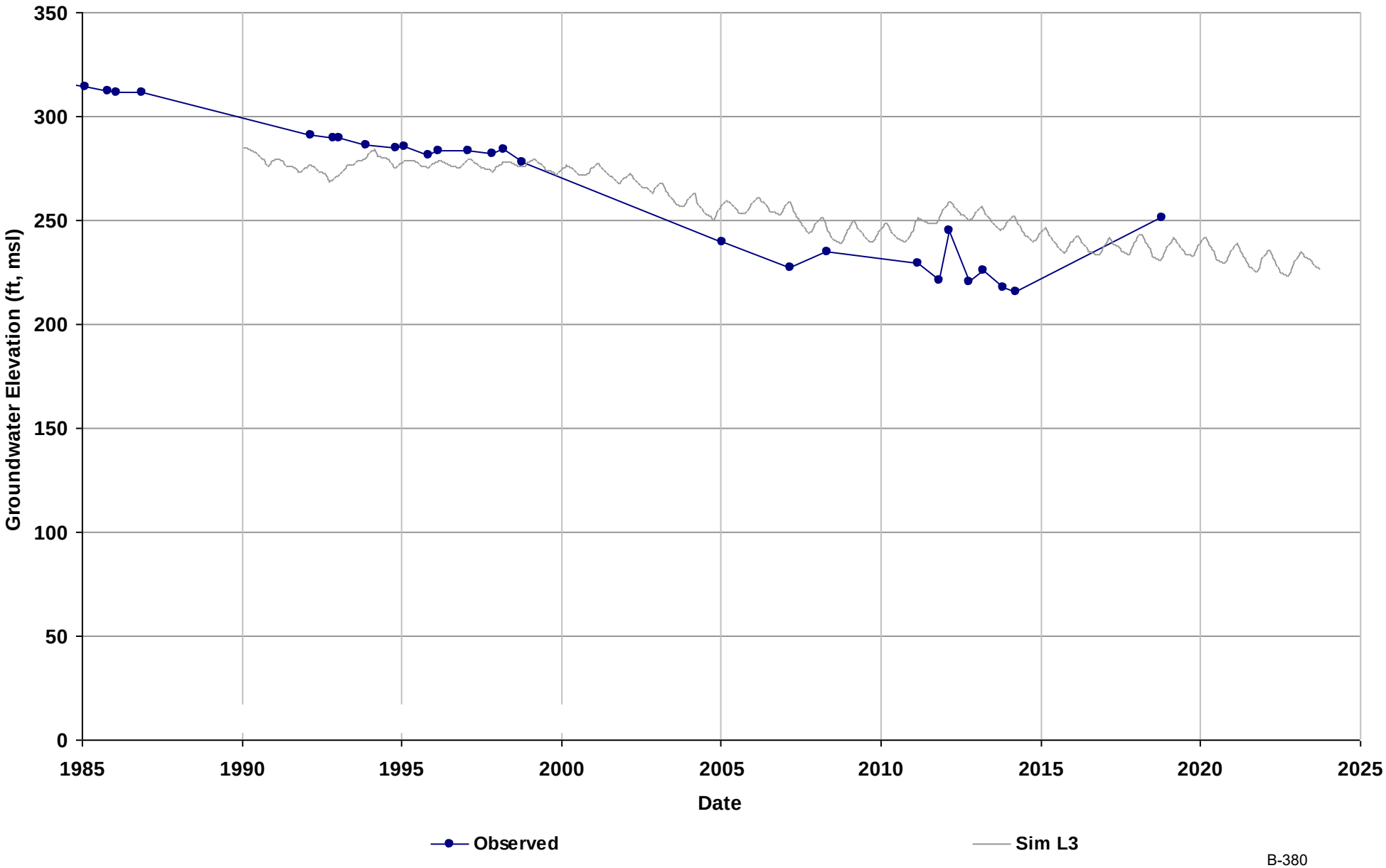
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 12S21E19Q001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 375

Average Residual (feet): 7.37
Layer 1:
Layer 2:
Layer 3: 7.37
Layer 4:
Layer 5:
Layer 6:

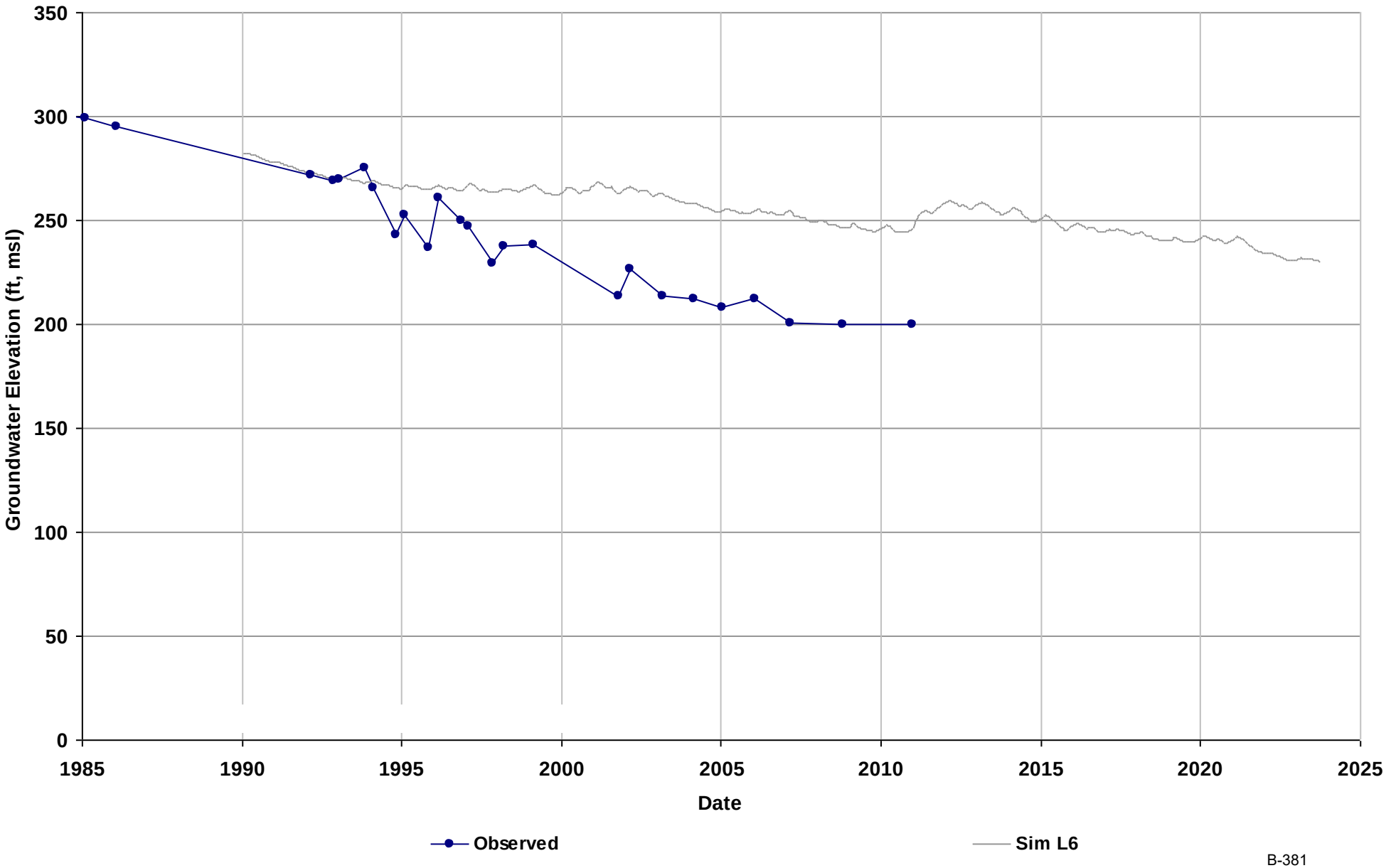
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



Well Name: 12S21E31C001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 365

Average Residual (feet): 27.27
Layer 1:
Layer 2: 28.19
Layer 3: 27.62
Layer 4: 27.05
Layer 5: 26.99
Layer 6: 26.51

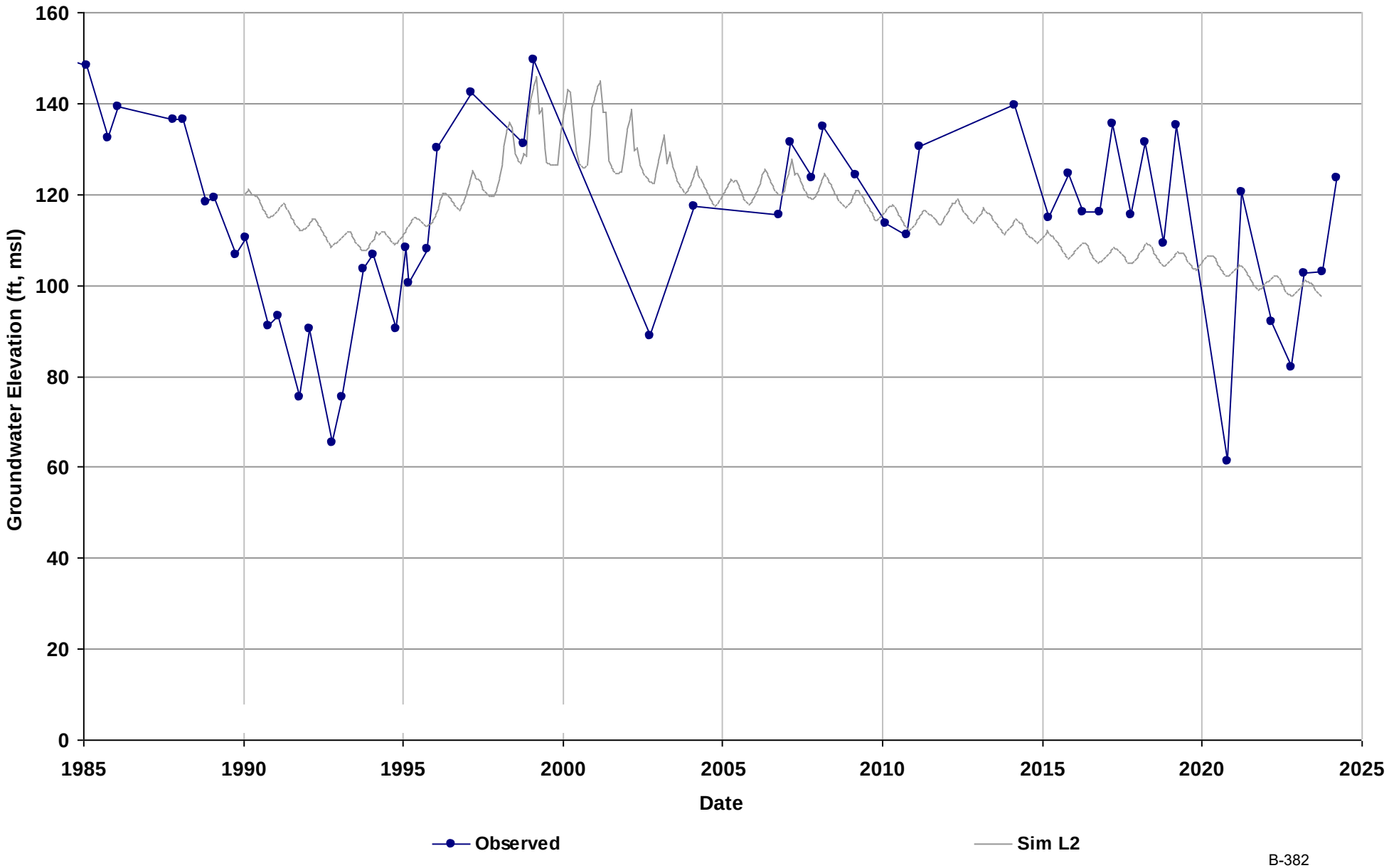
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S16E27C001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 188

Average Residual (feet): -7.15
Layer 1:
Layer 2: 2.51
Layer 3: -9.89
Layer 4: -9.67
Layer 5: -9.39
Layer 6: -9.3

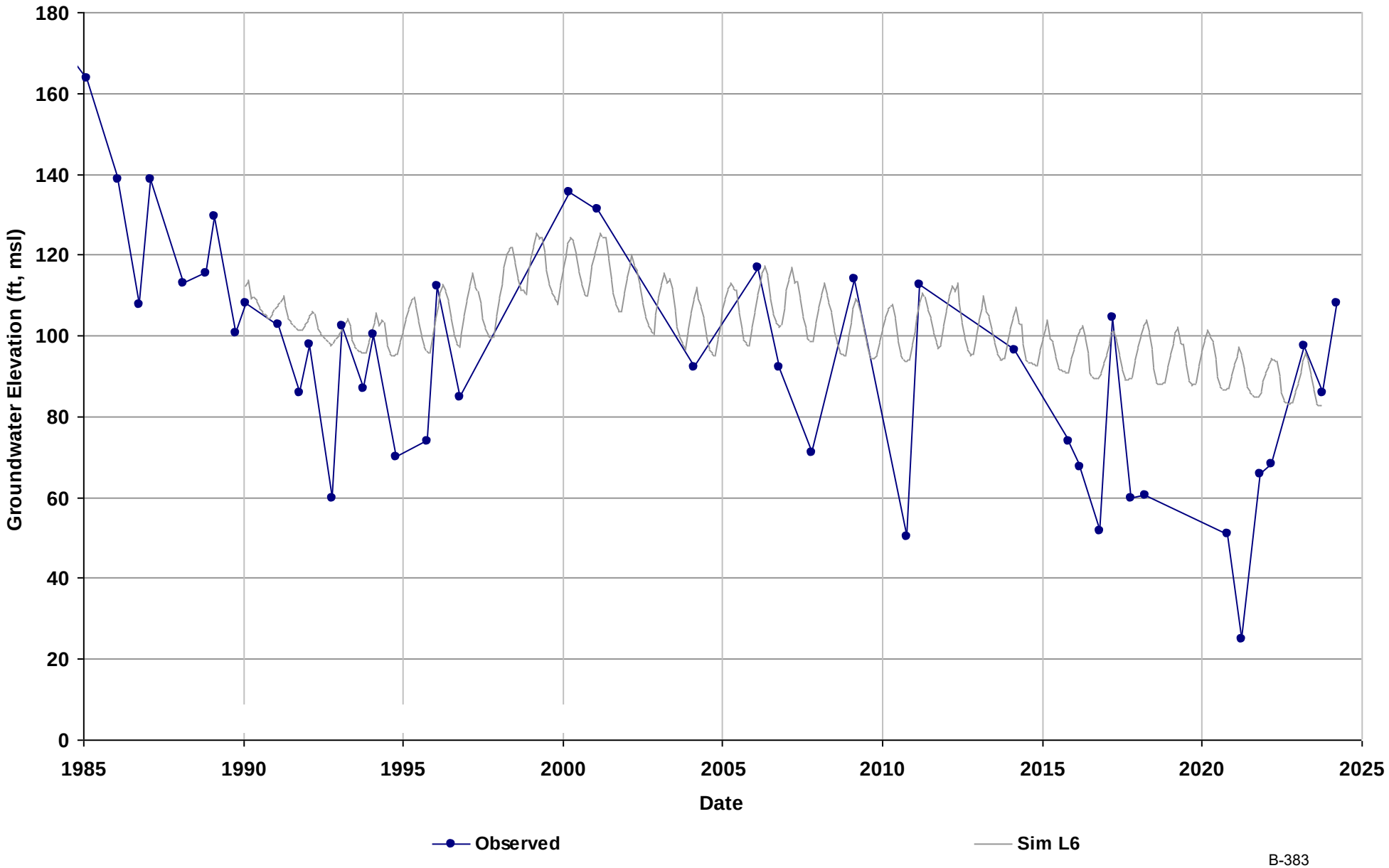
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 13S16E30L003M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 177

Average Residual (feet): 13.93
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 14.1
Layer 6: 13.76

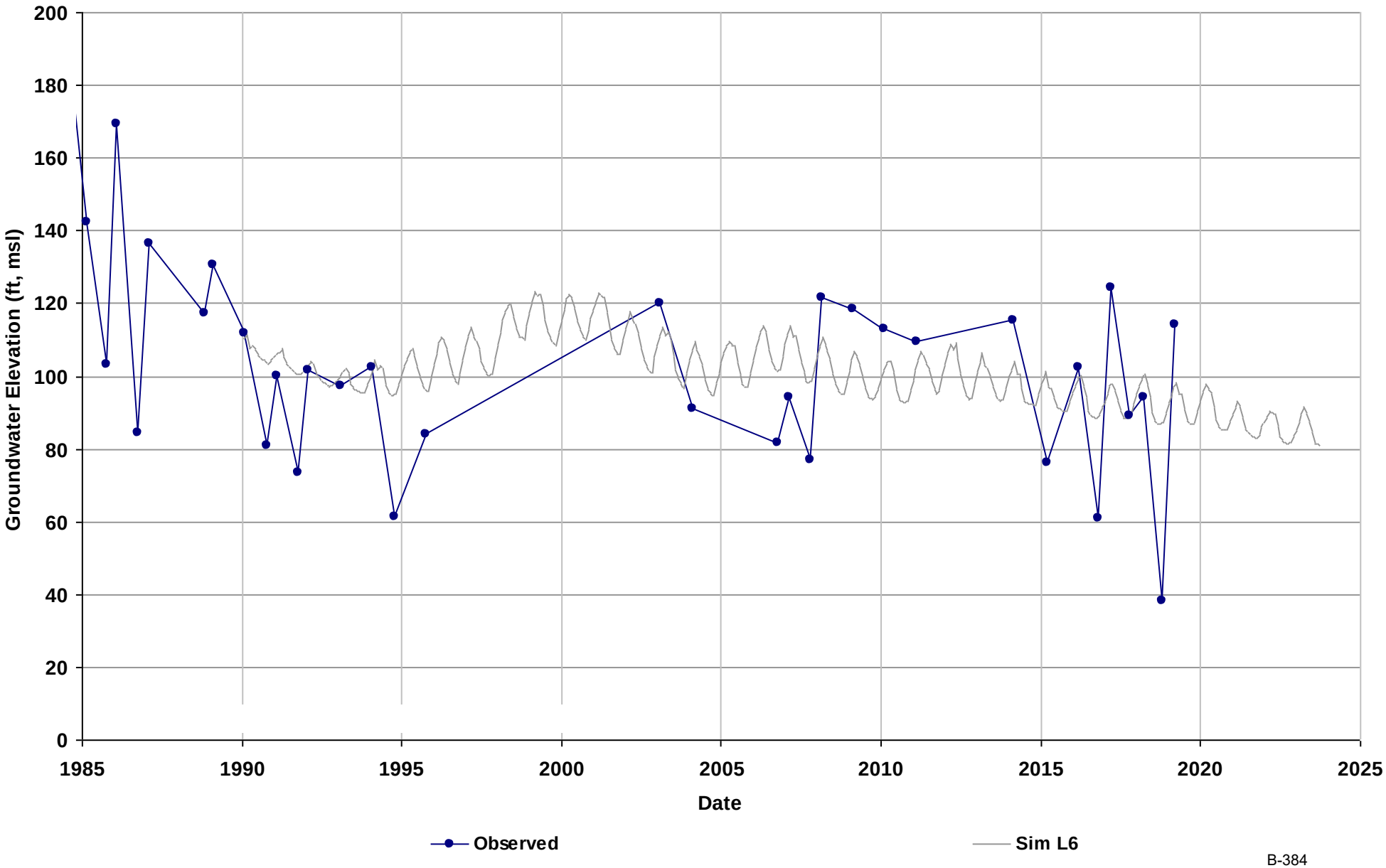
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S16E32E001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 177

Average Residual (feet): 5.37
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 5.7
Layer 6: 5.04

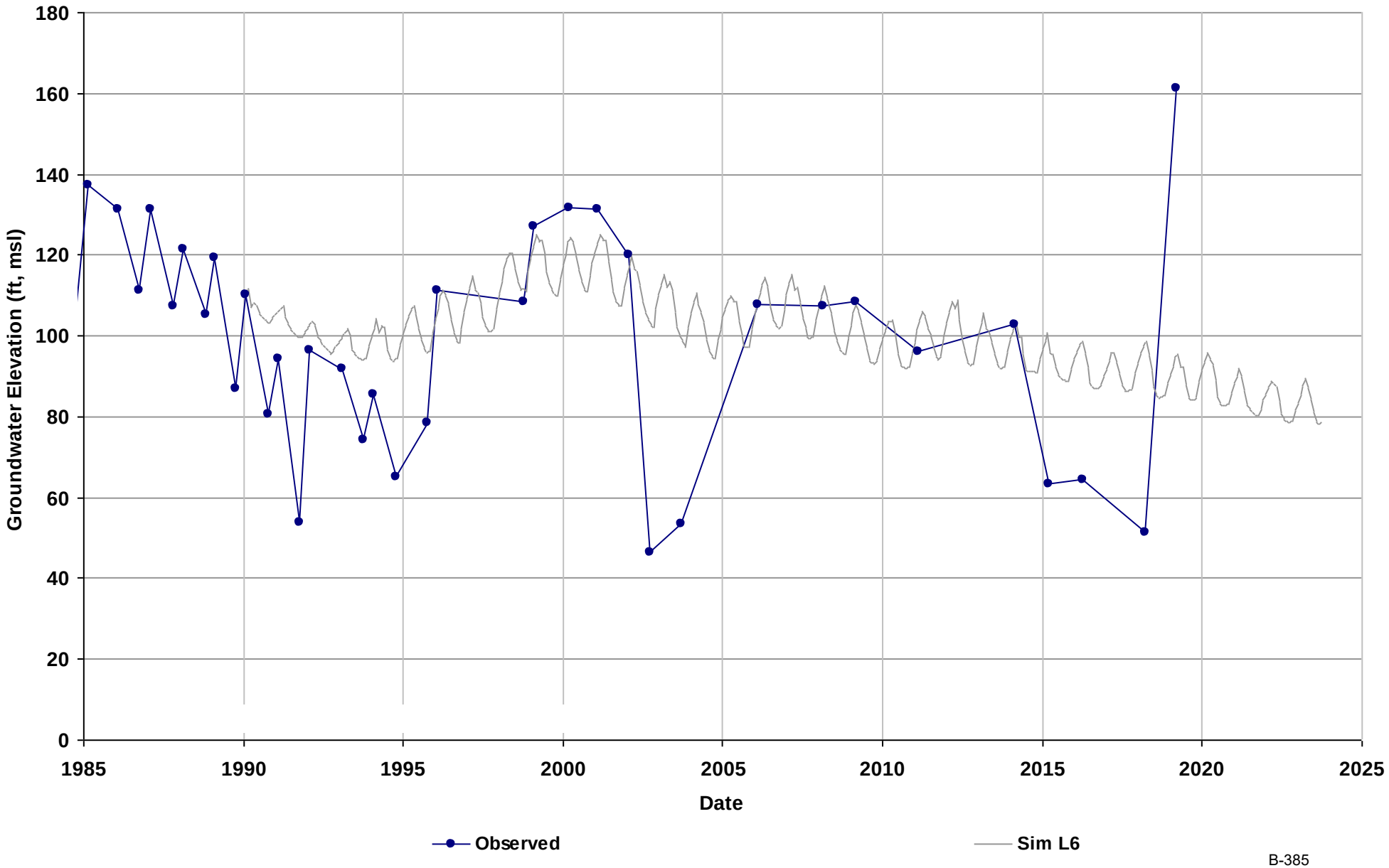
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S16E33B002M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 178

Average Residual (feet): 11.56
Layer 1:
Layer 2:
Layer 3:
Layer 4: 12.32
Layer 5: 11.38
Layer 6: 10.99

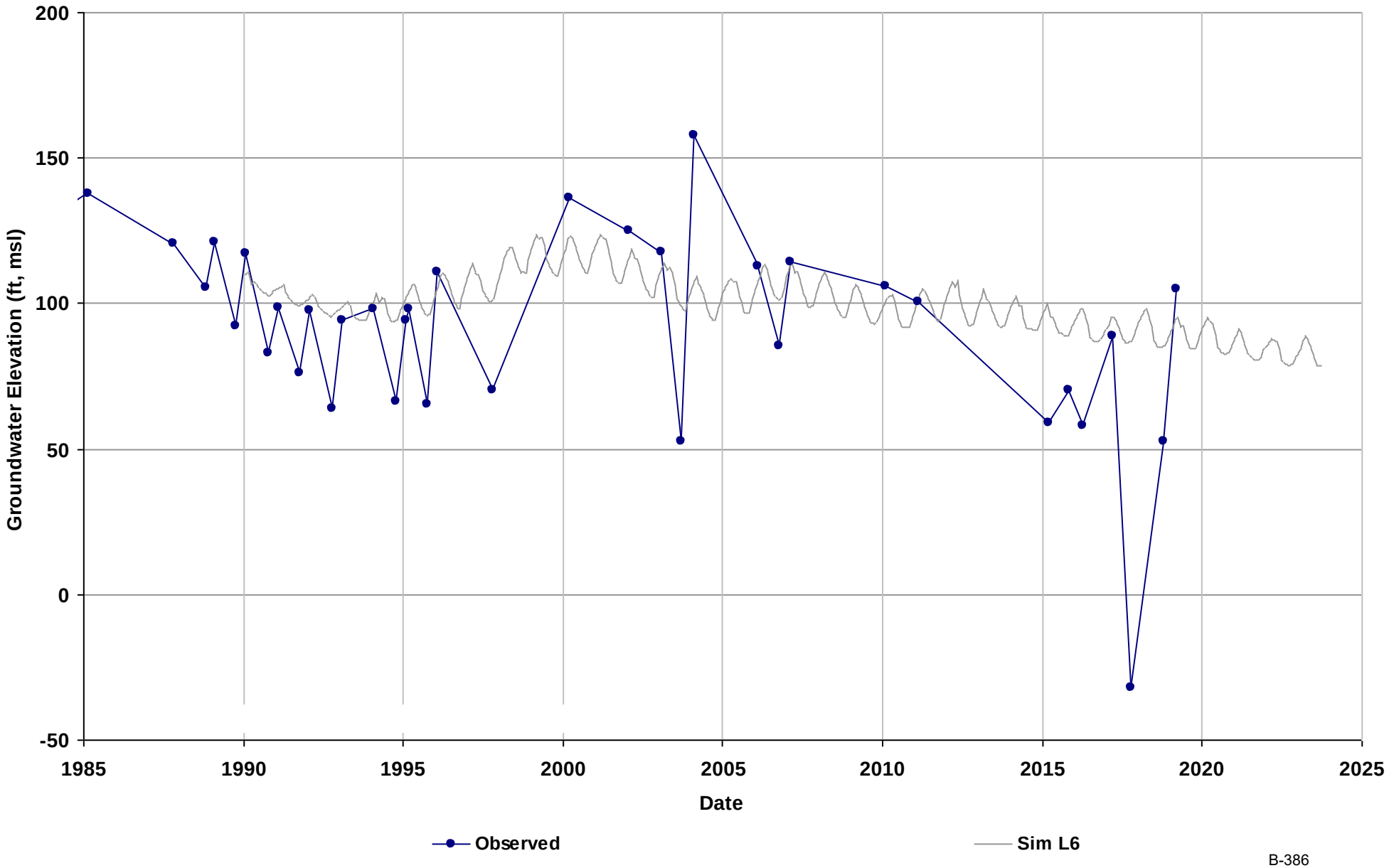
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S16E33F001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 177

Average Residual (feet): 12.67
Layer 1:
Layer 2:
Layer 3:
Layer 4: 13.59
Layer 5: 12.44
Layer 6: 11.98

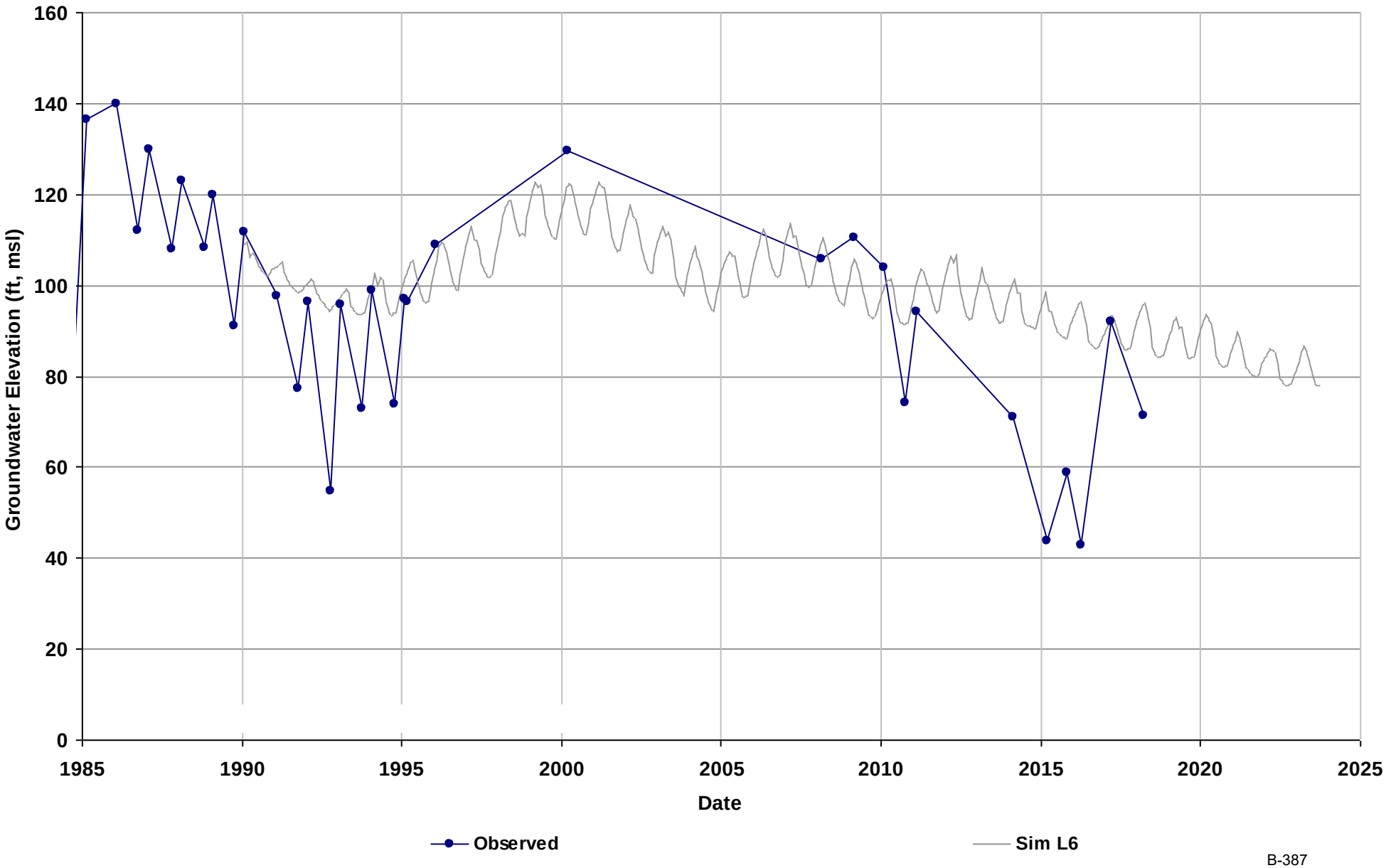
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S16E33J001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 178

Average Residual (feet): 12.85
Layer 1:
Layer 2:
Layer 3:
Layer 4: 13.87
Layer 5: 12.61
Layer 6: 12.08

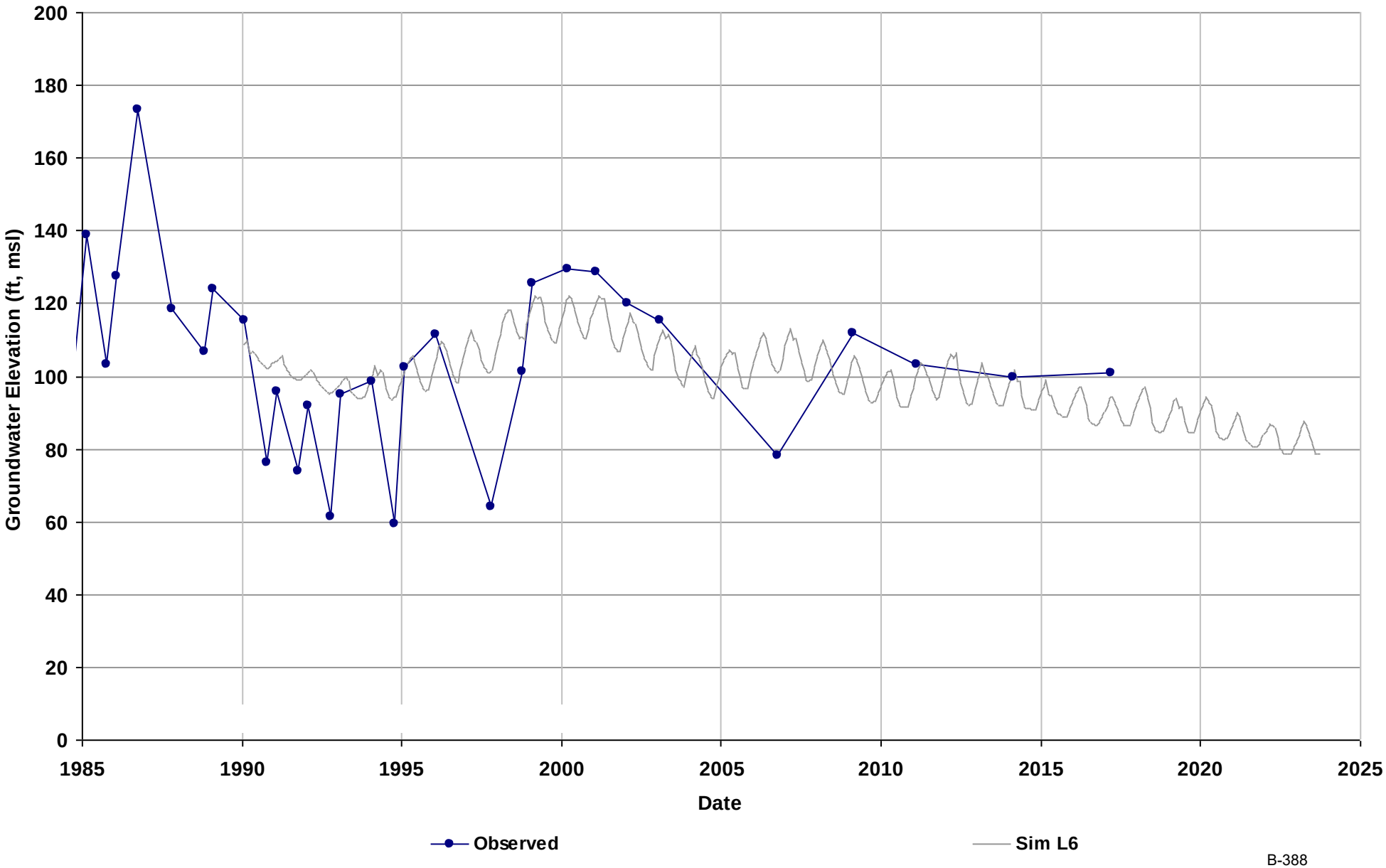
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S16E33L001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 177

Average Residual (feet): 5.65
Layer 1:
Layer 2:
Layer 3:
Layer 4:
Layer 5: 5.95
Layer 6: 5.35

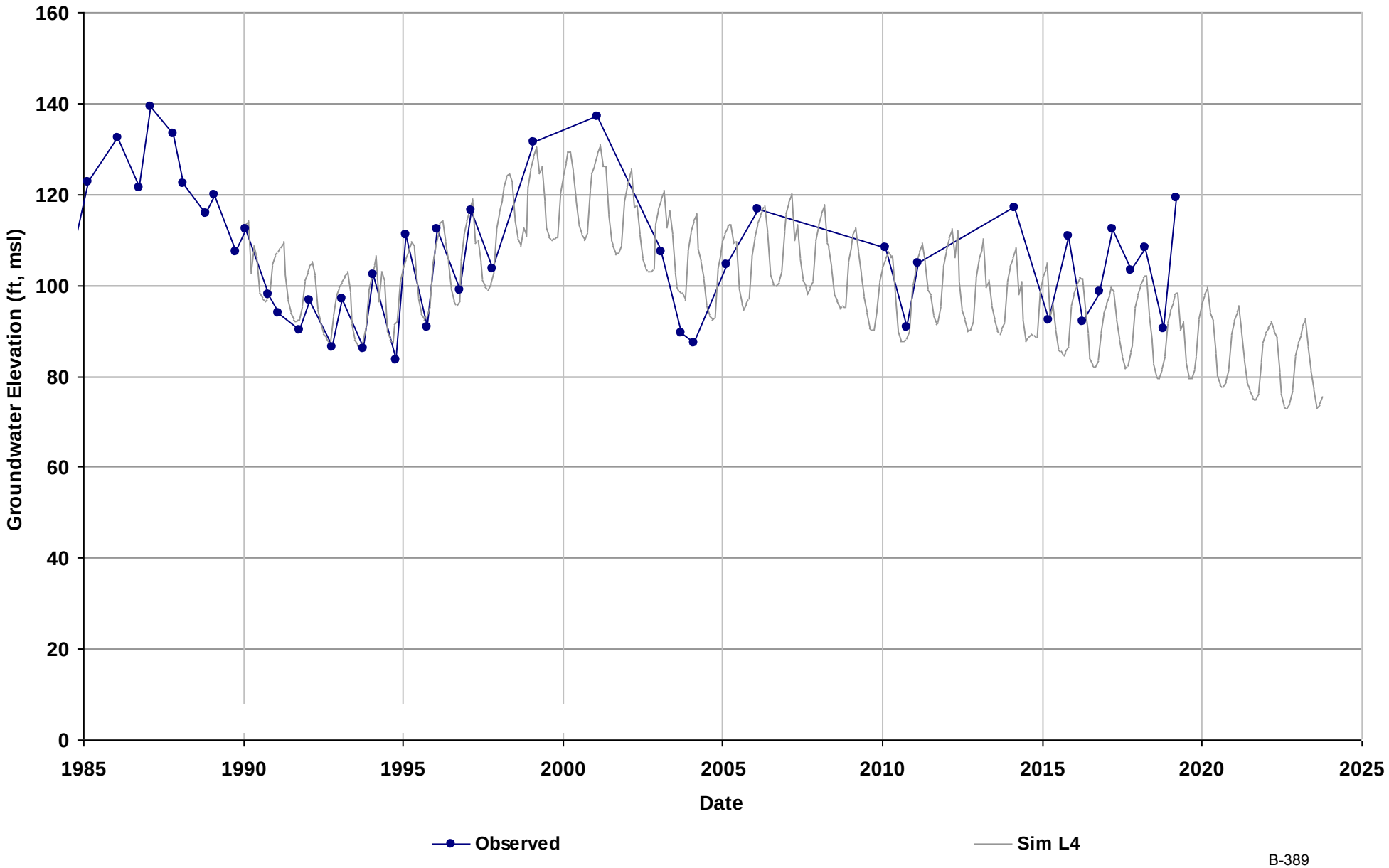
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S16E34C001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 184

Average Residual (feet): -1.3
Layer 1:
Layer 2:
Layer 3:
Layer 4: -1
Layer 5: -1.36
Layer 6: -1.55

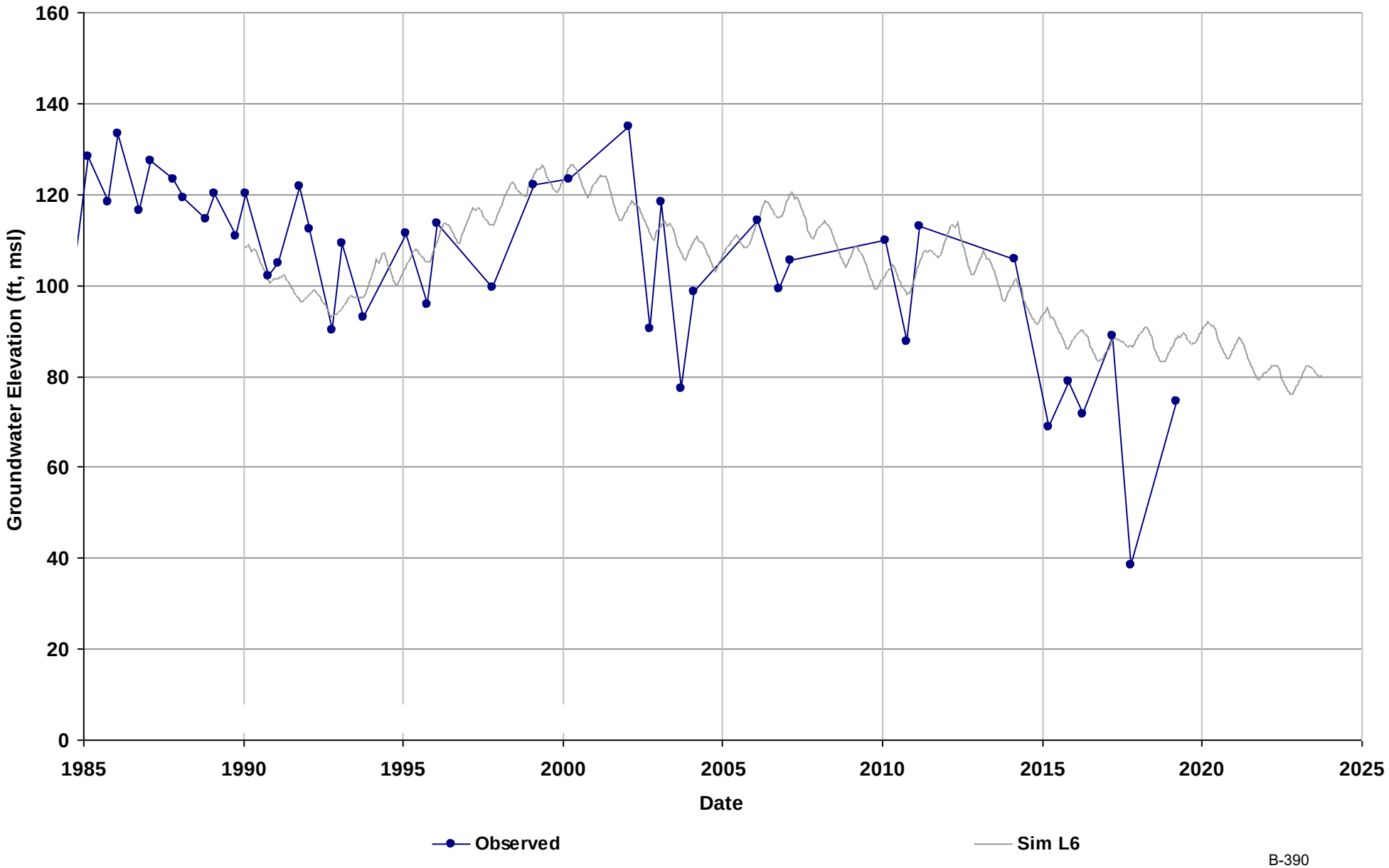
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 13S16E36R004M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 197

Average Residual (feet): 3.87
Layer 1:
Layer 2:
Layer 3: 5.24
Layer 4: 3.92
Layer 5: 3.19
Layer 6: 3.14

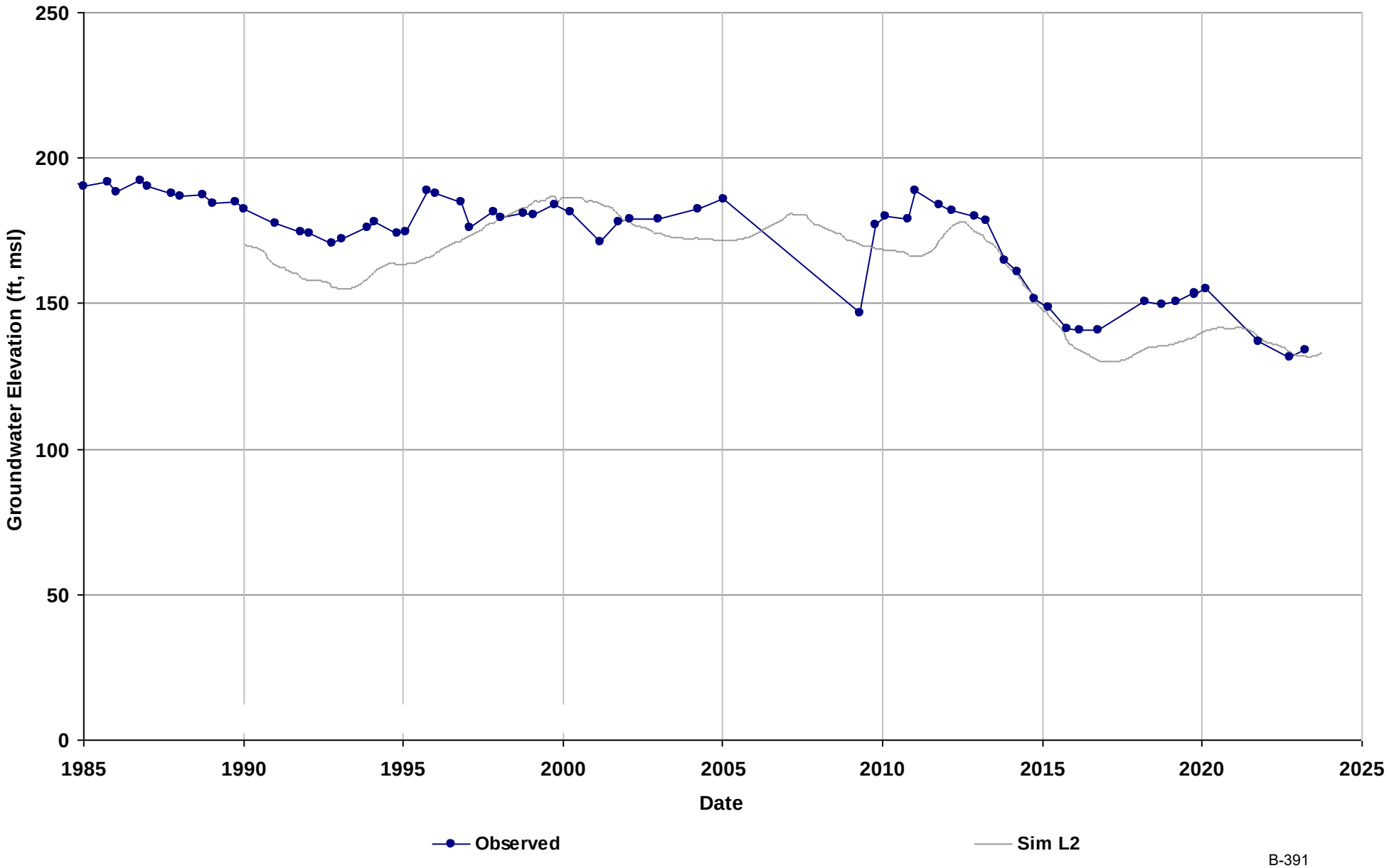
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S17E25C001M
Depth Zone: Upper
Subbasin: Kings
GSE (ft, msl): 234

Average Residual (feet): -7.68
Layer 1:
Layer 2: -7.68
Layer 3:
Layer 4:
Layer 5:
Layer 6:

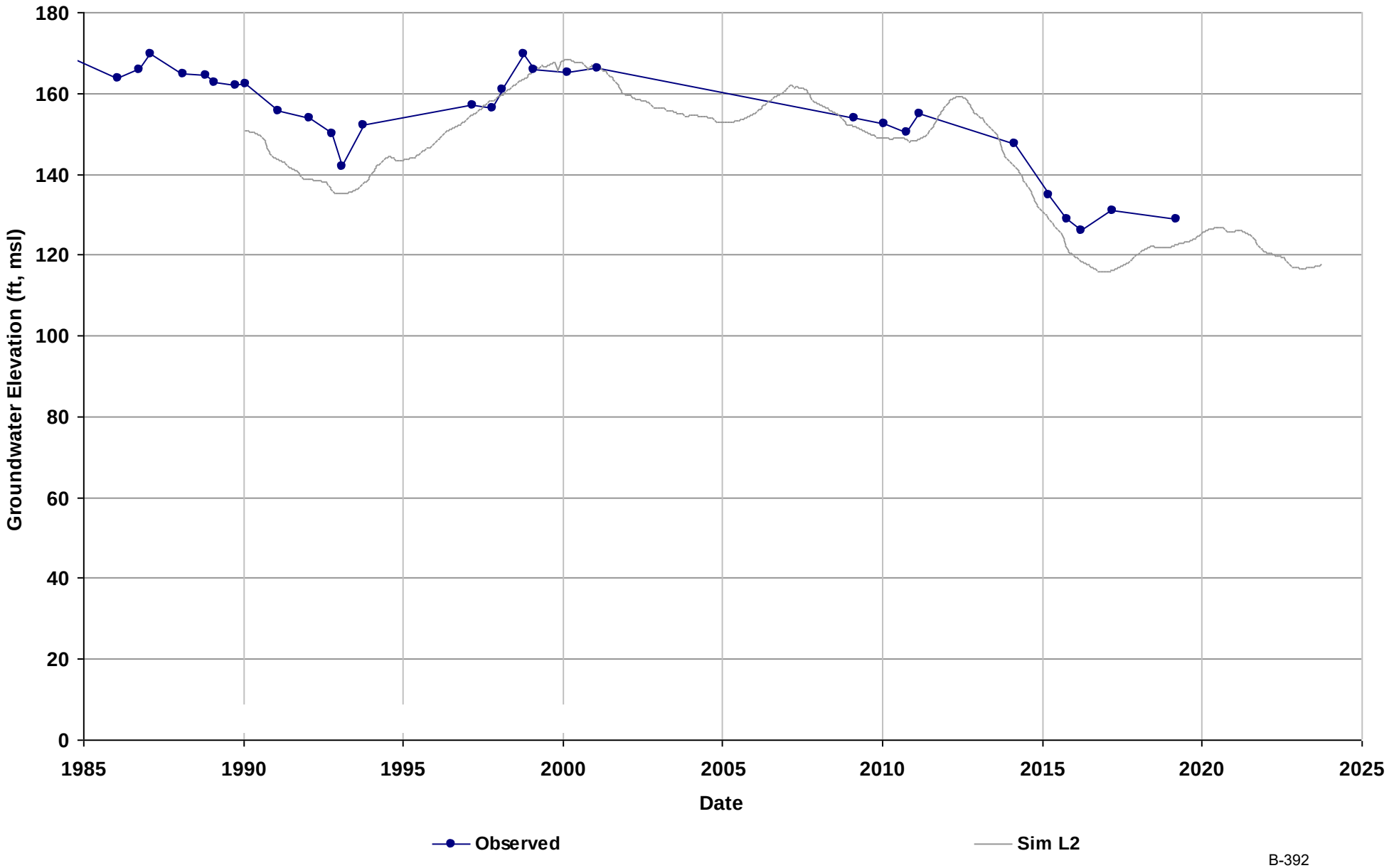
Total Depth (ft): 165
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 13S17E28H001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 215

Average Residual (feet): -6.37
Layer 1:
Layer 2: -6.37
Layer 3:
Layer 4:
Layer 5:
Layer 6:

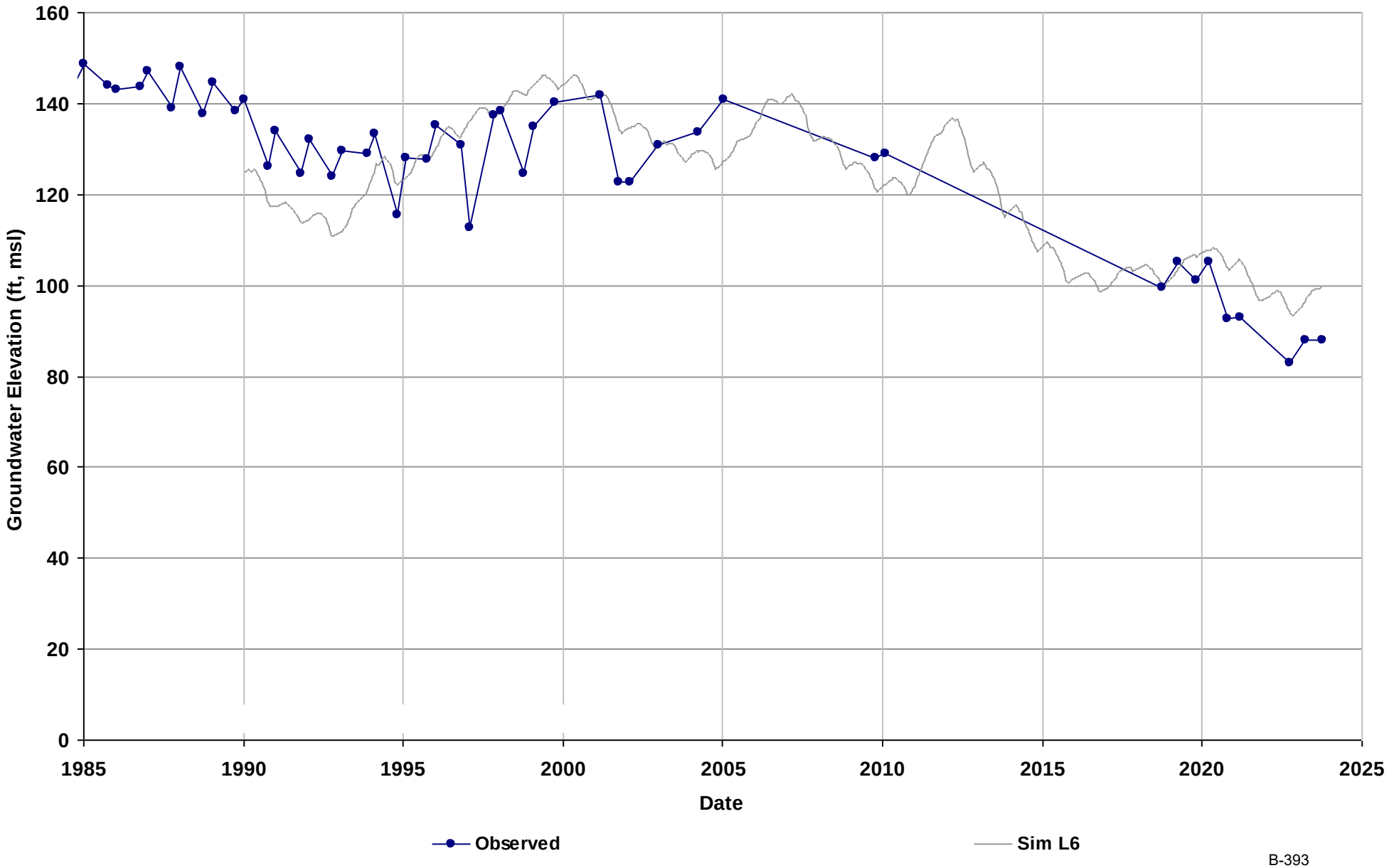
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 13S17E32H001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 212

Average Residual (feet): -1.81
Layer 1:
Layer 2:
Layer 3:
Layer 4: -2.09
Layer 5: -1.93
Layer 6: -1.41

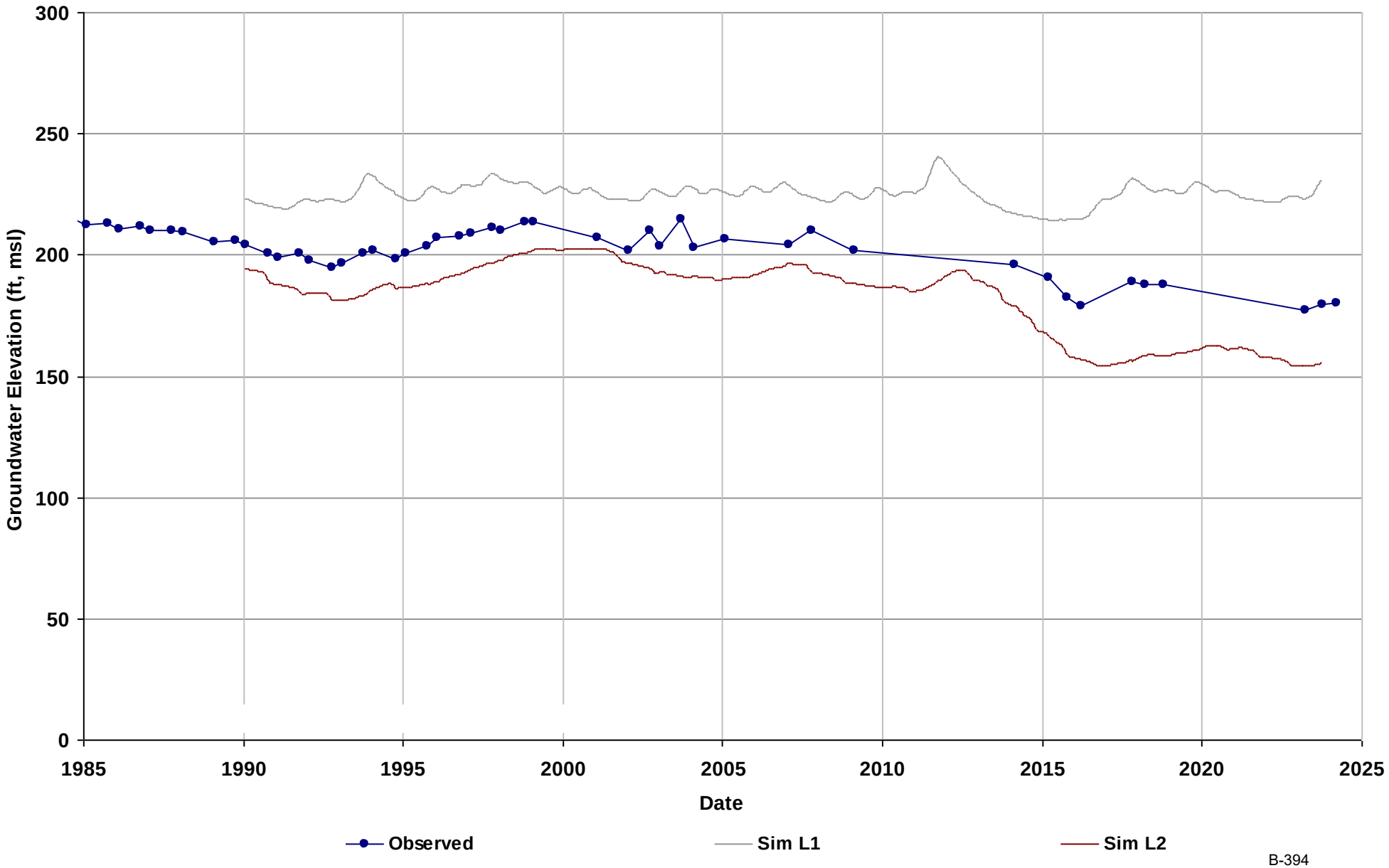
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



Well Name: 13S18E10P001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 260

Average Residual (feet): 4.18
Layer 1: 24.08
Layer 2: -15.71
Layer 3:
Layer 4:
Layer 5:
Layer 6:

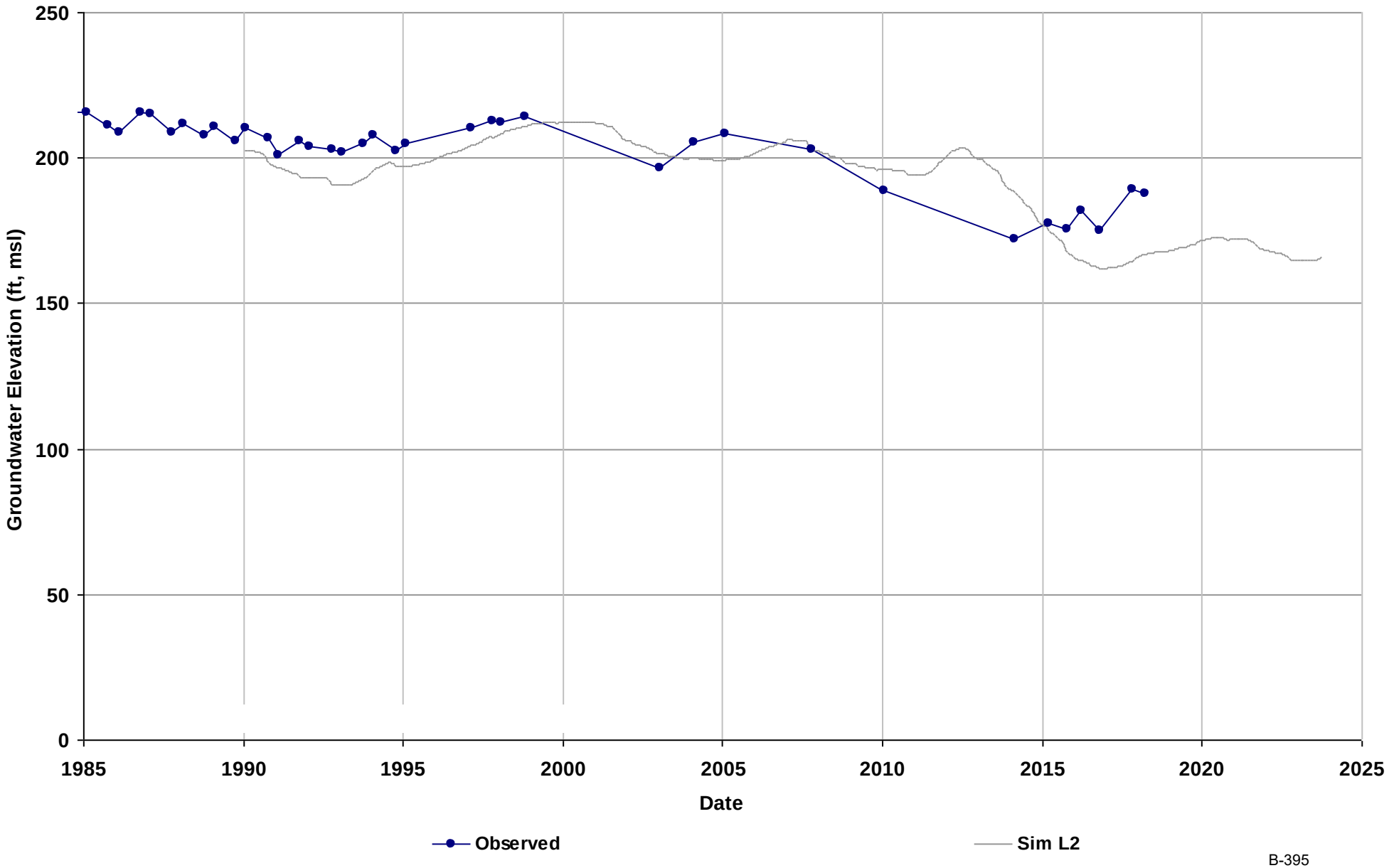
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 2



Well Name: 13S18E14H002M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 268

Average Residual (feet): -6.71
Layer 1:
Layer 2: -6.71
Layer 3:
Layer 4:
Layer 5:
Layer 6:

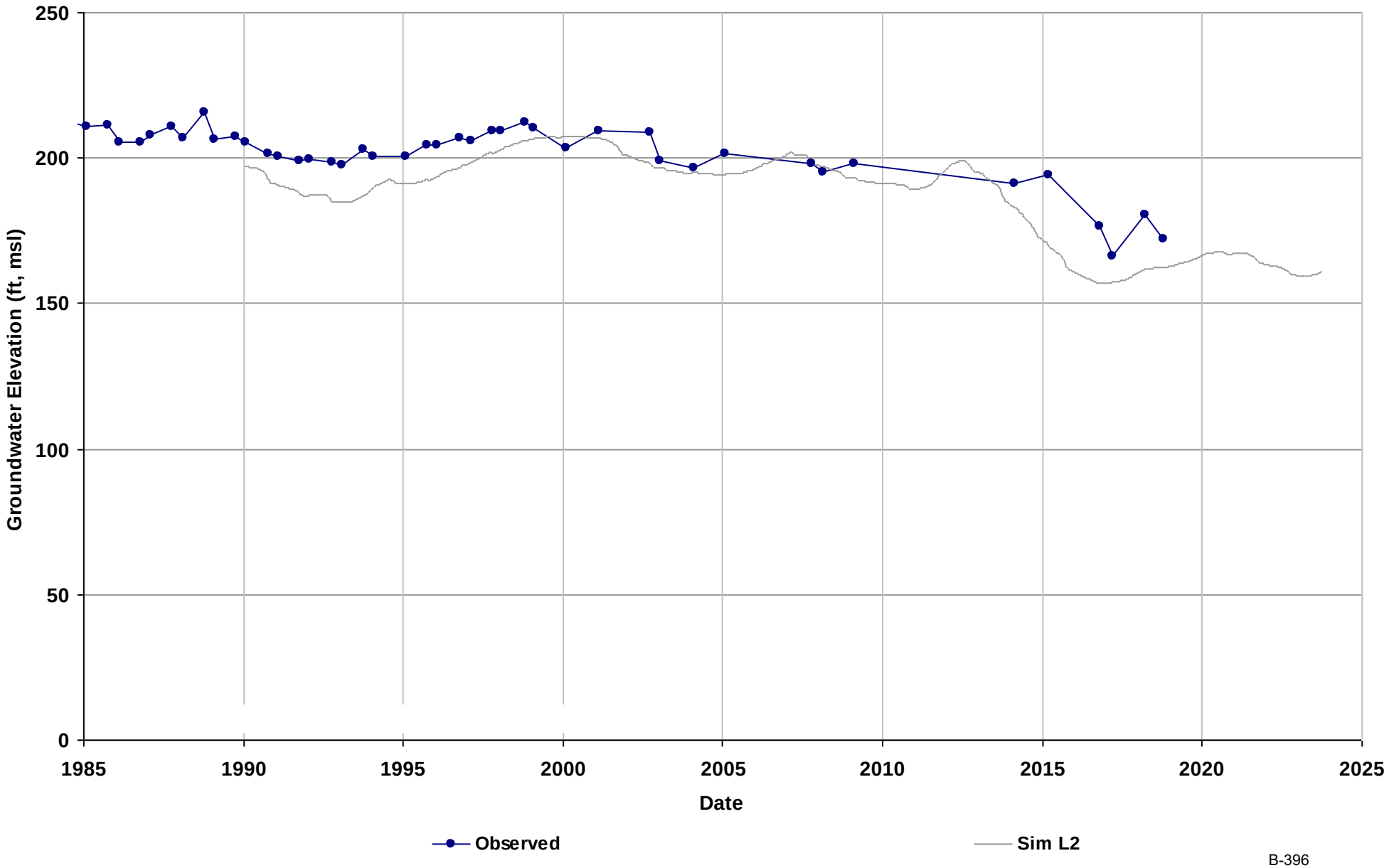
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 13S18E15J001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 263

Average Residual (feet): -8.78
Layer 1:
Layer 2: -8.78
Layer 3:
Layer 4:
Layer 5:
Layer 6:

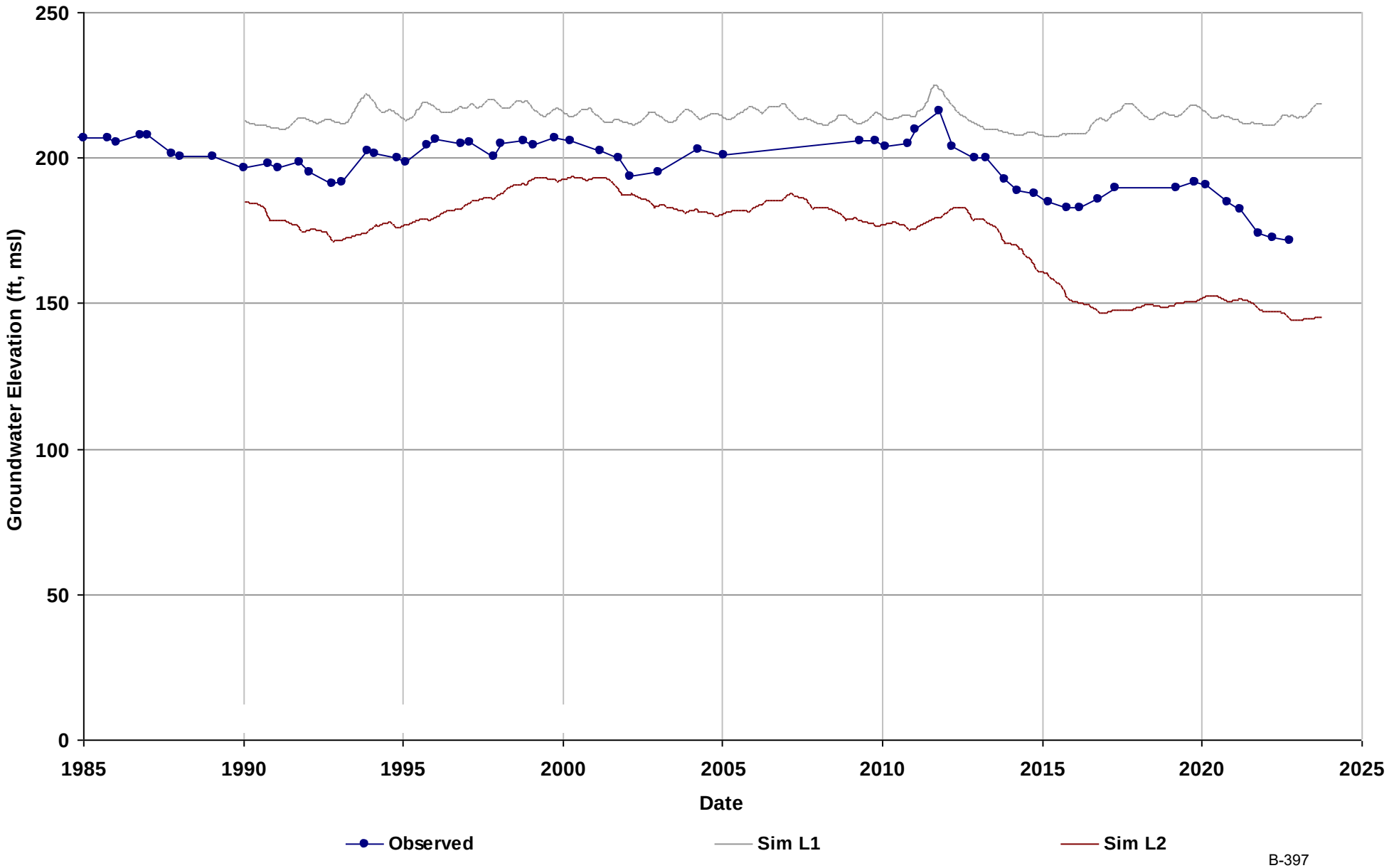
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



Well Name: 13S18E17A001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 255

Average Residual (feet): -3.13
Layer 1: 17.56
Layer 2: -23.82
Layer 3:
Layer 4:
Layer 5:
Layer 6:

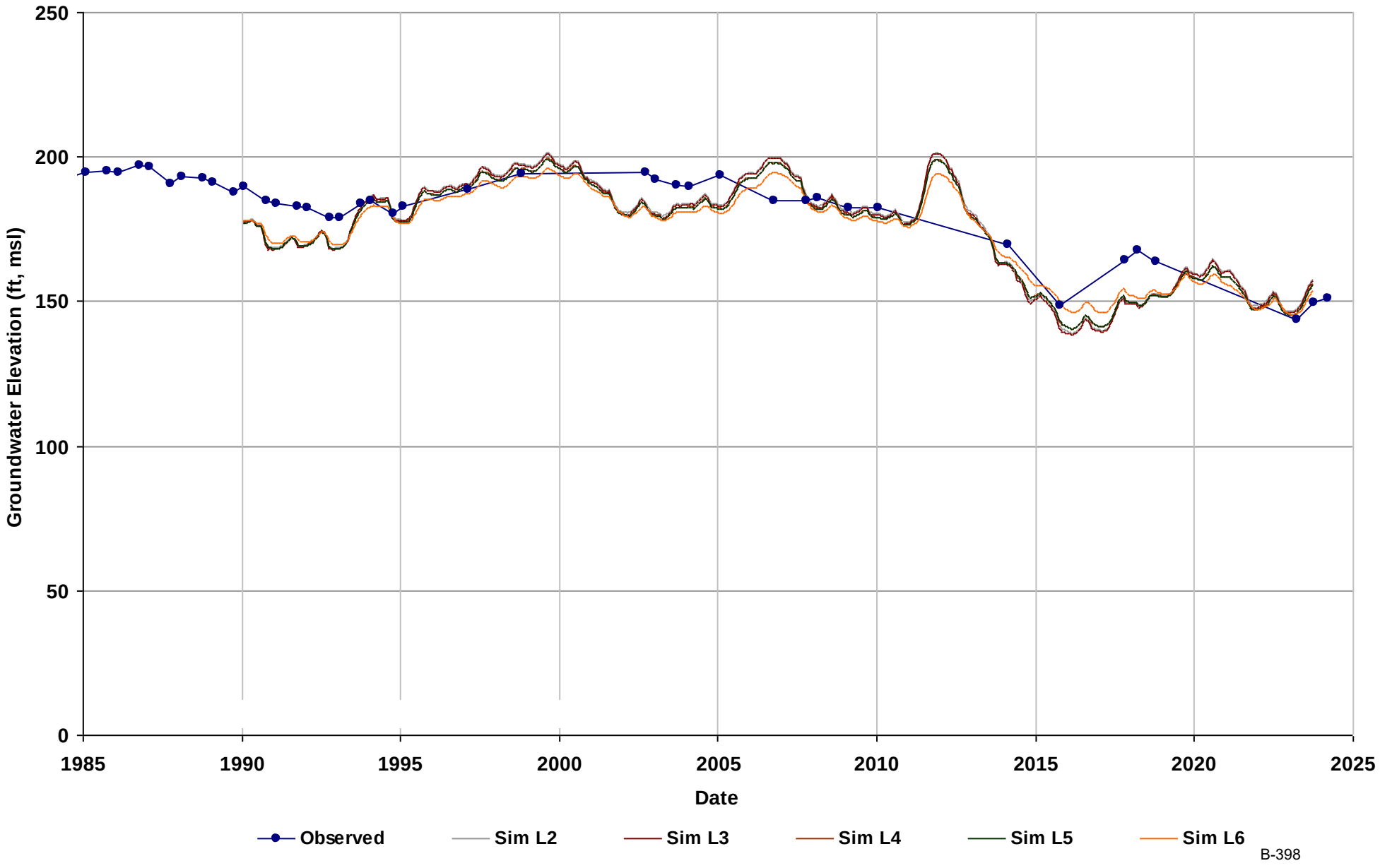
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 2



Well Name: 13S18E34D001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 248

Average Residual (feet): -6.94
Layer 1:
Layer 2: -6.46
Layer 3: -7.04
Layer 4: -7.12
Layer 5: -7.19
Layer 6: -6.92

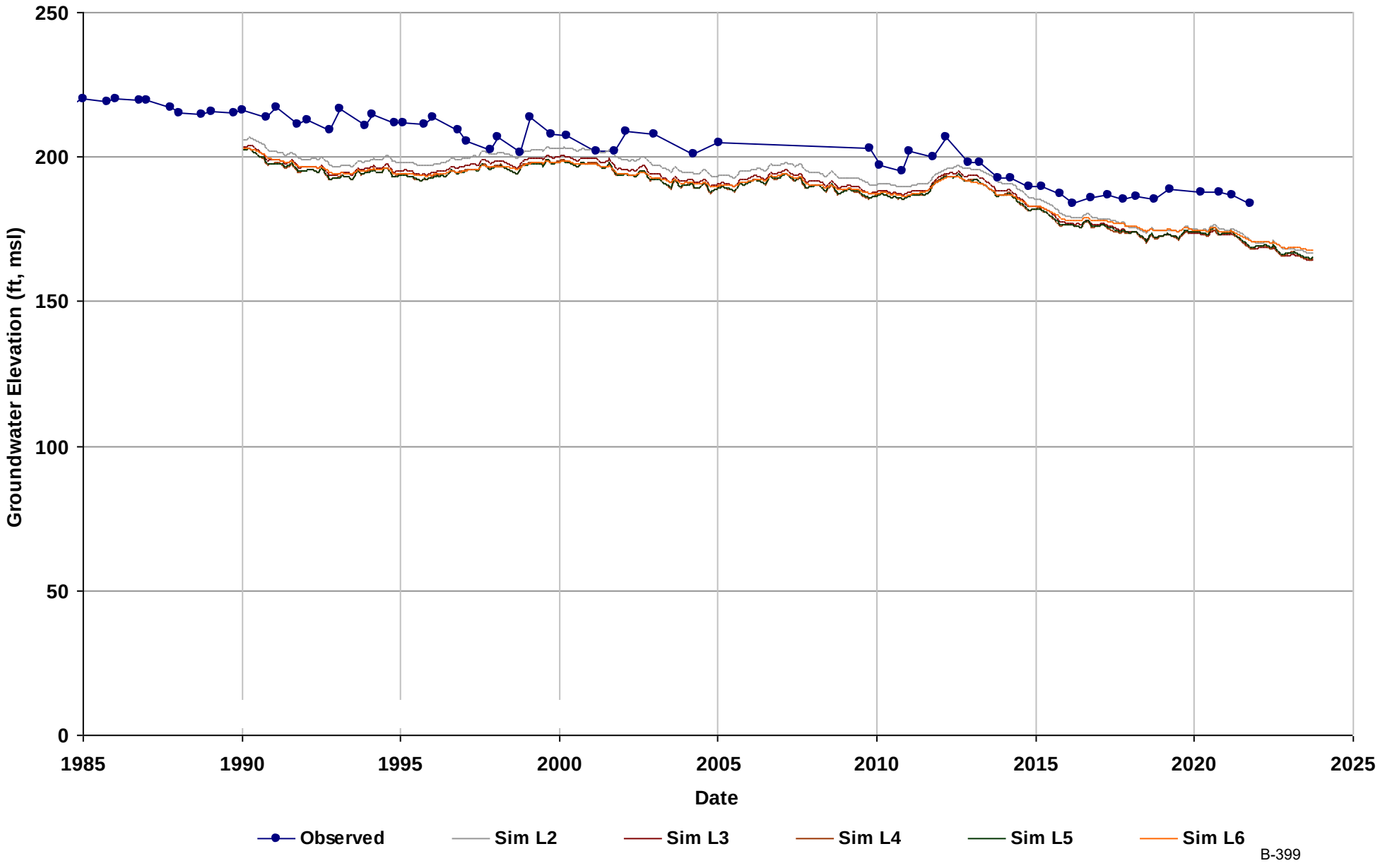
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 6



Well Name: 13S19E23E001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 288

Average Residual (feet): -11.51
Layer 1:
Layer 2: -8.83
Layer 3: -11.51
Layer 4: -12.69
Layer 5: -12.69
Layer 6: -11.82

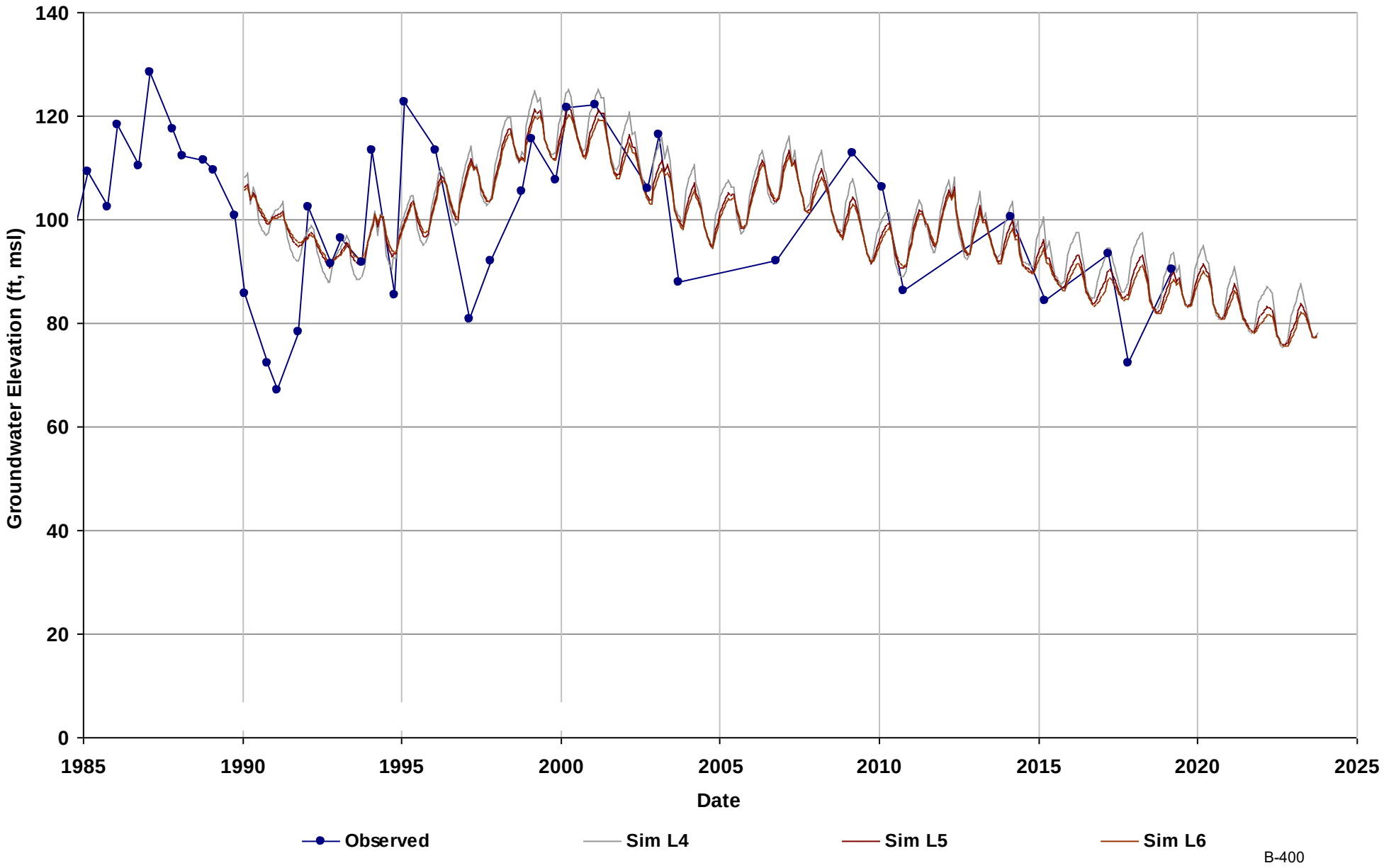
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 6



Well Name: 14S16E03A001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 187

Average Residual (feet): 3.83
Layer 1:
Layer 2:
Layer 3:
Layer 4: 4.85
Layer 5: 3.56
Layer 6: 3.06

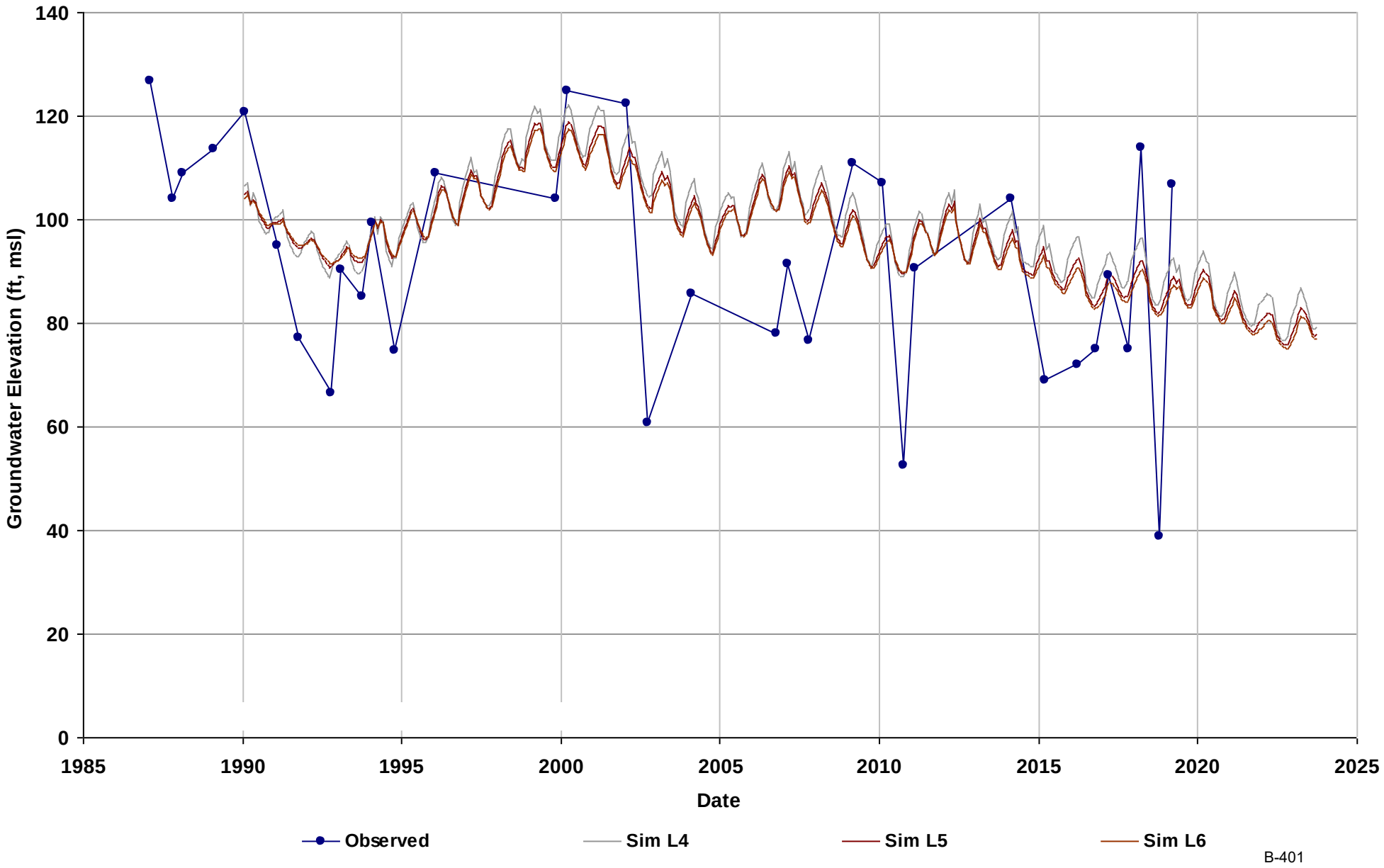
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 6



Well Name: 14S16E03F001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 182

Average Residual (feet): 8.1
Layer 1:
Layer 2:
Layer 3:
Layer 4: 9.63
Layer 5: 7.71
Layer 6: 6.95

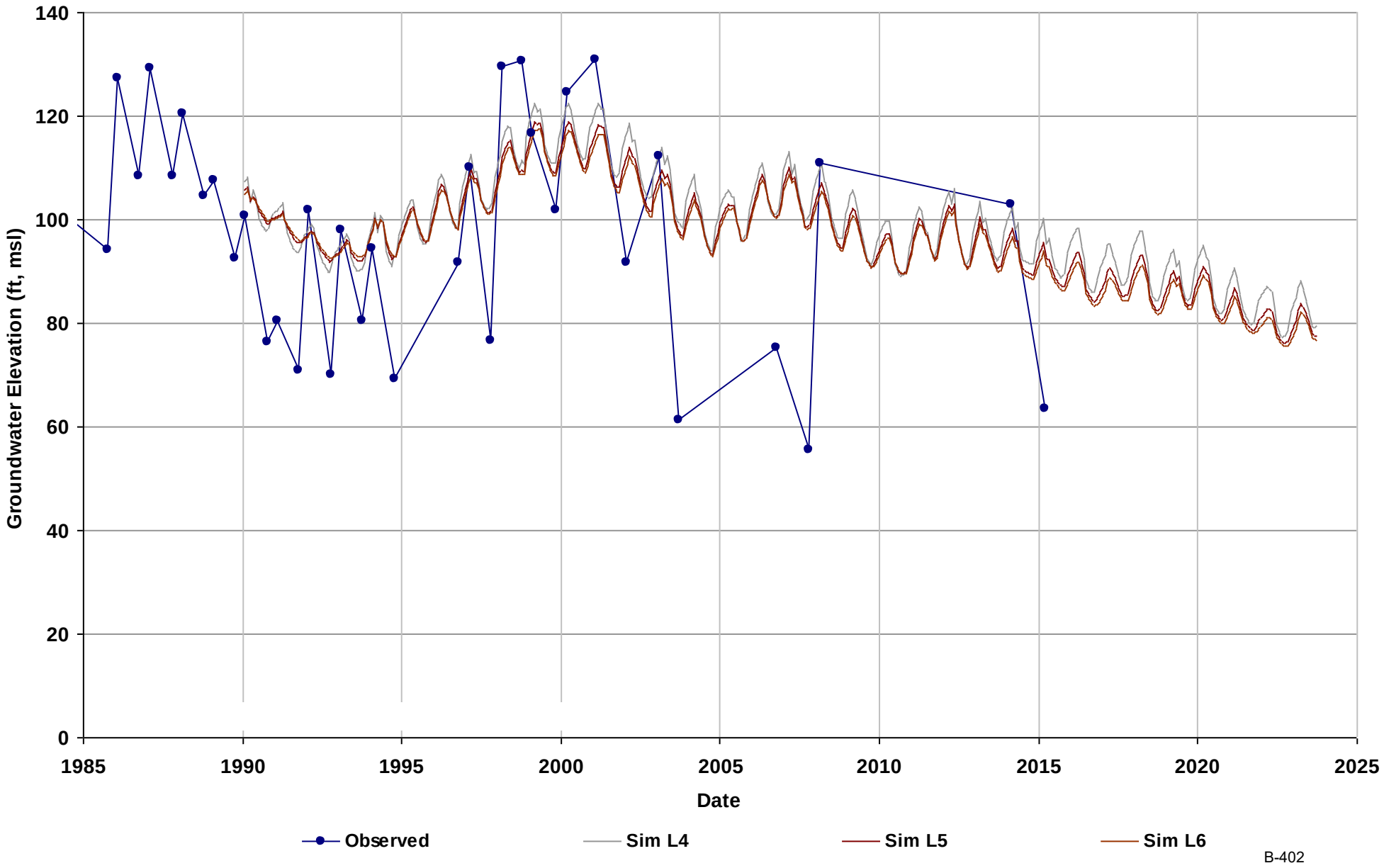
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 6



Well Name: 14S16E04A001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 176

Average Residual (feet): 8.93
Layer 1:
Layer 2:
Layer 3:
Layer 4: 10.21
Layer 5: 8.59
Layer 6: 7.97

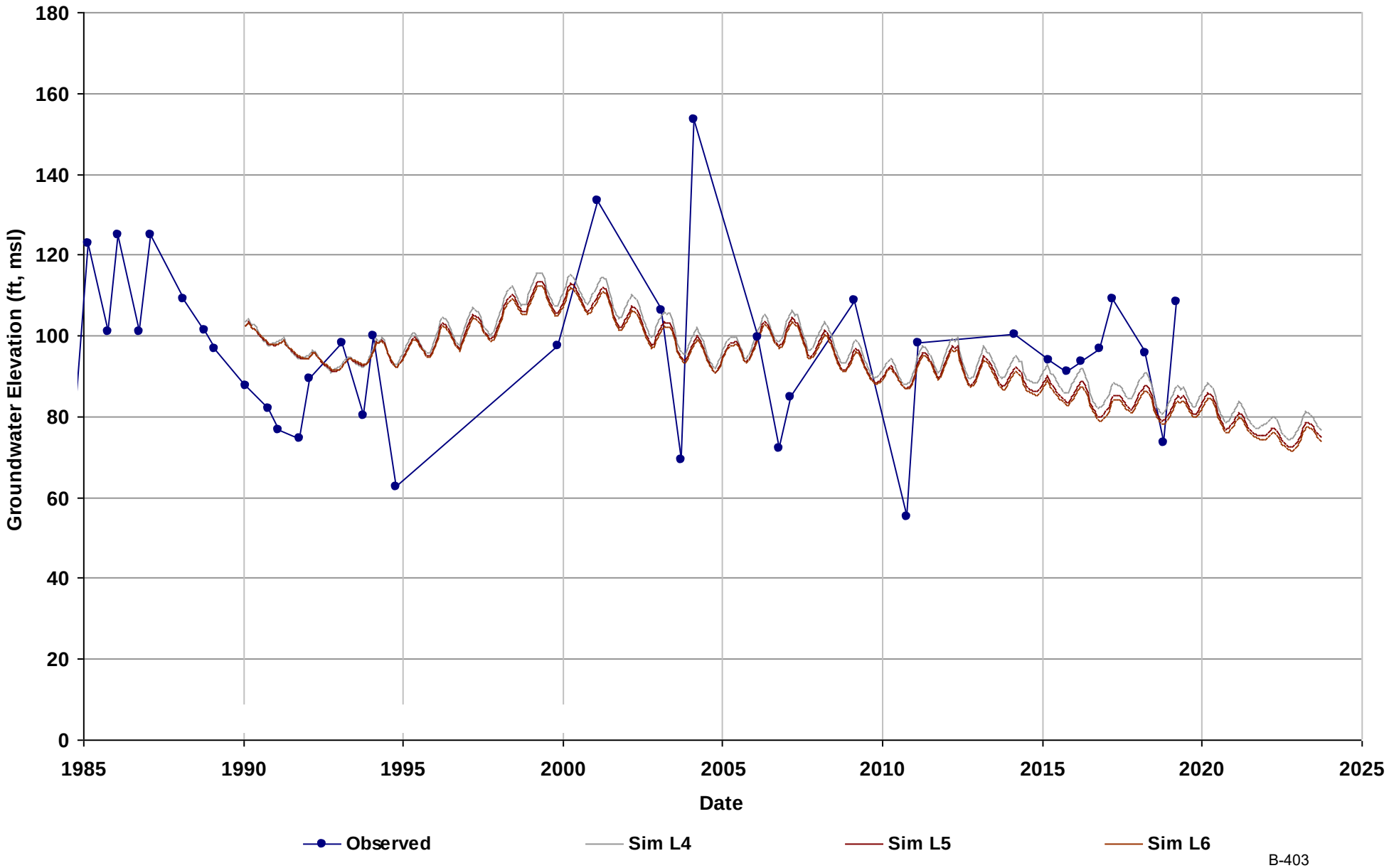
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 6



Well Name: 14S16E04L001M
Depth Zone: Unknown
Subbasin: Kings
GSE (ft, msl): 173

Average Residual (feet): 1.55
Layer 1:
Layer 2:
Layer 3:
Layer 4: 2.79
Layer 5: 1.21
Layer 6: 0.66

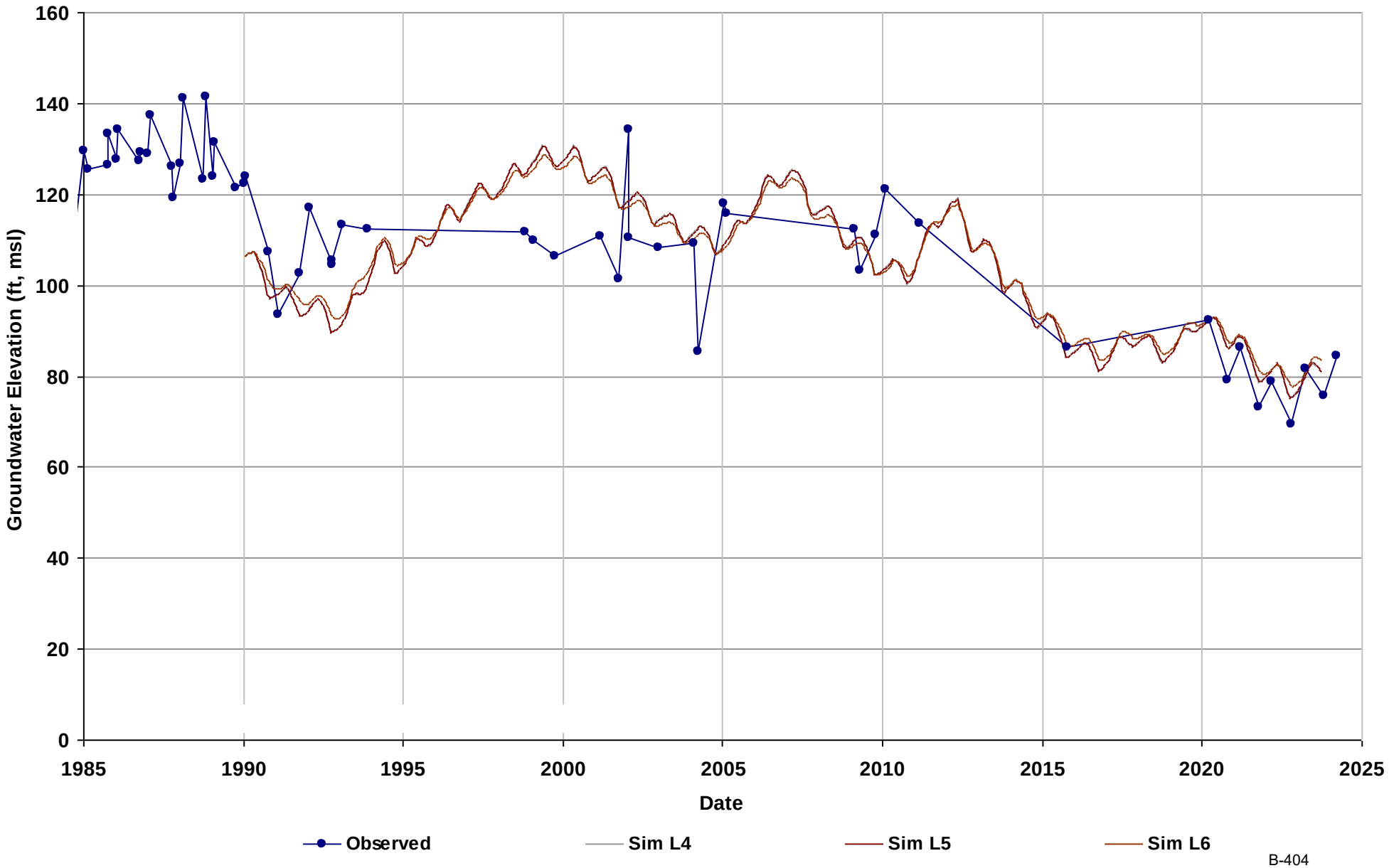
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 6



Well Name: 14S17E05D001M
Depth Zone: Unconfined
Subbasin: Kings
GSE (ft, msl): 205

Average Residual (feet): -3.49
Layer 1:
Layer 2:
Layer 3:
Layer 4: -3.65
Layer 5: -3.68
Layer 6: -3.13

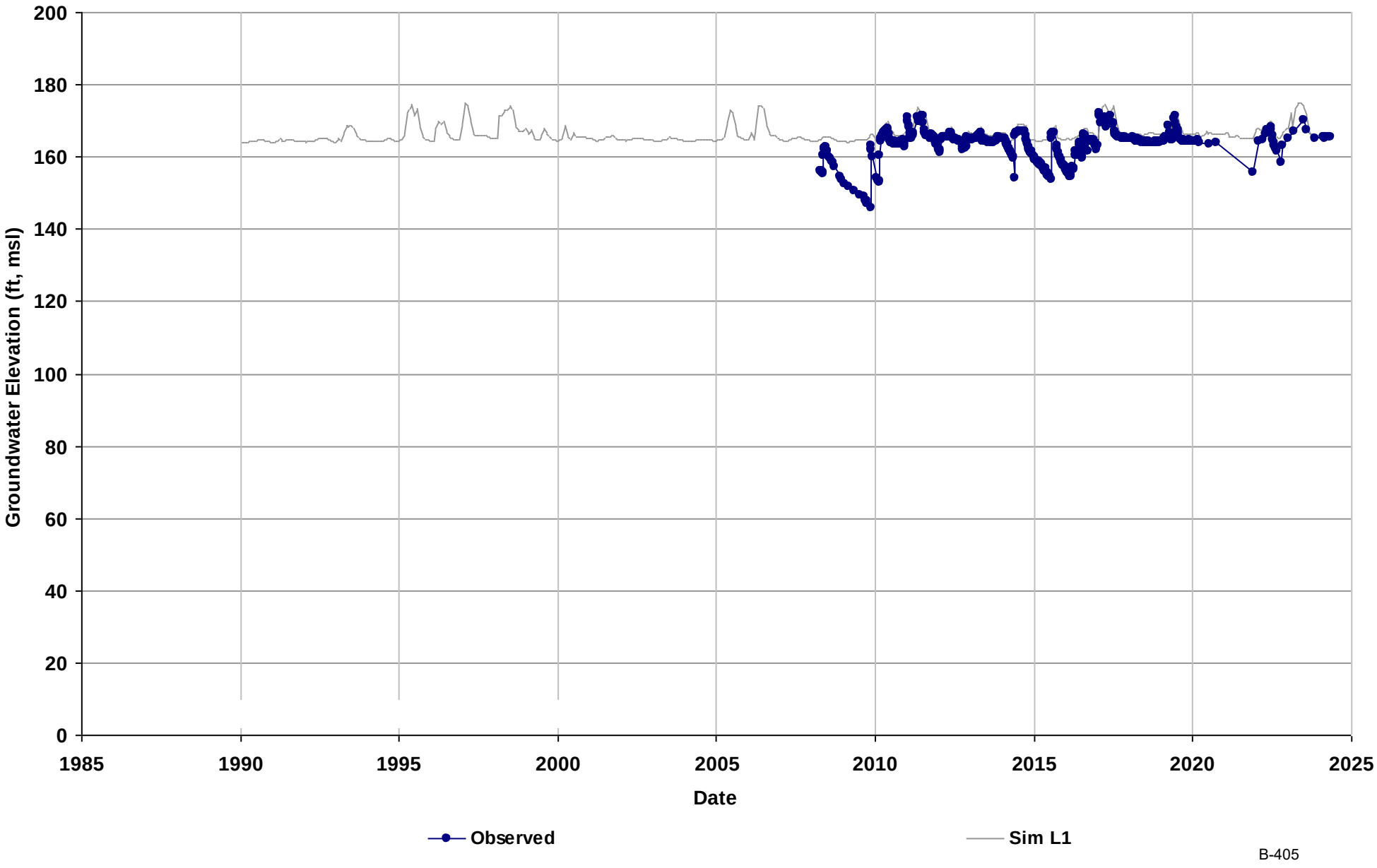
Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 6



Well Name: SJRRP_FA-8
Depth Zone: Shallow
Subbasin: Kings
GSE (ft, msl): 172

Average Residual (feet): 3.25
Layer 1: 3.25
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

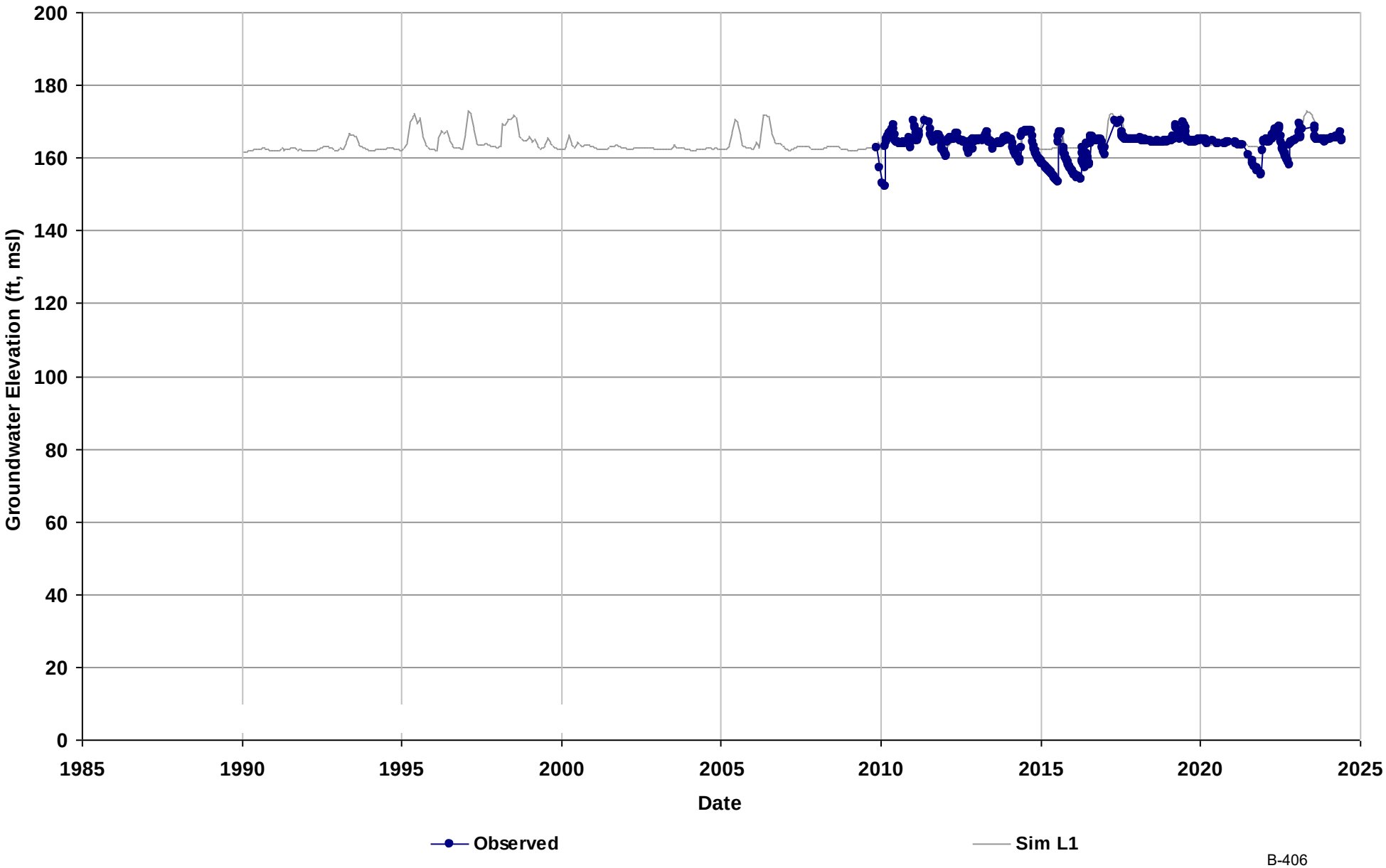
Total Depth (ft): 27.64
Perf Top (ft): 15
Perf Bottom (ft): 30
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-09-49B
Depth Zone: Shallow
Subbasin: Kings
GSE (ft, msl): 170

Average Residual (feet): 1.01
Layer 1: 1.01
Layer 2:
Layer 3:
Layer 4:
Layer 5:
Layer 6:

Total Depth (ft): 24.5
Perf Top (ft): 10
Perf Bottom (ft): 20
Top Model Layer: 1
Bottom Model Layer: 1



APPENDIX C

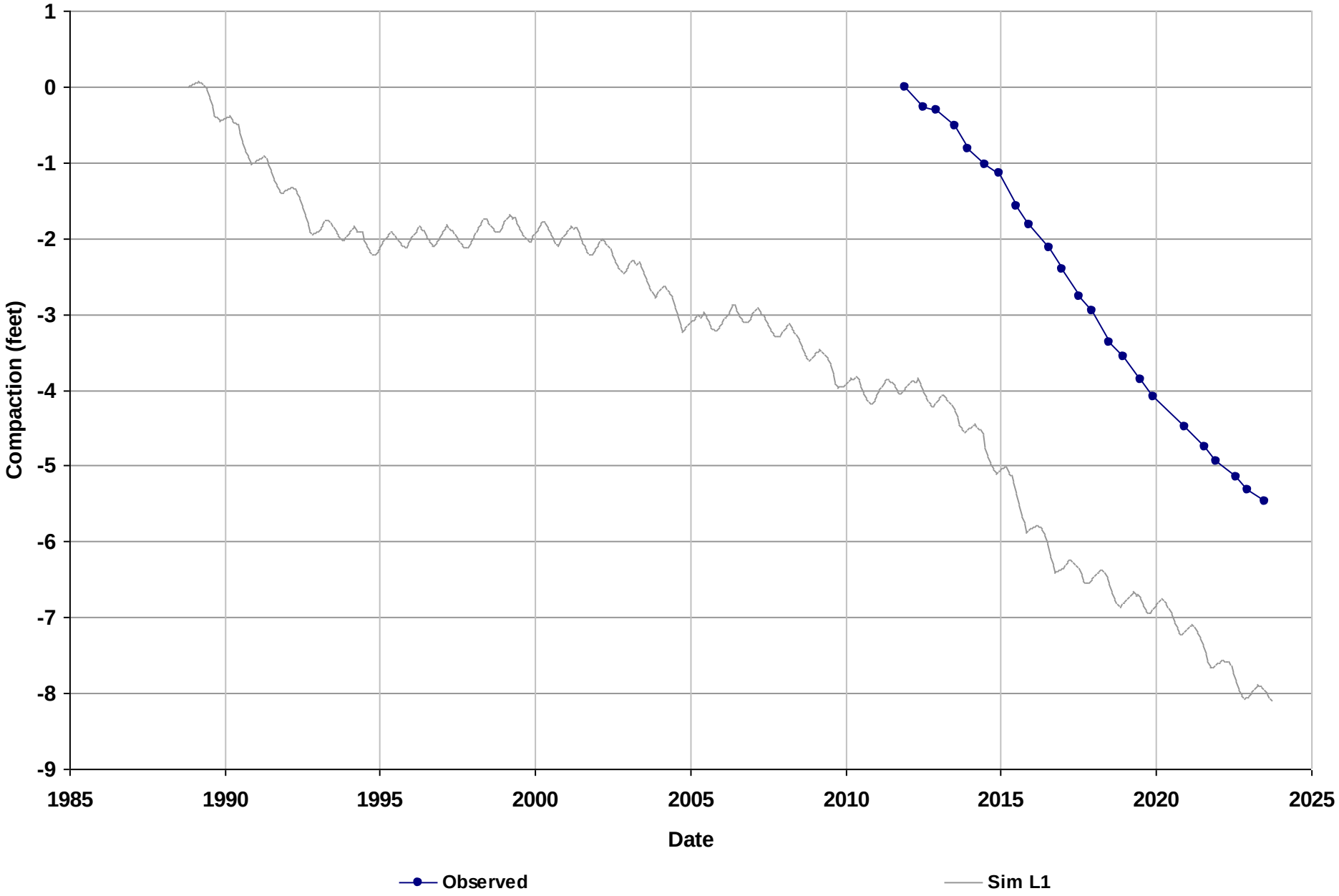
Subsidence Calibration Hydrographs

LSCE

Well Name: SJRRP_123
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

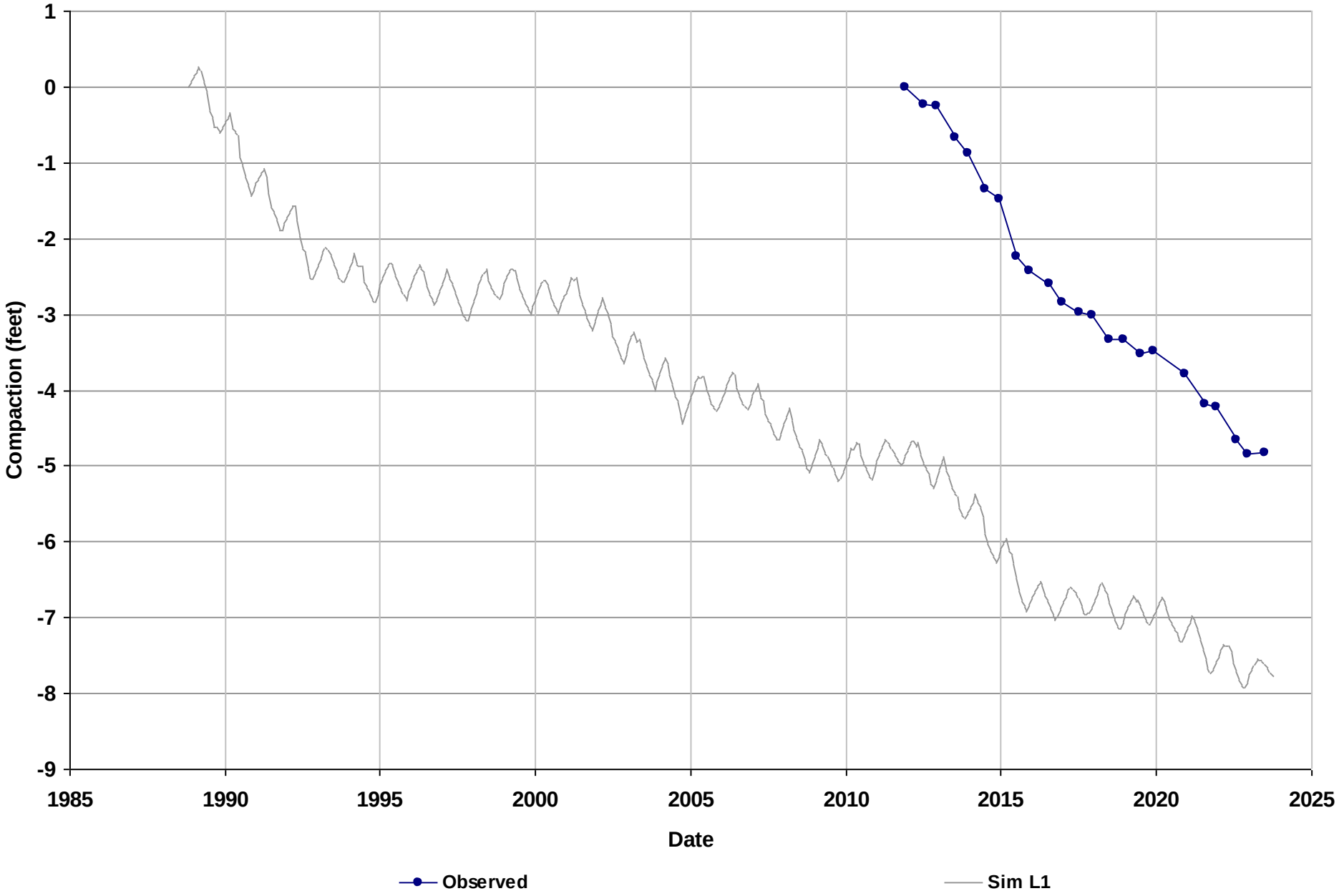
Total Simulated Compaction (feet): -3.99
Total Observed Compaction (feet): -5.46
Average Residual (feet): 1.47



Well Name: SJRRP_124
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

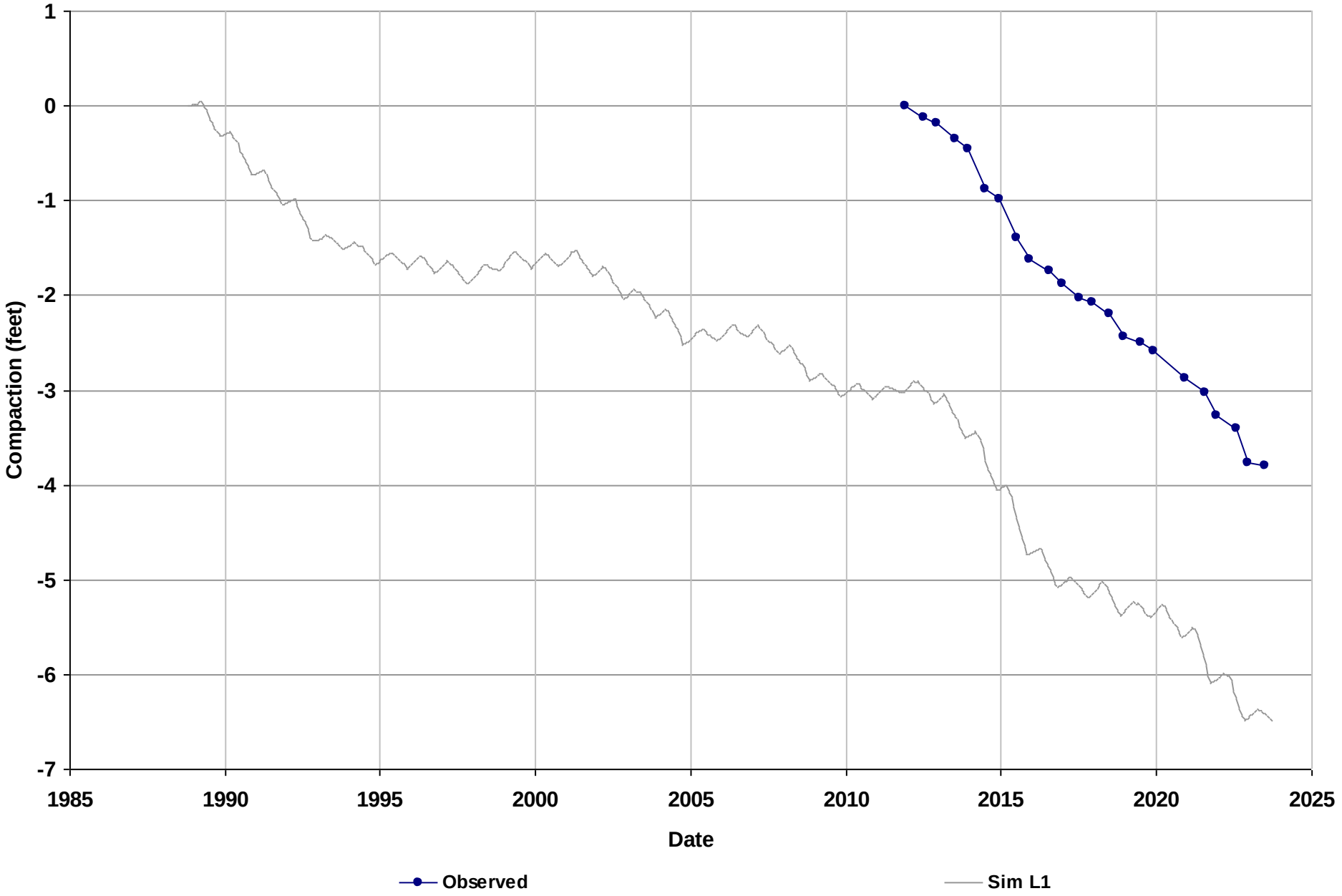
Total Simulated Compaction (feet): -2.75
Total Observed Compaction (feet): -4.82
Average Residual (feet): 2.07



Well Name: SJRRP_135
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

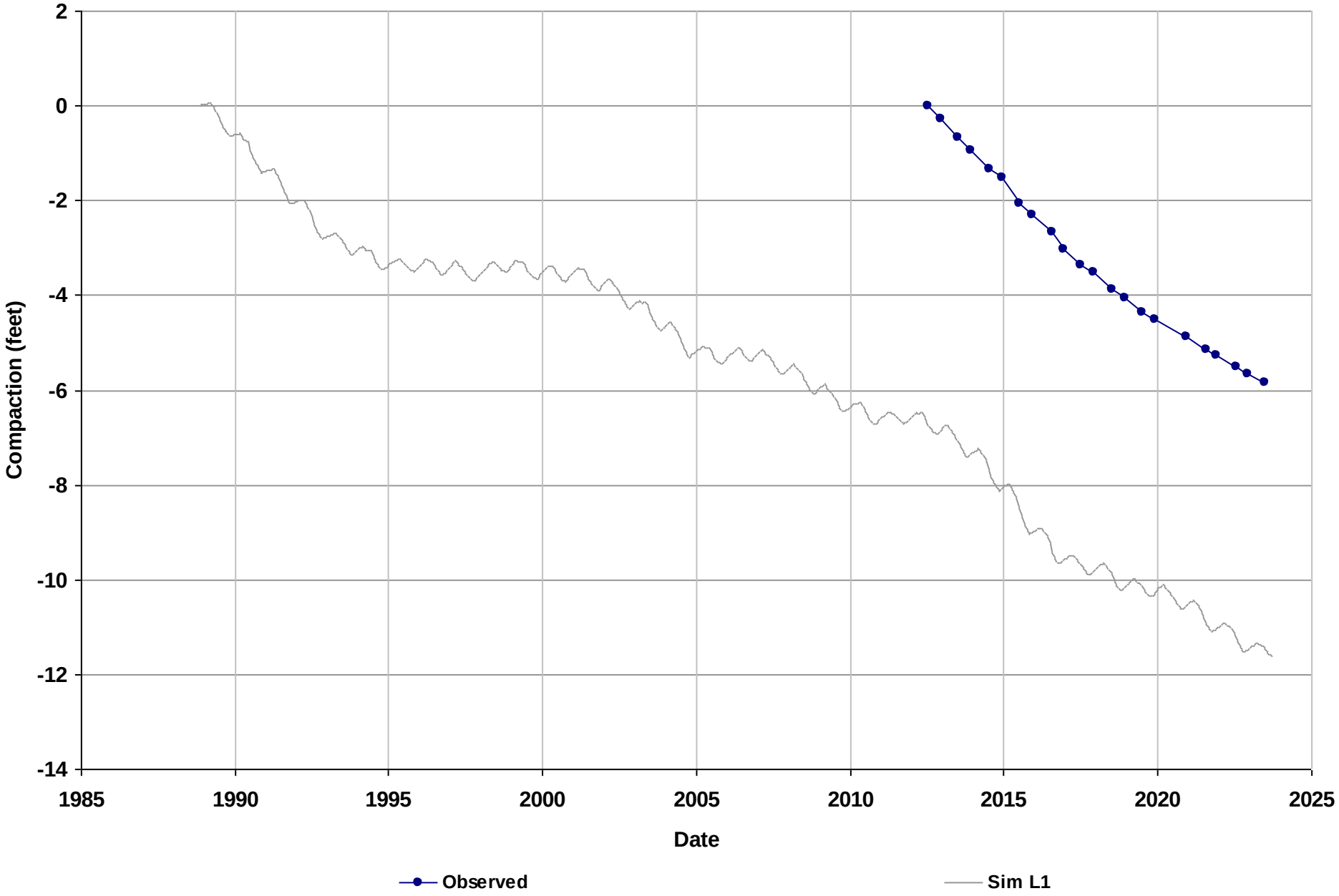
Total Simulated Compaction (feet): -3.41
Total Observed Compaction (feet): -3.79
Average Residual (feet): 0.38



Well Name: SJRRP_1053R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

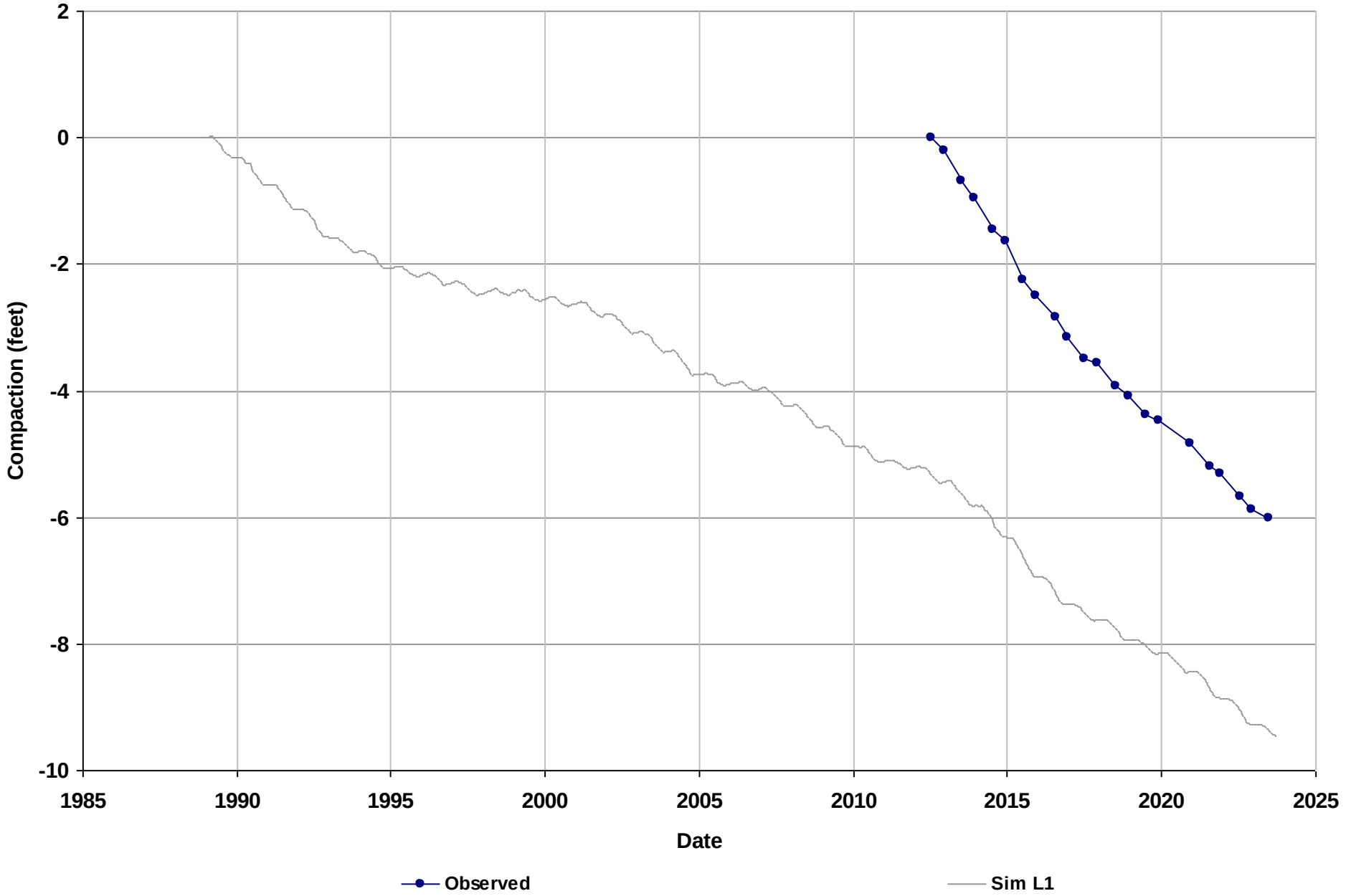
Total Simulated Compaction (feet): -4.78
Total Observed Compaction (feet): -5.83
Average Residual (feet): 1.05



Well Name: SJRRP_1054R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

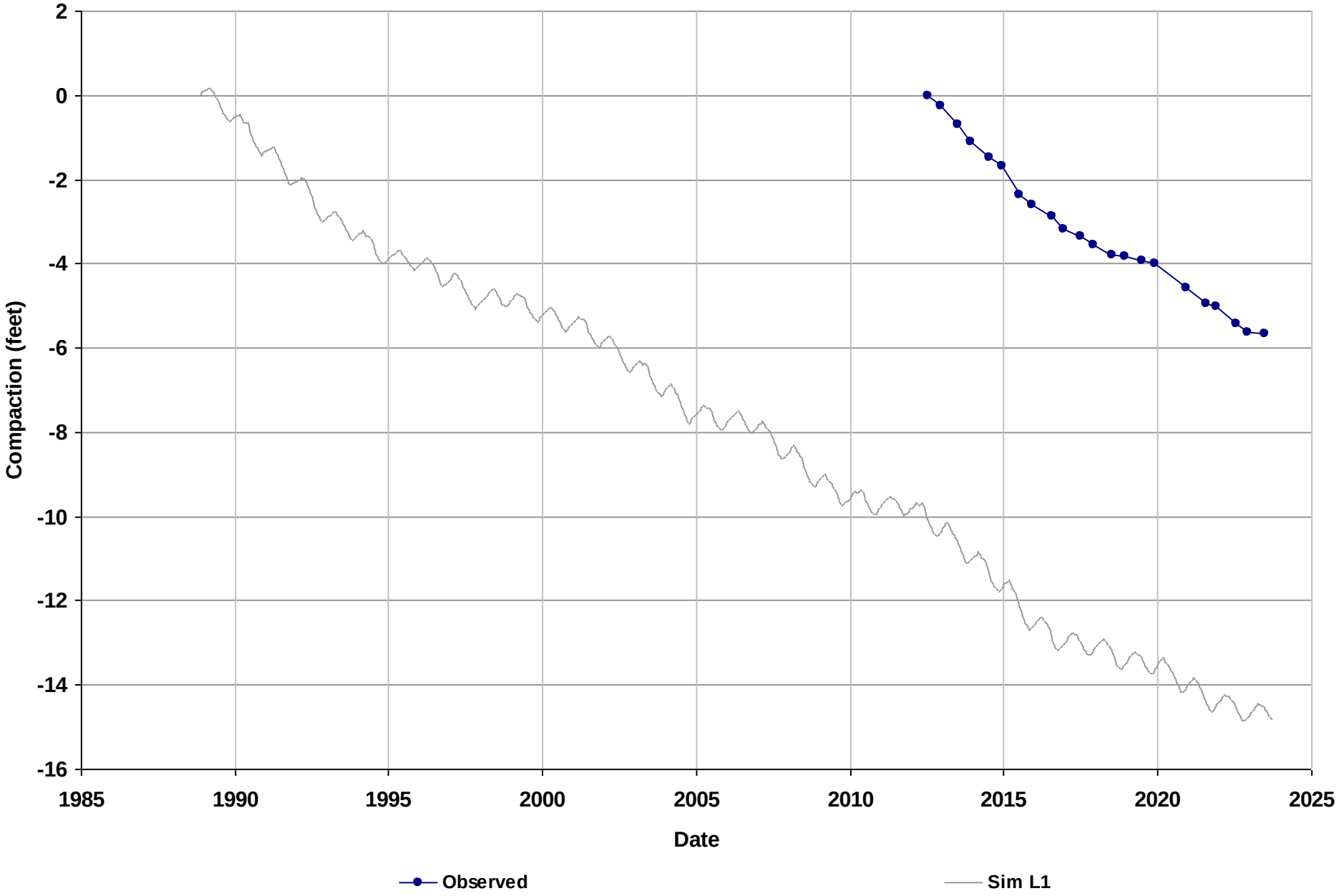
Total Simulated Compaction (feet): -4.05
Total Observed Compaction (feet): -6
Average Residual (feet): 1.95



Well Name: SJRRP_1055R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

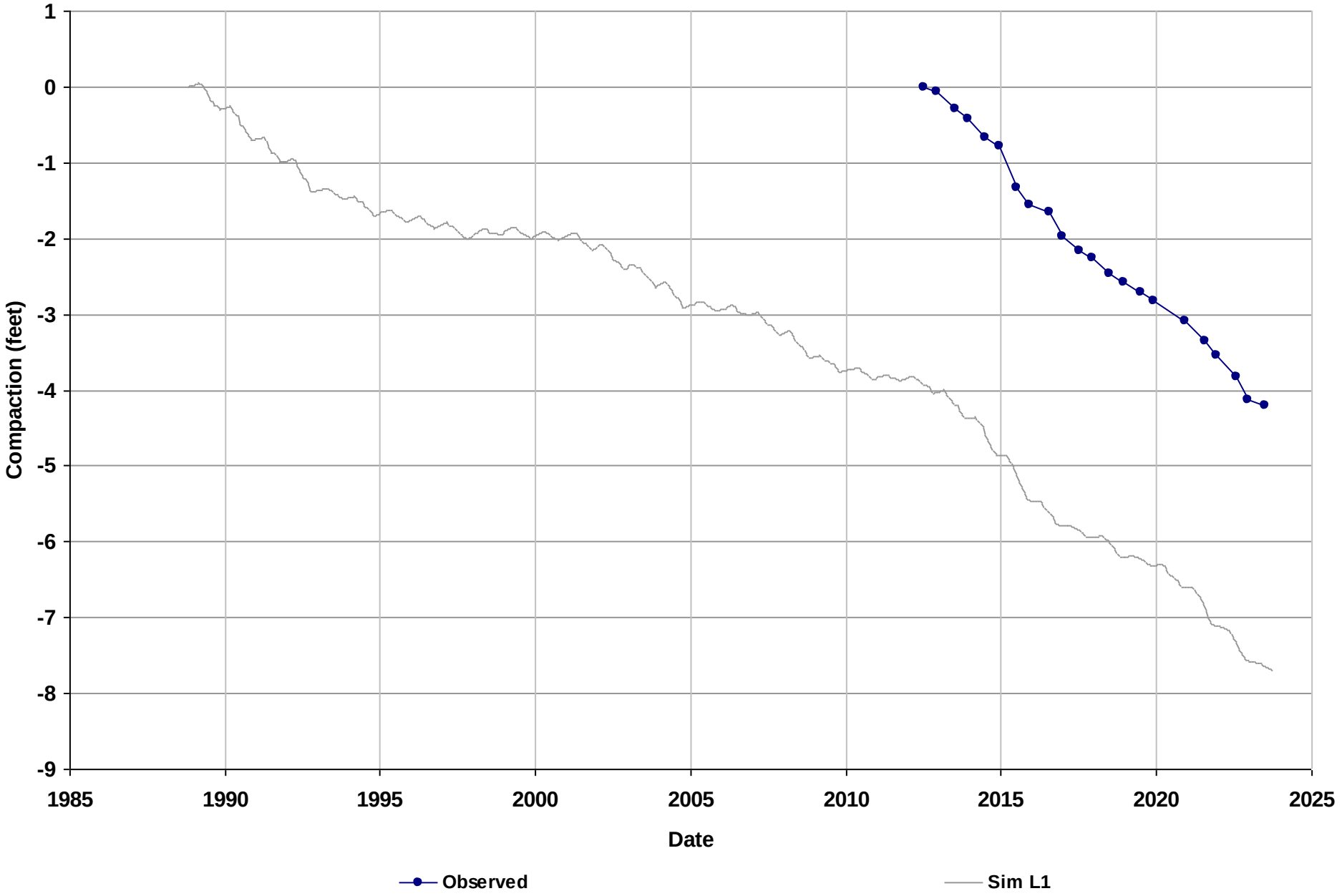
Total Simulated Compaction (feet): -4.58
Total Observed Compaction (feet): -5.64
Average Residual (feet): 1.06



Well Name: SJRRP_2076
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

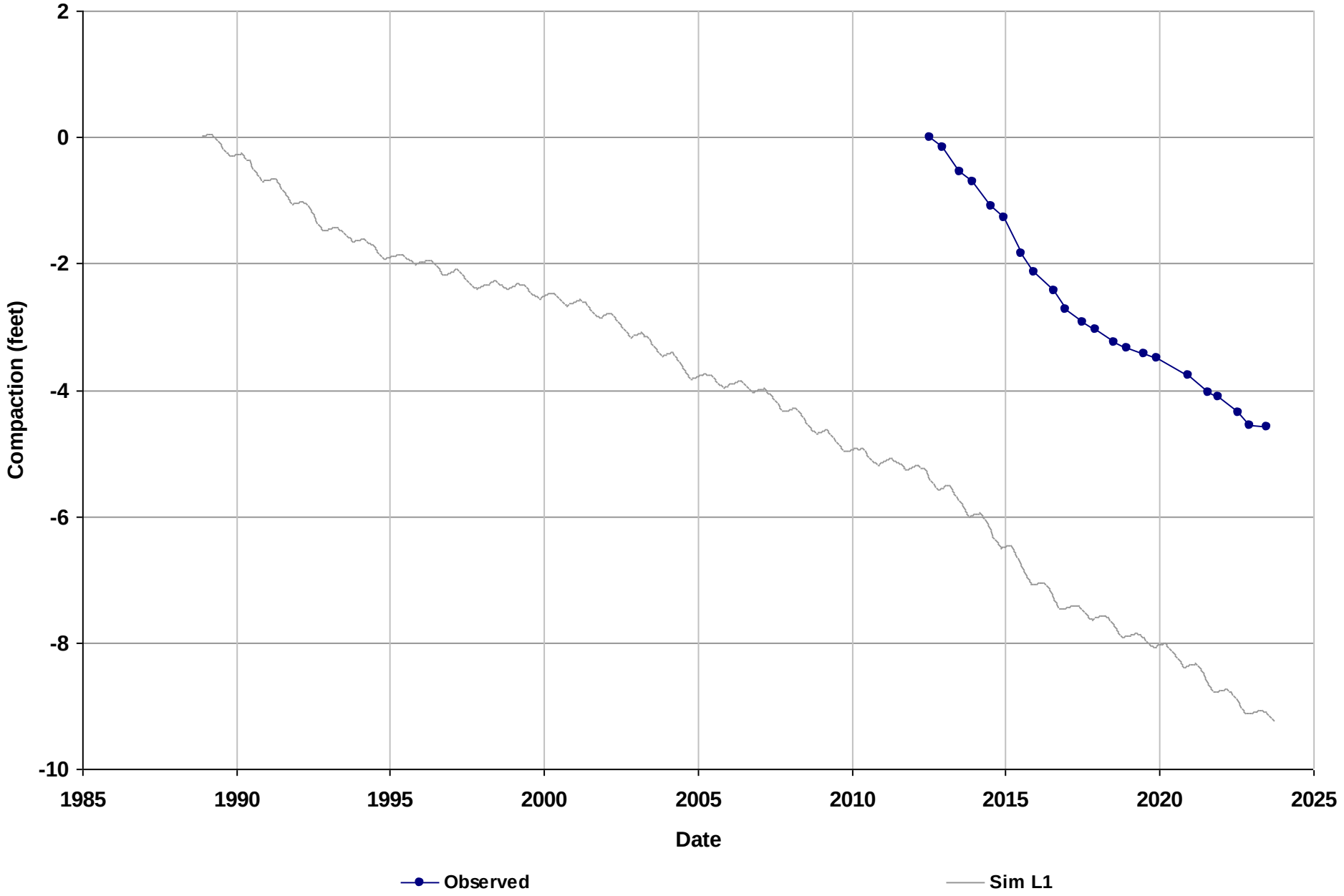
Total Simulated Compaction (feet): -3.71
Total Observed Compaction (feet): -4.19
Average Residual (feet): 0.48



Well Name: SJRRP_2362
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

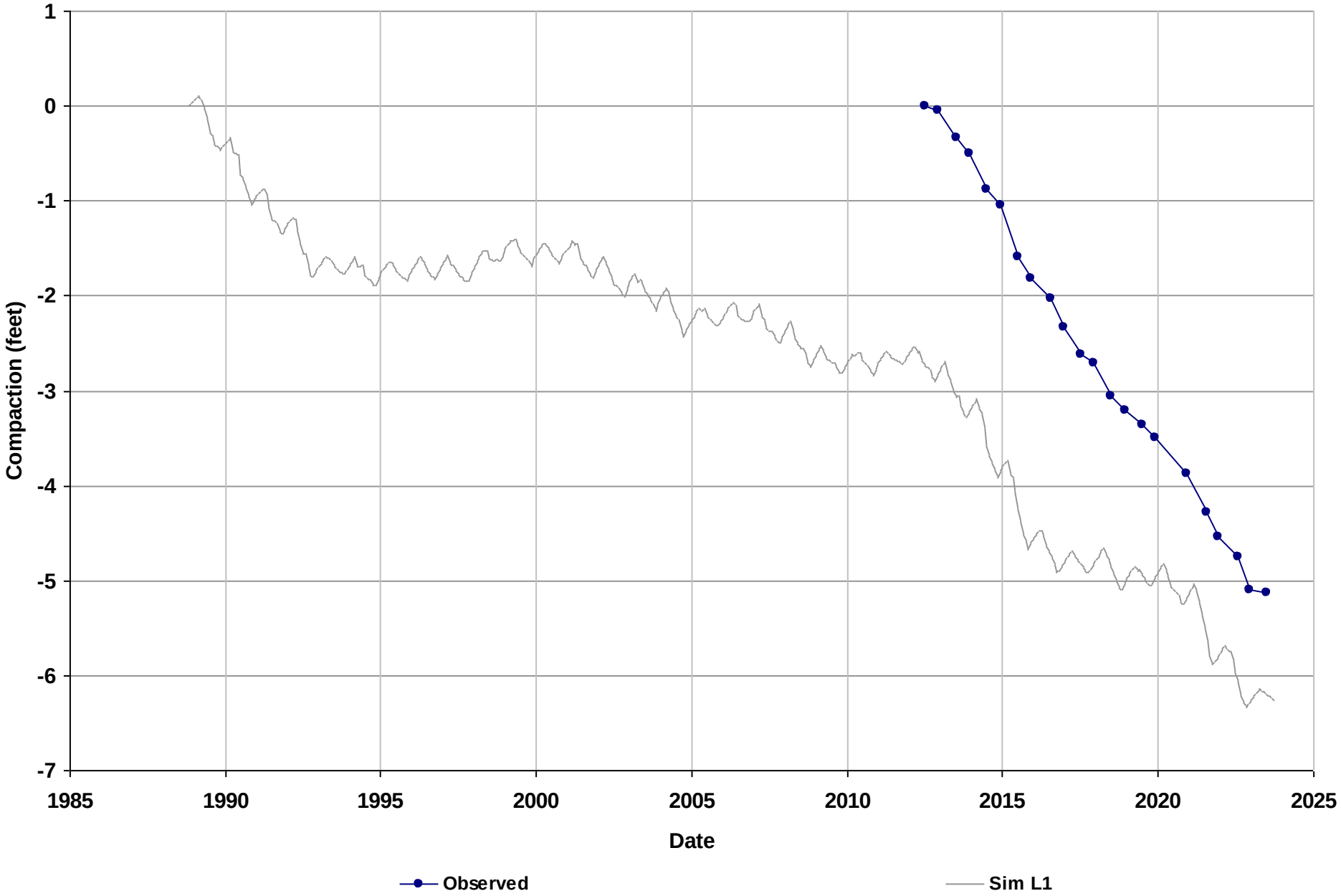
Total Simulated Compaction (feet): -3.74
Total Observed Compaction (feet): -4.58
Average Residual (feet): 0.84



Well Name: SJRRP_2378
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

Note: Totals are calculated using the same start and end dates

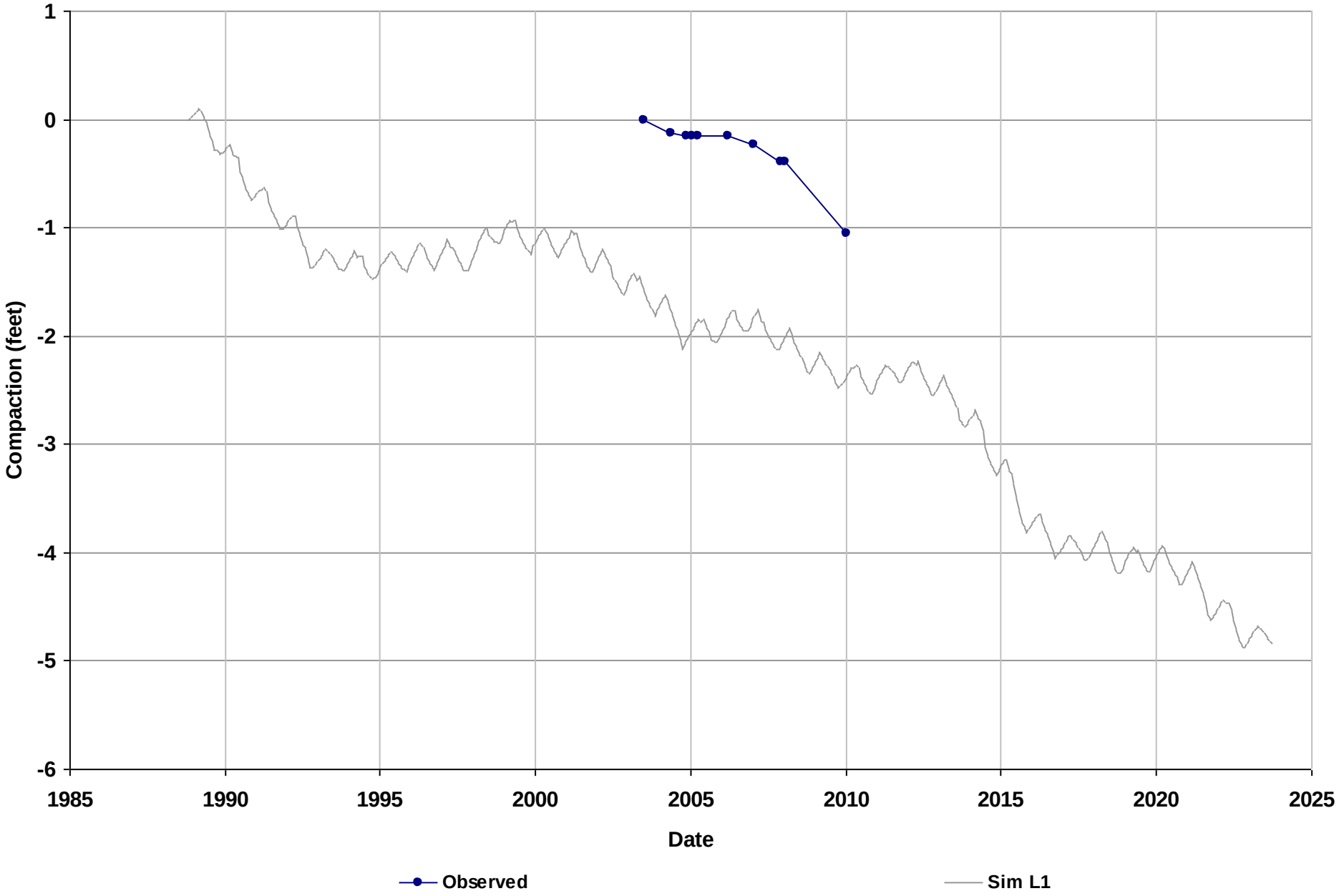
Total Simulated Compaction (feet): -3.45
Total Observed Compaction (feet): -5.12
Average Residual (feet): 1.67



Well Name: InSAR at Bypass Curve
Data Source: USGS
Subbasin: Chowchilla
Data Type: InSAR

Note: Totals are calculated using the same start and end dates

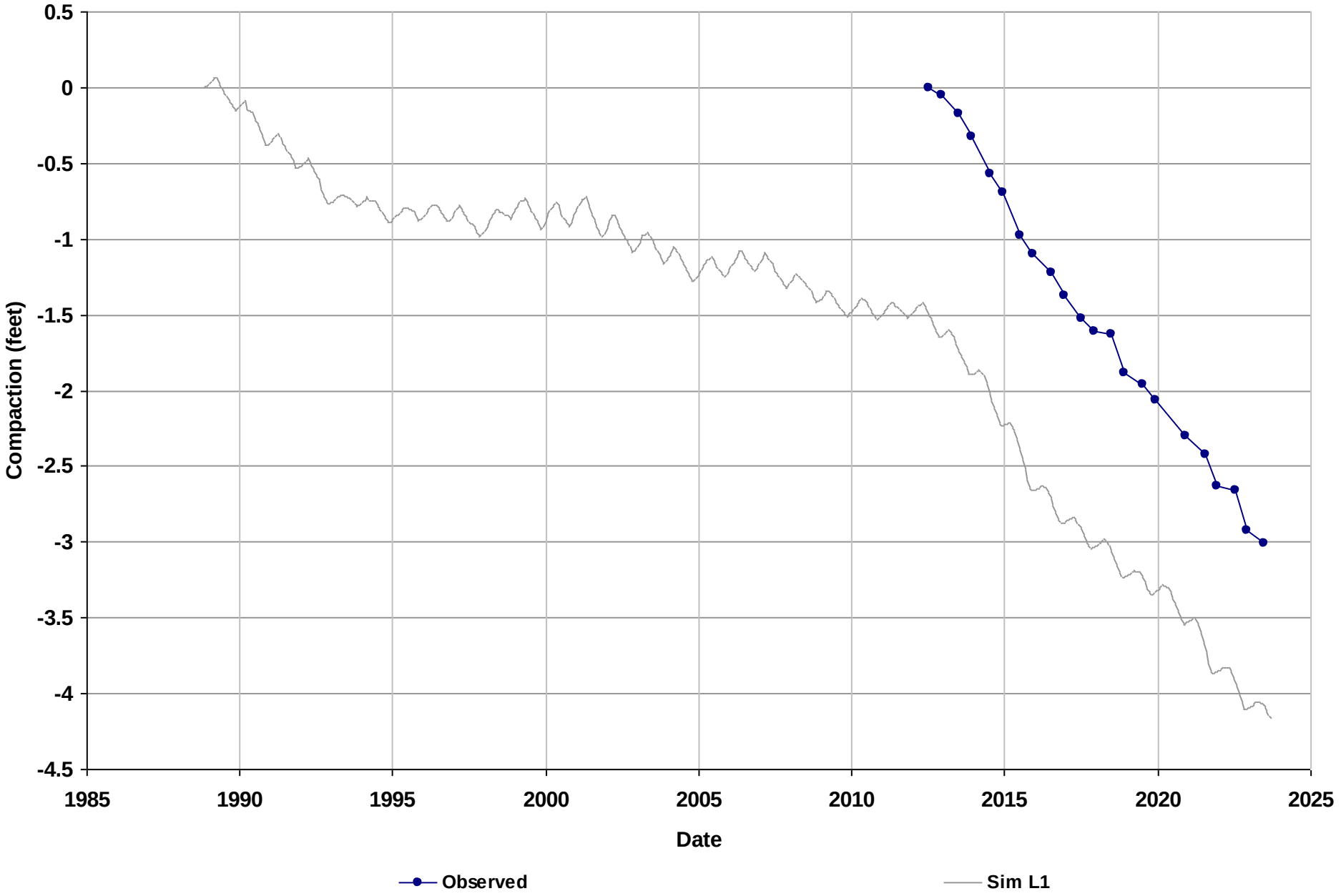
Total Simulated Compaction (feet): -0.75
Total Observed Compaction (feet): -1.05
Average Residual (feet): 0.3



Well Name: SJRRP_29
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

Note: Totals are calculated using the same start and end dates

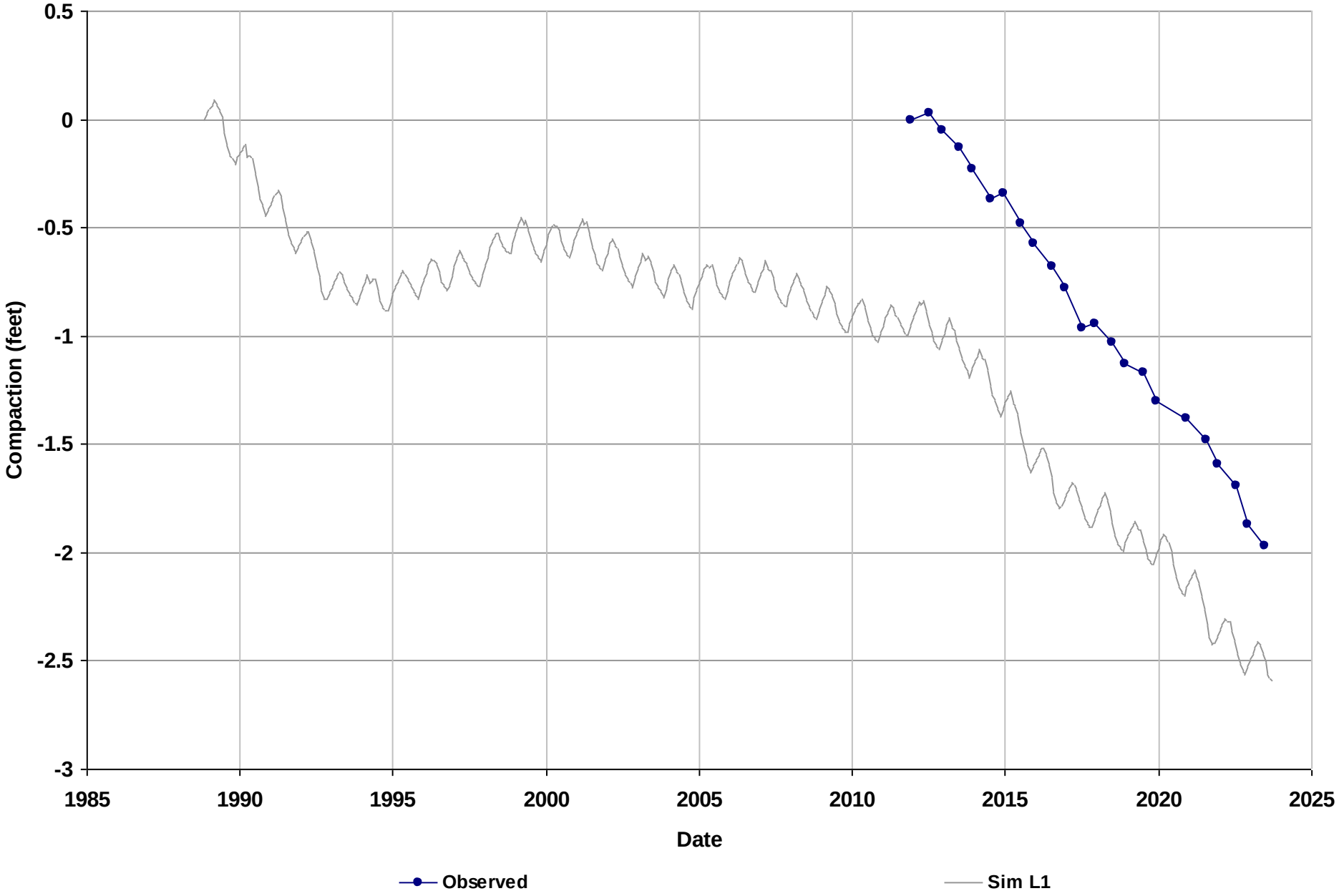
Total Simulated Compaction (feet): -2.59
Total Observed Compaction (feet): -3.01
Average Residual (feet): 0.42



Well Name: SJRRP_127
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

Note: Totals are calculated using the same start and end dates

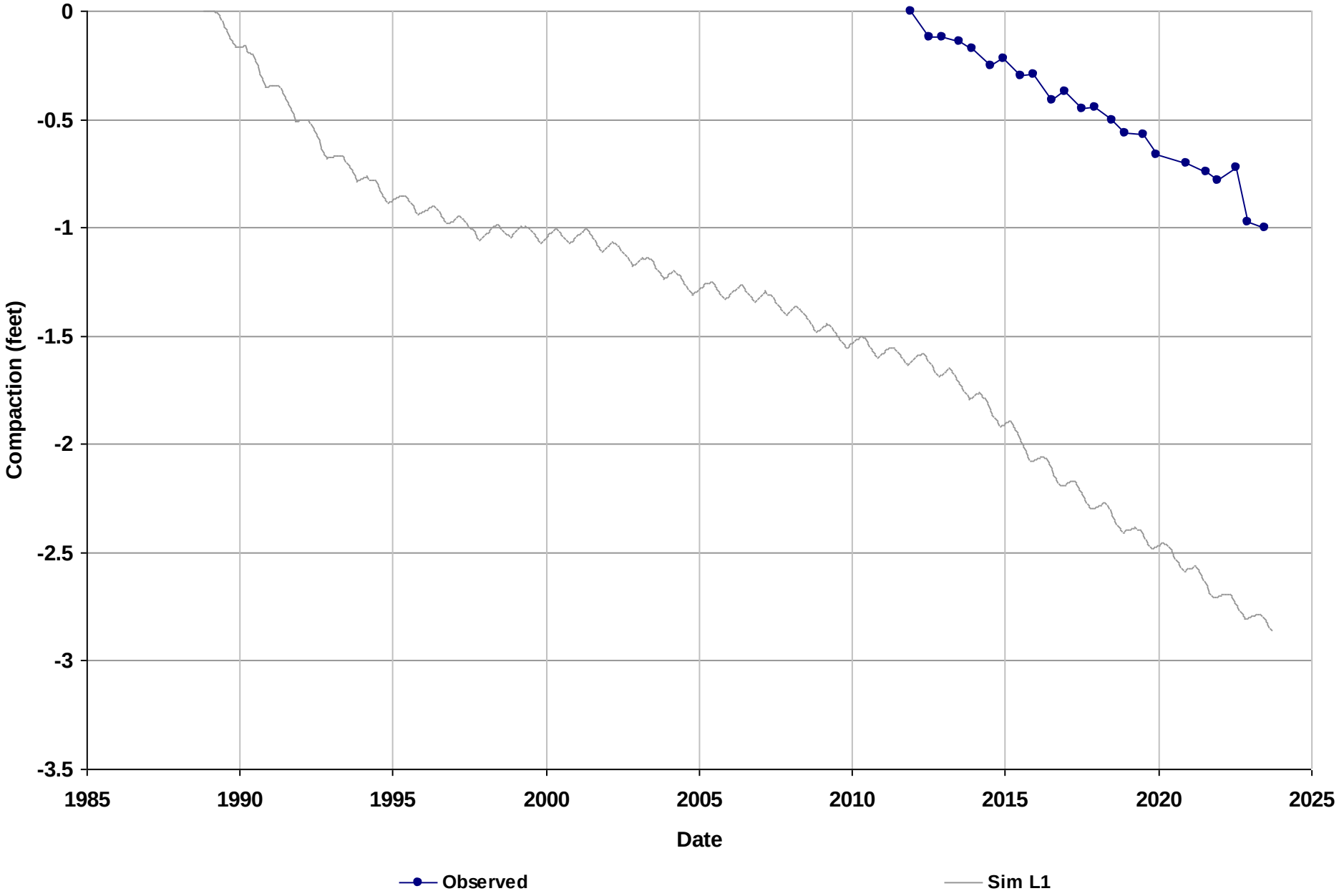
Total Simulated Compaction (feet): -1.57
Total Observed Compaction (feet): -1.97
Average Residual (feet): 0.4



Well Name: SJRRP_141
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

Note: Totals are calculated using the same start and end dates

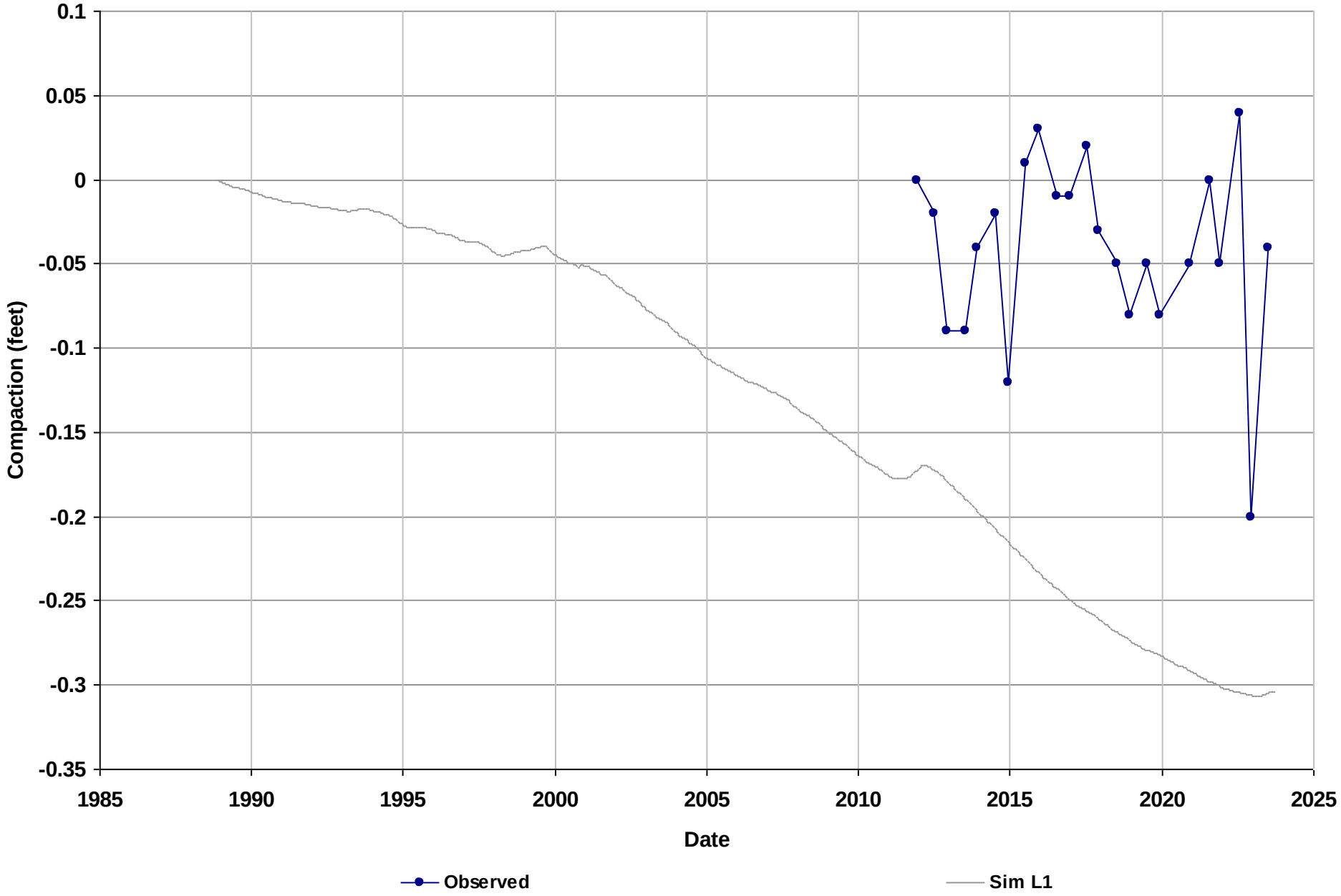
Total Simulated Compaction (feet): -1.19
Total Observed Compaction (feet): -1
Average Residual (feet): -0.19



Well Name: SJRRP_142
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

Note: Totals are calculated using the same start and end dates

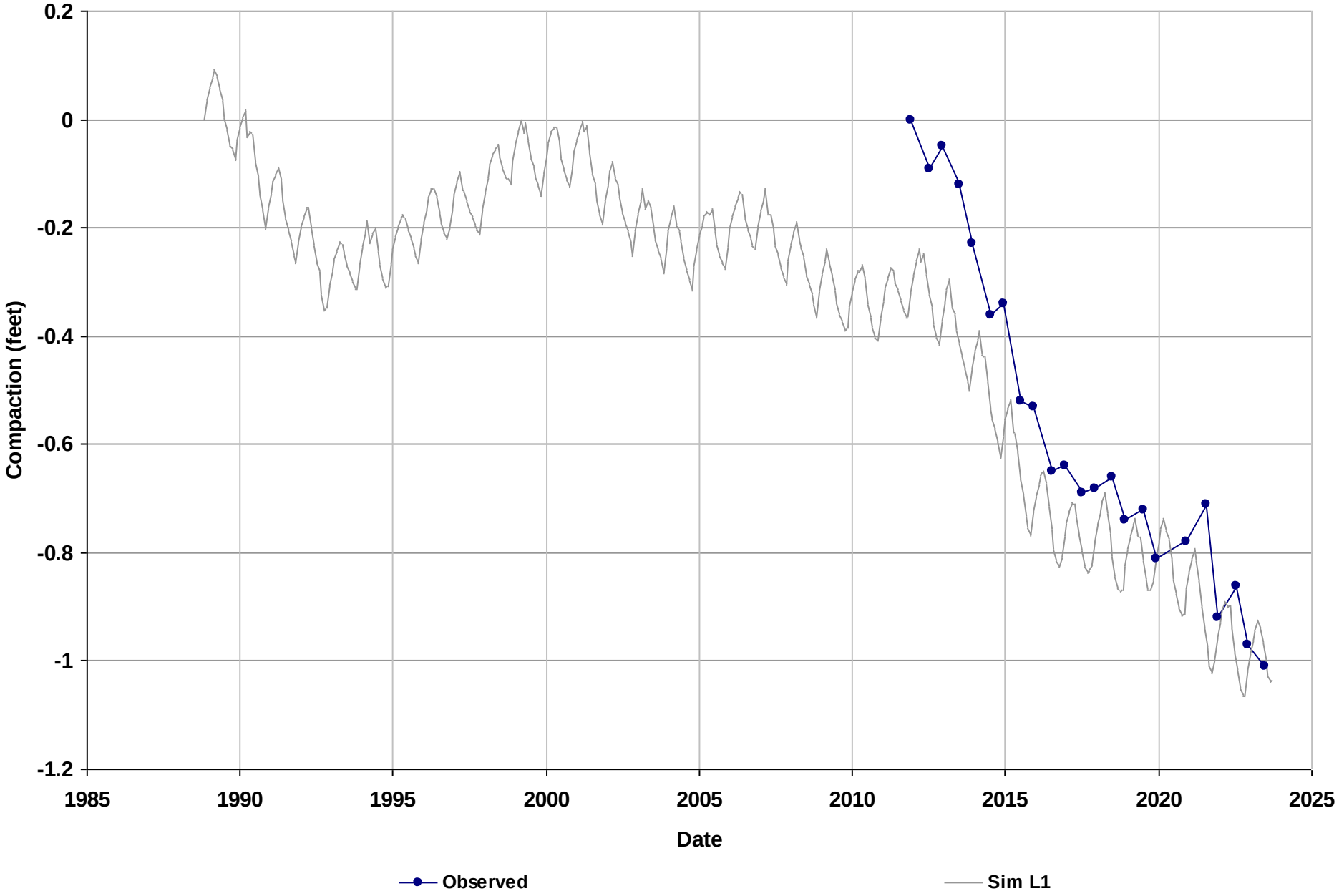
Total Simulated Compaction (feet): -0.13
Total Observed Compaction (feet): -0.04
Average Residual (feet): -0.09



Well Name: SJRRP_160R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

Note: Totals are calculated using the same start and end dates

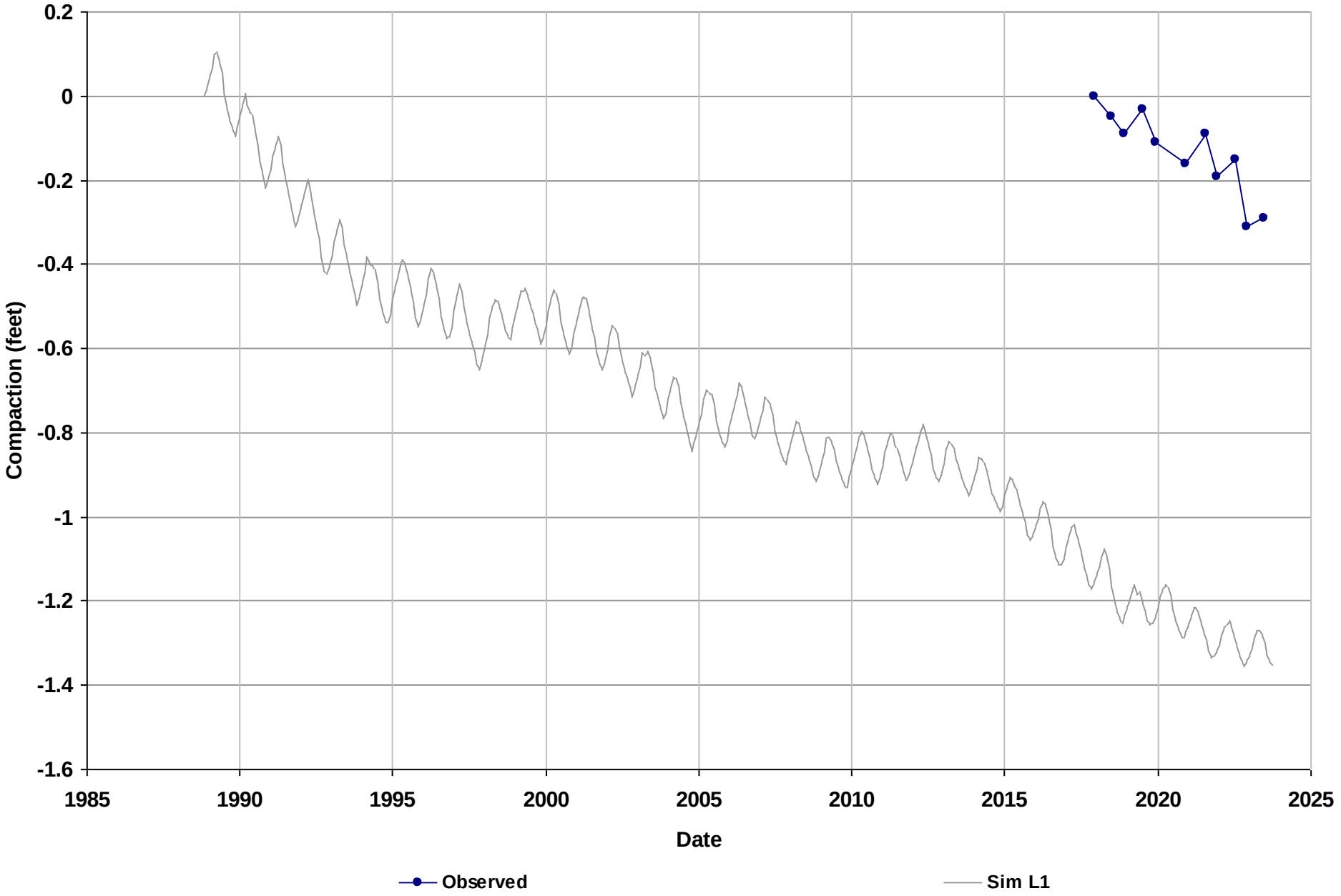
Total Simulated Compaction (feet): -0.68
Total Observed Compaction (feet): -1.01
Average Residual (feet): 0.33



Well Name: SJRRP_165
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

Note: Totals are calculated using the same start and end dates

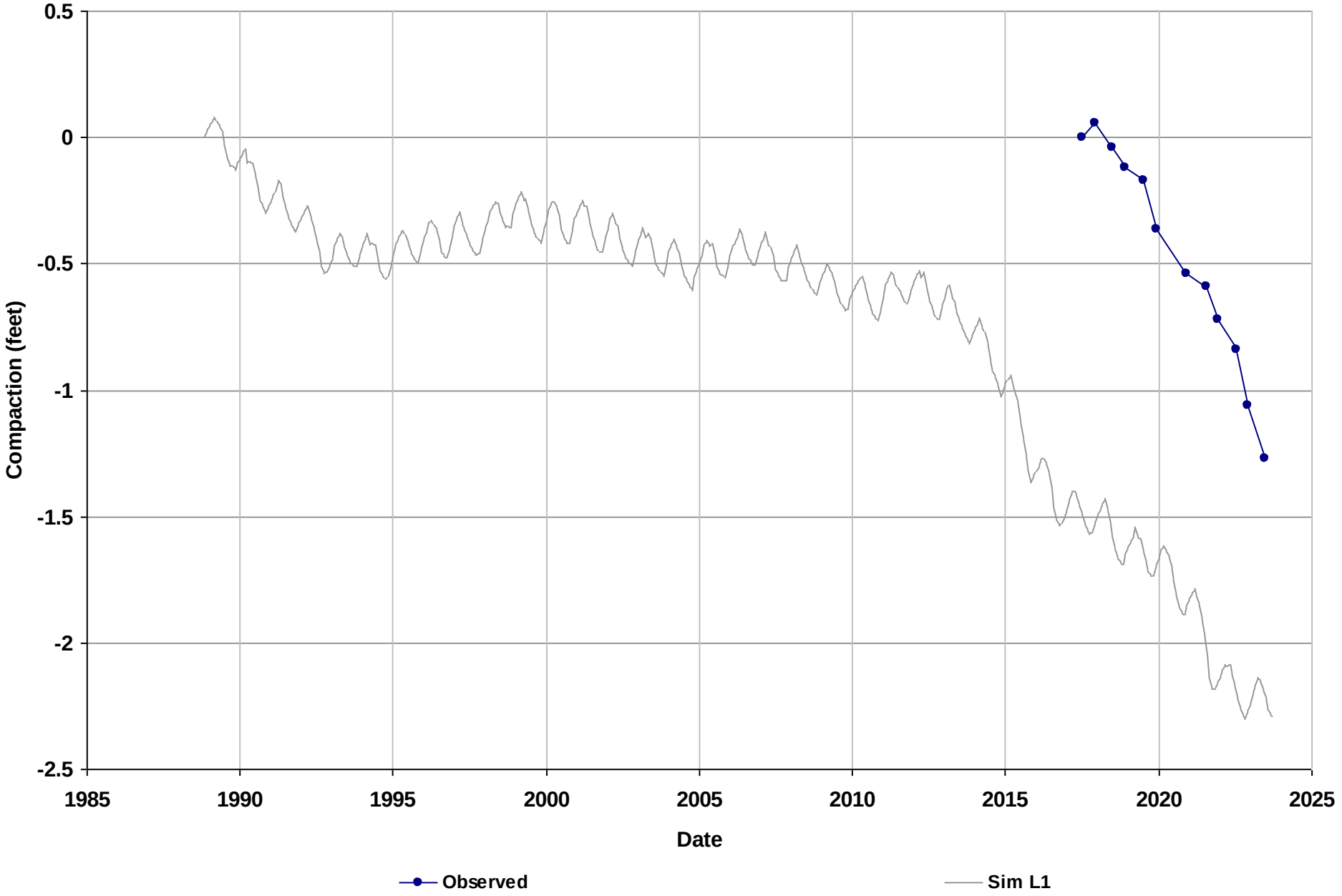
Total Simulated Compaction (feet): -0.15
Total Observed Compaction (feet): -0.29
Average Residual (feet): 0.14



Well Name: SJRRP_201R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

Note: Totals are calculated using the same start and end dates

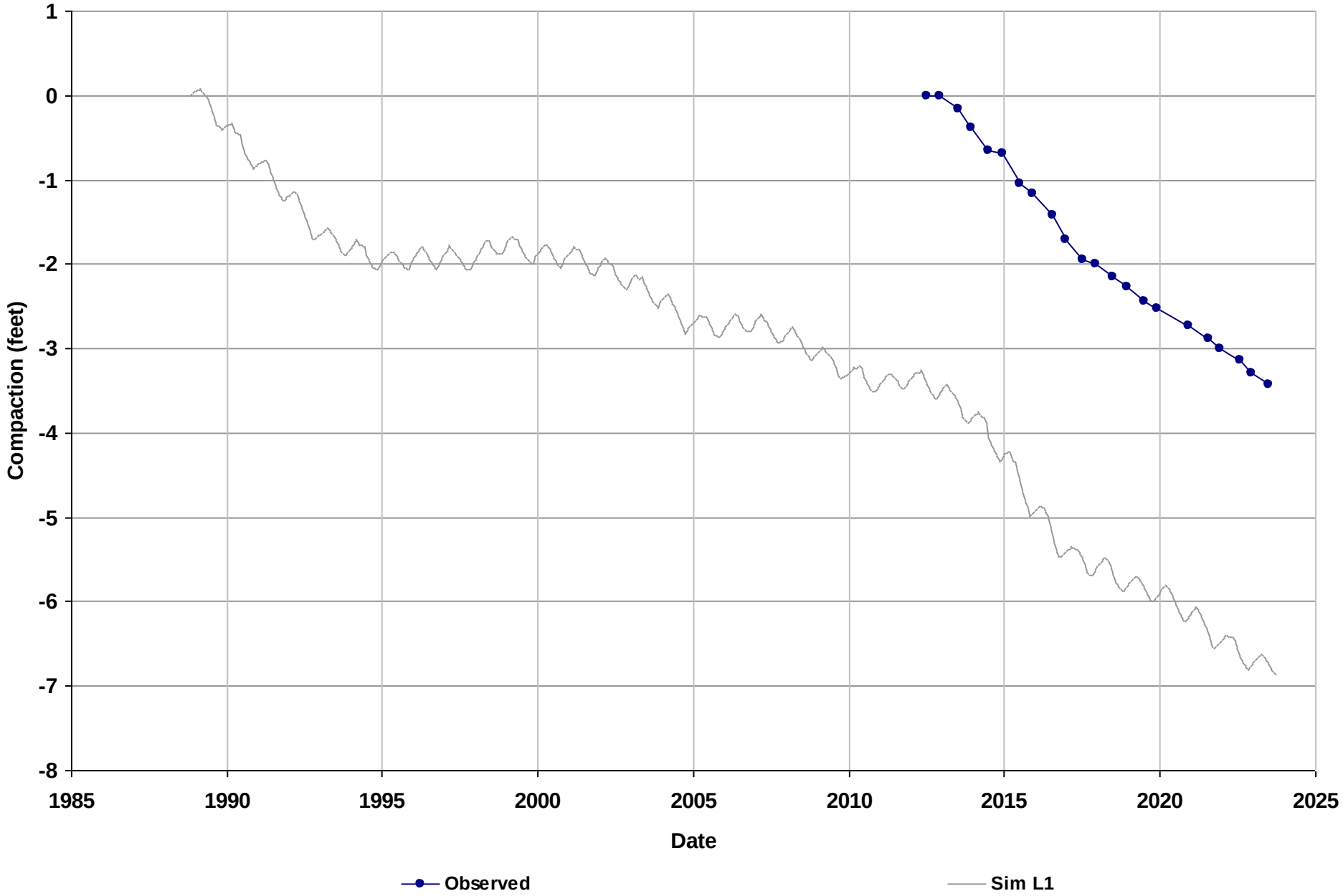
Total Simulated Compaction (feet): -0.74
Total Observed Compaction (feet): -1.27
Average Residual (feet): 0.53



Well Name: SJRRP_1007R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

Note: Totals are calculated using the same start and end dates

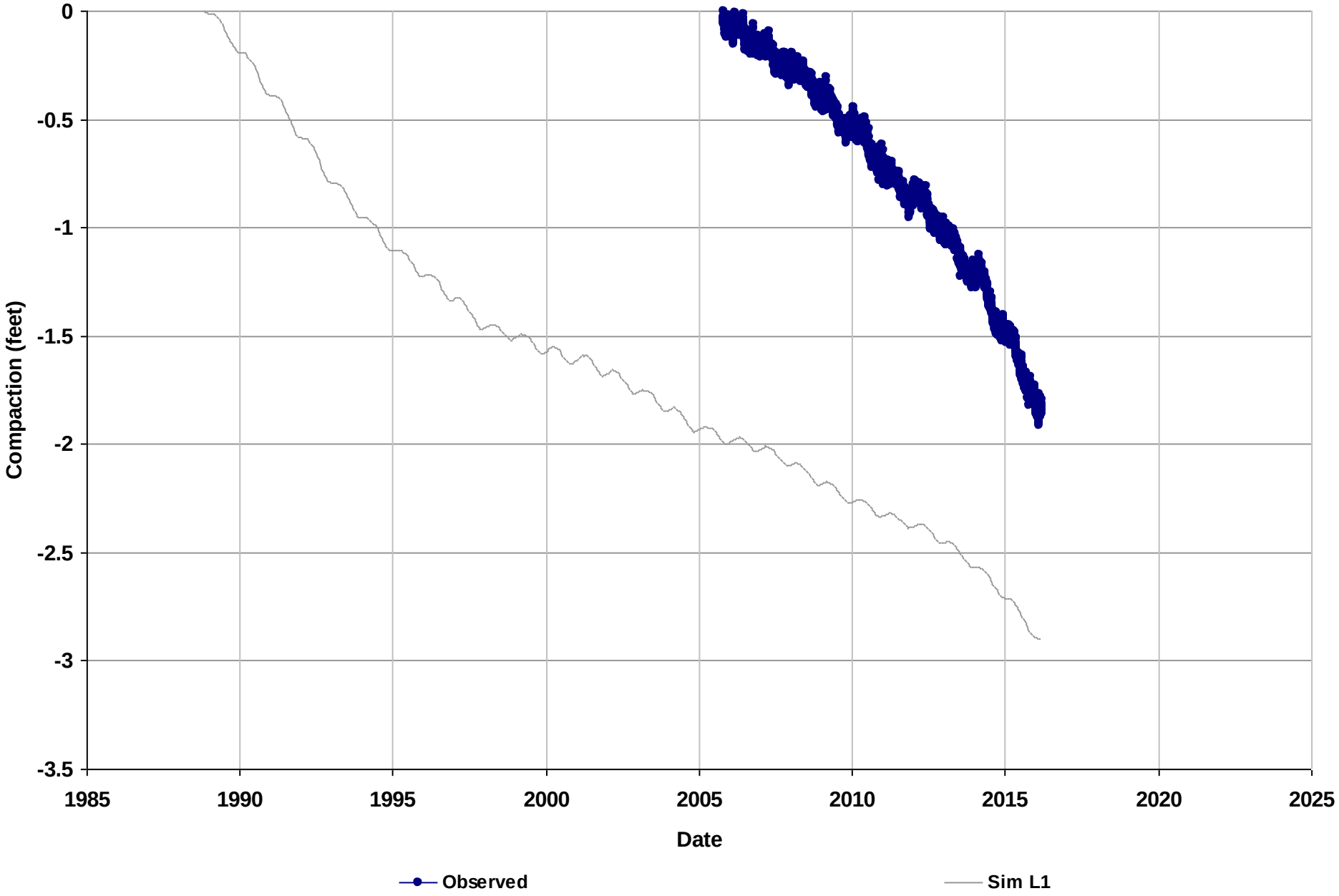
Total Simulated Compaction (feet): -3.33
Total Observed Compaction (feet): -3.42
Average Residual (feet): 0.09



Well Name: P307
Data Source: UNAVCO PBO
Subbasin: Madera
Data Type: CGPS

Note: Totals are calculated using the same start and end dates

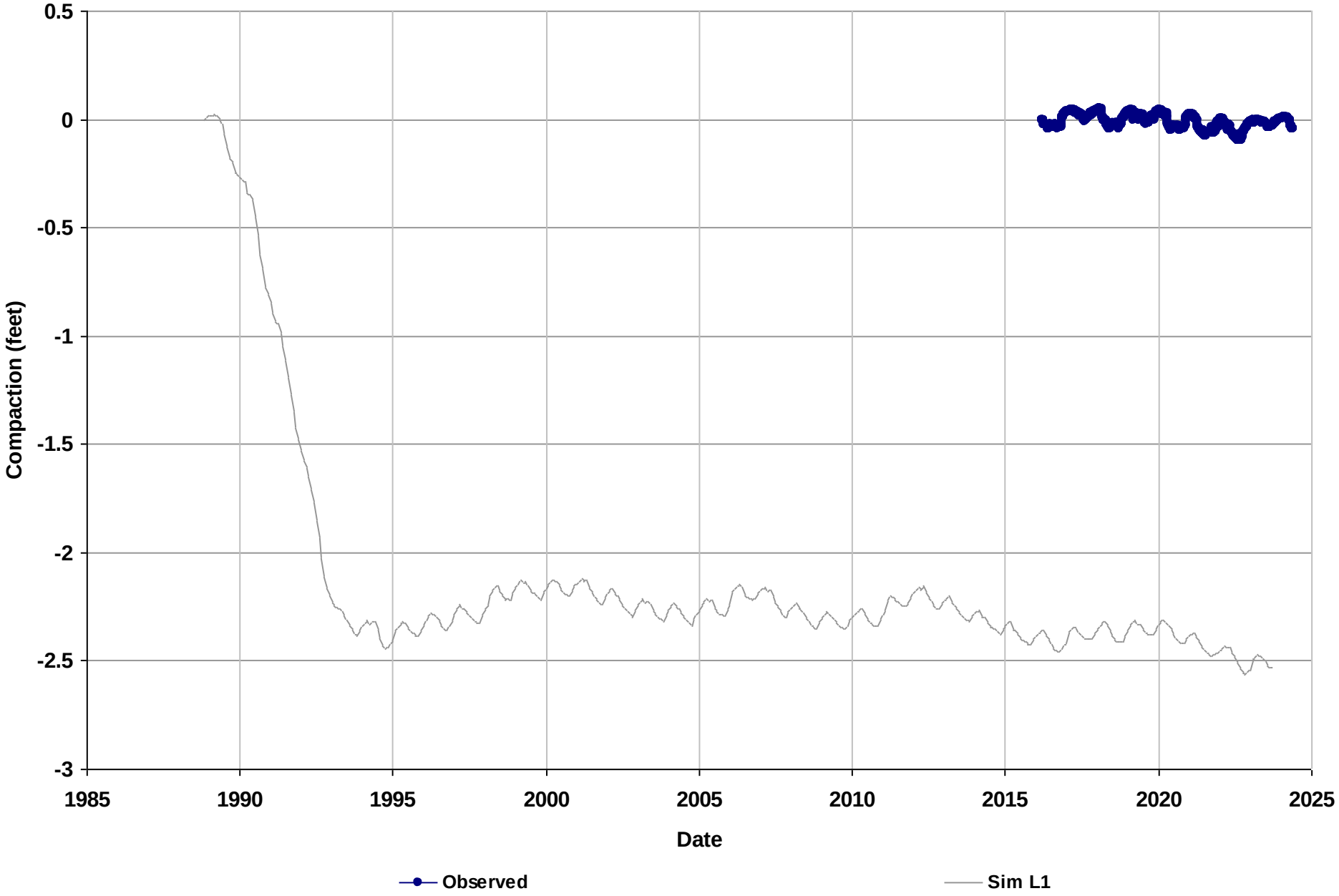
Total Simulated Compaction (feet): -2.25
Total Observed Compaction (feet): -2.37
Average Residual (feet): 0.12



Well Name: 13S/15E-35D5
Data Source: USGS
Subbasin: Delta-Mendota
Data Type: Extensometer

Note: Totals are calculated using the same start and end dates

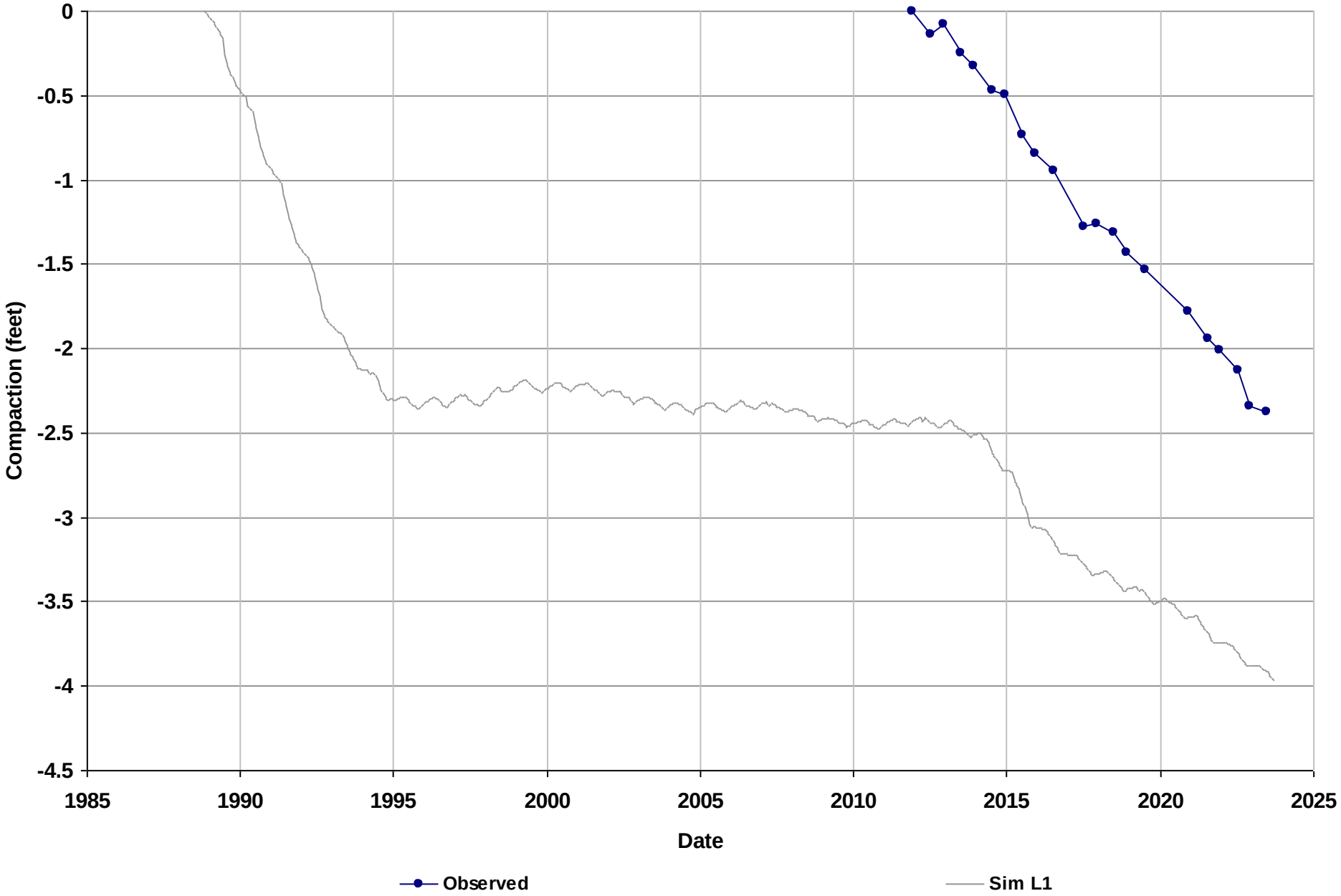
Total Simulated Compaction (feet): -0.17
Total Observed Compaction (feet): 0.04
Average Residual (feet): -0.21



Well Name: SJRRP_101
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

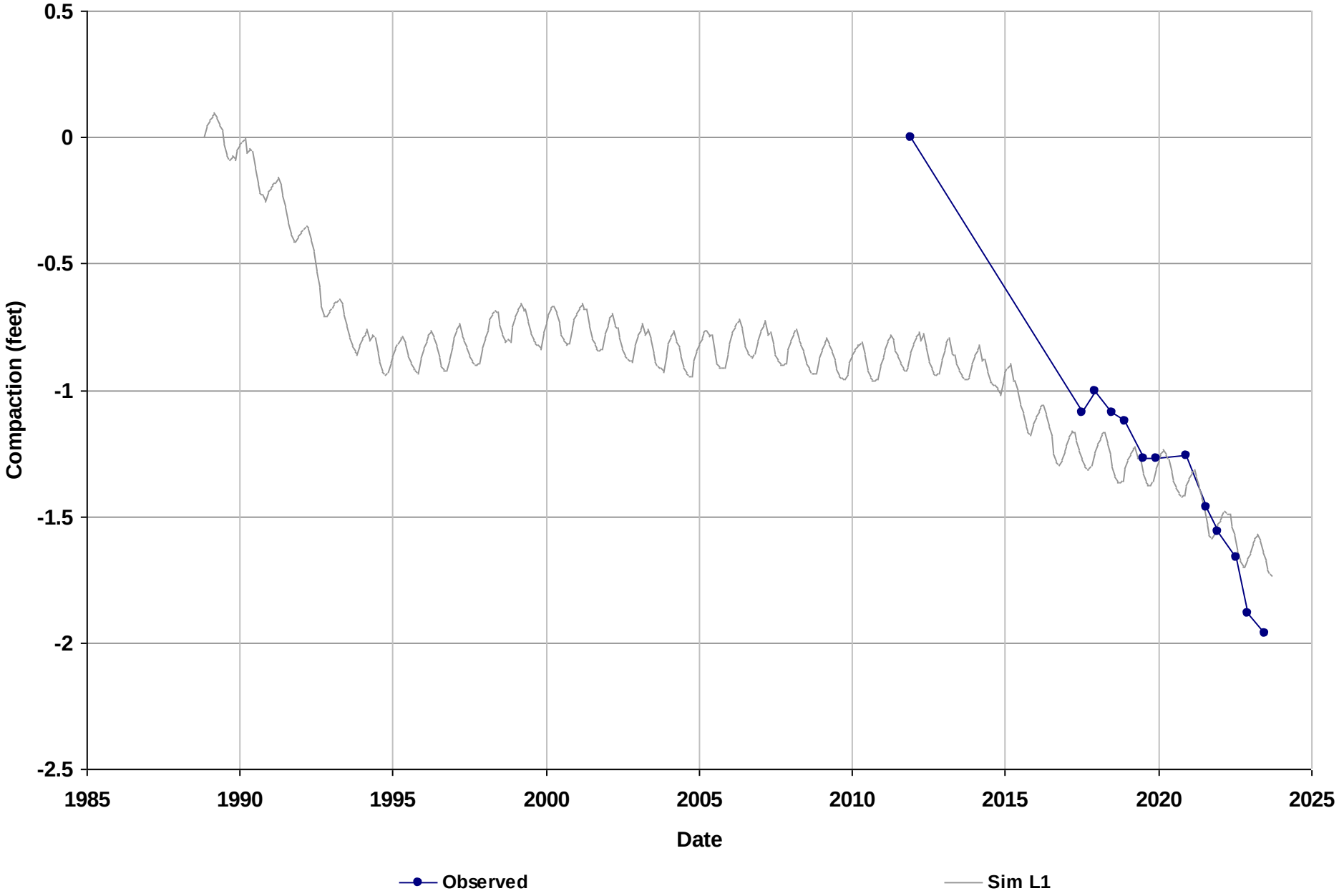
Total Simulated Compaction (feet): -1.48
Total Observed Compaction (feet): -2.37
Average Residual (feet): 0.89



Well Name: SJRRP_104
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

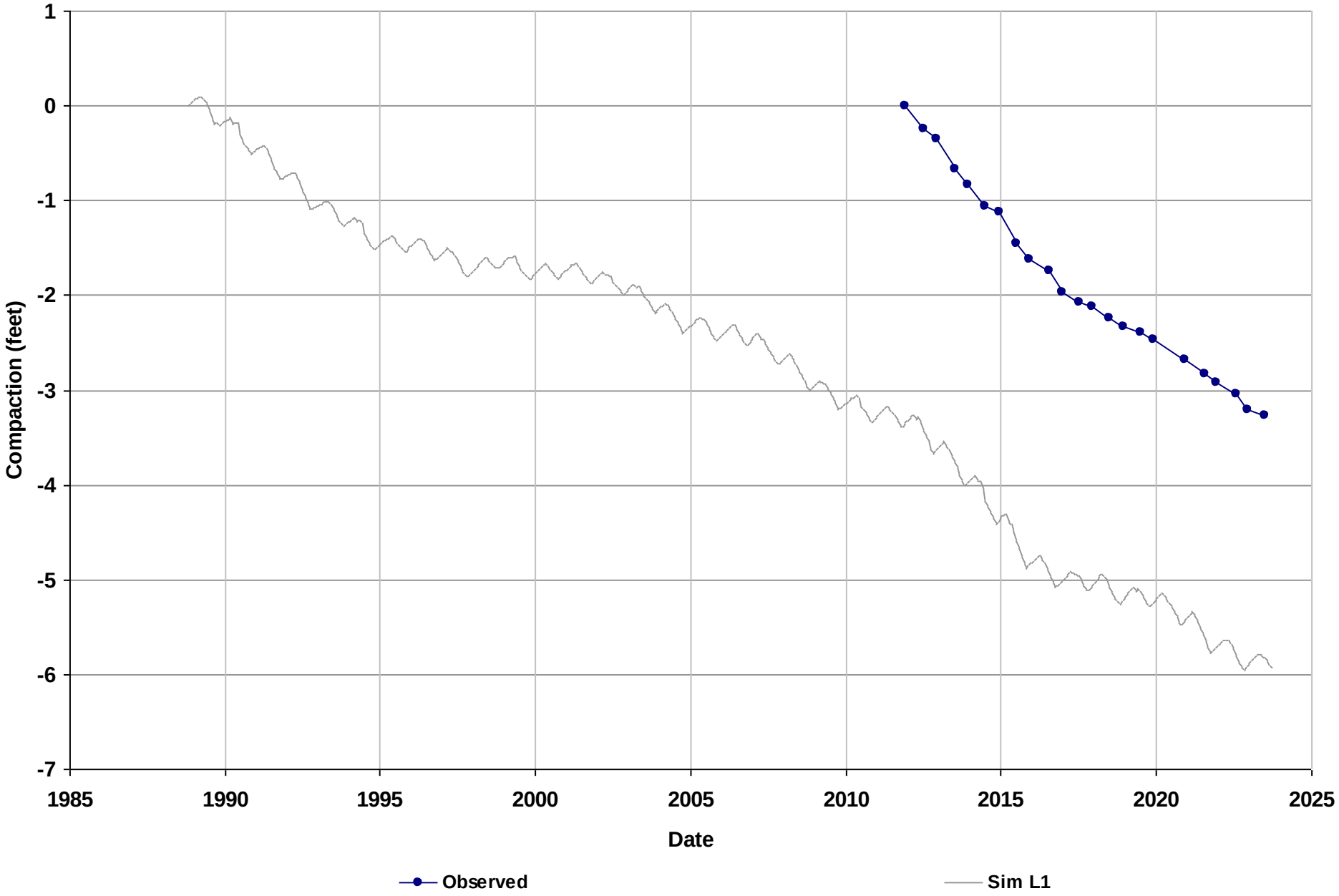
Total Simulated Compaction (feet): -0.82
Total Observed Compaction (feet): -1.96
Average Residual (feet): 1.14



Well Name: SJRRP_121
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

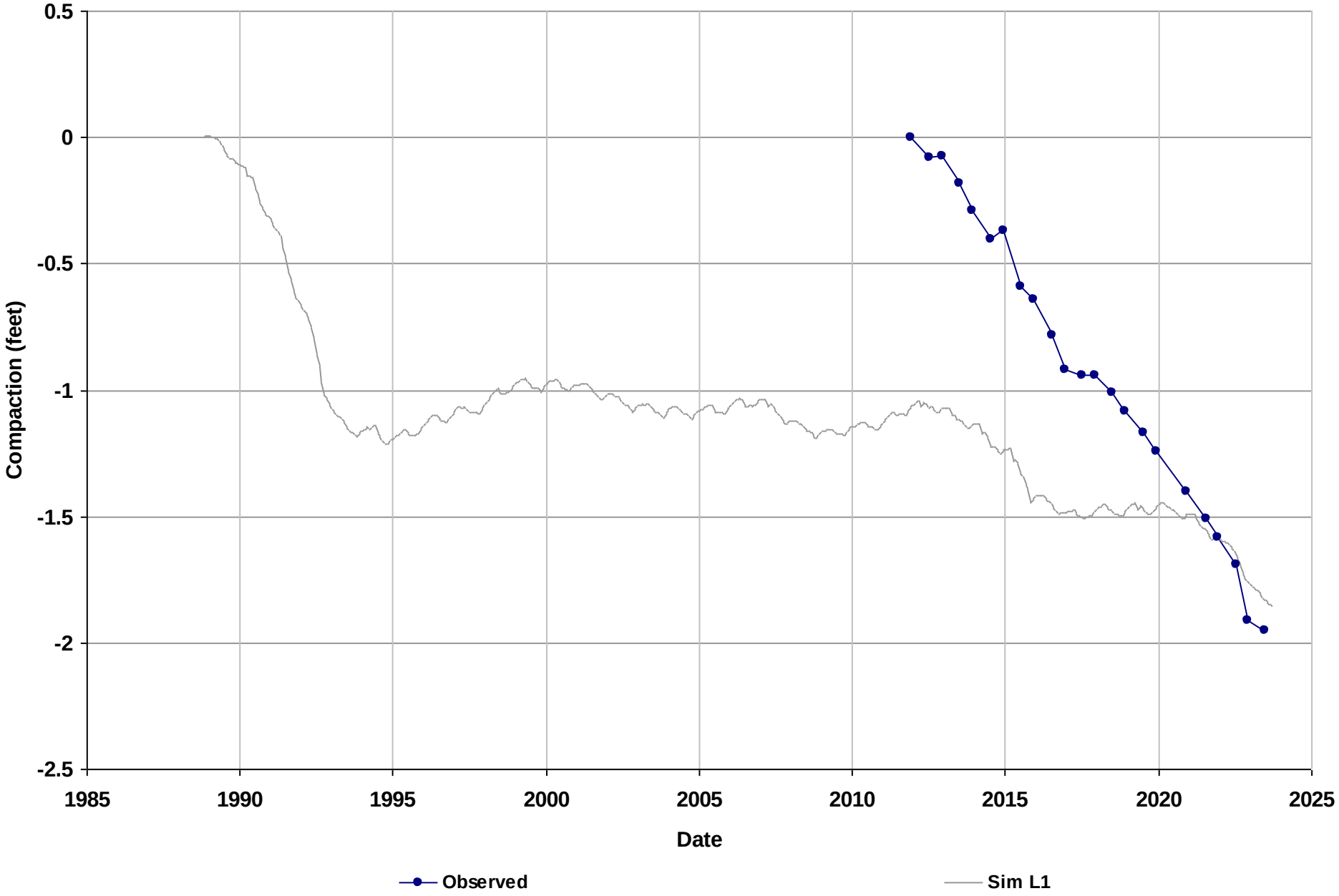
Total Simulated Compaction (feet): -2.48
Total Observed Compaction (feet): -3.27
Average Residual (feet): 0.79



Well Name: SJRRP_129
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

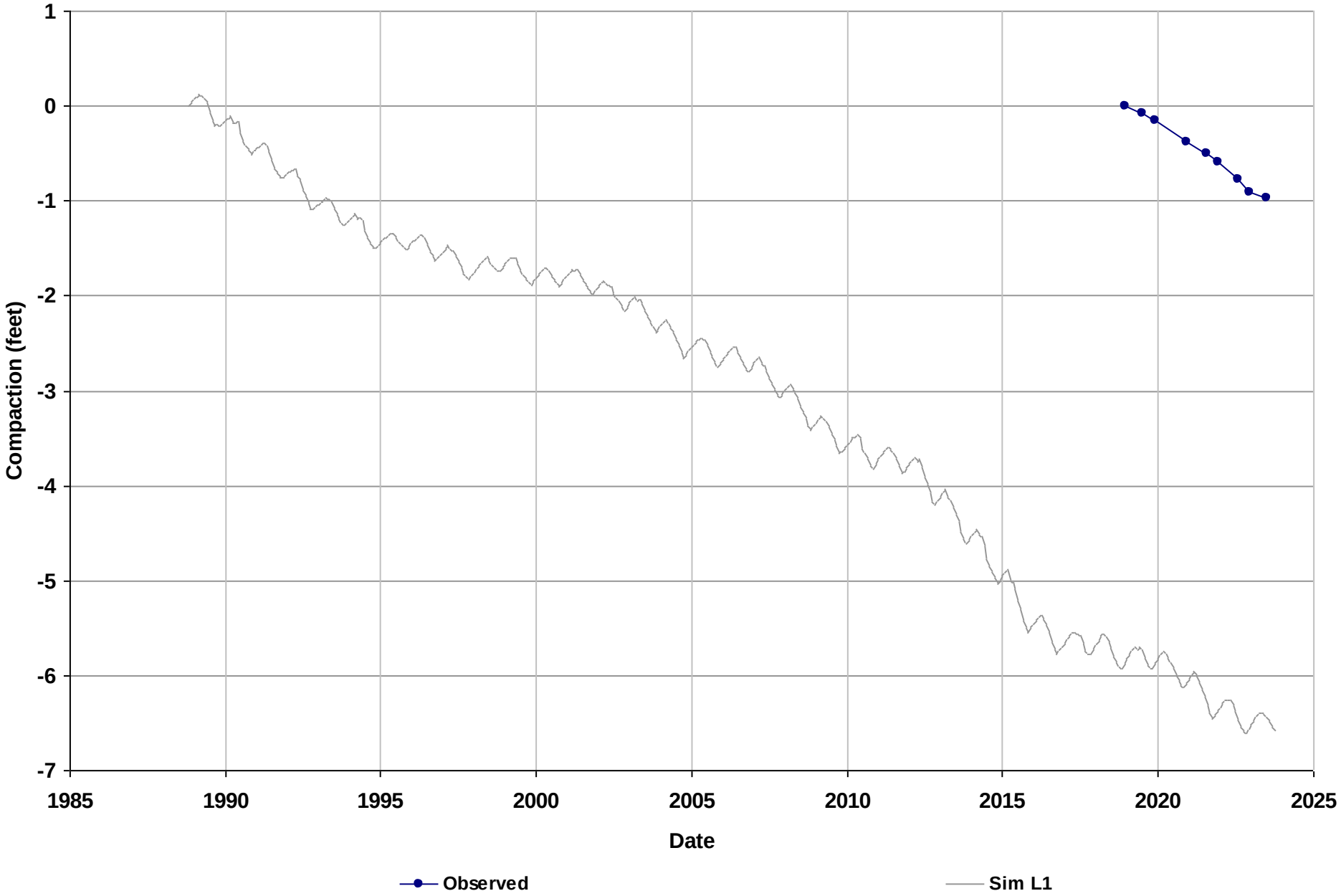
Total Simulated Compaction (feet): -0.76
Total Observed Compaction (feet): -1.95
Average Residual (feet): 1.19



Well Name: SJRRP_132R
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

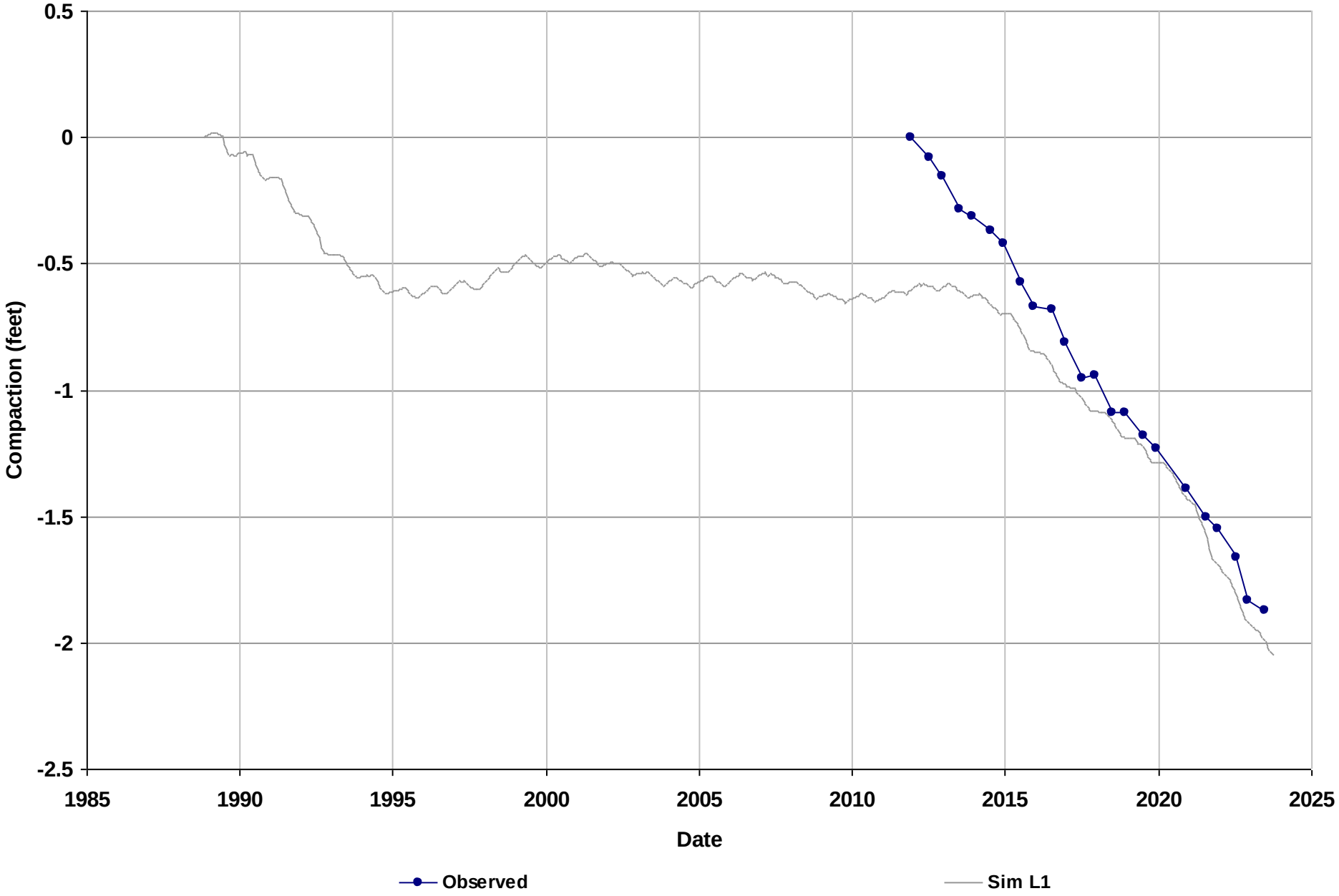
Total Simulated Compaction (feet): -0.57
Total Observed Compaction (feet): -0.96
Average Residual (feet): 0.39



Well Name: SJRRP_147
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

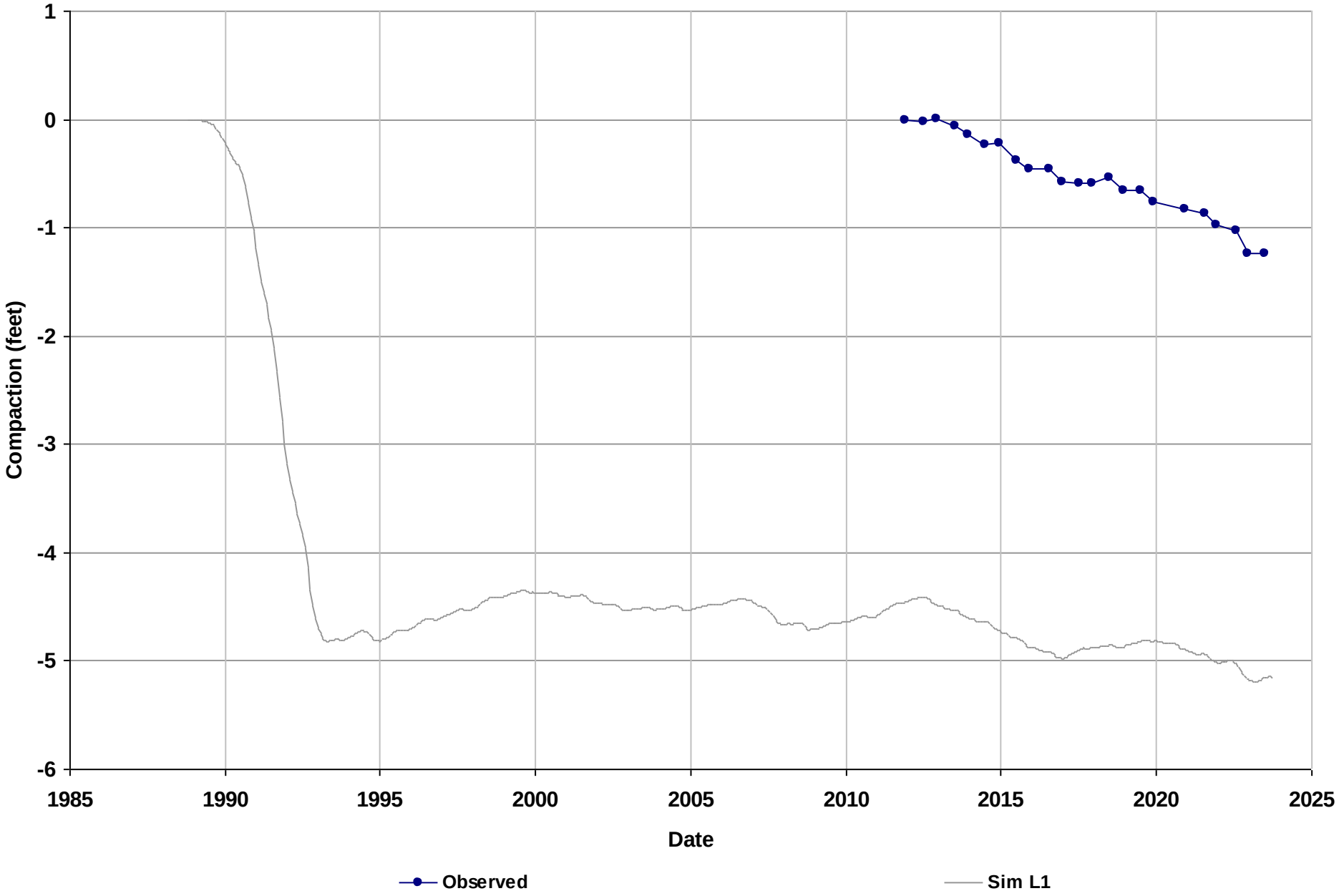
Total Simulated Compaction (feet): -1.39
Total Observed Compaction (feet): -1.87
Average Residual (feet): 0.48



Well Name: SJRRP_153
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

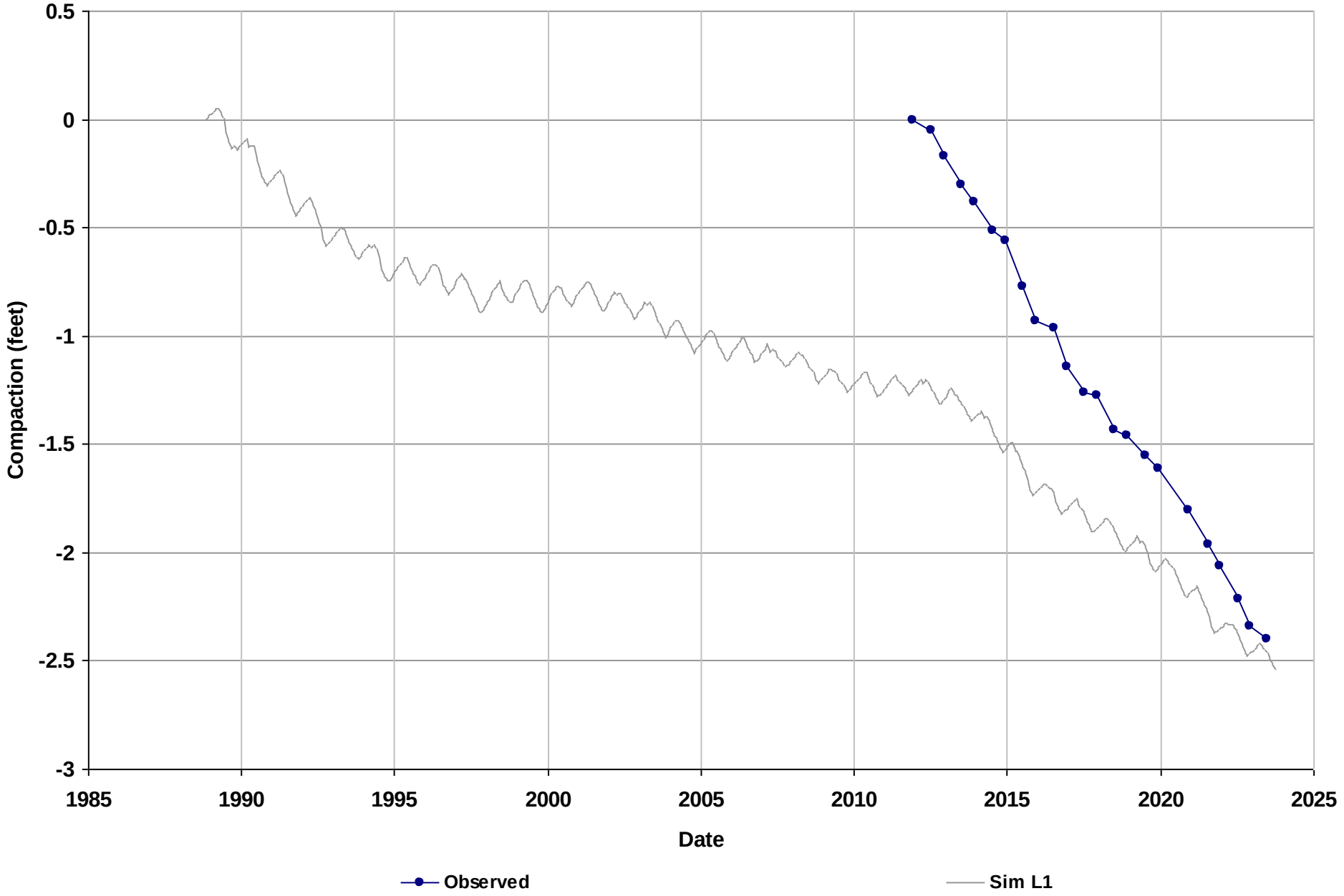
Total Simulated Compaction (feet): -0.71
Total Observed Compaction (feet): -1.24
Average Residual (feet): 0.53



Well Name: SJRRP_157
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

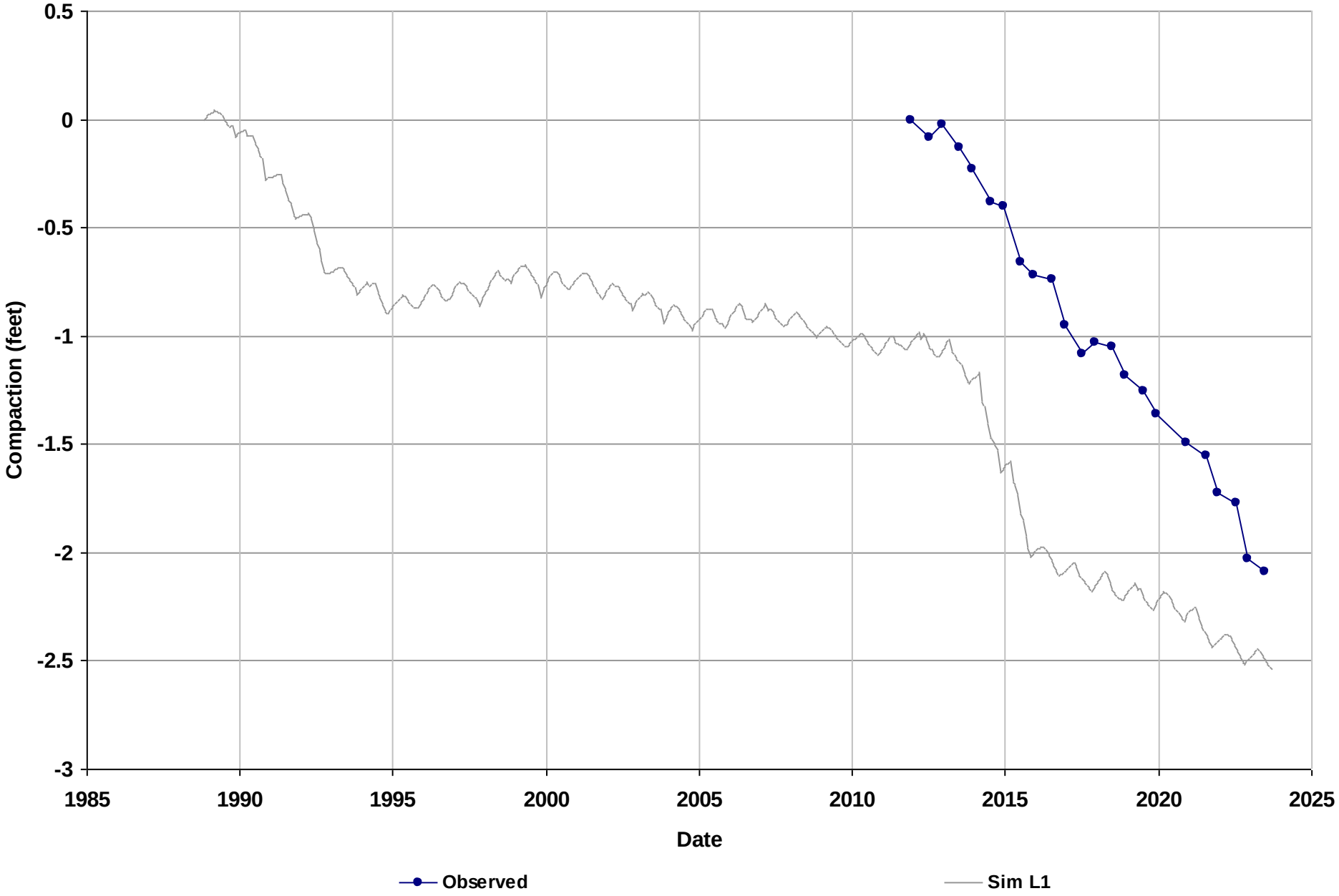
Total Simulated Compaction (feet): -1.22
Total Observed Compaction (feet): -2.4
Average Residual (feet): 1.18



Well Name: SJRRP_158
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

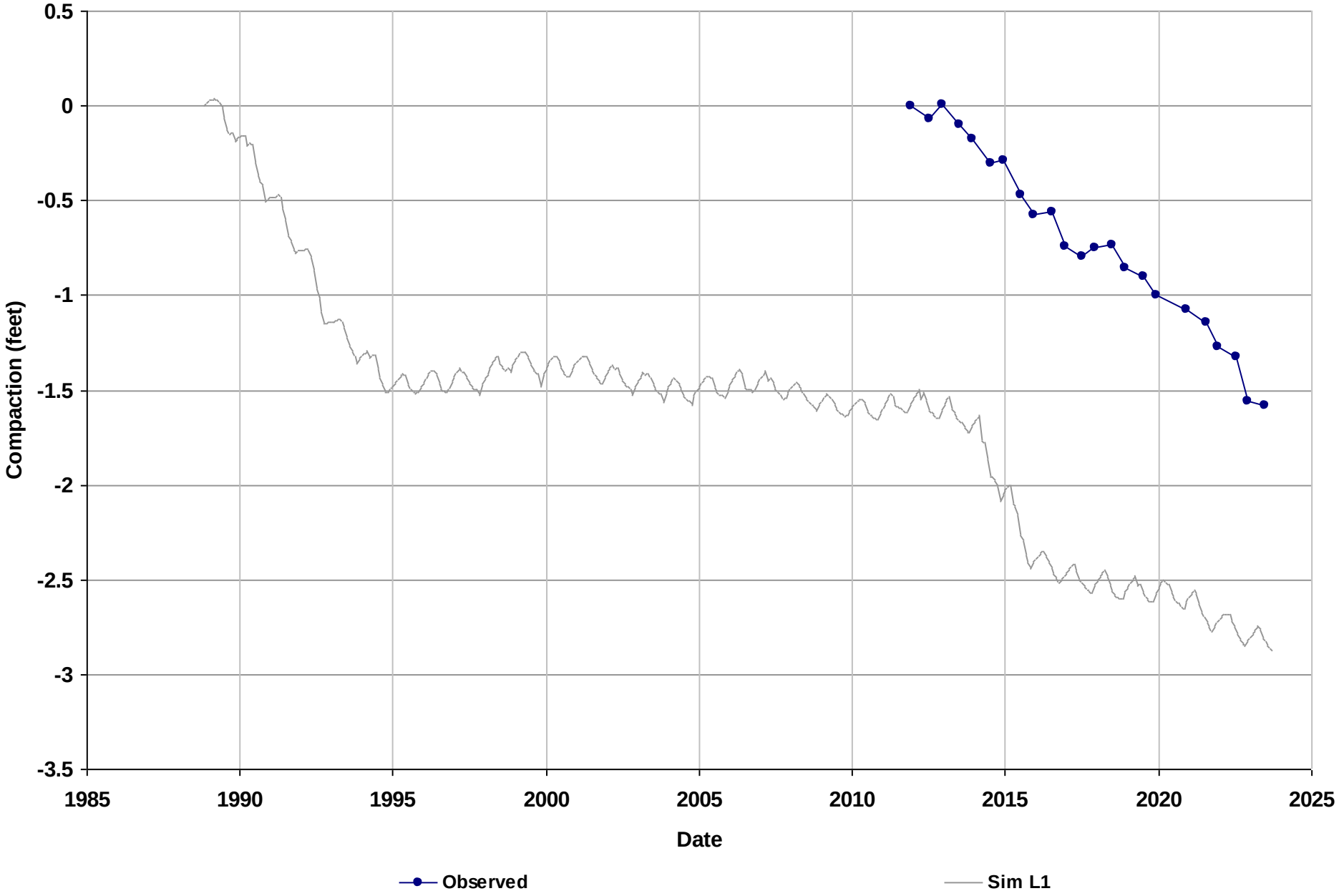
Total Simulated Compaction (feet): -1.47
Total Observed Compaction (feet): -2.09
Average Residual (feet): 0.62



Well Name: SJRRP_159
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

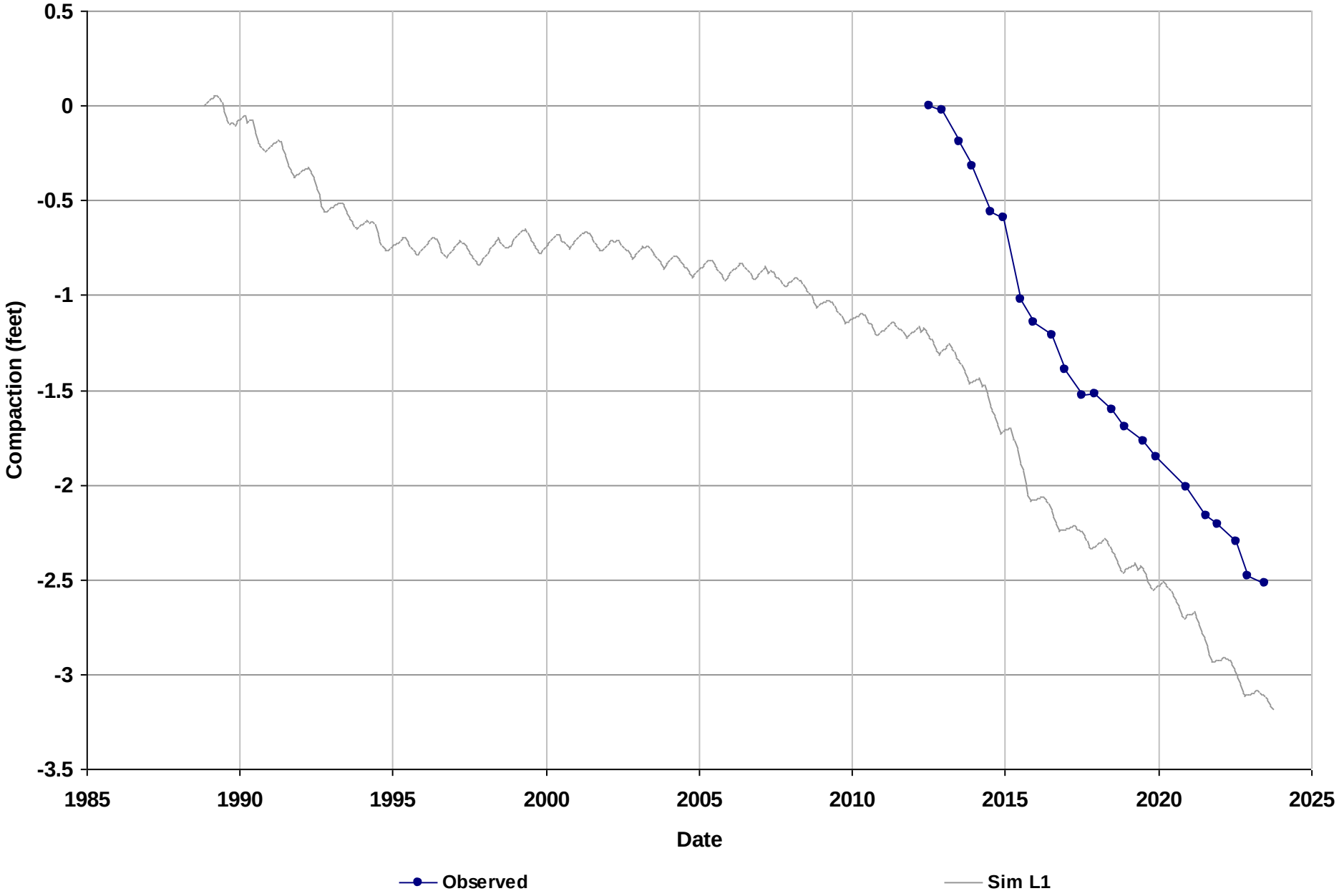
Total Simulated Compaction (feet): -1.26
Total Observed Compaction (feet): -1.58
Average Residual (feet): 0.32



Well Name: SJRRP_1009
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

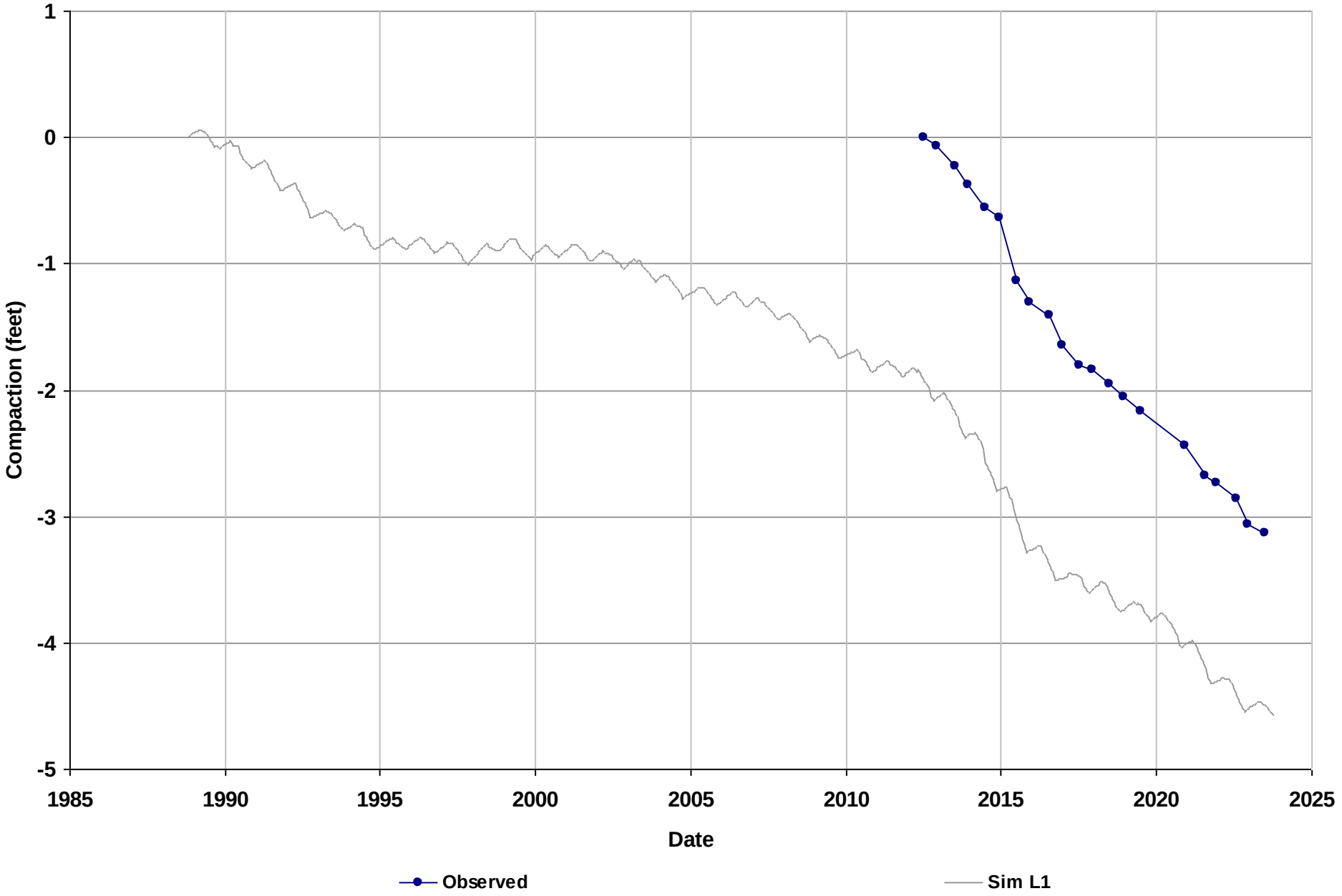
Total Simulated Compaction (feet): -1.89
Total Observed Compaction (feet): -2.52
Average Residual (feet): 0.63



Well Name: SJRRP_2562
Data Source: UBSR SJRRP
Subbasin: Delta-Mendota
Data Type: GPS

Note: Totals are calculated using the same start and end dates

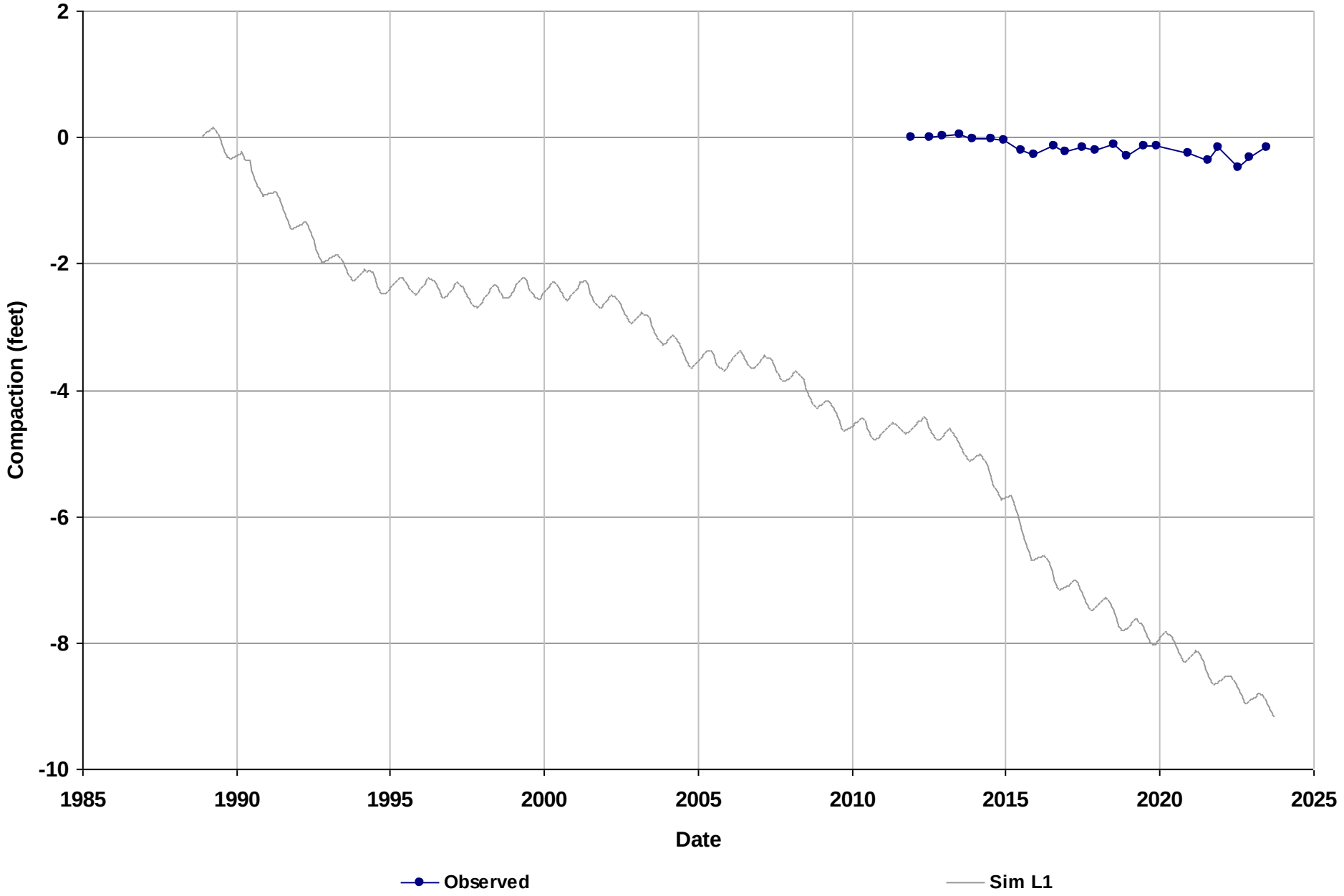
Total Simulated Compaction (feet): -2.57
Total Observed Compaction (feet): -3.13
Average Residual (feet): 0.56



Well Name: SJRRP_131
Data Source: UBSR SJRRP
Subbasin: Merced
Data Type: GPS

Note: Totals are calculated using the same start and end dates

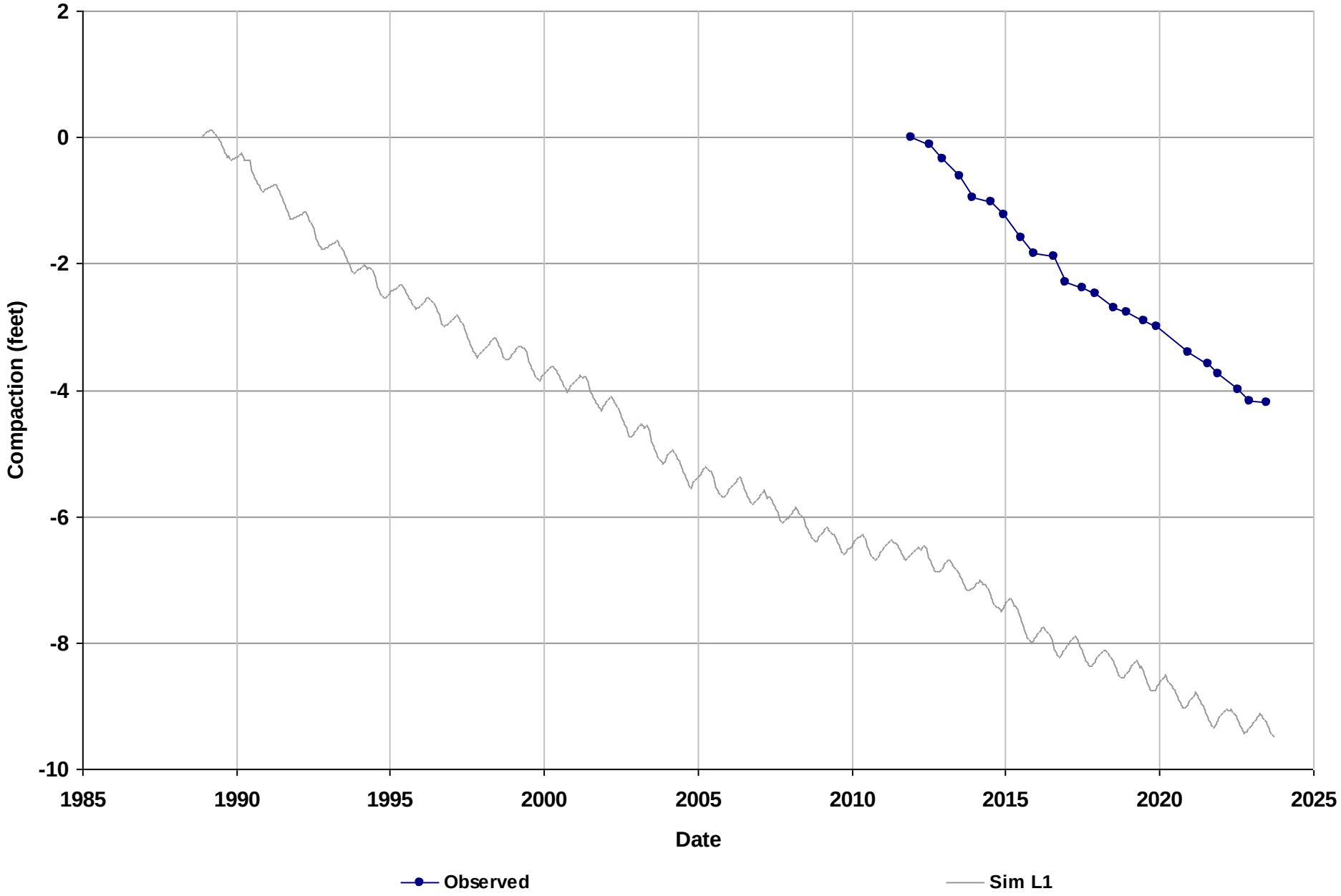
Total Simulated Compaction (feet): -4.33
Total Observed Compaction (feet): -0.15
Average Residual (feet): -4.18



Well Name: SJRRP_133
Data Source: UBSR SJRRP
Subbasin: Merced
Data Type: GPS

Note: Totals are calculated using the same start and end dates

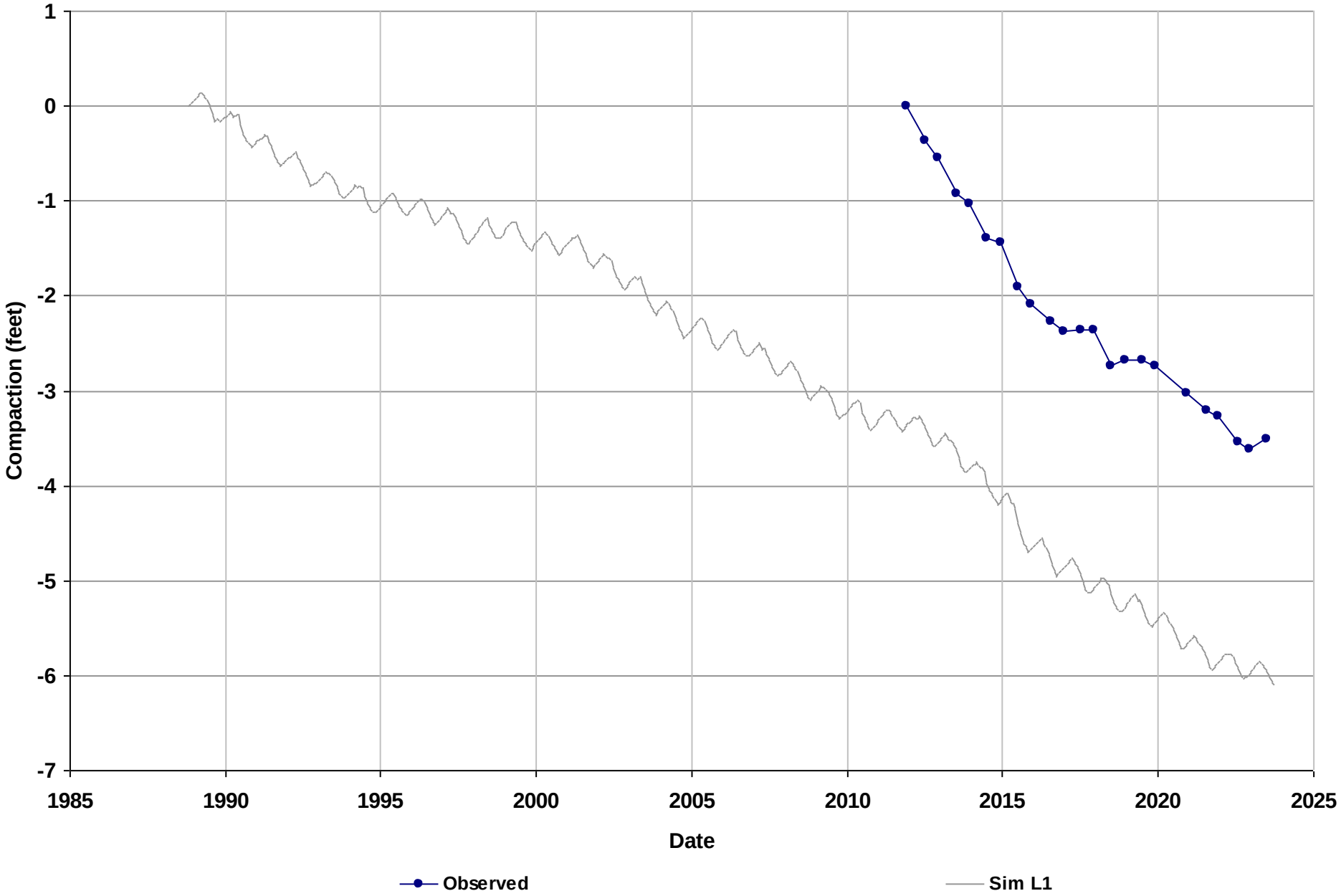
Total Simulated Compaction (feet): -2.68
Total Observed Compaction (feet): -4.19
Average Residual (feet): 1.51



Well Name: SJRRP_156
Data Source: UBSR SJRRP
Subbasin: Merced
Data Type: GPS

Note: Totals are calculated using the same start and end dates

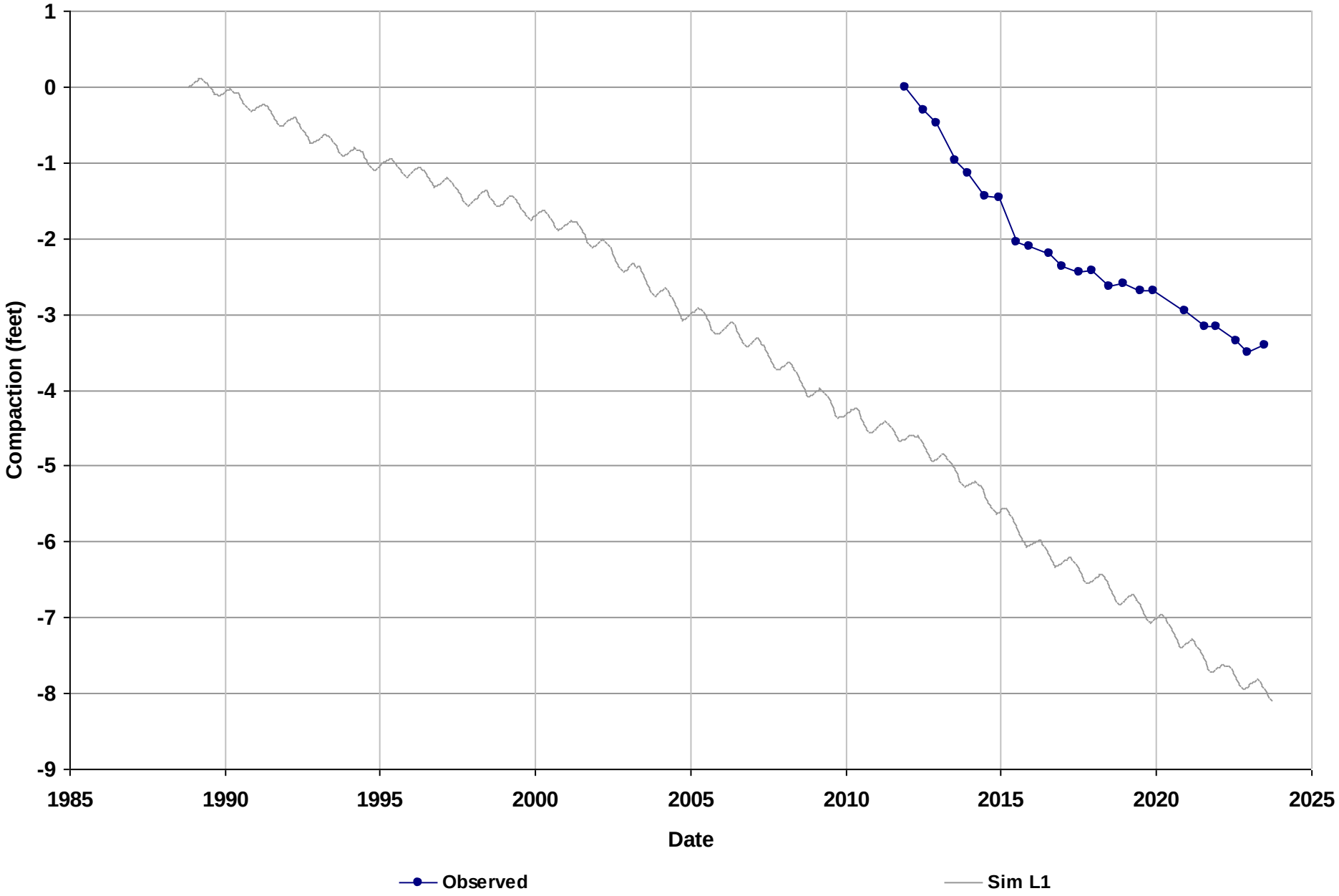
Total Simulated Compaction (feet): -2.6
Total Observed Compaction (feet): -3.5
Average Residual (feet): 0.9



Well Name: SJRRP_162
Data Source: UBSR SJRRP
Subbasin: Merced
Data Type: GPS

Note: Totals are calculated using the same start and end dates

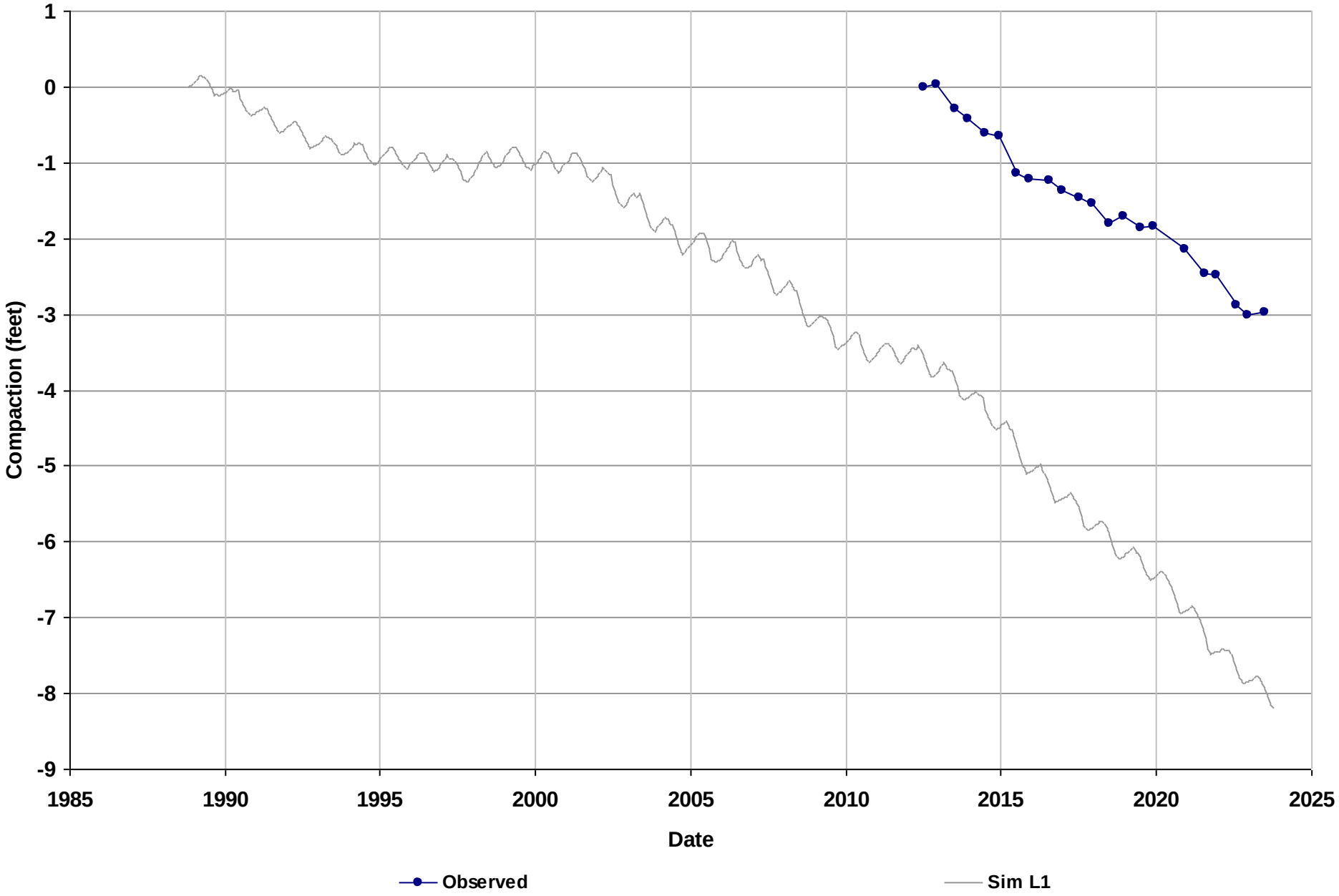
Total Simulated Compaction (feet): -3.3
Total Observed Compaction (feet): -3.41
Average Residual (feet): 0.11



Well Name: SJRRP_2065
Data Source: UBSR SJRRP
Subbasin: Merced
Data Type: GPS

Note: Totals are calculated using the same start and end dates

Total Simulated Compaction (feet): -4.37
Total Observed Compaction (feet): -2.97
Average Residual (feet): -1.4



APPENDIX D

Water Budget Results

D.1 Chowchilla Subbasin Water Budget Results

D.1.a Chowchilla Water District GSA Water Budget Results
D.1.b Madera County - East GSA Water Budget Results
D.1.c Madera County - West GSA Water Budget Results
D.1.d Triangle T Water District GSA Water Budget Results
D.1.e Sierra Vista Mutual Water Company GSA Water Budget Results

D.2 Madera Subbasin Water Budget Results

D.2.a City of Madera District GSA Water Budget Results
D.2.b Madera County GSA Water Budget Results
D.2.c Madera Irrigation District GSA Water Budget Results
D.2.d Madera Water District GSA Water Budget Results
D.2.e Gravelly Ford Water District GSA Water Budget Results
D.2.f New Stone Water District GSA Water Budget Results
D.2.g Root Creek water District GSA Water Budget Results

LSCE

APPENDIX D.1

Chowchilla Subbasin Water Budget Results

Chowchilla Subbasin Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		23,000	88,000	74,000	-250,000	7,400	-57,000	-57,000
1990 (C)		20,000	72,000	88,000	-280,000	13,000	-91,000	-150,000
1991 (C)		37,000	81,000	78,000	-270,000	12,000	-60,000	-210,000
1992 (C)		30,000	85,000	86,000	-290,000	18,000	-74,000	-280,000
1993 (W)		90,000	200,000	23,000	-180,000	4,100	140,000	-140,000
1994 (C)		51,000	110,000	42,000	-250,000	6,700	-31,000	-170,000
1995 (W)		78,000	180,000	4,400	-160,000	2,000	100,000	-73,000
1996 (W)		74,000	170,000	21,000	-230,000	3,200	43,000	-30,000
1997 (W)		76,000	220,000	25,000	-260,000	3,900	70,000	40,000
1998 (W)		62,000	260,000	-23,000	-160,000	-230	140,000	180,000
1999 (AN)		59,000	100,000	11,000	-230,000	3,900	-53,000	130,000
2000 (AN)		63,000	99,000	12,000	-230,000	11,000	-50,000	81,000
2001 (D)		52,000	82,000	21,000	-250,000	18,000	-73,000	7,700
2002 (D)		36,000	86,000	51,000	-320,000	28,000	-120,000	-110,000
2003 (BN)		46,000	94,000	44,000	-290,000	25,000	-81,000	-190,000
2004 (D)		39,000	90,000	80,000	-350,000	31,000	-110,000	-300,000
2005 (W)		77,000	170,000	-4,200	-160,000	15,000	100,000	-200,000
2006 (W)		81,000	180,000	2,400	-190,000	8,500	74,000	-130,000
2007 (C)		49,000	86,000	48,000	-310,000	23,000	-110,000	-230,000
2008 (C)		42,000	80,000	61,000	-320,000	32,000	-110,000	-340,000
2009 (BN)		48,000	86,000	45,000	-270,000	29,000	-61,000	-410,000
2010 (AN)		68,000	130,000	12,000	-200,000	24,000	40,000	-370,000
2011 (W)		98,000	220,000	-4,100	-190,000	13,000	130,000	-230,000
2012 (D)		60,000	100,000	32,000	-280,000	18,000	-65,000	-300,000
2013 (C)		38,000	74,000	72,000	-360,000	36,000	-140,000	-440,000
2014 (C)		15,000	66,000	100,000	-400,000	47,000	-170,000	-610,000
2015 (C)		12,000	84,000	130,000	-440,000	52,000	-160,000	-770,000
2016 (D)		53,000	130,000	72,000	-310,000	52,000	-7,700	-780,000
2017 (W)		130,000	230,000	15,000	-210,000	20,000	190,000	-590,000
2018 (BN)		59,000	77,000	31,000	-270,000	24,000	-83,000	-670,000
2019 (W)		110,000	130,000	8,500	-210,000	20,000	58,000	-610,000
2020 (D)		54,000	90,000	39,000	-300,000	30,000	-89,000	-700,000
2021 (C)		20,000	69,000	91,000	-390,000	45,000	-170,000	-870,000
2022 (C)		31,000	110,000	59,000	-300,000	48,000	-54,000	-920,000
2023 (W)		170,000	220,000	8,200	-190,000	12,000	220,000	-700,000
Average (1989-2023)		**59,000**	**120,000**	**42,000**	**-270,000**	**21,000**	**-20,000**	
1989-2023	W	96,000	200,000	7,000	-190,000	9,200	120,000	
	AN	63,000	110,000	12,000	-220,000	13,000	-21,000	
	BN	51,000	86,000	40,000	-280,000	26,000	-75,000	
	D	49,000	96,000	49,000	-300,000	29,000	-78,000	
	C	31,000	84,000	78,000	-320,000	28,000	-100,000	
Average (1989-2015)		**53,000**	**120,000**	**42,000**	**-260,000**	**18,000**	**-28,000**	
1989-2015	W	79,000	200,000	5,600	-190,000	6,200	100,000	
	AN	63,000	110,000	12,000	-220,000	13,000	-21,000	
	BN	47,000	90,000	45,000	-280,000	27,000	-71,000	
	D	47,000	90,000	46,000	-300,000	23,000	-93,000	
	C	32,000	83,000	78,000	-320,000	25,000	-100,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

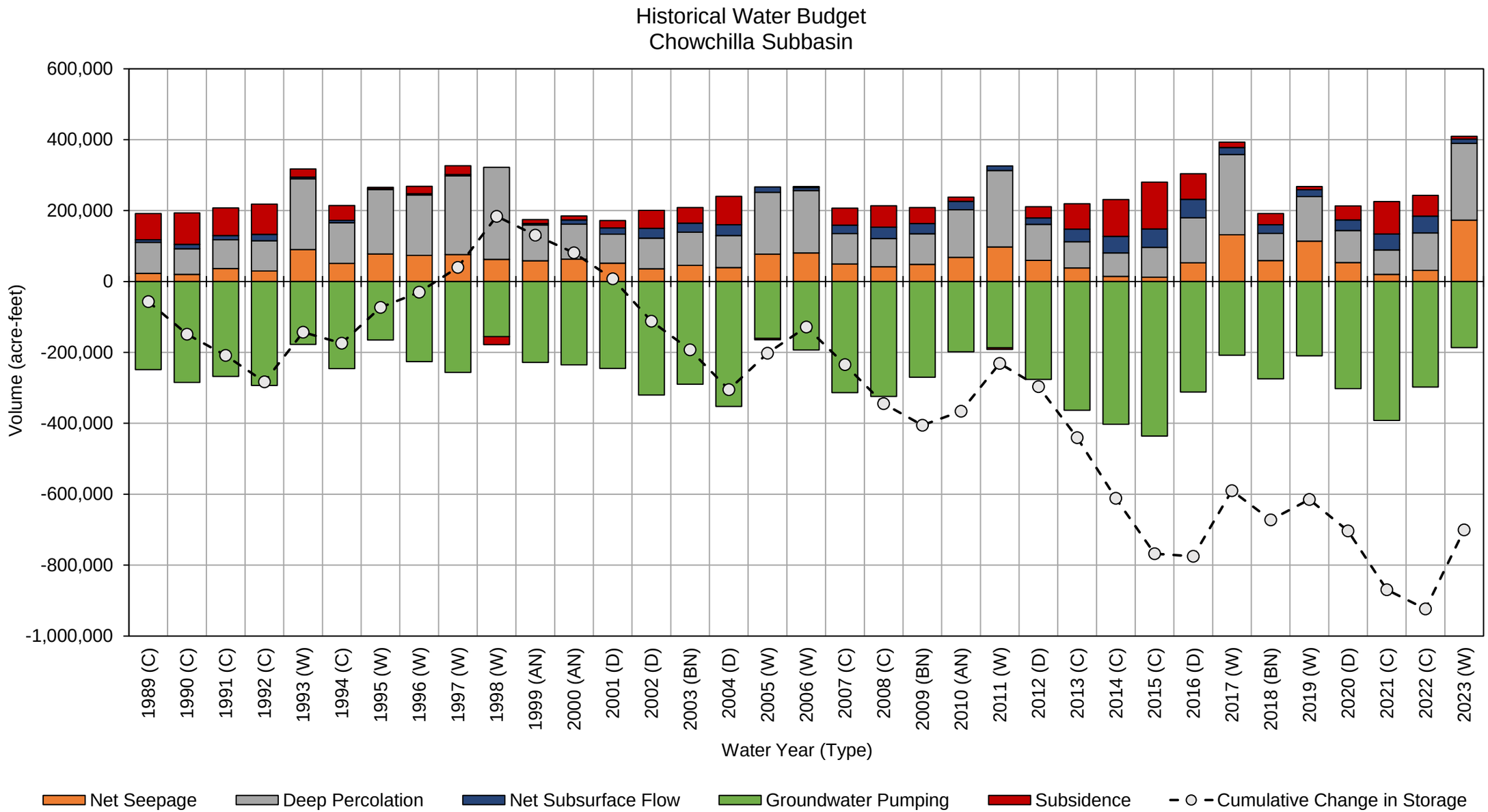
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

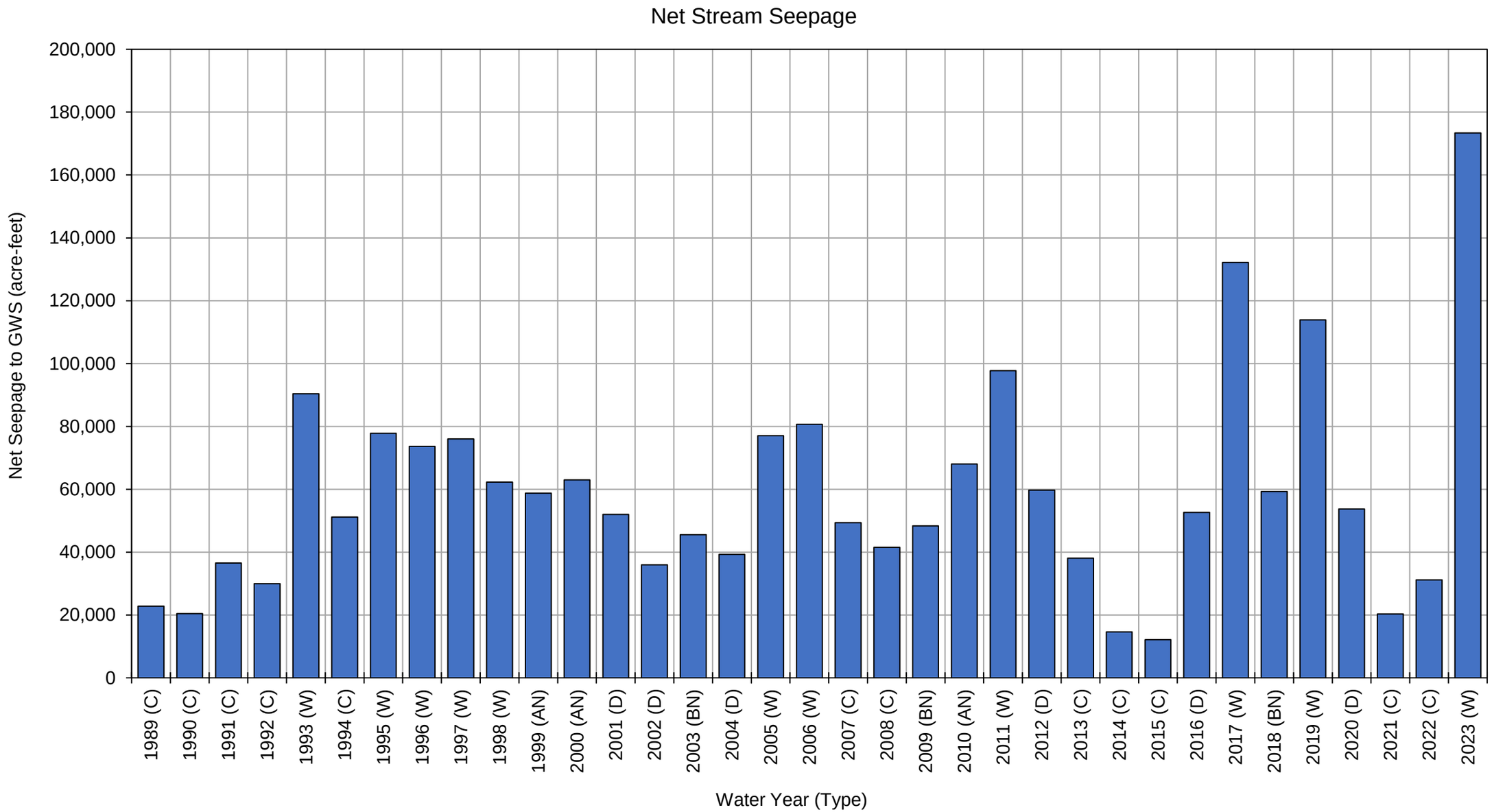
Chowchilla Subbasin Historical Surface Water System Water Budget Summary (acre-feet, rounded)

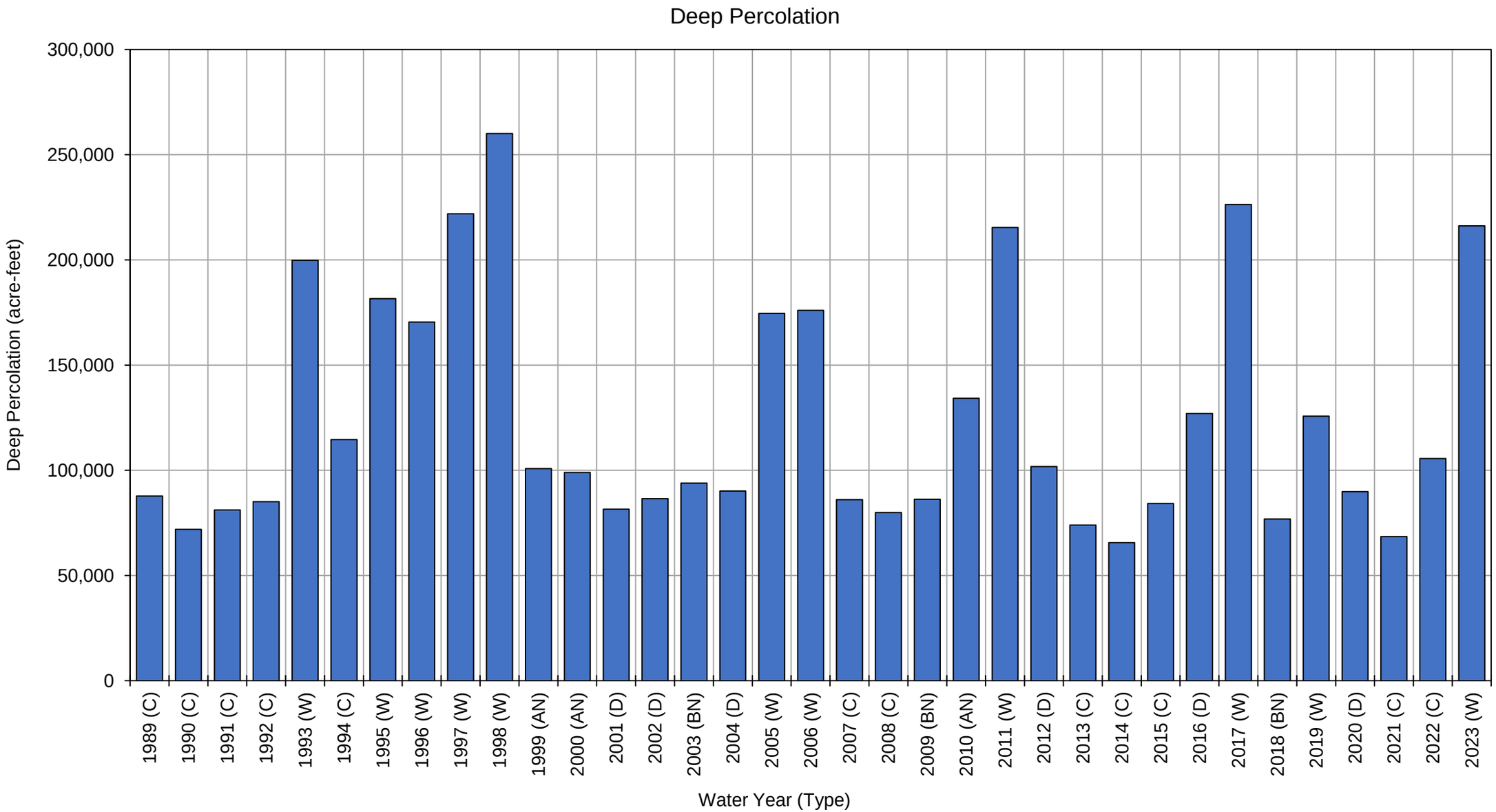
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		23,000	88,000	-250,000	-140,000
1990 (C)		20,000	72,000	-280,000	-190,000
1991 (C)		37,000	81,000	-270,000	-150,000
1992 (C)		30,000	85,000	-290,000	-180,000
1993 (W)		90,000	200,000	-180,000	110,000
1994 (C)		51,000	110,000	-250,000	-80,000
1995 (W)		78,000	180,000	-160,000	95,000
1996 (W)		74,000	170,000	-230,000	18,000
1997 (W)		76,000	220,000	-260,000	41,000
1998 (W)		62,000	260,000	-160,000	170,000
1999 (AN)		59,000	100,000	-230,000	-68,000
2000 (AN)		63,000	99,000	-230,000	-73,000
2001 (D)		52,000	82,000	-250,000	-110,000
2002 (D)		36,000	86,000	-320,000	-200,000
2003 (BN)		46,000	94,000	-290,000	-150,000
2004 (D)		39,000	90,000	-350,000	-220,000
2005 (W)		77,000	170,000	-160,000	91,000
2006 (W)		81,000	180,000	-190,000	63,000
2007 (C)		49,000	86,000	-310,000	-180,000
2008 (C)		42,000	80,000	-320,000	-200,000
2009 (BN)		48,000	86,000	-270,000	-140,000
2010 (AN)		68,000	130,000	-200,000	4,000
2011 (W)		98,000	220,000	-190,000	130,000
2012 (D)		60,000	100,000	-280,000	-110,000
2013 (C)		38,000	74,000	-360,000	-250,000
2014 (C)		15,000	66,000	-400,000	-320,000
2015 (C)		12,000	84,000	-440,000	-340,000
2016 (D)		53,000	130,000	-310,000	-130,000
2017 (W)		130,000	230,000	-210,000	150,000
2018 (BN)		59,000	77,000	-270,000	-140,000
2019 (W)		110,000	130,000	-210,000	30,000
2020 (D)		54,000	90,000	-300,000	-160,000
2021 (C)		20,000	69,000	-390,000	-300,000
2022 (C)		31,000	110,000	-300,000	-160,000
2023 (W)		170,000	220,000	-190,000	200,000
Average (1989-2023)		**59,000**	**120,000**	**-270,000**	**-83,000**
1989-2023	W	96,000	200,000	-190,000	100,000
	AN	63,000	110,000	-220,000	-46,000
	BN	51,000	86,000	-280,000	-140,000
	D	49,000	96,000	-300,000	-160,000
	C	31,000	84,000	-320,000	-210,000
Average (1989-2015)		**53,000**	**120,000**	**-260,000**	**-88,000**
1989-2015	W	79,000	200,000	-190,000	89,000
	AN	63,000	110,000	-220,000	-46,000
	BN	47,000	90,000	-280,000	-140,000
	D	47,000	90,000	-300,000	-160,000
	C	32,000	83,000	-320,000	-200,000

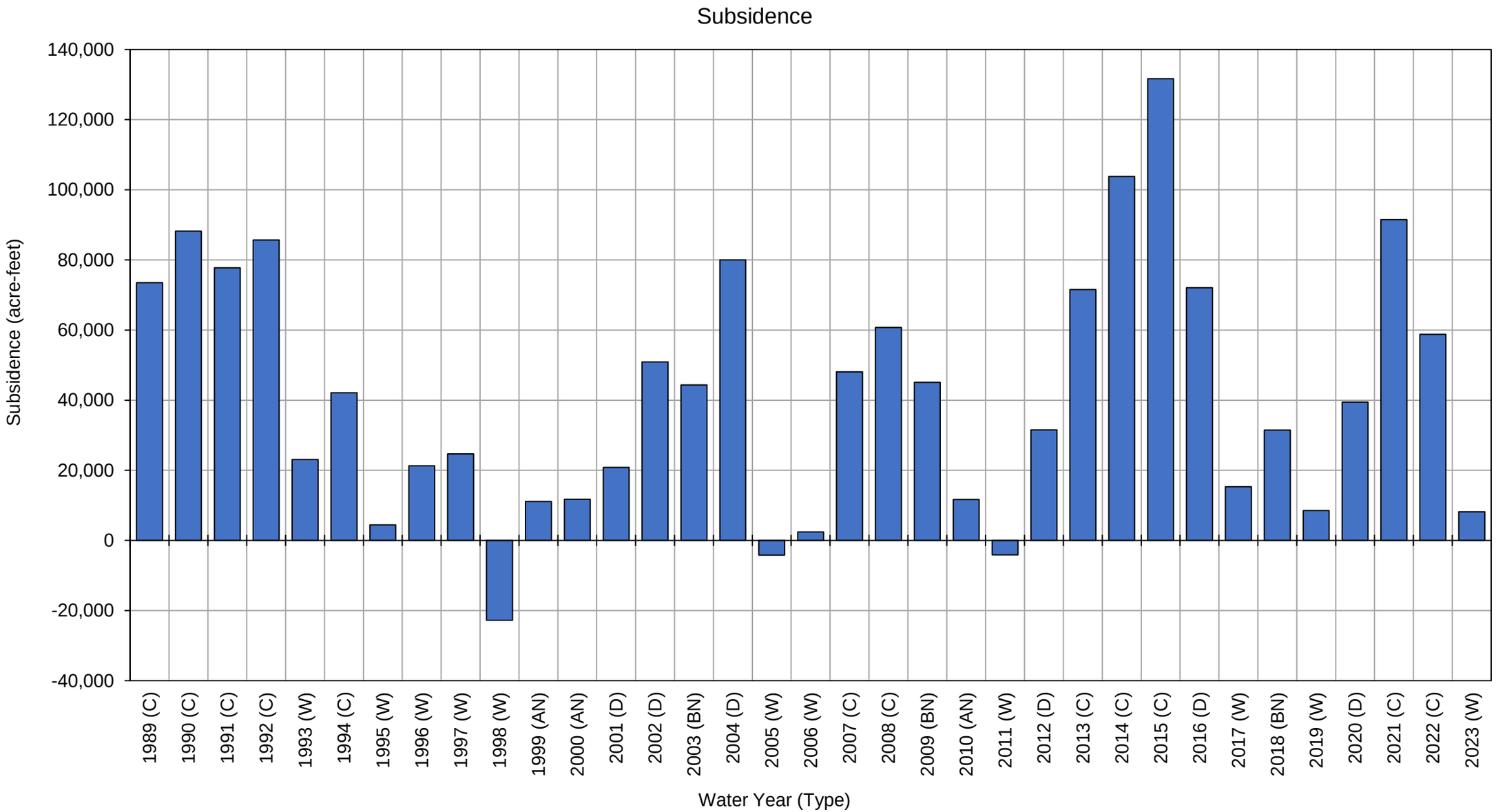
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

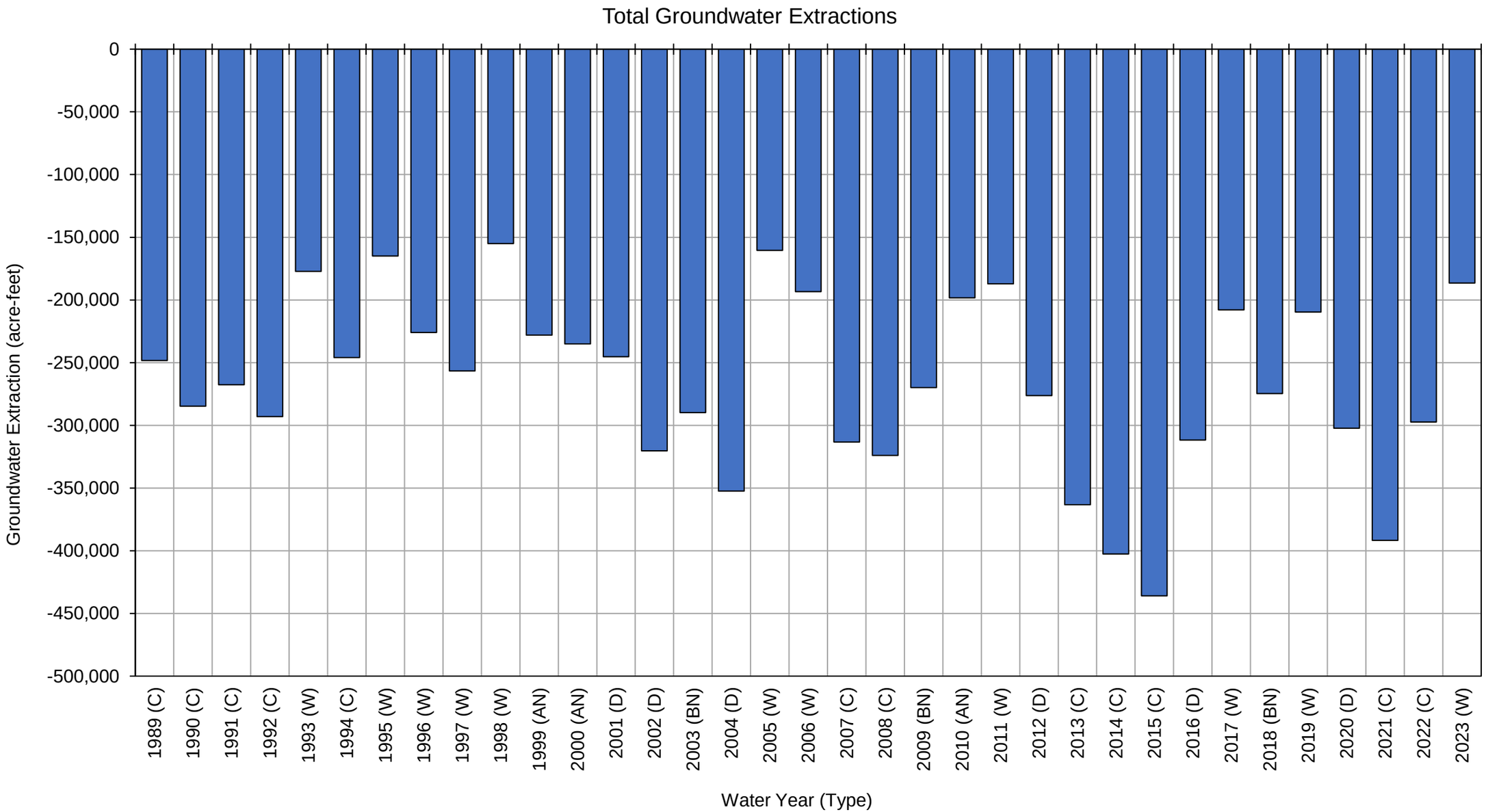
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

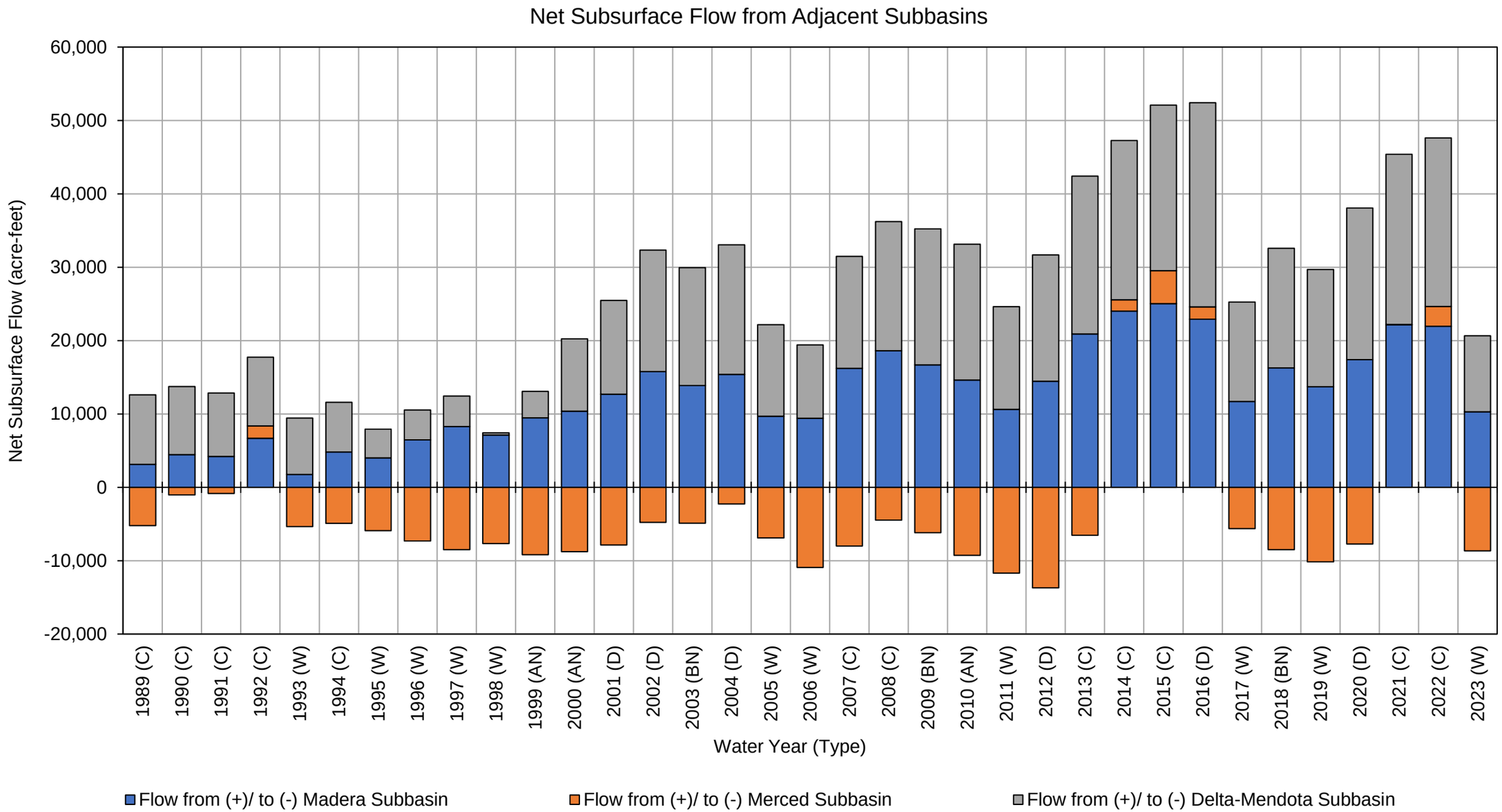

Historical Water Budget
Chowchilla Subbasin
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
Volume (acre-feet)
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

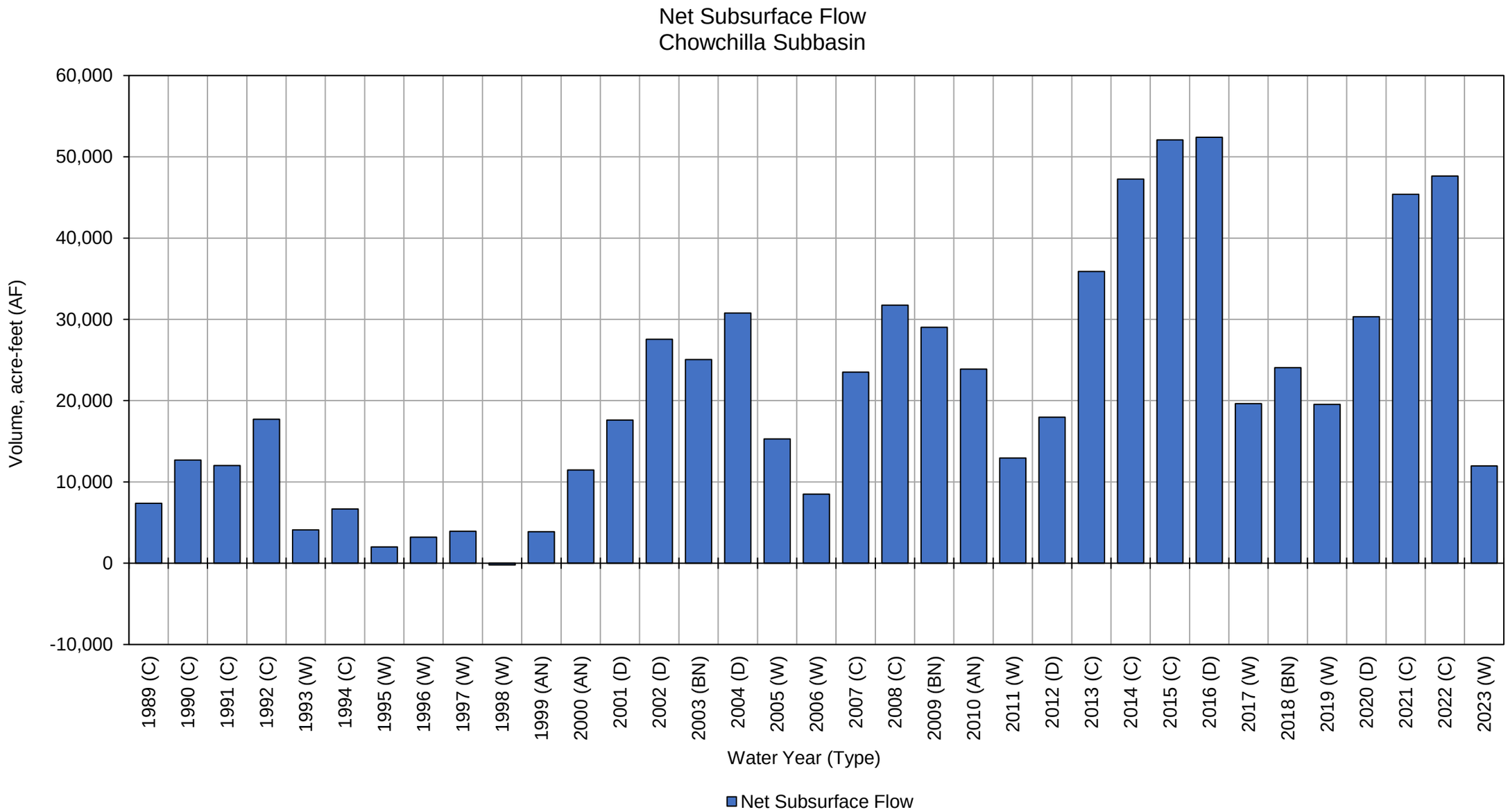

Net Stream Seepage
Net Seepage to GWS (acre-feet)
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)

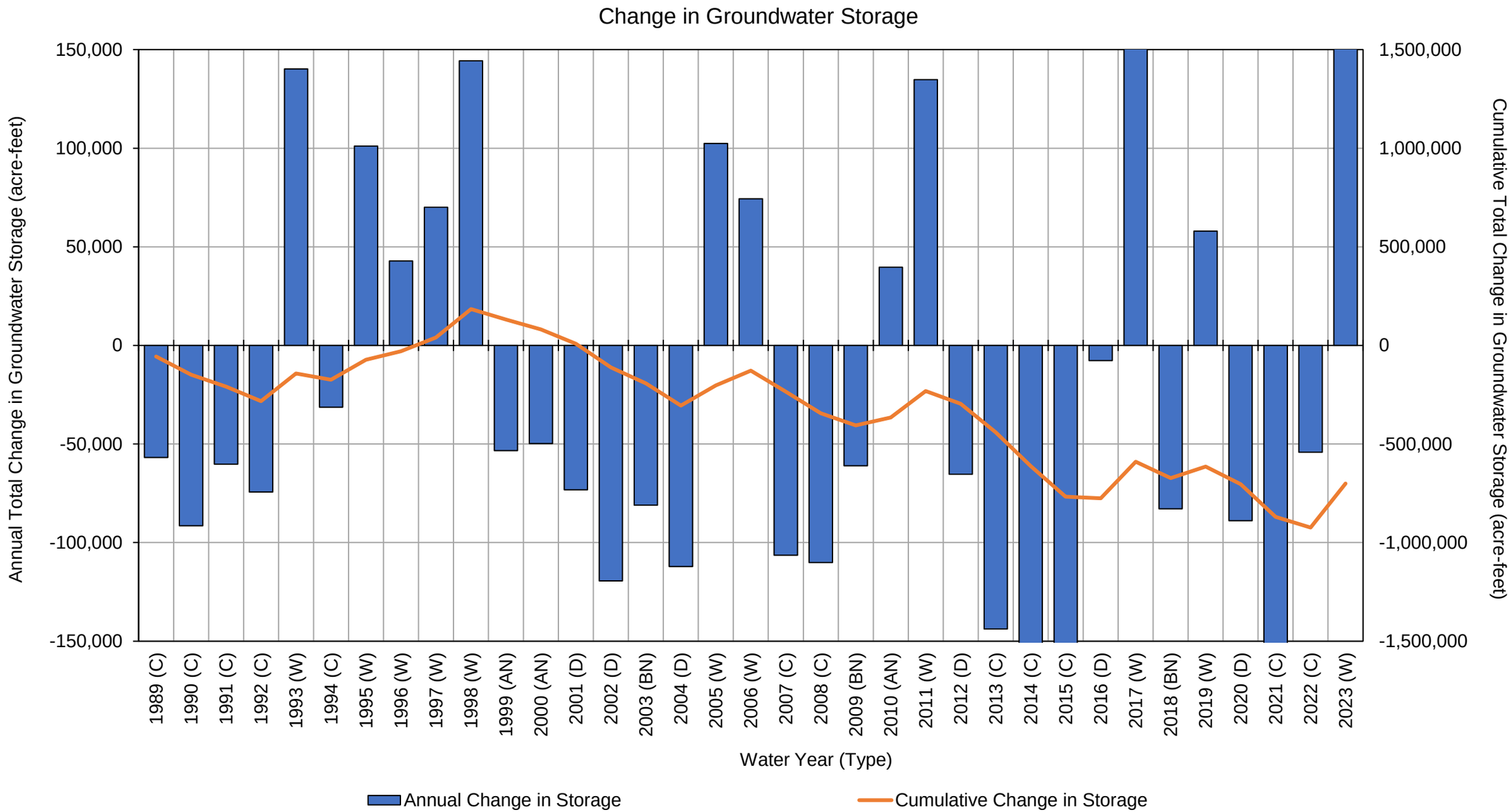

Deep Percolation
Deep Percolation (acre-feet)
300,000
250,000
200,000
150,000
100,000
50,000
0
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
-450,000
-500,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Flow from (+)/ to (-) Madera Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin


Net Subsurface Flow
Chowchilla Subbasin
Volume, acre-feet (AF)
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Chowchilla Subbasin Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	77,000	70,000	400	-240,000	14,000	-84,000	-84,000
2025 (AN)	110,000	74,000	-4,900	-210,000	16,000	-14,000	-97,000
2026 (AN)	93,000	89,000	-4,200	-210,000	19,000	-8,200	-110,000
2027 (D)	62,000	80,000	6,100	-220,000	22,000	-51,000	-160,000
2028 (D)	45,000	85,000	34,000	-290,000	37,000	-92,000	-250,000
2029 (BN)	55,000	96,000	29,000	-260,000	39,000	-44,000	-290,000
2030 (D)	44,000	86,000	53,000	-300,000	42,000	-79,000	-370,000
2031 (W)	100,000	140,000	-8,300	-150,000	33,000	120,000	-250,000
2032 (W)	140,000	140,000	-15,000	-160,000	19,000	120,000	-140,000
2033 (C)	57,000	70,000	16,000	-250,000	24,000	-87,000	-220,000
2034 (C)	48,000	68,000	26,000	-270,000	35,000	-89,000	-310,000
2035 (BN)	55,000	75,000	27,000	-240,000	36,000	-49,000	-360,000
2036 (AN)	77,000	110,000	-11,000	-140,000	28,000	61,000	-300,000
2037 (W)	210,000	210,000	-32,000	-110,000	5,500	280,000	-16,000
2038 (D)	60,000	71,000	-5,000	-190,000	-1,100	-61,000	-77,000
2039 (C)	40,000	53,000	25,000	-250,000	14,000	-120,000	-200,000
2040 (AN)	83,000	110,000	-5,800	-160,000	14,000	35,000	-160,000
2041 (W)	160,000	130,000	-14,000	-150,000	2,100	130,000	-37,000
2042 (W)	120,000	83,000	-16,000	-160,000	-3,800	28,000	-9,000
2043 (C)	34,000	44,000	20,000	-240,000	11,000	-130,000	-140,000
2044 (C)	11,000	41,000	53,000	-310,000	27,000	-180,000	-320,000
2045 (W)	110,000	130,000	-15,000	-110,000	22,000	140,000	-190,000
2046 (AN)	130,000	140,000	-6,100	-170,000	6,600	90,000	-96,000
2047 (W)	100,000	100,000	-17,000	-150,000	6,000	45,000	-51,000
2048 (D)	45,000	62,000	15,000	-230,000	17,000	-93,000	-140,000
2049 (W)	200,000	150,000	-36,000	-100,000	1,700	220,000	73,000
2050 (W)	140,000	230,000	-37,000	-98,000	-18,000	210,000	290,000
2051 (AN)	100,000	93,000	1,200	-200,000	-24,000	-30,000	260,000
2052 (D)	43,000	48,000	11,000	-230,000	-1,900	-130,000	130,000
2053 (W)	150,000	97,000	-24,000	-130,000	-10,000	82,000	210,000
2054 (C)	32,000	50,000	24,000	-240,000	-1,800	-130,000	76,000
2055 (C)	31,000	49,000	24,000	-240,000	11,000	-120,000	-47,000
2056 (C)	32,000	57,000	21,000	-230,000	20,000	-100,000	-150,000
2057 (C)	29,000	56,000	29,000	-250,000	29,000	-110,000	-250,000
2058 (C)	49,000	65,000	19,000	-220,000	32,000	-55,000	-310,000
2059 (C)	37,000	62,000	31,000	-250,000	37,000	-81,000	-390,000
2060 (W)	160,000	130,000	-21,000	-110,000	24,000	190,000	-200,000
2061 (C)	62,000	76,000	3,200	-190,000	16,000	-37,000	-240,000
2062 (W)	160,000	170,000	-34,000	-94,000	8,200	210,000	-27,000
2063 (W)	160,000	160,000	-25,000	-140,000	-9,400	150,000	120,000
2064 (W)	210,000	220,000	-22,000	-170,000	-29,000	210,000	330,000
2065 (W)	150,000	210,000	-55,000	-81,000	-35,000	190,000	520,000
2066 (AN)	86,000	66,000	-19,000	-150,000	-35,000	-53,000	470,000
2067 (AN)	86,000	60,000	-15,000	-140,000	-27,000	-38,000	430,000
2068 (D)	58,000	52,000	3,900	-170,000	-17,000	-73,000	360,000
2069 (D)	44,000	52,000	26,000	-230,000	10	-110,000	250,000

Chowchilla Subbasin Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		53,000	64,000	15,000	-210,000	4,600	-72,000	170,000
2071 (D)		44,000	62,000	33,000	-260,000	14,000	-110,000	66,000
2072 (W)		110,000	130,000	-33,000	-87,000	4,300	120,000	190,000
2073 (W)		140,000	160,000	-27,000	-100,000	-10,000	150,000	340,000
2074 (C)		50,000	65,000	20,000	-230,000	-2,700	-94,000	250,000
2075 (C)		45,000	52,000	25,000	-240,000	9,800	-110,000	130,000
2076 (BN)		52,000	60,000	18,000	-220,000	14,000	-81,000	52,000
2077 (AN)		81,000	95,000	-19,000	-120,000	6,100	43,000	95,000
2078 (W)		200,000	240,000	-37,000	-88,000	-18,000	300,000	390,000
2079 (D)		52,000	81,000	2,200	-180,000	-21,000	-66,000	330,000
2080 (C)		39,000	45,000	30,000	-260,000	-3,400	-150,000	180,000
2081 (C)		16,000	35,000	41,000	-290,000	14,000	-180,000	-1,900
2082 (C)		15,000	48,000	49,000	-320,000	26,000	-180,000	-180,000
2083 (D)		60,000	80,000	13,000	-220,000	32,000	-37,000	-220,000
2084 (W)		250,000	230,000	-35,000	-100,000	-6,000	330,000	110,000
2085 (BN)		70,000	59,000	-6,300	-180,000	-12,000	-69,000	46,000
2086 (W)		180,000	150,000	-29,000	-120,000	-21,000	160,000	200,000
2087 (D)		50,000	61,000	12,000	-220,000	-10,000	-110,000	93,000
2088 (C)		20,000	41,000	46,000	-310,000	11,000	-190,000	-100,000
2089 (C)		36,000	71,000	17,000	-240,000	24,000	-89,000	-190,000
2090 (W)		240,000	210,000	-37,000	-100,000	-6,200	300,000	110,000
Average (2024-2039)		**80,000**	**95,000**	**8,600**	**-220,000**	**24,000**	**-12,000**	
2024-2039	W	150,000	160,000	-18,000	-140,000	19,000	170,000	
	AN	95,000	90,000	-6,600	-190,000	21,000	13,000	
	BN	62,000	80,000	19,000	-250,000	30,000	-59,000	
	D	53,000	81,000	22,000	-250,000	25,000	-71,000	
	C	48,000	64,000	23,000	-260,000	24,000	-99,000	
Average (2040-2090)		**90,000**	**98,000**	**310**	**-190,000**	**2,400**	**6,000**	
2040-2090	W	160,000	160,000	-29,000	-120,000	-5,500	180,000	
	AN	94,000	93,000	-11,000	-160,000	-10,000	7,900	
	BN	59,000	61,000	8,700	-200,000	2,400	-74,000	
	D	50,000	62,000	15,000	-220,000	1,700	-91,000	
	C	34,000	54,000	28,000	-250,000	16,000	-120,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Subbasin Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

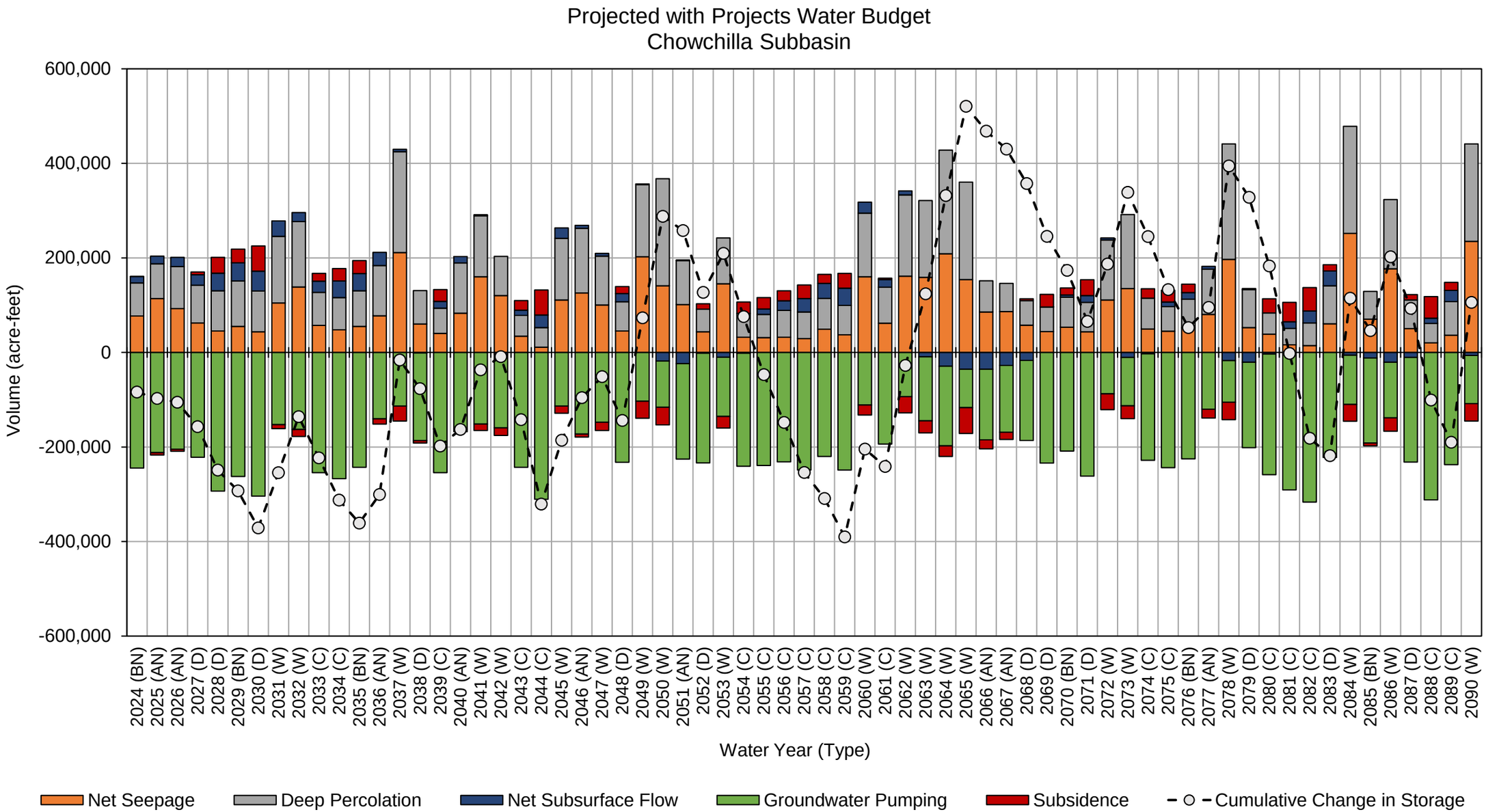
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	77,000	70,000	-240,000	-98,000
2025 (AN)	110,000	74,000	-210,000	-25,000
2026 (AN)	93,000	89,000	-210,000	-23,000
2027 (D)	62,000	80,000	-220,000	-79,000
2028 (D)	45,000	85,000	-290,000	-160,000
2029 (BN)	55,000	96,000	-260,000	-110,000
2030 (D)	44,000	86,000	-300,000	-170,000
2031 (W)	100,000	140,000	-150,000	93,000
2032 (W)	140,000	140,000	-160,000	110,000
2033 (C)	57,000	70,000	-250,000	-130,000
2034 (C)	48,000	68,000	-270,000	-150,000
2035 (BN)	55,000	75,000	-240,000	-110,000
2036 (AN)	77,000	110,000	-140,000	43,000
2037 (W)	210,000	210,000	-110,000	310,000
2038 (D)	60,000	71,000	-190,000	-54,000
2039 (C)	40,000	53,000	-250,000	-160,000
2040 (AN)	83,000	110,000	-160,000	27,000
2041 (W)	160,000	130,000	-150,000	140,000
2042 (W)	120,000	83,000	-160,000	48,000
2043 (C)	34,000	44,000	-240,000	-160,000
2044 (C)	11,000	41,000	-310,000	-260,000
2045 (W)	110,000	130,000	-110,000	130,000
2046 (AN)	130,000	140,000	-170,000	90,000
2047 (W)	100,000	100,000	-150,000	56,000
2048 (D)	45,000	62,000	-230,000	-130,000
2049 (W)	200,000	150,000	-100,000	250,000
2050 (W)	140,000	230,000	-98,000	270,000
2051 (AN)	100,000	93,000	-200,000	-7,300
2052 (D)	43,000	48,000	-230,000	-140,000
2053 (W)	150,000	97,000	-130,000	120,000
2054 (C)	32,000	50,000	-240,000	-160,000
2055 (C)	31,000	49,000	-240,000	-160,000
2056 (C)	32,000	57,000	-230,000	-140,000
2057 (C)	29,000	56,000	-250,000	-160,000
2058 (C)	49,000	65,000	-220,000	-110,000
2059 (C)	37,000	62,000	-250,000	-150,000
2060 (W)	160,000	130,000	-110,000	180,000
2061 (C)	62,000	76,000	-190,000	-56,000
2062 (W)	160,000	170,000	-94,000	240,000
2063 (W)	160,000	160,000	-140,000	190,000
2064 (W)	210,000	220,000	-170,000	260,000
2065 (W)	150,000	210,000	-81,000	280,000
2066 (AN)	86,000	66,000	-150,000	1,800
2067 (AN)	86,000	60,000	-140,000	4,600
2068 (D)	58,000	52,000	-170,000	-60,000

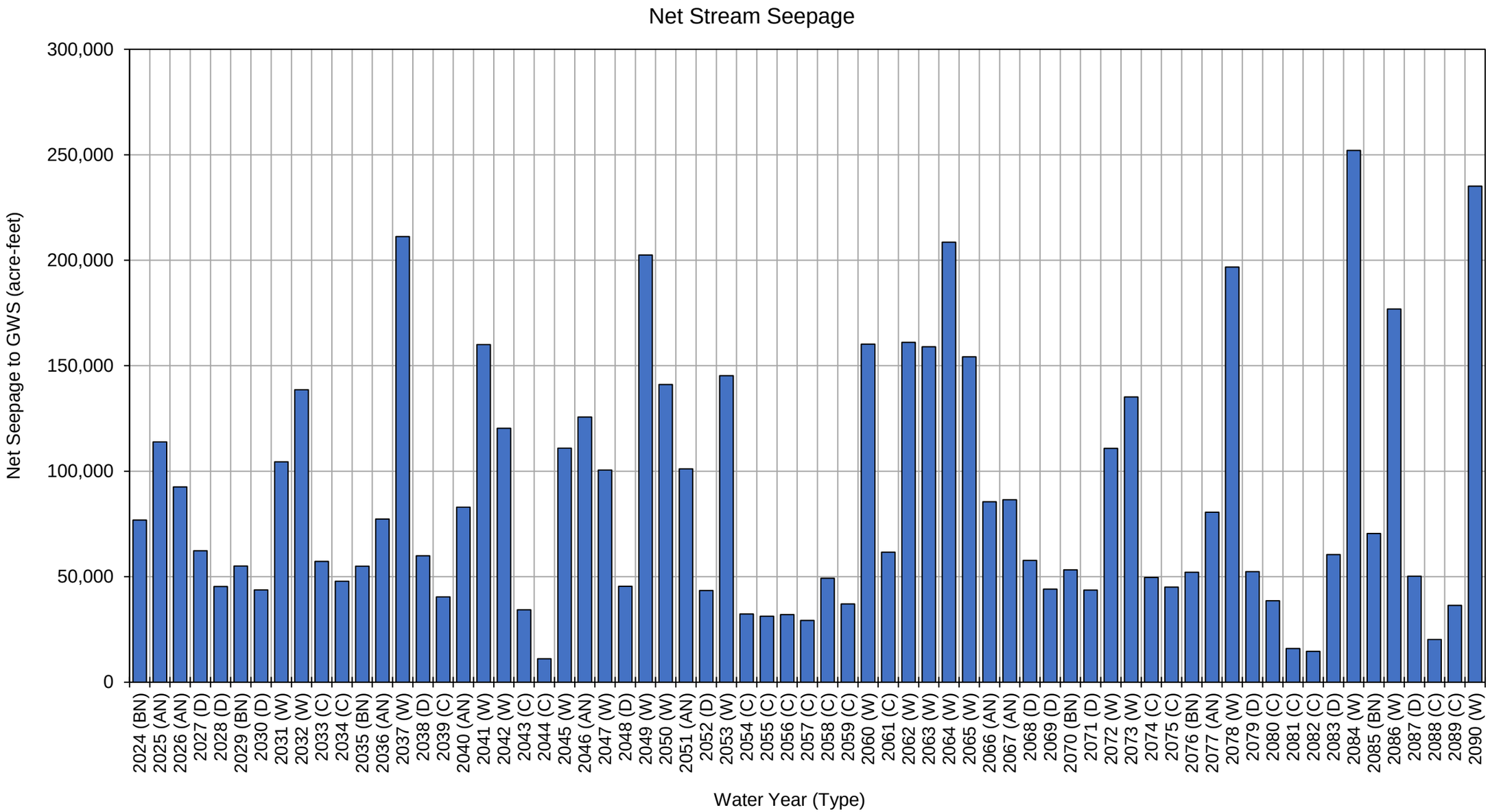
Chowchilla Subbasin Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

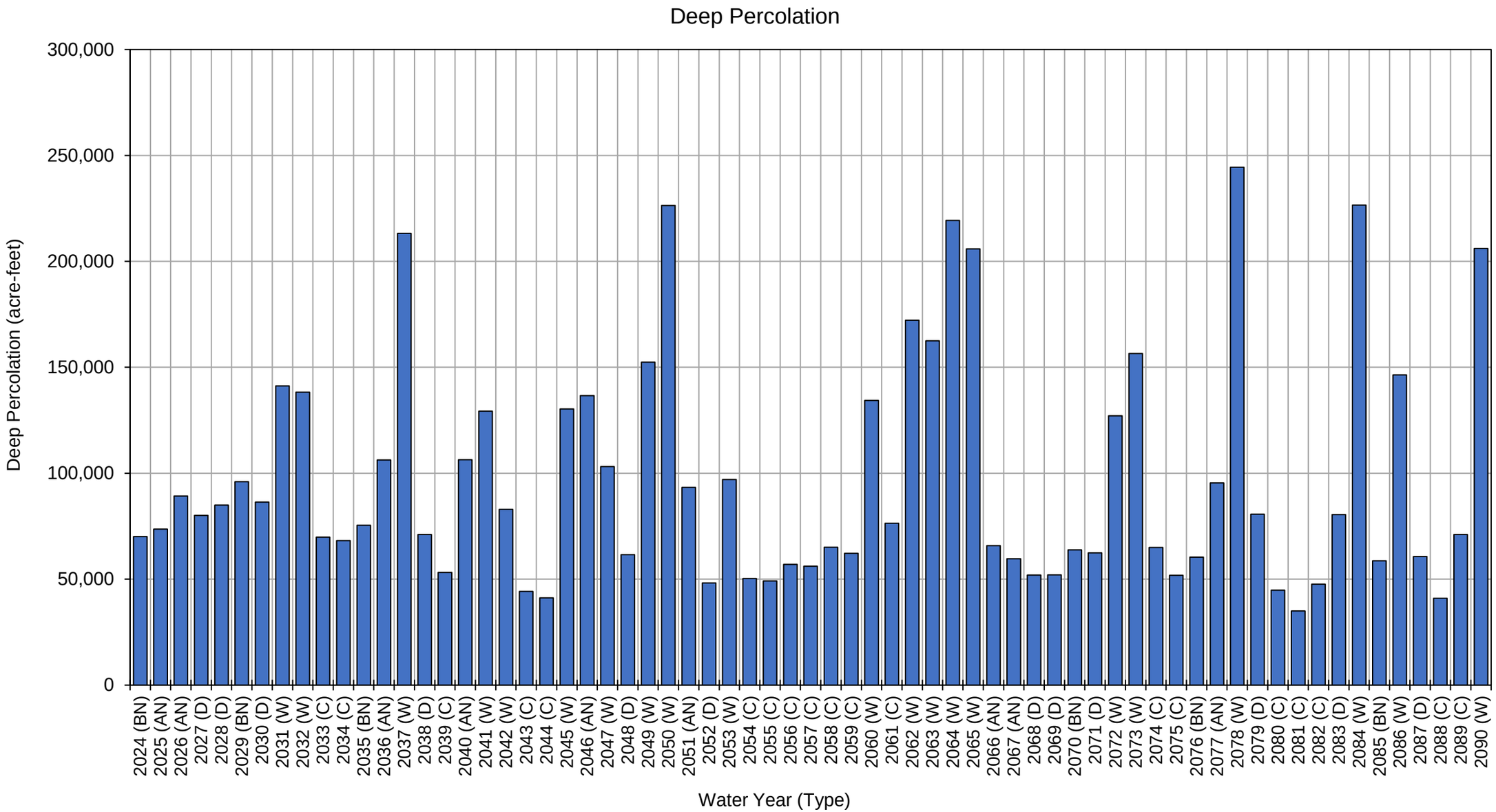
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		44,000	52,000	-230,000	-140,000
2070 (BN)		53,000	64,000	-210,000	-91,000
2071 (D)		44,000	62,000	-260,000	-160,000
2072 (W)		110,000	130,000	-87,000	150,000
2073 (W)		140,000	160,000	-100,000	190,000
2074 (C)		50,000	65,000	-230,000	-110,000
2075 (C)		45,000	52,000	-240,000	-150,000
2076 (BN)		52,000	60,000	-220,000	-110,000
2077 (AN)		81,000	95,000	-120,000	56,000
2078 (W)		200,000	240,000	-88,000	350,000
2079 (D)		52,000	81,000	-180,000	-48,000
2080 (C)		39,000	45,000	-260,000	-170,000
2081 (C)		16,000	35,000	-290,000	-240,000
2082 (C)		15,000	48,000	-320,000	-250,000
2083 (D)		60,000	80,000	-220,000	-81,000
2084 (W)		250,000	230,000	-100,000	370,000
2085 (BN)		70,000	59,000	-180,000	-51,000
2086 (W)		180,000	150,000	-120,000	210,000
2087 (D)		50,000	61,000	-220,000	-110,000
2088 (C)		20,000	41,000	-310,000	-250,000
2089 (C)		36,000	71,000	-240,000	-130,000
2090 (W)		240,000	210,000	-100,000	340,000
Average (2024-2039)		**80,000**	**95,000**	**-220,000**	**-45,000**
2024-2039	W	150,000	160,000	-140,000	170,000
	AN	95,000	90,000	-190,000	-1,600
	BN	62,000	80,000	-250,000	-110,000
	D	53,000	81,000	-250,000	-120,000
	C	48,000	64,000	-260,000	-150,000
Average (2040-2090)		**90,000**	**98,000**	**-190,000**	**3,300**
2040-2090	W	160,000	160,000	-120,000	210,000
	AN	94,000	93,000	-160,000	29,000
	BN	59,000	61,000	-200,000	-85,000
	D	50,000	62,000	-220,000	-110,000
	C	34,000	54,000	-250,000	-170,000

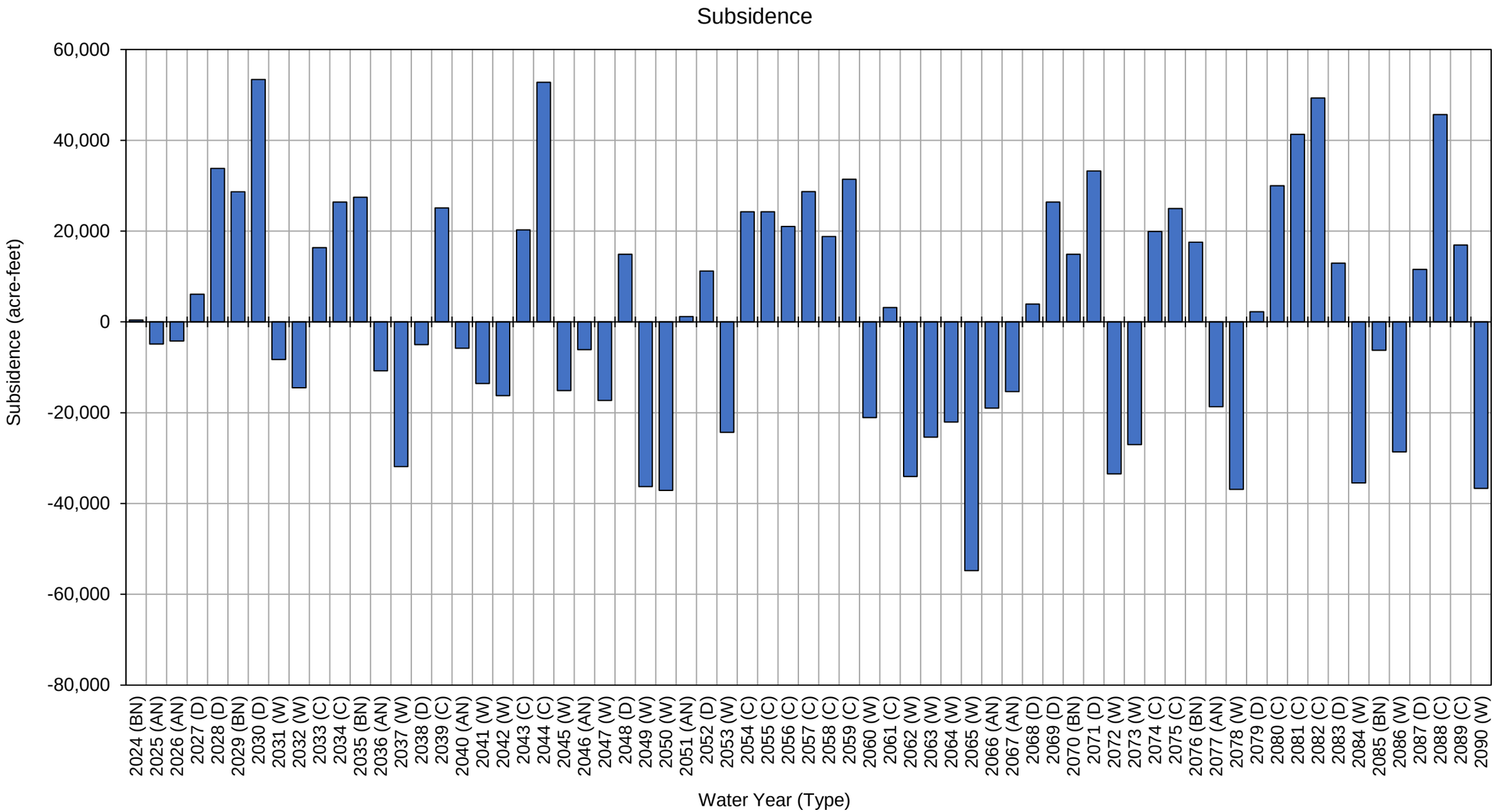
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

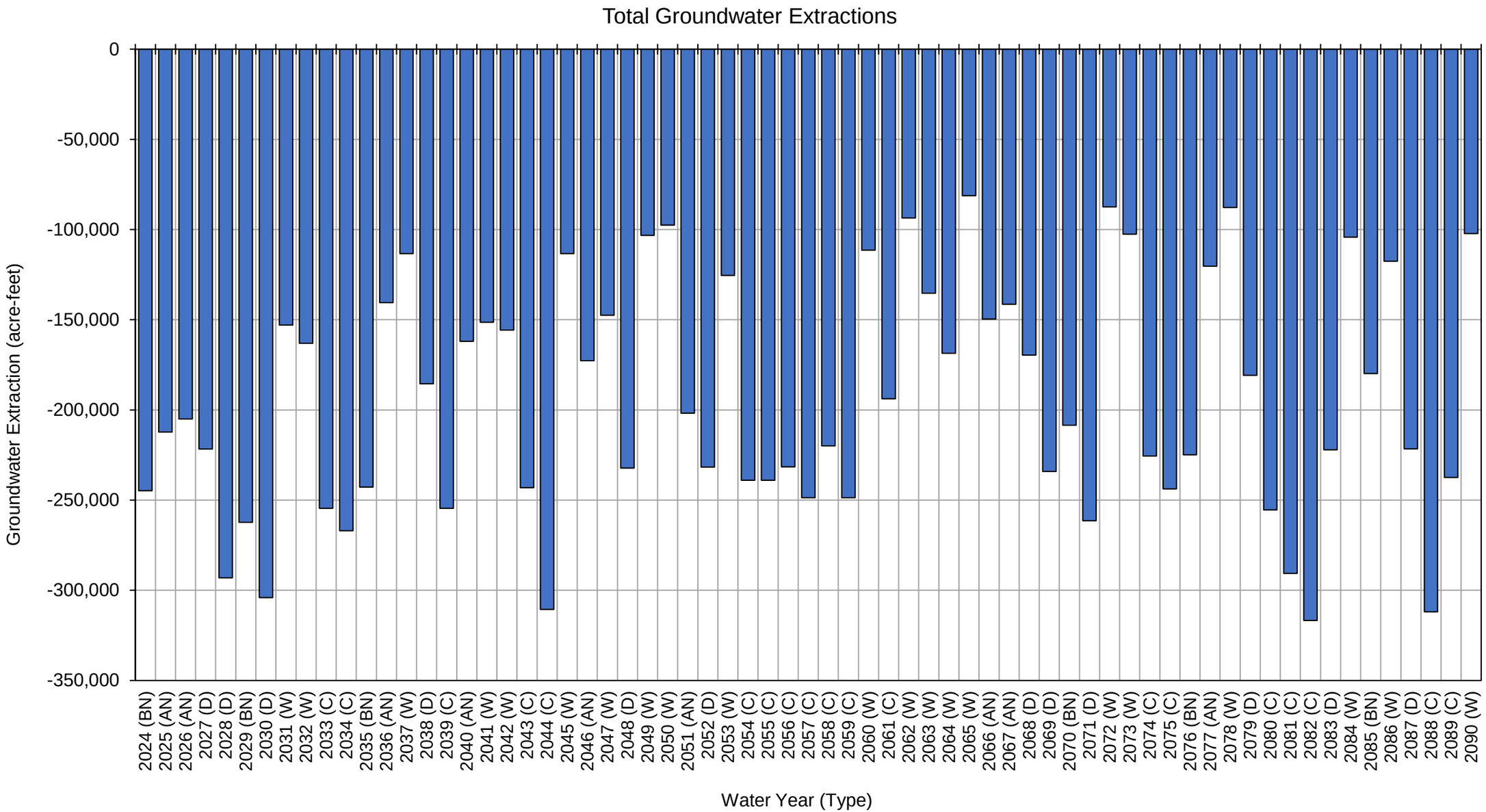
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

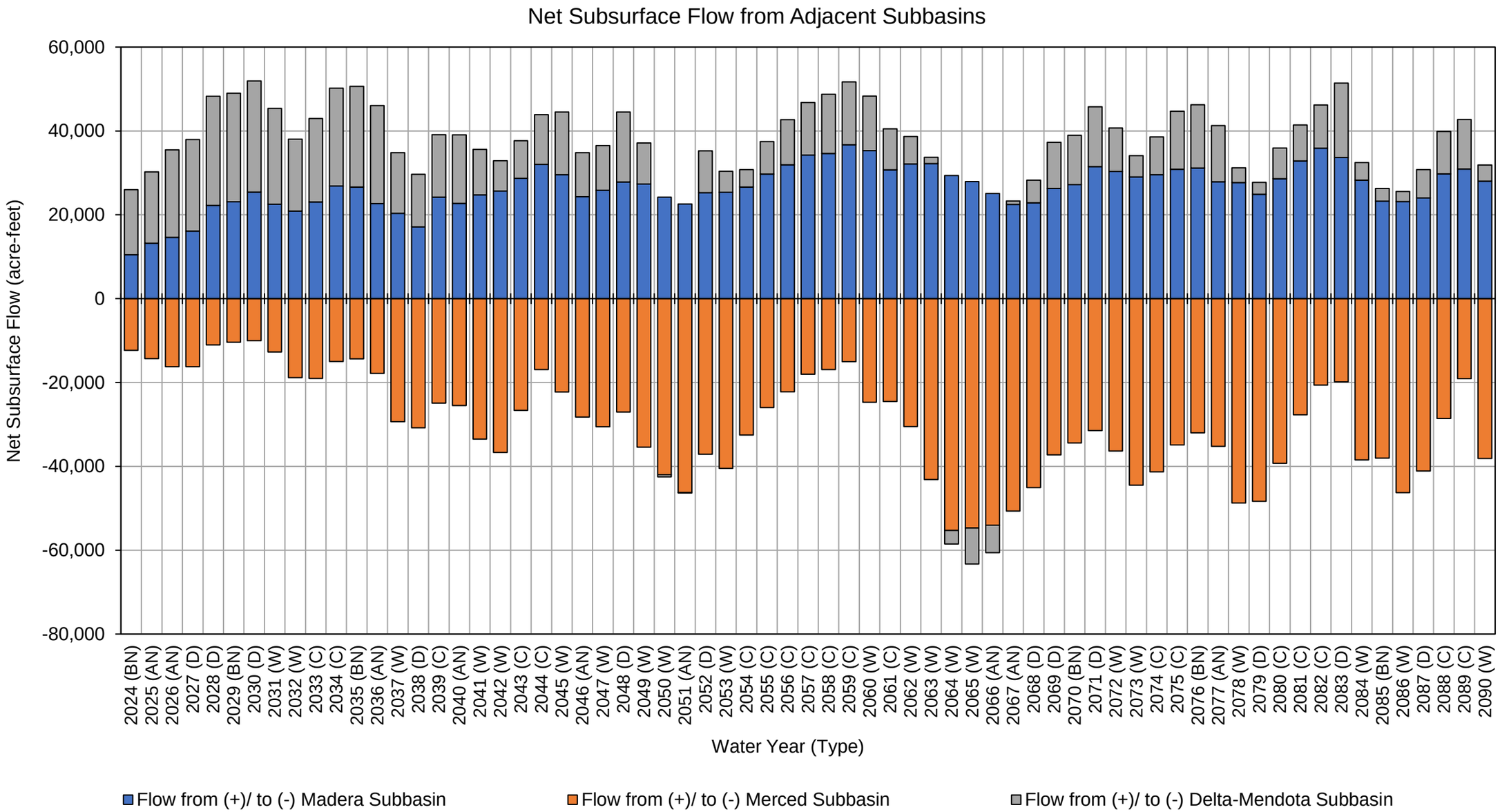

Projected with Projects Water Budget
Chowchilla Subbasin
Volume (acre-feet)
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

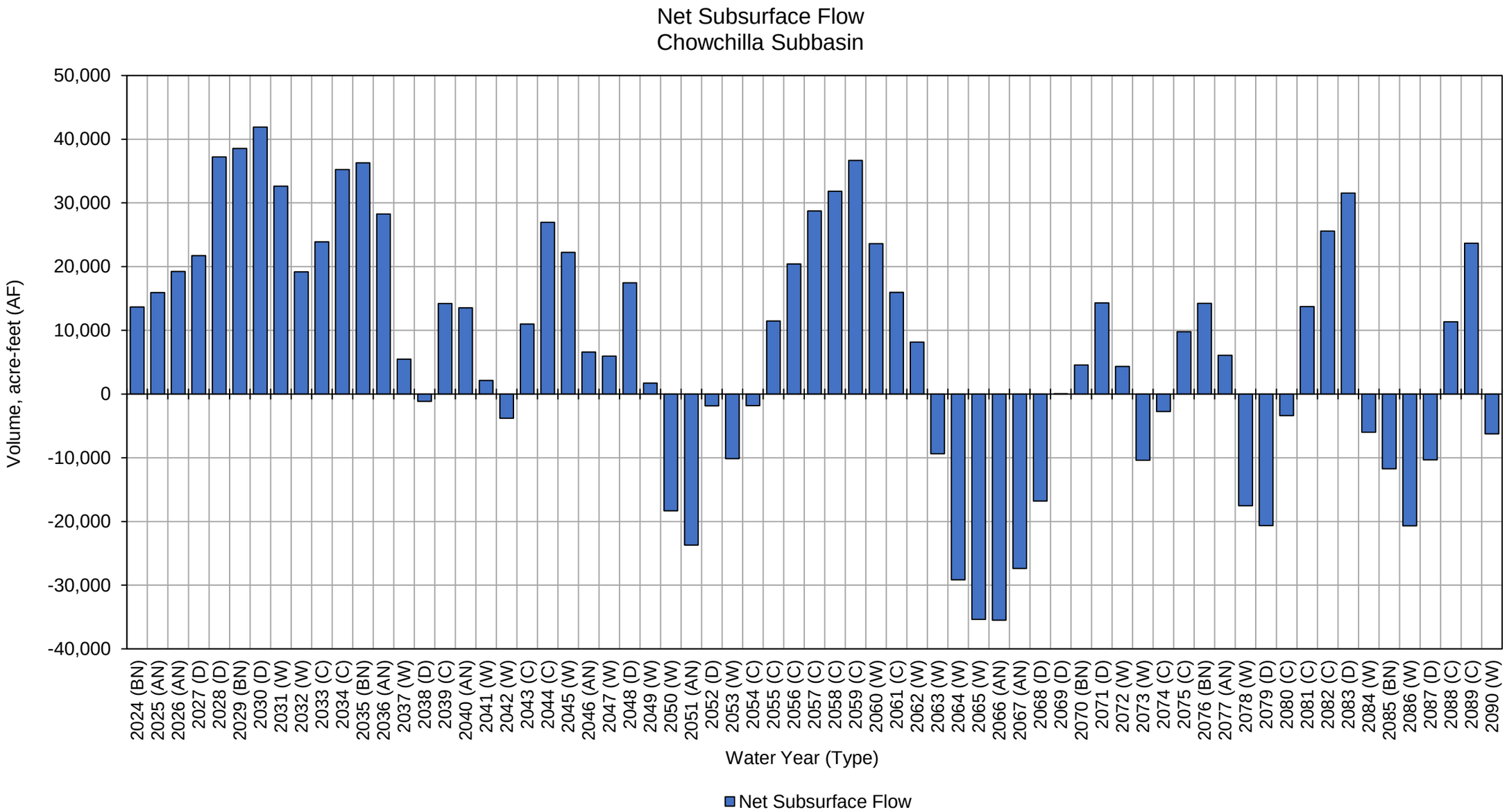

Net Stream Seepage
Net Seepage to GWS (acre-feet)
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

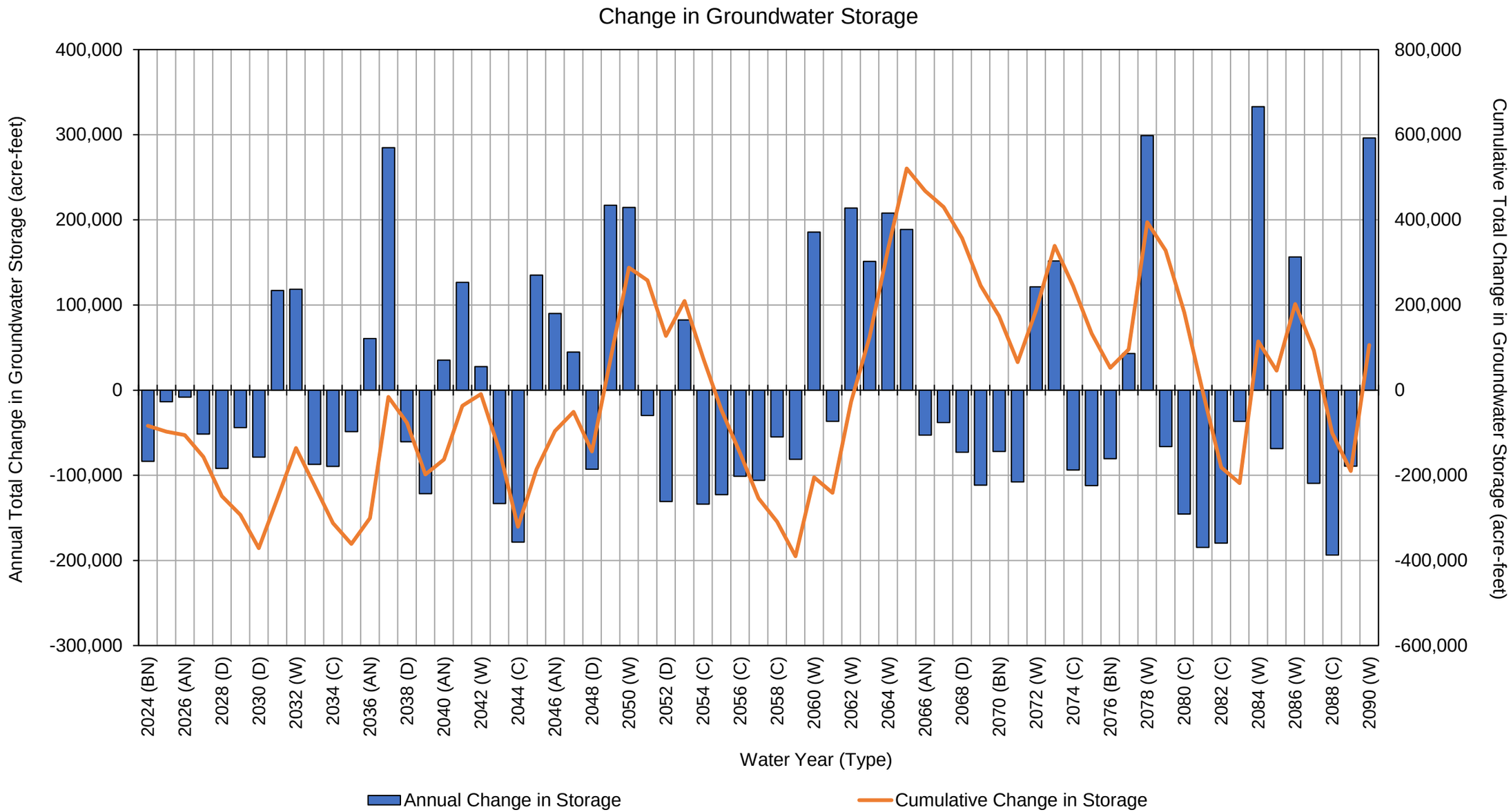

Deep Percolation
Deep Percolation (acre-feet)
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Madera Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin


Net Subsurface Flow
Chowchilla Subbasin
Volume, acre-feet (AF)
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
800,000
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Chowchilla Subbasin Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	57,000	64,000	19,000	-290,000	19,000	-130,000	-130,000
2025 (AN)	77,000	70,000	21,000	-270,000	31,000	-69,000	-200,000
2026 (AN)	100,000	94,000	7,500	-220,000	32,000	14,000	-190,000
2027 (D)	33,000	66,000	30,000	-280,000	38,000	-110,000	-300,000
2028 (D)	44,000	87,000	56,000	-310,000	49,000	-75,000	-370,000
2029 (BN)	47,000	94,000	50,000	-280,000	49,000	-44,000	-410,000
2030 (D)	44,000	86,000	69,000	-320,000	51,000	-70,000	-480,000
2031 (W)	100,000	130,000	-5,500	-130,000	38,000	130,000	-350,000
2032 (W)	130,000	130,000	-14,000	-150,000	24,000	120,000	-230,000
2033 (C)	57,000	70,000	23,000	-270,000	30,000	-91,000	-320,000
2034 (C)	37,000	67,000	38,000	-290,000	42,000	-110,000	-430,000
2035 (BN)	30,000	73,000	50,000	-280,000	48,000	-82,000	-510,000
2036 (AN)	56,000	100,000	4,400	-160,000	42,000	43,000	-470,000
2037 (W)	180,000	180,000	-23,000	-120,000	21,000	250,000	-220,000
2038 (D)	67,000	77,000	-7,600	-180,000	11,000	-28,000	-250,000
2039 (C)	37,000	55,000	28,000	-270,000	24,000	-120,000	-370,000
2040 (AN)	96,000	120,000	-4,500	-170,000	23,000	69,000	-300,000
2041 (W)	130,000	110,000	-790	-190,000	16,000	61,000	-240,000
2042 (W)	88,000	73,000	-9,800	-170,000	12,000	-7,300	-250,000
2043 (C)	54,000	50,000	12,000	-220,000	19,000	-85,000	-330,000
2044 (C)	17,000	48,000	54,000	-300,000	28,000	-150,000	-480,000
2045 (W)	180,000	160,000	-9,800	-130,000	20,000	230,000	-260,000
2046 (AN)	110,000	120,000	-7,600	-170,000	3,500	50,000	-210,000
2047 (W)	160,000	120,000	-16,000	-160,000	-1,800	95,000	-110,000
2048 (D)	59,000	58,000	4,500	-220,000	7,000	-88,000	-200,000
2049 (W)	160,000	110,000	-30,000	-120,000	2,300	120,000	-76,000
2050 (W)	180,000	240,000	-31,000	-130,000	-21,000	250,000	170,000
2051 (AN)	81,000	78,000	7,800	-230,000	-21,000	-83,000	87,000
2052 (D)	51,000	49,000	7,600	-230,000	-3,000	-120,000	-34,000
2053 (W)	120,000	82,000	-7,600	-170,000	-1,100	26,000	-8,000
2054 (C)	41,000	51,000	20,000	-230,000	4,500	-120,000	-130,000
2055 (C)	29,000	50,000	28,000	-250,000	18,000	-130,000	-250,000
2056 (C)	30,000	58,000	27,000	-250,000	29,000	-100,000	-360,000
2057 (C)	30,000	57,000	37,000	-260,000	38,000	-98,000	-450,000
2058 (C)	48,000	64,000	32,000	-230,000	41,000	-48,000	-500,000
2059 (C)	42,000	62,000	45,000	-260,000	45,000	-66,000	-570,000
2060 (W)	150,000	120,000	12,000	-190,000	38,000	130,000	-440,000
2061 (C)	53,000	69,000	15,000	-220,000	34,000	-49,000	-490,000
2062 (W)	170,000	150,000	-23,000	-120,000	27,000	200,000	-290,000
2063 (W)	140,000	150,000	-13,000	-180,000	13,000	110,000	-180,000
2064 (W)	120,000	160,000	7,600	-260,000	16,000	37,000	-140,000
2065 (W)	160,000	210,000	-46,000	-120,000	4,300	210,000	66,000
2066 (AN)	59,000	65,000	-13,000	-200,000	3,000	-83,000	-18,000
2067 (AN)	93,000	65,000	-19,000	-160,000	5,700	-15,000	-33,000
2068 (D)	34,000	48,000	9,700	-220,000	15,000	-110,000	-150,000
2069 (D)	41,000	68,000	23,000	-250,000	29,000	-90,000	-240,000

Chowchilla Subbasin Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		43,000	74,000	17,000	-230,000	35,000	-64,000	-300,000
2071 (D)		43,000	70,000	27,000	-260,000	40,000	-80,000	-380,000
2072 (W)		99,000	110,000	-27,000	-110,000	35,000	100,000	-280,000
2073 (W)		130,000	120,000	-25,000	-130,000	22,000	120,000	-160,000
2074 (C)		54,000	65,000	12,000	-230,000	23,000	-74,000	-230,000
2075 (C)		36,000	60,000	25,000	-260,000	33,000	-100,000	-330,000
2076 (BN)		31,000	67,000	24,000	-250,000	41,000	-90,000	-420,000
2077 (AN)		57,000	92,000	-11,000	-150,000	39,000	26,000	-400,000
2078 (W)		180,000	180,000	-30,000	-120,000	20,000	230,000	-160,000
2079 (D)		70,000	76,000	-12,000	-160,000	7,400	-24,000	-190,000
2080 (C)		37,000	53,000	23,000	-250,000	19,000	-120,000	-310,000
2081 (C)		15,000	47,000	34,000	-270,000	33,000	-150,000	-450,000
2082 (C)		16,000	57,000	49,000	-300,000	43,000	-140,000	-590,000
2083 (D)		63,000	89,000	22,000	-220,000	47,000	3,100	-590,000
2084 (W)		190,000	200,000	-16,000	-130,000	20,000	270,000	-320,000
2085 (BN)		63,000	58,000	70	-200,000	15,000	-67,000	-390,000
2086 (W)		150,000	130,000	-20,000	-140,000	10,000	130,000	-260,000
2087 (D)		56,000	72,000	2,200	-210,000	16,000	-65,000	-330,000
2088 (C)		19,000	48,000	38,000	-300,000	29,000	-160,000	-490,000
2089 (C)		35,000	79,000	19,000	-240,000	41,000	-62,000	-550,000
2090 (W)		200,000	190,000	-23,000	-120,000	16,000	270,000	-290,000
Average (2024-2039)		**69,000**	**90,000**	**22,000**	**-240,000**	**34,000**	**-23,000**	
2024-2039	W	140,000	150,000	-14,000	-130,000	28,000	170,000	
	AN	79,000	88,000	11,000	-220,000	35,000	-3,900	
	BN	45,000	77,000	40,000	-290,000	38,000	-86,000	
	D	47,000	79,000	37,000	-270,000	37,000	-70,000	
	C	44,000	64,000	30,000	-280,000	32,000	-110,000	
Average (2040-2090)		**84,000**	**94,000**	**4,700**	**-200,000**	**20,000**	**1,700**	
2040-2090	W	150,000	150,000	-17,000	-150,000	14,000	140,000	
	AN	82,000	91,000	-7,800	-180,000	8,700	-6,100	
	BN	46,000	66,000	14,000	-230,000	30,000	-74,000	
	D	52,000	66,000	10,000	-220,000	20,000	-72,000	
	C	35,000	57,000	29,000	-250,000	30,000	-100,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Subbasin Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

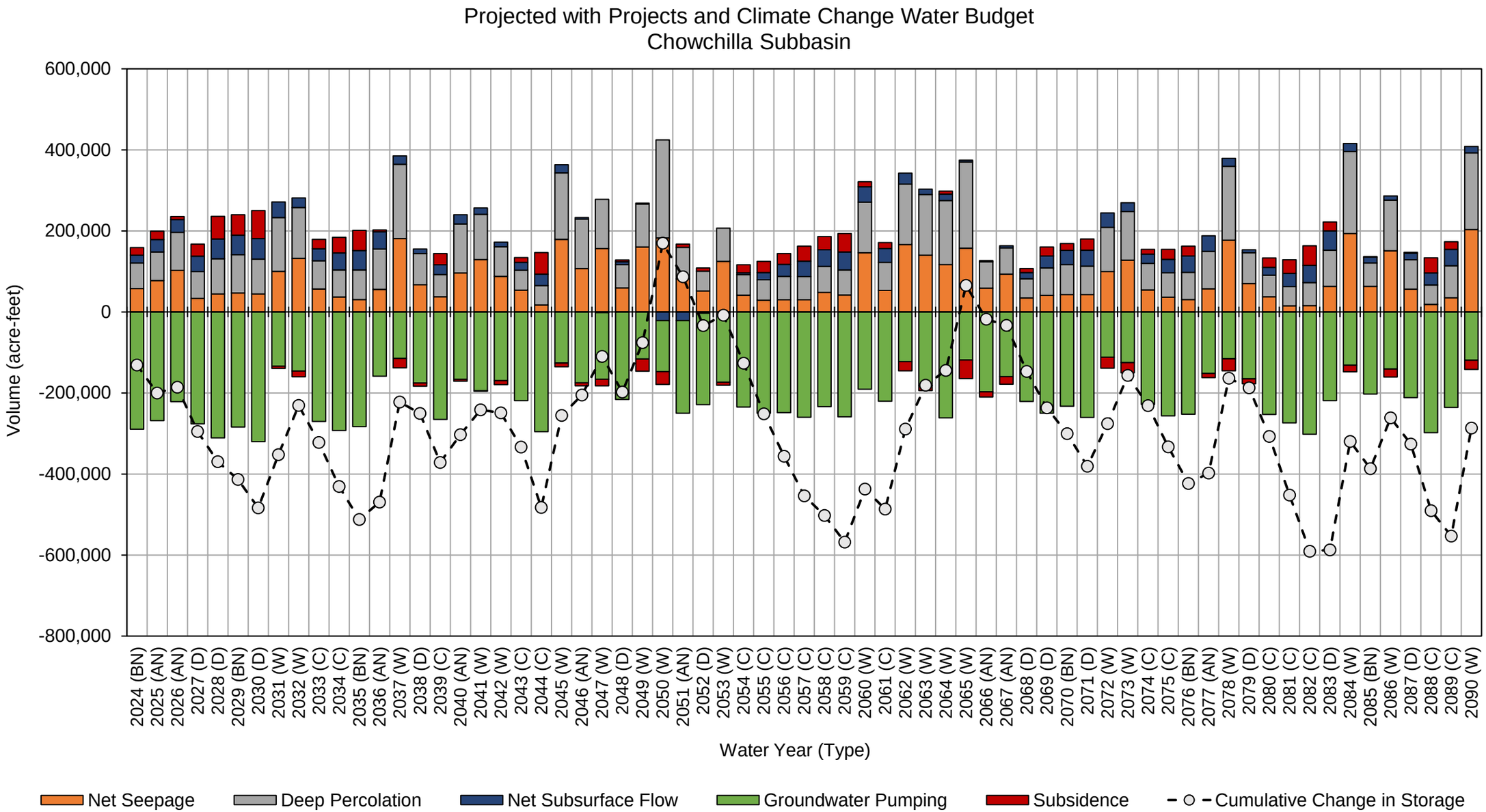
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	57,000	64,000	-290,000	-170,000
2025 (AN)	77,000	70,000	-270,000	-120,000
2026 (AN)	100,000	94,000	-220,000	-25,000
2027 (D)	33,000	66,000	-280,000	-180,000
2028 (D)	44,000	87,000	-310,000	-180,000
2029 (BN)	47,000	94,000	-280,000	-140,000
2030 (D)	44,000	86,000	-320,000	-190,000
2031 (W)	100,000	130,000	-130,000	99,000
2032 (W)	130,000	130,000	-150,000	110,000
2033 (C)	57,000	70,000	-270,000	-140,000
2034 (C)	37,000	67,000	-290,000	-190,000
2035 (BN)	30,000	73,000	-280,000	-180,000
2036 (AN)	56,000	100,000	-160,000	-3,400
2037 (W)	180,000	180,000	-120,000	250,000
2038 (D)	67,000	77,000	-180,000	-32,000
2039 (C)	37,000	55,000	-270,000	-170,000
2040 (AN)	96,000	120,000	-170,000	51,000
2041 (W)	130,000	110,000	-190,000	46,000
2042 (W)	88,000	73,000	-170,000	-9,200
2043 (C)	54,000	50,000	-220,000	-120,000
2044 (C)	17,000	48,000	-300,000	-230,000
2045 (W)	180,000	160,000	-130,000	220,000
2046 (AN)	110,000	120,000	-170,000	54,000
2047 (W)	160,000	120,000	-160,000	110,000
2048 (D)	59,000	58,000	-220,000	-99,000
2049 (W)	160,000	110,000	-120,000	150,000
2050 (W)	180,000	240,000	-130,000	300,000
2051 (AN)	81,000	78,000	-230,000	-70,000
2052 (D)	51,000	49,000	-230,000	-130,000
2053 (W)	120,000	82,000	-170,000	34,000
2054 (C)	41,000	51,000	-230,000	-140,000
2055 (C)	29,000	50,000	-250,000	-170,000
2056 (C)	30,000	58,000	-250,000	-160,000
2057 (C)	30,000	57,000	-260,000	-170,000
2058 (C)	48,000	64,000	-230,000	-120,000
2059 (C)	42,000	62,000	-260,000	-160,000
2060 (W)	150,000	120,000	-190,000	80,000
2061 (C)	53,000	69,000	-220,000	-98,000
2062 (W)	170,000	150,000	-120,000	190,000
2063 (W)	140,000	150,000	-180,000	110,000
2064 (W)	120,000	160,000	-260,000	13,000
2065 (W)	160,000	210,000	-120,000	250,000
2066 (AN)	59,000	65,000	-200,000	-74,000
2067 (AN)	93,000	65,000	-160,000	-1,800
2068 (D)	34,000	48,000	-220,000	-140,000

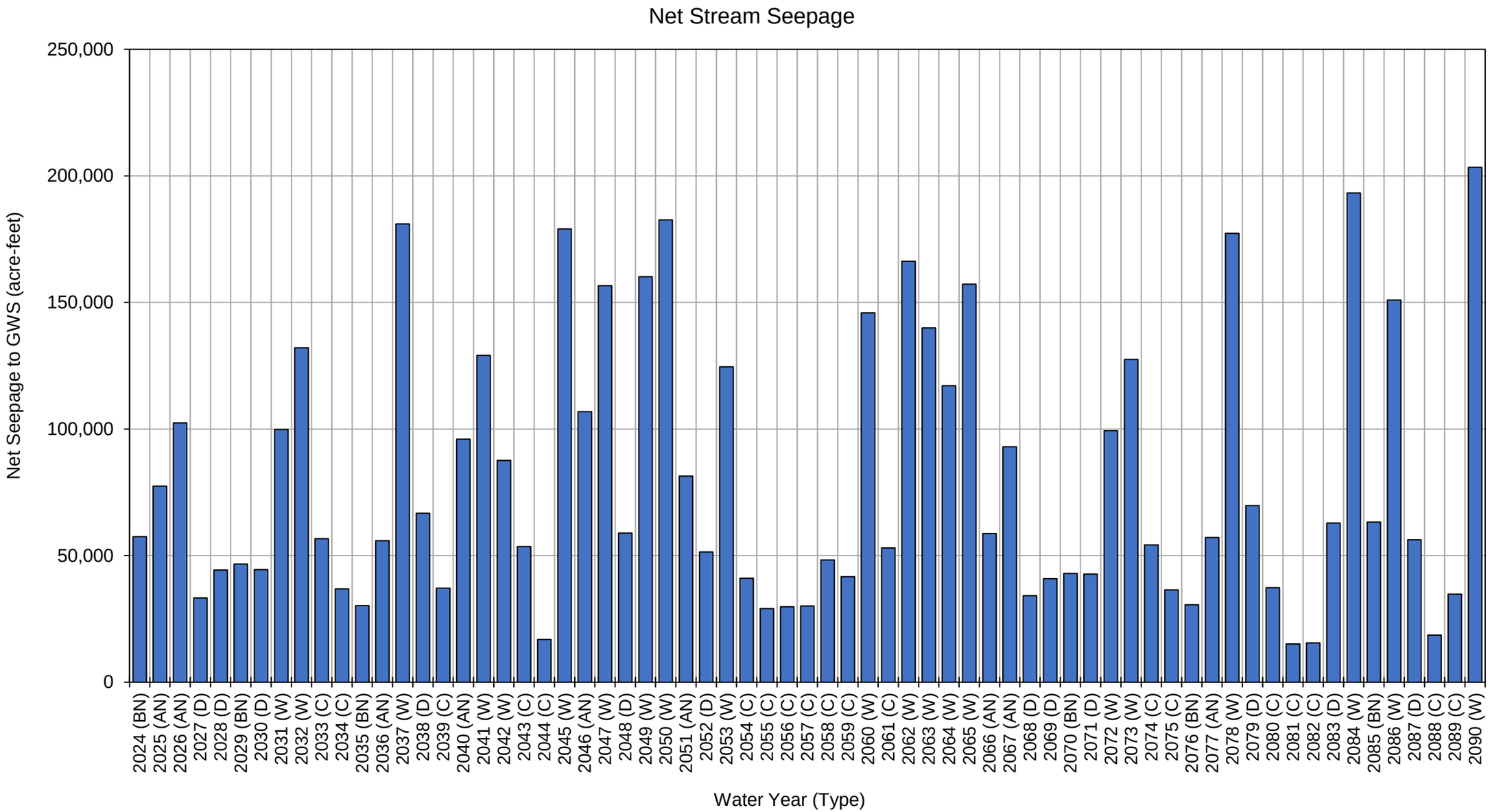
Chowchilla Subbasin Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

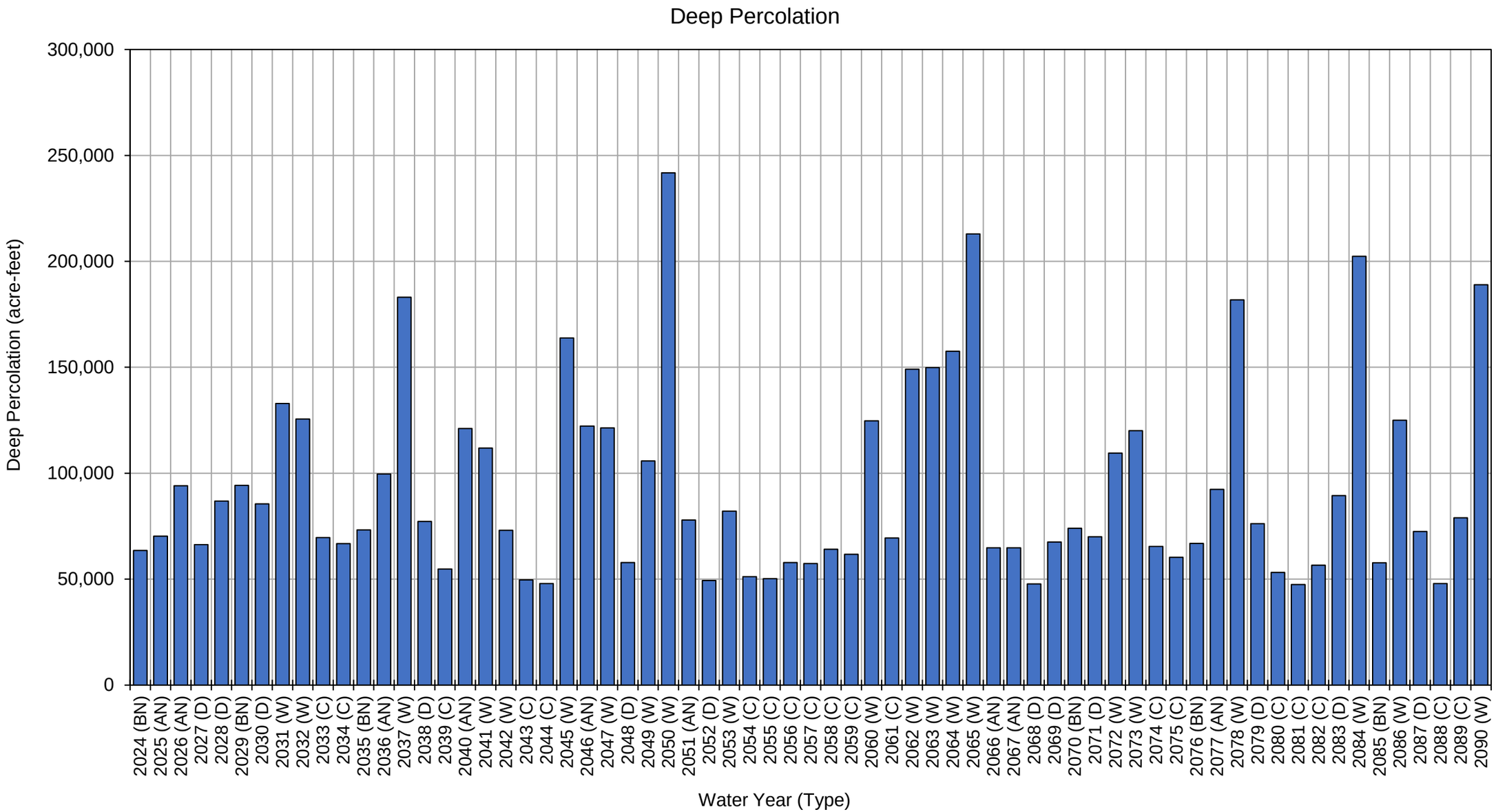
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		41,000	68,000	-250,000	-140,000
2070 (BN)		43,000	74,000	-230,000	-120,000
2071 (D)		43,000	70,000	-260,000	-150,000
2072 (W)		99,000	110,000	-110,000	97,000
2073 (W)		130,000	120,000	-130,000	120,000
2074 (C)		54,000	65,000	-230,000	-110,000
2075 (C)		36,000	60,000	-260,000	-160,000
2076 (BN)		31,000	67,000	-250,000	-150,000
2077 (AN)		57,000	92,000	-150,000	-2,100
2078 (W)		180,000	180,000	-120,000	240,000
2079 (D)		70,000	76,000	-160,000	-19,000
2080 (C)		37,000	53,000	-250,000	-160,000
2081 (C)		15,000	47,000	-270,000	-210,000
2082 (C)		16,000	57,000	-300,000	-230,000
2083 (D)		63,000	89,000	-220,000	-67,000
2084 (W)		190,000	200,000	-130,000	260,000
2085 (BN)		63,000	58,000	-200,000	-82,000
2086 (W)		150,000	130,000	-140,000	140,000
2087 (D)		56,000	72,000	-210,000	-83,000
2088 (C)		19,000	48,000	-300,000	-230,000
2089 (C)		35,000	79,000	-240,000	-120,000
2090 (W)		200,000	190,000	-120,000	270,000
Average (2024-2039)		**69,000**	**90,000**	**-240,000**	**-79,000**
2024-2039	W	140,000	150,000	-130,000	150,000
	AN	79,000	88,000	-220,000	-50,000
	BN	45,000	77,000	-290,000	-160,000
	D	47,000	79,000	-270,000	-140,000
	C	44,000	64,000	-280,000	-170,000
Average (2040-2090)		**84,000**	**94,000**	**-200,000**	**-23,000**
2040-2090	W	150,000	150,000	-150,000	150,000
	AN	82,000	91,000	-180,000	-7,100
	BN	46,000	66,000	-230,000	-120,000
	D	52,000	66,000	-220,000	-100,000
	C	35,000	57,000	-250,000	-160,000

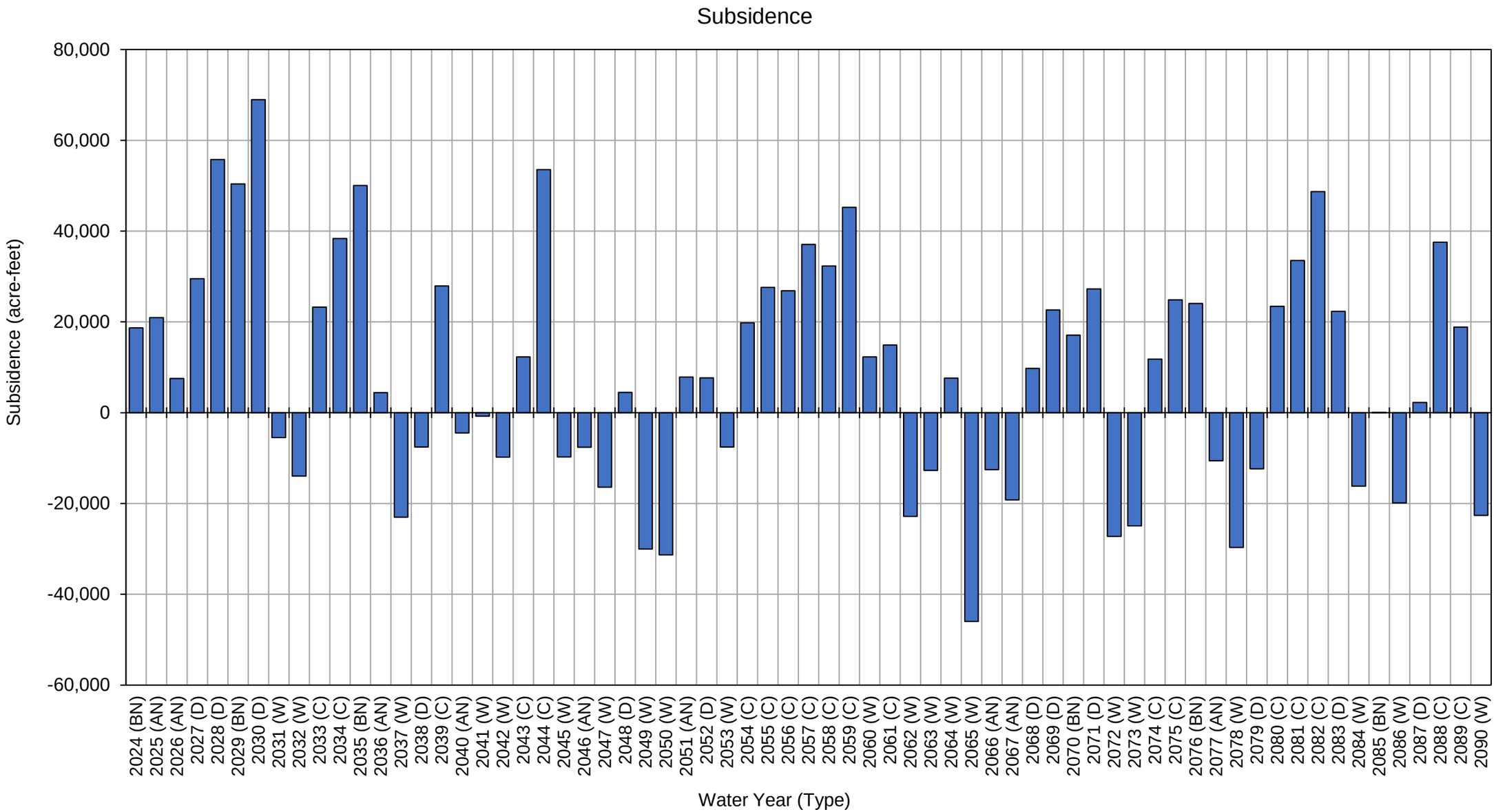
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

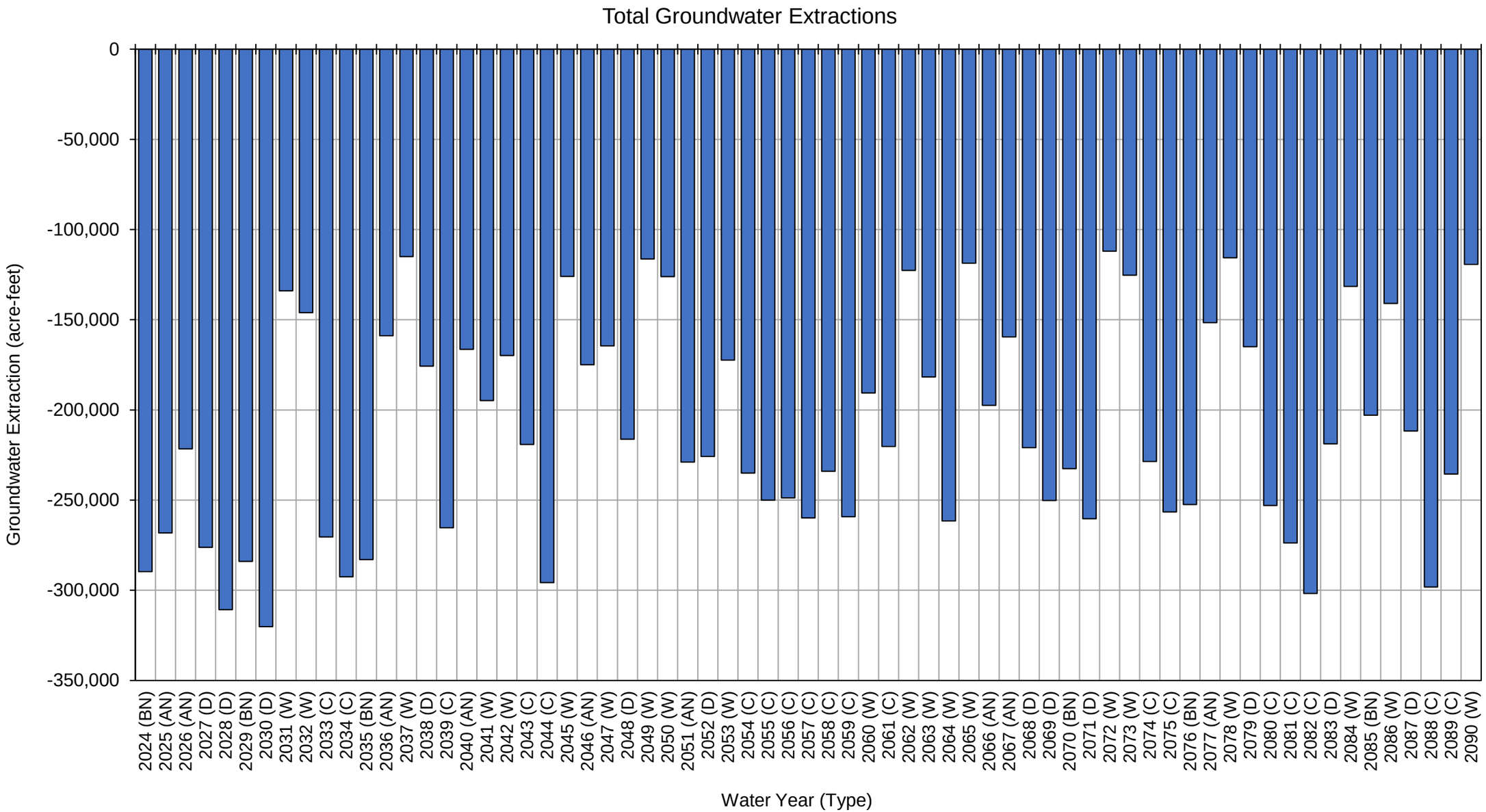
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

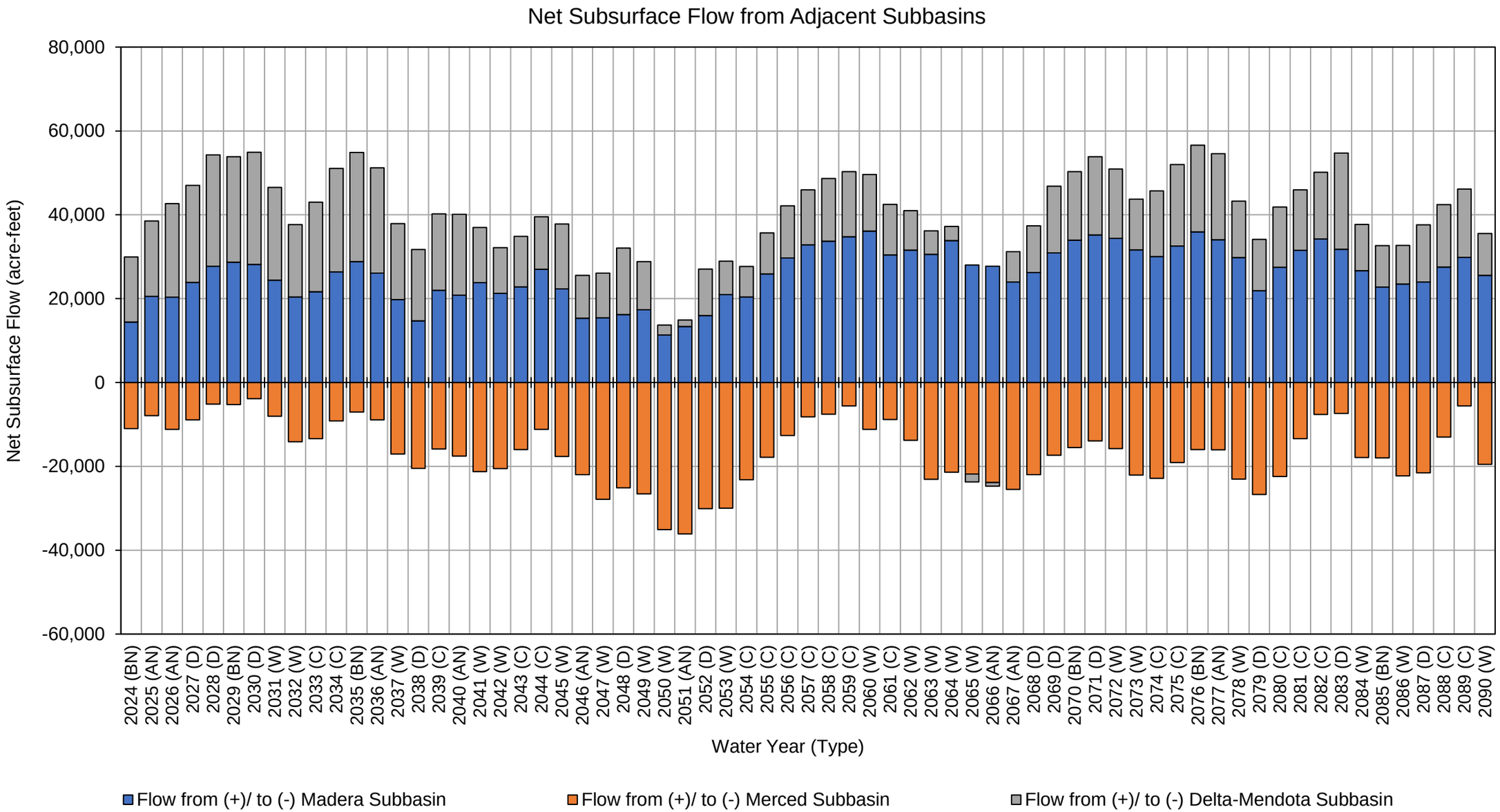

Projected with Projects and Climate Change Water Budget
Chowchilla Subbasin
Volume (acre-feet)
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

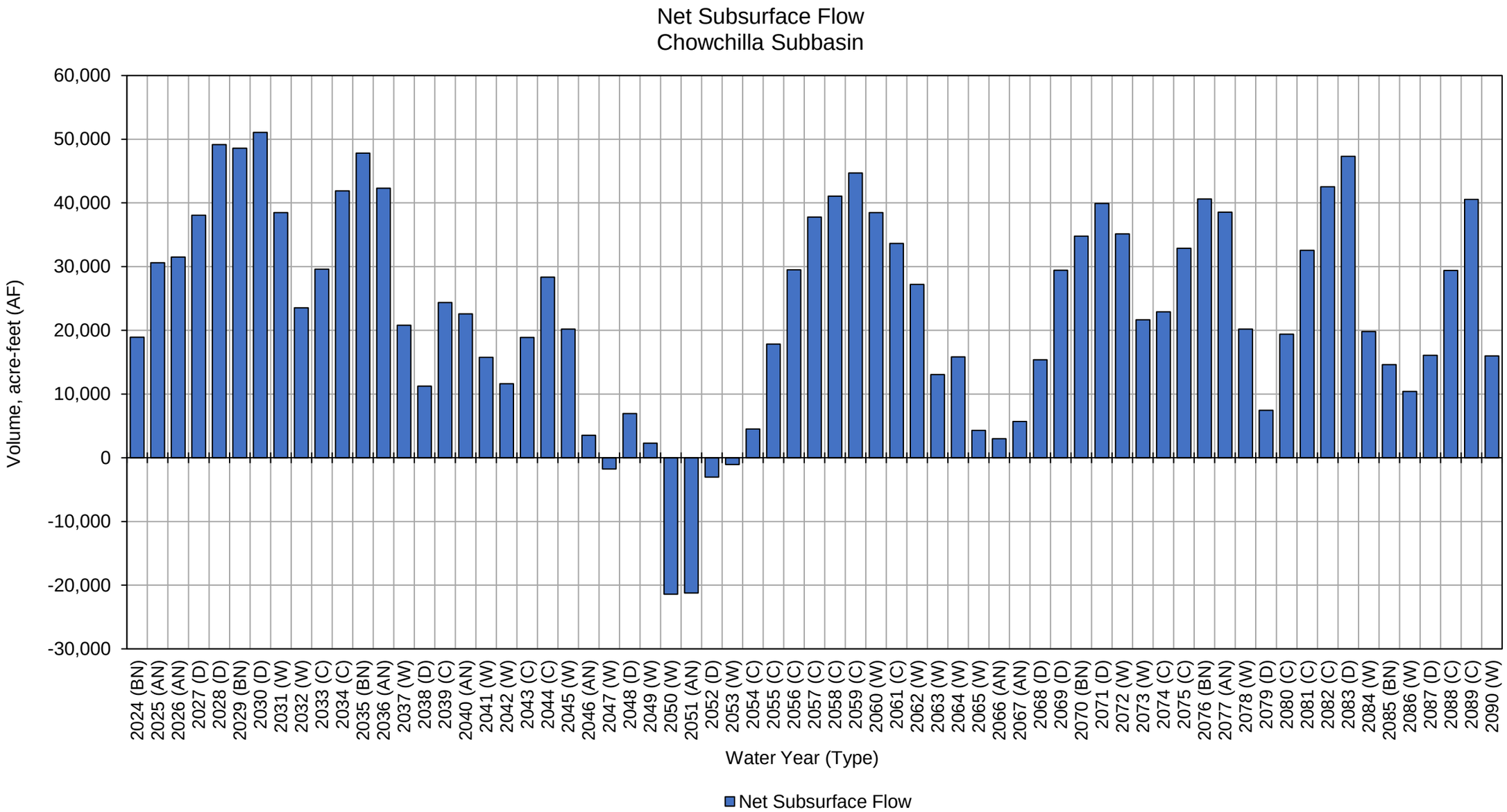

Net Stream Seepage
Net Seepage to GWS (acre-feet)
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

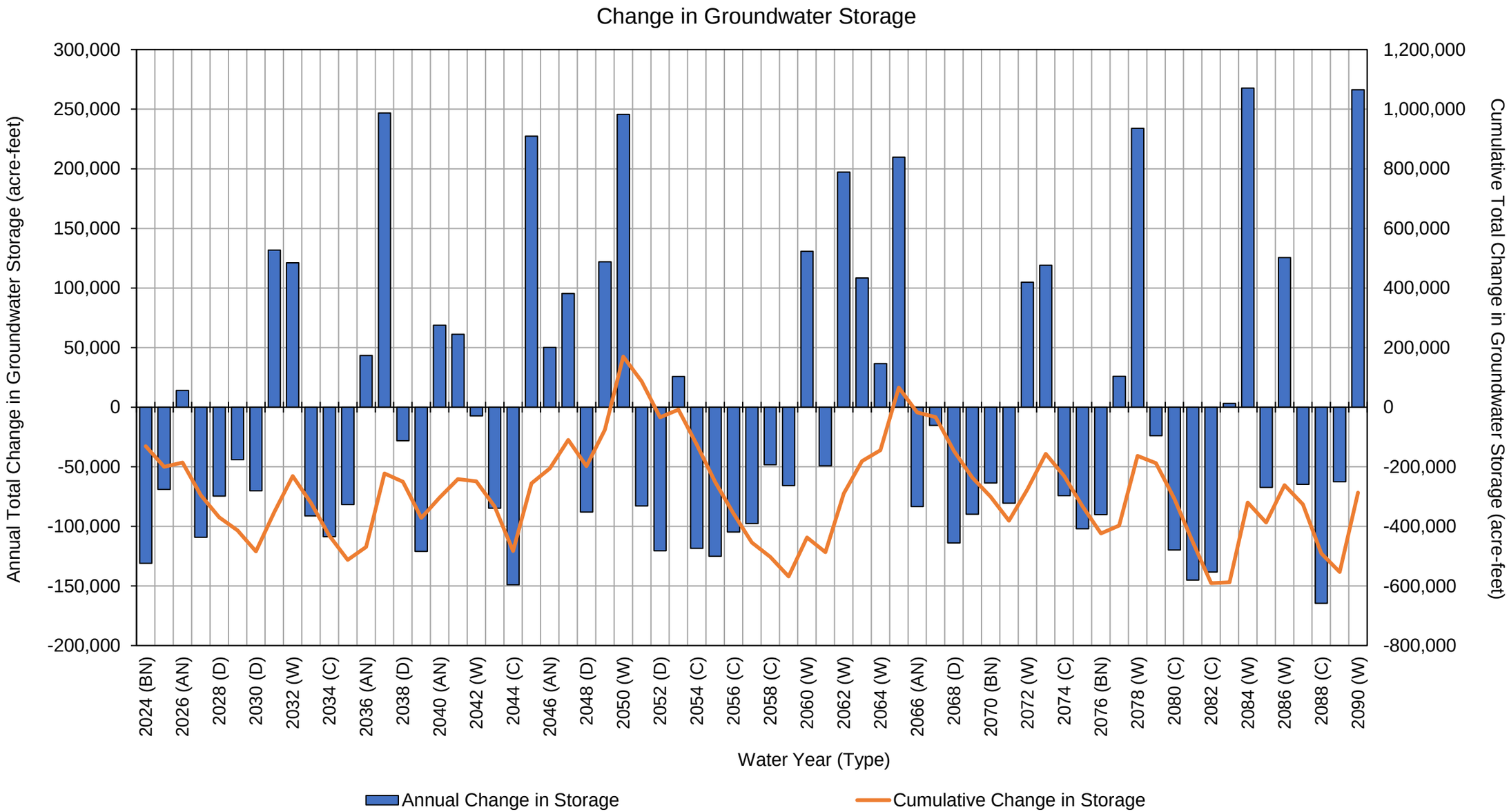

Deep Percolation
Deep Percolation (acre-feet)
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Madera Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin


Net Subsurface Flow
Chowchilla Subbasin
Volume, acre-feet (AF)
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Chowchilla Subbasin Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	77,000	70,000	2,800	-250,000	15,000	-87,000	-87,000
2025 (AN)	96,000	72,000	-2,800	-220,000	19,000	-34,000	-120,000
2026 (AN)	85,000	90,000	-530	-220,000	24,000	-16,000	-140,000
2027 (D)	63,000	81,000	10,000	-230,000	28,000	-53,000	-190,000
2028 (D)	46,000	86,000	39,000	-310,000	41,000	-94,000	-280,000
2029 (BN)	56,000	96,000	35,000	-280,000	42,000	-49,000	-330,000
2030 (D)	44,000	88,000	65,000	-340,000	47,000	-95,000	-430,000
2031 (W)	97,000	150,000	-3,800	-160,000	33,000	110,000	-310,000
2032 (W)	110,000	130,000	-4,300	-190,000	22,000	66,000	-250,000
2033 (C)	60,000	80,000	29,000	-300,000	34,000	-98,000	-350,000
2034 (C)	50,000	80,000	47,000	-320,000	45,000	-95,000	-440,000
2035 (BN)	57,000	86,000	49,000	-300,000	45,000	-60,000	-500,000
2036 (AN)	72,000	110,000	6,800	-190,000	39,000	42,000	-460,000
2037 (W)	120,000	180,000	-9,900	-170,000	25,000	150,000	-310,000
2038 (D)	70,000	93,000	9,600	-250,000	23,000	-52,000	-360,000
2039 (C)	45,000	73,000	43,000	-330,000	38,000	-130,000	-490,000
2040 (AN)	81,000	140,000	20,000	-240,000	34,000	36,000	-450,000
2041 (W)	99,000	120,000	18,000	-250,000	29,000	15,000	-440,000
2042 (W)	85,000	85,000	16,000	-250,000	27,000	-33,000	-470,000
2043 (C)	40,000	66,000	52,000	-310,000	40,000	-120,000	-590,000
2044 (C)	14,000	63,000	100,000	-390,000	49,000	-160,000	-750,000
2045 (W)	97,000	160,000	31,000	-200,000	42,000	130,000	-620,000
2046 (AN)	99,000	140,000	21,000	-250,000	32,000	35,000	-590,000
2047 (W)	90,000	110,000	14,000	-240,000	34,000	12,000	-570,000
2048 (D)	48,000	75,000	36,000	-310,000	45,000	-100,000	-680,000
2049 (W)	120,000	110,000	2,300	-190,000	38,000	87,000	-590,000
2050 (W)	110,000	190,000	-9,500	-180,000	25,000	140,000	-450,000
2051 (AN)	91,000	120,000	14,000	-290,000	22,000	-43,000	-500,000
2052 (D)	49,000	80,000	23,000	-310,000	41,000	-110,000	-610,000
2053 (W)	110,000	120,000	2,700	-210,000	33,000	46,000	-560,000
2054 (C)	44,000	77,000	34,000	-310,000	38,000	-120,000	-680,000
2055 (C)	35,000	74,000	51,000	-310,000	45,000	-100,000	-790,000
2056 (C)	34,000	79,000	59,000	-300,000	48,000	-80,000	-860,000
2057 (C)	32,000	76,000	71,000	-320,000	52,000	-86,000	-950,000
2058 (C)	49,000	85,000	64,000	-290,000	51,000	-38,000	-990,000
2059 (C)	39,000	79,000	76,000	-320,000	54,000	-72,000	-1,100,000
2060 (W)	130,000	140,000	26,000	-200,000	45,000	150,000	-920,000
2061 (C)	63,000	90,000	30,000	-260,000	42,000	-38,000	-950,000
2062 (W)	120,000	140,000	2,500	-180,000	39,000	130,000	-830,000
2063 (W)	110,000	130,000	910	-220,000	32,000	58,000	-770,000
2064 (W)	120,000	180,000	4,300	-260,000	28,000	72,000	-690,000
2065 (W)	120,000	200,000	-26,000	-160,000	20,000	160,000	-540,000
2066 (AN)	98,000	97,000	-14,000	-220,000	17,000	-25,000	-560,000
2067 (AN)	91,000	92,000	-9,000	-220,000	22,000	-23,000	-590,000
2068 (D)	67,000	83,000	2,200	-240,000	26,000	-60,000	-650,000
2069 (D)	50,000	90,000	28,000	-310,000	39,000	-100,000	-750,000

Chowchilla Subbasin Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		60,000	99,000	21,000	-280,000	42,000	-59,000	-810,000
2071 (D)		48,000	90,000	42,000	-340,000	49,000	-110,000	-920,000
2072 (W)		100,000	150,000	-9,900	-160,000	39,000	120,000	-800,000
2073 (W)		110,000	130,000	-8,000	-190,000	29,000	72,000	-730,000
2074 (C)		64,000	82,000	21,000	-300,000	40,000	-96,000	-830,000
2075 (C)		53,000	83,000	35,000	-320,000	50,000	-99,000	-930,000
2076 (BN)		60,000	88,000	40,000	-300,000	49,000	-63,000	-990,000
2077 (AN)		76,000	120,000	6,600	-190,000	42,000	46,000	-940,000
2078 (W)		130,000	180,000	-9,300	-170,000	29,000	160,000	-790,000
2079 (D)		75,000	96,000	4,500	-250,000	27,000	-49,000	-830,000
2080 (C)		49,000	76,000	37,000	-330,000	40,000	-130,000	-960,000
2081 (C)		22,000	66,000	74,000	-360,000	49,000	-150,000	-1,100,000
2082 (C)		19,000	77,000	110,000	-390,000	52,000	-140,000	-1,300,000
2083 (D)		65,000	110,000	70,000	-290,000	56,000	11,000	-1,200,000
2084 (W)		140,000	180,000	25,000	-200,000	36,000	190,000	-1,100,000
2085 (BN)		94,000	84,000	20,000	-250,000	33,000	-24,000	-1,100,000
2086 (W)		120,000	130,000	5,200	-200,000	28,000	80,000	-1,000,000
2087 (D)		64,000	93,000	24,000	-300,000	36,000	-82,000	-1,100,000
2088 (C)		28,000	71,000	71,000	-390,000	48,000	-170,000	-1,300,000
2089 (C)		43,000	110,000	56,000	-300,000	53,000	-42,000	-1,300,000
2090 (W)		150,000	170,000	19,000	-190,000	37,000	180,000	-1,100,000
Average (2024-2039)		**72,000**	**97,000**	**20,000**	**-250,000**	**32,000**	**-31,000**	
2024-2039	W	110,000	150,000	-6,000	-170,000	27,000	110,000	
	AN	85,000	92,000	1,200	-210,000	27,000	-2,900	
	BN	63,000	84,000	29,000	-280,000	34,000	-65,000	
	D	56,000	87,000	31,000	-280,000	35,000	-73,000	
	C	52,000	78,000	40,000	-320,000	39,000	-110,000	
Average (2040-2090)		**77,000**	**110,000**	**27,000**	**-260,000**	**38,000**	**-12,000**	
2040-2090	W	120,000	150,000	5,700	-200,000	33,000	97,000	
	AN	89,000	120,000	6,400	-240,000	28,000	4,400	
	BN	71,000	90,000	27,000	-280,000	41,000	-49,000	
	D	58,000	90,000	29,000	-290,000	40,000	-76,000	
	C	39,000	78,000	59,000	-330,000	47,000	-100,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Subbasin Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

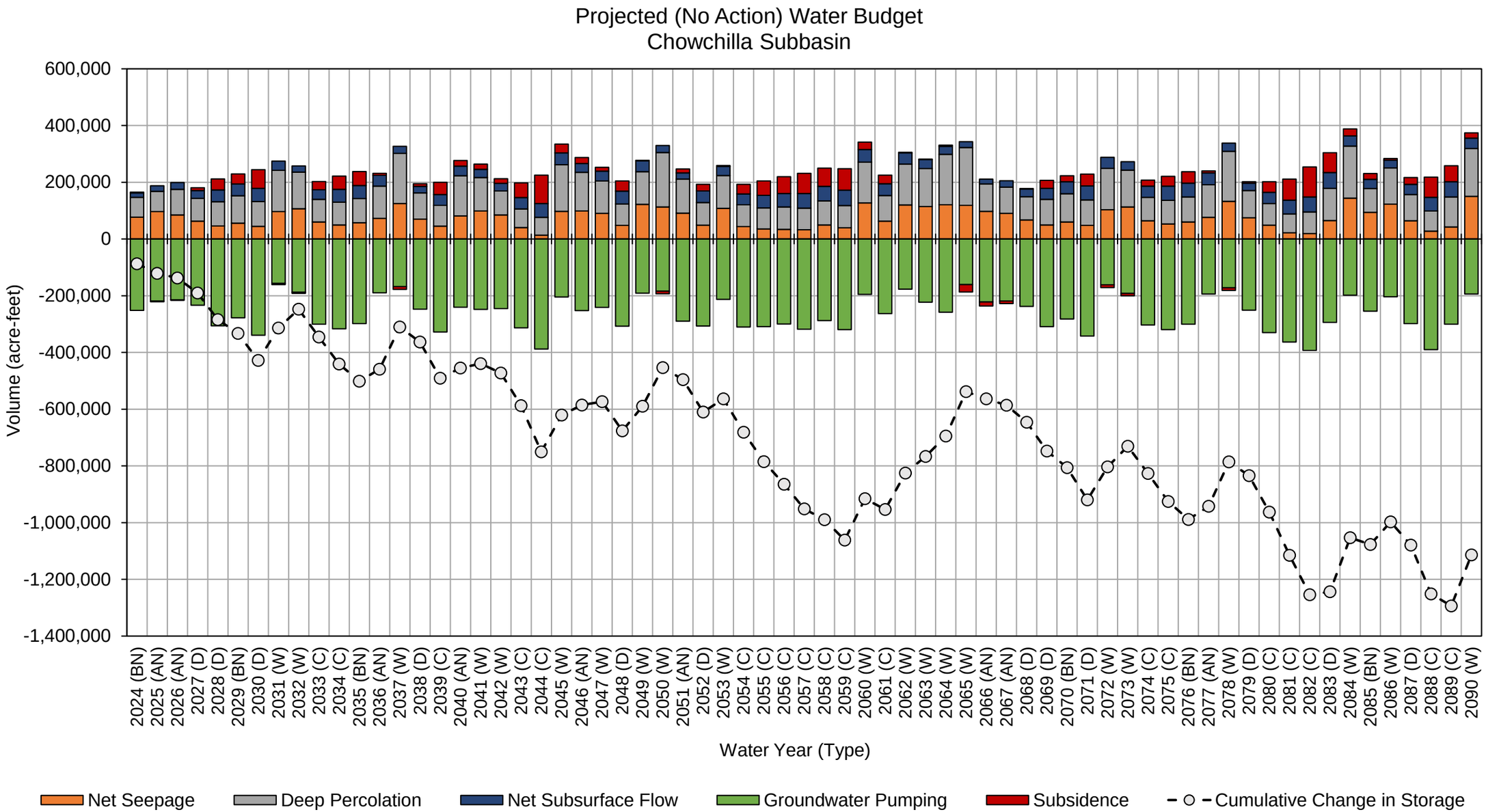
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	77,000	70,000	-250,000	-110,000
2025 (AN)	96,000	72,000	-220,000	-51,000
2026 (AN)	85,000	90,000	-220,000	-40,000
2027 (D)	63,000	81,000	-230,000	-90,000
2028 (D)	46,000	86,000	-310,000	-170,000
2029 (BN)	56,000	96,000	-280,000	-130,000
2030 (D)	44,000	88,000	-340,000	-210,000
2031 (W)	97,000	150,000	-160,000	85,000
2032 (W)	110,000	130,000	-190,000	48,000
2033 (C)	60,000	80,000	-300,000	-160,000
2034 (C)	50,000	80,000	-320,000	-190,000
2035 (BN)	57,000	86,000	-300,000	-160,000
2036 (AN)	72,000	110,000	-190,000	-3,500
2037 (W)	120,000	180,000	-170,000	130,000
2038 (D)	70,000	93,000	-250,000	-85,000
2039 (C)	45,000	73,000	-330,000	-210,000
2040 (AN)	81,000	140,000	-240,000	-18,000
2041 (W)	99,000	120,000	-250,000	-32,000
2042 (W)	85,000	85,000	-250,000	-76,000
2043 (C)	40,000	66,000	-310,000	-210,000
2044 (C)	14,000	63,000	-390,000	-310,000
2045 (W)	97,000	160,000	-200,000	57,000
2046 (AN)	99,000	140,000	-250,000	-18,000
2047 (W)	90,000	110,000	-240,000	-36,000
2048 (D)	48,000	75,000	-310,000	-180,000
2049 (W)	120,000	110,000	-190,000	46,000
2050 (W)	110,000	190,000	-180,000	120,000
2051 (AN)	91,000	120,000	-290,000	-79,000
2052 (D)	49,000	80,000	-310,000	-180,000
2053 (W)	110,000	120,000	-210,000	11,000
2054 (C)	44,000	77,000	-310,000	-190,000
2055 (C)	35,000	74,000	-310,000	-200,000
2056 (C)	34,000	79,000	-300,000	-190,000
2057 (C)	32,000	76,000	-320,000	-210,000
2058 (C)	49,000	85,000	-290,000	-150,000
2059 (C)	39,000	79,000	-320,000	-200,000
2060 (W)	130,000	140,000	-200,000	75,000
2061 (C)	63,000	90,000	-260,000	-110,000
2062 (W)	120,000	140,000	-180,000	87,000
2063 (W)	110,000	130,000	-220,000	25,000
2064 (W)	120,000	180,000	-260,000	40,000
2065 (W)	120,000	200,000	-160,000	160,000
2066 (AN)	98,000	97,000	-220,000	-28,000
2067 (AN)	91,000	92,000	-220,000	-36,000
2068 (D)	67,000	83,000	-240,000	-88,000

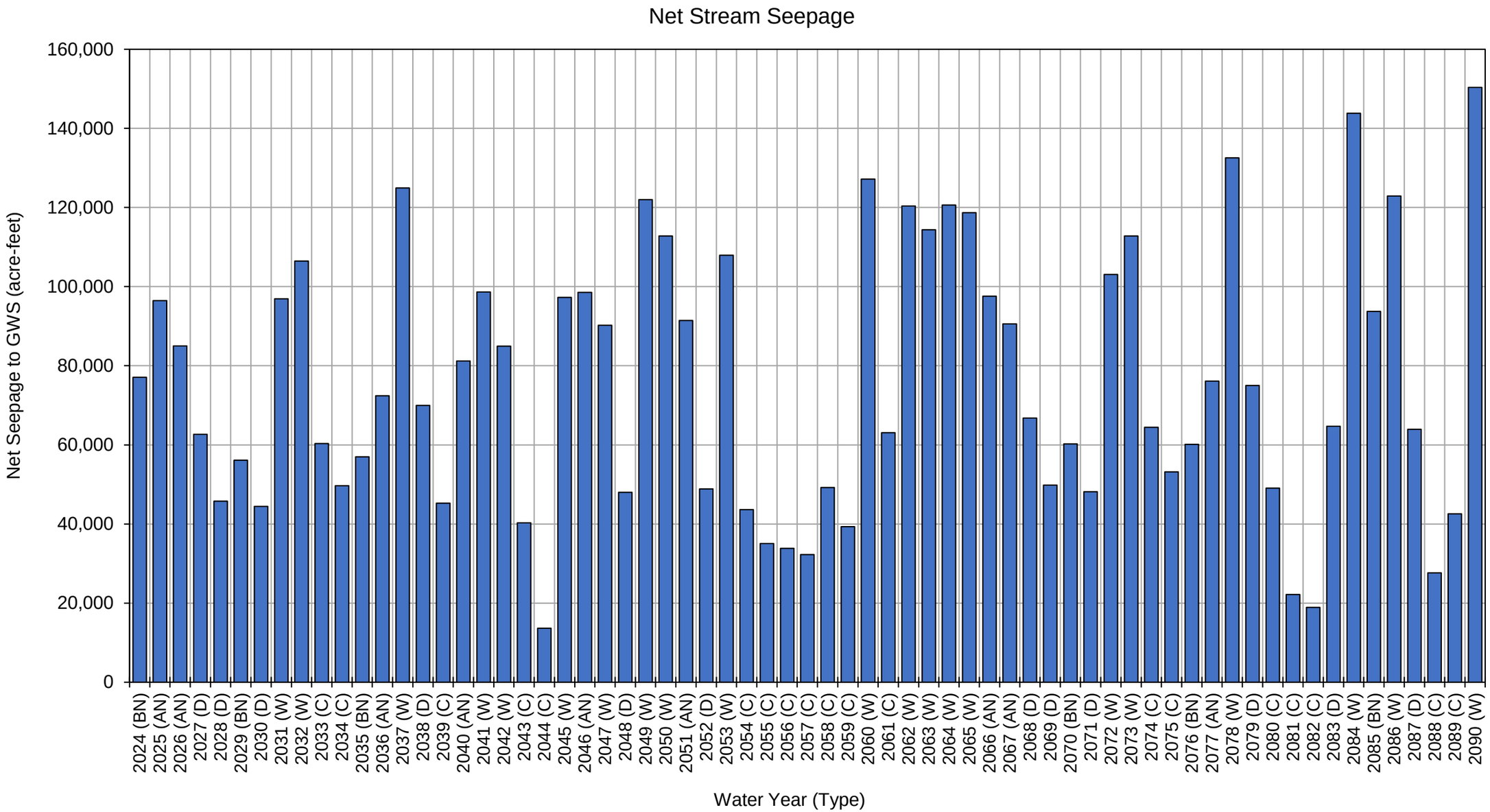
Chowchilla Subbasin Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

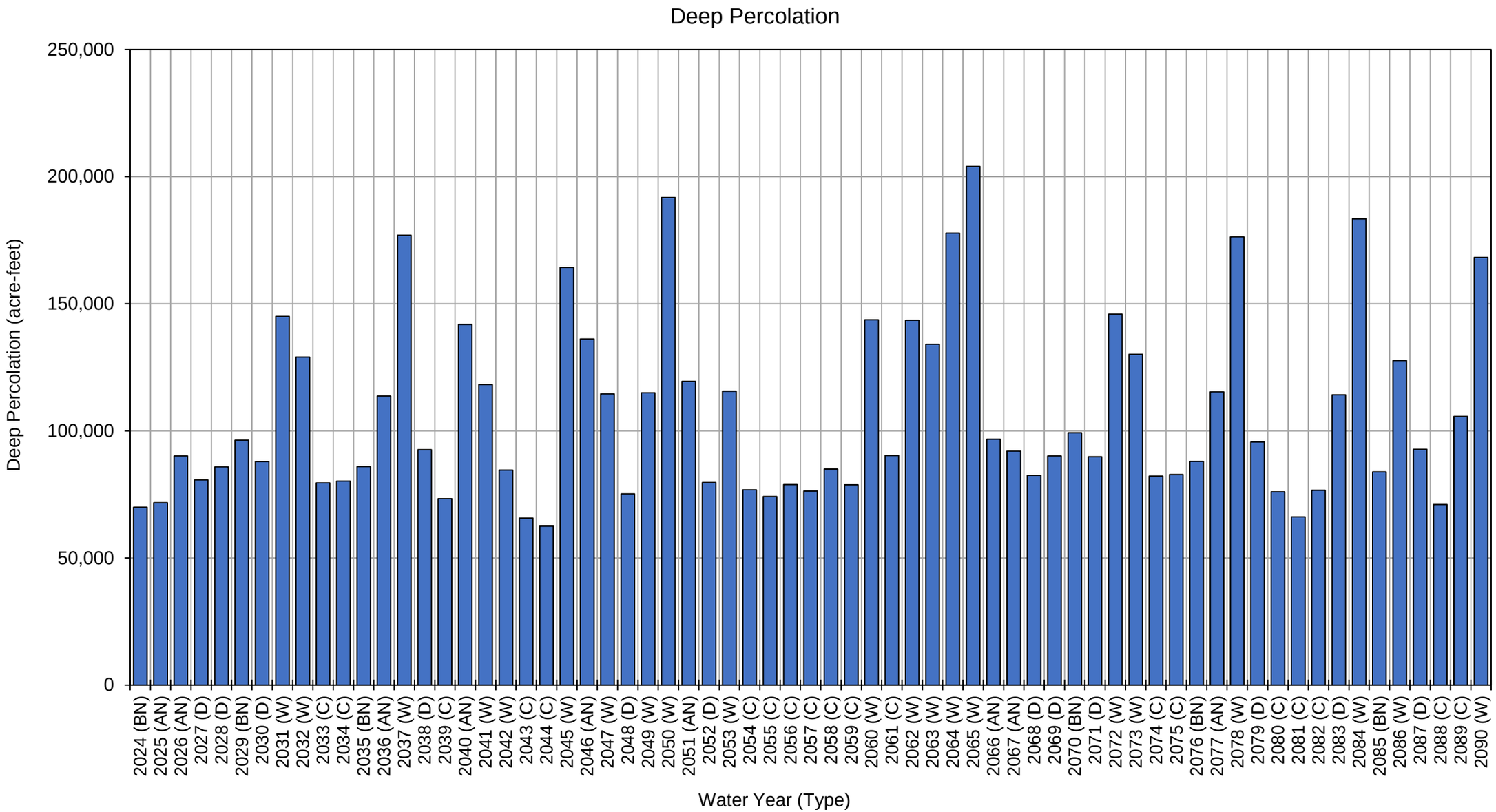
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		50,000	90,000	-310,000	-170,000
2070 (BN)		60,000	99,000	-280,000	-120,000
2071 (D)		48,000	90,000	-340,000	-200,000
2072 (W)		100,000	150,000	-160,000	87,000
2073 (W)		110,000	130,000	-190,000	51,000
2074 (C)		64,000	82,000	-300,000	-160,000
2075 (C)		53,000	83,000	-320,000	-180,000
2076 (BN)		60,000	88,000	-300,000	-150,000
2077 (AN)		76,000	120,000	-190,000	-2,200
2078 (W)		130,000	180,000	-170,000	140,000
2079 (D)		75,000	96,000	-250,000	-80,000
2080 (C)		49,000	76,000	-330,000	-210,000
2081 (C)		22,000	66,000	-360,000	-270,000
2082 (C)		19,000	77,000	-390,000	-300,000
2083 (D)		65,000	110,000	-290,000	-120,000
2084 (W)		140,000	180,000	-200,000	130,000
2085 (BN)		94,000	84,000	-250,000	-77,000
2086 (W)		120,000	130,000	-200,000	47,000
2087 (D)		64,000	93,000	-300,000	-140,000
2088 (C)		28,000	71,000	-390,000	-290,000
2089 (C)		43,000	110,000	-300,000	-150,000
2090 (W)		150,000	170,000	-190,000	120,000
Average (2024-2039)		**72,000**	**97,000**	**-250,000**	**-83,000**
2024-2039	W	110,000	150,000	-170,000	89,000
	AN	85,000	92,000	-210,000	-31,000
	BN	63,000	84,000	-280,000	-130,000
	D	56,000	87,000	-280,000	-140,000
	C	52,000	78,000	-320,000	-190,000
Average (2040-2090)		**77,000**	**110,000**	**-260,000**	**-78,000**
2040-2090	W	120,000	150,000	-200,000	59,000
	AN	89,000	120,000	-240,000	-30,000
	BN	71,000	90,000	-280,000	-120,000
	D	58,000	90,000	-290,000	-150,000
	C	39,000	78,000	-330,000	-210,000

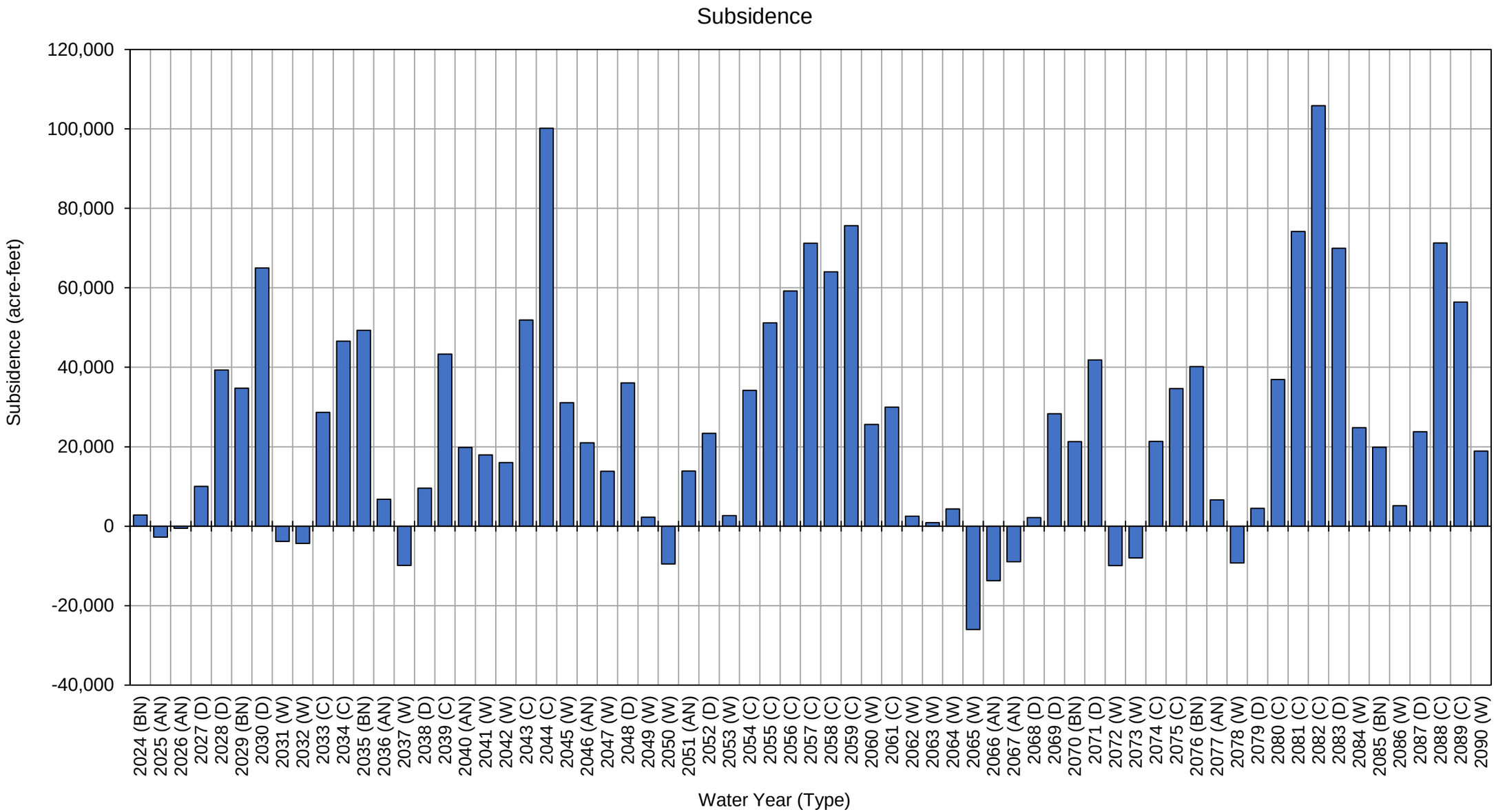
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

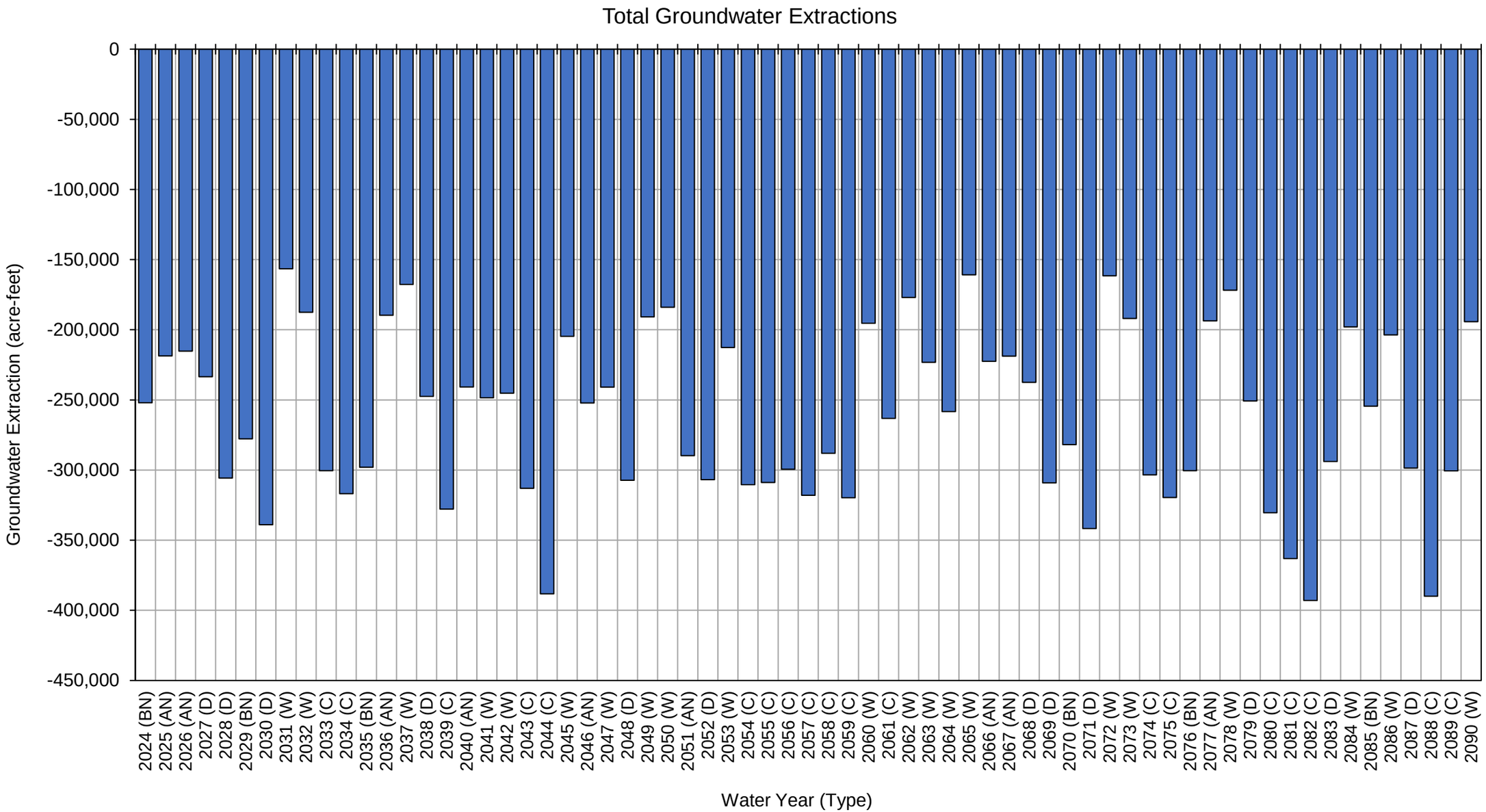
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

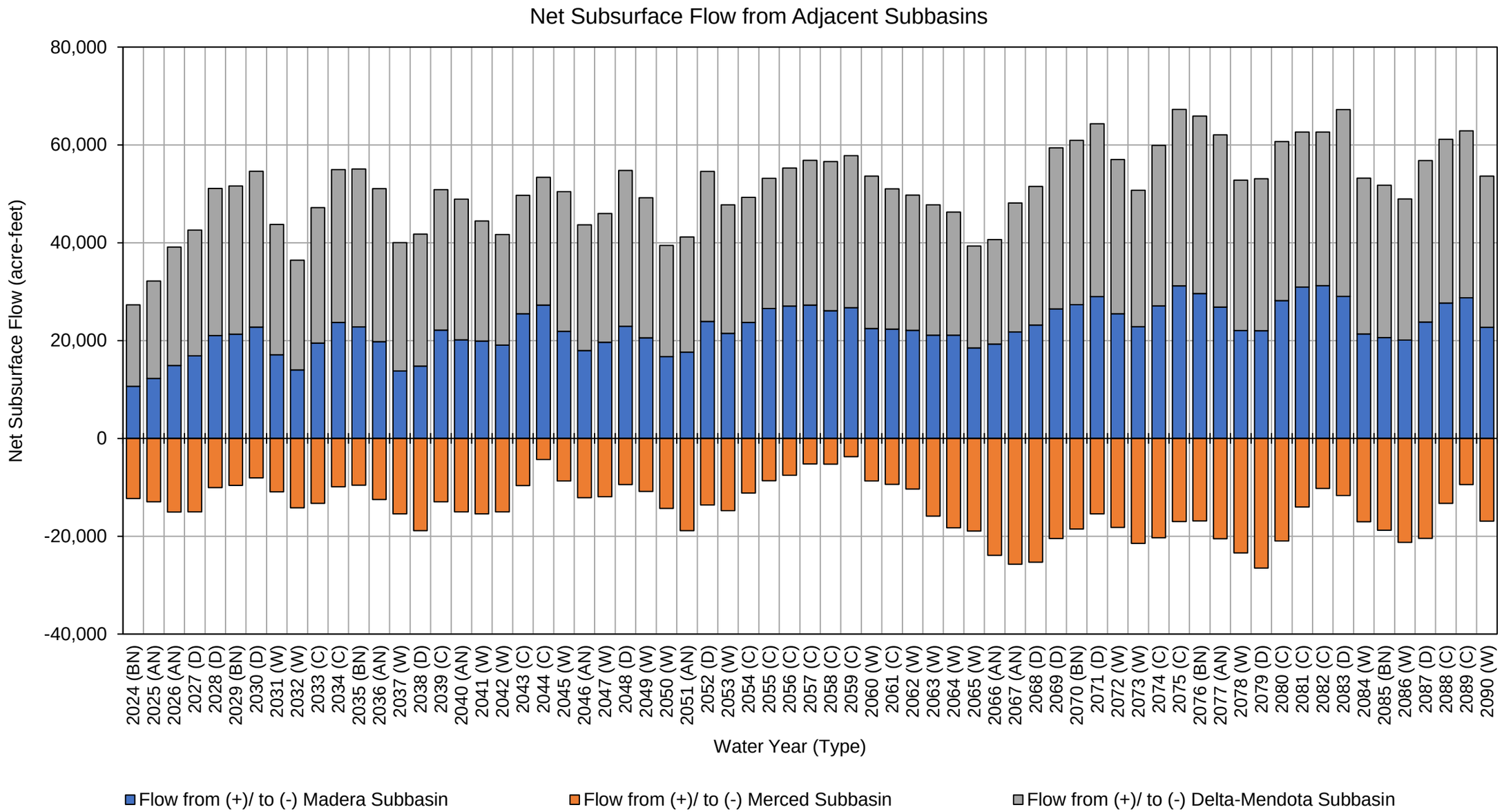

Projected (No Action) Water Budget
Chowchilla Subbasin
Volume (acre-feet)
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
-1,200,000
-1,400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

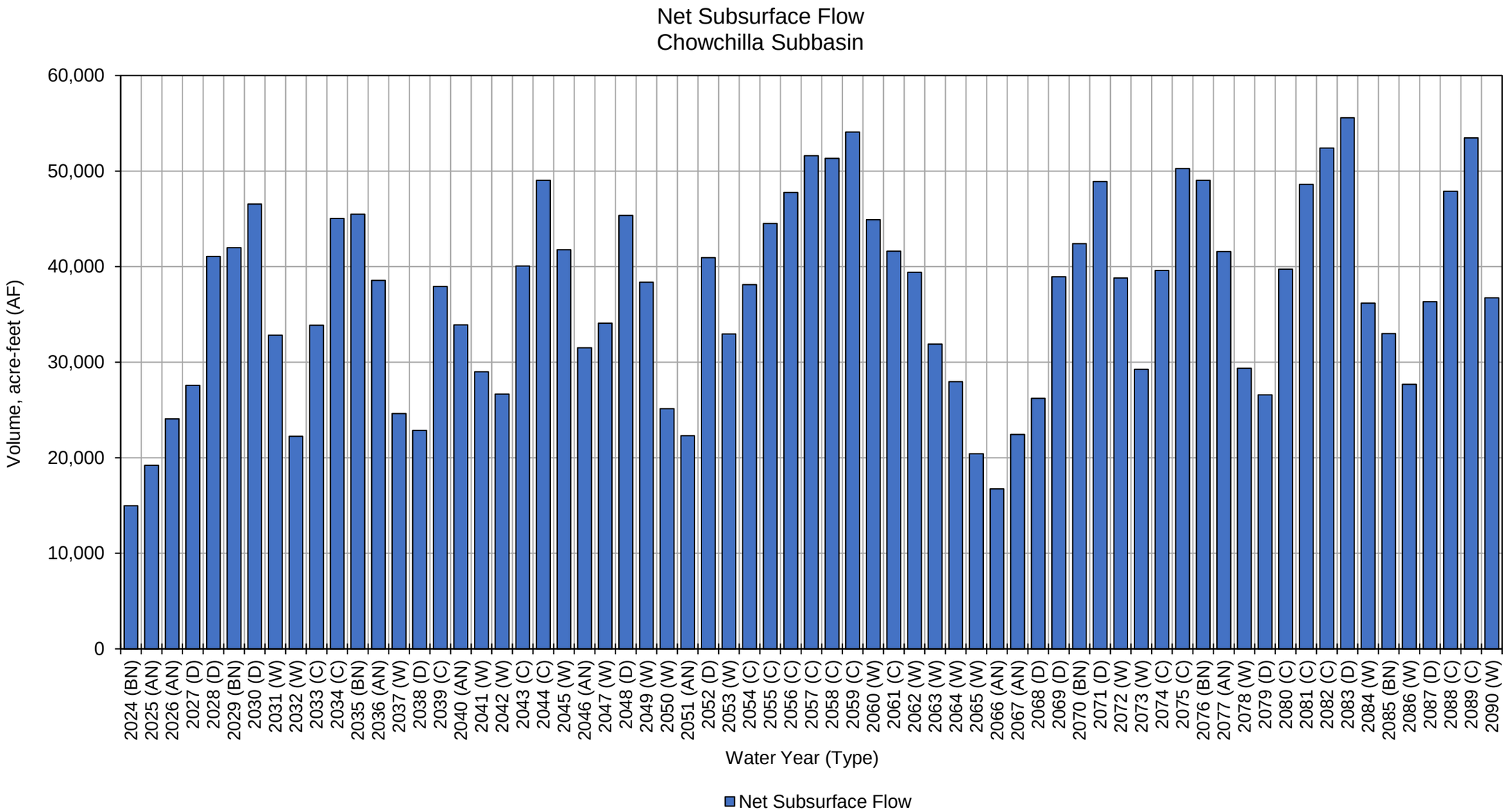

Net Stream Seepage
Net Seepage to GWS (acre-feet)
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

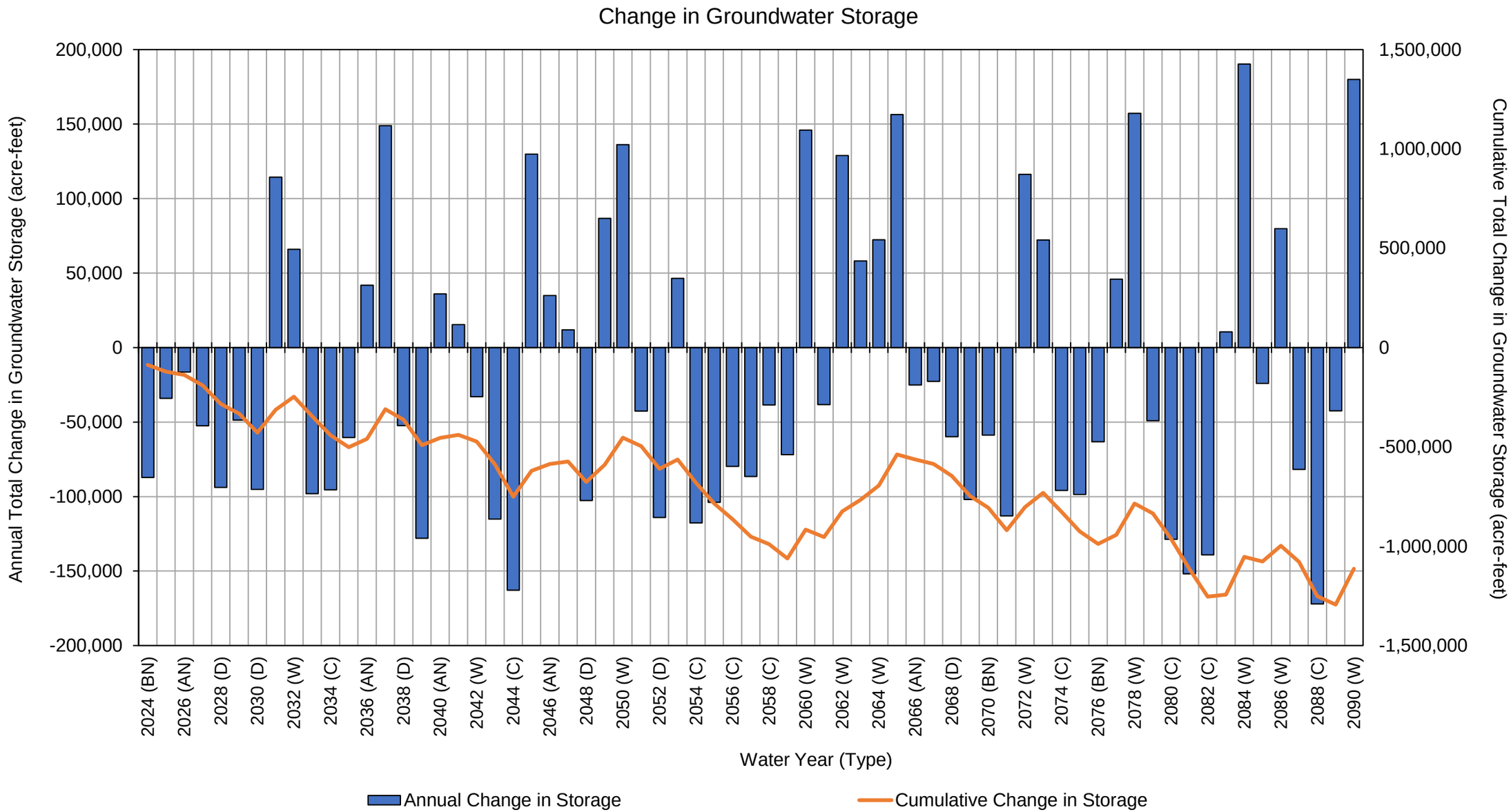

Deep Percolation
Deep Percolation (acre-feet)
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
-450,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
80,000
60,000
40,000
20,000
0
-20,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Madera Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin


Net Subsurface Flow
Chowchilla Subbasin
Volume, acre-feet (AF)
60,000
50,000
40,000
30,000
20,000
10,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
200,000
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Chowchilla Subbasin Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	58,000	64,000	22,000	-300,000	21,000	-140,000	-140,000
2025 (AN)	67,000	71,000	24,000	-280,000	34,000	-86,000	-220,000
2026 (AN)	88,000	94,000	15,000	-240,000	38,000	-8,700	-230,000
2027 (D)	34,000	69,000	39,000	-300,000	47,000	-110,000	-350,000
2028 (D)	46,000	93,000	66,000	-340,000	58,000	-81,000	-430,000
2029 (BN)	49,000	100,000	61,000	-320,000	58,000	-54,000	-480,000
2030 (D)	46,000	92,000	81,000	-360,000	61,000	-82,000	-560,000
2031 (W)	95,000	140,000	7,000	-180,000	47,000	110,000	-450,000
2032 (W)	110,000	130,000	590	-200,000	35,000	74,000	-370,000
2033 (C)	60,000	78,000	37,000	-320,000	46,000	-110,000	-480,000
2034 (C)	39,000	79,000	64,000	-350,000	57,000	-110,000	-590,000
2035 (BN)	32,000	84,000	76,000	-350,000	62,000	-93,000	-690,000
2036 (AN)	57,000	110,000	26,000	-230,000	58,000	25,000	-660,000
2037 (W)	130,000	180,000	3,000	-190,000	42,000	160,000	-500,000
2038 (D)	71,000	94,000	9,800	-250,000	38,000	-37,000	-540,000
2039 (C)	42,000	72,000	51,000	-350,000	51,000	-130,000	-670,000
2040 (AN)	86,000	150,000	26,000	-260,000	48,000	55,000	-610,000
2041 (W)	94,000	110,000	30,000	-280,000	42,000	-1,900	-620,000
2042 (W)	82,000	84,000	20,000	-250,000	37,000	-29,000	-640,000
2043 (C)	61,000	68,000	46,000	-310,000	48,000	-84,000	-730,000
2044 (C)	17,000	64,000	98,000	-400,000	55,000	-160,000	-890,000
2045 (W)	130,000	180,000	28,000	-210,000	49,000	170,000	-720,000
2046 (AN)	98,000	130,000	21,000	-270,000	37,000	23,000	-700,000
2047 (W)	110,000	120,000	12,000	-250,000	39,000	28,000	-670,000
2048 (D)	69,000	80,000	30,000	-310,000	48,000	-85,000	-750,000
2049 (W)	120,000	110,000	-2,600	-190,000	41,000	78,000	-680,000
2050 (W)	130,000	190,000	-8,800	-200,000	29,000	140,000	-540,000
2051 (AN)	82,000	110,000	22,000	-330,000	30,000	-82,000	-620,000
2052 (D)	64,000	80,000	25,000	-320,000	48,000	-100,000	-720,000
2053 (W)	93,000	110,000	15,000	-250,000	43,000	9,700	-720,000
2054 (C)	51,000	77,000	42,000	-330,000	47,000	-110,000	-820,000
2055 (C)	38,000	73,000	63,000	-340,000	56,000	-110,000	-930,000
2056 (C)	40,000	81,000	73,000	-330,000	61,000	-80,000	-1,000,000
2057 (C)	39,000	78,000	81,000	-350,000	65,000	-83,000	-1,100,000
2058 (C)	57,000	86,000	74,000	-320,000	66,000	-37,000	-1,100,000
2059 (C)	50,000	80,000	84,000	-350,000	68,000	-66,000	-1,200,000
2060 (W)	97,000	140,000	52,000	-270,000	63,000	78,000	-1,100,000
2061 (C)	60,000	89,000	52,000	-310,000	62,000	-44,000	-1,200,000
2062 (W)	120,000	150,000	12,000	-190,000	57,000	140,000	-1,000,000
2063 (W)	100,000	130,000	13,000	-270,000	53,000	27,000	-1,000,000
2064 (W)	87,000	160,000	35,000	-350,000	60,000	-7,000	-1,000,000
2065 (W)	120,000	210,000	-9,200	-190,000	52,000	180,000	-820,000
2066 (AN)	68,000	96,000	540	-280,000	52,000	-67,000	-890,000
2067 (AN)	93,000	98,000	-5,800	-250,000	56,000	-4,000	-890,000
2068 (D)	38,000	72,000	15,000	-310,000	63,000	-120,000	-1,000,000
2069 (D)	52,000	97,000	33,000	-340,000	74,000	-89,000	-1,100,000

Chowchilla Subbasin Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		54,000	100,000	36,000	-320,000	75,000	-56,000	-1,200,000
2071 (D)		51,000	93,000	61,000	-360,000	75,000	-81,000	-1,200,000
2072 (W)		100,000	140,000	3,600	-180,000	64,000	130,000	-1,100,000
2073 (W)		120,000	130,000	-4,800	-200,000	52,000	90,000	-1,000,000
2074 (C)		65,000	80,000	22,000	-330,000	60,000	-98,000	-1,100,000
2075 (C)		43,000	82,000	42,000	-350,000	70,000	-120,000	-1,200,000
2076 (BN)		36,000	86,000	59,000	-350,000	73,000	-93,000	-1,300,000
2077 (AN)		60,000	110,000	23,000	-230,000	69,000	36,000	-1,300,000
2078 (W)		130,000	170,000	1,000	-190,000	56,000	170,000	-1,100,000
2079 (D)		77,000	97,000	2,900	-250,000	50,000	-26,000	-1,100,000
2080 (C)		46,000	74,000	36,000	-350,000	60,000	-130,000	-1,300,000
2081 (C)		20,000	69,000	63,000	-360,000	68,000	-140,000	-1,400,000
2082 (C)		20,000	77,000	95,000	-390,000	71,000	-130,000	-1,500,000
2083 (D)		70,000	120,000	68,000	-310,000	73,000	22,000	-1,500,000
2084 (W)		140,000	180,000	29,000	-220,000	56,000	180,000	-1,300,000
2085 (BN)		76,000	78,000	27,000	-300,000	56,000	-59,000	-1,400,000
2086 (W)		120,000	140,000	12,000	-230,000	52,000	99,000	-1,300,000
2087 (D)		66,000	97,000	21,000	-310,000	58,000	-66,000	-1,400,000
2088 (C)		24,000	70,000	61,000	-400,000	66,000	-170,000	-1,500,000
2089 (C)		39,000	100,000	51,000	-310,000	72,000	-46,000	-1,600,000
2090 (W)		150,000	170,000	20,000	-210,000	56,000	190,000	-1,400,000
Average (2024-2039)		**64,000**	**97,000**	**36,000**	**-290,000**	**47,000**	**-42,000**	
2024-2039	W	110,000	150,000	3,500	-190,000	41,000	120,000	
	AN	70,000	92,000	22,000	-250,000	43,000	-23,000	
	BN	46,000	83,000	53,000	-320,000	47,000	-95,000	
	D	49,000	87,000	49,000	-310,000	51,000	-78,000	
	C	47,000	76,000	51,000	-340,000	51,000	-120,000	
Average (2040-2090)		**75,000**	**110,000**	**33,000**	**-290,000**	**56,000**	**-14,000**	
2040-2090	W	110,000	150,000	14,000	-230,000	50,000	93,000	
	AN	81,000	120,000	14,000	-270,000	49,000	-6,500	
	BN	55,000	89,000	41,000	-320,000	68,000	-69,000	
	D	61,000	92,000	32,000	-310,000	61,000	-68,000	
	C	42,000	78,000	62,000	-340,000	62,000	-100,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Subbasin Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

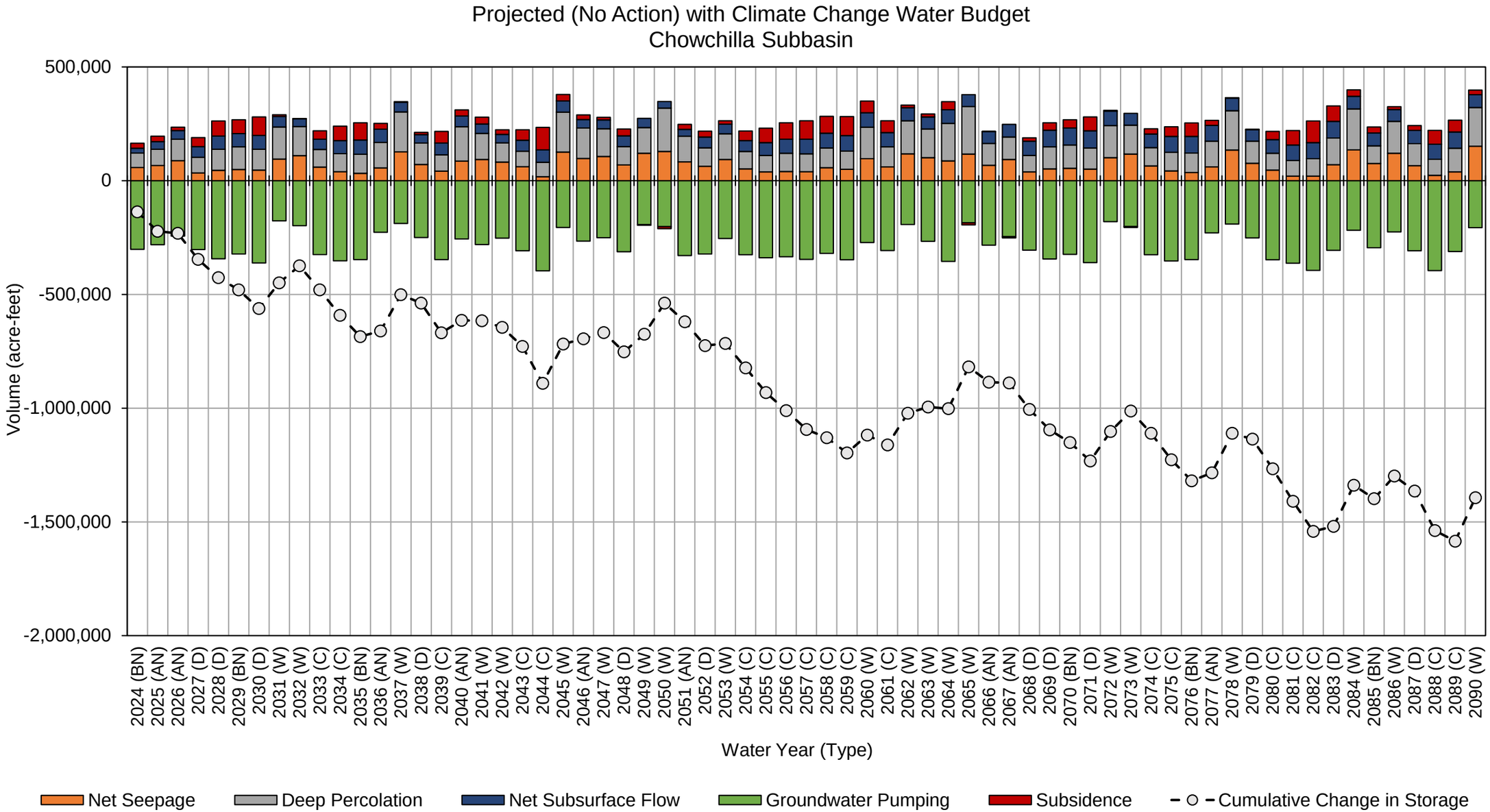
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	58,000	64,000	-300,000	-180,000
2025 (AN)	67,000	71,000	-280,000	-140,000
2026 (AN)	88,000	94,000	-240,000	-61,000
2027 (D)	34,000	69,000	-300,000	-200,000
2028 (D)	46,000	93,000	-340,000	-200,000
2029 (BN)	49,000	100,000	-320,000	-170,000
2030 (D)	46,000	92,000	-360,000	-220,000
2031 (W)	95,000	140,000	-180,000	59,000
2032 (W)	110,000	130,000	-200,000	39,000
2033 (C)	60,000	78,000	-320,000	-190,000
2034 (C)	39,000	79,000	-350,000	-230,000
2035 (BN)	32,000	84,000	-350,000	-230,000
2036 (AN)	57,000	110,000	-230,000	-59,000
2037 (W)	130,000	180,000	-190,000	110,000
2038 (D)	71,000	94,000	-250,000	-84,000
2039 (C)	42,000	72,000	-350,000	-230,000
2040 (AN)	86,000	150,000	-260,000	-19,000
2041 (W)	94,000	110,000	-280,000	-73,000
2042 (W)	82,000	84,000	-250,000	-86,000
2043 (C)	61,000	68,000	-310,000	-180,000
2044 (C)	17,000	64,000	-400,000	-320,000
2045 (W)	130,000	180,000	-210,000	95,000
2046 (AN)	98,000	130,000	-270,000	-35,000
2047 (W)	110,000	120,000	-250,000	-23,000
2048 (D)	69,000	80,000	-310,000	-160,000
2049 (W)	120,000	110,000	-190,000	40,000
2050 (W)	130,000	190,000	-200,000	120,000
2051 (AN)	82,000	110,000	-330,000	-130,000
2052 (D)	64,000	80,000	-320,000	-180,000
2053 (W)	93,000	110,000	-250,000	-48,000
2054 (C)	51,000	77,000	-330,000	-200,000
2055 (C)	38,000	73,000	-340,000	-230,000
2056 (C)	40,000	81,000	-330,000	-210,000
2057 (C)	39,000	78,000	-350,000	-230,000
2058 (C)	57,000	86,000	-320,000	-180,000
2059 (C)	50,000	80,000	-350,000	-220,000
2060 (W)	97,000	140,000	-270,000	-37,000
2061 (C)	60,000	89,000	-310,000	-160,000
2062 (W)	120,000	150,000	-190,000	71,000
2063 (W)	100,000	130,000	-270,000	-39,000
2064 (W)	87,000	160,000	-350,000	-100,000
2065 (W)	120,000	210,000	-190,000	140,000
2066 (AN)	68,000	96,000	-280,000	-120,000
2067 (AN)	93,000	98,000	-250,000	-54,000
2068 (D)	38,000	72,000	-310,000	-190,000

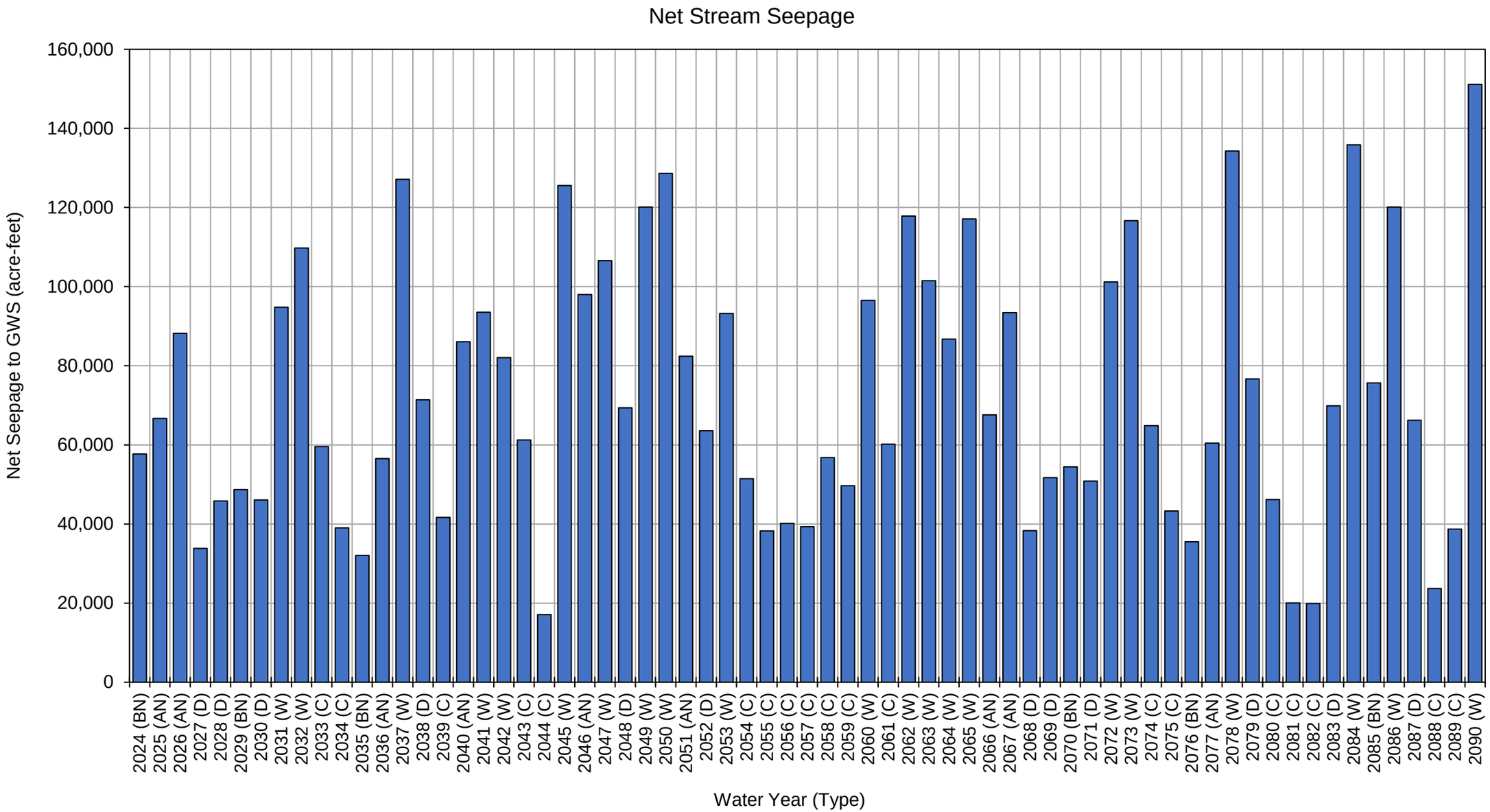
Chowchilla Subbasin Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

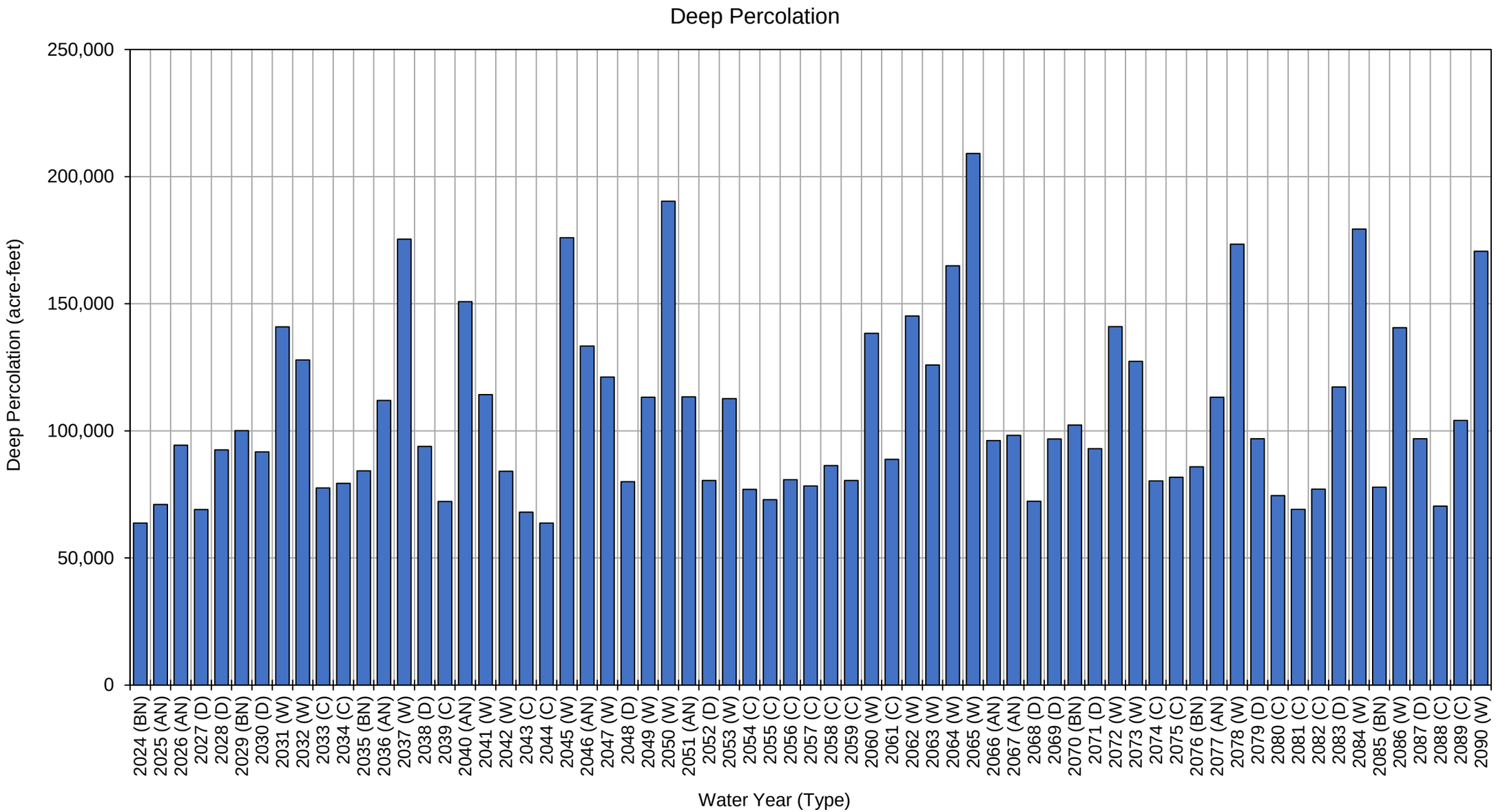
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		52,000	97,000	-340,000	-200,000
2070 (BN)		54,000	100,000	-320,000	-170,000
2071 (D)		51,000	93,000	-360,000	-220,000
2072 (W)		100,000	140,000	-180,000	62,000
2073 (W)		120,000	130,000	-200,000	43,000
2074 (C)		65,000	80,000	-330,000	-180,000
2075 (C)		43,000	82,000	-350,000	-230,000
2076 (BN)		36,000	86,000	-350,000	-230,000
2077 (AN)		60,000	110,000	-230,000	-56,000
2078 (W)		130,000	170,000	-190,000	120,000
2079 (D)		77,000	97,000	-250,000	-78,000
2080 (C)		46,000	74,000	-350,000	-230,000
2081 (C)		20,000	69,000	-360,000	-270,000
2082 (C)		20,000	77,000	-390,000	-300,000
2083 (D)		70,000	120,000	-310,000	-120,000
2084 (W)		140,000	180,000	-220,000	97,000
2085 (BN)		76,000	78,000	-300,000	-140,000
2086 (W)		120,000	140,000	-230,000	35,000
2087 (D)		66,000	97,000	-310,000	-140,000
2088 (C)		24,000	70,000	-400,000	-300,000
2089 (C)		39,000	100,000	-310,000	-170,000
2090 (W)		150,000	170,000	-210,000	110,000
Average (2024-2039)		**64,000**	**97,000**	**-290,000**	**-130,000**
2024-2039	W	110,000	150,000	-190,000	71,000
	AN	70,000	92,000	-250,000	-88,000
	BN	46,000	83,000	-320,000	-190,000
	D	49,000	87,000	-310,000	-180,000
	C	47,000	76,000	-340,000	-220,000
Average (2040-2090)		**75,000**	**110,000**	**-290,000**	**-100,000**
2040-2090	W	110,000	150,000	-230,000	29,000
	AN	81,000	120,000	-270,000	-70,000
	BN	55,000	89,000	-320,000	-180,000
	D	61,000	92,000	-310,000	-160,000
	C	42,000	78,000	-340,000	-220,000

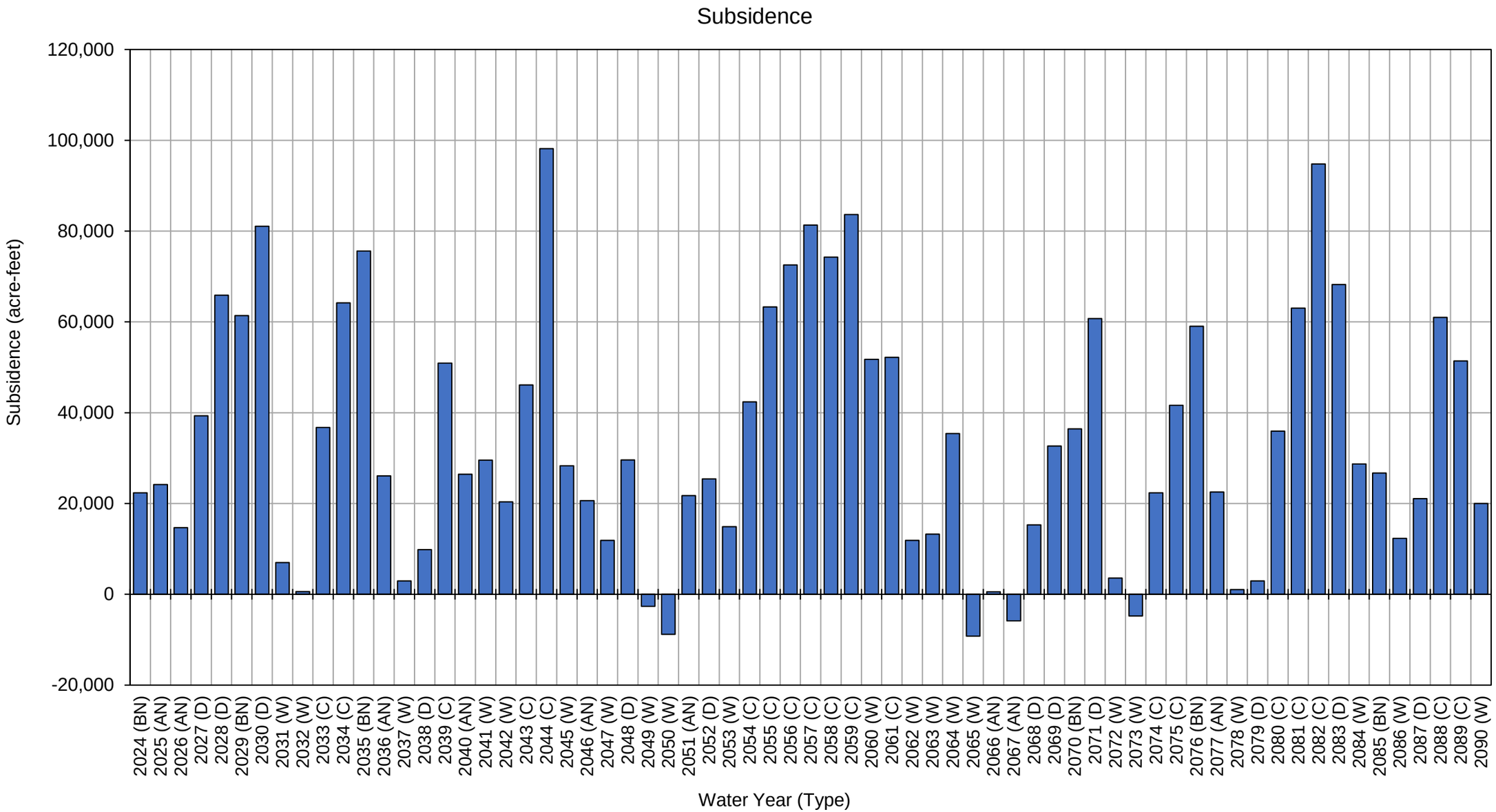
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

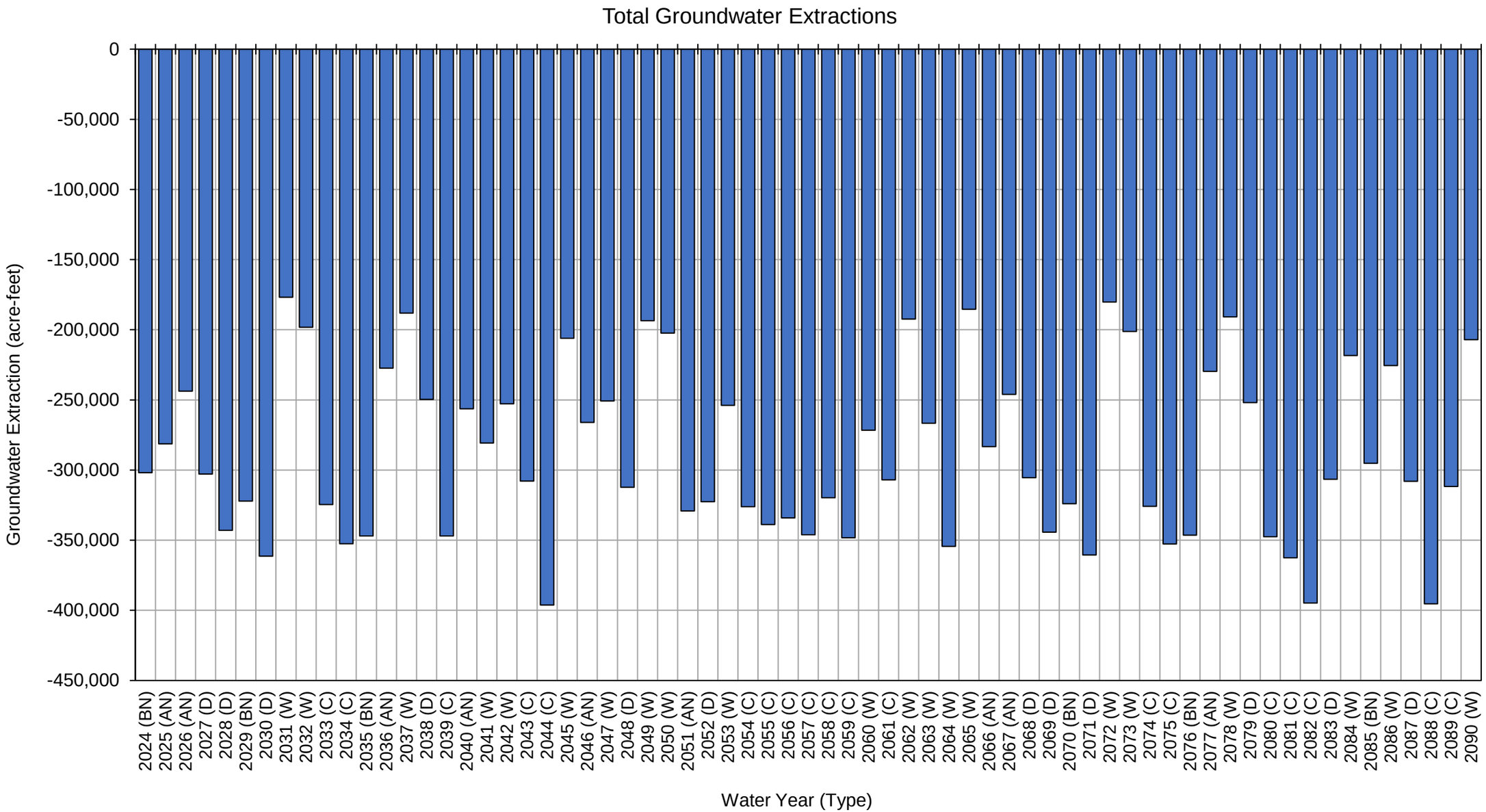
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

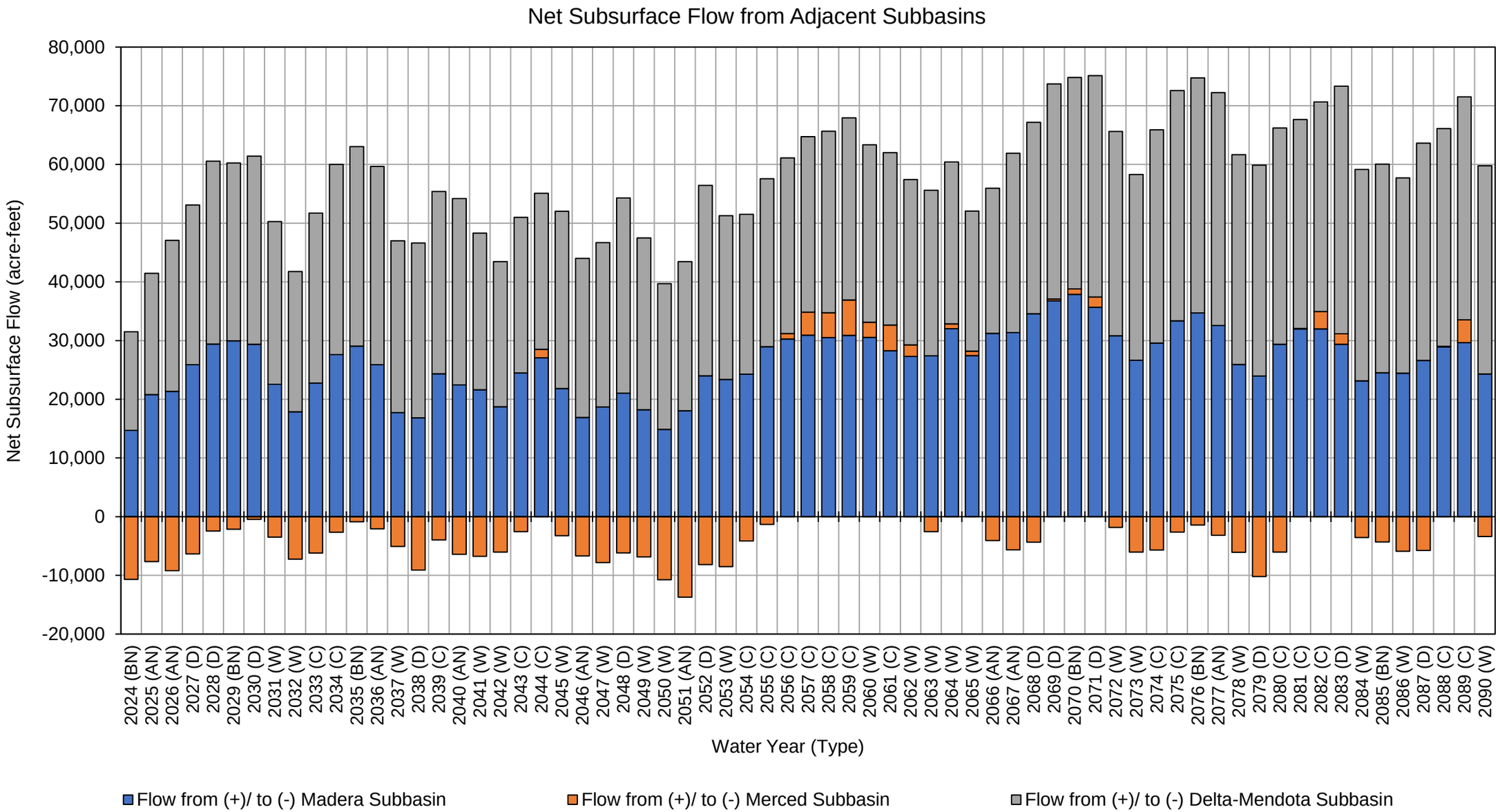

Projected (No Action) with Climate Change Water Budget
Chowchilla Subbasin
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
Volume (acre-feet)
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

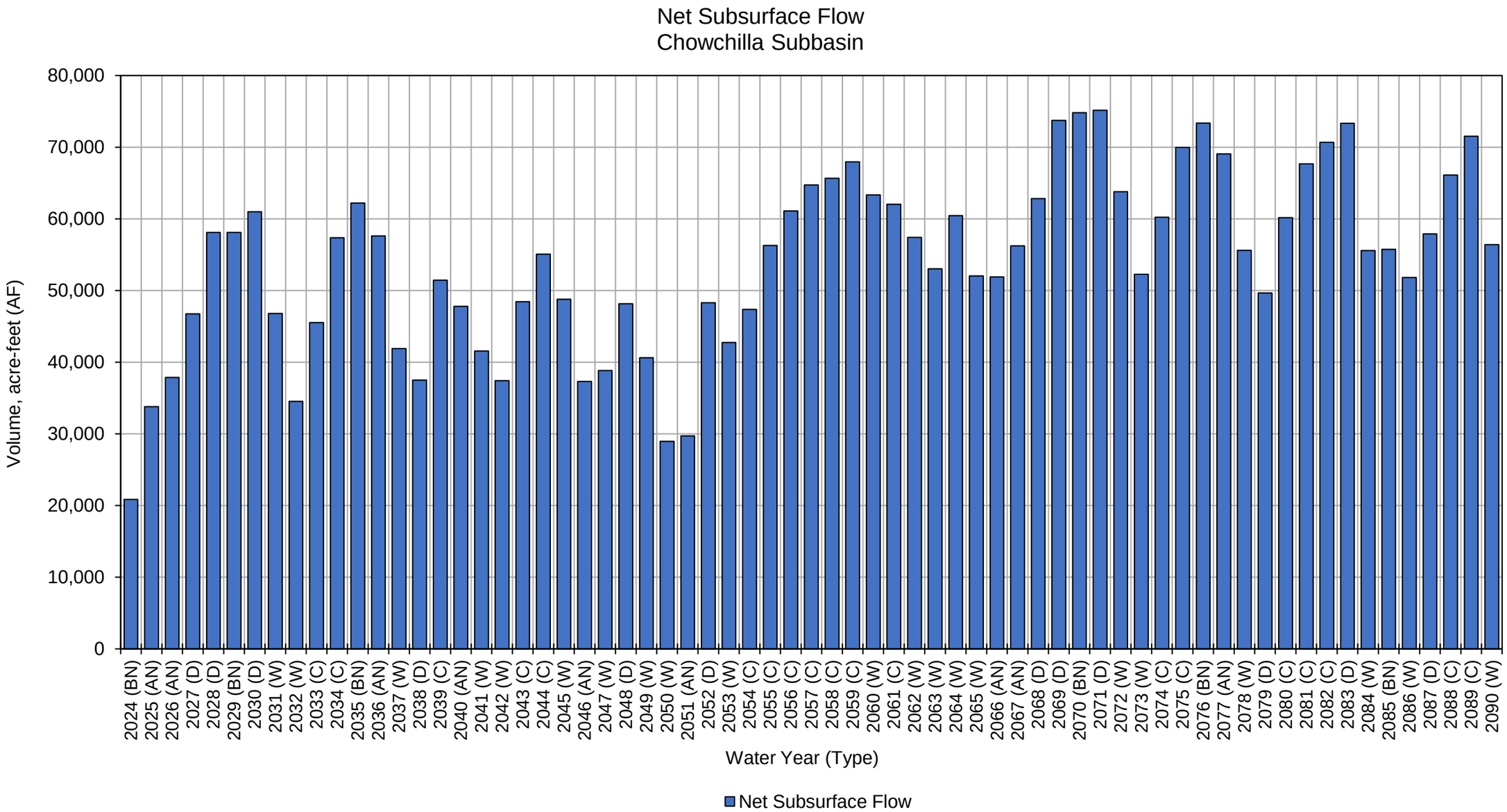

Net Stream Seepage
Net Seepage to GWS (acre-feet)
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

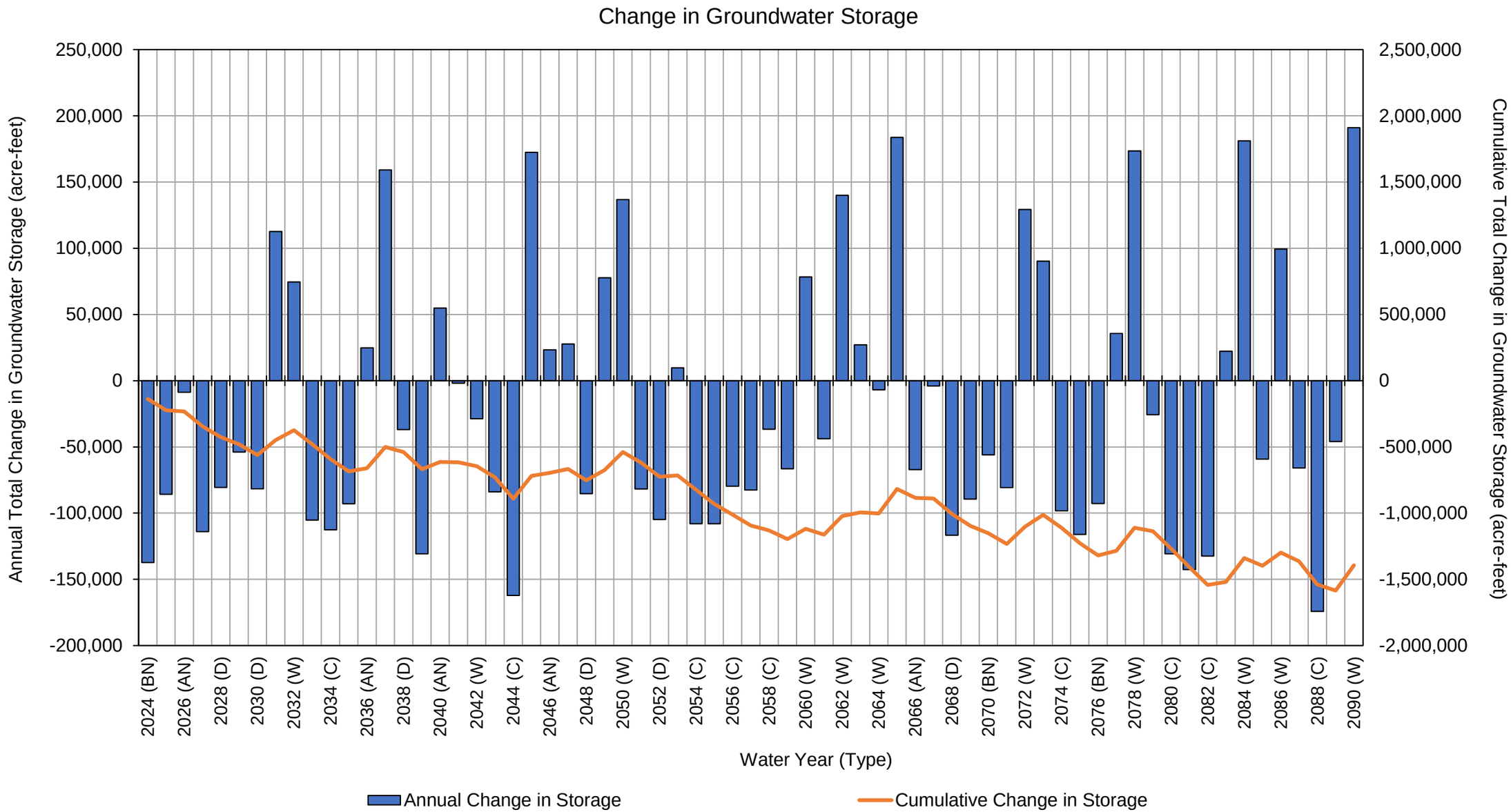

Deep Percolation
Deep Percolation (acre-feet)
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
-450,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Madera Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin


Net Subsurface Flow
Chowchilla Subbasin
Volume, acre-feet (AF)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
250,000
200,000
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

APPENDIX D.1.a

Chowchilla Water District GSA Water Budget Results

Chowchilla Water District GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		17,000	56,000	48,000	-150,000	-21,000	-47,000	-47,000
1990 (C)		13,000	43,000	57,000	-170,000	-12,000	-73,000	-120,000
1991 (C)		23,000	48,000	46,000	-160,000	-11,000	-49,000	-170,000
1992 (C)		18,000	52,000	52,000	-170,000	-5,500	-57,000	-230,000
1993 (W)		56,000	120,000	8,400	-79,000	-20,000	82,000	-140,000
1994 (C)		38,000	74,000	22,000	-130,000	-17,000	-12,000	-160,000
1995 (W)		49,000	83,000	1,100	-88,000	-12,000	33,000	-120,000
1996 (W)		55,000	100,000	9,500	-110,000	-19,000	38,000	-85,000
1997 (W)		60,000	130,000	11,000	-130,000	-21,000	56,000	-29,000
1998 (W)		54,000	140,000	-17,000	-79,000	-16,000	84,000	55,000
1999 (AN)		55,000	73,000	2,100	-100,000	-31,000	-3,700	51,000
2000 (AN)		52,000	66,000	4,000	-110,000	-34,000	-21,000	30,000
2001 (D)		44,000	53,000	11,000	-120,000	-30,000	-44,000	-14,000
2002 (D)		28,000	53,000	30,000	-180,000	-18,000	-86,000	-100,000
2003 (BN)		34,000	55,000	24,000	-160,000	-18,000	-60,000	-160,000
2004 (D)		27,000	54,000	48,000	-200,000	-12,000	-80,000	-240,000
2005 (W)		52,000	92,000	-7,100	-66,000	-21,000	51,000	-190,000
2006 (W)		55,000	88,000	230	-91,000	-20,000	31,000	-160,000
2007 (C)		37,000	58,000	28,000	-160,000	-16,000	-57,000	-210,000
2008 (C)		28,000	52,000	37,000	-180,000	-8,900	-71,000	-280,000
2009 (BN)		35,000	55,000	25,000	-140,000	-14,000	-37,000	-320,000
2010 (AN)		52,000	82,000	2,600	-85,000	-22,000	30,000	-290,000
2011 (W)		62,000	110,000	-5,800	-82,000	-20,000	63,000	-230,000
2012 (D)		48,000	70,000	14,000	-120,000	-29,000	-22,000	-250,000
2013 (C)		22,000	47,000	42,000	-200,000	-12,000	-96,000	-350,000
2014 (C)		480	36,000	67,000	-240,000	4,400	-130,000	-470,000
2015 (C)		360	51,000	85,000	-260,000	11,000	-110,000	-580,000
2016 (D)		30,000	73,000	42,000	-160,000	4,800	-7,100	-590,000
2017 (W)		67,000	95,000	7,400	-87,000	-7,700	75,000	-510,000
2018 (BN)		44,000	55,000	17,000	-130,000	-9,800	-27,000	-540,000
2019 (W)		64,000	75,000	2,400	-90,000	-15,000	36,000	-500,000
2020 (D)		36,000	56,000	22,000	-150,000	-9,200	-47,000	-550,000
2021 (C)		4,100	41,000	63,000	-230,000	7,600	-120,000	-670,000
2022 (C)		8,800	62,000	42,000	-170,000	15,000	-46,000	-710,000
2023 (W)		75,000	96,000	4,700	-76,000	-570	99,000	-610,000
Average (1989-2023)		**38,000**	**71,000**	**24,000**	**-140,000**	**-13,000**	**-18,000**	
1989-2023	W	59,000	100,000	1,400	-89,000	-16,000	59,000	
	AN	53,000	74,000	2,900	-99,000	-29,000	1,900	
	BN	38,000	55,000	22,000	-140,000	-14,000	-41,000	
	D	36,000	60,000	28,000	-160,000	-16,000	-48,000	
	C	18,000	52,000	49,000	-180,000	-5,400	-71,000	
Average (1989-2015)		**38,000**	**72,000**	**24,000**	**-140,000**	**-17,000**	**-21,000**	
1989-2015	W	55,000	110,000	92	-90,000	-19,000	55,000	
	AN	53,000	74,000	2,900	-99,000	-29,000	1,900	
	BN	35,000	55,000	24,000	-150,000	-16,000	-49,000	
	D	37,000	58,000	26,000	-160,000	-22,000	-58,000	
	C	20,000	52,000	48,000	-180,000	-8,700	-70,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

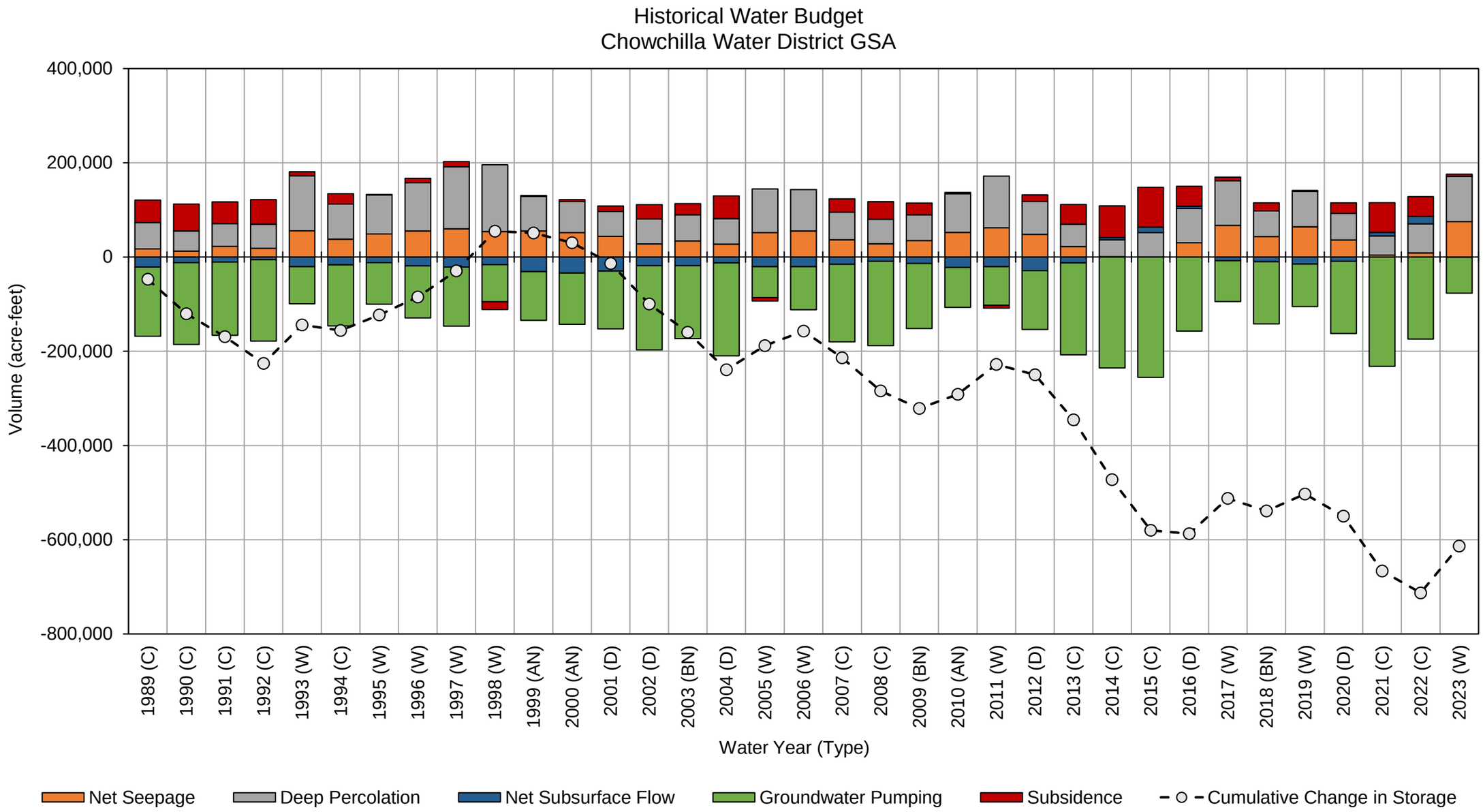
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Water District GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		17,000	56,000	-150,000	-74,000
1990 (C)		13,000	43,000	-170,000	-120,000
1991 (C)		23,000	48,000	-160,000	-84,000
1992 (C)		18,000	52,000	-170,000	-100,000
1993 (W)		56,000	120,000	-79,000	94,000
1994 (C)		38,000	74,000	-130,000	-17,000
1995 (W)		49,000	83,000	-88,000	44,000
1996 (W)		55,000	100,000	-110,000	47,000
1997 (W)		60,000	130,000	-130,000	66,000
1998 (W)		54,000	140,000	-79,000	120,000
1999 (AN)		55,000	73,000	-100,000	25,000
2000 (AN)		52,000	66,000	-110,000	9,100
2001 (D)		44,000	53,000	-120,000	-25,000
2002 (D)		28,000	53,000	-180,000	-98,000
2003 (BN)		34,000	55,000	-160,000	-66,000
2004 (D)		27,000	54,000	-200,000	-120,000
2005 (W)		52,000	92,000	-66,000	79,000
2006 (W)		55,000	88,000	-91,000	51,000
2007 (C)		37,000	58,000	-160,000	-69,000
2008 (C)		28,000	52,000	-180,000	-99,000
2009 (BN)		35,000	55,000	-140,000	-48,000
2010 (AN)		52,000	82,000	-85,000	50,000
2011 (W)		62,000	110,000	-82,000	89,000
2012 (D)		48,000	70,000	-120,000	-6,900
2013 (C)		22,000	47,000	-200,000	-130,000
2014 (C)		480	36,000	-240,000	-200,000
2015 (C)		360	51,000	-260,000	-200,000
2016 (D)		30,000	73,000	-160,000	-54,000
2017 (W)		67,000	95,000	-87,000	75,000
2018 (BN)		44,000	55,000	-130,000	-34,000
2019 (W)		64,000	75,000	-90,000	49,000
2020 (D)		36,000	56,000	-150,000	-61,000
2021 (C)		4,100	41,000	-230,000	-190,000
2022 (C)		8,800	62,000	-170,000	-100,000
2023 (W)		75,000	96,000	-76,000	95,000
Average (1989-2023)		**38,000**	**71,000**	**-140,000**	**-29,000**
1989-2023	W	59,000	100,000	-89,000	73,000
	AN	53,000	74,000	-99,000	28,000
	BN	38,000	55,000	-140,000	-49,000
	D	36,000	60,000	-160,000	-60,000
	C	18,000	52,000	-180,000	-120,000
Average (1989-2015)		**38,000**	**72,000**	**-140,000**	**-29,000**
1989-2015	W	55,000	110,000	-90,000	73,000
	AN	53,000	74,000	-99,000	28,000
	BN	35,000	55,000	-150,000	-57,000
	D	37,000	58,000	-160,000	-61,000
	C	20,000	52,000	-180,000	-110,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Chowchilla Water District GSA
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
Volume (acre-feet)
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Chowchilla Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	53,000	50,000	2,600	-110,000	-9,500	-16,000	-16,000
2025 (AN)	71,000	52,000	-4,000	-92,000	-14,000	13,000	-3,000
2026 (AN)	60,000	60,000	-4,400	-87,000	-18,000	10,000	7,100
2027 (D)	44,000	53,000	3,000	-100,000	-18,000	-23,000	-16,000
2028 (D)	28,000	53,000	24,000	-160,000	-6,000	-61,000	-76,000
2029 (BN)	34,000	58,000	21,000	-140,000	-3,500	-29,000	-110,000
2030 (D)	27,000	52,000	42,000	-180,000	4,300	-53,000	-160,000
2031 (W)	64,000	80,000	-5,600	-65,000	-5,200	68,000	-91,000
2032 (W)	81,000	71,000	-9,200	-84,000	-6,200	53,000	-37,000
2033 (C)	37,000	44,000	13,000	-150,000	3,000	-52,000	-89,000
2034 (C)	28,000	46,000	21,000	-170,000	12,000	-59,000	-150,000
2035 (BN)	35,000	51,000	23,000	-150,000	12,000	-27,000	-170,000
2036 (AN)	60,000	71,000	-7,700	-67,000	-2,200	55,000	-120,000
2037 (W)	110,000	110,000	-20,000	-63,000	-4,400	130,000	8,800
2038 (D)	48,000	53,000	-4,400	-110,000	-3,700	-18,000	-8,900
2039 (C)	22,000	40,000	20,000	-180,000	12,000	-82,000	-91,000
2040 (AN)	58,000	76,000	-5,200	-97,000	2,300	35,000	-57,000
2041 (W)	93,000	78,000	-8,500	-100,000	730	61,000	4,400
2042 (W)	75,000	53,000	-12,000	-99,000	3,200	20,000	25,000
2043 (C)	17,000	33,000	16,000	-170,000	19,000	-90,000	-65,000
2044 (C)	24	31,000	42,000	-230,000	36,000	-120,000	-190,000
2045 (W)	66,000	87,000	-9,100	-69,000	15,000	90,000	-99,000
2046 (AN)	80,000	88,000	-5,600	-100,000	7,200	65,000	-34,000
2047 (W)	65,000	73,000	-13,000	-95,000	4,800	35,000	880
2048 (D)	30,000	42,000	11,000	-160,000	13,000	-63,000	-62,000
2049 (W)	110,000	72,000	-24,000	-62,000	3,700	99,000	37,000
2050 (W)	94,000	130,000	-26,000	-58,000	-2,200	140,000	170,000
2051 (AN)	80,000	73,000	-2,200	-130,000	-7,800	17,000	190,000
2052 (D)	30,000	40,000	7,900	-160,000	2,800	-78,000	110,000
2053 (W)	73,000	59,000	-17,000	-81,000	-1,900	33,000	150,000
2054 (C)	20,000	39,000	18,000	-170,000	12,000	-80,000	66,000
2055 (C)	16,000	41,000	19,000	-170,000	20,000	-77,000	-11,000
2056 (C)	17,000	47,000	16,000	-160,000	23,000	-61,000	-73,000
2057 (C)	13,000	44,000	22,000	-180,000	30,000	-72,000	-140,000
2058 (C)	23,000	50,000	14,000	-150,000	30,000	-37,000	-180,000
2059 (C)	18,000	46,000	24,000	-180,000	35,000	-53,000	-230,000
2060 (W)	82,000	80,000	-15,000	-63,000	17,000	100,000	-130,000
2061 (C)	38,000	53,000	2,000	-130,000	20,000	-13,000	-150,000
2062 (W)	88,000	88,000	-23,000	-62,000	13,000	100,000	-42,000
2063 (W)	100,000	94,000	-19,000	-80,000	4,000	99,000	57,000
2064 (W)	130,000	130,000	-17,000	-100,000	-4,700	140,000	200,000
2065 (W)	110,000	120,000	-38,000	-51,000	-11,000	130,000	330,000
2066 (AN)	79,000	48,000	-18,000	-86,000	-20,000	2,200	330,000
2067 (AN)	68,000	46,000	-13,000	-81,000	-25,000	-5,600	320,000
2068 (D)	44,000	42,000	2,400	-110,000	-21,000	-39,000	280,000
2069 (D)	28,000	40,000	20,000	-160,000	-3,600	-77,000	210,000

Chowchilla Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		34,000	48,000	11,000	-140,000	-1,000	-48,000	160,000
2071 (D)		27,000	49,000	25,000	-180,000	7,200	-73,000	86,000
2072 (W)		76,000	86,000	-25,000	-48,000	-9,600	81,000	170,000
2073 (W)		93,000	86,000	-18,000	-63,000	-15,000	82,000	250,000
2074 (C)		37,000	46,000	14,000	-150,000	-2,800	-56,000	190,000
2075 (C)		28,000	41,000	18,000	-170,000	6,200	-75,000	120,000
2076 (BN)		35,000	48,000	13,000	-150,000	6,200	-49,000	69,000
2077 (AN)		60,000	71,000	-14,000	-70,000	-8,100	39,000	110,000
2078 (W)		120,000	120,000	-24,000	-55,000	-13,000	150,000	260,000
2079 (D)		48,000	67,000	-220	-110,000	-15,000	-14,000	240,000
2080 (C)		22,000	37,000	22,000	-180,000	2,500	-96,000	150,000
2081 (C)		500	28,000	32,000	-220,000	23,000	-130,000	11,000
2082 (C)		390	40,000	37,000	-240,000	35,000	-120,000	-110,000
2083 (D)		30,000	64,000	9,600	-150,000	27,000	-23,000	-140,000
2084 (W)		140,000	110,000	-24,000	-62,000	620	170,000	33,000
2085 (BN)		53,000	47,000	-6,600	-110,000	4,700	-17,000	16,000
2086 (W)		110,000	93,000	-22,000	-69,000	-10,000	100,000	120,000
2087 (D)		36,000	48,000	7,600	-150,000	630	-57,000	63,000
2088 (C)		4,100	33,000	35,000	-230,000	23,000	-140,000	-74,000
2089 (C)		8,900	53,000	14,000	-180,000	31,000	-69,000	-140,000
2090 (W)		140,000	110,000	-27,000	-57,000	4,500	170,000	29,000
Average (2024-2039)		**50,000**	**59,000**	**7,000**	**-120,000**	**-2,900**	**-5,700**	
2024-2039	W	85,000	86,000	-12,000	-71,000	-5,200	83,000	
	AN	64,000	61,000	-5,300	-82,000	-11,000	26,000	
	BN	41,000	53,000	15,000	-130,000	-260	-24,000	
	D	37,000	53,000	16,000	-140,000	-5,800	-39,000	
	C	29,000	43,000	18,000	-160,000	9,100	-64,000	
Average (2040-2090)		**56,000**	**64,000**	**550**	**-120,000**	**6,100**	**2,400**	
2040-2090	W	99,000	93,000	-20,000	-71,000	-81	100,000	
	AN	71,000	67,000	-9,800	-94,000	-8,500	25,000	
	BN	41,000	48,000	5,700	-140,000	3,300	-38,000	
	D	34,000	49,000	10,000	-150,000	1,500	-53,000	
	C	16,000	41,000	22,000	-180,000	21,000	-81,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

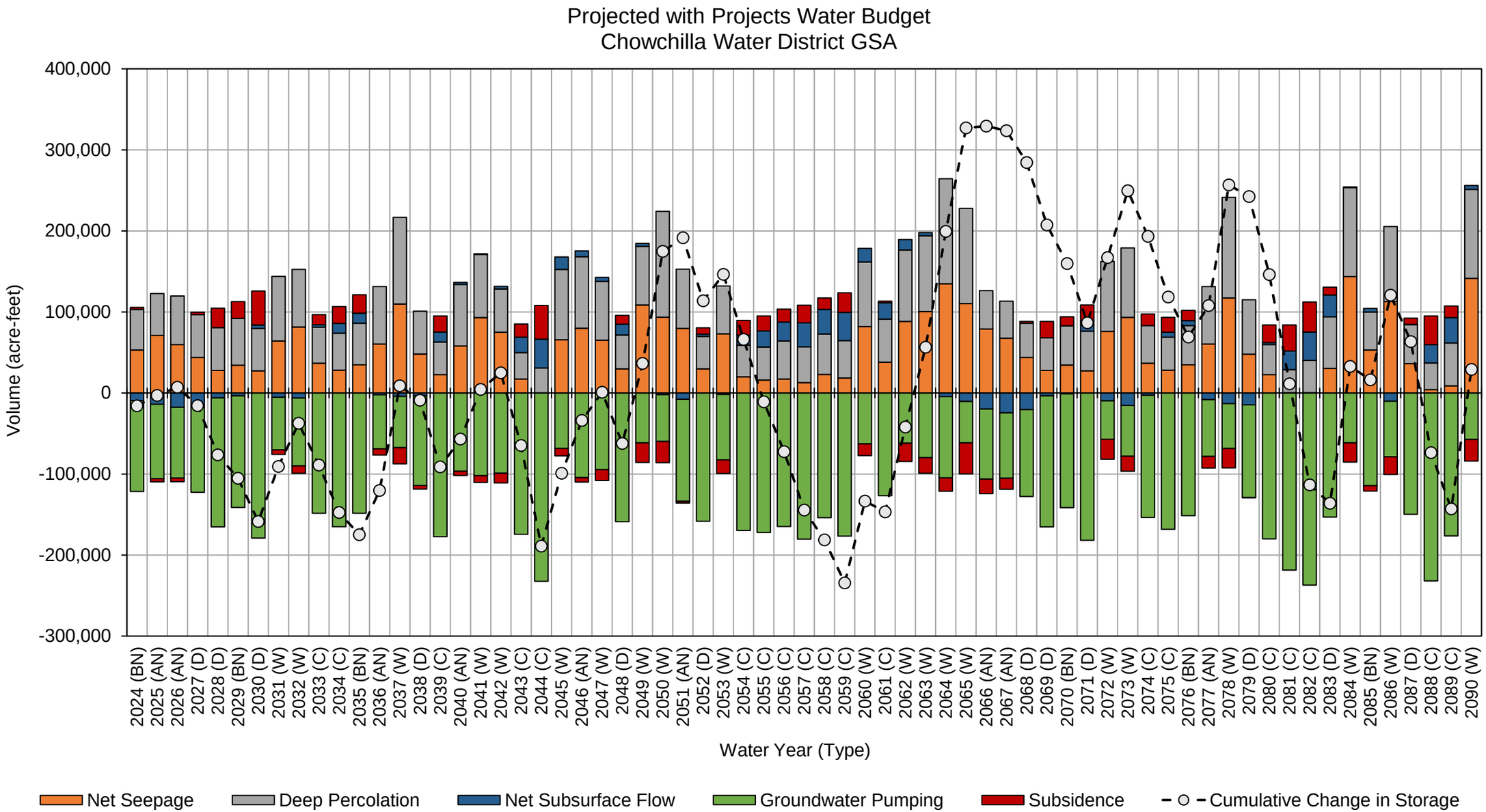
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	53,000	50,000	-110,000	-9,000
2025 (AN)	71,000	52,000	-92,000	31,000
2026 (AN)	60,000	60,000	-87,000	32,000
2027 (D)	44,000	53,000	-100,000	-8,100
2028 (D)	28,000	53,000	-160,000	-79,000
2029 (BN)	34,000	58,000	-140,000	-46,000
2030 (D)	27,000	52,000	-180,000	-100,000
2031 (W)	64,000	80,000	-65,000	79,000
2032 (W)	81,000	71,000	-84,000	69,000
2033 (C)	37,000	44,000	-150,000	-67,000
2034 (C)	28,000	46,000	-170,000	-91,000
2035 (BN)	35,000	51,000	-150,000	-62,000
2036 (AN)	60,000	71,000	-67,000	64,000
2037 (W)	110,000	110,000	-63,000	150,000
2038 (D)	48,000	53,000	-110,000	-9,600
2039 (C)	22,000	40,000	-180,000	-110,000
2040 (AN)	58,000	76,000	-97,000	37,000
2041 (W)	93,000	78,000	-100,000	69,000
2042 (W)	75,000	53,000	-99,000	29,000
2043 (C)	17,000	33,000	-170,000	-120,000
2044 (C)	24	31,000	-230,000	-200,000
2045 (W)	66,000	87,000	-69,000	84,000
2046 (AN)	80,000	88,000	-100,000	64,000
2047 (W)	65,000	73,000	-95,000	43,000
2048 (D)	30,000	42,000	-160,000	-87,000
2049 (W)	110,000	72,000	-62,000	120,000
2050 (W)	94,000	130,000	-58,000	170,000
2051 (AN)	80,000	73,000	-130,000	27,000
2052 (D)	30,000	40,000	-160,000	-89,000
2053 (W)	73,000	59,000	-81,000	51,000
2054 (C)	20,000	39,000	-170,000	-110,000
2055 (C)	16,000	41,000	-170,000	-120,000
2056 (C)	17,000	47,000	-160,000	-100,000
2057 (C)	13,000	44,000	-180,000	-120,000
2058 (C)	23,000	50,000	-150,000	-81,000
2059 (C)	18,000	46,000	-180,000	-110,000
2060 (W)	82,000	80,000	-63,000	99,000
2061 (C)	38,000	53,000	-130,000	-36,000
2062 (W)	88,000	88,000	-62,000	110,000
2063 (W)	100,000	94,000	-80,000	110,000
2064 (W)	130,000	130,000	-100,000	160,000
2065 (W)	110,000	120,000	-51,000	180,000
2066 (AN)	79,000	48,000	-86,000	40,000
2067 (AN)	68,000	46,000	-81,000	32,000
2068 (D)	44,000	42,000	-110,000	-21,000

Chowchilla Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		28,000	40,000	-160,000	-94,000
2070 (BN)		34,000	48,000	-140,000	-58,000
2071 (D)		27,000	49,000	-180,000	-110,000
2072 (W)		76,000	86,000	-48,000	110,000
2073 (W)		93,000	86,000	-63,000	120,000
2074 (C)		37,000	46,000	-150,000	-68,000
2075 (C)		28,000	41,000	-170,000	-99,000
2076 (BN)		35,000	48,000	-150,000	-68,000
2077 (AN)		60,000	71,000	-70,000	61,000
2078 (W)		120,000	120,000	-55,000	190,000
2079 (D)		48,000	67,000	-110,000	430
2080 (C)		22,000	37,000	-180,000	-120,000
2081 (C)		500	28,000	-220,000	-190,000
2082 (C)		390	40,000	-240,000	-200,000
2083 (D)		30,000	64,000	-150,000	-59,000
2084 (W)		140,000	110,000	-62,000	190,000
2085 (BN)		53,000	47,000	-110,000	-15,000
2086 (W)		110,000	93,000	-69,000	140,000
2087 (D)		36,000	48,000	-150,000	-66,000
2088 (C)		4,100	33,000	-230,000	-200,000
2089 (C)		8,900	53,000	-180,000	-110,000
2090 (W)		140,000	110,000	-57,000	190,000
Average (2024-2039)		**50,000**	**59,000**	**-120,000**	**-9,900**
2024-2039	W	85,000	86,000	-71,000	100,000
	AN	64,000	61,000	-82,000	42,000
	BN	41,000	53,000	-130,000	-39,000
	D	37,000	53,000	-140,000	-49,000
	C	29,000	43,000	-160,000	-91,000
Average (2040-2090)		**56,000**	**64,000**	**-120,000**	**-4,300**
2040-2090	W	99,000	93,000	-71,000	120,000
	AN	71,000	67,000	-94,000	44,000
	BN	41,000	48,000	-140,000	-47,000
	D	34,000	49,000	-150,000	-65,000
	C	16,000	41,000	-180,000	-120,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Chowchilla Water District GSA
Volume (acre-feet)
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Chowchilla Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	36,000	44,000	18,000	-160,000	1,200	-56,000	-56,000
2025 (AN)	41,000	50,000	18,000	-150,000	8,200	-30,000	-87,000
2026 (AN)	63,000	65,000	6,100	-110,000	240	25,000	-61,000
2027 (D)	14,000	42,000	24,000	-170,000	13,000	-77,000	-140,000
2028 (D)	16,000	55,000	45,000	-190,000	22,000	-54,000	-190,000
2029 (BN)	20,000	59,000	41,000	-180,000	27,000	-31,000	-220,000
2030 (D)	23,000	55,000	52,000	-200,000	27,000	-40,000	-260,000
2031 (W)	61,000	79,000	-2,600	-76,000	19,000	81,000	-180,000
2032 (W)	80,000	72,000	-9,000	-90,000	14,000	67,000	-120,000
2033 (C)	31,000	45,000	17,000	-170,000	18,000	-58,000	-170,000
2034 (C)	18,000	45,000	30,000	-200,000	30,000	-73,000	-250,000
2035 (BN)	16,000	52,000	41,000	-190,000	37,000	-48,000	-290,000
2036 (AN)	42,000	69,000	4,900	-110,000	30,000	40,000	-250,000
2037 (W)	98,000	100,000	-15,000	-84,000	22,000	120,000	-130,000
2038 (D)	47,000	55,000	-7,300	-110,000	13,000	-5,100	-130,000
2039 (C)	17,000	40,000	22,000	-190,000	29,000	-85,000	-220,000
2040 (AN)	64,000	85,000	-3,000	-120,000	23,000	53,000	-170,000
2041 (W)	68,000	73,000	2,100	-160,000	30,000	17,000	-150,000
2042 (W)	47,000	50,000	-7,400	-130,000	33,000	-3,900	-150,000
2043 (C)	22,000	35,000	10,000	-170,000	38,000	-61,000	-220,000
2044 (C)	2,100	36,000	43,000	-240,000	54,000	-100,000	-320,000
2045 (W)	100,000	100,000	-4,100	-92,000	32,000	140,000	-180,000
2046 (AN)	66,000	87,000	-6,800	-120,000	25,000	49,000	-130,000
2047 (W)	93,000	79,000	-12,000	-120,000	21,000	58,000	-71,000
2048 (D)	35,000	42,000	2,900	-160,000	24,000	-56,000	-130,000
2049 (W)	96,000	62,000	-21,000	-85,000	16,000	67,000	-61,000
2050 (W)	110,000	130,000	-21,000	-95,000	12,000	130,000	72,000
2051 (AN)	61,000	63,000	3,700	-170,000	16,000	-27,000	45,000
2052 (D)	30,000	42,000	5,000	-170,000	19,000	-73,000	-28,000
2053 (W)	61,000	57,000	-3,200	-140,000	23,000	-1,600	-30,000
2054 (C)	17,000	40,000	15,000	-180,000	33,000	-76,000	-110,000
2055 (C)	7,700	41,000	22,000	-200,000	44,000	-84,000	-190,000
2056 (C)	5,600	47,000	21,000	-200,000	52,000	-71,000	-260,000
2057 (C)	4,100	46,000	29,000	-210,000	61,000	-69,000	-330,000
2058 (C)	14,000	50,000	26,000	-180,000	62,000	-32,000	-360,000
2059 (C)	11,000	47,000	37,000	-200,000	66,000	-43,000	-400,000
2060 (W)	66,000	83,000	13,000	-150,000	60,000	68,000	-340,000
2061 (C)	22,000	53,000	11,000	-170,000	62,000	-22,000	-360,000
2062 (W)	87,000	88,000	-15,000	-98,000	51,000	110,000	-250,000
2063 (W)	74,000	81,000	-8,900	-140,000	48,000	55,000	-190,000
2064 (W)	59,000	94,000	6,700	-200,000	60,000	15,000	-180,000
2065 (W)	93,000	120,000	-33,000	-95,000	49,000	140,000	-40,000
2066 (AN)	42,000	50,000	-13,000	-150,000	45,000	-25,000	-65,000
2067 (AN)	63,000	53,000	-17,000	-110,000	29,000	17,000	-48,000
2068 (D)	14,000	38,000	7,400	-170,000	36,000	-77,000	-120,000
2069 (D)	16,000	55,000	18,000	-200,000	47,000	-59,000	-180,000
2070 (BN)	21,000	59,000	13,000	-180,000	51,000	-38,000	-220,000

MCSim_v2.0 - Projected with Projects and Climate Change

Chowchilla Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		23,000	56,000	20,000	-200,000	53,000	-48,000	-270,000
2072 (W)		61,000	80,000	-21,000	-79,000	37,000	78,000	-190,000
2073 (W)		80,000	74,000	-19,000	-93,000	29,000	72,000	-120,000
2074 (C)		31,000	46,000	8,100	-170,000	36,000	-50,000	-170,000
2075 (C)		18,000	46,000	19,000	-200,000	46,000	-70,000	-240,000
2076 (BN)		16,000	53,000	18,000	-200,000	52,000	-56,000	-290,000
2077 (AN)		43,000	71,000	-9,200	-110,000	40,000	35,000	-260,000
2078 (W)		98,000	110,000	-21,000	-87,000	29,000	120,000	-140,000
2079 (D)		47,000	57,000	-11,000	-120,000	22,000	-1,700	-140,000
2080 (C)		17,000	41,000	18,000	-200,000	38,000	-82,000	-220,000
2081 (C)		260	37,000	27,000	-220,000	54,000	-100,000	-320,000
2082 (C)		230	46,000	38,000	-240,000	65,000	-92,000	-410,000
2083 (D)		27,000	68,000	18,000	-170,000	58,000	2,400	-410,000
2084 (W)		100,000	98,000	-8,800	-110,000	43,000	130,000	-280,000
2085 (BN)		36,000	46,000	-1,300	-150,000	47,000	-26,000	-310,000
2086 (W)		87,000	91,000	-15,000	-110,000	37,000	92,000	-220,000
2087 (D)		35,000	56,000	260	-160,000	38,000	-30,000	-250,000
2088 (C)		2,700	37,000	29,000	-240,000	55,000	-110,000	-360,000
2089 (C)		3,000	58,000	16,000	-190,000	62,000	-51,000	-410,000
2090 (W)		120,000	110,000	-16,000	-88,000	40,000	160,000	-250,000
Average (2024-2039)		**39,000**	**58,000**	**18,000**	**-150,000**	**20,000**	**-14,000**	
2024-2039	W	80,000	85,000	-8,800	-83,000	18,000	91,000	
	AN	49,000	61,000	9,600	-120,000	13,000	11,000	
	BN	24,000	52,000	33,000	-180,000	22,000	-45,000	
	D	25,000	52,000	28,000	-170,000	19,000	-44,000	
	C	22,000	43,000	23,000	-190,000	26,000	-72,000	
Average (2040-2090)		**45,000**	**64,000**	**4,100**	**-160,000**	**41,000**	**-650**	
2040-2090	W	83,000	87,000	-11,000	-110,000	36,000	80,000	
	AN	57,000	68,000	-7,600	-130,000	30,000	17,000	
	BN	24,000	53,000	10,000	-180,000	50,000	-40,000	
	D	28,000	52,000	7,500	-170,000	37,000	-43,000	
	C	11,000	44,000	23,000	-200,000	52,000	-70,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

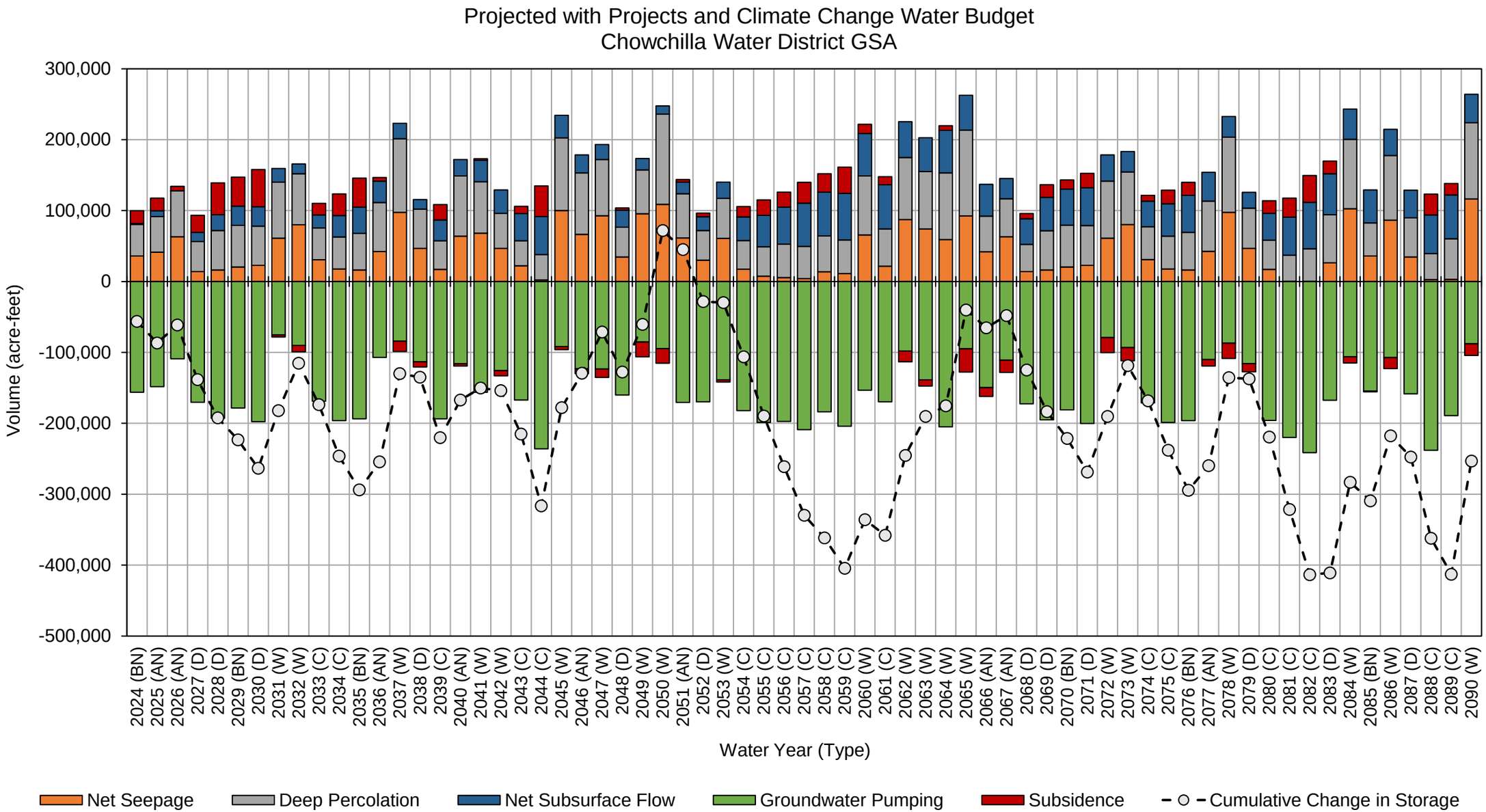
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	36,000	44,000	-160,000	-75,000
2025 (AN)	41,000	50,000	-150,000	-56,000
2026 (AN)	63,000	65,000	-110,000	19,000
2027 (D)	14,000	42,000	-170,000	-110,000
2028 (D)	16,000	55,000	-190,000	-120,000
2029 (BN)	20,000	59,000	-180,000	-99,000
2030 (D)	23,000	55,000	-200,000	-120,000
2031 (W)	61,000	79,000	-76,000	65,000
2032 (W)	80,000	72,000	-90,000	62,000
2033 (C)	31,000	45,000	-170,000	-93,000
2034 (C)	18,000	45,000	-200,000	-130,000
2035 (BN)	16,000	52,000	-190,000	-130,000
2036 (AN)	42,000	69,000	-110,000	4,500
2037 (W)	98,000	100,000	-84,000	120,000
2038 (D)	47,000	55,000	-110,000	-11,000
2039 (C)	17,000	40,000	-190,000	-140,000
2040 (AN)	64,000	85,000	-120,000	33,000
2041 (W)	68,000	73,000	-160,000	-15,000
2042 (W)	47,000	50,000	-130,000	-29,000
2043 (C)	22,000	35,000	-170,000	-110,000
2044 (C)	2,100	36,000	-240,000	-200,000
2045 (W)	100,000	100,000	-92,000	110,000
2046 (AN)	66,000	87,000	-120,000	30,000
2047 (W)	93,000	79,000	-120,000	49,000
2048 (D)	35,000	42,000	-160,000	-83,000
2049 (W)	96,000	62,000	-85,000	72,000
2050 (W)	110,000	130,000	-95,000	140,000
2051 (AN)	61,000	63,000	-170,000	-47,000
2052 (D)	30,000	42,000	-170,000	-98,000
2053 (W)	61,000	57,000	-140,000	-21,000
2054 (C)	17,000	40,000	-180,000	-120,000
2055 (C)	7,700	41,000	-200,000	-150,000
2056 (C)	5,600	47,000	-200,000	-140,000
2057 (C)	4,100	46,000	-210,000	-160,000
2058 (C)	14,000	50,000	-180,000	-120,000
2059 (C)	11,000	47,000	-200,000	-150,000
2060 (W)	66,000	83,000	-150,000	-4,600
2061 (C)	22,000	53,000	-170,000	-95,000
2062 (W)	87,000	88,000	-98,000	77,000
2063 (W)	74,000	81,000	-140,000	17,000
2064 (W)	59,000	94,000	-200,000	-52,000
2065 (W)	93,000	120,000	-95,000	120,000
2066 (AN)	42,000	50,000	-150,000	-57,000
2067 (AN)	63,000	53,000	-110,000	5,900
2068 (D)	14,000	38,000	-170,000	-120,000

Chowchilla Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		16,000	55,000	-200,000	-120,000
2070 (BN)		21,000	59,000	-180,000	-100,000
2071 (D)		23,000	56,000	-200,000	-120,000
2072 (W)		61,000	80,000	-79,000	63,000
2073 (W)		80,000	74,000	-93,000	61,000
2074 (C)		31,000	46,000	-170,000	-94,000
2075 (C)		18,000	46,000	-200,000	-130,000
2076 (BN)		16,000	53,000	-200,000	-130,000
2077 (AN)		43,000	71,000	-110,000	3,400
2078 (W)		98,000	110,000	-87,000	120,000
2079 (D)		47,000	57,000	-120,000	-12,000
2080 (C)		17,000	41,000	-200,000	-140,000
2081 (C)		260	37,000	-220,000	-180,000
2082 (C)		230	46,000	-240,000	-200,000
2083 (D)		27,000	68,000	-170,000	-73,000
2084 (W)		100,000	98,000	-110,000	94,000
2085 (BN)		36,000	46,000	-150,000	-72,000
2086 (W)		87,000	91,000	-110,000	70,000
2087 (D)		35,000	56,000	-160,000	-68,000
2088 (C)		2,700	37,000	-240,000	-200,000
2089 (C)		3,000	58,000	-190,000	-130,000
2090 (W)		120,000	110,000	-88,000	140,000
Average (2024-2039)		**39,000**	**58,000**	**-150,000**	**-51,000**
2024-2039	W	80,000	85,000	-83,000	81,000
	AN	49,000	61,000	-120,000	-11,000
	BN	24,000	52,000	-180,000	-100,000
	D	25,000	52,000	-170,000	-91,000
	C	22,000	43,000	-190,000	-120,000
Average (2040-2090)		**45,000**	**64,000**	**-160,000**	**-46,000**
2040-2090	W	83,000	87,000	-110,000	56,000
	AN	57,000	68,000	-130,000	-5,300
	BN	24,000	53,000	-180,000	-100,000
	D	28,000	52,000	-170,000	-87,000
	C	11,000	44,000	-200,000	-140,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Chowchilla Water District GSA
Volume (acre-feet)
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Chowchilla Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	53,000	50,000	2,600	-110,000	-9,900	-16,000	-16,000
2025 (AN)	57,000	51,000	-3,700	-86,000	-16,000	1,300	-15,000
2026 (AN)	52,000	61,000	-2,100	-86,000	-19,000	5,900	-9,100
2027 (D)	44,000	54,000	4,800	-110,000	-19,000	-21,000	-30,000
2028 (D)	28,000	54,000	27,000	-160,000	-8,300	-59,000	-89,000
2029 (BN)	34,000	58,000	24,000	-140,000	-7,200	-29,000	-120,000
2030 (D)	27,000	52,000	47,000	-180,000	-3,800	-57,000	-180,000
2031 (W)	52,000	79,000	-3,400	-60,000	-11,000	56,000	-120,000
2032 (W)	55,000	67,000	-3,400	-83,000	-11,000	24,000	-95,000
2033 (C)	37,000	49,000	20,000	-150,000	-7,600	-51,000	-150,000
2034 (C)	28,000	49,000	34,000	-170,000	-930	-55,000	-200,000
2035 (BN)	35,000	53,000	35,000	-150,000	-2,400	-29,000	-230,000
2036 (AN)	52,000	71,000	2,600	-77,000	-11,000	38,000	-190,000
2037 (W)	62,000	93,000	-8,500	-70,000	-14,000	63,000	-130,000
2038 (D)	48,000	62,000	5,000	-110,000	-19,000	-16,000	-140,000
2039 (C)	23,000	45,000	32,000	-180,000	-4,800	-83,000	-230,000
2040 (AN)	50,000	85,000	12,000	-110,000	-11,000	29,000	-200,000
2041 (W)	43,000	64,000	12,000	-130,000	-5,300	-14,000	-210,000
2042 (W)	41,000	51,000	11,000	-120,000	-450	-21,000	-230,000
2043 (C)	17,000	40,000	40,000	-180,000	8,900	-70,000	-300,000
2044 (C)	45	38,000	76,000	-230,000	20,000	-99,000	-400,000
2045 (W)	45,000	90,000	21,000	-94,000	8,600	70,000	-330,000
2046 (AN)	54,000	84,000	11,000	-110,000	-210	37,000	-300,000
2047 (W)	45,000	68,000	7,200	-120,000	670	1,500	-290,000
2048 (D)	30,000	45,000	24,000	-160,000	6,100	-55,000	-350,000
2049 (W)	53,000	61,000	-530	-86,000	4,200	31,000	-320,000
2050 (W)	54,000	110,000	-8,000	-81,000	-570	76,000	-240,000
2051 (AN)	53,000	80,000	7,400	-130,000	-8,600	-2,000	-240,000
2052 (D)	30,000	50,000	16,000	-160,000	-280	-64,000	-310,000
2053 (W)	46,000	61,000	440	-100,000	-16	6,100	-300,000
2054 (C)	20,000	45,000	25,000	-170,000	10,000	-70,000	-370,000
2055 (C)	16,000	46,000	38,000	-170,000	16,000	-57,000	-430,000
2056 (C)	17,000	49,000	42,000	-170,000	18,000	-39,000	-470,000
2057 (C)	13,000	45,000	50,000	-180,000	23,000	-51,000	-520,000
2058 (C)	23,000	51,000	42,000	-160,000	21,000	-18,000	-540,000
2059 (C)	18,000	47,000	50,000	-180,000	24,000	-39,000	-580,000
2060 (W)	56,000	81,000	10,000	-81,000	9,900	76,000	-500,000
2061 (C)	38,000	55,000	15,000	-130,000	10,000	-10,000	-510,000
2062 (W)	49,000	74,000	-1,600	-88,000	12,000	45,000	-470,000
2063 (W)	55,000	80,000	-2,400	-99,000	2,600	37,000	-430,000
2064 (W)	60,000	100,000	400	-120,000	-1,000	46,000	-380,000
2065 (W)	55,000	110,000	-19,000	-77,000	1,200	70,000	-310,000
2066 (AN)	56,000	64,000	-13,000	-91,000	-11,000	5,400	-310,000
2067 (AN)	52,000	58,000	-8,200	-91,000	-16,000	-5,000	-310,000
2068 (D)	44,000	53,000	1,100	-110,000	-16,000	-28,000	-340,000
2069 (D)	28,000	56,000	22,000	-160,000	-3,800	-63,000	-410,000
2070 (BN)	34,000	60,000	16,000	-140,000	500	-33,000	-440,000

MCSim_v2.0 - Projected (No Action)

Chowchilla Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		27,000	54,000	30,000	-180,000	7,600	-65,000	-500,000
2072 (W)		52,000	82,000	-9,500	-65,000	-180	59,000	-440,000
2073 (W)		55,000	70,000	-6,200	-89,000	-3,100	27,000	-420,000
2074 (C)		37,000	51,000	15,000	-150,000	1,100	-49,000	-470,000
2075 (C)		28,000	51,000	25,000	-170,000	10,000	-56,000	-520,000
2076 (BN)		35,000	55,000	26,000	-150,000	9,200	-28,000	-550,000
2077 (AN)		52,000	74,000	680	-82,000	-1,600	43,000	-510,000
2078 (W)		62,000	96,000	-9,300	-75,000	-5,500	68,000	-440,000
2079 (D)		48,000	64,000	1,800	-120,000	-12,000	-14,000	-450,000
2080 (C)		23,000	47,000	26,000	-180,000	3,700	-83,000	-540,000
2081 (C)		530	38,000	55,000	-220,000	21,000	-110,000	-640,000
2082 (C)		410	48,000	76,000	-240,000	29,000	-85,000	-730,000
2083 (D)		30,000	70,000	44,000	-160,000	22,000	11,000	-720,000
2084 (W)		67,000	90,000	12,000	-88,000	6,900	87,000	-630,000
2085 (BN)		53,000	53,000	9,300	-120,000	2,700	1,300	-630,000
2086 (W)		64,000	76,000	-1,200	-89,000	-1,800	48,000	-580,000
2087 (D)		36,000	57,000	14,000	-150,000	3,100	-41,000	-620,000
2088 (C)		4,200	40,000	51,000	-230,000	22,000	-120,000	-740,000
2089 (C)		8,900	62,000	39,000	-180,000	30,000	-38,000	-770,000
2090 (W)		76,000	97,000	7,700	-79,000	10,000	110,000	-660,000
Average (2024-2039)		**43,000**	**59,000**	**13,000**	**-120,000**	**-10,000**	**-14,000**	
2024-2039	W	56,000	80,000	-5,100	-71,000	-12,000	48,000	
	AN	54,000	61,000	-1,100	-83,000	-16,000	15,000	
	BN	41,000	54,000	21,000	-130,000	-6,500	-25,000	
	D	37,000	56,000	21,000	-140,000	-13,000	-38,000	
	C	29,000	48,000	29,000	-160,000	-4,500	-63,000	
Average (2040-2090)		**38,000**	**64,000**	**18,000**	**-130,000**	**5,400**	**-8,600**	
2040-2090	W	54,000	81,000	1,400	-93,000	2,100	46,000	
	AN	53,000	74,000	1,600	-100,000	-8,100	18,000	
	BN	41,000	56,000	17,000	-140,000	4,100	-20,000	
	D	34,000	56,000	19,000	-150,000	860	-40,000	
	C	16,000	47,000	42,000	-180,000	17,000	-62,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

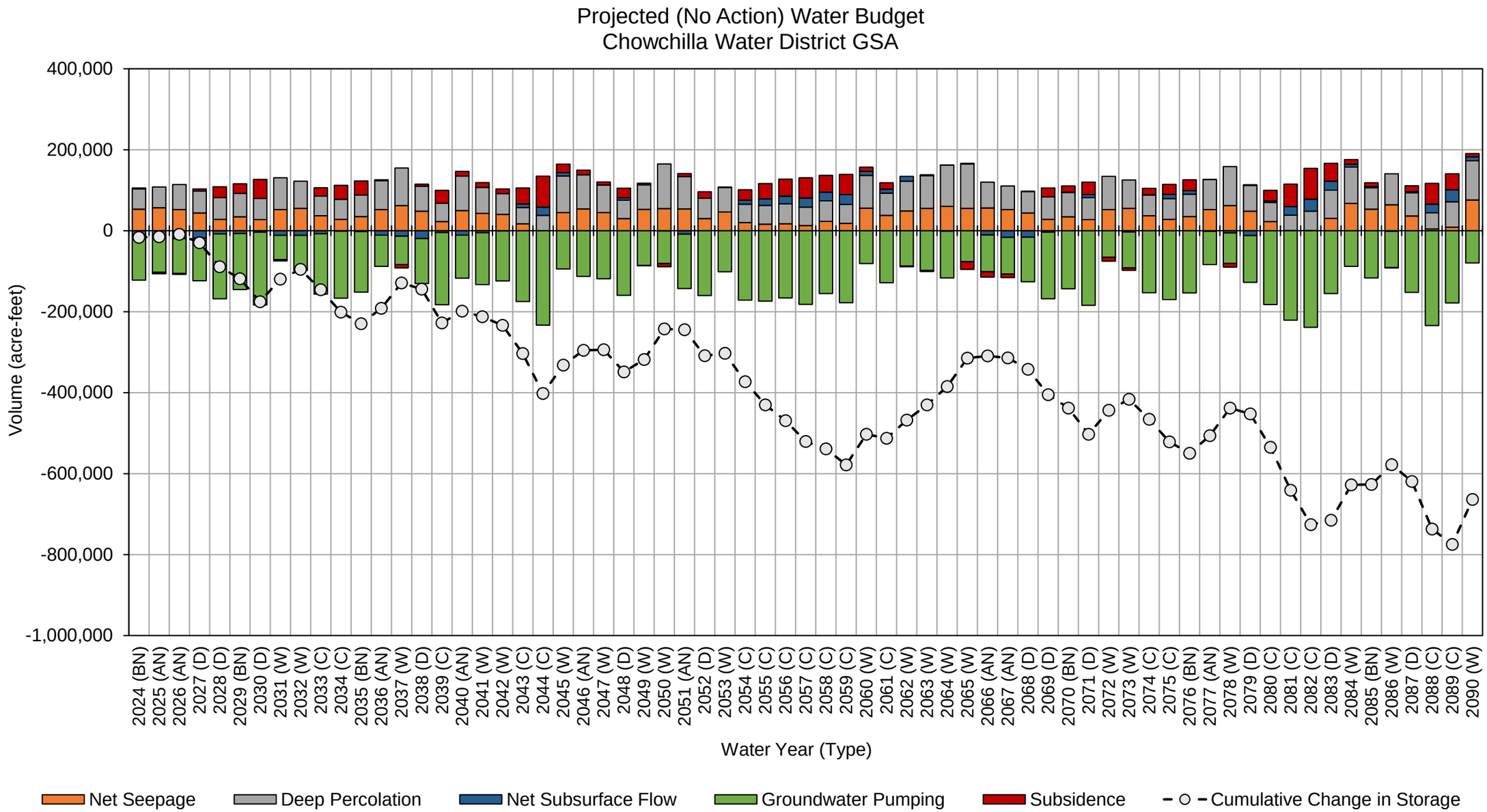
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	53,000	50,000	-110,000	-9,100
2025 (AN)	57,000	51,000	-86,000	21,000
2026 (AN)	52,000	61,000	-86,000	27,000
2027 (D)	44,000	54,000	-110,000	-6,900
2028 (D)	28,000	54,000	-160,000	-78,000
2029 (BN)	34,000	58,000	-140,000	-46,000
2030 (D)	27,000	52,000	-180,000	-100,000
2031 (W)	52,000	79,000	-60,000	71,000
2032 (W)	55,000	67,000	-83,000	39,000
2033 (C)	37,000	49,000	-150,000	-63,000
2034 (C)	28,000	49,000	-170,000	-88,000
2035 (BN)	35,000	53,000	-150,000	-61,000
2036 (AN)	52,000	71,000	-77,000	46,000
2037 (W)	62,000	93,000	-70,000	85,000
2038 (D)	48,000	62,000	-110,000	-1,200
2039 (C)	23,000	45,000	-180,000	-110,000
2040 (AN)	50,000	85,000	-110,000	29,000
2041 (W)	43,000	64,000	-130,000	-21,000
2042 (W)	41,000	51,000	-120,000	-32,000
2043 (C)	17,000	40,000	-180,000	-120,000
2044 (C)	45	38,000	-230,000	-200,000
2045 (W)	45,000	90,000	-94,000	41,000
2046 (AN)	54,000	84,000	-110,000	26,000
2047 (W)	45,000	68,000	-120,000	-6,400
2048 (D)	30,000	45,000	-160,000	-85,000
2049 (W)	53,000	61,000	-86,000	27,000
2050 (W)	54,000	110,000	-81,000	84,000
2051 (AN)	53,000	80,000	-130,000	-800
2052 (D)	30,000	50,000	-160,000	-80,000
2053 (W)	46,000	61,000	-100,000	5,700
2054 (C)	20,000	45,000	-170,000	-110,000
2055 (C)	16,000	46,000	-170,000	-110,000
2056 (C)	17,000	49,000	-170,000	-100,000
2057 (C)	13,000	45,000	-180,000	-120,000
2058 (C)	23,000	51,000	-160,000	-81,000
2059 (C)	18,000	47,000	-180,000	-110,000
2060 (W)	56,000	81,000	-81,000	55,000
2061 (C)	38,000	55,000	-130,000	-36,000
2062 (W)	49,000	74,000	-88,000	35,000
2063 (W)	55,000	80,000	-99,000	37,000
2064 (W)	60,000	100,000	-120,000	46,000
2065 (W)	55,000	110,000	-77,000	88,000
2066 (AN)	56,000	64,000	-91,000	29,000
2067 (AN)	52,000	58,000	-91,000	20,000
2068 (D)	44,000	53,000	-110,000	-13,000

Chowchilla Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		28,000	56,000	-160,000	-81,000
2070 (BN)		34,000	60,000	-140,000	-49,000
2071 (D)		27,000	54,000	-180,000	-100,000
2072 (W)		52,000	82,000	-65,000	69,000
2073 (W)		55,000	70,000	-89,000	36,000
2074 (C)		37,000	51,000	-150,000	-66,000
2075 (C)		28,000	51,000	-170,000	-91,000
2076 (BN)		35,000	55,000	-150,000	-64,000
2077 (AN)		52,000	74,000	-82,000	44,000
2078 (W)		62,000	96,000	-75,000	83,000
2079 (D)		48,000	64,000	-120,000	-3,700
2080 (C)		23,000	47,000	-180,000	-110,000
2081 (C)		530	38,000	-220,000	-180,000
2082 (C)		410	48,000	-240,000	-190,000
2083 (D)		30,000	70,000	-160,000	-55,000
2084 (W)		67,000	90,000	-88,000	69,000
2085 (BN)		53,000	53,000	-120,000	-11,000
2086 (W)		64,000	76,000	-89,000	51,000
2087 (D)		36,000	57,000	-150,000	-59,000
2088 (C)		4,200	40,000	-230,000	-190,000
2089 (C)		8,900	62,000	-180,000	-110,000
2090 (W)		76,000	97,000	-79,000	93,000
Average (2024-2039)		**43,000**	**59,000**	**-120,000**	**-17,000**
2024-2039	W	56,000	80,000	-71,000	65,000
	AN	54,000	61,000	-83,000	32,000
	BN	41,000	54,000	-130,000	-39,000
	D	37,000	56,000	-140,000	-47,000
	C	29,000	48,000	-160,000	-87,000
Average (2040-2090)		**38,000**	**64,000**	**-130,000**	**-32,000**
2040-2090	W	54,000	81,000	-93,000	42,000
	AN	53,000	74,000	-100,000	24,000
	BN	41,000	56,000	-140,000	-41,000
	D	34,000	56,000	-150,000	-60,000
	C	16,000	47,000	-180,000	-120,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Chowchilla Water District GSA
Volume (acre-feet)
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Chowchilla Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	36,000	44,000	19,000	-160,000	-160	-57,000	-57,000
2025 (AN)	31,000	51,000	19,000	-150,000	4,800	-39,000	-96,000
2026 (AN)	49,000	64,000	9,900	-110,000	-2,500	11,000	-86,000
2027 (D)	14,000	44,000	29,000	-170,000	9,500	-74,000	-160,000
2028 (D)	16,000	57,000	50,000	-190,000	16,000	-54,000	-210,000
2029 (BN)	20,000	59,000	46,000	-180,000	20,000	-34,000	-250,000
2030 (D)	23,000	55,000	58,000	-200,000	20,000	-42,000	-290,000
2031 (W)	50,000	79,000	2,400	-72,000	7,800	68,000	-220,000
2032 (W)	56,000	67,000	-1,500	-90,000	3,300	35,000	-190,000
2033 (C)	31,000	47,000	25,000	-170,000	8,400	-58,000	-240,000
2034 (C)	18,000	48,000	46,000	-200,000	18,000	-66,000	-310,000
2035 (BN)	16,000	53,000	54,000	-190,000	23,000	-48,000	-360,000
2036 (AN)	39,000	70,000	14,000	-110,000	15,000	31,000	-330,000
2037 (W)	61,000	94,000	-2,100	-83,000	6,400	76,000	-250,000
2038 (D)	47,000	61,000	3,500	-110,000	-3,200	-5,500	-260,000
2039 (C)	17,000	43,000	35,000	-190,000	13,000	-86,000	-340,000
2040 (AN)	51,000	91,000	13,000	-120,000	5,500	44,000	-300,000
2041 (W)	32,000	64,000	19,000	-160,000	13,000	-28,000	-330,000
2042 (W)	39,000	52,000	12,000	-130,000	13,000	-9,500	-340,000
2043 (C)	22,000	39,000	32,000	-170,000	19,000	-55,000	-390,000
2044 (C)	2,100	38,000	71,000	-240,000	31,000	-95,000	-490,000
2045 (W)	59,000	99,000	16,000	-92,000	16,000	98,000	-390,000
2046 (AN)	51,000	84,000	9,700	-120,000	6,400	29,000	-360,000
2047 (W)	52,000	71,000	4,300	-120,000	5,600	12,000	-350,000
2048 (D)	35,000	48,000	18,000	-160,000	9,000	-51,000	-400,000
2049 (W)	58,000	62,000	-5,300	-86,000	7,100	35,000	-360,000
2050 (W)	58,000	110,000	-7,200	-94,000	3,700	68,000	-300,000
2051 (AN)	42,000	75,000	14,000	-170,000	3,100	-34,000	-330,000
2052 (D)	30,000	50,000	17,000	-170,000	11,000	-62,000	-390,000
2053 (W)	31,000	58,000	10,000	-140,000	17,000	-22,000	-410,000
2054 (C)	17,000	47,000	32,000	-180,000	25,000	-63,000	-480,000
2055 (C)	7,700	44,000	48,000	-200,000	33,000	-67,000	-540,000
2056 (C)	5,600	48,000	53,000	-200,000	39,000	-52,000	-600,000
2057 (C)	4,100	46,000	58,000	-210,000	45,000	-56,000	-650,000
2058 (C)	14,000	51,000	50,000	-180,000	45,000	-25,000	-680,000
2059 (C)	11,000	48,000	56,000	-200,000	48,000	-40,000	-720,000
2060 (W)	31,000	79,000	31,000	-150,000	45,000	35,000	-680,000
2061 (C)	22,000	56,000	32,000	-170,000	46,000	-15,000	-700,000
2062 (W)	46,000	79,000	3,900	-99,000	41,000	71,000	-630,000
2063 (W)	38,000	72,000	6,500	-140,000	35,000	13,000	-610,000
2064 (W)	22,000	92,000	24,000	-210,000	49,000	-18,000	-630,000
2065 (W)	50,000	120,000	-8,600	-97,000	44,000	110,000	-520,000
2066 (AN)	31,000	63,000	-1,700	-150,000	37,000	-19,000	-540,000
2067 (AN)	49,000	61,000	-7,800	-110,000	26,000	15,000	-530,000
2068 (D)	14,000	43,000	11,000	-170,000	33,000	-73,000	-600,000
2069 (D)	16,000	59,000	22,000	-200,000	42,000	-57,000	-660,000
2070 (BN)	21,000	61,000	23,000	-180,000	46,000	-32,000	-690,000

Chowchilla Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		23,000	57,000	39,000	-200,000	43,000	-39,000	-730,000
2072 (W)		51,000	81,000	-3,200	-77,000	30,000	81,000	-650,000
2073 (W)		56,000	70,000	-6,800	-95,000	23,000	47,000	-600,000
2074 (C)		31,000	49,000	14,000	-170,000	25,000	-53,000	-650,000
2075 (C)		18,000	50,000	27,000	-200,000	36,000	-70,000	-720,000
2076 (BN)		16,000	54,000	37,000	-200,000	40,000	-49,000	-770,000
2077 (AN)		39,000	73,000	8,800	-110,000	30,000	39,000	-730,000
2078 (W)		61,000	96,000	-5,300	-87,000	22,000	87,000	-650,000
2079 (D)		47,000	63,000	-1,800	-120,000	12,000	2,400	-640,000
2080 (C)		17,000	45,000	22,000	-200,000	25,000	-87,000	-730,000
2081 (C)		270	40,000	42,000	-220,000	40,000	-98,000	-830,000
2082 (C)		230	48,000	63,000	-240,000	46,000	-83,000	-910,000
2083 (D)		27,000	69,000	40,000	-170,000	41,000	9,000	-900,000
2084 (W)		62,000	91,000	13,000	-110,000	28,000	88,000	-810,000
2085 (BN)		36,000	48,000	14,000	-160,000	30,000	-28,000	-840,000
2086 (W)		59,000	87,000	3,200	-110,000	25,000	66,000	-780,000
2087 (D)		35,000	60,000	11,000	-160,000	26,000	-29,000	-810,000
2088 (C)		2,700	40,000	41,000	-240,000	39,000	-120,000	-920,000
2089 (C)		2,900	61,000	34,000	-190,000	48,000	-43,000	-960,000
2090 (W)		75,000	100,000	8,400	-89,000	29,000	120,000	-840,000
Average (2024-2039)		**33,000**	**59,000**	**25,000**	**-150,000**	**10,000**	**-21,000**	
2024-2039	W	56,000	80,000	-400	-82,000	5,800	60,000	
	AN	39,000	62,000	14,000	-120,000	5,700	840	
	BN	24,000	52,000	39,000	-180,000	14,000	-46,000	
	D	25,000	54,000	35,000	-170,000	11,000	-44,000	
	C	22,000	46,000	35,000	-190,000	13,000	-70,000	
Average (2040-2090)		**32,000**	**64,000**	**21,000**	**-160,000**	**29,000**	**-9,800**	
2040-2090	W	49,000	82,000	6,400	-110,000	25,000	47,000	
	AN	44,000	74,000	6,100	-130,000	18,000	12,000	
	BN	24,000	54,000	25,000	-180,000	38,000	-36,000	
	D	28,000	56,000	20,000	-170,000	27,000	-38,000	
	C	11,000	47,000	42,000	-200,000	37,000	-64,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Chowchilla Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

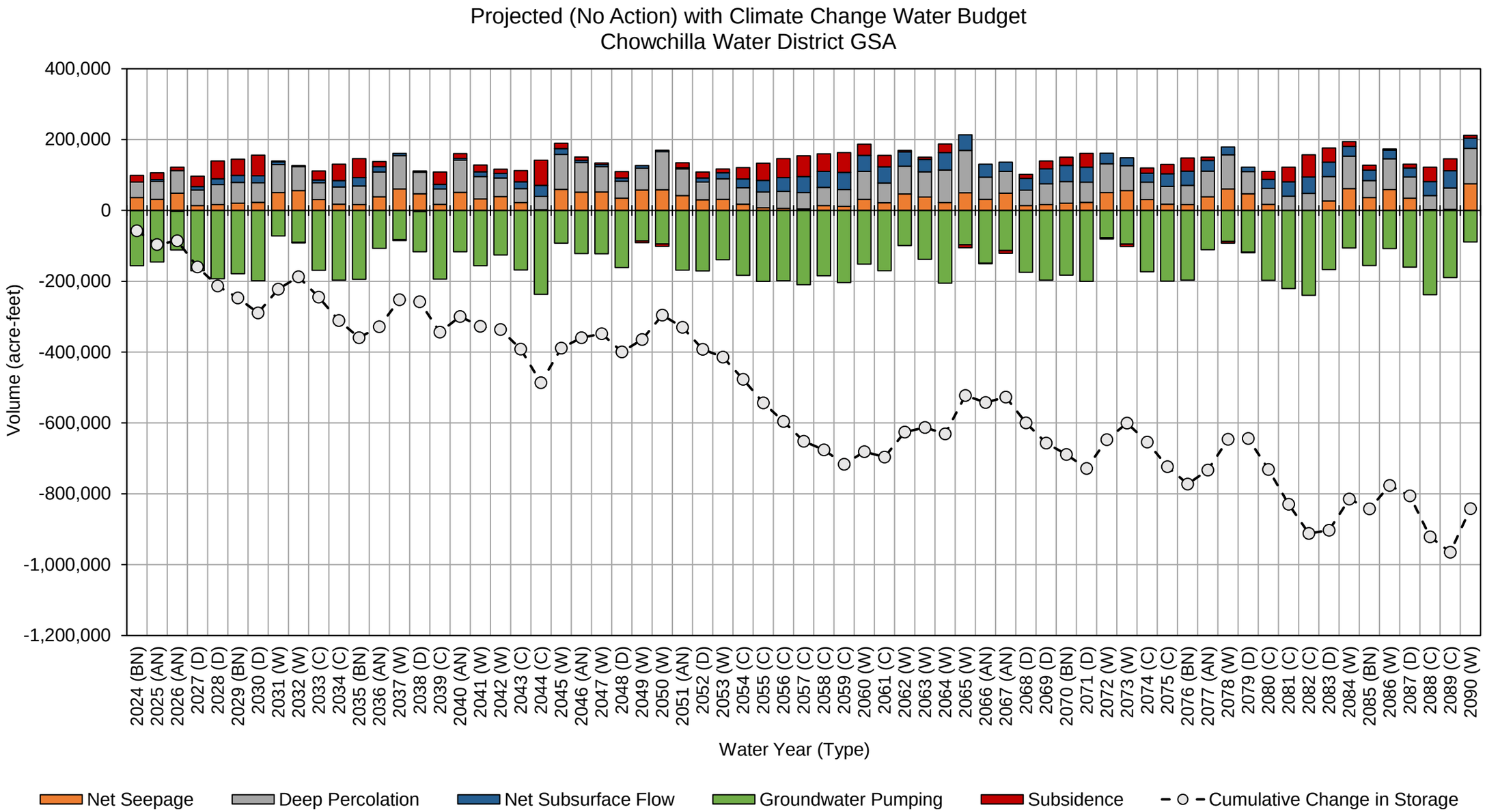
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	36,000	44,000	-160,000	-76,000
2025 (AN)	31,000	51,000	-150,000	-63,000
2026 (AN)	49,000	64,000	-110,000	3,300
2027 (D)	14,000	44,000	-170,000	-110,000
2028 (D)	16,000	57,000	-190,000	-120,000
2029 (BN)	20,000	59,000	-180,000	-99,000
2030 (D)	23,000	55,000	-200,000	-120,000
2031 (W)	50,000	79,000	-72,000	57,000
2032 (W)	56,000	67,000	-90,000	33,000
2033 (C)	31,000	47,000	-170,000	-91,000
2034 (C)	18,000	48,000	-200,000	-130,000
2035 (BN)	16,000	53,000	-190,000	-130,000
2036 (AN)	39,000	70,000	-110,000	1,900
2037 (W)	61,000	94,000	-83,000	72,000
2038 (D)	47,000	61,000	-110,000	-5,800
2039 (C)	17,000	43,000	-190,000	-130,000
2040 (AN)	51,000	91,000	-120,000	25,000
2041 (W)	32,000	64,000	-160,000	-60,000
2042 (W)	39,000	52,000	-130,000	-34,000
2043 (C)	22,000	39,000	-170,000	-110,000
2044 (C)	2,100	38,000	-240,000	-200,000
2045 (W)	59,000	99,000	-92,000	66,000
2046 (AN)	51,000	84,000	-120,000	13,000
2047 (W)	52,000	71,000	-120,000	1,500
2048 (D)	35,000	48,000	-160,000	-79,000
2049 (W)	58,000	62,000	-86,000	33,000
2050 (W)	58,000	110,000	-94,000	72,000
2051 (AN)	42,000	75,000	-170,000	-51,000
2052 (D)	30,000	50,000	-170,000	-90,000
2053 (W)	31,000	58,000	-140,000	-50,000
2054 (C)	17,000	47,000	-180,000	-120,000
2055 (C)	7,700	44,000	-200,000	-150,000
2056 (C)	5,600	48,000	-200,000	-140,000
2057 (C)	4,100	46,000	-210,000	-160,000
2058 (C)	14,000	51,000	-180,000	-120,000
2059 (C)	11,000	48,000	-200,000	-140,000
2060 (W)	31,000	79,000	-150,000	-41,000
2061 (C)	22,000	56,000	-170,000	-92,000
2062 (W)	46,000	79,000	-99,000	26,000
2063 (W)	38,000	72,000	-140,000	-28,000
2064 (W)	22,000	92,000	-210,000	-91,000
2065 (W)	50,000	120,000	-97,000	73,000
2066 (AN)	31,000	63,000	-150,000	-55,000
2067 (AN)	49,000	61,000	-110,000	-2,900
2068 (D)	14,000	43,000	-170,000	-120,000

Chowchilla Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		16,000	59,000	-200,000	-120,000
2070 (BN)		21,000	61,000	-180,000	-100,000
2071 (D)		23,000	57,000	-200,000	-120,000
2072 (W)		51,000	81,000	-77,000	55,000
2073 (W)		56,000	70,000	-95,000	31,000
2074 (C)		31,000	49,000	-170,000	-93,000
2075 (C)		18,000	50,000	-200,000	-130,000
2076 (BN)		16,000	54,000	-200,000	-130,000
2077 (AN)		39,000	73,000	-110,000	88
2078 (W)		61,000	96,000	-87,000	70,000
2079 (D)		47,000	63,000	-120,000	-7,700
2080 (C)		17,000	45,000	-200,000	-130,000
2081 (C)		270	40,000	-220,000	-180,000
2082 (C)		230	48,000	-240,000	-190,000
2083 (D)		27,000	69,000	-170,000	-72,000
2084 (W)		62,000	91,000	-110,000	47,000
2085 (BN)		36,000	48,000	-160,000	-71,000
2086 (W)		59,000	87,000	-110,000	38,000
2087 (D)		35,000	60,000	-160,000	-66,000
2088 (C)		2,700	40,000	-240,000	-200,000
2089 (C)		2,900	61,000	-190,000	-130,000
2090 (W)		75,000	100,000	-89,000	86,000
Average (2024-2039)		**33,000**	**59,000**	**-150,000**	**-57,000**
2024-2039	W	56,000	80,000	-82,000	54,000
	AN	39,000	62,000	-120,000	-19,000
	BN	24,000	52,000	-180,000	-100,000
	D	25,000	54,000	-170,000	-90,000
	C	22,000	46,000	-190,000	-120,000
Average (2040-2090)		**32,000**	**64,000**	**-160,000**	**-59,000**
2040-2090	W	49,000	82,000	-110,000	16,000
	AN	44,000	74,000	-130,000	-12,000
	BN	24,000	54,000	-180,000	-100,000
	D	28,000	56,000	-170,000	-84,000
	C	11,000	47,000	-200,000	-140,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Chowchilla Water District GSA
Volume (acre-feet)
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
-1,200,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.1.b

Madera County - East GSA Water Budget Results

Madera County - East GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		850	2,800	3,100	-12,000	2,900	-2,700	-2,700
1990 (C)		650	2,700	3,700	-13,000	2,300	-4,100	-6,800
1991 (C)		1,100	3,600	4,000	-14,000	2,900	-2,400	-9,200
1992 (C)		900	3,800	4,400	-15,000	2,900	-3,400	-13,000
1993 (W)		2,300	7,300	2,800	-14,000	4,700	3,600	-9,000
1994 (C)		1,700	5,000	2,900	-15,000	4,100	-980	-10,000
1995 (W)		3,000	7,800	1,600	-12,000	4,100	4,200	-5,800
1996 (W)		2,500	6,600	2,500	-17,000	5,500	480	-5,300
1997 (W)		3,100	12,000	2,400	-18,000	5,500	4,500	-820
1998 (W)		2,400	13,000	-240	-12,000	4,300	7,400	6,600
1999 (AN)		2,500	4,400	570	-16,000	5,600	-2,800	3,800
2000 (AN)		2,300	4,700	1,100	-17,000	6,200	-3,000	710
2001 (D)		2,000	3,900	1,200	-16,000	5,500	-3,800	-3,100
2002 (D)		1,300	4,300	2,900	-19,000	5,000	-5,300	-8,400
2003 (BN)		1,800	4,500	2,600	-17,000	5,300	-3,100	-11,000
2004 (D)		1,300	4,000	4,200	-20,000	5,400	-5,400	-17,000
2005 (W)		2,500	7,100	570	-12,000	5,600	3,400	-13,000
2006 (W)		3,400	7,500	610	-14,000	6,100	3,500	-9,900
2007 (C)		1,600	4,000	2,300	-18,000	6,200	-4,200	-14,000
2008 (C)		1,400	3,600	2,900	-18,000	5,300	-4,400	-19,000
2009 (BN)		1,700	3,700	2,600	-17,000	5,700	-3,000	-22,000
2010 (AN)		2,200	4,800	1,100	-14,000	6,900	570	-21,000
2011 (W)		3,200	8,900	1,100	-16,000	7,800	4,600	-16,000
2012 (D)		2,100	4,600	1,900	-19,000	7,300	-2,600	-19,000
2013 (C)		1,200	3,600	3,900	-21,000	6,000	-6,500	-26,000
2014 (C)		140	2,200	4,700	-21,000	4,600	-9,100	-35,000
2015 (C)		84	2,200	6,200	-23,000	4,500	-9,900	-45,000
2016 (D)		1,600	5,000	4,200	-19,000	6,100	-1,900	-47,000
2017 (W)		3,600	8,900	2,700	-18,000	8,200	5,300	-41,000
2018 (BN)		2,000	4,100	2,800	-20,000	8,300	-2,400	-44,000
2019 (W)		2,700	6,200	1,700	-18,000	9,000	1,600	-42,000
2020 (D)		2,000	4,500	2,500	-19,000	6,600	-3,100	-45,000
2021 (C)		320	2,700	4,500	-24,000	6,600	-9,500	-55,000
2022 (C)		670	4,000	2,900	-17,000	5,300	-4,600	-59,000
2023 (W)		4,600	8,900	2,100	-19,000	8,400	5,100	-54,000
Average (1989-2023)		**1,900**	**5,300**	**2,600**	**-17,000**	**5,600**	**-1,500**	
1989-2023	W	3,000	8,500	1,600	-15,000	6,300	4,000	
	AN	2,300	4,700	940	-16,000	6,200	-1,800	
	BN	1,800	4,100	2,700	-18,000	6,400	-2,800	
	D	1,700	4,400	2,800	-19,000	6,000	-3,700	
	C	880	3,400	3,800	-18,000	4,500	-5,200	
Average (1989-2015)		**1,800**	**5,300**	**2,500**	**-16,000**	**5,100**	**-1,700**	
1989-2015	W	2,800	8,700	1,400	-14,000	5,400	3,900	
	AN	2,300	4,700	940	-16,000	6,200	-1,800	
	BN	1,800	4,100	2,600	-17,000	5,500	-3,100	
	D	1,700	4,200	2,600	-18,000	5,800	-4,300	
	C	960	3,400	3,800	-17,000	4,200	-4,800	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

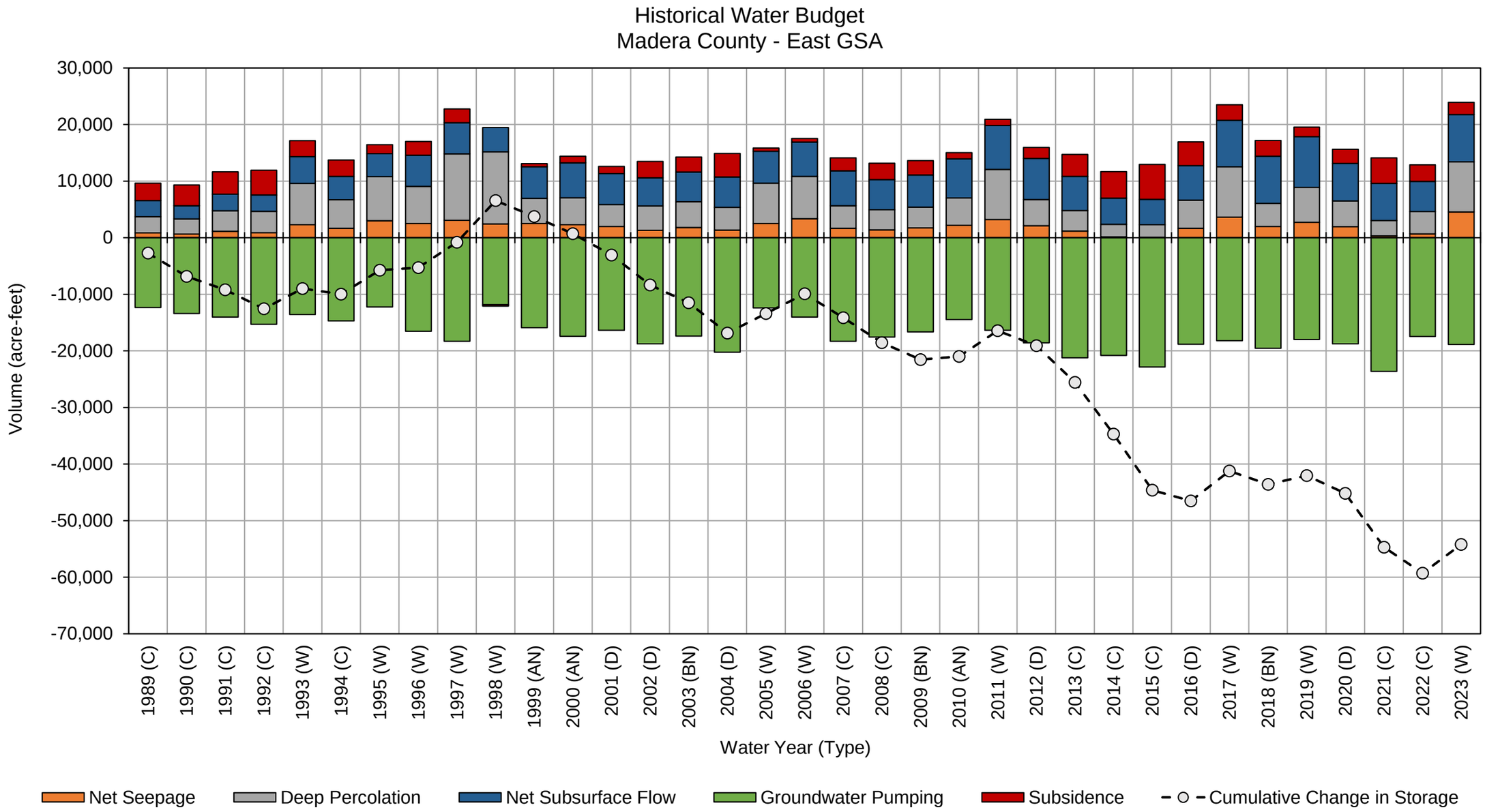
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - East GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		850	2,800	-12,000	-8,700
1990 (C)		650	2,700	-13,000	-10,000
1991 (C)		1,100	3,600	-14,000	-9,300
1992 (C)		900	3,800	-15,000	-11,000
1993 (W)		2,300	7,300	-14,000	-4,000
1994 (C)		1,700	5,000	-15,000	-8,000
1995 (W)		3,000	7,800	-12,000	-1,400
1996 (W)		2,500	6,600	-17,000	-7,500
1997 (W)		3,100	12,000	-18,000	-3,500
1998 (W)		2,400	13,000	-12,000	3,300
1999 (AN)		2,500	4,400	-16,000	-8,900
2000 (AN)		2,300	4,700	-17,000	-10,000
2001 (D)		2,000	3,900	-16,000	-10,000
2002 (D)		1,300	4,300	-19,000	-13,000
2003 (BN)		1,800	4,500	-17,000	-11,000
2004 (D)		1,300	4,000	-20,000	-15,000
2005 (W)		2,500	7,100	-12,000	-2,800
2006 (W)		3,400	7,500	-14,000	-3,200
2007 (C)		1,600	4,000	-18,000	-13,000
2008 (C)		1,400	3,600	-18,000	-13,000
2009 (BN)		1,700	3,700	-17,000	-11,000
2010 (AN)		2,200	4,800	-14,000	-7,500
2011 (W)		3,200	8,900	-16,000	-4,300
2012 (D)		2,100	4,600	-19,000	-12,000
2013 (C)		1,200	3,600	-21,000	-16,000
2014 (C)		140	2,200	-21,000	-18,000
2015 (C)		84	2,200	-23,000	-21,000
2016 (D)		1,600	5,000	-19,000	-12,000
2017 (W)		3,600	8,900	-18,000	-5,700
2018 (BN)		2,000	4,100	-20,000	-13,000
2019 (W)		2,700	6,200	-18,000	-9,100
2020 (D)		2,000	4,500	-19,000	-12,000
2021 (C)		320	2,700	-24,000	-21,000
2022 (C)		670	4,000	-17,000	-13,000
2023 (W)		4,600	8,900	-19,000	-5,400
Average (1989-2023)		**1,900**	**5,300**	**-17,000**	**-9,800**
1989-2023	W	3,000	8,500	-15,000	-4,000
	AN	2,300	4,700	-16,000	-8,900
	BN	1,800	4,100	-18,000	-12,000
	D	1,700	4,400	-19,000	-12,000
	C	880	3,400	-18,000	-13,000
Average (1989-2015)		**1,800**	**5,300**	**-16,000**	**-9,300**
1989-2015	W	2,800	8,700	-14,000	-2,900
	AN	2,300	4,700	-16,000	-8,900
	BN	1,800	4,100	-17,000	-11,000
	D	1,700	4,200	-18,000	-13,000
	C	960	3,400	-17,000	-13,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Madera County - East GSA
Volume (acre-feet)
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
-50,000
-60,000
-70,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County - East GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	3,700	4,700	1,000	-21,000	9,100	-2,300	-2,300
2025 (AN)	2,600	3,700	1,100	-20,000	9,900	-3,000	-5,300
2026 (AN)	2,300	4,900	1,000	-20,000	9,700	-1,800	-7,100
2027 (D)	2,000	3,900	1,000	-19,000	9,100	-3,400	-10,000
2028 (D)	1,300	4,100	2,200	-21,000	8,300	-5,500	-16,000
2029 (BN)	1,800	4,200	2,100	-20,000	8,000	-3,700	-20,000
2030 (D)	1,300	3,600	2,700	-19,000	5,900	-5,200	-25,000
2031 (W)	2,600	6,200	680	-15,000	8,600	3,000	-22,000
2032 (W)	3,700	7,300	360	-15,000	8,600	5,000	-17,000
2033 (C)	1,700	3,600	1,000	-15,000	5,400	-3,000	-20,000
2034 (C)	1,400	3,000	1,300	-14,000	3,700	-4,300	-24,000
2035 (BN)	1,700	2,800	1,300	-12,000	3,300	-2,700	-27,000
2036 (AN)	2,200	3,900	130	-11,000	6,100	1,700	-25,000
2037 (W)	4,000	8,000	-530	-9,100	7,300	9,600	-15,000
2038 (D)	2,200	3,400	-330	-8,400	3,500	410	-15,000
2039 (C)	1,200	2,200	570	-7,800	110	-3,700	-19,000
2040 (AN)	2,600	4,600	-100	-6,800	2,200	2,500	-16,000
2041 (W)	3,500	4,200	-440	-6,100	3,500	4,700	-11,000
2042 (W)	3,400	2,800	-700	-5,900	3,000	2,600	-8,900
2043 (C)	1,200	1,500	380	-6,900	-530	-4,300	-13,000
2044 (C)	6	830	1,500	-7,600	-2,900	-8,200	-21,000
2045 (W)	2,500	4,600	-240	-5,300	2,600	4,200	-17,000
2046 (AN)	3,100	5,100	100	-6,900	2,800	4,200	-13,000
2047 (W)	2,300	4,600	-450	-6,200	3,200	3,500	-9,500
2048 (D)	1,600	2,500	310	-7,100	300	-2,500	-12,000
2049 (W)	4,100	4,500	-1,200	-5,000	4,600	7,000	-5,000
2050 (W)	3,100	10,000	-1,600	-5,000	5,100	12,000	7,000
2051 (AN)	2,700	3,900	-570	-7,700	2,800	1,100	8,100
2052 (D)	1,500	2,100	-390	-7,000	320	-3,500	4,700
2053 (W)	2,800	3,000	-1,200	-5,600	3,000	2,000	6,700
2054 (C)	1,400	1,900	130	-6,800	-470	-3,800	2,900
2055 (C)	930	1,300	510	-6,600	-1,300	-5,300	-2,400
2056 (C)	870	1,200	730	-6,500	-1,400	-5,100	-7,500
2057 (C)	660	1,100	1,200	-6,700	-1,900	-5,600	-13,000
2058 (C)	1,100	1,600	1,100	-6,700	-1,100	-3,900	-17,000
2059 (C)	910	1,600	1,600	-7,100	-1,600	-4,600	-22,000
2060 (W)	2,600	3,700	200	-5,900	3,500	4,100	-18,000
2061 (C)	1,900	2,900	560	-6,800	1,200	-200	-18,000
2062 (W)	3,400	5,300	-780	-4,900	4,700	7,800	-10,000
2063 (W)	3,100	4,600	-740	-6,200	4,700	5,600	-4,400
2064 (W)	4,500	9,500	-790	-7,100	5,300	11,000	6,900
2065 (W)	3,300	9,900	-2,700	-4,600	5,500	11,000	18,000
2066 (AN)	2,400	2,500	-1,900	-6,600	3,500	-67	18,000
2067 (AN)	2,300	2,300	-1,700	-6,400	3,000	-430	18,000
2068 (D)	2,100	1,900	-1,100	-6,300	1,500	-1,900	16,000
2069 (D)	1,400	1,800	140	-6,800	-550	-4,100	12,000
2070 (BN)	1,800	1,800	210	-6,500	-360	-3,000	8,900

MCSim_v2.0 - Projected with Projects

Madera County - East GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		1,400	1,600	1,300	-7,600	-1,700	-5,200	3,700
2072 (W)		2,800	4,100	-1,000	-4,200	2,800	4,500	8,300
2073 (W)		3,800	5,500	-1,000	-5,100	3,700	6,800	15,000
2074 (C)		1,700	2,600	430	-7,300	93	-2,500	13,000
2075 (C)		1,400	2,100	830	-7,300	-1,300	-4,200	8,400
2076 (BN)		1,700	2,100	760	-7,000	-1,000	-3,400	5,100
2077 (AN)		2,200	3,100	-560	-5,400	1,900	1,400	6,400
2078 (W)		4,000	6,700	-1,200	-5,000	4,700	9,300	16,000
2079 (D)		2,200	3,000	-400	-6,500	1,200	-460	15,000
2080 (C)		1,200	2,000	790	-7,400	-1,400	-4,800	10,000
2081 (C)		140	1,000	1,400	-7,300	-3,300	-8,000	2,500
2082 (C)		84	930	2,300	-7,900	-4,300	-8,900	-6,300
2083 (D)		1,600	2,300	1,200	-6,300	-1,600	-2,700	-9,100
2084 (W)		4,900	6,200	-91	-5,500	4,200	9,800	680
2085 (BN)		3,900	2,700	-32	-6,400	1,100	1,300	1,900
2086 (W)		3,200	4,400	-900	-5,100	3,800	5,400	7,300
2087 (D)		2,000	2,400	-3	-6,200	18	-1,800	5,500
2088 (C)		330	1,200	1,300	-7,500	-2,800	-7,400	-1,900
2089 (C)		680	2,000	550	-5,700	-2,000	-4,400	-6,400
2090 (W)		4,500	6,400	-490	-5,100	3,600	8,900	2,500
Average (2024-2039)		**2,200**	**4,300**	**980**	**-15,000**	**6,700**	**-1,200**	
2024-2039	W	3,400	7,100	170	-13,000	8,200	5,900	
	AN	2,400	4,200	740	-17,000	8,600	-1,000	
	BN	2,400	3,900	1,500	-17,000	6,800	-2,900	
	D	1,700	3,800	1,400	-17,000	6,700	-3,400	
	C	1,400	2,900	970	-12,000	3,100	-3,700	
Average (2040-2090)		**2,200**	**3,400**	**-55**	**-6,300**	**1,200**	**420**	
2040-2090	W	3,400	5,600	-850	-5,400	4,000	6,700	
	AN	2,600	3,600	-780	-6,600	2,700	1,500	
	BN	2,500	2,200	310	-6,600	-96	-1,700	
	D	1,700	2,200	140	-6,700	-57	-2,800	
	C	910	1,600	950	-7,000	-1,600	-5,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - East GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

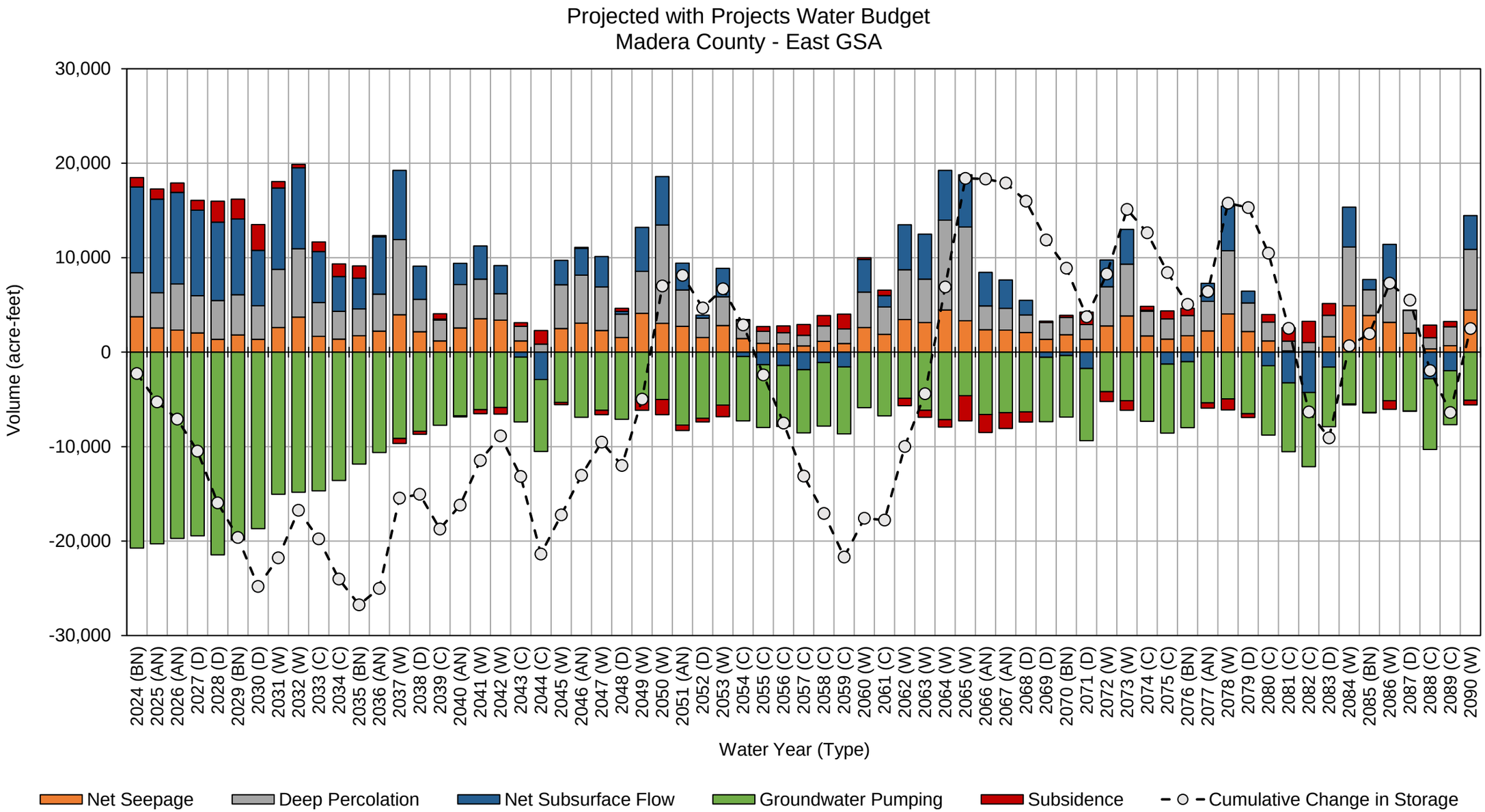
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	3,700	4,700	-21,000	-12,000
2025 (AN)	2,600	3,700	-20,000	-14,000
2026 (AN)	2,300	4,900	-20,000	-12,000
2027 (D)	2,000	3,900	-19,000	-13,000
2028 (D)	1,300	4,100	-21,000	-16,000
2029 (BN)	1,800	4,200	-20,000	-14,000
2030 (D)	1,300	3,600	-19,000	-14,000
2031 (W)	2,600	6,200	-15,000	-6,300
2032 (W)	3,700	7,300	-15,000	-3,900
2033 (C)	1,700	3,600	-15,000	-9,400
2034 (C)	1,400	3,000	-14,000	-9,300
2035 (BN)	1,700	2,800	-12,000	-7,300
2036 (AN)	2,200	3,900	-11,000	-4,500
2037 (W)	4,000	8,000	-9,100	2,800
2038 (D)	2,200	3,400	-8,400	-2,800
2039 (C)	1,200	2,200	-7,800	-4,400
2040 (AN)	2,600	4,600	-6,800	410
2041 (W)	3,500	4,200	-6,100	1,600
2042 (W)	3,400	2,800	-5,900	330
2043 (C)	1,200	1,500	-6,900	-4,100
2044 (C)	6	830	-7,600	-6,800
2045 (W)	2,500	4,600	-5,300	1,800
2046 (AN)	3,100	5,100	-6,900	1,300
2047 (W)	2,300	4,600	-6,200	730
2048 (D)	1,600	2,500	-7,100	-3,100
2049 (W)	4,100	4,500	-5,000	3,600
2050 (W)	3,100	10,000	-5,000	8,400
2051 (AN)	2,700	3,900	-7,700	-1,100
2052 (D)	1,500	2,100	-7,000	-3,400
2053 (W)	2,800	3,000	-5,600	250
2054 (C)	1,400	1,900	-6,800	-3,500
2055 (C)	930	1,300	-6,600	-4,500
2056 (C)	870	1,200	-6,500	-4,400
2057 (C)	660	1,100	-6,700	-4,900
2058 (C)	1,100	1,600	-6,700	-4,000
2059 (C)	910	1,600	-7,100	-4,600
2060 (W)	2,600	3,700	-5,900	460
2061 (C)	1,900	2,900	-6,800	-2,000
2062 (W)	3,400	5,300	-4,900	3,800
2063 (W)	3,100	4,600	-6,200	1,600
2064 (W)	4,500	9,500	-7,100	6,800
2065 (W)	3,300	9,900	-4,600	8,600
2066 (AN)	2,400	2,500	-6,600	-1,700
2067 (AN)	2,300	2,300	-6,400	-1,800
2068 (D)	2,100	1,900	-6,300	-2,400

Madera County - East GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		1,400	1,800	-6,800	-3,700
2070 (BN)		1,800	1,800	-6,500	-2,800
2071 (D)		1,400	1,600	-7,600	-4,700
2072 (W)		2,800	4,100	-4,200	2,700
2073 (W)		3,800	5,500	-5,100	4,200
2074 (C)		1,700	2,600	-7,300	-3,000
2075 (C)		1,400	2,100	-7,300	-3,800
2076 (BN)		1,700	2,100	-7,000	-3,100
2077 (AN)		2,200	3,100	-5,400	6
2078 (W)		4,000	6,700	-5,000	5,800
2079 (D)		2,200	3,000	-6,500	-1,300
2080 (C)		1,200	2,000	-7,400	-4,200
2081 (C)		140	1,000	-7,300	-6,100
2082 (C)		84	930	-7,900	-6,800
2083 (D)		1,600	2,300	-6,300	-2,400
2084 (W)		4,900	6,200	-5,500	5,600
2085 (BN)		3,900	2,700	-6,400	210
2086 (W)		3,200	4,400	-5,100	2,400
2087 (D)		2,000	2,400	-6,200	-1,800
2088 (C)		330	1,200	-7,500	-6,000
2089 (C)		680	2,000	-5,700	-3,000
2090 (W)		4,500	6,400	-5,100	5,800
Average (2024-2039)		**2,200**	**4,300**	**-15,000**	**-8,800**
2024-2039	W	3,400	7,100	-13,000	-2,500
	AN	2,400	4,200	-17,000	-10,000
	BN	2,400	3,900	-17,000	-11,000
	D	1,700	3,800	-17,000	-12,000
	C	1,400	2,900	-12,000	-7,700
Average (2040-2090)		**2,200**	**3,400**	**-6,300**	**-750**
2040-2090	W	3,400	5,600	-5,400	3,600
	AN	2,600	3,600	-6,600	-490
	BN	2,500	2,200	-6,600	-1,900
	D	1,700	2,200	-6,700	-2,800
	C	910	1,600	-7,000	-4,500

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Madera County - East GSA
Volume (acre-feet)
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County - East GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	3,000	3,900	1,500	-20,000	7,600	-4,400	-4,400
2025 (AN)	1,400	3,300	1,900	-19,000	7,100	-5,500	-9,900
2026 (AN)	3,000	5,000	1,400	-17,000	7,300	-530	-10,000
2027 (D)	760	2,900	1,600	-15,000	4,500	-5,700	-16,000
2028 (D)	1,300	3,300	2,500	-16,000	3,800	-5,500	-22,000
2029 (BN)	1,900	3,400	2,300	-14,000	3,100	-3,400	-25,000
2030 (D)	1,600	3,400	3,400	-17,000	3,200	-5,200	-30,000
2031 (W)	3,000	6,300	370	-6,300	2,700	6,000	-24,000
2032 (W)	4,200	6,700	160	-7,600	3,200	6,600	-18,000
2033 (C)	1,600	3,000	1,400	-12,000	2,200	-4,000	-22,000
2034 (C)	1,100	2,300	1,800	-11,000	210	-5,500	-27,000
2035 (BN)	830	2,000	2,000	-9,300	-540	-5,000	-32,000
2036 (AN)	1,700	3,500	310	-3,400	-190	2,000	-30,000
2037 (W)	4,800	7,000	-400	-1,400	530	10,000	-20,000
2038 (D)	2,000	3,200	-150	-4,500	48	600	-19,000
2039 (C)	1,200	2,000	850	-5,200	-3,000	-4,200	-23,000
2040 (AN)	3,100	4,600	-74	-1,500	-2,000	4,200	-19,000
2041 (W)	3,600	3,400	-110	-1,000	-2,900	2,900	-16,000
2042 (W)	2,400	2,100	-410	-940	-3,200	-110	-16,000
2043 (C)	2,000	1,300	290	-1,500	-5,000	-2,900	-19,000
2044 (C)	250	680	1,400	-1,800	-7,700	-7,200	-26,000
2045 (W)	5,600	5,100	95	-840	-1,200	8,700	-18,000
2046 (AN)	2,800	3,800	58	-1,500	-2,400	2,700	-15,000
2047 (W)	4,700	4,100	-390	-1,000	-2,000	5,300	-9,600
2048 (D)	2,200	1,600	27	-1,500	-4,700	-2,400	-12,000
2049 (W)	4,900	3,400	-970	-760	-1,100	5,400	-6,500
2050 (W)	5,100	9,300	-1,300	-800	-460	12,000	5,300
2051 (AN)	2,900	2,900	-380	-1,700	-4,400	-740	4,500
2052 (D)	1,900	1,300	-270	-1,500	-5,400	-4,000	550
2053 (W)	2,900	1,900	-550	-910	-3,700	-340	200
2054 (C)	1,500	1,000	250	-1,600	-6,000	-4,800	-4,600
2055 (C)	810	720	730	-1,500	-6,900	-6,200	-11,000
2056 (C)	850	580	1,000	-1,500	-6,900	-6,000	-17,000
2057 (C)	1,000	710	1,400	-1,600	-7,000	-5,500	-22,000
2058 (C)	1,600	1,000	1,500	-1,600	-6,000	-3,500	-26,000
2059 (C)	1,500	910	2,000	-1,700	-6,600	-3,900	-30,000
2060 (W)	3,900	2,900	1,300	-1,200	-3,700	3,400	-26,000
2061 (C)	1,500	1,400	1,300	-1,600	-4,900	-2,200	-29,000
2062 (W)	4,900	4,500	33	-910	-460	8,100	-20,000
2063 (W)	3,800	3,400	-51	-1,200	-2,200	3,700	-17,000
2064 (W)	3,500	6,800	340	-1,400	-4,300	4,900	-12,000
2065 (W)	4,800	8,600	-1,300	-880	87	11,000	-530
2066 (AN)	1,300	2,400	-960	-1,600	-3,200	-2,000	-2,600
2067 (AN)	3,000	2,400	-1,100	-1,600	-2,300	510	-2,100
2068 (D)	780	1,100	-510	-1,500	-4,300	-4,500	-6,500
2069 (D)	1,300	1,200	290	-1,400	-5,900	-4,500	-11,000
2070 (BN)	1,900	1,200	460	-1,400	-5,500	-3,300	-14,000

Madera County - East GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		1,600	1,400	1,100	-1,500	-6,900	-4,300	-19,000
2072 (W)		3,200	3,200	-500	-350	-1,700	3,900	-15,000
2073 (W)		4,500	4,500	-610	-710	-1,500	6,200	-8,500
2074 (C)		1,700	2,200	280	-1,600	-4,800	-2,300	-11,000
2075 (C)		1,100	1,500	760	-1,600	-6,400	-4,600	-15,000
2076 (BN)		830	1,200	930	-1,400	-6,500	-4,900	-20,000
2077 (AN)		1,700	2,400	-69	-1,000	-2,700	370	-20,000
2078 (W)		5,000	5,700	-520	-690	-490	8,900	-11,000
2079 (D)		2,100	2,900	-490	-1,500	-2,300	650	-10,000
2080 (C)		1,200	1,700	510	-1,700	-5,800	-4,100	-14,000
2081 (C)		48	890	970	-1,700	-7,100	-6,900	-21,000
2082 (C)		42	670	1,700	-1,900	-8,400	-7,900	-29,000
2083 (D)		1,900	1,800	1,300	-1,100	-5,300	-1,500	-31,000
2084 (W)		5,200	4,800	510	-600	-2,000	7,900	-23,000
2085 (BN)		3,100	1,900	330	-1,100	-4,100	150	-23,000
2086 (W)		3,300	3,800	-260	-460	-1,700	4,700	-18,000
2087 (D)		1,700	2,300	19	-920	-4,200	-1,100	-19,000
2088 (C)		170	1,000	1,000	-1,800	-7,000	-6,600	-26,000
2089 (C)		370	1,600	590	-1,400	-5,100	-3,800	-30,000
2090 (W)		5,100	5,800	69	-470	-1,500	8,900	-21,000
Average (2024-2039)		**2,100**	**3,800**	**1,300**	**-11,000**	**2,600**	**-1,500**	
2024-2039	W	4,000	6,600	46	-5,100	2,100	7,700	
	AN	2,000	4,000	1,200	-13,000	4,700	-1,300	
	BN	1,900	3,100	2,000	-15,000	3,400	-4,300	
	D	1,400	3,200	1,800	-13,000	2,900	-3,900	
	C	1,300	2,400	1,300	-9,400	-220	-4,600	
Average (2040-2090)		**2,500**	**2,700**	**230**	**-1,300**	**-4,100**	**52**	
2040-2090	W	4,200	4,600	-260	-840	-1,900	5,900	
	AN	2,500	3,100	-420	-1,500	-2,800	840	
	BN	2,000	1,400	570	-1,300	-5,300	-2,700	
	D	1,700	1,700	180	-1,400	-4,900	-2,700	
	C	980	1,100	980	-1,600	-6,300	-4,900	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - East GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

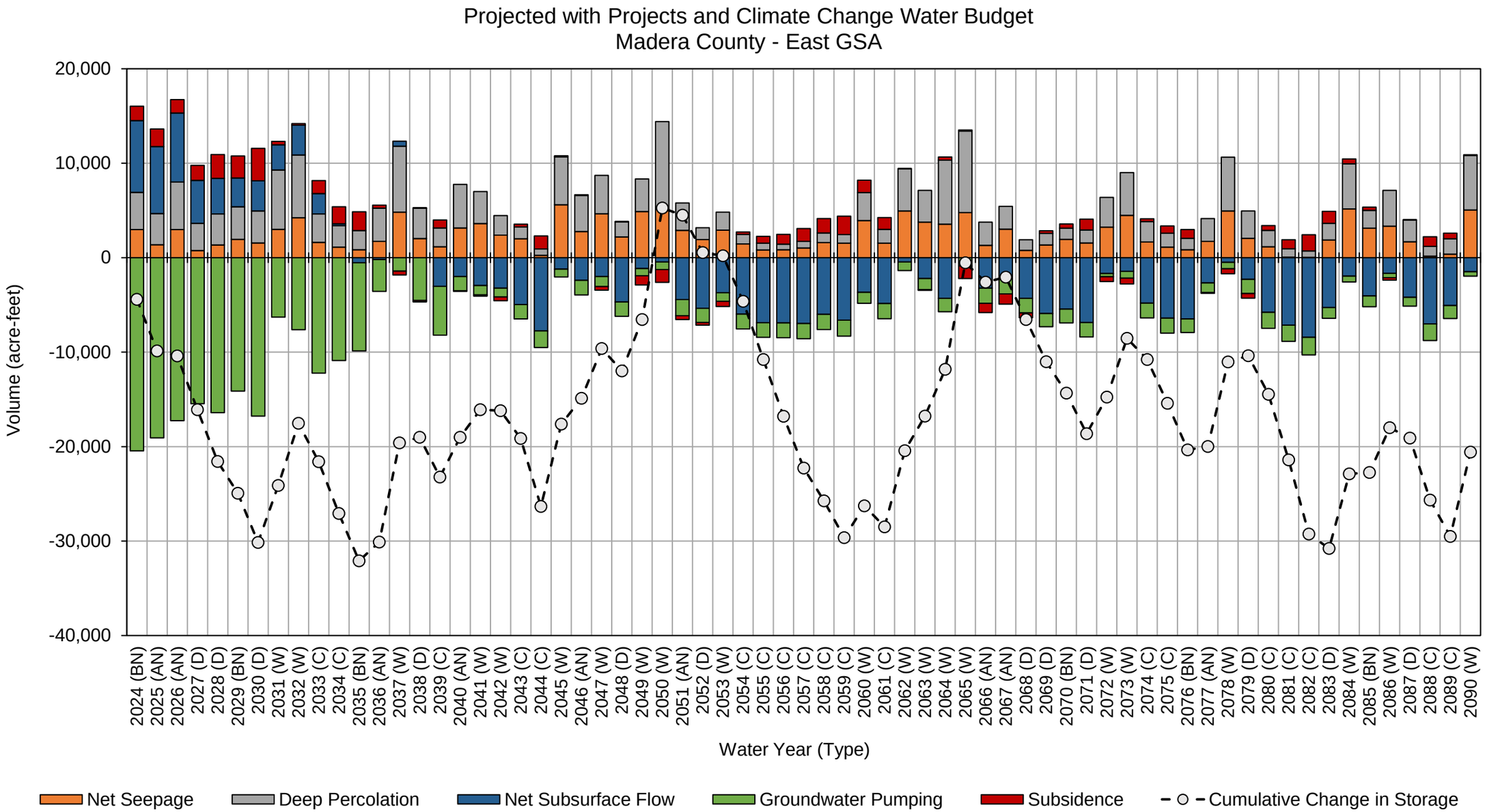
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	3,000	3,900	-20,000	-14,000
2025 (AN)	1,400	3,300	-19,000	-14,000
2026 (AN)	3,000	5,000	-17,000	-9,200
2027 (D)	760	2,900	-15,000	-12,000
2028 (D)	1,300	3,300	-16,000	-12,000
2029 (BN)	1,900	3,400	-14,000	-8,700
2030 (D)	1,600	3,400	-17,000	-12,000
2031 (W)	3,000	6,300	-6,300	3,000
2032 (W)	4,200	6,700	-7,600	3,200
2033 (C)	1,600	3,000	-12,000	-7,600
2034 (C)	1,100	2,300	-11,000	-7,500
2035 (BN)	830	2,000	-9,300	-6,500
2036 (AN)	1,700	3,500	-3,400	1,900
2037 (W)	4,800	7,000	-1,400	10,000
2038 (D)	2,000	3,200	-4,500	700
2039 (C)	1,200	2,000	-5,200	-2,000
2040 (AN)	3,100	4,600	-1,500	6,300
2041 (W)	3,600	3,400	-1,000	6,000
2042 (W)	2,400	2,100	-940	3,500
2043 (C)	2,000	1,300	-1,500	1,700
2044 (C)	250	680	-1,800	-830
2045 (W)	5,600	5,100	-840	9,800
2046 (AN)	2,800	3,800	-1,500	5,100
2047 (W)	4,700	4,100	-1,000	7,700
2048 (D)	2,200	1,600	-1,500	2,300
2049 (W)	4,900	3,400	-760	7,600
2050 (W)	5,100	9,300	-800	14,000
2051 (AN)	2,900	2,900	-1,700	4,100
2052 (D)	1,900	1,300	-1,500	1,700
2053 (W)	2,900	1,900	-910	3,900
2054 (C)	1,500	1,000	-1,600	910
2055 (C)	810	720	-1,500	-8
2056 (C)	850	580	-1,500	-120
2057 (C)	1,000	710	-1,600	140
2058 (C)	1,600	1,000	-1,600	1,000
2059 (C)	1,500	910	-1,700	750
2060 (W)	3,900	2,900	-1,200	5,700
2061 (C)	1,500	1,400	-1,600	1,400
2062 (W)	4,900	4,500	-910	8,500
2063 (W)	3,800	3,400	-1,200	5,900
2064 (W)	3,500	6,800	-1,400	8,900
2065 (W)	4,800	8,600	-880	13,000
2066 (AN)	1,300	2,400	-1,600	2,100
2067 (AN)	3,000	2,400	-1,600	3,900
2068 (D)	780	1,100	-1,500	360

Madera County - East GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		1,300	1,200	-1,400	1,200
2070 (BN)		1,900	1,200	-1,400	1,700
2071 (D)		1,600	1,400	-1,500	1,400
2072 (W)		3,200	3,200	-350	6,000
2073 (W)		4,500	4,500	-710	8,300
2074 (C)		1,700	2,200	-1,600	2,300
2075 (C)		1,100	1,500	-1,600	1,000
2076 (BN)		830	1,200	-1,400	620
2077 (AN)		1,700	2,400	-1,000	3,100
2078 (W)		5,000	5,700	-690	10,000
2079 (D)		2,100	2,900	-1,500	3,400
2080 (C)		1,200	1,700	-1,700	1,200
2081 (C)		48	890	-1,700	-780
2082 (C)		42	670	-1,900	-1,200
2083 (D)		1,900	1,800	-1,100	2,500
2084 (W)		5,200	4,800	-600	9,300
2085 (BN)		3,100	1,900	-1,100	3,900
2086 (W)		3,300	3,800	-460	6,700
2087 (D)		1,700	2,300	-920	3,100
2088 (C)		170	1,000	-1,800	-570
2089 (C)		370	1,600	-1,400	640
2090 (W)		5,100	5,800	-470	10,000
Average (2024-2039)		**2,100**	**3,800**	**-11,000**	**-5,400**
2024-2039	W	4,000	6,600	-5,100	5,500
	AN	2,000	4,000	-13,000	-7,300
	BN	1,900	3,100	-15,000	-9,600
	D	1,400	3,200	-13,000	-8,700
	C	1,300	2,400	-9,400	-5,700
Average (2040-2090)		**2,500**	**2,700**	**-1,300**	**3,900**
2040-2090	W	4,200	4,600	-840	8,000
	AN	2,500	3,100	-1,500	4,100
	BN	2,000	1,400	-1,300	2,100
	D	1,700	1,700	-1,400	2,000
	C	980	1,100	-1,600	470

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Madera County - East GSA
Volume (acre-feet)
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County - East GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	3,700	4,700	1,000	-21,000	9,100	-2,300	-2,300
2025 (AN)	2,800	3,700	1,100	-20,000	9,500	-3,100	-5,400
2026 (AN)	2,400	4,900	1,100	-20,000	9,300	-2,000	-7,400
2027 (D)	2,000	3,900	1,200	-19,000	8,700	-3,600	-11,000
2028 (D)	1,300	4,100	2,500	-22,000	8,000	-5,700	-17,000
2029 (BN)	1,800	4,300	2,400	-21,000	8,100	-4,000	-21,000
2030 (D)	1,300	3,800	3,700	-24,000	8,500	-6,900	-28,000
2031 (W)	2,600	6,900	870	-15,000	8,300	3,300	-24,000
2032 (W)	3,400	7,100	920	-18,000	8,900	2,900	-22,000
2033 (C)	1,700	4,000	2,300	-23,000	9,500	-5,400	-27,000
2034 (C)	1,400	3,700	2,900	-23,000	8,700	-5,900	-33,000
2035 (BN)	1,700	3,800	2,800	-22,000	9,000	-4,400	-37,000
2036 (AN)	2,300	4,900	1,200	-17,000	9,400	750	-36,000
2037 (W)	3,300	8,800	710	-17,000	9,900	5,600	-31,000
2038 (D)	2,200	4,400	1,100	-20,000	9,900	-2,100	-33,000
2039 (C)	1,200	3,400	2,400	-22,000	8,900	-6,400	-39,000
2040 (AN)	2,600	7,000	1,900	-21,000	10,000	700	-39,000
2041 (W)	3,000	5,400	1,600	-20,000	9,300	-450	-39,000
2042 (W)	2,900	4,100	1,400	-19,000	9,000	-1,800	-41,000
2043 (C)	1,200	2,700	2,400	-21,000	8,300	-6,300	-47,000
2044 (C)	4	1,900	3,600	-23,000	7,600	-9,900	-57,000
2045 (W)	2,500	6,800	2,000	-17,000	9,200	3,200	-54,000
2046 (AN)	3,300	7,600	2,000	-21,000	10,000	2,500	-51,000
2047 (W)	2,300	6,100	1,700	-20,000	10,000	230	-51,000
2048 (D)	1,600	3,600	2,200	-22,000	9,600	-4,700	-56,000
2049 (W)	3,500	5,200	940	-16,000	9,600	2,800	-53,000
2050 (W)	2,900	12,000	410	-17,000	9,700	8,100	-45,000
2051 (AN)	3,000	6,000	1,400	-23,000	11,000	-1,800	-47,000
2052 (D)	1,500	3,600	1,400	-21,000	9,700	-5,100	-52,000
2053 (W)	2,700	4,900	780	-18,000	9,800	-4	-52,000
2054 (C)	1,400	3,300	1,500	-20,000	8,500	-5,700	-58,000
2055 (C)	930	2,400	2,000	-20,000	8,200	-6,400	-64,000
2056 (C)	870	2,500	2,200	-19,000	8,000	-5,400	-69,000
2057 (C)	650	2,400	2,500	-19,000	8,000	-5,900	-75,000
2058 (C)	1,100	3,100	2,600	-19,000	8,700	-3,800	-79,000
2059 (C)	900	3,000	3,000	-20,000	8,600	-4,800	-84,000
2060 (W)	2,500	5,800	2,000	-18,000	11,000	3,200	-81,000
2061 (C)	1,900	4,500	2,000	-19,000	10,000	-820	-82,000
2062 (W)	3,300	6,700	1,000	-15,000	9,600	5,300	-76,000
2063 (W)	2,800	5,500	1,000	-19,000	11,000	1,600	-75,000
2064 (W)	3,800	10,000	1,200	-22,000	12,000	5,000	-70,000
2065 (W)	3,100	12,000	-110	-15,000	9,600	9,300	-60,000
2066 (AN)	2,700	4,000	57	-19,000	11,000	-1,400	-62,000
2067 (AN)	2,400	3,800	46	-19,000	11,000	-1,500	-63,000
2068 (D)	2,100	3,100	170	-19,000	10,000	-2,900	-66,000
2069 (D)	1,400	3,300	1,000	-20,000	9,500	-5,200	-71,000
2070 (BN)	1,800	3,500	1,000	-20,000	9,400	-3,700	-75,000

MCSim_v2.0 - Projected (No Action)

Madera County - East GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		1,300	3,200	1,800	-23,000	9,800	-6,600	-82,000
2072 (W)		2,700	6,100	360	-15,000	9,300	3,900	-78,000
2073 (W)		3,500	6,600	350	-17,000	10,000	3,800	-74,000
2074 (C)		1,700	3,700	1,200	-22,000	11,000	-4,500	-78,000
2075 (C)		1,400	3,400	1,700	-21,000	9,700	-5,300	-84,000
2076 (BN)		1,700	3,500	1,900	-20,000	9,700	-3,700	-87,000
2077 (AN)		2,300	4,600	810	-16,000	10,000	1,500	-86,000
2078 (W)		3,400	8,300	410	-16,000	11,000	6,300	-80,000
2079 (D)		2,200	4,200	540	-19,000	11,000	-1,100	-81,000
2080 (C)		1,200	3,200	1,400	-21,000	9,300	-6,000	-87,000
2081 (C)		140	2,000	2,100	-21,000	7,800	-8,600	-95,000
2082 (C)		83	2,000	3,000	-22,000	7,700	-9,000	-100,000
2083 (D)		1,600	4,000	2,400	-18,000	8,400	-1,800	-110,000
2084 (W)		4,100	7,600	1,700	-18,000	10,000	5,600	-100,000
2085 (BN)		3,900	4,400	1,400	-19,000	10,000	850	-100,000
2086 (W)		2,800	5,600	990	-17,000	10,000	2,200	-97,000
2087 (D)		2,000	4,100	1,200	-19,000	9,600	-2,600	-100,000
2088 (C)		330	2,500	2,100	-21,000	7,900	-8,000	-110,000
2089 (C)		670	3,400	1,600	-16,000	6,500	-3,800	-110,000
2090 (W)		3,800	7,500	1,300	-17,000	10,000	5,200	-110,000
Average (2024-2039)		**2,200**	**4,800**	**1,800**	**-20,000**	**9,000**	**-2,500**	
2024-2039	W	3,100	7,600	830	-17,000	9,100	3,900	
	AN	2,500	4,500	1,100	-19,000	9,400	-1,500	
	BN	2,400	4,200	2,100	-21,000	8,700	-3,600	
	D	1,700	4,100	2,100	-21,000	8,800	-4,600	
	C	1,400	3,700	2,500	-23,000	9,000	-5,900	
Average (2040-2090)		**2,100**	**4,800**	**1,500**	**-19,000**	**9,500**	**-1,300**	
2040-2090	W	3,100	7,000	1,100	-18,000	10,000	3,500	
	AN	2,700	5,500	1,000	-20,000	11,000	-5	
	BN	2,500	3,800	1,400	-20,000	9,800	-2,200	
	D	1,700	3,600	1,300	-20,000	9,700	-3,800	
	C	910	2,900	2,200	-20,000	8,500	-5,900	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - East GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

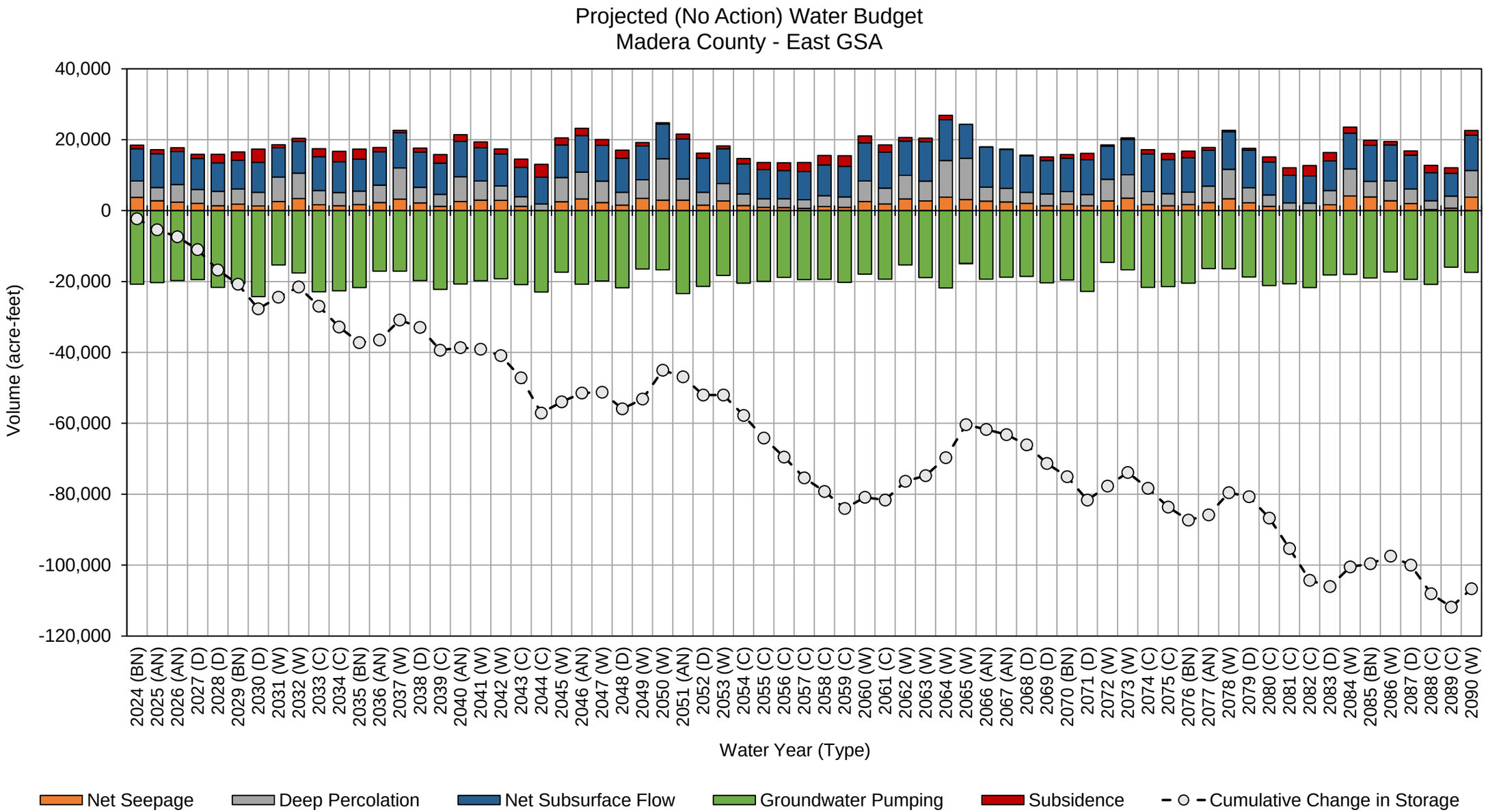
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	3,700	4,700	-21,000	-12,000
2025 (AN)	2,800	3,700	-20,000	-14,000
2026 (AN)	2,400	4,900	-20,000	-12,000
2027 (D)	2,000	3,900	-19,000	-14,000
2028 (D)	1,300	4,100	-22,000	-16,000
2029 (BN)	1,800	4,300	-21,000	-14,000
2030 (D)	1,300	3,800	-24,000	-19,000
2031 (W)	2,600	6,900	-15,000	-5,900
2032 (W)	3,400	7,100	-18,000	-7,000
2033 (C)	1,700	4,000	-23,000	-17,000
2034 (C)	1,400	3,700	-23,000	-18,000
2035 (BN)	1,700	3,800	-22,000	-16,000
2036 (AN)	2,300	4,900	-17,000	-9,900
2037 (W)	3,300	8,800	-17,000	-5,000
2038 (D)	2,200	4,400	-20,000	-13,000
2039 (C)	1,200	3,400	-22,000	-18,000
2040 (AN)	2,600	7,000	-21,000	-11,000
2041 (W)	3,000	5,400	-20,000	-11,000
2042 (W)	2,900	4,100	-19,000	-12,000
2043 (C)	1,200	2,700	-21,000	-17,000
2044 (C)	4	1,900	-23,000	-21,000
2045 (W)	2,500	6,800	-17,000	-8,000
2046 (AN)	3,300	7,600	-21,000	-9,900
2047 (W)	2,300	6,100	-20,000	-12,000
2048 (D)	1,600	3,600	-22,000	-17,000
2049 (W)	3,500	5,200	-16,000	-7,700
2050 (W)	2,900	12,000	-17,000	-2,000
2051 (AN)	3,000	6,000	-23,000	-14,000
2052 (D)	1,500	3,600	-21,000	-16,000
2053 (W)	2,700	4,900	-18,000	-11,000
2054 (C)	1,400	3,300	-20,000	-16,000
2055 (C)	930	2,400	-20,000	-17,000
2056 (C)	870	2,500	-19,000	-16,000
2057 (C)	650	2,400	-19,000	-16,000
2058 (C)	1,100	3,100	-19,000	-15,000
2059 (C)	900	3,000	-20,000	-16,000
2060 (W)	2,500	5,800	-18,000	-9,500
2061 (C)	1,900	4,500	-19,000	-13,000
2062 (W)	3,300	6,700	-15,000	-5,300
2063 (W)	2,800	5,500	-19,000	-11,000
2064 (W)	3,800	10,000	-22,000	-7,700
2065 (W)	3,100	12,000	-15,000	-130
2066 (AN)	2,700	4,000	-19,000	-13,000
2067 (AN)	2,400	3,800	-19,000	-13,000
2068 (D)	2,100	3,100	-19,000	-13,000

Madera County - East GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		1,400	3,300	-20,000	-16,000
2070 (BN)		1,800	3,500	-20,000	-14,000
2071 (D)		1,300	3,200	-23,000	-18,000
2072 (W)		2,700	6,100	-15,000	-5,700
2073 (W)		3,500	6,600	-17,000	-6,500
2074 (C)		1,700	3,700	-22,000	-16,000
2075 (C)		1,400	3,400	-21,000	-17,000
2076 (BN)		1,700	3,500	-20,000	-15,000
2077 (AN)		2,300	4,600	-16,000	-9,400
2078 (W)		3,400	8,300	-16,000	-4,700
2079 (D)		2,200	4,200	-19,000	-12,000
2080 (C)		1,200	3,200	-21,000	-17,000
2081 (C)		140	2,000	-21,000	-18,000
2082 (C)		83	2,000	-22,000	-20,000
2083 (D)		1,600	4,000	-18,000	-13,000
2084 (W)		4,100	7,600	-18,000	-6,200
2085 (BN)		3,900	4,400	-19,000	-11,000
2086 (W)		2,800	5,600	-17,000	-9,000
2087 (D)		2,000	4,100	-19,000	-13,000
2088 (C)		330	2,500	-21,000	-18,000
2089 (C)		670	3,400	-16,000	-12,000
2090 (W)		3,800	7,500	-17,000	-6,100
Average (2024-2039)		**2,200**	**4,800**	**-20,000**	**-13,000**
2024-2039	W	3,100	7,600	-17,000	-6,000
	AN	2,500	4,500	-19,000	-12,000
	BN	2,400	4,200	-21,000	-14,000
	D	1,700	4,100	-21,000	-15,000
	C	1,400	3,700	-23,000	-17,000
Average (2040-2090)		**2,100**	**4,800**	**-19,000**	**-12,000**
2040-2090	W	3,100	7,000	-18,000	-7,500
	AN	2,700	5,500	-20,000	-12,000
	BN	2,500	3,800	-20,000	-13,000
	D	1,700	3,600	-20,000	-15,000
	C	910	2,900	-20,000	-17,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Madera County - East GSA
Volume (acre-feet)
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
-120,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County - East GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	3,000	4,000	1,700	-22,000	8,200	-4,800	-4,800
2025 (AN)	1,500	3,400	2,100	-21,000	7,900	-6,100	-11,000
2026 (AN)	3,000	5,400	1,900	-21,000	8,700	-1,600	-12,000
2027 (D)	760	3,200	2,300	-20,000	6,900	-6,900	-19,000
2028 (D)	1,300	4,000	3,400	-22,000	7,100	-6,500	-26,000
2029 (BN)	1,900	4,400	3,200	-21,000	7,100	-4,400	-30,000
2030 (D)	1,600	4,300	4,400	-25,000	8,100	-6,500	-37,000
2031 (W)	2,500	7,000	1,500	-16,000	8,500	3,500	-33,000
2032 (W)	3,500	7,300	1,400	-18,000	9,400	3,300	-30,000
2033 (C)	1,600	3,800	2,700	-23,000	9,400	-5,800	-36,000
2034 (C)	1,100	3,300	3,400	-23,000	8,400	-6,900	-43,000
2035 (BN)	830	3,300	3,500	-22,000	8,100	-6,400	-49,000
2036 (AN)	1,800	5,100	1,900	-18,000	9,000	58	-49,000
2037 (W)	3,400	9,400	1,400	-18,000	10,000	6,500	-43,000
2038 (D)	2,000	4,700	1,400	-19,000	10,000	-1,400	-44,000
2039 (C)	1,200	3,400	2,700	-23,000	8,800	-6,500	-51,000
2040 (AN)	3,100	7,700	2,200	-21,000	10,000	1,800	-49,000
2041 (W)	2,600	5,200	2,000	-20,000	9,000	-1,600	-50,000
2042 (W)	2,100	3,900	1,600	-19,000	9,400	-2,500	-53,000
2043 (C)	2,000	2,800	2,300	-21,000	8,600	-5,100	-58,000
2044 (C)	250	2,100	3,600	-24,000	7,900	-9,700	-68,000
2045 (W)	4,500	8,300	2,000	-18,000	9,600	6,600	-61,000
2046 (AN)	2,700	7,000	2,000	-21,000	11,000	970	-60,000
2047 (W)	3,700	6,000	1,600	-21,000	10,000	890	-59,000
2048 (D)	2,200	3,400	2,100	-22,000	10,000	-4,700	-64,000
2049 (W)	3,900	5,400	930	-17,000	9,700	3,100	-61,000
2050 (W)	3,800	12,000	490	-18,000	9,700	8,200	-53,000
2051 (AN)	2,900	5,500	1,500	-24,000	10,000	-3,700	-56,000
2052 (D)	1,900	3,200	1,600	-22,000	9,600	-5,900	-62,000
2053 (W)	2,200	4,400	1,200	-19,000	8,900	-2,100	-64,000
2054 (C)	1,400	2,900	1,800	-21,000	8,400	-6,300	-71,000
2055 (C)	810	2,300	2,300	-20,000	7,700	-7,400	-78,000
2056 (C)	850	2,300	2,600	-19,000	7,200	-6,400	-84,000
2057 (C)	1,000	2,500	2,800	-20,000	7,300	-6,100	-90,000
2058 (C)	1,600	3,100	2,900	-19,000	7,900	-3,900	-94,000
2059 (C)	1,500	2,900	3,100	-20,000	7,900	-4,700	-99,000
2060 (W)	2,900	6,000	2,600	-18,000	8,500	1,500	-98,000
2061 (C)	1,500	3,600	2,500	-19,000	8,500	-3,000	-100,000
2062 (W)	3,900	7,100	1,500	-16,000	9,000	5,800	-95,000
2063 (W)	2,500	5,400	1,500	-19,000	10,000	430	-94,000
2064 (W)	2,600	9,300	2,000	-22,000	9,400	1,000	-93,000
2065 (W)	3,900	12,000	880	-16,000	8,800	9,600	-84,000
2066 (AN)	1,400	4,200	800	-20,000	10,000	-3,300	-87,000
2067 (AN)	3,000	4,300	630	-19,000	11,000	-780	-88,000
2068 (D)	770	2,600	670	-19,000	9,000	-5,600	-93,000
2069 (D)	1,300	3,100	1,200	-20,000	8,900	-5,900	-99,000
2070 (BN)	1,900	3,500	1,500	-20,000	8,500	-4,100	-100,000

Madera County - East GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		1,600	3,500	2,300	-23,000	9,600	-5,600	-110,000
2072 (W)		2,700	6,100	960	-15,000	9,300	4,300	-100,000
2073 (W)		3,600	6,500	720	-17,000	10,000	4,600	-100,000
2074 (C)		1,700	3,500	1,200	-22,000	11,000	-4,400	-100,000
2075 (C)		1,100	3,000	1,800	-21,000	9,400	-6,000	-110,000
2076 (BN)		830	3,000	2,000	-20,000	8,700	-5,700	-120,000
2077 (AN)		1,800	4,700	1,200	-16,000	9,300	570	-120,000
2078 (W)		3,600	8,600	860	-17,000	11,000	6,900	-110,000
2079 (D)		2,000	4,500	700	-18,000	11,000	-170	-110,000
2080 (C)		1,200	3,200	1,300	-21,000	9,600	-5,700	-110,000
2081 (C)		48	2,100	1,800	-20,000	8,100	-7,900	-120,000
2082 (C)		41	2,000	2,400	-21,000	8,000	-8,600	-130,000
2083 (D)		1,900	4,000	2,100	-18,000	8,100	-1,600	-130,000
2084 (W)		4,100	7,600	1,700	-18,000	9,700	5,000	-130,000
2085 (BN)		3,100	3,800	1,600	-19,000	9,300	-1,000	-130,000
2086 (W)		2,700	6,100	1,200	-17,000	9,900	2,400	-130,000
2087 (D)		1,700	4,400	1,200	-19,000	9,600	-2,300	-130,000
2088 (C)		160	2,600	1,800	-20,000	8,100	-7,600	-140,000
2089 (C)		370	3,200	1,400	-16,000	6,400	-4,100	-140,000
2090 (W)		4,000	7,600	1,200	-17,000	10,000	5,500	-130,000
Average (2024-2039)		**1,900**	**4,700**	**2,400**	**-21,000**	**8,500**	**-3,200**	
2024-2039	W	3,100	7,900	1,400	-17,000	9,400	4,400	
	AN	2,100	4,600	2,000	-20,000	8,500	-2,500	
	BN	1,900	3,900	2,800	-22,000	7,800	-5,200	
	D	1,400	4,000	2,800	-22,000	8,000	-5,300	
	C	1,300	3,500	2,900	-23,000	8,900	-6,400	
Average (2040-2090)		**2,100**	**4,800**	**1,700**	**-19,000**	**9,200**	**-1,600**	
2040-2090	W	3,300	7,100	1,400	-18,000	9,600	3,300	
	AN	2,500	5,500	1,400	-20,000	10,000	-740	
	BN	2,000	3,400	1,700	-20,000	8,800	-3,600	
	D	1,700	3,600	1,500	-20,000	9,400	-4,000	
	C	970	2,800	2,200	-20,000	8,200	-6,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - East GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

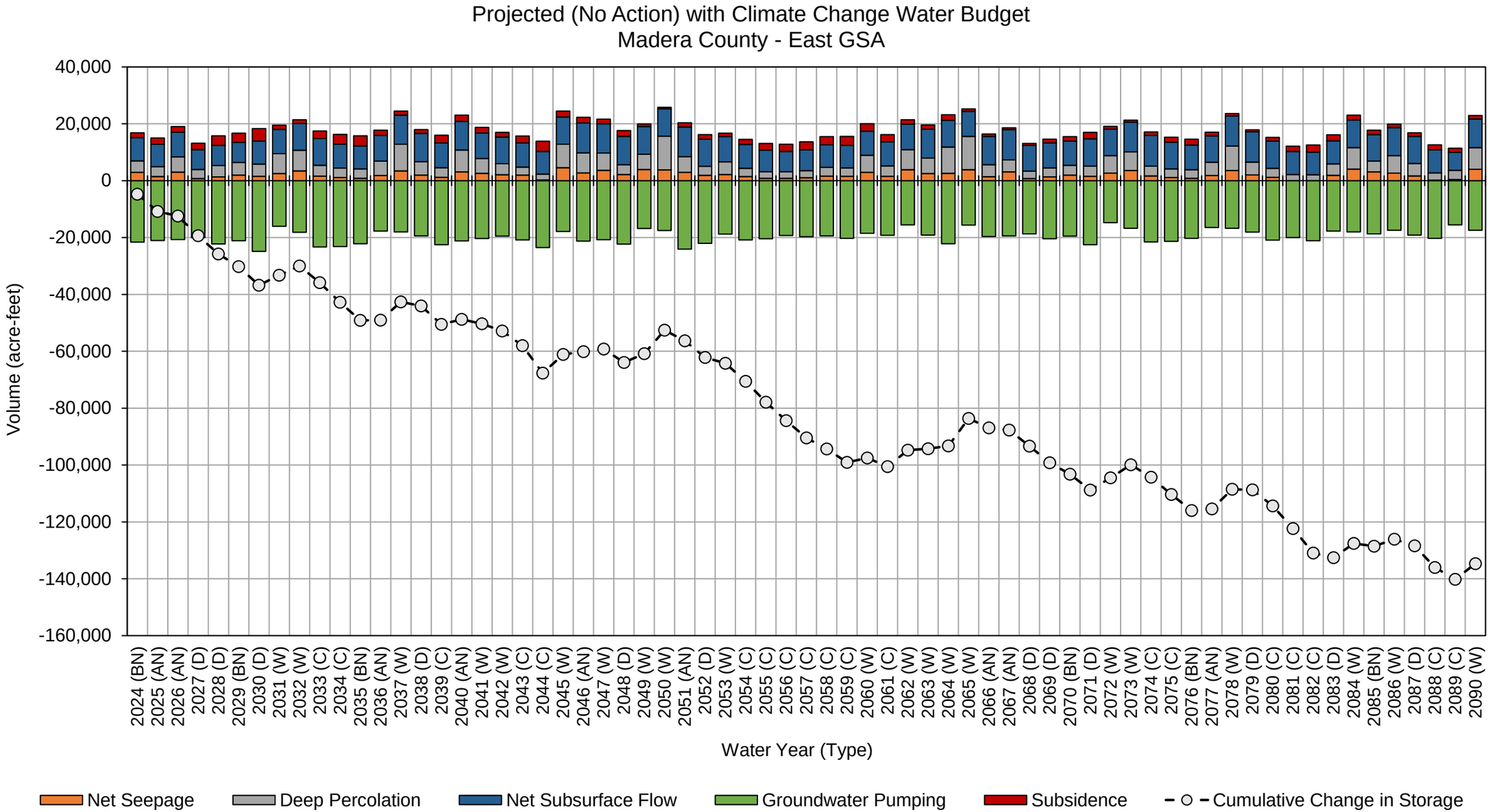
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	3,000	4,000	-22,000	-15,000
2025 (AN)	1,500	3,400	-21,000	-16,000
2026 (AN)	3,000	5,400	-21,000	-12,000
2027 (D)	760	3,200	-20,000	-16,000
2028 (D)	1,300	4,000	-22,000	-17,000
2029 (BN)	1,900	4,400	-21,000	-15,000
2030 (D)	1,600	4,300	-25,000	-19,000
2031 (W)	2,500	7,000	-16,000	-6,500
2032 (W)	3,500	7,300	-18,000	-7,500
2033 (C)	1,600	3,800	-23,000	-18,000
2034 (C)	1,100	3,300	-23,000	-19,000
2035 (BN)	830	3,300	-22,000	-18,000
2036 (AN)	1,800	5,100	-18,000	-11,000
2037 (W)	3,400	9,400	-18,000	-5,200
2038 (D)	2,000	4,700	-19,000	-13,000
2039 (C)	1,200	3,400	-23,000	-18,000
2040 (AN)	3,100	7,700	-21,000	-10,000
2041 (W)	2,600	5,200	-20,000	-13,000
2042 (W)	2,100	3,900	-19,000	-14,000
2043 (C)	2,000	2,800	-21,000	-16,000
2044 (C)	250	2,100	-24,000	-21,000
2045 (W)	4,500	8,300	-18,000	-5,000
2046 (AN)	2,700	7,000	-21,000	-12,000
2047 (W)	3,700	6,000	-21,000	-11,000
2048 (D)	2,200	3,400	-22,000	-17,000
2049 (W)	3,900	5,400	-17,000	-7,500
2050 (W)	3,800	12,000	-18,000	-1,900
2051 (AN)	2,900	5,500	-24,000	-16,000
2052 (D)	1,900	3,200	-22,000	-17,000
2053 (W)	2,200	4,400	-19,000	-12,000
2054 (C)	1,400	2,900	-21,000	-16,000
2055 (C)	810	2,300	-20,000	-17,000
2056 (C)	850	2,300	-19,000	-16,000
2057 (C)	1,000	2,500	-20,000	-16,000
2058 (C)	1,600	3,100	-19,000	-15,000
2059 (C)	1,500	2,900	-20,000	-16,000
2060 (W)	2,900	6,000	-18,000	-9,600
2061 (C)	1,500	3,600	-19,000	-14,000
2062 (W)	3,900	7,100	-16,000	-4,600
2063 (W)	2,500	5,400	-19,000	-11,000
2064 (W)	2,600	9,300	-22,000	-10,000
2065 (W)	3,900	12,000	-16,000	-12
2066 (AN)	1,400	4,200	-20,000	-14,000
2067 (AN)	3,000	4,300	-19,000	-12,000
2068 (D)	770	2,600	-19,000	-15,000

Madera County - East GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		1,300	3,100	-20,000	-16,000
2070 (BN)		1,900	3,500	-20,000	-14,000
2071 (D)		1,600	3,500	-23,000	-17,000
2072 (W)		2,700	6,100	-15,000	-6,000
2073 (W)		3,600	6,500	-17,000	-6,600
2074 (C)		1,700	3,500	-22,000	-16,000
2075 (C)		1,100	3,000	-21,000	-17,000
2076 (BN)		830	3,000	-20,000	-16,000
2077 (AN)		1,800	4,700	-16,000	-10,000
2078 (W)		3,600	8,600	-17,000	-4,600
2079 (D)		2,000	4,500	-18,000	-12,000
2080 (C)		1,200	3,200	-21,000	-17,000
2081 (C)		48	2,100	-20,000	-18,000
2082 (C)		41	2,000	-21,000	-19,000
2083 (D)		1,900	4,000	-18,000	-12,000
2084 (W)		4,100	7,600	-18,000	-6,400
2085 (BN)		3,100	3,800	-19,000	-12,000
2086 (W)		2,700	6,100	-17,000	-8,600
2087 (D)		1,700	4,400	-19,000	-13,000
2088 (C)		160	2,600	-20,000	-18,000
2089 (C)		370	3,200	-16,000	-12,000
2090 (W)		4,000	7,600	-17,000	-5,900
Average (2024-2039)		**1,900**	**4,700**	**-21,000**	**-14,000**
2024-2039	W	3,100	7,900	-17,000	-6,400
	AN	2,100	4,600	-20,000	-13,000
	BN	1,900	3,900	-22,000	-16,000
	D	1,400	4,000	-22,000	-16,000
	C	1,300	3,500	-23,000	-18,000
Average (2040-2090)		**2,100**	**4,800**	**-19,000**	**-12,000**
2040-2090	W	3,300	7,100	-18,000	-7,600
	AN	2,500	5,500	-20,000	-12,000
	BN	2,000	3,400	-20,000	-14,000
	D	1,700	3,600	-20,000	-15,000
	C	970	2,800	-20,000	-17,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Madera County - East GSA
Volume (acre-feet)
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
-120,000
-140,000
-160,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.1.c

Madera County - West GSA Water Budget Results

Madera County - West GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		4,400	20,000	16,000	-63,000	19,000	-3,300	-3,300
1990 (C)		6,600	18,000	19,000	-70,000	17,000	-9,000	-12,000
1991 (C)		12,000	20,000	19,000	-72,000	16,000	-5,000	-17,000
1992 (C)		10,000	20,000	20,000	-76,000	16,000	-10,000	-27,000
1993 (W)		30,000	48,000	8,400	-68,000	18,000	37,000	9,500
1994 (C)		11,000	25,000	11,000	-75,000	17,000	-10,000	-770
1995 (W)		24,000	52,000	1,600	-52,000	11,000	37,000	37,000
1996 (W)		15,000	40,000	6,600	-76,000	21,000	5,900	42,000
1997 (W)		12,000	54,000	7,700	-84,000	19,000	9,400	52,000
1998 (W)		5,400	70,000	-3,500	-52,000	13,000	33,000	85,000
1999 (AN)		1,100	13,000	5,900	-82,000	32,000	-30,000	54,000
2000 (AN)		7,900	19,000	4,700	-82,000	34,000	-16,000	39,000
2001 (D)		5,700	16,000	5,900	-79,000	34,000	-17,000	22,000
2002 (D)		6,300	19,000	12,000	-90,000	32,000	-21,000	1,200
2003 (BN)		8,700	23,000	11,000	-86,000	29,000	-13,000	-12,000
2004 (D)		9,900	22,000	17,000	-96,000	29,000	-18,000	-30,000
2005 (W)		21,000	49,000	1,300	-63,000	24,000	31,000	1,200
2006 (W)		20,000	54,000	860	-66,000	18,000	28,000	29,000
2007 (C)		10,000	14,000	11,000	-92,000	26,000	-31,000	-1,800
2008 (C)		11,000	15,000	12,000	-89,000	25,000	-25,000	-27,000
2009 (BN)		11,000	18,000	10,000	-79,000	25,000	-15,000	-42,000
2010 (AN)		13,000	31,000	4,800	-71,000	27,000	5,000	-37,000
2011 (W)		30,000	61,000	-48	-63,000	18,000	46,000	8,800
2012 (D)		8,900	18,000	8,200	-84,000	25,000	-25,000	-16,000
2013 (C)		13,000	14,000	14,000	-90,000	22,000	-27,000	-43,000
2014 (C)		13,000	18,000	17,000	-87,000	17,000	-22,000	-65,000
2015 (C)		12,000	21,000	23,000	-93,000	13,000	-25,000	-90,000
2016 (D)		19,000	32,000	15,000	-82,000	15,000	-1,200	-91,000
2017 (W)		44,000	54,000	3,900	-75,000	24,000	50,000	-41,000
2018 (BN)		13,000	13,000	7,400	-80,000	21,000	-26,000	-67,000
2019 (W)		39,000	30,000	3,500	-76,000	22,000	19,000	-48,000
2020 (D)		15,000	17,000	9,000	-84,000	17,000	-25,000	-74,000
2021 (C)		15,000	16,000	13,000	-78,000	8,900	-24,000	-98,000
2022 (C)		20,000	25,000	8,000	-60,000	4,600	-2,400	-100,000
2023 (W)		63,000	54,000	1,400	-64,000	9,200	62,000	-38,000
Average (1989-2023)		**16,000**	**30,000**	**9,400**	**-76,000**	**20,000**	**-1,100**	
1989-2023	W	28,000	51,000	2,900	-67,000	18,000	33,000	
	AN	7,200	21,000	5,100	-78,000	31,000	-14,000	
	BN	11,000	18,000	9,700	-82,000	25,000	-18,000	
	D	11,000	21,000	11,000	-86,000	25,000	-18,000	
	C	12,000	19,000	15,000	-79,000	17,000	-16,000	
Average (1989-2015)		**12,000**	**29,000**	**9,900**	**-77,000**	**22,000**	**-3,300**	
1989-2015	W	20,000	53,000	2,900	-65,000	18,000	28,000	
	AN	7,200	21,000	5,100	-78,000	31,000	-14,000	
	BN	9,800	21,000	11,000	-82,000	27,000	-14,000	
	D	7,700	19,000	11,000	-87,000	30,000	-20,000	
	C	10,000	19,000	16,000	-81,000	19,000	-17,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

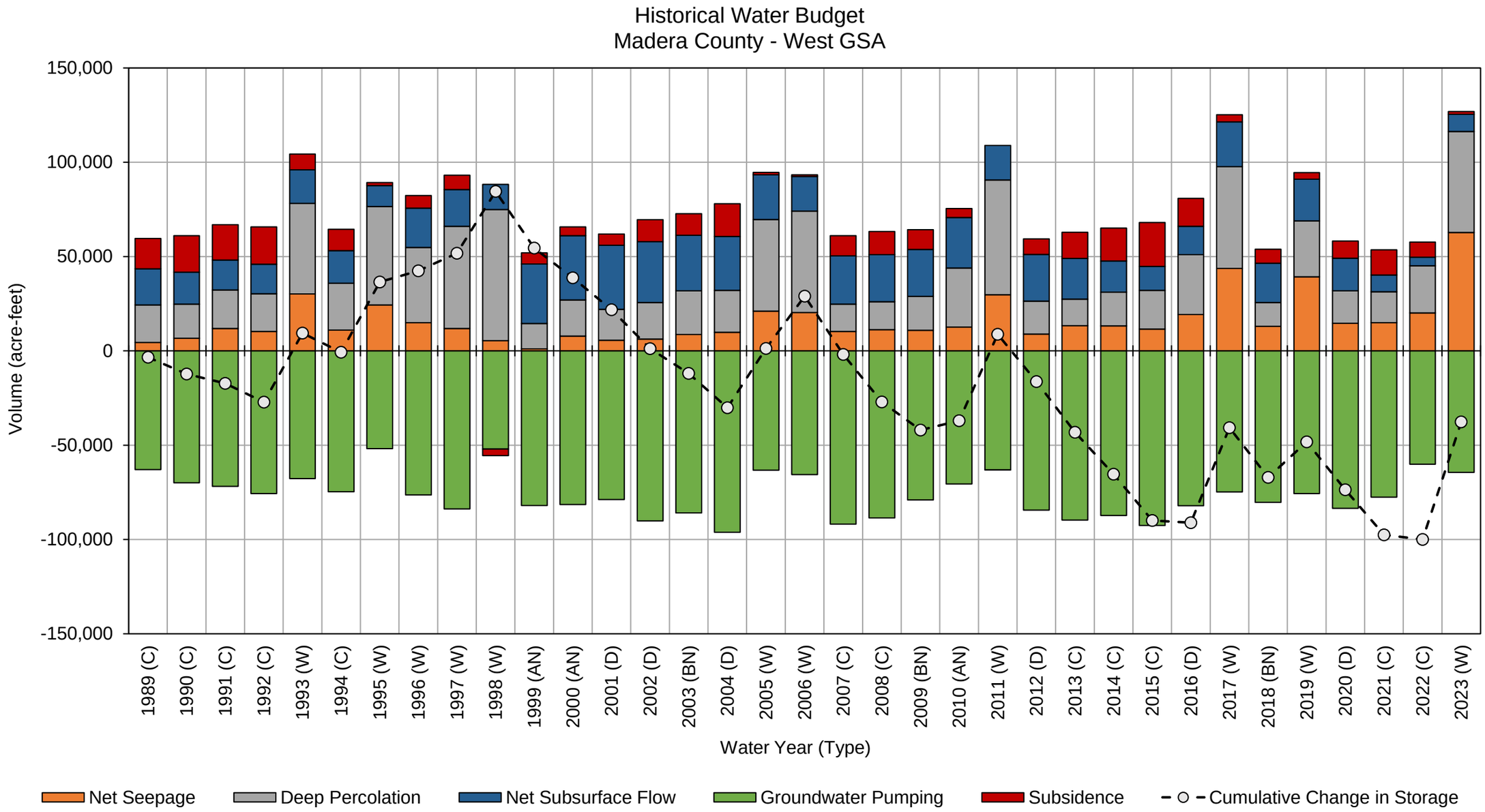
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - West GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		4,400	20,000	-63,000	-39,000
1990 (C)		6,600	18,000	-70,000	-45,000
1991 (C)		12,000	20,000	-72,000	-40,000
1992 (C)		10,000	20,000	-76,000	-45,000
1993 (W)		30,000	48,000	-68,000	11,000
1994 (C)		11,000	25,000	-75,000	-39,000
1995 (W)		24,000	52,000	-52,000	25,000
1996 (W)		15,000	40,000	-76,000	-22,000
1997 (W)		12,000	54,000	-84,000	-18,000
1998 (W)		5,400	70,000	-52,000	23,000
1999 (AN)		1,100	13,000	-82,000	-68,000
2000 (AN)		7,900	19,000	-82,000	-55,000
2001 (D)		5,700	16,000	-79,000	-57,000
2002 (D)		6,300	19,000	-90,000	-65,000
2003 (BN)		8,700	23,000	-86,000	-54,000
2004 (D)		9,900	22,000	-96,000	-64,000
2005 (W)		21,000	49,000	-63,000	6,400
2006 (W)		20,000	54,000	-66,000	8,500
2007 (C)		10,000	14,000	-92,000	-67,000
2008 (C)		11,000	15,000	-89,000	-62,000
2009 (BN)		11,000	18,000	-79,000	-50,000
2010 (AN)		13,000	31,000	-71,000	-27,000
2011 (W)		30,000	61,000	-63,000	28,000
2012 (D)		8,900	18,000	-84,000	-58,000
2013 (C)		13,000	14,000	-90,000	-62,000
2014 (C)		13,000	18,000	-87,000	-56,000
2015 (C)		12,000	21,000	-93,000	-60,000
2016 (D)		19,000	32,000	-82,000	-31,000
2017 (W)		44,000	54,000	-75,000	23,000
2018 (BN)		13,000	13,000	-80,000	-55,000
2019 (W)		39,000	30,000	-76,000	-6,700
2020 (D)		15,000	17,000	-84,000	-52,000
2021 (C)		15,000	16,000	-78,000	-46,000
2022 (C)		20,000	25,000	-60,000	-15,000
2023 (W)		63,000	54,000	-64,000	52,000
Average (1989-2023)		**16,000**	**30,000**	**-76,000**	**-31,000**
1989-2023	W	28,000	51,000	-67,000	12,000
	AN	7,200	21,000	-78,000	-50,000
	BN	11,000	18,000	-82,000	-53,000
	D	11,000	21,000	-86,000	-54,000
	C	12,000	19,000	-79,000	-48,000
Average (1989-2015)		**12,000**	**29,000**	**-77,000**	**-35,000**
1989-2015	W	20,000	53,000	-65,000	7,600
	AN	7,200	21,000	-78,000	-50,000
	BN	9,800	21,000	-82,000	-52,000
	D	7,700	19,000	-87,000	-61,000
	C	10,000	19,000	-81,000	-52,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Madera County - West GSA
Volume (acre-feet)
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County - West GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	18,000	9,600	-2,400	-71,000	9,500	-36,000	-36,000
2025 (AN)	33,000	12,000	-1,600	-64,000	9,100	-11,000	-47,000
2026 (AN)	26,000	17,000	-620	-61,000	10,000	-7,700	-55,000
2027 (D)	15,000	15,000	1,400	-61,000	11,000	-18,000	-73,000
2028 (D)	16,000	17,000	4,800	-69,000	13,000	-18,000	-92,000
2029 (BN)	17,000	20,000	3,400	-65,000	14,000	-9,800	-100,000
2030 (D)	15,000	17,000	4,600	-58,000	7,900	-14,000	-120,000
2031 (W)	34,000	34,000	-2,000	-51,000	17,000	32,000	-84,000
2032 (W)	42,000	34,000	-3,600	-42,000	11,000	41,000	-43,000
2033 (C)	18,000	9,900	1,200	-47,000	-1,600	-19,000	-62,000
2034 (C)	17,000	9,400	2,200	-43,000	-2,600	-17,000	-79,000
2035 (BN)	17,000	9,900	1,300	-39,000	-2,400	-13,000	-92,000
2036 (AN)	14,000	14,000	-1,900	-35,000	6,300	-2,500	-94,000
2037 (W)	72,000	54,000	-6,800	-24,000	2,800	98,000	3,800
2038 (D)	9,700	5,800	-480	-27,000	-13,000	-25,000	-21,000
2039 (C)	16,000	3,900	2,600	-24,000	-18,000	-20,000	-42,000
2040 (AN)	20,000	9,300	-520	-21,000	-11,000	-2,200	-44,000
2041 (W)	50,000	23,000	-2,800	-16,000	-11,000	43,000	-850
2042 (W)	35,000	13,000	-2,400	-18,000	-21,000	6,700	5,800
2043 (C)	15,000	2,900	2,100	-21,000	-24,000	-25,000	-19,000
2044 (C)	11,000	2,200	5,300	-24,000	-26,000	-31,000	-50,000
2045 (W)	38,000	14,000	-3,800	-15,000	-10,000	24,000	-26,000
2046 (AN)	33,000	17,000	-500	-22,000	-17,000	12,000	-15,000
2047 (W)	30,000	12,000	-2,000	-18,000	-15,000	8,000	-6,800
2048 (D)	13,000	6,100	2,100	-23,000	-17,000	-19,000	-25,000
2049 (W)	66,000	40,000	-6,600	-14,000	-12,000	73,000	48,000
2050 (W)	30,000	44,000	-5,600	-13,000	-17,000	38,000	86,000
2051 (AN)	11,000	6,800	2,600	-24,000	-25,000	-28,000	58,000
2052 (D)	11,000	1,300	2,300	-23,000	-22,000	-30,000	29,000
2053 (W)	53,000	13,000	-4,100	-15,000	-15,000	32,000	60,000
2054 (C)	11,000	2,200	3,300	-21,000	-25,000	-31,000	30,000
2055 (C)	13,000	1,300	3,000	-21,000	-24,000	-27,000	3,100
2056 (C)	13,000	1,500	2,500	-20,000	-21,000	-24,000	-21,000
2057 (C)	15,000	2,400	3,400	-21,000	-19,000	-20,000	-41,000
2058 (C)	24,000	4,000	1,800	-21,000	-18,000	-9,000	-50,000
2059 (C)	17,000	4,000	3,000	-22,000	-19,000	-17,000	-67,000
2060 (W)	64,000	22,000	-4,300	-19,000	-7,800	54,000	-13,000
2061 (C)	21,000	6,400	360	-21,000	-22,000	-15,000	-29,000
2062 (W)	52,000	37,000	-6,200	-10,000	-11,000	62,000	34,000
2063 (W)	39,000	33,000	-3,100	-20,000	-18,000	31,000	65,000
2064 (W)	44,000	48,000	-2,700	-21,000	-30,000	38,000	100,000
2065 (W)	22,000	44,000	-7,800	-9,600	-18,000	30,000	130,000
2066 (AN)	-2,300	3,800	690	-21,000	-17,000	-35,000	98,000
2067 (AN)	11,000	3,000	-210	-19,000	-13,000	-18,000	80,000
2068 (D)	11,000	2,200	1,400	-19,000	-12,000	-17,000	63,000
2069 (D)	14,000	1,700	3,500	-22,000	-16,000	-19,000	44,000
2070 (BN)	16,000	2,100	2,000	-22,000	-14,000	-15,000	29,000

MCSim_v2.0 - Projected with Projects

Madera County - West GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		14,000	1,700	3,900	-24,000	-15,000	-20,000	9,000
2072 (W)		29,000	14,000	-4,800	-15,000	-1,800	21,000	30,000
2073 (W)		28,000	34,000	-4,400	-12,000	-5,100	40,000	70,000
2074 (C)		11,000	7,000	3,200	-23,000	-16,000	-19,000	51,000
2075 (C)		15,000	1,500	3,300	-23,000	-17,000	-21,000	30,000
2076 (BN)		14,000	1,400	2,300	-23,000	-14,000	-19,000	11,000
2077 (AN)		17,000	4,700	-2,100	-18,000	-4,200	-2,500	8,900
2078 (W)		52,000	63,000	-7,000	-11,000	-7,300	90,000	99,000
2079 (D)		2,800	4,800	1,900	-21,000	-17,000	-29,000	70,000
2080 (C)		14,000	770	4,300	-23,000	-23,000	-27,000	43,000
2081 (C)		15,000	380	4,400	-22,000	-24,000	-27,000	16,000
2082 (C)		14,000	510	5,400	-24,000	-26,000	-30,000	-14,000
2083 (D)		27,000	2,600	1,100	-22,000	-17,000	-9,000	-23,000
2084 (W)		73,000	36,000	-6,700	-19,000	1,300	85,000	62,000
2085 (BN)		13,000	3,900	510	-23,000	-20,000	-25,000	37,000
2086 (W)		46,000	21,000	-3,400	-21,000	-13,000	30,000	67,000
2087 (D)		12,000	3,500	2,500	-24,000	-23,000	-29,000	39,000
2088 (C)		15,000	1,400	5,300	-25,000	-27,000	-30,000	8,200
2089 (C)		25,000	4,500	940	-19,000	-23,000	-11,000	-3,000
2090 (W)		65,000	43,000	-5,900	-20,000	-12,000	70,000	68,000
Average (2024-2039)		**24,000**	**18,000**	**140**	**-49,000**	**4,600**	**-2,600**	
2024-2039	W	50,000	40,000	-4,100	-39,000	10,000	57,000	
	AN	24,000	15,000	-1,400	-53,000	8,600	-7,100	
	BN	17,000	13,000	780	-58,000	7,000	-20,000	
	D	14,000	14,000	2,600	-54,000	4,700	-19,000	
	C	17,000	7,700	2,000	-38,000	-7,400	-19,000	
Average (2040-2090)		**26,000**	**13,000**	**-170**	**-20,000**	**-17,000**	**2,100**	
2040-2090	W	45,000	31,000	-4,700	-16,000	-12,000	43,000	
	AN	15,000	7,500	-20	-21,000	-14,000	-12,000	
	BN	14,000	2,400	1,600	-22,000	-16,000	-20,000	
	D	13,000	3,000	2,300	-22,000	-17,000	-21,000	
	C	15,000	2,700	3,200	-22,000	-22,000	-23,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - West GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

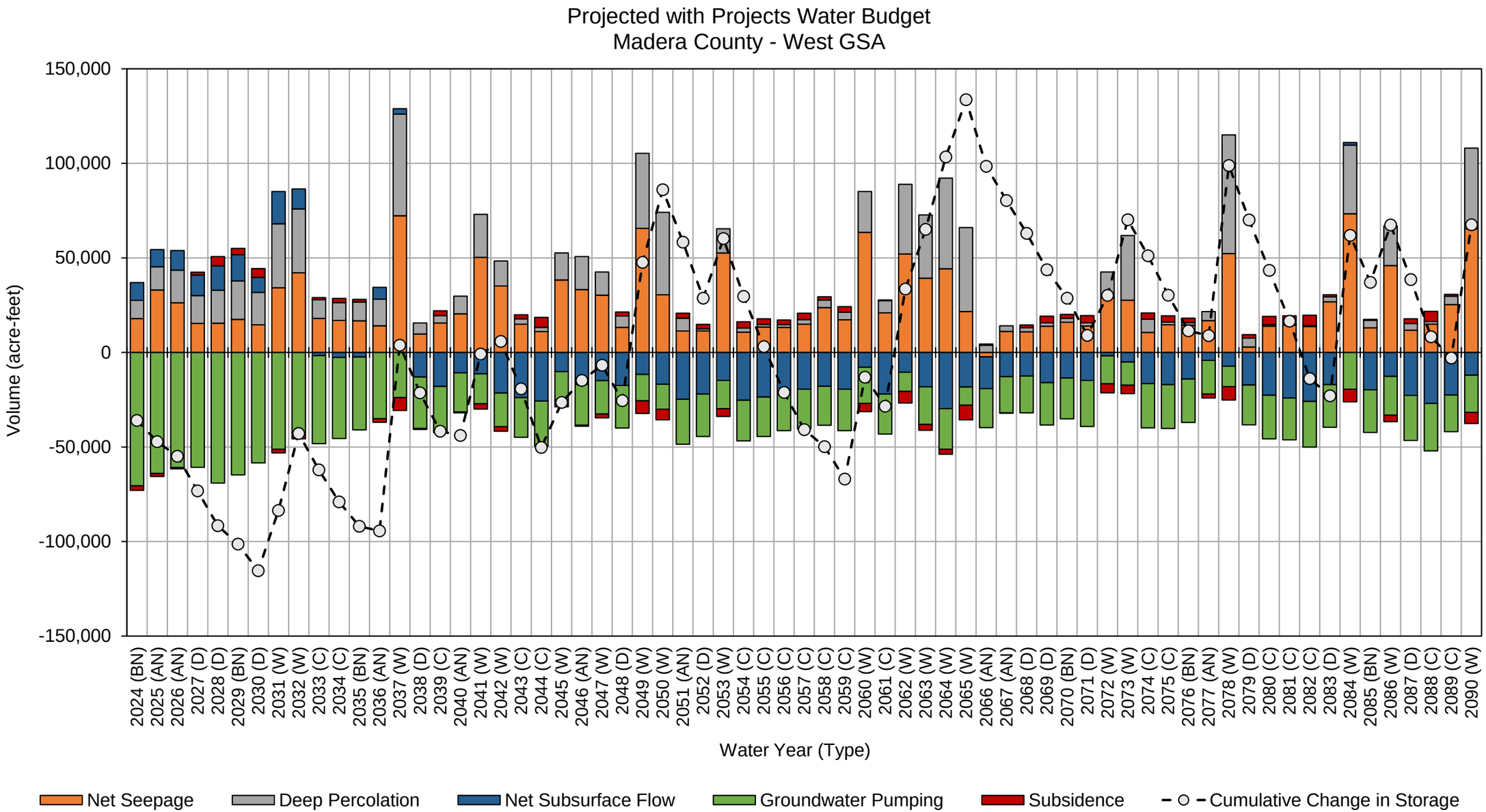
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	18,000	9,600	-71,000	-43,000
2025 (AN)	33,000	12,000	-64,000	-19,000
2026 (AN)	26,000	17,000	-61,000	-17,000
2027 (D)	15,000	15,000	-61,000	-31,000
2028 (D)	16,000	17,000	-69,000	-36,000
2029 (BN)	17,000	20,000	-65,000	-27,000
2030 (D)	15,000	17,000	-58,000	-27,000
2031 (W)	34,000	34,000	-51,000	17,000
2032 (W)	42,000	34,000	-42,000	34,000
2033 (C)	18,000	9,900	-47,000	-19,000
2034 (C)	17,000	9,400	-43,000	-16,000
2035 (BN)	17,000	9,900	-39,000	-12,000
2036 (AN)	14,000	14,000	-35,000	-6,800
2037 (W)	72,000	54,000	-24,000	100,000
2038 (D)	9,700	5,800	-27,000	-12,000
2039 (C)	16,000	3,900	-24,000	-5,000
2040 (AN)	20,000	9,300	-21,000	9,100
2041 (W)	50,000	23,000	-16,000	57,000
2042 (W)	35,000	13,000	-18,000	31,000
2043 (C)	15,000	2,900	-21,000	-3,200
2044 (C)	11,000	2,200	-24,000	-11,000
2045 (W)	38,000	14,000	-15,000	38,000
2046 (AN)	33,000	17,000	-22,000	29,000
2047 (W)	30,000	12,000	-18,000	25,000
2048 (D)	13,000	6,100	-23,000	-3,300
2049 (W)	66,000	40,000	-14,000	91,000
2050 (W)	30,000	44,000	-13,000	61,000
2051 (AN)	11,000	6,800	-24,000	-5,600
2052 (D)	11,000	1,300	-23,000	-10,000
2053 (W)	53,000	13,000	-15,000	50,000
2054 (C)	11,000	2,200	-21,000	-8,500
2055 (C)	13,000	1,300	-21,000	-6,000
2056 (C)	13,000	1,500	-20,000	-5,700
2057 (C)	15,000	2,400	-21,000	-3,600
2058 (C)	24,000	4,000	-21,000	7,000
2059 (C)	17,000	4,000	-22,000	-600
2060 (W)	64,000	22,000	-19,000	66,000
2061 (C)	21,000	6,400	-21,000	6,300
2062 (W)	52,000	37,000	-10,000	79,000
2063 (W)	39,000	33,000	-20,000	53,000
2064 (W)	44,000	48,000	-21,000	71,000
2065 (W)	22,000	44,000	-9,600	56,000
2066 (AN)	-2,300	3,800	-21,000	-19,000
2067 (AN)	11,000	3,000	-19,000	-5,100
2068 (D)	11,000	2,200	-19,000	-6,400

Madera County - West GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		14,000	1,700	-22,000	-6,800
2070 (BN)		16,000	2,100	-22,000	-3,600
2071 (D)		14,000	1,700	-24,000	-8,700
2072 (W)		29,000	14,000	-15,000	28,000
2073 (W)		28,000	34,000	-12,000	50,000
2074 (C)		11,000	7,000	-23,000	-5,800
2075 (C)		15,000	1,500	-23,000	-7,100
2076 (BN)		14,000	1,400	-23,000	-7,200
2077 (AN)		17,000	4,700	-18,000	3,900
2078 (W)		52,000	63,000	-11,000	100,000
2079 (D)		2,800	4,800	-21,000	-13,000
2080 (C)		14,000	770	-23,000	-8,400
2081 (C)		15,000	380	-22,000	-7,200
2082 (C)		14,000	510	-24,000	-9,900
2083 (D)		27,000	2,600	-22,000	7,000
2084 (W)		73,000	36,000	-19,000	90,000
2085 (BN)		13,000	3,900	-23,000	-5,600
2086 (W)		46,000	21,000	-21,000	46,000
2087 (D)		12,000	3,500	-24,000	-8,600
2088 (C)		15,000	1,400	-25,000	-8,700
2089 (C)		25,000	4,500	-19,000	10,000
2090 (W)		65,000	43,000	-20,000	88,000
Average (2024-2039)		**24,000**	**18,000**	**-49,000**	**-7,400**
2024-2039	W	50,000	40,000	-39,000	51,000
	AN	24,000	15,000	-53,000	-14,000
	BN	17,000	13,000	-58,000	-27,000
	D	14,000	14,000	-54,000	-26,000
	C	17,000	7,700	-38,000	-13,000
Average (2040-2090)		**26,000**	**13,000**	**-20,000**	**19,000**
2040-2090	W	45,000	31,000	-16,000	60,000
	AN	15,000	7,500	-21,000	2,000
	BN	14,000	2,400	-22,000	-5,400
	D	13,000	3,000	-22,000	-6,300
	C	15,000	2,700	-22,000	-3,800

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Madera County - West GSA
Volume (acre-feet)
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County - West GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	17,000	9,300	-1,200	-69,000	5,300	-39,000	-39,000
2025 (AN)	31,000	11,000	-130	-60,000	1,600	-16,000	-56,000
2026 (AN)	32,000	17,000	-670	-53,000	1,400	-2,600	-58,000
2027 (D)	17,000	13,000	2,200	-48,000	-3,400	-19,000	-77,000
2028 (D)	24,000	16,000	4,700	-53,000	-3,000	-11,000	-88,000
2029 (BN)	22,000	17,000	4,100	-46,000	-5,400	-8,500	-97,000
2030 (D)	19,000	14,000	7,500	-52,000	-5,600	-18,000	-110,000
2031 (W)	33,000	27,000	-2,200	-22,000	-3,600	33,000	-82,000
2032 (W)	41,000	24,000	-3,400	-19,000	-10,000	32,000	-50,000
2033 (C)	22,000	9,100	3,000	-39,000	-14,000	-18,000	-68,000
2034 (C)	17,000	8,500	3,400	-34,000	-15,000	-21,000	-89,000
2035 (BN)	13,000	7,600	4,000	-30,000	-16,000	-22,000	-110,000
2036 (AN)	11,000	11,000	-390	-12,000	-12,000	-2,200	-110,000
2037 (W)	66,000	37,000	-5,000	-2,700	-18,000	77,000	-36,000
2038 (D)	16,000	6,600	-200	-15,000	-22,000	-14,000	-50,000
2039 (C)	18,000	4,100	3,200	-16,000	-27,000	-19,000	-68,000
2040 (AN)	25,000	12,000	-1,200	-4,400	-24,000	7,700	-61,000
2041 (W)	51,000	16,000	-1,900	-1,800	-31,000	33,000	-28,000
2042 (W)	36,000	9,200	-1,500	-2,200	-40,000	1,300	-27,000
2043 (C)	27,000	3,400	1,000	-4,800	-39,000	-13,000	-40,000
2044 (C)	14,000	2,200	4,800	-5,500	-43,000	-28,000	-68,000
2045 (W)	61,000	20,000	-3,800	-1,700	-29,000	47,000	-21,000
2046 (AN)	32,000	11,000	-800	-4,700	-37,000	-150	-21,000
2047 (W)	54,000	20,000	-2,500	-1,800	-43,000	28,000	6,100
2048 (D)	20,000	3,400	880	-5,100	-40,000	-20,000	-14,000
2049 (W)	50,000	16,000	-4,800	-1,400	-30,000	31,000	17,000
2050 (W)	53,000	54,000	-5,600	-1,400	-39,000	61,000	77,000
2051 (AN)	14,000	3,600	2,800	-4,900	-47,000	-32,000	46,000
2052 (D)	18,000	980	1,800	-5,100	-41,000	-25,000	20,000
2053 (W)	49,000	5,400	-2,300	-1,800	-34,000	17,000	37,000
2054 (C)	21,000	1,400	2,500	-4,900	-41,000	-22,000	16,000
2055 (C)	19,000	1,100	3,000	-4,800	-42,000	-23,000	-7,600
2056 (C)	22,000	1,400	2,800	-4,700	-40,000	-19,000	-27,000
2057 (C)	23,000	1,600	3,400	-4,800	-39,000	-16,000	-43,000
2058 (C)	31,000	2,300	2,300	-4,800	-39,000	-8,300	-51,000
2059 (C)	27,000	2,500	3,100	-5,000	-41,000	-13,000	-65,000
2060 (W)	66,000	12,000	-1,400	-4,500	-34,000	37,000	-27,000
2061 (C)	28,000	2,400	1,200	-4,900	-43,000	-16,000	-44,000
2062 (W)	62,000	20,000	-4,600	-1,400	-30,000	46,000	2,100
2063 (W)	51,000	33,000	-2,500	-4,600	-43,000	34,000	36,000
2064 (W)	43,000	29,000	280	-5,200	-54,000	13,000	50,000
2065 (W)	45,000	44,000	-6,900	-1,500	-43,000	37,000	86,000
2066 (AN)	11,000	3,500	550	-4,800	-45,000	-34,000	53,000
2067 (AN)	23,000	2,500	-560	-4,400	-39,000	-18,000	35,000
2068 (D)	18,000	1,500	1,900	-4,400	-37,000	-20,000	14,000
2069 (D)	21,000	2,100	2,800	-5,200	-38,000	-17,000	-2,300
2070 (BN)	19,000	2,400	2,100	-5,000	-35,000	-16,000	-19,000

MCSim_v2.0 - Projected with Projects and Climate Change

Madera County - West GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		17,000	2,300	3,300	-5,600	-36,000	-19,000	-37,000
2072 (W)		33,000	7,200	-3,400	-2,600	-20,000	13,000	-24,000
2073 (W)		36,000	16,000	-3,400	-2,200	-22,000	26,000	1,700
2074 (C)		20,000	5,200	2,000	-5,400	-34,000	-12,000	-9,800
2075 (C)		16,000	3,100	3,000	-5,400	-35,000	-18,000	-28,000
2076 (BN)		13,000	2,300	2,900	-5,300	-34,000	-21,000	-49,000
2077 (AN)		13,000	3,500	-570	-4,200	-22,000	-11,000	-60,000
2078 (W)		62,000	29,000	-4,700	-1,600	-20,000	65,000	4,700
2079 (D)		19,000	7,100	-280	-4,600	-32,000	-10,000	-5,700
2080 (C)		18,000	3,000	3,100	-5,300	-39,000	-20,000	-26,000
2081 (C)		15,000	2,500	3,400	-5,000	-39,000	-23,000	-49,000
2082 (C)		15,000	1,800	5,100	-5,500	-42,000	-25,000	-75,000
2083 (D)		32,000	5,100	1,800	-5,200	-33,000	750	-74,000
2084 (W)		70,000	29,000	-4,400	-2,900	-22,000	69,000	-4,500
2085 (BN)		22,000	3,300	550	-4,900	-37,000	-17,000	-21,000
2086 (W)		53,000	12,000	-2,600	-4,500	-34,000	24,000	3,000
2087 (D)		19,000	3,500	1,100	-5,400	-39,000	-21,000	-18,000
2088 (C)		15,000	2,200	4,400	-5,700	-44,000	-28,000	-46,000
2089 (C)		30,000	6,000	1,400	-4,400	-38,000	-5,200	-51,000
2090 (W)		67,000	30,000	-4,100	-3,300	-31,000	59,000	7,800
Average (2024-2039)		**25,000**	**14,000**	**1,200**	**-36,000**	**-9,100**	**-4,300**	
2024-2039	W	47,000	29,000	-3,500	-15,000	-11,000	47,000	
	AN	25,000	13,000	-400	-41,000	-3,000	-7,000	
	BN	17,000	11,000	2,300	-49,000	-5,300	-23,000	
	D	19,000	12,000	3,600	-42,000	-8,500	-16,000	
	C	19,000	7,300	3,200	-30,000	-19,000	-19,000	
Average (2040-2090)		**32,000**	**10,000**	**110**	**-4,100**	**-36,000**	**1,500**	
2040-2090	W	52,000	22,000	-3,300	-2,600	-33,000	36,000	
	AN	20,000	6,000	37	-4,600	-36,000	-15,000	
	BN	18,000	2,700	1,900	-5,100	-35,000	-18,000	
	D	21,000	3,300	1,700	-5,100	-37,000	-17,000	
	C	21,000	2,600	2,900	-5,100	-40,000	-18,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - West GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

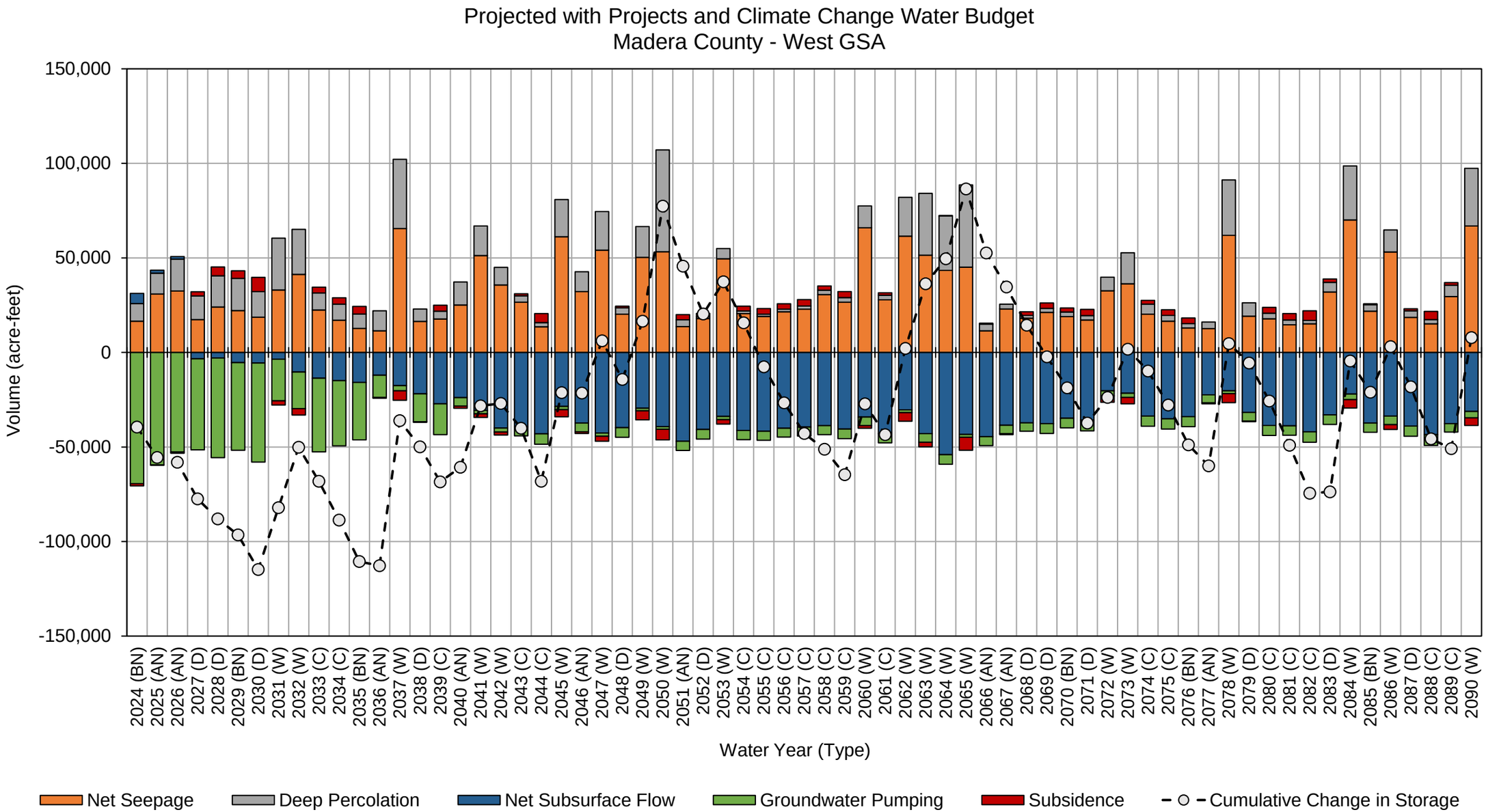
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	17,000	9,300	-69,000	-44,000
2025 (AN)	31,000	11,000	-60,000	-18,000
2026 (AN)	32,000	17,000	-53,000	-3,300
2027 (D)	17,000	13,000	-48,000	-18,000
2028 (D)	24,000	16,000	-53,000	-12,000
2029 (BN)	22,000	17,000	-46,000	-7,100
2030 (D)	19,000	14,000	-52,000	-20,000
2031 (W)	33,000	27,000	-22,000	38,000
2032 (W)	41,000	24,000	-19,000	46,000
2033 (C)	22,000	9,100	-39,000	-7,400
2034 (C)	17,000	8,500	-34,000	-8,900
2035 (BN)	13,000	7,600	-30,000	-10,000
2036 (AN)	11,000	11,000	-12,000	10,000
2037 (W)	66,000	37,000	-2,700	99,000
2038 (D)	16,000	6,600	-15,000	8,200
2039 (C)	18,000	4,100	-16,000	5,500
2040 (AN)	25,000	12,000	-4,400	33,000
2041 (W)	51,000	16,000	-1,800	65,000
2042 (W)	36,000	9,200	-2,200	43,000
2043 (C)	27,000	3,400	-4,800	25,000
2044 (C)	14,000	2,200	-5,500	10,000
2045 (W)	61,000	20,000	-1,700	79,000
2046 (AN)	32,000	11,000	-4,700	38,000
2047 (W)	54,000	20,000	-1,800	73,000
2048 (D)	20,000	3,400	-5,100	18,000
2049 (W)	50,000	16,000	-1,400	65,000
2050 (W)	53,000	54,000	-1,400	110,000
2051 (AN)	14,000	3,600	-4,900	12,000
2052 (D)	18,000	980	-5,100	14,000
2053 (W)	49,000	5,400	-1,800	53,000
2054 (C)	21,000	1,400	-4,900	17,000
2055 (C)	19,000	1,100	-4,800	15,000
2056 (C)	22,000	1,400	-4,700	18,000
2057 (C)	23,000	1,600	-4,800	20,000
2058 (C)	31,000	2,300	-4,800	28,000
2059 (C)	27,000	2,500	-5,000	24,000
2060 (W)	66,000	12,000	-4,500	73,000
2061 (C)	28,000	2,400	-4,900	25,000
2062 (W)	62,000	20,000	-1,400	81,000
2063 (W)	51,000	33,000	-4,600	80,000
2064 (W)	43,000	29,000	-5,200	67,000
2065 (W)	45,000	44,000	-1,500	87,000
2066 (AN)	11,000	3,500	-4,800	10,000
2067 (AN)	23,000	2,500	-4,400	21,000
2068 (D)	18,000	1,500	-4,400	15,000

Madera County - West GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		21,000	2,100	-5,200	18,000
2070 (BN)		19,000	2,400	-5,000	16,000
2071 (D)		17,000	2,300	-5,600	14,000
2072 (W)		33,000	7,200	-2,600	37,000
2073 (W)		36,000	16,000	-2,200	51,000
2074 (C)		20,000	5,200	-5,400	20,000
2075 (C)		16,000	3,100	-5,400	14,000
2076 (BN)		13,000	2,300	-5,300	9,900
2077 (AN)		13,000	3,500	-4,200	12,000
2078 (W)		62,000	29,000	-1,600	90,000
2079 (D)		19,000	7,100	-4,600	22,000
2080 (C)		18,000	3,000	-5,300	15,000
2081 (C)		15,000	2,500	-5,000	12,000
2082 (C)		15,000	1,800	-5,500	11,000
2083 (D)		32,000	5,100	-5,200	32,000
2084 (W)		70,000	29,000	-2,900	96,000
2085 (BN)		22,000	3,300	-4,900	20,000
2086 (W)		53,000	12,000	-4,500	60,000
2087 (D)		19,000	3,500	-5,400	17,000
2088 (C)		15,000	2,200	-5,700	12,000
2089 (C)		30,000	6,000	-4,400	31,000
2090 (W)		67,000	30,000	-3,300	94,000
Average (2024-2039)		**25,000**	**14,000**	**-36,000**	**3,700**
2024-2039	W	47,000	29,000	-15,000	61,000
	AN	25,000	13,000	-41,000	-3,600
	BN	17,000	11,000	-49,000	-20,000
	D	19,000	12,000	-42,000	-11,000
	C	19,000	7,300	-30,000	-3,600
Average (2040-2090)		**32,000**	**10,000**	**-4,100**	**38,000**
2040-2090	W	52,000	22,000	-2,600	72,000
	AN	20,000	6,000	-4,600	21,000
	BN	18,000	2,700	-5,100	16,000
	D	21,000	3,300	-5,100	19,000
	C	21,000	2,600	-5,100	19,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Madera County - West GSA
Volume (acre-feet)
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County - West GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	18,000	9,600	-1,700	-71,000	7,500	-37,000	-37,000
2025 (AN)	35,000	12,000	-890	-64,000	4,900	-13,000	-50,000
2026 (AN)	28,000	17,000	-150	-61,000	6,300	-9,400	-60,000
2027 (D)	16,000	14,000	2,300	-61,000	7,200	-21,000	-81,000
2028 (D)	16,000	17,000	5,900	-70,000	9,400	-21,000	-100,000
2029 (BN)	18,000	20,000	4,900	-67,000	11,000	-13,000	-110,000
2030 (D)	15,000	18,000	8,400	-76,000	10,000	-23,000	-140,000
2031 (W)	39,000	37,000	-840	-50,000	13,000	38,000	-99,000
2032 (W)	44,000	33,000	-1,300	-50,000	3,100	29,000	-71,000
2033 (C)	20,000	13,000	3,500	-73,000	5,300	-30,000	-100,000
2034 (C)	19,000	16,000	5,100	-72,000	8,100	-24,000	-130,000
2035 (BN)	19,000	17,000	7,000	-71,000	8,700	-20,000	-150,000
2036 (AN)	17,000	21,000	2,400	-56,000	13,000	-2,800	-150,000
2037 (W)	54,000	46,000	-970	-49,000	8,200	58,000	-90,000
2038 (D)	18,000	14,000	1,900	-66,000	8,100	-24,000	-110,000
2039 (C)	20,000	14,000	5,700	-72,000	6,100	-25,000	-140,000
2040 (AN)	27,000	29,000	4,000	-65,000	7,900	2,900	-140,000
2041 (W)	49,000	29,000	2,700	-59,000	2,800	24,000	-110,000
2042 (W)	39,000	17,000	1,700	-58,000	-4,000	-5,300	-120,000
2043 (C)	20,000	13,000	5,500	-65,000	-730	-27,000	-140,000
2044 (C)	14,000	13,000	12,000	-74,000	-3,500	-39,000	-180,000
2045 (W)	46,000	41,000	5,600	-54,000	-460	38,000	-150,000
2046 (AN)	39,000	23,000	4,700	-68,000	-3,200	-4,100	-150,000
2047 (W)	40,000	25,000	3,400	-60,000	1,000	8,700	-140,000
2048 (D)	16,000	14,000	6,500	-70,000	2,200	-32,000	-170,000
2049 (W)	60,000	30,000	1,400	-51,000	-400	39,000	-130,000
2050 (W)	51,000	39,000	-1,300	-51,000	-2,700	35,000	-100,000
2051 (AN)	33,000	18,000	3,000	-76,000	-2,800	-25,000	-120,000
2052 (D)	17,000	15,000	3,900	-70,000	3,700	-31,000	-160,000
2053 (W)	54,000	31,000	930	-55,000	80	31,000	-120,000
2054 (C)	20,000	15,000	4,300	-67,000	-3,200	-30,000	-150,000
2055 (C)	18,000	14,000	6,800	-65,000	-3,800	-30,000	-180,000
2056 (C)	15,000	15,000	9,900	-63,000	-3,600	-27,000	-210,000
2057 (C)	19,000	17,000	13,000	-65,000	-4,400	-22,000	-230,000
2058 (C)	24,000	19,000	14,000	-64,000	-4,000	-11,000	-240,000
2059 (C)	20,000	16,000	16,000	-68,000	-4,700	-20,000	-260,000
2060 (W)	63,000	35,000	9,600	-60,000	250	48,000	-220,000
2061 (C)	23,000	16,000	8,400	-65,000	-2,500	-20,000	-240,000
2062 (W)	62,000	37,000	2,400	-45,000	-2,800	54,000	-180,000
2063 (W)	52,000	25,000	1,500	-62,000	-2,900	14,000	-170,000
2064 (W)	53,000	38,000	1,500	-68,000	-6,600	18,000	-150,000
2065 (W)	56,000	48,000	-4,200	-41,000	-8,100	50,000	-100,000
2066 (AN)	36,000	15,000	-820	-64,000	-3,100	-17,000	-120,000
2067 (AN)	33,000	18,000	-570	-61,000	2,100	-7,700	-120,000
2068 (D)	20,000	15,000	620	-61,000	4,300	-21,000	-150,000
2069 (D)	20,000	18,000	3,600	-70,000	3,000	-25,000	-170,000
2070 (BN)	22,000	21,000	3,100	-67,000	3,100	-18,000	-190,000

MCSim_v2.0 - Projected (No Action)

Madera County - West GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		19,000	19,000	6,300	-76,000	1,300	-30,000	-220,000
2072 (W)		45,000	36,000	-340	-50,000	5,400	36,000	-180,000
2073 (W)		49,000	33,000	-1,400	-50,000	-71	31,000	-150,000
2074 (C)		24,000	14,000	3,000	-73,000	1,800	-30,000	-180,000
2075 (C)		22,000	16,000	5,400	-72,000	1,900	-27,000	-210,000
2076 (BN)		22,000	17,000	7,700	-71,000	1,700	-23,000	-230,000
2077 (AN)		21,000	21,000	3,800	-56,000	6,100	-4,500	-240,000
2078 (W)		61,000	44,000	120	-49,000	3,200	60,000	-180,000
2079 (D)		23,000	14,000	1,300	-66,000	4,600	-23,000	-200,000
2080 (C)		24,000	14,000	6,300	-72,000	250	-27,000	-230,000
2081 (C)		21,000	16,000	11,000	-68,000	-4,700	-25,000	-250,000
2082 (C)		18,000	16,000	18,000	-75,000	-7,600	-30,000	-280,000
2083 (D)		30,000	24,000	17,000	-70,000	-2,300	-200	-280,000
2084 (W)		65,000	43,000	9,000	-65,000	3,700	56,000	-230,000
2085 (BN)		33,000	15,000	6,600	-70,000	3,200	-13,000	-240,000
2086 (W)		52,000	26,000	4,200	-66,000	5,000	22,000	-220,000
2087 (D)		24,000	17,000	5,500	-74,000	2,400	-25,000	-240,000
2088 (C)		22,000	16,000	12,000	-77,000	-4,000	-31,000	-270,000
2089 (C)		31,000	23,000	11,000	-60,000	-6,200	-1,400	-270,000
2090 (W)		64,000	39,000	7,200	-65,000	-370	45,000	-230,000
Average (2024-2039)		**25,000**	**20,000**	**2,600**	**-64,000**	**8,100**	**-8,700**	
2024-2039	W	46,000	39,000	-1,000	-50,000	8,100	42,000	
	AN	27,000	17,000	440	-60,000	7,900	-8,500	
	BN	18,000	16,000	3,400	-70,000	9,000	-23,000	
	D	16,000	16,000	4,600	-68,000	8,700	-22,000	
	C	20,000	14,000	4,800	-72,000	6,500	-27,000	
Average (2040-2090)		**34,000**	**23,000**	**5,400**	**-64,000**	**-430**	**-1,800**	
2040-2090	W	53,000	34,000	2,400	-56,000	-390	34,000	
	AN	31,000	21,000	2,400	-65,000	1,200	-9,300	
	BN	26,000	18,000	5,800	-69,000	2,700	-18,000	
	D	21,000	17,000	5,600	-69,000	2,400	-23,000	
	C	21,000	16,000	9,800	-68,000	-3,100	-25,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - West GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

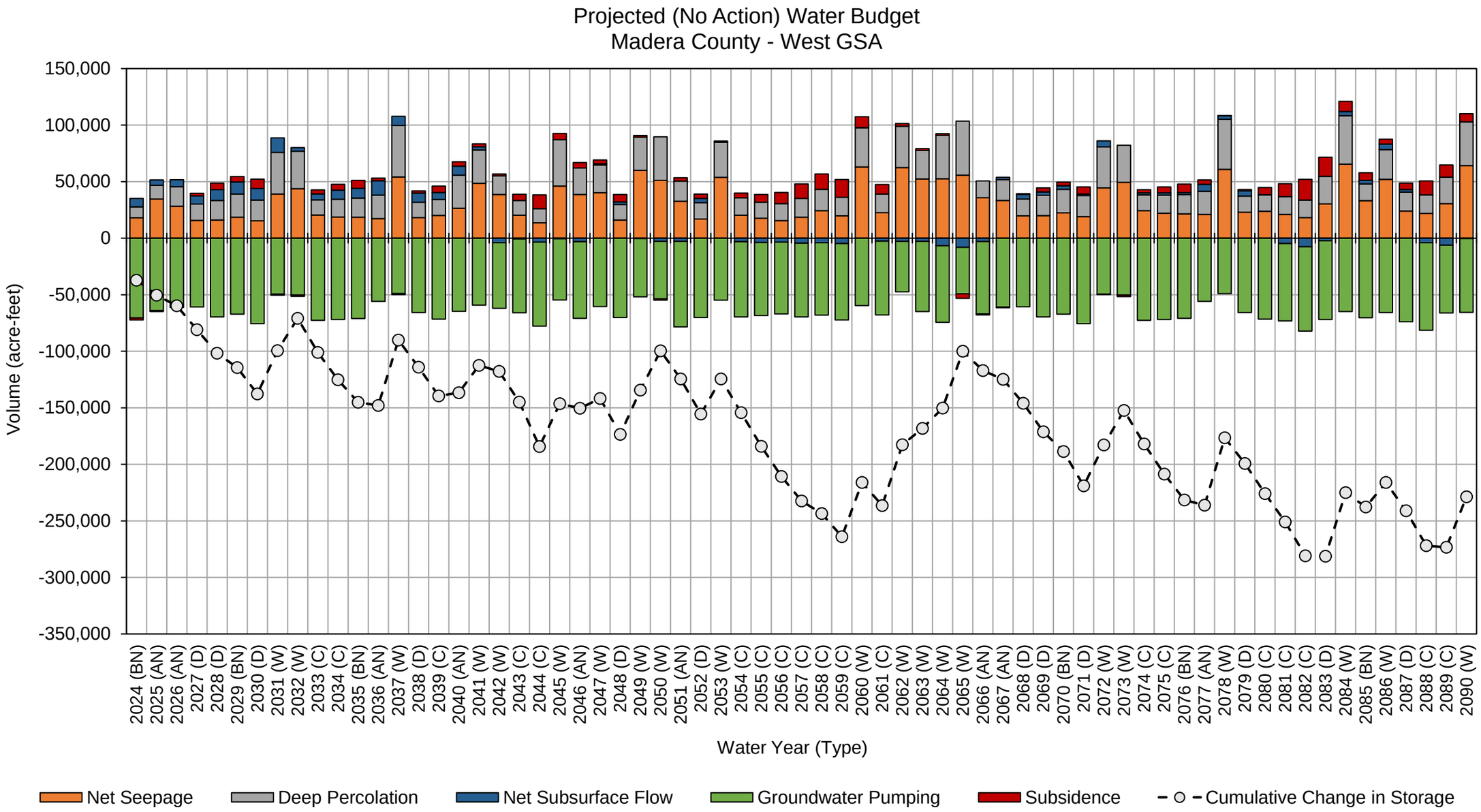
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	18,000	9,600	-71,000	-43,000
2025 (AN)	35,000	12,000	-64,000	-17,000
2026 (AN)	28,000	17,000	-61,000	-16,000
2027 (D)	16,000	14,000	-61,000	-31,000
2028 (D)	16,000	17,000	-70,000	-36,000
2029 (BN)	18,000	20,000	-67,000	-28,000
2030 (D)	15,000	18,000	-76,000	-42,000
2031 (W)	39,000	37,000	-50,000	26,000
2032 (W)	44,000	33,000	-50,000	27,000
2033 (C)	20,000	13,000	-73,000	-39,000
2034 (C)	19,000	16,000	-72,000	-38,000
2035 (BN)	19,000	17,000	-71,000	-36,000
2036 (AN)	17,000	21,000	-56,000	-18,000
2037 (W)	54,000	46,000	-49,000	51,000
2038 (D)	18,000	14,000	-66,000	-34,000
2039 (C)	20,000	14,000	-72,000	-37,000
2040 (AN)	27,000	29,000	-65,000	-9,000
2041 (W)	49,000	29,000	-59,000	19,000
2042 (W)	39,000	17,000	-58,000	-2,900
2043 (C)	20,000	13,000	-65,000	-32,000
2044 (C)	14,000	13,000	-74,000	-48,000
2045 (W)	46,000	41,000	-54,000	33,000
2046 (AN)	39,000	23,000	-68,000	-5,600
2047 (W)	40,000	25,000	-60,000	4,300
2048 (D)	16,000	14,000	-70,000	-40,000
2049 (W)	60,000	30,000	-51,000	38,000
2050 (W)	51,000	39,000	-51,000	39,000
2051 (AN)	33,000	18,000	-76,000	-25,000
2052 (D)	17,000	15,000	-70,000	-39,000
2053 (W)	54,000	31,000	-55,000	30,000
2054 (C)	20,000	15,000	-67,000	-31,000
2055 (C)	18,000	14,000	-65,000	-33,000
2056 (C)	15,000	15,000	-63,000	-33,000
2057 (C)	19,000	17,000	-65,000	-30,000
2058 (C)	24,000	19,000	-64,000	-21,000
2059 (C)	20,000	16,000	-68,000	-32,000
2060 (W)	63,000	35,000	-60,000	38,000
2061 (C)	23,000	16,000	-65,000	-26,000
2062 (W)	62,000	37,000	-45,000	54,000
2063 (W)	52,000	25,000	-62,000	16,000
2064 (W)	53,000	38,000	-68,000	23,000
2065 (W)	56,000	48,000	-41,000	63,000
2066 (AN)	36,000	15,000	-64,000	-13,000
2067 (AN)	33,000	18,000	-61,000	-9,200
2068 (D)	20,000	15,000	-61,000	-26,000

Madera County - West GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		20,000	18,000	-70,000	-32,000
2070 (BN)		22,000	21,000	-67,000	-24,000
2071 (D)		19,000	19,000	-76,000	-38,000
2072 (W)		45,000	36,000	-50,000	31,000
2073 (W)		49,000	33,000	-50,000	32,000
2074 (C)		24,000	14,000	-73,000	-34,000
2075 (C)		22,000	16,000	-72,000	-34,000
2076 (BN)		22,000	17,000	-71,000	-32,000
2077 (AN)		21,000	21,000	-56,000	-14,000
2078 (W)		61,000	44,000	-49,000	56,000
2079 (D)		23,000	14,000	-66,000	-29,000
2080 (C)		24,000	14,000	-72,000	-33,000
2081 (C)		21,000	16,000	-68,000	-32,000
2082 (C)		18,000	16,000	-75,000	-41,000
2083 (D)		30,000	24,000	-70,000	-15,000
2084 (W)		65,000	43,000	-65,000	43,000
2085 (BN)		33,000	15,000	-70,000	-22,000
2086 (W)		52,000	26,000	-66,000	13,000
2087 (D)		24,000	17,000	-74,000	-33,000
2088 (C)		22,000	16,000	-77,000	-39,000
2089 (C)		31,000	23,000	-60,000	-5,900
2090 (W)		64,000	39,000	-65,000	38,000
Average (2024-2039)		**25,000**	**20,000**	**-64,000**	**-19,000**
2024-2039	W	46,000	39,000	-50,000	35,000
	AN	27,000	17,000	-60,000	-17,000
	BN	18,000	16,000	-70,000	-36,000
	D	16,000	16,000	-68,000	-36,000
	C	20,000	14,000	-72,000	-38,000
Average (2040-2090)		**34,000**	**23,000**	**-64,000**	**-6,800**
2040-2090	W	53,000	34,000	-56,000	31,000
	AN	31,000	21,000	-65,000	-13,000
	BN	26,000	18,000	-69,000	-26,000
	D	21,000	17,000	-69,000	-31,000
	C	21,000	16,000	-68,000	-32,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Madera County - West GSA
Volume (acre-feet)
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County - West GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	17,000	9,500	15	-73,000	4,800	-42,000	-42,000
2025 (AN)	32,000	12,000	760	-66,000	1,500	-19,000	-62,000
2026 (AN)	34,000	19,000	690	-63,000	3,400	-6,900	-69,000
2027 (D)	18,000	14,000	4,400	-62,000	1,300	-25,000	-93,000
2028 (D)	26,000	20,000	7,400	-71,000	3,400	-15,000	-110,000
2029 (BN)	24,000	22,000	7,600	-69,000	2,200	-13,000	-120,000
2030 (D)	20,000	19,000	12,000	-78,000	2,900	-24,000	-150,000
2031 (W)	38,000	33,000	2,200	-53,000	6,800	28,000	-120,000
2032 (W)	46,000	33,000	420	-52,000	-250	26,000	-92,000
2033 (C)	25,000	14,000	5,300	-74,000	1,300	-29,000	-120,000
2034 (C)	19,000	16,000	8,900	-75,000	2,000	-29,000	-150,000
2035 (BN)	15,000	16,000	12,000	-73,000	820	-30,000	-180,000
2036 (AN)	16,000	20,000	7,100	-59,000	6,500	-8,800	-190,000
2037 (W)	57,000	45,000	2,900	-52,000	3,400	55,000	-130,000
2038 (D)	21,000	15,000	3,100	-66,000	6,400	-21,000	-150,000
2039 (C)	22,000	14,000	8,900	-73,000	1,600	-27,000	-180,000
2040 (AN)	29,000	31,000	7,100	-66,000	4,600	5,900	-170,000
2041 (W)	54,000	26,000	5,600	-61,000	-2,300	22,000	-150,000
2042 (W)	38,000	16,000	4,300	-61,000	-6,400	-9,500	-160,000
2043 (C)	34,000	15,000	6,900	-66,000	-4,400	-16,000	-180,000
2044 (C)	14,000	13,000	15,000	-77,000	-6,900	-42,000	-220,000
2045 (W)	56,000	42,000	7,100	-56,000	-3,100	46,000	-170,000
2046 (AN)	41,000	23,000	5,500	-70,000	-4,500	-4,600	-180,000
2047 (W)	46,000	26,000	3,900	-63,000	-1,900	11,000	-170,000
2048 (D)	30,000	15,000	5,900	-72,000	580	-20,000	-190,000
2049 (W)	53,000	27,000	1,200	-53,000	-1,300	27,000	-160,000
2050 (W)	60,000	39,000	-1,400	-53,000	-5,900	40,000	-120,000
2051 (AN)	35,000	17,000	3,600	-78,000	-6,300	-28,000	-150,000
2052 (D)	29,000	15,000	4,400	-72,000	-940	-25,000	-170,000
2053 (W)	55,000	31,000	2,300	-57,000	-7,500	24,000	-150,000
2054 (C)	30,000	14,000	5,400	-68,000	-8,200	-27,000	-170,000
2055 (C)	27,000	15,000	8,300	-67,000	-9,200	-25,000	-200,000
2056 (C)	31,000	17,000	11,000	-65,000	-11,000	-16,000	-220,000
2057 (C)	31,000	17,000	14,000	-66,000	-12,000	-15,000	-230,000
2058 (C)	38,000	20,000	15,000	-66,000	-12,000	-4,300	-230,000
2059 (C)	34,000	17,000	17,000	-70,000	-13,000	-15,000	-250,000
2060 (W)	57,000	32,000	13,000	-63,000	-11,000	28,000	-220,000
2061 (C)	34,000	15,000	12,000	-67,000	-13,000	-18,000	-240,000
2062 (W)	62,000	35,000	4,500	-47,000	-11,000	43,000	-200,000
2063 (W)	56,000	26,000	3,500	-64,000	-11,000	11,000	-190,000
2064 (W)	57,000	38,000	6,100	-71,000	-20,000	10,000	-180,000
2065 (W)	58,000	45,000	-1,000	-43,000	-18,000	41,000	-130,000
2066 (AN)	33,000	15,000	870	-65,000	-12,000	-29,000	-160,000
2067 (AN)	39,000	20,000	1,000	-63,000	-6,300	-10,000	-170,000
2068 (D)	22,000	14,000	2,500	-62,000	-5,600	-29,000	-200,000
2069 (D)	31,000	21,000	6,400	-71,000	-6,000	-19,000	-220,000
2070 (BN)	29,000	22,000	7,900	-69,000	-6,000	-15,000	-240,000

Madera County - West GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		25,000	19,000	13,000	-77,000	-4,100	-25,000	-260,000
2072 (W)		44,000	33,000	4,200	-53,000	500	29,000	-230,000
2073 (W)		52,000	32,000	880	-52,000	-4,100	28,000	-200,000
2074 (C)		30,000	14,000	4,400	-74,000	-1,600	-27,000	-230,000
2075 (C)		23,000	16,000	9,000	-74,000	-2,400	-29,000	-260,000
2076 (BN)		18,000	16,000	14,000	-73,000	-3,300	-28,000	-290,000
2077 (AN)		20,000	20,000	9,200	-58,000	2,400	-6,900	-290,000
2078 (W)		63,000	43,000	4,200	-52,000	-350	58,000	-240,000
2079 (D)		26,000	16,000	2,700	-66,000	2,600	-19,000	-260,000
2080 (C)		26,000	14,000	8,600	-73,000	-1,300	-25,000	-280,000
2081 (C)		20,000	16,000	14,000	-69,000	-5,100	-25,000	-310,000
2082 (C)		19,000	15,000	21,000	-75,000	-6,900	-27,000	-330,000
2083 (D)		38,000	28,000	19,000	-70,000	-2,400	12,000	-320,000
2084 (W)		63,000	41,000	10,000	-67,000	840	48,000	-270,000
2085 (BN)		33,000	14,000	8,100	-72,000	-680	-17,000	-290,000
2086 (W)		54,000	28,000	5,900	-68,000	2,300	22,000	-270,000
2087 (D)		28,000	18,000	6,200	-75,000	990	-22,000	-290,000
2088 (C)		21,000	16,000	13,000	-78,000	-4,100	-34,000	-320,000
2089 (C)		34,000	24,000	11,000	-60,000	-7,100	910	-320,000
2090 (W)		65,000	38,000	7,400	-66,000	-1,000	43,000	-280,000
Average (2024-2039)		**27,000**	**20,000**	**5,200**	**-66,000**	**3,000**	**-11,000**	
2024-2039	W	47,000	37,000	1,800	-52,000	3,300	37,000	
	AN	27,000	17,000	2,900	-63,000	3,800	-12,000	
	BN	18,000	16,000	6,600	-72,000	2,600	-28,000	
	D	21,000	17,000	6,600	-69,000	3,500	-21,000	
	C	22,000	15,000	7,700	-74,000	1,700	-28,000	
Average (2040-2090)		**38,000**	**23,000**	**7,500**	**-66,000**	**-5,200**	**-1,900**	
2040-2090	W	55,000	33,000	4,500	-58,000	-5,600	29,000	
	AN	33,000	21,000	4,600	-67,000	-3,700	-12,000	
	BN	27,000	18,000	9,900	-71,000	-3,300	-20,000	
	D	29,000	18,000	7,500	-71,000	-1,900	-18,000	
	C	28,000	16,000	12,000	-70,000	-7,300	-21,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County - West GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

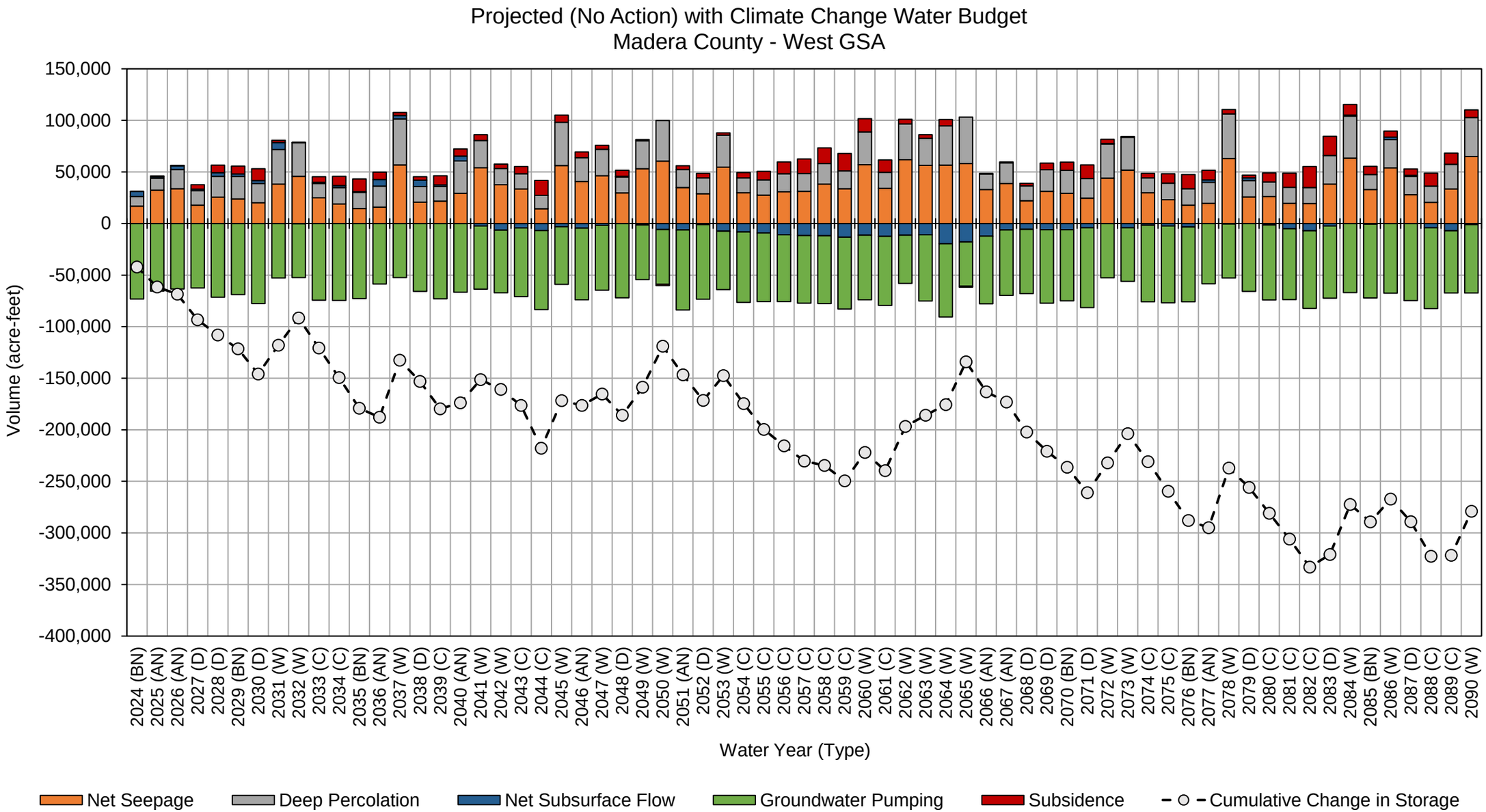
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	17,000	9,500	-73,000	-47,000
2025 (AN)	32,000	12,000	-66,000	-22,000
2026 (AN)	34,000	19,000	-63,000	-11,000
2027 (D)	18,000	14,000	-62,000	-31,000
2028 (D)	26,000	20,000	-71,000	-26,000
2029 (BN)	24,000	22,000	-69,000	-23,000
2030 (D)	20,000	19,000	-78,000	-39,000
2031 (W)	38,000	33,000	-53,000	19,000
2032 (W)	46,000	33,000	-52,000	26,000
2033 (C)	25,000	14,000	-74,000	-36,000
2034 (C)	19,000	16,000	-75,000	-40,000
2035 (BN)	15,000	16,000	-73,000	-43,000
2036 (AN)	16,000	20,000	-59,000	-22,000
2037 (W)	57,000	45,000	-52,000	49,000
2038 (D)	21,000	15,000	-66,000	-30,000
2039 (C)	22,000	14,000	-73,000	-37,000
2040 (AN)	29,000	31,000	-66,000	-5,800
2041 (W)	54,000	26,000	-61,000	19,000
2042 (W)	38,000	16,000	-61,000	-7,400
2043 (C)	34,000	15,000	-66,000	-18,000
2044 (C)	14,000	13,000	-77,000	-49,000
2045 (W)	56,000	42,000	-56,000	42,000
2046 (AN)	41,000	23,000	-70,000	-5,700
2047 (W)	46,000	26,000	-63,000	9,000
2048 (D)	30,000	15,000	-72,000	-27,000
2049 (W)	53,000	27,000	-53,000	27,000
2050 (W)	60,000	39,000	-53,000	47,000
2051 (AN)	35,000	17,000	-78,000	-25,000
2052 (D)	29,000	15,000	-72,000	-28,000
2053 (W)	55,000	31,000	-57,000	29,000
2054 (C)	30,000	14,000	-68,000	-24,000
2055 (C)	27,000	15,000	-67,000	-24,000
2056 (C)	31,000	17,000	-65,000	-16,000
2057 (C)	31,000	17,000	-66,000	-17,000
2058 (C)	38,000	20,000	-66,000	-7,500
2059 (C)	34,000	17,000	-70,000	-19,000
2060 (W)	57,000	32,000	-63,000	26,000
2061 (C)	34,000	15,000	-67,000	-17,000
2062 (W)	62,000	35,000	-47,000	50,000
2063 (W)	56,000	26,000	-64,000	18,000
2064 (W)	57,000	38,000	-71,000	24,000
2065 (W)	58,000	45,000	-43,000	60,000
2066 (AN)	33,000	15,000	-65,000	-18,000
2067 (AN)	39,000	20,000	-63,000	-4,700
2068 (D)	22,000	14,000	-62,000	-26,000

Madera County - West GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		31,000	21,000	-71,000	-19,000
2070 (BN)		29,000	22,000	-69,000	-17,000
2071 (D)		25,000	19,000	-77,000	-34,000
2072 (W)		44,000	33,000	-53,000	24,000
2073 (W)		52,000	32,000	-52,000	31,000
2074 (C)		30,000	14,000	-74,000	-30,000
2075 (C)		23,000	16,000	-74,000	-35,000
2076 (BN)		18,000	16,000	-73,000	-39,000
2077 (AN)		20,000	20,000	-58,000	-19,000
2078 (W)		63,000	43,000	-52,000	54,000
2079 (D)		26,000	16,000	-66,000	-24,000
2080 (C)		26,000	14,000	-73,000	-32,000
2081 (C)		20,000	16,000	-69,000	-34,000
2082 (C)		19,000	15,000	-75,000	-41,000
2083 (D)		38,000	28,000	-70,000	-4,100
2084 (W)		63,000	41,000	-67,000	37,000
2085 (BN)		33,000	14,000	-72,000	-24,000
2086 (W)		54,000	28,000	-68,000	14,000
2087 (D)		28,000	18,000	-75,000	-29,000
2088 (C)		21,000	16,000	-78,000	-42,000
2089 (C)		34,000	24,000	-60,000	-2,900
2090 (W)		65,000	38,000	-66,000	36,000
Average (2024-2039)		**27,000**	**20,000**	**-66,000**	**-19,000**
2024-2039	W	47,000	37,000	-52,000	31,000
	AN	27,000	17,000	-63,000	-18,000
	BN	18,000	16,000	-72,000	-38,000
	D	21,000	17,000	-69,000	-31,000
	C	22,000	15,000	-74,000	-38,000
Average (2040-2090)		**38,000**	**23,000**	**-66,000**	**-4,200**
2040-2090	W	55,000	33,000	-58,000	30,000
	AN	33,000	21,000	-67,000	-13,000
	BN	27,000	18,000	-71,000	-27,000
	D	29,000	18,000	-71,000	-24,000
	C	28,000	16,000	-70,000	-26,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Madera County - West GSA
Volume (acre-feet)
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.1.d

Triangle T Water District GSA Water Budget Results

Triangle T Water District GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		240	4,800	5,100	-16,000	2,600	-3,100	-3,100
1990 (C)		340	4,200	6,200	-17,000	1,900	-4,000	-7,000
1991 (C)		520	4,400	6,600	-17,000	1,200	-3,800	-11,000
1992 (C)		460	5,100	7,100	-18,000	1,700	-3,400	-14,000
1993 (W)		2,200	21,000	2,600	-8,400	-890	16,000	2,000
1994 (C)		420	5,300	4,700	-17,000	-670	-7,200	-5,200
1995 (W)		1,300	31,000	-120	-4,200	-3,300	24,000	19,000
1996 (W)		700	16,000	2,400	-13,000	-7,000	-650	19,000
1997 (W)		610	18,000	2,900	-17,000	-3,500	310	19,000
1998 (W)		-270	29,000	-1,800	-5,400	-4,000	18,000	37,000
1999 (AN)		-410	4,500	2,500	-17,000	-5,400	-15,000	21,000
2000 (AN)		500	3,800	1,700	-16,000	420	-9,700	12,000
2001 (D)		280	3,500	2,000	-17,000	4,000	-7,300	4,400
2002 (D)		380	4,400	4,300	-21,000	5,200	-6,600	-2,200
2003 (BN)		560	5,800	4,800	-21,000	5,800	-4,200	-6,500
2004 (D)		530	4,700	7,400	-26,000	6,100	-7,400	-14,000
2005 (W)		1,300	21,000	900	-12,000	3,700	15,000	1,000
2006 (W)		1,500	22,000	770	-14,000	1,300	11,000	12,000
2007 (C)		540	4,000	5,200	-27,000	4,000	-13,000	-480
2008 (C)		830	3,900	5,900	-26,000	7,100	-8,500	-9,000
2009 (BN)		770	4,700	5,300	-25,000	9,000	-5,500	-14,000
2010 (AN)		580	11,000	2,800	-20,000	8,800	2,800	-12,000
2011 (W)		2,300	30,000	990	-19,000	4,700	20,000	7,800
2012 (D)		590	4,900	6,800	-37,000	10,000	-14,000	-6,200
2013 (C)		1,000	3,600	9,400	-44,000	17,000	-13,000	-19,000
2014 (C)		690	4,400	11,000	-45,000	19,000	-11,000	-30,000
2015 (C)		160	4,900	13,000	-50,000	21,000	-12,000	-42,000
2016 (D)		1,200	12,000	7,700	-42,000	24,000	2,300	-40,000
2017 (W)		17,000	63,000	500	-19,000	-8,000	54,000	14,000
2018 (BN)		620	1,100	3,400	-33,000	1,300	-26,000	-13,000
2019 (W)		7,700	9,600	490	-17,000	-93	750	-12,000
2020 (D)		800	6,900	4,400	-36,000	12,000	-12,000	-24,000
2021 (C)		840	4,300	7,400	-46,000	19,000	-14,000	-38,000
2022 (C)		1,500	9,900	3,700	-35,000	19,000	-460	-39,000
2023 (W)		31,000	51,000	-560	-20,000	-6,700	55,000	16,000
Average (1989-2023)		**2,300**	**12,000**	**4,200**	**-23,000**	**4,800**	**460**	
1989-2023	W	5,900	28,000	810	-13,000	-2,200	19,000	
	AN	220	6,400	2,300	-18,000	1,300	-7,500	
	BN	650	3,900	4,500	-26,000	5,400	-12,000	
	D	630	6,100	5,400	-30,000	10,000	-7,600	
	C	630	4,900	7,100	-30,000	9,300	-7,800	
Average (1989-2015)		**680**	**10,000**	**4,400**	**-21,000**	**4,000**	**-1,600**	
1989-2015	W	1,200	23,000	1,100	-12,000	-1,100	13,000	
	AN	220	6,400	2,300	-18,000	1,300	-7,500	
	BN	670	5,200	5,100	-23,000	7,400	-4,900	
	D	440	4,400	5,100	-25,000	6,400	-8,800	
	C	520	4,500	7,400	-28,000	7,400	-7,900	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

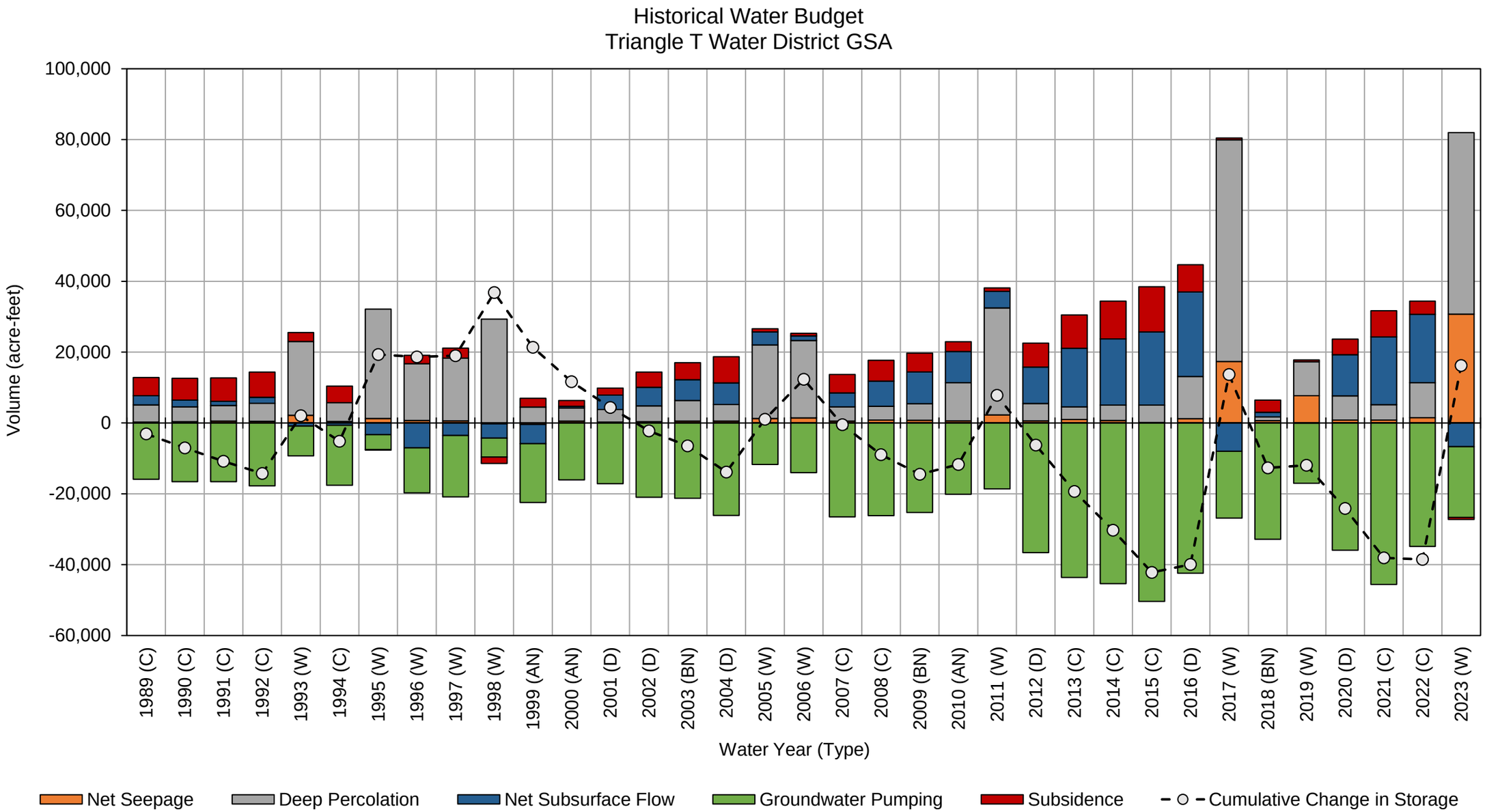
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Triangle T Water District GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		240	4,800	-16,000	-11,000
1990 (C)		340	4,200	-17,000	-12,000
1991 (C)		520	4,400	-17,000	-12,000
1992 (C)		460	5,100	-18,000	-12,000
1993 (W)		2,200	21,000	-8,400	15,000
1994 (C)		420	5,300	-17,000	-11,000
1995 (W)		1,300	31,000	-4,200	28,000
1996 (W)		700	16,000	-13,000	4,000
1997 (W)		610	18,000	-17,000	990
1998 (W)		-270	29,000	-5,400	24,000
1999 (AN)		-410	4,500	-17,000	-13,000
2000 (AN)		500	3,800	-16,000	-12,000
2001 (D)		280	3,500	-17,000	-13,000
2002 (D)		380	4,400	-21,000	-16,000
2003 (BN)		560	5,800	-21,000	-15,000
2004 (D)		530	4,700	-26,000	-21,000
2005 (W)		1,300	21,000	-12,000	10,000
2006 (W)		1,500	22,000	-14,000	9,200
2007 (C)		540	4,000	-27,000	-22,000
2008 (C)		830	3,900	-26,000	-21,000
2009 (BN)		770	4,700	-25,000	-20,000
2010 (AN)		580	11,000	-20,000	-8,800
2011 (W)		2,300	30,000	-19,000	14,000
2012 (D)		590	4,900	-37,000	-31,000
2013 (C)		1,000	3,600	-44,000	-39,000
2014 (C)		690	4,400	-45,000	-40,000
2015 (C)		160	4,900	-50,000	-45,000
2016 (D)		1,200	12,000	-42,000	-29,000
2017 (W)		17,000	63,000	-19,000	61,000
2018 (BN)		620	1,100	-33,000	-31,000
2019 (W)		7,700	9,600	-17,000	350
2020 (D)		800	6,900	-36,000	-28,000
2021 (C)		840	4,300	-46,000	-40,000
2022 (C)		1,500	9,900	-35,000	-23,000
2023 (W)		31,000	51,000	-20,000	62,000
Average (1989-2023)		**2,300**	**12,000**	**-23,000**	**-8,600**
1989-2023	W	5,900	28,000	-13,000	21,000
	AN	220	6,400	-18,000	-11,000
	BN	650	3,900	-26,000	-22,000
	D	630	6,100	-30,000	-23,000
	C	630	4,900	-30,000	-24,000
Average (1989-2015)		**680**	**10,000**	**-21,000**	**-10,000**
1989-2015	W	1,200	23,000	-12,000	13,000
	AN	220	6,400	-18,000	-11,000
	BN	670	5,200	-23,000	-17,000
	D	440	4,400	-25,000	-20,000
	C	520	4,500	-28,000	-23,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Triangle T Water District GSA
Volume (acre-feet)
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Triangle T Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	1,900	1,600	-900	-32,000	1,400	-28,000	-28,000
2025 (AN)	4,400	1,600	-320	-27,000	7,300	-14,000	-42,000
2026 (AN)	3,200	2,700	-100	-27,000	13,000	-8,500	-51,000
2027 (D)	770	4,700	590	-27,000	16,000	-5,700	-57,000
2028 (D)	420	6,000	1,600	-33,000	19,000	-6,100	-63,000
2029 (BN)	1,300	9,300	1,200	-31,000	18,000	-1,200	-64,000
2030 (D)	190	9,000	1,800	-36,000	21,000	-4,600	-68,000
2031 (W)	2,600	16,000	-1,100	-17,000	11,000	12,000	-57,000
2032 (W)	9,000	21,000	-1,500	-17,000	5,600	17,000	-40,000
2033 (C)	710	7,700	810	-34,000	15,000	-10,000	-50,000
2034 (C)	1,400	5,800	790	-34,000	18,000	-7,800	-58,000
2035 (BN)	1,500	6,900	440	-33,000	19,000	-5,000	-63,000
2036 (AN)	320	13,000	-1,200	-21,000	14,000	5,300	-58,000
2037 (W)	21,000	39,000	-3,000	-13,000	-1,400	42,000	-16,000
2038 (D)	-41	5,300	320	-29,000	8,600	-15,000	-31,000
2039 (C)	1,100	2,300	1,100	-33,000	16,000	-13,000	-44,000
2040 (AN)	1,800	11,000	-32	-28,000	15,000	-540	-44,000
2041 (W)	10,000	19,000	-1,100	-21,000	7,400	14,000	-30,000
2042 (W)	4,100	9,600	-510	-27,000	11,000	-2,600	-33,000
2043 (C)	1,000	3,700	570	-31,000	15,000	-11,000	-43,000
2044 (C)	37	3,600	2,100	-35,000	17,000	-12,000	-55,000
2045 (W)	4,000	19,000	-1,900	-19,000	12,000	14,000	-41,000
2046 (AN)	6,700	21,000	130	-30,000	9,500	6,900	-34,000
2047 (W)	2,400	8,900	-890	-22,000	10,000	-1,500	-35,000
2048 (D)	760	7,300	940	-33,000	18,000	-6,300	-42,000
2049 (W)	21,000	31,000	-3,100	-18,000	3,100	34,000	-8,100
2050 (W)	12,000	35,000	-2,500	-16,000	-5,600	23,000	15,000
2051 (AN)	4,700	4,600	1,500	-34,000	3,200	-20,000	-4,800
2052 (D)	680	820	960	-33,000	14,000	-16,000	-21,000
2053 (W)	16,000	17,000	-1,700	-19,000	2,200	15,000	-6,600
2054 (C)	150	3,500	1,600	-31,000	9,100	-16,000	-23,000
2055 (C)	760	2,100	1,100	-29,000	14,000	-12,000	-35,000
2056 (C)	620	3,400	940	-29,000	16,000	-8,900	-44,000
2057 (C)	820	4,600	1,400	-30,000	16,000	-6,900	-50,000
2058 (C)	1,400	5,700	810	-29,000	17,000	-4,600	-55,000
2059 (C)	520	6,500	1,200	-33,000	19,000	-5,500	-61,000
2060 (W)	11,000	23,000	-2,000	-17,000	8,200	22,000	-38,000
2061 (C)	750	9,700	330	-30,000	13,000	-6,100	-44,000
2062 (W)	15,000	35,000	-3,300	-11,000	-690	35,000	-9,500
2063 (W)	13,000	26,000	-930	-23,000	-1,600	13,000	3,600
2064 (W)	20,000	25,000	-770	-32,000	-1,500	11,000	15,000
2065 (W)	16,000	28,000	-3,800	-12,000	-12,000	17,000	32,000
2066 (AN)	3,700	7,900	1,000	-27,000	-3,500	-18,000	14,000
2067 (AN)	4,400	4,400	250	-25,000	4,000	-12,000	1,500
2068 (D)	550	2,000	960	-27,000	12,000	-12,000	-11,000
2069 (D)	840	3,800	1,400	-33,000	17,000	-9,500	-20,000
2070 (BN)	920	6,800	820	-31,000	17,000	-5,100	-25,000

MCSim_v2.0 - Projected with Projects

Triangle T Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		810	5,900	1,500	-36,000	20,000	-7,800	-33,000
2072 (W)		1,900	18,000	-2,000	-16,000	10,000	12,000	-21,000
2073 (W)		7,900	26,000	-1,900	-17,000	4,700	20,000	-1,600
2074 (C)		430	4,700	1,300	-33,000	14,000	-13,000	-15,000
2075 (C)		1,000	3,000	1,300	-34,000	18,000	-10,000	-25,000
2076 (BN)		1,000	4,300	990	-33,000	19,000	-7,700	-33,000
2077 (AN)		650	12,000	-1,100	-20,000	12,000	4,300	-28,000
2078 (W)		19,000	45,000	-3,100	-13,000	-3,100	45,000	16,000
2079 (D)		-680	2,300	1,200	-29,000	6,600	-19,000	-3,100
2080 (C)		880	670	1,800	-33,000	15,000	-15,000	-19,000
2081 (C)		730	1,500	1,700	-32,000	16,000	-12,000	-31,000
2082 (C)		440	2,400	2,300	-36,000	18,000	-13,000	-43,000
2083 (D)		1,500	6,900	240	-30,000	19,000	-2,000	-45,000
2084 (W)		26,000	68,000	-3,800	-11,000	-16,000	63,000	18,000
2085 (BN)		220	2,000	570	-28,000	-1,000	-26,000	-8,000
2086 (W)		12,000	23,000	-1,400	-17,000	-4,700	12,000	4,400
2087 (D)		45	3,000	1,300	-32,000	8,700	-19,000	-14,000
2088 (C)		750	1,600	2,100	-35,000	15,000	-16,000	-30,000
2089 (C)		1,500	7,100	310	-25,000	13,000	-3,600	-34,000
2090 (W)		20,000	41,000	-2,500	-15,000	-4,800	39,000	5,600
Average (2024-2039)		**3,100**	**9,500**	**32**	**-28,000**	**13,000**	**-2,700**	
2024-2039	W	11,000	25,000	-1,900	-16,000	5,000	23,000	
	AN	2,600	5,700	-530	-25,000	11,000	-5,700	
	BN	1,600	5,900	240	-32,000	13,000	-11,000	
	D	340	6,200	1,100	-31,000	16,000	-7,900	
	C	1,100	5,300	890	-34,000	16,000	-10,000	
Average (2040-2090)		**5,300**	**13,000**	**-70**	**-26,000**	**8,900**	**970**	
2040-2090	W	13,000	28,000	-2,100	-18,000	1,100	21,000	
	AN	3,700	10,000	300	-27,000	6,800	-6,500	
	BN	720	4,400	790	-30,000	12,000	-13,000	
	D	570	4,000	1,100	-32,000	14,000	-12,000	
	C	740	4,000	1,300	-31,000	15,000	-10,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Triangle T Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

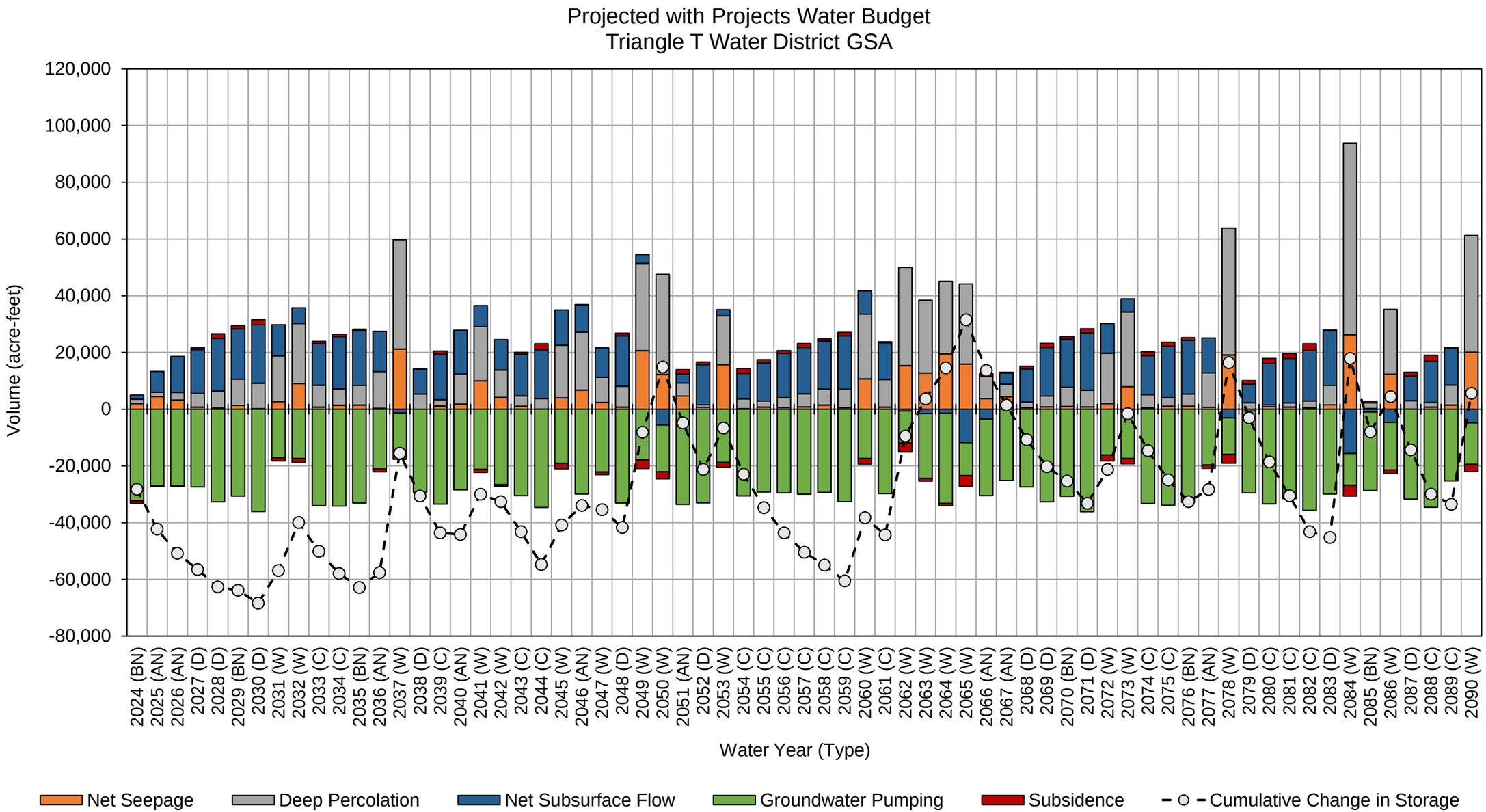
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	1,900	1,600	-32,000	-29,000
2025 (AN)	4,400	1,600	-27,000	-21,000
2026 (AN)	3,200	2,700	-27,000	-21,000
2027 (D)	770	4,700	-27,000	-22,000
2028 (D)	420	6,000	-33,000	-26,000
2029 (BN)	1,300	9,300	-31,000	-20,000
2030 (D)	190	9,000	-36,000	-27,000
2031 (W)	2,600	16,000	-17,000	1,700
2032 (W)	9,000	21,000	-17,000	13,000
2033 (C)	710	7,700	-34,000	-26,000
2034 (C)	1,400	5,800	-34,000	-27,000
2035 (BN)	1,500	6,900	-33,000	-25,000
2036 (AN)	320	13,000	-21,000	-7,700
2037 (W)	21,000	39,000	-13,000	46,000
2038 (D)	-41	5,300	-29,000	-24,000
2039 (C)	1,100	2,300	-33,000	-30,000
2040 (AN)	1,800	11,000	-28,000	-16,000
2041 (W)	10,000	19,000	-21,000	7,800
2042 (W)	4,100	9,600	-27,000	-13,000
2043 (C)	1,000	3,700	-31,000	-26,000
2044 (C)	37	3,600	-35,000	-31,000
2045 (W)	4,000	19,000	-19,000	3,400
2046 (AN)	6,700	21,000	-30,000	-2,700
2047 (W)	2,400	8,900	-22,000	-11,000
2048 (D)	760	7,300	-33,000	-25,000
2049 (W)	21,000	31,000	-18,000	34,000
2050 (W)	12,000	35,000	-16,000	31,000
2051 (AN)	4,700	4,600	-34,000	-24,000
2052 (D)	680	820	-33,000	-32,000
2053 (W)	16,000	17,000	-19,000	14,000
2054 (C)	150	3,500	-31,000	-27,000
2055 (C)	760	2,100	-29,000	-26,000
2056 (C)	620	3,400	-29,000	-25,000
2057 (C)	820	4,600	-30,000	-25,000
2058 (C)	1,400	5,700	-29,000	-22,000
2059 (C)	520	6,500	-33,000	-26,000
2060 (W)	11,000	23,000	-17,000	16,000
2061 (C)	750	9,700	-30,000	-19,000
2062 (W)	15,000	35,000	-11,000	39,000
2063 (W)	13,000	26,000	-23,000	16,000
2064 (W)	20,000	25,000	-32,000	13,000
2065 (W)	16,000	28,000	-12,000	33,000
2066 (AN)	3,700	7,900	-27,000	-15,000
2067 (AN)	4,400	4,400	-25,000	-16,000
2068 (D)	550	2,000	-27,000	-25,000

Triangle T Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		840	3,800	-33,000	-28,000
2070 (BN)		920	6,800	-31,000	-23,000
2071 (D)		810	5,900	-36,000	-29,000
2072 (W)		1,900	18,000	-16,000	3,500
2073 (W)		7,900	26,000	-17,000	17,000
2074 (C)		430	4,700	-33,000	-28,000
2075 (C)		1,000	3,000	-34,000	-30,000
2076 (BN)		1,000	4,300	-33,000	-28,000
2077 (AN)		650	12,000	-20,000	-6,900
2078 (W)		19,000	45,000	-13,000	51,000
2079 (D)		-680	2,300	-29,000	-27,000
2080 (C)		880	670	-33,000	-32,000
2081 (C)		730	1,500	-32,000	-29,000
2082 (C)		440	2,400	-36,000	-33,000
2083 (D)		1,500	6,900	-30,000	-22,000
2084 (W)		26,000	68,000	-11,000	83,000
2085 (BN)		220	2,000	-28,000	-25,000
2086 (W)		12,000	23,000	-17,000	18,000
2087 (D)		45	3,000	-32,000	-29,000
2088 (C)		750	1,600	-35,000	-32,000
2089 (C)		1,500	7,100	-25,000	-17,000
2090 (W)		20,000	41,000	-15,000	46,000
Average (2024-2039)		**3,100**	**9,500**	**-28,000**	**-15,000**
2024-2039	W	11,000	25,000	-16,000	20,000
	AN	2,600	5,700	-25,000	-17,000
	BN	1,600	5,900	-32,000	-25,000
	D	340	6,200	-31,000	-25,000
	C	1,100	5,300	-34,000	-28,000
Average (2040-2090)		**5,300**	**13,000**	**-26,000**	**-7,900**
2040-2090	W	13,000	28,000	-18,000	22,000
	AN	3,700	10,000	-27,000	-14,000
	BN	720	4,400	-30,000	-25,000
	D	570	4,000	-32,000	-27,000
	C	740	4,000	-31,000	-27,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Triangle T Water District GSA
Volume (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Triangle T Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	1,600	1,600	-400	-34,000	2,200	-29,000	-29,000
2025 (AN)	3,700	1,400	380	-32,000	10,000	-16,000	-46,000
2026 (AN)	3,600	2,800	70	-32,000	18,000	-8,200	-54,000
2027 (D)	890	4,500	970	-33,000	20,000	-6,200	-60,000
2028 (D)	2,300	6,900	1,700	-38,000	23,000	-3,800	-64,000
2029 (BN)	2,000	10,000	1,200	-36,000	22,000	-330	-64,000
2030 (D)	1,300	8,900	2,700	-41,000	23,000	-5,300	-70,000
2031 (W)	2,400	15,000	-1,200	-23,000	17,000	10,000	-59,000
2032 (W)	6,100	18,000	-1,400	-22,000	13,000	14,000	-45,000
2033 (C)	1,700	8,200	1,400	-39,000	19,000	-9,100	-54,000
2034 (C)	910	6,300	1,100	-39,000	23,000	-8,400	-63,000
2035 (BN)	120	7,400	1,100	-38,000	24,000	-6,000	-69,000
2036 (AN)	15	12,000	-700	-29,000	21,000	3,100	-66,000
2037 (W)	13,000	30,000	-2,400	-20,000	12,000	33,000	-33,000
2038 (D)	1,300	8,100	320	-33,000	15,000	-9,000	-42,000
2039 (C)	1,000	3,900	1,200	-38,000	21,000	-12,000	-54,000
2040 (AN)	3,400	14,000	-220	-35,000	21,000	2,900	-51,000
2041 (W)	5,800	16,000	-780	-28,000	15,000	8,100	-43,000
2042 (W)	2,500	8,100	-190	-33,000	18,000	-4,400	-47,000
2043 (C)	2,600	5,900	160	-35,000	21,000	-5,800	-53,000
2044 (C)	950	5,400	1,900	-40,000	22,000	-10,000	-63,000
2045 (W)	12,000	30,000	-2,200	-24,000	14,000	30,000	-33,000
2046 (AN)	5,300	16,000	110	-35,000	13,000	-1,400	-34,000
2047 (W)	4,700	13,000	-1,000	-30,000	17,000	3,300	-31,000
2048 (D)	1,600	6,800	430	-38,000	22,000	-7,500	-39,000
2049 (W)	8,800	20,000	-2,400	-22,000	12,000	17,000	-22,000
2050 (W)	15,000	45,000	-2,600	-22,000	2,300	38,000	15,000
2051 (AN)	3,300	3,900	1,700	-41,000	9,100	-22,000	-7,100
2052 (D)	1,500	780	760	-39,000	19,000	-17,000	-24,000
2053 (W)	11,000	13,000	-1,300	-24,000	11,000	9,900	-14,000
2054 (C)	1,500	4,400	1,500	-36,000	15,000	-13,000	-27,000
2055 (C)	1,500	3,200	1,100	-35,000	19,000	-10,000	-38,000
2056 (C)	1,800	4,800	920	-35,000	20,000	-6,700	-44,000
2057 (C)	2,000	5,600	1,300	-34,000	20,000	-5,500	-50,000
2058 (C)	2,300	6,300	920	-34,000	21,000	-4,100	-54,000
2059 (C)	2,200	7,200	1,200	-38,000	22,000	-4,800	-59,000
2060 (W)	10,000	21,000	-1,400	-23,000	13,000	19,000	-39,000
2061 (C)	1,800	8,600	610	-35,000	16,000	-8,200	-47,000
2062 (W)	12,000	30,000	-2,700	-15,000	4,400	28,000	-19,000
2063 (W)	10,000	28,000	-740	-28,000	6,000	15,000	-4,300
2064 (W)	11,000	22,000	190	-39,000	9,300	3,100	-1,200
2065 (W)	14,000	33,000	-3,500	-15,000	-5,000	23,000	22,000
2066 (AN)	3,800	4,300	1,000	-32,000	1,500	-21,000	770
2067 (AN)	3,400	1,600	360	-32,000	12,000	-15,000	-14,000
2068 (D)	1,000	2,600	930	-33,000	17,000	-12,000	-26,000
2069 (D)	1,700	4,400	1,200	-38,000	22,000	-8,700	-35,000
2070 (BN)	1,400	6,800	800	-36,000	21,000	-5,400	-40,000

MCSim_v2.0 - Projected with Projects and Climate Change

Triangle T Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		1,000	5,900	1,300	-41,000	25,000	-8,100	-48,000
2072 (W)		2,100	14,000	-1,400	-23,000	16,000	7,200	-41,000
2073 (W)		5,900	20,000	-1,400	-22,000	11,000	14,000	-27,000
2074 (C)		1,400	7,200	1,100	-39,000	20,000	-9,500	-37,000
2075 (C)		1,000	5,100	1,000	-39,000	24,000	-8,200	-45,000
2076 (BN)		160	6,100	1,000	-38,000	24,000	-6,600	-52,000
2077 (AN)		22	11,000	-360	-29,000	19,000	1,000	-51,000
2078 (W)		12,000	35,000	-2,100	-20,000	7,700	33,000	-17,000
2079 (D)		1,400	5,600	430	-33,000	14,000	-12,000	-29,000
2080 (C)		1,000	2,800	1,200	-38,000	21,000	-12,000	-42,000
2081 (C)		130	3,500	1,200	-36,000	21,000	-10,000	-52,000
2082 (C)		110	4,100	2,000	-41,000	24,000	-11,000	-62,000
2083 (D)		2,300	10,000	140	-35,000	24,000	1,400	-61,000
2084 (W)		15,000	66,000	-3,400	-13,000	-4,100	60,000	-630
2085 (BN)		1,800	2,200	750	-33,000	4,500	-24,000	-25,000
2086 (W)		7,800	13,000	-1,100	-20,000	3,600	3,300	-21,000
2087 (D)		1,300	6,600	930	-37,000	16,000	-12,000	-33,000
2088 (C)		620	3,800	1,600	-40,000	20,000	-13,000	-47,000
2089 (C)		1,800	9,000	210	-30,000	17,000	-1,900	-49,000
2090 (W)		15,000	40,000	-2,100	-20,000	3,600	36,000	-12,000
Average (2024-2039)		**2,600**	**9,100**	**380**	**-33,000**	**18,000**	**-3,400**	
2024-2039	W	7,000	21,000	-1,700	-22,000	14,000	19,000	
	AN	2,400	5,400	-84	-31,000	16,000	-7,200	
	BN	1,200	6,400	600	-36,000	16,000	-12,000	
	D	1,400	7,100	1,400	-36,000	20,000	-6,100	
	C	1,200	6,200	1,200	-39,000	21,000	-9,700	
Average (2040-2090)		**4,600**	**13,000**	**-20**	**-32,000**	**15,000**	**810**	
2040-2090	W	9,700	26,000	-1,700	-23,000	8,600	19,000	
	AN	3,200	8,400	440	-34,000	13,000	-9,400	
	BN	1,100	5,000	860	-36,000	17,000	-12,000	
	D	1,500	5,300	770	-37,000	20,000	-9,500	
	C	1,400	5,400	1,100	-37,000	20,000	-8,400	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Triangle T Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

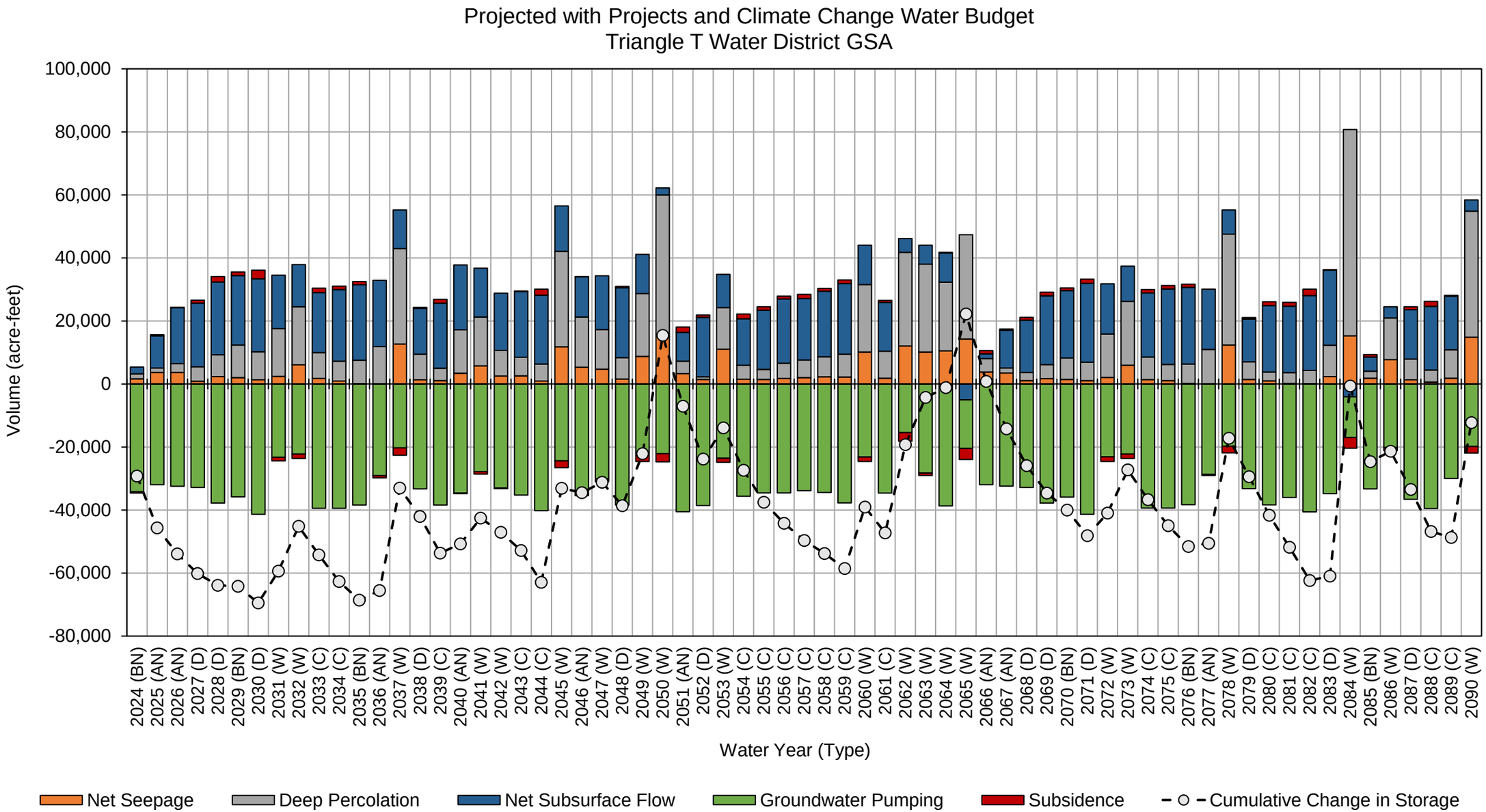
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	1,600	1,600	-34,000	-31,000
2025 (AN)	3,700	1,400	-32,000	-27,000
2026 (AN)	3,600	2,800	-32,000	-26,000
2027 (D)	890	4,500	-33,000	-27,000
2028 (D)	2,300	6,900	-38,000	-29,000
2029 (BN)	2,000	10,000	-36,000	-24,000
2030 (D)	1,300	8,900	-41,000	-31,000
2031 (W)	2,400	15,000	-23,000	-5,700
2032 (W)	6,100	18,000	-22,000	2,200
2033 (C)	1,700	8,200	-39,000	-30,000
2034 (C)	910	6,300	-39,000	-32,000
2035 (BN)	120	7,400	-38,000	-31,000
2036 (AN)	15	12,000	-29,000	-17,000
2037 (W)	13,000	30,000	-20,000	23,000
2038 (D)	1,300	8,100	-33,000	-24,000
2039 (C)	1,000	3,900	-38,000	-33,000
2040 (AN)	3,400	14,000	-35,000	-17,000
2041 (W)	5,800	16,000	-28,000	-6,600
2042 (W)	2,500	8,100	-33,000	-22,000
2043 (C)	2,600	5,900	-35,000	-27,000
2044 (C)	950	5,400	-40,000	-34,000
2045 (W)	12,000	30,000	-24,000	18,000
2046 (AN)	5,300	16,000	-35,000	-14,000
2047 (W)	4,700	13,000	-30,000	-13,000
2048 (D)	1,600	6,800	-38,000	-30,000
2049 (W)	8,800	20,000	-22,000	6,500
2050 (W)	15,000	45,000	-22,000	38,000
2051 (AN)	3,300	3,900	-41,000	-33,000
2052 (D)	1,500	780	-39,000	-36,000
2053 (W)	11,000	13,000	-24,000	630
2054 (C)	1,500	4,400	-36,000	-30,000
2055 (C)	1,500	3,200	-35,000	-30,000
2056 (C)	1,800	4,800	-35,000	-28,000
2057 (C)	2,000	5,600	-34,000	-26,000
2058 (C)	2,300	6,300	-34,000	-26,000
2059 (C)	2,200	7,200	-38,000	-28,000
2060 (W)	10,000	21,000	-23,000	8,300
2061 (C)	1,800	8,600	-35,000	-24,000
2062 (W)	12,000	30,000	-15,000	26,000
2063 (W)	10,000	28,000	-28,000	9,700
2064 (W)	11,000	22,000	-39,000	-6,400
2065 (W)	14,000	33,000	-15,000	32,000
2066 (AN)	3,800	4,300	-32,000	-24,000
2067 (AN)	3,400	1,600	-32,000	-27,000
2068 (D)	1,000	2,600	-33,000	-29,000

Triangle T Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		1,700	4,400	-38,000	-32,000
2070 (BN)		1,400	6,800	-36,000	-28,000
2071 (D)		1,000	5,900	-41,000	-34,000
2072 (W)		2,100	14,000	-23,000	-7,300
2073 (W)		5,900	20,000	-22,000	3,900
2074 (C)		1,400	7,200	-39,000	-31,000
2075 (C)		1,000	5,100	-39,000	-33,000
2076 (BN)		160	6,100	-38,000	-32,000
2077 (AN)		22	11,000	-29,000	-18,000
2078 (W)		12,000	35,000	-20,000	28,000
2079 (D)		1,400	5,600	-33,000	-26,000
2080 (C)		1,000	2,800	-38,000	-35,000
2081 (C)		130	3,500	-36,000	-32,000
2082 (C)		110	4,100	-41,000	-36,000
2083 (D)		2,300	10,000	-35,000	-23,000
2084 (W)		15,000	66,000	-13,000	68,000
2085 (BN)		1,800	2,200	-33,000	-29,000
2086 (W)		7,800	13,000	-20,000	770
2087 (D)		1,300	6,600	-37,000	-29,000
2088 (C)		620	3,800	-40,000	-35,000
2089 (C)		1,800	9,000	-30,000	-19,000
2090 (W)		15,000	40,000	-20,000	35,000
Average (2024-2039)		**2,600**	**9,100**	**-33,000**	**-21,000**
2024-2039	W	7,000	21,000	-22,000	6,400
	AN	2,400	5,400	-31,000	-23,000
	BN	1,200	6,400	-36,000	-28,000
	D	1,400	7,100	-36,000	-28,000
	C	1,200	6,200	-39,000	-32,000
Average (2040-2090)		**4,600**	**13,000**	**-32,000**	**-14,000**
2040-2090	W	9,700	26,000	-23,000	12,000
	AN	3,200	8,400	-34,000	-22,000
	BN	1,100	5,000	-36,000	-30,000
	D	1,500	5,300	-37,000	-30,000
	C	1,400	5,400	-37,000	-30,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Triangle T Water District GSA
Volume (acre-feet)
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Triangle T Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	2,000	1,600	710	-40,000	5,200	-30,000	-30,000
2025 (AN)	2,200	700	670	-39,000	17,000	-19,000	-49,000
2026 (AN)	1,800	1,900	550	-38,000	23,000	-11,000	-60,000
2027 (D)	760	4,100	1,700	-39,000	26,000	-6,700	-67,000
2028 (D)	360	6,000	2,700	-44,000	28,000	-6,800	-74,000
2029 (BN)	1,300	9,100	2,200	-43,000	28,000	-2,200	-76,000
2030 (D)	180	8,800	3,500	-48,000	29,000	-6,500	-82,000
2031 (W)	3,100	17,000	-450	-25,000	20,000	15,000	-67,000
2032 (W)	3,700	17,000	-380	-29,000	19,000	9,500	-58,000
2033 (C)	1,300	8,600	1,800	-45,000	23,000	-10,000	-68,000
2034 (C)	1,400	7,000	2,200	-45,000	26,000	-8,900	-77,000
2035 (BN)	1,600	7,700	2,600	-45,000	27,000	-6,600	-83,000
2036 (AN)	150	13,000	490	-32,000	24,000	4,900	-79,000
2037 (W)	5,100	24,000	-620	-25,000	17,000	21,000	-58,000
2038 (D)	1,400	8,800	1,200	-41,000	20,000	-9,500	-67,000
2039 (C)	1,300	6,000	2,200	-44,000	24,000	-11,000	-78,000
2040 (AN)	2,000	15,000	1,700	-40,000	24,000	2,300	-76,000
2041 (W)	3,700	15,000	940	-33,000	20,000	5,900	-70,000
2042 (W)	2,500	9,000	1,100	-37,000	20,000	-4,400	-74,000
2043 (C)	1,600	6,400	2,500	-42,000	21,000	-10,000	-85,000
2044 (C)	33	6,400	4,500	-46,000	22,000	-13,000	-97,000
2045 (W)	3,500	20,000	1,600	-31,000	22,000	16,000	-81,000
2046 (AN)	2,500	15,000	2,200	-41,000	21,000	-160	-81,000
2047 (W)	2,800	11,000	1,200	-33,000	19,000	1,500	-79,000
2048 (D)	330	8,400	2,500	-45,000	24,000	-9,700	-89,000
2049 (W)	5,500	15,000	350	-30,000	22,000	13,000	-76,000
2050 (W)	4,000	24,000	-370	-28,000	16,000	16,000	-60,000
2051 (AN)	2,000	11,000	1,700	-45,000	18,000	-13,000	-73,000
2052 (D)	390	6,700	1,500	-45,000	24,000	-12,000	-85,000
2053 (W)	4,900	14,000	330	-31,000	20,000	8,600	-76,000
2054 (C)	1,700	8,900	1,700	-42,000	20,000	-9,700	-86,000
2055 (C)	370	7,300	2,000	-40,000	22,000	-8,900	-95,000
2056 (C)	180	7,800	2,900	-40,000	22,000	-7,600	-100,000
2057 (C)	250	8,100	3,600	-41,000	23,000	-6,300	-110,000
2058 (C)	670	8,500	4,000	-40,000	23,000	-4,400	-110,000
2059 (C)	210	8,900	5,000	-44,000	23,000	-6,100	-120,000
2060 (W)	5,800	17,000	2,700	-29,000	21,000	17,000	-100,000
2061 (C)	540	10,000	3,300	-41,000	21,000	-6,100	-110,000
2062 (W)	5,500	20,000	640	-22,000	18,000	22,000	-86,000
2063 (W)	3,700	18,000	900	-35,000	18,000	5,200	-81,000
2064 (W)	3,800	21,000	1,100	-43,000	20,000	3,100	-78,000
2065 (W)	4,500	28,000	-1,800	-21,000	14,000	23,000	-54,000
2066 (AN)	2,500	9,900	370	-39,000	15,000	-11,000	-66,000
2067 (AN)	2,100	7,000	-110	-38,000	21,000	-8,300	-74,000
2068 (D)	770	8,000	210	-39,000	23,000	-6,600	-81,000
2069 (D)	430	8,300	1,100	-44,000	27,000	-7,600	-88,000
2070 (BN)	1,400	10,000	910	-43,000	27,000	-3,500	-92,000

MCSim_v2.0 - Projected (No Action)

Triangle T Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		220	9,300	2,000	-48,000	27,000	-9,000	-100,000
2072 (W)		3,600	16,000	-380	-25,000	21,000	15,000	-86,000
2073 (W)		4,200	16,000	-500	-29,000	19,000	9,600	-76,000
2074 (C)		1,500	9,100	1,100	-45,000	23,000	-11,000	-86,000
2075 (C)		1,600	7,900	1,600	-45,000	25,000	-8,900	-95,000
2076 (BN)		1,800	8,300	2,500	-45,000	25,000	-7,500	-100,000
2077 (AN)		170	12,000	980	-32,000	23,000	4,200	-99,000
2078 (W)		5,900	22,000	-120	-25,000	18,000	21,000	-78,000
2079 (D)		1,700	9,300	890	-41,000	19,000	-9,900	-88,000
2080 (C)		1,400	7,000	2,100	-44,000	23,000	-11,000	-99,000
2081 (C)		370	7,400	3,200	-43,000	22,000	-9,400	-110,000
2082 (C)		160	7,700	5,200	-47,000	21,000	-13,000	-120,000
2083 (D)		2,300	12,000	4,500	-41,000	24,000	1,400	-120,000
2084 (W)		6,700	38,000	1,600	-18,000	12,000	40,000	-80,000
2085 (BN)		3,300	7,800	2,300	-40,000	13,000	-13,000	-93,000
2086 (W)		3,900	15,000	1,100	-24,000	10,000	6,300	-86,000
2087 (D)		1,500	10,000	2,300	-43,000	17,000	-12,000	-98,000
2088 (C)		1,200	8,600	3,900	-46,000	19,000	-13,000	-110,000
2089 (C)		2,300	12,000	3,100	-36,000	20,000	1,300	-110,000
2090 (W)		6,400	21,000	1,900	-25,000	13,000	18,000	-92,000
Average (2024-2039)		**1,700**	**8,800**	**1,300**	**-39,000**	**22,000**	**-4,900**	
2024-2039	W	4,000	19,000	-480	-27,000	19,000	15,000	
	AN	1,400	5,000	570	-37,000	21,000	-8,400	
	BN	1,600	6,200	1,800	-42,000	20,000	-13,000	
	D	680	6,900	2,300	-43,000	26,000	-7,400	
	C	1,300	7,200	2,100	-45,000	24,000	-10,000	
Average (2040-2090)		**2,400**	**13,000**	**1,800**	**-37,000**	**20,000**	**-270**	
2040-2090	W	4,500	19,000	680	-29,000	18,000	13,000	
	AN	1,900	12,000	1,100	-39,000	20,000	-4,300	
	BN	2,200	8,800	1,900	-42,000	22,000	-8,000	
	D	950	9,000	1,900	-43,000	23,000	-8,100	
	C	880	8,300	3,100	-43,000	22,000	-8,500	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Triangle T Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

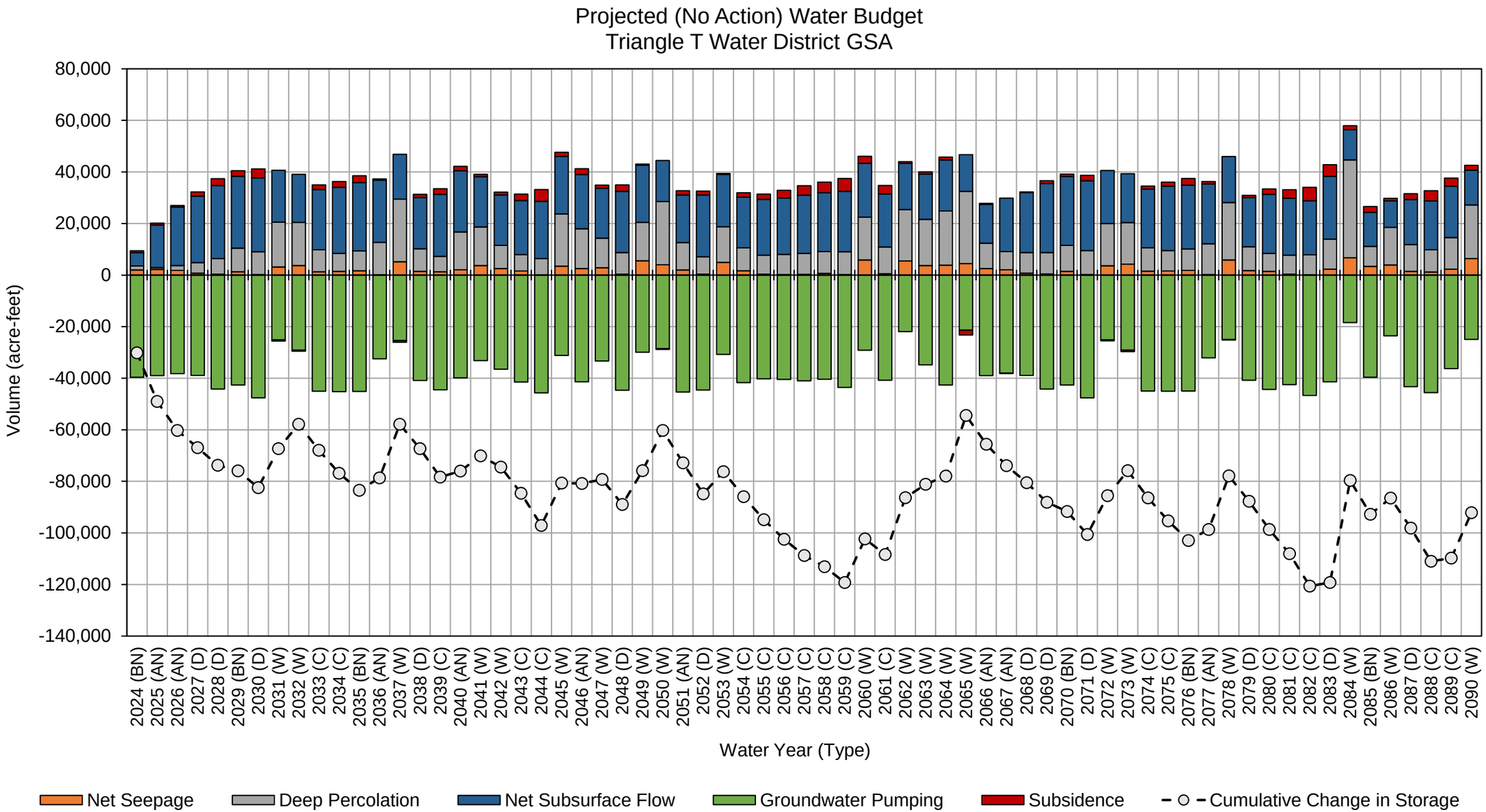
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	2,000	1,600	-40,000	-36,000
2025 (AN)	2,200	700	-39,000	-36,000
2026 (AN)	1,800	1,900	-38,000	-34,000
2027 (D)	760	4,100	-39,000	-34,000
2028 (D)	360	6,000	-44,000	-38,000
2029 (BN)	1,300	9,100	-43,000	-32,000
2030 (D)	180	8,800	-48,000	-39,000
2031 (W)	3,100	17,000	-25,000	-4,600
2032 (W)	3,700	17,000	-29,000	-8,700
2033 (C)	1,300	8,600	-45,000	-35,000
2034 (C)	1,400	7,000	-45,000	-37,000
2035 (BN)	1,600	7,700	-45,000	-36,000
2036 (AN)	150	13,000	-32,000	-20,000
2037 (W)	5,100	24,000	-25,000	4,100
2038 (D)	1,400	8,800	-41,000	-31,000
2039 (C)	1,300	6,000	-44,000	-37,000
2040 (AN)	2,000	15,000	-40,000	-23,000
2041 (W)	3,700	15,000	-33,000	-15,000
2042 (W)	2,500	9,000	-37,000	-25,000
2043 (C)	1,600	6,400	-42,000	-34,000
2044 (C)	33	6,400	-46,000	-39,000
2045 (W)	3,500	20,000	-31,000	-7,400
2046 (AN)	2,500	15,000	-41,000	-23,000
2047 (W)	2,800	11,000	-33,000	-19,000
2048 (D)	330	8,400	-45,000	-36,000
2049 (W)	5,500	15,000	-30,000	-9,400
2050 (W)	4,000	24,000	-28,000	24
2051 (AN)	2,000	11,000	-45,000	-33,000
2052 (D)	390	6,700	-45,000	-37,000
2053 (W)	4,900	14,000	-31,000	-12,000
2054 (C)	1,700	8,900	-42,000	-31,000
2055 (C)	370	7,300	-40,000	-33,000
2056 (C)	180	7,800	-40,000	-32,000
2057 (C)	250	8,100	-41,000	-33,000
2058 (C)	670	8,500	-40,000	-31,000
2059 (C)	210	8,900	-44,000	-35,000
2060 (W)	5,800	17,000	-29,000	-6,700
2061 (C)	540	10,000	-41,000	-30,000
2062 (W)	5,500	20,000	-22,000	3,500
2063 (W)	3,700	18,000	-35,000	-13,000
2064 (W)	3,800	21,000	-43,000	-18,000
2065 (W)	4,500	28,000	-21,000	11,000
2066 (AN)	2,500	9,900	-39,000	-27,000
2067 (AN)	2,100	7,000	-38,000	-29,000
2068 (D)	770	8,000	-39,000	-30,000

Triangle T Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		430	8,300	-44,000	-35,000
2070 (BN)		1,400	10,000	-43,000	-31,000
2071 (D)		220	9,300	-48,000	-38,000
2072 (W)		3,600	16,000	-25,000	-5,100
2073 (W)		4,200	16,000	-29,000	-8,700
2074 (C)		1,500	9,100	-45,000	-34,000
2075 (C)		1,600	7,900	-45,000	-36,000
2076 (BN)		1,800	8,300	-45,000	-35,000
2077 (AN)		170	12,000	-32,000	-20,000
2078 (W)		5,900	22,000	-25,000	3,100
2079 (D)		1,700	9,300	-41,000	-30,000
2080 (C)		1,400	7,000	-44,000	-36,000
2081 (C)		370	7,400	-43,000	-35,000
2082 (C)		160	7,700	-47,000	-39,000
2083 (D)		2,300	12,000	-41,000	-27,000
2084 (W)		6,700	38,000	-18,000	26,000
2085 (BN)		3,300	7,800	-40,000	-28,000
2086 (W)		3,900	15,000	-24,000	-5,000
2087 (D)		1,500	10,000	-43,000	-31,000
2088 (C)		1,200	8,600	-46,000	-36,000
2089 (C)		2,300	12,000	-36,000	-22,000
2090 (W)		6,400	21,000	-25,000	2,200
Average (2024-2039)		**1,700**	**8,800**	**-39,000**	**-28,000**
2024-2039	W	4,000	19,000	-27,000	-3,100
	AN	1,400	5,000	-37,000	-30,000
	BN	1,600	6,200	-42,000	-35,000
	D	680	6,900	-43,000	-35,000
	C	1,300	7,200	-45,000	-36,000
Average (2040-2090)		**2,400**	**13,000**	**-37,000**	**-22,000**
2040-2090	W	4,500	19,000	-29,000	-5,400
	AN	1,900	12,000	-39,000	-26,000
	BN	2,200	8,800	-42,000	-31,000
	D	950	9,000	-43,000	-33,000
	C	880	8,300	-43,000	-33,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Triangle T Water District GSA
Volume (acre-feet)
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
-120,000
-140,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Triangle T Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	1,600	1,600	1,400	-42,000	5,400	-31,000	-31,000
2025 (AN)	1,500	590	1,300	-40,000	16,000	-20,000	-52,000
2026 (AN)	2,300	2,100	1,300	-40,000	24,000	-11,000	-63,000
2027 (D)	940	4,100	2,100	-40,000	26,000	-7,400	-70,000
2028 (D)	2,300	6,900	3,000	-45,000	28,000	-4,700	-75,000
2029 (BN)	2,300	10,000	2,700	-44,000	27,000	-1,500	-76,000
2030 (D)	1,400	8,900	4,200	-49,000	28,000	-6,700	-83,000
2031 (W)	3,300	16,000	510	-29,000	21,000	12,000	-71,000
2032 (W)	3,900	16,000	270	-30,000	19,000	8,800	-62,000
2033 (C)	2,000	8,600	2,400	-46,000	23,000	-10,000	-72,000
2034 (C)	1,000	7,300	3,200	-46,000	25,000	-9,500	-82,000
2035 (BN)	130	7,900	3,900	-46,000	27,000	-7,700	-90,000
2036 (AN)	130	12,000	2,000	-36,000	25,000	1,900	-88,000
2037 (W)	5,700	22,000	740	-28,000	19,000	20,000	-68,000
2038 (D)	1,600	9,100	1,600	-41,000	20,000	-8,500	-76,000
2039 (C)	1,400	6,700	3,100	-45,000	24,000	-10,000	-87,000
2040 (AN)	2,400	15,000	2,800	-42,000	24,000	2,300	-84,000
2041 (W)	4,200	14,000	1,900	-35,000	19,000	5,000	-79,000
2042 (W)	2,600	8,400	2,200	-38,000	18,000	-6,700	-86,000
2043 (C)	3,300	7,300	3,400	-42,000	22,000	-6,300	-92,000
2044 (C)	480	7,000	5,400	-47,000	21,000	-13,000	-110,000
2045 (W)	5,200	21,000	2,300	-32,000	23,000	19,000	-87,000
2046 (AN)	3,000	14,000	2,800	-43,000	21,000	-2,000	-89,000
2047 (W)	3,900	13,000	1,700	-36,000	21,000	4,000	-85,000
2048 (D)	2,600	9,300	2,500	-46,000	25,000	-6,900	-92,000
2049 (W)	4,800	14,000	480	-30,000	22,000	11,000	-81,000
2050 (W)	5,700	25,000	-350	-30,000	18,000	18,000	-63,000
2051 (AN)	2,500	10,000	1,800	-48,000	19,000	-15,000	-77,000
2052 (D)	2,500	7,000	1,600	-46,000	25,000	-10,000	-88,000
2053 (W)	4,600	14,000	570	-32,000	22,000	9,400	-78,000
2054 (C)	2,600	8,900	1,900	-43,000	20,000	-9,600	-88,000
2055 (C)	2,200	7,700	2,300	-42,000	22,000	-7,000	-95,000
2056 (C)	2,700	8,900	2,900	-42,000	23,000	-3,800	-99,000
2057 (C)	3,000	8,600	3,400	-41,000	22,000	-4,000	-100,000
2058 (C)	3,100	8,700	4,100	-41,000	23,000	-3,000	-110,000
2059 (C)	3,000	9,100	5,100	-45,000	23,000	-5,000	-110,000
2060 (W)	5,200	16,000	3,400	-31,000	19,000	12,000	-98,000
2061 (C)	2,600	9,700	4,100	-42,000	18,000	-7,300	-110,000
2062 (W)	5,400	18,000	1,400	-23,000	17,000	18,000	-87,000
2063 (W)	4,500	18,000	1,600	-36,000	16,000	3,600	-84,000
2064 (W)	4,600	20,000	2,600	-45,000	19,000	260	-84,000
2065 (W)	4,800	26,000	-410	-23,000	14,000	21,000	-62,000
2066 (AN)	1,800	9,600	710	-40,000	14,000	-14,000	-76,000
2067 (AN)	2,500	8,000	340	-40,000	21,000	-8,100	-84,000
2068 (D)	1,100	8,100	550	-40,000	23,000	-7,800	-92,000
2069 (D)	2,600	9,600	1,800	-45,000	25,000	-6,100	-98,000
2070 (BN)	2,700	11,000	2,700	-44,000	24,000	-3,400	-100,000

MCSim_v2.0 - Projected (No Action) with Climate Change

Triangle T Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		1,600	9,500	4,400	-49,000	24,000	-9,500	-110,000
2072 (W)		3,700	16,000	1,300	-28,000	20,000	13,000	-99,000
2073 (W)		4,600	15,000	590	-30,000	19,000	9,300	-89,000
2074 (C)		2,400	9,200	1,800	-46,000	22,000	-11,000	-100,000
2075 (C)		1,200	8,400	3,100	-46,000	24,000	-10,000	-110,000
2076 (BN)		150	8,600	4,100	-46,000	24,000	-9,100	-120,000
2077 (AN)		150	11,000	2,700	-36,000	23,000	1,500	-120,000
2078 (W)		6,300	20,000	1,300	-28,000	20,000	20,000	-98,000
2079 (D)		1,800	9,500	1,500	-41,000	20,000	-8,200	-110,000
2080 (C)		1,500	7,700	3,100	-45,000	23,000	-11,000	-120,000
2081 (C)		120	7,900	4,400	-43,000	21,000	-9,100	-130,000
2082 (C)		110	8,100	6,400	-47,000	21,000	-12,000	-140,000
2083 (D)		3,000	12,000	5,400	-42,000	24,000	2,500	-140,000
2084 (W)		6,400	34,000	2,300	-19,000	13,000	38,000	-97,000
2085 (BN)		3,100	7,700	2,800	-41,000	14,000	-13,000	-110,000
2086 (W)		4,200	15,000	1,800	-25,000	11,000	7,700	-100,000
2087 (D)		1,900	11,000	2,700	-44,000	17,000	-11,000	-110,000
2088 (C)		190	8,800	4,200	-46,000	19,000	-14,000	-130,000
2089 (C)		1,800	12,000	3,400	-37,000	20,000	880	-130,000
2090 (W)		6,600	21,000	2,300	-27,000	15,000	18,000	-110,000
Average (2024-2039)		**2,000**	**8,700**	**2,100**	**-41,000**	**22,000**	**-5,400**	
2024-2039	W	4,300	18,000	510	-29,000	20,000	14,000	
	AN	1,300	4,800	1,500	-39,000	22,000	-9,800	
	BN	1,300	6,500	2,700	-44,000	20,000	-14,000	
	D	1,600	7,300	2,700	-44,000	25,000	-6,800	
	C	1,500	7,500	2,900	-46,000	24,000	-10,000	
Average (2040-2090)		**3,000**	**13,000**	**2,500**	**-39,000**	**20,000**	**-450**	
2040-2090	W	4,900	18,000	1,500	-30,000	18,000	12,000	
	AN	2,000	11,000	1,900	-42,000	20,000	-5,800	
	BN	2,000	9,200	3,200	-44,000	21,000	-8,500	
	D	2,100	9,500	2,600	-44,000	23,000	-7,200	
	C	1,900	8,600	3,700	-43,000	21,000	-7,800	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Triangle T Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

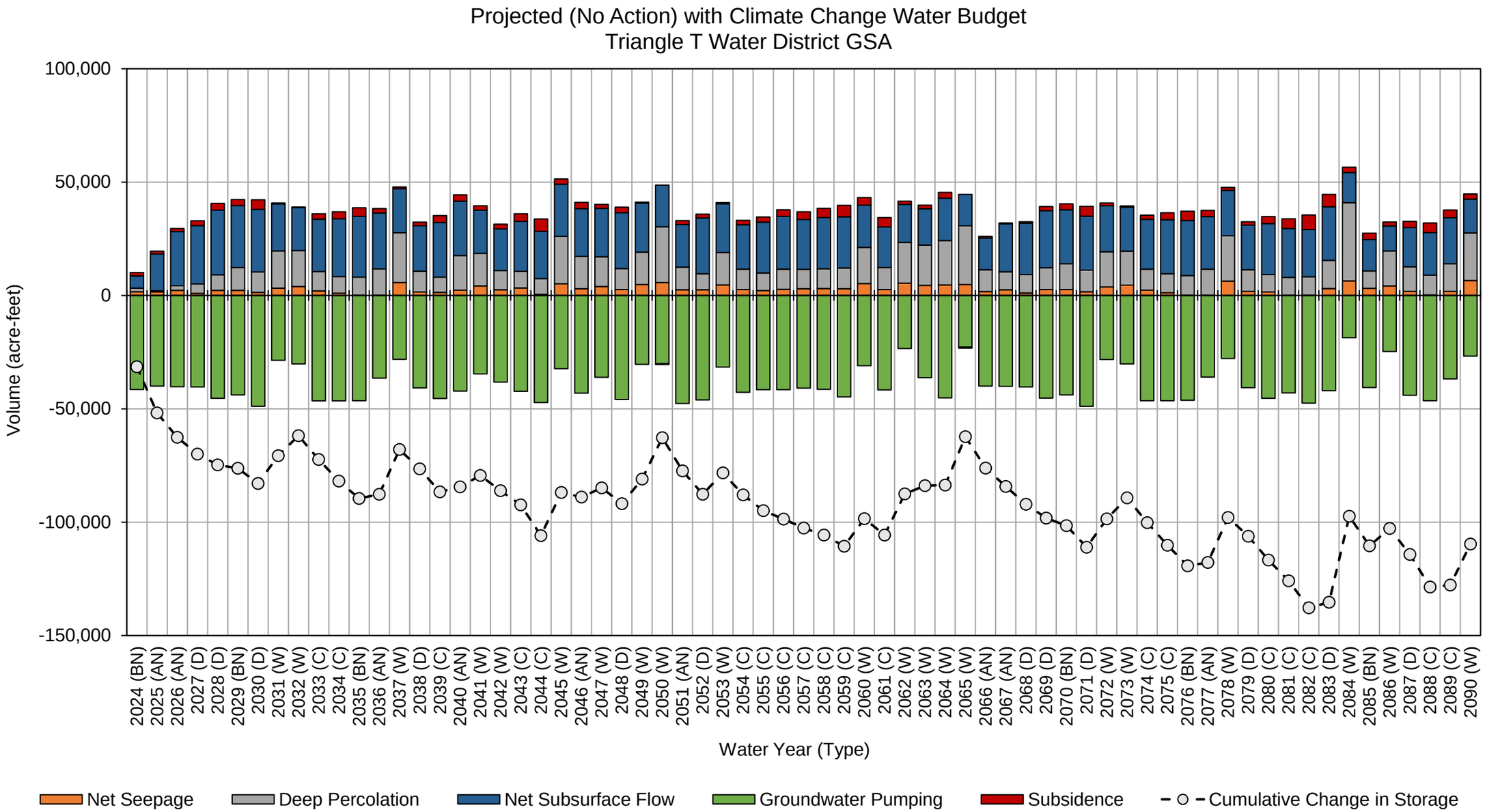
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	1,600	1,600	-42,000	-38,000
2025 (AN)	1,500	590	-40,000	-38,000
2026 (AN)	2,300	2,100	-40,000	-36,000
2027 (D)	940	4,100	-40,000	-35,000
2028 (D)	2,300	6,900	-45,000	-36,000
2029 (BN)	2,300	10,000	-44,000	-32,000
2030 (D)	1,400	8,900	-49,000	-39,000
2031 (W)	3,300	16,000	-29,000	-8,900
2032 (W)	3,900	16,000	-30,000	-10,000
2033 (C)	2,000	8,600	-46,000	-36,000
2034 (C)	1,000	7,300	-46,000	-38,000
2035 (BN)	130	7,900	-46,000	-38,000
2036 (AN)	130	12,000	-36,000	-25,000
2037 (W)	5,700	22,000	-28,000	-510
2038 (D)	1,600	9,100	-41,000	-30,000
2039 (C)	1,400	6,700	-45,000	-37,000
2040 (AN)	2,400	15,000	-42,000	-25,000
2041 (W)	4,200	14,000	-35,000	-16,000
2042 (W)	2,600	8,400	-38,000	-27,000
2043 (C)	3,300	7,300	-42,000	-32,000
2044 (C)	480	7,000	-47,000	-40,000
2045 (W)	5,200	21,000	-32,000	-6,300
2046 (AN)	3,000	14,000	-43,000	-26,000
2047 (W)	3,900	13,000	-36,000	-19,000
2048 (D)	2,600	9,300	-46,000	-34,000
2049 (W)	4,800	14,000	-30,000	-11,000
2050 (W)	5,700	25,000	-30,000	200
2051 (AN)	2,500	10,000	-48,000	-35,000
2052 (D)	2,500	7,000	-46,000	-37,000
2053 (W)	4,600	14,000	-32,000	-13,000
2054 (C)	2,600	8,900	-43,000	-31,000
2055 (C)	2,200	7,700	-42,000	-32,000
2056 (C)	2,700	8,900	-42,000	-30,000
2057 (C)	3,000	8,600	-41,000	-29,000
2058 (C)	3,100	8,700	-41,000	-30,000
2059 (C)	3,000	9,100	-45,000	-33,000
2060 (W)	5,200	16,000	-31,000	-9,800
2061 (C)	2,600	9,700	-42,000	-29,000
2062 (W)	5,400	18,000	-23,000	35
2063 (W)	4,500	18,000	-36,000	-14,000
2064 (W)	4,600	20,000	-45,000	-21,000
2065 (W)	4,800	26,000	-23,000	7,900
2066 (AN)	1,800	9,600	-40,000	-29,000
2067 (AN)	2,500	8,000	-40,000	-30,000
2068 (D)	1,100	8,100	-40,000	-31,000

Triangle T Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		2,600	9,600	-45,000	-33,000
2070 (BN)		2,700	11,000	-44,000	-30,000
2071 (D)		1,600	9,500	-49,000	-38,000
2072 (W)		3,700	16,000	-28,000	-9,000
2073 (W)		4,600	15,000	-30,000	-11,000
2074 (C)		2,400	9,200	-46,000	-35,000
2075 (C)		1,200	8,400	-46,000	-37,000
2076 (BN)		150	8,600	-46,000	-38,000
2077 (AN)		150	11,000	-36,000	-24,000
2078 (W)		6,300	20,000	-28,000	-1,500
2079 (D)		1,800	9,500	-41,000	-29,000
2080 (C)		1,500	7,700	-45,000	-36,000
2081 (C)		120	7,900	-43,000	-35,000
2082 (C)		110	8,100	-47,000	-39,000
2083 (D)		3,000	12,000	-42,000	-27,000
2084 (W)		6,400	34,000	-19,000	22,000
2085 (BN)		3,100	7,700	-41,000	-30,000
2086 (W)		4,200	15,000	-25,000	-5,100
2087 (D)		1,900	11,000	-44,000	-31,000
2088 (C)		190	8,800	-46,000	-37,000
2089 (C)		1,800	12,000	-37,000	-23,000
2090 (W)		6,600	21,000	-27,000	850
Average (2024-2039)		**2,000**	**8,700**	**-41,000**	**-30,000**
2024-2039	W	4,300	18,000	-29,000	-6,600
	AN	1,300	4,800	-39,000	-33,000
	BN	1,300	6,500	-44,000	-36,000
	D	1,600	7,300	-44,000	-35,000
	C	1,500	7,500	-46,000	-37,000
Average (2040-2090)		**3,000**	**13,000**	**-39,000**	**-23,000**
2040-2090	W	4,900	18,000	-30,000	-7,400
	AN	2,000	11,000	-42,000	-28,000
	BN	2,000	9,200	-44,000	-32,000
	D	2,100	9,500	-44,000	-32,000
	C	1,900	8,600	-43,000	-33,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Triangle T Water District GSA
Volume (acre-feet)
100,000
50,000
0
-50,000
-100,000
-150,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.1.e

Sierra Vista Mutual Water Company GSA Water Budget Results

Sierra Vista Mutual Water Company GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		89	4,200	1,400	-10,000	4,000	-650	-650
1990 (C)		84	4,400	2,100	-11,000	3,400	-1,100	-1,100
1991 (C)		90	4,600	2,200	-10,000	2,800	-380	-380
1992 (C)		88	4,700	2,500	-11,000	3,000	-850	-850
1993 (W)		240	6,600	920	-8,600	2,800	2,000	2,000
1994 (C)		180	5,000	950	-10,000	2,800	-1,100	-1,100
1995 (W)		440	7,800	240	-8,400	2,000	2,000	2,000
1996 (W)		340	5,400	360	-9,800	2,700	-890	-890
1997 (W)		630	6,700	790	-12,000	3,700	190	190
1998 (W)		570	6,900	-700	-7,100	2,400	2,100	2,100
1999 (AN)		290	5,000	43	-10,000	3,400	-1,400	-1,400
2000 (AN)		270	5,400	320	-11,000	4,600	-480	-480
2001 (D)		260	4,700	450	-10,000	4,000	-1,000	-1,000
2002 (D)		220	5,400	1,700	-12,000	3,400	-1,100	-1,100
2003 (BN)		140	5,300	1,600	-10,000	2,600	-490	-490
2004 (D)		170	5,100	2,900	-13,000	3,300	-1,400	-1,400
2005 (W)		240	5,600	160	-7,300	2,900	1,600	1,600
2006 (W)		380	5,400	-33	-8,200	3,200	770	770
2007 (C)		130	5,400	1,500	-12,000	3,300	-2,000	-2,000
2008 (C)		44	5,400	2,500	-13,000	3,300	-1,300	-1,300
2009 (BN)		200	4,900	2,000	-11,000	3,300	-570	-570
2010 (AN)		290	5,300	380	-8,400	3,500	1,100	1,100
2011 (W)		480	5,900	-390	-6,900	2,600	1,700	1,700
2012 (D)		130	4,700	620	-12,000	4,600	-1,600	-1,600
2013 (C)		95	5,400	2,400	-14,000	4,000	-1,700	-1,700
2014 (C)		70	4,900	3,500	-13,000	3,000	-2,000	-2,000
2015 (C)		16	5,100	4,800	-15,000	2,900	-1,900	-1,900
2016 (D)		200	5,600	2,900	-11,000	2,600	190	190
2017 (W)		280	6,000	870	-9,300	3,400	1,300	1,300
2018 (BN)		180	4,300	850	-9,800	3,400	-1,000	-1,000
2019 (W)		250	5,300	490	-9,000	3,600	640	640
2020 (D)		210	4,800	1,100	-11,000	4,000	-980	-980
2021 (C)		100	4,400	3,100	-13,000	3,200	-2,300	-2,300
2022 (C)		100	4,900	2,200	-11,000	3,200	-370	-370
2023 (W)		270	6,300	550	-6,800	1,700	2,000	2,000
Average (1989-2023)		**220**	**5,300**	**1,400**	**-10,000**	**3,200**	**-320**	
1989-2023	W	370	6,200	300	-8,500	2,800	1,200	
	AN	280	5,300	250	-9,900	3,800	-260	
	BN	170	4,800	1,500	-10,000	3,100	-700	
	D	200	5,100	1,600	-12,000	3,700	-1,000	
	C	91	4,900	2,400	-12,000	3,200	-1,300	
Average (1989-2015)		**230**	**5,400**	**1,300**	**-11,000**	**3,200**	**-390**	
1989-2015	W	410	6,300	170	-8,500	2,800	1,200	
	AN	280	5,300	250	-9,900	3,800	-260	
	BN	170	5,100	1,800	-11,000	2,900	-530	
	D	190	5,000	1,400	-12,000	3,800	-1,300	
	C	89	4,900	2,400	-12,000	3,300	-1,300	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

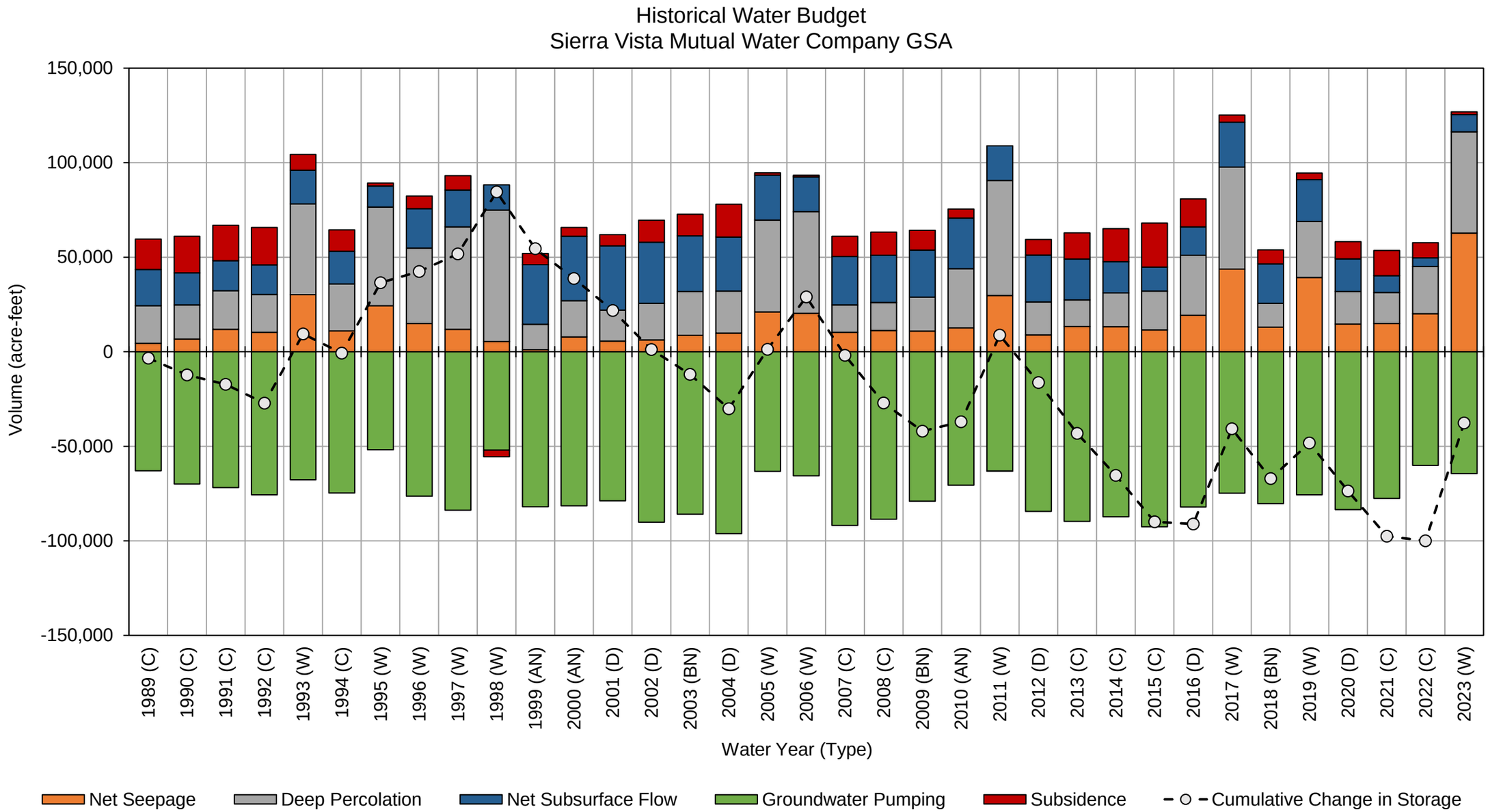
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Sierra Vista Mutual Water Company GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		89	4,200	-10,000	-6,000
1990 (C)		84	4,400	-11,000	-6,700
1991 (C)		90	4,600	-10,000	-5,400
1992 (C)		88	4,700	-11,000	-6,400
1993 (W)		240	6,600	-8,600	-1,700
1994 (C)		180	5,000	-10,000	-4,900
1995 (W)		440	7,800	-8,400	-180
1996 (W)		340	5,400	-9,800	-4,000
1997 (W)		630	6,700	-12,000	-4,300
1998 (W)		570	6,900	-7,100	390
1999 (AN)		290	5,000	-10,000	-4,800
2000 (AN)		270	5,400	-11,000	-5,400
2001 (D)		260	4,700	-10,000	-5,500
2002 (D)		220	5,400	-12,000	-6,300
2003 (BN)		140	5,300	-10,000	-4,700
2004 (D)		170	5,100	-13,000	-7,600
2005 (W)		240	5,600	-7,300	-1,500
2006 (W)		380	5,400	-8,200	-2,400
2007 (C)		130	5,400	-12,000	-6,800
2008 (C)		44	5,400	-13,000	-7,100
2009 (BN)		200	4,900	-11,000	-5,900
2010 (AN)		290	5,300	-8,400	-2,800
2011 (W)		480	5,900	-6,900	-550
2012 (D)		130	4,700	-12,000	-6,800
2013 (C)		95	5,400	-14,000	-8,000
2014 (C)		70	4,900	-13,000	-8,600
2015 (C)		16	5,100	-15,000	-9,600
2016 (D)		200	5,600	-11,000	-5,300
2017 (W)		280	6,000	-9,300	-3,000
2018 (BN)		180	4,300	-9,800	-5,300
2019 (W)		250	5,300	-9,000	-3,500
2020 (D)		210	4,800	-11,000	-6,100
2021 (C)		100	4,400	-13,000	-8,600
2022 (C)		100	4,900	-11,000	-5,700
2023 (W)		270	6,300	-6,800	-220
Average (1989-2023)		**220**	**5,300**	**-10,000**	**-4,900**
1989-2023	W	370	6,200	-8,500	-1,900
	AN	280	5,300	-9,900	-4,300
	BN	170	4,800	-10,000	-5,300
	D	200	5,100	-12,000	-6,300
	C	91	4,900	-12,000	-7,000
Average (1989-2015)		**230**	**5,400**	**-11,000**	**-4,900**
1989-2015	W	410	6,300	-8,500	-1,800
	AN	280	5,300	-9,900	-4,300
	BN	170	5,100	-11,000	-5,300
	D	190	5,000	-12,000	-6,600
	C	89	4,900	-12,000	-6,900

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Sierra Vista Mutual Water Company GSA
Volume (acre-feet)
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Sierra Vista Mutual Water Company GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	260	4,200	150	-9,000	3,200	-1,300	-1,300
2025 (AN)	3,000	4,300	-100	-9,100	3,600	1,700	430
2026 (AN)	1,100	4,400	-130	-9,900	4,200	-280	150
2027 (D)	260	3,900	110	-9,300	4,000	-1,100	-980
2028 (D)	220	4,600	1,200	-11,000	3,400	-1,100	-2,100
2029 (BN)	140	4,600	1,300	-9,000	2,500	-540	-2,600
2030 (D)	170	4,400	2,400	-12,000	3,300	-1,400	-4,000
2031 (W)	1,000	5,200	-290	-4,500	1,300	2,600	-1,400
2032 (W)	2,400	5,000	-690	-4,900	640	2,500	1,000
2033 (C)	130	4,200	820	-11,000	2,500	-3,100	-2,100
2034 (C)	44	4,400	1,300	-11,000	3,600	-1,900	-3,900
2035 (BN)	200	4,400	1,500	-11,000	3,900	-790	-4,700
2036 (AN)	380	4,500	-150	-7,200	3,900	1,400	-3,300
2037 (W)	4,100	5,900	-1,400	-3,900	1,100	5,800	2,400
2038 (D)	130	3,600	-130	-10,000	3,400	-3,100	-610
2039 (C)	95	4,300	1,100	-11,000	3,700	-2,200	-2,800
2040 (AN)	340	5,700	-4	-9,400	4,300	900	-1,900
2041 (W)	3,200	5,100	-800	-6,100	1,800	3,300	1,400
2042 (W)	2,800	3,900	-740	-6,200	720	450	1,900
2043 (C)	88	3,400	940	-10,000	1,900	-3,900	-2,100
2044 (C)	16	3,600	2,200	-12,000	2,700	-3,400	-5,500
2045 (W)	550	5,800	-88	-5,300	2,200	3,200	-2,300
2046 (AN)	2,900	5,400	-270	-9,900	3,900	2,000	-250
2047 (W)	550	4,600	-810	-6,700	2,400	84	-170
2048 (D)	220	3,900	580	-11,000	3,700	-2,300	-2,400
2049 (W)	3,700	5,000	-1,300	-4,600	1,800	4,600	2,200
2050 (W)	1,800	6,400	-1,400	-5,000	1,100	2,900	5,100
2051 (AN)	2,900	5,000	-140	-11,000	2,800	-390	4,700
2052 (D)	220	4,100	390	-11,000	2,800	-3,200	1,400
2053 (W)	1,200	4,900	-590	-5,400	1,500	1,500	3,000
2054 (C)	88	3,800	910	-10,000	2,700	-2,900	64
2055 (C)	88	3,900	1,200	-10,000	3,100	-2,000	-1,900
2056 (C)	89	4,100	1,000	-10,000	3,800	-1,500	-3,400
2057 (C)	84	3,900	1,100	-11,000	3,900	-1,600	-5,000
2058 (C)	90	3,900	950	-9,300	3,600	-660	-5,700
2059 (C)	88	4,000	1,600	-10,000	3,900	-880	-6,500
2060 (W)	1,500	6,400	-390	-6,100	3,000	4,300	-2,200
2061 (C)	180	4,300	-66	-9,300	3,400	-1,500	-3,700
2062 (W)	2,000	7,200	-1,200	-5,300	1,800	4,400	710
2063 (W)	3,300	5,300	-1,200	-6,600	1,700	2,500	3,200
2064 (W)	5,600	6,800	-1,100	-8,300	1,500	4,600	7,800
2065 (W)	3,100	5,900	-2,200	-4,400	-210	2,200	10,000
2066 (AN)	2,900	4,100	-890	-9,000	1,300	-1,700	8,300
2067 (AN)	1,100	4,300	-340	-9,900	2,900	-1,800	6,500
2068 (D)	260	3,800	220	-9,300	3,000	-2,000	4,500
2069 (D)	220	4,500	1,200	-11,000	3,000	-1,600	2,800
2070 (BN)	140	4,600	800	-9,000	2,500	-1,000	1,800

MCSim_v2.0 - Projected with Projects

Sierra Vista Mutual Water Company GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		170	4,300	1,400	-12,000	3,600	-2,000	-200
2072 (W)		1,000	5,200	-1,100	-4,500	2,400	2,900	2,700
2073 (W)		2,400	5,000	-1,200	-4,900	1,700	3,000	5,700
2074 (C)		130	4,200	630	-11,000	2,700	-3,100	2,600
2075 (C)		44	4,400	1,200	-11,000	3,700	-1,900	680
2076 (BN)		200	4,300	840	-11,000	4,200	-1,200	-500
2077 (AN)		390	4,500	-620	-7,200	4,200	1,300	770
2078 (W)		4,100	5,900	-1,600	-3,900	1,500	5,900	6,700
2079 (D)		130	3,600	-190	-10,000	3,300	-3,200	3,500
2080 (C)		95	4,300	1,200	-11,000	3,600	-2,300	1,300
2081 (C)		70	3,700	1,600	-11,000	2,700	-2,900	-1,600
2082 (C)		16	3,900	2,100	-12,000	3,100	-2,900	-4,500
2083 (D)		220	4,900	750	-10,000	4,100	-280	-4,800
2084 (W)		4,000	6,400	-1,200	-6,300	3,500	6,400	1,600
2085 (BN)		260	3,300	-660	-8,900	3,300	-2,700	-1,100
2086 (W)		2,800	5,600	-1,100	-6,400	3,000	3,900	2,700
2087 (D)		210	4,000	150	-10,000	3,000	-2,700	41
2088 (C)		100	4,100	1,700	-13,000	3,800	-3,300	-3,300
2089 (C)		100	4,700	760	-11,000	4,100	-950	-4,200
2090 (W)		3,900	5,800	-1,200	-5,400	2,500	5,700	1,500
Average (2024-2039)		**850**	**4,500**	**450**	**-9,000**	**3,000**	**-180**	
2024-2039	W	2,500	5,400	-780	-4,500	990	3,600	
	AN	1,500	4,400	-130	-8,700	3,900	940	
	BN	200	4,400	980	-9,600	3,200	-870	
	D	190	4,100	900	-10,000	3,500	-1,700	
	C	89	4,300	1,100	-11,000	3,300	-2,400	
Average (2040-2090)		**1,200**	**4,700**	**58**	**-8,700**	**2,800**	**84**	
2040-2090	W	2,600	5,600	-1,100	-5,600	1,900	3,400	
	AN	1,700	4,800	-380	-9,400	3,200	51	
	BN	200	4,100	330	-9,600	3,400	-1,600	
	D	210	4,100	560	-10,000	3,300	-2,200	
	C	86	4,000	1,200	-11,000	3,300	-2,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Sierra Vista Mutual Water Company GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

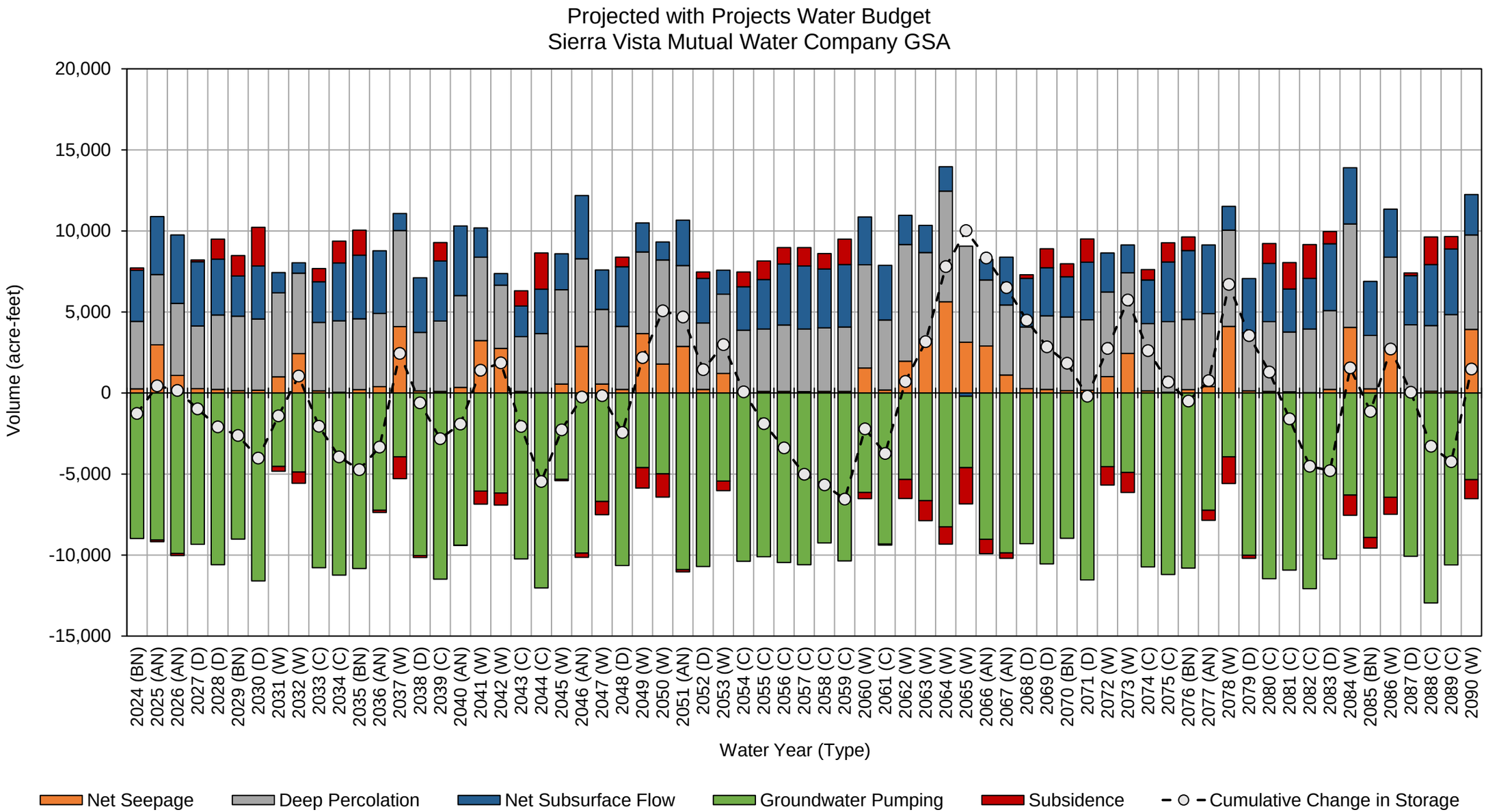
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	260	4,200	-9,000	-4,900
2025 (AN)	3,000	4,300	-9,100	-3,500
2026 (AN)	1,100	4,400	-9,900	-4,900
2027 (D)	260	3,900	-9,300	-5,400
2028 (D)	220	4,600	-11,000	-5,900
2029 (BN)	140	4,600	-9,000	-4,400
2030 (D)	170	4,400	-12,000	-7,200
2031 (W)	1,000	5,200	-4,500	-700
2032 (W)	2,400	5,000	-4,900	-420
2033 (C)	130	4,200	-11,000	-6,500
2034 (C)	44	4,400	-11,000	-7,000
2035 (BN)	200	4,400	-11,000	-6,400
2036 (AN)	380	4,500	-7,200	-2,600
2037 (W)	4,100	5,900	-3,900	2,100
2038 (D)	130	3,600	-10,000	-5,900
2039 (C)	95	4,300	-11,000	-7,100
2040 (AN)	340	5,700	-9,400	-3,600
2041 (W)	3,200	5,100	-6,100	-1,100
2042 (W)	2,800	3,900	-6,200	-2,200
2043 (C)	88	3,400	-10,000	-6,600
2044 (C)	16	3,600	-12,000	-8,400
2045 (W)	550	5,800	-5,300	-360
2046 (AN)	2,900	5,400	-9,900	-3,300
2047 (W)	550	4,600	-6,700	-2,800
2048 (D)	220	3,900	-11,000	-6,700
2049 (W)	3,700	5,000	-4,600	570
2050 (W)	1,800	6,400	-5,000	760
2051 (AN)	2,900	5,000	-11,000	-4,600
2052 (D)	220	4,100	-11,000	-6,500
2053 (W)	1,200	4,900	-5,400	-1,400
2054 (C)	88	3,800	-10,000	-6,600
2055 (C)	88	3,900	-10,000	-6,300
2056 (C)	89	4,100	-10,000	-6,200
2057 (C)	84	3,900	-11,000	-6,600
2058 (C)	90	3,900	-9,300	-5,200
2059 (C)	88	4,000	-10,000	-6,300
2060 (W)	1,500	6,400	-6,100	-890
2061 (C)	180	4,300	-9,300	-4,900
2062 (W)	2,000	7,200	-5,300	1,100
2063 (W)	3,300	5,300	-6,600	-1,500
2064 (W)	5,600	6,800	-8,300	-650
2065 (W)	3,100	5,900	-4,400	1,700
2066 (AN)	2,900	4,100	-9,000	-3,400
2067 (AN)	1,100	4,300	-9,900	-4,800
2068 (D)	260	3,800	-9,300	-5,300

Sierra Vista Mutual Water Company GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		220	4,500	-11,000	-5,800
2070 (BN)		140	4,600	-9,000	-4,500
2071 (D)		170	4,300	-12,000	-7,000
2072 (W)		1,000	5,200	-4,500	-870
2073 (W)		2,400	5,000	-4,900	-490
2074 (C)		130	4,200	-11,000	-6,400
2075 (C)		44	4,400	-11,000	-6,800
2076 (BN)		200	4,300	-11,000	-6,300
2077 (AN)		390	4,500	-7,200	-2,900
2078 (W)		4,100	5,900	-3,900	2,000
2079 (D)		130	3,600	-10,000	-5,800
2080 (C)		95	4,300	-11,000	-6,900
2081 (C)		70	3,700	-11,000	-7,000
2082 (C)		16	3,900	-12,000	-7,800
2083 (D)		220	4,900	-10,000	-5,200
2084 (W)		4,000	6,400	-6,300	-180
2085 (BN)		260	3,300	-8,900	-5,100
2086 (W)		2,800	5,600	-6,400	-1,100
2087 (D)		210	4,000	-10,000	-5,700
2088 (C)		100	4,100	-13,000	-8,400
2089 (C)		100	4,700	-11,000	-5,700
2090 (W)		3,900	5,800	-5,400	220
Average (2024-2039)		**850**	**4,500**	**-9,000**	**-4,400**
2024-2039	W	2,500	5,400	-4,500	340
	AN	1,500	4,400	-8,700	-3,700
	BN	200	4,400	-9,600	-5,200
	D	190	4,100	-10,000	-6,100
	C	89	4,300	-11,000	-6,900
Average (2040-2090)		**1,200**	**4,700**	**-8,700**	**-3,900**
2040-2090	W	2,600	5,600	-5,600	-400
	AN	1,700	4,800	-9,400	-3,800
	BN	200	4,100	-9,600	-5,300
	D	210	4,100	-10,000	-6,000
	C	86	4,000	-11,000	-6,600

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Sierra Vista Mutual Water Company GSA
Volume (acre-feet)
20,000
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Sierra Vista Mutual Water Company GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	260	4,200	660	-9,500	2,600	-1,700	-1,700
2025 (AN)	240	4,100	1,000	-9,600	3,600	-620	-2,300
2026 (AN)	270	4,700	650	-10,000	4,800	190	-2,100
2027 (D)	260	4,100	830	-9,600	3,600	-910	-3,000
2028 (D)	220	4,700	2,100	-11,000	2,900	-970	-4,000
2029 (BN)	140	4,600	1,900	-9,300	1,900	-630	-4,600
2030 (D)	170	4,400	2,900	-12,000	2,900	-1,500	-6,100
2031 (W)	240	5,000	130	-6,900	3,100	1,700	-4,400
2032 (W)	370	4,700	-380	-6,900	3,600	1,500	-3,000
2033 (C)	130	4,500	840	-11,000	3,800	-1,700	-4,700
2034 (C)	44	4,500	1,700	-12,000	3,700	-1,600	-6,300
2035 (BN)	200	4,500	2,100	-11,000	3,400	-910	-7,200
2036 (AN)	280	4,600	350	-7,700	3,300	880	-6,400
2037 (W)	470	5,500	-580	-6,600	3,800	2,500	-3,800
2038 (D)	130	4,000	-220	-9,800	5,200	-690	-4,500
2039 (C)	95	4,500	1,000	-12,000	4,600	-1,600	-6,100
2040 (AN)	290	5,800	50	-9,700	4,600	1,100	-5,100
2041 (W)	380	4,700	-140	-8,200	3,700	450	-4,600
2042 (W)	290	4,100	-250	-8,100	3,800	-180	-4,800
2043 (C)	89	3,700	630	-10,000	4,000	-1,800	-6,600
2044 (C)	19	3,800	2,300	-12,000	3,600	-2,400	-9,000
2045 (W)	390	6,200	260	-7,300	3,900	3,500	-5,500
2046 (AN)	250	5,300	-190	-10,000	5,200	330	-5,100
2047 (W)	370	4,900	-600	-8,300	4,800	1,200	-3,900
2048 (D)	220	4,100	180	-11,000	5,200	-1,300	-5,300
2049 (W)	490	4,600	-930	-6,600	4,400	2,000	-3,300
2050 (W)	420	6,500	-1,100	-7,100	4,400	3,100	-190
2051 (AN)	260	5,000	48	-11,000	4,900	-1,100	-1,200
2052 (D)	220	4,400	330	-11,000	4,700	-1,400	-2,700
2053 (W)	320	5,000	-210	-7,600	3,300	800	-1,900
2054 (C)	89	4,000	810	-11,000	3,600	-2,100	-4,000
2055 (C)	86	3,900	1,100	-10,000	3,300	-2,000	-6,000
2056 (C)	86	4,100	1,100	-11,000	3,700	-1,700	-7,700
2057 (C)	80	3,900	1,600	-11,000	3,600	-1,600	-9,300
2058 (C)	90	3,900	1,700	-9,400	3,100	-570	-9,900
2059 (C)	88	4,000	2,000	-11,000	3,600	-950	-11,000
2060 (W)	240	5,800	720	-8,300	3,700	2,100	-8,700
2061 (C)	180	4,400	520	-9,500	3,700	-680	-9,400
2062 (W)	400	7,000	-540	-6,700	3,000	3,100	-6,300
2063 (W)	300	5,000	-540	-9,100	4,600	350	-5,900
2064 (W)	550	6,100	150	-11,000	4,900	370	-5,500
2065 (W)	500	6,800	-1,500	-6,000	3,300	3,200	-2,400
2066 (AN)	240	4,500	-540	-9,500	4,300	-1,100	-3,500
2067 (AN)	270	4,700	-450	-10,000	5,800	170	-3,300
2068 (D)	260	4,000	67	-9,600	4,500	-740	-4,000
2069 (D)	220	4,700	870	-11,000	3,900	-1,200	-5,200
2070 (BN)	140	4,600	660	-9,200	2,900	-860	-6,100

Sierra Vista Mutual Water Company GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		170	4,400	1,200	-12,000	4,200	-1,900	-7,900
2072 (W)		240	5,000	-790	-6,900	4,200	1,800	-6,100
2073 (W)		370	4,700	-950	-6,900	4,600	1,800	-4,300
2074 (C)		130	4,500	340	-11,000	4,800	-1,200	-5,500
2075 (C)		44	4,400	880	-11,000	4,700	-1,500	-6,900
2076 (BN)		200	4,500	800	-11,000	4,500	-1,100	-8,100
2077 (AN)		280	4,600	-380	-7,700	4,100	930	-7,100
2078 (W)		470	5,400	-1,000	-6,600	4,400	2,700	-4,400
2079 (D)		130	4,000	-520	-9,800	5,700	-410	-4,800
2080 (C)		95	4,500	770	-12,000	5,100	-1,300	-6,100
2081 (C)		70	3,800	1,200	-11,000	3,700	-2,300	-8,500
2082 (C)		16	4,000	1,900	-12,000	3,800	-2,500	-11,000
2083 (D)		220	4,900	1,300	-10,000	4,000	110	-11,000
2084 (W)		290	5,500	-36	-8,800	5,300	2,300	-8,600
2085 (BN)		260	4,000	-250	-9,200	4,800	-420	-9,000
2086 (W)		250	5,200	-540	-8,500	5,300	1,700	-7,300
2087 (D)		210	4,500	-34	-10,000	5,100	-470	-7,800
2088 (C)		100	4,200	1,200	-13,000	5,100	-2,600	-10,000
2089 (C)		100	4,700	570	-11,000	4,600	-590	-11,000
2090 (W)		270	4,900	-350	-7,700	5,200	2,400	-8,500
Average (2024-2039)		**220**	**4,500**	**940**	**-9,600**	**3,600**	**-380**	
2024-2039	W	360	5,100	-270	-6,800	3,500	1,900	
	AN	260	4,500	670	-9,200	3,900	150	
	BN	200	4,400	1,600	-9,900	2,700	-1,100	
	D	190	4,300	1,400	-11,000	3,600	-1,000	
	C	89	4,500	1,200	-11,000	4,000	-1,600	
Average (2040-2090)		**230**	**4,700**	**260**	**-9,600**	**4,300**	**-47**	
2040-2090	W	360	5,400	-460	-7,800	4,300	1,800	
	AN	270	5,000	-240	-9,700	4,800	58	
	BN	200	4,300	400	-9,800	4,100	-790	
	D	210	4,400	420	-11,000	4,700	-910	
	C	85	4,100	1,200	-11,000	4,000	-1,600	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Sierra Vista Mutual Water Company GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

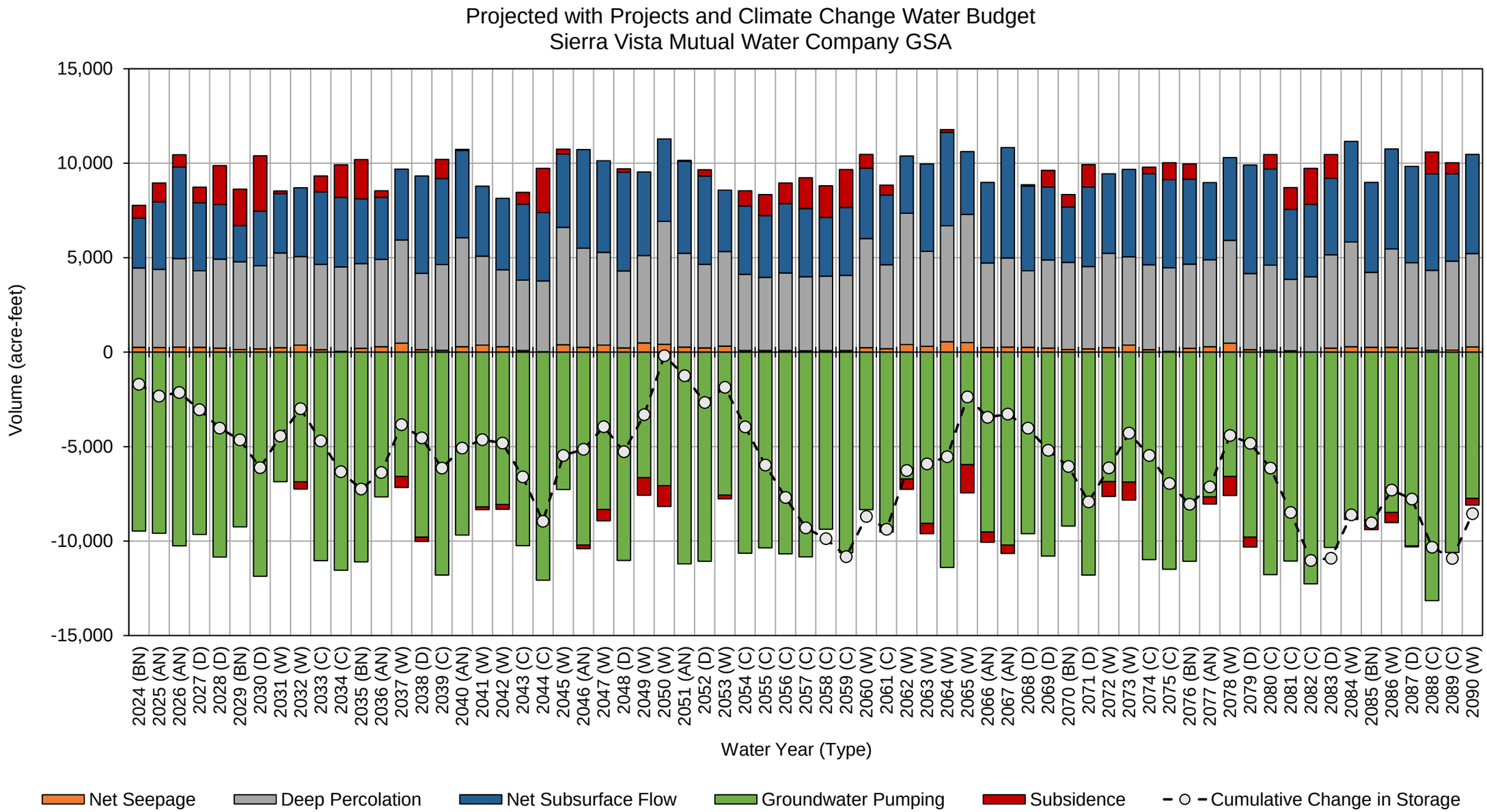
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	260	4,200	-9,500	-5,000
2025 (AN)	240	4,100	-9,600	-5,200
2026 (AN)	270	4,700	-10,000	-5,300
2027 (D)	260	4,100	-9,600	-5,300
2028 (D)	220	4,700	-11,000	-5,900
2029 (BN)	140	4,600	-9,300	-4,500
2030 (D)	170	4,400	-12,000	-7,300
2031 (W)	240	5,000	-6,900	-1,600
2032 (W)	370	4,700	-6,900	-1,800
2033 (C)	130	4,500	-11,000	-6,400
2034 (C)	44	4,500	-12,000	-7,000
2035 (BN)	200	4,500	-11,000	-6,400
2036 (AN)	280	4,600	-7,700	-2,800
2037 (W)	470	5,500	-6,600	-650
2038 (D)	130	4,000	-9,800	-5,600
2039 (C)	95	4,500	-12,000	-7,200
2040 (AN)	290	5,800	-9,700	-3,600
2041 (W)	380	4,700	-8,200	-3,100
2042 (W)	290	4,100	-8,100	-3,700
2043 (C)	89	3,700	-10,000	-6,400
2044 (C)	19	3,800	-12,000	-8,300
2045 (W)	390	6,200	-7,300	-660
2046 (AN)	250	5,300	-10,000	-4,700
2047 (W)	370	4,900	-8,300	-3,000
2048 (D)	220	4,100	-11,000	-6,700
2049 (W)	490	4,600	-6,600	-1,500
2050 (W)	420	6,500	-7,100	-140
2051 (AN)	260	5,000	-11,000	-6,000
2052 (D)	220	4,400	-11,000	-6,400
2053 (W)	320	5,000	-7,600	-2,200
2054 (C)	89	4,000	-11,000	-6,500
2055 (C)	86	3,900	-10,000	-6,400
2056 (C)	86	4,100	-11,000	-6,500
2057 (C)	80	3,900	-11,000	-6,800
2058 (C)	90	3,900	-9,400	-5,400
2059 (C)	88	4,000	-11,000	-6,600
2060 (W)	240	5,800	-8,300	-2,300
2061 (C)	180	4,400	-9,500	-4,900
2062 (W)	400	7,000	-6,700	640
2063 (W)	300	5,000	-9,100	-3,700
2064 (W)	550	6,100	-11,000	-4,700
2065 (W)	500	6,800	-6,000	1,300
2066 (AN)	240	4,500	-9,500	-4,800
2067 (AN)	270	4,700	-10,000	-5,200
2068 (D)	260	4,000	-9,600	-5,300

Sierra Vista Mutual Water Company GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		220	4,700	-11,000	-5,900
2070 (BN)		140	4,600	-9,200	-4,500
2071 (D)		170	4,400	-12,000	-7,300
2072 (W)		240	5,000	-6,900	-1,600
2073 (W)		370	4,700	-6,900	-1,800
2074 (C)		130	4,500	-11,000	-6,400
2075 (C)		44	4,400	-11,000	-7,000
2076 (BN)		200	4,500	-11,000	-6,400
2077 (AN)		280	4,600	-7,700	-2,800
2078 (W)		470	5,400	-6,600	-670
2079 (D)		130	4,000	-9,800	-5,600
2080 (C)		95	4,500	-12,000	-7,200
2081 (C)		70	3,800	-11,000	-7,200
2082 (C)		16	4,000	-12,000	-8,300
2083 (D)		220	4,900	-10,000	-5,200
2084 (W)		290	5,500	-8,800	-3,000
2085 (BN)		260	4,000	-9,200	-4,900
2086 (W)		250	5,200	-8,500	-3,000
2087 (D)		210	4,500	-10,000	-5,500
2088 (C)		100	4,200	-13,000	-8,800
2089 (C)		100	4,700	-11,000	-5,800
2090 (W)		270	4,900	-7,700	-2,500
Average (2024-2039)		**220**	**4,500**	**-9,600**	**-4,900**
2024-2039	W	360	5,100	-6,800	-1,400
	AN	260	4,500	-9,200	-4,400
	BN	200	4,400	-9,900	-5,300
	D	190	4,300	-11,000	-6,000
	C	89	4,500	-11,000	-6,900
Average (2040-2090)		**230**	**4,700**	**-9,600**	**-4,600**
2040-2090	W	360	5,400	-7,800	-2,000
	AN	270	5,000	-9,700	-4,500
	BN	200	4,300	-9,800	-5,300
	D	210	4,400	-11,000	-6,000
	C	85	4,100	-11,000	-6,800

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Sierra Vista Mutual Water Company GSA
Volume (acre-feet)
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Sierra Vista Mutual Water Company GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	260	4,200	150	-9,000	3,200	-1,300	-1,300
2025 (AN)	290	4,100	87	-9,100	4,600	-82	-1,400
2026 (AN)	270	4,600	78	-9,900	5,200	170	-1,200
2027 (D)	260	4,000	140	-9,300	4,500	-440	-1,600
2028 (D)	220	4,600	1,300	-11,000	3,600	-870	-2,500
2029 (BN)	140	4,600	1,300	-9,000	2,500	-470	-3,000
2030 (D)	170	4,400	2,500	-12,000	3,100	-1,400	-4,300
2031 (W)	240	5,100	15	-6,800	3,000	1,500	-2,800
2032 (W)	380	4,700	-220	-7,100	3,100	840	-2,000
2033 (C)	130	4,500	1,000	-11,000	3,300	-1,800	-3,800
2034 (C)	44	4,500	2,000	-11,000	3,500	-1,300	-5,100
2035 (BN)	200	4,400	1,900	-11,000	3,600	-730	-5,800
2036 (AN)	290	4,500	210	-7,300	3,300	1,000	-4,800
2037 (W)	470	5,400	-460	-6,200	2,700	1,900	-2,900
2038 (D)	130	4,100	290	-10,000	4,400	-1,200	-4,100
2039 (C)	95	4,500	1,500	-12,000	3,800	-1,700	-5,800
2040 (AN)	290	5,700	740	-9,400	3,500	820	-5,000
2041 (W)	420	4,700	460	-8,300	2,600	-120	-5,100
2042 (W)	340	4,100	470	-8,000	2,600	-470	-5,600
2043 (C)	88	3,700	1,900	-10,000	2,700	-1,900	-7,400
2044 (C)	16	3,700	3,500	-12,000	2,500	-2,300	-9,800
2045 (W)	260	6,200	1,200	-7,500	2,200	2,400	-7,400
2046 (AN)	270	5,200	750	-9,900	3,600	-150	-7,500
2047 (W)	260	4,800	350	-8,400	3,000	24	-7,500
2048 (D)	220	4,000	1,200	-11,000	3,600	-1,700	-9,200
2049 (W)	480	4,600	100	-6,900	2,800	1,200	-8,000
2050 (W)	350	6,500	-340	-7,300	2,800	2,000	-6,000
2051 (AN)	270	5,100	430	-11,000	4,000	-1,200	-7,200
2052 (D)	220	4,500	700	-11,000	3,900	-1,500	-8,700
2053 (W)	350	5,000	190	-7,600	2,800	670	-8,000
2054 (C)	88	4,000	1,300	-10,000	3,100	-2,000	-10,000
2055 (C)	88	3,900	1,900	-10,000	2,800	-1,500	-11,000
2056 (C)	89	4,100	2,100	-10,000	3,100	-1,100	-13,000
2057 (C)	84	3,800	2,300	-10,000	2,700	-1,500	-14,000
2058 (C)	90	3,700	2,100	-9,100	2,400	-700	-15,000
2059 (C)	88	3,700	2,300	-10,000	2,600	-1,200	-16,000
2060 (W)	240	5,400	930	-7,600	3,200	2,200	-14,000
2061 (C)	180	4,300	740	-9,300	3,400	-710	-15,000
2062 (W)	440	6,800	49	-7,500	2,600	2,500	-12,000
2063 (W)	340	5,000	-110	-8,900	3,500	-170	-12,000
2064 (W)	630	6,000	100	-11,000	4,300	500	-12,000
2065 (W)	570	6,600	-950	-6,700	3,500	2,900	-8,900
2066 (AN)	290	4,500	-470	-9,100	4,000	-830	-9,700
2067 (AN)	270	4,700	-160	-10,000	5,000	-180	-9,900
2068 (D)	260	4,000	33	-9,400	4,400	-660	-11,000
2069 (D)	220	4,600	870	-11,000	3,500	-1,500	-12,000
2070 (BN)	140	4,600	680	-9,100	2,700	-980	-13,000

MCSim_v2.0 - Projected (No Action)

Sierra Vista Mutual Water Company GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		170	4,300	1,400	-11,000	3,100	-2,400	-15,000
2072 (W)		240	5,000	-66	-6,800	3,700	2,000	-13,000
2073 (W)		380	4,700	-280	-7,100	3,500	1,200	-12,000
2074 (C)		130	4,500	630	-11,000	3,400	-2,200	-14,000
2075 (C)		44	4,300	1,300	-11,000	3,500	-1,800	-16,000
2076 (BN)		200	4,000	1,600	-10,000	3,700	-880	-17,000
2077 (AN)		290	4,300	310	-7,300	3,800	1,400	-16,000
2078 (W)		470	5,300	-330	-6,300	3,200	2,400	-13,000
2079 (D)		130	4,100	27	-10,000	4,400	-1,400	-15,000
2080 (C)		95	4,200	1,100	-11,000	3,500	-2,200	-17,000
2081 (C)		70	3,400	2,100	-10,000	2,200	-2,700	-20,000
2082 (C)		16	3,400	3,200	-11,000	2,000	-2,400	-22,000
2083 (D)		220	4,200	2,500	-9,600	2,800	180	-22,000
2084 (W)		290	5,100	1,000	-8,400	3,700	1,700	-20,000
2085 (BN)		260	3,800	390	-8,700	3,700	-540	-21,000
2086 (W)		250	4,600	140	-8,000	4,100	1,100	-19,000
2087 (D)		210	4,200	460	-9,800	3,800	-1,200	-21,000
2088 (C)		100	3,700	1,900	-12,000	3,300	-2,900	-23,000
2089 (C)		100	4,300	1,700	-10,000	3,500	-390	-24,000
2090 (W)		270	4,600	810	-7,300	3,400	1,800	-22,000
Average (2024-2039)		**220**	**4,500**	**740**	**-9,400**	**3,600**	**-360**	
2024-2039	W	360	5,100	-220	-6,700	2,900	1,400	
	AN	280	4,400	120	-8,800	4,300	370	
	BN	200	4,400	1,100	-9,600	3,100	-820	
	D	190	4,300	1,100	-10,000	3,900	-970	
	C	89	4,500	1,500	-11,000	3,500	-1,600	
Average (2040-2090)		**230**	**4,600**	**890**	**-9,300**	**3,300**	**-320**	
2040-2090	W	370	5,300	210	-7,700	3,200	1,300	
	AN	280	4,900	270	-9,500	4,000	-11	
	BN	200	4,100	890	-9,400	3,400	-800	
	D	210	4,200	890	-10,000	3,700	-1,300	
	C	86	3,900	1,900	-11,000	2,900	-1,700	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Sierra Vista Mutual Water Company GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

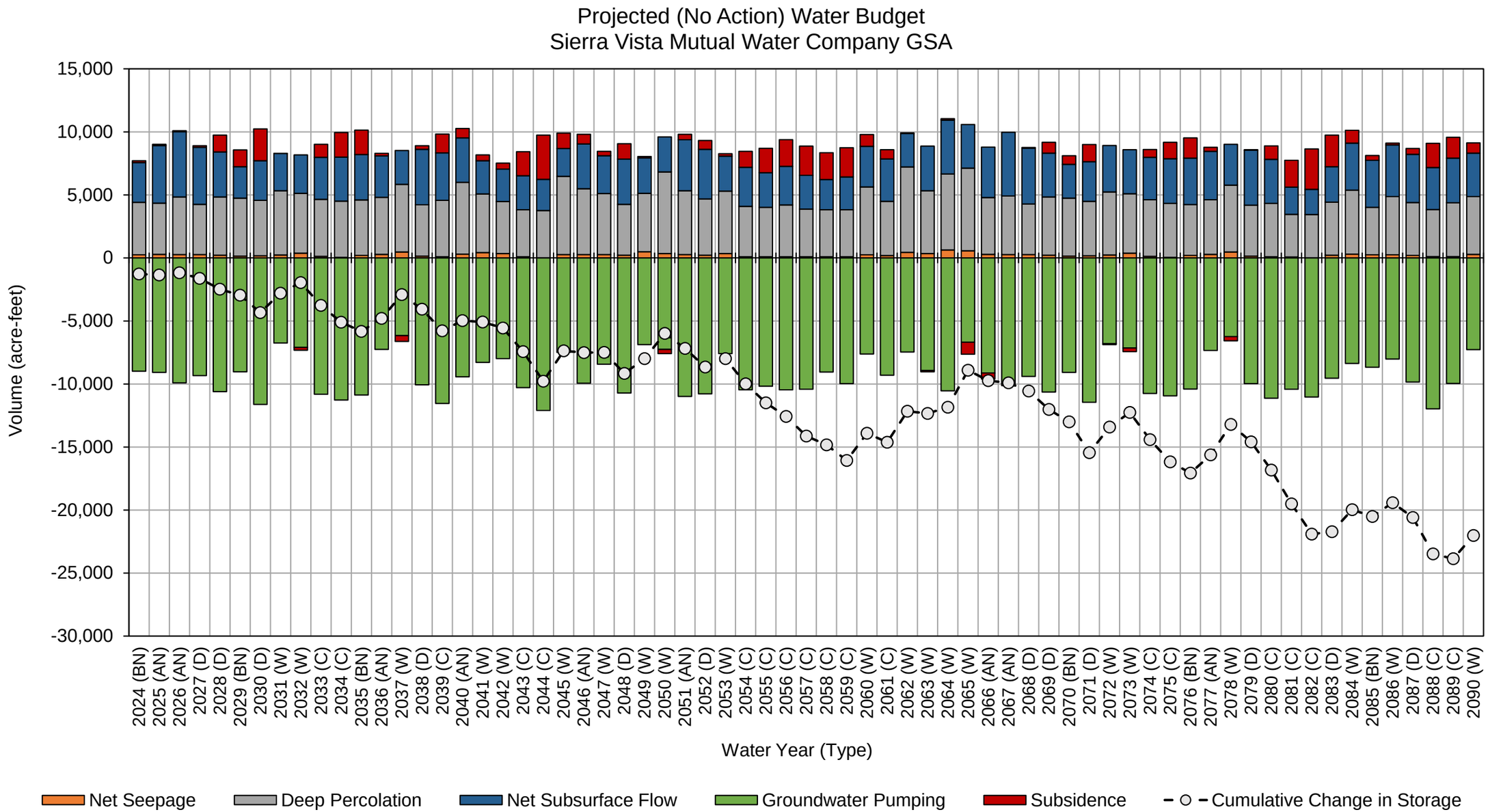
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	260	4,200	-9,000	-4,600
2025 (AN)	290	4,100	-9,100	-4,700
2026 (AN)	270	4,600	-9,900	-5,100
2027 (D)	260	4,000	-9,300	-5,100
2028 (D)	220	4,600	-11,000	-5,800
2029 (BN)	140	4,600	-9,000	-4,300
2030 (D)	170	4,400	-12,000	-7,100
2031 (W)	240	5,100	-6,800	-1,400
2032 (W)	380	4,700	-7,100	-2,000
2033 (C)	130	4,500	-11,000	-6,200
2034 (C)	44	4,500	-11,000	-6,800
2035 (BN)	200	4,400	-11,000	-6,300
2036 (AN)	290	4,500	-7,300	-2,500
2037 (W)	470	5,400	-6,200	-340
2038 (D)	130	4,100	-10,000	-5,900
2039 (C)	95	4,500	-12,000	-7,000
2040 (AN)	290	5,700	-9,400	-3,500
2041 (W)	420	4,700	-8,300	-3,200
2042 (W)	340	4,100	-8,000	-3,500
2043 (C)	88	3,700	-10,000	-6,500
2044 (C)	16	3,700	-12,000	-8,300
2045 (W)	260	6,200	-7,500	-1,000
2046 (AN)	270	5,200	-9,900	-4,500
2047 (W)	260	4,800	-8,400	-3,300
2048 (D)	220	4,000	-11,000	-6,500
2049 (W)	480	4,600	-6,900	-1,800
2050 (W)	350	6,500	-7,300	-430
2051 (AN)	270	5,100	-11,000	-5,700
2052 (D)	220	4,500	-11,000	-6,100
2053 (W)	350	5,000	-7,600	-2,300
2054 (C)	88	4,000	-10,000	-6,400
2055 (C)	88	3,900	-10,000	-6,200
2056 (C)	89	4,100	-10,000	-6,300
2057 (C)	84	3,800	-10,000	-6,500
2058 (C)	90	3,700	-9,100	-5,200
2059 (C)	88	3,700	-10,000	-6,200
2060 (W)	240	5,400	-7,600	-2,000
2061 (C)	180	4,300	-9,300	-4,800
2062 (W)	440	6,800	-7,500	-250
2063 (W)	340	5,000	-8,900	-3,600
2064 (W)	630	6,000	-11,000	-3,900
2065 (W)	570	6,600	-6,700	430
2066 (AN)	290	4,500	-9,100	-4,400
2067 (AN)	270	4,700	-10,000	-5,000
2068 (D)	260	4,000	-9,400	-5,100

Sierra Vista Mutual Water Company GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		220	4,600	-11,000	-5,800
2070 (BN)		140	4,600	-9,100	-4,300
2071 (D)		170	4,300	-11,000	-7,000
2072 (W)		240	5,000	-6,800	-1,600
2073 (W)		380	4,700	-7,100	-2,100
2074 (C)		130	4,500	-11,000	-6,100
2075 (C)		44	4,300	-11,000	-6,600
2076 (BN)		200	4,000	-10,000	-6,200
2077 (AN)		290	4,300	-7,300	-2,700
2078 (W)		470	5,300	-6,300	-470
2079 (D)		130	4,100	-10,000	-5,800
2080 (C)		95	4,200	-11,000	-6,800
2081 (C)		70	3,400	-10,000	-7,000
2082 (C)		16	3,400	-11,000	-7,600
2083 (D)		220	4,200	-9,600	-5,100
2084 (W)		290	5,100	-8,400	-3,000
2085 (BN)		260	3,800	-8,700	-4,700
2086 (W)		250	4,600	-8,000	-3,200
2087 (D)		210	4,200	-9,800	-5,500
2088 (C)		100	3,700	-12,000	-8,200
2089 (C)		100	4,300	-10,000	-5,600
2090 (W)		270	4,600	-7,300	-2,400
Average (2024-2039)		**220**	**4,500**	**-9,400**	**-4,700**
2024-2039	W	360	5,100	-6,700	-1,300
	AN	280	4,400	-8,800	-4,100
	BN	200	4,400	-9,600	-5,000
	D	190	4,300	-10,000	-5,900
	C	89	4,500	-11,000	-6,600
Average (2040-2090)		**230**	**4,600**	**-9,300**	**-4,500**
2040-2090	W	370	5,300	-7,700	-2,100
	AN	280	4,900	-9,500	-4,300
	BN	200	4,100	-9,400	-5,100
	D	210	4,200	-10,000	-5,900
	C	86	3,900	-11,000	-6,500

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Sierra Vista Mutual Water Company GSA
Volume (acre-feet)
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
-25,000
-30,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Sierra Vista Mutual Water Company GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	260	4,200	680	-9,500	2,600	-1,700	-1,700
2025 (AN)	250	4,200	1,000	-9,500	3,300	-700	-2,400
2026 (AN)	270	4,700	900	-10,000	4,400	-50	-2,500
2027 (D)	260	4,000	1,100	-9,700	3,300	-960	-3,400
2028 (D)	220	4,700	2,300	-11,000	2,700	-950	-4,400
2029 (BN)	140	4,700	2,100	-9,300	1,700	-660	-5,000
2030 (D)	170	4,400	3,100	-12,000	2,700	-1,500	-6,600
2031 (W)	240	5,000	390	-7,200	2,900	1,400	-5,200
2032 (W)	380	4,700	19	-7,400	3,200	910	-4,300
2033 (C)	130	4,500	1,300	-11,000	3,300	-1,800	-6,100
2034 (C)	44	4,500	2,400	-12,000	3,200	-1,500	-7,500
2035 (BN)	200	4,500	2,500	-11,000	3,000	-950	-8,500
2036 (AN)	280	4,600	750	-7,700	2,700	710	-7,700
2037 (W)	470	5,500	8	-6,600	2,400	1,800	-6,000
2038 (D)	130	4,100	250	-9,800	4,400	-1,000	-7,000
2039 (C)	95	4,600	1,700	-12,000	3,900	-1,600	-8,700
2040 (AN)	290	5,800	930	-9,700	3,600	890	-7,800
2041 (W)	400	4,700	720	-8,600	2,500	-270	-8,000
2042 (W)	310	4,100	630	-8,400	2,900	-540	-8,600
2043 (C)	89	3,700	1,700	-10,000	3,000	-1,700	-10,000
2044 (C)	19	3,800	3,100	-12,000	2,500	-2,600	-13,000
2045 (W)	390	6,200	1,200	-7,600	2,900	3,000	-9,900
2046 (AN)	250	5,300	630	-10,000	3,900	-280	-10,000
2047 (W)	380	4,900	270	-8,800	3,400	240	-10,000
2048 (D)	220	4,100	890	-11,000	4,000	-1,800	-12,000
2049 (W)	510	4,700	8	-7,100	3,400	1,500	-10,000
2050 (W)	420	6,400	-350	-7,600	3,100	2,100	-8,100
2051 (AN)	260	5,100	530	-11,000	3,700	-1,700	-9,800
2052 (D)	220	4,500	810	-11,000	3,800	-1,800	-12,000
2053 (W)	350	5,000	530	-8,000	2,600	550	-11,000
2054 (C)	89	4,000	1,500	-11,000	2,700	-2,300	-13,000
2055 (C)	86	3,800	2,200	-10,000	2,400	-1,800	-15,000
2056 (C)	86	3,800	2,500	-10,000	2,500	-1,300	-17,000
2057 (C)	80	3,500	2,600	-10,000	2,000	-2,000	-18,000
2058 (C)	90	3,400	2,500	-8,800	1,900	-810	-19,000
2059 (C)	88	3,500	2,600	-9,800	2,300	-1,400	-21,000
2060 (W)	240	5,200	1,700	-7,900	2,400	1,600	-19,000
2061 (C)	180	4,100	1,500	-9,300	2,600	-940	-20,000
2062 (W)	420	6,600	500	-7,600	2,500	2,500	-18,000
2063 (W)	320	4,900	150	-9,100	3,200	-520	-18,000
2064 (W)	570	6,000	820	-11,000	2,700	-800	-19,000
2065 (W)	510	6,700	-37	-7,200	3,200	3,200	-16,000
2066 (AN)	250	4,600	-180	-9,500	3,400	-1,500	-17,000
2067 (AN)	270	4,600	-3	-10,000	4,900	-230	-17,000
2068 (D)	260	3,800	160	-9,300	3,700	-1,400	-19,000
2069 (D)	220	4,300	940	-10,000	3,300	-1,600	-20,000
2070 (BN)	140	4,300	1,300	-9,000	2,700	-700	-21,000

Sierra Vista Mutual Water Company GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		170	4,000	2,100	-11,000	3,200	-1,700	-23,000
2072 (W)		240	4,800	400	-7,200	3,900	2,100	-21,000
2073 (W)		380	4,500	-150	-7,200	4,000	1,500	-19,000
2074 (C)		130	4,300	470	-11,000	3,600	-2,300	-21,000
2075 (C)		44	4,100	1,300	-11,000	3,700	-1,800	-23,000
2076 (BN)		200	4,000	1,800	-10,000	3,600	-930	-24,000
2077 (AN)		280	4,300	590	-7,600	3,700	1,200	-23,000
2078 (W)		470	5,300	-45	-6,700	3,200	2,300	-21,000
2079 (D)		130	4,000	-160	-9,600	4,700	-910	-22,000
2080 (C)		95	4,200	810	-11,000	4,000	-2,200	-24,000
2081 (C)		70	3,400	1,700	-10,000	2,800	-2,400	-26,000
2082 (C)		16	3,400	2,900	-11,000	2,600	-2,300	-28,000
2083 (D)		220	4,200	2,200	-9,600	3,100	100	-28,000
2084 (W)		290	5,100	970	-8,700	3,900	1,600	-27,000
2085 (BN)		260	3,700	440	-8,800	3,700	-670	-27,000
2086 (W)		250	4,900	300	-8,300	4,000	1,100	-26,000
2087 (D)		210	4,300	400	-10,000	4,200	-930	-27,000
2088 (C)		100	3,800	1,600	-12,000	4,000	-2,700	-30,000
2089 (C)		100	4,300	1,400	-10,000	3,700	-490	-30,000
2090 (W)		270	4,600	690	-7,500	3,700	1,700	-29,000
Average (2024-2039)		**220**	**4,600**	**1,300**	**-9,700**	**3,100**	**-540**	
2024-2039	W	360	5,100	140	-7,100	2,800	1,400	
	AN	270	4,500	900	-9,200	3,500	-12	
	BN	200	4,500	1,800	-10,000	2,400	-1,100	
	D	190	4,300	1,700	-11,000	3,300	-1,100	
	C	89	4,500	1,800	-11,000	3,500	-1,600	
Average (2040-2090)		**230**	**4,500**	**1,000**	**-9,400**	**3,300**	**-390**	
2040-2090	W	380	5,300	460	-8,000	3,200	1,300	
	AN	270	4,900	420	-9,700	3,900	-260	
	BN	200	4,000	1,200	-9,400	3,300	-770	
	D	210	4,200	920	-10,000	3,800	-1,300	
	C	85	3,800	1,900	-10,000	2,900	-1,800	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Sierra Vista Mutual Water Company GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

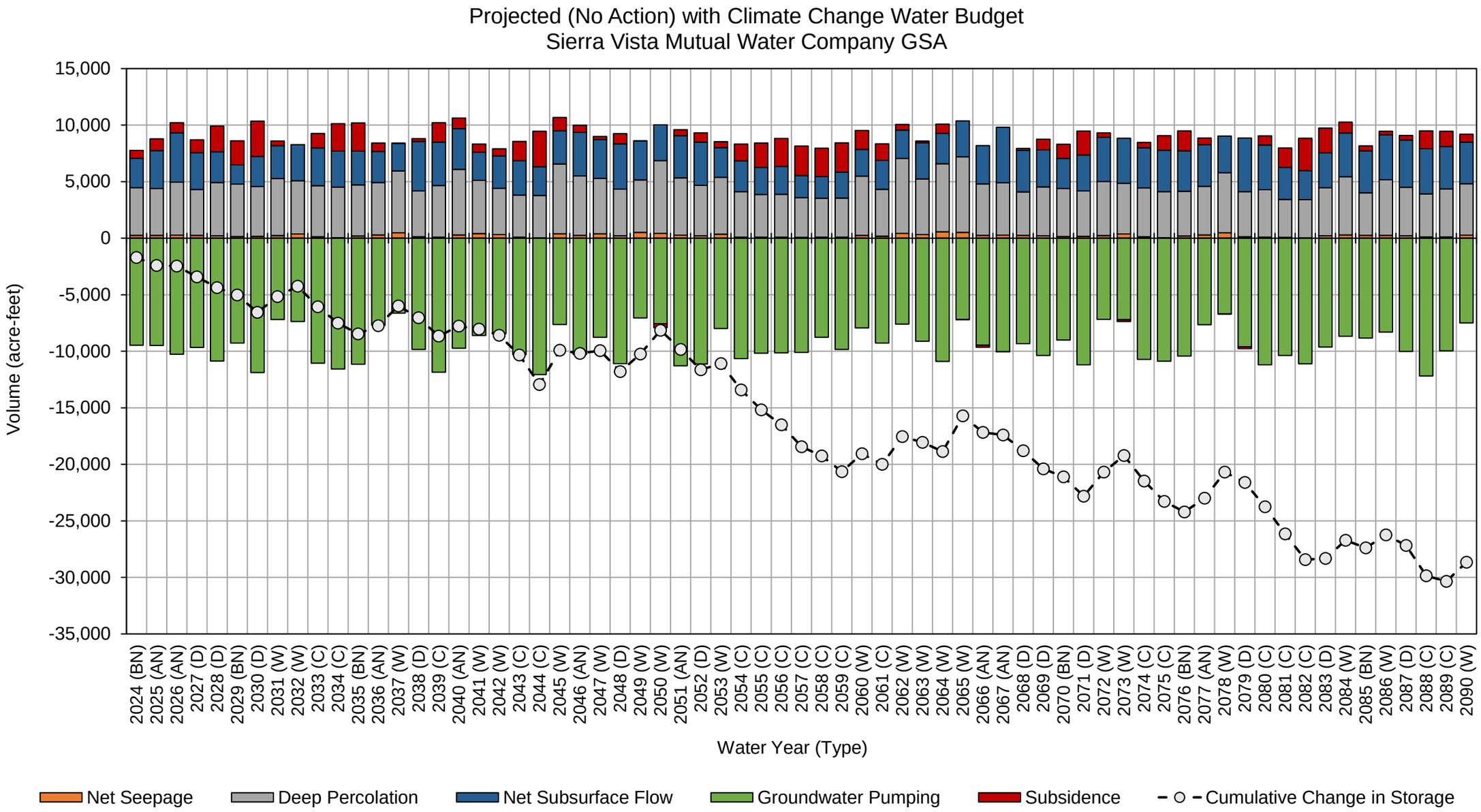
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	260	4,200	-9,500	-5,000
2025 (AN)	250	4,200	-9,500	-5,100
2026 (AN)	270	4,700	-10,000	-5,300
2027 (D)	260	4,000	-9,700	-5,400
2028 (D)	220	4,700	-11,000	-5,900
2029 (BN)	140	4,700	-9,300	-4,500
2030 (D)	170	4,400	-12,000	-7,300
2031 (W)	240	5,000	-7,200	-1,900
2032 (W)	380	4,700	-7,400	-2,300
2033 (C)	130	4,500	-11,000	-6,400
2034 (C)	44	4,500	-12,000	-7,100
2035 (BN)	200	4,500	-11,000	-6,400
2036 (AN)	280	4,600	-7,700	-2,800
2037 (W)	470	5,500	-6,600	-680
2038 (D)	130	4,100	-9,800	-5,700
2039 (C)	95	4,600	-12,000	-7,200
2040 (AN)	290	5,800	-9,700	-3,600
2041 (W)	400	4,700	-8,600	-3,500
2042 (W)	310	4,100	-8,400	-4,000
2043 (C)	89	3,700	-10,000	-6,500
2044 (C)	19	3,800	-12,000	-8,300
2045 (W)	390	6,200	-7,600	-1,100
2046 (AN)	250	5,300	-10,000	-4,800
2047 (W)	380	4,900	-8,800	-3,500
2048 (D)	220	4,100	-11,000	-6,700
2049 (W)	510	4,700	-7,100	-1,900
2050 (W)	420	6,400	-7,600	-700
2051 (AN)	260	5,100	-11,000	-6,000
2052 (D)	220	4,500	-11,000	-6,500
2053 (W)	350	5,000	-8,000	-2,600
2054 (C)	89	4,000	-11,000	-6,500
2055 (C)	86	3,800	-10,000	-6,300
2056 (C)	86	3,800	-10,000	-6,300
2057 (C)	80	3,500	-10,000	-6,500
2058 (C)	90	3,400	-8,800	-5,200
2059 (C)	88	3,500	-9,800	-6,300
2060 (W)	240	5,200	-7,900	-2,500
2061 (C)	180	4,100	-9,300	-5,000
2062 (W)	420	6,600	-7,600	-550
2063 (W)	320	4,900	-9,100	-3,900
2064 (W)	570	6,000	-11,000	-4,300
2065 (W)	510	6,700	-7,200	12
2066 (AN)	250	4,600	-9,500	-4,700
2067 (AN)	270	4,600	-10,000	-5,100
2068 (D)	260	3,800	-9,300	-5,200

Sierra Vista Mutual Water Company GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		220	4,300	-10,000	-5,800
2070 (BN)		140	4,300	-9,000	-4,600
2071 (D)		170	4,000	-11,000	-7,000
2072 (W)		240	4,800	-7,200	-2,200
2073 (W)		380	4,500	-7,200	-2,400
2074 (C)		130	4,300	-11,000	-6,300
2075 (C)		44	4,100	-11,000	-6,800
2076 (BN)		200	4,000	-10,000	-6,300
2077 (AN)		280	4,300	-7,600	-3,100
2078 (W)		470	5,300	-6,700	-890
2079 (D)		130	4,000	-9,600	-5,500
2080 (C)		95	4,200	-11,000	-6,900
2081 (C)		70	3,400	-10,000	-7,000
2082 (C)		16	3,400	-11,000	-7,700
2083 (D)		220	4,200	-9,600	-5,200
2084 (W)		290	5,100	-8,700	-3,200
2085 (BN)		260	3,700	-8,800	-4,800
2086 (W)		250	4,900	-8,300	-3,100
2087 (D)		210	4,300	-10,000	-5,500
2088 (C)		100	3,800	-12,000	-8,300
2089 (C)		100	4,300	-10,000	-5,600
2090 (W)		270	4,600	-7,500	-2,700
Average (2024-2039)		**220**	**4,600**	**-9,700**	**-4,900**
2024-2039	W	360	5,100	-7,100	-1,600
	AN	270	4,500	-9,200	-4,400
	BN	200	4,500	-10,000	-5,300
	D	190	4,300	-11,000	-6,100
	C	89	4,500	-11,000	-6,900
Average (2040-2090)		**230**	**4,500**	**-9,400**	**-4,700**
2040-2090	W	380	5,300	-8,000	-2,400
	AN	270	4,900	-9,700	-4,500
	BN	200	4,000	-9,400	-5,200
	D	210	4,200	-10,000	-5,900
	C	85	3,800	-10,000	-6,600

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Sierra Vista Mutual Water Company GSA
Volume (acre-feet)
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
-25,000
-30,000
-35,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.2

Madera Subbasin Water Budget Results

Madera Subbasin Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		76,000	160,000	69,000	-460,000	61,000	-96,000	-96,000
1990 (C)		60,000	160,000	74,000	-490,000	59,000	-140,000	-240,000
1991 (C)		95,000	210,000	70,000	-490,000	55,000	-69,000	-300,000
1992 (C)		79,000	200,000	79,000	-540,000	54,000	-140,000	-440,000
1993 (W)		250,000	430,000	22,000	-410,000	56,000	350,000	-95,000
1994 (C)		110,000	160,000	32,000	-480,000	56,000	-130,000	-220,000
1995 (W)		230,000	390,000	-2,200	-360,000	54,000	300,000	77,000
1996 (W)		200,000	280,000	18,000	-450,000	49,000	94,000	170,000
1997 (W)		210,000	440,000	24,000	-520,000	53,000	200,000	370,000
1998 (W)		180,000	480,000	-29,000	-340,000	53,000	340,000	710,000
1999 (AN)		130,000	190,000	13,000	-480,000	50,000	-98,000	610,000
2000 (AN)		150,000	230,000	11,000	-470,000	51,000	-40,000	570,000
2001 (D)		110,000	160,000	17,000	-460,000	46,000	-130,000	440,000
2002 (D)		99,000	180,000	33,000	-550,000	45,000	-190,000	250,000
2003 (BN)		100,000	190,000	23,000	-510,000	47,000	-140,000	110,000
2004 (D)		110,000	170,000	49,000	-590,000	49,000	-220,000	-110,000
2005 (W)		180,000	290,000	-14,000	-350,000	56,000	160,000	44,000
2006 (W)		180,000	270,000	-4,300	-400,000	60,000	110,000	150,000
2007 (C)		130,000	180,000	30,000	-530,000	54,000	-140,000	17,000
2008 (C)		110,000	160,000	30,000	-530,000	52,000	-180,000	-160,000
2009 (BN)		93,000	140,000	31,000	-510,000	57,000	-190,000	-350,000
2010 (AN)		150,000	210,000	8,300	-410,000	58,000	12,000	-340,000
2011 (W)		220,000	390,000	150	-410,000	67,000	270,000	-76,000
2012 (D)		87,000	160,000	28,000	-510,000	69,000	-170,000	-250,000
2013 (C)		79,000	150,000	55,000	-590,000	58,000	-250,000	-500,000
2014 (C)		43,000	120,000	77,000	-610,000	49,000	-320,000	-820,000
2015 (C)		36,000	140,000	100,000	-660,000	44,000	-340,000	-1,200,000
2016 (D)		120,000	240,000	61,000	-520,000	55,000	-51,000	-1,200,000
2017 (W)		250,000	340,000	29,000	-480,000	70,000	210,000	-1,000,000
2018 (BN)		130,000	130,000	45,000	-540,000	70,000	-160,000	-1,200,000
2019 (W)		230,000	230,000	30,000	-500,000	76,000	62,000	-1,100,000
2020 (D)		110,000	150,000	47,000	-580,000	78,000	-200,000	-1,300,000
2021 (C)		58,000	140,000	81,000	-660,000	80,000	-300,000	-1,600,000
2022 (C)		83,000	270,000	45,000	-510,000	79,000	-33,000	-1,600,000
2023 (W)		320,000	430,000	15,000	-450,000	81,000	390,000	-1,200,000
Average (1989-2023)		**140,000**	**230,000**	**34,000**	**-500,000**	**59,000**	**-36,000**	
1989-2023	W	220,000	360,000	8,100	-420,000	62,000	220,000	
	AN	140,000	210,000	11,000	-450,000	53,000	-42,000	
	BN	110,000	160,000	33,000	-520,000	58,000	-170,000	
	D	100,000	180,000	39,000	-540,000	57,000	-160,000	
	C	80,000	170,000	62,000	-550,000	58,000	-180,000	
Average (1989-2015)		**130,000**	**230,000**	**31,000**	**-490,000**	**54,000**	**-43,000**	
1989-2015	W	210,000	370,000	1,900	-400,000	56,000	230,000	
	AN	140,000	210,000	11,000	-450,000	53,000	-42,000	
	BN	99,000	170,000	27,000	-510,000	52,000	-170,000	
	D	100,000	170,000	32,000	-530,000	52,000	-180,000	
	C	82,000	160,000	62,000	-540,000	54,000	-180,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

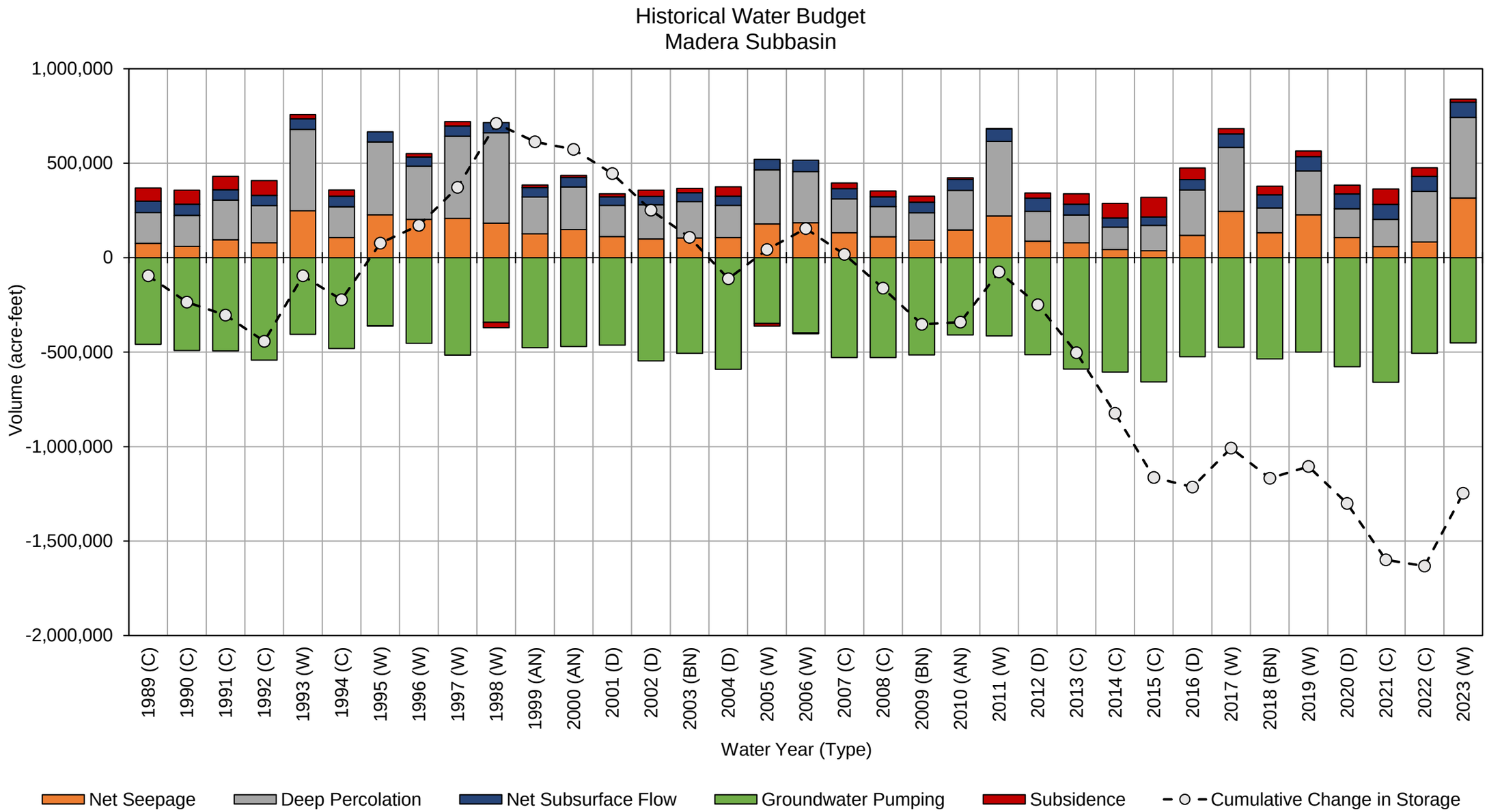
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

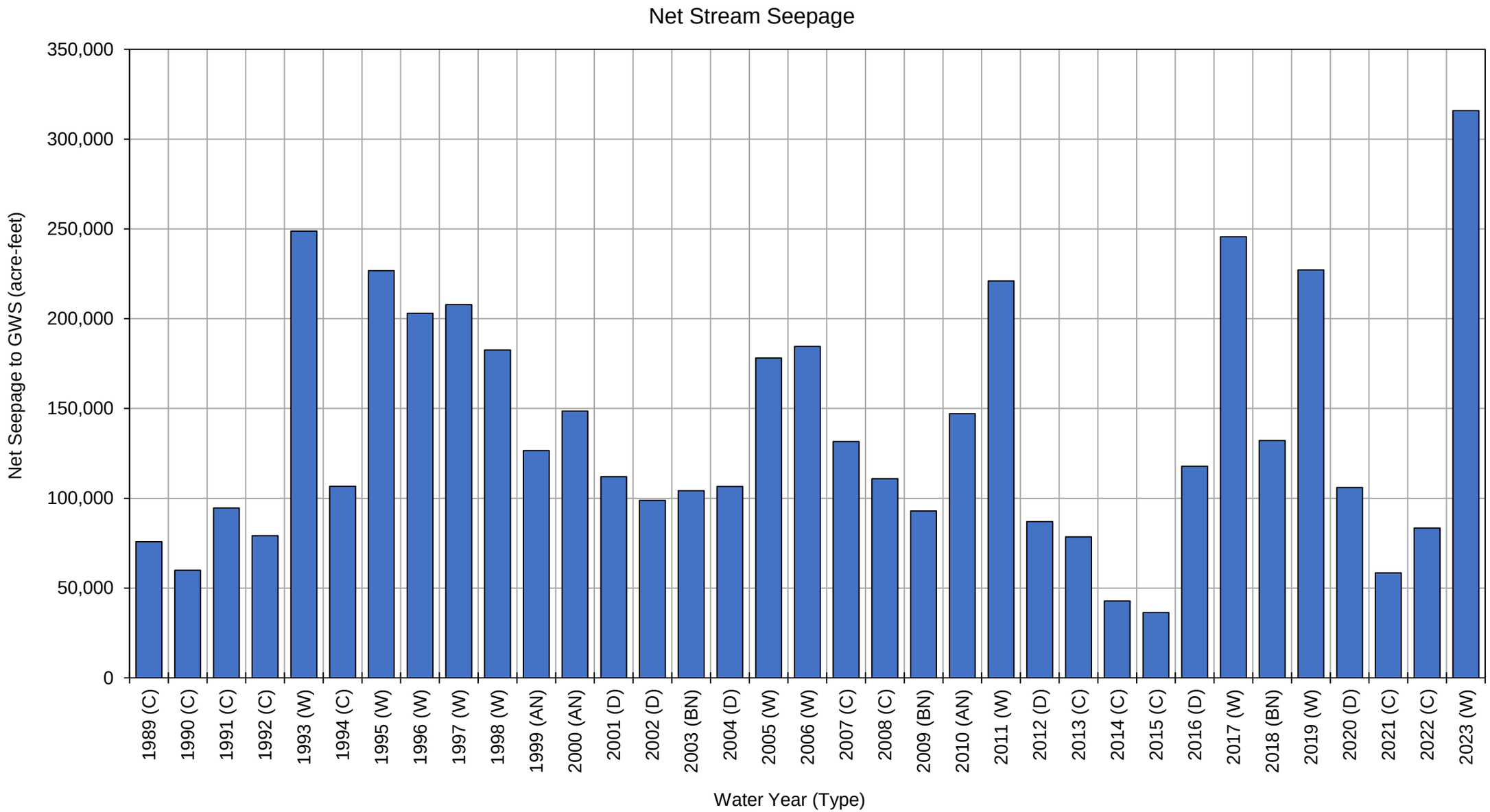
Madera Subbasin Historical Surface Water System Water Budget Summary (acre-feet, rounded)

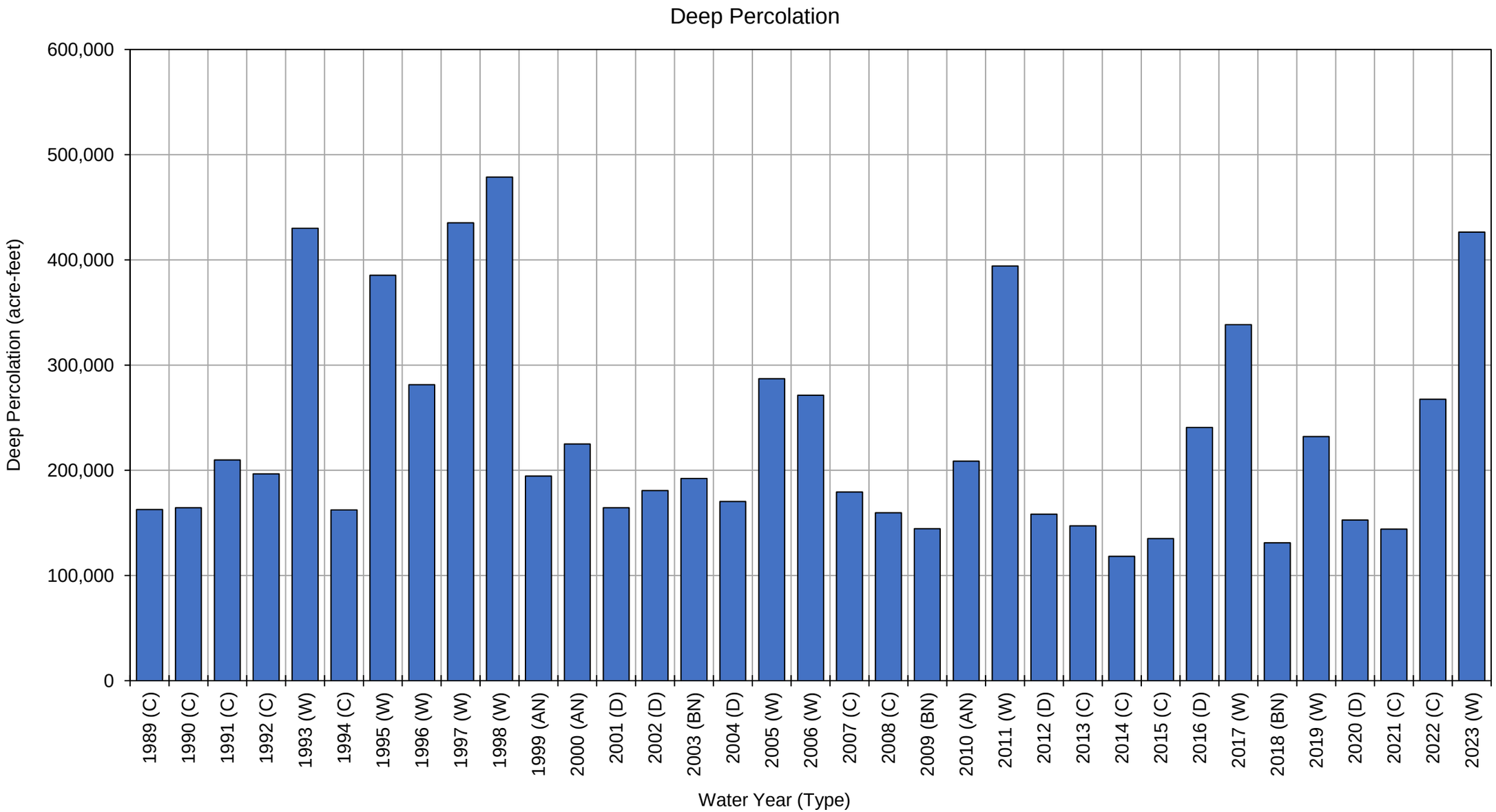
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		76,000	160,000	-460,000	-220,000
1990 (C)		60,000	160,000	-490,000	-270,000
1991 (C)		95,000	210,000	-490,000	-190,000
1992 (C)		79,000	200,000	-540,000	-270,000
1993 (W)		250,000	430,000	-410,000	270,000
1994 (C)		110,000	160,000	-480,000	-210,000
1995 (W)		230,000	390,000	-360,000	250,000
1996 (W)		200,000	280,000	-450,000	31,000
1997 (W)		210,000	440,000	-520,000	130,000
1998 (W)		180,000	480,000	-340,000	320,000
1999 (AN)		130,000	190,000	-480,000	-160,000
2000 (AN)		150,000	230,000	-470,000	-96,000
2001 (D)		110,000	160,000	-460,000	-190,000
2002 (D)		99,000	180,000	-550,000	-270,000
2003 (BN)		100,000	190,000	-510,000	-210,000
2004 (D)		110,000	170,000	-590,000	-310,000
2005 (W)		180,000	290,000	-350,000	120,000
2006 (W)		180,000	270,000	-400,000	57,000
2007 (C)		130,000	180,000	-530,000	-220,000
2008 (C)		110,000	160,000	-530,000	-260,000
2009 (BN)		93,000	140,000	-510,000	-280,000
2010 (AN)		150,000	210,000	-410,000	-53,000
2011 (W)		220,000	390,000	-410,000	200,000
2012 (D)		87,000	160,000	-510,000	-270,000
2013 (C)		79,000	150,000	-590,000	-360,000
2014 (C)		43,000	120,000	-610,000	-440,000
2015 (C)		36,000	140,000	-660,000	-490,000
2016 (D)		120,000	240,000	-520,000	-170,000
2017 (W)		250,000	340,000	-480,000	110,000
2018 (BN)		130,000	130,000	-540,000	-270,000
2019 (W)		230,000	230,000	-500,000	-41,000
2020 (D)		110,000	150,000	-580,000	-320,000
2021 (C)		58,000	140,000	-660,000	-460,000
2022 (C)		83,000	270,000	-510,000	-160,000
2023 (W)		320,000	430,000	-450,000	290,000
Average (1989-2023)		**140,000**	**230,000**	**-500,000**	**-130,000**
1989-2023	W	220,000	360,000	-420,000	160,000
	AN	140,000	210,000	-450,000	-100,000
	BN	110,000	160,000	-520,000	-250,000
	D	100,000	180,000	-540,000	-250,000
	C	80,000	170,000	-550,000	-290,000
Average (1989-2015)		**130,000**	**230,000**	**-490,000**	**-130,000**
1989-2015	W	210,000	370,000	-400,000	170,000
	AN	140,000	210,000	-450,000	-100,000
	BN	99,000	170,000	-510,000	-240,000
	D	100,000	170,000	-530,000	-260,000
	C	82,000	160,000	-540,000	-290,000

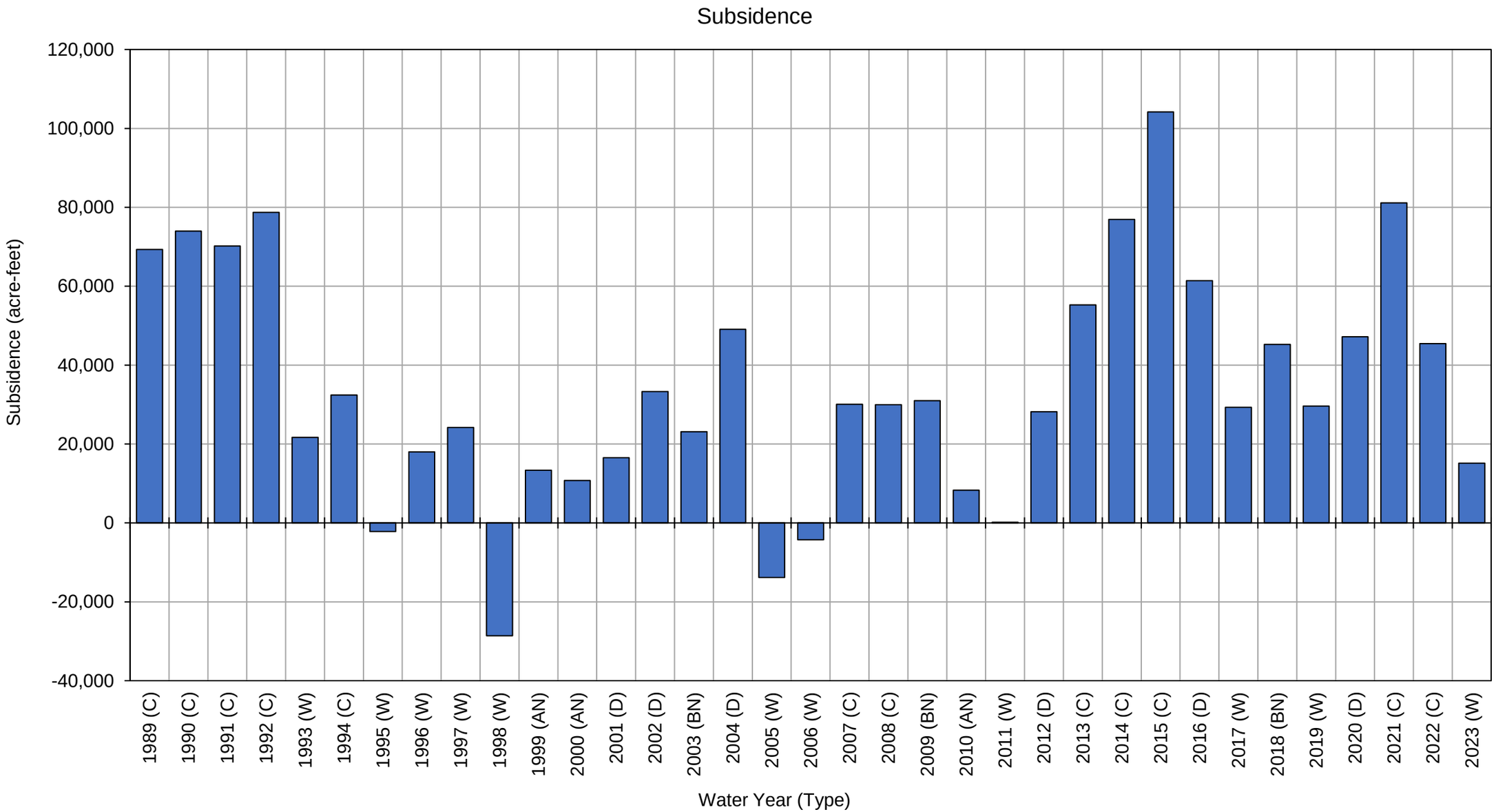
Note: Water Year Type is based on the San JoBiuin Valley Water Year Index and is classified into five types:

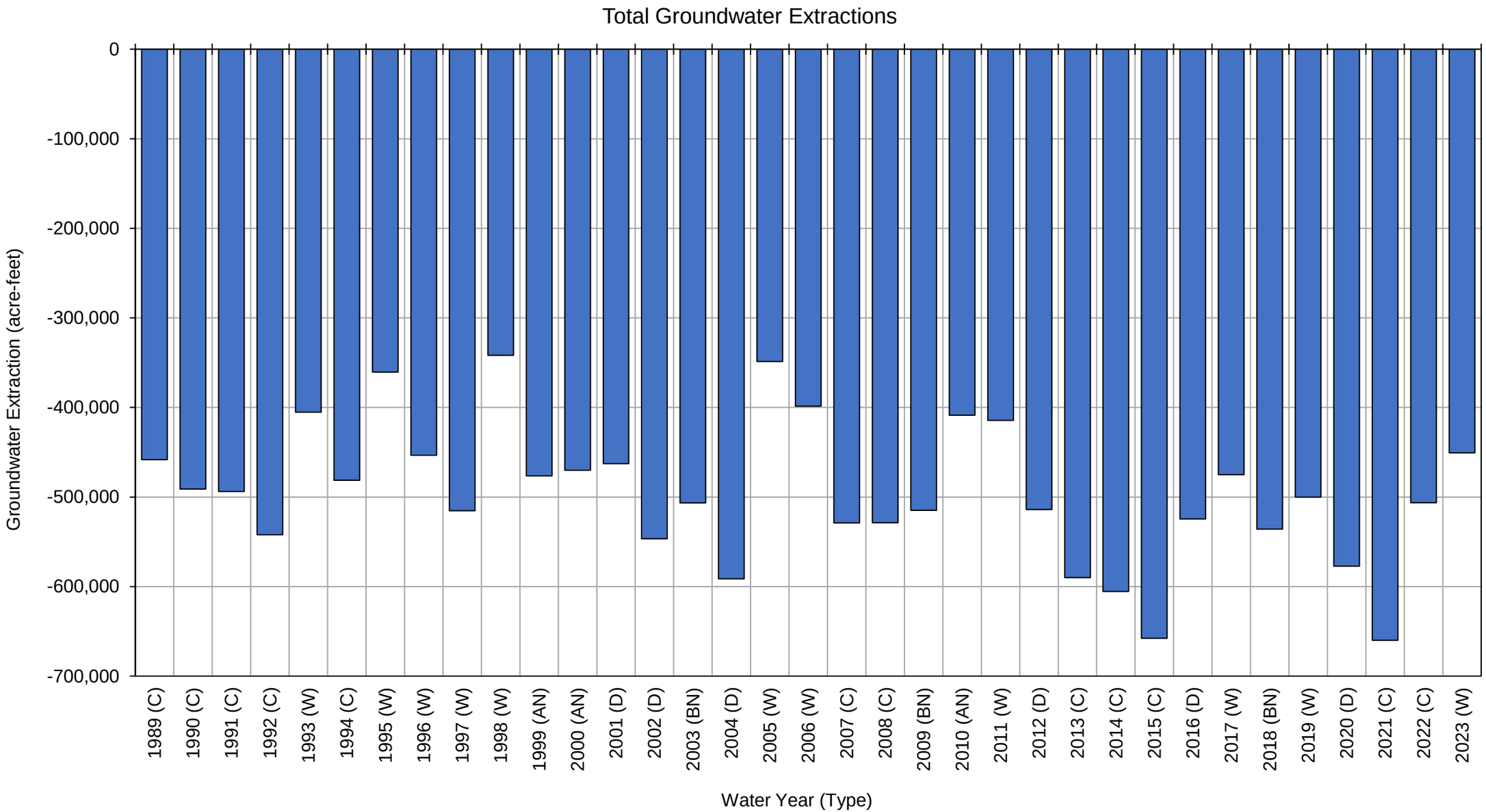
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

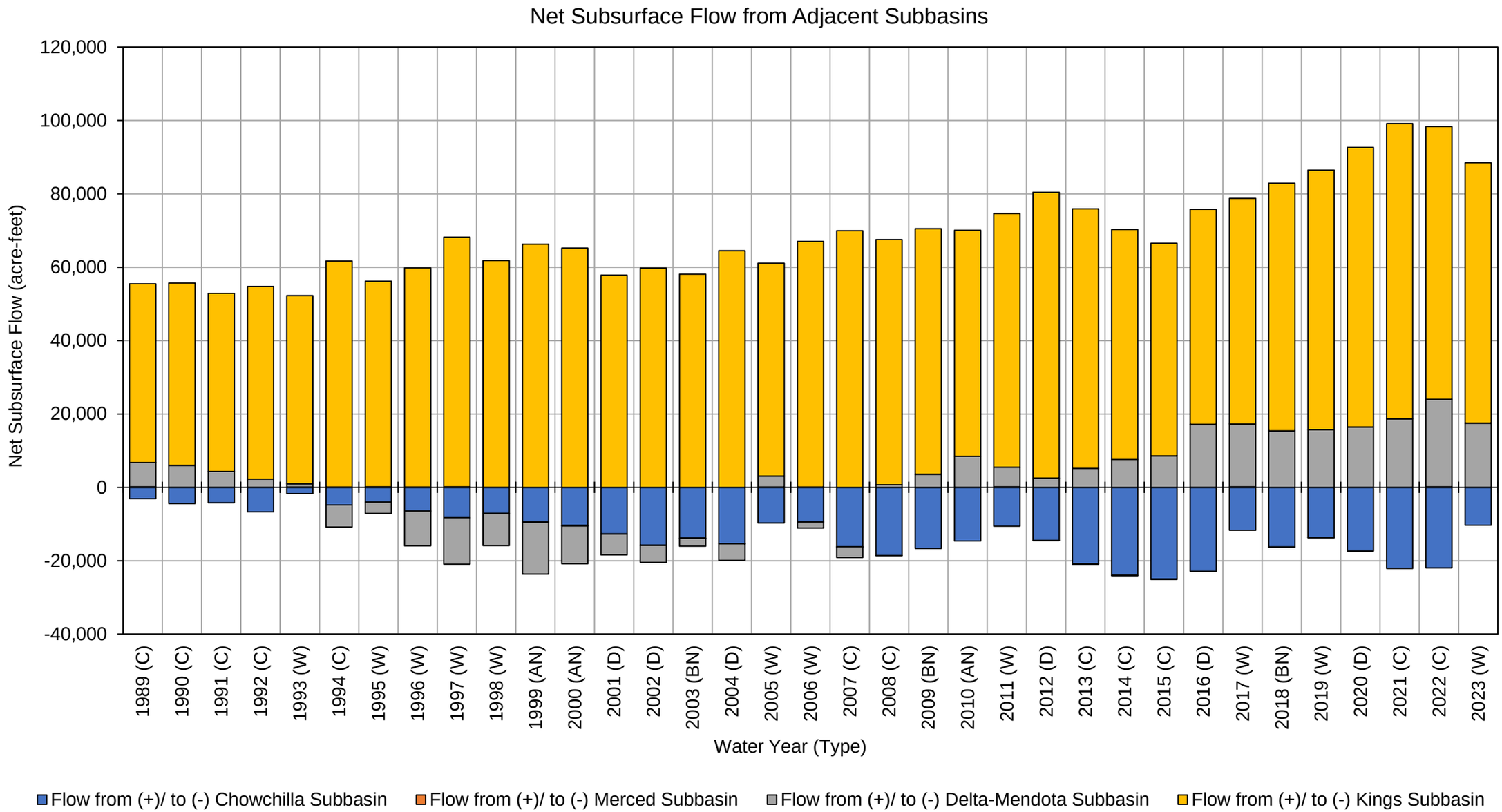

Historical Water Budget
Madera Subbasin
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
Volume (acre-feet)
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

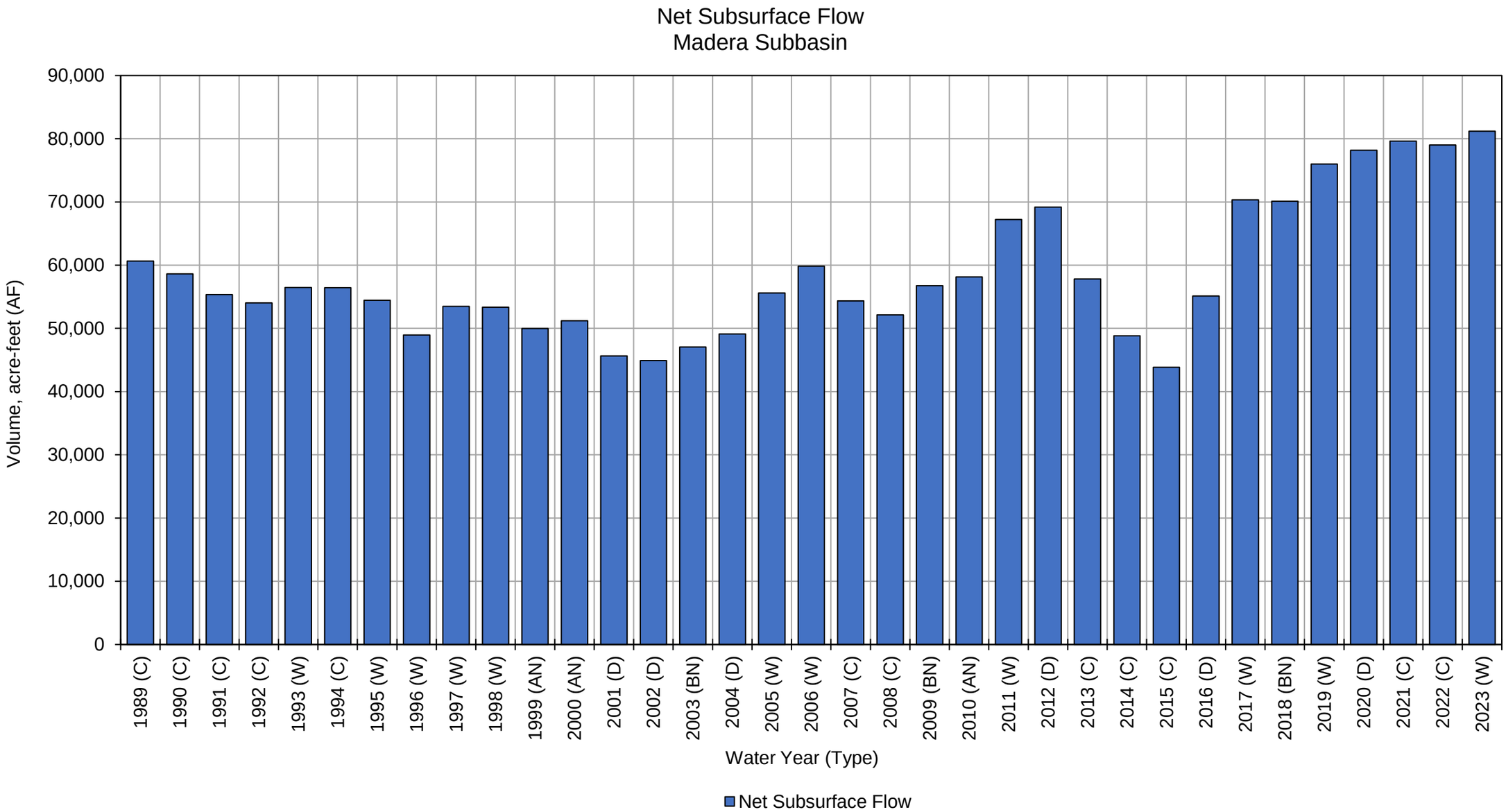

Net Stream Seepage
Net Seepage to GWS (acre-feet)
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)

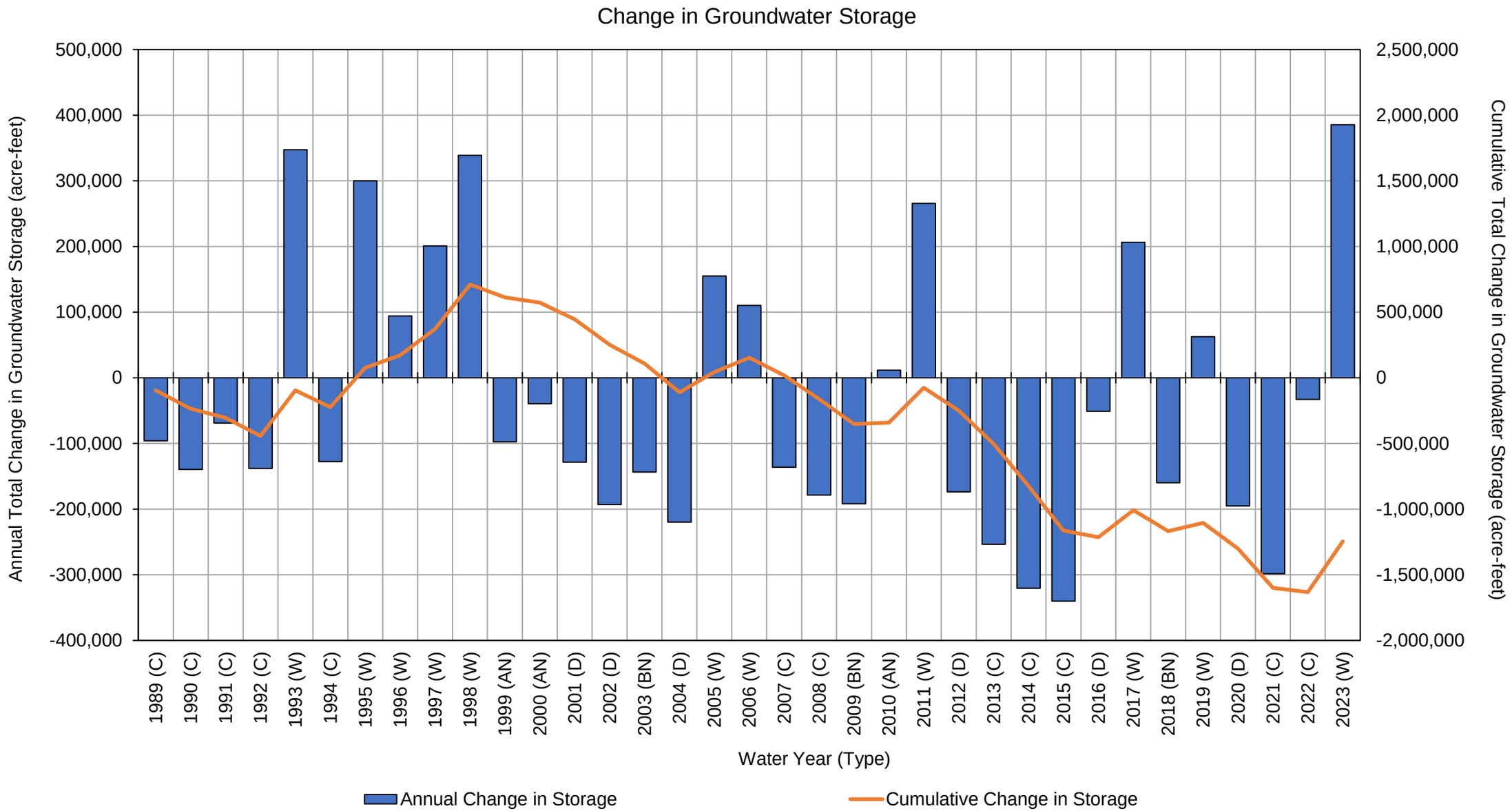

Deep Percolation
Deep Percolation (acre-feet)
600,000
500,000
400,000
300,000
200,000
100,000
0
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Flow from (+)/ to (-) Chowchilla Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin
Flow from (+)/ to (-) Kings Subbasin


Net Subsurface Flow
Madera Subbasin
Volume, acre-feet (AF)
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Madera Subbasin Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	150,000	120,000	19,000	-550,000	86,000	-170,000	-170,000
2025 (AN)	220,000	160,000	6,800	-480,000	85,000	-18,000	-190,000
2026 (AN)	230,000	220,000	6,500	-460,000	78,000	65,000	-120,000
2027 (D)	140,000	140,000	12,000	-470,000	72,000	-98,000	-220,000
2028 (D)	130,000	180,000	25,000	-510,000	69,000	-110,000	-330,000
2029 (BN)	140,000	180,000	22,000	-480,000	70,000	-64,000	-400,000
2030 (D)	140,000	150,000	35,000	-520,000	70,000	-130,000	-530,000
2031 (W)	290,000	310,000	-6,100	-370,000	69,000	290,000	-240,000
2032 (W)	310,000	260,000	-10,000	-390,000	56,000	220,000	-19,000
2033 (C)	170,000	140,000	9,000	-470,000	52,000	-110,000	-130,000
2034 (C)	140,000	140,000	12,000	-470,000	55,000	-130,000	-260,000
2035 (BN)	130,000	130,000	14,000	-470,000	61,000	-140,000	-400,000
2036 (AN)	230,000	210,000	-7,900	-380,000	67,000	120,000	-280,000
2037 (W)	420,000	420,000	-26,000	-350,000	45,000	510,000	230,000
2038 (D)	110,000	95,000	-4,200	-410,000	49,000	-160,000	72,000
2039 (C)	100,000	110,000	10,000	-460,000	40,000	-200,000	-120,000
2040 (AN)	230,000	260,000	-6,200	-380,000	38,000	130,000	10,000
2041 (W)	410,000	280,000	-22,000	-340,000	15,000	340,000	350,000
2042 (W)	350,000	160,000	-22,000	-360,000	-2,000	130,000	470,000
2043 (C)	100,000	73,000	3,000	-420,000	17,000	-230,000	250,000
2044 (C)	63,000	80,000	30,000	-510,000	20,000	-320,000	-69,000
2045 (W)	360,000	370,000	-22,000	-330,000	23,000	400,000	330,000
2046 (AN)	250,000	210,000	-6,500	-400,000	32,000	84,000	410,000
2047 (W)	340,000	240,000	-14,000	-380,000	17,000	200,000	610,000
2048 (D)	130,000	87,000	3,600	-420,000	20,000	-190,000	430,000
2049 (W)	410,000	290,000	-33,000	-310,000	5,100	360,000	780,000
2050 (W)	380,000	490,000	-38,000	-300,000	-11,000	520,000	1,300,000
2051 (AN)	230,000	140,000	-380	-440,000	2,200	-83,000	1,200,000
2052 (D)	130,000	99,000	-2,300	-420,000	6,300	-200,000	1,000,000
2053 (W)	380,000	300,000	-32,000	-320,000	-9,200	320,000	1,300,000
2054 (C)	110,000	71,000	4,100	-420,000	-2,200	-240,000	1,100,000
2055 (C)	89,000	83,000	10,000	-430,000	2,100	-240,000	850,000
2056 (C)	110,000	110,000	7,000	-410,000	6,600	-170,000	690,000
2057 (C)	96,000	110,000	16,000	-420,000	9,000	-200,000	490,000
2058 (C)	130,000	140,000	12,000	-400,000	16,000	-110,000	380,000
2059 (C)	110,000	130,000	23,000	-440,000	18,000	-160,000	220,000
2060 (W)	430,000	410,000	-20,000	-310,000	-1,500	510,000	730,000
2061 (C)	140,000	83,000	1,700	-390,000	7,200	-160,000	570,000
2062 (W)	410,000	390,000	-31,000	-280,000	-18,000	470,000	1,000,000
2063 (W)	370,000	260,000	-20,000	-320,000	-32,000	260,000	1,300,000
2064 (W)	390,000	400,000	-13,000	-380,000	-43,000	340,000	1,600,000
2065 (W)	360,000	440,000	-50,000	-270,000	-54,000	410,000	2,000,000
2066 (AN)	210,000	130,000	-12,000	-370,000	-42,000	-87,000	2,000,000
2067 (AN)	240,000	180,000	-18,000	-350,000	-36,000	12,000	2,000,000
2068 (D)	140,000	110,000	-4,400	-360,000	-32,000	-150,000	1,800,000
2069 (D)	130,000	130,000	11,000	-420,000	-25,000	-180,000	1,600,000

Madera Subbasin Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		160,000	150,000	3,400	-400,000	-18,000	-110,000	1,500,000
2071 (D)		140,000	120,000	22,000	-460,000	-14,000	-200,000	1,300,000
2072 (W)		330,000	310,000	-29,000	-290,000	-19,000	300,000	1,600,000
2073 (W)		320,000	280,000	-20,000	-330,000	-30,000	220,000	1,900,000
2074 (C)		150,000	110,000	14,000	-440,000	-24,000	-180,000	1,700,000
2075 (C)		140,000	110,000	15,000	-440,000	-16,000	-200,000	1,500,000
2076 (BN)		150,000	110,000	18,000	-460,000	-11,000	-190,000	1,300,000
2077 (AN)		240,000	200,000	-10,000	-350,000	-8,500	68,000	1,300,000
2078 (W)		380,000	440,000	-26,000	-330,000	-31,000	440,000	1,800,000
2079 (D)		110,000	91,000	8,400	-410,000	-21,000	-220,000	1,600,000
2080 (C)		110,000	97,000	24,000	-470,000	-18,000	-260,000	1,300,000
2081 (C)		75,000	81,000	30,000	-490,000	-15,000	-320,000	990,000
2082 (C)		67,000	98,000	40,000	-530,000	-12,000	-330,000	660,000
2083 (D)		150,000	200,000	10,000	-420,000	6,000	-60,000	600,000
2084 (W)		430,000	400,000	-13,000	-370,000	-11,000	430,000	1,000,000
2085 (BN)		180,000	81,000	5,600	-420,000	4,300	-150,000	870,000
2086 (W)		360,000	240,000	-11,000	-370,000	-3,100	210,000	1,100,000
2087 (D)		130,000	97,000	10,000	-440,000	7,300	-200,000	880,000
2088 (C)		88,000	98,000	31,000	-520,000	9,800	-290,000	590,000
2089 (C)		110,000	220,000	5,700	-400,000	13,000	-59,000	530,000
2090 (W)		450,000	490,000	-24,000	-340,000	-18,000	560,000	1,100,000
Average (2024-2039)		**190,000**	**180,000**	**7,300**	**-450,000**	**64,000**	**-7,700**	
2024-2039	W	340,000	330,000	-14,000	-370,000	57,000	340,000	
	AN	230,000	190,000	1,800	-440,000	77,000	56,000	
	BN	140,000	150,000	18,000	-500,000	72,000	-120,000	
	D	130,000	140,000	17,000	-480,000	65,000	-130,000	
	C	140,000	130,000	10,000	-470,000	49,000	-150,000	
Average (2040-2090)		**230,000**	**200,000**	**-2,700**	**-390,000**	**-5,600**	**24,000**	
2040-2090	W	380,000	340,000	-24,000	-330,000	-12,000	360,000	
	AN	230,000	180,000	-8,900	-380,000	-2,200	21,000	
	BN	160,000	110,000	8,900	-420,000	-8,100	-150,000	
	D	130,000	120,000	7,300	-420,000	-6,500	-170,000	
	C	110,000	110,000	17,000	-440,000	1,900	-220,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Subbasin Projected with Projects Surface System Water Budget Summary (acre-feet, rounded)

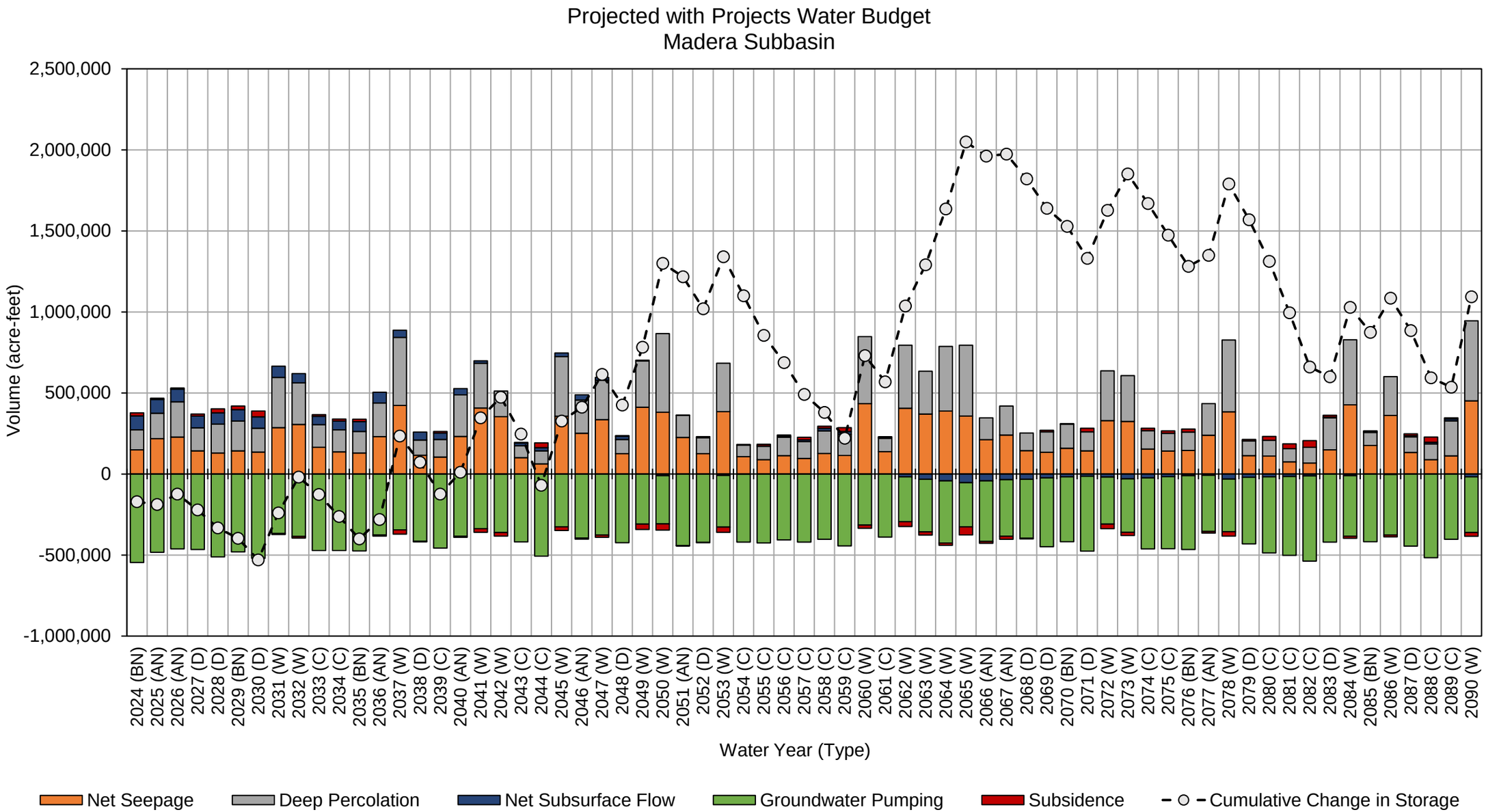
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	150,000	120,000	-550,000	-270,000
2025 (AN)	220,000	160,000	-480,000	-110,000
2026 (AN)	230,000	220,000	-460,000	-17,000
2027 (D)	140,000	140,000	-470,000	-180,000
2028 (D)	130,000	180,000	-510,000	-200,000
2029 (BN)	140,000	180,000	-480,000	-150,000
2030 (D)	140,000	150,000	-520,000	-240,000
2031 (W)	290,000	310,000	-370,000	230,000
2032 (W)	310,000	260,000	-390,000	180,000
2033 (C)	170,000	140,000	-470,000	-170,000
2034 (C)	140,000	140,000	-470,000	-200,000
2035 (BN)	130,000	130,000	-470,000	-210,000
2036 (AN)	230,000	210,000	-380,000	62,000
2037 (W)	420,000	420,000	-350,000	500,000
2038 (D)	110,000	95,000	-410,000	-210,000
2039 (C)	100,000	110,000	-460,000	-240,000
2040 (AN)	230,000	260,000	-380,000	100,000
2041 (W)	410,000	280,000	-340,000	350,000
2042 (W)	350,000	160,000	-360,000	150,000
2043 (C)	100,000	73,000	-420,000	-240,000
2044 (C)	63,000	80,000	-510,000	-360,000
2045 (W)	360,000	370,000	-330,000	400,000
2046 (AN)	250,000	210,000	-400,000	61,000
2047 (W)	340,000	240,000	-380,000	200,000
2048 (D)	130,000	87,000	-420,000	-210,000
2049 (W)	410,000	290,000	-310,000	390,000
2050 (W)	380,000	490,000	-300,000	570,000
2051 (AN)	230,000	140,000	-440,000	-81,000
2052 (D)	130,000	99,000	-420,000	-200,000
2053 (W)	380,000	300,000	-320,000	360,000
2054 (C)	110,000	71,000	-420,000	-240,000
2055 (C)	89,000	83,000	-430,000	-250,000
2056 (C)	110,000	110,000	-410,000	-180,000
2057 (C)	96,000	110,000	-420,000	-220,000
2058 (C)	130,000	140,000	-400,000	-140,000
2059 (C)	110,000	130,000	-440,000	-200,000
2060 (W)	430,000	410,000	-310,000	530,000
2061 (C)	140,000	83,000	-390,000	-170,000
2062 (W)	410,000	390,000	-280,000	520,000
2063 (W)	370,000	260,000	-320,000	310,000
2064 (W)	390,000	400,000	-380,000	400,000
2065 (W)	360,000	440,000	-270,000	520,000
2066 (AN)	210,000	130,000	-370,000	-29,000
2067 (AN)	240,000	180,000	-350,000	70,000
2068 (D)	140,000	110,000	-360,000	-110,000

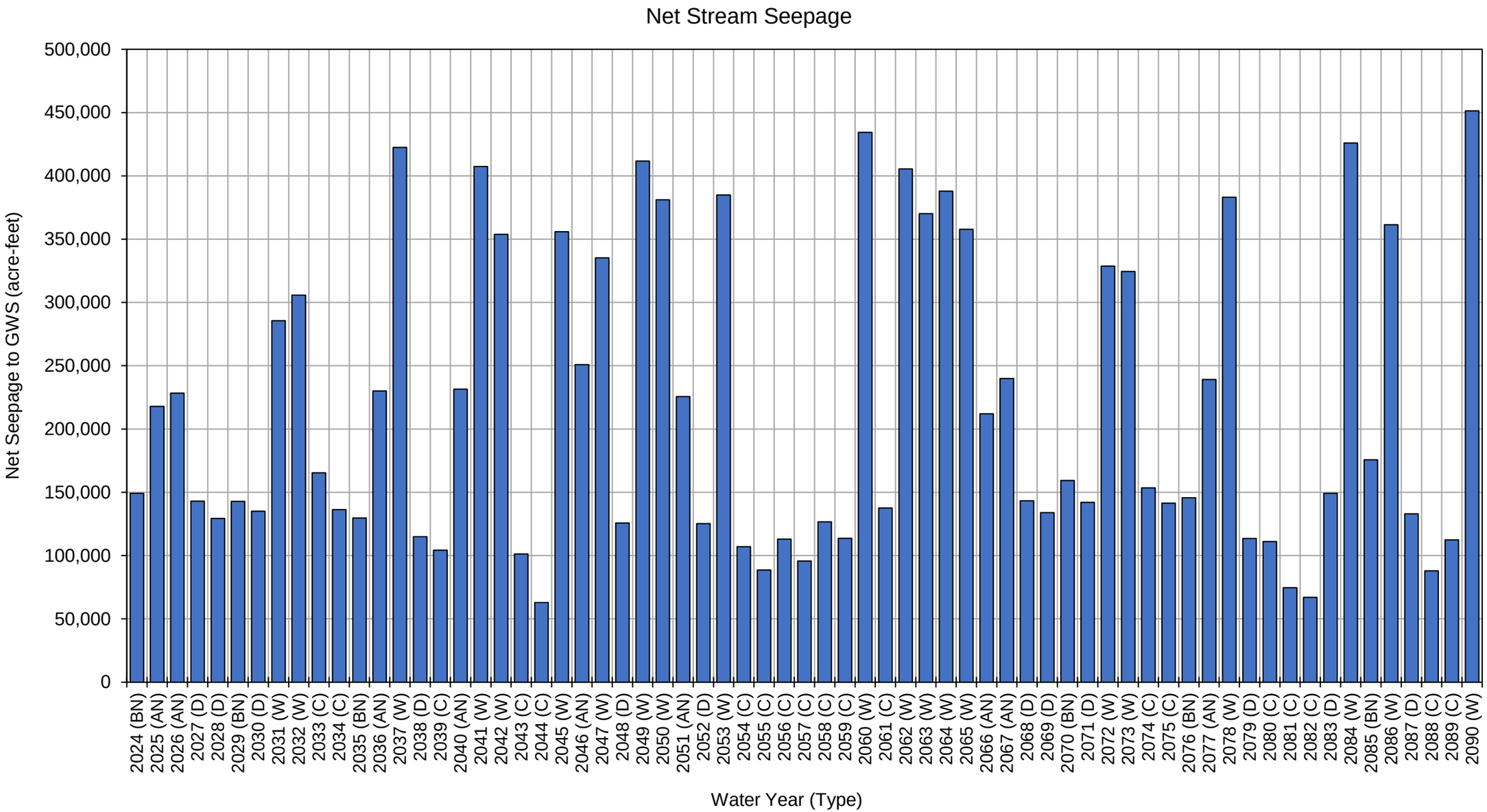
Madera Subbasin Projected with Projects Surface System Water Budget Summary (acre-feet, rounded)

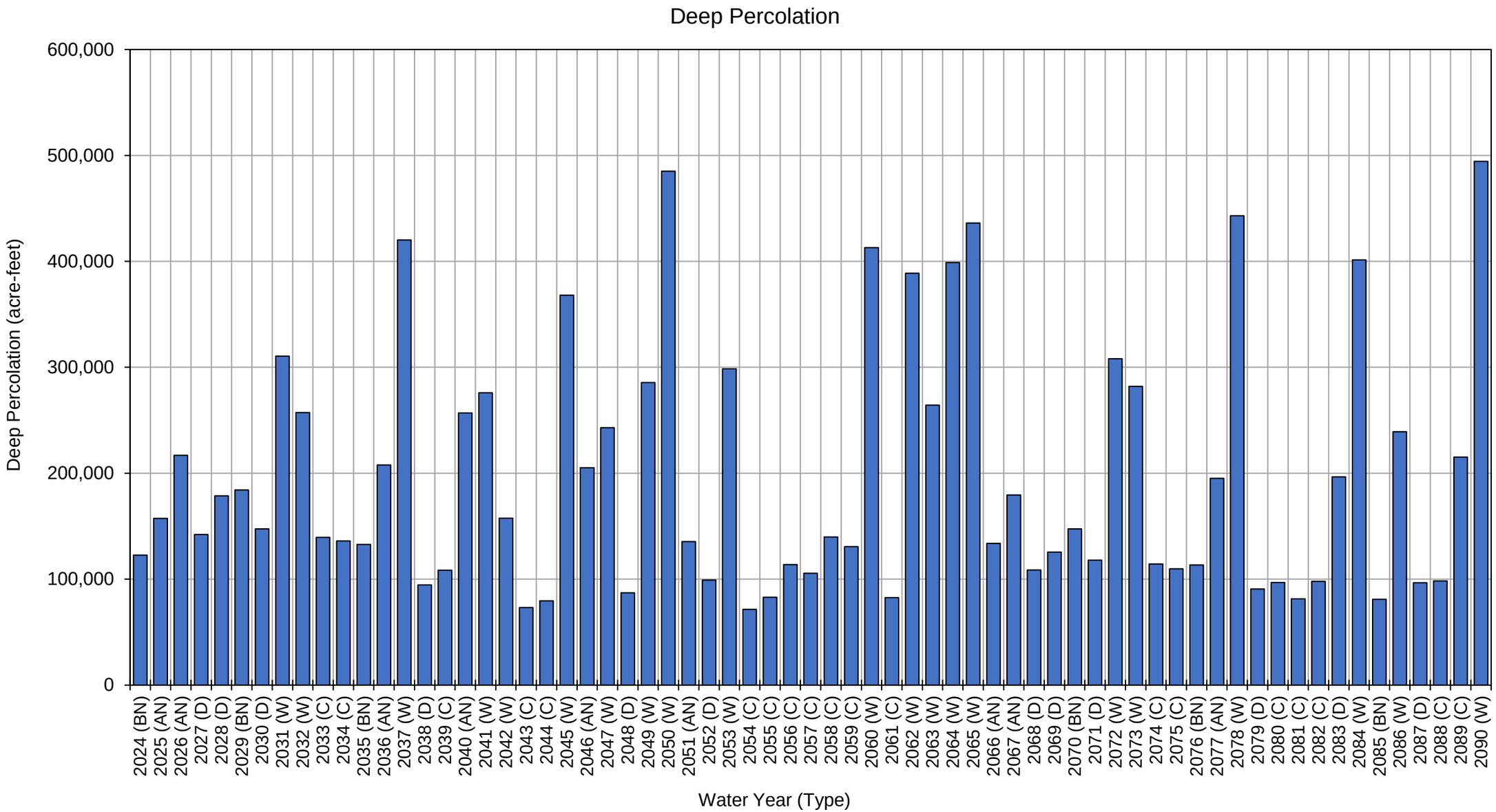
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		130,000	130,000	-420,000	-170,000
2070 (BN)		160,000	150,000	-400,000	-93,000
2071 (D)		140,000	120,000	-460,000	-200,000
2072 (W)		330,000	310,000	-290,000	350,000
2073 (W)		320,000	280,000	-330,000	280,000
2074 (C)		150,000	110,000	-440,000	-170,000
2075 (C)		140,000	110,000	-440,000	-190,000
2076 (BN)		150,000	110,000	-460,000	-200,000
2077 (AN)		240,000	200,000	-350,000	88,000
2078 (W)		380,000	440,000	-330,000	500,000
2079 (D)		110,000	91,000	-410,000	-210,000
2080 (C)		110,000	97,000	-470,000	-260,000
2081 (C)		75,000	81,000	-490,000	-330,000
2082 (C)		67,000	98,000	-530,000	-360,000
2083 (D)		150,000	200,000	-420,000	-75,000
2084 (W)		430,000	400,000	-370,000	450,000
2085 (BN)		180,000	81,000	-420,000	-160,000
2086 (W)		360,000	240,000	-370,000	230,000
2087 (D)		130,000	97,000	-440,000	-220,000
2088 (C)		88,000	98,000	-520,000	-330,000
2089 (C)		110,000	220,000	-400,000	-76,000
2090 (W)		450,000	490,000	-340,000	600,000
Average (2024-2039)		**190,000**	**180,000**	**-450,000**	**-77,000**
2024-2039	W	340,000	330,000	-370,000	300,000
	AN	230,000	190,000	-440,000	-21,000
	BN	140,000	150,000	-500,000	-210,000
	D	130,000	140,000	-480,000	-210,000
	C	140,000	130,000	-470,000	-200,000
Average (2040-2090)		**230,000**	**200,000**	**-390,000**	**35,000**
2040-2090	W	380,000	340,000	-330,000	400,000
	AN	230,000	180,000	-380,000	35,000
	BN	160,000	110,000	-420,000	-150,000
	D	130,000	120,000	-420,000	-170,000
	C	110,000	110,000	-440,000	-230,000

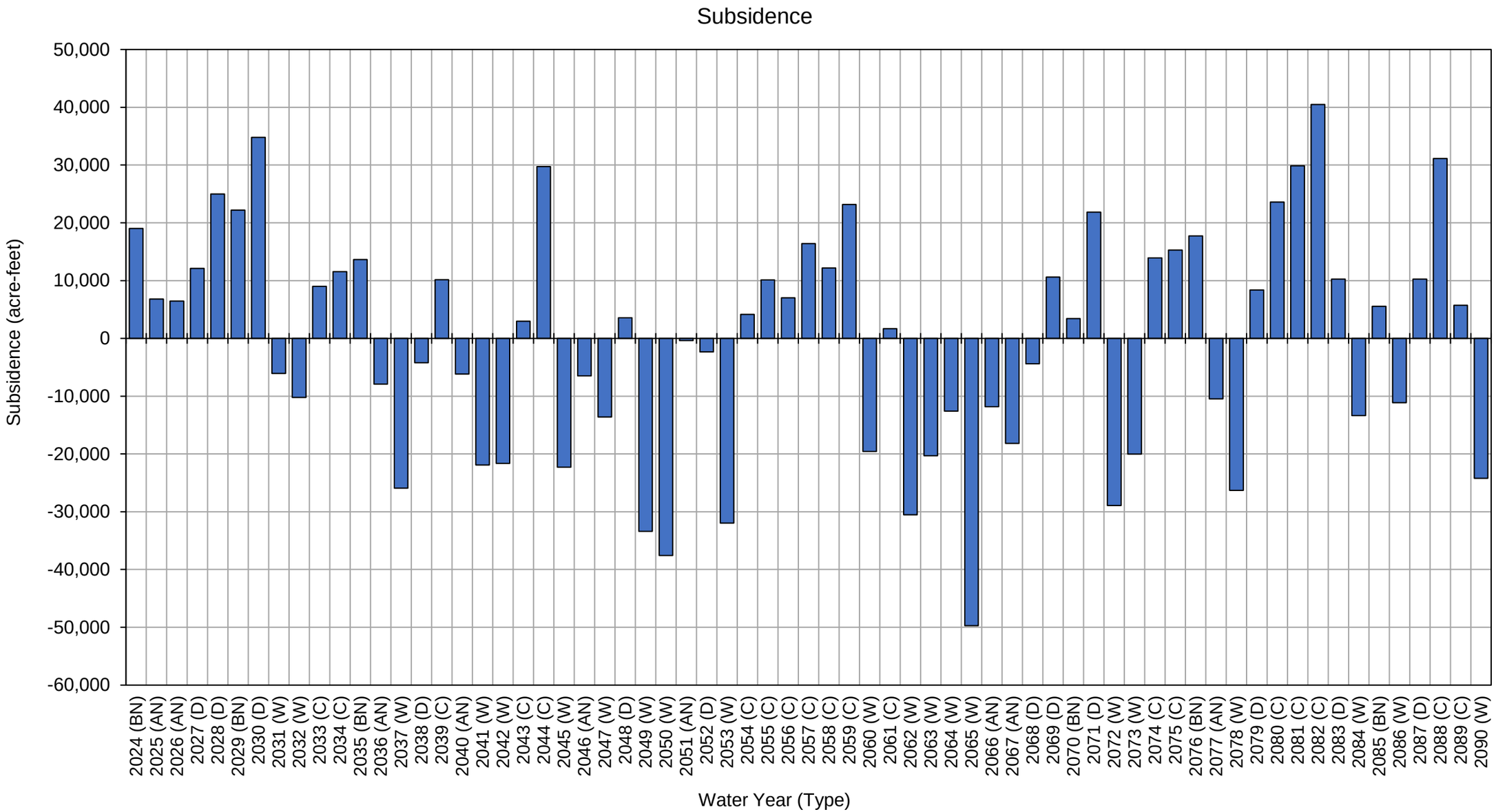
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

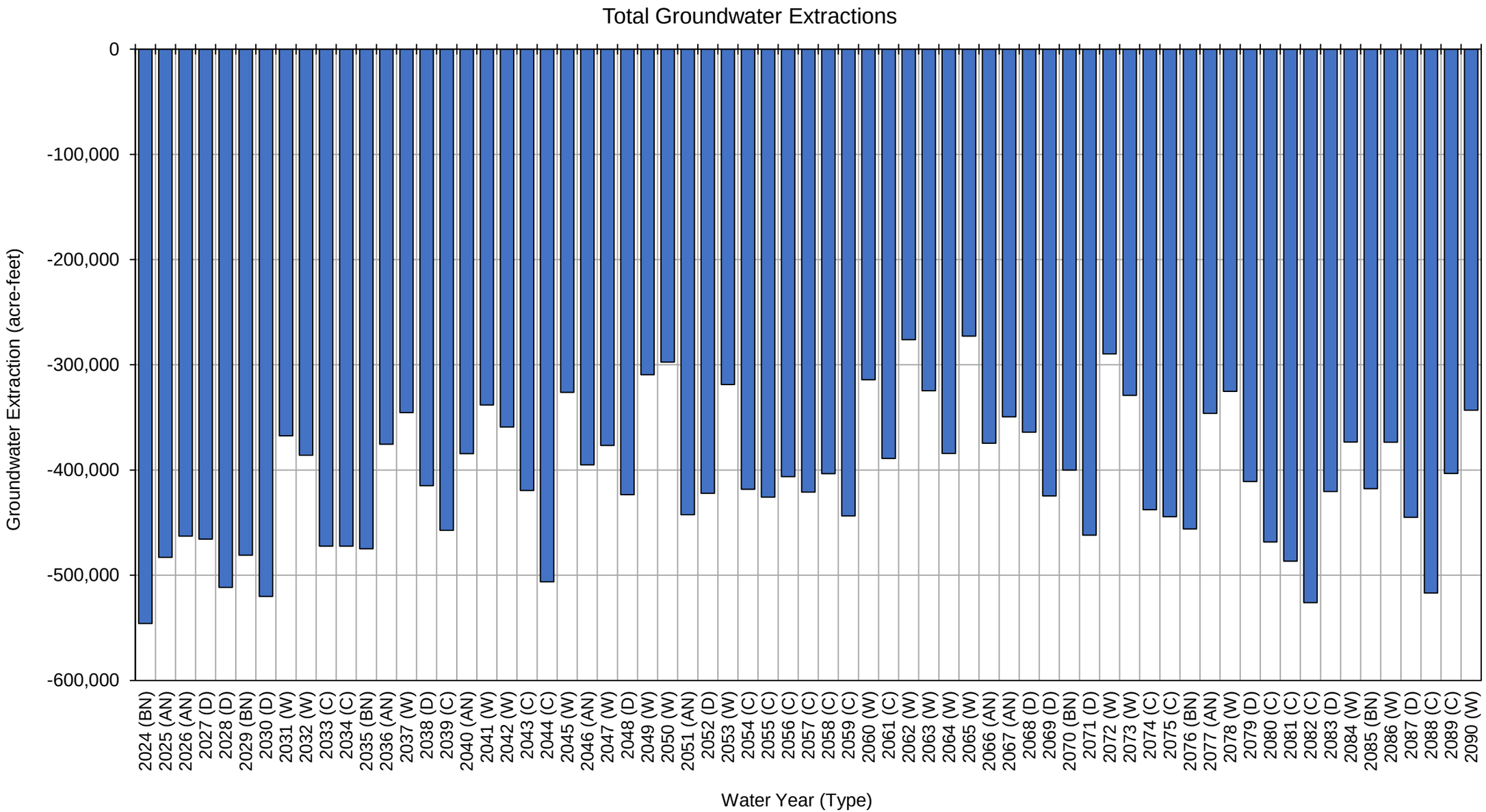
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

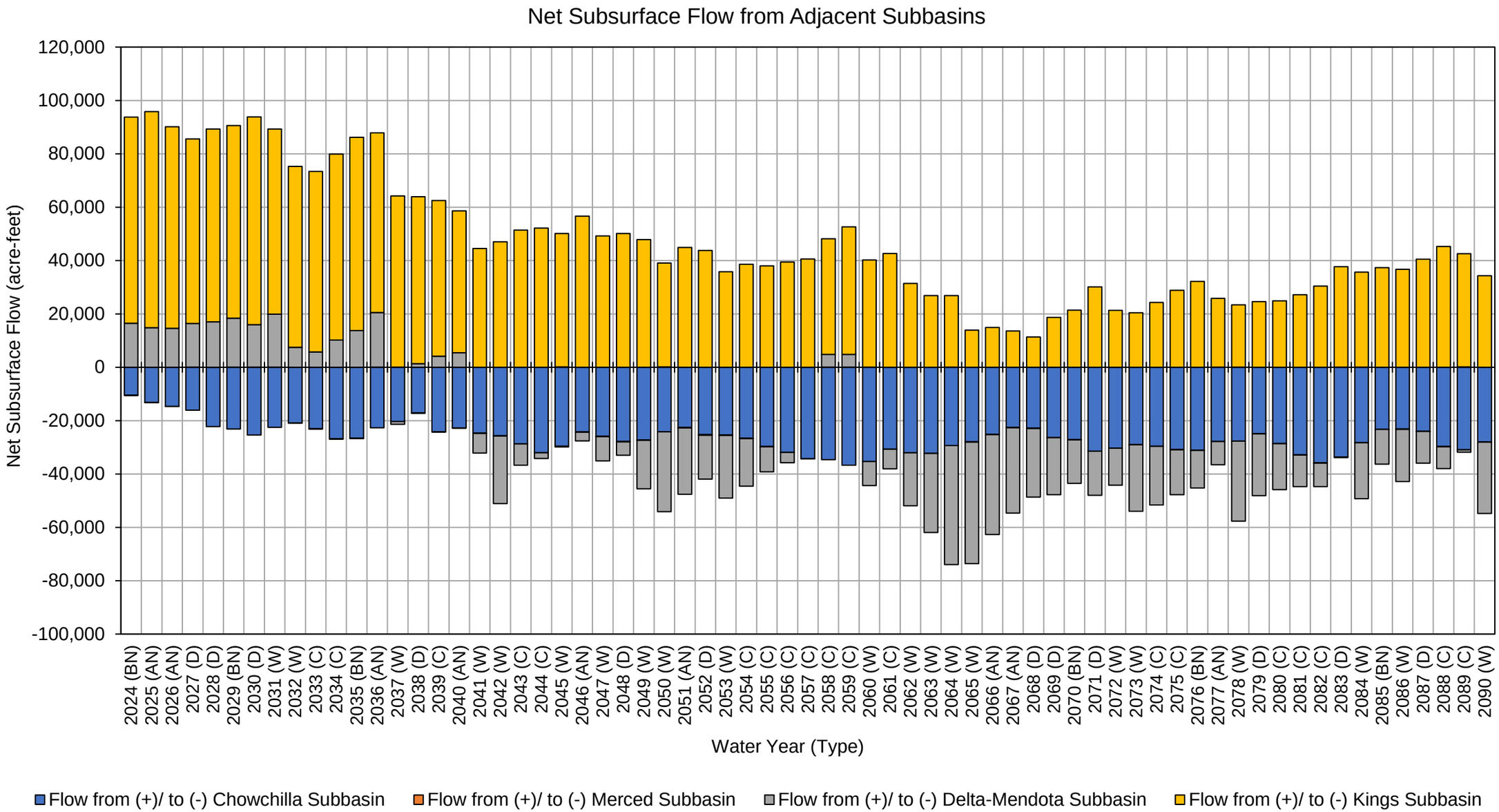

Projected with Projects Water Budget
Madera Subbasin
Volume (acre-feet)
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

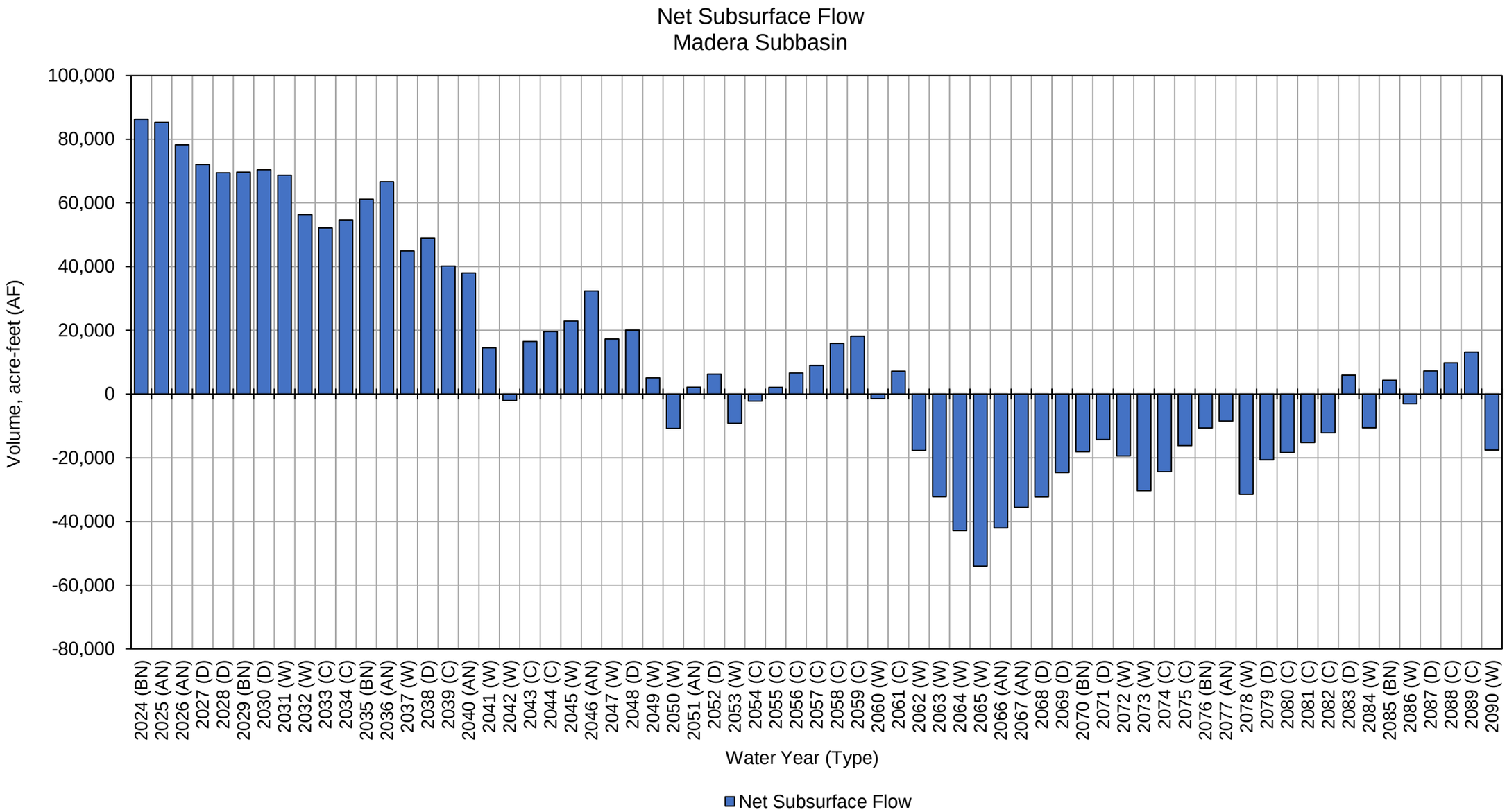

Net Stream Seepage
Net Seepage to GWS (acre-feet)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

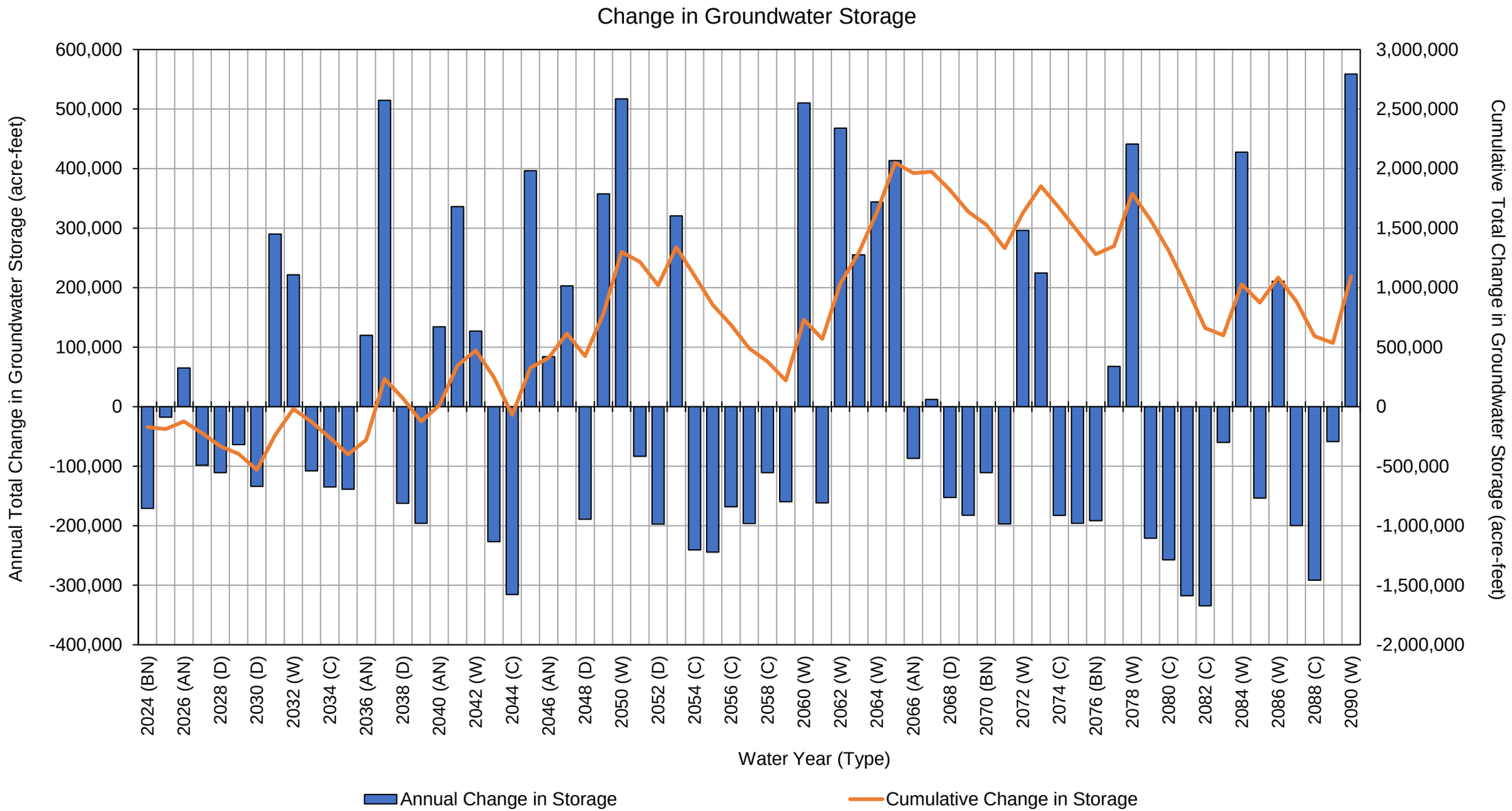

Deep Percolation
Deep Percolation (acre-feet)
600,000
500,000
400,000
300,000
200,000
100,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
-50,000
-60,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Chowchilla Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin
Flow from (+)/ to (-) Kings Subbasin


Net Subsurface Flow
Madera Subbasin
Volume, acre-feet (AF)
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
600,000
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Madera Subbasin Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	150,000	120,000	24,000	-560,000	82,000	-190,000	-190,000
2025 (AN)	200,000	140,000	16,000	-510,000	80,000	-75,000	-260,000
2026 (AN)	210,000	220,000	12,000	-470,000	75,000	38,000	-230,000
2027 (D)	110,000	130,000	23,000	-500,000	70,000	-170,000	-400,000
2028 (D)	120,000	180,000	40,000	-540,000	72,000	-130,000	-520,000
2029 (BN)	130,000	180,000	36,000	-510,000	73,000	-88,000	-610,000
2030 (D)	110,000	150,000	60,000	-590,000	80,000	-190,000	-800,000
2031 (W)	230,000	280,000	-3,700	-350,000	78,000	230,000	-570,000
2032 (W)	250,000	240,000	-5,600	-380,000	72,000	180,000	-390,000
2033 (C)	130,000	140,000	26,000	-530,000	69,000	-160,000	-560,000
2034 (C)	120,000	150,000	30,000	-530,000	70,000	-170,000	-720,000
2035 (BN)	110,000	140,000	35,000	-520,000	77,000	-160,000	-880,000
2036 (AN)	170,000	190,000	-250	-370,000	81,000	66,000	-810,000
2037 (W)	300,000	360,000	-14,000	-350,000	76,000	370,000	-440,000
2038 (D)	100,000	110,000	5,500	-440,000	77,000	-140,000	-580,000
2039 (C)	100,000	130,000	21,000	-490,000	67,000	-170,000	-760,000
2040 (AN)	200,000	270,000	640	-400,000	63,000	130,000	-630,000
2041 (W)	300,000	240,000	-10,000	-370,000	46,000	200,000	-430,000
2042 (W)	230,000	140,000	-10,000	-380,000	44,000	30,000	-400,000
2043 (C)	110,000	92,000	6,200	-430,000	55,000	-170,000	-570,000
2044 (C)	62,000	92,000	34,000	-520,000	52,000	-280,000	-850,000
2045 (W)	290,000	370,000	-11,000	-340,000	61,000	370,000	-480,000
2046 (AN)	200,000	210,000	-470	-410,000	69,000	66,000	-410,000
2047 (W)	260,000	210,000	-4,200	-400,000	61,000	120,000	-290,000
2048 (D)	130,000	110,000	8,500	-460,000	63,000	-150,000	-440,000
2049 (W)	310,000	260,000	-26,000	-320,000	56,000	270,000	-160,000
2050 (W)	320,000	470,000	-29,000	-310,000	45,000	490,000	320,000
2051 (AN)	180,000	140,000	4,800	-470,000	47,000	-97,000	230,000
2052 (D)	120,000	110,000	2,700	-460,000	52,000	-170,000	52,000
2053 (W)	280,000	270,000	-23,000	-340,000	41,000	220,000	270,000
2054 (C)	110,000	93,000	6,000	-450,000	46,000	-190,000	79,000
2055 (C)	88,000	100,000	8,400	-440,000	44,000	-200,000	-120,000
2056 (C)	96,000	120,000	11,000	-430,000	46,000	-160,000	-280,000
2057 (C)	88,000	110,000	17,000	-440,000	46,000	-180,000	-460,000
2058 (C)	130,000	150,000	12,000	-420,000	51,000	-73,000	-530,000
2059 (C)	100,000	130,000	25,000	-470,000	53,000	-160,000	-690,000
2060 (W)	310,000	340,000	-7,600	-350,000	43,000	340,000	-350,000
2061 (C)	120,000	100,000	10,000	-430,000	48,000	-150,000	-500,000
2062 (W)	320,000	360,000	-23,000	-290,000	33,000	400,000	-94,000
2063 (W)	280,000	270,000	-10,000	-360,000	17,000	190,000	99,000
2064 (W)	270,000	350,000	3,600	-440,000	11,000	200,000	300,000
2065 (W)	300,000	450,000	-40,000	-290,000	7,900	420,000	720,000
2066 (AN)	170,000	130,000	-6,900	-400,000	8,100	-100,000	620,000
2067 (AN)	210,000	180,000	-13,000	-380,000	15,000	9,200	630,000
2068 (D)	110,000	110,000	2,400	-410,000	17,000	-170,000	460,000
2069 (D)	130,000	150,000	8,900	-450,000	22,000	-140,000	320,000

Madera Subbasin Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		140,000	160,000	6,200	-430,000	25,000	-100,000	220,000
2071 (D)		120,000	130,000	22,000	-500,000	32,000	-200,000	16,000
2072 (W)		240,000	250,000	-20,000	-320,000	32,000	180,000	200,000
2073 (W)		250,000	240,000	-14,000	-350,000	28,000	160,000	350,000
2074 (C)		140,000	120,000	16,000	-470,000	31,000	-160,000	190,000
2075 (C)		120,000	130,000	17,000	-470,000	34,000	-170,000	21,000
2076 (BN)		120,000	130,000	19,000	-480,000	36,000	-170,000	-150,000
2077 (AN)		180,000	180,000	-4,700	-370,000	38,000	26,000	-130,000
2078 (W)		290,000	370,000	-13,000	-360,000	33,000	330,000	200,000
2079 (D)		110,000	120,000	6,500	-430,000	41,000	-160,000	42,000
2080 (C)		110,000	130,000	19,000	-480,000	37,000	-190,000	-150,000
2081 (C)		69,000	97,000	25,000	-500,000	37,000	-270,000	-420,000
2082 (C)		62,000	110,000	38,000	-540,000	37,000	-290,000	-710,000
2083 (D)		140,000	210,000	15,000	-440,000	54,000	-26,000	-730,000
2084 (W)		320,000	370,000	-5,000	-390,000	52,000	340,000	-390,000
2085 (BN)		160,000	100,000	6,200	-430,000	55,000	-110,000	-500,000
2086 (W)		280,000	240,000	-6,500	-390,000	53,000	170,000	-330,000
2087 (D)		120,000	120,000	13,000	-470,000	58,000	-170,000	-500,000
2088 (C)		79,000	120,000	31,000	-530,000	59,000	-250,000	-750,000
2089 (C)		110,000	240,000	9,600	-420,000	59,000	-4,900	-750,000
2090 (W)		350,000	460,000	-13,000	-360,000	44,000	480,000	-280,000
Average (2024-2039)		**160,000**	**180,000**	**19,000**	**-480,000**	**75,000**	**-47,000**	
2024-2039	W	260,000	300,000	-7,800	-360,000	75,000	260,000	
	AN	190,000	180,000	9,300	-450,000	79,000	9,500	
	BN	130,000	150,000	32,000	-530,000	77,000	-140,000	
	D	110,000	140,000	32,000	-520,000	75,000	-160,000	
	C	120,000	140,000	26,000	-520,000	69,000	-170,000	
Average (2040-2090)		**180,000**	**200,000**	**2,200**	**-420,000**	**42,000**	**9,500**	
2040-2090	W	290,000	310,000	-15,000	-350,000	39,000	270,000	
	AN	190,000	190,000	-3,300	-400,000	40,000	6,000	
	BN	140,000	130,000	10,000	-450,000	39,000	-130,000	
	D	120,000	130,000	9,800	-450,000	42,000	-150,000	
	C	100,000	120,000	18,000	-460,000	46,000	-180,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Subbasin Projected with Projects and Climate Change Surface System Water Budget Summary (acre-feet, rounded)

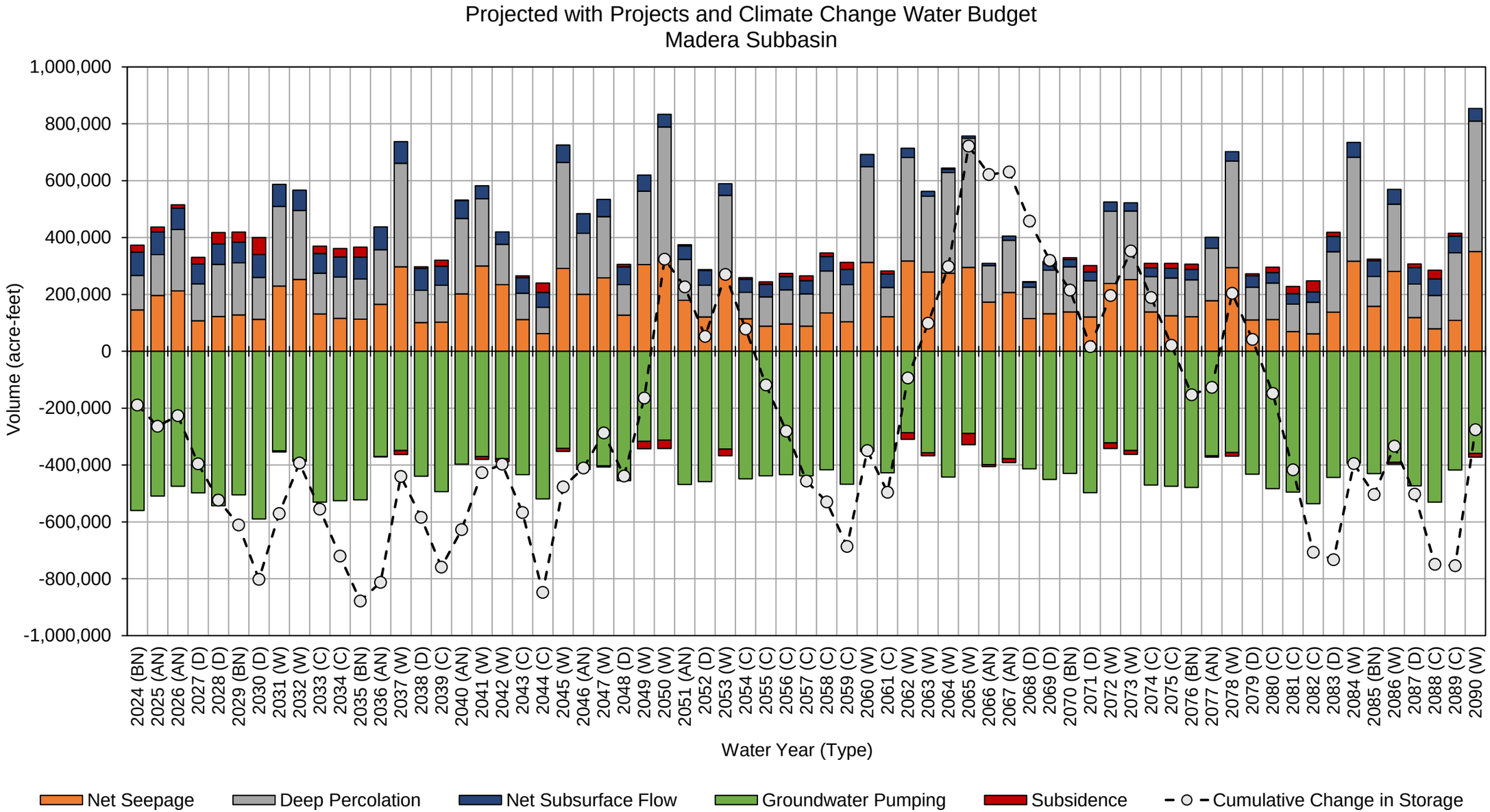
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	150,000	120,000	-560,000	-290,000
2025 (AN)	200,000	140,000	-510,000	-170,000
2026 (AN)	210,000	220,000	-470,000	-47,000
2027 (D)	110,000	130,000	-500,000	-260,000
2028 (D)	120,000	180,000	-540,000	-240,000
2029 (BN)	130,000	180,000	-510,000	-190,000
2030 (D)	110,000	150,000	-590,000	-330,000
2031 (W)	230,000	280,000	-350,000	160,000
2032 (W)	250,000	240,000	-380,000	110,000
2033 (C)	130,000	140,000	-530,000	-260,000
2034 (C)	120,000	150,000	-530,000	-260,000
2035 (BN)	110,000	140,000	-520,000	-270,000
2036 (AN)	170,000	190,000	-370,000	-14,000
2037 (W)	300,000	360,000	-350,000	310,000
2038 (D)	100,000	110,000	-440,000	-230,000
2039 (C)	100,000	130,000	-490,000	-260,000
2040 (AN)	200,000	270,000	-400,000	70,000
2041 (W)	300,000	240,000	-370,000	170,000
2042 (W)	230,000	140,000	-380,000	-2,000
2043 (C)	110,000	92,000	-430,000	-230,000
2044 (C)	62,000	92,000	-520,000	-370,000
2045 (W)	290,000	370,000	-340,000	320,000
2046 (AN)	200,000	210,000	-410,000	130
2047 (W)	260,000	210,000	-400,000	70,000
2048 (D)	130,000	110,000	-460,000	-220,000
2049 (W)	310,000	260,000	-320,000	250,000
2050 (W)	320,000	470,000	-310,000	480,000
2051 (AN)	180,000	140,000	-470,000	-150,000
2052 (D)	120,000	110,000	-460,000	-230,000
2053 (W)	280,000	270,000	-340,000	200,000
2054 (C)	110,000	93,000	-450,000	-240,000
2055 (C)	88,000	100,000	-440,000	-250,000
2056 (C)	96,000	120,000	-430,000	-220,000
2057 (C)	88,000	110,000	-440,000	-240,000
2058 (C)	130,000	150,000	-420,000	-140,000
2059 (C)	100,000	130,000	-470,000	-230,000
2060 (W)	310,000	340,000	-350,000	300,000
2061 (C)	120,000	100,000	-430,000	-200,000
2062 (W)	320,000	360,000	-290,000	390,000
2063 (W)	280,000	270,000	-360,000	190,000
2064 (W)	270,000	350,000	-440,000	190,000
2065 (W)	300,000	450,000	-290,000	460,000
2066 (AN)	170,000	130,000	-400,000	-97,000
2067 (AN)	210,000	180,000	-380,000	12,000
2068 (D)	110,000	110,000	-410,000	-190,000

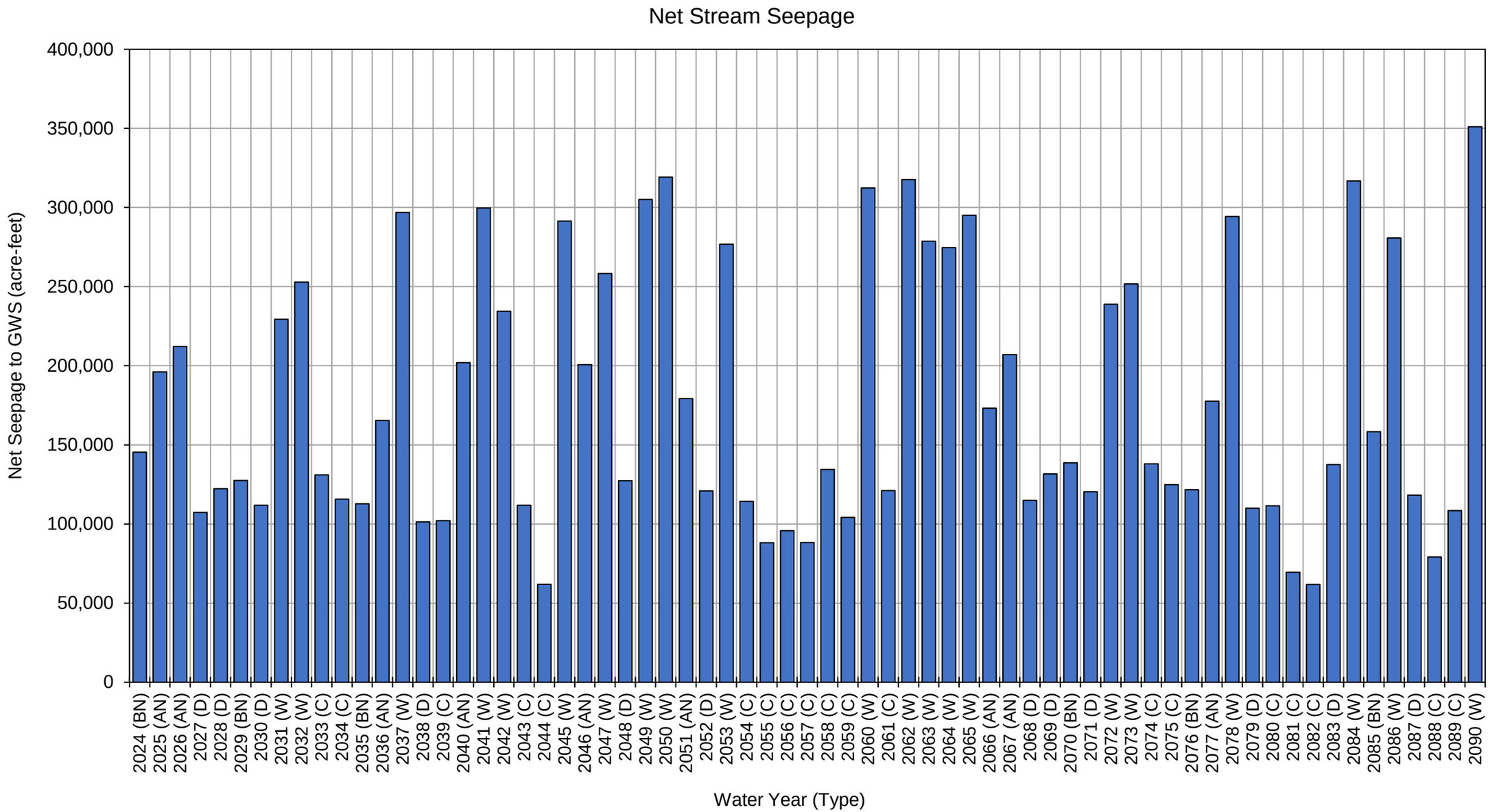
Madera Subbasin Projected with Projects and Climate Change Surface System Water Budget Summary (acre-feet, rounded)

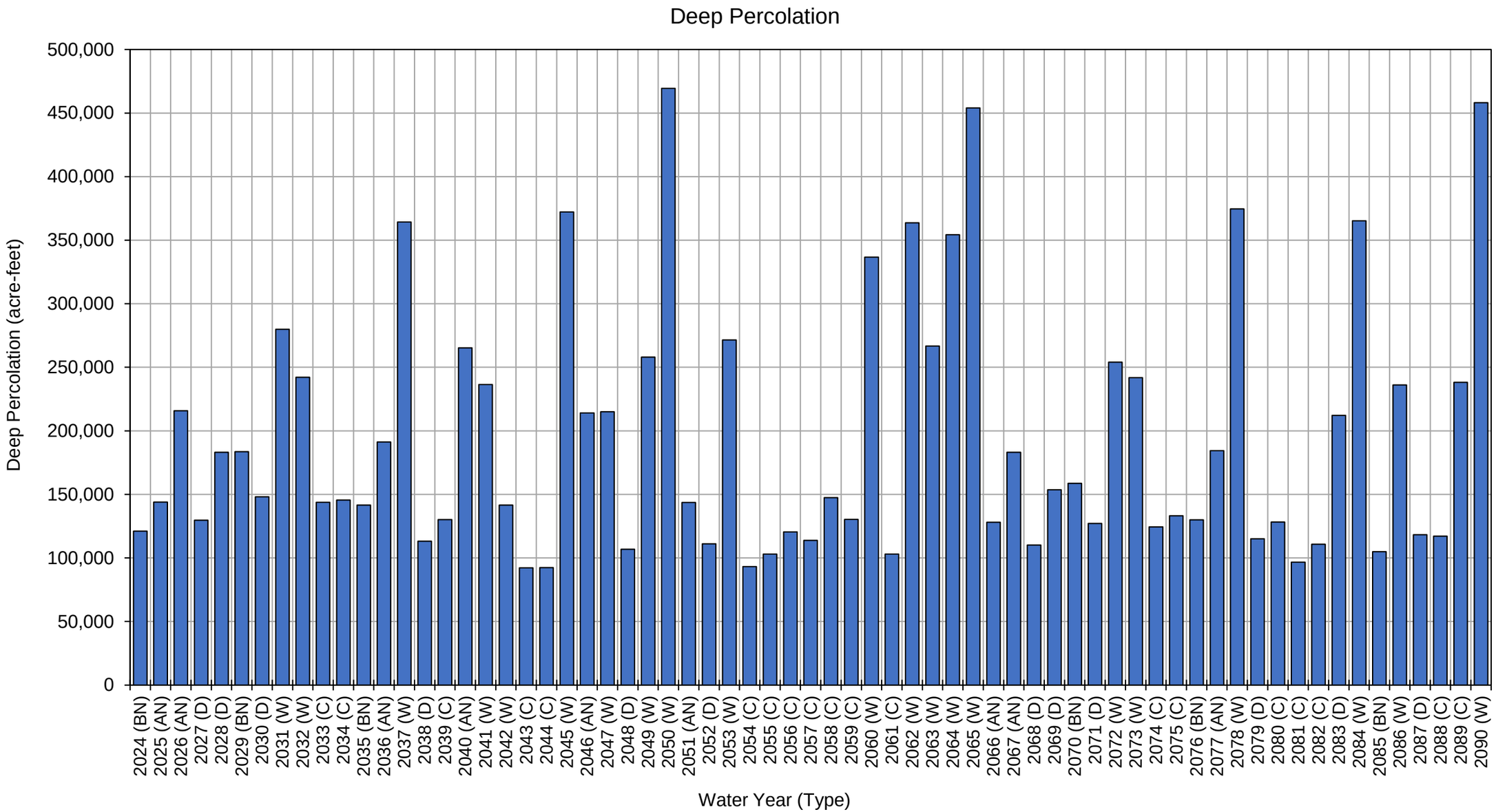
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		130,000	150,000	-450,000	-170,000
2070 (BN)		140,000	160,000	-430,000	-130,000
2071 (D)		120,000	130,000	-500,000	-250,000
2072 (W)		240,000	250,000	-320,000	170,000
2073 (W)		250,000	240,000	-350,000	140,000
2074 (C)		140,000	120,000	-470,000	-210,000
2075 (C)		120,000	130,000	-470,000	-220,000
2076 (BN)		120,000	130,000	-480,000	-230,000
2077 (AN)		180,000	180,000	-370,000	-5,600
2078 (W)		290,000	370,000	-360,000	310,000
2079 (D)		110,000	120,000	-430,000	-210,000
2080 (C)		110,000	130,000	-480,000	-240,000
2081 (C)		69,000	97,000	-500,000	-330,000
2082 (C)		62,000	110,000	-540,000	-360,000
2083 (D)		140,000	210,000	-440,000	-94,000
2084 (W)		320,000	370,000	-390,000	290,000
2085 (BN)		160,000	100,000	-430,000	-170,000
2086 (W)		280,000	240,000	-390,000	130,000
2087 (D)		120,000	120,000	-470,000	-240,000
2088 (C)		79,000	120,000	-530,000	-330,000
2089 (C)		110,000	240,000	-420,000	-71,000
2090 (W)		350,000	460,000	-360,000	450,000
Average (2024-2039)		**160,000**	**180,000**	**-480,000**	**-140,000**
2024-2039	W	260,000	300,000	-360,000	190,000
	AN	190,000	180,000	-450,000	-77,000
	BN	130,000	150,000	-530,000	-250,000
	D	110,000	140,000	-520,000	-260,000
	C	120,000	140,000	-520,000	-260,000
Average (2040-2090)		**180,000**	**200,000**	**-420,000**	**-32,000**
2040-2090	W	290,000	310,000	-350,000	250,000
	AN	190,000	190,000	-400,000	-28,000
	BN	140,000	130,000	-450,000	-180,000
	D	120,000	130,000	-450,000	-200,000
	C	100,000	120,000	-460,000	-240,000

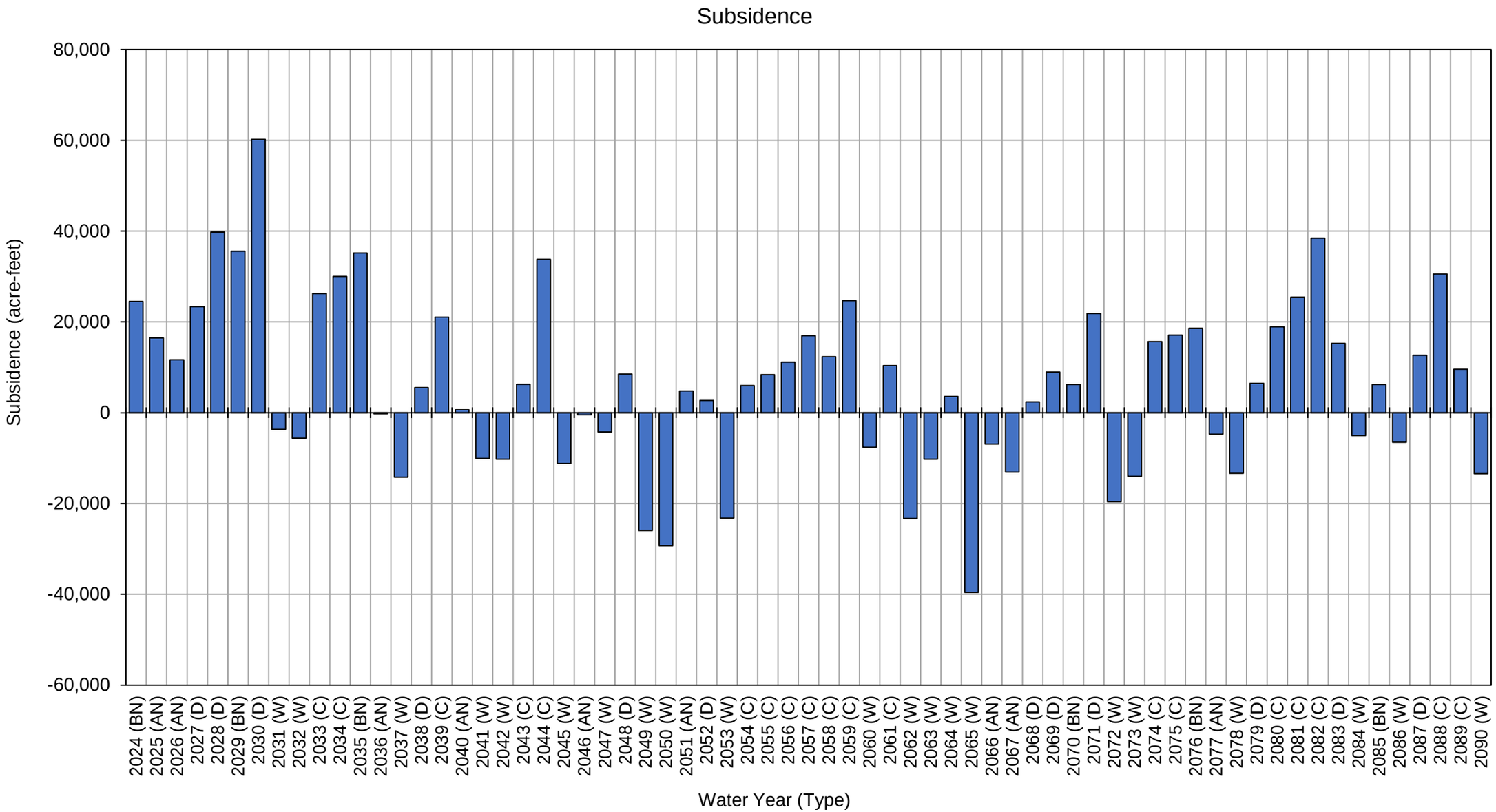
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

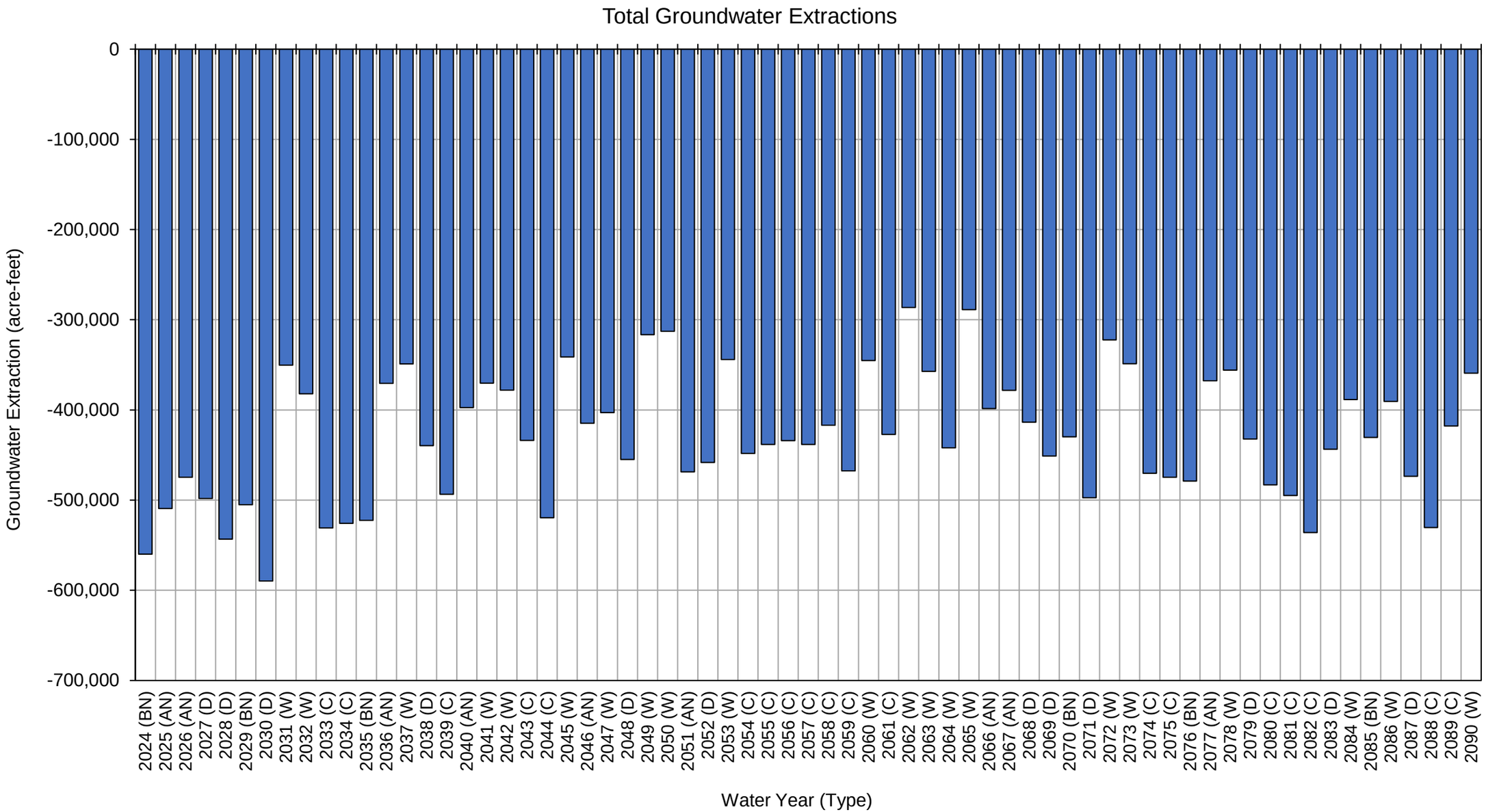
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

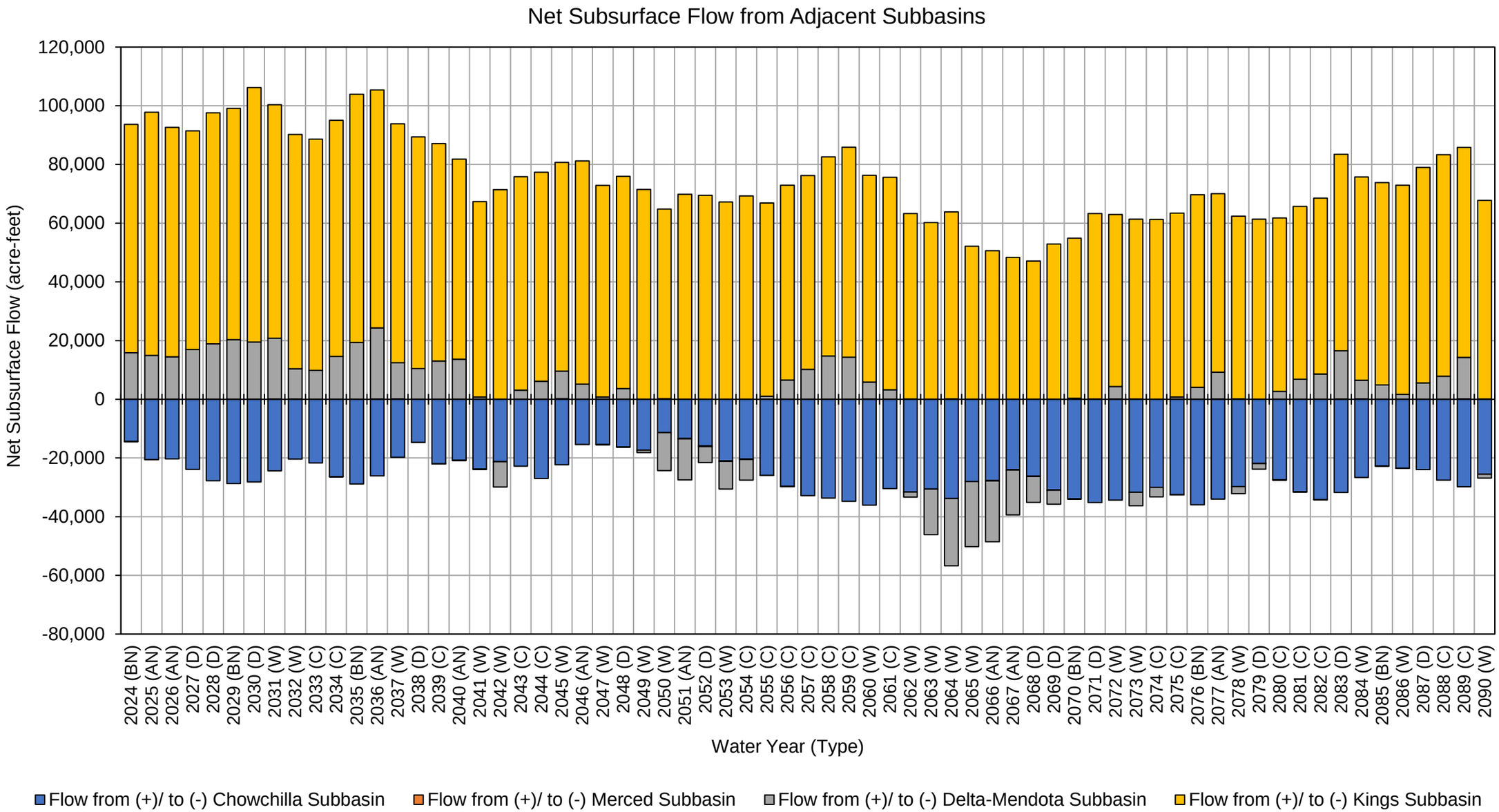

Projected with Projects and Climate Change Water Budget
Madera Subbasin
Volume (acre-feet)
1,000,000
800,000
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

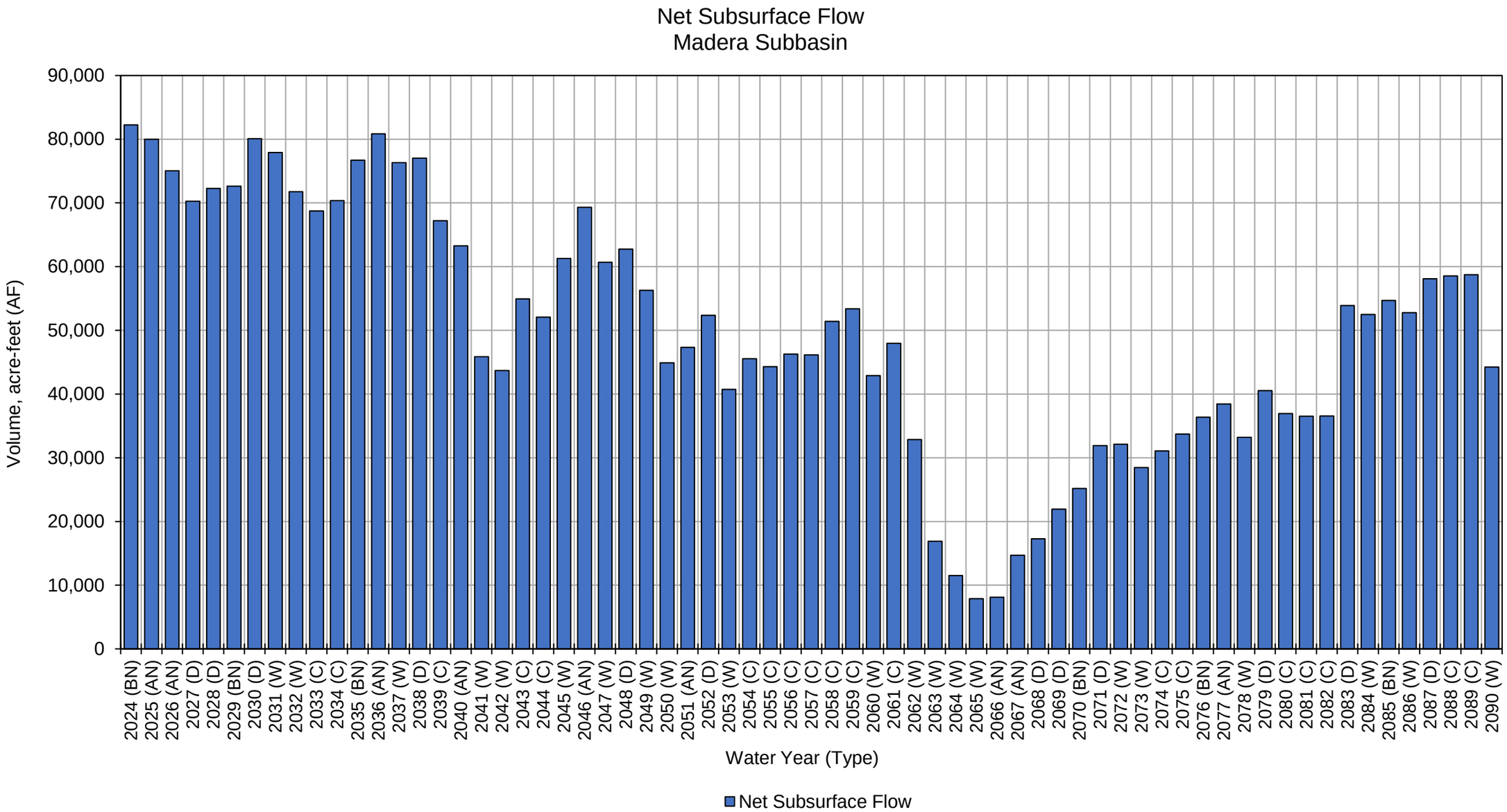

Net Stream Seepage
Net Seepage to GWS (acre-feet)
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

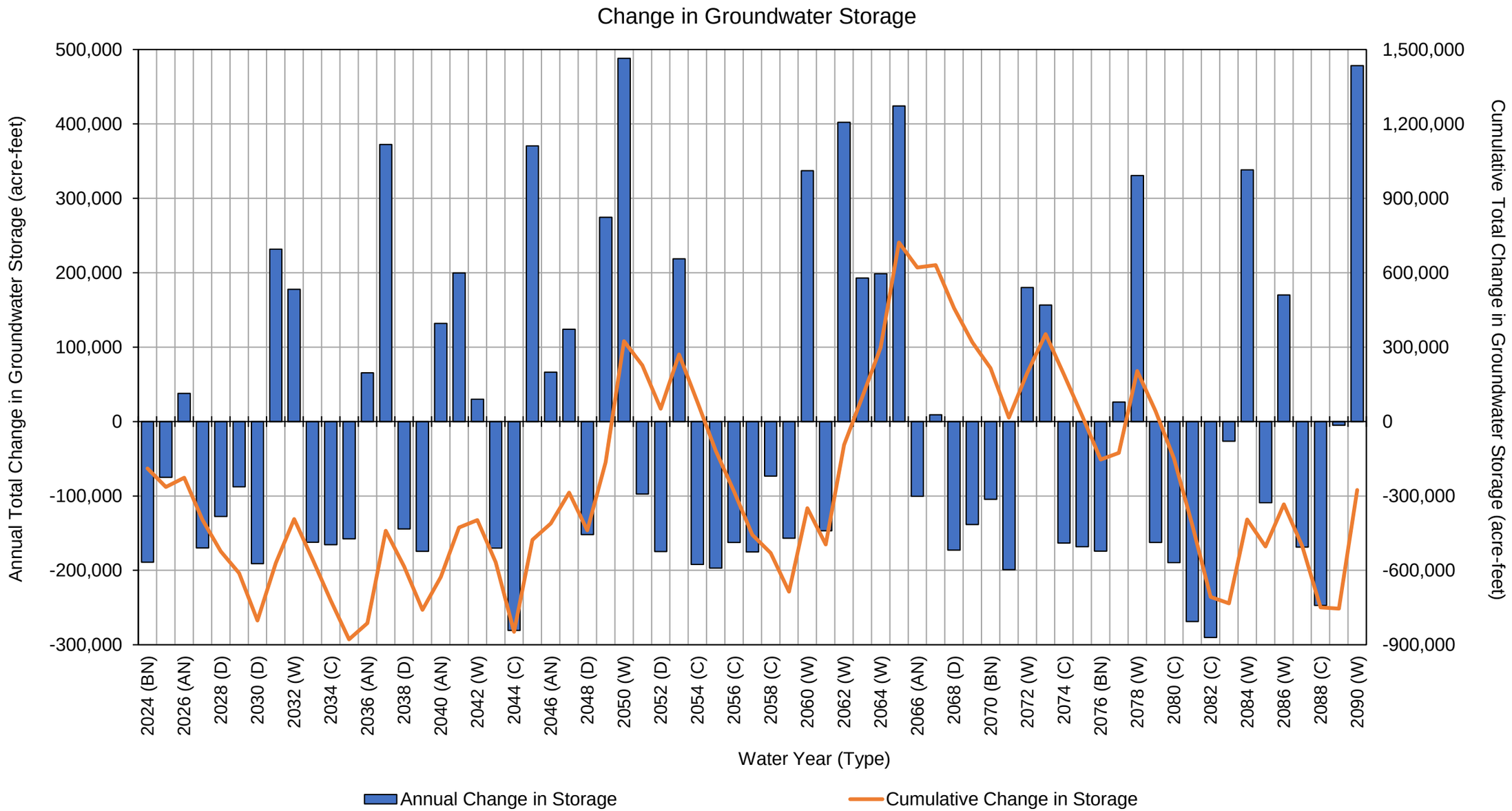

Deep Percolation
Deep Percolation (acre-feet)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Chowchilla Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin
Flow from (+)/ to (-) Kings Subbasin


Net Subsurface Flow
Madera Subbasin
Volume, acre-feet (AF)
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
1,500,000
1,200,000
900,000
600,000
300,000
0
-300,000
-600,000
-900,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Madera Subbasin Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	130,000	120,000	20,000	-550,000	87,000	-200,000	-200,000
2025 (AN)	180,000	140,000	11,000	-500,000	91,000	-74,000	-270,000
2026 (AN)	180,000	210,000	9,600	-470,000	84,000	20,000	-250,000
2027 (D)	120,000	150,000	19,000	-480,000	79,000	-110,000	-360,000
2028 (D)	110,000	180,000	43,000	-560,000	79,000	-150,000	-510,000
2029 (BN)	110,000	190,000	39,000	-520,000	82,000	-100,000	-610,000
2030 (D)	110,000	160,000	66,000	-610,000	87,000	-190,000	-800,000
2031 (W)	190,000	270,000	3,300	-380,000	92,000	180,000	-620,000
2032 (W)	210,000	250,000	6,700	-440,000	90,000	120,000	-500,000
2033 (C)	150,000	180,000	36,000	-580,000	83,000	-130,000	-640,000
2034 (C)	120,000	160,000	46,000	-580,000	84,000	-170,000	-810,000
2035 (BN)	100,000	150,000	57,000	-600,000	93,000	-200,000	-1,000,000
2036 (AN)	150,000	210,000	20,000	-450,000	99,000	29,000	-980,000
2037 (W)	240,000	360,000	4,200	-440,000	110,000	280,000	-700,000
2038 (D)	97,000	140,000	24,000	-540,000	100,000	-180,000	-870,000
2039 (C)	88,000	150,000	49,000	-610,000	89,000	-230,000	-1,100,000
2040 (AN)	150,000	290,000	35,000	-530,000	89,000	37,000	-1,100,000
2041 (W)	260,000	240,000	17,000	-480,000	84,000	110,000	-950,000
2042 (W)	190,000	150,000	14,000	-500,000	87,000	-53,000	-1,000,000
2043 (C)	86,000	120,000	34,000	-560,000	87,000	-230,000	-1,200,000
2044 (C)	47,000	120,000	78,000	-660,000	87,000	-330,000	-1,600,000
2045 (W)	210,000	390,000	25,000	-450,000	100,000	260,000	-1,300,000
2046 (AN)	180,000	250,000	28,000	-540,000	110,000	19,000	-1,300,000
2047 (W)	200,000	230,000	22,000	-520,000	100,000	32,000	-1,200,000
2048 (D)	110,000	140,000	39,000	-580,000	100,000	-190,000	-1,400,000
2049 (W)	250,000	240,000	3,100	-440,000	110,000	160,000	-1,300,000
2050 (W)	250,000	470,000	-7,300	-420,000	100,000	390,000	-890,000
2051 (AN)	170,000	180,000	25,000	-610,000	110,000	-130,000	-1,000,000
2052 (D)	110,000	160,000	23,000	-580,000	100,000	-190,000	-1,200,000
2053 (W)	240,000	280,000	-1,500	-450,000	100,000	160,000	-1,000,000
2054 (C)	95,000	120,000	22,000	-560,000	97,000	-230,000	-1,300,000
2055 (C)	73,000	130,000	30,000	-560,000	96,000	-240,000	-1,500,000
2056 (C)	97,000	160,000	38,000	-540,000	99,000	-150,000	-1,700,000
2057 (C)	79,000	140,000	50,000	-560,000	100,000	-190,000	-1,900,000
2058 (C)	110,000	180,000	50,000	-540,000	110,000	-100,000	-2,000,000
2059 (C)	96,000	160,000	64,000	-590,000	110,000	-160,000	-2,100,000
2060 (W)	270,000	370,000	23,000	-450,000	110,000	320,000	-1,800,000
2061 (C)	130,000	130,000	26,000	-530,000	110,000	-140,000	-1,900,000
2062 (W)	260,000	350,000	-4,000	-390,000	110,000	310,000	-1,600,000
2063 (W)	250,000	240,000	2,600	-470,000	100,000	120,000	-1,500,000
2064 (W)	260,000	390,000	13,000	-550,000	100,000	210,000	-1,300,000
2065 (W)	250,000	420,000	-24,000	-390,000	95,000	350,000	-940,000
2066 (AN)	180,000	170,000	1,600	-520,000	88,000	-91,000	-1,000,000
2067 (AN)	190,000	220,000	-1,500	-490,000	84,000	-1,200	-1,000,000
2068 (D)	130,000	160,000	6,500	-500,000	81,000	-130,000	-1,200,000
2069 (D)	120,000	190,000	23,000	-580,000	85,000	-170,000	-1,300,000

Madera Subbasin Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		120,000	190,000	18,000	-550,000	89,000	-130,000	-1,500,000
2071 (D)		120,000	160,000	37,000	-640,000	95,000	-220,000	-1,700,000
2072 (W)		200,000	280,000	-9,600	-410,000	100,000	160,000	-1,500,000
2073 (W)		220,000	250,000	-2,000	-460,000	100,000	100,000	-1,400,000
2074 (C)		160,000	170,000	24,000	-600,000	97,000	-150,000	-1,600,000
2075 (C)		130,000	170,000	30,000	-600,000	97,000	-180,000	-1,700,000
2076 (BN)		110,000	160,000	38,000	-620,000	100,000	-210,000	-2,000,000
2077 (AN)		160,000	220,000	12,000	-480,000	110,000	24,000	-1,900,000
2078 (W)		250,000	380,000	-300	-460,000	110,000	280,000	-1,700,000
2079 (D)		110,000	150,000	18,000	-560,000	110,000	-180,000	-1,800,000
2080 (C)		96,000	160,000	40,000	-630,000	100,000	-230,000	-2,100,000
2081 (C)		58,000	130,000	60,000	-640,000	100,000	-300,000	-2,400,000
2082 (C)		50,000	140,000	91,000	-690,000	100,000	-300,000	-2,700,000
2083 (D)		130,000	260,000	62,000	-570,000	120,000	-5,200	-2,700,000
2084 (W)		250,000	350,000	33,000	-530,000	130,000	230,000	-2,400,000
2085 (BN)		140,000	140,000	33,000	-570,000	130,000	-130,000	-2,600,000
2086 (W)		230,000	230,000	22,000	-520,000	130,000	90,000	-2,500,000
2087 (D)		120,000	160,000	35,000	-600,000	130,000	-160,000	-2,700,000
2088 (C)		71,000	150,000	65,000	-680,000	130,000	-270,000	-2,900,000
2089 (C)		96,000	270,000	38,000	-530,000	130,000	5,300	-2,900,000
2090 (W)		290,000	410,000	18,000	-490,000	130,000	350,000	-2,600,000
Average (2024-2039)		**140,000**	**190,000**	**28,000**	**-520,000**	**89,000**	**-69,000**	
2024-2039	W	220,000	290,000	4,700	-420,000	96,000	190,000	
	AN	170,000	190,000	14,000	-470,000	92,000	-8,400	
	BN	110,000	150,000	39,000	-560,000	87,000	-170,000	
	D	110,000	160,000	38,000	-550,000	86,000	-150,000	
	C	120,000	160,000	44,000	-590,000	86,000	-180,000	
Average (2040-2090)		**160,000**	**220,000**	**26,000**	**-540,000**	**100,000**	**-29,000**	
2040-2090	W	240,000	310,000	8,100	-470,000	110,000	200,000	
	AN	170,000	220,000	17,000	-530,000	97,000	-24,000	
	BN	120,000	160,000	30,000	-580,000	110,000	-160,000	
	D	120,000	170,000	30,000	-580,000	100,000	-160,000	
	C	91,000	150,000	46,000	-590,000	100,000	-200,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Subbasin Projected (No Action) Surface System Water Budget Summary (acre-feet, rounded)

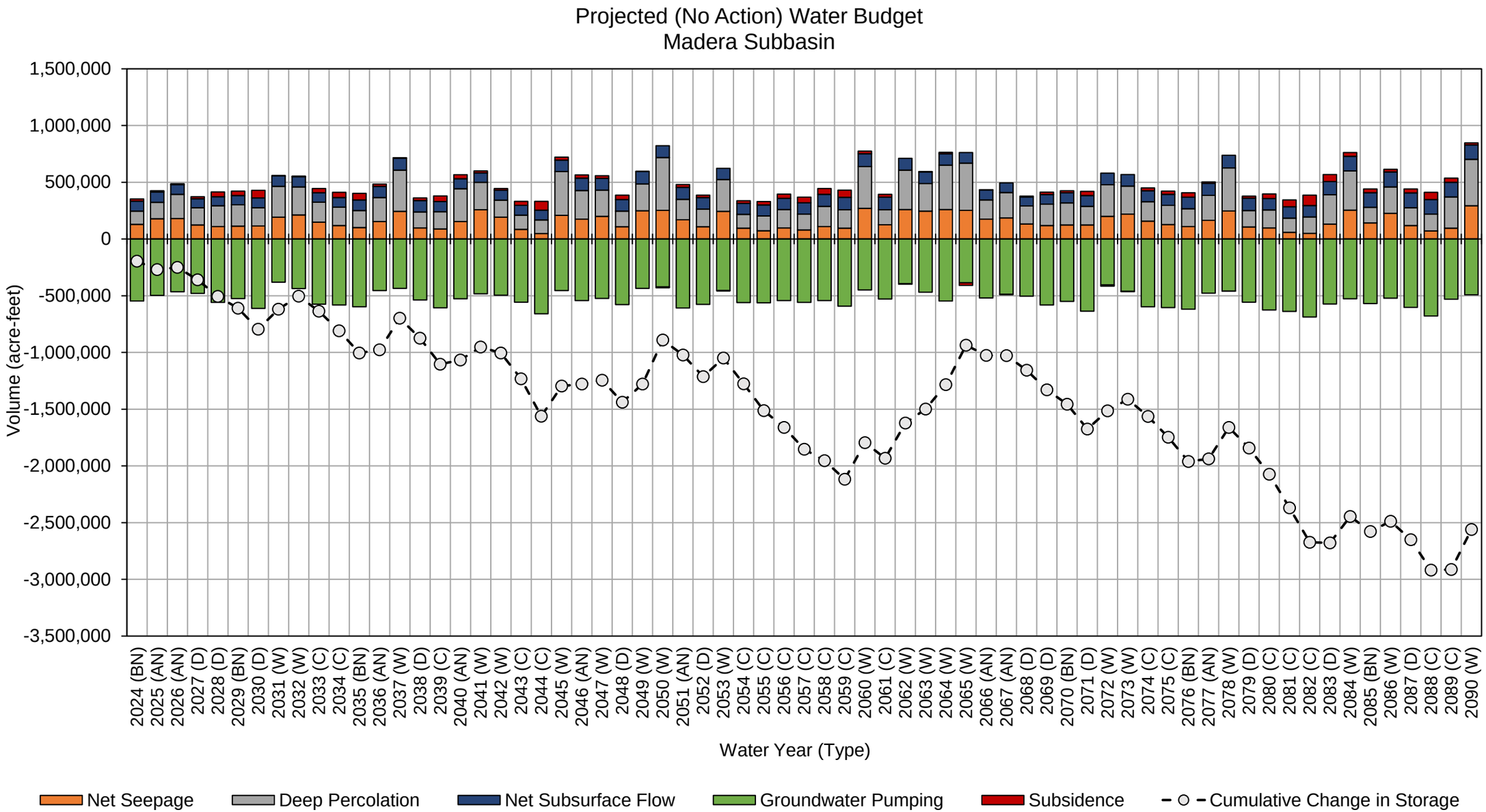
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	130,000	120,000	-550,000	-300,000
2025 (AN)	180,000	140,000	-500,000	-170,000
2026 (AN)	180,000	210,000	-470,000	-72,000
2027 (D)	120,000	150,000	-480,000	-200,000
2028 (D)	110,000	180,000	-560,000	-270,000
2029 (BN)	110,000	190,000	-520,000	-220,000
2030 (D)	110,000	160,000	-610,000	-340,000
2031 (W)	190,000	270,000	-380,000	83,000
2032 (W)	210,000	250,000	-440,000	21,000
2033 (C)	150,000	180,000	-580,000	-250,000
2034 (C)	120,000	160,000	-580,000	-300,000
2035 (BN)	100,000	150,000	-600,000	-350,000
2036 (AN)	150,000	210,000	-450,000	-90,000
2037 (W)	240,000	360,000	-440,000	170,000
2038 (D)	97,000	140,000	-540,000	-300,000
2039 (C)	88,000	150,000	-610,000	-370,000
2040 (AN)	150,000	290,000	-530,000	-84,000
2041 (W)	260,000	240,000	-480,000	15,000
2042 (W)	190,000	150,000	-500,000	-150,000
2043 (C)	86,000	120,000	-560,000	-350,000
2044 (C)	47,000	120,000	-660,000	-490,000
2045 (W)	210,000	390,000	-450,000	140,000
2046 (AN)	180,000	250,000	-540,000	-120,000
2047 (W)	200,000	230,000	-520,000	-92,000
2048 (D)	110,000	140,000	-580,000	-330,000
2049 (W)	250,000	240,000	-440,000	50,000
2050 (W)	250,000	470,000	-420,000	300,000
2051 (AN)	170,000	180,000	-610,000	-260,000
2052 (D)	110,000	160,000	-580,000	-310,000
2053 (W)	240,000	280,000	-450,000	68,000
2054 (C)	95,000	120,000	-560,000	-340,000
2055 (C)	73,000	130,000	-560,000	-360,000
2056 (C)	97,000	160,000	-540,000	-280,000
2057 (C)	79,000	140,000	-560,000	-340,000
2058 (C)	110,000	180,000	-540,000	-260,000
2059 (C)	96,000	160,000	-590,000	-340,000
2060 (W)	270,000	370,000	-450,000	190,000
2061 (C)	130,000	130,000	-530,000	-270,000
2062 (W)	260,000	350,000	-390,000	210,000
2063 (W)	250,000	240,000	-470,000	21,000
2064 (W)	260,000	390,000	-550,000	100,000
2065 (W)	250,000	420,000	-390,000	280,000
2066 (AN)	180,000	170,000	-520,000	-180,000
2067 (AN)	190,000	220,000	-490,000	-80,000
2068 (D)	130,000	160,000	-500,000	-210,000

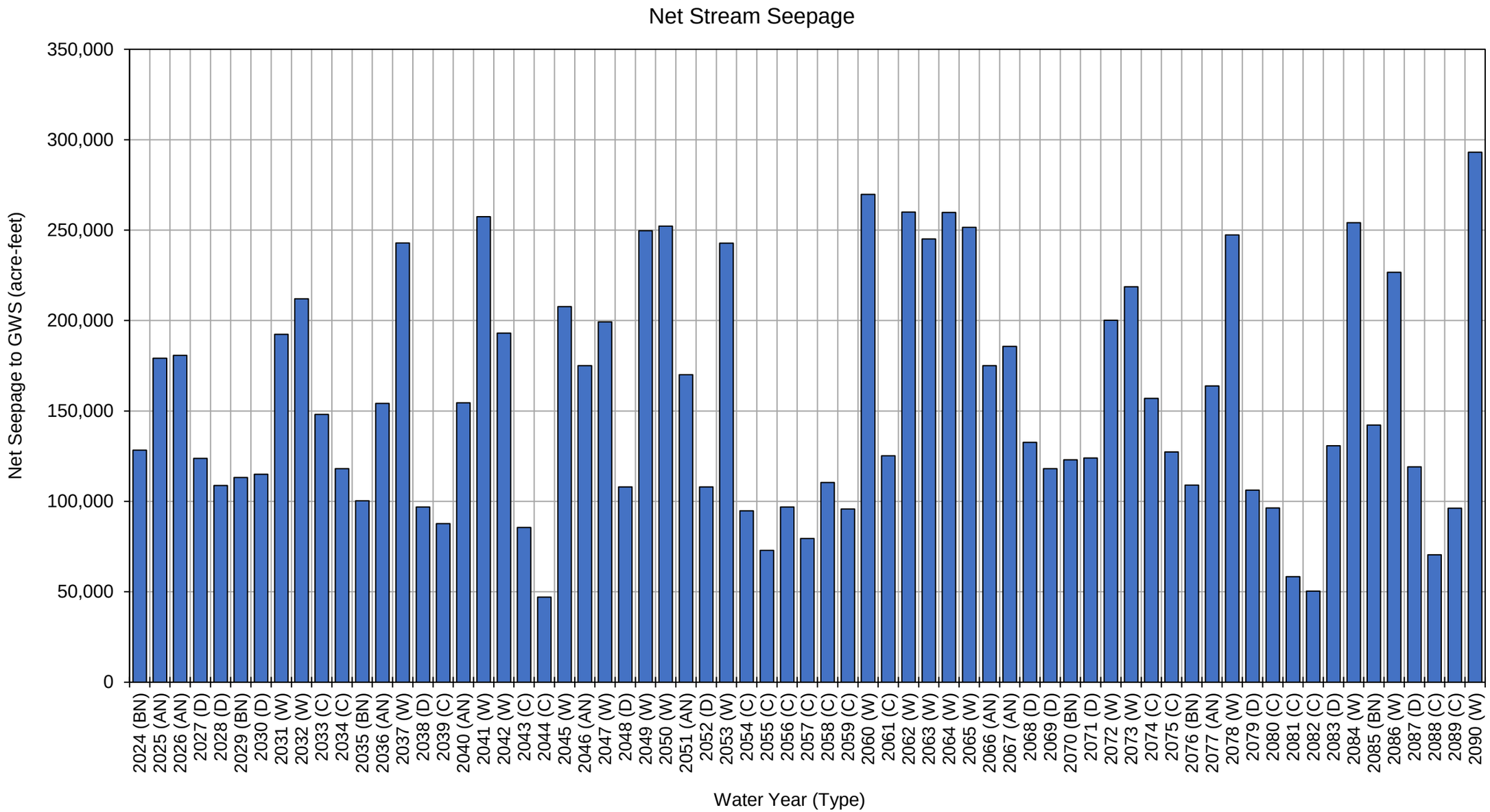
Madera Subbasin Projected (No Action) Surface System Water Budget Summary (acre-feet, rounded)

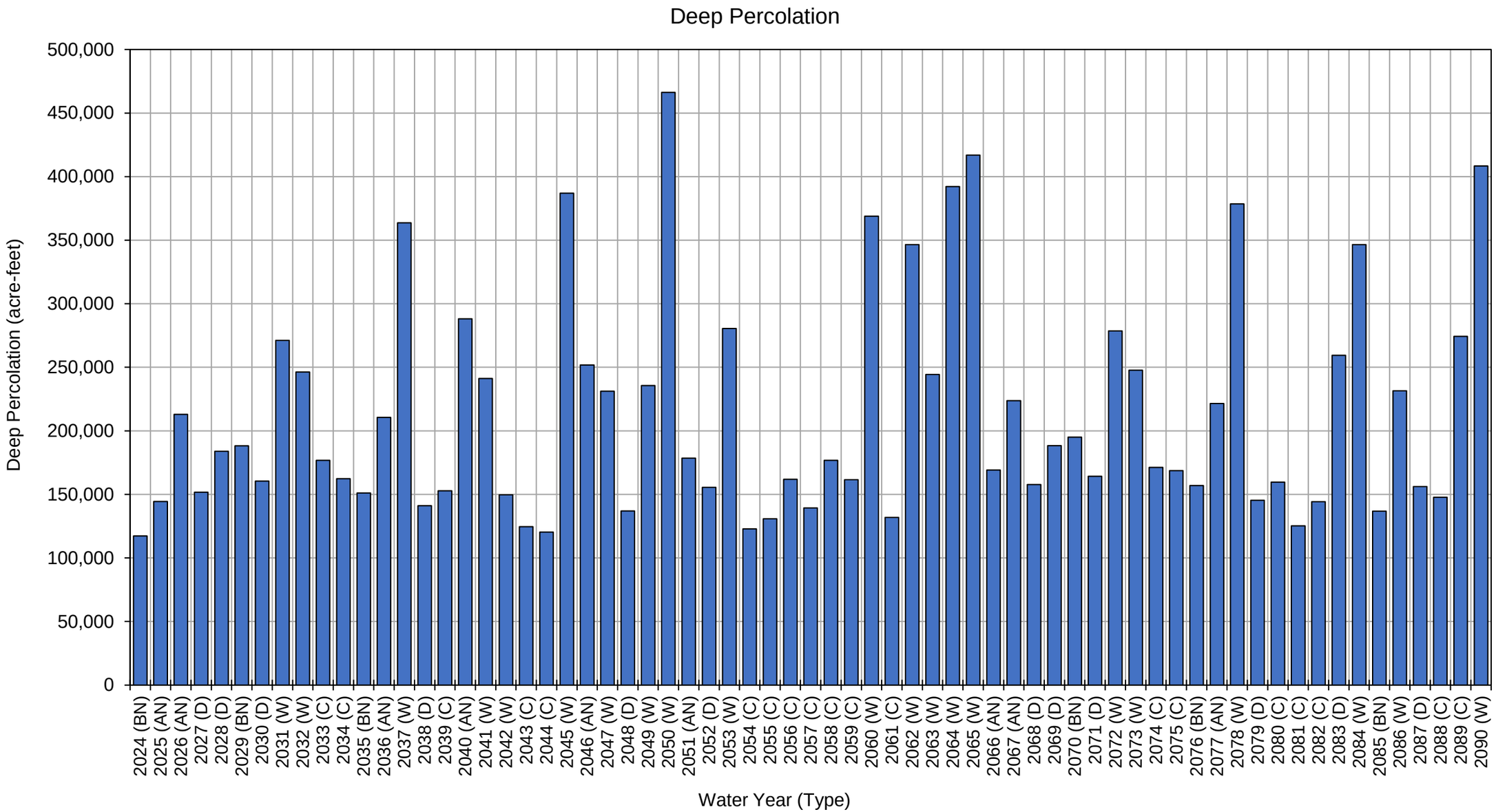
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		120,000	190,000	-580,000	-280,000
2070 (BN)		120,000	190,000	-550,000	-230,000
2071 (D)		120,000	160,000	-640,000	-350,000
2072 (W)		200,000	280,000	-410,000	72,000
2073 (W)		220,000	250,000	-460,000	4,700
2074 (C)		160,000	170,000	-600,000	-270,000
2075 (C)		130,000	170,000	-600,000	-310,000
2076 (BN)		110,000	160,000	-620,000	-350,000
2077 (AN)		160,000	220,000	-480,000	-92,000
2078 (W)		250,000	380,000	-460,000	170,000
2079 (D)		110,000	150,000	-560,000	-310,000
2080 (C)		96,000	160,000	-630,000	-370,000
2081 (C)		58,000	130,000	-640,000	-450,000
2082 (C)		50,000	140,000	-690,000	-490,000
2083 (D)		130,000	260,000	-570,000	-180,000
2084 (W)		250,000	350,000	-530,000	74,000
2085 (BN)		140,000	140,000	-570,000	-290,000
2086 (W)		230,000	230,000	-520,000	-63,000
2087 (D)		120,000	160,000	-600,000	-330,000
2088 (C)		71,000	150,000	-680,000	-460,000
2089 (C)		96,000	270,000	-530,000	-160,000
2090 (W)		290,000	410,000	-490,000	210,000
Average (2024-2039)		**140,000**	**190,000**	**-520,000**	**-180,000**
2024-2039	W	220,000	290,000	-420,000	91,000
	AN	170,000	190,000	-470,000	-110,000
	BN	110,000	150,000	-560,000	-290,000
	D	110,000	160,000	-550,000	-280,000
	C	120,000	160,000	-590,000	-310,000
Average (2040-2090)		**160,000**	**220,000**	**-540,000**	**-160,000**
2040-2090	W	240,000	310,000	-470,000	89,000
	AN	170,000	220,000	-530,000	-130,000
	BN	120,000	160,000	-580,000	-290,000
	D	120,000	170,000	-580,000	-290,000
	C	91,000	150,000	-590,000	-350,000

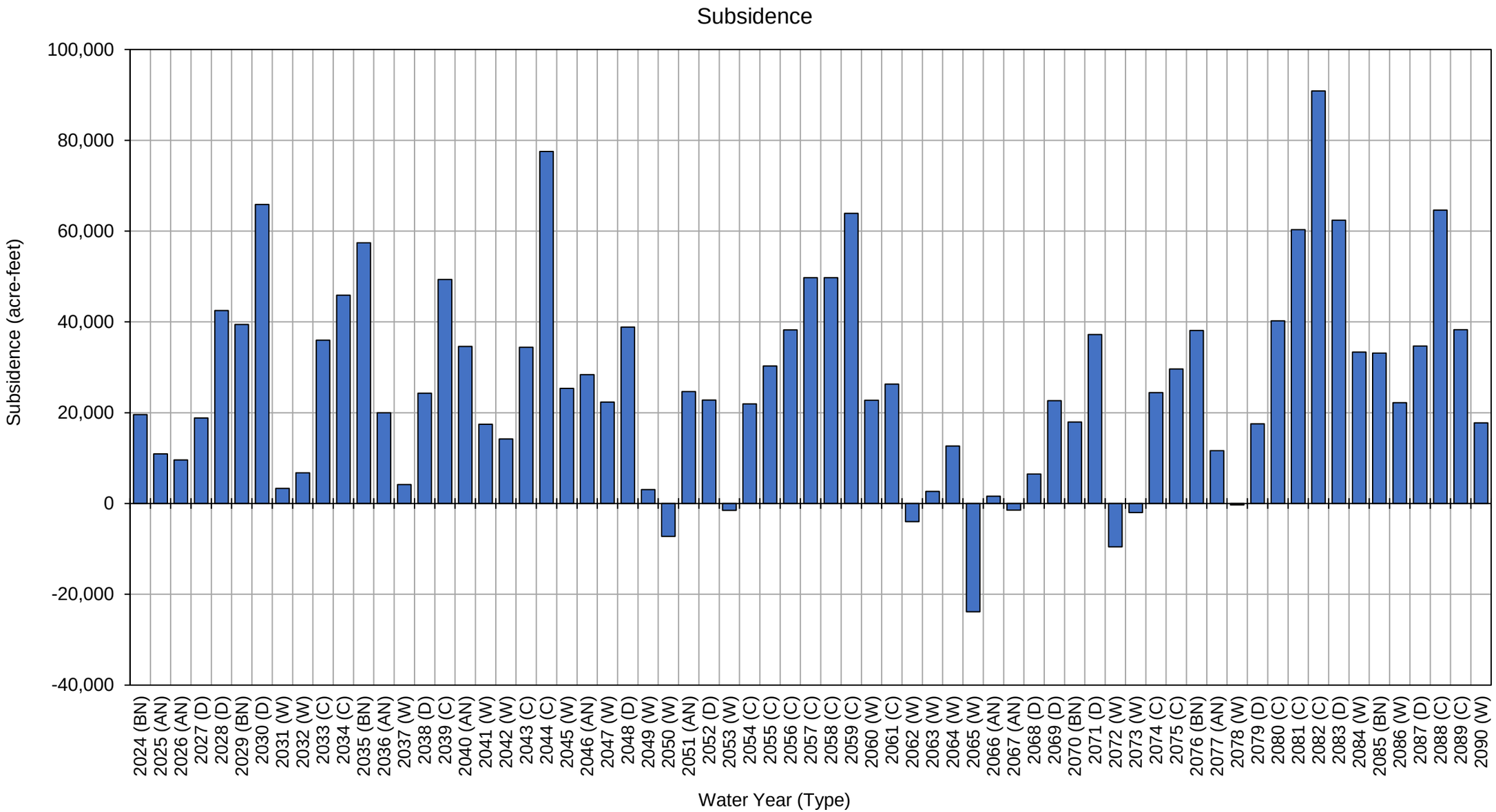
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

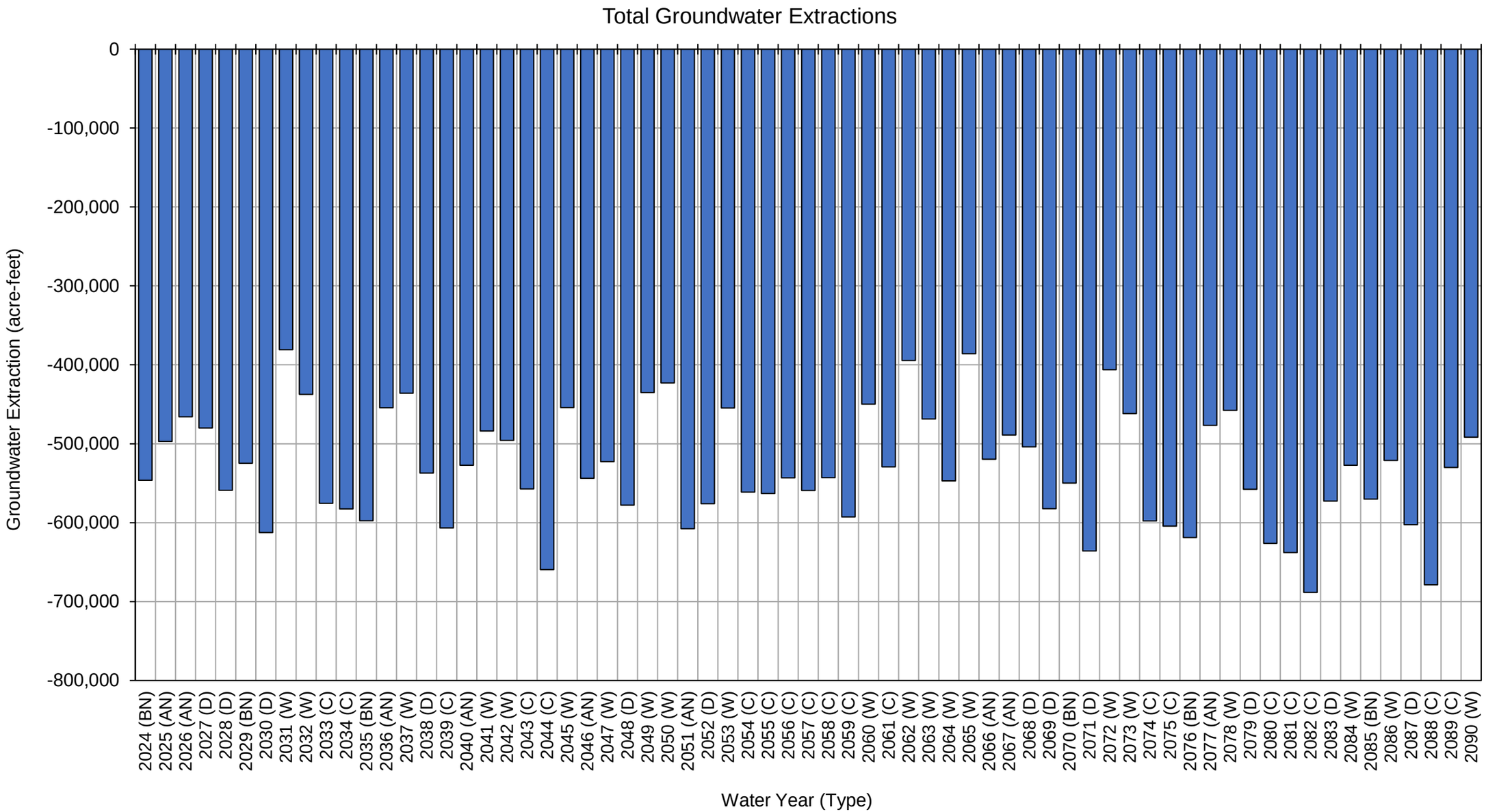
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

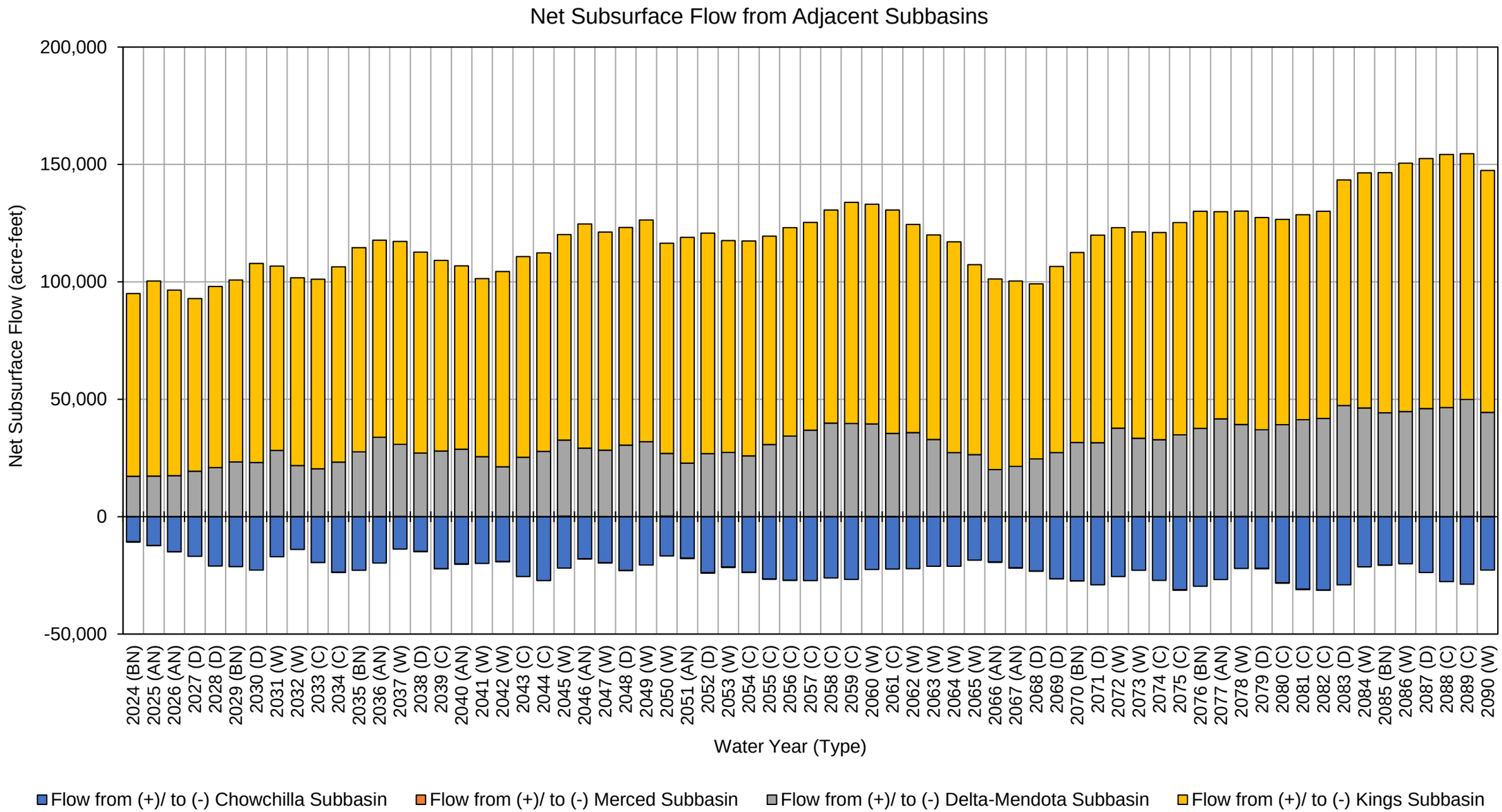

Projected (No Action) Water Budget
Madera Subbasin
Volume (acre-feet)
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
-2,500,000
-3,000,000
-3,500,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

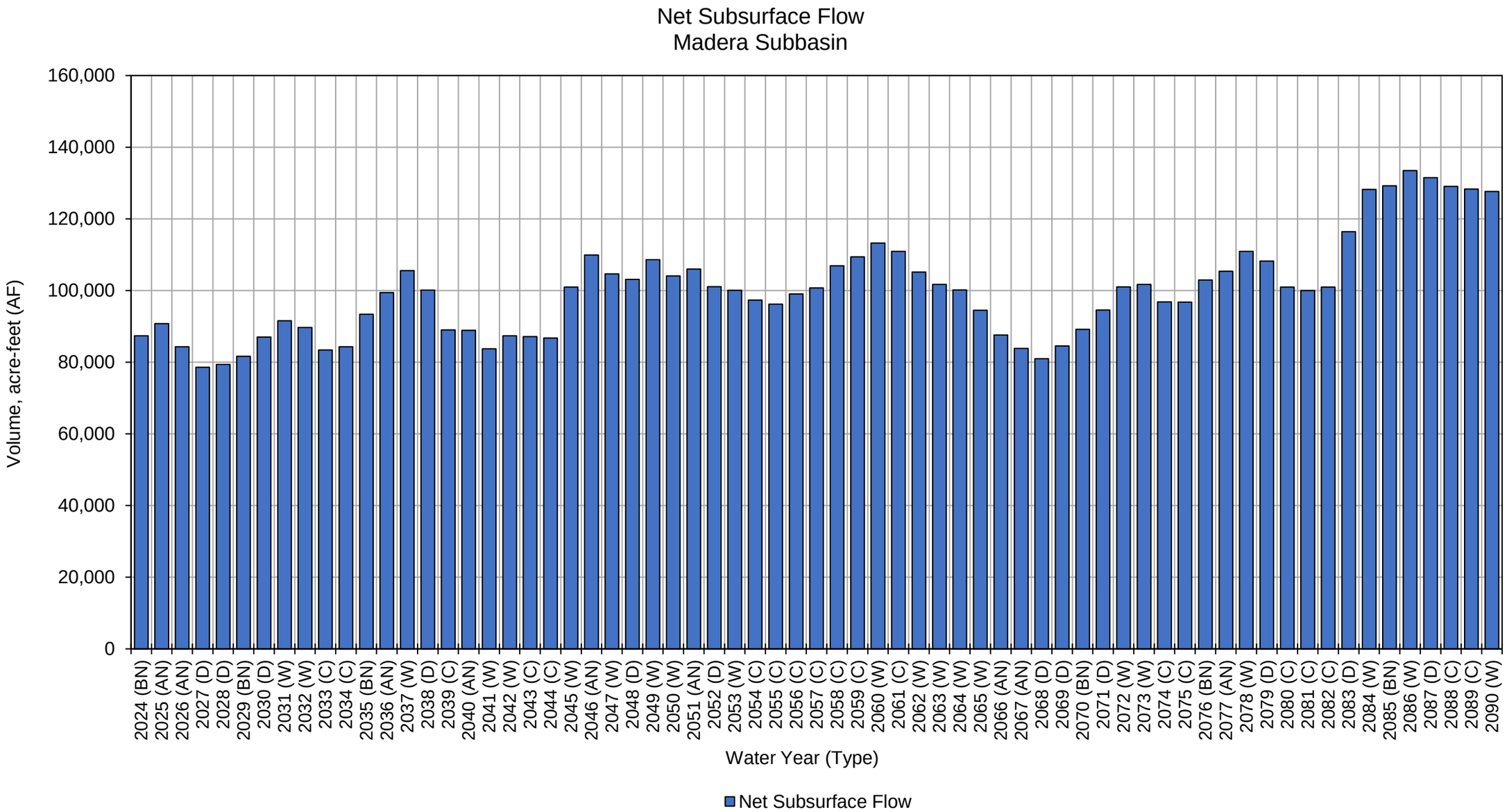

Net Stream Seepage
Net Seepage to GWS (acre-feet)
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

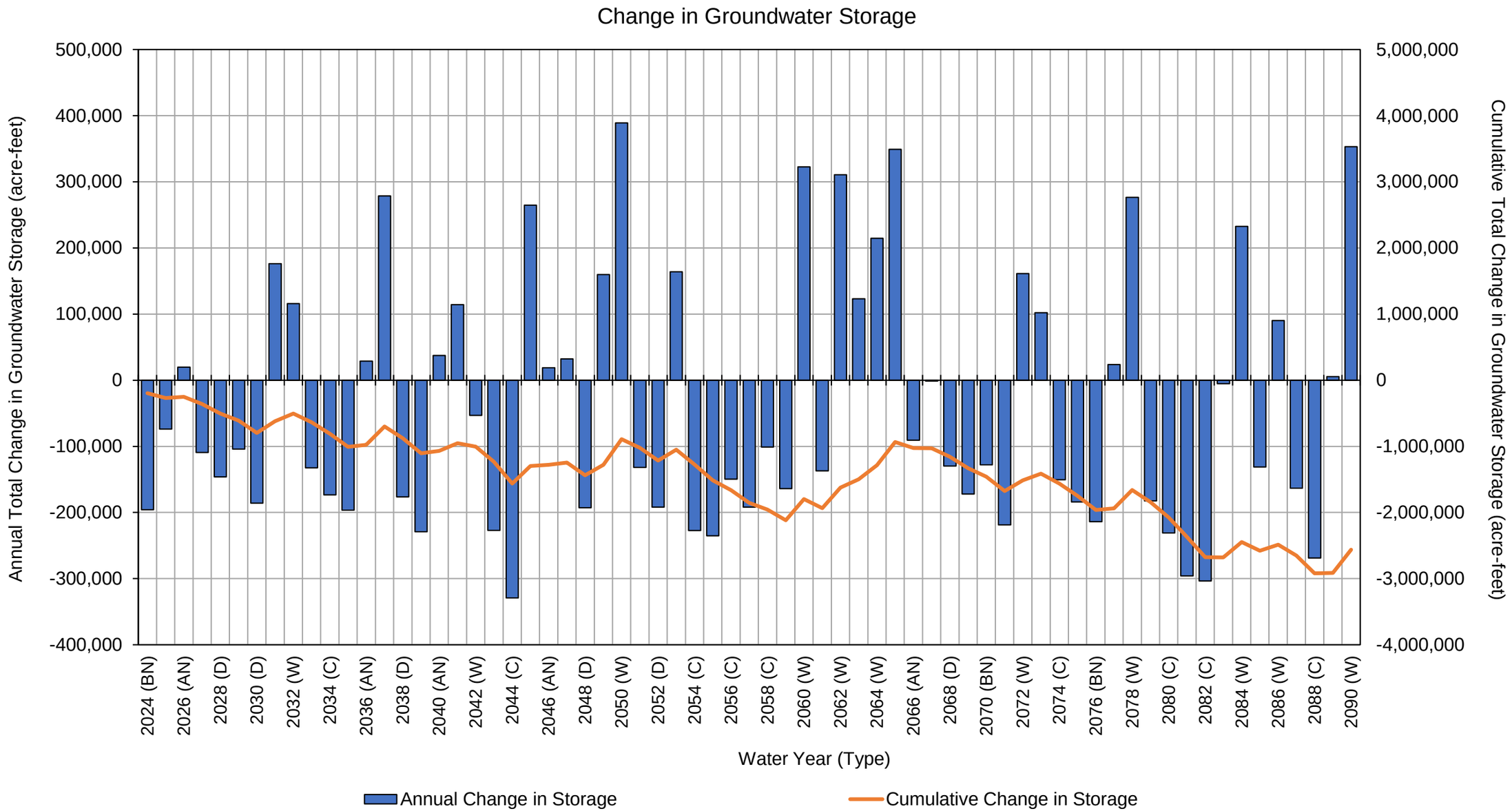

Deep Percolation
Deep Percolation (acre-feet)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
200,000
150,000
100,000
50,000
0
-50,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Chowchilla Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin
Flow from (+)/ to (-) Kings Subbasin


Net Subsurface Flow
Madera Subbasin
Volume, acre-feet (AF)
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
-1,000,000
-2,000,000
-3,000,000
-4,000,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Madera Subbasin Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	120,000	120,000	27,000	-570,000	84,000	-220,000	-220,000
2025 (AN)	160,000	140,000	21,000	-520,000	84,000	-120,000	-340,000
2026 (AN)	180,000	220,000	20,000	-500,000	82,000	-4,600	-340,000
2027 (D)	94,000	140,000	36,000	-530,000	77,000	-190,000	-530,000
2028 (D)	110,000	190,000	57,000	-590,000	79,000	-150,000	-680,000
2029 (BN)	110,000	190,000	54,000	-560,000	81,000	-120,000	-810,000
2030 (D)	99,000	160,000	81,000	-650,000	90,000	-220,000	-1,000,000
2031 (W)	180,000	260,000	17,000	-420,000	97,000	130,000	-890,000
2032 (W)	200,000	240,000	17,000	-460,000	99,000	91,000	-800,000
2033 (C)	120,000	160,000	51,000	-610,000	93,000	-190,000	-990,000
2034 (C)	100,000	160,000	64,000	-620,000	92,000	-200,000	-1,200,000
2035 (BN)	94,000	160,000	72,000	-620,000	100,000	-200,000	-1,400,000
2036 (AN)	140,000	210,000	33,000	-480,000	110,000	3,400	-1,400,000
2037 (W)	220,000	350,000	20,000	-480,000	120,000	240,000	-1,100,000
2038 (D)	90,000	140,000	33,000	-550,000	110,000	-180,000	-1,300,000
2039 (C)	91,000	160,000	61,000	-630,000	100,000	-210,000	-1,500,000
2040 (AN)	170,000	300,000	44,000	-540,000	100,000	66,000	-1,500,000
2041 (W)	230,000	230,000	28,000	-520,000	100,000	62,000	-1,400,000
2042 (W)	170,000	150,000	23,000	-520,000	110,000	-73,000	-1,500,000
2043 (C)	100,000	130,000	39,000	-570,000	110,000	-200,000	-1,700,000
2044 (C)	51,000	120,000	83,000	-680,000	100,000	-320,000	-2,000,000
2045 (W)	220,000	400,000	31,000	-470,000	120,000	290,000	-1,700,000
2046 (AN)	170,000	250,000	33,000	-570,000	130,000	5,300	-1,700,000
2047 (W)	200,000	220,000	29,000	-560,000	120,000	15,000	-1,700,000
2048 (D)	120,000	140,000	43,000	-610,000	120,000	-190,000	-1,900,000
2049 (W)	240,000	250,000	5,300	-450,000	130,000	170,000	-1,700,000
2050 (W)	270,000	460,000	-5,300	-440,000	120,000	390,000	-1,300,000
2051 (AN)	160,000	170,000	28,000	-640,000	120,000	-160,000	-1,500,000
2052 (D)	110,000	150,000	28,000	-610,000	120,000	-210,000	-1,700,000
2053 (W)	220,000	280,000	3,500	-490,000	120,000	130,000	-1,600,000
2054 (C)	100,000	130,000	26,000	-600,000	120,000	-220,000	-1,800,000
2055 (C)	77,000	140,000	33,000	-580,000	120,000	-220,000	-2,000,000
2056 (C)	84,000	150,000	45,000	-570,000	120,000	-180,000	-2,200,000
2057 (C)	77,000	150,000	55,000	-580,000	120,000	-190,000	-2,400,000
2058 (C)	120,000	180,000	54,000	-560,000	120,000	-79,000	-2,400,000
2059 (C)	91,000	160,000	68,000	-620,000	130,000	-180,000	-2,600,000
2060 (W)	240,000	330,000	33,000	-490,000	130,000	240,000	-2,400,000
2061 (C)	110,000	130,000	39,000	-570,000	130,000	-160,000	-2,500,000
2062 (W)	260,000	360,000	2,600	-410,000	120,000	330,000	-2,200,000
2063 (W)	230,000	240,000	11,000	-510,000	120,000	87,000	-2,100,000
2064 (W)	230,000	370,000	28,000	-610,000	120,000	130,000	-2,000,000
2065 (W)	260,000	450,000	-16,000	-410,000	110,000	390,000	-1,600,000
2066 (AN)	160,000	160,000	5,800	-550,000	100,000	-120,000	-1,700,000
2067 (AN)	180,000	230,000	4,200	-520,000	100,000	-11,000	-1,700,000
2068 (D)	100,000	150,000	16,000	-550,000	98,000	-190,000	-1,900,000
2069 (D)	120,000	200,000	28,000	-610,000	100,000	-160,000	-2,100,000

Madera Subbasin Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		120,000	200,000	25,000	-580,000	110,000	-130,000	-2,200,000
2071 (D)		110,000	160,000	47,000	-670,000	120,000	-240,000	-2,500,000
2072 (W)		190,000	270,000	3,900	-450,000	130,000	140,000	-2,300,000
2073 (W)		210,000	240,000	3,700	-490,000	130,000	92,000	-2,200,000
2074 (C)		130,000	160,000	32,000	-630,000	130,000	-190,000	-2,400,000
2075 (C)		110,000	170,000	44,000	-640,000	130,000	-190,000	-2,600,000
2076 (BN)		100,000	160,000	57,000	-640,000	130,000	-190,000	-2,800,000
2077 (AN)		150,000	220,000	26,000	-500,000	130,000	18,000	-2,800,000
2078 (W)		230,000	370,000	13,000	-500,000	140,000	250,000	-2,500,000
2079 (D)		99,000	150,000	22,000	-570,000	140,000	-170,000	-2,700,000
2080 (C)		99,000	170,000	47,000	-640,000	130,000	-200,000	-2,900,000
2081 (C)		58,000	130,000	64,000	-650,000	130,000	-270,000	-3,200,000
2082 (C)		50,000	140,000	89,000	-700,000	130,000	-290,000	-3,500,000
2083 (D)		120,000	260,000	66,000	-590,000	150,000	-130	-3,500,000
2084 (W)		250,000	360,000	37,000	-550,000	160,000	250,000	-3,200,000
2085 (BN)		140,000	130,000	33,000	-580,000	160,000	-120,000	-3,300,000
2086 (W)		220,000	250,000	25,000	-540,000	160,000	110,000	-3,200,000
2087 (D)		110,000	150,000	34,000	-630,000	160,000	-180,000	-3,400,000
2088 (C)		66,000	150,000	58,000	-690,000	160,000	-260,000	-3,700,000
2089 (C)		94,000	280,000	36,000	-540,000	160,000	19,000	-3,600,000
2090 (W)		280,000	430,000	20,000	-510,000	150,000	380,000	-3,300,000
Average (2024-2039)		**130,000**	**190,000**	**41,000**	**-550,000**	**94,000**	**-96,000**	
2024-2039	W	200,000	290,000	18,000	-450,000	100,000	150,000	
	AN	160,000	190,000	25,000	-500,000	91,000	-40,000	
	BN	110,000	150,000	51,000	-580,000	89,000	-180,000	
	D	98,000	160,000	52,000	-580,000	90,000	-180,000	
	C	100,000	160,000	59,000	-620,000	96,000	-200,000	
Average (2040-2090)		**150,000**	**220,000**	**32,000**	**-560,000**	**130,000**	**-34,000**	
2040-2090	W	230,000	310,000	15,000	-500,000	130,000	190,000	
	AN	160,000	220,000	23,000	-550,000	110,000	-34,000	
	BN	120,000	160,000	38,000	-600,000	130,000	-150,000	
	D	110,000	170,000	35,000	-610,000	130,000	-170,000	
	C	89,000	160,000	51,000	-610,000	130,000	-200,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Subbasin Projected (No Action) with Climate Change Surface System Water Budget Summary (acre-feet, rounded)

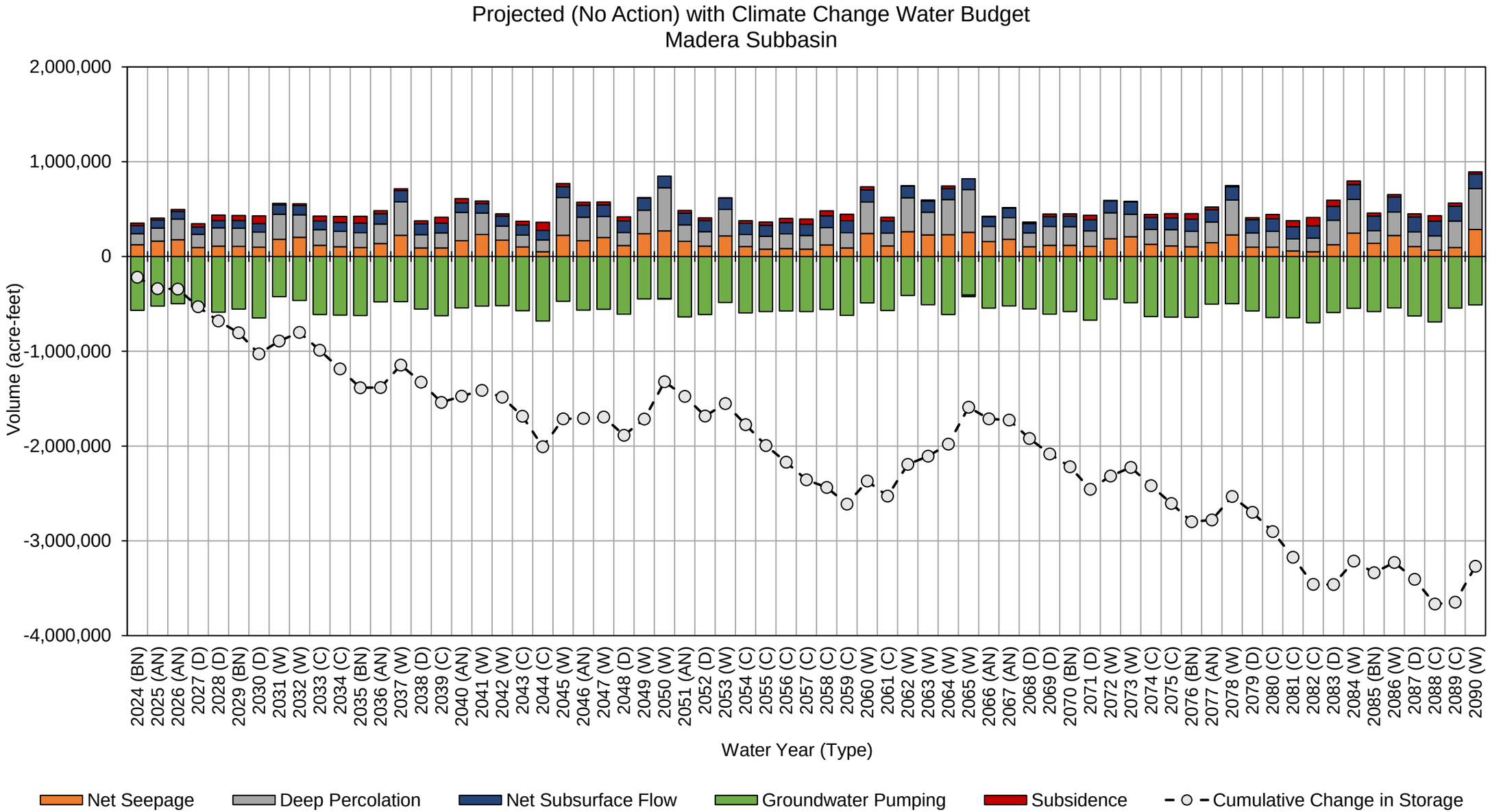
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	120,000	120,000	-570,000	-330,000
2025 (AN)	160,000	140,000	-520,000	-220,000
2026 (AN)	180,000	220,000	-500,000	-100,000
2027 (D)	94,000	140,000	-530,000	-300,000
2028 (D)	110,000	190,000	-590,000	-280,000
2029 (BN)	110,000	190,000	-560,000	-260,000
2030 (D)	99,000	160,000	-650,000	-390,000
2031 (W)	180,000	260,000	-420,000	21,000
2032 (W)	200,000	240,000	-460,000	-23,000
2033 (C)	120,000	160,000	-610,000	-330,000
2034 (C)	100,000	160,000	-620,000	-350,000
2035 (BN)	94,000	160,000	-620,000	-370,000
2036 (AN)	140,000	210,000	-480,000	-140,000
2037 (W)	220,000	350,000	-480,000	100,000
2038 (D)	90,000	140,000	-550,000	-330,000
2039 (C)	91,000	160,000	-630,000	-380,000
2040 (AN)	170,000	300,000	-540,000	-78,000
2041 (W)	230,000	230,000	-520,000	-65,000
2042 (W)	170,000	150,000	-520,000	-200,000
2043 (C)	100,000	130,000	-570,000	-350,000
2044 (C)	51,000	120,000	-680,000	-510,000
2045 (W)	220,000	400,000	-470,000	150,000
2046 (AN)	170,000	250,000	-570,000	-150,000
2047 (W)	200,000	220,000	-560,000	-130,000
2048 (D)	120,000	140,000	-610,000	-350,000
2049 (W)	240,000	250,000	-450,000	41,000
2050 (W)	270,000	460,000	-440,000	280,000
2051 (AN)	160,000	170,000	-640,000	-300,000
2052 (D)	110,000	150,000	-610,000	-350,000
2053 (W)	220,000	280,000	-490,000	11,000
2054 (C)	100,000	130,000	-600,000	-360,000
2055 (C)	77,000	140,000	-580,000	-370,000
2056 (C)	84,000	150,000	-570,000	-340,000
2057 (C)	77,000	150,000	-580,000	-360,000
2058 (C)	120,000	180,000	-560,000	-260,000
2059 (C)	91,000	160,000	-620,000	-370,000
2060 (W)	240,000	330,000	-490,000	85,000
2061 (C)	110,000	130,000	-570,000	-320,000
2062 (W)	260,000	360,000	-410,000	210,000
2063 (W)	230,000	240,000	-510,000	-41,000
2064 (W)	230,000	370,000	-610,000	-12,000
2065 (W)	260,000	450,000	-410,000	300,000
2066 (AN)	160,000	160,000	-550,000	-230,000
2067 (AN)	180,000	230,000	-520,000	-110,000
2068 (D)	100,000	150,000	-550,000	-300,000

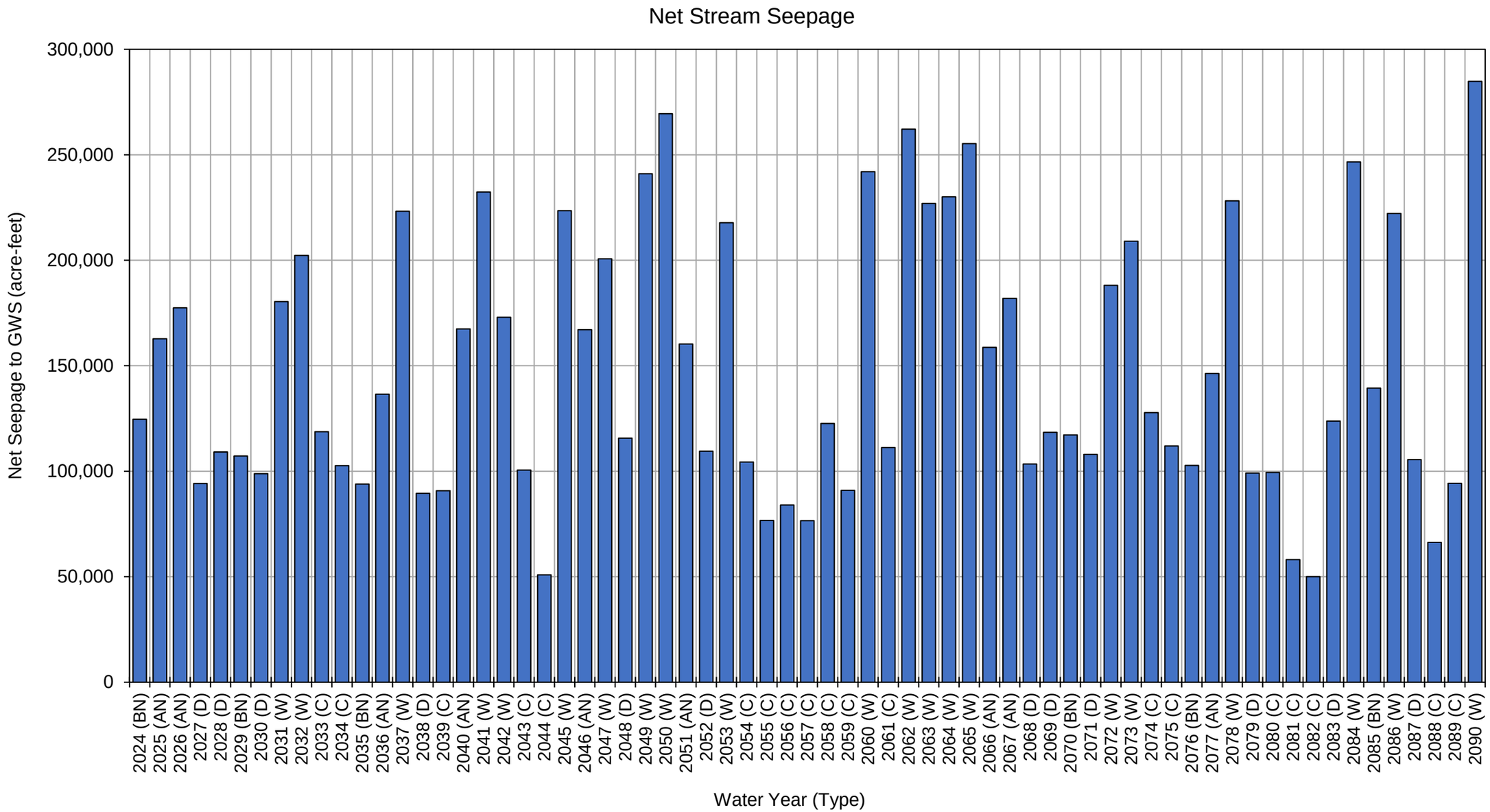
Madera Subbasin Projected (No Action) with Climate Change Surface System Water Budget Summary (acre-feet, rounded)

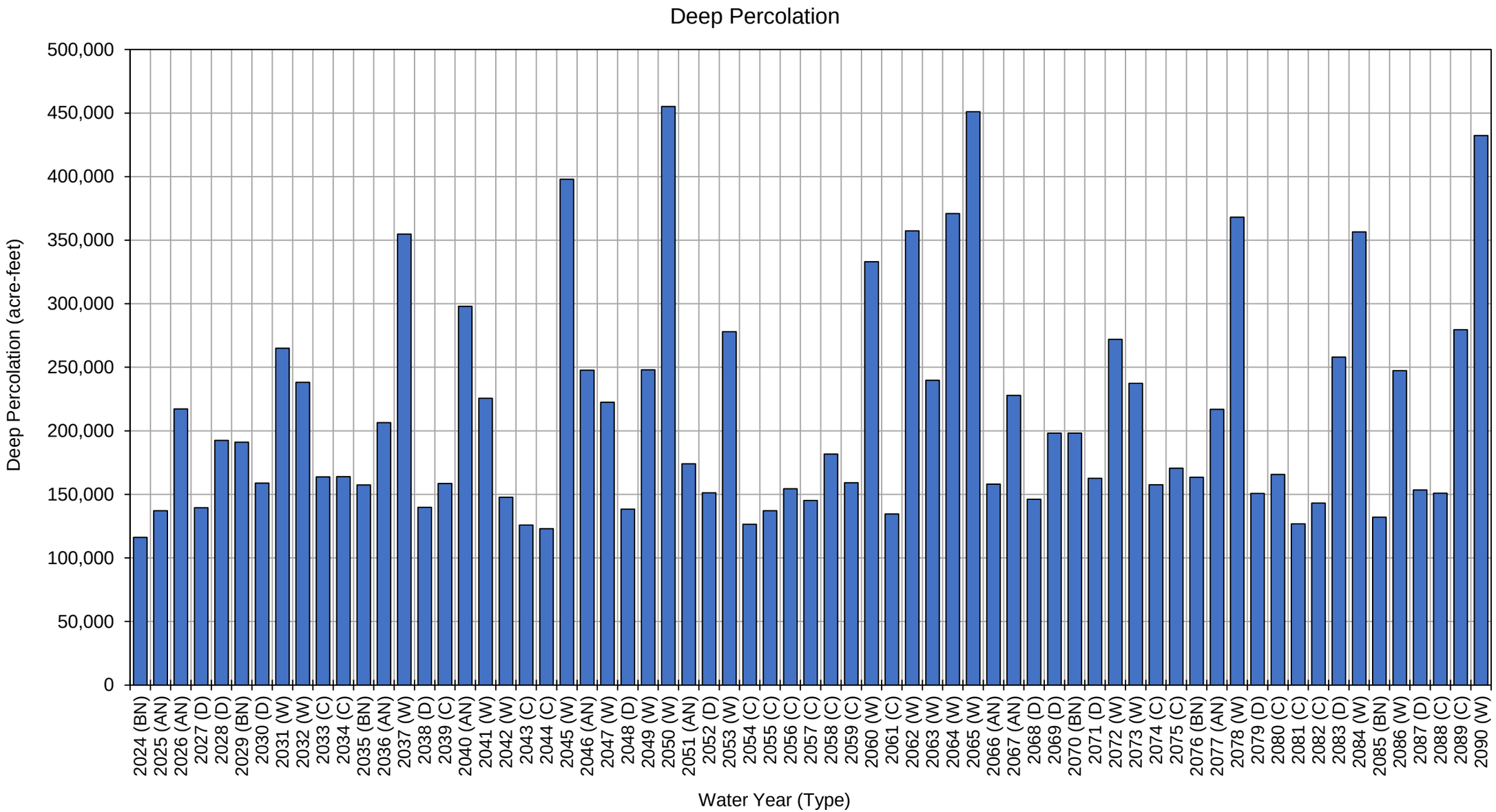
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		120,000	200,000	-610,000	-290,000
2070 (BN)		120,000	200,000	-580,000	-260,000
2071 (D)		110,000	160,000	-670,000	-400,000
2072 (W)		190,000	270,000	-450,000	11,000
2073 (W)		210,000	240,000	-490,000	-41,000
2074 (C)		130,000	160,000	-630,000	-350,000
2075 (C)		110,000	170,000	-640,000	-360,000
2076 (BN)		100,000	160,000	-640,000	-380,000
2077 (AN)		150,000	220,000	-500,000	-140,000
2078 (W)		230,000	370,000	-500,000	99,000
2079 (D)		99,000	150,000	-570,000	-320,000
2080 (C)		99,000	170,000	-640,000	-380,000
2081 (C)		58,000	130,000	-650,000	-460,000
2082 (C)		50,000	140,000	-700,000	-510,000
2083 (D)		120,000	260,000	-590,000	-210,000
2084 (W)		250,000	360,000	-550,000	56,000
2085 (BN)		140,000	130,000	-580,000	-310,000
2086 (W)		220,000	250,000	-540,000	-73,000
2087 (D)		110,000	150,000	-630,000	-370,000
2088 (C)		66,000	150,000	-690,000	-470,000
2089 (C)		94,000	280,000	-540,000	-170,000
2090 (W)		280,000	430,000	-510,000	210,000
Average (2024-2039)		**130,000**	**190,000**	**-550,000**	**-230,000**
2024-2039	W	200,000	290,000	-450,000	33,000
	AN	160,000	190,000	-500,000	-150,000
	BN	110,000	150,000	-580,000	-320,000
	D	98,000	160,000	-580,000	-320,000
	C	100,000	160,000	-620,000	-350,000
Average (2040-2090)		**150,000**	**220,000**	**-560,000**	**-190,000**
2040-2090	W	230,000	310,000	-500,000	49,000
	AN	160,000	220,000	-550,000	-170,000
	BN	120,000	160,000	-600,000	-320,000
	D	110,000	170,000	-610,000	-330,000
	C	89,000	160,000	-610,000	-370,000

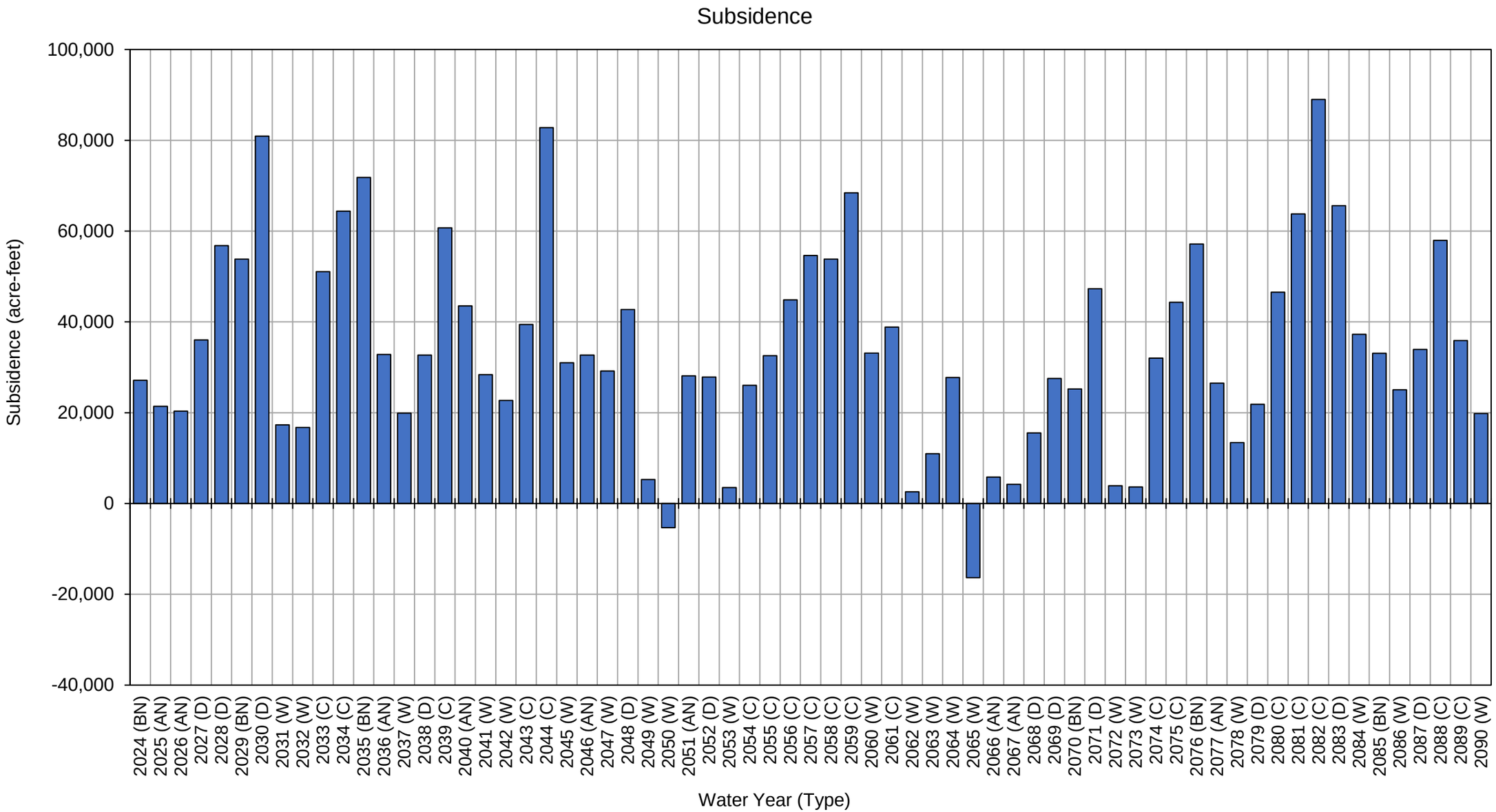
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

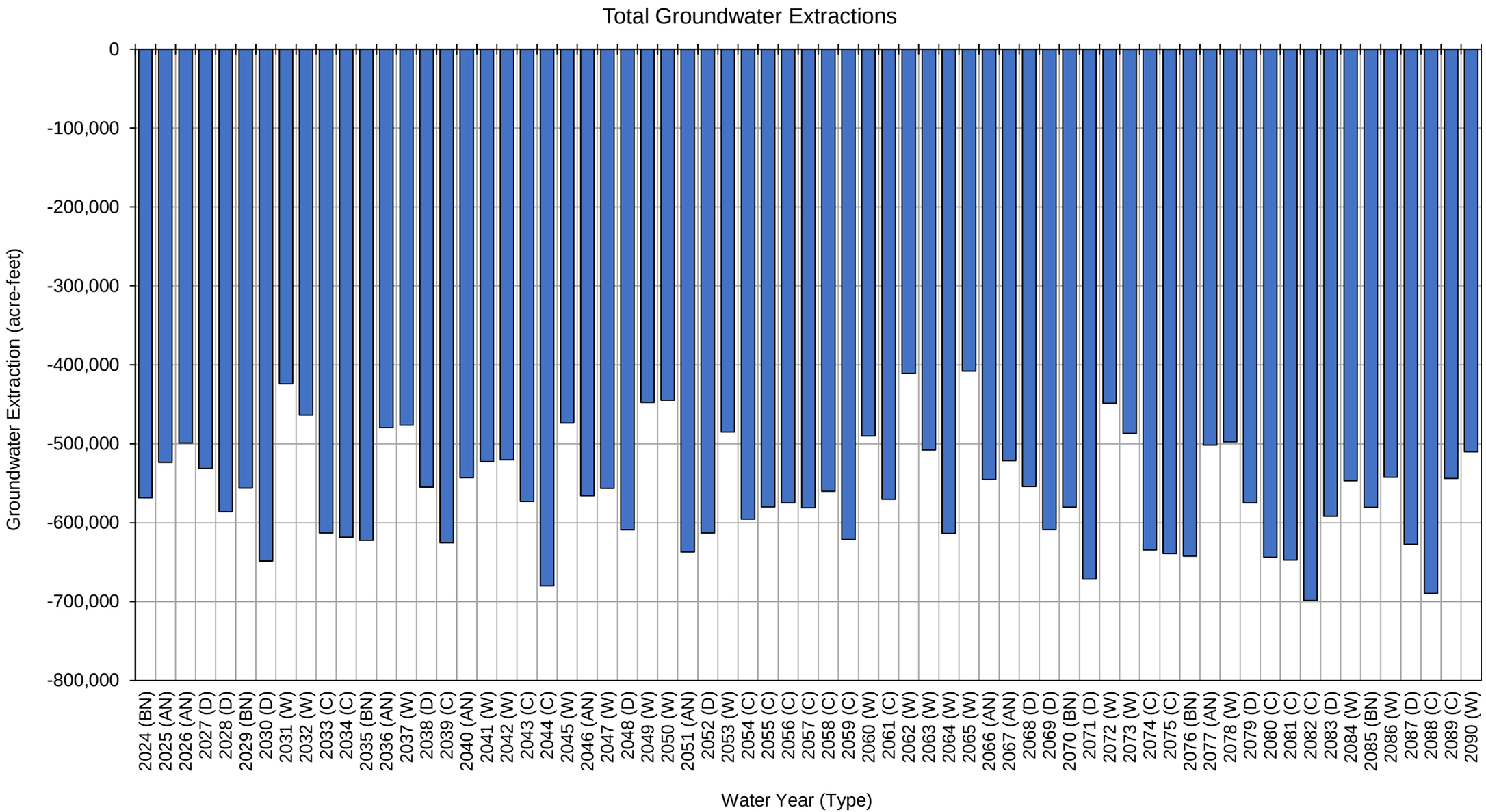
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

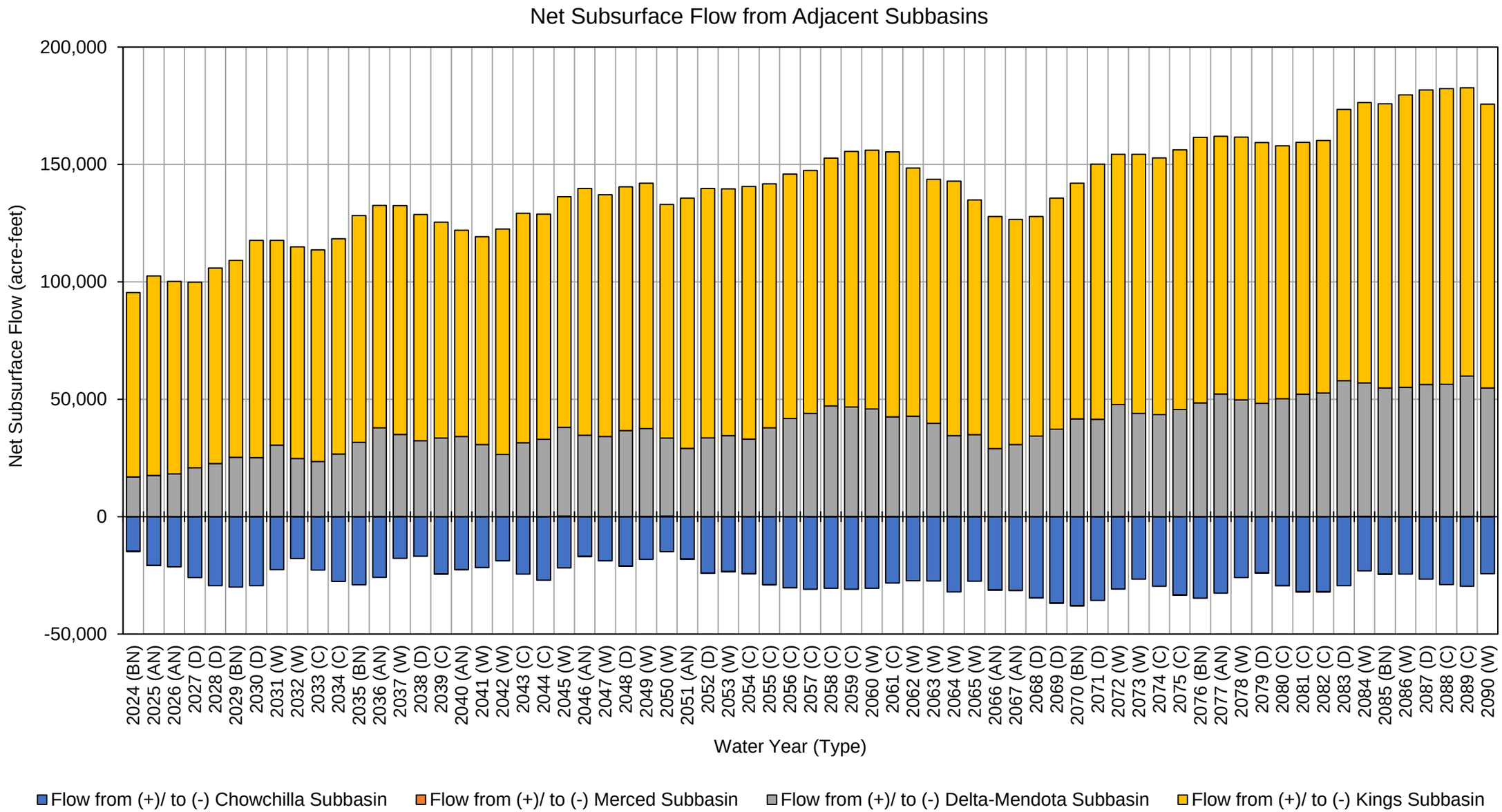

Projected (No Action) with Climate Change Water Budget
Madera Subbasin
2,000,000
1,000,000
0
-1,000,000
-2,000,000
-3,000,000
-4,000,000
Volume (acre-feet)
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

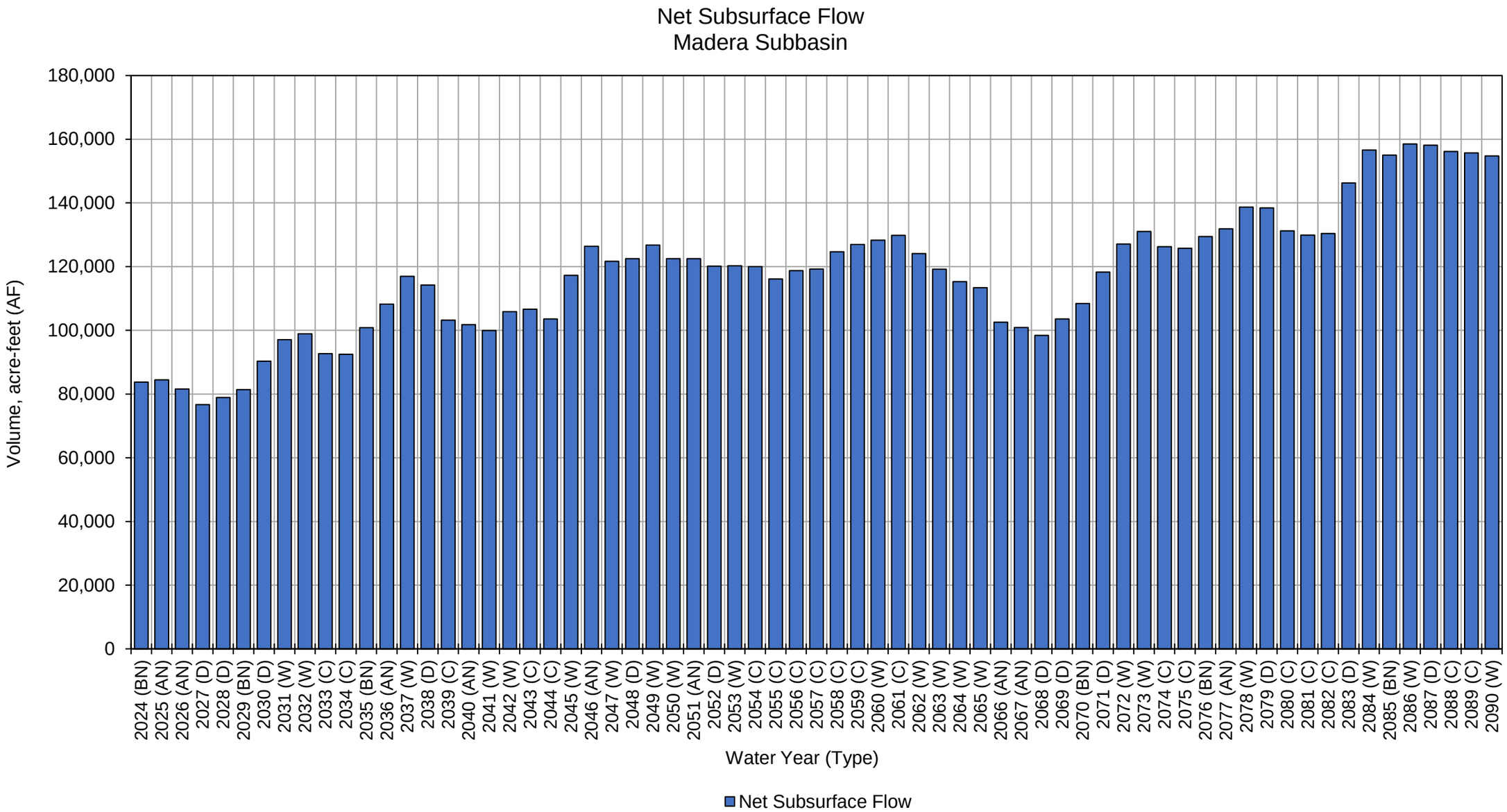

Net Stream Seepage
Net Seepage to GWS (acre-feet)
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

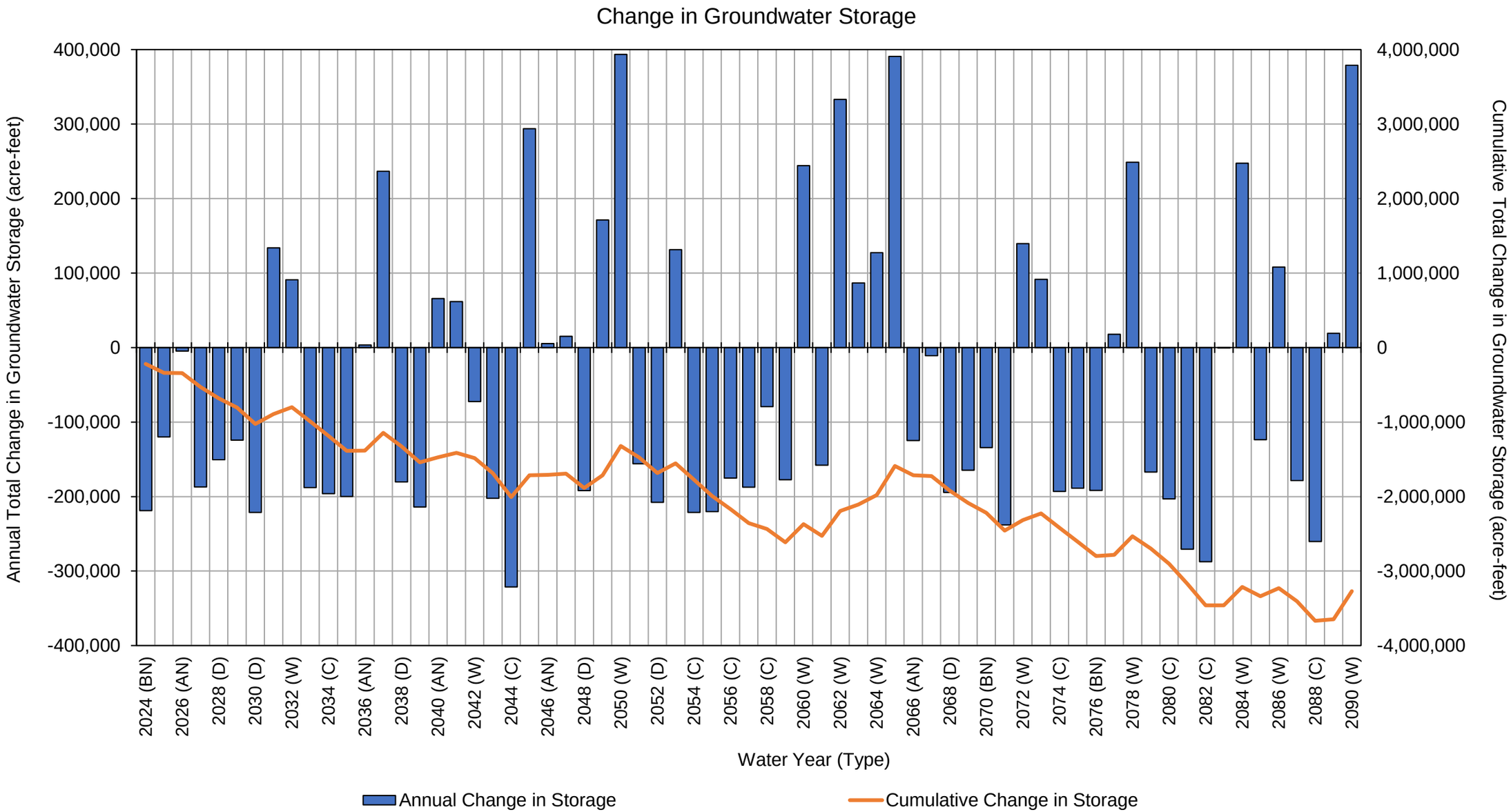

Deep Percolation
Deep Percolation (acre-feet)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
200,000
150,000
100,000
50,000
0
-50,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Chowchilla Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin
Flow from (+)/ to (-) Kings Subbasin


Net Subsurface Flow
Madera Subbasin
Volume, acre-feet (AF)
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
4,000,000
3,000,000
2,000,000
1,000,000
0
-1,000,000
-2,000,000
-3,000,000
-4,000,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

Madera Subbasin Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	150,000	120,000	19,000	-550,000	86,000	-170,000	-170,000
2025 (AN)	220,000	160,000	9,500	-500,000	87,000	-26,000	-200,000
2026 (AN)	230,000	220,000	6,100	-460,000	79,000	68,000	-130,000
2027 (D)	140,000	140,000	14,000	-470,000	73,000	-100,000	-230,000
2028 (D)	130,000	180,000	35,000	-550,000	75,000	-130,000	-360,000
2029 (BN)	140,000	190,000	32,000	-520,000	76,000	-78,000	-440,000
2030 (D)	140,000	150,000	45,000	-560,000	78,000	-150,000	-590,000
2031 (W)	290,000	320,000	-4,700	-370,000	73,000	290,000	-290,000
2032 (W)	310,000	260,000	-3,600	-420,000	65,000	200,000	-93,000
2033 (C)	170,000	140,000	14,000	-510,000	62,000	-130,000	-220,000
2034 (C)	140,000	140,000	17,000	-510,000	66,000	-150,000	-370,000
2035 (BN)	130,000	140,000	21,000	-510,000	73,000	-150,000	-520,000
2036 (AN)	230,000	220,000	-970	-410,000	79,000	110,000	-410,000
2037 (W)	400,000	420,000	-20,000	-380,000	67,000	490,000	73,000
2038 (D)	110,000	97,000	-1,500	-450,000	65,000	-170,000	-100,000
2039 (C)	100,000	120,000	14,000	-490,000	56,000	-210,000	-310,000
2040 (AN)	230,000	270,000	-2,000	-420,000	54,000	130,000	-180,000
2041 (W)	410,000	280,000	-18,000	-370,000	31,000	330,000	150,000
2042 (W)	340,000	160,000	-18,000	-400,000	24,000	110,000	250,000
2043 (C)	100,000	78,000	5,200	-460,000	36,000	-240,000	16,000
2044 (C)	63,000	86,000	33,000	-550,000	39,000	-330,000	-310,000
2045 (W)	360,000	390,000	-19,000	-360,000	41,000	400,000	92,000
2046 (AN)	250,000	210,000	-3,600	-430,000	51,000	72,000	160,000
2047 (W)	340,000	250,000	-11,000	-410,000	36,000	200,000	360,000
2048 (D)	130,000	92,000	6,000	-460,000	40,000	-200,000	160,000
2049 (W)	400,000	280,000	-30,000	-340,000	33,000	340,000	500,000
2050 (W)	380,000	500,000	-36,000	-330,000	15,000	520,000	1,000,000
2051 (AN)	230,000	140,000	1,500	-490,000	25,000	-92,000	930,000
2052 (D)	130,000	110,000	-530	-460,000	28,000	-210,000	720,000
2053 (W)	390,000	310,000	-30,000	-350,000	13,000	320,000	1,000,000
2054 (C)	110,000	78,000	4,900	-460,000	19,000	-250,000	800,000
2055 (C)	89,000	89,000	11,000	-460,000	23,000	-250,000	550,000
2056 (C)	110,000	120,000	8,100	-440,000	27,000	-170,000	370,000
2057 (C)	96,000	110,000	17,000	-460,000	29,000	-200,000	170,000
2058 (C)	130,000	150,000	13,000	-440,000	36,000	-120,000	55,000
2059 (C)	110,000	140,000	25,000	-480,000	39,000	-170,000	-110,000
2060 (W)	430,000	420,000	-17,000	-350,000	24,000	510,000	390,000
2061 (C)	140,000	88,000	2,700	-430,000	29,000	-170,000	230,000
2062 (W)	400,000	390,000	-29,000	-300,000	9,600	470,000	690,000
2063 (W)	370,000	270,000	-19,000	-360,000	-8,600	260,000	950,000
2064 (W)	380,000	400,000	-10,000	-420,000	-9,900	330,000	1,300,000
2065 (W)	360,000	440,000	-48,000	-300,000	-21,000	420,000	1,700,000
2066 (AN)	220,000	130,000	-12,000	-410,000	-16,000	-86,000	1,600,000
2067 (AN)	250,000	180,000	-18,000	-380,000	-11,000	15,000	1,600,000
2068 (D)	150,000	110,000	-5,100	-400,000	-9,000	-160,000	1,500,000
2069 (D)	140,000	140,000	10,000	-460,000	-1,900	-180,000	1,300,000

Madera Subbasin Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		160,000	160,000	3,300	-440,000	3,200	-110,000	1,200,000
2071 (D)		140,000	130,000	22,000	-500,000	8,400	-210,000	970,000
2072 (W)		340,000	320,000	-28,000	-320,000	430	300,000	1,300,000
2073 (W)		340,000	280,000	-19,000	-360,000	-9,600	220,000	1,500,000
2074 (C)		160,000	120,000	14,000	-480,000	-2,000	-190,000	1,300,000
2075 (C)		140,000	120,000	16,000	-480,000	5,700	-200,000	1,100,000
2076 (BN)		150,000	120,000	19,000	-500,000	11,000	-200,000	910,000
2077 (AN)		240,000	200,000	-9,300	-380,000	12,000	68,000	970,000
2078 (W)		380,000	440,000	-24,000	-360,000	-1,800	430,000	1,400,000
2079 (D)		120,000	94,000	8,400	-450,000	3,600	-220,000	1,200,000
2080 (C)		110,000	110,000	24,000	-510,000	4,900	-260,000	920,000
2081 (C)		75,000	90,000	30,000	-520,000	7,800	-320,000	600,000
2082 (C)		67,000	110,000	42,000	-570,000	10,000	-340,000	260,000
2083 (D)		150,000	210,000	13,000	-460,000	27,000	-58,000	200,000
2084 (W)		410,000	410,000	-9,100	-410,000	22,000	410,000	610,000
2085 (BN)		180,000	85,000	7,000	-460,000	29,000	-160,000	460,000
2086 (W)		360,000	250,000	-9,600	-410,000	25,000	210,000	670,000
2087 (D)		140,000	100,000	11,000	-480,000	31,000	-200,000	470,000
2088 (C)		89,000	110,000	32,000	-560,000	34,000	-300,000	170,000
2089 (C)		110,000	230,000	6,500	-440,000	36,000	-52,000	120,000
2090 (W)		440,000	490,000	-20,000	-380,000	15,000	550,000	660,000
Average (2024-2039)		**190,000**	**190,000**	**12,000**	**-480,000**	**73,000**	**-19,000**	
2024-2039	W	330,000	330,000	-9,300	-390,000	68,000	330,000	
	AN	230,000	200,000	4,900	-460,000	81,000	50,000	
	BN	140,000	150,000	24,000	-530,000	78,000	-130,000	
	D	130,000	140,000	23,000	-510,000	73,000	-140,000	
	C	140,000	130,000	15,000	-510,000	62,000	-160,000	
Average (2040-2090)		**230,000**	**210,000**	**-1,200**	**-430,000**	**18,000**	**19,000**	
2040-2090	W	380,000	350,000	-22,000	-360,000	13,000	350,000	
	AN	240,000	190,000	-7,200	-420,000	19,000	18,000	
	BN	160,000	120,000	9,700	-460,000	14,000	-160,000	
	D	140,000	120,000	8,100	-460,000	16,000	-180,000	
	C	110,000	110,000	18,000	-480,000	23,000	-220,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Subbasin Sensitivity - Projected with Projects Surface System Water Budget Summary (acre-feet, rounded)

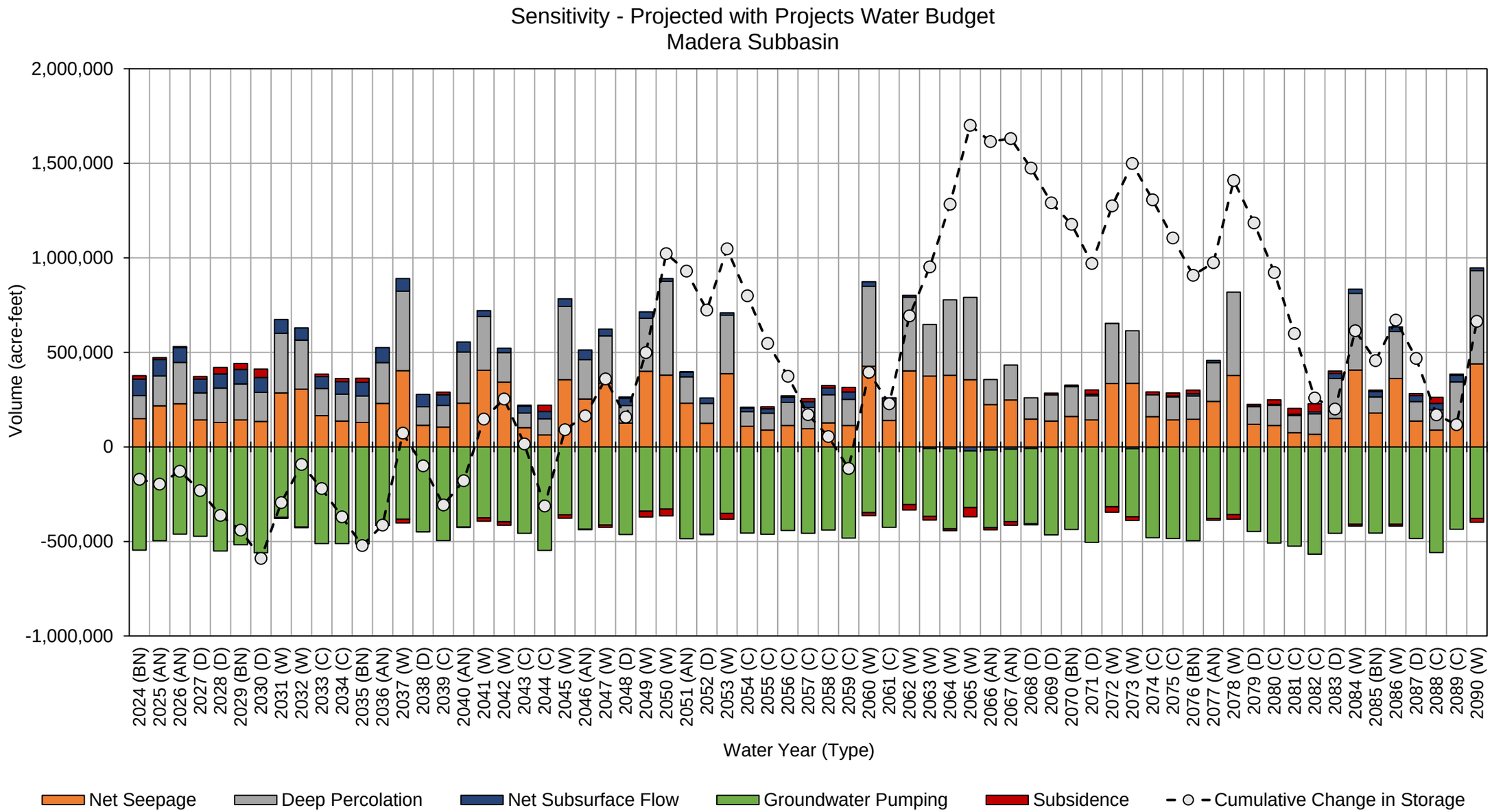
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	150,000	120,000	-550,000	-270,000
2025 (AN)	220,000	160,000	-500,000	-120,000
2026 (AN)	230,000	220,000	-460,000	-15,000
2027 (D)	140,000	140,000	-470,000	-190,000
2028 (D)	130,000	180,000	-550,000	-240,000
2029 (BN)	140,000	190,000	-520,000	-180,000
2030 (D)	140,000	150,000	-560,000	-270,000
2031 (W)	290,000	320,000	-370,000	230,000
2032 (W)	310,000	260,000	-420,000	140,000
2033 (C)	170,000	140,000	-510,000	-200,000
2034 (C)	140,000	140,000	-510,000	-230,000
2035 (BN)	130,000	140,000	-510,000	-240,000
2036 (AN)	230,000	220,000	-410,000	32,000
2037 (W)	400,000	420,000	-380,000	440,000
2038 (D)	110,000	97,000	-450,000	-240,000
2039 (C)	100,000	120,000	-490,000	-280,000
2040 (AN)	230,000	270,000	-420,000	78,000
2041 (W)	410,000	280,000	-370,000	320,000
2042 (W)	340,000	160,000	-400,000	100,000
2043 (C)	100,000	78,000	-460,000	-280,000
2044 (C)	63,000	86,000	-550,000	-400,000
2045 (W)	360,000	390,000	-360,000	380,000
2046 (AN)	250,000	210,000	-430,000	28,000
2047 (W)	340,000	250,000	-410,000	170,000
2048 (D)	130,000	92,000	-460,000	-250,000
2049 (W)	400,000	280,000	-340,000	340,000
2050 (W)	380,000	500,000	-330,000	550,000
2051 (AN)	230,000	140,000	-490,000	-110,000
2052 (D)	130,000	110,000	-460,000	-230,000
2053 (W)	390,000	310,000	-350,000	340,000
2054 (C)	110,000	78,000	-460,000	-270,000
2055 (C)	89,000	89,000	-460,000	-280,000
2056 (C)	110,000	120,000	-440,000	-210,000
2057 (C)	96,000	110,000	-460,000	-250,000
2058 (C)	130,000	150,000	-440,000	-160,000
2059 (C)	110,000	140,000	-480,000	-230,000
2060 (W)	430,000	420,000	-350,000	500,000
2061 (C)	140,000	88,000	-430,000	-200,000
2062 (W)	400,000	390,000	-300,000	490,000
2063 (W)	370,000	270,000	-360,000	290,000
2064 (W)	380,000	400,000	-420,000	360,000
2065 (W)	360,000	440,000	-300,000	490,000
2066 (AN)	220,000	130,000	-410,000	-54,000
2067 (AN)	250,000	180,000	-380,000	49,000
2068 (D)	150,000	110,000	-400,000	-140,000

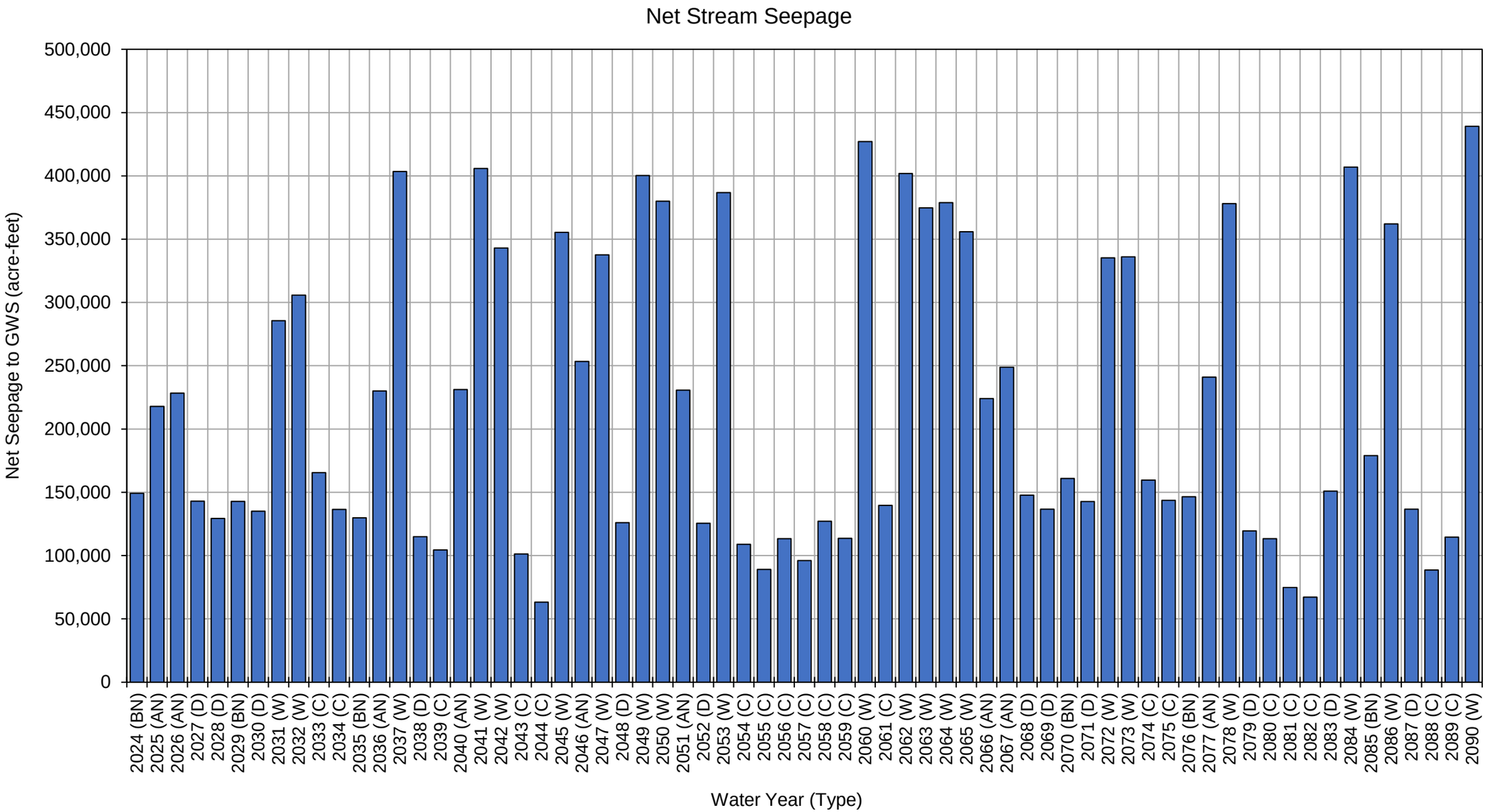
Madera Subbasin Sensitivity - Projected with Projects Surface System Water Budget Summary (acre-feet, rounded)

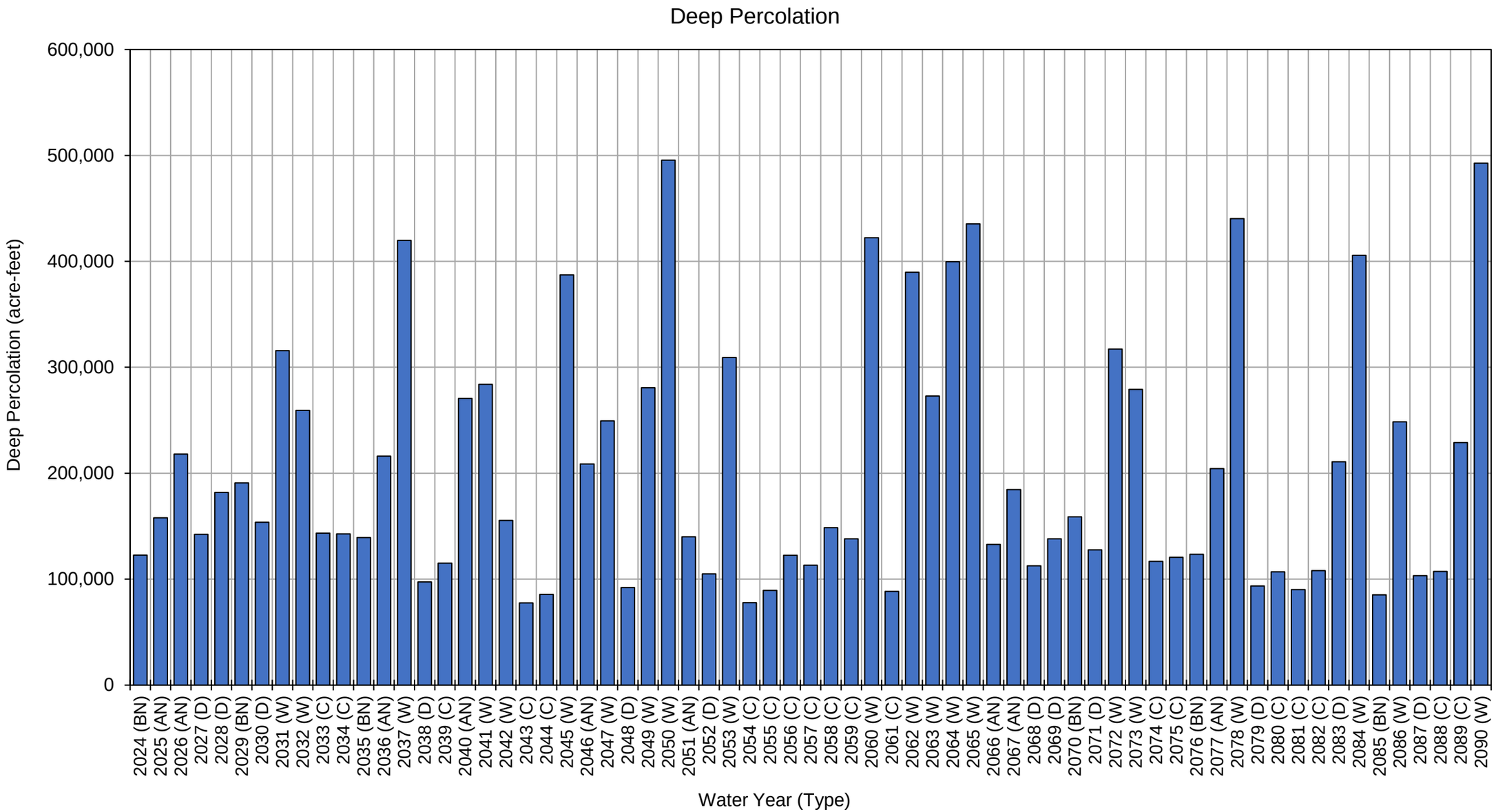
WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		140,000	140,000	-460,000	-190,000
2070 (BN)		160,000	160,000	-440,000	-120,000
2071 (D)		140,000	130,000	-500,000	-230,000
2072 (W)		340,000	320,000	-320,000	340,000
2073 (W)		340,000	280,000	-360,000	250,000
2074 (C)		160,000	120,000	-480,000	-200,000
2075 (C)		140,000	120,000	-480,000	-220,000
2076 (BN)		150,000	120,000	-500,000	-230,000
2077 (AN)		240,000	200,000	-380,000	67,000
2078 (W)		380,000	440,000	-360,000	460,000
2079 (D)		120,000	94,000	-450,000	-230,000
2080 (C)		110,000	110,000	-510,000	-290,000
2081 (C)		75,000	90,000	-520,000	-360,000
2082 (C)		67,000	110,000	-570,000	-390,000
2083 (D)		150,000	210,000	-460,000	-95,000
2084 (W)		410,000	410,000	-410,000	400,000
2085 (BN)		180,000	85,000	-460,000	-190,000
2086 (W)		360,000	250,000	-410,000	200,000
2087 (D)		140,000	100,000	-480,000	-240,000
2088 (C)		89,000	110,000	-560,000	-360,000
2089 (C)		110,000	230,000	-440,000	-92,000
2090 (W)		440,000	490,000	-380,000	550,000
Average (2024-2039)		**190,000**	**190,000**	**-480,000**	**-100,000**
2024-2039	W	330,000	330,000	-390,000	270,000
	AN	230,000	200,000	-460,000	-34,000
	BN	140,000	150,000	-530,000	-230,000
	D	130,000	140,000	-510,000	-230,000
	C	140,000	130,000	-510,000	-240,000
Average (2040-2090)		**230,000**	**210,000**	**-430,000**	**5,000**
2040-2090	W	380,000	350,000	-360,000	360,000
	AN	240,000	190,000	-420,000	8,800
	BN	160,000	120,000	-460,000	-180,000
	D	140,000	120,000	-460,000	-200,000
	C	110,000	110,000	-480,000	-260,000

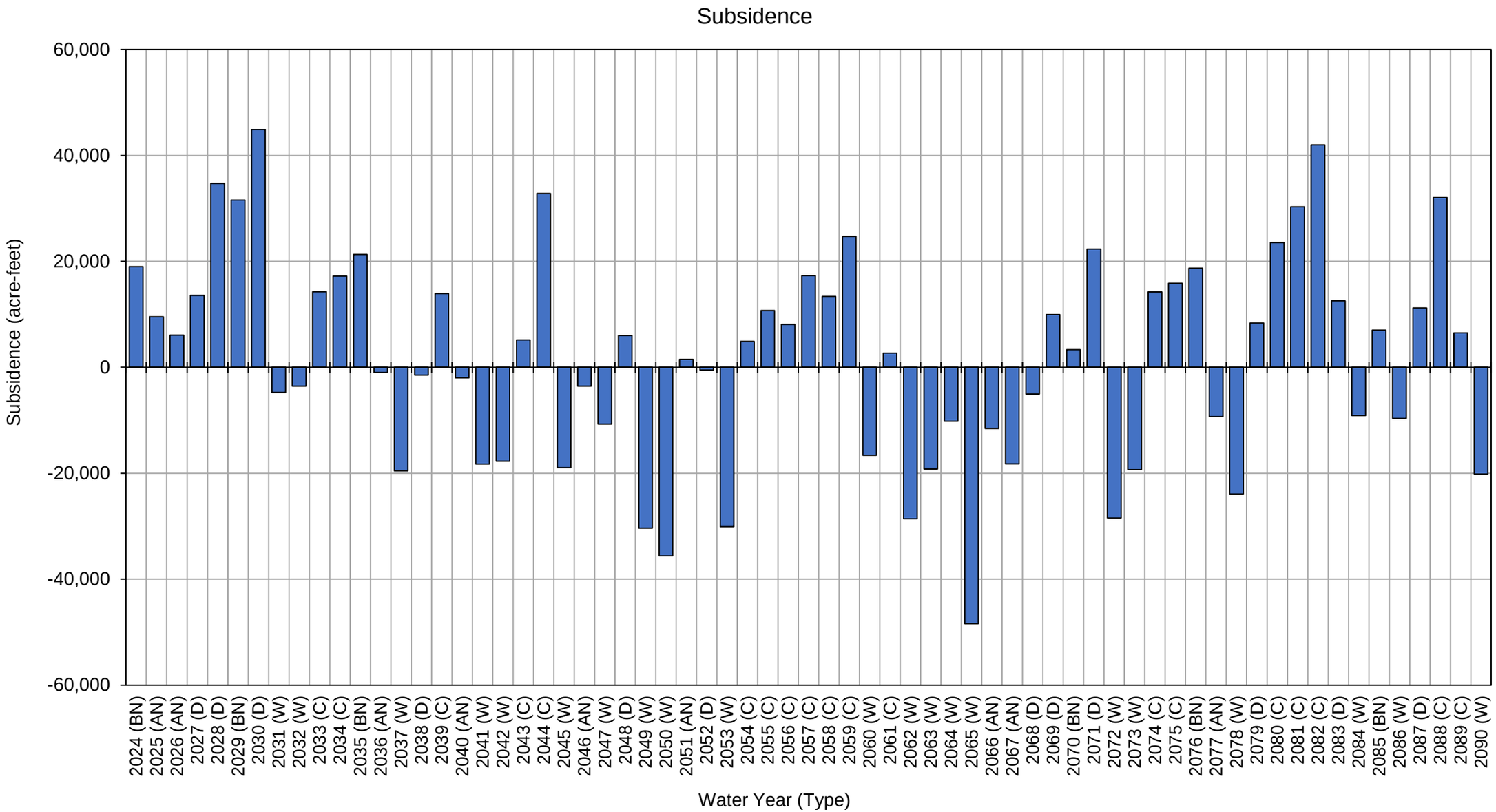
Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

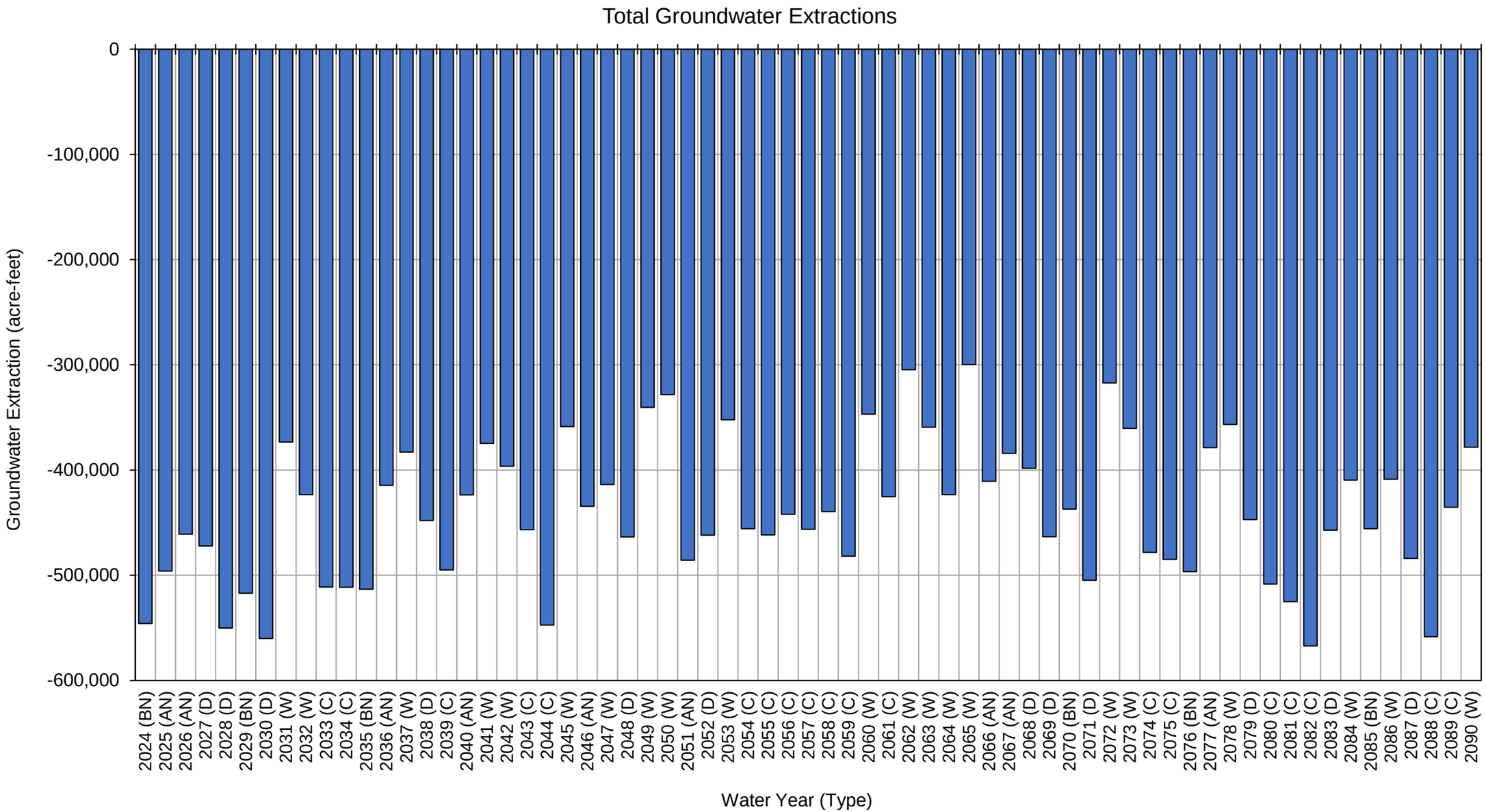
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

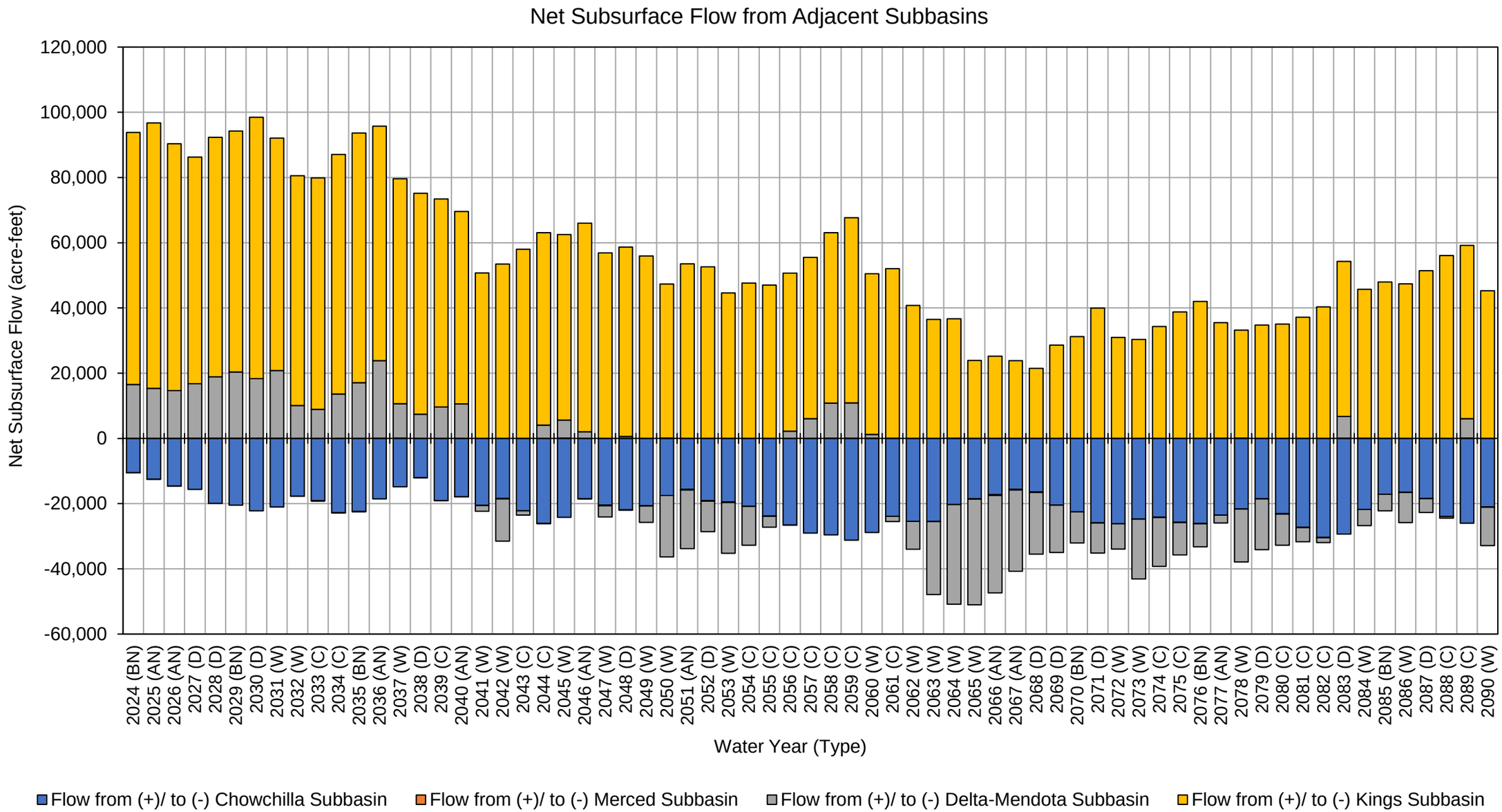

Sensitivity - Projected with Projects Water Budget
Madera Subbasin
Volume (acre-feet)
2,000,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

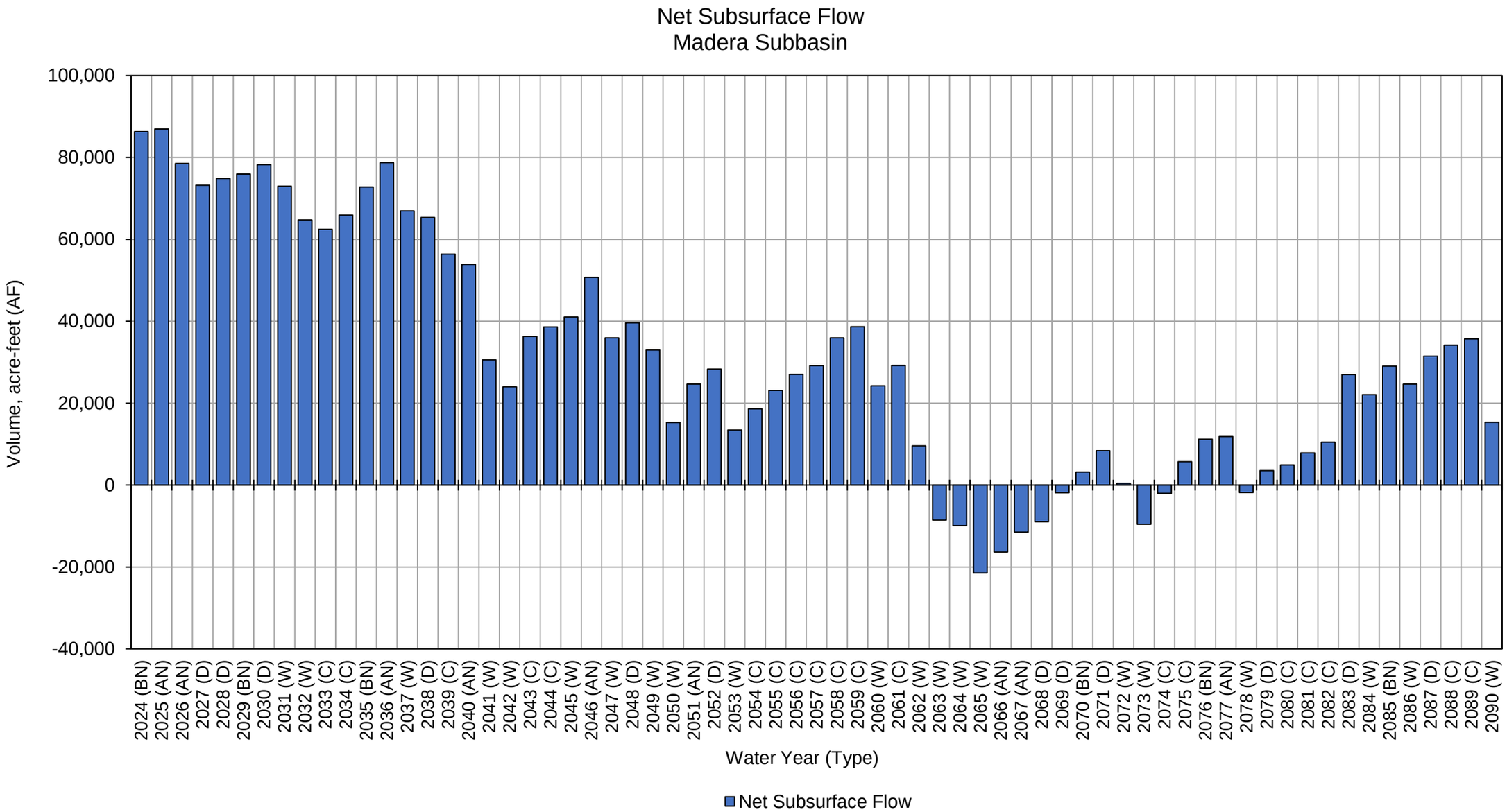

Net Stream Seepage
Net Seepage to GWS (acre-feet)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)

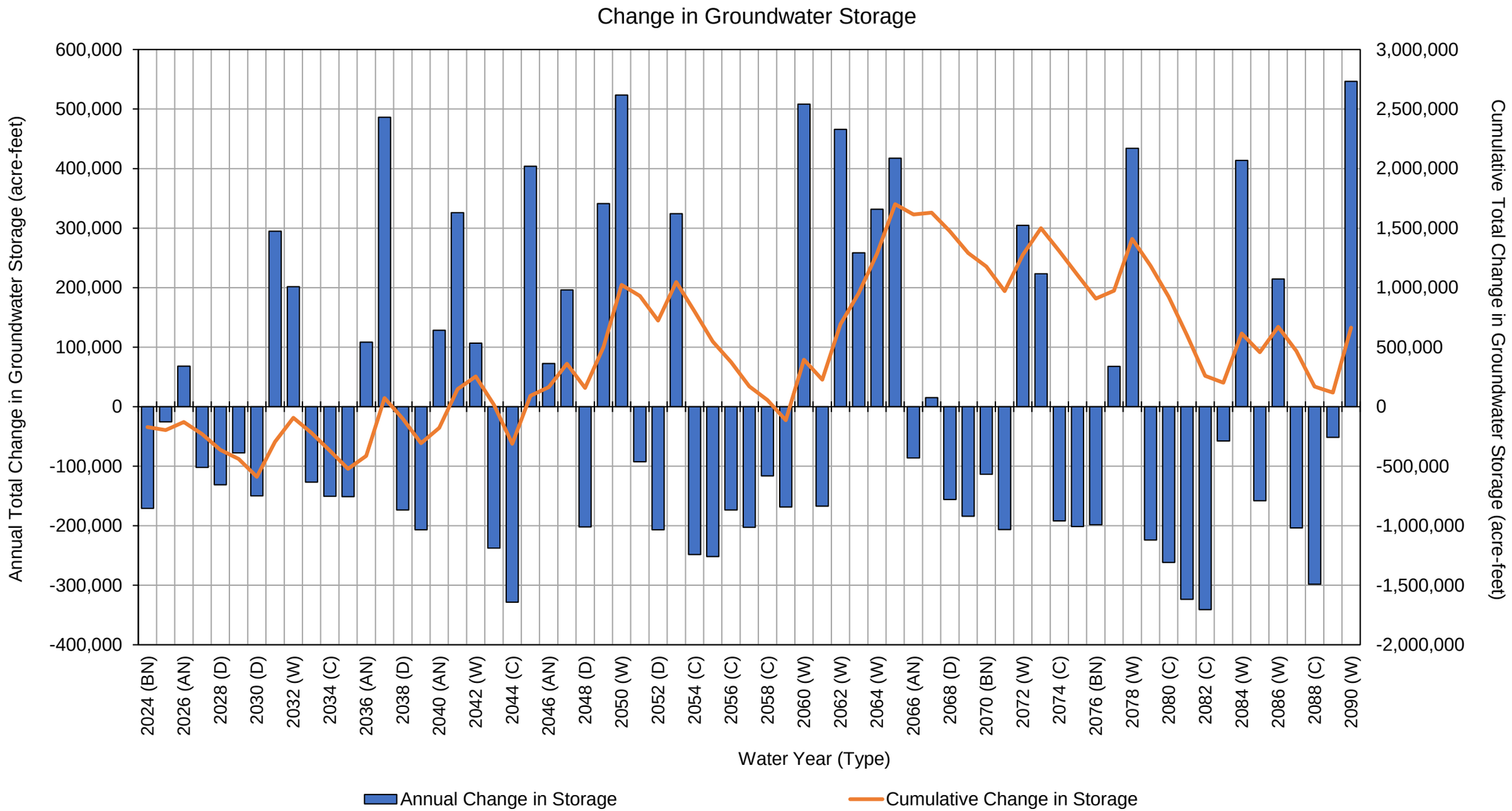

Deep Percolation
Deep Percolation (acre-feet)
600,000
500,000
400,000
300,000
200,000
100,000
0
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Subsidence
Subsidence (acre-feet)
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Total Groundwater Extractions
Groundwater Extraction (acre-feet)
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)


Net Subsurface Flow from Adjacent Subbasins
Net Subsurface Flow (acre-feet)
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Flow from (+)/ to (-) Chowchilla Subbasin
Flow from (+)/ to (-) Merced Subbasin
Flow from (+)/ to (-) Delta-Mendota Subbasin
Flow from (+)/ to (-) Kings Subbasin


Net Subsurface Flow
Madera Subbasin
Volume, acre-feet (AF)
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Subsurface Flow


Change in Groundwater Storage
Annual Total Change in Groundwater Storage (acre-feet)
Cumulative Total Change in Groundwater Storage (acre-feet)
600,000
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
2024 (BN)
2026 (AN)
2028 (D)
2030 (D)
2032 (W)
2034 (C)
2036 (AN)
2038 (D)
2040 (AN)
2042 (W)
2044 (C)
2046 (AN)
2048 (D)
2050 (W)
2052 (D)
2054 (C)
2056 (C)
2058 (C)
2060 (W)
2062 (W)
2064 (W)
2066 (AN)
2068 (D)
2070 (BN)
2072 (W)
2074 (C)
2076 (BN)
2078 (W)
2080 (C)
2082 (C)
2084 (W)
2086 (W)
2088 (C)
2090 (W)
Water Year (Type)
Annual Change in Storage
Cumulative Change in Storage

APPENDIX D.2.a

City of Madera GSA Water Budget Results

City of Madera GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		180	1,900	2,100	-8,800	2,100	-2,500	-2,500
1990 (C)		130	2,000	2,100	-9,200	1,400	-3,600	-6,200
1991 (C)		260	2,800	2,100	-9,900	1,700	-3,100	-9,300
1992 (C)		280	2,800	2,200	-10,000	980	-4,200	-14,000
1993 (W)		4,800	7,100	890	-9,900	6,300	9,300	-4,300
1994 (C)		560	1,700	930	-10,000	3,500	-3,300	-7,600
1995 (W)		5,800	7,800	180	-9,400	4,600	8,900	1,400
1996 (W)		4,200	4,700	510	-11,000	5,100	3,300	4,600
1997 (W)		6,300	8,700	840	-12,000	3,100	6,800	11,000
1998 (W)		7,000	9,100	-440	-10,000	2,600	8,200	20,000
1999 (AN)		3,600	3,600	280	-11,000	1,200	-2,600	17,000
2000 (AN)		1,900	3,700	200	-11,000	2,300	-3,200	14,000
2001 (D)		660	3,400	220	-11,000	2,000	-4,200	9,600
2002 (D)		300	3,600	770	-10,000	580	-5,200	4,400
2003 (BN)		260	3,700	590	-10,000	690	-4,800	-360
2004 (D)		350	3,100	1,200	-10,000	-76	-5,800	-6,100
2005 (W)		2,800	6,100	-220	-8,300	1,800	2,200	-3,900
2006 (W)		5,200	6,100	-75	-8,300	1,700	4,700	800
2007 (C)		2,100	2,700	560	-8,800	1,300	-2,100	-1,300
2008 (C)		290	2,000	810	-9,200	400	-5,700	-7,000
2009 (BN)		140	1,900	860	-8,200	-1,000	-6,300	-13,000
2010 (AN)		1,900	3,300	300	-7,400	290	-1,500	-15,000
2011 (W)		6,200	6,800	120	-7,400	2,500	8,200	-6,700
2012 (D)		450	1,400	710	-7,000	-1,400	-5,800	-12,000
2013 (C)		250	1,700	1,500	-7,500	-3,700	-7,700	-20,000
2014 (C)		140	1,400	2,000	-7,600	-5,400	-9,500	-30,000
2015 (C)		42	1,500	2,500	-7,900	-6,500	-10,000	-40,000
2016 (D)		180	3,200	2,000	-9,200	-2,300	-6,100	-46,000
2017 (W)		7,200	6,800	1,400	-9,400	680	6,800	-39,000
2018 (BN)		1,500	1,200	1,600	-9,800	110	-5,400	-45,000
2019 (W)		6,600	3,200	1,500	-9,600	-290	1,500	-43,000
2020 (D)		890	1,900	1,600	-9,600	-1,300	-6,500	-50,000
2021 (C)		39	1,500	2,100	-9,900	-3,200	-9,500	-59,000
2022 (C)		66	3,600	1,700	-9,500	-1,300	-5,400	-65,000
2023 (W)		6,300	8,000	1,300	-9,800	4,700	10,000	-54,000
Average (1989-2023)		**2,300**	**3,800**	**1,100**	**-9,400**	**720**	**-1,500**	
1989-2023	W	5,700	6,800	550	-9,600	3,000	6,400	
	AN	2,500	3,600	260	-10,000	1,300	-2,500	
	BN	640	2,300	1,000	-9,300	-72	-5,500	
	D	470	2,800	1,100	-9,500	-410	-5,600	
	C	360	2,100	1,700	-9,100	-720	-5,600	
Average (1989-2015)		**2,100**	**3,900**	**880**	**-9,400**	**1,000**	**-1,500**	
1989-2015	W	5,300	7,100	230	-9,600	3,500	6,400	
	AN	2,500	3,600	260	-10,000	1,300	-2,500	
	BN	200	2,800	720	-9,100	-160	-5,500	
	D	440	2,800	730	-9,600	290	-5,200	
	C	420	2,000	1,700	-8,900	-420	-5,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

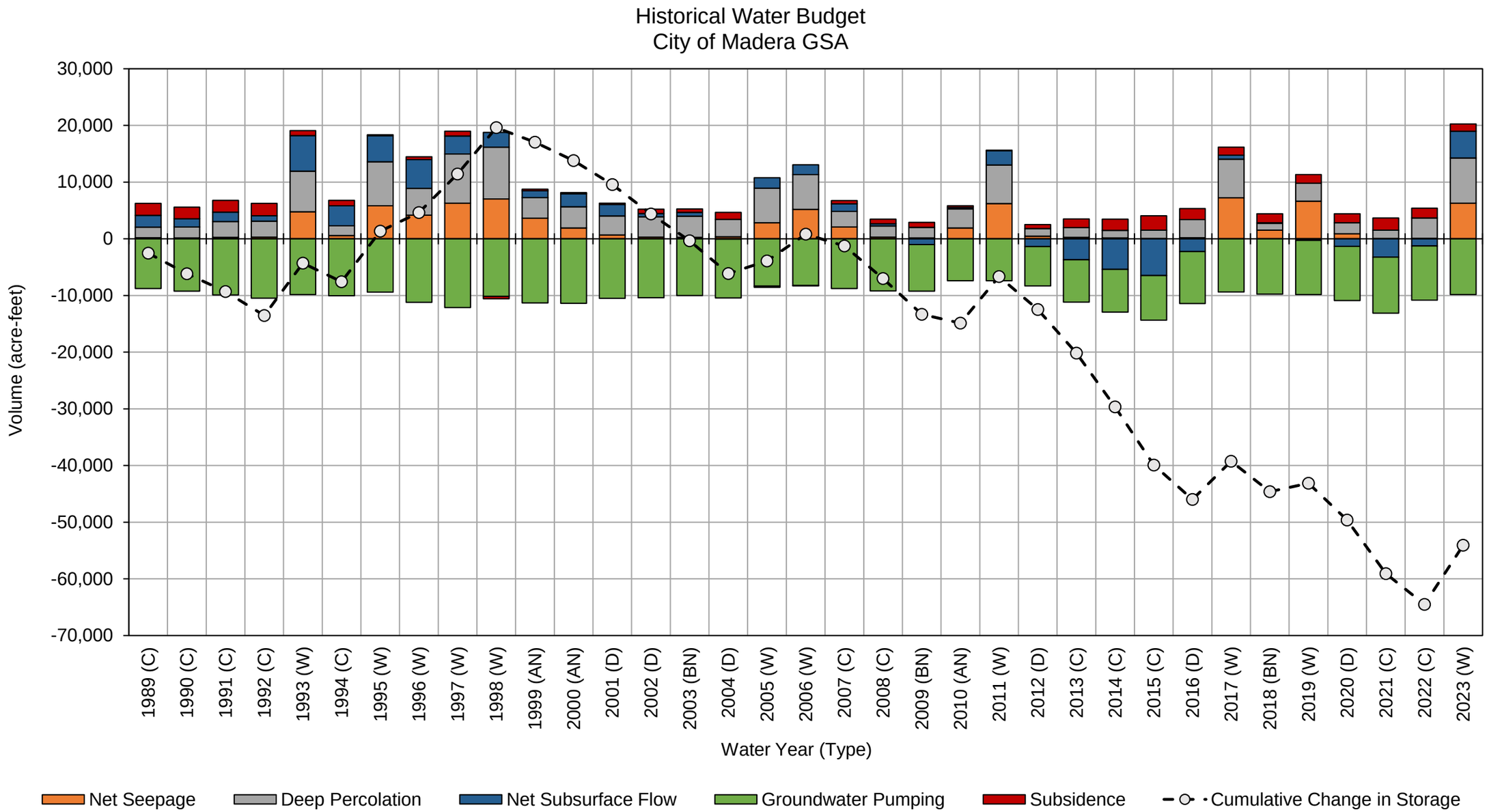
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

City of Madera GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		180	1,900	-8,800	-6,700
1990 (C)		130	2,000	-9,200	-7,100
1991 (C)		260	2,800	-9,900	-6,900
1992 (C)		280	2,800	-10,000	-7,400
1993 (W)		4,800	7,100	-9,900	2,100
1994 (C)		560	1,700	-10,000	-7,700
1995 (W)		5,800	7,800	-9,400	4,200
1996 (W)		4,200	4,700	-11,000	-2,300
1997 (W)		6,300	8,700	-12,000	2,800
1998 (W)		7,000	9,100	-10,000	6,000
1999 (AN)		3,600	3,600	-11,000	-4,100
2000 (AN)		1,900	3,700	-11,000	-5,700
2001 (D)		660	3,400	-11,000	-6,500
2002 (D)		300	3,600	-10,000	-6,500
2003 (BN)		260	3,700	-10,000	-6,000
2004 (D)		350	3,100	-10,000	-6,900
2005 (W)		2,800	6,100	-8,300	580
2006 (W)		5,200	6,100	-8,300	3,100
2007 (C)		2,100	2,700	-8,800	-4,000
2008 (C)		290	2,000	-9,200	-7,000
2009 (BN)		140	1,900	-8,200	-6,200
2010 (AN)		1,900	3,300	-7,400	-2,100
2011 (W)		6,200	6,800	-7,400	5,600
2012 (D)		450	1,400	-7,000	-5,200
2013 (C)		250	1,700	-7,500	-5,500
2014 (C)		140	1,400	-7,600	-6,100
2015 (C)		42	1,500	-7,900	-6,300
2016 (D)		180	3,200	-9,200	-5,800
2017 (W)		7,200	6,800	-9,400	4,700
2018 (BN)		1,500	1,200	-9,800	-7,000
2019 (W)		6,600	3,200	-9,600	250
2020 (D)		890	1,900	-9,600	-6,800
2021 (C)		39	1,500	-9,900	-8,300
2022 (C)		66	3,600	-9,500	-5,900
2023 (W)		6,300	8,000	-9,800	4,400
Average (1989-2023)		**2,300**	**3,800**	**-9,400**	**-3,300**
1989-2023	W	5,700	6,800	-9,600	2,900
	AN	2,500	3,600	-10,000	-4,000
	BN	640	2,300	-9,300	-6,400
	D	470	2,800	-9,500	-6,300
	C	360	2,100	-9,100	-6,600
Average (1989-2015)		**2,100**	**3,900**	**-9,400**	**-3,400**
1989-2015	W	5,300	7,100	-9,600	2,800
	AN	2,500	3,600	-10,000	-4,000
	BN	200	2,800	-9,100	-6,100
	D	440	2,800	-9,600	-6,300
	C	420	2,000	-8,900	-6,500

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
City of Madera GSA
Volume (acre-feet)
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
-50,000
-60,000
-70,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

City of Madera GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	5,500	1,400	490	-9,200	940	-930	-930
2025 (AN)	8,600	2,400	490	-9,100	780	3,100	2,200
2026 (AN)	6,800	2,900	290	-9,100	1,200	2,100	4,300
2027 (D)	4,000	2,400	140	-9,100	1,400	-1,200	3,200
2028 (D)	3,700	3,000	580	-9,400	-290	-2,400	770
2029 (BN)	3,800	3,300	560	-9,300	-140	-1,800	-1,100
2030 (D)	3,700	2,600	860	-9,700	-650	-3,200	-4,300
2031 (W)	9,000	6,500	120	-9,000	810	7,400	3,200
2032 (W)	11,000	5,700	-1	-9,300	520	8,300	11,000
2033 (C)	5,500	2,100	120	-9,800	1,100	-970	11,000
2034 (C)	3,700	2,000	210	-9,900	280	-3,700	6,800
2035 (BN)	3,700	2,000	380	-9,900	-820	-4,700	2,100
2036 (AN)	5,900	3,900	-37	-9,600	1,300	1,500	3,600
2037 (W)	16,000	9,300	-360	-9,700	2,600	17,000	21,000
2038 (D)	3,800	830	-260	-9,900	260	-5,300	16,000
2039 (C)	3,600	1,800	140	-10,000	-1,300	-5,900	9,800
2040 (AN)	5,000	4,300	-130	-10,000	1,200	250	10,000
2041 (W)	13,000	6,300	-470	-10,000	3,200	12,000	22,000
2042 (W)	11,000	2,400	-650	-10,000	2,900	5,300	27,000
2043 (C)	3,500	1,100	-250	-10,000	-170	-6,300	21,000
2044 (C)	3,400	1,700	340	-11,000	-2,800	-8,100	13,000
2045 (W)	11,000	7,800	-180	-10,000	820	8,700	21,000
2046 (AN)	8,800	3,200	-270	-11,000	1,300	2,300	24,000
2047 (W)	10,000	5,800	-400	-11,000	1,900	6,900	31,000
2048 (D)	3,500	1,100	-190	-11,000	380	-6,100	25,000
2049 (W)	17,000	8,500	-690	-11,000	1,200	16,000	40,000
2050 (W)	15,000	9,400	-1,100	-11,000	2,200	15,000	55,000
2051 (AN)	9,100	2,400	-600	-11,000	-420	-880	54,000
2052 (D)	3,600	1,500	-370	-11,000	-1,000	-7,700	46,000
2053 (W)	16,000	8,100	-880	-11,000	570	12,000	58,000
2054 (C)	3,500	940	-340	-12,000	-1,400	-8,800	50,000
2055 (C)	3,500	1,800	40	-12,000	-2,300	-8,600	41,000
2056 (C)	3,500	2,600	55	-12,000	-1,100	-6,600	34,000
2057 (C)	3,500	2,800	280	-12,000	-1,300	-6,500	28,000
2058 (C)	3,600	3,800	390	-12,000	-590	-4,700	23,000
2059 (C)	3,600	3,600	610	-12,000	-740	-5,000	18,000
2060 (W)	14,000	11,000	64	-12,000	3,300	17,000	35,000
2061 (C)	3,900	990	-8	-12,000	2,400	-5,000	30,000
2062 (W)	14,000	9,600	-550	-12,000	4,000	14,000	44,000
2063 (W)	13,000	5,900	-610	-13,000	3,600	9,000	53,000
2064 (W)	16,000	9,900	-500	-13,000	480	13,000	66,000
2065 (W)	16,000	9,700	-1,200	-13,000	-120	12,000	78,000
2066 (AN)	9,900	3,000	-830	-13,000	-810	-1,700	76,000
2067 (AN)	8,400	3,800	-780	-13,000	310	-1,400	75,000
2068 (D)	4,100	3,000	-500	-13,000	1,200	-5,400	69,000
2069 (D)	3,700	3,300	100	-13,000	560	-5,800	63,000
2070 (BN)	4,000	4,000	44	-14,000	1,300	-4,300	59,000

MCSim_v2.0 - Projected with Projects

City of Madera GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		3,800	3,400	450	-14,000	770	-5,400	54,000
2072 (W)		10,000	9,700	-540	-13,000	2,800	8,700	62,000
2073 (W)		14,000	9,100	-530	-13,000	1,300	10,000	73,000
2074 (C)		5,500	2,500	17	-14,000	1,000	-4,700	68,000
2075 (C)		3,700	2,100	290	-14,000	790	-6,800	61,000
2076 (BN)		3,800	2,500	540	-14,000	66	-6,800	54,000
2077 (AN)		6,400	5,400	-89	-13,000	2,100	230	55,000
2078 (W)		16,000	12,000	-540	-13,000	2,600	16,000	71,000
2079 (D)		3,900	1,400	96	-14,000	-26	-8,200	63,000
2080 (C)		3,600	2,500	640	-14,000	-1,300	-8,200	55,000
2081 (C)		3,500	2,200	830	-14,000	-2,700	-9,800	45,000
2082 (C)		3,400	2,800	1,100	-14,000	-3,300	-9,800	35,000
2083 (D)		3,600	5,000	610	-14,000	-190	-4,700	30,000
2084 (W)		17,000	11,000	160	-14,000	1,500	16,000	46,000
2085 (BN)		6,100	620	190	-14,000	1,100	-5,700	40,000
2086 (W)		15,000	4,300	99	-14,000	790	6,600	47,000
2087 (D)		4,300	1,300	190	-14,000	-5	-7,900	39,000
2088 (C)		3,400	1,400	670	-14,000	-1,700	-10,000	29,000
2089 (C)		3,400	3,700	400	-13,000	72	-5,900	23,000
2090 (W)		16,000	11,000	-71	-14,000	4,800	18,000	41,000
Average (2024-2039)		**6,100**	**3,300**	**230**	**-9,500**	**500**	**610**	
2024-2039	W	12,000	7,200	-81	-9,300	1,300	11,000	
	AN	7,100	3,100	250	-9,300	1,100	2,200	
	BN	4,300	2,200	480	-9,500	-4	-2,500	
	D	3,800	2,200	330	-9,500	170	-3,000	
	C	4,200	2,000	160	-10,000	37	-3,500	
Average (2040-2090)		**7,900**	**4,700**	**-100**	**-12,000**	**590**	**610**	
2040-2090	W	14,000	8,400	-480	-12,000	2,100	12,000	
	AN	7,900	3,700	-450	-12,000	610	-200	
	BN	4,600	2,400	260	-14,000	800	-5,600	
	D	3,800	2,500	49	-13,000	210	-6,400	
	C	3,700	2,300	310	-12,000	-950	-7,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

City of Madera GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

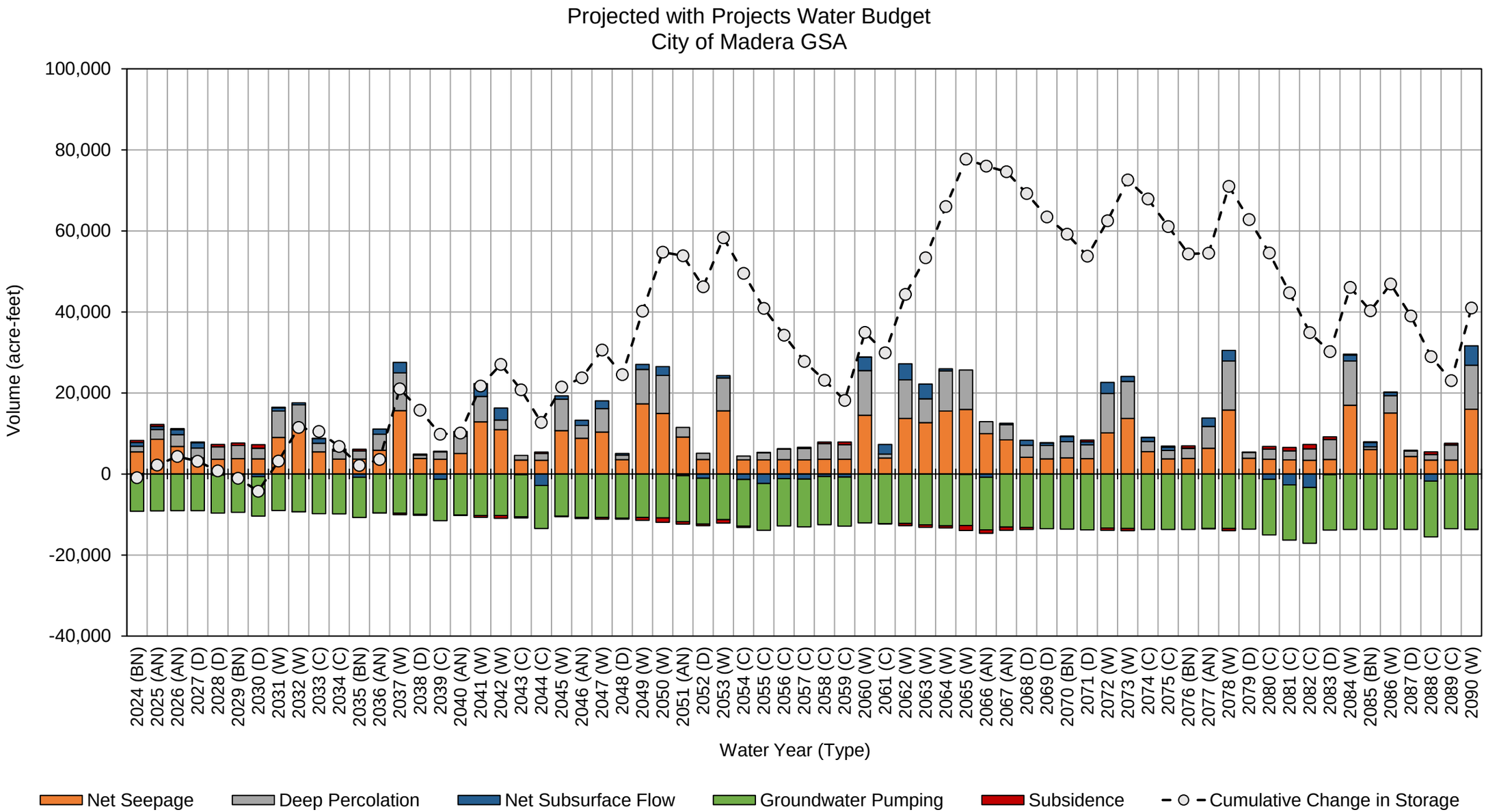
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	5,500	1,400	-9,200	-2,400
2025 (AN)	8,600	2,400	-9,100	1,900
2026 (AN)	6,800	2,900	-9,100	610
2027 (D)	4,000	2,400	-9,100	-2,700
2028 (D)	3,700	3,000	-9,400	-2,700
2029 (BN)	3,800	3,300	-9,300	-2,300
2030 (D)	3,700	2,600	-9,700	-3,400
2031 (W)	9,000	6,500	-9,000	6,500
2032 (W)	11,000	5,700	-9,300	7,800
2033 (C)	5,500	2,100	-9,800	-2,200
2034 (C)	3,700	2,000	-9,900	-4,200
2035 (BN)	3,700	2,000	-9,900	-4,200
2036 (AN)	5,900	3,900	-9,600	190
2037 (W)	16,000	9,300	-9,700	15,000
2038 (D)	3,800	830	-9,900	-5,300
2039 (C)	3,600	1,800	-10,000	-4,800
2040 (AN)	5,000	4,300	-10,000	-810
2041 (W)	13,000	6,300	-10,000	8,900
2042 (W)	11,000	2,400	-10,000	3,000
2043 (C)	3,500	1,100	-10,000	-5,800
2044 (C)	3,400	1,700	-11,000	-5,600
2045 (W)	11,000	7,800	-10,000	8,100
2046 (AN)	8,800	3,200	-11,000	1,300
2047 (W)	10,000	5,800	-11,000	5,400
2048 (D)	3,500	1,100	-11,000	-6,300
2049 (W)	17,000	8,500	-11,000	15,000
2050 (W)	15,000	9,400	-11,000	13,000
2051 (AN)	9,100	2,400	-11,000	130
2052 (D)	3,600	1,500	-11,000	-6,200
2053 (W)	16,000	8,100	-11,000	12,000
2054 (C)	3,500	940	-12,000	-7,100
2055 (C)	3,500	1,800	-12,000	-6,400
2056 (C)	3,500	2,600	-12,000	-5,500
2057 (C)	3,500	2,800	-12,000	-5,500
2058 (C)	3,600	3,800	-12,000	-4,500
2059 (C)	3,600	3,600	-12,000	-4,900
2060 (W)	14,000	11,000	-12,000	13,000
2061 (C)	3,900	990	-12,000	-7,400
2062 (W)	14,000	9,600	-12,000	11,000
2063 (W)	13,000	5,900	-13,000	6,000
2064 (W)	16,000	9,900	-13,000	13,000
2065 (W)	16,000	9,700	-13,000	13,000
2066 (AN)	9,900	3,000	-13,000	-81
2067 (AN)	8,400	3,800	-13,000	-910
2068 (D)	4,100	3,000	-13,000	-6,100

City of Madera GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		3,700	3,300	-13,000	-6,400
2070 (BN)		4,000	4,000	-14,000	-5,600
2071 (D)		3,800	3,400	-14,000	-6,600
2072 (W)		10,000	9,700	-13,000	6,500
2073 (W)		14,000	9,100	-13,000	9,400
2074 (C)		5,500	2,500	-14,000	-5,700
2075 (C)		3,700	2,100	-14,000	-7,900
2076 (BN)		3,800	2,500	-14,000	-7,400
2077 (AN)		6,400	5,400	-13,000	-1,800
2078 (W)		16,000	12,000	-13,000	14,000
2079 (D)		3,900	1,400	-14,000	-8,300
2080 (C)		3,600	2,500	-14,000	-7,600
2081 (C)		3,500	2,200	-14,000	-8,000
2082 (C)		3,400	2,800	-14,000	-7,600
2083 (D)		3,600	5,000	-14,000	-5,100
2084 (W)		17,000	11,000	-14,000	14,000
2085 (BN)		6,100	620	-14,000	-7,000
2086 (W)		15,000	4,300	-14,000	5,700
2087 (D)		4,300	1,300	-14,000	-8,100
2088 (C)		3,400	1,400	-14,000	-9,000
2089 (C)		3,400	3,700	-13,000	-6,400
2090 (W)		16,000	11,000	-14,000	13,000
Average (2024-2039)		**6,100**	**3,300**	**-9,500**	**-120**
2024-2039	W	12,000	7,200	-9,300	9,800
	AN	7,100	3,100	-9,300	890
	BN	4,300	2,200	-9,500	-3,000
	D	3,800	2,200	-9,500	-3,500
	C	4,200	2,000	-10,000	-3,700
Average (2040-2090)		**7,900**	**4,700**	**-12,000**	**120**
2040-2090	W	14,000	8,400	-12,000	10,000
	AN	7,900	3,700	-12,000	-360
	BN	4,600	2,400	-14,000	-6,700
	D	3,800	2,500	-13,000	-6,600
	C	3,700	2,300	-12,000	-6,500

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
City of Madera GSA
Volume (acre-feet)
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

City of Madera GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	5,100	1,300	560	-9,300	790	-1,500	-1,500
2025 (AN)	8,200	2,100	710	-9,100	-160	1,700	200
2026 (AN)	8,100	3,200	570	-9,200	-200	2,500	2,700
2027 (D)	4,200	2,000	500	-9,200	-950	-3,400	-660
2028 (D)	4,200	3,300	950	-9,400	-1,600	-2,600	-3,200
2029 (BN)	4,800	3,400	990	-9,400	-1,900	-2,100	-5,300
2030 (D)	3,700	2,400	1,500	-9,800	-2,500	-4,700	-10,000
2031 (W)	8,000	5,400	580	-9,200	-590	4,200	-5,900
2032 (W)	11,000	5,800	330	-9,300	-750	7,300	1,400
2033 (C)	5,200	2,000	640	-9,800	-1,100	-3,100	-1,600
2034 (C)	3,900	2,100	920	-9,900	-1,600	-4,700	-6,300
2035 (BN)	3,700	2,100	1,100	-10,000	-1,700	-4,700	-11,000
2036 (AN)	4,800	3,200	470	-9,700	190	-1,000	-12,000
2037 (W)	14,000	8,800	130	-9,800	390	14,000	1,900
2038 (D)	3,900	1,000	170	-10,000	-360	-5,200	-3,300
2039 (C)	4,100	2,100	560	-10,000	-1,500	-5,000	-8,300
2040 (AN)	8,000	4,800	280	-10,000	66	2,900	-5,300
2041 (W)	13,000	5,100	-45	-10,000	880	8,300	3,000
2042 (W)	11,000	2,100	-160	-10,000	300	2,600	5,500
2043 (C)	5,600	1,700	45	-10,000	-600	-3,800	1,800
2044 (C)	3,400	1,700	530	-11,000	-2,700	-7,800	-6,000
2045 (W)	16,000	9,600	150	-10,000	-2,100	13,000	7,100
2046 (AN)	9,200	2,600	2	-11,000	-550	560	7,700
2047 (W)	14,000	5,300	8	-11,000	-2,700	5,900	14,000
2048 (D)	5,200	1,300	110	-11,000	-1,900	-6,300	7,300
2049 (W)	15,000	6,500	-380	-11,000	-680	9,400	17,000
2050 (W)	19,000	10,000	-760	-11,000	-320	18,000	34,000
2051 (AN)	9,600	2,300	-390	-11,000	-2,300	-2,200	32,000
2052 (D)	4,800	1,700	-160	-11,000	-2,800	-7,800	24,000
2053 (W)	13,000	5,800	-540	-11,000	-1,400	5,500	30,000
2054 (C)	5,700	1,600	-240	-12,000	-1,900	-6,300	23,000
2055 (C)	3,500	2,200	15	-12,000	-2,100	-8,100	15,000
2056 (C)	3,400	2,700	190	-12,000	-1,500	-6,800	8,400
2057 (C)	3,400	2,900	360	-12,000	-1,400	-6,600	1,800
2058 (C)	4,800	4,400	450	-12,000	-650	-2,900	-1,100
2059 (C)	3,900	3,300	720	-12,000	-1,000	-5,300	-6,400
2060 (W)	12,000	8,500	330	-12,000	1,200	10,000	4,000
2061 (C)	5,100	2,100	380	-12,000	840	-3,800	130
2062 (W)	14,000	9,600	-200	-12,000	1,900	13,000	13,000
2063 (W)	14,000	5,300	-230	-13,000	730	7,100	20,000
2064 (W)	17,000	8,200	-56	-13,000	-2,100	9,700	30,000
2065 (W)	17,000	9,500	-720	-13,000	-1,500	12,000	42,000
2066 (AN)	9,400	2,700	-730	-13,000	-950	-2,600	39,000
2067 (AN)	9,100	3,800	-610	-13,000	-640	-1,400	38,000
2068 (D)	4,200	3,100	-420	-13,000	-510	-6,800	31,000
2069 (D)	4,300	4,400	14	-14,000	-520	-5,400	26,000
2070 (BN)	4,900	5,000	120	-14,000	-480	-4,100	22,000

MCSim_v2.0 - Projected with Projects and Climate Change

City of Madera GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		3,700	3,500	480	-14,000	-620	-6,800	15,000
2072 (W)		8,200	7,700	-79	-13,000	850	3,200	18,000
2073 (W)		12,000	7,800	-140	-14,000	590	6,500	24,000
2074 (C)		5,300	2,500	190	-14,000	510	-5,200	19,000
2075 (C)		3,900	3,100	400	-14,000	190	-6,200	13,000
2076 (BN)		3,800	3,200	520	-14,000	190	-6,000	7,100
2077 (AN)		4,900	5,100	160	-14,000	1,800	-1,600	5,500
2078 (W)		14,000	11,000	-7	-14,000	1,800	13,000	19,000
2079 (D)		4,000	1,600	110	-14,000	1,100	-6,900	12,000
2080 (C)		4,100	3,300	510	-14,000	-19	-5,800	6,300
2081 (C)		3,500	2,300	730	-14,000	-1,200	-8,400	-2,100
2082 (C)		3,400	2,900	1,100	-14,000	-1,900	-8,300	-10,000
2083 (D)		3,700	5,500	870	-14,000	900	-2,700	-13,000
2084 (W)		16,000	11,000	640	-14,000	1,200	15,000	1,900
2085 (BN)		5,400	780	460	-14,000	2,000	-5,000	-3,100
2086 (W)		14,000	4,000	340	-14,000	930	5,500	2,400
2087 (D)		4,300	1,600	460	-14,000	760	-6,700	-4,200
2088 (C)		3,400	1,600	880	-14,000	-220	-8,200	-12,000
2089 (C)		3,500	4,000	740	-14,000	1,300	-4,100	-17,000
2090 (W)		15,000	10,000	410	-14,000	4,000	17,000	120
Average (2024-2039)		**6,100**	**3,100**	**660**	**-9,600**	**-850**	**-520**	
2024-2039	W	11,000	6,700	350	-9,400	-320	8,500	
	AN	7,000	2,800	580	-9,300	-58	1,100	
	BN	4,500	2,300	870	-9,500	-930	-2,800	
	D	4,000	2,200	770	-9,600	-1,300	-4,000	
	C	4,400	2,100	710	-10,000	-1,400	-4,300	
Average (2040-2090)		**8,200**	**4,600**	**130**	**-12,000**	**-260**	**160**	
2040-2090	W	14,000	7,600	-80	-12,000	200	9,700	
	AN	8,400	3,500	-210	-12,000	-430	-720	
	BN	4,700	3,000	370	-14,000	580	-5,000	
	D	4,300	2,800	180	-13,000	-440	-6,200	
	C	4,100	2,700	440	-13,000	-770	-6,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

City of Madera GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

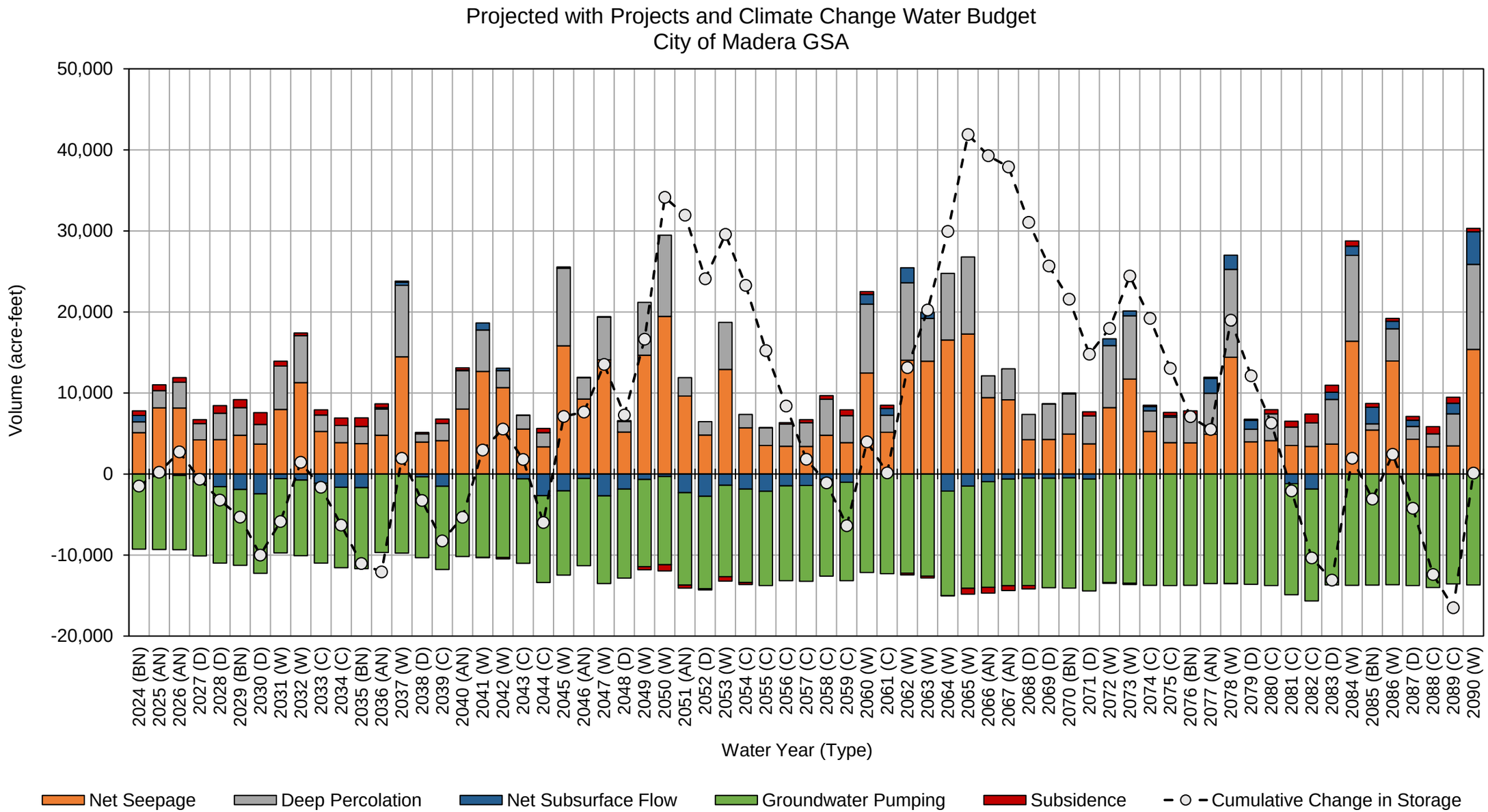
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	5,100	1,300	-9,300	-2,800
2025 (AN)	8,200	2,100	-9,100	1,200
2026 (AN)	8,100	3,200	-9,200	2,200
2027 (D)	4,200	2,000	-9,200	-2,900
2028 (D)	4,200	3,300	-9,400	-1,900
2029 (BN)	4,800	3,400	-9,400	-1,200
2030 (D)	3,700	2,400	-9,800	-3,700
2031 (W)	8,000	5,400	-9,200	4,200
2032 (W)	11,000	5,800	-9,300	7,700
2033 (C)	5,200	2,000	-9,800	-2,600
2034 (C)	3,900	2,100	-9,900	-4,000
2035 (BN)	3,700	2,100	-10,000	-4,100
2036 (AN)	4,800	3,200	-9,700	-1,700
2037 (W)	14,000	8,800	-9,800	14,000
2038 (D)	3,900	1,000	-10,000	-5,000
2039 (C)	4,100	2,100	-10,000	-4,000
2040 (AN)	8,000	4,800	-10,000	2,600
2041 (W)	13,000	5,100	-10,000	7,500
2042 (W)	11,000	2,100	-10,000	2,400
2043 (C)	5,600	1,700	-10,000	-3,200
2044 (C)	3,400	1,700	-11,000	-5,600
2045 (W)	16,000	9,600	-10,000	15,000
2046 (AN)	9,200	2,600	-11,000	1,100
2047 (W)	14,000	5,300	-11,000	8,600
2048 (D)	5,200	1,300	-11,000	-4,500
2049 (W)	15,000	6,500	-11,000	10,000
2050 (W)	19,000	10,000	-11,000	19,000
2051 (AN)	9,600	2,300	-11,000	480
2052 (D)	4,800	1,700	-11,000	-4,900
2053 (W)	13,000	5,800	-11,000	7,400
2054 (C)	5,700	1,600	-12,000	-4,200
2055 (C)	3,500	2,200	-12,000	-5,900
2056 (C)	3,400	2,700	-12,000	-5,600
2057 (C)	3,400	2,900	-12,000	-5,500
2058 (C)	4,800	4,400	-12,000	-2,700
2059 (C)	3,900	3,300	-12,000	-5,000
2060 (W)	12,000	8,500	-12,000	8,800
2061 (C)	5,100	2,100	-12,000	-5,100
2062 (W)	14,000	9,600	-12,000	11,000
2063 (W)	14,000	5,300	-13,000	6,600
2064 (W)	17,000	8,200	-13,000	12,000
2065 (W)	17,000	9,500	-13,000	14,000
2066 (AN)	9,400	2,700	-13,000	-920
2067 (AN)	9,100	3,800	-13,000	-160
2068 (D)	4,200	3,100	-13,000	-5,900

City of Madera GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,300	4,400	-14,000	-4,900
2070 (BN)		4,900	5,000	-14,000	-3,700
2071 (D)		3,700	3,500	-14,000	-6,600
2072 (W)		8,200	7,700	-13,000	2,400
2073 (W)		12,000	7,800	-14,000	6,000
2074 (C)		5,300	2,500	-14,000	-6,000
2075 (C)		3,900	3,100	-14,000	-6,800
2076 (BN)		3,800	3,200	-14,000	-6,700
2077 (AN)		4,900	5,100	-14,000	-3,500
2078 (W)		14,000	11,000	-14,000	12,000
2079 (D)		4,000	1,600	-14,000	-8,100
2080 (C)		4,100	3,300	-14,000	-6,300
2081 (C)		3,500	2,300	-14,000	-7,900
2082 (C)		3,400	2,900	-14,000	-7,500
2083 (D)		3,700	5,500	-14,000	-4,500
2084 (W)		16,000	11,000	-14,000	13,000
2085 (BN)		5,400	780	-14,000	-7,500
2086 (W)		14,000	4,000	-14,000	4,300
2087 (D)		4,300	1,600	-14,000	-7,900
2088 (C)		3,400	1,600	-14,000	-8,800
2089 (C)		3,500	4,000	-14,000	-6,100
2090 (W)		15,000	10,000	-14,000	12,000
Average (2024-2039)		**6,100**	**3,100**	**-9,600**	**-330**
2024-2039	W	11,000	6,700	-9,400	8,500
	AN	7,000	2,800	-9,300	540
	BN	4,500	2,300	-9,500	-2,700
	D	4,000	2,200	-9,600	-3,400
	C	4,400	2,100	-10,000	-3,500
Average (2040-2090)		**8,200**	**4,600**	**-12,000**	**290**
2040-2090	W	14,000	7,600	-12,000	9,600
	AN	8,400	3,500	-12,000	-75
	BN	4,700	3,000	-14,000	-6,000
	D	4,300	2,800	-13,000	-5,900
	C	4,100	2,700	-13,000	-5,800

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
City of Madera GSA
Volume (acre-feet)
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

City of Madera GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	1,400	1,000	510	-9,300	1,800	-4,600	-4,600
2025 (AN)	3,600	2,000	600	-9,200	2,000	-1,000	-5,600
2026 (AN)	1,800	2,800	470	-9,300	2,600	-1,600	-7,200
2027 (D)	610	2,700	410	-9,300	2,600	-3,000	-10,000
2028 (D)	280	3,200	1,100	-9,700	1,000	-4,200	-14,000
2029 (BN)	250	3,400	1,100	-9,700	1,300	-3,700	-18,000
2030 (D)	340	2,800	1,600	-10,000	630	-4,900	-23,000
2031 (W)	2,800	5,900	680	-9,500	3,000	2,900	-20,000
2032 (W)	5,200	5,900	640	-9,900	3,000	4,900	-15,000
2033 (C)	2,100	2,600	1,000	-10,000	3,100	-1,700	-17,000
2034 (C)	290	2,400	1,300	-11,000	2,200	-4,500	-21,000
2035 (BN)	150	2,400	1,600	-11,000	1,000	-5,600	-27,000
2036 (AN)	1,900	4,300	1,000	-10,000	2,800	-490	-27,000
2037 (W)	6,200	7,500	690	-11,000	5,000	8,700	-19,000
2038 (D)	440	1,900	840	-11,000	2,600	-5,200	-24,000
2039 (C)	240	2,900	1,500	-11,000	910	-5,800	-30,000
2040 (AN)	1,200	5,600	1,200	-11,000	2,800	-500	-30,000
2041 (W)	5,200	5,300	860	-12,000	5,000	4,900	-25,000
2042 (W)	4,300	2,800	720	-12,000	4,600	770	-25,000
2043 (C)	81	2,200	1,100	-12,000	2,400	-6,200	-31,000
2044 (C)	1	2,600	1,800	-12,000	-180	-8,000	-39,000
2045 (W)	3,300	8,400	1,300	-12,000	3,600	4,700	-34,000
2046 (AN)	3,300	4,300	1,200	-12,000	3,700	48	-34,000
2047 (W)	3,400	5,800	1,100	-13,000	4,300	1,900	-32,000
2048 (D)	160	2,400	1,200	-13,000	3,300	-5,700	-38,000
2049 (W)	7,700	8,100	680	-13,000	5,000	8,900	-29,000
2050 (W)	5,900	9,600	220	-13,000	6,600	9,400	-20,000
2051 (AN)	3,400	3,100	600	-14,000	4,800	-1,700	-21,000
2052 (D)	180	3,300	710	-14,000	3,500	-5,900	-27,000
2053 (W)	6,000	8,800	320	-14,000	5,400	6,900	-20,000
2054 (C)	93	2,100	530	-14,000	3,500	-7,700	-28,000
2055 (C)	100	3,500	860	-14,000	2,300	-7,400	-35,000
2056 (C)	150	4,500	1,100	-14,000	3,100	-5,500	-41,000
2057 (C)	110	4,300	1,300	-15,000	2,900	-6,000	-47,000
2058 (C)	250	5,400	1,400	-15,000	3,600	-4,100	-51,000
2059 (C)	260	4,900	1,800	-15,000	3,500	-4,700	-56,000
2060 (W)	4,700	11,000	1,300	-15,000	8,300	9,800	-46,000
2061 (C)	520	2,500	1,200	-16,000	6,800	-4,600	-50,000
2062 (W)	5,800	12,000	450	-15,000	8,600	11,000	-39,000
2063 (W)	4,200	5,200	290	-16,000	9,700	3,400	-36,000
2064 (W)	6,500	10,000	380	-16,000	8,500	9,300	-27,000
2065 (W)	7,300	11,000	-240	-16,000	8,400	10,000	-17,000
2066 (AN)	3,700	4,100	-150	-17,000	7,700	-1,400	-18,000
2067 (AN)	1,900	6,300	-150	-17,000	7,700	-1,300	-19,000
2068 (D)	670	5,900	-140	-17,000	7,700	-3,100	-22,000
2069 (D)	310	6,600	400	-18,000	6,000	-4,400	-27,000
2070 (BN)	270	6,900	480	-18,000	6,100	-4,100	-31,000

MCSim_v2.0 - Projected (No Action)

City of Madera GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		360	5,200	900	-18,000	5,500	-6,300	-37,000
2072 (W)		2,800	11,000	150	-18,000	7,400	3,900	-33,000
2073 (W)		5,200	9,300	200	-18,000	7,600	4,400	-29,000
2074 (C)		2,100	4,100	550	-18,000	7,800	-3,600	-32,000
2075 (C)		280	5,000	750	-18,000	6,700	-5,400	-38,000
2076 (BN)		150	4,900	1,200	-18,000	5,500	-6,400	-44,000
2077 (AN)		1,900	8,500	780	-18,000	6,900	250	-44,000
2078 (W)		6,200	11,000	510	-18,000	8,900	9,200	-35,000
2079 (D)		450	3,500	620	-18,000	6,800	-6,600	-41,000
2080 (C)		240	5,700	1,200	-18,000	5,100	-5,900	-47,000
2081 (C)		140	4,200	1,700	-18,000	3,400	-8,600	-56,000
2082 (C)		42	5,000	2,200	-18,000	2,300	-8,600	-65,000
2083 (D)		170	7,700	1,900	-18,000	5,400	-2,800	-68,000
2084 (W)		7,200	10,000	1,500	-18,000	7,700	8,400	-59,000
2085 (BN)		1,300	1,900	1,400	-18,000	7,100	-6,400	-65,000
2086 (W)		6,600	5,800	1,200	-18,000	7,300	2,900	-63,000
2087 (D)		890	3,100	1,400	-18,000	6,600	-6,200	-69,000
2088 (C)		40	2,800	1,800	-18,000	4,800	-8,700	-78,000
2089 (C)		67	6,800	1,400	-18,000	6,500	-3,000	-81,000
2090 (W)		6,200	11,000	1,000	-18,000	11,000	11,000	-69,000
Average (2024-2039)		**1,700**	**3,400**	**940**	**-10,000**	**2,200**	**-1,900**	
2024-2039	W	4,700	6,400	670	-10,000	3,700	5,500	
	AN	2,400	3,000	690	-9,700	2,500	-1,000	
	BN	580	2,300	1,100	-9,900	1,400	-4,600	
	D	420	2,600	980	-10,000	1,700	-4,300	
	C	870	2,600	1,300	-11,000	2,100	-4,000	
Average (2040-2090)		**2,400**	**6,000**	**910**	**-16,000**	**5,700**	**-770**	
2040-2090	W	5,500	8,700	670	-15,000	7,100	6,700	
	AN	2,600	5,300	580	-15,000	5,600	-770	
	BN	580	4,600	1,000	-18,000	6,200	-5,700	
	D	400	4,700	880	-17,000	5,600	-5,100	
	C	280	4,100	1,300	-16,000	4,000	-6,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

City of Madera GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

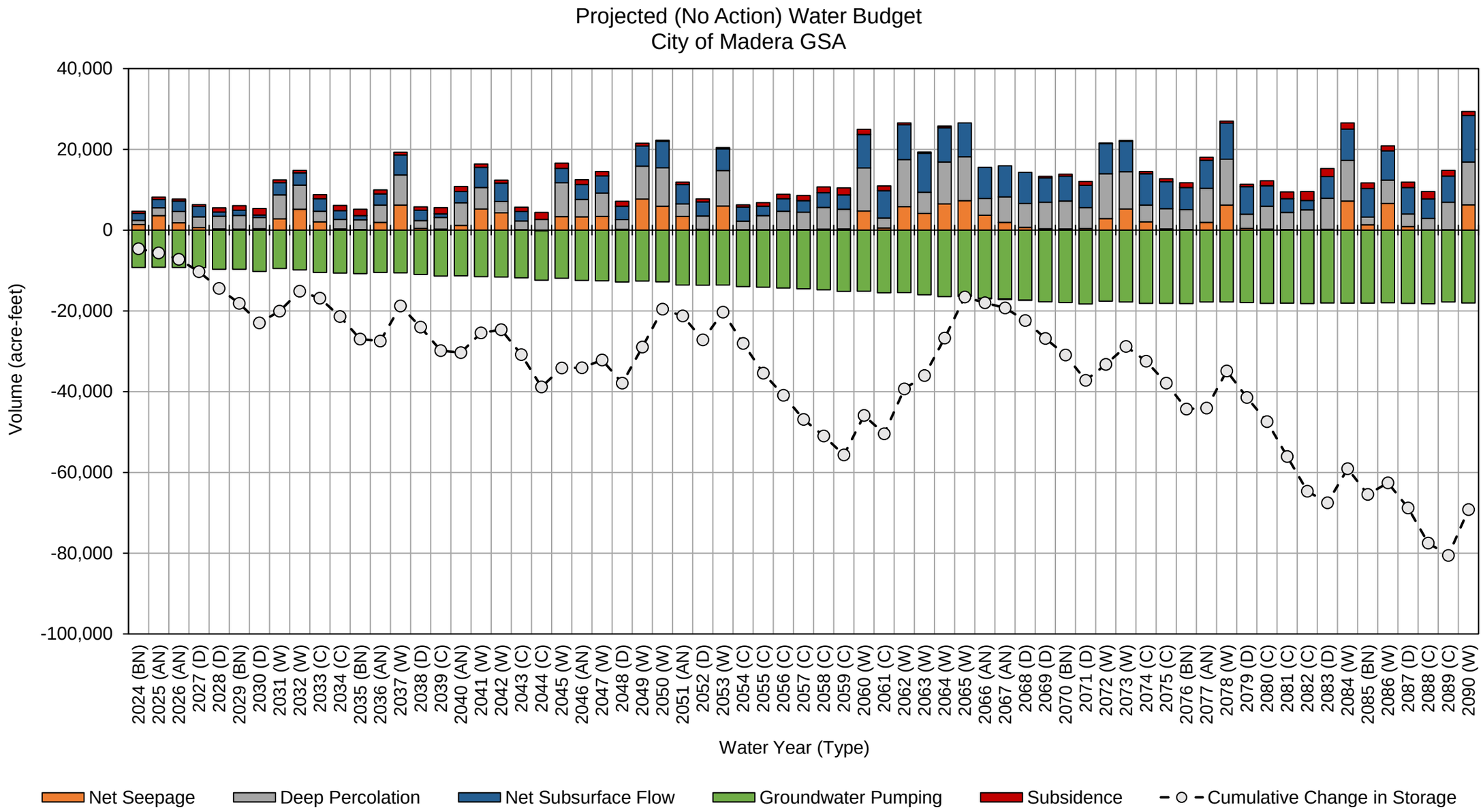
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	1,400	1,000	-9,300	-6,900
2025 (AN)	3,600	2,000	-9,200	-3,700
2026 (AN)	1,800	2,800	-9,300	-4,700
2027 (D)	610	2,700	-9,300	-6,000
2028 (D)	280	3,200	-9,700	-6,300
2029 (BN)	250	3,400	-9,700	-6,100
2030 (D)	340	2,800	-10,000	-7,100
2031 (W)	2,800	5,900	-9,500	-770
2032 (W)	5,200	5,900	-9,900	1,300
2033 (C)	2,100	2,600	-10,000	-5,800
2034 (C)	290	2,400	-11,000	-8,000
2035 (BN)	150	2,400	-11,000	-8,300
2036 (AN)	1,900	4,300	-10,000	-4,300
2037 (W)	6,200	7,500	-11,000	3,100
2038 (D)	440	1,900	-11,000	-8,600
2039 (C)	240	2,900	-11,000	-8,200
2040 (AN)	1,200	5,600	-11,000	-4,600
2041 (W)	5,200	5,300	-12,000	-960
2042 (W)	4,300	2,800	-12,000	-4,500
2043 (C)	81	2,200	-12,000	-9,600
2044 (C)	1	2,600	-12,000	-9,600
2045 (W)	3,300	8,400	-12,000	-170
2046 (AN)	3,300	4,300	-12,000	-4,900
2047 (W)	3,400	5,800	-13,000	-3,400
2048 (D)	160	2,400	-13,000	-10,000
2049 (W)	7,700	8,100	-13,000	3,200
2050 (W)	5,900	9,600	-13,000	2,600
2051 (AN)	3,400	3,100	-14,000	-7,100
2052 (D)	180	3,300	-14,000	-10,000
2053 (W)	6,000	8,800	-14,000	1,200
2054 (C)	93	2,100	-14,000	-12,000
2055 (C)	100	3,500	-14,000	-11,000
2056 (C)	150	4,500	-14,000	-9,700
2057 (C)	110	4,300	-15,000	-10,000
2058 (C)	250	5,400	-15,000	-9,200
2059 (C)	260	4,900	-15,000	-10,000
2060 (W)	4,700	11,000	-15,000	250
2061 (C)	520	2,500	-16,000	-13,000
2062 (W)	5,800	12,000	-15,000	2,000
2063 (W)	4,200	5,200	-16,000	-6,600
2064 (W)	6,500	10,000	-16,000	380
2065 (W)	7,300	11,000	-16,000	2,000
2066 (AN)	3,700	4,100	-17,000	-9,000
2067 (AN)	1,900	6,300	-17,000	-8,800
2068 (D)	670	5,900	-17,000	-11,000

City of Madera GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		310	6,600	-18,000	-11,000
2070 (BN)		270	6,900	-18,000	-11,000
2071 (D)		360	5,200	-18,000	-13,000
2072 (W)		2,800	11,000	-18,000	-3,600
2073 (W)		5,200	9,300	-18,000	-3,300
2074 (C)		2,100	4,100	-18,000	-12,000
2075 (C)		280	5,000	-18,000	-13,000
2076 (BN)		150	4,900	-18,000	-13,000
2077 (AN)		1,900	8,500	-18,000	-7,400
2078 (W)		6,200	11,000	-18,000	-220
2079 (D)		450	3,500	-18,000	-14,000
2080 (C)		240	5,700	-18,000	-12,000
2081 (C)		140	4,200	-18,000	-14,000
2082 (C)		42	5,000	-18,000	-13,000
2083 (D)		170	7,700	-18,000	-10,000
2084 (W)		7,200	10,000	-18,000	-840
2085 (BN)		1,300	1,900	-18,000	-15,000
2086 (W)		6,600	5,800	-18,000	-5,600
2087 (D)		890	3,100	-18,000	-14,000
2088 (C)		40	2,800	-18,000	-15,000
2089 (C)		67	6,800	-18,000	-11,000
2090 (W)		6,200	11,000	-18,000	-1,200
Average (2024-2039)		**1,700**	**3,400**	**-10,000**	**-5,000**
2024-2039	W	4,700	6,400	-10,000	1,200
	AN	2,400	3,000	-9,700	-4,200
	BN	580	2,300	-9,900	-7,100
	D	420	2,600	-10,000	-7,000
	C	870	2,600	-11,000	-7,300
Average (2040-2090)		**2,400**	**6,000**	**-16,000**	**-7,400**
2040-2090	W	5,500	8,700	-15,000	-1,000
	AN	2,600	5,300	-15,000	-7,000
	BN	580	4,600	-18,000	-13,000
	D	400	4,700	-17,000	-12,000
	C	280	4,100	-16,000	-11,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
City of Madera GSA
Volume (acre-feet)
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

City of Madera GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	1,000	1,000	600	-9,300	1,600	-5,100	-5,100
2025 (AN)	3,000	1,700	830	-9,300	1,100	-2,600	-7,800
2026 (AN)	3,000	3,100	830	-9,300	1,300	-1,200	-9,000
2027 (D)	850	2,300	880	-9,400	240	-5,100	-14,000
2028 (D)	880	3,400	1,500	-9,800	-250	-4,200	-18,000
2029 (BN)	870	3,400	1,600	-9,800	-350	-4,300	-23,000
2030 (D)	340	2,600	2,100	-10,000	-910	-6,100	-29,000
2031 (W)	2,100	4,900	1,300	-9,700	1,700	350	-28,000
2032 (W)	4,900	5,900	1,100	-9,900	1,900	3,900	-24,000
2033 (C)	1,900	2,600	1,600	-11,000	960	-3,500	-28,000
2034 (C)	510	2,500	1,900	-11,000	530	-5,300	-33,000
2035 (BN)	190	2,500	2,000	-11,000	470	-5,700	-39,000
2036 (AN)	900	3,600	1,400	-11,000	2,400	-2,300	-41,000
2037 (W)	5,100	7,400	1,200	-11,000	4,100	7,100	-34,000
2038 (D)	600	1,900	1,300	-11,000	2,100	-5,200	-39,000
2039 (C)	760	3,100	1,900	-11,000	790	-4,900	-44,000
2040 (AN)	2,900	5,600	1,500	-11,000	2,800	1,500	-43,000
2041 (W)	4,400	4,700	1,200	-12,000	4,600	3,300	-39,000
2042 (W)	3,100	2,600	1,100	-12,000	4,200	-670	-40,000
2043 (C)	2,200	2,700	1,300	-12,000	2,400	-3,300	-43,000
2044 (C)	4	2,500	1,900	-12,000	150	-7,700	-51,000
2045 (W)	6,500	9,300	1,500	-12,000	2,500	7,900	-43,000
2046 (AN)	3,500	3,900	1,300	-12,000	3,300	-470	-44,000
2047 (W)	5,100	5,200	1,400	-13,000	2,500	1,500	-42,000
2048 (D)	1,800	2,600	1,500	-13,000	2,100	-5,000	-47,000
2049 (W)	5,300	7,000	760	-13,000	4,800	5,300	-42,000
2050 (W)	10,000	11,000	270	-13,000	6,000	15,000	-27,000
2051 (AN)	4,100	2,800	680	-14,000	3,600	-2,500	-30,000
2052 (D)	1,400	2,800	880	-14,000	2,200	-6,400	-36,000
2053 (W)	4,000	6,800	420	-14,000	4,700	2,300	-34,000
2054 (C)	2,300	2,900	680	-14,000	2,900	-5,100	-39,000
2055 (C)	170	3,700	930	-14,000	2,200	-7,200	-46,000
2056 (C)	77	4,200	1,200	-14,000	2,600	-6,300	-53,000
2057 (C)	43	4,300	1,400	-15,000	2,600	-6,300	-59,000
2058 (C)	1,400	5,800	1,500	-15,000	3,300	-2,800	-62,000
2059 (C)	520	4,500	1,900	-15,000	2,900	-5,500	-67,000
2060 (W)	2,800	8,400	1,400	-15,000	6,900	4,300	-63,000
2061 (C)	1,800	3,900	1,500	-16,000	5,100	-3,300	-66,000
2062 (W)	5,500	11,000	730	-16,000	7,700	10,000	-56,000
2063 (W)	4,200	5,400	660	-16,000	7,900	2,200	-54,000
2064 (W)	7,000	9,400	980	-17,000	5,800	6,600	-47,000
2065 (W)	7,700	11,000	270	-16,000	7,100	10,000	-37,000
2066 (AN)	3,100	3,700	130	-17,000	7,000	-3,000	-40,000
2067 (AN)	3,000	6,800	120	-17,000	6,900	-260	-40,000
2068 (D)	880	5,500	200	-17,000	6,100	-4,700	-45,000
2069 (D)	910	6,800	610	-18,000	5,500	-4,000	-49,000
2070 (BN)	880	7,100	710	-18,000	5,300	-4,000	-53,000

City of Madera GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		350	5,100	1,300	-18,000	4,600	-7,000	-60,000
2072 (W)		2,100	9,700	670	-18,000	6,800	1,500	-59,000
2073 (W)		5,000	9,500	580	-18,000	7,000	4,100	-54,000
2074 (C)		1,900	4,200	1,000	-18,000	6,200	-4,900	-59,000
2075 (C)		510	5,100	1,400	-18,000	5,600	-5,700	-65,000
2076 (BN)		190	5,000	1,600	-18,000	5,400	-6,000	-71,000
2077 (AN)		900	7,500	1,000	-18,000	7,000	-1,500	-72,000
2078 (W)		5,100	11,000	800	-18,000	8,600	7,800	-65,000
2079 (D)		600	3,600	890	-18,000	6,800	-6,100	-71,000
2080 (C)		760	5,900	1,400	-18,000	5,400	-4,800	-75,000
2081 (C)		160	4,000	1,700	-18,000	4,100	-8,200	-84,000
2082 (C)		41	4,800	2,200	-18,000	3,200	-8,000	-92,000
2083 (D)		350	7,600	1,900	-18,000	5,800	-2,400	-94,000
2084 (W)		6,700	10,000	1,500	-18,000	8,100	8,400	-86,000
2085 (BN)		1,000	1,900	1,400	-18,000	7,500	-6,300	-92,000
2086 (W)		5,700	5,500	1,200	-18,000	7,700	2,100	-90,000
2087 (D)		920	3,100	1,300	-18,000	6,500	-6,300	-96,000
2088 (C)		6	3,000	1,600	-18,000	5,400	-8,100	-100,000
2089 (C)		120	6,500	1,300	-18,000	6,800	-3,000	-110,000
2090 (W)		5,800	10,000	960	-18,000	11,000	11,000	-96,000
Average (2024-2039)		**1,700**	**3,200**	**1,400**	**-10,000**	**1,100**	**-2,800**	
2024-2039	W	4,000	6,100	1,200	-10,000	2,600	3,800	
	AN	2,300	2,800	1,000	-9,700	1,600	-2,000	
	BN	690	2,300	1,400	-10,000	570	-5,000	
	D	670	2,600	1,400	-10,000	290	-5,200	
	C	1,100	2,700	1,800	-11,000	760	-4,600	
Average (2040-2090)		**2,600**	**5,900**	**1,100**	**-16,000**	**5,200**	**-1,000**	
2040-2090	W	5,300	8,300	910	-15,000	6,300	5,700	
	AN	2,900	5,100	810	-15,000	5,100	-1,000	
	BN	690	4,700	1,200	-18,000	6,100	-5,400	
	D	910	4,600	1,100	-17,000	5,000	-5,200	
	C	750	4,200	1,400	-16,000	3,800	-5,600	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

City of Madera GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

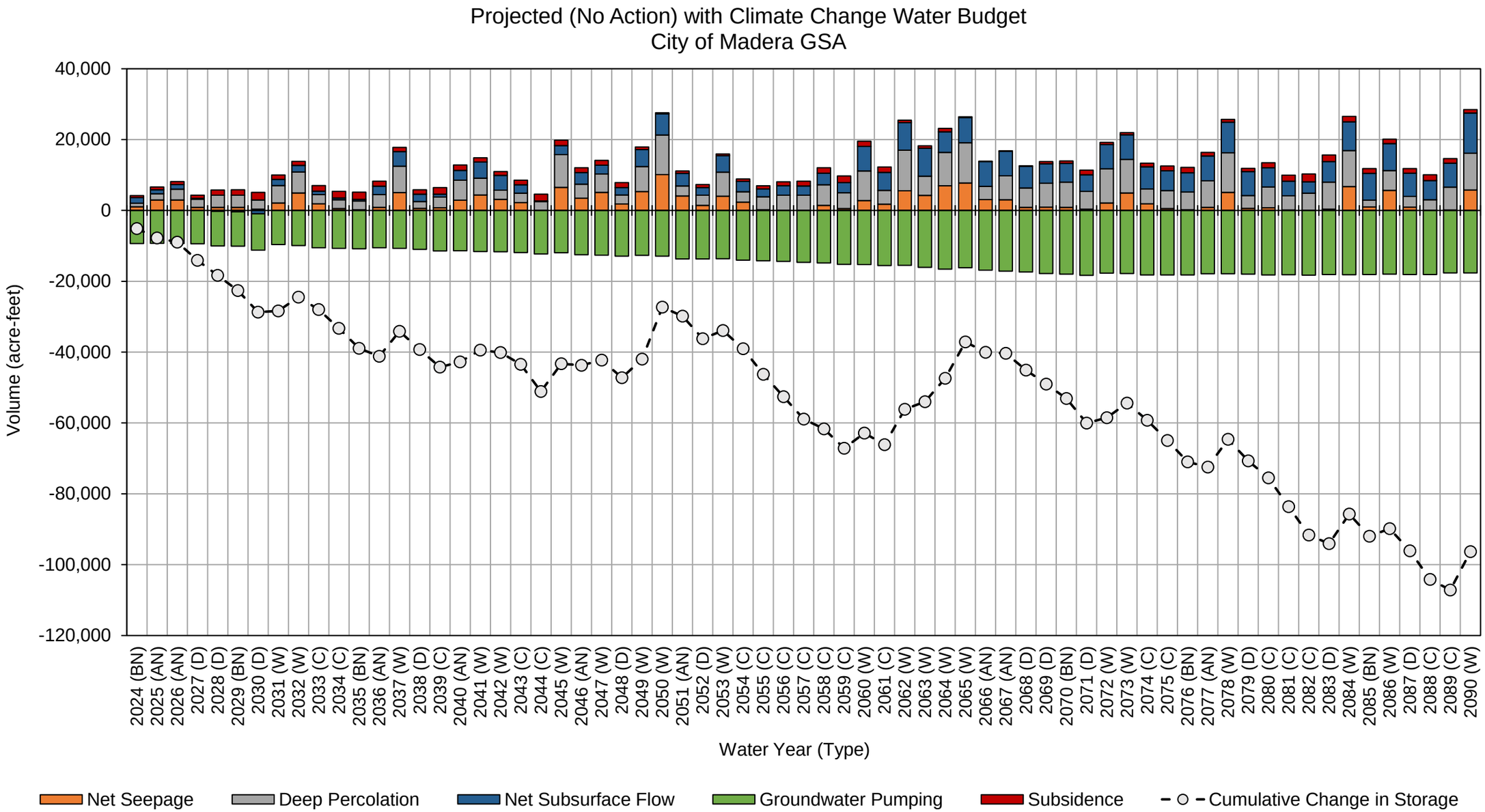
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	1,000	1,000	-9,300	-7,300
2025 (AN)	3,000	1,700	-9,300	-4,600
2026 (AN)	3,000	3,100	-9,300	-3,300
2027 (D)	850	2,300	-9,400	-6,200
2028 (D)	880	3,400	-9,800	-5,500
2029 (BN)	870	3,400	-9,800	-5,500
2030 (D)	340	2,600	-10,000	-7,300
2031 (W)	2,100	4,900	-9,700	-2,600
2032 (W)	4,900	5,900	-9,900	910
2033 (C)	1,900	2,600	-11,000	-6,000
2034 (C)	510	2,500	-11,000	-7,700
2035 (BN)	190	2,500	-11,000	-8,200
2036 (AN)	900	3,600	-11,000	-6,100
2037 (W)	5,100	7,400	-11,000	1,800
2038 (D)	600	1,900	-11,000	-8,500
2039 (C)	760	3,100	-11,000	-7,600
2040 (AN)	2,900	5,600	-11,000	-2,800
2041 (W)	4,400	4,700	-12,000	-2,500
2042 (W)	3,100	2,600	-12,000	-5,900
2043 (C)	2,200	2,700	-12,000	-7,000
2044 (C)	4	2,500	-12,000	-9,800
2045 (W)	6,500	9,300	-12,000	3,800
2046 (AN)	3,500	3,900	-12,000	-5,100
2047 (W)	5,100	5,200	-13,000	-2,400
2048 (D)	1,800	2,600	-13,000	-8,500
2049 (W)	5,300	7,000	-13,000	-290
2050 (W)	10,000	11,000	-13,000	8,400
2051 (AN)	4,100	2,800	-14,000	-6,800
2052 (D)	1,400	2,800	-14,000	-9,400
2053 (W)	4,000	6,800	-14,000	-2,800
2054 (C)	2,300	2,900	-14,000	-8,800
2055 (C)	170	3,700	-14,000	-10,000
2056 (C)	77	4,200	-14,000	-10,000
2057 (C)	43	4,300	-15,000	-10,000
2058 (C)	1,400	5,800	-15,000	-7,600
2059 (C)	520	4,500	-15,000	-10,000
2060 (W)	2,800	8,400	-15,000	-4,100
2061 (C)	1,800	3,900	-16,000	-9,900
2062 (W)	5,500	11,000	-16,000	1,500
2063 (W)	4,200	5,400	-16,000	-6,400
2064 (W)	7,000	9,400	-17,000	-150
2065 (W)	7,700	11,000	-16,000	2,900
2066 (AN)	3,100	3,700	-17,000	-10,000
2067 (AN)	3,000	6,800	-17,000	-7,300
2068 (D)	880	5,500	-17,000	-11,000

City of Madera GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		910	6,800	-18,000	-10,000
2070 (BN)		880	7,100	-18,000	-10,000
2071 (D)		350	5,100	-18,000	-13,000
2072 (W)		2,100	9,700	-18,000	-5,900
2073 (W)		5,000	9,500	-18,000	-3,400
2074 (C)		1,900	4,200	-18,000	-12,000
2075 (C)		510	5,100	-18,000	-13,000
2076 (BN)		190	5,000	-18,000	-13,000
2077 (AN)		900	7,500	-18,000	-9,500
2078 (W)		5,100	11,000	-18,000	-1,600
2079 (D)		600	3,600	-18,000	-14,000
2080 (C)		760	5,900	-18,000	-12,000
2081 (C)		160	4,000	-18,000	-14,000
2082 (C)		41	4,800	-18,000	-13,000
2083 (D)		350	7,600	-18,000	-10,000
2084 (W)		6,700	10,000	-18,000	-1,300
2085 (BN)		1,000	1,900	-18,000	-15,000
2086 (W)		5,700	5,500	-18,000	-6,800
2087 (D)		920	3,100	-18,000	-14,000
2088 (C)		6	3,000	-18,000	-15,000
2089 (C)		120	6,500	-18,000	-11,000
2090 (W)		5,800	10,000	-18,000	-1,500
Average (2024-2039)		**1,700**	**3,200**	**-10,000**	**-5,200**
2024-2039	W	4,000	6,100	-10,000	19
	AN	2,300	2,800	-9,700	-4,600
	BN	690	2,300	-10,000	-7,000
	D	670	2,600	-10,000	-6,900
	C	1,100	2,700	-11,000	-7,100
Average (2040-2090)		**2,600**	**5,900**	**-16,000**	**-7,300**
2040-2090	W	5,300	8,300	-15,000	-1,600
	AN	2,900	5,100	-15,000	-6,900
	BN	690	4,700	-18,000	-13,000
	D	910	4,600	-17,000	-11,000
	C	750	4,200	-16,000	-11,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
City of Madera GSA
Volume (acre-feet)
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
-120,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

City of Madera GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	5,500	1,400	490	-9,200	940	-930	-930
2025 (AN)	8,600	2,400	520	-9,100	720	3,100	2,200
2026 (AN)	6,800	2,900	310	-9,100	1,200	2,100	4,300
2027 (D)	4,000	2,400	170	-9,100	1,300	-1,200	3,100
2028 (D)	3,700	3,000	690	-9,400	-510	-2,500	580
2029 (BN)	3,800	3,300	730	-9,300	-480	-2,000	-1,400
2030 (D)	3,700	2,600	1,100	-9,700	-1,100	-3,400	-4,800
2031 (W)	9,000	6,500	250	-9,000	480	7,200	2,400
2032 (W)	11,000	5,700	160	-9,300	130	8,000	10,000
2033 (C)	5,500	2,100	290	-9,800	660	-1,300	9,200
2034 (C)	3,700	2,000	420	-9,900	-230	-4,000	5,100
2035 (BN)	3,700	2,000	650	-9,900	-1,300	-4,900	190
2036 (AN)	5,900	3,900	220	-9,600	770	1,200	1,400
2037 (W)	16,000	9,300	-150	-9,700	2,000	17,000	18,000
2038 (D)	3,800	830	-110	-9,900	-230	-5,600	13,000
2039 (C)	3,600	1,900	290	-10,000	-1,800	-6,200	6,600
2040 (AN)	5,000	4,300	19	-10,000	750	-40	6,500
2041 (W)	13,000	6,300	-320	-10,000	2,700	11,000	18,000
2042 (W)	12,000	2,600	-500	-10,000	2,100	6,000	24,000
2043 (C)	3,500	1,100	-150	-10,000	-660	-6,700	17,000
2044 (C)	3,400	1,700	440	-11,000	-3,300	-8,400	8,700
2045 (W)	11,000	7,600	-57	-10,000	410	8,300	17,000
2046 (AN)	8,700	3,200	-160	-11,000	840	1,800	19,000
2047 (W)	10,000	5,800	-260	-11,000	1,400	6,500	25,000
2048 (D)	3,500	1,100	-91	-11,000	-25	-6,400	19,000
2049 (W)	17,000	8,400	-570	-11,000	900	15,000	34,000
2050 (W)	15,000	9,400	-980	-11,000	1,700	15,000	49,000
2051 (AN)	8,900	2,300	-550	-11,000	-510	-1,300	47,000
2052 (D)	3,600	1,600	-330	-11,000	-1,300	-7,900	40,000
2053 (W)	16,000	8,000	-780	-11,000	250	12,000	51,000
2054 (C)	3,500	950	-340	-12,000	-1,600	-9,000	42,000
2055 (C)	3,500	1,800	40	-12,000	-2,600	-8,900	33,000
2056 (C)	3,500	2,700	110	-12,000	-1,500	-6,900	27,000
2057 (C)	3,500	2,900	320	-12,000	-1,600	-6,700	20,000
2058 (C)	3,600	3,900	450	-12,000	-930	-4,900	15,000
2059 (C)	3,600	3,600	690	-12,000	-1,000	-5,200	9,700
2060 (W)	14,000	11,000	200	-12,000	2,900	17,000	26,000
2061 (C)	3,900	970	81	-12,000	2,100	-5,200	21,000
2062 (W)	14,000	9,600	-470	-12,000	3,500	15,000	36,000
2063 (W)	12,000	5,600	-570	-13,000	3,700	8,700	45,000
2064 (W)	16,000	9,900	-470	-13,000	630	13,000	57,000
2065 (W)	16,000	9,500	-1,200	-13,000	30	12,000	69,000
2066 (AN)	10,000	3,000	-860	-13,000	-720	-1,600	68,000
2067 (AN)	8,300	3,500	-800	-13,000	480	-1,600	66,000
2068 (D)	4,100	3,000	-570	-13,000	1,200	-5,500	61,000
2069 (D)	3,700	3,500	21	-13,000	120	-6,100	55,000

City of Madera GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		3,900	4,200	13	-14,000	710	-4,700	50,000
2071 (D)		3,800	3,500	420	-14,000	190	-6,000	44,000
2072 (W)		10,000	9,700	-440	-13,000	2,400	8,400	52,000
2073 (W)		13,000	8,500	-460	-13,000	1,700	9,700	62,000
2074 (C)		5,500	2,400	-18	-14,000	1,300	-4,600	57,000
2075 (C)		3,700	2,400	260	-14,000	550	-6,900	51,000
2076 (BN)		3,800	2,700	520	-14,000	-410	-7,100	43,000
2077 (AN)		6,000	5,500	-11	-13,000	1,700	-220	43,000
2078 (W)		16,000	12,000	-390	-13,000	2,700	17,000	60,000
2079 (D)		3,800	1,400	66	-14,000	51	-8,200	52,000
2080 (C)		3,600	2,600	590	-14,000	-1,600	-8,500	43,000
2081 (C)		3,500	2,300	830	-14,000	-2,900	-9,900	33,000
2082 (C)		3,400	2,900	1,100	-14,000	-3,700	-10,000	23,000
2083 (D)		3,600	5,200	770	-14,000	-550	-4,700	19,000
2084 (W)		17,000	11,000	370	-14,000	1,100	16,000	34,000
2085 (BN)		5,800	600	300	-14,000	1,000	-6,000	28,000
2086 (W)		15,000	4,200	170	-14,000	740	6,500	35,000
2087 (D)		4,300	1,300	260	-14,000	7	-7,800	27,000
2088 (C)		3,400	1,400	700	-14,000	-1,600	-9,800	17,000
2089 (C)		3,400	3,800	470	-13,000	180	-5,600	11,000
2090 (W)		16,000	11,000	90	-14,000	4,600	18,000	29,000
Average (2024-2039)		**6,100**	**3,300**	**380**	**-9,500**	**160**	**410**	
2024-2039	W	12,000	7,200	85	-9,300	880	11,000	
	AN	7,100	3,100	350	-9,300	890	2,100	
	BN	4,300	2,200	620	-9,500	-290	-2,600	
	D	3,800	2,200	460	-9,500	-130	-3,200	
	C	4,200	2,000	330	-10,000	-450	-3,800	
Average (2040-2090)		**7,900**	**4,700**	**-39**	**-12,000**	**360**	**440**	
2040-2090	W	14,000	8,300	-370	-12,000	1,900	12,000	
	AN	7,800	3,600	-390	-12,000	430	-490	
	BN	4,500	2,500	280	-14,000	440	-5,900	
	D	3,800	2,600	69	-13,000	-45	-6,600	
	C	3,700	2,300	350	-12,000	-1,200	-7,300	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

City of Madera GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

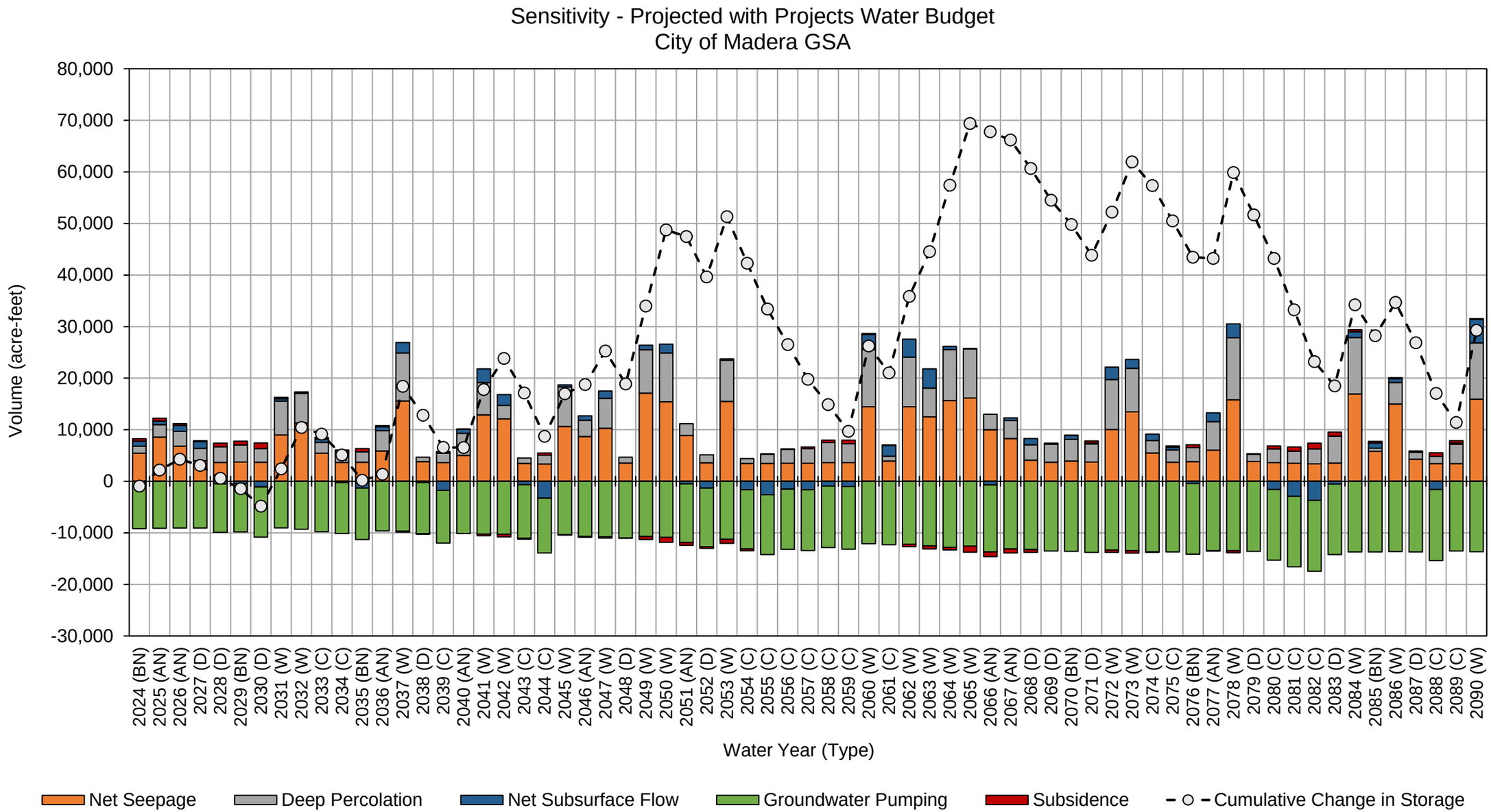
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	5,500	1,400	-9,200	-2,400
2025 (AN)	8,600	2,400	-9,100	1,900
2026 (AN)	6,800	2,900	-9,100	610
2027 (D)	4,000	2,400	-9,100	-2,700
2028 (D)	3,700	3,000	-9,400	-2,700
2029 (BN)	3,800	3,300	-9,300	-2,300
2030 (D)	3,700	2,600	-9,700	-3,400
2031 (W)	9,000	6,500	-9,000	6,500
2032 (W)	11,000	5,700	-9,300	7,700
2033 (C)	5,500	2,100	-9,800	-2,200
2034 (C)	3,700	2,000	-9,900	-4,200
2035 (BN)	3,700	2,000	-9,900	-4,200
2036 (AN)	5,900	3,900	-9,600	180
2037 (W)	16,000	9,300	-9,700	15,000
2038 (D)	3,800	830	-9,900	-5,300
2039 (C)	3,600	1,900	-10,000	-4,700
2040 (AN)	5,000	4,300	-10,000	-810
2041 (W)	13,000	6,300	-10,000	8,900
2042 (W)	12,000	2,600	-10,000	4,500
2043 (C)	3,500	1,100	-10,000	-5,900
2044 (C)	3,400	1,700	-11,000	-5,600
2045 (W)	11,000	7,600	-10,000	7,900
2046 (AN)	8,700	3,200	-11,000	1,100
2047 (W)	10,000	5,800	-11,000	5,300
2048 (D)	3,500	1,100	-11,000	-6,300
2049 (W)	17,000	8,400	-11,000	15,000
2050 (W)	15,000	9,400	-11,000	14,000
2051 (AN)	8,900	2,300	-11,000	-210
2052 (D)	3,600	1,600	-11,000	-6,200
2053 (W)	16,000	8,000	-11,000	12,000
2054 (C)	3,500	950	-12,000	-7,100
2055 (C)	3,500	1,800	-12,000	-6,300
2056 (C)	3,500	2,700	-12,000	-5,500
2057 (C)	3,500	2,900	-12,000	-5,400
2058 (C)	3,600	3,900	-12,000	-4,400
2059 (C)	3,600	3,600	-12,000	-4,900
2060 (W)	14,000	11,000	-12,000	13,000
2061 (C)	3,900	970	-12,000	-7,400
2062 (W)	14,000	9,600	-12,000	12,000
2063 (W)	12,000	5,600	-13,000	5,500
2064 (W)	16,000	9,900	-13,000	13,000
2065 (W)	16,000	9,500	-13,000	13,000
2066 (AN)	10,000	3,000	-13,000	-12
2067 (AN)	8,300	3,500	-13,000	-1,300
2068 (D)	4,100	3,000	-13,000	-6,100

City of Madera GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		3,700	3,500	-13,000	-6,300
2070 (BN)		3,900	4,200	-14,000	-5,400
2071 (D)		3,800	3,500	-14,000	-6,600
2072 (W)		10,000	9,700	-13,000	6,400
2073 (W)		13,000	8,500	-13,000	8,500
2074 (C)		5,500	2,400	-14,000	-5,800
2075 (C)		3,700	2,400	-14,000	-7,700
2076 (BN)		3,800	2,700	-14,000	-7,200
2077 (AN)		6,000	5,500	-13,000	-1,900
2078 (W)		16,000	12,000	-13,000	14,000
2079 (D)		3,800	1,400	-14,000	-8,400
2080 (C)		3,600	2,600	-14,000	-7,500
2081 (C)		3,500	2,300	-14,000	-7,800
2082 (C)		3,400	2,900	-14,000	-7,500
2083 (D)		3,600	5,200	-14,000	-4,900
2084 (W)		17,000	11,000	-14,000	14,000
2085 (BN)		5,800	600	-14,000	-7,300
2086 (W)		15,000	4,200	-14,000	5,500
2087 (D)		4,300	1,300	-14,000	-8,100
2088 (C)		3,400	1,400	-14,000	-8,900
2089 (C)		3,400	3,800	-13,000	-6,300
2090 (W)		16,000	11,000	-14,000	13,000
Average (2024-2039)		**6,100**	**3,300**	**-9,500**	**-120**
2024-2039	W	12,000	7,200	-9,300	9,800
	AN	7,100	3,100	-9,300	890
	BN	4,300	2,200	-9,500	-3,000
	D	3,800	2,200	-9,500	-3,500
	C	4,200	2,000	-10,000	-3,700
Average (2040-2090)		**7,900**	**4,700**	**-12,000**	**130**
2040-2090	W	14,000	8,300	-12,000	10,000
	AN	7,800	3,600	-12,000	-520
	BN	4,500	2,500	-14,000	-6,600
	D	3,800	2,600	-13,000	-6,600
	C	3,700	2,300	-12,000	-6,500

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Sensitivity - Projected with Projects Water Budget
City of Madera GSA
Volume (acre-feet)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.2.b

Madera County GSA Water Budget Results

Madera County GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		18,000	62,000	33,000	-190,000	38,000	-38,000	-38,000
1990 (C)		16,000	65,000	35,000	-200,000	30,000	-54,000	-92,000
1991 (C)		28,000	81,000	34,000	-210,000	34,000	-27,000	-120,000
1992 (C)		23,000	77,000	38,000	-220,000	28,000	-54,000	-170,000
1993 (W)		76,000	150,000	18,000	-190,000	67,000	120,000	-55,000
1994 (C)		24,000	73,000	19,000	-210,000	49,000	-41,000	-96,000
1995 (W)		72,000	180,000	5,500	-170,000	65,000	140,000	47,000
1996 (W)		52,000	120,000	14,000	-220,000	73,000	34,000	81,000
1997 (W)		61,000	210,000	15,000	-240,000	67,000	110,000	190,000
1998 (W)		56,000	240,000	-8,600	-160,000	64,000	190,000	380,000
1999 (AN)		25,000	89,000	6,500	-210,000	54,000	-37,000	340,000
2000 (AN)		36,000	88,000	7,600	-220,000	58,000	-30,000	310,000
2001 (D)		24,000	64,000	7,400	-200,000	51,000	-58,000	250,000
2002 (D)		21,000	68,000	16,000	-230,000	42,000	-87,000	160,000
2003 (BN)		23,000	71,000	12,000	-220,000	46,000	-69,000	96,000
2004 (D)		21,000	65,000	24,000	-260,000	47,000	-100,000	-3,900
2005 (W)		61,000	120,000	-2,300	-170,000	62,000	77,000	73,000
2006 (W)		59,000	120,000	27	-190,000	66,000	60,000	130,000
2007 (C)		30,000	72,000	14,000	-230,000	52,000	-65,000	68,000
2008 (C)		25,000	63,000	15,000	-230,000	47,000	-82,000	-13,000
2009 (BN)		22,000	59,000	16,000	-220,000	45,000	-79,000	-92,000
2010 (AN)		45,000	87,000	6,300	-190,000	59,000	7,300	-85,000
2011 (W)		73,000	180,000	3,100	-200,000	72,000	130,000	45,000
2012 (D)		24,000	80,000	12,000	-220,000	50,000	-57,000	-12,000
2013 (C)		22,000	63,000	25,000	-250,000	38,000	-100,000	-120,000
2014 (C)		20,000	51,000	34,000	-240,000	21,000	-120,000	-230,000
2015 (C)		19,000	53,000	47,000	-260,000	15,000	-130,000	-360,000
2016 (D)		38,000	91,000	31,000	-230,000	44,000	-30,000	-390,000
2017 (W)		85,000	150,000	18,000	-230,000	70,000	93,000	-300,000
2018 (BN)		35,000	56,000	22,000	-240,000	65,000	-65,000	-370,000
2019 (W)		82,000	97,000	14,000	-230,000	75,000	36,000	-330,000
2020 (D)		31,000	62,000	22,000	-250,000	56,000	-80,000	-410,000
2021 (C)		23,000	60,000	36,000	-270,000	36,000	-110,000	-520,000
2022 (C)		32,000	120,000	21,000	-210,000	39,000	-2,100	-520,000
2023 (W)		97,000	170,000	11,000	-220,000	77,000	140,000	-390,000
Average (1989-2023)		**40,000**	**98,000**	**18,000**	**-220,000**	**51,000**	**-11,000**	
1989-2023	W	70,000	160,000	7,900	-200,000	69,000	100,000	
	AN	35,000	88,000	6,800	-210,000	57,000	-20,000	
	BN	27,000	62,000	17,000	-230,000	52,000	-71,000	
	D	26,000	72,000	19,000	-230,000	48,000	-69,000	
	C	23,000	70,000	29,000	-230,000	36,000	-69,000	
Average (1989-2015)		**36,000**	**98,000**	**17,000**	**-210,000**	**50,000**	**-13,000**	
1989-2015	W	64,000	160,000	5,500	-190,000	67,000	110,000	
	AN	35,000	88,000	6,800	-210,000	57,000	-20,000	
	BN	22,000	65,000	14,000	-220,000	45,000	-74,000	
	D	22,000	69,000	15,000	-230,000	47,000	-75,000	
	C	22,000	66,000	30,000	-220,000	35,000	-71,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

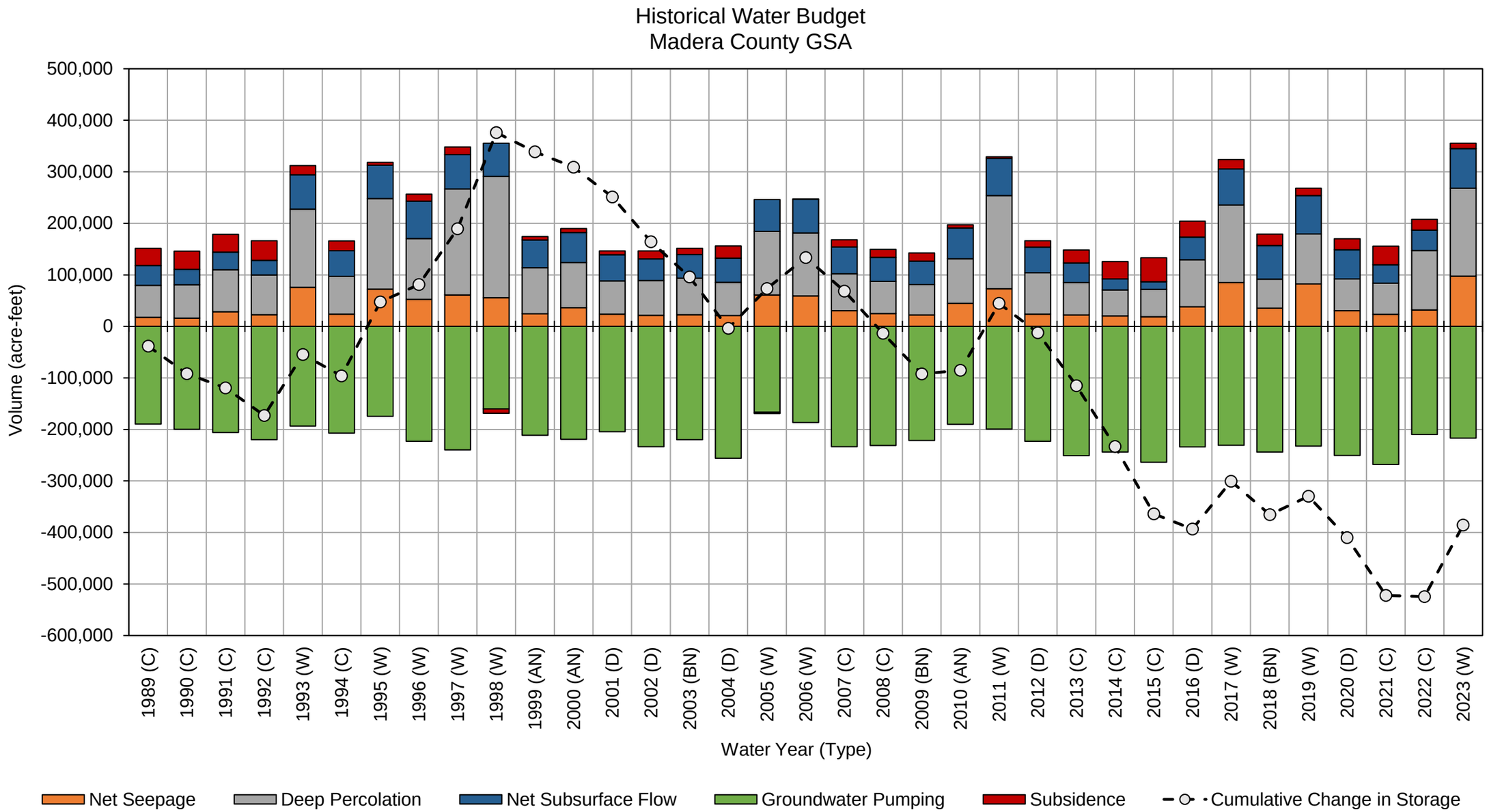
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		18,000	62,000	-190,000	-110,000
1990 (C)		16,000	65,000	-200,000	-120,000
1991 (C)		28,000	81,000	-210,000	-96,000
1992 (C)		23,000	77,000	-220,000	-120,000
1993 (W)		76,000	150,000	-190,000	34,000
1994 (C)		24,000	73,000	-210,000	-110,000
1995 (W)		72,000	180,000	-170,000	73,000
1996 (W)		52,000	120,000	-220,000	-52,000
1997 (W)		61,000	210,000	-240,000	27,000
1998 (W)		56,000	240,000	-160,000	130,000
1999 (AN)		25,000	89,000	-210,000	-98,000
2000 (AN)		36,000	88,000	-220,000	-96,000
2001 (D)		24,000	64,000	-200,000	-120,000
2002 (D)		21,000	68,000	-230,000	-140,000
2003 (BN)		23,000	71,000	-220,000	-130,000
2004 (D)		21,000	65,000	-260,000	-170,000
2005 (W)		61,000	120,000	-170,000	18,000
2006 (W)		59,000	120,000	-190,000	-5,500
2007 (C)		30,000	72,000	-230,000	-130,000
2008 (C)		25,000	63,000	-230,000	-140,000
2009 (BN)		22,000	59,000	-220,000	-140,000
2010 (AN)		45,000	87,000	-190,000	-58,000
2011 (W)		73,000	180,000	-200,000	55,000
2012 (D)		24,000	80,000	-220,000	-120,000
2013 (C)		22,000	63,000	-250,000	-170,000
2014 (C)		20,000	51,000	-240,000	-170,000
2015 (C)		19,000	53,000	-260,000	-190,000
2016 (D)		38,000	91,000	-230,000	-100,000
2017 (W)		85,000	150,000	-230,000	4,900
2018 (BN)		35,000	56,000	-240,000	-150,000
2019 (W)		82,000	97,000	-230,000	-53,000
2020 (D)		31,000	62,000	-250,000	-160,000
2021 (C)		23,000	60,000	-270,000	-180,000
2022 (C)		32,000	120,000	-210,000	-63,000
2023 (W)		97,000	170,000	-220,000	51,000
Average (1989-2023)		**40,000**	**98,000**	**-220,000**	**-80,000**
1989-2023	W	70,000	160,000	-200,000	26,000
	AN	35,000	88,000	-210,000	-84,000
	BN	27,000	62,000	-230,000	-140,000
	D	26,000	72,000	-230,000	-140,000
	C	23,000	70,000	-230,000	-130,000
Average (1989-2015)		**36,000**	**98,000**	**-210,000**	**-80,000**
1989-2015	W	64,000	160,000	-190,000	35,000
	AN	35,000	88,000	-210,000	-84,000
	BN	22,000	65,000	-220,000	-130,000
	D	22,000	69,000	-230,000	-140,000
	C	22,000	66,000	-220,000	-140,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Madera County GSA
Volume (acre-feet)
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	38,000	57,000	8,400	-240,000	73,000	-69,000	-69,000
2025 (AN)	58,000	62,000	4,900	-220,000	76,000	-19,000	-88,000
2026 (AN)	58,000	88,000	5,500	-220,000	81,000	10,000	-78,000
2027 (D)	32,000	61,000	6,200	-210,000	63,000	-47,000	-120,000
2028 (D)	29,000	72,000	11,000	-200,000	47,000	-45,000	-170,000
2029 (BN)	29,000	68,000	11,000	-200,000	52,000	-35,000	-200,000
2030 (D)	28,000	55,000	14,000	-180,000	36,000	-52,000	-260,000
2031 (W)	97,000	140,000	-120	-180,000	72,000	130,000	-120,000
2032 (W)	100,000	130,000	-4,900	-160,000	61,000	120,000	210
2033 (C)	38,000	53,000	1,500	-160,000	26,000	-42,000	-41,000
2034 (C)	29,000	44,000	3,900	-150,000	18,000	-60,000	-100,000
2035 (BN)	28,000	42,000	3,800	-140,000	13,000	-55,000	-160,000
2036 (AN)	54,000	71,000	-2,900	-140,000	49,000	35,000	-120,000
2037 (W)	150,000	180,000	-12,000	-130,000	46,000	240,000	110,000
2038 (D)	32,000	45,000	-4,800	-120,000	6,600	-37,000	77,000
2039 (C)	28,000	36,000	1,600	-110,000	-15,000	-64,000	13,000
2040 (AN)	53,000	83,000	-3,200	-110,000	16,000	43,000	56,000
2041 (W)	120,000	110,000	-9,000	-110,000	26,000	140,000	200,000
2042 (W)	120,000	63,000	-9,900	-110,000	-1,000	63,000	260,000
2043 (C)	27,000	24,000	-510	-110,000	-25,000	-80,000	180,000
2044 (C)	23,000	23,000	9,300	-120,000	-46,000	-110,000	71,000
2045 (W)	110,000	140,000	-8,400	-95,000	12,000	150,000	230,000
2046 (AN)	57,000	89,000	-3,200	-110,000	11,000	43,000	270,000
2047 (W)	93,000	92,000	-5,300	-110,000	7,800	80,000	350,000
2048 (D)	29,000	30,000	490	-110,000	-20,000	-71,000	280,000
2049 (W)	140,000	110,000	-14,000	-93,000	7,400	150,000	430,000
2050 (W)	110,000	230,000	-16,000	-93,000	5,900	240,000	670,000
2051 (AN)	41,000	56,000	-1,400	-120,000	-6,300	-33,000	640,000
2052 (D)	28,000	29,000	-2,200	-110,000	-24,000	-80,000	560,000
2053 (W)	110,000	98,000	-13,000	-100,000	11,000	110,000	670,000
2054 (C)	25,000	26,000	-340	-110,000	-27,000	-87,000	580,000
2055 (C)	25,000	24,000	1,900	-110,000	-36,000	-91,000	490,000
2056 (C)	30,000	28,000	2,600	-110,000	-32,000	-77,000	410,000
2057 (C)	28,000	27,000	5,900	-110,000	-36,000	-83,000	330,000
2058 (C)	37,000	38,000	5,000	-110,000	-27,000	-54,000	280,000
2059 (C)	34,000	36,000	9,200	-110,000	-34,000	-68,000	210,000
2060 (W)	130,000	130,000	-5,800	-100,000	7,500	170,000	380,000
2061 (C)	31,000	34,000	1,700	-110,000	-17,000	-59,000	320,000
2062 (W)	130,000	180,000	-11,000	-91,000	5,500	210,000	530,000
2063 (W)	97,000	110,000	-7,600	-110,000	3,100	99,000	630,000
2064 (W)	120,000	180,000	-5,800	-120,000	-13,000	160,000	790,000
2065 (W)	110,000	210,000	-20,000	-87,000	-9,600	200,000	990,000
2066 (AN)	30,000	53,000	-6,100	-110,000	-9,700	-42,000	950,000
2067 (AN)	45,000	60,000	-8,100	-110,000	1,000	-6,800	950,000
2068 (D)	32,000	37,000	-4,600	-100,000	-18,000	-56,000	890,000
2069 (D)	32,000	37,000	2,300	-110,000	-30,000	-74,000	820,000
2070 (BN)	34,000	38,000	800	-110,000	-20,000	-58,000	760,000

MCSim_v2.0 - Projected with Projects

Madera County GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		33,000	31,000	8,000	-120,000	-31,000	-84,000	670,000
2072 (W)		94,000	110,000	-11,000	-91,000	6,700	110,000	790,000
2073 (W)		83,000	130,000	-8,500	-100,000	1,400	110,000	890,000
2074 (C)		32,000	40,000	4,900	-120,000	-28,000	-75,000	820,000
2075 (C)		32,000	31,000	6,300	-120,000	-32,000	-85,000	730,000
2076 (BN)		33,000	30,000	6,700	-120,000	-32,000	-82,000	650,000
2077 (AN)		59,000	58,000	-3,400	-100,000	520	14,000	660,000
2078 (W)		120,000	190,000	-11,000	-100,000	-640	200,000	860,000
2079 (D)		30,000	42,000	1,000	-110,000	-34,000	-68,000	790,000
2080 (C)		32,000	31,000	8,700	-120,000	-46,000	-96,000	700,000
2081 (C)		30,000	23,000	11,000	-120,000	-60,000	-110,000	580,000
2082 (C)		28,000	23,000	16,000	-130,000	-69,000	-130,000	460,000
2083 (D)		47,000	50,000	5,700	-110,000	-35,000	-43,000	410,000
2084 (W)		150,000	150,000	-3,700	-110,000	-11,000	170,000	590,000
2085 (BN)		44,000	30,000	2,300	-110,000	-22,000	-60,000	530,000
2086 (W)		110,000	85,000	-4,600	-110,000	82	81,000	610,000
2087 (D)		37,000	31,000	3,700	-110,000	-30,000	-73,000	530,000
2088 (C)		31,000	29,000	12,000	-130,000	-53,000	-110,000	430,000
2089 (C)		38,000	75,000	2,600	-100,000	-36,000	-23,000	410,000
2090 (W)		130,000	190,000	-7,100	-110,000	-2,500	200,000	600,000
Average (2024-2039)		**52,000**	**76,000**	**3,000**	**-170,000**	**44,000**	**810**	
2024-2039	W	110,000	150,000	-5,600	-160,000	60,000	160,000	
	AN	57,000	74,000	2,500	-190,000	69,000	8,600	
	BN	32,000	56,000	7,700	-190,000	46,000	-53,000	
	D	30,000	58,000	6,700	-180,000	38,000	-45,000	
	C	32,000	45,000	2,300	-140,000	9,700	-55,000	
Average (2040-2090)		**63,000**	**75,000**	**-1,500**	**-110,000**	**-16,000**	**12,000**	
2040-2090	W	120,000	140,000	-9,500	-100,000	3,100	150,000	
	AN	47,000	67,000	-4,200	-110,000	2,100	3,100	
	BN	37,000	33,000	3,300	-110,000	-25,000	-67,000	
	D	33,000	36,000	1,800	-110,000	-28,000	-69,000	
	C	30,000	32,000	6,000	-110,000	-38,000	-83,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

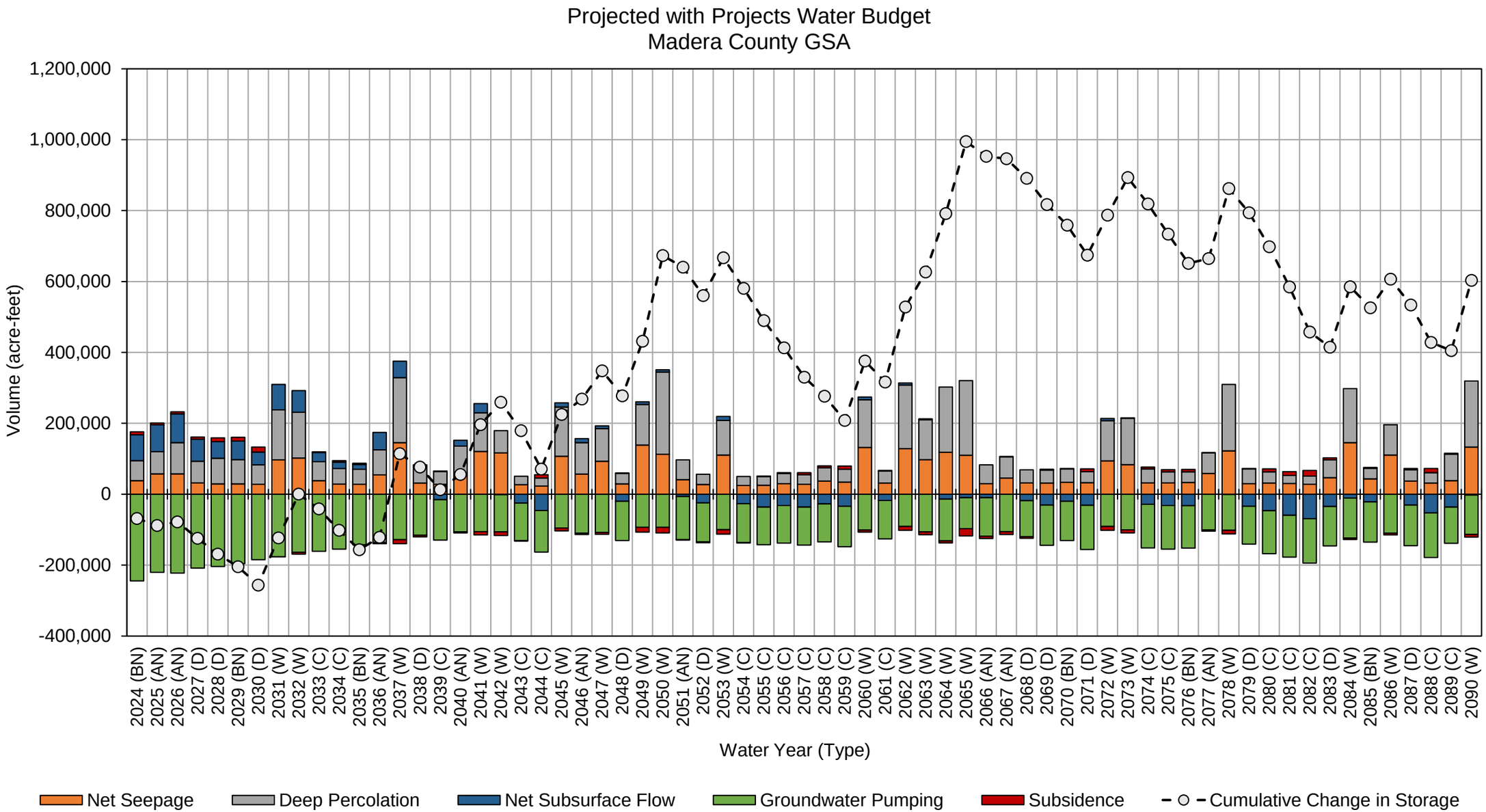
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	38,000	57,000	8,400	-150,000
2025 (AN)	58,000	62,000	4,900	-100,000
2026 (AN)	58,000	88,000	5,500	-77,000
2027 (D)	32,000	61,000	6,200	-120,000
2028 (D)	29,000	72,000	11,000	-100,000
2029 (BN)	29,000	68,000	11,000	-98,000
2030 (D)	28,000	55,000	14,000	-100,000
2031 (W)	97,000	140,000	-120	62,000
2032 (W)	100,000	130,000	-4,900	67,000
2033 (C)	38,000	53,000	1,500	-69,000
2034 (C)	29,000	44,000	3,900	-82,000
2035 (BN)	28,000	42,000	3,800	-72,000
2036 (AN)	54,000	71,000	-2,900	-11,000
2037 (W)	150,000	180,000	-12,000	200,000
2038 (D)	32,000	45,000	-4,800	-39,000
2039 (C)	28,000	36,000	1,600	-50,000
2040 (AN)	53,000	83,000	-3,200	30,000
2041 (W)	120,000	110,000	-9,000	120,000
2042 (W)	120,000	63,000	-9,900	74,000
2043 (C)	27,000	24,000	-510	-55,000
2044 (C)	23,000	23,000	9,300	-72,000
2045 (W)	110,000	140,000	-8,400	150,000
2046 (AN)	57,000	89,000	-3,200	35,000
2047 (W)	93,000	92,000	-5,300	77,000
2048 (D)	29,000	30,000	490	-51,000
2049 (W)	140,000	110,000	-14,000	160,000
2050 (W)	110,000	230,000	-16,000	250,000
2051 (AN)	41,000	56,000	-1,400	-25,000
2052 (D)	28,000	29,000	-2,200	-53,000
2053 (W)	110,000	98,000	-13,000	110,000
2054 (C)	25,000	26,000	-340	-60,000
2055 (C)	25,000	24,000	1,900	-57,000
2056 (C)	30,000	28,000	2,600	-48,000
2057 (C)	28,000	27,000	5,900	-52,000
2058 (C)	37,000	38,000	5,000	-32,000
2059 (C)	34,000	36,000	9,200	-44,000
2060 (W)	130,000	130,000	-5,800	170,000
2061 (C)	31,000	34,000	1,700	-43,000
2062 (W)	130,000	180,000	-11,000	220,000
2063 (W)	97,000	110,000	-7,600	100,000
2064 (W)	120,000	180,000	-5,800	180,000
2065 (W)	110,000	210,000	-20,000	230,000
2066 (AN)	30,000	53,000	-6,100	-26,000
2067 (AN)	45,000	60,000	-8,100	310
2068 (D)	32,000	37,000	-4,600	-33,000

Madera County GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		32,000	37,000	2,300	-46,000
2070 (BN)		34,000	38,000	800	-39,000
2071 (D)		33,000	31,000	8,000	-61,000
2072 (W)		94,000	110,000	-11,000	120,000
2073 (W)		83,000	130,000	-8,500	110,000
2074 (C)		32,000	40,000	4,900	-51,000
2075 (C)		32,000	31,000	6,300	-60,000
2076 (BN)		33,000	30,000	6,700	-57,000
2077 (AN)		59,000	58,000	-3,400	17,000
2078 (W)		120,000	190,000	-11,000	210,000
2079 (D)		30,000	42,000	1,000	-35,000
2080 (C)		32,000	31,000	8,700	-58,000
2081 (C)		30,000	23,000	11,000	-65,000
2082 (C)		28,000	23,000	16,000	-74,000
2083 (D)		47,000	50,000	5,700	-14,000
2084 (W)		150,000	150,000	-3,700	190,000
2085 (BN)		44,000	30,000	2,300	-40,000
2086 (W)		110,000	85,000	-4,600	85,000
2087 (D)		37,000	31,000	3,700	-46,000
2088 (C)		31,000	29,000	12,000	-65,000
2089 (C)		38,000	75,000	2,600	11,000
2090 (W)		130,000	190,000	-7,100	210,000
Average (2024-2039)		**52,000**	**76,000**	**3,000**	**-46,000**
2024-2039	W	110,000	150,000	-5,600	110,000
	AN	57,000	74,000	2,500	-63,000
	BN	32,000	56,000	7,700	-110,000
	D	30,000	58,000	6,700	-90,000
	C	32,000	45,000	2,300	-67,000
Average (2040-2090)		**63,000**	**75,000**	**-1,500**	**29,000**
2040-2090	W	120,000	140,000	-9,500	150,000
	AN	47,000	67,000	-4,200	5,100
	BN	37,000	33,000	3,300	-45,000
	D	33,000	36,000	1,800	-42,000
	C	30,000	32,000	6,000	-51,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Madera County GSA
Volume (acre-feet)
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
-200,000
-400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	36,000	56,000	11,000	-250,000	68,000	-76,000	-76,000
2025 (AN)	56,000	59,000	8,500	-230,000	66,000	-36,000	-110,000
2026 (AN)	60,000	86,000	6,100	-210,000	65,000	8,200	-100,000
2027 (D)	30,000	57,000	9,800	-200,000	39,000	-62,000	-170,000
2028 (D)	33,000	70,000	18,000	-220,000	39,000	-56,000	-220,000
2029 (BN)	33,000	67,000	16,000	-200,000	39,000	-39,000	-260,000
2030 (D)	26,000	55,000	27,000	-220,000	35,000	-82,000	-340,000
2031 (W)	71,000	120,000	-1,600	-130,000	47,000	100,000	-240,000
2032 (W)	79,000	120,000	-3,400	-140,000	45,000	99,000	-140,000
2033 (C)	37,000	67,000	10,000	-190,000	22,000	-53,000	-190,000
2034 (C)	29,000	50,000	12,000	-180,000	16,000	-73,000	-270,000
2035 (BN)	27,000	46,000	14,000	-170,000	15,000	-71,000	-340,000
2036 (AN)	43,000	67,000	-930	-110,000	26,000	21,000	-320,000
2037 (W)	97,000	160,000	-7,800	-100,000	32,000	180,000	-140,000
2038 (D)	32,000	52,000	360	-120,000	6,200	-33,000	-170,000
2039 (C)	32,000	44,000	7,400	-140,000	-7,900	-63,000	-240,000
2040 (AN)	57,000	88,000	-960	-110,000	11,000	44,000	-190,000
2041 (W)	96,000	95,000	-4,900	-110,000	13,000	92,000	-99,000
2042 (W)	67,000	52,000	-4,500	-110,000	1,100	9,800	-89,000
2043 (C)	41,000	31,000	1,400	-110,000	-20,000	-54,000	-140,000
2044 (C)	24,000	27,000	11,000	-120,000	-41,000	-100,000	-240,000
2045 (W)	98,000	140,000	-5,300	-96,000	9,400	150,000	-97,000
2046 (AN)	52,000	100,000	-800	-110,000	6,200	43,000	-54,000
2047 (W)	79,000	83,000	-2,300	-110,000	2,800	54,000	-310
2048 (D)	41,000	38,000	2,800	-120,000	-18,000	-53,000	-53,000
2049 (W)	93,000	94,000	-9,900	-94,000	16,000	99,000	46,000
2050 (W)	94,000	220,000	-13,000	-95,000	18,000	230,000	280,000
2051 (AN)	41,000	61,000	1,200	-130,000	-9,900	-33,000	240,000
2052 (D)	36,000	33,000	750	-120,000	-22,000	-69,000	170,000
2053 (W)	84,000	91,000	-9,400	-100,000	9,100	74,000	250,000
2054 (C)	41,000	33,000	1,300	-110,000	-28,000	-64,000	180,000
2055 (C)	28,000	28,000	2,500	-110,000	-32,000	-82,000	100,000
2056 (C)	32,000	29,000	4,300	-110,000	-33,000	-76,000	24,000
2057 (C)	30,000	29,000	6,600	-110,000	-34,000	-78,000	-54,000
2058 (C)	48,000	41,000	5,300	-110,000	-23,000	-38,000	-92,000
2059 (C)	38,000	37,000	9,500	-120,000	-32,000	-63,000	-160,000
2060 (W)	93,000	110,000	-1,500	-100,000	4,900	110,000	-49,000
2061 (C)	41,000	43,000	4,300	-110,000	-25,000	-46,000	-96,000
2062 (W)	99,000	160,000	-8,000	-92,000	11,000	170,000	72,000
2063 (W)	76,000	120,000	-4,600	-110,000	-890	85,000	160,000
2064 (W)	84,000	170,000	720	-120,000	-20,000	110,000	270,000
2065 (W)	90,000	210,000	-15,000	-89,000	-5,000	190,000	460,000
2066 (AN)	35,000	52,000	-2,800	-110,000	-18,000	-46,000	410,000
2067 (AN)	53,000	63,000	-5,100	-110,000	-7,900	-7,000	400,000
2068 (D)	34,000	39,000	-390	-110,000	-26,000	-62,000	340,000
2069 (D)	39,000	44,000	2,700	-120,000	-27,000	-62,000	280,000
2070 (BN)	41,000	43,000	1,800	-120,000	-22,000	-52,000	230,000

MCSim_v2.0 - Projected with Projects and Climate Change

Madera County GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		33,000	35,000	8,500	-130,000	-32,000	-87,000	140,000
2072 (W)		78,000	89,000	-7,500	-95,000	-970	63,000	200,000
2073 (W)		79,000	110,000	-6,100	-100,000	-3,000	76,000	280,000
2074 (C)		42,000	47,000	5,400	-120,000	-30,000	-60,000	220,000
2075 (C)		36,000	39,000	7,000	-130,000	-32,000	-76,000	140,000
2076 (BN)		33,000	34,000	7,900	-130,000	-32,000	-81,000	64,000
2077 (AN)		50,000	56,000	-720	-110,000	-7,600	-7,500	56,000
2078 (W)		95,000	160,000	-5,700	-100,000	4,500	150,000	200,000
2079 (D)		37,000	53,000	1,500	-110,000	-24,000	-44,000	160,000
2080 (C)		38,000	42,000	7,300	-120,000	-35,000	-71,000	89,000
2081 (C)		31,000	28,000	9,300	-120,000	-47,000	-97,000	-7,300
2082 (C)		29,000	27,000	15,000	-130,000	-55,000	-110,000	-120,000
2083 (D)		48,000	56,000	6,800	-120,000	-23,000	-29,000	-150,000
2084 (W)		100,000	140,000	-1,400	-110,000	7,100	130,000	-17,000
2085 (BN)		44,000	42,000	3,100	-120,000	-12,000	-42,000	-59,000
2086 (W)		93,000	85,000	-2,800	-110,000	7,800	72,000	13,000
2087 (D)		39,000	42,000	4,200	-120,000	-23,000	-59,000	-46,000
2088 (C)		32,000	37,000	11,000	-130,000	-44,000	-91,000	-140,000
2089 (C)		42,000	88,000	3,200	-100,000	-28,000	1,400	-140,000
2090 (W)		94,000	170,000	-4,400	-110,000	13,000	160,000	26,000
Average (2024-2039)		**45,000**	**73,000**	**7,800**	**-180,000**	**35,000**	**-15,000**	
2024-2039	W	82,000	130,000	-4,300	-120,000	42,000	130,000	
	AN	53,000	71,000	4,500	-180,000	52,000	-2,300	
	BN	32,000	56,000	13,000	-200,000	41,000	-62,000	
	D	30,000	58,000	14,000	-190,000	30,000	-58,000	
	C	33,000	53,000	9,600	-170,000	9,900	-63,000	
Average (2040-2090)		**56,000**	**74,000**	**590**	**-110,000**	**-14,000**	**5,100**	
2040-2090	W	88,000	130,000	-5,800	-100,000	4,800	110,000	
	AN	48,000	70,000	-1,500	-110,000	-4,400	-1,200	
	BN	40,000	40,000	4,300	-120,000	-22,000	-58,000	
	D	38,000	42,000	3,400	-120,000	-24,000	-58,000	
	C	36,000	38,000	6,500	-120,000	-34,000	-69,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

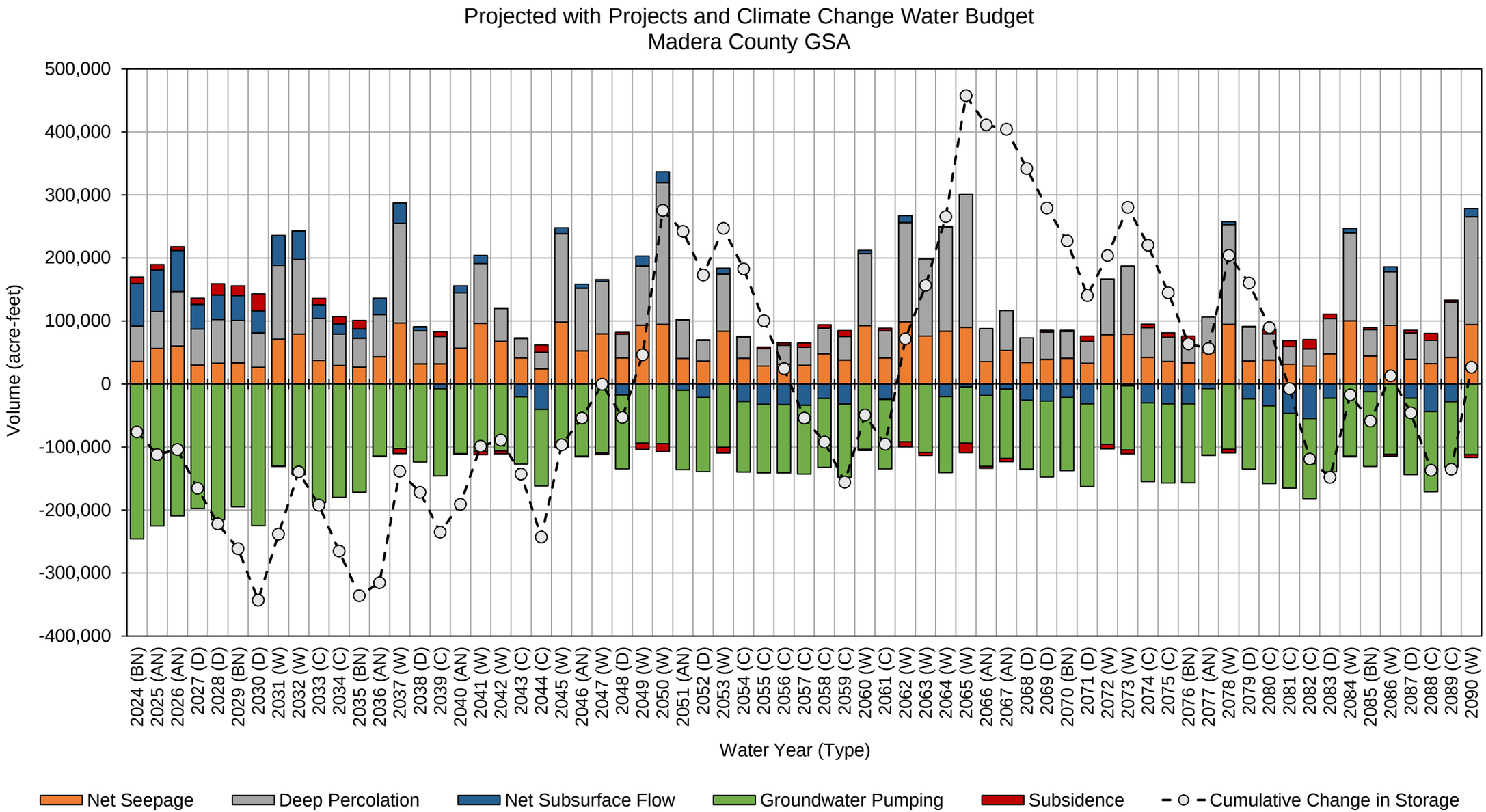
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	36,000	56,000	11,000	-150,000
2025 (AN)	56,000	59,000	8,500	-110,000
2026 (AN)	60,000	86,000	6,100	-63,000
2027 (D)	30,000	57,000	9,800	-110,000
2028 (D)	33,000	70,000	18,000	-110,000
2029 (BN)	33,000	67,000	16,000	-94,000
2030 (D)	26,000	55,000	27,000	-140,000
2031 (W)	71,000	120,000	-1,600	59,000
2032 (W)	79,000	120,000	-3,400	57,000
2033 (C)	37,000	67,000	10,000	-84,000
2034 (C)	29,000	50,000	12,000	-100,000
2035 (BN)	27,000	46,000	14,000	-99,000
2036 (AN)	43,000	67,000	-930	-4,500
2037 (W)	97,000	160,000	-7,800	150,000
2038 (D)	32,000	52,000	360	-40,000
2039 (C)	32,000	44,000	7,400	-63,000
2040 (AN)	57,000	88,000	-960	34,000
2041 (W)	96,000	95,000	-4,900	84,000
2042 (W)	67,000	52,000	-4,500	13,000
2043 (C)	41,000	31,000	1,400	-35,000
2044 (C)	24,000	27,000	11,000	-71,000
2045 (W)	98,000	140,000	-5,300	140,000
2046 (AN)	52,000	100,000	-800	37,000
2047 (W)	79,000	83,000	-2,300	53,000
2048 (D)	41,000	38,000	2,800	-38,000
2049 (W)	93,000	94,000	-9,900	93,000
2050 (W)	94,000	220,000	-13,000	220,000
2051 (AN)	41,000	61,000	1,200	-25,000
2052 (D)	36,000	33,000	750	-48,000
2053 (W)	84,000	91,000	-9,400	74,000
2054 (C)	41,000	33,000	1,300	-38,000
2055 (C)	28,000	28,000	2,500	-53,000
2056 (C)	32,000	29,000	4,300	-47,000
2057 (C)	30,000	29,000	6,600	-51,000
2058 (C)	48,000	41,000	5,300	-20,000
2059 (C)	38,000	37,000	9,500	-41,000
2060 (W)	93,000	110,000	-1,500	100,000
2061 (C)	41,000	43,000	4,300	-26,000
2062 (W)	99,000	160,000	-8,000	160,000
2063 (W)	76,000	120,000	-4,600	90,000
2064 (W)	84,000	170,000	720	130,000
2065 (W)	90,000	210,000	-15,000	210,000
2066 (AN)	35,000	52,000	-2,800	-25,000
2067 (AN)	53,000	63,000	-5,100	6,000
2068 (D)	34,000	39,000	-390	-36,000

Madera County GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		39,000	44,000	2,700	-38,000
2070 (BN)		41,000	43,000	1,800	-32,000
2071 (D)		33,000	35,000	8,500	-64,000
2072 (W)		78,000	89,000	-7,500	72,000
2073 (W)		79,000	110,000	-6,100	86,000
2074 (C)		42,000	47,000	5,400	-35,000
2075 (C)		36,000	39,000	7,000	-51,000
2076 (BN)		33,000	34,000	7,900	-57,000
2077 (AN)		50,000	56,000	-720	790
2078 (W)		95,000	160,000	-5,700	150,000
2079 (D)		37,000	53,000	1,500	-22,000
2080 (C)		38,000	42,000	7,300	-44,000
2081 (C)		31,000	28,000	9,300	-59,000
2082 (C)		29,000	27,000	15,000	-71,000
2083 (D)		48,000	56,000	6,800	-13,000
2084 (W)		100,000	140,000	-1,400	130,000
2085 (BN)		44,000	42,000	3,100	-32,000
2086 (W)		93,000	85,000	-2,800	67,000
2087 (D)		39,000	42,000	4,200	-40,000
2088 (C)		32,000	37,000	11,000	-58,000
2089 (C)		42,000	88,000	3,200	26,000
2090 (W)		94,000	170,000	-4,400	150,000
Average (2024-2039)		**45,000**	**73,000**	**7,800**	**-57,000**
2024-2039	W	82,000	130,000	-4,300	89,000
	AN	53,000	71,000	4,500	-59,000
	BN	32,000	56,000	13,000	-120,000
	D	30,000	58,000	14,000	-100,000
	C	33,000	53,000	9,600	-83,000
Average (2040-2090)		**56,000**	**74,000**	**590**	**19,000**
2040-2090	W	88,000	130,000	-5,800	110,000
	AN	48,000	70,000	-1,500	4,700
	BN	40,000	40,000	4,300	-41,000
	D	38,000	42,000	3,400	-37,000
	C	36,000	38,000	6,500	-42,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Madera County GSA
Volume (acre-feet)
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	38,000	56,000	8,600	-240,000	69,000	-73,000	-73,000
2025 (AN)	58,000	60,000	7,300	-230,000	72,000	-37,000	-110,000
2026 (AN)	56,000	88,000	6,700	-220,000	72,000	-720	-110,000
2027 (D)	30,000	63,000	9,800	-220,000	63,000	-56,000	-170,000
2028 (D)	27,000	75,000	21,000	-250,000	59,000	-67,000	-230,000
2029 (BN)	28,000	74,000	20,000	-240,000	63,000	-53,000	-290,000
2030 (D)	26,000	64,000	33,000	-270,000	66,000	-86,000	-370,000
2031 (W)	71,000	120,000	3,800	-190,000	76,000	88,000	-280,000
2032 (W)	77,000	120,000	4,000	-210,000	78,000	71,000	-210,000
2033 (C)	39,000	78,000	17,000	-260,000	67,000	-60,000	-270,000
2034 (C)	29,000	63,000	22,000	-260,000	61,000	-85,000	-360,000
2035 (BN)	27,000	60,000	27,000	-260,000	61,000	-86,000	-440,000
2036 (AN)	49,000	84,000	11,000	-210,000	75,000	8,000	-430,000
2037 (W)	86,000	170,000	3,500	-210,000	89,000	130,000	-300,000
2038 (D)	30,000	66,000	10,000	-230,000	67,000	-60,000	-360,000
2039 (C)	28,000	62,000	21,000	-260,000	54,000	-92,000	-450,000
2040 (AN)	47,000	120,000	17,000	-240,000	69,000	7,100	-440,000
2041 (W)	86,000	100,000	11,000	-240,000	87,000	43,000	-400,000
2042 (W)	63,000	62,000	7,900	-230,000	80,000	-21,000	-420,000
2043 (C)	27,000	53,000	15,000	-240,000	55,000	-87,000	-510,000
2044 (C)	24,000	51,000	32,000	-260,000	37,000	-120,000	-630,000
2045 (W)	75,000	170,000	13,000	-210,000	72,000	120,000	-510,000
2046 (AN)	56,000	130,000	14,000	-250,000	78,000	23,000	-490,000
2047 (W)	70,000	100,000	12,000	-240,000	73,000	11,000	-480,000
2048 (D)	28,000	56,000	18,000	-260,000	65,000	-89,000	-570,000
2049 (W)	96,000	100,000	3,000	-210,000	81,000	72,000	-500,000
2050 (W)	87,000	230,000	-2,200	-210,000	85,000	190,000	-310,000
2051 (AN)	52,000	81,000	11,000	-280,000	78,000	-54,000	-360,000
2052 (D)	27,000	61,000	11,000	-250,000	64,000	-91,000	-450,000
2053 (W)	83,000	110,000	1,400	-220,000	83,000	54,000	-400,000
2054 (C)	28,000	52,000	9,400	-240,000	61,000	-92,000	-490,000
2055 (C)	26,000	52,000	12,000	-230,000	49,000	-94,000	-580,000
2056 (C)	31,000	57,000	17,000	-230,000	54,000	-74,000	-650,000
2057 (C)	28,000	54,000	22,000	-230,000	50,000	-81,000	-740,000
2058 (C)	38,000	67,000	23,000	-240,000	58,000	-49,000	-780,000
2059 (C)	34,000	62,000	29,000	-250,000	54,000	-71,000	-860,000
2060 (W)	87,000	130,000	13,000	-220,000	88,000	96,000	-760,000
2061 (C)	35,000	62,000	14,000	-240,000	74,000	-53,000	-810,000
2062 (W)	91,000	170,000	1,600	-200,000	85,000	150,000	-670,000
2063 (W)	75,000	110,000	3,400	-240,000	96,000	48,000	-620,000
2064 (W)	87,000	190,000	7,200	-260,000	90,000	110,000	-510,000
2065 (W)	93,000	200,000	-8,800	-190,000	84,000	180,000	-320,000
2066 (AN)	53,000	75,000	1,300	-240,000	76,000	-35,000	-360,000
2067 (AN)	57,000	95,000	510	-230,000	74,000	-4,800	-360,000
2068 (D)	35,000	64,000	3,100	-230,000	65,000	-62,000	-420,000
2069 (D)	32,000	74,000	9,800	-260,000	61,000	-79,000	-500,000
2070 (BN)	34,000	74,000	8,300	-250,000	65,000	-65,000	-570,000

MCSim_v2.0 - Projected (No Action)

Madera County GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		32,000	63,000	17,000	-280,000	67,000	-100,000	-670,000
2072 (W)		75,000	120,000	-3,100	-190,000	76,000	74,000	-600,000
2073 (W)		80,000	120,000	-800	-220,000	80,000	58,000	-540,000
2074 (C)		45,000	69,000	11,000	-270,000	70,000	-73,000	-610,000
2075 (C)		35,000	64,000	14,000	-270,000	63,000	-90,000	-700,000
2076 (BN)		32,000	60,000	18,000	-270,000	62,000	-94,000	-800,000
2077 (AN)		55,000	87,000	6,700	-220,000	74,000	3,600	-790,000
2078 (W)		89,000	170,000	940	-220,000	87,000	130,000	-660,000
2079 (D)		36,000	67,000	7,100	-240,000	67,000	-62,000	-720,000
2080 (C)		34,000	64,000	17,000	-260,000	56,000	-93,000	-820,000
2081 (C)		31,000	51,000	24,000	-250,000	41,000	-110,000	-920,000
2082 (C)		28,000	54,000	38,000	-270,000	37,000	-110,000	-1,000,000
2083 (D)		46,000	93,000	29,000	-250,000	63,000	-17,000	-1,100,000
2084 (W)		91,000	150,000	17,000	-250,000	85,000	97,000	-960,000
2085 (BN)		47,000	61,000	15,000	-250,000	77,000	-51,000	-1,000,000
2086 (W)		89,000	95,000	10,000	-240,000	88,000	43,000	-970,000
2087 (D)		39,000	61,000	14,000	-260,000	73,000	-69,000	-1,000,000
2088 (C)		31,000	61,000	27,000	-270,000	51,000	-100,000	-1,100,000
2089 (C)		40,000	110,000	17,000	-220,000	54,000	8,600	-1,100,000
2090 (W)		88,000	160,000	11,000	-240,000	94,000	110,000	-1,000,000
Average (2024-2039)		**44,000**	**82,000**	**14,000**	**-240,000**	**68,000**	**-28,000**	
2024-2039	W	78,000	140,000	3,800	-200,000	81,000	98,000	
	AN	54,000	77,000	8,400	-220,000	73,000	-10,000	
	BN	31,000	63,000	19,000	-250,000	64,000	-70,000	
	D	28,000	67,000	18,000	-240,000	64,000	-67,000	
	C	32,000	68,000	20,000	-260,000	61,000	-79,000	
Average (2040-2090)		**53,000**	**94,000**	**12,000**	**-240,000**	**70,000**	**-11,000**	
2040-2090	W	84,000	140,000	5,400	-220,000	84,000	87,000	
	AN	53,000	97,000	8,500	-240,000	75,000	-9,900	
	BN	38,000	65,000	14,000	-250,000	68,000	-70,000	
	D	34,000	68,000	14,000	-250,000	66,000	-71,000	
	C	32,000	62,000	20,000	-250,000	54,000	-81,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

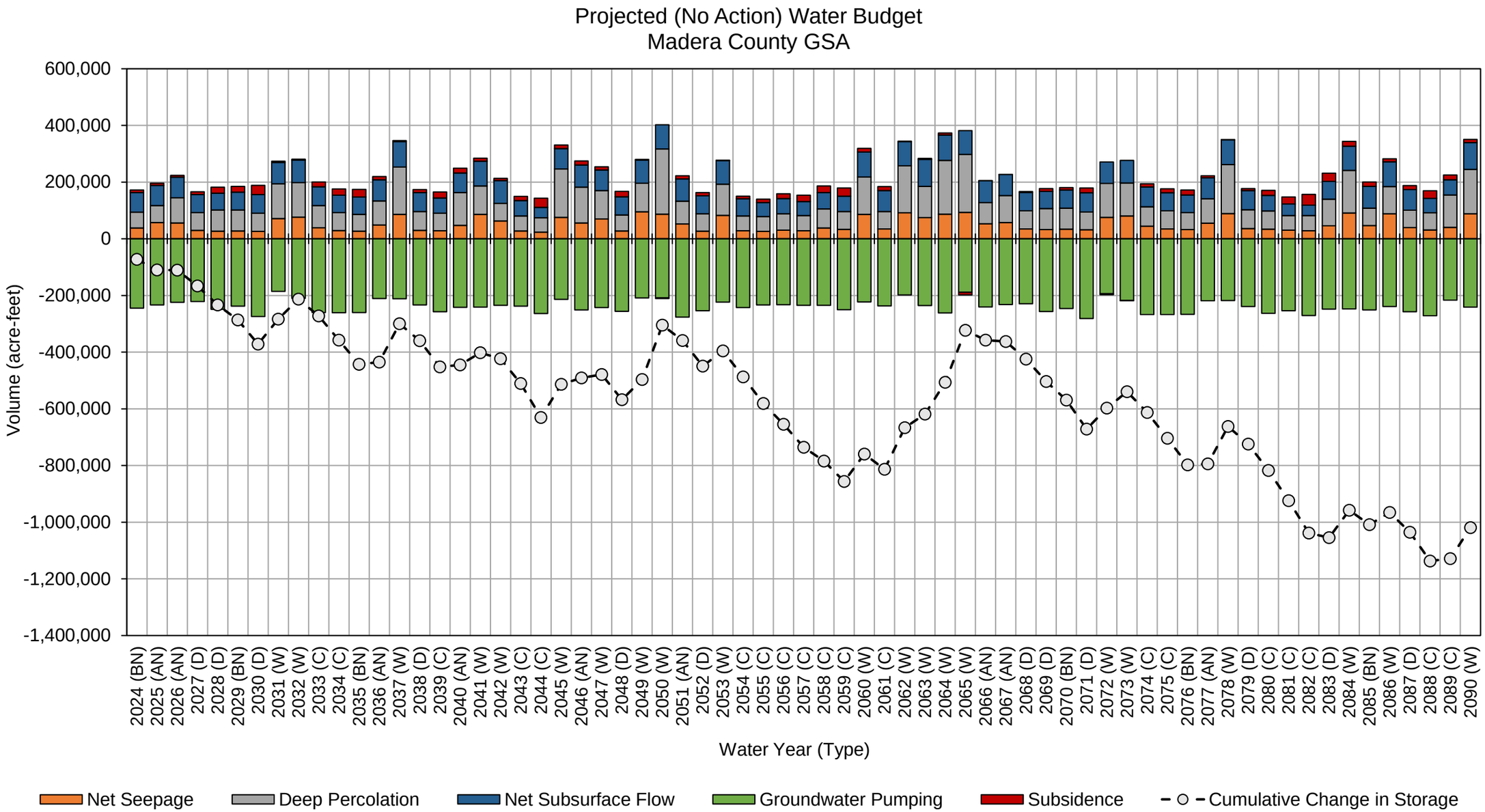
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	38,000	56,000	8,600	-150,000
2025 (AN)	58,000	60,000	7,300	-120,000
2026 (AN)	56,000	88,000	6,700	-80,000
2027 (D)	30,000	63,000	9,800	-130,000
2028 (D)	27,000	75,000	21,000	-150,000
2029 (BN)	28,000	74,000	20,000	-140,000
2030 (D)	26,000	64,000	33,000	-180,000
2031 (W)	71,000	120,000	3,800	8,700
2032 (W)	77,000	120,000	4,000	-12,000
2033 (C)	39,000	78,000	17,000	-140,000
2034 (C)	29,000	63,000	22,000	-170,000
2035 (BN)	27,000	60,000	27,000	-170,000
2036 (AN)	49,000	84,000	11,000	-78,000
2037 (W)	86,000	170,000	3,500	42,000
2038 (D)	30,000	66,000	10,000	-140,000
2039 (C)	28,000	62,000	21,000	-170,000
2040 (AN)	47,000	120,000	17,000	-79,000
2041 (W)	86,000	100,000	11,000	-55,000
2042 (W)	63,000	62,000	7,900	-110,000
2043 (C)	27,000	53,000	15,000	-160,000
2044 (C)	24,000	51,000	32,000	-190,000
2045 (W)	75,000	170,000	13,000	33,000
2046 (AN)	56,000	130,000	14,000	-69,000
2047 (W)	70,000	100,000	12,000	-73,000
2048 (D)	28,000	56,000	18,000	-170,000
2049 (W)	96,000	100,000	3,000	-12,000
2050 (W)	87,000	230,000	-2,200	110,000
2051 (AN)	52,000	81,000	11,000	-140,000
2052 (D)	27,000	61,000	11,000	-170,000
2053 (W)	83,000	110,000	1,400	-31,000
2054 (C)	28,000	52,000	9,400	-160,000
2055 (C)	26,000	52,000	12,000	-160,000
2056 (C)	31,000	57,000	17,000	-140,000
2057 (C)	28,000	54,000	22,000	-150,000
2058 (C)	38,000	67,000	23,000	-130,000
2059 (C)	34,000	62,000	29,000	-150,000
2060 (W)	87,000	130,000	13,000	-5,000
2061 (C)	35,000	62,000	14,000	-140,000
2062 (W)	91,000	170,000	1,600	60,000
2063 (W)	75,000	110,000	3,400	-50,000
2064 (W)	87,000	190,000	7,200	15,000
2065 (W)	93,000	200,000	-8,800	110,000
2066 (AN)	53,000	75,000	1,300	-110,000
2067 (AN)	57,000	95,000	510	-80,000
2068 (D)	35,000	64,000	3,100	-130,000

Madera County GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		32,000	74,000	9,800	-150,000
2070 (BN)		34,000	74,000	8,300	-140,000
2071 (D)		32,000	63,000	17,000	-190,000
2072 (W)		75,000	120,000	-3,100	1,100
2073 (W)		80,000	120,000	-800	-21,000
2074 (C)		45,000	69,000	11,000	-150,000
2075 (C)		35,000	64,000	14,000	-170,000
2076 (BN)		32,000	60,000	18,000	-170,000
2077 (AN)		55,000	87,000	6,700	-77,000
2078 (W)		89,000	170,000	940	44,000
2079 (D)		36,000	67,000	7,100	-140,000
2080 (C)		34,000	64,000	17,000	-170,000
2081 (C)		31,000	51,000	24,000	-170,000
2082 (C)		28,000	54,000	38,000	-190,000
2083 (D)		46,000	93,000	29,000	-110,000
2084 (W)		91,000	150,000	17,000	-5,800
2085 (BN)		47,000	61,000	15,000	-140,000
2086 (W)		89,000	95,000	10,000	-55,000
2087 (D)		39,000	61,000	14,000	-160,000
2088 (C)		31,000	61,000	27,000	-180,000
2089 (C)		40,000	110,000	17,000	-62,000
2090 (W)		88,000	160,000	11,000	3,900
Average (2024-2039)		**44,000**	**82,000**	**14,000**	**-110,000**
2024-2039	W	78,000	140,000	3,800	13,000
	AN	54,000	77,000	8,400	-91,000
	BN	31,000	63,000	19,000	-150,000
	D	28,000	67,000	18,000	-150,000
	C	32,000	68,000	20,000	-160,000
Average (2040-2090)		**53,000**	**94,000**	**12,000**	**-93,000**
2040-2090	W	84,000	140,000	5,400	-2,500
	AN	53,000	97,000	8,500	-93,000
	BN	38,000	65,000	14,000	-150,000
	D	34,000	68,000	14,000	-150,000
	C	32,000	62,000	20,000	-150,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Madera County GSA
Volume (acre-feet)
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
-1,200,000
-1,400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	36,000	55,000	12,000	-250,000	67,000	-84,000	-84,000
2025 (AN)	56,000	59,000	11,000	-240,000	64,000	-49,000	-130,000
2026 (AN)	60,000	90,000	11,000	-230,000	66,000	-6,500	-140,000
2027 (D)	30,000	61,000	17,000	-230,000	46,000	-74,000	-210,000
2028 (D)	33,000	77,000	27,000	-260,000	50,000	-69,000	-280,000
2029 (BN)	33,000	75,000	26,000	-240,000	53,000	-56,000	-340,000
2030 (D)	27,000	63,000	39,000	-280,000	53,000	-99,000	-440,000
2031 (W)	69,000	120,000	10,000	-200,000	67,000	63,000	-380,000
2032 (W)	77,000	120,000	8,900	-220,000	72,000	58,000	-320,000
2033 (C)	38,000	77,000	23,000	-270,000	57,000	-72,000	-390,000
2034 (C)	30,000	64,000	30,000	-270,000	53,000	-91,000	-480,000
2035 (BN)	27,000	61,000	34,000	-270,000	53,000	-91,000	-570,000
2036 (AN)	43,000	83,000	18,000	-220,000	67,000	-8,100	-580,000
2037 (W)	82,000	170,000	11,000	-220,000	80,000	120,000	-460,000
2038 (D)	32,000	66,000	14,000	-230,000	62,000	-60,000	-520,000
2039 (C)	32,000	64,000	27,000	-260,000	52,000	-87,000	-610,000
2040 (AN)	56,000	120,000	22,000	-250,000	69,000	18,000	-590,000
2041 (W)	83,000	97,000	15,000	-250,000	80,000	26,000	-570,000
2042 (W)	55,000	62,000	12,000	-240,000	76,000	-36,000	-600,000
2043 (C)	41,000	54,000	17,000	-240,000	55,000	-73,000	-670,000
2044 (C)	25,000	50,000	36,000	-270,000	40,000	-120,000	-800,000
2045 (W)	86,000	170,000	15,000	-220,000	72,000	130,000	-670,000
2046 (AN)	54,000	130,000	16,000	-260,000	78,000	16,000	-650,000
2047 (W)	77,000	98,000	14,000	-250,000	72,000	9,600	-640,000
2048 (D)	41,000	57,000	20,000	-260,000	63,000	-81,000	-720,000
2049 (W)	85,000	99,000	4,600	-210,000	84,000	59,000	-660,000
2050 (W)	96,000	230,000	-930	-220,000	88,000	190,000	-470,000
2051 (AN)	52,000	81,000	13,000	-280,000	79,000	-59,000	-530,000
2052 (D)	37,000	60,000	13,000	-260,000	62,000	-90,000	-620,000
2053 (W)	77,000	110,000	3,600	-230,000	81,000	43,000	-580,000
2054 (C)	43,000	54,000	11,000	-250,000	59,000	-83,000	-660,000
2055 (C)	29,000	53,000	14,000	-240,000	51,000	-94,000	-760,000
2056 (C)	32,000	56,000	20,000	-240,000	50,000	-81,000	-840,000
2057 (C)	30,000	54,000	25,000	-240,000	48,000	-83,000	-920,000
2058 (C)	48,000	69,000	26,000	-240,000	58,000	-39,000	-960,000
2059 (C)	37,000	62,000	31,000	-260,000	53,000	-73,000	-1,000,000
2060 (W)	80,000	130,000	18,000	-230,000	82,000	75,000	-960,000
2061 (C)	43,000	62,000	19,000	-240,000	63,000	-55,000	-1,000,000
2062 (W)	95,000	160,000	4,500	-200,000	84,000	140,000	-870,000
2063 (W)	75,000	110,000	6,300	-240,000	90,000	40,000	-830,000
2064 (W)	88,000	180,000	13,000	-270,000	76,000	87,000	-740,000
2065 (W)	98,000	210,000	-4,800	-200,000	78,000	190,000	-560,000
2066 (AN)	51,000	73,000	3,400	-250,000	68,000	-50,000	-610,000
2067 (AN)	61,000	95,000	3,200	-240,000	68,000	-12,000	-620,000
2068 (D)	35,000	63,000	7,000	-240,000	50,000	-81,000	-700,000
2069 (D)	39,000	76,000	13,000	-260,000	55,000	-80,000	-780,000
2070 (BN)	39,000	75,000	11,000	-250,000	59,000	-66,000	-850,000

Madera County GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		33,000	62,000	22,000	-290,000	61,000	-110,000	-960,000
2072 (W)		73,000	110,000	3,400	-210,000	75,000	57,000	-900,000
2073 (W)		81,000	110,000	2,100	-220,000	80,000	48,000	-850,000
2074 (C)		44,000	67,000	13,000	-270,000	66,000	-81,000	-930,000
2075 (C)		36,000	65,000	20,000	-270,000	62,000	-91,000	-1,000,000
2076 (BN)		33,000	62,000	26,000	-270,000	62,000	-90,000	-1,100,000
2077 (AN)		49,000	85,000	14,000	-230,000	73,000	-4,100	-1,100,000
2078 (W)		84,000	170,000	7,500	-230,000	85,000	120,000	-1,000,000
2079 (D)		38,000	73,000	9,200	-240,000	67,000	-52,000	-1,000,000
2080 (C)		38,000	66,000	20,000	-270,000	60,000	-83,000	-1,100,000
2081 (C)		32,000	51,000	27,000	-260,000	47,000	-99,000	-1,200,000
2082 (C)		29,000	53,000	39,000	-270,000	43,000	-110,000	-1,300,000
2083 (D)		47,000	93,000	30,000	-250,000	68,000	-12,000	-1,400,000
2084 (W)		88,000	150,000	19,000	-250,000	91,000	100,000	-1,300,000
2085 (BN)		45,000	56,000	16,000	-250,000	83,000	-54,000	-1,300,000
2086 (W)		87,000	100,000	11,000	-240,000	93,000	48,000	-1,300,000
2087 (D)		39,000	62,000	14,000	-260,000	75,000	-69,000	-1,300,000
2088 (C)		32,000	61,000	24,000	-270,000	56,000	-99,000	-1,400,000
2089 (C)		41,000	120,000	16,000	-220,000	59,000	18,000	-1,400,000
2090 (W)		85,000	170,000	11,000	-240,000	99,000	120,000	-1,300,000
Average (2024-2039)		**44,000**	**81,000**	**20,000**	**-240,000**	**60,000**	**-38,000**	
2024-2039	W	76,000	130,000	10,000	-210,000	73,000	79,000	
	AN	53,000	77,000	13,000	-230,000	66,000	-21,000	
	BN	32,000	64,000	24,000	-250,000	57,000	-77,000	
	D	31,000	67,000	24,000	-250,000	53,000	-76,000	
	C	33,000	69,000	26,000	-270,000	54,000	-83,000	
Average (2040-2090)		**55,000**	**94,000**	**15,000**	**-250,000**	**69,000**	**-13,000**	
2040-2090	W	83,000	140,000	8,700	-230,000	82,000	81,000	
	AN	54,000	97,000	12,000	-250,000	72,000	-15,000	
	BN	39,000	64,000	18,000	-260,000	68,000	-70,000	
	D	39,000	68,000	16,000	-260,000	63,000	-72,000	
	C	36,000	62,000	22,000	-250,000	54,000	-78,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

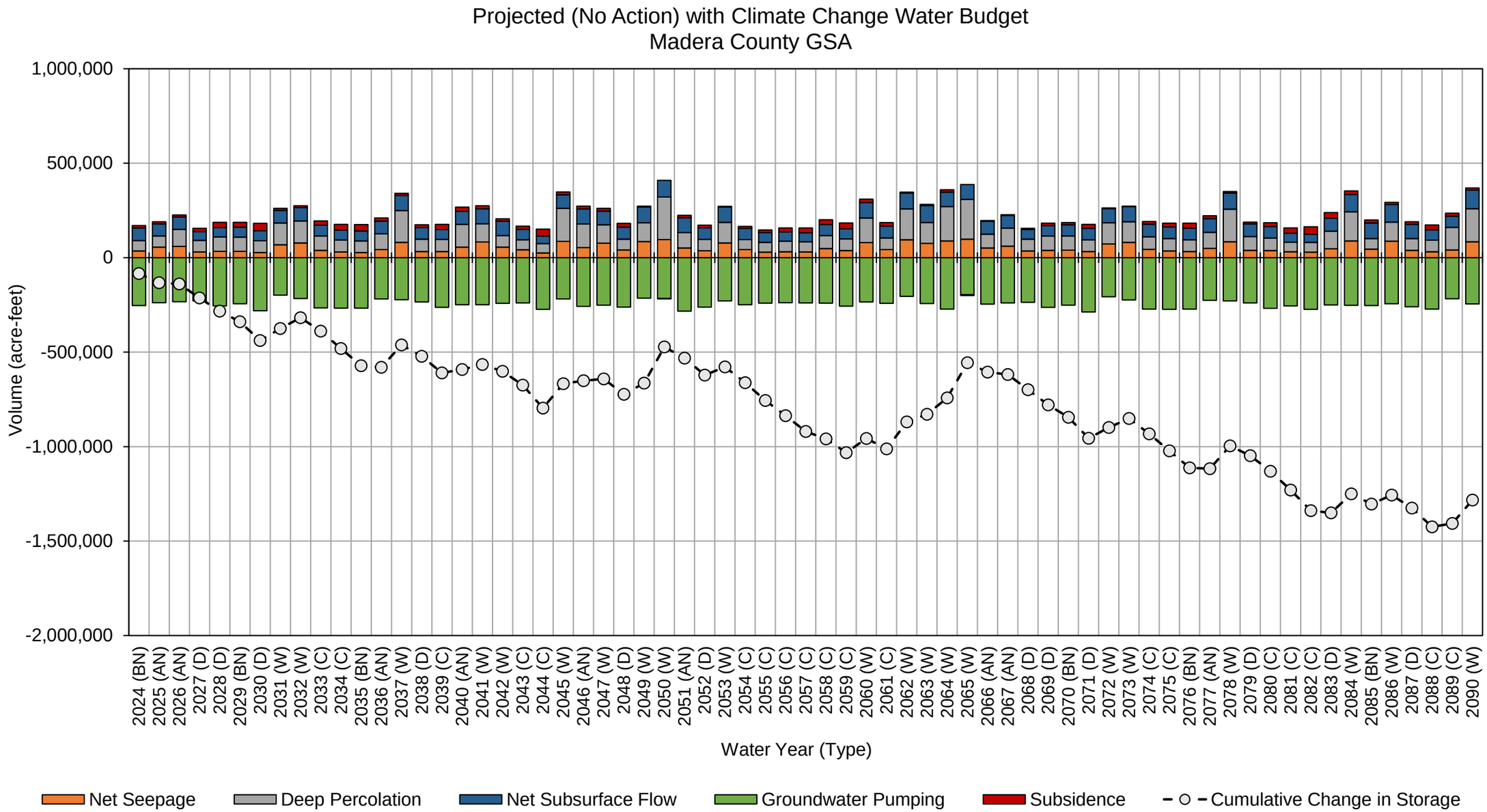
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	36,000	55,000	12,000	-160,000
2025 (AN)	56,000	59,000	11,000	-120,000
2026 (AN)	60,000	90,000	11,000	-83,000
2027 (D)	30,000	61,000	17,000	-140,000
2028 (D)	33,000	77,000	27,000	-150,000
2029 (BN)	33,000	75,000	26,000	-130,000
2030 (D)	27,000	63,000	39,000	-190,000
2031 (W)	69,000	120,000	10,000	-15,000
2032 (W)	77,000	120,000	8,900	-23,000
2033 (C)	38,000	77,000	23,000	-150,000
2034 (C)	30,000	64,000	30,000	-170,000
2035 (BN)	27,000	61,000	34,000	-180,000
2036 (AN)	43,000	83,000	18,000	-93,000
2037 (W)	82,000	170,000	11,000	27,000
2038 (D)	32,000	66,000	14,000	-140,000
2039 (C)	32,000	64,000	27,000	-170,000
2040 (AN)	56,000	120,000	22,000	-73,000
2041 (W)	83,000	97,000	15,000	-69,000
2042 (W)	55,000	62,000	12,000	-120,000
2043 (C)	41,000	54,000	17,000	-140,000
2044 (C)	25,000	50,000	36,000	-200,000
2045 (W)	86,000	170,000	15,000	42,000
2046 (AN)	54,000	130,000	16,000	-79,000
2047 (W)	77,000	98,000	14,000	-77,000
2048 (D)	41,000	57,000	20,000	-160,000
2049 (W)	85,000	99,000	4,600	-29,000
2050 (W)	96,000	230,000	-930	100,000
2051 (AN)	52,000	81,000	13,000	-150,000
2052 (D)	37,000	60,000	13,000	-170,000
2053 (W)	77,000	110,000	3,600	-41,000
2054 (C)	43,000	54,000	11,000	-150,000
2055 (C)	29,000	53,000	14,000	-160,000
2056 (C)	32,000	56,000	20,000	-150,000
2057 (C)	30,000	54,000	25,000	-160,000
2058 (C)	48,000	69,000	26,000	-120,000
2059 (C)	37,000	62,000	31,000	-160,000
2060 (W)	80,000	130,000	18,000	-24,000
2061 (C)	43,000	62,000	19,000	-140,000
2062 (W)	95,000	160,000	4,500	54,000
2063 (W)	75,000	110,000	6,300	-56,000
2064 (W)	88,000	180,000	13,000	-1,900
2065 (W)	98,000	210,000	-4,800	110,000
2066 (AN)	51,000	73,000	3,400	-120,000
2067 (AN)	61,000	95,000	3,200	-83,000
2068 (D)	35,000	63,000	7,000	-140,000

Madera County GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		39,000	76,000	13,000	-150,000
2070 (BN)		39,000	75,000	11,000	-140,000
2071 (D)		33,000	62,000	22,000	-190,000
2072 (W)		73,000	110,000	3,400	-21,000
2073 (W)		81,000	110,000	2,100	-34,000
2074 (C)		44,000	67,000	13,000	-160,000
2075 (C)		36,000	65,000	20,000	-170,000
2076 (BN)		33,000	62,000	26,000	-180,000
2077 (AN)		49,000	85,000	14,000	-91,000
2078 (W)		84,000	170,000	7,500	28,000
2079 (D)		38,000	73,000	9,200	-130,000
2080 (C)		38,000	66,000	20,000	-160,000
2081 (C)		32,000	51,000	27,000	-170,000
2082 (C)		29,000	53,000	39,000	-190,000
2083 (D)		47,000	93,000	30,000	-110,000
2084 (W)		88,000	150,000	19,000	-9,400
2085 (BN)		45,000	56,000	16,000	-150,000
2086 (W)		87,000	100,000	11,000	-56,000
2087 (D)		39,000	62,000	14,000	-160,000
2088 (C)		32,000	61,000	24,000	-180,000
2089 (C)		41,000	120,000	16,000	-57,000
2090 (W)		85,000	170,000	11,000	14,000
Average (2024-2039)		**44,000**	**81,000**	**20,000**	**-120,000**
2024-2039	W	76,000	130,000	10,000	-3,600
	AN	53,000	77,000	13,000	-100,000
	BN	32,000	64,000	24,000	-160,000
	D	31,000	67,000	24,000	-150,000
	C	33,000	69,000	26,000	-160,000
Average (2040-2090)		**55,000**	**94,000**	**15,000**	**-97,000**
2040-2090	W	83,000	140,000	8,700	-10,000
	AN	54,000	97,000	12,000	-100,000
	BN	39,000	64,000	18,000	-160,000
	D	39,000	68,000	16,000	-150,000
	C	36,000	62,000	22,000	-150,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Madera County GSA
Volume (acre-feet)
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera County GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	38,000	57,000	8,400	-240,000	73,000	-69,000	-69,000
2025 (AN)	58,000	63,000	6,800	-230,000	80,000	-25,000	-94,000
2026 (AN)	58,000	89,000	5,200	-220,000	81,000	13,000	-81,000
2027 (D)	32,000	61,000	7,200	-210,000	65,000	-49,000	-130,000
2028 (D)	29,000	75,000	18,000	-240,000	61,000	-59,000	-190,000
2029 (BN)	30,000	75,000	17,000	-230,000	68,000	-44,000	-230,000
2030 (D)	28,000	61,000	20,000	-220,000	54,000	-61,000	-290,000
2031 (W)	97,000	150,000	230	-180,000	78,000	140,000	-160,000
2032 (W)	100,000	130,000	-910	-200,000	79,000	110,000	-45,000
2033 (C)	39,000	57,000	4,600	-200,000	47,000	-52,000	-97,000
2034 (C)	29,000	51,000	7,000	-190,000	39,000	-68,000	-170,000
2035 (BN)	28,000	49,000	7,300	-180,000	35,000	-62,000	-230,000
2036 (AN)	54,000	79,000	590	-180,000	71,000	29,000	-200,000
2037 (W)	120,000	180,000	-8,100	-170,000	80,000	220,000	18,000
2038 (D)	32,000	48,000	-3,400	-150,000	33,000	-40,000	-21,000
2039 (C)	28,000	42,000	3,500	-150,000	11,000	-68,000	-89,000
2040 (AN)	53,000	95,000	-1,100	-150,000	40,000	42,000	-47,000
2041 (W)	120,000	120,000	-7,300	-140,000	51,000	140,000	88,000
2042 (W)	98,000	62,000	-7,700	-140,000	38,000	48,000	140,000
2043 (C)	27,000	29,000	710	-140,000	4,000	-83,000	53,000
2044 (C)	23,000	29,000	11,000	-160,000	-17,000	-110,000	-61,000
2045 (W)	110,000	160,000	-7,500	-130,000	35,000	160,000	100,000
2046 (AN)	59,000	94,000	-1,700	-150,000	36,000	37,000	140,000
2047 (W)	94,000	100,000	-4,000	-150,000	32,000	77,000	220,000
2048 (D)	29,000	35,000	2,000	-150,000	6,800	-78,000	140,000
2049 (W)	120,000	110,000	-12,000	-120,000	43,000	140,000	280,000
2050 (W)	100,000	240,000	-15,000	-120,000	42,000	250,000	530,000
2051 (AN)	45,000	62,000	-76	-170,000	24,000	-35,000	490,000
2052 (D)	28,000	34,000	-1,100	-150,000	3,500	-85,000	410,000
2053 (W)	110,000	110,000	-12,000	-130,000	40,000	110,000	520,000
2054 (C)	26,000	32,000	270	-150,000	-630	-90,000	430,000
2055 (C)	26,000	30,000	2,300	-140,000	-10,000	-95,000	340,000
2056 (C)	30,000	35,000	2,900	-140,000	-6,400	-80,000	260,000
2057 (C)	28,000	34,000	6,300	-140,000	-12,000	-86,000	170,000
2058 (C)	38,000	46,000	5,500	-140,000	-3,100	-57,000	110,000
2059 (C)	34,000	43,000	10,000	-150,000	-8,600	-73,000	40,000
2060 (W)	120,000	140,000	-4,800	-130,000	39,000	160,000	200,000
2061 (C)	33,000	40,000	2,400	-140,000	8,800	-60,000	140,000
2062 (W)	120,000	180,000	-10,000	-120,000	39,000	210,000	350,000
2063 (W)	98,000	120,000	-7,000	-140,000	33,000	100,000	460,000
2064 (W)	100,000	190,000	-4,200	-160,000	29,000	160,000	610,000
2065 (W)	98,000	220,000	-20,000	-110,000	30,000	210,000	820,000
2066 (AN)	37,000	54,000	-5,600	-150,000	19,000	-41,000	780,000
2067 (AN)	51,000	67,000	-8,000	-140,000	27,000	-3,800	780,000
2068 (D)	34,000	40,000	-4,500	-140,000	7,300	-58,000	720,000
2069 (D)	33,000	45,000	2,200	-150,000	-3,300	-76,000	640,000

Madera County GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		35,000	48,000	730	-150,000	4,800	-59,000	580,000
2071 (D)		33,000	40,000	8,400	-170,000	-3,800	-90,000	490,000
2072 (W)		98,000	120,000	-11,000	-120,000	27,000	120,000	610,000
2073 (W)		90,000	130,000	-8,300	-130,000	24,000	100,000	720,000
2074 (C)		36,000	43,000	5,400	-160,000	-1,900	-81,000	640,000
2075 (C)		34,000	38,000	6,700	-160,000	-4,900	-90,000	550,000
2076 (BN)		34,000	38,000	7,300	-160,000	-5,500	-87,000	460,000
2077 (AN)		60,000	68,000	-3,000	-130,000	23,000	16,000	480,000
2078 (W)		110,000	190,000	-9,400	-130,000	36,000	190,000	670,000
2079 (D)		34,000	45,000	1,300	-140,000	-5,400	-67,000	600,000
2080 (C)		34,000	38,000	8,800	-160,000	-18,000	-99,000	500,000
2081 (C)		30,000	30,000	11,000	-160,000	-32,000	-120,000	380,000
2082 (C)		28,000	31,000	16,000	-170,000	-40,000	-130,000	250,000
2083 (D)		48,000	62,000	6,500	-150,000	-8,900	-40,000	210,000
2084 (W)		120,000	160,000	-2,000	-150,000	30,000	160,000	370,000
2085 (BN)		46,000	35,000	3,200	-150,000	7,400	-59,000	310,000
2086 (W)		110,000	95,000	-3,800	-150,000	33,000	85,000	400,000
2087 (D)		40,000	38,000	4,400	-150,000	-2,100	-74,000	320,000
2088 (C)		32,000	37,000	13,000	-170,000	-24,000	-110,000	210,000
2089 (C)		40,000	86,000	2,700	-130,000	-12,000	-18,000	200,000
2090 (W)		120,000	190,000	-5,600	-150,000	37,000	190,000	380,000
Average (2024-2039)		**50,000**	**79,000**	**5,800**	**-200,000**	**60,000**	**-5,600**	
2024-2039	W	110,000	150,000	-2,900	-180,000	79,000	160,000	
	AN	57,000	77,000	4,200	-210,000	78,000	5,600	
	BN	32,000	60,000	11,000	-220,000	58,000	-58,000	
	D	30,000	61,000	10,000	-210,000	53,000	-52,000	
	C	32,000	50,000	5,000	-180,000	32,000	-63,000	
Average (2040-2090)		**61,000**	**81,000**	**-710**	**-150,000**	**12,000**	**9,300**	
2040-2090	W	110,000	150,000	-8,500	-130,000	35,000	150,000	
	AN	51,000	73,000	-3,300	-150,000	28,000	2,700	
	BN	39,000	40,000	3,700	-150,000	2,200	-68,000	
	D	35,000	42,000	2,400	-150,000	-730	-71,000	
	C	31,000	39,000	6,600	-150,000	-11,000	-86,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera County GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

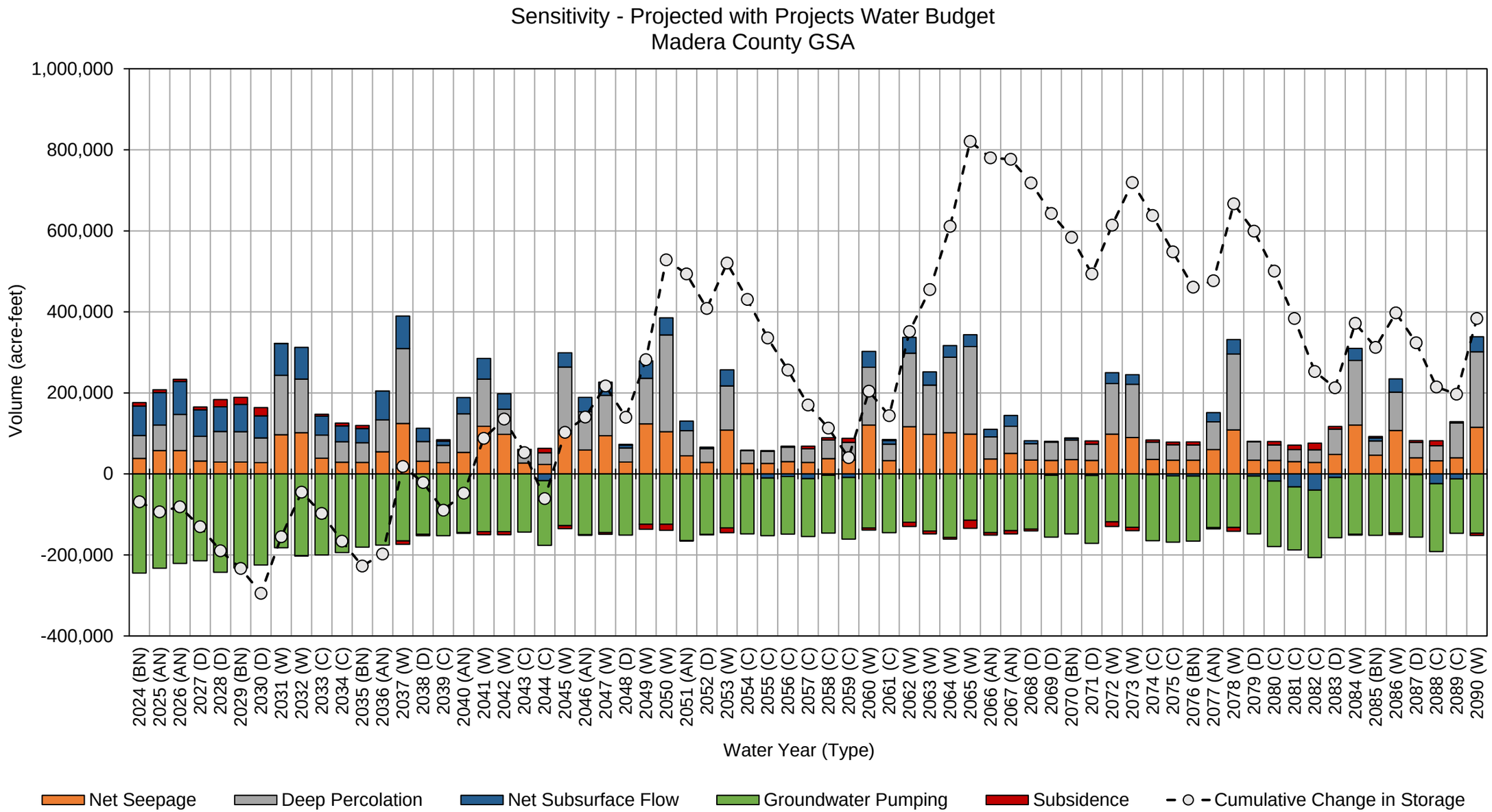
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	38,000	57,000	8,400	-150,000
2025 (AN)	58,000	63,000	6,800	-110,000
2026 (AN)	58,000	89,000	5,200	-74,000
2027 (D)	32,000	61,000	7,200	-120,000
2028 (D)	29,000	75,000	18,000	-140,000
2029 (BN)	30,000	75,000	17,000	-130,000
2030 (D)	28,000	61,000	20,000	-140,000
2031 (W)	97,000	150,000	230	61,000
2032 (W)	100,000	130,000	-910	32,000
2033 (C)	39,000	57,000	4,600	-100,000
2034 (C)	29,000	51,000	7,000	-110,000
2035 (BN)	28,000	49,000	7,300	-100,000
2036 (AN)	54,000	79,000	590	-42,000
2037 (W)	120,000	180,000	-8,100	140,000
2038 (D)	32,000	48,000	-3,400	-69,000
2039 (C)	28,000	42,000	3,500	-82,000
2040 (AN)	53,000	95,000	-1,100	3,100
2041 (W)	120,000	120,000	-7,300	91,000
2042 (W)	98,000	62,000	-7,700	17,000
2043 (C)	27,000	29,000	710	-88,000
2044 (C)	23,000	29,000	11,000	-110,000
2045 (W)	110,000	160,000	-7,500	140,000
2046 (AN)	59,000	94,000	-1,700	3,300
2047 (W)	94,000	100,000	-4,000	49,000
2048 (D)	29,000	35,000	2,000	-87,000
2049 (W)	120,000	110,000	-12,000	110,000
2050 (W)	100,000	240,000	-15,000	220,000
2051 (AN)	45,000	62,000	-76	-58,000
2052 (D)	28,000	34,000	-1,100	-87,000
2053 (W)	110,000	110,000	-12,000	84,000
2054 (C)	26,000	32,000	270	-90,000
2055 (C)	26,000	30,000	2,300	-87,000
2056 (C)	30,000	35,000	2,900	-76,000
2057 (C)	28,000	34,000	6,300	-81,000
2058 (C)	38,000	46,000	5,500	-59,000
2059 (C)	34,000	43,000	10,000	-75,000
2060 (W)	120,000	140,000	-4,800	130,000
2061 (C)	33,000	40,000	2,400	-71,000
2062 (W)	120,000	180,000	-10,000	180,000
2063 (W)	98,000	120,000	-7,000	78,000
2064 (W)	100,000	190,000	-4,200	130,000
2065 (W)	98,000	220,000	-20,000	200,000
2066 (AN)	37,000	54,000	-5,600	-54,000
2067 (AN)	51,000	67,000	-8,000	-23,000
2068 (D)	34,000	40,000	-4,500	-61,000

Madera County GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		33,000	45,000	2,200	-74,000
2070 (BN)		35,000	48,000	730	-65,000
2071 (D)		33,000	40,000	8,400	-94,000
2072 (W)		98,000	120,000	-11,000	100,000
2073 (W)		90,000	130,000	-8,300	89,000
2074 (C)		36,000	43,000	5,400	-85,000
2075 (C)		34,000	38,000	6,700	-92,000
2076 (BN)		34,000	38,000	7,300	-89,000
2077 (AN)		60,000	68,000	-3,000	-4,500
2078 (W)		110,000	190,000	-9,400	160,000
2079 (D)		34,000	45,000	1,300	-63,000
2080 (C)		34,000	38,000	8,800	-90,000
2081 (C)		30,000	30,000	11,000	-96,000
2082 (C)		28,000	31,000	16,000	-110,000
2083 (D)		48,000	62,000	6,500	-38,000
2084 (W)		120,000	160,000	-2,000	130,000
2085 (BN)		46,000	35,000	3,200	-70,000
2086 (W)		110,000	95,000	-3,800	56,000
2087 (D)		40,000	38,000	4,400	-76,000
2088 (C)		32,000	37,000	13,000	-98,000
2089 (C)		40,000	86,000	2,700	-8,200
2090 (W)		120,000	190,000	-5,600	150,000
Average (2024-2039)		**50,000**	**79,000**	**5,800**	**-71,000**
2024-2039	W	110,000	150,000	-2,900	79,000
	AN	57,000	77,000	4,200	-76,000
	BN	32,000	60,000	11,000	-130,000
	D	30,000	61,000	10,000	-120,000
	C	32,000	50,000	5,000	-100,000
Average (2040-2090)		**61,000**	**81,000**	**-710**	**-2,300**
2040-2090	W	110,000	150,000	-8,500	120,000
	AN	51,000	73,000	-3,300	-22,000
	BN	39,000	40,000	3,700	-74,000
	D	35,000	42,000	2,400	-73,000
	C	31,000	39,000	6,600	-82,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Sensitivity - Projected with Projects Water Budget
Madera County GSA
Volume (acre-feet)
1,000,000
800,000
600,000
400,000
200,000
0
-200,000
-400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.2.c

Madera Irrigation District GSA Water Budget Results

Madera Irrigation District GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		55,000	76,000	28,000	-190,000	-15,000	-49,000	-49,000
1990 (C)		40,000	73,000	30,000	-210,000	-10,000	-78,000	-130,000
1991 (C)		59,000	98,000	28,000	-210,000	-16,000	-39,000	-170,000
1992 (C)		52,000	91,000	32,000	-240,000	-10,000	-71,000	-240,000
1993 (W)		140,000	220,000	1,400	-150,000	-37,000	190,000	-52,000
1994 (C)		71,000	66,000	10,000	-200,000	-17,000	-69,000	-120,000
1995 (W)		120,000	160,000	-7,100	-130,000	-29,000	120,000	-4,400
1996 (W)		120,000	130,000	3,000	-160,000	-40,000	56,000	52,000
1997 (W)		120,000	180,000	7,300	-200,000	-31,000	76,000	130,000
1998 (W)		100,000	190,000	-17,000	-130,000	-25,000	110,000	240,000
1999 (AN)		88,000	85,000	5,700	-200,000	-21,000	-41,000	200,000
2000 (AN)		96,000	110,000	2,000	-190,000	-27,000	-4,600	200,000
2001 (D)		80,000	81,000	7,700	-190,000	-29,000	-52,000	150,000
2002 (D)		69,000	87,000	15,000	-240,000	-23,000	-89,000	56,000
2003 (BN)		72,000	95,000	8,900	-220,000	-22,000	-63,000	-6,600
2004 (D)		74,000	83,000	21,000	-260,000	-18,000	-99,000	-110,000
2005 (W)		98,000	130,000	-9,900	-130,000	-24,000	59,000	-46,000
2006 (W)		100,000	120,000	-3,400	-160,000	-21,000	37,000	-9,500
2007 (C)		90,000	89,000	13,000	-220,000	-18,000	-50,000	-59,000
2008 (C)		77,000	77,000	12,000	-230,000	-17,000	-79,000	-140,000
2009 (BN)		65,000	68,000	12,000	-220,000	-13,000	-92,000	-230,000
2010 (AN)		92,000	97,000	1,400	-170,000	-24,000	1,800	-230,000
2011 (W)		120,000	170,000	-2,900	-160,000	-23,000	100,000	-120,000
2012 (D)		58,000	63,000	14,000	-230,000	-720	-92,000	-220,000
2013 (C)		52,000	68,000	25,000	-270,000	-3,500	-130,000	-340,000
2014 (C)		18,000	52,000	37,000	-290,000	6,700	-180,000	-520,000
2015 (C)		13,000	65,000	48,000	-320,000	11,000	-180,000	-700,000
2016 (D)		72,000	120,000	24,000	-230,000	-8,100	-14,000	-720,000
2017 (W)		130,000	150,000	8,100	-190,000	-15,000	87,000	-630,000
2018 (BN)		85,000	60,000	19,000	-230,000	-6,900	-74,000	-710,000
2019 (W)		120,000	110,000	13,000	-220,000	-6,700	14,000	-690,000
2020 (D)		66,000	74,000	20,000	-260,000	9,000	-90,000	-780,000
2021 (C)		28,000	66,000	37,000	-320,000	28,000	-160,000	-940,000
2022 (C)		43,000	120,000	20,000	-240,000	23,000	-28,000	-970,000
2023 (W)		190,000	210,000	2,600	-180,000	-9,600	210,000	-760,000
Average (1989-2023)		**82,000**	**110,000**	**13,000**	**-210,000**	**-14,000**	**-22,000**	
1989-2023	W	120,000	160,000	-410	-160,000	-24,000	97,000	
	AN	92,000	97,000	3,000	-180,000	-24,000	-14,000	
	BN	74,000	74,000	13,000	-220,000	-14,000	-76,000	
	D	70,000	85,000	17,000	-230,000	-12,000	-73,000	
	C	50,000	79,000	27,000	-240,000	-3,200	-93,000	
Average (1989-2015)		**80,000**	**100,000**	**12,000**	**-200,000**	**-18,000**	**-26,000**	
1989-2015	W	120,000	160,000	-3,500	-150,000	-29,000	94,000	
	AN	92,000	97,000	3,000	-180,000	-24,000	-14,000	
	BN	68,000	82,000	11,000	-220,000	-17,000	-77,000	
	D	70,000	78,000	14,000	-230,000	-18,000	-83,000	
	C	53,000	75,000	26,000	-240,000	-9,000	-92,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

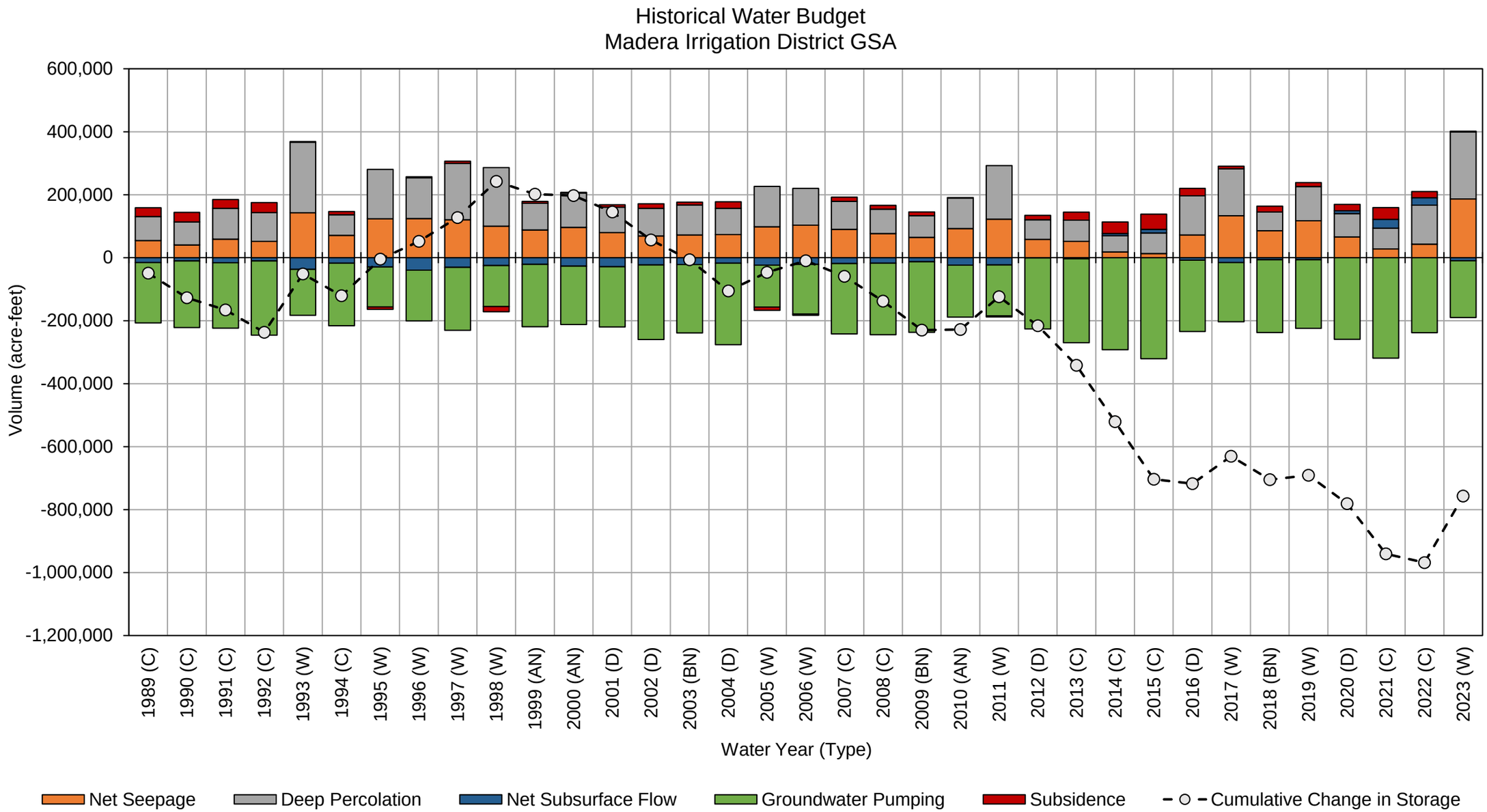
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Irrigation District GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		55,000	76,000	-190,000	-61,000
1990 (C)		40,000	73,000	-210,000	-98,000
1991 (C)		59,000	98,000	-210,000	-51,000
1992 (C)		52,000	91,000	-240,000	-93,000
1993 (W)		140,000	220,000	-150,000	220,000
1994 (C)		71,000	66,000	-200,000	-62,000
1995 (W)		120,000	160,000	-130,000	150,000
1996 (W)		120,000	130,000	-160,000	93,000
1997 (W)		120,000	180,000	-200,000	99,000
1998 (W)		100,000	190,000	-130,000	160,000
1999 (AN)		88,000	85,000	-200,000	-25,000
2000 (AN)		96,000	110,000	-190,000	20,000
2001 (D)		80,000	81,000	-190,000	-31,000
2002 (D)		69,000	87,000	-240,000	-81,000
2003 (BN)		72,000	95,000	-220,000	-50,000
2004 (D)		74,000	83,000	-260,000	-100,000
2005 (W)		98,000	130,000	-130,000	93,000
2006 (W)		100,000	120,000	-160,000	62,000
2007 (C)		90,000	89,000	-220,000	-44,000
2008 (C)		77,000	77,000	-230,000	-73,000
2009 (BN)		65,000	68,000	-220,000	-91,000
2010 (AN)		92,000	97,000	-170,000	24,000
2011 (W)		120,000	170,000	-160,000	130,000
2012 (D)		58,000	63,000	-230,000	-110,000
2013 (C)		52,000	68,000	-270,000	-150,000
2014 (C)		18,000	52,000	-290,000	-220,000
2015 (C)		13,000	65,000	-320,000	-240,000
2016 (D)		72,000	120,000	-230,000	-30,000
2017 (W)		130,000	150,000	-190,000	94,000
2018 (BN)		85,000	60,000	-230,000	-86,000
2019 (W)		120,000	110,000	-220,000	7,900
2020 (D)		66,000	74,000	-260,000	-120,000
2021 (C)		28,000	66,000	-320,000	-220,000
2022 (C)		43,000	120,000	-240,000	-71,000
2023 (W)		190,000	210,000	-180,000	220,000
Average (1989-2023)		**82,000**	**110,000**	**-210,000**	**-21,000**
1989-2023	W	120,000	160,000	-160,000	120,000
	AN	92,000	97,000	-180,000	6,600
	BN	74,000	74,000	-220,000	-76,000
	D	70,000	85,000	-230,000	-78,000
	C	50,000	79,000	-240,000	-120,000
Average (1989-2015)		**80,000**	**100,000**	**-200,000**	**-20,000**
1989-2015	W	120,000	160,000	-150,000	130,000
	AN	92,000	97,000	-180,000	6,600
	BN	68,000	82,000	-220,000	-71,000
	D	70,000	78,000	-230,000	-80,000
	C	53,000	75,000	-240,000	-110,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Madera Irrigation District GSA
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
-1,200,000
Volume (acre-feet)
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Irrigation District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	89,000	50,000	8,800	-240,000	5,600	-87,000	-87,000
2025 (AN)	120,000	71,000	620	-200,000	4,400	-10,000	-98,000
2026 (AN)	130,000	100,000	250	-190,000	-3,500	44,000	-53,000
2027 (D)	96,000	70,000	4,400	-200,000	-3,400	-31,000	-84,000
2028 (D)	84,000	86,000	11,000	-240,000	5,600	-55,000	-140,000
2029 (BN)	89,000	92,000	8,900	-220,000	5,900	-28,000	-170,000
2030 (D)	87,000	75,000	17,000	-270,000	20,000	-68,000	-240,000
2031 (W)	140,000	130,000	-4,900	-150,000	-1,600	110,000	-120,000
2032 (W)	150,000	99,000	-4,100	-170,000	1,800	70,000	-55,000
2033 (C)	110,000	76,000	6,100	-240,000	15,000	-38,000	-93,000
2034 (C)	90,000	76,000	6,400	-250,000	19,000	-57,000	-150,000
2035 (BN)	81,000	72,000	8,200	-260,000	30,000	-71,000	-220,000
2036 (AN)	140,000	110,000	-4,400	-180,000	5,800	67,000	-150,000
2037 (W)	220,000	190,000	-11,000	-170,000	-7,200	220,000	61,000
2038 (D)	72,000	41,000	500	-230,000	28,000	-93,000	-32,000
2039 (C)	65,000	60,000	7,400	-270,000	32,000	-110,000	-140,000
2040 (AN)	140,000	140,000	-2,900	-220,000	11,000	68,000	-72,000
2041 (W)	230,000	140,000	-11,000	-180,000	-15,000	160,000	86,000
2042 (W)	190,000	68,000	-9,600	-200,000	-2,600	48,000	130,000
2043 (C)	62,000	42,000	3,500	-250,000	28,000	-110,000	22,000
2044 (C)	27,000	45,000	18,000	-320,000	47,000	-180,000	-160,000
2045 (W)	190,000	180,000	-12,000	-180,000	8,400	190,000	33,000
2046 (AN)	150,000	94,000	-3,100	-220,000	18,000	39,000	72,000
2047 (W)	190,000	120,000	-7,000	-210,000	9,000	100,000	170,000
2048 (D)	82,000	49,000	2,500	-240,000	26,000	-86,000	87,000
2049 (W)	210,000	120,000	-16,000	-170,000	-560	150,000	230,000
2050 (W)	210,000	200,000	-18,000	-160,000	-8,900	230,000	460,000
2051 (AN)	150,000	65,000	310	-250,000	5,900	-33,000	430,000
2052 (D)	82,000	61,000	-80	-240,000	15,000	-86,000	350,000
2053 (W)	210,000	160,000	-16,000	-170,000	-21,000	170,000	510,000
2054 (C)	70,000	39,000	4,100	-240,000	13,000	-120,000	400,000
2055 (C)	50,000	48,000	7,600	-250,000	21,000	-130,000	270,000
2056 (C)	71,000	70,000	3,600	-230,000	16,000	-71,000	200,000
2057 (C)	56,000	62,000	9,200	-250,000	22,000	-95,000	100,000
2058 (C)	74,000	82,000	6,300	-230,000	20,000	-47,000	56,000
2059 (C)	67,000	75,000	12,000	-260,000	28,000	-75,000	-20,000
2060 (W)	240,000	220,000	-12,000	-160,000	-14,000	270,000	250,000
2061 (C)	87,000	39,000	-110	-220,000	16,000	-76,000	180,000
2062 (W)	220,000	150,000	-16,000	-140,000	-18,000	190,000	370,000
2063 (W)	220,000	120,000	-11,000	-160,000	-26,000	140,000	500,000
2064 (W)	220,000	170,000	-5,700	-210,000	-23,000	150,000	650,000
2065 (W)	190,000	170,000	-24,000	-140,000	-31,000	170,000	820,000
2066 (AN)	140,000	65,000	-5,600	-200,000	-27,000	-26,000	790,000
2067 (AN)	150,000	96,000	-9,000	-190,000	-33,000	19,000	810,000
2068 (D)	96,000	62,000	60	-200,000	-26,000	-66,000	750,000
2069 (D)	86,000	72,000	7,000	-240,000	-12,000	-87,000	660,000
2070 (BN)	100,000	86,000	2,400	-220,000	-11,000	-46,000	620,000

MCSim_v2.0 - Projected with Projects

Madera Irrigation District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		90,000	70,000	12,000	-260,000	2,100	-91,000	520,000
2072 (W)		180,000	150,000	-15,000	-150,000	-26,000	140,000	660,000
2073 (W)		190,000	110,000	-9,500	-180,000	-26,000	92,000	760,000
2074 (C)		100,000	65,000	7,300	-240,000	-8,000	-74,000	680,000
2075 (C)		92,000	65,000	7,400	-250,000	-2,500	-87,000	590,000
2076 (BN)		92,000	65,000	9,200	-260,000	3,900	-90,000	500,000
2077 (AN)		140,000	110,000	-6,200	-190,000	-19,000	39,000	540,000
2078 (W)		210,000	200,000	-13,000	-170,000	-31,000	190,000	730,000
2079 (D)		73,000	41,000	6,300	-240,000	1,100	-110,000	620,000
2080 (C)		67,000	53,000	13,000	-270,000	7,100	-130,000	490,000
2081 (C)		32,000	44,000	17,000	-300,000	24,000	-180,000	310,000
2082 (C)		27,000	59,000	21,000	-320,000	36,000	-180,000	130,000
2083 (D)		86,000	120,000	3,500	-240,000	20,000	-9,300	120,000
2084 (W)		220,000	180,000	-8,000	-200,000	-1,100	190,000	310,000
2085 (BN)		110,000	44,000	2,700	-240,000	19,000	-68,000	250,000
2086 (W)		190,000	120,000	-4,600	-220,000	3,000	94,000	340,000
2087 (D)		79,000	57,000	4,600	-260,000	28,000	-92,000	250,000
2088 (C)		42,000	55,000	16,000	-310,000	46,000	-150,000	95,000
2089 (C)		57,000	110,000	2,800	-240,000	34,000	-30,000	65,000
2090 (W)		260,000	240,000	-15,000	-180,000	-11,000	290,000	360,000
Average (2024-2039)		**110,000**	**87,000**	**3,400**	**-220,000**	**9,800**	**-8,700**	
2024-2039	W	170,000	140,000	-6,800	-160,000	-2,300	130,000	
	AN	130,000	94,000	-1,200	-190,000	2,200	34,000	
	BN	86,000	71,000	8,700	-240,000	14,000	-62,000	
	D	85,000	68,000	8,200	-240,000	12,000	-62,000	
	C	88,000	71,000	6,600	-250,000	22,000	-67,000	
Average (2040-2090)		**130,000**	**99,000**	**-1,000**	**-220,000**	**2,600**	**9,800**	
2040-2090	W	210,000	160,000	-12,000	-180,000	-13,000	160,000	
	AN	150,000	94,000	-4,400	-210,000	-7,400	18,000	
	BN	100,000	65,000	4,700	-240,000	4,000	-68,000	
	D	84,000	67,000	4,500	-240,000	6,700	-79,000	
	C	62,000	60,000	9,300	-260,000	22,000	-110,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Irrigation District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

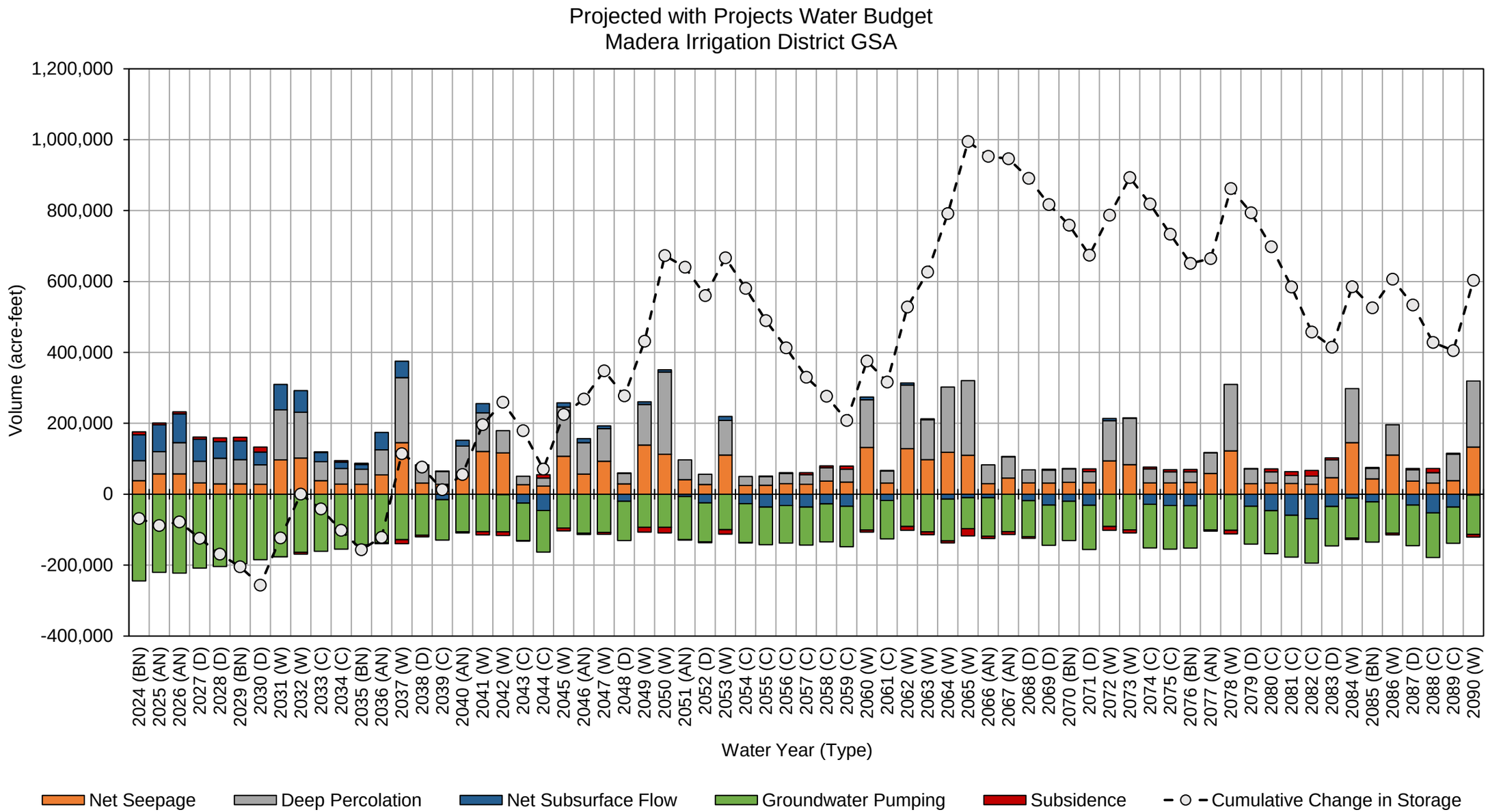
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	89,000	50,000	-240,000	-100,000
2025 (AN)	120,000	71,000	-200,000	-15,000
2026 (AN)	130,000	100,000	-190,000	48,000
2027 (D)	96,000	70,000	-200,000	-32,000
2028 (D)	84,000	86,000	-240,000	-71,000
2029 (BN)	89,000	92,000	-220,000	-43,000
2030 (D)	87,000	75,000	-270,000	-100,000
2031 (W)	140,000	130,000	-150,000	120,000
2032 (W)	150,000	99,000	-170,000	72,000
2033 (C)	110,000	76,000	-240,000	-59,000
2034 (C)	90,000	76,000	-250,000	-83,000
2035 (BN)	81,000	72,000	-260,000	-110,000
2036 (AN)	140,000	110,000	-180,000	65,000
2037 (W)	220,000	190,000	-170,000	230,000
2038 (D)	72,000	41,000	-230,000	-120,000
2039 (C)	65,000	60,000	-270,000	-150,000
2040 (AN)	140,000	140,000	-220,000	60,000
2041 (W)	230,000	140,000	-180,000	180,000
2042 (W)	190,000	68,000	-200,000	60,000
2043 (C)	62,000	42,000	-250,000	-140,000
2044 (C)	27,000	45,000	-320,000	-240,000
2045 (W)	190,000	180,000	-180,000	190,000
2046 (AN)	150,000	94,000	-220,000	25,000
2047 (W)	190,000	120,000	-210,000	99,000
2048 (D)	82,000	49,000	-240,000	-110,000
2049 (W)	210,000	120,000	-170,000	160,000
2050 (W)	210,000	200,000	-160,000	260,000
2051 (AN)	150,000	65,000	-250,000	-39,000
2052 (D)	82,000	61,000	-240,000	-100,000
2053 (W)	210,000	160,000	-170,000	200,000
2054 (C)	70,000	39,000	-240,000	-130,000
2055 (C)	50,000	48,000	-250,000	-160,000
2056 (C)	71,000	70,000	-230,000	-91,000
2057 (C)	56,000	62,000	-250,000	-130,000
2058 (C)	74,000	82,000	-230,000	-73,000
2059 (C)	67,000	75,000	-260,000	-120,000
2060 (W)	240,000	220,000	-160,000	300,000
2061 (C)	87,000	39,000	-220,000	-92,000
2062 (W)	220,000	150,000	-140,000	230,000
2063 (W)	220,000	120,000	-160,000	170,000
2064 (W)	220,000	170,000	-210,000	180,000
2065 (W)	190,000	170,000	-140,000	220,000
2066 (AN)	140,000	65,000	-200,000	6,300
2067 (AN)	150,000	96,000	-190,000	62,000
2068 (D)	96,000	62,000	-200,000	-40,000

Madera Irrigation District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		86,000	72,000	-240,000	-82,000
2070 (BN)		100,000	86,000	-220,000	-37,000
2071 (D)		90,000	70,000	-260,000	-110,000
2072 (W)		180,000	150,000	-150,000	180,000
2073 (W)		190,000	110,000	-180,000	130,000
2074 (C)		100,000	65,000	-240,000	-73,000
2075 (C)		92,000	65,000	-250,000	-92,000
2076 (BN)		92,000	65,000	-260,000	-100,000
2077 (AN)		140,000	110,000	-190,000	64,000
2078 (W)		210,000	200,000	-170,000	230,000
2079 (D)		73,000	41,000	-240,000	-120,000
2080 (C)		67,000	53,000	-270,000	-150,000
2081 (C)		32,000	44,000	-300,000	-220,000
2082 (C)		27,000	59,000	-320,000	-240,000
2083 (D)		86,000	120,000	-240,000	-33,000
2084 (W)		220,000	180,000	-200,000	200,000
2085 (BN)		110,000	44,000	-240,000	-90,000
2086 (W)		190,000	120,000	-220,000	96,000
2087 (D)		79,000	57,000	-260,000	-120,000
2088 (C)		42,000	55,000	-310,000	-220,000
2089 (C)		57,000	110,000	-240,000	-67,000
2090 (W)		260,000	240,000	-180,000	320,000
Average (2024-2039)		**110,000**	**87,000**	**-220,000**	**-22,000**
2024-2039	W	170,000	140,000	-160,000	140,000
	AN	130,000	94,000	-190,000	33,000
	BN	86,000	71,000	-240,000	-85,000
	D	85,000	68,000	-240,000	-82,000
	C	88,000	71,000	-250,000	-96,000
Average (2040-2090)		**130,000**	**99,000**	**-220,000**	**8,100**
2040-2090	W	210,000	160,000	-180,000	190,000
	AN	150,000	94,000	-210,000	30,000
	BN	100,000	65,000	-240,000	-77,000
	D	84,000	67,000	-240,000	-90,000
	C	62,000	60,000	-260,000	-140,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Madera Irrigation District GSA
Volume (acre-feet)
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
-200,000
-400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Irrigation District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	88,000	50,000	12,000	-250,000	6,000	-97,000	-97,000
2025 (AN)	100,000	64,000	6,100	-220,000	6,100	-43,000	-140,000
2026 (AN)	120,000	100,000	4,500	-210,000	6,900	21,000	-120,000
2027 (D)	62,000	59,000	11,000	-240,000	20,000	-86,000	-200,000
2028 (D)	73,000	93,000	18,000	-260,000	18,000	-59,000	-260,000
2029 (BN)	72,000	93,000	17,000	-250,000	21,000	-45,000	-310,000
2030 (D)	66,000	75,000	27,000	-300,000	34,000	-93,000	-400,000
2031 (W)	120,000	130,000	-1,600	-170,000	24,000	95,000	-300,000
2032 (W)	130,000	95,000	-1,700	-190,000	27,000	57,000	-250,000
2033 (C)	76,000	64,000	13,000	-270,000	38,000	-82,000	-330,000
2034 (C)	70,000	78,000	15,000	-280,000	38,000	-74,000	-400,000
2035 (BN)	69,000	77,000	18,000	-280,000	43,000	-71,000	-470,000
2036 (AN)	98,000	100,000	400	-200,000	37,000	37,000	-440,000
2037 (W)	150,000	160,000	-4,900	-190,000	36,000	150,000	-290,000
2038 (D)	58,000	50,000	4,200	-250,000	55,000	-83,000	-370,000
2039 (C)	59,000	72,000	11,000	-280,000	52,000	-90,000	-470,000
2040 (AN)	110,000	140,000	880	-220,000	35,000	69,000	-400,000
2041 (W)	150,000	110,000	-4,100	-210,000	28,000	75,000	-320,000
2042 (W)	130,000	67,000	-4,900	-210,000	41,000	17,000	-300,000
2043 (C)	57,000	51,000	4,400	-260,000	59,000	-89,000	-390,000
2044 (C)	26,000	53,000	20,000	-320,000	71,000	-150,000	-550,000
2045 (W)	140,000	180,000	-4,600	-190,000	44,000	170,000	-370,000
2046 (AN)	110,000	93,000	-110	-230,000	53,000	26,000	-350,000
2047 (W)	130,000	100,000	-1,500	-240,000	53,000	52,000	-290,000
2048 (D)	70,000	58,000	4,500	-270,000	64,000	-72,000	-370,000
2049 (W)	160,000	120,000	-13,000	-170,000	39,000	140,000	-230,000
2050 (W)	170,000	190,000	-14,000	-170,000	34,000	210,000	-20,000
2051 (AN)	110,000	68,000	2,300	-270,000	49,000	-42,000	-62,000
2052 (D)	69,000	66,000	1,400	-270,000	56,000	-79,000	-140,000
2053 (W)	140,000	140,000	-11,000	-190,000	32,000	110,000	-34,000
2054 (C)	59,000	50,000	3,800	-270,000	59,000	-95,000	-130,000
2055 (C)	47,000	62,000	5,200	-260,000	55,000	-93,000	-220,000
2056 (C)	53,000	75,000	5,800	-260,000	53,000	-69,000	-290,000
2057 (C)	48,000	69,000	9,000	-260,000	53,000	-81,000	-370,000
2058 (C)	71,000	86,000	6,100	-240,000	47,000	-29,000	-400,000
2059 (C)	54,000	74,000	13,000	-280,000	58,000	-79,000	-480,000
2060 (W)	170,000	170,000	-4,800	-190,000	32,000	180,000	-300,000
2061 (C)	60,000	47,000	5,400	-250,000	63,000	-78,000	-380,000
2062 (W)	160,000	150,000	-13,000	-150,000	27,000	180,000	-200,000
2063 (W)	150,000	110,000	-4,700	-190,000	28,000	91,000	-110,000
2064 (W)	140,000	150,000	2,600	-260,000	40,000	71,000	-38,000
2065 (W)	160,000	190,000	-21,000	-150,000	25,000	190,000	150,000
2066 (AN)	110,000	62,000	-4,400	-220,000	25,000	-32,000	120,000
2067 (AN)	120,000	97,000	-7,400	-210,000	18,000	19,000	140,000
2068 (D)	65,000	58,000	2,200	-240,000	29,000	-84,000	58,000
2069 (D)	76,000	90,000	5,100	-260,000	29,000	-59,000	-1,200
2070 (BN)	75,000	93,000	4,100	-250,000	30,000	-45,000	-46,000

MCSim_v2.0 - Projected with Projects and Climate Change

Madera Irrigation District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		68,000	74,000	11,000	-290,000	46,000	-92,000	-140,000
2072 (W)		120,000	130,000	-10,000	-180,000	25,000	90,000	-48,000
2073 (W)		130,000	98,000	-6,500	-190,000	31,000	60,000	12,000
2074 (C)		78,000	64,000	8,300	-270,000	46,000	-75,000	-63,000
2075 (C)		72,000	77,000	8,400	-270,000	45,000	-73,000	-140,000
2076 (BN)		71,000	77,000	8,800	-280,000	45,000	-74,000	-210,000
2077 (AN)		100,000	100,000	-3,700	-200,000	29,000	27,000	-180,000
2078 (W)		150,000	160,000	-6,000	-200,000	26,000	140,000	-44,000
2079 (D)		60,000	51,000	4,000	-250,000	48,000	-88,000	-130,000
2080 (C)		61,000	71,000	9,600	-280,000	46,000	-95,000	-230,000
2081 (C)		27,000	53,000	14,000	-300,000	58,000	-150,000	-380,000
2082 (C)		22,000	67,000	21,000	-330,000	66,000	-150,000	-530,000
2083 (D)		74,000	130,000	7,200	-260,000	51,000	4,300	-530,000
2084 (W)		170,000	170,000	-2,800	-220,000	39,000	160,000	-370,000
2085 (BN)		91,000	51,000	2,300	-250,000	54,000	-47,000	-420,000
2086 (W)		140,000	120,000	-2,200	-230,000	46,000	70,000	-350,000
2087 (D)		62,000	64,000	6,100	-280,000	67,000	-81,000	-430,000
2088 (C)		33,000	65,000	16,000	-320,000	81,000	-130,000	-560,000
2089 (C)		50,000	120,000	5,700	-250,000	67,000	-5,600	-570,000
2090 (W)		200,000	220,000	-7,700	-190,000	32,000	260,000	-310,000
Average (2024-2039)		**88,000**	**85,000**	**9,400**	**-240,000**	**29,000**	**-29,000**	
2024-2039	W	130,000	130,000	-2,700	-190,000	29,000	99,000	
	AN	110,000	89,000	3,700	-210,000	17,000	4,900	
	BN	76,000	73,000	16,000	-260,000	23,000	-71,000	
	D	65,000	69,000	15,000	-260,000	32,000	-80,000	
	C	68,000	71,000	13,000	-280,000	43,000	-82,000	
Average (2040-2090)		**98,000**	**99,000**	**1,400**	**-240,000**	**45,000**	**3,100**	
2040-2090	W	150,000	140,000	-7,200	-200,000	35,000	130,000	
	AN	110,000	94,000	-2,100	-230,000	35,000	11,000	
	BN	79,000	74,000	5,000	-260,000	43,000	-55,000	
	D	68,000	74,000	5,200	-260,000	49,000	-69,000	
	C	51,000	68,000	9,700	-280,000	58,000	-91,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Irrigation District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

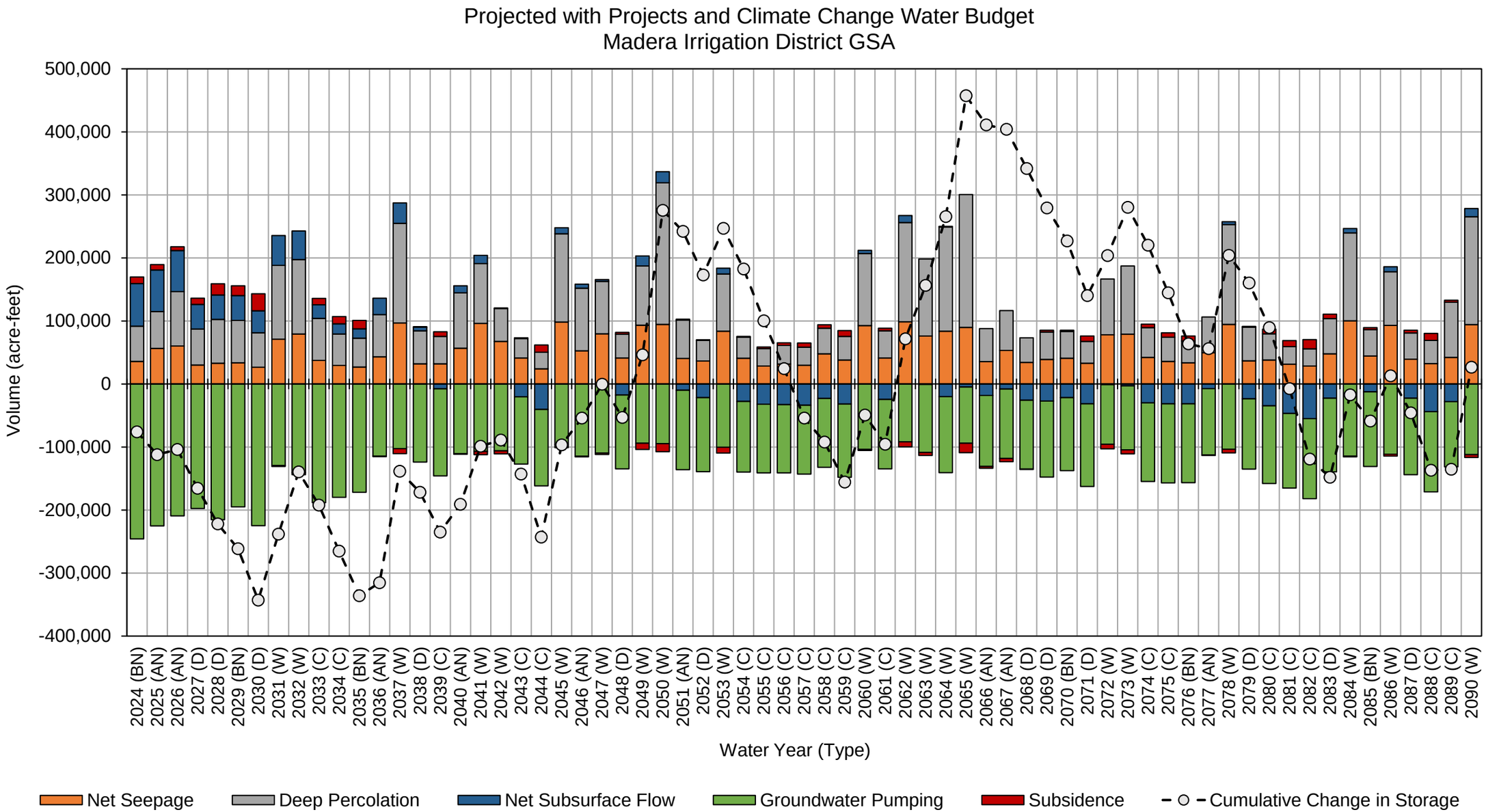
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	88,000	50,000	-250,000	-110,000
2025 (AN)	100,000	64,000	-220,000	-55,000
2026 (AN)	120,000	100,000	-210,000	9,800
2027 (D)	62,000	59,000	-240,000	-120,000
2028 (D)	73,000	93,000	-260,000	-94,000
2029 (BN)	72,000	93,000	-250,000	-82,000
2030 (D)	66,000	75,000	-300,000	-150,000
2031 (W)	120,000	130,000	-170,000	73,000
2032 (W)	130,000	95,000	-190,000	32,000
2033 (C)	76,000	64,000	-270,000	-130,000
2034 (C)	70,000	78,000	-280,000	-130,000
2035 (BN)	69,000	77,000	-280,000	-130,000
2036 (AN)	98,000	100,000	-200,000	-400
2037 (W)	150,000	160,000	-190,000	120,000
2038 (D)	58,000	50,000	-250,000	-140,000
2039 (C)	59,000	72,000	-280,000	-150,000
2040 (AN)	110,000	140,000	-220,000	34,000
2041 (W)	150,000	110,000	-210,000	51,000
2042 (W)	130,000	67,000	-210,000	-19,000
2043 (C)	57,000	51,000	-260,000	-150,000
2044 (C)	26,000	53,000	-320,000	-250,000
2045 (W)	140,000	180,000	-190,000	130,000
2046 (AN)	110,000	93,000	-230,000	-26,000
2047 (W)	130,000	100,000	-240,000	780
2048 (D)	70,000	58,000	-270,000	-140,000
2049 (W)	160,000	120,000	-170,000	110,000
2050 (W)	170,000	190,000	-170,000	190,000
2051 (AN)	110,000	68,000	-270,000	-94,000
2052 (D)	69,000	66,000	-270,000	-140,000
2053 (W)	140,000	140,000	-190,000	87,000
2054 (C)	59,000	50,000	-270,000	-160,000
2055 (C)	47,000	62,000	-260,000	-150,000
2056 (C)	53,000	75,000	-260,000	-130,000
2057 (C)	48,000	69,000	-260,000	-140,000
2058 (C)	71,000	86,000	-240,000	-83,000
2059 (C)	54,000	74,000	-280,000	-150,000
2060 (W)	170,000	170,000	-190,000	150,000
2061 (C)	60,000	47,000	-250,000	-150,000
2062 (W)	160,000	150,000	-150,000	170,000
2063 (W)	150,000	110,000	-190,000	68,000
2064 (W)	140,000	150,000	-260,000	29,000
2065 (W)	160,000	190,000	-150,000	190,000
2066 (AN)	110,000	62,000	-220,000	-52,000
2067 (AN)	120,000	97,000	-210,000	8,000
2068 (D)	65,000	58,000	-240,000	-120,000

Madera Irrigation District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		76,000	90,000	-260,000	-93,000
2070 (BN)		75,000	93,000	-250,000	-79,000
2071 (D)		68,000	74,000	-290,000	-150,000
2072 (W)		120,000	130,000	-180,000	75,000
2073 (W)		130,000	98,000	-190,000	36,000
2074 (C)		78,000	64,000	-270,000	-130,000
2075 (C)		72,000	77,000	-270,000	-130,000
2076 (BN)		71,000	77,000	-280,000	-130,000
2077 (AN)		100,000	100,000	-200,000	2,200
2078 (W)		150,000	160,000	-200,000	120,000
2079 (D)		60,000	51,000	-250,000	-140,000
2080 (C)		61,000	71,000	-280,000	-150,000
2081 (C)		27,000	53,000	-300,000	-220,000
2082 (C)		22,000	67,000	-330,000	-240,000
2083 (D)		74,000	130,000	-260,000	-54,000
2084 (W)		170,000	170,000	-220,000	120,000
2085 (BN)		91,000	51,000	-250,000	-100,000
2086 (W)		140,000	120,000	-230,000	26,000
2087 (D)		62,000	64,000	-280,000	-150,000
2088 (C)		33,000	65,000	-320,000	-230,000
2089 (C)		50,000	120,000	-250,000	-78,000
2090 (W)		200,000	220,000	-190,000	230,000
Average (2024-2039)		**88,000**	**85,000**	**-240,000**	**-67,000**
2024-2039	W	130,000	130,000	-190,000	73,000
	AN	110,000	89,000	-210,000	-15,000
	BN	76,000	73,000	-260,000	-110,000
	D	65,000	69,000	-260,000	-130,000
	C	68,000	71,000	-280,000	-140,000
Average (2040-2090)		**98,000**	**99,000**	**-240,000**	**-43,000**
2040-2090	W	150,000	140,000	-200,000	98,000
	AN	110,000	94,000	-230,000	-21,000
	BN	79,000	74,000	-260,000	-100,000
	D	68,000	74,000	-260,000	-120,000
	C	51,000	68,000	-280,000	-160,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Madera Irrigation District GSA
Volume (acre-feet)
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Irrigation District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	79,000	48,000	9,000	-240,000	6,700	-99,000	-99,000
2025 (AN)	100,000	66,000	1,900	-200,000	4,200	-31,000	-130,000
2026 (AN)	110,000	100,000	1,600	-190,000	510	21,000	-110,000
2027 (D)	85,000	73,000	6,600	-200,000	-1,900	-36,000	-140,000
2028 (D)	72,000	88,000	16,000	-240,000	1,700	-64,000	-210,000
2029 (BN)	75,000	92,000	15,000	-230,000	2,000	-42,000	-250,000
2030 (D)	76,000	76,000	27,000	-270,000	6,400	-84,000	-340,000
2031 (W)	100,000	120,000	-1,000	-150,000	990	70,000	-270,000
2032 (W)	110,000	98,000	1,800	-180,000	-1,800	33,000	-230,000
2033 (C)	97,000	82,000	15,000	-250,000	-560	-52,000	-280,000
2034 (C)	79,000	80,000	19,000	-250,000	3,300	-71,000	-360,000
2035 (BN)	66,000	74,000	24,000	-260,000	10,000	-90,000	-450,000
2036 (AN)	94,000	100,000	6,200	-190,000	1,900	18,000	-430,000
2037 (W)	130,000	160,000	-160	-170,000	-2,700	110,000	-320,000
2038 (D)	60,000	60,000	11,000	-240,000	13,000	-93,000	-410,000
2039 (C)	53,000	73,000	23,000	-280,000	11,000	-120,000	-520,000
2040 (AN)	94,000	140,000	13,000	-220,000	-570	25,000	-500,000
2041 (W)	140,000	110,000	4,400	-180,000	-19,000	57,000	-440,000
2042 (W)	110,000	69,000	4,700	-200,000	-6,500	-26,000	-470,000
2043 (C)	51,000	57,000	16,000	-250,000	13,000	-110,000	-580,000
2044 (C)	16,000	53,000	39,000	-320,000	29,000	-180,000	-770,000
2045 (W)	110,000	170,000	9,900	-180,000	12,000	120,000	-650,000
2046 (AN)	100,000	100,000	12,000	-230,000	15,000	2,600	-650,000
2047 (W)	110,000	100,000	8,100	-220,000	16,000	17,000	-630,000
2048 (D)	70,000	66,000	16,000	-250,000	18,000	-80,000	-710,000
2049 (W)	120,000	100,000	-620	-170,000	11,000	63,000	-650,000
2050 (W)	130,000	190,000	-4,900	-160,000	5,300	160,000	-480,000
2051 (AN)	99,000	79,000	10,000	-260,000	11,000	-58,000	-540,000
2052 (D)	71,000	75,000	9,000	-250,000	16,000	-80,000	-620,000
2053 (W)	130,000	130,000	-3,100	-170,000	-1,200	84,000	-540,000
2054 (C)	58,000	56,000	10,000	-250,000	17,000	-110,000	-640,000
2055 (C)	39,000	62,000	15,000	-260,000	24,000	-120,000	-760,000
2056 (C)	60,000	85,000	17,000	-240,000	18,000	-59,000	-820,000
2057 (C)	45,000	66,000	23,000	-250,000	24,000	-95,000	-920,000
2058 (C)	62,000	87,000	22,000	-240,000	22,000	-44,000	-960,000
2059 (C)	55,000	78,000	29,000	-270,000	28,000	-76,000	-1,000,000
2060 (W)	150,000	190,000	7,000	-170,000	5,600	190,000	-850,000
2061 (C)	75,000	55,000	9,600	-230,000	21,000	-65,000	-910,000
2062 (W)	130,000	140,000	-5,700	-140,000	7,300	130,000	-790,000
2063 (W)	140,000	110,000	-1,600	-170,000	-4,100	69,000	-720,000
2064 (W)	140,000	160,000	3,900	-220,000	-1,100	84,000	-630,000
2065 (W)	120,000	160,000	-13,000	-150,000	1,200	130,000	-510,000
2066 (AN)	100,000	76,000	-600	-210,000	-2,200	-37,000	-540,000
2067 (AN)	110,000	100,000	-2,400	-190,000	-6,000	6,000	-540,000
2068 (D)	87,000	74,000	2,200	-210,000	-6,500	-49,000	-590,000
2069 (D)	74,000	90,000	10,000	-250,000	-1,300	-77,000	-660,000
2070 (BN)	77,000	95,000	7,900	-230,000	1,400	-52,000	-720,000

MCSim_v2.0 - Projected (No Action)

Madera Irrigation District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		78,000	78,000	17,000	-280,000	6,200	-97,000	-810,000
2072 (W)		100,000	120,000	-5,900	-160,000	5,000	68,000	-740,000
2073 (W)		110,000	100,000	-1,200	-180,000	3,500	32,000	-710,000
2074 (C)		98,000	84,000	11,000	-250,000	4,500	-54,000	-770,000
2075 (C)		81,000	83,000	13,000	-260,000	8,600	-75,000	-840,000
2076 (BN)		68,000	76,000	17,000	-270,000	14,000	-97,000	-940,000
2077 (AN)		96,000	110,000	3,100	-190,000	5,400	17,000	-920,000
2078 (W)		130,000	160,000	-1,800	-180,000	1,400	110,000	-810,000
2079 (D)		62,000	62,000	8,500	-240,000	17,000	-95,000	-900,000
2080 (C)		55,000	75,000	19,000	-280,000	17,000	-120,000	-1,000,000
2081 (C)		21,000	55,000	31,000	-310,000	32,000	-170,000	-1,200,000
2082 (C)		15,000	70,000	45,000	-330,000	39,000	-160,000	-1,400,000
2083 (D)		74,000	140,000	27,000	-250,000	27,000	13,000	-1,300,000
2084 (W)		130,000	150,000	13,000	-210,000	21,000	110,000	-1,200,000
2085 (BN)		82,000	60,000	14,000	-250,000	32,000	-61,000	-1,300,000
2086 (W)		110,000	110,000	10,000	-220,000	30,000	31,000	-1,300,000
2087 (D)		68,000	77,000	17,000	-270,000	38,000	-70,000	-1,300,000
2088 (C)		30,000	68,000	32,000	-330,000	55,000	-140,000	-1,500,000
2089 (C)		45,000	130,000	18,000	-250,000	51,000	-4,900	-1,500,000
2090 (W)		170,000	210,000	4,100	-190,000	15,000	210,000	-1,300,000
Average (2024-2039)		**86,000**	**87,000**	**11,000**	**-220,000**	**3,400**	**-33,000**	
2024-2039	W	110,000	120,000	210	-170,000	-1,200	72,000	
	AN	100,000	89,000	3,300	-190,000	2,200	2,600	
	BN	73,000	71,000	16,000	-240,000	6,300	-77,000	
	D	73,000	74,000	15,000	-240,000	4,700	-69,000	
	C	76,000	79,000	19,000	-260,000	4,600	-79,000	
Average (2040-2090)		**88,000**	**100,000**	**11,000**	**-230,000**	**14,000**	**-15,000**	
2040-2090	W	130,000	140,000	1,500	-180,000	5,700	91,000	
	AN	100,000	100,000	5,900	-220,000	3,700	-7,400	
	BN	76,000	77,000	13,000	-250,000	16,000	-70,000	
	D	73,000	82,000	14,000	-250,000	14,000	-67,000	
	C	50,000	73,000	22,000	-270,000	25,000	-99,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Irrigation District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

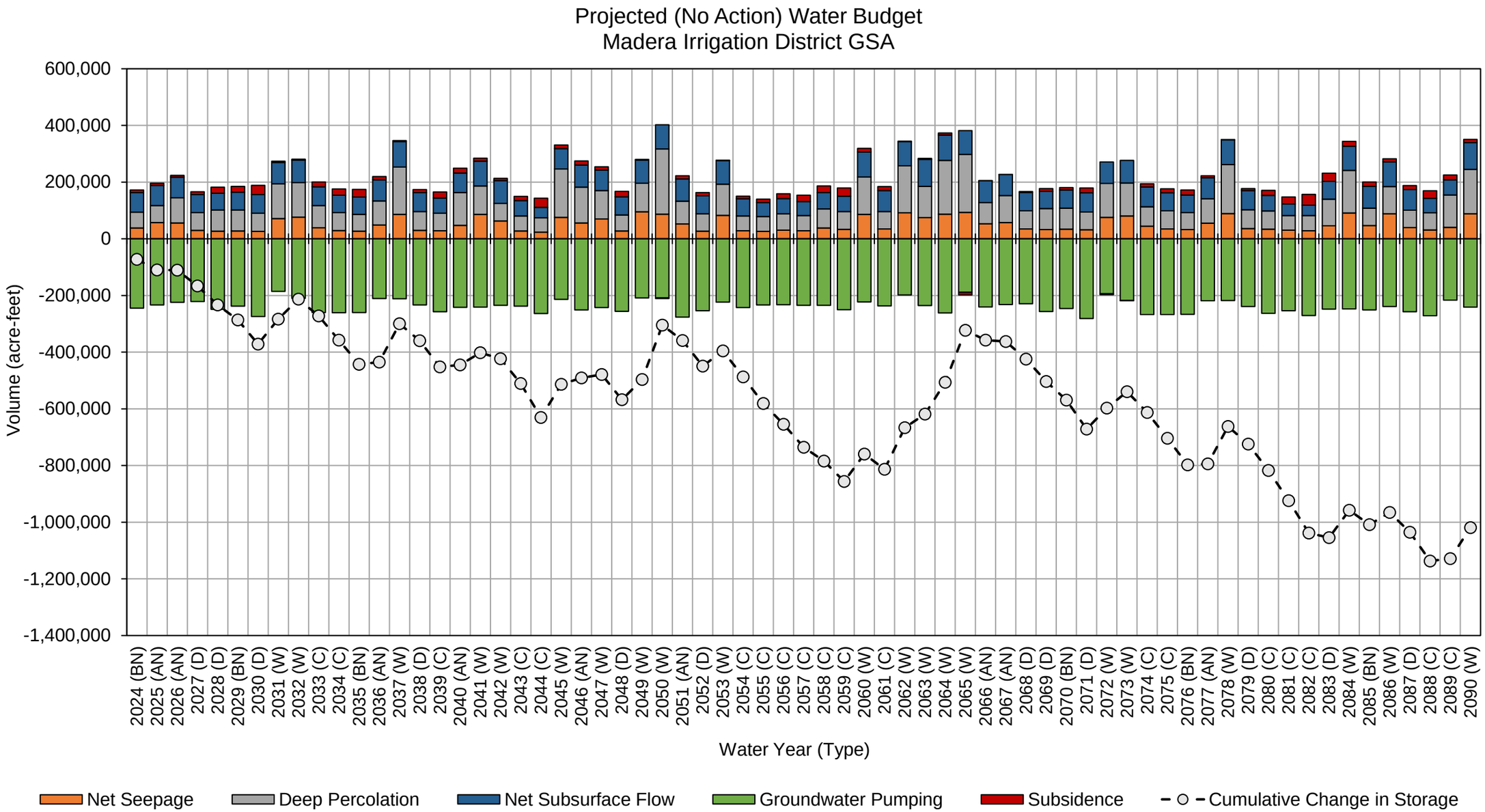
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	79,000	48,000	-240,000	-110,000
2025 (AN)	100,000	66,000	-200,000	-37,000
2026 (AN)	110,000	100,000	-190,000	18,000
2027 (D)	85,000	73,000	-200,000	-40,000
2028 (D)	72,000	88,000	-240,000	-82,000
2029 (BN)	75,000	92,000	-230,000	-59,000
2030 (D)	76,000	76,000	-270,000	-120,000
2031 (W)	100,000	120,000	-150,000	70,000
2032 (W)	110,000	98,000	-180,000	33,000
2033 (C)	97,000	82,000	-250,000	-66,000
2034 (C)	79,000	80,000	-250,000	-93,000
2035 (BN)	66,000	74,000	-260,000	-120,000
2036 (AN)	94,000	100,000	-190,000	9,500
2037 (W)	130,000	160,000	-170,000	110,000
2038 (D)	60,000	60,000	-240,000	-120,000
2039 (C)	53,000	73,000	-280,000	-150,000
2040 (AN)	94,000	140,000	-220,000	12,000
2041 (W)	140,000	110,000	-180,000	71,000
2042 (W)	110,000	69,000	-200,000	-25,000
2043 (C)	51,000	57,000	-250,000	-140,000
2044 (C)	16,000	53,000	-320,000	-250,000
2045 (W)	110,000	170,000	-180,000	96,000
2046 (AN)	100,000	100,000	-230,000	-24,000
2047 (W)	110,000	100,000	-220,000	-7,300
2048 (D)	70,000	66,000	-250,000	-110,000
2049 (W)	120,000	100,000	-170,000	53,000
2050 (W)	130,000	190,000	-160,000	160,000
2051 (AN)	99,000	79,000	-260,000	-79,000
2052 (D)	71,000	75,000	-250,000	-100,000
2053 (W)	130,000	130,000	-170,000	88,000
2054 (C)	58,000	56,000	-250,000	-130,000
2055 (C)	39,000	62,000	-260,000	-160,000
2056 (C)	60,000	85,000	-240,000	-95,000
2057 (C)	45,000	66,000	-250,000	-140,000
2058 (C)	62,000	87,000	-240,000	-88,000
2059 (C)	55,000	78,000	-270,000	-130,000
2060 (W)	150,000	190,000	-170,000	170,000
2061 (C)	75,000	55,000	-230,000	-95,000
2062 (W)	130,000	140,000	-140,000	120,000
2063 (W)	140,000	110,000	-170,000	75,000
2064 (W)	140,000	160,000	-220,000	82,000
2065 (W)	120,000	160,000	-150,000	140,000
2066 (AN)	100,000	76,000	-210,000	-34,000
2067 (AN)	110,000	100,000	-190,000	14,000
2068 (D)	87,000	74,000	-210,000	-45,000

Madera Irrigation District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		74,000	90,000	-250,000	-86,000
2070 (BN)		77,000	95,000	-230,000	-62,000
2071 (D)		78,000	78,000	-280,000	-120,000
2072 (W)		100,000	120,000	-160,000	69,000
2073 (W)		110,000	100,000	-180,000	30,000
2074 (C)		98,000	84,000	-250,000	-70,000
2075 (C)		81,000	83,000	-260,000	-96,000
2076 (BN)		68,000	76,000	-270,000	-130,000
2077 (AN)		96,000	110,000	-190,000	8,300
2078 (W)		130,000	160,000	-180,000	110,000
2079 (D)		62,000	62,000	-240,000	-120,000
2080 (C)		55,000	75,000	-280,000	-150,000
2081 (C)		21,000	55,000	-310,000	-230,000
2082 (C)		15,000	70,000	-330,000	-250,000
2083 (D)		74,000	140,000	-250,000	-41,000
2084 (W)		130,000	150,000	-210,000	75,000
2085 (BN)		82,000	60,000	-250,000	-110,000
2086 (W)		110,000	110,000	-220,000	-8,700
2087 (D)		68,000	77,000	-270,000	-120,000
2088 (C)		30,000	68,000	-330,000	-230,000
2089 (C)		45,000	130,000	-250,000	-73,000
2090 (W)		170,000	210,000	-190,000	190,000
Average (2024-2039)		**86,000**	**87,000**	**-220,000**	**-47,000**
2024-2039	W	110,000	120,000	-170,000	72,000
	AN	100,000	89,000	-190,000	-2,900
	BN	73,000	71,000	-240,000	-99,000
	D	73,000	74,000	-240,000	-89,000
	C	76,000	79,000	-260,000	-100,000
Average (2040-2090)		**88,000**	**100,000**	**-230,000**	**-39,000**
2040-2090	W	130,000	140,000	-180,000	84,000
	AN	100,000	100,000	-220,000	-17,000
	BN	76,000	77,000	-250,000	-99,000
	D	73,000	82,000	-250,000	-95,000
	C	50,000	73,000	-270,000	-150,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Madera Irrigation District GSA
Volume (acre-feet)
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
-1,200,000
-1,400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Irrigation District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	78,000	47,000	12,000	-250,000	5,700	-110,000	-110,000
2025 (AN)	86,000	60,000	7,800	-220,000	6,100	-62,000	-170,000
2026 (AN)	97,000	100,000	7,400	-210,000	5,700	2,400	-170,000
2027 (D)	55,000	62,000	15,000	-240,000	16,000	-91,000	-260,000
2028 (D)	66,000	94,000	23,000	-260,000	12,000	-66,000	-330,000
2029 (BN)	62,000	93,000	23,000	-250,000	14,000	-58,000	-380,000
2030 (D)	59,000	76,000	34,000	-300,000	25,000	-100,000	-490,000
2031 (W)	93,000	120,000	5,000	-170,000	16,000	59,000	-430,000
2032 (W)	100,000	96,000	6,000	-190,000	16,000	24,000	-400,000
2033 (C)	68,000	70,000	23,000	-280,000	21,000	-92,000	-500,000
2034 (C)	62,000	81,000	28,000	-280,000	22,000	-85,000	-580,000
2035 (BN)	59,000	78,000	30,000	-280,000	26,000	-87,000	-670,000
2036 (AN)	83,000	99,000	11,000	-200,000	19,000	11,000	-660,000
2037 (W)	110,000	150,000	6,700	-200,000	18,000	92,000	-570,000
2038 (D)	50,000	59,000	15,000	-250,000	33,000	-96,000	-660,000
2039 (C)	52,000	76,000	28,000	-290,000	27,000	-110,000	-770,000
2040 (AN)	96,000	140,000	17,000	-230,000	13,000	41,000	-730,000
2041 (W)	120,000	100,000	9,900	-210,000	5,500	23,000	-700,000
2042 (W)	96,000	69,000	8,100	-220,000	17,000	-28,000	-730,000
2043 (C)	49,000	57,000	18,000	-270,000	33,000	-110,000	-840,000
2044 (C)	19,000	56,000	40,000	-330,000	43,000	-170,000	-1,000,000
2045 (W)	110,000	180,000	12,000	-200,000	29,000	130,000	-880,000
2046 (AN)	93,000	100,000	13,000	-240,000	31,000	-1,700	-880,000
2047 (W)	98,000	98,000	12,000	-240,000	35,000	2,400	-880,000
2048 (D)	63,000	65,000	19,000	-270,000	40,000	-88,000	-970,000
2049 (W)	130,000	120,000	-350	-180,000	26,000	92,000	-870,000
2050 (W)	130,000	190,000	-4,400	-170,000	21,000	160,000	-710,000
2051 (AN)	88,000	75,000	12,000	-280,000	27,000	-74,000	-790,000
2052 (D)	61,000	73,000	12,000	-280,000	38,000	-94,000	-880,000
2053 (W)	110,000	130,000	-650	-200,000	22,000	65,000	-810,000
2054 (C)	51,000	58,000	13,000	-270,000	42,000	-110,000	-920,000
2055 (C)	39,000	67,000	16,000	-270,000	41,000	-110,000	-1,000,000
2056 (C)	46,000	79,000	20,000	-260,000	42,000	-76,000	-1,100,000
2057 (C)	40,000	72,000	25,000	-270,000	44,000	-87,000	-1,200,000
2058 (C)	63,000	89,000	23,000	-250,000	39,000	-33,000	-1,200,000
2059 (C)	46,000	76,000	31,000	-290,000	47,000	-86,000	-1,300,000
2060 (W)	130,000	160,000	12,000	-190,000	28,000	140,000	-1,200,000
2061 (C)	52,000	56,000	17,000	-260,000	52,000	-84,000	-1,300,000
2062 (W)	130,000	150,000	-2,700	-150,000	27,000	150,000	-1,100,000
2063 (W)	120,000	100,000	3,300	-200,000	21,000	43,000	-1,100,000
2064 (W)	110,000	150,000	12,000	-270,000	31,000	27,000	-1,000,000
2065 (W)	120,000	190,000	-10,000	-160,000	28,000	170,000	-870,000
2066 (AN)	87,000	67,000	1,100	-230,000	21,000	-53,000	-920,000
2067 (AN)	99,000	100,000	-41	-220,000	18,000	3,700	-920,000
2068 (D)	57,000	64,000	6,800	-250,000	27,000	-91,000	-1,000,000
2069 (D)	68,000	97,000	12,000	-270,000	24,000	-68,000	-1,100,000
2070 (BN)	64,000	96,000	11,000	-260,000	27,000	-58,000	-1,100,000

MCSim_v2.0 - Projected (No Action) with Climate Change

Madera Irrigation District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		61,000	79,000	21,000	-300,000	38,000	-110,000	-1,200,000
2072 (W)		95,000	120,000	-410	-180,000	33,000	69,000	-1,200,000
2073 (W)		100,000	99,000	680	-200,000	33,000	33,000	-1,100,000
2074 (C)		70,000	72,000	15,000	-280,000	39,000	-86,000	-1,200,000
2075 (C)		64,000	84,000	20,000	-290,000	40,000	-78,000	-1,300,000
2076 (BN)		61,000	81,000	25,000	-290,000	41,000	-80,000	-1,400,000
2077 (AN)		85,000	100,000	8,900	-210,000	33,000	21,000	-1,400,000
2078 (W)		120,000	150,000	4,000	-200,000	31,000	100,000	-1,300,000
2079 (D)		52,000	61,000	10,000	-260,000	47,000	-90,000	-1,400,000
2080 (C)		53,000	79,000	21,000	-290,000	43,000	-98,000	-1,500,000
2081 (C)		19,000	58,000	31,000	-310,000	54,000	-150,000	-1,600,000
2082 (C)		14,000	71,000	42,000	-340,000	60,000	-150,000	-1,800,000
2083 (D)		66,000	130,000	29,000	-270,000	50,000	12,000	-1,700,000
2084 (W)		130,000	160,000	15,000	-230,000	41,000	120,000	-1,600,000
2085 (BN)		80,000	61,000	14,000	-260,000	51,000	-51,000	-1,700,000
2086 (W)		110,000	120,000	11,000	-240,000	48,000	43,000	-1,600,000
2087 (D)		55,000	73,000	17,000	-290,000	61,000	-85,000	-1,700,000
2088 (C)		26,000	71,000	28,000	-330,000	76,000	-140,000	-1,900,000
2089 (C)		41,000	130,000	17,000	-260,000	71,000	-1,300	-1,900,000
2090 (W)		170,000	210,000	5,900	-200,000	36,000	220,000	-1,600,000
Average (2024-2039)		**74,000**	**85,000**	**17,000**	**-240,000**	**18,000**	**-48,000**	
2024-2039	W	100,000	120,000	5,900	-190,000	17,000	58,000	
	AN	89,000	87,000	8,800	-210,000	10,000	-16,000	
	BN	66,000	73,000	22,000	-260,000	15,000	-85,000	
	D	57,000	73,000	22,000	-260,000	21,000	-89,000	
	C	61,000	76,000	26,000	-280,000	24,000	-94,000	
Average (2040-2090)		**79,000**	**100,000**	**14,000**	**-250,000**	**37,000**	**-17,000**	
2040-2090	W	120,000	140,000	4,800	-200,000	28,000	87,000	
	AN	91,000	99,000	8,700	-230,000	24,000	-11,000	
	BN	69,000	79,000	17,000	-270,000	40,000	-63,000	
	D	60,000	81,000	16,000	-270,000	41,000	-76,000	
	C	43,000	73,000	24,000	-290,000	48,000	-98,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Irrigation District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

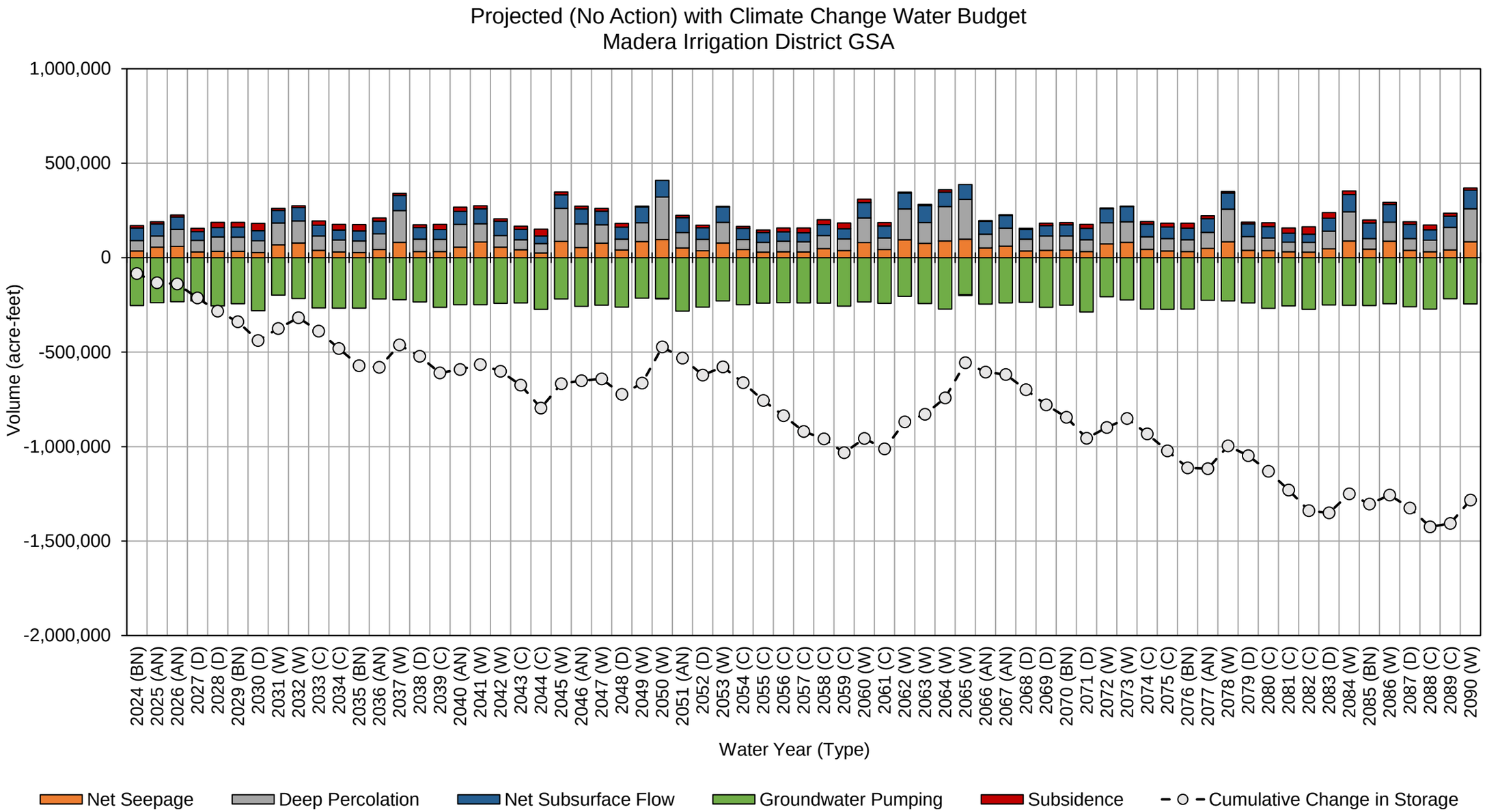
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	78,000	47,000	-250,000	-130,000
2025 (AN)	86,000	60,000	-220,000	-76,000
2026 (AN)	97,000	100,000	-210,000	-11,000
2027 (D)	55,000	62,000	-240,000	-120,000
2028 (D)	66,000	94,000	-260,000	-100,000
2029 (BN)	62,000	93,000	-250,000	-94,000
2030 (D)	59,000	76,000	-300,000	-160,000
2031 (W)	93,000	120,000	-170,000	37,000
2032 (W)	100,000	96,000	-190,000	2,500
2033 (C)	68,000	70,000	-280,000	-140,000
2034 (C)	62,000	81,000	-280,000	-140,000
2035 (BN)	59,000	78,000	-280,000	-140,000
2036 (AN)	83,000	99,000	-200,000	-19,000
2037 (W)	110,000	150,000	-200,000	67,000
2038 (D)	50,000	59,000	-250,000	-140,000
2039 (C)	52,000	76,000	-290,000	-160,000
2040 (AN)	96,000	140,000	-230,000	12,000
2041 (W)	120,000	100,000	-210,000	7,700
2042 (W)	96,000	69,000	-220,000	-53,000
2043 (C)	49,000	57,000	-270,000	-160,000
2044 (C)	19,000	56,000	-330,000	-260,000
2045 (W)	110,000	180,000	-200,000	90,000
2046 (AN)	93,000	100,000	-240,000	-46,000
2047 (W)	98,000	98,000	-240,000	-44,000
2048 (D)	63,000	65,000	-270,000	-150,000
2049 (W)	130,000	120,000	-180,000	67,000
2050 (W)	130,000	190,000	-170,000	150,000
2051 (AN)	88,000	75,000	-280,000	-110,000
2052 (D)	61,000	73,000	-280,000	-140,000
2053 (W)	110,000	130,000	-200,000	44,000
2054 (C)	51,000	58,000	-270,000	-160,000
2055 (C)	39,000	67,000	-270,000	-160,000
2056 (C)	46,000	79,000	-260,000	-140,000
2057 (C)	40,000	72,000	-270,000	-160,000
2058 (C)	63,000	89,000	-250,000	-96,000
2059 (C)	46,000	76,000	-290,000	-160,000
2060 (W)	130,000	160,000	-190,000	96,000
2061 (C)	52,000	56,000	-260,000	-150,000
2062 (W)	130,000	150,000	-150,000	130,000
2063 (W)	120,000	100,000	-200,000	19,000
2064 (W)	110,000	150,000	-270,000	-16,000
2065 (W)	120,000	190,000	-160,000	150,000
2066 (AN)	87,000	67,000	-230,000	-76,000
2067 (AN)	99,000	100,000	-220,000	-14,000
2068 (D)	57,000	64,000	-250,000	-130,000

Madera Irrigation District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		68,000	97,000	-270,000	-100,000
2070 (BN)		64,000	96,000	-260,000	-96,000
2071 (D)		61,000	79,000	-300,000	-170,000
2072 (W)		95,000	120,000	-180,000	36,000
2073 (W)		100,000	99,000	-200,000	-570
2074 (C)		70,000	72,000	-280,000	-140,000
2075 (C)		64,000	84,000	-290,000	-140,000
2076 (BN)		61,000	81,000	-290,000	-150,000
2077 (AN)		85,000	100,000	-210,000	-21,000
2078 (W)		120,000	150,000	-200,000	65,000
2079 (D)		52,000	61,000	-260,000	-150,000
2080 (C)		53,000	79,000	-290,000	-160,000
2081 (C)		19,000	58,000	-310,000	-240,000
2082 (C)		14,000	71,000	-340,000	-260,000
2083 (D)		66,000	130,000	-270,000	-67,000
2084 (W)		130,000	160,000	-230,000	63,000
2085 (BN)		80,000	61,000	-260,000	-110,000
2086 (W)		110,000	120,000	-240,000	-16,000
2087 (D)		55,000	73,000	-290,000	-160,000
2088 (C)		26,000	71,000	-330,000	-240,000
2089 (C)		41,000	130,000	-260,000	-89,000
2090 (W)		170,000	210,000	-200,000	180,000
Average (2024-2039)		**74,000**	**85,000**	**-240,000**	**-83,000**
2024-2039	W	100,000	120,000	-190,000	36,000
	AN	89,000	87,000	-210,000	-35,000
	BN	66,000	73,000	-260,000	-120,000
	D	57,000	73,000	-260,000	-130,000
	C	61,000	76,000	-280,000	-140,000
Average (2040-2090)		**79,000**	**100,000**	**-250,000**	**-67,000**
2040-2090	W	120,000	140,000	-200,000	54,000
	AN	91,000	99,000	-230,000	-43,000
	BN	69,000	79,000	-270,000	-120,000
	D	60,000	81,000	-270,000	-130,000
	C	43,000	73,000	-290,000	-170,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Madera Irrigation District GSA
Volume (acre-feet)
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Irrigation District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	89,000	50,000	8,800	-240,000	5,600	-87,000	-87,000
2025 (AN)	120,000	71,000	1,300	-200,000	2,100	-12,000	-99,000
2026 (AN)	130,000	100,000	180	-190,000	-3,400	44,000	-55,000
2027 (D)	96,000	70,000	4,800	-200,000	-4,600	-32,000	-86,000
2028 (D)	84,000	86,000	13,000	-240,000	-1,300	-59,000	-150,000
2029 (BN)	89,000	92,000	11,000	-220,000	-980	-33,000	-180,000
2030 (D)	87,000	75,000	20,000	-270,000	12,000	-73,000	-250,000
2031 (W)	140,000	130,000	-4,100	-150,000	-3,500	110,000	-140,000
2032 (W)	150,000	99,000	-2,000	-170,000	-5,400	64,000	-78,000
2033 (C)	110,000	76,000	7,800	-240,000	6,600	-45,000	-120,000
2034 (C)	90,000	76,000	8,400	-250,000	11,000	-63,000	-190,000
2035 (BN)	81,000	72,000	12,000	-260,000	21,000	-76,000	-260,000
2036 (AN)	140,000	110,000	-1,600	-180,000	-1,800	62,000	-200,000
2037 (W)	220,000	190,000	-9,300	-170,000	-15,000	210,000	10,000
2038 (D)	71,000	41,000	1,600	-230,000	20,000	-100,000	-90,000
2039 (C)	65,000	60,000	8,800	-270,000	24,000	-110,000	-200,000
2040 (AN)	140,000	140,000	-1,100	-220,000	3,900	63,000	-140,000
2041 (W)	230,000	140,000	-9,300	-180,000	-22,000	150,000	12,000
2042 (W)	190,000	69,000	-8,300	-200,000	-11,000	46,000	58,000
2043 (C)	62,000	42,000	4,200	-250,000	20,000	-120,000	-61,000
2044 (C)	27,000	45,000	19,000	-320,000	39,000	-180,000	-250,000
2045 (W)	190,000	180,000	-9,500	-180,000	3,900	190,000	-59,000
2046 (AN)	150,000	93,000	-1,900	-220,000	12,000	34,000	-25,000
2047 (W)	190,000	120,000	-5,700	-210,000	4,400	97,000	73,000
2048 (D)	82,000	49,000	3,300	-240,000	20,000	-90,000	-18,000
2049 (W)	210,000	120,000	-15,000	-170,000	-4,900	140,000	130,000
2050 (W)	210,000	200,000	-17,000	-160,000	-13,000	230,000	360,000
2051 (AN)	150,000	63,000	710	-250,000	770	-38,000	320,000
2052 (D)	82,000	61,000	470	-240,000	11,000	-90,000	230,000
2053 (W)	220,000	150,000	-15,000	-170,000	-24,000	160,000	390,000
2054 (C)	70,000	39,000	4,100	-240,000	9,400	-120,000	270,000
2055 (C)	50,000	49,000	7,700	-250,000	17,000	-130,000	140,000
2056 (C)	71,000	72,000	4,200	-230,000	12,000	-73,000	71,000
2057 (C)	56,000	63,000	9,600	-250,000	19,000	-98,000	-27,000
2058 (C)	74,000	83,000	6,800	-230,000	17,000	-49,000	-76,000
2059 (C)	67,000	75,000	12,000	-260,000	25,000	-78,000	-150,000
2060 (W)	240,000	220,000	-9,900	-160,000	-15,000	270,000	120,000
2061 (C)	87,000	39,000	93	-220,000	14,000	-79,000	38,000
2062 (W)	220,000	150,000	-16,000	-140,000	-19,000	200,000	230,000
2063 (W)	220,000	120,000	-11,000	-160,000	-29,000	130,000	370,000
2064 (W)	220,000	170,000	-5,200	-210,000	-28,000	150,000	510,000
2065 (W)	200,000	160,000	-24,000	-140,000	-33,000	160,000	680,000
2066 (AN)	150,000	63,000	-5,800	-200,000	-29,000	-26,000	650,000
2067 (AN)	150,000	95,000	-9,100	-190,000	-35,000	20,000	670,000
2068 (D)	98,000	62,000	-590	-200,000	-28,000	-67,000	600,000
2069 (D)	86,000	76,000	6,600	-240,000	-15,000	-87,000	520,000

Madera Irrigation District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		100,000	88,000	2,400	-220,000	-13,000	-46,000	470,000
2071 (D)		89,000	71,000	12,000	-260,000	-1,800	-94,000	380,000
2072 (W)		190,000	150,000	-14,000	-150,000	-27,000	140,000	520,000
2073 (W)		190,000	110,000	-9,100	-180,000	-28,000	91,000	610,000
2074 (C)		110,000	65,000	7,100	-240,000	-11,000	-76,000	530,000
2075 (C)		92,000	68,000	7,500	-250,000	-6,000	-87,000	450,000
2076 (BN)		92,000	68,000	9,500	-260,000	210	-91,000	350,000
2077 (AN)		140,000	110,000	-5,500	-190,000	-20,000	38,000	390,000
2078 (W)		210,000	190,000	-12,000	-170,000	-33,000	190,000	580,000
2079 (D)		73,000	41,000	6,000	-240,000	-2,000	-120,000	460,000
2080 (C)		67,000	57,000	13,000	-270,000	3,200	-130,000	330,000
2081 (C)		32,000	46,000	17,000	-300,000	20,000	-180,000	150,000
2082 (C)		27,000	61,000	22,000	-320,000	31,000	-180,000	-31,000
2083 (D)		86,000	120,000	4,800	-240,000	16,000	-9,800	-41,000
2084 (W)		220,000	180,000	-5,900	-200,000	-4,500	190,000	150,000
2085 (BN)		110,000	42,000	3,100	-240,000	16,000	-72,000	80,000
2086 (W)		190,000	120,000	-4,000	-220,000	650	94,000	170,000
2087 (D)		79,000	56,000	4,700	-260,000	25,000	-94,000	79,000
2088 (C)		42,000	57,000	16,000	-310,000	42,000	-160,000	-78,000
2089 (C)		57,000	120,000	3,400	-240,000	33,000	-29,000	-110,000
2090 (W)		260,000	240,000	-13,000	-180,000	-13,000	290,000	190,000
Average (2024-2039)		**110,000**	**87,000**	**5,100**	**-220,000**	**4,200**	**-13,000**	
2024-2039	W	170,000	140,000	-5,200	-160,000	-8,000	130,000	
	AN	130,000	94,000	-36	-190,000	-1,000	32,000	
	BN	86,000	71,000	11,000	-240,000	8,700	-65,000	
	D	85,000	68,000	10,000	-240,000	6,400	-66,000	
	C	88,000	71,000	8,400	-250,000	14,000	-74,000	
Average (2040-2090)		**130,000**	**99,000**	**-370**	**-220,000**	**-970**	**7,600**	
2040-2090	W	210,000	160,000	-11,000	-180,000	-16,000	160,000	
	AN	150,000	93,000	-3,800	-210,000	-11,000	15,000	
	BN	99,000	66,000	5,000	-240,000	850	-70,000	
	D	84,000	67,000	4,600	-240,000	3,200	-81,000	
	C	62,000	61,000	9,700	-260,000	18,000	-110,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Irrigation District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

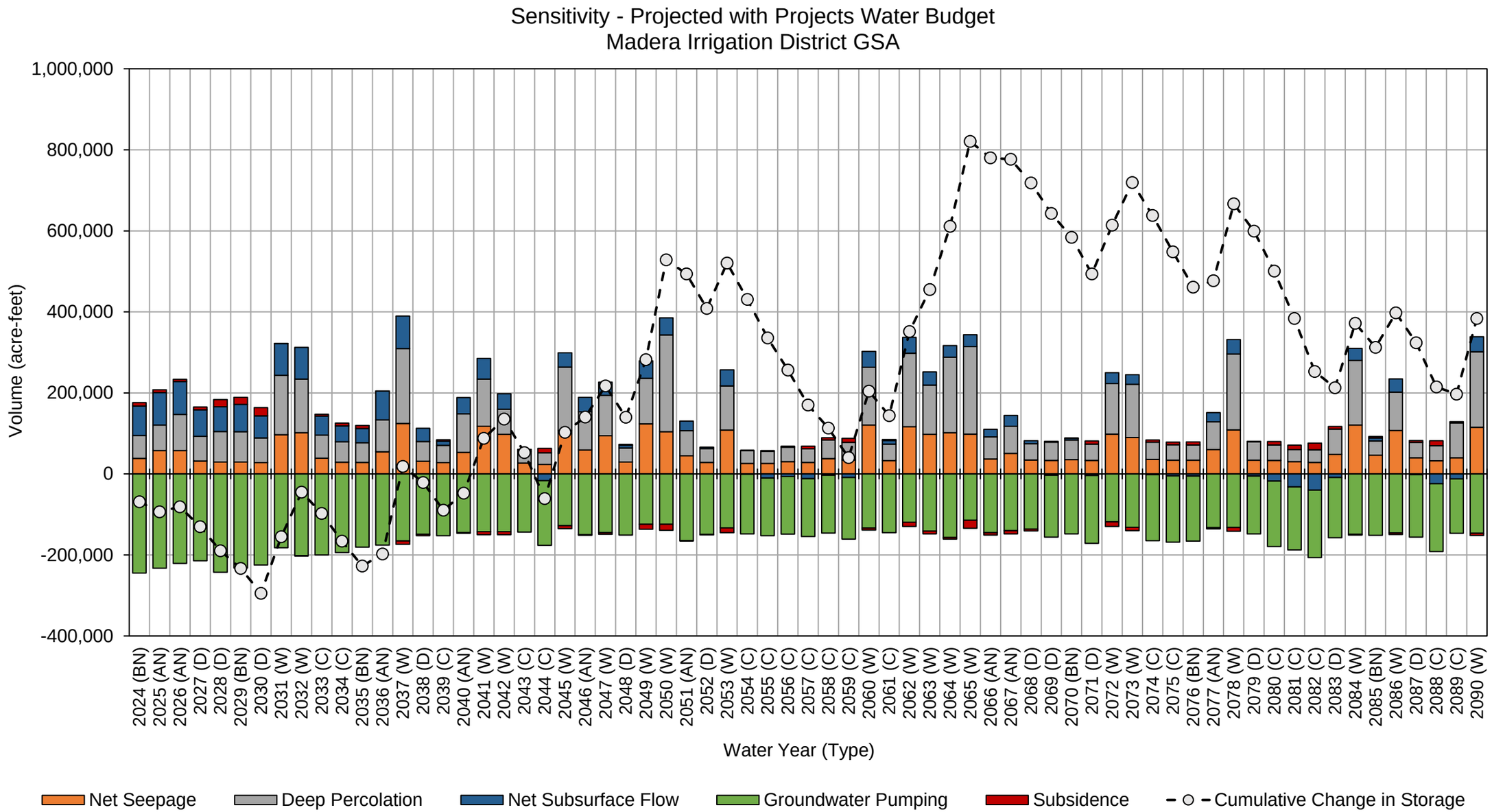
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	89,000	50,000	-240,000	-100,000
2025 (AN)	120,000	71,000	-200,000	-15,000
2026 (AN)	130,000	100,000	-190,000	48,000
2027 (D)	96,000	70,000	-200,000	-32,000
2028 (D)	84,000	86,000	-240,000	-71,000
2029 (BN)	89,000	92,000	-220,000	-43,000
2030 (D)	87,000	75,000	-270,000	-100,000
2031 (W)	140,000	130,000	-150,000	120,000
2032 (W)	150,000	99,000	-170,000	72,000
2033 (C)	110,000	76,000	-240,000	-59,000
2034 (C)	90,000	76,000	-250,000	-83,000
2035 (BN)	81,000	72,000	-260,000	-110,000
2036 (AN)	140,000	110,000	-180,000	65,000
2037 (W)	220,000	190,000	-170,000	230,000
2038 (D)	71,000	41,000	-230,000	-120,000
2039 (C)	65,000	60,000	-270,000	-150,000
2040 (AN)	140,000	140,000	-220,000	60,000
2041 (W)	230,000	140,000	-180,000	180,000
2042 (W)	190,000	69,000	-200,000	65,000
2043 (C)	62,000	42,000	-250,000	-140,000
2044 (C)	27,000	45,000	-320,000	-240,000
2045 (W)	190,000	180,000	-180,000	190,000
2046 (AN)	150,000	93,000	-220,000	24,000
2047 (W)	190,000	120,000	-210,000	99,000
2048 (D)	82,000	49,000	-240,000	-110,000
2049 (W)	210,000	120,000	-170,000	160,000
2050 (W)	210,000	200,000	-160,000	260,000
2051 (AN)	150,000	63,000	-250,000	-40,000
2052 (D)	82,000	61,000	-240,000	-100,000
2053 (W)	220,000	150,000	-170,000	200,000
2054 (C)	70,000	39,000	-240,000	-130,000
2055 (C)	50,000	49,000	-250,000	-150,000
2056 (C)	71,000	72,000	-230,000	-89,000
2057 (C)	56,000	63,000	-250,000	-130,000
2058 (C)	74,000	83,000	-230,000	-73,000
2059 (C)	67,000	75,000	-260,000	-120,000
2060 (W)	240,000	220,000	-160,000	300,000
2061 (C)	87,000	39,000	-220,000	-92,000
2062 (W)	220,000	150,000	-140,000	230,000
2063 (W)	220,000	120,000	-160,000	170,000
2064 (W)	220,000	170,000	-210,000	180,000
2065 (W)	200,000	160,000	-140,000	220,000
2066 (AN)	150,000	63,000	-200,000	8,200
2067 (AN)	150,000	95,000	-190,000	64,000
2068 (D)	98,000	62,000	-200,000	-39,000

Madera Irrigation District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		86,000	76,000	-240,000	-78,000
2070 (BN)		100,000	88,000	-220,000	-35,000
2071 (D)		89,000	71,000	-260,000	-100,000
2072 (W)		190,000	150,000	-150,000	180,000
2073 (W)		190,000	110,000	-180,000	130,000
2074 (C)		110,000	65,000	-240,000	-72,000
2075 (C)		92,000	68,000	-250,000	-89,000
2076 (BN)		92,000	68,000	-260,000	-100,000
2077 (AN)		140,000	110,000	-190,000	63,000
2078 (W)		210,000	190,000	-170,000	230,000
2079 (D)		73,000	41,000	-240,000	-120,000
2080 (C)		67,000	57,000	-270,000	-150,000
2081 (C)		32,000	46,000	-300,000	-220,000
2082 (C)		27,000	61,000	-320,000	-230,000
2083 (D)		86,000	120,000	-240,000	-31,000
2084 (W)		220,000	180,000	-200,000	200,000
2085 (BN)		110,000	42,000	-240,000	-91,000
2086 (W)		190,000	120,000	-220,000	97,000
2087 (D)		79,000	56,000	-260,000	-120,000
2088 (C)		42,000	57,000	-310,000	-220,000
2089 (C)		57,000	120,000	-240,000	-65,000
2090 (W)		260,000	240,000	-180,000	320,000
Average (2024-2039)		**110,000**	**87,000**	**-220,000**	**-22,000**
2024-2039	W	170,000	140,000	-160,000	140,000
	AN	130,000	94,000	-190,000	33,000
	BN	86,000	71,000	-240,000	-85,000
	D	85,000	68,000	-240,000	-82,000
	C	88,000	71,000	-250,000	-96,000
Average (2040-2090)		**130,000**	**99,000**	**-220,000**	**9,000**
2040-2090	W	210,000	160,000	-180,000	190,000
	AN	150,000	93,000	-210,000	30,000
	BN	99,000	66,000	-240,000	-76,000
	D	84,000	67,000	-240,000	-89,000
	C	62,000	61,000	-260,000	-140,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Sensitivity - Projected with Projects Water Budget
Madera Irrigation District GSA
Volume (acre-feet)
1,000,000
800,000
600,000
400,000
200,000
0
-200,000
-400,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.2.d

Madera Water District GSA Water Budget Results

Madera Water District GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		57	3,600	1,200	-8,700	2,000	-1,900	-1,900
1990 (C)		44	3,800	1,300	-9,400	2,500	-1,800	-3,700
1991 (C)		79	4,200	1,200	-9,800	3,000	-1,300	-5,000
1992 (C)		67	3,900	1,200	-10,000	3,300	-1,900	-6,800
1993 (W)		200	5,600	870	-9,200	3,600	1,000	-5,800
1994 (C)		54	3,000	740	-8,900	3,600	-1,500	-7,300
1995 (W)		260	5,100	430	-7,900	3,900	1,700	-5,500
1996 (W)		130	3,800	500	-8,900	4,000	-440	-6,000
1997 (W)		310	6,100	470	-8,300	3,400	2,000	-4,000
1998 (W)		470	6,000	22	-5,800	3,300	4,000	76
1999 (AN)		67	2,300	240	-8,300	4,000	-1,600	-1,500
2000 (AN)		140	4,500	100	-6,800	2,800	760	-780
2001 (D)		64	2,500	200	-7,900	3,600	-1,500	-2,300
2002 (D)		61	3,700	400	-9,000	3,500	-1,300	-3,700
2003 (BN)		50	3,400	230	-7,200	2,900	-690	-4,300
2004 (D)		32	2,800	520	-8,900	3,100	-2,400	-6,800
2005 (W)		230	4,200	-24	-5,100	2,400	1,700	-5,100
2006 (W)		250	3,800	41	-5,600	2,400	950	-4,100
2007 (C)		67	2,300	500	-9,400	3,600	-2,800	-7,000
2008 (C)		53	2,700	420	-8,700	3,600	-1,800	-8,800
2009 (BN)		40	2,600	450	-8,500	3,700	-1,700	-11,000
2010 (AN)		94	3,100	71	-5,400	2,700	550	-10,000
2011 (W)		240	4,700	52	-4,300	1,300	2,100	-7,900
2012 (D)		83	1,800	340	-6,500	2,200	-2,000	-9,900
2013 (C)		44	2,200	530	-7,300	2,300	-2,200	-12,000
2014 (C)		33	2,000	700	-7,600	2,300	-2,500	-15,000
2015 (C)		35	2,000	1,000	-8,600	2,600	-3,000	-18,000
2016 (D)		79	2,900	310	-3,200	830	960	-17,000
2017 (W)		260	3,900	270	-3,200	250	1,500	-15,000
2018 (BN)		51	1,900	270	-2,200	-680	-680	-16,000
2019 (W)		230	3,300	260	-2,200	-530	960	-15,000
2020 (D)		74	2,200	740	-6,400	730	-2,600	-18,000
2021 (C)		65	2,300	1,100	-8,400	1,900	-3,000	-21,000
2022 (C)		110	3,400	610	-5,700	1,700	96	-20,000
2023 (W)		240	3,500	220	-2,300	460	2,100	-18,000
Average (1989-2023)		**120**	**3,400**	**500**	**-7,000**	**2,500**	**-530**	
1989-2023	W	260	4,500	280	-5,700	2,200	1,600	
	AN	100	3,300	140	-6,800	3,200	-100	
	BN	47	2,600	320	-6,000	2,000	-1,000	
	D	66	2,600	420	-7,000	2,300	-1,500	
	C	59	3,000	880	-8,600	2,700	-2,000	
Average (1989-2015)		**120**	**3,500**	**510**	**-7,900**	**3,000**	**-650**	
1989-2015	W	260	4,900	290	-6,900	3,000	1,600	
	AN	100	3,300	140	-6,800	3,200	-100	
	BN	45	3,000	340	-7,900	3,300	-1,200	
	D	60	2,700	360	-8,100	3,100	-1,800	
	C	53	3,000	890	-8,900	2,900	-2,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

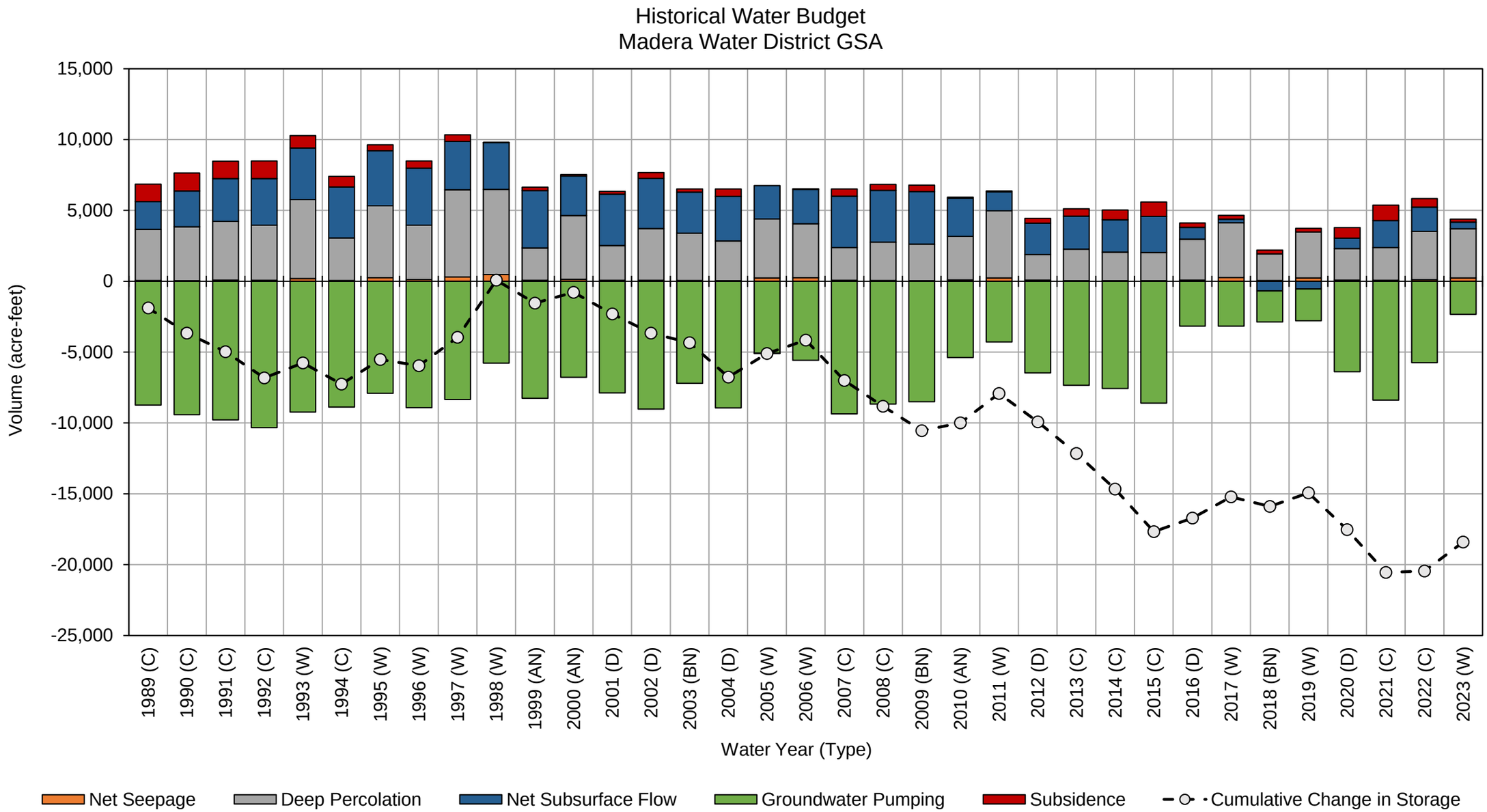
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Water District GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		57	3,600	-8,700	-5,100
1990 (C)		44	3,800	-9,400	-5,600
1991 (C)		79	4,200	-9,800	-5,600
1992 (C)		67	3,900	-10,000	-6,400
1993 (W)		200	5,600	-9,200	-3,500
1994 (C)		54	3,000	-8,900	-5,800
1995 (W)		260	5,100	-7,900	-2,600
1996 (W)		130	3,800	-8,900	-5,000
1997 (W)		310	6,100	-8,300	-1,900
1998 (W)		470	6,000	-5,800	710
1999 (AN)		67	2,300	-8,300	-5,900
2000 (AN)		140	4,500	-6,800	-2,100
2001 (D)		64	2,500	-7,900	-5,400
2002 (D)		61	3,700	-9,000	-5,300
2003 (BN)		50	3,400	-7,200	-3,800
2004 (D)		32	2,800	-8,900	-6,100
2005 (W)		230	4,200	-5,100	-670
2006 (W)		250	3,800	-5,600	-1,500
2007 (C)		67	2,300	-9,400	-7,000
2008 (C)		53	2,700	-8,700	-5,900
2009 (BN)		40	2,600	-8,500	-5,900
2010 (AN)		94	3,100	-5,400	-2,200
2011 (W)		240	4,700	-4,300	700
2012 (D)		83	1,800	-6,500	-4,600
2013 (C)		44	2,200	-7,300	-5,100
2014 (C)		33	2,000	-7,600	-5,500
2015 (C)		35	2,000	-8,600	-6,600
2016 (D)		79	2,900	-3,200	-180
2017 (W)		260	3,900	-3,200	980
2018 (BN)		51	1,900	-2,200	-270
2019 (W)		230	3,300	-2,200	1,200
2020 (D)		74	2,200	-6,400	-4,100
2021 (C)		65	2,300	-8,400	-6,000
2022 (C)		110	3,400	-5,700	-2,200
2023 (W)		240	3,500	-2,300	1,400
Average (1989-2023)		**120**	**3,400**	**-7,000**	**-3,500**
1989-2023	W	260	4,500	-5,700	-920
	AN	100	3,300	-6,800	-3,400
	BN	47	2,600	-6,000	-3,300
	D	66	2,600	-7,000	-4,300
	C	59	3,000	-8,600	-5,600
Average (1989-2015)		**120**	**3,500**	**-7,900**	**-4,200**
1989-2015	W	260	4,900	-6,900	-1,700
	AN	100	3,300	-6,800	-3,400
	BN	45	3,000	-7,900	-4,800
	D	60	2,700	-8,100	-5,300
	C	53	3,000	-8,900	-5,800

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Madera Water District GSA
Volume (acre-feet)
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
-25,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	83	1,900	150	-3,000	-44	-870	-870
2025 (AN)	6,000	4,500	510	-6,600	-1,600	2,900	2,000
2026 (AN)	6,100	2,800	310	-5,400	-1,500	2,400	4,400
2027 (D)	61	350	410	-6,900	2,300	-3,800	630
2028 (D)	64	1,700	460	-7,600	2,800	-2,500	-1,900
2029 (BN)	1,600	3,100	250	-6,000	1,300	260	-1,700
2030 (D)	36	1,400	420	-7,700	3,000	-2,800	-4,400
2031 (W)	6,200	5,900	-10	-4,200	-1,600	6,300	1,900
2032 (W)	6,300	2,800	1	-4,800	-930	3,300	5,200
2033 (C)	70	340	360	-8,500	3,400	-4,400	840
2034 (C)	60	1,300	210	-7,800	3,500	-2,800	-1,900
2035 (BN)	1,600	2,800	200	-7,800	2,700	-470	-2,400
2036 (AN)	6,100	4,500	-99	-5,100	-510	4,900	2,500
2037 (W)	6,300	4,300	-200	-3,800	-1,200	5,400	7,900
2038 (D)	97	300	-3	-6,100	2,500	-3,200	4,800
2039 (C)	60	880	52	-6,900	3,100	-2,800	2,000
2040 (AN)	6,100	6,800	-9	-6,600	-520	5,800	7,700
2041 (W)	6,100	1,900	-110	-6,500	680	2,100	9,800
2042 (W)	6,100	2,100	-160	-6,300	200	2,000	12,000
2043 (C)	72	240	-17	-7,600	3,500	-3,800	7,900
2044 (C)	56	1,100	190	-8,900	3,900	-3,700	4,200
2045 (W)	6,300	7,400	-190	-6,100	-260	7,200	11,000
2046 (AN)	6,100	2,300	-90	-6,800	280	1,800	13,000
2047 (W)	6,200	2,900	-110	-6,700	54	2,400	16,000
2048 (D)	77	300	-27	-7,600	3,200	-4,100	11,000
2049 (W)	6,300	4,700	-290	-5,400	-490	4,800	16,000
2050 (W)	6,300	5,200	-330	-5,600	-340	5,300	22,000
2051 (AN)	6,100	1,900	-120	-7,500	46	410	22,000
2052 (D)	86	390	-140	-7,400	3,100	-4,000	18,000
2053 (W)	6,200	5,700	-310	-6,200	-380	5,000	23,000
2054 (C)	89	270	-120	-7,600	3,300	-4,100	19,000
2055 (C)	70	700	-98	-7,100	3,200	-3,200	16,000
2056 (C)	87	1,700	15	-7,800	3,500	-2,500	13,000
2057 (C)	76	1,800	48	-7,600	3,400	-2,300	11,000
2058 (C)	110	2,100	130	-8,100	3,700	-2,000	8,900
2059 (C)	100	2,200	230	-8,600	3,800	-2,300	6,700
2060 (W)	6,200	6,200	75	-7,500	660	5,600	12,000
2061 (C)	87	220	110	-7,700	4,100	-3,200	9,100
2062 (W)	6,300	4,900	-120	-6,200	630	5,500	15,000
2063 (W)	6,200	2,300	-62	-7,200	1,200	2,500	17,000
2064 (W)	6,400	4,500	-150	-6,500	330	4,500	22,000
2065 (W)	6,500	5,000	-470	-4,500	-530	6,000	28,000
2066 (AN)	6,100	1,800	-280	-6,600	-170	810	28,000
2067 (AN)	6,200	3,000	-420	-5,400	-1,000	2,300	31,000
2068 (D)	120	390	-240	-7,000	2,600	-4,100	27,000
2069 (D)	120	1,200	-67	-7,700	3,200	-3,200	23,000
2070 (BN)	1,600	3,000	-170	-6,100	1,500	-63	23,000

MCSim_v2.0 - Projected with Projects

Madera Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		85	1,400	88	-7,800	3,000	-3,200	20,000
2072 (W)		6,300	6,100	-300	-4,300	-1,400	6,300	26,000
2073 (W)		6,300	2,900	-240	-4,900	-930	3,200	30,000
2074 (C)		120	370	160	-8,600	3,000	-5,000	25,000
2075 (C)		110	1,200	120	-7,900	3,000	-3,400	21,000
2076 (BN)		1,600	2,700	140	-7,900	2,200	-1,100	20,000
2077 (AN)		6,200	4,500	-170	-5,100	-1,000	4,400	24,000
2078 (W)		6,300	4,400	-290	-3,900	-1,900	4,700	29,000
2079 (D)		150	320	-39	-6,100	1,700	-4,000	25,000
2080 (C)		100	880	150	-7,000	2,200	-3,600	21,000
2081 (C)		80	1,800	210	-7,200	2,100	-3,100	18,000
2082 (C)		83	1,800	390	-8,500	2,600	-3,600	15,000
2083 (D)		140	2,800	-140	-3,200	710	300	15,000
2084 (W)		6,300	6,800	-81	-3,200	-3,000	6,800	22,000
2085 (BN)		1,700	290	-71	-3,000	-560	-1,700	20,000
2086 (W)		6,300	4,600	-160	-2,300	-3,400	5,000	25,000
2087 (D)		130	380	230	-6,500	1,100	-4,600	20,000
2088 (C)		110	1,500	440	-8,500	2,100	-4,200	16,000
2089 (C)		170	3,500	84	-5,800	1,500	-580	16,000
2090 (W)		6,300	6,300	-250	-2,400	-2,800	7,200	23,000
Average (2024-2039)		**2,500**	**2,400**	**190**	**-6,100**	**1,100**	**120**	
2024-2039	W	6,300	4,400	-70	-4,300	-1,200	5,000	
	AN	6,100	3,900	240	-5,700	-1,200	3,400	
	BN	1,100	2,600	200	-5,600	1,400	-360	
	D	64	950	320	-7,100	2,700	-3,100	
	C	63	850	210	-7,800	3,300	-3,300	
Average (2040-2090)		**3,100**	**2,700**	**-59**	**-6,400**	**1,100**	**410**	
2040-2090	W	6,300	4,700	-200	-5,300	-650	4,800	
	AN	6,100	3,400	-180	-6,400	-400	2,600	
	BN	1,600	2,000	-34	-5,700	1,100	-980	
	D	110	900	-42	-6,700	2,300	-3,400	
	C	95	1,300	130	-7,800	3,100	-3,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

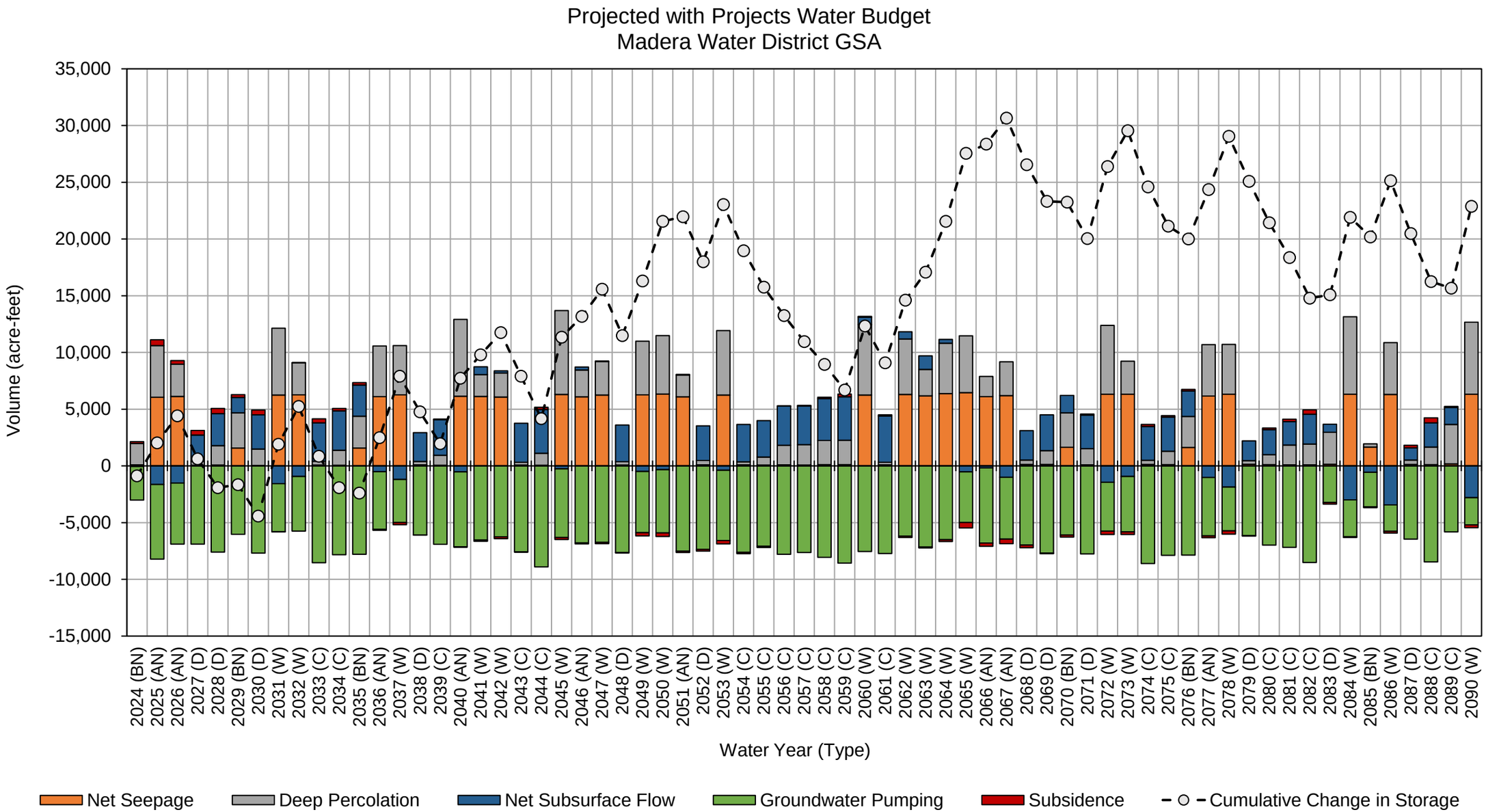
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	83	1,900	-3,000	-980
2025 (AN)	6,000	4,500	-6,600	4,000
2026 (AN)	6,100	2,800	-5,400	3,600
2027 (D)	61	350	-6,900	-6,500
2028 (D)	64	1,700	-7,600	-5,800
2029 (BN)	1,600	3,100	-6,000	-1,300
2030 (D)	36	1,400	-7,700	-6,200
2031 (W)	6,200	5,900	-4,200	7,900
2032 (W)	6,300	2,800	-4,800	4,300
2033 (C)	70	340	-8,500	-8,100
2034 (C)	60	1,300	-7,800	-6,400
2035 (BN)	1,600	2,800	-7,800	-3,400
2036 (AN)	6,100	4,500	-5,100	5,500
2037 (W)	6,300	4,300	-3,800	6,800
2038 (D)	97	300	-6,100	-5,700
2039 (C)	60	880	-6,900	-6,000
2040 (AN)	6,100	6,800	-6,600	6,300
2041 (W)	6,100	1,900	-6,500	1,500
2042 (W)	6,100	2,100	-6,300	1,900
2043 (C)	72	240	-7,600	-7,300
2044 (C)	56	1,100	-8,900	-7,800
2045 (W)	6,300	7,400	-6,100	7,600
2046 (AN)	6,100	2,300	-6,800	1,600
2047 (W)	6,200	2,900	-6,700	2,400
2048 (D)	77	300	-7,600	-7,300
2049 (W)	6,300	4,700	-5,400	5,600
2050 (W)	6,300	5,200	-5,600	5,900
2051 (AN)	6,100	1,900	-7,500	490
2052 (D)	86	390	-7,400	-6,900
2053 (W)	6,200	5,700	-6,200	5,700
2054 (C)	89	270	-7,600	-7,300
2055 (C)	70	700	-7,100	-6,300
2056 (C)	87	1,700	-7,800	-6,000
2057 (C)	76	1,800	-7,600	-5,800
2058 (C)	110	2,100	-8,100	-5,800
2059 (C)	100	2,200	-8,600	-6,300
2060 (W)	6,200	6,200	-7,500	4,900
2061 (C)	87	220	-7,700	-7,400
2062 (W)	6,300	4,900	-6,200	5,000
2063 (W)	6,200	2,300	-7,200	1,300
2064 (W)	6,400	4,500	-6,500	4,300
2065 (W)	6,500	5,000	-4,500	7,000
2066 (AN)	6,100	1,800	-6,600	1,300
2067 (AN)	6,200	3,000	-5,400	3,700
2068 (D)	120	390	-7,000	-6,500

Madera Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		120	1,200	-7,700	-6,300
2070 (BN)		1,600	3,000	-6,100	-1,400
2071 (D)		85	1,400	-7,800	-6,300
2072 (W)		6,300	6,100	-4,300	8,100
2073 (W)		6,300	2,900	-4,900	4,300
2074 (C)		120	370	-8,600	-8,100
2075 (C)		110	1,200	-7,900	-6,600
2076 (BN)		1,600	2,700	-7,900	-3,500
2077 (AN)		6,200	4,500	-5,100	5,500
2078 (W)		6,300	4,400	-3,900	6,800
2079 (D)		150	320	-6,100	-5,700
2080 (C)		100	880	-7,000	-6,000
2081 (C)		80	1,800	-7,200	-5,300
2082 (C)		83	1,800	-8,500	-6,600
2083 (D)		140	2,800	-3,200	-270
2084 (W)		6,300	6,800	-3,200	9,900
2085 (BN)		1,700	290	-3,000	-1,100
2086 (W)		6,300	4,600	-2,300	8,600
2087 (D)		130	380	-6,500	-6,000
2088 (C)		110	1,500	-8,500	-6,800
2089 (C)		170	3,500	-5,800	-2,200
2090 (W)		6,300	6,300	-2,400	10,000
Average (2024-2039)		**2,500**	**2,400**	**-6,100**	**-1,200**
2024-2039	W	6,300	4,400	-4,300	6,300
	AN	6,100	3,900	-5,700	4,400
	BN	1,100	2,600	-5,600	-1,900
	D	64	950	-7,100	-6,100
	C	63	850	-7,800	-6,800
Average (2040-2090)		**3,100**	**2,700**	**-6,400**	**-640**
2040-2090	W	6,300	4,700	-5,300	5,600
	AN	6,100	3,400	-6,400	3,200
	BN	1,600	2,000	-5,700	-2,000
	D	110	900	-6,700	-5,600
	C	95	1,300	-7,800	-6,300

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Madera Water District GSA
Volume (acre-feet)
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	82	1,900	190	-3,300	57	-1,100	-1,100
2025 (AN)	43	2,000	570	-6,800	1,700	-2,500	-3,500
2026 (AN)	130	3,200	390	-5,700	1,600	-380	-3,900
2027 (D)	59	2,000	580	-7,200	2,500	-2,100	-6,000
2028 (D)	62	2,400	670	-7,900	2,900	-1,800	-7,800
2029 (BN)	56	2,500	420	-6,200	2,500	-770	-8,600
2030 (D)	35	2,100	720	-7,900	2,900	-2,200	-11,000
2031 (W)	230	3,300	150	-4,900	2,600	1,300	-9,600
2032 (W)	270	3,200	120	-5,100	2,500	990	-8,600
2033 (C)	70	1,900	610	-8,800	3,800	-2,300	-11,000
2034 (C)	58	2,100	520	-8,200	3,900	-1,600	-12,000
2035 (BN)	50	2,200	490	-8,100	4,000	-1,400	-14,000
2036 (AN)	100	2,600	73	-5,400	3,400	770	-13,000
2037 (W)	250	4,100	23	-4,900	2,900	2,400	-11,000
2038 (D)	100	1,900	200	-6,100	3,400	-560	-11,000
2039 (C)	59	2,300	250	-7,100	3,700	-870	-12,000
2040 (AN)	140	3,900	200	-6,900	3,700	1,000	-11,000
2041 (W)	120	2,400	110	-6,900	4,300	10	-11,000
2042 (W)	61	2,100	61	-6,600	4,200	-190	-11,000
2043 (C)	72	1,900	160	-7,600	4,600	-850	-12,000
2044 (C)	56	1,800	370	-8,900	4,900	-1,800	-14,000
2045 (W)	310	4,500	51	-6,300	3,800	2,300	-12,000
2046 (AN)	87	2,900	150	-7,100	4,300	230	-11,000
2047 (W)	250	2,900	160	-6,900	4,000	380	-11,000
2048 (D)	78	2,000	240	-7,900	4,500	-1,100	-12,000
2049 (W)	270	2,900	-120	-5,600	4,100	1,500	-11,000
2050 (W)	330	5,200	-92	-5,700	4,000	3,700	-6,800
2051 (AN)	78	2,000	120	-7,800	4,900	-700	-7,500
2052 (D)	81	2,200	74	-7,700	4,800	-520	-8,100
2053 (W)	230	3,600	-170	-6,200	4,500	1,900	-6,200
2054 (C)	84	1,900	55	-7,900	5,200	-720	-6,900
2055 (C)	67	1,800	-26	-7,200	4,900	-490	-7,400
2056 (C)	85	1,900	91	-8,300	5,200	-980	-8,400
2057 (C)	72	1,800	87	-8,000	5,100	-920	-9,300
2058 (C)	110	2,100	130	-8,300	5,200	-720	-10,000
2059 (C)	100	2,200	250	-9,000	5,300	-1,300	-11,000
2060 (W)	250	3,500	89	-8,000	5,100	870	-10,000
2061 (C)	89	2,000	180	-8,300	5,100	-990	-11,000
2062 (W)	300	3,300	-62	-6,500	4,700	1,800	-9,600
2063 (W)	170	2,500	51	-7,500	5,100	350	-9,200
2064 (W)	350	4,300	26	-7,100	4,500	2,200	-7,100
2065 (W)	550	5,000	-200	-5,200	4,000	4,100	-2,900
2066 (AN)	91	1,400	-21	-6,900	4,800	-580	-3,500
2067 (AN)	190	3,200	-190	-5,800	4,000	1,400	-2,200
2068 (D)	110	2,000	0	-7,300	4,600	-660	-2,800
2069 (D)	110	2,400	36	-7,900	4,800	-630	-3,400
2070 (BN)	110	2,500	-100	-6,300	4,100	250	-3,200

Madera Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		78	2,100	150	-8,000	4,400	-1,300	-4,500
2072 (W)		290	3,300	-210	-5,000	3,400	1,700	-2,700
2073 (W)		320	3,300	-160	-5,200	3,200	1,600	-1,200
2074 (C)		110	1,900	270	-8,900	4,700	-1,900	-3,100
2075 (C)		98	2,100	150	-8,300	4,600	-1,300	-4,400
2076 (BN)		89	2,200	130	-8,100	4,600	-1,100	-5,500
2077 (AN)		150	2,600	-130	-5,500	3,600	750	-4,800
2078 (W)		290	4,100	-120	-5,000	2,900	2,200	-2,500
2079 (D)		150	1,900	76	-6,200	3,300	-760	-3,300
2080 (C)		92	2,300	160	-7,200	3,600	-1,100	-4,300
2081 (C)		79	1,900	190	-7,100	3,600	-1,400	-5,800
2082 (C)		81	1,900	360	-8,500	4,000	-2,200	-8,000
2083 (D)		140	2,900	-180	-3,500	2,100	1,400	-6,600
2084 (W)		320	4,000	-81	-3,500	1,500	2,200	-4,400
2085 (BN)		140	1,900	-28	-3,300	1,200	-71	-4,400
2086 (W)		310	3,600	-110	-2,700	750	1,900	-2,500
2087 (D)		120	2,200	370	-6,700	2,100	-1,900	-4,400
2088 (C)		110	2,300	440	-8,600	3,300	-2,500	-6,900
2089 (C)		180	3,700	65	-5,700	2,600	780	-6,200
2090 (W)		310	3,600	-240	-2,600	1,500	2,500	-3,700
Average (2024-2039)		**100**	**2,500**	**370**	**-6,500**	**2,800**	**-760**	
2024-2039	W	250	3,500	95	-5,000	2,700	1,500	
	AN	92	2,600	350	-6,000	2,200	-690	
	BN	63	2,200	370	-5,900	2,200	-1,100	
	D	65	2,100	540	-7,300	2,900	-1,700	
	C	62	2,100	460	-8,000	3,800	-1,600	
Average (2040-2090)		**170**	**2,700**	**55**	**-6,700**	**4,000**	**170**	
2040-2090	W	280	3,600	-56	-5,700	3,600	1,700	
	AN	120	2,700	20	-6,700	4,200	350	
	BN	110	2,200	1	-5,900	3,300	-320	
	D	110	2,200	95	-6,900	3,800	-680	
	C	93	2,100	180	-8,000	4,500	-1,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

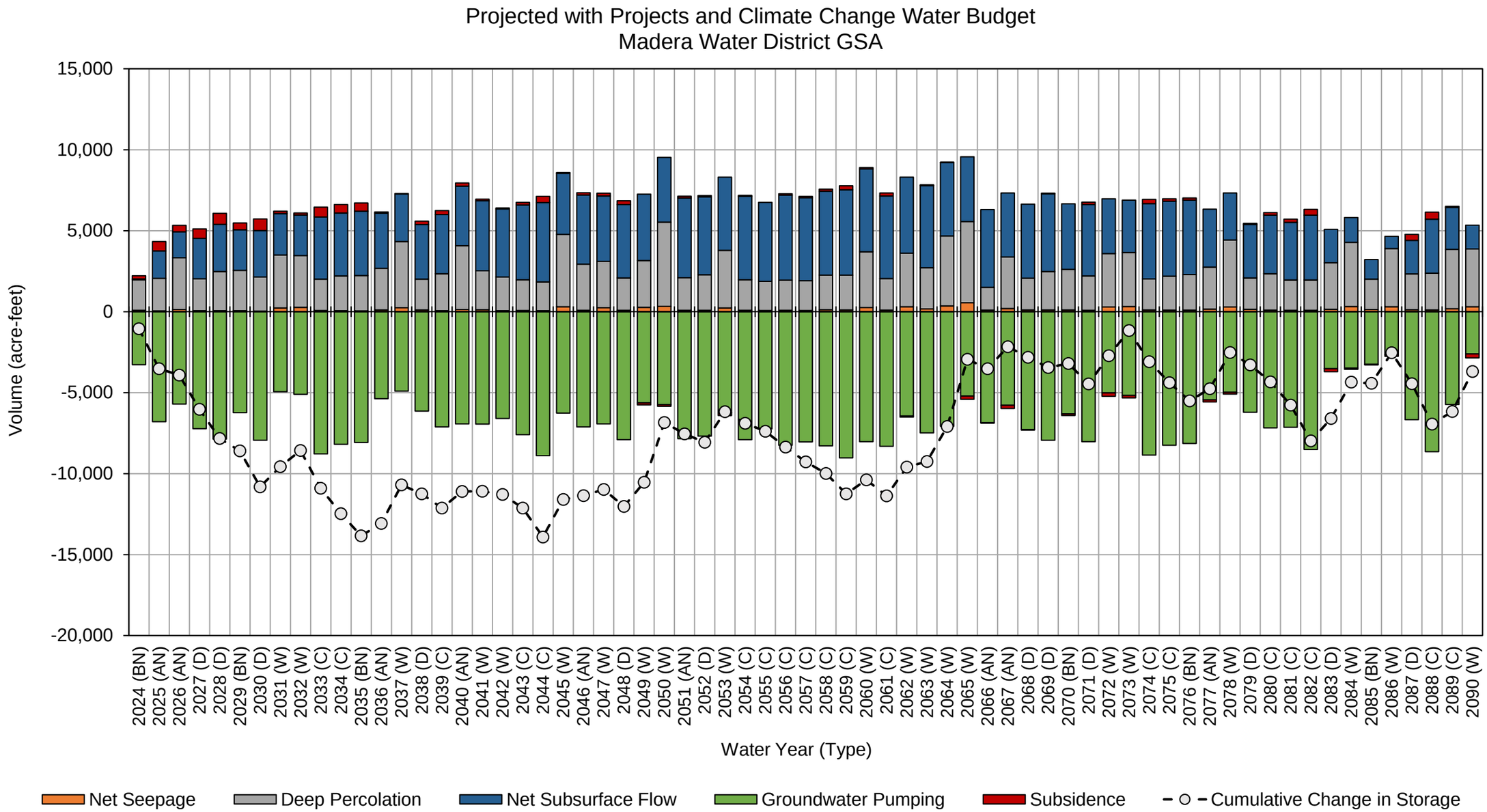
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	82	1,900	-3,300	-1,300
2025 (AN)	43	2,000	-6,800	-4,700
2026 (AN)	130	3,200	-5,700	-2,400
2027 (D)	59	2,000	-7,200	-5,200
2028 (D)	62	2,400	-7,900	-5,400
2029 (BN)	56	2,500	-6,200	-3,700
2030 (D)	35	2,100	-7,900	-5,800
2031 (W)	230	3,300	-4,900	-1,400
2032 (W)	270	3,200	-5,100	-1,600
2033 (C)	70	1,900	-8,800	-6,800
2034 (C)	58	2,100	-8,200	-6,000
2035 (BN)	50	2,200	-8,100	-5,900
2036 (AN)	100	2,600	-5,400	-2,700
2037 (W)	250	4,100	-4,900	-580
2038 (D)	100	1,900	-6,100	-4,100
2039 (C)	59	2,300	-7,100	-4,800
2040 (AN)	140	3,900	-6,900	-2,900
2041 (W)	120	2,400	-6,900	-4,400
2042 (W)	61	2,100	-6,600	-4,500
2043 (C)	72	1,900	-7,600	-5,600
2044 (C)	56	1,800	-8,900	-7,100
2045 (W)	310	4,500	-6,300	-1,500
2046 (AN)	87	2,900	-7,100	-4,200
2047 (W)	250	2,900	-6,900	-3,800
2048 (D)	78	2,000	-7,900	-5,800
2049 (W)	270	2,900	-5,600	-2,500
2050 (W)	330	5,200	-5,700	-230
2051 (AN)	78	2,000	-7,800	-5,700
2052 (D)	81	2,200	-7,700	-5,400
2053 (W)	230	3,600	-6,200	-2,500
2054 (C)	84	1,900	-7,900	-5,900
2055 (C)	67	1,800	-7,200	-5,300
2056 (C)	85	1,900	-8,300	-6,300
2057 (C)	72	1,800	-8,000	-6,100
2058 (C)	110	2,100	-8,300	-6,000
2059 (C)	100	2,200	-9,000	-6,800
2060 (W)	250	3,500	-8,000	-4,300
2061 (C)	89	2,000	-8,300	-6,300
2062 (W)	300	3,300	-6,500	-2,800
2063 (W)	170	2,500	-7,500	-4,800
2064 (W)	350	4,300	-7,100	-2,400
2065 (W)	550	5,000	-5,200	360
2066 (AN)	91	1,400	-6,900	-5,400
2067 (AN)	190	3,200	-5,800	-2,400
2068 (D)	110	2,000	-7,300	-5,200

Madera Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		110	2,400	-7,900	-5,500
2070 (BN)		110	2,500	-6,300	-3,700
2071 (D)		78	2,100	-8,000	-5,800
2072 (W)		290	3,300	-5,000	-1,400
2073 (W)		320	3,300	-5,200	-1,500
2074 (C)		110	1,900	-8,900	-6,800
2075 (C)		98	2,100	-8,300	-6,100
2076 (BN)		89	2,200	-8,100	-5,900
2077 (AN)		150	2,600	-5,500	-2,700
2078 (W)		290	4,100	-5,000	-550
2079 (D)		150	1,900	-6,200	-4,100
2080 (C)		92	2,300	-7,200	-4,800
2081 (C)		79	1,900	-7,100	-5,200
2082 (C)		81	1,900	-8,500	-6,600
2083 (D)		140	2,900	-3,500	-500
2084 (W)		320	4,000	-3,500	800
2085 (BN)		140	1,900	-3,300	-1,200
2086 (W)		310	3,600	-2,700	1,200
2087 (D)		120	2,200	-6,700	-4,300
2088 (C)		110	2,300	-8,600	-6,300
2089 (C)		180	3,700	-5,700	-1,900
2090 (W)		310	3,600	-2,600	1,300
Average (2024-2039)		**100**	**2,500**	**-6,500**	**-3,900**
2024-2039	W	250	3,500	-5,000	-1,200
	AN	92	2,600	-6,000	-3,300
	BN	63	2,200	-5,900	-3,600
	D	65	2,100	-7,300	-5,100
	C	62	2,100	-8,000	-5,800
Average (2040-2090)		**170**	**2,700**	**-6,700**	**-3,900**
2040-2090	W	280	3,600	-5,700	-1,900
	AN	120	2,700	-6,700	-3,900
	BN	110	2,200	-5,900	-3,600
	D	110	2,200	-6,900	-4,600
	C	93	2,100	-8,000	-5,800

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Madera Water District GSA
Volume (acre-feet)
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	83	1,900	160	-3,000	-72	-910	-910
2025 (AN)	45	2,000	550	-6,600	1,500	-2,500	-3,400
2026 (AN)	130	3,100	370	-5,400	1,300	-410	-3,800
2027 (D)	60	2,000	540	-6,900	2,300	-2,000	-5,800
2028 (D)	63	2,400	680	-7,600	2,600	-1,900	-7,600
2029 (BN)	52	2,400	450	-6,000	2,100	-940	-8,600
2030 (D)	35	2,100	770	-7,700	2,400	-2,400	-11,000
2031 (W)	240	3,200	150	-4,200	1,900	1,200	-9,700
2032 (W)	260	3,200	200	-4,800	1,800	640	-9,100
2033 (C)	70	2,000	790	-8,500	3,000	-2,700	-12,000
2034 (C)	59	2,100	680	-7,800	2,900	-2,000	-14,000
2035 (BN)	48	2,100	680	-7,800	3,000	-2,000	-16,000
2036 (AN)	100	2,500	270	-5,100	2,400	220	-16,000
2037 (W)	250	4,300	160	-3,800	1,400	2,400	-13,000
2038 (D)	97	1,700	400	-6,100	2,300	-1,600	-15,000
2039 (C)	59	2,100	540	-6,900	2,500	-1,800	-17,000
2040 (AN)	120	4,000	520	-6,600	2,300	340	-16,000
2041 (W)	120	2,400	410	-6,500	2,800	-860	-17,000
2042 (W)	62	2,100	380	-6,300	2,700	-1,000	-18,000
2043 (C)	69	1,900	530	-7,600	3,100	-1,900	-20,000
2044 (C)	56	1,800	710	-8,900	3,300	-3,000	-23,000
2045 (W)	280	4,500	440	-6,000	2,700	1,800	-21,000
2046 (AN)	86	2,800	450	-6,800	2,700	-740	-22,000
2047 (W)	230	2,800	450	-6,700	2,800	-430	-22,000
2048 (D)	74	2,000	570	-7,600	3,000	-2,000	-24,000
2049 (W)	250	2,800	320	-5,400	2,700	680	-24,000
2050 (W)	310	5,300	250	-5,600	2,800	3,100	-21,000
2051 (AN)	76	2,000	440	-7,500	3,100	-1,900	-23,000
2052 (D)	80	2,200	430	-7,400	3,200	-1,400	-24,000
2053 (W)	220	3,600	300	-6,200	3,000	920	-23,000
2054 (C)	84	1,800	380	-7,600	3,500	-1,800	-25,000
2055 (C)	68	1,800	380	-7,100	3,300	-1,500	-26,000
2056 (C)	85	1,900	430	-7,800	3,600	-1,800	-28,000
2057 (C)	74	1,800	440	-7,600	3,500	-1,800	-30,000
2058 (C)	110	2,100	500	-8,000	3,600	-1,700	-32,000
2059 (C)	97	2,200	570	-8,600	3,500	-2,200	-34,000
2060 (W)	230	3,500	500	-7,500	3,500	140	-34,000
2061 (C)	88	1,900	520	-7,700	3,400	-1,800	-36,000
2062 (W)	290	3,300	390	-6,200	3,400	1,200	-34,000
2063 (W)	160	2,500	400	-7,100	3,500	-580	-35,000
2064 (W)	350	4,500	410	-6,500	3,000	1,800	-33,000
2065 (W)	510	4,700	250	-4,500	2,800	3,800	-29,000
2066 (AN)	98	1,400	290	-6,600	3,500	-1,300	-31,000
2067 (AN)	180	3,200	230	-5,400	2,800	990	-30,000
2068 (D)	110	2,000	230	-7,000	3,800	-900	-31,000
2069 (D)	110	2,300	310	-7,700	3,800	-1,100	-32,000
2070 (BN)	100	2,400	270	-6,100	3,100	-170	-32,000

MCSim_v2.0 - Projected (No Action)

Madera Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		82	2,100	360	-7,700	3,300	-1,900	-34,000
2072 (W)		290	3,300	180	-4,300	2,600	2,000	-32,000
2073 (W)		310	3,300	190	-4,900	2,600	1,500	-30,000
2074 (C)		110	1,900	350	-8,600	3,700	-2,500	-33,000
2075 (C)		100	2,100	380	-7,900	3,400	-1,900	-35,000
2076 (BN)		90	2,100	440	-7,800	3,300	-1,900	-37,000
2077 (AN)		150	2,600	310	-5,100	2,600	500	-36,000
2078 (W)		300	4,400	210	-3,900	1,800	2,800	-33,000
2079 (D)		140	1,700	280	-6,100	2,700	-1,300	-35,000
2080 (C)		97	2,100	400	-7,000	2,700	-1,700	-36,000
2081 (C)		82	1,800	460	-7,200	2,600	-2,200	-39,000
2082 (C)		85	1,900	610	-8,500	2,800	-3,100	-42,000
2083 (D)		130	2,900	420	-3,200	1,200	1,400	-40,000
2084 (W)		300	3,900	330	-3,200	910	2,200	-38,000
2085 (BN)		130	1,800	310	-3,100	670	-96	-38,000
2086 (W)		290	3,300	280	-2,300	480	2,000	-36,000
2087 (D)		130	2,300	380	-6,500	1,600	-2,100	-38,000
2088 (C)		110	2,300	560	-8,400	2,200	-3,300	-42,000
2089 (C)		160	3,400	470	-5,800	1,800	35	-42,000
2090 (W)		290	3,500	370	-2,400	520	2,300	-39,000
Average (2024-2039)		**100**	**2,400**	**460**	**-6,100**	**2,100**	**-1,000**	
2024-2039	W	250	3,600	170	-4,300	1,700	1,400	
	AN	91	2,600	400	-5,700	1,700	-890	
	BN	61	2,100	430	-5,600	1,700	-1,300	
	D	64	2,000	600	-7,100	2,400	-1,900	
	C	62	2,100	670	-7,800	2,800	-2,200	
Average (2040-2090)		**160**	**2,700**	**390**	**-6,400**	**2,800**	**-450**	
2040-2090	W	270	3,500	340	-5,300	2,500	1,300	
	AN	120	2,700	370	-6,300	2,800	-350	
	BN	110	2,100	340	-5,700	2,300	-730	
	D	110	2,200	370	-6,600	2,800	-1,200	
	C	92	2,000	480	-7,800	3,100	-2,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

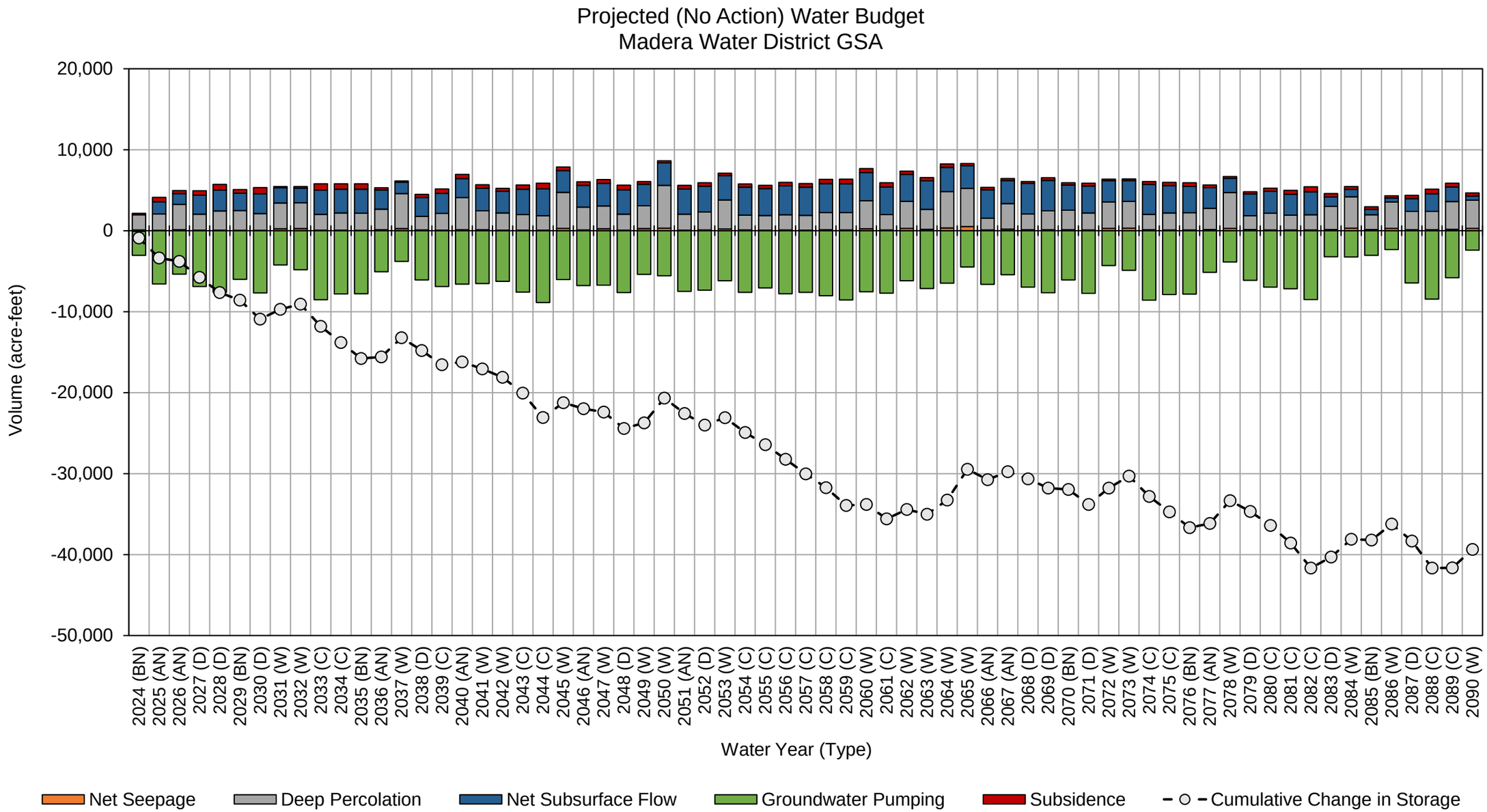
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	83	1,900	-3,000	-990
2025 (AN)	45	2,000	-6,600	-4,500
2026 (AN)	130	3,100	-5,400	-2,100
2027 (D)	60	2,000	-6,900	-4,900
2028 (D)	63	2,400	-7,600	-5,200
2029 (BN)	52	2,400	-6,000	-3,500
2030 (D)	35	2,100	-7,700	-5,600
2031 (W)	240	3,200	-4,200	-800
2032 (W)	260	3,200	-4,800	-1,400
2033 (C)	70	2,000	-8,500	-6,500
2034 (C)	59	2,100	-7,800	-5,600
2035 (BN)	48	2,100	-7,800	-5,600
2036 (AN)	100	2,500	-5,100	-2,400
2037 (W)	250	4,300	-3,800	790
2038 (D)	97	1,700	-6,100	-4,300
2039 (C)	59	2,100	-6,900	-4,800
2040 (AN)	120	4,000	-6,600	-2,500
2041 (W)	120	2,400	-6,500	-4,100
2042 (W)	62	2,100	-6,300	-4,100
2043 (C)	69	1,900	-7,600	-5,600
2044 (C)	56	1,800	-8,900	-7,000
2045 (W)	280	4,500	-6,000	-1,300
2046 (AN)	86	2,800	-6,800	-3,900
2047 (W)	230	2,800	-6,700	-3,700
2048 (D)	74	2,000	-7,600	-5,600
2049 (W)	250	2,800	-5,400	-2,300
2050 (W)	310	5,300	-5,600	30
2051 (AN)	76	2,000	-7,500	-5,500
2052 (D)	80	2,200	-7,400	-5,000
2053 (W)	220	3,600	-6,200	-2,400
2054 (C)	84	1,800	-7,600	-5,700
2055 (C)	68	1,800	-7,100	-5,200
2056 (C)	85	1,900	-7,800	-5,800
2057 (C)	74	1,800	-7,600	-5,700
2058 (C)	110	2,100	-8,000	-5,800
2059 (C)	97	2,200	-8,600	-6,300
2060 (W)	230	3,500	-7,500	-3,800
2061 (C)	88	1,900	-7,700	-5,700
2062 (W)	290	3,300	-6,200	-2,600
2063 (W)	160	2,500	-7,100	-4,500
2064 (W)	350	4,500	-6,500	-1,700
2065 (W)	510	4,700	-4,500	760
2066 (AN)	98	1,400	-6,600	-5,100
2067 (AN)	180	3,200	-5,400	-2,100
2068 (D)	110	2,000	-7,000	-4,900

Madera Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		110	2,300	-7,700	-5,200
2070 (BN)		100	2,400	-6,100	-3,600
2071 (D)		82	2,100	-7,700	-5,500
2072 (W)		290	3,300	-4,300	-760
2073 (W)		310	3,300	-4,900	-1,300
2074 (C)		110	1,900	-8,600	-6,600
2075 (C)		100	2,100	-7,900	-5,700
2076 (BN)		90	2,100	-7,800	-5,600
2077 (AN)		150	2,600	-5,100	-2,400
2078 (W)		300	4,400	-3,900	840
2079 (D)		140	1,700	-6,100	-4,300
2080 (C)		97	2,100	-7,000	-4,800
2081 (C)		82	1,800	-7,200	-5,200
2082 (C)		85	1,900	-8,500	-6,500
2083 (D)		130	2,900	-3,200	-230
2084 (W)		300	3,900	-3,200	950
2085 (BN)		130	1,800	-3,100	-1,100
2086 (W)		290	3,300	-2,300	1,200
2087 (D)		130	2,300	-6,500	-4,100
2088 (C)		110	2,300	-8,400	-6,100
2089 (C)		160	3,400	-5,800	-2,200
2090 (W)		290	3,500	-2,400	1,400
Average (2024-2039)		**100**	**2,400**	**-6,100**	**-3,600**
2024-2039	W	250	3,600	-4,300	-460
	AN	91	2,600	-5,700	-3,000
	BN	61	2,100	-5,600	-3,400
	D	64	2,000	-7,100	-5,000
	C	62	2,100	-7,800	-5,600
Average (2040-2090)		**160**	**2,700**	**-6,400**	**-3,600**
2040-2090	W	270	3,500	-5,300	-1,500
	AN	120	2,700	-6,300	-3,600
	BN	110	2,100	-5,700	-3,400
	D	110	2,200	-6,600	-4,400
	C	92	2,000	-7,800	-5,600

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Madera Water District GSA
Volume (acre-feet)
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
-50,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	82	1,900	200	-3,300	-31	-1,100	-1,100
2025 (AN)	43	2,000	610	-6,800	1,500	-2,600	-3,700
2026 (AN)	130	3,200	460	-5,700	1,300	-570	-4,300
2027 (D)	58	2,000	680	-7,200	2,100	-2,400	-6,700
2028 (D)	62	2,400	800	-7,900	2,500	-2,100	-8,800
2029 (BN)	55	2,500	570	-6,200	2,000	-1,100	-10,000
2030 (D)	35	2,100	920	-7,900	2,200	-2,700	-13,000
2031 (W)	230	3,300	320	-4,900	1,800	680	-12,000
2032 (W)	260	3,200	340	-5,100	1,700	370	-12,000
2033 (C)	70	1,900	890	-8,800	2,900	-3,000	-15,000
2034 (C)	57	2,100	800	-8,200	2,900	-2,300	-17,000
2035 (BN)	49	2,200	770	-8,100	2,800	-2,200	-19,000
2036 (AN)	100	2,600	400	-5,400	2,200	-53	-19,000
2037 (W)	240	4,100	350	-4,900	1,700	1,500	-18,000
2038 (D)	100	1,900	480	-6,100	2,100	-1,600	-19,000
2039 (C)	58	2,300	650	-7,100	2,200	-1,900	-21,000
2040 (AN)	130	4,000	590	-6,900	2,200	-59	-21,000
2041 (W)	120	2,400	530	-6,900	2,600	-1,300	-22,000
2042 (W)	60	2,100	500	-6,600	2,500	-1,400	-24,000
2043 (C)	70	1,900	610	-7,600	2,900	-2,100	-26,000
2044 (C)	56	1,800	760	-8,900	2,900	-3,300	-29,000
2045 (W)	290	4,600	590	-6,300	2,200	1,400	-28,000
2046 (AN)	82	2,700	570	-7,100	2,500	-1,200	-29,000
2047 (W)	240	2,900	580	-6,900	2,300	-910	-30,000
2048 (D)	77	2,000	670	-7,900	2,700	-2,500	-33,000
2049 (W)	260	2,900	490	-5,600	2,500	530	-32,000
2050 (W)	320	5,200	370	-5,700	2,600	2,800	-29,000
2051 (AN)	75	1,900	510	-7,800	3,000	-2,300	-32,000
2052 (D)	80	2,200	560	-7,700	2,900	-1,900	-33,000
2053 (W)	220	3,600	430	-6,200	2,800	850	-33,000
2054 (C)	83	1,800	460	-7,900	3,300	-2,100	-35,000
2055 (C)	66	1,800	470	-7,200	3,200	-1,700	-36,000
2056 (C)	85	1,900	520	-8,200	3,600	-2,200	-39,000
2057 (C)	71	1,800	540	-8,000	3,500	-2,100	-41,000
2058 (C)	110	2,200	570	-8,300	3,500	-1,900	-43,000
2059 (C)	99	2,200	640	-9,000	3,600	-2,600	-45,000
2060 (W)	240	3,500	590	-8,000	3,500	-200	-45,000
2061 (C)	89	1,900	610	-8,300	3,400	-2,300	-48,000
2062 (W)	290	3,300	490	-6,500	3,300	980	-47,000
2063 (W)	170	2,500	490	-7,500	3,500	-800	-47,000
2064 (W)	350	4,400	520	-7,000	3,000	1,200	-46,000
2065 (W)	540	5,000	410	-5,200	2,800	3,600	-43,000
2066 (AN)	91	1,300	390	-6,800	3,400	-1,600	-44,000
2067 (AN)	190	3,200	360	-5,800	2,700	700	-43,000
2068 (D)	110	2,000	360	-7,300	3,400	-1,400	-45,000
2069 (D)	110	2,400	420	-7,900	3,500	-1,500	-46,000
2070 (BN)	110	2,500	410	-6,300	2,900	-430	-47,000

MCSim_v2.0 - Projected (No Action) with Climate Change

Madera Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		81	2,100	510	-8,000	3,100	-2,200	-49,000
2072 (W)		280	3,300	370	-5,000	2,500	1,400	-48,000
2073 (W)		310	3,300	340	-5,200	2,300	1,100	-46,000
2074 (C)		110	1,900	440	-8,800	3,600	-2,700	-49,000
2075 (C)		100	2,100	510	-8,200	3,400	-2,100	-51,000
2076 (BN)		91	2,100	540	-8,000	3,300	-2,000	-53,000
2077 (AN)		150	2,500	420	-5,500	2,600	220	-53,000
2078 (W)		290	4,100	390	-5,000	2,000	1,900	-51,000
2079 (D)		140	1,900	390	-6,100	2,500	-1,200	-52,000
2080 (C)		96	2,200	490	-7,100	2,700	-1,600	-54,000
2081 (C)		83	1,800	520	-6,900	2,600	-1,800	-56,000
2082 (C)		85	1,700	580	-7,800	3,000	-2,500	-58,000
2083 (D)		140	2,500	480	-3,400	1,200	960	-57,000
2084 (W)		310	3,900	430	-3,500	960	2,100	-55,000
2085 (BN)		140	1,800	420	-3,200	670	-200	-55,000
2086 (W)		300	3,600	400	-2,700	430	2,100	-53,000
2087 (D)		120	2,200	440	-6,500	1,700	-2,000	-55,000
2088 (C)		110	2,100	530	-8,000	2,600	-2,700	-58,000
2089 (C)		170	3,300	460	-5,500	2,000	420	-57,000
2090 (W)		300	3,300	420	-2,600	630	2,100	-55,000
Average (2024-2039)		**100**	**2,500**	**580**	**-6,500**	**2,000**	**-1,300**	
2024-2039	W	240	3,500	340	-5,000	1,700	850	
	AN	91	2,600	490	-6,000	1,700	-1,100	
	BN	62	2,200	510	-5,900	1,600	-1,500	
	D	64	2,100	720	-7,300	2,200	-2,200	
	C	62	2,100	780	-8,000	2,700	-2,400	
Average (2040-2090)		**160**	**2,700**	**490**	**-6,700**	**2,700**	**-670**	
2040-2090	W	270	3,600	460	-5,700	2,400	970	
	AN	120	2,600	470	-6,700	2,700	-700	
	BN	110	2,100	460	-5,800	2,300	-860	
	D	110	2,200	480	-6,800	2,600	-1,500	
	C	93	2,000	540	-7,900	3,100	-2,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

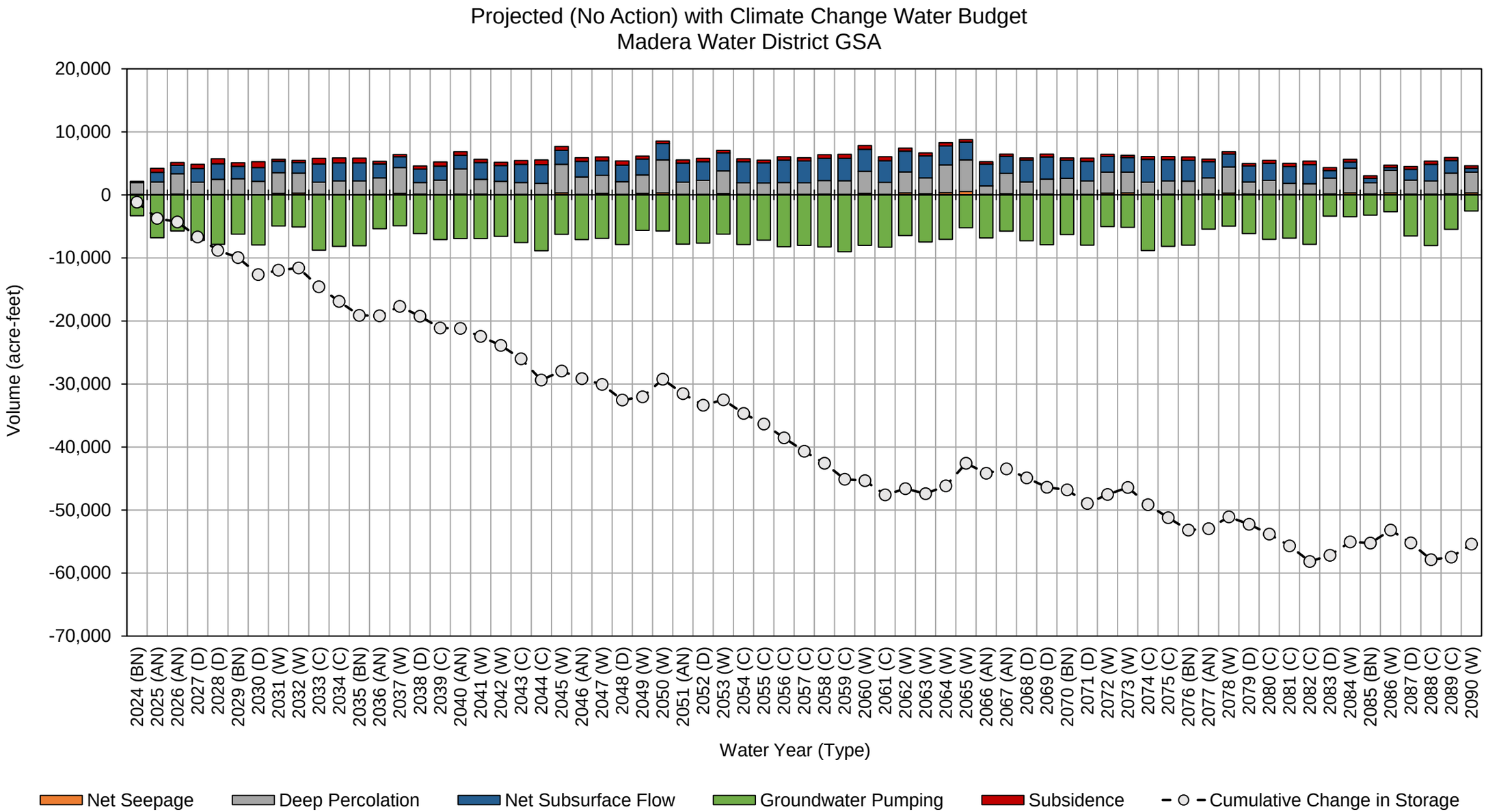
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	82	1,900	-3,300	-1,300
2025 (AN)	43	2,000	-6,800	-4,700
2026 (AN)	130	3,200	-5,700	-2,400
2027 (D)	58	2,000	-7,200	-5,200
2028 (D)	62	2,400	-7,900	-5,400
2029 (BN)	55	2,500	-6,200	-3,700
2030 (D)	35	2,100	-7,900	-5,800
2031 (W)	230	3,300	-4,900	-1,400
2032 (W)	260	3,200	-5,100	-1,600
2033 (C)	70	1,900	-8,800	-6,800
2034 (C)	57	2,100	-8,200	-6,000
2035 (BN)	49	2,200	-8,100	-5,800
2036 (AN)	100	2,600	-5,400	-2,700
2037 (W)	240	4,100	-4,900	-550
2038 (D)	100	1,900	-6,100	-4,200
2039 (C)	58	2,300	-7,100	-4,800
2040 (AN)	130	4,000	-6,900	-2,800
2041 (W)	120	2,400	-6,900	-4,500
2042 (W)	60	2,100	-6,600	-4,400
2043 (C)	70	1,900	-7,600	-5,600
2044 (C)	56	1,800	-8,900	-7,000
2045 (W)	290	4,600	-6,300	-1,400
2046 (AN)	82	2,700	-7,100	-4,300
2047 (W)	240	2,900	-6,900	-3,800
2048 (D)	77	2,000	-7,900	-5,800
2049 (W)	260	2,900	-5,600	-2,500
2050 (W)	320	5,200	-5,700	-180
2051 (AN)	75	1,900	-7,800	-5,800
2052 (D)	80	2,200	-7,700	-5,400
2053 (W)	220	3,600	-6,200	-2,400
2054 (C)	83	1,800	-7,900	-6,000
2055 (C)	66	1,800	-7,200	-5,300
2056 (C)	85	1,900	-8,200	-6,300
2057 (C)	71	1,800	-8,000	-6,100
2058 (C)	110	2,200	-8,300	-6,000
2059 (C)	99	2,200	-9,000	-6,800
2060 (W)	240	3,500	-8,000	-4,300
2061 (C)	89	1,900	-8,300	-6,300
2062 (W)	290	3,300	-6,500	-2,800
2063 (W)	170	2,500	-7,500	-4,800
2064 (W)	350	4,400	-7,000	-2,300
2065 (W)	540	5,000	-5,200	320
2066 (AN)	91	1,300	-6,800	-5,400
2067 (AN)	190	3,200	-5,800	-2,400
2068 (D)	110	2,000	-7,300	-5,200

Madera Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		110	2,400	-7,900	-5,400
2070 (BN)		110	2,500	-6,300	-3,700
2071 (D)		81	2,100	-8,000	-5,800
2072 (W)		280	3,300	-5,000	-1,400
2073 (W)		310	3,300	-5,200	-1,600
2074 (C)		110	1,900	-8,800	-6,800
2075 (C)		100	2,100	-8,200	-6,000
2076 (BN)		91	2,100	-8,000	-5,800
2077 (AN)		150	2,500	-5,500	-2,800
2078 (W)		290	4,100	-5,000	-530
2079 (D)		140	1,900	-6,100	-4,100
2080 (C)		96	2,200	-7,100	-4,800
2081 (C)		83	1,800	-6,900	-5,000
2082 (C)		85	1,700	-7,800	-6,100
2083 (D)		140	2,500	-3,400	-720
2084 (W)		310	3,900	-3,500	750
2085 (BN)		140	1,800	-3,200	-1,300
2086 (W)		300	3,600	-2,700	1,200
2087 (D)		120	2,200	-6,500	-4,200
2088 (C)		110	2,100	-8,000	-5,800
2089 (C)		170	3,300	-5,500	-2,000
2090 (W)		300	3,300	-2,600	1,000
Average (2024-2039)		**100**	**2,500**	**-6,500**	**-3,900**
2024-2039	W	240	3,500	-5,000	-1,200
	AN	91	2,600	-6,000	-3,300
	BN	62	2,200	-5,900	-3,600
	D	64	2,100	-7,300	-5,100
	C	62	2,100	-8,000	-5,800
Average (2040-2090)		**160**	**2,700**	**-6,700**	**-3,800**
2040-2090	W	270	3,600	-5,700	-1,900
	AN	120	2,600	-6,700	-3,900
	BN	110	2,100	-5,800	-3,600
	D	110	2,200	-6,800	-4,600
	C	93	2,000	-7,900	-5,700

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Madera Water District GSA
Volume (acre-feet)
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
-50,000
-60,000
-70,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Madera Water District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	83	1,900	150	-3,000	-44	-870	-870
2025 (AN)	6,000	4,600	540	-6,600	-1,700	2,800	1,900
2026 (AN)	6,100	2,800	320	-5,400	-1,500	2,400	4,300
2027 (D)	61	350	420	-6,900	2,200	-3,800	500
2028 (D)	63	1,700	540	-7,600	2,500	-2,800	-2,300
2029 (BN)	1,600	3,100	330	-6,000	1,000	18	-2,300
2030 (D)	35	1,400	540	-7,700	2,600	-3,000	-5,300
2031 (W)	6,200	5,900	35	-4,200	-1,700	6,300	990
2032 (W)	6,300	2,800	72	-4,800	-1,300	3,100	4,000
2033 (C)	70	340	450	-8,500	3,000	-4,700	-620
2034 (C)	59	1,300	340	-7,800	3,100	-3,000	-3,600
2035 (BN)	1,600	2,800	330	-7,800	2,400	-710	-4,300
2036 (AN)	6,100	4,500	-2	-5,100	-850	4,600	330
2037 (W)	6,300	4,400	-110	-3,800	-1,500	5,200	5,500
2038 (D)	96	300	74	-6,100	2,300	-3,400	2,200
2039 (C)	60	870	120	-6,900	2,800	-3,000	-840
2040 (AN)	6,100	6,800	70	-6,600	-780	5,600	4,800
2041 (W)	6,100	1,900	-38	-6,500	390	1,800	6,600
2042 (W)	6,100	2,100	-89	-6,300	-60	1,800	8,400
2043 (C)	71	240	53	-7,600	3,200	-4,100	4,300
2044 (C)	56	1,100	260	-8,900	3,600	-3,900	380
2045 (W)	6,300	7,400	-140	-6,100	-410	7,100	7,500
2046 (AN)	6,100	2,300	-23	-6,800	54	1,600	9,100
2047 (W)	6,200	3,000	-50	-6,700	-140	2,300	11,000
2048 (D)	76	290	39	-7,600	3,000	-4,300	7,100
2049 (W)	6,300	4,700	-250	-5,400	-610	4,700	12,000
2050 (W)	6,300	5,200	-270	-5,600	-440	5,200	17,000
2051 (AN)	6,100	1,900	-55	-7,500	-190	220	17,000
2052 (D)	84	390	-85	-7,400	2,900	-4,100	13,000
2053 (W)	6,200	5,700	-260	-6,200	-500	5,000	18,000
2054 (C)	86	260	-71	-7,600	3,100	-4,200	14,000
2055 (C)	69	690	-63	-7,100	3,100	-3,300	11,000
2056 (C)	86	1,700	45	-7,800	3,400	-2,600	8,200
2057 (C)	75	1,800	73	-7,600	3,300	-2,300	5,800
2058 (C)	110	2,100	150	-8,100	3,600	-2,000	3,800
2059 (C)	98	2,100	260	-8,600	3,800	-2,300	1,500
2060 (W)	6,200	6,200	91	-7,500	620	5,600	7,100
2061 (C)	87	210	130	-7,700	3,900	-3,400	3,700
2062 (W)	6,300	4,900	-99	-6,200	610	5,500	9,300
2063 (W)	6,200	2,300	-24	-7,200	1,100	2,300	12,000
2064 (W)	6,400	4,500	-110	-6,500	200	4,400	16,000
2065 (W)	6,500	5,000	-440	-4,500	-650	5,900	22,000
2066 (AN)	6,100	1,700	-220	-6,600	-320	620	23,000
2067 (AN)	6,200	2,900	-380	-5,400	-1,100	2,200	25,000
2068 (D)	120	370	-210	-7,000	2,600	-4,100	21,000
2069 (D)	120	1,300	-51	-7,700	3,100	-3,200	18,000

Madera Water District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		1,600	3,100	-160	-6,100	1,600	35	18,000
2071 (D)		81	1,400	100	-7,800	2,900	-3,200	14,000
2072 (W)		6,300	6,100	-300	-4,300	-1,400	6,400	21,000
2073 (W)		6,300	2,900	-230	-4,900	-930	3,100	24,000
2074 (C)		120	360	180	-8,600	2,900	-5,000	19,000
2075 (C)		100	1,200	130	-7,900	3,000	-3,500	15,000
2076 (BN)		1,600	2,800	140	-7,900	2,200	-1,200	14,000
2077 (AN)		6,200	4,500	-160	-5,100	-1,000	4,400	19,000
2078 (W)		6,300	4,400	-270	-3,900	-1,800	4,700	23,000
2079 (D)		140	310	-15	-6,100	1,700	-4,000	19,000
2080 (C)		96	880	150	-7,000	2,200	-3,700	16,000
2081 (C)		79	1,800	220	-7,200	2,000	-3,100	13,000
2082 (C)		82	1,800	410	-8,500	2,600	-3,600	8,900
2083 (D)		140	2,800	-140	-3,200	720	340	9,200
2084 (W)		6,300	6,800	-62	-3,200	-3,000	6,800	16,000
2085 (BN)		1,700	290	-40	-3,000	-640	-1,800	14,000
2086 (W)		6,300	4,600	-140	-2,300	-3,500	5,000	19,000
2087 (D)		130	370	270	-6,500	990	-4,700	15,000
2088 (C)		110	1,500	450	-8,500	2,100	-4,300	10,000
2089 (C)		170	3,500	83	-5,800	1,500	-590	9,600
2090 (W)		6,300	6,300	-240	-2,400	-2,900	7,100	17,000
Average (2024-2039)		**2,500**	**2,400**	**260**	**-6,100**	**840**	**-53**	
2024-2039	W	6,300	4,400	-3	-4,300	-1,500	4,900	
	AN	6,100	3,900	290	-5,700	-1,400	3,300	
	BN	1,100	2,600	270	-5,600	1,100	-520	
	D	64	960	390	-7,100	2,400	-3,300	
	C	63	850	310	-7,800	3,000	-3,600	
Average (2040-2090)		**3,100**	**2,700**	**-27**	**-6,400**	**1,000**	**350**	
2040-2090	W	6,300	4,700	-160	-5,300	-740	4,700	
	AN	6,100	3,400	-130	-6,400	-550	2,400	
	BN	1,600	2,000	-19	-5,700	1,000	-970	
	D	110	920	-11	-6,700	2,200	-3,400	
	C	93	1,300	150	-7,800	3,000	-3,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Madera Water District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

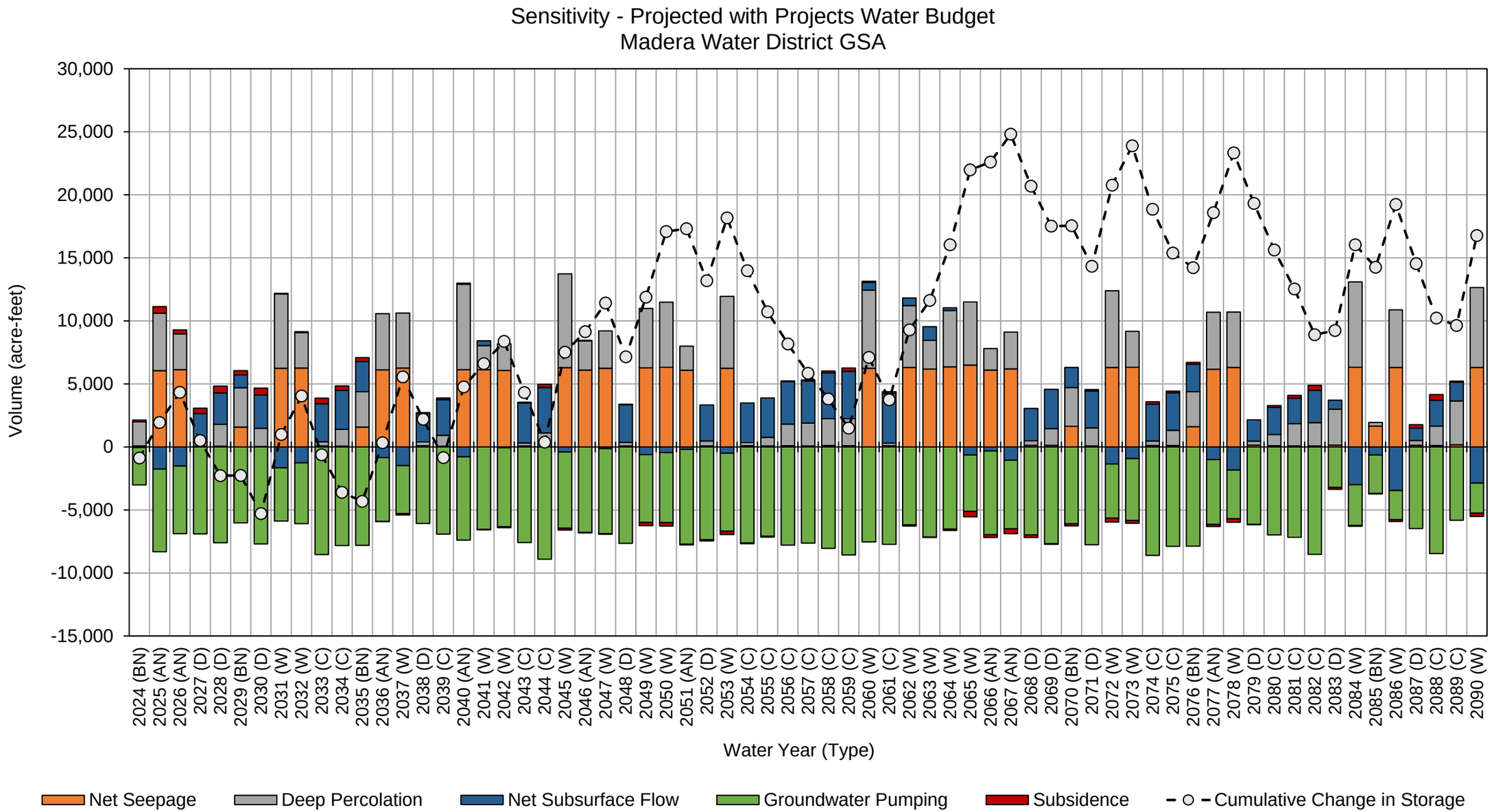
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	83	1,900	-3,000	-980
2025 (AN)	6,000	4,600	-6,600	4,000
2026 (AN)	6,100	2,800	-5,400	3,600
2027 (D)	61	350	-6,900	-6,500
2028 (D)	63	1,700	-7,600	-5,800
2029 (BN)	1,600	3,100	-6,000	-1,300
2030 (D)	35	1,400	-7,700	-6,200
2031 (W)	6,200	5,900	-4,200	7,900
2032 (W)	6,300	2,800	-4,800	4,300
2033 (C)	70	340	-8,500	-8,100
2034 (C)	59	1,300	-7,800	-6,400
2035 (BN)	1,600	2,800	-7,800	-3,400
2036 (AN)	6,100	4,500	-5,100	5,500
2037 (W)	6,300	4,400	-3,800	6,800
2038 (D)	96	300	-6,100	-5,700
2039 (C)	60	870	-6,900	-6,000
2040 (AN)	6,100	6,800	-6,600	6,300
2041 (W)	6,100	1,900	-6,500	1,500
2042 (W)	6,100	2,100	-6,300	1,900
2043 (C)	71	240	-7,600	-7,300
2044 (C)	56	1,100	-8,900	-7,800
2045 (W)	6,300	7,400	-6,100	7,700
2046 (AN)	6,100	2,300	-6,800	1,600
2047 (W)	6,200	3,000	-6,700	2,500
2048 (D)	76	290	-7,600	-7,300
2049 (W)	6,300	4,700	-5,400	5,600
2050 (W)	6,300	5,200	-5,600	5,900
2051 (AN)	6,100	1,900	-7,500	470
2052 (D)	84	390	-7,400	-6,900
2053 (W)	6,200	5,700	-6,200	5,700
2054 (C)	86	260	-7,600	-7,300
2055 (C)	69	690	-7,100	-6,300
2056 (C)	86	1,700	-7,800	-6,000
2057 (C)	75	1,800	-7,600	-5,700
2058 (C)	110	2,100	-8,100	-5,800
2059 (C)	98	2,100	-8,600	-6,300
2060 (W)	6,200	6,200	-7,500	4,900
2061 (C)	87	210	-7,700	-7,400
2062 (W)	6,300	4,900	-6,200	5,000
2063 (W)	6,200	2,300	-7,200	1,300
2064 (W)	6,400	4,500	-6,500	4,300
2065 (W)	6,500	5,000	-4,500	7,000
2066 (AN)	6,100	1,700	-6,600	1,200
2067 (AN)	6,200	2,900	-5,400	3,700
2068 (D)	120	370	-7,000	-6,500

Madera Water District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		120	1,300	-7,700	-6,200
2070 (BN)		1,600	3,100	-6,100	-1,400
2071 (D)		81	1,400	-7,800	-6,300
2072 (W)		6,300	6,100	-4,300	8,100
2073 (W)		6,300	2,900	-4,900	4,300
2074 (C)		120	360	-8,600	-8,100
2075 (C)		100	1,200	-7,900	-6,600
2076 (BN)		1,600	2,800	-7,900	-3,500
2077 (AN)		6,200	4,500	-5,100	5,500
2078 (W)		6,300	4,400	-3,900	6,800
2079 (D)		140	310	-6,100	-5,700
2080 (C)		96	880	-7,000	-6,000
2081 (C)		79	1,800	-7,200	-5,300
2082 (C)		82	1,800	-8,500	-6,600
2083 (D)		140	2,800	-3,200	-240
2084 (W)		6,300	6,800	-3,200	9,900
2085 (BN)		1,700	290	-3,000	-1,100
2086 (W)		6,300	4,600	-2,300	8,600
2087 (D)		130	370	-6,500	-6,000
2088 (C)		110	1,500	-8,500	-6,800
2089 (C)		170	3,500	-5,800	-2,200
2090 (W)		6,300	6,300	-2,400	10,000
Average (2024-2039)		**2,500**	**2,400**	**-6,100**	**-1,100**
2024-2039	W	6,300	4,400	-4,300	6,300
	AN	6,100	3,900	-5,700	4,400
	BN	1,100	2,600	-5,600	-1,900
	D	64	960	-7,100	-6,100
	C	63	850	-7,800	-6,900
Average (2040-2090)		**3,100**	**2,700**	**-6,400**	**-640**
2040-2090	W	6,300	4,700	-5,300	5,600
	AN	6,100	3,400	-6,400	3,100
	BN	1,600	2,000	-5,700	-2,000
	D	110	920	-6,700	-5,600
	C	93	1,300	-7,800	-6,300

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Sensitivity - Projected with Projects Water Budget
Madera Water District GSA
Volume (acre-feet)
30,000
25,000
20,000
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.2.e

Gravelly Ford Water District GSA Water Budget Results

Gravelly Ford Water District GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		190	5,700	2,200	-20,000	3,100	-9,200	-9,200
1990 (C)		0	7,900	2,200	-20,000	6,100	-4,200	-13,000
1991 (C)		1,500	9,000	1,900	-19,000	5,700	-1,200	-15,000
1992 (C)		100	8,800	2,100	-22,000	6,000	-5,000	-20,000
1993 (W)		14,000	18,000	-7	-7,500	-6,300	19,000	-740
1994 (C)		6,800	4,900	220	-14,000	-5,700	-8,100	-8,900
1995 (W)		15,000	18,000	-720	-7,300	-9,100	16,000	6,900
1996 (W)		14,000	8,900	-260	-9,200	-13,000	6	6,900
1997 (W)		14,000	13,000	-140	-12,000	-11,000	3,800	11,000
1998 (W)		14,000	18,000	-1,300	-6,700	-11,000	12,000	23,000
1999 (AN)		6,800	5,900	300	-15,000	-7,500	-9,400	14,000
2000 (AN)		9,500	10,000	-22	-12,000	-6,100	1,800	16,000
2001 (D)		3,200	5,000	430	-16,000	-1,100	-8,000	7,500
2002 (D)		4,100	8,600	670	-18,000	590	-3,900	3,600
2003 (BN)		5,200	9,200	340	-16,000	-890	-2,100	1,500
2004 (D)		7,700	8,400	640	-16,000	-4,500	-4,200	-2,700
2005 (W)		7,900	9,900	-540	-8,800	-3,900	4,500	1,900
2006 (W)		8,500	8,400	-210	-11,000	-4,800	1,000	2,900
2007 (C)		5,100	6,400	600	-18,000	-1,300	-6,900	-4,100
2008 (C)		4,700	7,900	510	-18,000	1,300	-3,700	-7,700
2009 (BN)		1,400	6,500	690	-21,000	4,400	-7,600	-15,000
2010 (AN)		3,500	9,300	250	-16,000	4,300	1,600	-14,000
2011 (W)		8,300	12,000	-250	-12,000	-530	7,400	-6,200
2012 (D)		750	5,100	550	-20,000	4,000	-9,500	-16,000
2013 (C)		12	6,400	1,200	-22,000	8,600	-6,300	-22,000
2014 (C)		0	6,700	1,700	-21,000	8,300	-4,700	-27,000
2015 (C)		0	6,900	2,500	-23,000	7,700	-6,000	-33,000
2016 (D)		1,500	9,300	1,800	-21,000	6,900	-1,100	-34,000
2017 (W)		7,100	12,000	670	-16,000	1,900	6,300	-28,000
2018 (BN)		4,600	5,600	950	-19,000	1,700	-5,700	-33,000
2019 (W)		9,200	11,000	440	-14,000	-1,600	5,000	-28,000
2020 (D)		3,900	5,700	1,100	-20,000	1,100	-7,900	-36,000
2021 (C)		2,200	7,000	2,000	-22,000	4,200	-6,600	-43,000
2022 (C)		2,300	9,900	1,000	-18,000	4,600	160	-43,000
2023 (W)		12,000	17,000	230	-15,000	-3,600	11,000	-32,000
Average (1989-2023)		**5,700**	**9,200**	**680**	**-16,000**	**-320**	**-910**	
1989-2023	W	11,000	13,000	-190	-11,000	-5,700	7,800	
	AN	6,600	8,400	180	-14,000	-3,100	-2,000	
	BN	3,700	7,100	660	-18,000	1,700	-5,100	
	D	3,500	7,000	870	-18,000	1,200	-5,800	
	C	1,900	7,300	1,500	-20,000	4,000	-5,100	
Average (1989-2015)		**5,800**	**9,100**	**570**	**-16,000**	**-980**	**-1,200**	
1989-2015	W	12,000	13,000	-430	-9,300	-7,400	8,000	
	AN	6,600	8,400	180	-14,000	-3,100	-2,000	
	BN	3,300	7,800	510	-18,000	1,700	-4,800	
	D	3,900	6,800	570	-17,000	-240	-6,400	
	C	1,800	7,000	1,500	-20,000	4,000	-5,500	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

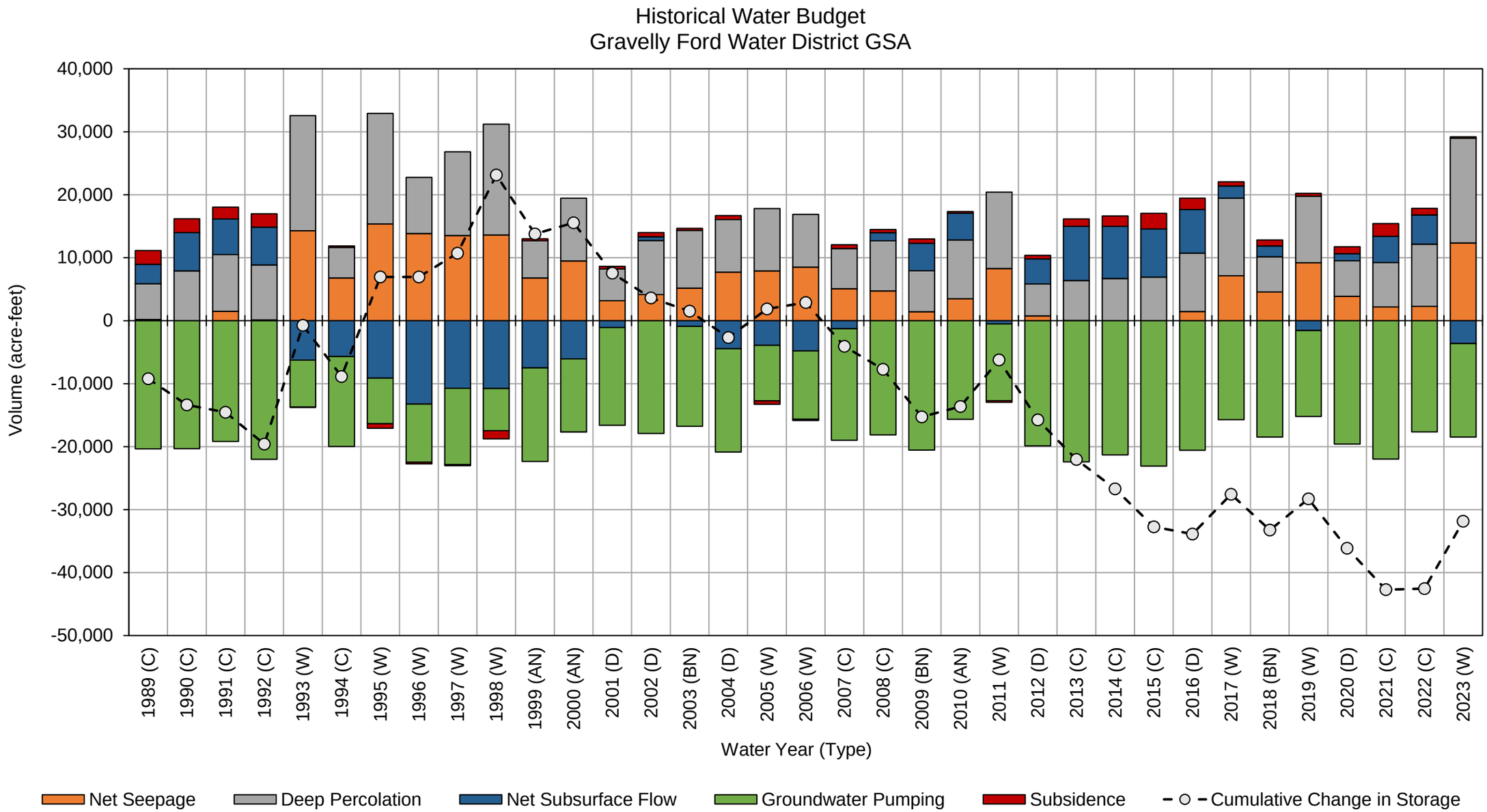
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Gravelly Ford Water District GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		190	5,700	-20,000	-15,000
1990 (C)		0	7,900	-20,000	-12,000
1991 (C)		1,500	9,000	-19,000	-8,700
1992 (C)		100	8,800	-22,000	-13,000
1993 (W)		14,000	18,000	-7,500	25,000
1994 (C)		6,800	4,900	-14,000	-2,700
1995 (W)		15,000	18,000	-7,300	26,000
1996 (W)		14,000	8,900	-9,200	14,000
1997 (W)		14,000	13,000	-12,000	15,000
1998 (W)		14,000	18,000	-6,700	25,000
1999 (AN)		6,800	5,900	-15,000	-2,200
2000 (AN)		9,500	10,000	-12,000	7,900
2001 (D)		3,200	5,000	-16,000	-7,300
2002 (D)		4,100	8,600	-18,000	-5,200
2003 (BN)		5,200	9,200	-16,000	-1,600
2004 (D)		7,700	8,400	-16,000	-360
2005 (W)		7,900	9,900	-8,800	9,000
2006 (W)		8,500	8,400	-11,000	6,000
2007 (C)		5,100	6,400	-18,000	-6,300
2008 (C)		4,700	7,900	-18,000	-5,500
2009 (BN)		1,400	6,500	-21,000	-13,000
2010 (AN)		3,500	9,300	-16,000	-2,900
2011 (W)		8,300	12,000	-12,000	8,200
2012 (D)		750	5,100	-20,000	-14,000
2013 (C)		12	6,400	-22,000	-16,000
2014 (C)		0	6,700	-21,000	-15,000
2015 (C)		0	6,900	-23,000	-16,000
2016 (D)		1,500	9,300	-21,000	-9,900
2017 (W)		7,100	12,000	-16,000	3,700
2018 (BN)		4,600	5,600	-19,000	-8,400
2019 (W)		9,200	11,000	-14,000	6,100
2020 (D)		3,900	5,700	-20,000	-10,000
2021 (C)		2,200	7,000	-22,000	-13,000
2022 (C)		2,300	9,900	-18,000	-5,500
2023 (W)		12,000	17,000	-15,000	14,000
Average (1989-2023)		**5,700**	**9,200**	**-16,000**	**-1,300**
1989-2023	W	11,000	13,000	-11,000	14,000
	AN	6,600	8,400	-14,000	940
	BN	3,700	7,100	-18,000	-7,500
	D	3,500	7,000	-18,000	-7,800
	C	1,900	7,300	-20,000	-11,000
Average (1989-2015)		**5,800**	**9,100**	**-16,000**	**-800**
1989-2015	W	12,000	13,000	-9,300	16,000
	AN	6,600	8,400	-14,000	940
	BN	3,300	7,800	-18,000	-7,100
	D	3,900	6,800	-17,000	-6,700
	C	1,800	7,000	-20,000	-11,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Gravelly Ford Water District GSA
Volume (acre-feet)
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
-50,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Gravelly Ford Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	8,100	5,300	280	-18,000	-2,800	-7,000	-7,000
2025 (AN)	12,000	8,300	-45	-15,000	-3,000	1,900	-5,100
2026 (AN)	14,000	9,900	-160	-12,000	-7,100	5,100	-61
2027 (D)	3,300	3,700	370	-17,000	-400	-9,600	-9,600
2028 (D)	4,200	7,700	660	-18,000	3,000	-2,600	-12,000
2029 (BN)	10,000	9,600	390	-16,000	-990	3,000	-9,200
2030 (D)	7,700	6,300	590	-17,000	-1,700	-3,900	-13,000
2031 (W)	18,000	12,000	-460	-9,400	-7,700	12,000	-790
2032 (W)	19,000	7,200	-290	-11,000	-11,000	3,200	2,400
2033 (C)	5,100	3,800	550	-18,000	-2,800	-12,000	-9,200
2034 (C)	4,800	6,900	470	-19,000	2,300	-4,200	-13,000
2035 (BN)	6,400	7,500	760	-22,000	3,900	-3,100	-16,000
2036 (AN)	10,000	9,400	-74	-16,000	1,500	5,200	-11,000
2037 (W)	18,000	13,000	-660	-12,000	-5,800	13,000	1,300
2038 (D)	790	2,700	400	-20,000	2,600	-13,000	-12,000
2039 (C)	39	5,300	650	-22,000	9,600	-6,800	-19,000
2040 (AN)	13,000	14,000	-100	-16,000	600	11,000	-7,600
2041 (W)	22,000	9,800	-530	-11,000	-10,000	9,700	2,100
2042 (W)	20,000	5,900	-430	-12,000	-11,000	1,500	3,600
2043 (C)	1,800	2,700	270	-19,000	1,200	-13,000	-9,400
2044 (C)	1,600	5,400	810	-21,000	7,000	-6,400	-16,000
2045 (W)	21,000	18,000	-890	-11,000	-5,600	21,000	5,300
2046 (AN)	13,000	5,300	42	-17,000	-6,400	-4,700	570
2047 (W)	21,000	10,000	-350	-12,000	-10,000	7,800	8,400
2048 (D)	4,100	2,700	400	-18,000	-1,700	-13,000	-4,300
2049 (W)	21,000	12,000	-780	-10,000	-8,000	15,000	10,000
2050 (W)	23,000	12,000	-830	-9,100	-14,000	12,000	22,000
2051 (AN)	13,000	4,500	370	-18,000	-8,300	-8,900	14,000
2052 (D)	4,100	5,100	300	-18,000	190	-8,600	4,900
2053 (W)	22,000	15,000	-810	-10,000	-9,100	17,000	22,000
2054 (C)	2,100	2,200	440	-19,000	-700	-15,000	6,800
2055 (C)	1,800	4,800	440	-19,000	5,700	-5,900	910
2056 (C)	280	6,500	460	-21,000	8,500	-4,800	-3,900
2057 (C)	37	6,700	450	-20,000	9,400	-3,700	-7,600
2058 (C)	1,500	7,300	120	-19,000	9,300	-460	-8,100
2059 (C)	140	7,200	540	-22,000	9,800	-4,100	-12,000
2060 (W)	25,000	19,000	-1,200	-7,300	-8,100	27,000	15,000
2061 (C)	6,900	2,500	-100	-14,000	-5,800	-10,000	4,300
2062 (W)	26,000	17,000	-980	-6,700	-13,000	21,000	25,000
2063 (W)	24,000	7,800	-560	-8,800	-19,000	3,700	29,000
2064 (W)	24,000	12,000	-350	-12,000	-18,000	6,200	35,000
2065 (W)	24,000	15,000	-1,300	-6,200	-19,000	12,000	48,000
2066 (AN)	14,000	4,100	270	-15,000	-14,000	-11,000	37,000
2067 (AN)	16,000	9,400	22	-12,000	-13,000	1,600	39,000
2068 (D)	3,400	3,400	530	-16,000	-3,400	-13,000	26,000
2069 (D)	4,300	7,500	600	-18,000	960	-4,700	21,000
2070 (BN)	10,000	9,600	120	-16,000	-2,100	1,800	23,000

MCSim_v2.0 - Projected with Projects

Gravelly Ford Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		7,800	6,300	440	-17,000	-3,100	-5,300	18,000
2072 (W)		18,000	12,000	-760	-9,400	-7,600	12,000	30,000
2073 (W)		19,000	7,200	-450	-11,000	-11,000	3,600	34,000
2074 (C)		5,200	3,800	560	-18,000	-2,800	-12,000	22,000
2075 (C)		4,800	6,900	540	-19,000	1,800	-4,700	18,000
2076 (BN)		6,500	7,500	600	-22,000	2,800	-4,300	13,000
2077 (AN)		10,000	9,400	-190	-16,000	290	4,000	17,000
2078 (W)		18,000	13,000	-650	-12,000	-6,900	11,000	29,000
2079 (D)		810	2,700	490	-20,000	1,600	-14,000	14,000
2080 (C)		57	5,300	690	-22,000	8,800	-7,600	6,900
2081 (C)		17	6,500	460	-21,000	9,900	-4,500	2,300
2082 (C)		3	6,800	820	-23,000	9,800	-5,700	-3,400
2083 (D)		1,500	9,400	380	-21,000	9,000	-1,200	-4,600
2084 (W)		17,000	16,000	-440	-17,000	-1,000	15,000	10,000
2085 (BN)		9,600	3,700	-38	-18,000	-1,500	-6,100	3,900
2086 (W)		19,000	12,000	-430	-13,000	-7,000	11,000	14,000
2087 (D)		3,900	3,300	360	-19,000	-96	-12,000	2,700
2088 (C)		2,200	6,500	760	-22,000	5,500	-7,000	-4,200
2089 (C)		2,400	9,900	74	-18,000	5,700	390	-3,800
2090 (W)		22,000	20,000	-610	-15,000	-8,400	19,000	15,000
Average (2024-2039)		**8,900**	**7,400**	**210**	**-16,000**	**-1,300**	**-1,200**	
2024-2039	W	18,000	11,000	-470	-11,000	-8,200	9,400	
	AN	12,000	9,200	-95	-14,000	-2,900	4,100	
	BN	8,300	7,400	480	-19,000	33	-2,400	
	D	4,000	5,100	500	-18,000	850	-7,400	
	C	3,300	5,300	560	-20,000	3,000	-7,600	
Average (2040-2090)		**11,000**	**8,500**	**-8**	**-16,000**	**-2,800**	**670**	
2040-2090	W	21,000	13,000	-680	-11,000	-10,000	13,000	
	AN	13,000	7,800	67	-15,000	-6,700	-1,200	
	BN	8,800	6,900	230	-19,000	-290	-2,900	
	D	3,700	5,100	440	-19,000	440	-8,900	
	C	1,900	5,700	460	-20,000	5,200	-6,500	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Gravelly Ford Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

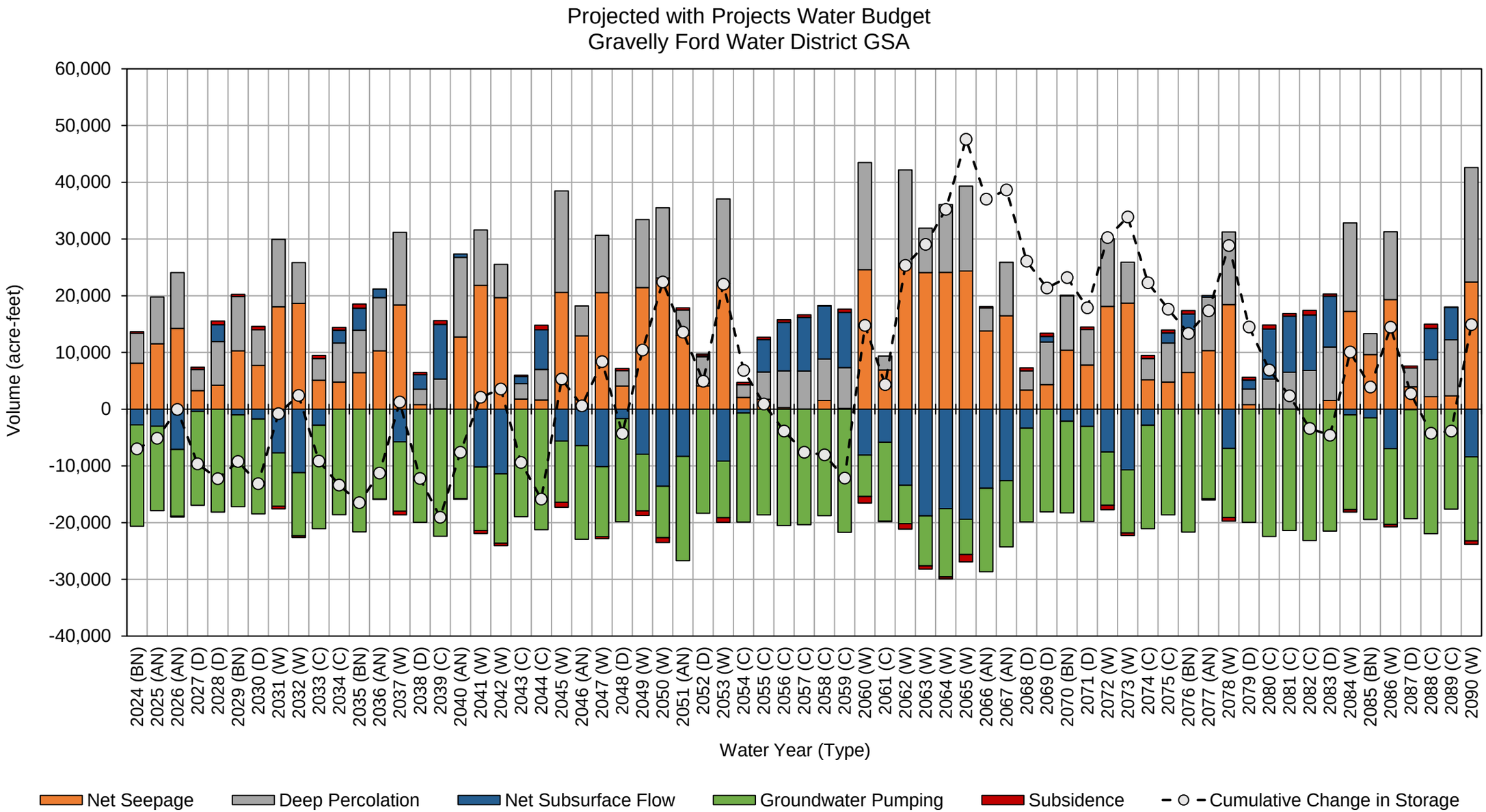
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	8,100	5,300	-18,000	-4,500
2025 (AN)	12,000	8,300	-15,000	4,900
2026 (AN)	14,000	9,900	-12,000	12,000
2027 (D)	3,300	3,700	-17,000	-9,600
2028 (D)	4,200	7,700	-18,000	-6,300
2029 (BN)	10,000	9,600	-16,000	3,600
2030 (D)	7,700	6,300	-17,000	-2,800
2031 (W)	18,000	12,000	-9,400	21,000
2032 (W)	19,000	7,200	-11,000	15,000
2033 (C)	5,100	3,800	-18,000	-9,300
2034 (C)	4,800	6,900	-19,000	-7,000
2035 (BN)	6,400	7,500	-22,000	-7,700
2036 (AN)	10,000	9,400	-16,000	3,800
2037 (W)	18,000	13,000	-12,000	19,000
2038 (D)	790	2,700	-20,000	-16,000
2039 (C)	39	5,300	-22,000	-17,000
2040 (AN)	13,000	14,000	-16,000	11,000
2041 (W)	22,000	9,800	-11,000	20,000
2042 (W)	20,000	5,900	-12,000	13,000
2043 (C)	1,800	2,700	-19,000	-14,000
2044 (C)	1,600	5,400	-21,000	-14,000
2045 (W)	21,000	18,000	-11,000	28,000
2046 (AN)	13,000	5,300	-17,000	1,600
2047 (W)	21,000	10,000	-12,000	18,000
2048 (D)	4,100	2,700	-18,000	-11,000
2049 (W)	21,000	12,000	-10,000	23,000
2050 (W)	23,000	12,000	-9,100	26,000
2051 (AN)	13,000	4,500	-18,000	-910
2052 (D)	4,100	5,100	-18,000	-9,100
2053 (W)	22,000	15,000	-10,000	27,000
2054 (C)	2,100	2,200	-19,000	-15,000
2055 (C)	1,800	4,800	-19,000	-12,000
2056 (C)	280	6,500	-21,000	-14,000
2057 (C)	37	6,700	-20,000	-14,000
2058 (C)	1,500	7,300	-19,000	-9,900
2059 (C)	140	7,200	-22,000	-14,000
2060 (W)	25,000	19,000	-7,300	36,000
2061 (C)	6,900	2,500	-14,000	-4,500
2062 (W)	26,000	17,000	-6,700	35,000
2063 (W)	24,000	7,800	-8,800	23,000
2064 (W)	24,000	12,000	-12,000	24,000
2065 (W)	24,000	15,000	-6,200	33,000
2066 (AN)	14,000	4,100	-15,000	3,100
2067 (AN)	16,000	9,400	-12,000	14,000
2068 (D)	3,400	3,400	-16,000	-9,700

Gravelly Ford Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,300	7,500	-18,000	-6,300
2070 (BN)		10,000	9,600	-16,000	3,800
2071 (D)		7,800	6,300	-17,000	-2,700
2072 (W)		18,000	12,000	-9,400	21,000
2073 (W)		19,000	7,200	-11,000	15,000
2074 (C)		5,200	3,800	-18,000	-9,300
2075 (C)		4,800	6,900	-19,000	-7,000
2076 (BN)		6,500	7,500	-22,000	-7,700
2077 (AN)		10,000	9,400	-16,000	3,900
2078 (W)		18,000	13,000	-12,000	19,000
2079 (D)		810	2,700	-20,000	-16,000
2080 (C)		57	5,300	-22,000	-17,000
2081 (C)		17	6,500	-21,000	-15,000
2082 (C)		3	6,800	-23,000	-16,000
2083 (D)		1,500	9,400	-21,000	-11,000
2084 (W)		17,000	16,000	-17,000	16,000
2085 (BN)		9,600	3,700	-18,000	-4,600
2086 (W)		19,000	12,000	-13,000	18,000
2087 (D)		3,900	3,300	-19,000	-12,000
2088 (C)		2,200	6,500	-22,000	-13,000
2089 (C)		2,400	9,900	-18,000	-5,400
2090 (W)		22,000	20,000	-15,000	28,000
Average (2024-2039)		**8,900**	**7,400**	**-16,000**	**-110**
2024-2039	W	18,000	11,000	-11,000	18,000
	AN	12,000	9,200	-14,000	7,000
	BN	8,300	7,400	-19,000	-2,900
	D	4,000	5,100	-18,000	-8,700
	C	3,300	5,300	-20,000	-11,000
Average (2040-2090)		**11,000**	**8,500**	**-16,000**	**3,400**
2040-2090	W	21,000	13,000	-11,000	24,000
	AN	13,000	7,800	-15,000	5,500
	BN	8,800	6,900	-19,000	-2,800
	D	3,700	5,100	-19,000	-9,800
	C	1,900	5,700	-20,000	-12,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Gravelly Ford Water District GSA
Volume (acre-feet)
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Gravelly Ford Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	8,100	5,300	400	-19,000	-2,500	-7,400	-7,400
2025 (AN)	11,000	8,200	60	-15,000	-2,900	1,400	-5,900
2026 (AN)	14,000	10,000	-73	-12,000	-6,800	5,000	-960
2027 (D)	3,200	3,800	500	-18,000	-300	-10,000	-11,000
2028 (D)	4,200	7,900	990	-19,000	2,600	-3,000	-14,000
2029 (BN)	8,800	9,400	590	-17,000	-240	1,900	-12,000
2030 (D)	7,700	6,700	970	-17,000	-2,000	-3,900	-16,000
2031 (W)	15,000	11,000	-310	-11,000	-5,000	10,000	-6,200
2032 (W)	16,000	7,100	-190	-11,000	-8,800	2,300	-4,000
2033 (C)	5,100	4,500	720	-19,000	-2,300	-11,000	-15,000
2034 (C)	4,800	7,000	870	-19,000	2,100	-4,400	-19,000
2035 (BN)	5,000	7,100	1,300	-22,000	4,300	-4,600	-24,000
2036 (AN)	8,200	9,300	160	-17,000	3,200	4,300	-19,000
2037 (W)	15,000	12,000	-340	-13,000	-3,800	9,700	-9,700
2038 (D)	760	3,500	530	-20,000	3,100	-12,000	-22,000
2039 (C)	31	5,600	1,000	-23,000	9,400	-6,800	-29,000
2040 (AN)	11,000	14,000	210	-16,000	1,900	10,000	-19,000
2041 (W)	19,000	9,500	-260	-12,000	-8,600	7,700	-11,000
2042 (W)	17,000	6,000	-270	-13,000	-9,300	270	-11,000
2043 (C)	2,000	3,300	260	-19,000	1,800	-11,000	-22,000
2044 (C)	1,800	5,700	960	-22,000	7,100	-6,300	-29,000
2045 (W)	18,000	17,000	-570	-11,000	-4,200	19,000	-9,500
2046 (AN)	11,000	5,600	150	-17,000	-4,200	-4,700	-14,000
2047 (W)	18,000	9,700	-270	-13,000	-7,700	6,500	-7,700
2048 (D)	4,100	3,400	410	-19,000	-230	-11,000	-19,000
2049 (W)	18,000	12,000	-730	-11,000	-6,200	13,000	-6,100
2050 (W)	20,000	13,000	-680	-9,400	-12,000	11,000	5,100
2051 (AN)	11,000	4,800	460	-19,000	-6,200	-9,100	-4,000
2052 (D)	4,100	5,500	310	-19,000	1,400	-7,700	-12,000
2053 (W)	19,000	14,000	-740	-10,000	-7,500	15,000	3,600
2054 (C)	2,200	2,800	450	-20,000	450	-14,000	-10,000
2055 (C)	1,900	5,200	350	-19,000	6,500	-5,200	-15,000
2056 (C)	290	6,500	390	-21,000	9,400	-4,300	-20,000
2057 (C)	41	6,700	390	-21,000	10,000	-3,200	-23,000
2058 (C)	1,600	7,500	71	-19,000	10,000	160	-23,000
2059 (C)	360	7,300	490	-22,000	10,000	-3,400	-26,000
2060 (W)	22,000	18,000	-980	-8,300	-6,400	24,000	-2,100
2061 (C)	6,900	3,000	-32	-14,000	-4,900	-9,400	-11,000
2062 (W)	23,000	17,000	-860	-7,200	-12,000	19,000	7,500
2063 (W)	21,000	7,800	-370	-9,400	-17,000	2,100	9,700
2064 (W)	21,000	12,000	-45	-13,000	-16,000	3,700	13,000
2065 (W)	21,000	16,000	-1,200	-6,800	-18,000	11,000	25,000
2066 (AN)	12,000	4,200	320	-15,000	-12,000	-11,000	14,000
2067 (AN)	14,000	9,800	63	-12,000	-10,000	1,600	16,000
2068 (D)	3,300	3,900	510	-17,000	-1,800	-12,000	3,900
2069 (D)	4,300	7,900	500	-19,000	2,000	-3,900	59
2070 (BN)	8,900	9,400	76	-17,000	-290	1,400	1,500

Gravelly Ford Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		7,800	6,700	400	-17,000	-1,700	-4,100	-2,600
2072 (W)		15,000	11,000	-620	-11,000	-5,200	9,500	6,900
2073 (W)		16,000	7,200	-350	-11,000	-8,300	2,700	9,600
2074 (C)		5,100	4,500	600	-19,000	-1,400	-9,900	-270
2075 (C)		4,800	7,000	520	-19,000	2,600	-4,300	-4,600
2076 (BN)		5,000	7,100	600	-22,000	4,400	-5,200	-9,800
2077 (AN)		8,300	9,300	-140	-17,000	2,400	3,300	-6,500
2078 (W)		15,000	12,000	-440	-13,000	-4,600	9,000	2,500
2079 (D)		770	3,500	490	-20,000	3,000	-13,000	-10,000
2080 (C)		44	5,600	600	-23,000	9,900	-6,800	-17,000
2081 (C)		4	6,500	360	-22,000	11,000	-3,900	-21,000
2082 (C)		0	6,800	730	-24,000	11,000	-5,000	-26,000
2083 (D)		1,500	9,700	350	-22,000	10,000	-110	-26,000
2084 (W)		14,000	15,000	-290	-17,000	1,100	12,000	-13,000
2085 (BN)		8,100	4,400	-10	-18,000	710	-5,300	-19,000
2086 (W)		16,000	12,000	-350	-14,000	-4,400	9,500	-9,200
2087 (D)		3,900	4,100	330	-20,000	1,600	-9,900	-19,000
2088 (C)		2,200	6,800	660	-22,000	6,700	-6,200	-25,000
2089 (C)		2,300	9,900	110	-18,000	6,700	890	-24,000
2090 (W)		19,000	19,000	-420	-15,000	-6,400	17,000	-7,800
Average (2024-2039)		**8,000**	**7,400**	**450**	**-17,000**	**-620**	**-1,800**	
2024-2039	W	15,000	10,000	-280	-12,000	-5,900	7,400	
	AN	11,000	9,200	48	-15,000	-2,200	3,600	
	BN	7,300	7,300	770	-19,000	520	-3,400	
	D	4,000	5,500	750	-18,000	840	-7,400	
	C	3,300	5,700	880	-20,000	3,100	-7,300	
Average (2040-2090)		**9,500**	**8,500**	**50**	**-16,000**	**-1,200**	**410**	
2040-2090	W	18,000	13,000	-520	-11,000	-8,400	11,000	
	AN	11,000	7,900	180	-16,000	-4,700	-1,600	
	BN	7,300	7,000	220	-19,000	1,600	-3,000	
	D	3,700	5,600	410	-19,000	1,800	-7,600	
	C	2,000	5,900	430	-20,000	6,100	-5,700	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Gravelly Ford Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

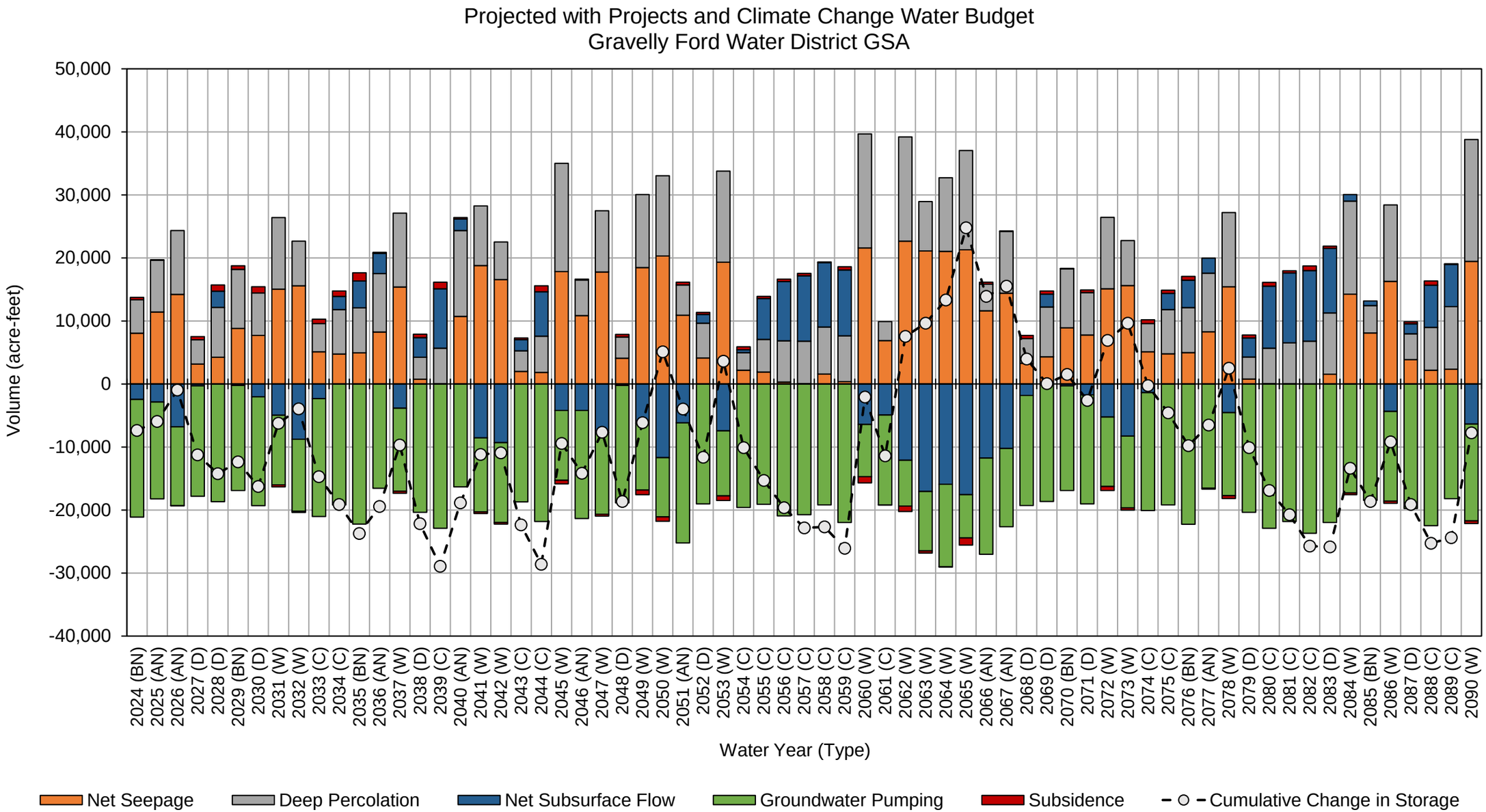
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	8,100	5,300	-19,000	-5,300
2025 (AN)	11,000	8,200	-15,000	4,300
2026 (AN)	14,000	10,000	-12,000	12,000
2027 (D)	3,200	3,800	-18,000	-11,000
2028 (D)	4,200	7,900	-19,000	-6,500
2029 (BN)	8,800	9,400	-17,000	1,500
2030 (D)	7,700	6,700	-17,000	-2,800
2031 (W)	15,000	11,000	-11,000	15,000
2032 (W)	16,000	7,100	-11,000	11,000
2033 (C)	5,100	4,500	-19,000	-9,100
2034 (C)	4,800	7,000	-19,000	-7,400
2035 (BN)	5,000	7,100	-22,000	-10,000
2036 (AN)	8,200	9,300	-17,000	950
2037 (W)	15,000	12,000	-13,000	14,000
2038 (D)	760	3,500	-20,000	-16,000
2039 (C)	31	5,600	-23,000	-17,000
2040 (AN)	11,000	14,000	-16,000	8,000
2041 (W)	19,000	9,500	-12,000	17,000
2042 (W)	17,000	6,000	-13,000	9,900
2043 (C)	2,000	3,300	-19,000	-13,000
2044 (C)	1,800	5,700	-22,000	-14,000
2045 (W)	18,000	17,000	-11,000	24,000
2046 (AN)	11,000	5,600	-17,000	-680
2047 (W)	18,000	9,700	-13,000	15,000
2048 (D)	4,100	3,400	-19,000	-11,000
2049 (W)	18,000	12,000	-11,000	19,000
2050 (W)	20,000	13,000	-9,400	24,000
2051 (AN)	11,000	4,800	-19,000	-3,300
2052 (D)	4,100	5,500	-19,000	-9,400
2053 (W)	19,000	14,000	-10,000	23,000
2054 (C)	2,200	2,800	-20,000	-15,000
2055 (C)	1,900	5,200	-19,000	-12,000
2056 (C)	290	6,500	-21,000	-14,000
2057 (C)	41	6,700	-21,000	-14,000
2058 (C)	1,600	7,500	-19,000	-10,000
2059 (C)	360	7,300	-22,000	-14,000
2060 (W)	22,000	18,000	-8,300	31,000
2061 (C)	6,900	3,000	-14,000	-4,400
2062 (W)	23,000	17,000	-7,200	32,000
2063 (W)	21,000	7,800	-9,400	20,000
2064 (W)	21,000	12,000	-13,000	20,000
2065 (W)	21,000	16,000	-6,800	30,000
2066 (AN)	12,000	4,200	-15,000	570
2067 (AN)	14,000	9,800	-12,000	12,000
2068 (D)	3,300	3,900	-17,000	-10,000

Gravelly Ford Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,300	7,900	-19,000	-6,400
2070 (BN)		8,900	9,400	-17,000	1,700
2071 (D)		7,800	6,700	-17,000	-2,800
2072 (W)		15,000	11,000	-11,000	15,000
2073 (W)		16,000	7,200	-11,000	11,000
2074 (C)		5,100	4,500	-19,000	-9,100
2075 (C)		4,800	7,000	-19,000	-7,400
2076 (BN)		5,000	7,100	-22,000	-10,000
2077 (AN)		8,300	9,300	-17,000	1,000
2078 (W)		15,000	12,000	-13,000	14,000
2079 (D)		770	3,500	-20,000	-16,000
2080 (C)		44	5,600	-23,000	-17,000
2081 (C)		4	6,500	-22,000	-15,000
2082 (C)		0	6,800	-24,000	-17,000
2083 (D)		1,500	9,700	-22,000	-11,000
2084 (W)		14,000	15,000	-17,000	12,000
2085 (BN)		8,100	4,400	-18,000	-6,000
2086 (W)		16,000	12,000	-14,000	14,000
2087 (D)		3,900	4,100	-20,000	-12,000
2088 (C)		2,200	6,800	-22,000	-14,000
2089 (C)		2,300	9,900	-18,000	-5,900
2090 (W)		19,000	19,000	-15,000	23,000
Average (2024-2039)		**8,000**	**7,400**	**-17,000**	**-1,600**
2024-2039	W	15,000	10,000	-12,000	13,000
	AN	11,000	9,200	-15,000	5,700
	BN	7,300	7,300	-19,000	-4,700
	D	4,000	5,500	-18,000	-9,000
	C	3,300	5,700	-20,000	-11,000
Average (2040-2090)		**9,500**	**8,500**	**-16,000**	**1,600**
2040-2090	W	18,000	13,000	-11,000	20,000
	AN	11,000	7,900	-16,000	2,900
	BN	7,300	7,000	-19,000	-4,800
	D	3,700	5,600	-19,000	-9,800
	C	2,000	5,900	-20,000	-12,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Gravelly Ford Water District GSA
Volume (acre-feet)
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Gravelly Ford Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	4,600	4,800	340	-18,000	-1,100	-9,200	-9,200
2025 (AN)	6,800	7,700	96	-15,000	190	-35	-9,300
2026 (AN)	9,500	9,800	-35	-12,000	-3,200	4,300	-4,900
2027 (D)	3,300	4,600	440	-17,000	1,000	-7,200	-12,000
2028 (D)	4,200	7,900	950	-18,000	2,600	-2,500	-15,000
2029 (BN)	5,300	8,400	680	-16,000	1,300	-550	-15,000
2030 (D)	7,700	7,500	1,000	-17,000	-1,500	-2,000	-17,000
2031 (W)	8,000	9,100	-230	-9,400	-1,800	5,600	-12,000
2032 (W)	8,600	7,600	4	-11,000	-3,900	1,100	-10,000
2033 (C)	5,100	5,900	780	-18,000	-860	-7,200	-18,000
2034 (C)	4,800	7,300	1,100	-19,000	1,800	-3,700	-21,000
2035 (BN)	1,400	6,100	1,600	-22,000	5,400	-7,100	-28,000
2036 (AN)	3,600	8,900	400	-16,000	5,700	2,800	-26,000
2037 (W)	8,300	12,000	-90	-12,000	160	7,800	-18,000
2038 (D)	780	4,900	750	-20,000	3,800	-9,700	-28,000
2039 (C)	35	6,100	1,500	-22,000	8,400	-6,400	-34,000
2040 (AN)	6,000	12,000	660	-16,000	3,000	6,100	-28,000
2041 (W)	12,000	9,000	140	-11,000	-4,900	4,800	-23,000
2042 (W)	9,600	6,100	110	-12,000	-5,300	-1,800	-25,000
2043 (C)	1,800	4,300	700	-19,000	2,800	-9,300	-34,000
2044 (C)	1,600	6,100	1,700	-21,000	6,200	-5,700	-40,000
2045 (W)	11,000	15,000	55	-11,000	-1,200	13,000	-26,000
2046 (AN)	6,200	6,800	440	-17,000	-1,800	-4,900	-31,000
2047 (W)	10,000	8,900	86	-12,000	-3,900	3,200	-28,000
2048 (D)	4,100	4,700	680	-18,000	540	-8,200	-36,000
2049 (W)	11,000	9,900	-250	-10,000	-3,200	7,800	-28,000
2050 (W)	13,000	13,000	-360	-9,100	-7,300	8,800	-20,000
2051 (AN)	6,300	5,600	640	-18,000	-3,600	-9,500	-29,000
2052 (D)	4,100	6,500	350	-18,000	1,800	-5,600	-35,000
2053 (W)	12,000	12,000	-410	-10,000	-3,600	10,000	-25,000
2054 (C)	2,100	3,900	550	-19,000	1,600	-11,000	-36,000
2055 (C)	1,700	5,700	470	-19,000	5,900	-4,800	-40,000
2056 (C)	270	6,600	1,000	-20,000	8,300	-4,400	-45,000
2057 (C)	30	6,600	1,100	-20,000	9,100	-3,500	-48,000
2058 (C)	1,500	7,300	810	-19,000	8,900	-170	-48,000
2059 (C)	130	7,100	1,200	-22,000	9,200	-3,900	-52,000
2060 (W)	15,000	16,000	-290	-7,300	-3,400	20,000	-33,000
2061 (C)	6,900	4,200	150	-14,000	-4,100	-6,700	-39,000
2062 (W)	16,000	15,000	-630	-6,700	-8,700	14,000	-25,000
2063 (W)	14,000	7,900	-160	-8,800	-13,000	250	-25,000
2064 (W)	14,000	12,000	68	-12,000	-11,000	2,600	-22,000
2065 (W)	14,000	15,000	-970	-6,300	-12,000	9,800	-12,000
2066 (AN)	7,000	5,400	360	-15,000	-7,700	-9,700	-22,000
2067 (AN)	9,700	9,300	43	-12,000	-5,800	1,600	-20,000
2068 (D)	3,400	4,600	410	-16,000	-110	-8,200	-29,000
2069 (D)	4,300	7,900	490	-18,000	2,200	-3,100	-32,000
2070 (BN)	5,400	8,400	160	-16,000	1,400	-800	-33,000

MCSim_v2.0 - Projected (No Action)

Gravelly Ford Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		7,800	7,500	450	-17,000	-1,300	-2,400	-35,000
2072 (W)		8,000	9,100	-540	-9,400	-1,700	5,400	-29,000
2073 (W)		8,600	7,500	-130	-11,000	-3,400	1,500	-28,000
2074 (C)		5,100	5,900	630	-18,000	-260	-6,700	-35,000
2075 (C)		4,800	7,300	500	-19,000	2,300	-3,800	-38,000
2076 (BN)		1,500	6,100	680	-22,000	5,700	-7,700	-46,000
2077 (AN)		3,600	8,900	78	-16,000	5,300	2,100	-44,000
2078 (W)		8,400	12,000	-230	-12,000	-200	7,400	-37,000
2079 (D)		800	4,900	600	-20,000	3,800	-9,800	-46,000
2080 (C)		47	6,000	980	-22,000	8,800	-6,500	-53,000
2081 (C)		8	6,500	1,200	-21,000	9,700	-4,000	-57,000
2082 (C)		0	6,800	1,800	-23,000	9,500	-5,100	-62,000
2083 (D)		1,500	9,400	1,500	-21,000	8,700	-330	-62,000
2084 (W)		7,200	12,000	660	-17,000	3,500	7,100	-55,000
2085 (BN)		4,600	5,600	660	-18,000	2,100	-4,900	-60,000
2086 (W)		9,200	10,000	250	-13,000	-820	5,600	-55,000
2087 (D)		3,900	5,700	730	-19,000	1,900	-7,000	-62,000
2088 (C)		2,200	7,000	1,400	-22,000	4,900	-6,400	-68,000
2089 (C)		2,300	9,900	770	-18,000	5,400	830	-67,000
2090 (W)		12,000	16,000	300	-15,000	-3,100	11,000	-56,000
Average (2024-2039)		**5,100**	**7,400**	**580**	**-16,000**	**1,100**	**-2,100**	
2024-2039	W	8,300	9,400	-110	-11,000	-1,900	4,800	
	AN	6,600	8,800	150	-14,000	920	2,400	
	BN	3,800	6,400	860	-19,000	1,900	-5,600	
	D	4,000	6,200	790	-18,000	1,500	-5,300	
	C	3,300	6,400	1,100	-20,000	3,100	-5,800	
Average (2040-2090)		**6,200**	**8,400**	**420**	**-16,000**	**410**	**-430**	
2040-2090	W	11,000	11,000	-130	-11,000	-4,600	7,300	
	AN	6,500	8,000	370	-15,000	-1,800	-2,400	
	BN	3,800	6,700	500	-19,000	3,100	-4,500	
	D	3,700	6,400	650	-19,000	2,200	-5,600	
	C	1,900	6,300	930	-20,000	5,500	-5,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Gravelly Ford Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

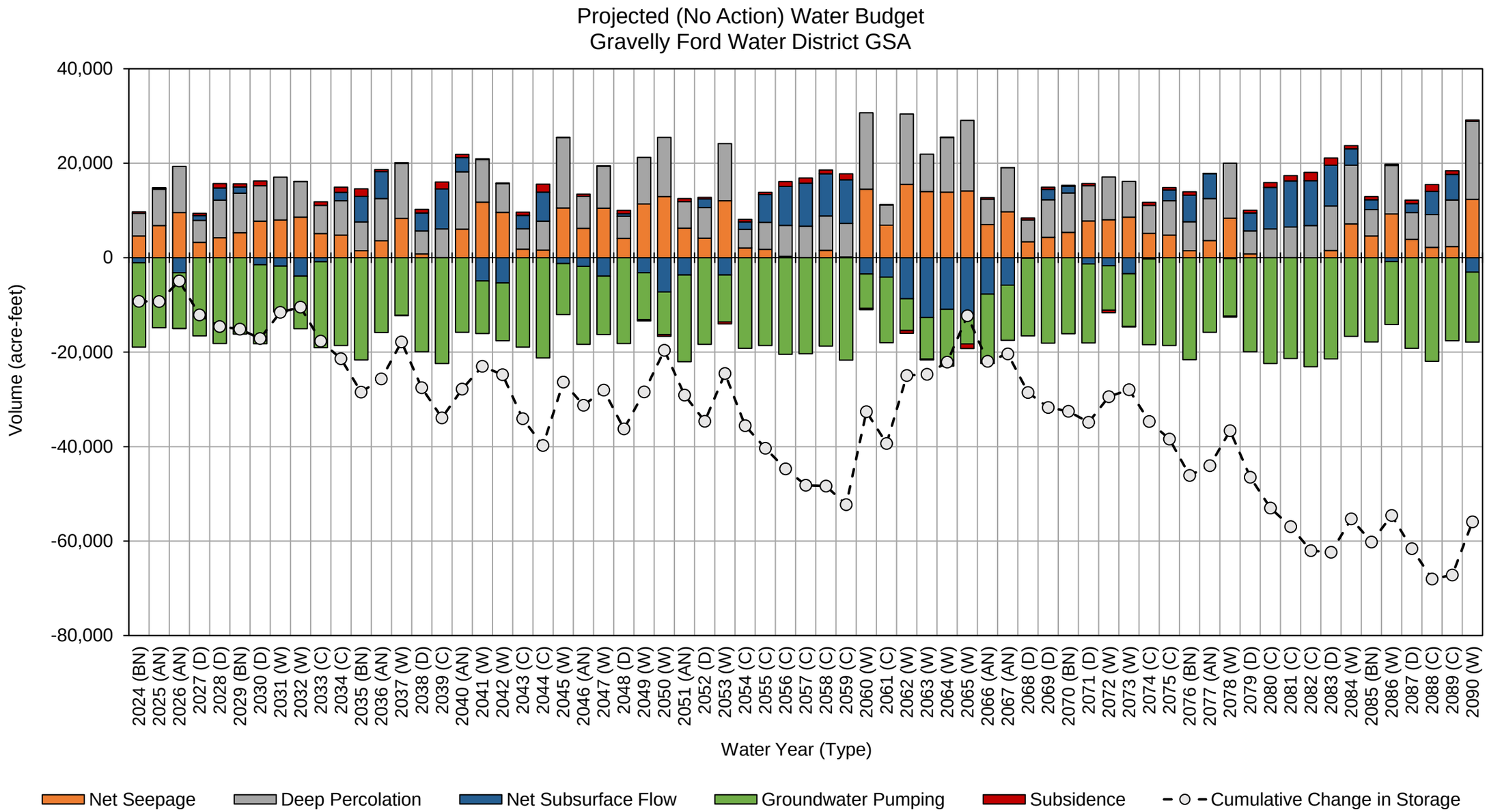
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	4,600	4,800	-18,000	-8,500
2025 (AN)	6,800	7,700	-15,000	-320
2026 (AN)	9,500	9,800	-12,000	7,600
2027 (D)	3,300	4,600	-17,000	-8,700
2028 (D)	4,200	7,900	-18,000	-6,000
2029 (BN)	5,300	8,400	-16,000	-2,600
2030 (D)	7,700	7,500	-17,000	-1,500
2031 (W)	8,000	9,100	-9,400	7,600
2032 (W)	8,600	7,600	-11,000	5,000
2033 (C)	5,100	5,900	-18,000	-7,100
2034 (C)	4,800	7,300	-19,000	-6,600
2035 (BN)	1,400	6,100	-22,000	-14,000
2036 (AN)	3,600	8,900	-16,000	-3,400
2037 (W)	8,300	12,000	-12,000	7,800
2038 (D)	780	4,900	-20,000	-14,000
2039 (C)	35	6,100	-22,000	-16,000
2040 (AN)	6,000	12,000	-16,000	2,400
2041 (W)	12,000	9,000	-11,000	9,600
2042 (W)	9,600	6,100	-12,000	3,400
2043 (C)	1,800	4,300	-19,000	-13,000
2044 (C)	1,600	6,100	-21,000	-14,000
2045 (W)	11,000	15,000	-11,000	15,000
2046 (AN)	6,200	6,800	-17,000	-3,500
2047 (W)	10,000	8,900	-12,000	7,000
2048 (D)	4,100	4,700	-18,000	-9,400
2049 (W)	11,000	9,900	-10,000	11,000
2050 (W)	13,000	13,000	-9,100	16,000
2051 (AN)	6,300	5,600	-18,000	-6,500
2052 (D)	4,100	6,500	-18,000	-7,700
2053 (W)	12,000	12,000	-10,000	14,000
2054 (C)	2,100	3,900	-19,000	-13,000
2055 (C)	1,700	5,700	-19,000	-11,000
2056 (C)	270	6,600	-20,000	-14,000
2057 (C)	30	6,600	-20,000	-14,000
2058 (C)	1,500	7,300	-19,000	-9,900
2059 (C)	130	7,100	-22,000	-14,000
2060 (W)	15,000	16,000	-7,300	23,000
2061 (C)	6,900	4,200	-14,000	-2,800
2062 (W)	16,000	15,000	-6,700	24,000
2063 (W)	14,000	7,900	-8,800	13,000
2064 (W)	14,000	12,000	-12,000	13,000
2065 (W)	14,000	15,000	-6,300	23,000
2066 (AN)	7,000	5,400	-15,000	-2,300
2067 (AN)	9,700	9,300	-12,000	7,400
2068 (D)	3,400	4,600	-16,000	-8,500

Gravelly Ford Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,300	7,900	-18,000	-5,800
2070 (BN)		5,400	8,400	-16,000	-2,400
2071 (D)		7,800	7,500	-17,000	-1,500
2072 (W)		8,000	9,100	-9,400	7,700
2073 (W)		8,600	7,500	-11,000	5,000
2074 (C)		5,100	5,900	-18,000	-7,100
2075 (C)		4,800	7,300	-19,000	-6,500
2076 (BN)		1,500	6,100	-22,000	-14,000
2077 (AN)		3,600	8,900	-16,000	-3,300
2078 (W)		8,400	12,000	-12,000	7,800
2079 (D)		800	4,900	-20,000	-14,000
2080 (C)		47	6,000	-22,000	-16,000
2081 (C)		8	6,500	-21,000	-15,000
2082 (C)		0	6,800	-23,000	-16,000
2083 (D)		1,500	9,400	-21,000	-11,000
2084 (W)		7,200	12,000	-17,000	2,900
2085 (BN)		4,600	5,600	-18,000	-7,700
2086 (W)		9,200	10,000	-13,000	6,200
2087 (D)		3,900	5,700	-19,000	-9,600
2088 (C)		2,200	7,000	-22,000	-13,000
2089 (C)		2,300	9,900	-18,000	-5,400
2090 (W)		12,000	16,000	-15,000	14,000
Average (2024-2039)		**5,100**	**7,400**	**-16,000**	**-3,800**
2024-2039	W	8,300	9,400	-11,000	6,800
	AN	6,600	8,800	-14,000	1,300
	BN	3,800	6,400	-19,000	-8,400
	D	4,000	6,200	-18,000	-7,600
	C	3,300	6,400	-20,000	-10,000
Average (2040-2090)		**6,200**	**8,400**	**-16,000**	**-1,300**
2040-2090	W	11,000	11,000	-11,000	12,000
	AN	6,500	8,000	-15,000	-970
	BN	3,800	6,700	-19,000	-8,000
	D	3,700	6,400	-19,000	-8,400
	C	1,900	6,300	-20,000	-12,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Gravelly Ford Water District GSA
Volume (acre-feet)
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Gravelly Ford Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	4,500	4,800	490	-19,000	-850	-9,700	-9,700
2025 (AN)	6,700	7,700	220	-15,000	360	-390	-10,000
2026 (AN)	9,500	10,000	120	-12,000	-3,100	4,100	-6,000
2027 (D)	3,200	4,700	660	-18,000	1,000	-7,900	-14,000
2028 (D)	4,200	8,200	1,200	-19,000	2,500	-2,600	-16,000
2029 (BN)	5,300	8,500	850	-17,000	1,200	-730	-17,000
2030 (D)	7,700	7,600	1,200	-17,000	-1,700	-2,400	-20,000
2031 (W)	8,000	9,500	-27	-11,000	-1,600	4,800	-15,000
2032 (W)	8,500	7,300	89	-11,000	-4,000	560	-14,000
2033 (C)	5,100	5,900	1,000	-19,000	-930	-7,600	-22,000
2034 (C)	4,800	7,200	1,500	-19,000	1,600	-4,100	-26,000
2035 (BN)	1,400	6,200	1,900	-22,000	5,300	-7,400	-33,000
2036 (AN)	3,500	9,000	640	-17,000	5,600	2,200	-31,000
2037 (W)	8,300	11,000	160	-13,000	170	6,600	-25,000
2038 (D)	760	4,900	950	-20,000	4,000	-9,700	-34,000
2039 (C)	31	6,100	1,700	-23,000	8,500	-6,600	-41,000
2040 (AN)	6,000	12,000	810	-16,000	3,200	6,100	-35,000
2041 (W)	12,000	9,000	290	-12,000	-5,000	4,300	-31,000
2042 (W)	9,500	6,100	210	-13,000	-5,200	-2,000	-33,000
2043 (C)	2,000	4,400	770	-19,000	2,600	-9,000	-42,000
2044 (C)	1,800	6,200	1,900	-22,000	5,800	-6,200	-48,000
2045 (W)	11,000	15,000	95	-11,000	-1,300	14,000	-34,000
2046 (AN)	6,200	6,600	510	-17,000	-1,500	-5,300	-39,000
2047 (W)	11,000	8,900	150	-13,000	-3,700	3,200	-36,000
2048 (D)	4,100	4,700	750	-19,000	760	-8,300	-44,000
2049 (W)	11,000	10,000	-220	-11,000	-3,100	7,700	-37,000
2050 (W)	13,000	13,000	-340	-9,400	-7,200	9,100	-28,000
2051 (AN)	6,200	5,500	670	-19,000	-3,300	-9,900	-37,000
2052 (D)	4,100	6,400	440	-19,000	2,000	-6,000	-43,000
2053 (W)	12,000	13,000	-330	-10,000	-3,800	10,000	-33,000
2054 (C)	2,200	4,000	580	-20,000	1,400	-11,000	-44,000
2055 (C)	1,900	5,800	560	-19,000	5,800	-5,100	-50,000
2056 (C)	290	6,600	1,100	-21,000	8,300	-4,600	-54,000
2057 (C)	39	6,700	1,100	-21,000	9,200	-3,700	-58,000
2058 (C)	1,600	7,500	860	-19,000	9,100	-170	-58,000
2059 (C)	360	7,300	1,300	-22,000	9,200	-3,900	-62,000
2060 (W)	15,000	16,000	-120	-8,300	-3,000	19,000	-42,000
2061 (C)	6,900	4,200	190	-14,000	-3,900	-6,900	-49,000
2062 (W)	16,000	15,000	-560	-7,200	-8,500	15,000	-35,000
2063 (W)	14,000	7,900	-99	-9,400	-13,000	-18	-35,000
2064 (W)	14,000	11,000	220	-13,000	-11,000	1,600	-33,000
2065 (W)	14,000	16,000	-960	-6,800	-12,000	10,000	-23,000
2066 (AN)	6,900	5,200	360	-15,000	-7,600	-10,000	-33,000
2067 (AN)	9,700	9,500	100	-12,000	-5,700	1,300	-32,000
2068 (D)	3,300	4,700	470	-17,000	46	-8,900	-41,000
2069 (D)	4,300	8,100	510	-19,000	2,200	-3,400	-44,000
2070 (BN)	5,400	8,500	190	-17,000	1,500	-1,000	-45,000

Gravelly Ford Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		7,800	7,500	500	-17,000	-1,300	-2,800	-48,000
2072 (W)		8,000	9,500	-410	-11,000	-1,300	4,800	-43,000
2073 (W)		8,600	7,300	-110	-11,000	-3,300	1,100	-42,000
2074 (C)		5,100	5,900	680	-19,000	-150	-7,100	-49,000
2075 (C)		4,800	7,200	620	-19,000	2,200	-4,400	-54,000
2076 (BN)		1,400	6,200	1,200	-22,000	5,300	-8,000	-62,000
2077 (AN)		3,600	9,000	540	-17,000	5,200	1,800	-60,000
2078 (W)		8,400	11,000	130	-13,000	290	6,700	-53,000
2079 (D)		770	4,900	750	-20,000	3,900	-10,000	-63,000
2080 (C)		42	6,100	1,400	-23,000	8,500	-6,900	-70,000
2081 (C)		3	6,500	1,300	-22,000	9,700	-4,300	-74,000
2082 (C)		0	6,800	1,900	-24,000	9,500	-5,500	-80,000
2083 (D)		1,500	9,700	1,600	-22,000	8,900	-170	-80,000
2084 (W)		7,200	13,000	780	-17,000	4,200	7,600	-72,000
2085 (BN)		4,500	5,600	650	-18,000	2,700	-4,900	-77,000
2086 (W)		9,200	11,000	290	-14,000	-63	6,300	-71,000
2087 (D)		3,900	5,700	670	-20,000	2,200	-7,200	-78,000
2088 (C)		2,200	7,000	1,300	-22,000	4,900	-7,000	-85,000
2089 (C)		2,300	9,900	780	-18,000	5,900	790	-84,000
2090 (W)		12,000	17,000	340	-15,000	-2,100	12,000	-72,000
Average (2024-2039)		**5,100**	**7,400**	**790**	**-17,000**	**1,100**	**-2,600**	
2024-2039	W	8,300	9,300	74	-12,000	-1,800	4,000	
	AN	6,600	8,900	330	-15,000	950	2,000	
	BN	3,800	6,500	1,100	-19,000	1,900	-6,000	
	D	4,000	6,300	1,000	-18,000	1,500	-5,700	
	C	3,300	6,400	1,400	-20,000	3,000	-6,100	
Average (2040-2090)		**6,200**	**8,500**	**520**	**-16,000**	**550**	**-610**	
2040-2090	W	11,000	12,000	-36	-11,000	-4,400	7,300	
	AN	6,400	8,000	500	-16,000	-1,600	-2,700	
	BN	3,800	6,800	680	-19,000	3,200	-4,700	
	D	3,700	6,500	710	-19,000	2,300	-5,800	
	C	2,000	6,400	1,000	-20,000	5,500	-5,300	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Gravelly Ford Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

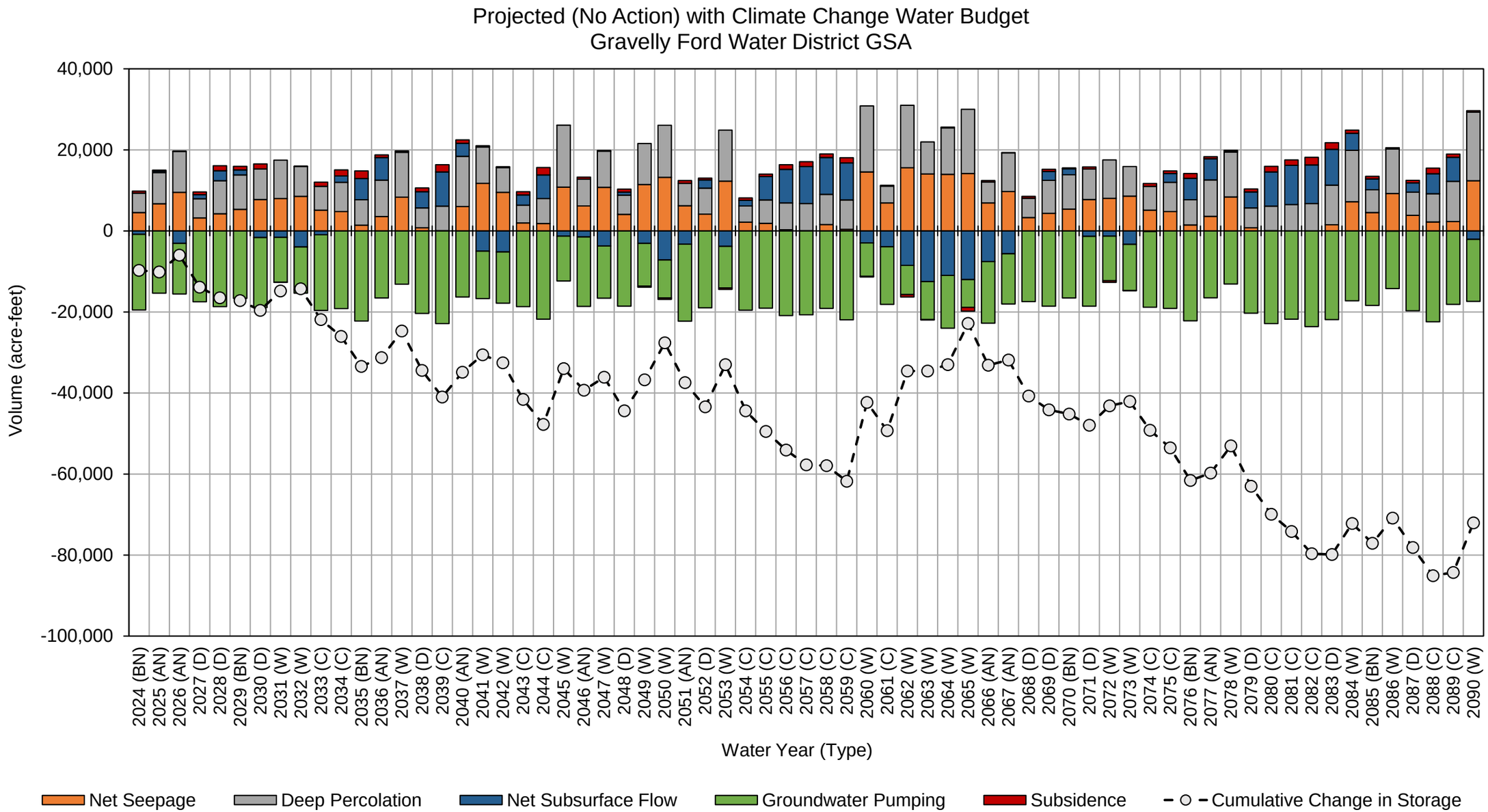
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	4,500	4,800	-19,000	-9,400
2025 (AN)	6,700	7,700	-15,000	-970
2026 (AN)	9,500	10,000	-12,000	7,100
2027 (D)	3,200	4,700	-18,000	-9,600
2028 (D)	4,200	8,200	-19,000	-6,300
2029 (BN)	5,300	8,500	-17,000	-2,800
2030 (D)	7,700	7,600	-17,000	-2,000
2031 (W)	8,000	9,500	-11,000	6,400
2032 (W)	8,500	7,300	-11,000	4,500
2033 (C)	5,100	5,900	-19,000	-7,700
2034 (C)	4,800	7,200	-19,000	-7,200
2035 (BN)	1,400	6,200	-22,000	-15,000
2036 (AN)	3,500	9,000	-17,000	-4,000
2037 (W)	8,300	11,000	-13,000	6,200
2038 (D)	760	4,900	-20,000	-15,000
2039 (C)	31	6,100	-23,000	-17,000
2040 (AN)	6,000	12,000	-16,000	2,100
2041 (W)	12,000	9,000	-12,000	9,000
2042 (W)	9,500	6,100	-13,000	3,000
2043 (C)	2,000	4,400	-19,000	-12,000
2044 (C)	1,800	6,200	-22,000	-14,000
2045 (W)	11,000	15,000	-11,000	15,000
2046 (AN)	6,200	6,600	-17,000	-4,400
2047 (W)	11,000	8,900	-13,000	6,700
2048 (D)	4,100	4,700	-19,000	-9,800
2049 (W)	11,000	10,000	-11,000	11,000
2050 (W)	13,000	13,000	-9,400	17,000
2051 (AN)	6,200	5,500	-19,000	-7,200
2052 (D)	4,100	6,400	-19,000	-8,500
2053 (W)	12,000	13,000	-10,000	15,000
2054 (C)	2,200	4,000	-20,000	-13,000
2055 (C)	1,900	5,800	-19,000	-11,000
2056 (C)	290	6,600	-21,000	-14,000
2057 (C)	39	6,700	-21,000	-14,000
2058 (C)	1,600	7,500	-19,000	-10,000
2059 (C)	360	7,300	-22,000	-14,000
2060 (W)	15,000	16,000	-8,300	23,000
2061 (C)	6,900	4,200	-14,000	-3,200
2062 (W)	16,000	15,000	-7,200	24,000
2063 (W)	14,000	7,900	-9,400	13,000
2064 (W)	14,000	11,000	-13,000	12,000
2065 (W)	14,000	16,000	-6,800	23,000
2066 (AN)	6,900	5,200	-15,000	-3,100
2067 (AN)	9,700	9,500	-12,000	6,900
2068 (D)	3,300	4,700	-17,000	-9,400

Gravelly Ford Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,300	8,100	-19,000	-6,100
2070 (BN)		5,400	8,500	-17,000	-2,700
2071 (D)		7,800	7,500	-17,000	-1,900
2072 (W)		8,000	9,500	-11,000	6,500
2073 (W)		8,600	7,300	-11,000	4,500
2074 (C)		5,100	5,900	-19,000	-7,700
2075 (C)		4,800	7,200	-19,000	-7,100
2076 (BN)		1,400	6,200	-22,000	-15,000
2077 (AN)		3,600	9,000	-17,000	-4,000
2078 (W)		8,400	11,000	-13,000	6,300
2079 (D)		770	4,900	-20,000	-15,000
2080 (C)		42	6,100	-23,000	-17,000
2081 (C)		3	6,500	-22,000	-15,000
2082 (C)		0	6,800	-24,000	-17,000
2083 (D)		1,500	9,700	-22,000	-11,000
2084 (W)		7,200	13,000	-17,000	2,700
2085 (BN)		4,500	5,600	-18,000	-8,300
2086 (W)		9,200	11,000	-14,000	6,000
2087 (D)		3,900	5,700	-20,000	-10,000
2088 (C)		2,200	7,000	-22,000	-13,000
2089 (C)		2,300	9,900	-18,000	-5,900
2090 (W)		12,000	17,000	-15,000	14,000
Average (2024-2039)		**5,100**	**7,400**	**-17,000**	**-4,500**
2024-2039	W	8,300	9,300	-12,000	5,700
	AN	6,600	8,900	-15,000	710
	BN	3,800	6,500	-19,000	-8,900
	D	4,000	6,300	-18,000	-8,100
	C	3,300	6,400	-20,000	-11,000
Average (2040-2090)		**6,200**	**8,500**	**-16,000**	**-1,700**
2040-2090	W	11,000	12,000	-11,000	12,000
	AN	6,400	8,000	-16,000	-1,600
	BN	3,800	6,800	-19,000	-8,500
	D	3,700	6,500	-19,000	-8,900
	C	2,000	6,400	-20,000	-12,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Gravelly Ford Water District GSA
Volume (acre-feet)
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Gravelly Ford Water District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	8,100	5,300	280	-18,000	-2,800	-7,000	-7,000
2025 (AN)	12,000	8,300	-18	-15,000	-3,200	1,700	-5,300
2026 (AN)	14,000	9,900	-170	-12,000	-7,000	5,100	-130
2027 (D)	3,300	3,700	390	-17,000	-480	-9,700	-9,800
2028 (D)	4,200	7,700	790	-18,000	2,500	-3,000	-13,000
2029 (BN)	10,000	9,600	480	-16,000	-1,300	2,900	-9,900
2030 (D)	7,700	6,300	700	-17,000	-2,100	-4,100	-14,000
2031 (W)	18,000	12,000	-450	-9,400	-7,600	12,000	-1,500
2032 (W)	19,000	7,200	-220	-11,000	-12,000	2,900	1,300
2033 (C)	5,100	3,800	580	-18,000	-3,200	-12,000	-11,000
2034 (C)	4,800	6,900	550	-19,000	2,000	-4,400	-15,000
2035 (BN)	6,400	7,500	950	-22,000	3,500	-3,300	-18,000
2036 (AN)	10,000	9,400	26	-16,000	1,200	5,100	-13,000
2037 (W)	18,000	13,000	-580	-12,000	-6,100	12,000	-960
2038 (D)	790	2,700	440	-20,000	2,000	-14,000	-15,000
2039 (C)	38	5,300	760	-22,000	9,200	-7,200	-22,000
2040 (AN)	13,000	14,000	24	-16,000	320	11,000	-11,000
2041 (W)	22,000	9,700	-470	-11,000	-10,000	9,400	-1,300
2042 (W)	20,000	5,900	-380	-12,000	-12,000	1,100	-180
2043 (C)	1,800	2,700	310	-19,000	760	-13,000	-14,000
2044 (C)	1,600	5,400	860	-21,000	6,700	-6,700	-20,000
2045 (W)	21,000	18,000	-790	-11,000	-5,700	21,000	950
2046 (AN)	13,000	5,200	66	-17,000	-6,600	-4,900	-4,000
2047 (W)	21,000	10,000	-330	-12,000	-10,000	7,800	3,800
2048 (D)	4,100	2,700	410	-18,000	-1,800	-13,000	-9,000
2049 (W)	21,000	12,000	-750	-10,000	-8,100	15,000	5,600
2050 (W)	23,000	12,000	-790	-9,100	-14,000	12,000	17,000
2051 (AN)	13,000	4,500	400	-18,000	-8,700	-9,300	8,000
2052 (D)	4,100	5,100	310	-18,000	110	-8,700	-660
2053 (W)	22,000	15,000	-810	-10,000	-9,000	17,000	17,000
2054 (C)	2,100	2,200	440	-19,000	-780	-15,000	1,300
2055 (C)	1,800	4,800	440	-19,000	5,700	-5,900	-4,600
2056 (C)	280	6,500	460	-21,000	8,600	-4,700	-9,300
2057 (C)	36	6,700	460	-20,000	9,500	-3,700	-13,000
2058 (C)	1,500	7,300	120	-19,000	9,300	-460	-14,000
2059 (C)	140	7,200	550	-22,000	9,700	-4,100	-18,000
2060 (W)	25,000	19,000	-1,100	-7,300	-8,000	27,000	9,300
2061 (C)	6,900	2,400	-86	-14,000	-6,100	-11,000	-1,400
2062 (W)	26,000	17,000	-960	-6,700	-13,000	21,000	20,000
2063 (W)	24,000	7,800	-540	-8,800	-19,000	3,400	23,000
2064 (W)	24,000	12,000	-300	-12,000	-18,000	5,900	29,000
2065 (W)	24,000	15,000	-1,300	-6,200	-20,000	12,000	41,000
2066 (AN)	14,000	4,000	270	-15,000	-14,000	-11,000	30,000
2067 (AN)	16,000	9,600	-1	-12,000	-12,000	2,000	32,000
2068 (D)	3,400	3,400	500	-16,000	-3,200	-12,000	20,000
2069 (D)	4,300	7,600	580	-18,000	1,100	-4,500	15,000

Gravelly Ford Water District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		10,000	9,600	100	-16,000	-1,900	2,000	17,000
2071 (D)		7,800	6,300	440	-17,000	-3,000	-5,200	12,000
2072 (W)		18,000	12,000	-770	-9,400	-7,400	13,000	25,000
2073 (W)		19,000	7,200	-450	-11,000	-11,000	3,700	28,000
2074 (C)		5,200	3,800	570	-18,000	-3,000	-12,000	17,000
2075 (C)		4,800	6,900	550	-19,000	1,800	-4,700	12,000
2076 (BN)		6,500	7,500	610	-22,000	2,800	-4,300	7,700
2077 (AN)		10,000	9,400	-200	-16,000	380	4,100	12,000
2078 (W)		18,000	13,000	-620	-12,000	-7,000	11,000	23,000
2079 (D)		810	2,700	510	-20,000	1,300	-15,000	8,500
2080 (C)		55	5,300	700	-22,000	8,700	-7,700	810
2081 (C)		15	6,500	460	-21,000	9,900	-4,500	-3,700
2082 (C)		2	6,800	820	-23,000	9,800	-5,800	-9,400
2083 (D)		1,500	9,400	390	-21,000	9,000	-1,100	-11,000
2084 (W)		17,000	16,000	-400	-17,000	-1,100	15,000	4,000
2085 (BN)		9,600	3,700	-10	-18,000	-1,900	-6,500	-2,500
2086 (W)		19,000	12,000	-410	-13,000	-7,000	10,000	8,000
2087 (D)		3,900	3,300	370	-19,000	-260	-12,000	-3,900
2088 (C)		2,200	6,500	760	-22,000	5,500	-7,000	-11,000
2089 (C)		2,300	9,900	64	-18,000	5,900	550	-10,000
2090 (W)		22,000	20,000	-570	-15,000	-8,500	19,000	8,300
Average (2024-2039)		**8,900**	**7,400**	**280**	**-16,000**	**-1,600**	**-1,400**	
2024-2039	W	18,000	11,000	-420	-11,000	-8,500	9,200	
	AN	12,000	9,200	-55	-14,000	-3,000	4,000	
	BN	8,300	7,400	570	-19,000	-170	-2,500	
	D	4,000	5,100	580	-18,000	490	-7,700	
	C	3,300	5,300	630	-20,000	2,700	-7,800	
Average (2040-2090)		**11,000**	**8,500**	**9**	**-16,000**	**-2,900**	**600**	
2040-2090	W	21,000	13,000	-650	-11,000	-10,000	12,000	
	AN	13,000	7,800	93	-15,000	-6,800	-1,200	
	BN	8,800	6,900	230	-19,000	-330	-2,900	
	D	3,700	5,100	440	-19,000	410	-8,900	
	C	1,900	5,700	470	-20,000	5,100	-6,600	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Gravelly Ford Water District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

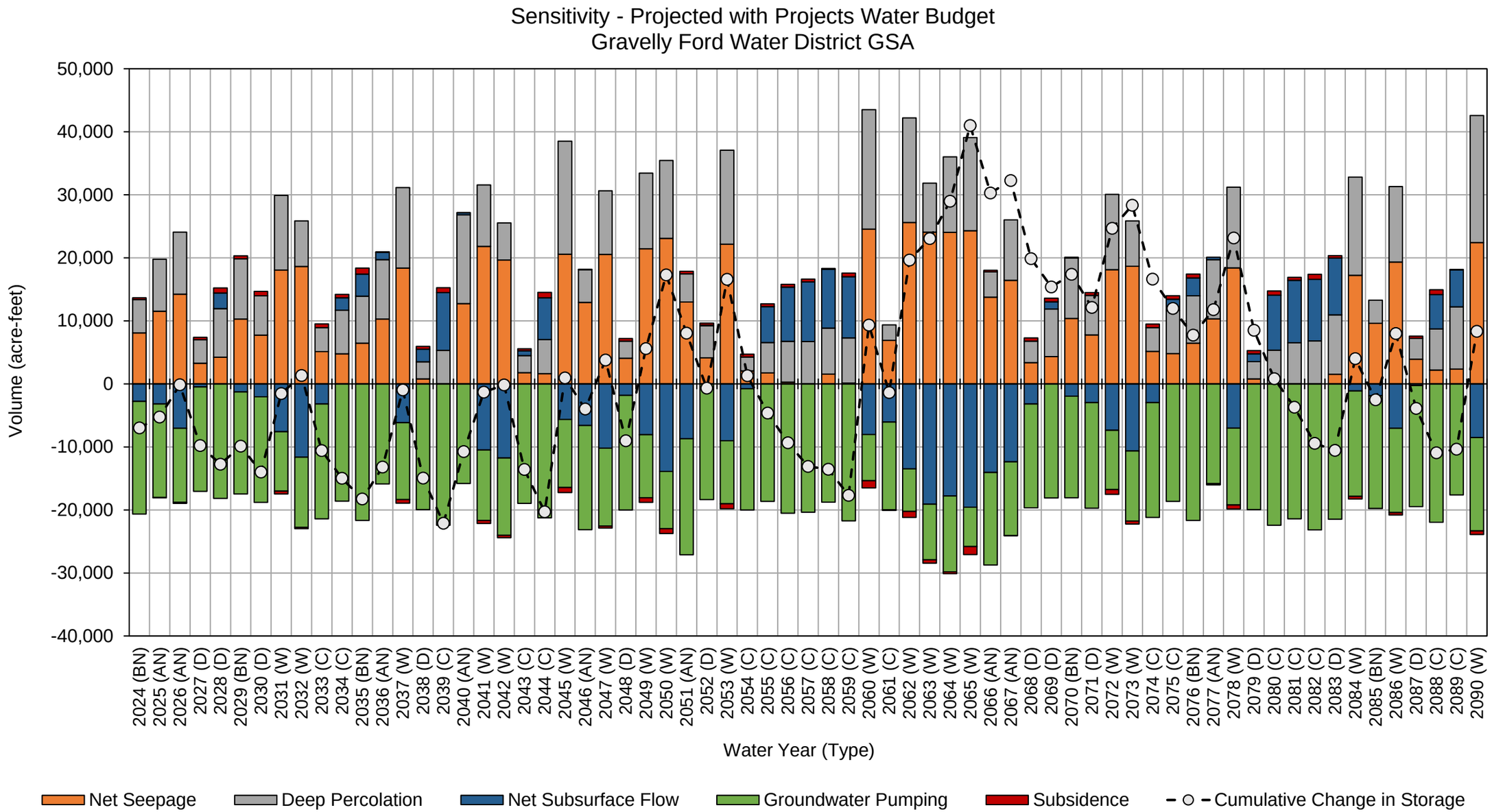
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	8,100	5,300	-18,000	-4,500
2025 (AN)	12,000	8,300	-15,000	4,900
2026 (AN)	14,000	9,900	-12,000	12,000
2027 (D)	3,300	3,700	-17,000	-9,600
2028 (D)	4,200	7,700	-18,000	-6,200
2029 (BN)	10,000	9,600	-16,000	3,600
2030 (D)	7,700	6,300	-17,000	-2,800
2031 (W)	18,000	12,000	-9,400	20,000
2032 (W)	19,000	7,200	-11,000	15,000
2033 (C)	5,100	3,800	-18,000	-9,300
2034 (C)	4,800	6,900	-19,000	-6,900
2035 (BN)	6,400	7,500	-22,000	-7,700
2036 (AN)	10,000	9,400	-16,000	3,800
2037 (W)	18,000	13,000	-12,000	19,000
2038 (D)	790	2,700	-20,000	-16,000
2039 (C)	38	5,300	-22,000	-17,000
2040 (AN)	13,000	14,000	-16,000	11,000
2041 (W)	22,000	9,700	-11,000	20,000
2042 (W)	20,000	5,900	-12,000	13,000
2043 (C)	1,800	2,700	-19,000	-14,000
2044 (C)	1,600	5,400	-21,000	-14,000
2045 (W)	21,000	18,000	-11,000	28,000
2046 (AN)	13,000	5,200	-17,000	1,600
2047 (W)	21,000	10,000	-12,000	18,000
2048 (D)	4,100	2,700	-18,000	-11,000
2049 (W)	21,000	12,000	-10,000	23,000
2050 (W)	23,000	12,000	-9,100	26,000
2051 (AN)	13,000	4,500	-18,000	-940
2052 (D)	4,100	5,100	-18,000	-9,100
2053 (W)	22,000	15,000	-10,000	27,000
2054 (C)	2,100	2,200	-19,000	-15,000
2055 (C)	1,800	4,800	-19,000	-12,000
2056 (C)	280	6,500	-21,000	-14,000
2057 (C)	36	6,700	-20,000	-14,000
2058 (C)	1,500	7,300	-19,000	-9,900
2059 (C)	140	7,200	-22,000	-14,000
2060 (W)	25,000	19,000	-7,300	36,000
2061 (C)	6,900	2,400	-14,000	-4,600
2062 (W)	26,000	17,000	-6,700	35,000
2063 (W)	24,000	7,800	-8,800	23,000
2064 (W)	24,000	12,000	-12,000	24,000
2065 (W)	24,000	15,000	-6,200	33,000
2066 (AN)	14,000	4,000	-15,000	3,100
2067 (AN)	16,000	9,600	-12,000	14,000
2068 (D)	3,400	3,400	-16,000	-9,700

Gravelly Ford Water District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,300	7,600	-18,000	-6,200
2070 (BN)		10,000	9,600	-16,000	3,800
2071 (D)		7,800	6,300	-17,000	-2,700
2072 (W)		18,000	12,000	-9,400	21,000
2073 (W)		19,000	7,200	-11,000	15,000
2074 (C)		5,200	3,800	-18,000	-9,300
2075 (C)		4,800	6,900	-19,000	-7,000
2076 (BN)		6,500	7,500	-22,000	-7,700
2077 (AN)		10,000	9,400	-16,000	3,900
2078 (W)		18,000	13,000	-12,000	19,000
2079 (D)		810	2,700	-20,000	-16,000
2080 (C)		55	5,300	-22,000	-17,000
2081 (C)		15	6,500	-21,000	-15,000
2082 (C)		2	6,800	-23,000	-16,000
2083 (D)		1,500	9,400	-21,000	-11,000
2084 (W)		17,000	16,000	-17,000	16,000
2085 (BN)		9,600	3,700	-18,000	-4,600
2086 (W)		19,000	12,000	-13,000	18,000
2087 (D)		3,900	3,300	-19,000	-12,000
2088 (C)		2,200	6,500	-22,000	-13,000
2089 (C)		2,300	9,900	-18,000	-5,400
2090 (W)		22,000	20,000	-15,000	28,000
Average (2024-2039)		**8,900**	**7,400**	**-16,000**	**-110**
2024-2039	W	18,000	11,000	-11,000	18,000
	AN	12,000	9,200	-14,000	7,000
	BN	8,300	7,400	-19,000	-2,900
	D	4,000	5,100	-18,000	-8,700
	C	3,300	5,300	-20,000	-11,000
Average (2040-2090)		**11,000**	**8,500**	**-16,000**	**3,400**
2040-2090	W	21,000	13,000	-11,000	24,000
	AN	13,000	7,800	-15,000	5,500
	BN	8,800	6,900	-19,000	-2,800
	D	3,700	5,100	-19,000	-9,800
	C	1,900	5,700	-20,000	-12,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Sensitivity - Projected with Projects Water Budget
Gravelly Ford Water District GSA
Volume (acre-feet)
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.2.f

New Stone Water District GSA Water Budget Results

New Stone Water District GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		1,500	3,700	1,400	-12,000	6,100	630	630
1990 (C)		1,500	4,100	1,400	-13,000	5,700	-320	300
1991 (C)		3,600	5,200	1,200	-13,000	4,800	1,800	2,100
1992 (C)		2,000	3,700	1,400	-14,000	4,700	-2,000	64
1993 (W)		9,400	10,000	320	-13,000	2,900	9,800	9,900
1994 (C)		3,000	5,400	460	-14,000	2,100	-3,400	6,500
1995 (W)		8,300	9,000	-260	-11,000	1,700	7,300	14,000
1996 (W)		6,300	7,100	-53	-13,000	1,200	1,600	15,000
1997 (W)		5,500	7,100	-1	-13,000	1,400	950	16,000
1998 (W)		4,500	9,700	-730	-8,800	13	4,700	21,000
1999 (AN)		2,200	1,600	380	-11,000	1,400	-5,400	16,000
2000 (AN)		2,900	1,600	240	-9,800	2,100	-3,000	13,000
2001 (D)		2,900	1,900	270	-8,700	1,300	-2,400	10,000
2002 (D)		2,100	1,200	460	-10,000	2,700	-3,900	6,500
2003 (BN)		2,000	1,500	460	-9,700	3,200	-2,500	3,900
2004 (D)		1,500	1,400	1,000	-11,000	3,500	-3,500	400
2005 (W)		6,100	6,200	-120	-6,900	1,900	7,200	7,600
2006 (W)		6,000	6,700	-290	-8,400	650	4,700	12,000
2007 (C)		1,500	1,500	460	-10,000	1,200	-5,600	6,700
2008 (C)		1,800	640	580	-10,000	2,700	-4,500	2,100
2009 (BN)		1,500	800	830	-9,400	3,200	-3,100	-940
2010 (AN)		2,200	1,900	470	-7,500	3,300	300	-640
2011 (W)		8,800	9,300	-320	-7,600	880	11,000	10,000
2012 (D)		1,600	1,800	380	-9,100	60	-5,200	5,200
2013 (C)		1,300	520	800	-9,800	1,300	-5,900	-620
2014 (C)		1,200	680	1,600	-8,000	1,200	-3,400	-4,000
2015 (C)		1,300	1,100	2,300	-8,300	650	-2,900	-6,900
2016 (D)		3,100	2,500	2,000	-9,400	1,400	-460	-7,400
2017 (W)		11,000	5,700	570	-9,600	1,400	8,700	1,300
2018 (BN)		2,000	1,700	700	-8,300	-1,100	-5,000	-3,700
2019 (W)		7,500	3,300	560	-9,400	1,200	3,300	-420
2020 (D)		1,700	2,000	850	-9,900	870	-4,400	-4,900
2021 (C)		1,600	2,000	1,500	-10,000	1,500	-3,500	-8,300
2022 (C)		3,500	3,200	970	-8,300	1,000	320	-8,000
2023 (W)		10,000	5,800	250	-9,400	2,100	8,900	870
Average (1989-2023)		**3,800**	**3,800**	**630**	**-10,000**	**2,000**	**25**	
1989-2023	W	7,600	7,300	-7	-10,000	1,400	6,200	
	AN	2,500	1,700	360	-9,400	2,200	-2,700	
	BN	1,900	1,300	660	-9,100	1,800	-3,500	
	D	2,100	1,800	830	-9,700	1,600	-3,300	
	C	2,000	2,600	1,200	-11,000	2,800	-2,400	
Average (1989-2015)		**3,400**	**3,900**	**540**	**-10,000**	**2,300**	**-260**	
1989-2015	W	6,900	8,100	-180	-10,000	1,300	5,900	
	AN	2,500	1,700	360	-9,400	2,200	-2,700	
	BN	1,800	1,200	640	-9,600	3,200	-2,800	
	D	2,000	1,600	530	-9,800	1,900	-3,700	
	C	1,900	2,700	1,200	-11,000	3,100	-2,600	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

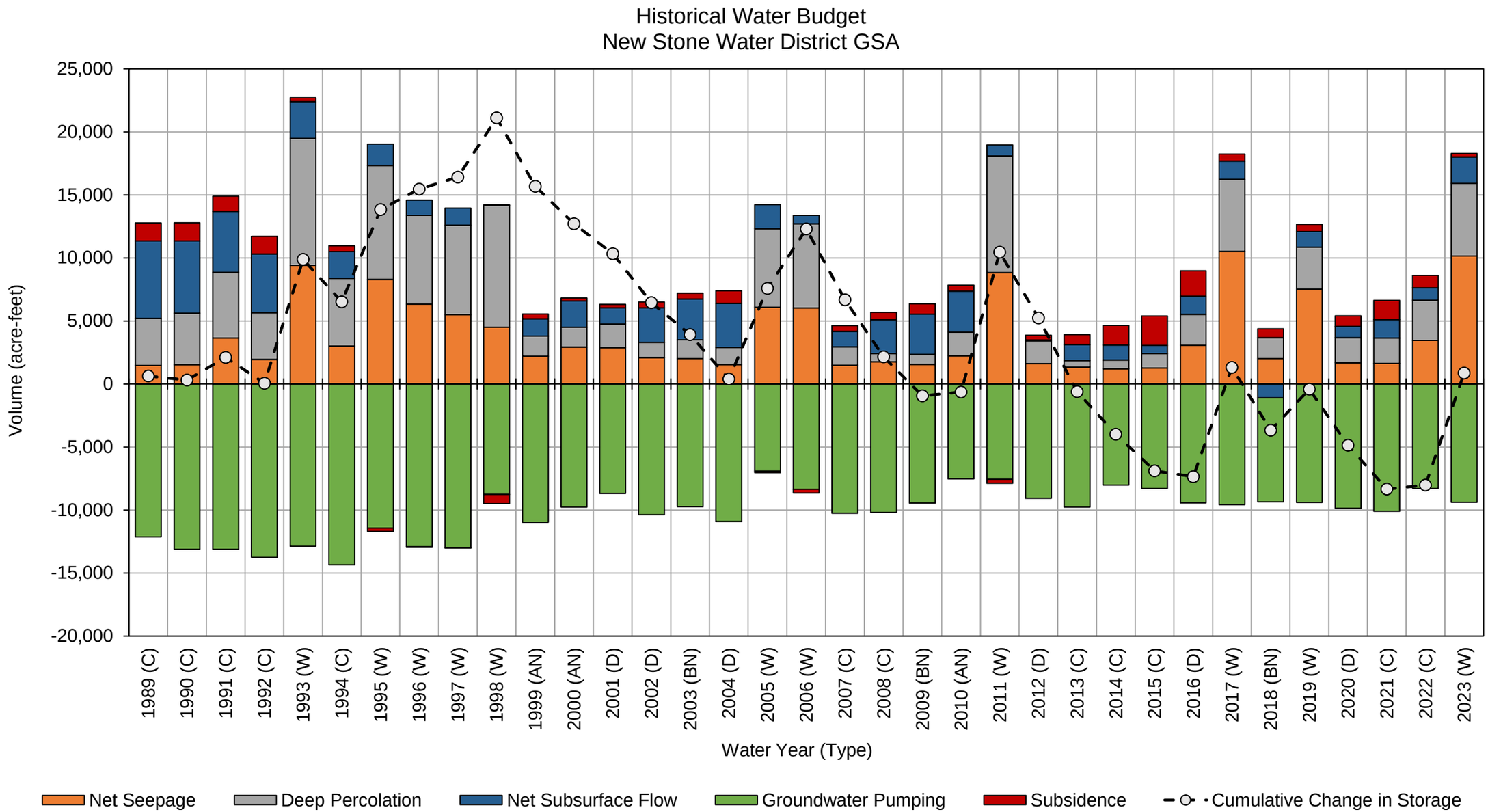
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

New Stone Water District GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		1,500	3,700	-12,000	-6,900
1990 (C)		1,500	4,100	-13,000	-7,500
1991 (C)		3,600	5,200	-13,000	-4,300
1992 (C)		2,000	3,700	-14,000	-8,100
1993 (W)		9,400	10,000	-13,000	6,600
1994 (C)		3,000	5,400	-14,000	-6,000
1995 (W)		8,300	9,000	-11,000	5,900
1996 (W)		6,300	7,100	-13,000	470
1997 (W)		5,500	7,100	-13,000	-410
1998 (W)		4,500	9,700	-8,800	5,400
1999 (AN)		2,200	1,600	-11,000	-7,200
2000 (AN)		2,900	1,600	-9,800	-5,300
2001 (D)		2,900	1,900	-8,700	-3,900
2002 (D)		2,100	1,200	-10,000	-7,100
2003 (BN)		2,000	1,500	-9,700	-6,200
2004 (D)		1,500	1,400	-11,000	-8,000
2005 (W)		6,100	6,200	-6,900	5,400
2006 (W)		6,000	6,700	-8,400	4,400
2007 (C)		1,500	1,500	-10,000	-7,300
2008 (C)		1,800	640	-10,000	-7,800
2009 (BN)		1,500	800	-9,400	-7,100
2010 (AN)		2,200	1,900	-7,500	-3,400
2011 (W)		8,800	9,300	-7,600	11,000
2012 (D)		1,600	1,800	-9,100	-5,700
2013 (C)		1,300	520	-9,800	-7,900
2014 (C)		1,200	680	-8,000	-6,100
2015 (C)		1,300	1,100	-8,300	-5,900
2016 (D)		3,100	2,500	-9,400	-3,900
2017 (W)		11,000	5,700	-9,600	6,700
2018 (BN)		2,000	1,700	-8,300	-4,600
2019 (W)		7,500	3,300	-9,400	1,400
2020 (D)		1,700	2,000	-9,900	-6,200
2021 (C)		1,600	2,000	-10,000	-6,500
2022 (C)		3,500	3,200	-8,300	-1,600
2023 (W)		10,000	5,800	-9,400	6,500
Average (1989-2023)		**3,800**	**3,800**	**-10,000**	**-2,600**
1989-2023	W	7,600	7,300	-10,000	4,800
	AN	2,500	1,700	-9,400	-5,300
	BN	1,900	1,300	-9,100	-6,000
	D	2,100	1,800	-9,700	-5,800
	C	2,000	2,600	-11,000	-6,300
Average (1989-2015)		**3,400**	**3,900**	**-10,000**	**-3,100**
1989-2015	W	6,900	8,100	-10,000	4,800
	AN	2,500	1,700	-9,400	-5,300
	BN	1,800	1,200	-9,600	-6,700
	D	2,000	1,600	-9,800	-6,200
	C	1,900	2,700	-11,000	-6,800

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
New Stone Water District GSA
Volume (acre-feet)
25,000
20,000
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

New Stone Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	1,900	1,600	150	-9,600	160	-5,800	-5,800
2025 (AN)	7,700	2,400	-71	-8,300	-660	1,100	-4,700
2026 (AN)	4,900	2,500	110	-8,000	-710	-1,200	-5,900
2027 (D)	1,800	1,700	340	-7,400	-47	-3,600	-9,500
2028 (D)	1,900	2,200	1,000	-8,700	1,100	-2,500	-12,000
2029 (BN)	2,000	2,500	1,100	-8,300	1,300	-1,500	-14,000
2030 (D)	1,600	2,300	1,200	-9,400	2,500	-1,900	-15,000
2031 (W)	6,600	6,700	-84	-4,300	-230	8,600	-6,800
2032 (W)	9,300	6,100	-560	-5,200	-2,300	7,400	640
2033 (C)	1,600	1,400	140	-9,200	-440	-6,500	-5,900
2034 (C)	1,900	1,700	330	-8,900	1,400	-3,700	-9,600
2035 (BN)	1,800	2,000	240	-8,900	2,300	-2,500	-12,000
2036 (AN)	2,500	2,500	29	-7,200	2,000	-200	-12,000
2037 (W)	9,500	16,000	-1,200	-4,800	1,700	21,000	8,400
2038 (D)	2,100	1,700	7	-9,100	-870	-6,200	2,200
2039 (C)	1,800	650	320	-9,400	1,000	-5,500	-3,300
2040 (AN)	3,700	2,000	160	-8,300	1,200	-1,300	-4,700
2041 (W)	9,900	6,300	-640	-5,500	990	11,000	6,400
2042 (W)	2,100	11,000	-560	-8,000	390	5,100	12,000
2043 (C)	2,100	280	310	-8,900	-550	-6,700	4,800
2044 (C)	1,800	200	590	-9,900	1,200	-6,200	-1,400
2045 (W)	7,800	4,700	-360	-5,000	-1,100	6,100	4,700
2046 (AN)	5,900	5,000	-21	-9,600	-1,500	-210	4,500
2047 (W)	6,400	3,700	-260	-6,200	-1,000	2,600	7,100
2048 (D)	2,400	1,600	300	-9,600	1,000	-4,400	2,600
2049 (W)	6,900	17,000	-1,000	-4,800	-3,000	15,000	18,000
2050 (W)	2,600	14,000	-700	-4,800	-5,000	5,600	23,000
2051 (AN)	1,600	210	580	-11,000	-330	-8,600	15,000
2052 (D)	2,500	60	380	-9,700	1,400	-5,400	9,200
2053 (W)	6,100	6,600	-580	-4,800	-250	7,200	16,000
2054 (C)	2,100	790	450	-9,100	-61	-5,900	11,000
2055 (C)	2,400	290	380	-8,900	1,300	-4,500	6,000
2056 (C)	2,500	440	320	-8,900	2,200	-3,500	2,500
2057 (C)	2,500	630	330	-8,600	2,000	-3,100	-570
2058 (C)	4,500	1,600	170	-8,200	1,500	-350	-920
2059 (C)	3,400	1,600	270	-8,600	1,100	-2,200	-3,100
2060 (W)	8,200	12,000	-830	-4,700	-24	14,000	11,000
2061 (C)	3,700	2,800	79	-8,900	-1,800	-4,300	6,800
2062 (W)	5,800	17,000	-910	-4,800	-4,000	13,000	20,000
2063 (W)	2,100	10,000	-490	-5,300	-3,900	2,600	22,000
2064 (W)	-1,700	9,600	-330	-5,700	210	2,100	24,000
2065 (W)	-2,600	14,000	-650	-4,900	-1,900	4,100	28,000
2066 (AN)	-740	1,500	570	-8,900	-200	-7,800	21,000
2067 (AN)	2,400	810	280	-8,600	1,400	-3,700	17,000
2068 (D)	2,600	450	270	-8,200	1,800	-3,000	14,000
2069 (D)	3,400	1,000	320	-9,800	2,500	-2,600	11,000
2070 (BN)	4,200	1,700	200	-9,300	1,700	-1,500	9,800

MCSim_v2.0 - Projected with Projects

New Stone Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		3,400	1,100	350	-11,000	2,700	-3,100	6,700
2072 (W)		5,600	8,900	-650	-4,100	-2,000	7,900	15,000
2073 (W)		3,800	11,000	-540	-5,300	-3,300	5,500	20,000
2074 (C)		1,900	160	450	-10,000	1,300	-6,200	14,000
2075 (C)		3,200	270	370	-10,000	2,500	-3,700	10,000
2076 (BN)		3,500	540	310	-10,000	2,700	-2,900	7,300
2077 (AN)		4,800	1,700	-59	-7,900	1,500	100	7,400
2078 (W)		2,900	21,000	-1,200	-5,000	-2,000	16,000	23,000
2079 (D)		1,400	150	370	-9,100	200	-7,000	16,000
2080 (C)		3,000	130	430	-10,000	1,900	-4,400	12,000
2081 (C)		2,900	120	390	-9,400	2,100	-3,900	7,800
2082 (C)		2,800	240	510	-10,000	2,800	-4,000	3,800
2083 (D)		5,800	1,300	160	-11,000	2,500	-710	3,100
2084 (W)		5,600	19,000	-1,000	-5,400	-3,100	15,000	18,000
2085 (BN)		2,700	140	310	-11,000	190	-7,300	11,000
2086 (W)		5,600	7,300	-470	-5,900	-830	5,600	16,000
2087 (D)		3,200	660	370	-11,000	1,400	-5,300	11,000
2088 (C)		3,600	590	480	-12,000	2,500	-4,300	6,900
2089 (C)		5,800	2,100	94	-9,000	750	-350	6,600
2090 (W)		4,700	20,000	-960	-5,800	-3,700	14,000	21,000
Average (2024-2039)		**3,700**	**3,300**	**190**	**-7,900**	**510**	**-210**	
2024-2039	W	8,500	9,400	-620	-4,800	-250	12,000	
	AN	5,000	2,500	23	-7,800	200	-100	
	BN	1,900	2,000	490	-8,900	1,300	-3,300	
	D	1,800	2,000	640	-8,700	660	-3,500	
	C	1,800	1,200	270	-9,200	650	-5,300	
Average (2040-2090)		**3,600**	**4,800**	**-34**	**-8,000**	**150**	**470**	
2040-2090	W	4,500	12,000	-680	-5,300	-1,900	8,500	
	AN	2,900	1,900	250	-9,000	340	-3,600	
	BN	3,500	790	270	-10,000	1,600	-3,900	
	D	3,100	790	320	-9,800	1,700	-3,900	
	C	3,000	760	350	-9,400	1,300	-4,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

New Stone Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

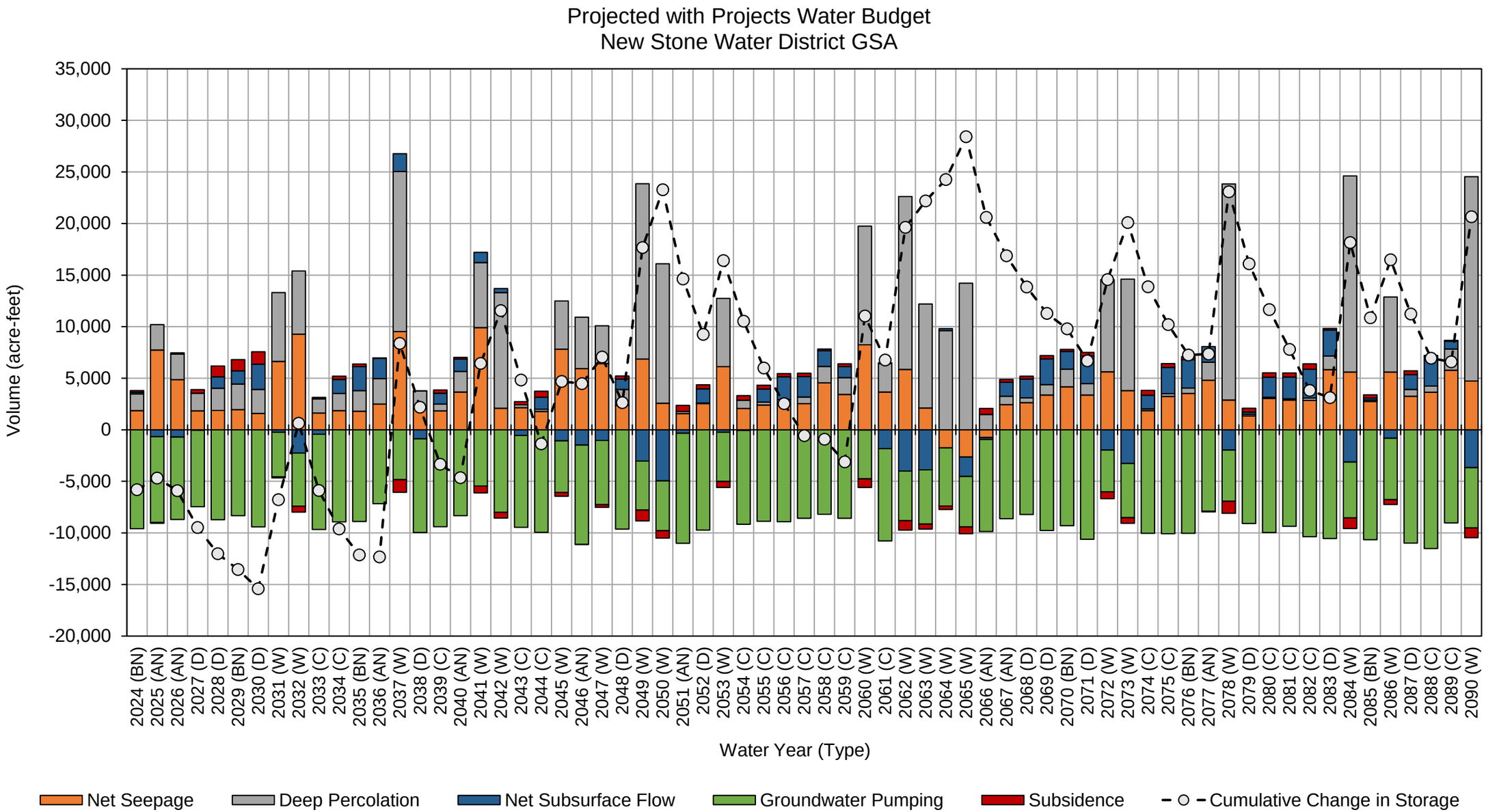
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	1,900	1,600	-9,600	-6,100
2025 (AN)	7,700	2,400	-8,300	1,900
2026 (AN)	4,900	2,500	-8,000	-630
2027 (D)	1,800	1,700	-7,400	-3,900
2028 (D)	1,900	2,200	-8,700	-4,700
2029 (BN)	2,000	2,500	-8,300	-3,900
2030 (D)	1,600	2,300	-9,400	-5,500
2031 (W)	6,600	6,700	-4,300	9,000
2032 (W)	9,300	6,100	-5,200	10,000
2033 (C)	1,600	1,400	-9,200	-6,200
2034 (C)	1,900	1,700	-8,900	-5,400
2035 (BN)	1,800	2,000	-8,900	-5,100
2036 (AN)	2,500	2,500	-7,200	-2,200
2037 (W)	9,500	16,000	-4,800	20,000
2038 (D)	2,100	1,700	-9,100	-5,300
2039 (C)	1,800	650	-9,400	-6,900
2040 (AN)	3,700	2,000	-8,300	-2,700
2041 (W)	9,900	6,300	-5,500	11,000
2042 (W)	2,100	11,000	-8,000	5,300
2043 (C)	2,100	280	-8,900	-6,500
2044 (C)	1,800	200	-9,900	-7,900
2045 (W)	7,800	4,700	-5,000	7,500
2046 (AN)	5,900	5,000	-9,600	1,300
2047 (W)	6,400	3,700	-6,200	3,900
2048 (D)	2,400	1,600	-9,600	-5,700
2049 (W)	6,900	17,000	-4,800	19,000
2050 (W)	2,600	14,000	-4,800	11,000
2051 (AN)	1,600	210	-11,000	-8,900
2052 (D)	2,500	60	-9,700	-7,100
2053 (W)	6,100	6,600	-4,800	8,000
2054 (C)	2,100	790	-9,100	-6,200
2055 (C)	2,400	290	-8,900	-6,200
2056 (C)	2,500	440	-8,900	-6,000
2057 (C)	2,500	630	-8,600	-5,400
2058 (C)	4,500	1,600	-8,200	-2,000
2059 (C)	3,400	1,600	-8,600	-3,500
2060 (W)	8,200	12,000	-4,700	15,000
2061 (C)	3,700	2,800	-8,900	-2,500
2062 (W)	5,800	17,000	-4,800	18,000
2063 (W)	2,100	10,000	-5,300	6,900
2064 (W)	-1,700	9,600	-5,700	2,200
2065 (W)	-2,600	14,000	-4,900	6,700
2066 (AN)	-740	1,500	-8,900	-8,200
2067 (AN)	2,400	810	-8,600	-5,400
2068 (D)	2,600	450	-8,200	-5,100

New Stone Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		3,400	1,000	-9,800	-5,400
2070 (BN)		4,200	1,700	-9,300	-3,400
2071 (D)		3,400	1,100	-11,000	-6,100
2072 (W)		5,600	8,900	-4,100	11,000
2073 (W)		3,800	11,000	-5,300	9,300
2074 (C)		1,900	160	-10,000	-8,000
2075 (C)		3,200	270	-10,000	-6,600
2076 (BN)		3,500	540	-10,000	-6,000
2077 (AN)		4,800	1,700	-7,900	-1,300
2078 (W)		2,900	21,000	-5,000	19,000
2079 (D)		1,400	150	-9,100	-7,600
2080 (C)		3,000	130	-10,000	-6,800
2081 (C)		2,900	120	-9,400	-6,400
2082 (C)		2,800	240	-10,000	-7,300
2083 (D)		5,800	1,300	-11,000	-3,400
2084 (W)		5,600	19,000	-5,400	19,000
2085 (BN)		2,700	140	-11,000	-7,800
2086 (W)		5,600	7,300	-5,900	6,900
2087 (D)		3,200	660	-11,000	-7,100
2088 (C)		3,600	590	-12,000	-7,300
2089 (C)		5,800	2,100	-9,000	-1,200
2090 (W)		4,700	20,000	-5,800	19,000
Average (2024-2039)		**3,700**	**3,300**	**-7,900**	**-910**
2024-2039	W	8,500	9,400	-4,800	13,000
	AN	5,000	2,500	-7,800	-330
	BN	1,900	2,000	-8,900	-5,000
	D	1,800	2,000	-8,700	-4,800
	C	1,800	1,200	-9,200	-6,200
Average (2040-2090)		**3,600**	**4,800**	**-8,000**	**360**
2040-2090	W	4,500	12,000	-5,300	11,000
	AN	2,900	1,900	-9,000	-4,200
	BN	3,500	790	-10,000	-5,700
	D	3,100	790	-9,800	-5,900
	C	3,000	760	-9,400	-5,600

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
New Stone Water District GSA
Volume (acre-feet)
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

New Stone Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	2,000	1,600	210	-9,900	270	-5,900	-5,900
2025 (AN)	7,800	2,400	3	-8,500	-710	970	-4,900
2026 (AN)	5,000	2,500	88	-8,300	-370	-970	-5,900
2027 (D)	1,900	1,700	340	-7,600	110	-3,500	-9,300
2028 (D)	2,000	2,200	1,100	-8,900	1,200	-2,500	-12,000
2029 (BN)	2,200	2,600	1,000	-8,600	1,500	-1,300	-13,000
2030 (D)	1,700	2,300	1,600	-9,600	1,800	-2,300	-15,000
2031 (W)	6,500	6,800	-160	-4,800	590	8,900	-6,500
2032 (W)	9,300	6,000	-540	-5,300	-2,100	7,300	810
2033 (C)	1,700	1,400	350	-9,400	-1,200	-7,200	-6,400
2034 (C)	1,900	1,700	420	-9,200	820	-4,300	-11,000
2035 (BN)	1,900	2,000	500	-9,100	1,800	-2,800	-14,000
2036 (AN)	2,600	2,600	120	-7,500	2,400	200	-13,000
2037 (W)	12,000	13,000	-870	-5,100	-1,200	18,000	4,600
2038 (D)	2,200	1,000	72	-8,800	-1,700	-7,200	-2,600
2039 (C)	1,900	1,200	400	-9,000	570	-5,000	-7,600
2040 (AN)	3,800	2,800	59	-8,700	1,500	-390	-8,000
2041 (W)	14,000	9,800	-810	-5,200	-2,600	15,000	7,000
2042 (W)	4,800	8,000	-250	-8,500	-4,000	-30	7,000
2043 (C)	2,200	370	280	-9,100	-890	-7,200	-170
2044 (C)	1,800	380	550	-9,200	850	-5,600	-5,800
2045 (W)	7,800	5,800	-420	-5,100	-35	8,000	2,200
2046 (AN)	6,700	4,000	-110	-9,700	-1,200	-270	2,000
2047 (W)	6,800	4,500	-320	-6,400	-510	4,000	5,900
2048 (D)	2,500	1,600	240	-9,700	530	-4,900	1,100
2049 (W)	11,000	13,000	-740	-4,800	-6,100	12,000	13,000
2050 (W)	6,800	17,000	-790	-5,000	-9,200	8,500	21,000
2051 (AN)	2,700	170	520	-11,000	-1,300	-8,900	13,000
2052 (D)	2,600	18	400	-10,000	1,200	-5,900	6,600
2053 (W)	10,000	12,000	-630	-4,900	-7,000	9,900	17,000
2054 (C)	2,500	320	460	-9,400	-1,600	-7,700	8,900
2055 (C)	2,500	140	390	-9,100	1,000	-5,100	3,800
2056 (C)	2,600	260	350	-9,000	1,700	-4,000	-220
2057 (C)	2,600	480	360	-8,000	1,500	-3,000	-3,200
2058 (C)	4,700	1,600	200	-8,100	1,200	-420	-3,700
2059 (C)	3,700	1,700	260	-8,700	960	-2,000	-5,700
2060 (W)	12,000	13,000	-720	-5,000	-4,400	15,000	9,100
2061 (C)	4,200	2,400	96	-9,100	-2,900	-5,300	3,800
2062 (W)	11,000	16,000	-760	-5,000	-8,700	12,000	16,000
2063 (W)	5,700	14,000	-620	-5,400	-8,800	5,300	21,000
2064 (W)	4,200	8,600	-120	-6,200	-6,600	-120	21,000
2065 (W)	3,300	15,000	-600	-5,100	-7,900	4,400	25,000
2066 (AN)	1,700	620	510	-9,100	-2,000	-8,300	17,000
2067 (AN)	3,800	380	310	-8,900	1	-4,400	13,000
2068 (D)	4,200	340	320	-8,400	200	-3,300	9,200
2069 (D)	4,400	540	350	-10,000	1,400	-3,400	5,900
2070 (BN)	4,400	930	240	-9,500	1,500	-2,400	3,400

MCSim_v2.0 - Projected with Projects and Climate Change

New Stone Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		3,100	940	360	-11,000	2,500	-3,700	-240
2072 (W)		7,100	5,800	-460	-4,600	-1,200	6,700	6,400
2073 (W)		7,000	10,000	-520	-5,400	-4,700	6,600	13,000
2074 (C)		3,500	960	380	-10,000	-530	-6,000	7,000
2075 (C)		4,000	580	360	-10,000	1,600	-3,900	3,100
2076 (BN)		3,400	770	330	-10,000	1,800	-3,700	-600
2077 (AN)		5,200	1,800	45	-7,900	790	-160	-750
2078 (W)		10,000	18,000	-900	-5,100	-6,600	16,000	15,000
2079 (D)		4,000	600	230	-9,300	-2,200	-6,700	8,200
2080 (C)		3,100	280	390	-10,000	1,100	-5,300	3,000
2081 (C)		2,800	300	340	-9,100	1,400	-4,200	-1,300
2082 (C)		2,800	640	480	-9,200	1,700	-3,600	-4,900
2083 (D)		6,300	2,400	150	-9,600	1,300	530	-4,400
2084 (W)		12,000	15,000	-860	-5,700	-6,400	15,000	10,000
2085 (BN)		4,200	1,100	190	-11,000	-1,100	-6,500	3,900
2086 (W)		9,000	7,700	-440	-6,100	-4,000	6,100	10,000
2087 (D)		3,900	1,500	290	-11,000	-94	-5,600	4,400
2088 (C)		3,400	700	420	-11,000	1,800	-5,100	-640
2089 (C)		6,700	2,100	82	-8,700	320	450	-190
2090 (W)		11,000	19,000	-800	-5,900	-8,300	15,000	15,000
Average (2024-2039)		**3,900**	**3,200**	**290**	**-8,100**	**230**	**-470**	
2024-2039	W	9,200	8,700	-530	-5,100	-920	11,000	
	AN	5,100	2,500	71	-8,100	440	67	
	BN	2,000	2,100	580	-9,200	1,200	-3,300	
	D	2,000	1,800	760	-8,800	340	-3,900	
	C	1,800	1,400	390	-9,200	54	-5,500	
Average (2040-2090)		**5,400**	**4,800**	**-18**	**-8,100**	**-1,600**	**430**	
2040-2090	W	8,500	12,000	-600	-5,500	-5,400	8,800	
	AN	4,000	1,600	220	-9,200	-360	-3,700	
	BN	4,000	940	250	-10,000	760	-4,200	
	D	3,900	990	290	-9,900	600	-4,100	
	C	3,300	830	340	-9,300	580	-4,300	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

New Stone Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

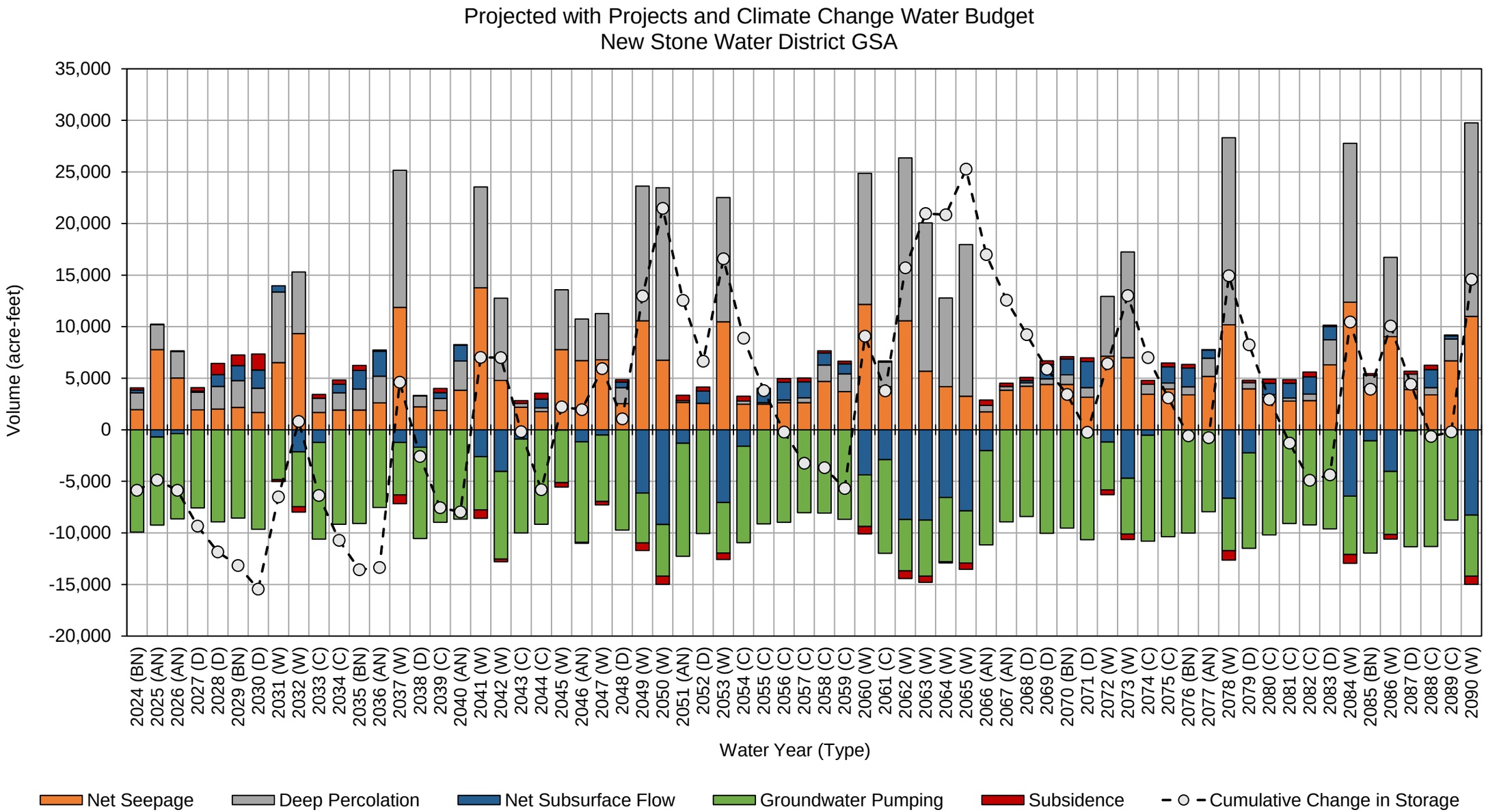
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	2,000	1,600	-9,900	-6,300
2025 (AN)	7,800	2,400	-8,500	1,700
2026 (AN)	5,000	2,500	-8,300	-690
2027 (D)	1,900	1,700	-7,600	-3,900
2028 (D)	2,000	2,200	-8,900	-4,700
2029 (BN)	2,200	2,600	-8,600	-3,800
2030 (D)	1,700	2,300	-9,600	-5,600
2031 (W)	6,500	6,800	-4,800	8,500
2032 (W)	9,300	6,000	-5,300	10,000
2033 (C)	1,700	1,400	-9,400	-6,300
2034 (C)	1,900	1,700	-9,200	-5,600
2035 (BN)	1,900	2,000	-9,100	-5,100
2036 (AN)	2,600	2,600	-7,500	-2,300
2037 (W)	12,000	13,000	-5,100	20,000
2038 (D)	2,200	1,000	-8,800	-5,600
2039 (C)	1,900	1,200	-9,000	-5,900
2040 (AN)	3,800	2,800	-8,700	-2,000
2041 (W)	14,000	9,800	-5,200	18,000
2042 (W)	4,800	8,000	-8,500	4,300
2043 (C)	2,200	370	-9,100	-6,600
2044 (C)	1,800	380	-9,200	-7,000
2045 (W)	7,800	5,800	-5,100	8,500
2046 (AN)	6,700	4,000	-9,700	1,000
2047 (W)	6,800	4,500	-6,400	4,800
2048 (D)	2,500	1,600	-9,700	-5,600
2049 (W)	11,000	13,000	-4,800	19,000
2050 (W)	6,800	17,000	-5,000	18,000
2051 (AN)	2,700	170	-11,000	-8,100
2052 (D)	2,600	18	-10,000	-7,500
2053 (W)	10,000	12,000	-4,900	18,000
2054 (C)	2,500	320	-9,400	-6,600
2055 (C)	2,500	140	-9,100	-6,500
2056 (C)	2,600	260	-9,000	-6,100
2057 (C)	2,600	480	-8,000	-4,900
2058 (C)	4,700	1,600	-8,100	-1,800
2059 (C)	3,700	1,700	-8,700	-3,200
2060 (W)	12,000	13,000	-5,000	20,000
2061 (C)	4,200	2,400	-9,100	-2,500
2062 (W)	11,000	16,000	-5,000	21,000
2063 (W)	5,700	14,000	-5,400	15,000
2064 (W)	4,200	8,600	-6,200	6,600
2065 (W)	3,300	15,000	-5,100	13,000
2066 (AN)	1,700	620	-9,100	-6,800
2067 (AN)	3,800	380	-8,900	-4,700
2068 (D)	4,200	340	-8,400	-3,800

New Stone Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,400	540	-10,000	-5,100
2070 (BN)		4,400	930	-9,500	-4,200
2071 (D)		3,100	940	-11,000	-6,600
2072 (W)		7,100	5,800	-4,600	8,300
2073 (W)		7,000	10,000	-5,400	12,000
2074 (C)		3,500	960	-10,000	-5,900
2075 (C)		4,000	580	-10,000	-5,800
2076 (BN)		3,400	770	-10,000	-5,900
2077 (AN)		5,200	1,800	-7,900	-990
2078 (W)		10,000	18,000	-5,100	23,000
2079 (D)		4,000	600	-9,300	-4,700
2080 (C)		3,100	280	-10,000	-6,800
2081 (C)		2,800	300	-9,100	-6,000
2082 (C)		2,800	640	-9,200	-5,800
2083 (D)		6,300	2,400	-9,600	-900
2084 (W)		12,000	15,000	-5,700	22,000
2085 (BN)		4,200	1,100	-11,000	-5,600
2086 (W)		9,000	7,700	-6,100	11,000
2087 (D)		3,900	1,500	-11,000	-5,800
2088 (C)		3,400	700	-11,000	-7,200
2089 (C)		6,700	2,100	-8,700	49
2090 (W)		11,000	19,000	-5,900	24,000
Average (2024-2039)		**3,900**	**3,200**	**-8,100**	**-980**
2024-2039	W	9,200	8,700	-5,100	13,000
	AN	5,100	2,500	-8,100	-450
	BN	2,000	2,100	-9,200	-5,100
	D	2,000	1,800	-8,800	-5,000
	C	1,800	1,400	-9,200	-5,900
Average (2040-2090)		**5,400**	**4,800**	**-8,100**	**2,100**
2040-2090	W	8,500	12,000	-5,500	15,000
	AN	4,000	1,600	-9,200	-3,600
	BN	4,000	940	-10,000	-5,200
	D	3,900	990	-9,900	-5,000
	C	3,300	830	-9,300	-5,200

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
New Stone Water District GSA
Volume (acre-feet)
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

New Stone Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	1,900	1,600	170	-9,600	110	-5,800	-5,800
2025 (AN)	7,700	2,400	1	-8,300	-980	880	-5,000
2026 (AN)	4,900	2,500	160	-8,000	-930	-1,400	-6,400
2027 (D)	1,800	1,700	540	-7,400	-460	-3,800	-10,000
2028 (D)	1,800	2,200	1,500	-8,700	270	-2,900	-13,000
2029 (BN)	1,900	2,500	1,500	-8,300	540	-1,900	-15,000
2030 (D)	1,600	2,300	2,000	-9,400	840	-2,700	-18,000
2031 (W)	6,200	5,100	330	-6,500	830	6,000	-12,000
2032 (W)	8,000	3,100	21	-7,600	410	3,900	-7,800
2033 (C)	1,600	1,600	440	-9,100	-270	-5,700	-14,000
2034 (C)	1,800	1,900	920	-8,900	610	-3,700	-17,000
2035 (BN)	1,800	2,100	1,600	-8,900	990	-2,500	-20,000
2036 (AN)	2,400	2,500	890	-7,200	1,100	-230	-20,000
2037 (W)	10,000	6,000	39	-7,600	970	9,900	-10,000
2038 (D)	2,000	1,600	250	-8,300	-490	-4,900	-15,000
2039 (C)	1,800	1,700	760	-8,800	480	-4,100	-19,000
2040 (AN)	3,200	3,100	870	-8,400	810	-520	-20,000
2041 (W)	11,000	4,400	320	-8,900	530	7,300	-12,000
2042 (W)	6,400	2,000	6	-8,500	-1,100	-1,200	-13,000
2043 (C)	2,100	1,500	380	-8,000	-670	-4,700	-18,000
2044 (C)	1,800	1,700	1,400	-8,900	180	-3,900	-22,000
2045 (W)	7,500	5,000	610	-7,600	180	5,700	-16,000
2046 (AN)	7,200	2,700	330	-9,000	-1,300	3	-16,000
2047 (W)	6,500	3,000	320	-8,800	-310	680	-16,000
2048 (D)	2,200	1,600	630	-8,600	-480	-4,600	-20,000
2049 (W)	11,000	3,500	16	-7,600	-61	6,600	-14,000
2050 (W)	12,000	3,800	-290	-7,600	-1,500	5,900	-7,800
2051 (AN)	6,100	2,300	150	-10,000	-2,600	-4,000	-12,000
2052 (D)	2,400	1,800	360	-8,800	-1,400	-5,600	-17,000
2053 (W)	11,000	4,200	-100	-7,800	-360	6,600	-11,000
2054 (C)	2,400	1,700	210	-8,400	-1,900	-5,900	-17,000
2055 (C)	2,400	1,700	510	-8,000	-800	-4,200	-21,000
2056 (C)	2,500	2,000	1,100	-8,000	-51	-2,600	-23,000
2057 (C)	2,500	2,000	1,400	-8,000	10	-2,000	-25,000
2058 (C)	4,300	3,100	1,300	-8,100	-200	490	-25,000
2059 (C)	3,000	1,900	1,700	-8,500	-500	-2,500	-27,000
2060 (W)	11,000	4,900	770	-7,800	-780	8,100	-19,000
2061 (C)	4,100	1,900	530	-8,400	-2,100	-3,900	-23,000
2062 (W)	12,000	4,500	9	-7,100	-1,300	7,600	-16,000
2063 (W)	11,000	3,000	-180	-8,300	-2,400	3,200	-12,000
2064 (W)	11,000	4,300	-160	-9,500	-2,800	3,200	-9,200
2065 (W)	12,000	5,400	-730	-6,800	-3,500	6,300	-2,900
2066 (AN)	6,600	2,200	-56	-8,500	-4,300	-4,100	-7,000
2067 (AN)	5,800	2,500	150	-8,100	-3,000	-2,600	-9,600
2068 (D)	3,200	1,800	310	-7,500	-2,100	-4,300	-14,000
2069 (D)	3,200	2,200	440	-8,900	-730	-3,700	-18,000
2070 (BN)	3,300	2,600	310	-8,500	-170	-2,400	-20,000

MCSim_v2.0 - Projected (No Action)

New Stone Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		2,900	2,400	530	-9,600	340	-3,400	-24,000
2072 (W)		7,600	5,000	-160	-6,500	-380	5,500	-18,000
2073 (W)		8,800	3,100	-260	-7,600	-670	3,300	-15,000
2074 (C)		2,900	1,600	250	-9,200	-910	-5,400	-20,000
2075 (C)		3,100	1,900	430	-9,100	190	-3,500	-24,000
2076 (BN)		3,000	2,100	770	-9,000	410	-2,800	-26,000
2077 (AN)		3,800	2,600	520	-7,300	210	-120	-26,000
2078 (W)		11,000	5,800	-54	-7,600	-220	8,600	-18,000
2079 (D)		3,100	1,600	100	-8,400	-1,100	-4,600	-22,000
2080 (C)		2,900	1,800	510	-9,000	69	-3,700	-26,000
2081 (C)		2,800	1,800	1,000	-8,400	240	-2,600	-29,000
2082 (C)		2,800	2,000	1,900	-9,300	29	-2,600	-31,000
2083 (D)		5,300	3,600	1,500	-9,700	-12	740	-31,000
2084 (W)		11,000	5,200	740	-9,700	-480	6,800	-24,000
2085 (BN)		3,400	1,700	630	-9,600	-780	-4,700	-28,000
2086 (W)		8,200	3,500	390	-9,400	320	3,000	-25,000
2087 (D)		3,100	1,900	460	-9,900	450	-3,900	-29,000
2088 (C)		3,000	2,100	1,100	-10,000	1,100	-3,000	-32,000
2089 (C)		5,500	3,600	710	-8,500	180	1,600	-31,000
2090 (W)		11,000	5,000	450	-9,300	-610	6,300	-24,000
Average (2024-2039)		**3,600**	**2,500**	**690**	**-8,300**	**250**	**-1,200**	
2024-2039	W	8,200	4,700	130	-7,300	740	6,600	
	AN	5,000	2,500	350	-7,800	-250	-250	
	BN	1,900	2,100	1,100	-8,900	540	-3,400	
	D	1,800	1,900	1,100	-8,400	40	-3,600	
	C	1,800	1,700	710	-8,900	270	-4,500	
Average (2040-2090)		**5,800**	**2,900**	**470**	**-8,500**	**-710**	**-110**	
2040-2090	W	9,900	4,200	93	-8,100	-850	5,200	
	AN	5,500	2,600	330	-8,600	-1,700	-1,900	
	BN	3,200	2,100	570	-9,100	-180	-3,300	
	D	3,200	2,100	550	-8,900	-620	-3,700	
	C	3,000	2,000	900	-8,600	-320	-3,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

New Stone Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

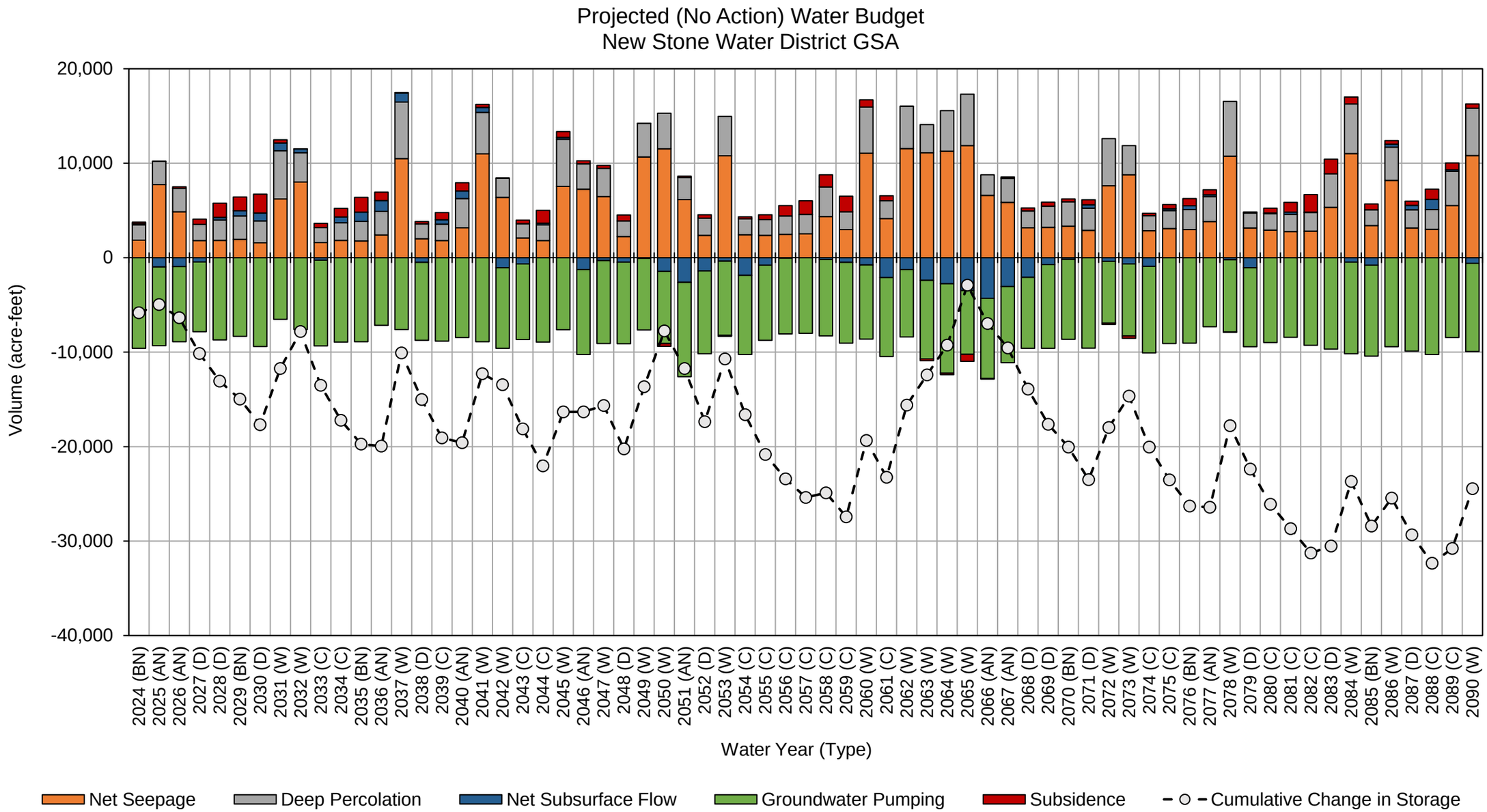
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	1,900	1,600	-9,600	-6,100
2025 (AN)	7,700	2,400	-8,300	1,900
2026 (AN)	4,900	2,500	-8,000	-630
2027 (D)	1,800	1,700	-7,400	-3,900
2028 (D)	1,800	2,200	-8,700	-4,700
2029 (BN)	1,900	2,500	-8,300	-3,900
2030 (D)	1,600	2,300	-9,400	-5,500
2031 (W)	6,200	5,100	-6,500	4,800
2032 (W)	8,000	3,100	-7,600	3,500
2033 (C)	1,600	1,600	-9,100	-5,900
2034 (C)	1,800	1,900	-8,900	-5,200
2035 (BN)	1,800	2,100	-8,900	-5,100
2036 (AN)	2,400	2,500	-7,200	-2,300
2037 (W)	10,000	6,000	-7,600	8,900
2038 (D)	2,000	1,600	-8,300	-4,700
2039 (C)	1,800	1,700	-8,800	-5,300
2040 (AN)	3,200	3,100	-8,400	-2,200
2041 (W)	11,000	4,400	-8,900	6,500
2042 (W)	6,400	2,000	-8,500	-120
2043 (C)	2,100	1,500	-8,000	-4,400
2044 (C)	1,800	1,700	-8,900	-5,400
2045 (W)	7,500	5,000	-7,600	4,900
2046 (AN)	7,200	2,700	-9,000	930
2047 (W)	6,500	3,000	-8,800	670
2048 (D)	2,200	1,600	-8,600	-4,800
2049 (W)	11,000	3,500	-7,600	6,600
2050 (W)	12,000	3,800	-7,600	7,700
2051 (AN)	6,100	2,300	-10,000	-1,500
2052 (D)	2,400	1,800	-8,800	-4,600
2053 (W)	11,000	4,200	-7,800	7,100
2054 (C)	2,400	1,700	-8,400	-4,300
2055 (C)	2,400	1,700	-8,000	-3,900
2056 (C)	2,500	2,000	-8,000	-3,600
2057 (C)	2,500	2,000	-8,000	-3,400
2058 (C)	4,300	3,100	-8,100	-600
2059 (C)	3,000	1,900	-8,500	-3,700
2060 (W)	11,000	4,900	-7,800	8,100
2061 (C)	4,100	1,900	-8,400	-2,300
2062 (W)	12,000	4,500	-7,100	8,900
2063 (W)	11,000	3,000	-8,300	5,800
2064 (W)	11,000	4,300	-9,500	6,100
2065 (W)	12,000	5,400	-6,800	11,000
2066 (AN)	6,600	2,200	-8,500	290
2067 (AN)	5,800	2,500	-8,100	320
2068 (D)	3,200	1,800	-7,500	-2,600

New Stone Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		3,200	2,200	-8,900	-3,400
2070 (BN)		3,300	2,600	-8,500	-2,600
2071 (D)		2,900	2,400	-9,600	-4,300
2072 (W)		7,600	5,000	-6,500	6,100
2073 (W)		8,800	3,100	-7,600	4,300
2074 (C)		2,900	1,600	-9,200	-4,700
2075 (C)		3,100	1,900	-9,100	-4,100
2076 (BN)		3,000	2,100	-9,000	-4,000
2077 (AN)		3,800	2,600	-7,300	-850
2078 (W)		11,000	5,800	-7,600	8,900
2079 (D)		3,100	1,600	-8,400	-3,600
2080 (C)		2,900	1,800	-9,000	-4,300
2081 (C)		2,800	1,800	-8,400	-3,900
2082 (C)		2,800	2,000	-9,300	-4,500
2083 (D)		5,300	3,600	-9,700	-780
2084 (W)		11,000	5,200	-9,700	6,600
2085 (BN)		3,400	1,700	-9,600	-4,600
2086 (W)		8,200	3,500	-9,400	2,300
2087 (D)		3,100	1,900	-9,900	-4,800
2088 (C)		3,000	2,100	-10,000	-5,100
2089 (C)		5,500	3,600	-8,500	670
2090 (W)		11,000	5,000	-9,300	6,500
Average (2024-2039)		**3,600**	**2,500**	**-8,300**	**-2,100**
2024-2039	W	8,200	4,700	-7,300	5,700
	AN	5,000	2,500	-7,800	-350
	BN	1,900	2,100	-8,900	-5,000
	D	1,800	1,900	-8,400	-4,700
	C	1,800	1,700	-8,900	-5,500
Average (2040-2090)		**5,800**	**2,900**	**-8,500**	**130**
2040-2090	W	9,900	4,200	-8,100	6,000
	AN	5,500	2,600	-8,600	-500
	BN	3,200	2,100	-9,100	-3,700
	D	3,200	2,100	-8,900	-3,600
	C	3,000	2,000	-8,600	-3,600

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
New Stone Water District GSA
Volume (acre-feet)
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

New Stone Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	2,000	1,600	290	-9,900	37	-6,000	-6,000
2025 (AN)	7,800	2,400	110	-8,500	-1,100	660	-5,400
2026 (AN)	5,000	2,600	280	-8,200	-1,000	-1,400	-6,800
2027 (D)	1,900	1,700	790	-7,600	-710	-3,900	-11,000
2028 (D)	2,000	2,200	1,700	-8,900	130	-2,900	-14,000
2029 (BN)	2,100	2,600	1,600	-8,600	390	-1,800	-15,000
2030 (D)	1,700	2,300	2,200	-9,600	650	-2,800	-18,000
2031 (W)	6,100	5,100	620	-6,900	470	5,400	-13,000
2032 (W)	8,100	3,000	220	-7,800	-16	3,600	-9,300
2033 (C)	1,700	1,600	700	-9,300	-710	-6,000	-15,000
2034 (C)	1,900	1,900	1,300	-9,200	310	-3,800	-19,000
2035 (BN)	1,900	2,100	1,900	-9,100	700	-2,500	-22,000
2036 (AN)	2,500	2,600	1,300	-7,500	800	-390	-22,000
2037 (W)	10,000	5,800	430	-8,000	300	8,900	-13,000
2038 (D)	2,100	1,600	530	-8,400	-940	-5,100	-18,000
2039 (C)	1,900	1,700	1,100	-9,000	210	-4,100	-22,000
2040 (AN)	3,300	3,100	1,300	-8,700	520	-400	-23,000
2041 (W)	13,000	4,400	450	-9,200	43	8,300	-14,000
2042 (W)	6,300	1,900	210	-8,800	-1,900	-2,200	-17,000
2043 (C)	2,100	1,500	580	-8,200	-1,000	-5,000	-22,000
2044 (C)	1,800	1,700	1,700	-9,200	62	-4,000	-26,000
2045 (W)	7,800	5,000	800	-7,900	-66	5,700	-20,000
2046 (AN)	7,300	2,700	470	-9,300	-1,400	-250	-20,000
2047 (W)	6,700	3,000	420	-9,100	-250	730	-19,000
2048 (D)	2,400	1,700	650	-8,800	-310	-4,400	-24,000
2049 (W)	10,000	3,500	73	-7,800	44	6,000	-18,000
2050 (W)	12,000	3,800	-260	-7,900	-1,200	6,100	-12,000
2051 (AN)	6,200	2,300	160	-10,000	-2,400	-3,900	-16,000
2052 (D)	2,500	1,800	380	-9,000	-1,200	-5,600	-21,000
2053 (W)	12,000	4,500	-79	-8,100	-540	7,500	-14,000
2054 (C)	2,500	1,700	240	-8,600	-2,100	-6,300	-20,000
2055 (C)	2,500	1,700	540	-8,200	-680	-4,200	-24,000
2056 (C)	2,600	1,900	1,100	-8,200	54	-2,500	-27,000
2057 (C)	2,600	2,000	1,500	-8,100	14	-1,900	-29,000
2058 (C)	4,500	3,100	1,400	-8,300	-300	470	-28,000
2059 (C)	3,200	1,900	1,800	-8,800	-600	-2,500	-31,000
2060 (W)	11,000	5,100	970	-8,300	-940	8,200	-23,000
2061 (C)	4,500	1,900	680	-8,500	-2,400	-3,900	-26,000
2062 (W)	12,000	4,300	150	-7,400	-1,500	7,300	-19,000
2063 (W)	12,000	3,300	-120	-8,600	-2,700	3,700	-15,000
2064 (W)	12,000	4,400	-75	-10,000	-3,200	2,900	-13,000
2065 (W)	12,000	5,100	-630	-7,000	-4,200	5,200	-7,300
2066 (AN)	6,600	2,300	-13	-8,700	-4,600	-4,400	-12,000
2067 (AN)	5,900	2,600	180	-8,400	-3,200	-2,800	-15,000
2068 (D)	3,300	1,800	340	-7,700	-2,300	-4,600	-19,000
2069 (D)	3,400	2,300	490	-9,100	-870	-3,800	-23,000
2070 (BN)	3,600	2,700	420	-8,700	-450	-2,500	-25,000

MCSim_v2.0 - Projected (No Action) with Climate Change

New Stone Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		3,000	2,400	1,100	-9,800	-260	-3,600	-29,000
2072 (W)		7,500	5,000	300	-7,000	-900	5,000	-24,000
2073 (W)		8,900	3,100	34	-7,800	-1,200	3,000	-21,000
2074 (C)		2,900	1,600	330	-9,400	-1,200	-5,700	-27,000
2075 (C)		3,100	1,900	840	-9,300	-130	-3,600	-30,000
2076 (BN)		3,100	2,200	1,500	-9,300	-50	-2,500	-33,000
2077 (AN)		4,000	2,800	1,100	-7,700	-260	-140	-33,000
2078 (W)		11,000	5,600	400	-8,000	-670	8,000	-25,000
2079 (D)		3,300	1,600	320	-8,500	-1,400	-4,700	-30,000
2080 (C)		3,000	1,800	880	-9,200	-310	-3,900	-34,000
2081 (C)		2,800	1,800	1,500	-8,600	-160	-2,600	-36,000
2082 (C)		2,900	2,000	2,200	-9,500	-350	-2,800	-39,000
2083 (D)		5,700	3,800	1,800	-9,900	-160	1,300	-38,000
2084 (W)		11,000	5,200	1,000	-10,000	-380	6,900	-31,000
2085 (BN)		3,800	1,700	720	-9,900	-940	-4,600	-35,000
2086 (W)		8,300	3,700	550	-9,700	-26	2,800	-33,000
2087 (D)		3,200	2,000	530	-10,000	190	-4,200	-37,000
2088 (C)		3,100	2,100	1,100	-10,000	640	-3,500	-40,000
2089 (C)		5,900	3,900	810	-8,700	240	2,200	-38,000
2090 (W)		11,000	4,800	550	-9,600	-420	6,200	-32,000
Average (2024-2039)		**3,700**	**2,600**	**940**	**-8,500**	**-33**	**-1,400**	
2024-2039	W	8,200	4,600	420	-7,600	250	6,000	
	AN	5,100	2,500	550	-8,100	-450	-390	
	BN	2,000	2,100	1,300	-9,200	380	-3,500	
	D	1,900	2,000	1,300	-8,600	-220	-3,700	
	C	1,800	1,700	1,100	-9,200	-64	-4,600	
Average (2040-2090)		**6,000**	**2,900**	**650**	**-8,800**	**-930**	**-190**	
2040-2090	W	10,000	4,200	260	-8,400	-1,100	5,100	
	AN	5,600	2,600	520	-8,800	-1,900	-2,000	
	BN	3,500	2,200	890	-9,300	-480	-3,200	
	D	3,300	2,200	700	-9,100	-780	-3,700	
	C	3,100	2,000	1,100	-8,800	-520	-3,100	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

New Stone Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

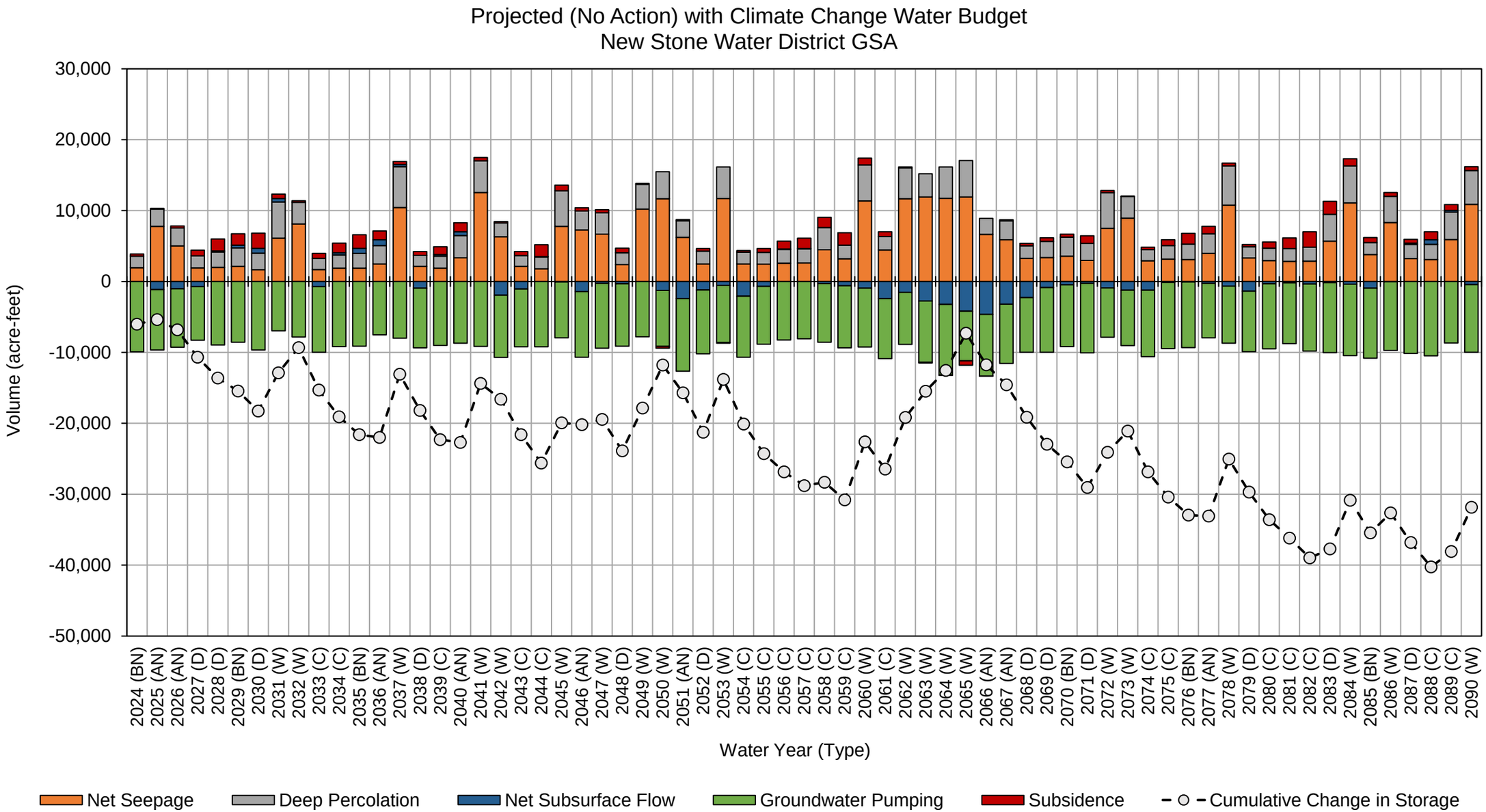
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	2,000	1,600	-9,900	-6,400
2025 (AN)	7,800	2,400	-8,500	1,700
2026 (AN)	5,000	2,600	-8,200	-690
2027 (D)	1,900	1,700	-7,600	-3,900
2028 (D)	2,000	2,200	-8,900	-4,800
2029 (BN)	2,100	2,600	-8,600	-3,800
2030 (D)	1,700	2,300	-9,600	-5,600
2031 (W)	6,100	5,100	-6,900	4,300
2032 (W)	8,100	3,000	-7,800	3,400
2033 (C)	1,700	1,600	-9,300	-6,000
2034 (C)	1,900	1,900	-9,200	-5,400
2035 (BN)	1,900	2,100	-9,100	-5,100
2036 (AN)	2,500	2,600	-7,500	-2,400
2037 (W)	10,000	5,800	-8,000	8,200
2038 (D)	2,100	1,600	-8,400	-4,700
2039 (C)	1,900	1,700	-9,000	-5,400
2040 (AN)	3,300	3,100	-8,700	-2,200
2041 (W)	13,000	4,400	-9,200	7,800
2042 (W)	6,300	1,900	-8,800	-530
2043 (C)	2,100	1,500	-8,200	-4,500
2044 (C)	1,800	1,700	-9,200	-5,800
2045 (W)	7,800	5,000	-7,900	4,900
2046 (AN)	7,300	2,700	-9,300	690
2047 (W)	6,700	3,000	-9,100	560
2048 (D)	2,400	1,700	-8,800	-4,800
2049 (W)	10,000	3,500	-7,800	5,900
2050 (W)	12,000	3,800	-7,900	7,600
2051 (AN)	6,200	2,300	-10,000	-1,700
2052 (D)	2,500	1,800	-9,000	-4,700
2053 (W)	12,000	4,500	-8,100	8,100
2054 (C)	2,500	1,700	-8,600	-4,500
2055 (C)	2,500	1,700	-8,200	-4,100
2056 (C)	2,600	1,900	-8,200	-3,700
2057 (C)	2,600	2,000	-8,100	-3,400
2058 (C)	4,500	3,100	-8,300	-670
2059 (C)	3,200	1,900	-8,800	-3,600
2060 (W)	11,000	5,100	-8,300	8,200
2061 (C)	4,500	1,900	-8,500	-2,100
2062 (W)	12,000	4,300	-7,400	8,700
2063 (W)	12,000	3,300	-8,600	6,600
2064 (W)	12,000	4,400	-10,000	6,200
2065 (W)	12,000	5,100	-7,000	10,000
2066 (AN)	6,600	2,300	-8,700	220
2067 (AN)	5,900	2,600	-8,400	180
2068 (D)	3,300	1,800	-7,700	-2,600

New Stone Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		3,400	2,300	-9,100	-3,400
2070 (BN)		3,600	2,700	-8,700	-2,500
2071 (D)		3,000	2,400	-9,800	-4,400
2072 (W)		7,500	5,000	-7,000	5,600
2073 (W)		8,900	3,100	-7,800	4,200
2074 (C)		2,900	1,600	-9,400	-4,900
2075 (C)		3,100	1,900	-9,300	-4,300
2076 (BN)		3,100	2,200	-9,300	-4,000
2077 (AN)		4,000	2,800	-7,700	-940
2078 (W)		11,000	5,600	-8,000	8,300
2079 (D)		3,300	1,600	-8,500	-3,600
2080 (C)		3,000	1,800	-9,200	-4,500
2081 (C)		2,800	1,800	-8,600	-3,900
2082 (C)		2,900	2,000	-9,500	-4,600
2083 (D)		5,700	3,800	-9,900	-380
2084 (W)		11,000	5,200	-10,000	6,200
2085 (BN)		3,800	1,700	-9,900	-4,400
2086 (W)		8,300	3,700	-9,700	2,300
2087 (D)		3,200	2,000	-10,000	-4,900
2088 (C)		3,100	2,100	-10,000	-5,200
2089 (C)		5,900	3,900	-8,700	1,100
2090 (W)		11,000	4,800	-9,600	6,100
Average (2024-2039)		**3,700**	**2,600**	**-8,500**	**-2,300**
2024-2039	W	8,200	4,600	-7,600	5,300
	AN	5,100	2,500	-8,100	-480
	BN	2,000	2,100	-9,200	-5,100
	D	1,900	2,000	-8,600	-4,800
	C	1,800	1,700	-9,200	-5,600
Average (2040-2090)		**6,000**	**2,900**	**-8,800**	**92**
2040-2090	W	10,000	4,200	-8,400	5,900
	AN	5,600	2,600	-8,800	-610
	BN	3,500	2,200	-9,300	-3,600
	D	3,300	2,200	-9,100	-3,600
	C	3,100	2,000	-8,800	-3,700

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
New Stone Water District GSA
Volume (acre-feet)
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
-50,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

New Stone Water District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	1,900	1,600	150	-9,600	160	-5,800	-5,800
2025 (AN)	7,700	2,400	-36	-8,300	-810	1,000	-4,800
2026 (AN)	4,900	2,500	100	-8,000	-670	-1,200	-6,000
2027 (D)	1,800	1,700	370	-7,400	-110	-3,600	-9,600
2028 (D)	1,900	2,200	1,300	-8,700	660	-2,800	-12,000
2029 (BN)	1,900	2,500	1,300	-8,300	910	-1,700	-14,000
2030 (D)	1,600	2,300	1,400	-9,400	2,100	-2,100	-16,000
2031 (W)	6,600	6,700	-62	-4,300	-200	8,700	-7,400
2032 (W)	9,300	6,100	-460	-5,100	-2,700	7,100	-300
2033 (C)	1,600	1,400	190	-9,200	-820	-6,800	-7,100
2034 (C)	1,900	1,700	350	-8,900	1,100	-3,900	-11,000
2035 (BN)	1,800	2,000	340	-8,900	2,100	-2,600	-14,000
2036 (AN)	2,500	2,500	200	-7,200	1,700	-310	-14,000
2037 (W)	12,000	14,000	-930	-4,800	-1,000	19,000	5,000
2038 (D)	2,000	1,100	-35	-8,800	-1,200	-6,900	-2,000
2039 (C)	1,800	1,100	330	-8,800	950	-4,600	-6,600
2040 (AN)	3,500	2,700	150	-8,400	1,200	-820	-7,400
2041 (W)	11,000	7,800	-670	-5,000	-660	13,000	5,200
2042 (W)	4,800	8,700	-430	-8,400	-2,600	2,100	7,300
2043 (C)	2,100	440	260	-8,900	-610	-6,700	650
2044 (C)	1,800	370	600	-9,000	510	-5,800	-5,100
2045 (W)	7,700	5,800	-390	-5,000	-690	7,400	2,300
2046 (AN)	6,600	4,200	-73	-9,500	-1,500	-330	2,000
2047 (W)	6,900	3,700	-250	-6,200	-1,300	2,800	4,800
2048 (D)	2,300	1,700	290	-9,500	320	-4,900	-120
2049 (W)	10,000	15,000	-900	-4,700	-5,600	14,000	14,000
2050 (W)	6,500	16,000	-760	-4,800	-9,600	7,400	21,000
2051 (AN)	2,400	100	550	-11,000	-1,500	-9,100	12,000
2052 (D)	2,400	16	390	-9,700	1,100	-5,900	6,300
2053 (W)	8,800	8,000	-620	-4,800	-3,000	8,400	15,000
2054 (C)	2,400	1,000	430	-9,100	-1,000	-6,200	8,500
2055 (C)	2,400	280	390	-8,900	850	-5,000	3,500
2056 (C)	2,500	390	330	-8,700	1,500	-4,100	-520
2057 (C)	2,500	700	360	-8,000	1,400	-2,900	-3,500
2058 (C)	4,500	2,000	180	-7,900	1,000	-240	-3,700
2059 (C)	3,300	1,800	280	-8,500	810	-2,300	-6,000
2060 (W)	12,000	13,000	-830	-4,700	-3,700	15,000	9,300
2061 (C)	3,900	2,600	61	-8,900	-2,600	-4,900	4,300
2062 (W)	9,800	17,000	-860	-4,800	-8,100	13,000	17,000
2063 (W)	4,400	12,000	-560	-5,300	-6,500	3,700	21,000
2064 (W)	2,600	9,400	-260	-6,000	-4,600	1,200	22,000
2065 (W)	1,900	15,000	-700	-4,900	-6,400	4,600	27,000
2066 (AN)	840	980	540	-8,900	-1,300	-7,900	19,000
2067 (AN)	3,200	500	280	-8,600	600	-4,000	15,000
2068 (D)	3,400	380	280	-8,200	1,100	-3,000	12,000
2069 (D)	3,900	960	340	-9,800	1,700	-2,800	8,800

New Stone Water District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		4,100	1,100	230	-9,300	1,600	-2,200	6,600
2071 (D)		3,100	990	360	-11,000	2,900	-3,300	3,300
2072 (W)		6,200	7,600	-660	-4,000	-1,300	7,900	11,000
2073 (W)		5,000	11,000	-580	-5,300	-3,700	6,700	18,000
2074 (C)		2,500	260	460	-10,000	530	-6,300	11,000
2075 (C)		3,600	500	380	-10,000	1,800	-3,800	7,700
2076 (BN)		3,400	550	330	-10,000	2,400	-3,400	4,300
2077 (AN)		5,200	1,600	-43	-7,900	1,200	51	4,300
2078 (W)		7,400	21,000	-1,100	-5,000	-6,000	16,000	20,000
2079 (D)		2,500	130	330	-9,100	-860	-7,000	13,000
2080 (C)		3,400	190	440	-10,000	1,100	-4,800	8,600
2081 (C)		2,700	130	400	-9,400	1,900	-4,200	4,500
2082 (C)		2,800	220	510	-10,000	2,300	-4,400	82
2083 (D)		6,200	920	160	-9,700	1,900	-430	-350
2084 (W)		11,000	17,000	-910	-5,400	-6,900	15,000	14,000
2085 (BN)		3,500	570	250	-11,000	-600	-6,900	7,400
2086 (W)		7,700	7,800	-480	-5,900	-3,000	6,000	13,000
2087 (D)		3,900	1,100	350	-11,000	480	-5,200	8,200
2088 (C)		3,400	560	480	-12,000	2,200	-4,900	3,400
2089 (C)		6,400	1,800	80	-9,000	730	-10	3,400
2090 (W)		9,200	20,000	-870	-5,800	-8,000	14,000	18,000
Average (2024-2039)		**3,800**	**3,200**	**280**	**-7,900**	**140**	**-410**	
2024-2039	W	9,200	8,900	-480	-4,800	-1,300	12,000	
	AN	5,000	2,500	87	-7,800	81	-160	
	BN	1,900	2,000	590	-8,900	1,100	-3,400	
	D	1,800	1,800	750	-8,600	350	-3,800	
	C	1,800	1,400	290	-9,000	420	-5,100	
Average (2040-2090)		**4,800**	**4,800**	**-29**	**-8,000**	**-1,100**	**480**	
2040-2090	W	7,400	12,000	-660	-5,300	-4,500	8,800	
	AN	3,600	1,700	230	-9,000	-200	-3,700	
	BN	3,700	740	270	-10,000	1,100	-4,200	
	D	3,500	770	310	-9,700	1,100	-4,100	
	C	3,100	830	350	-9,300	780	-4,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

New Stone Water District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

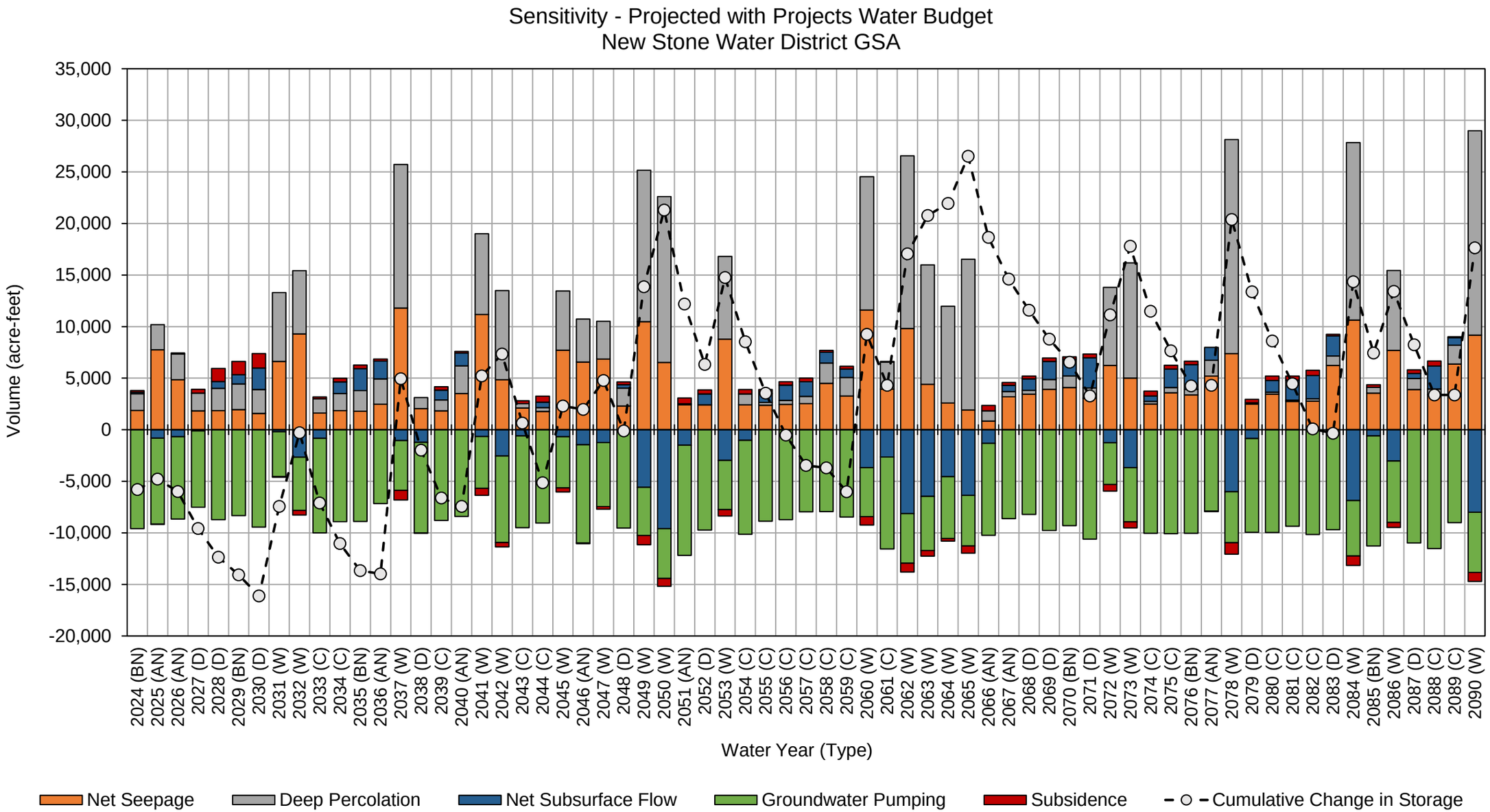
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	1,900	1,600	-9,600	-6,100
2025 (AN)	7,700	2,400	-8,300	1,900
2026 (AN)	4,900	2,500	-8,000	-630
2027 (D)	1,800	1,700	-7,400	-3,900
2028 (D)	1,900	2,200	-8,700	-4,700
2029 (BN)	1,900	2,500	-8,300	-3,900
2030 (D)	1,600	2,300	-9,400	-5,500
2031 (W)	6,600	6,700	-4,300	8,900
2032 (W)	9,300	6,100	-5,100	10,000
2033 (C)	1,600	1,400	-9,200	-6,200
2034 (C)	1,900	1,700	-8,900	-5,400
2035 (BN)	1,800	2,000	-8,900	-5,100
2036 (AN)	2,500	2,500	-7,200	-2,200
2037 (W)	12,000	14,000	-4,800	21,000
2038 (D)	2,000	1,100	-8,800	-5,700
2039 (C)	1,800	1,100	-8,800	-5,900
2040 (AN)	3,500	2,700	-8,400	-2,200
2041 (W)	11,000	7,800	-5,000	14,000
2042 (W)	4,800	8,700	-8,400	5,100
2043 (C)	2,100	440	-8,900	-6,400
2044 (C)	1,800	370	-9,000	-6,900
2045 (W)	7,700	5,800	-5,000	8,500
2046 (AN)	6,600	4,200	-9,500	1,200
2047 (W)	6,900	3,700	-6,200	4,300
2048 (D)	2,300	1,700	-9,500	-5,500
2049 (W)	10,000	15,000	-4,700	20,000
2050 (W)	6,500	16,000	-4,800	18,000
2051 (AN)	2,400	100	-11,000	-8,200
2052 (D)	2,400	16	-9,700	-7,300
2053 (W)	8,800	8,000	-4,800	12,000
2054 (C)	2,400	1,000	-9,100	-5,700
2055 (C)	2,400	280	-8,900	-6,200
2056 (C)	2,500	390	-8,700	-5,900
2057 (C)	2,500	700	-8,000	-4,700
2058 (C)	4,500	2,000	-7,900	-1,500
2059 (C)	3,300	1,800	-8,500	-3,400
2060 (W)	12,000	13,000	-4,700	20,000
2061 (C)	3,900	2,600	-8,900	-2,400
2062 (W)	9,800	17,000	-4,800	22,000
2063 (W)	4,400	12,000	-5,300	11,000
2064 (W)	2,600	9,400	-6,000	6,000
2065 (W)	1,900	15,000	-4,900	12,000
2066 (AN)	840	980	-8,900	-7,100
2067 (AN)	3,200	500	-8,600	-4,900
2068 (D)	3,400	380	-8,200	-4,400

New Stone Water District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		3,900	960	-9,800	-4,900
2070 (BN)		4,100	1,100	-9,300	-4,100
2071 (D)		3,100	990	-11,000	-6,600
2072 (W)		6,200	7,600	-4,000	9,800
2073 (W)		5,000	11,000	-5,300	11,000
2074 (C)		2,500	260	-10,000	-7,300
2075 (C)		3,600	500	-10,000	-6,000
2076 (BN)		3,400	550	-10,000	-6,100
2077 (AN)		5,200	1,600	-7,900	-1,100
2078 (W)		7,400	21,000	-5,000	23,000
2079 (D)		2,500	130	-9,100	-6,500
2080 (C)		3,400	190	-10,000	-6,300
2081 (C)		2,700	130	-9,400	-6,500
2082 (C)		2,800	220	-10,000	-7,200
2083 (D)		6,200	920	-9,700	-2,500
2084 (W)		11,000	17,000	-5,400	22,000
2085 (BN)		3,500	570	-11,000	-6,600
2086 (W)		7,700	7,800	-5,900	9,500
2087 (D)		3,900	1,100	-11,000	-6,000
2088 (C)		3,400	560	-12,000	-7,600
2089 (C)		6,400	1,800	-9,000	-820
2090 (W)		9,200	20,000	-5,800	23,000
Average (2024-2039)		**3,800**	**3,200**	**-7,900**	**-830**
2024-2039	W	9,200	8,900	-4,800	13,000
	AN	5,000	2,500	-7,800	-330
	BN	1,900	2,000	-8,900	-5,000
	D	1,800	1,800	-8,600	-4,900
	C	1,800	1,400	-9,000	-5,800
Average (2040-2090)		**4,800**	**4,800**	**-8,000**	**1,600**
2040-2090	W	7,400	12,000	-5,300	14,000
	AN	3,600	1,700	-9,000	-3,700
	BN	3,700	740	-10,000	-5,600
	D	3,500	770	-9,700	-5,500
	C	3,100	830	-9,300	-5,300

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Sensitivity - Projected with Projects Water Budget
New Stone Water District GSA
Volume (acre-feet)
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX D.2.g

Root Creek Water District GSA Water Budget Results

Root Creek Water District GSA Historical Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1989 (C)		1,700	9,700	1,200	-27,000	18,000	4,100	4,100
1990 (C)		1,800	9,300	1,300	-28,000	17,000	2,100	6,200
1991 (C)		1,800	9,700	1,400	-28,000	17,000	1,500	7,700
1992 (C)		1,900	9,600	1,600	-30,000	16,000	-210	7,500
1993 (W)		1,500	13,000	530	-26,000	16,000	4,600	12,000
1994 (C)		1,700	8,500	570	-28,000	16,000	-850	11,000
1995 (W)		1,300	13,000	-210	-22,000	14,000	6,000	17,000
1996 (W)		1,700	9,400	610	-27,000	15,000	-88	17,000
1997 (W)		1,200	15,000	900	-30,000	16,000	3,100	20,000
1998 (W)		1,100	15,000	-1,100	-21,000	14,000	7,900	28,000
1999 (AN)		1,300	6,800	-110	-22,000	13,000	-790	27,000
2000 (AN)		1,600	8,500	680	-26,000	13,000	-1,700	26,000
2001 (D)		1,800	6,600	350	-25,000	13,000	-2,400	23,000
2002 (D)		1,900	8,600	820	-29,000	14,000	-3,000	20,000
2003 (BN)		2,100	8,000	400	-26,000	13,000	-2,200	18,000
2004 (D)		2,300	7,100	1,200	-30,000	14,000	-4,900	13,000
2005 (W)		1,900	9,300	-740	-20,000	12,000	3,000	16,000
2006 (W)		1,900	8,100	-310	-21,000	13,000	1,600	18,000
2007 (C)		2,400	5,700	860	-26,000	13,000	-3,700	14,000
2008 (C)		2,500	6,400	340	-24,000	12,000	-2,500	12,000
2009 (BN)		2,800	5,700	99	-22,000	12,000	-2,100	9,500
2010 (AN)		2,700	7,100	-510	-18,000	10,000	1,800	11,000
2011 (W)		2,100	10,000	330	-22,000	12,000	2,600	14,000
2012 (D)		2,400	5,400	180	-23,000	13,000	-1,900	12,000
2013 (C)		2,900	6,000	520	-25,000	13,000	-2,900	9,000
2014 (C)		3,300	5,200	600	-25,000	12,000	-3,600	5,400
2015 (C)		3,000	5,200	960	-25,000	12,000	-4,200	1,200
2016 (D)		2,800	7,600	660	-22,000	11,000	-250	990
2017 (W)		2,800	9,800	220	-18,000	8,900	3,100	4,100
2018 (BN)		3,300	4,500	1,200	-22,000	9,100	-4,000	150
2019 (W)		4,000	6,600	-290	-15,000	6,600	1,900	2,000
2020 (D)		3,000	5,000	1,200	-22,000	9,200	-3,900	-1,800
2021 (C)		3,100	5,200	980	-23,000	9,500	-4,200	-6,000
2022 (C)		2,600	8,500	51	-17,000	8,300	2,100	-3,900
2023 (W)		3,100	9,000	-65	-17,000	8,300	3,300	-580
Average (1989-2023)		**2,300**	**8,200**	**470**	**-24,000**	**13,000**	**-17**	
1989-2023	W	2,000	11,000	-9	-22,000	12,000	3,400	
	AN	1,900	7,500	20	-22,000	12,000	-240	
	BN	2,700	6,100	550	-24,000	11,000	-2,800	
	D	2,400	6,700	750	-25,000	12,000	-2,700	
	C	2,400	7,400	860	-25,000	14,000	-1,000	
Average (1989-2015)		**2,000**	**8,600**	**460**	**-25,000**	**14,000**	**46**	
1989-2015	W	1,600	12,000	5	-23,000	14,000	3,600	
	AN	1,900	7,500	20	-22,000	12,000	-240	
	BN	2,400	6,900	250	-24,000	13,000	-2,100	
	D	2,100	6,900	650	-26,000	14,000	-3,100	
	C	2,300	7,500	930	-27,000	15,000	-1,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

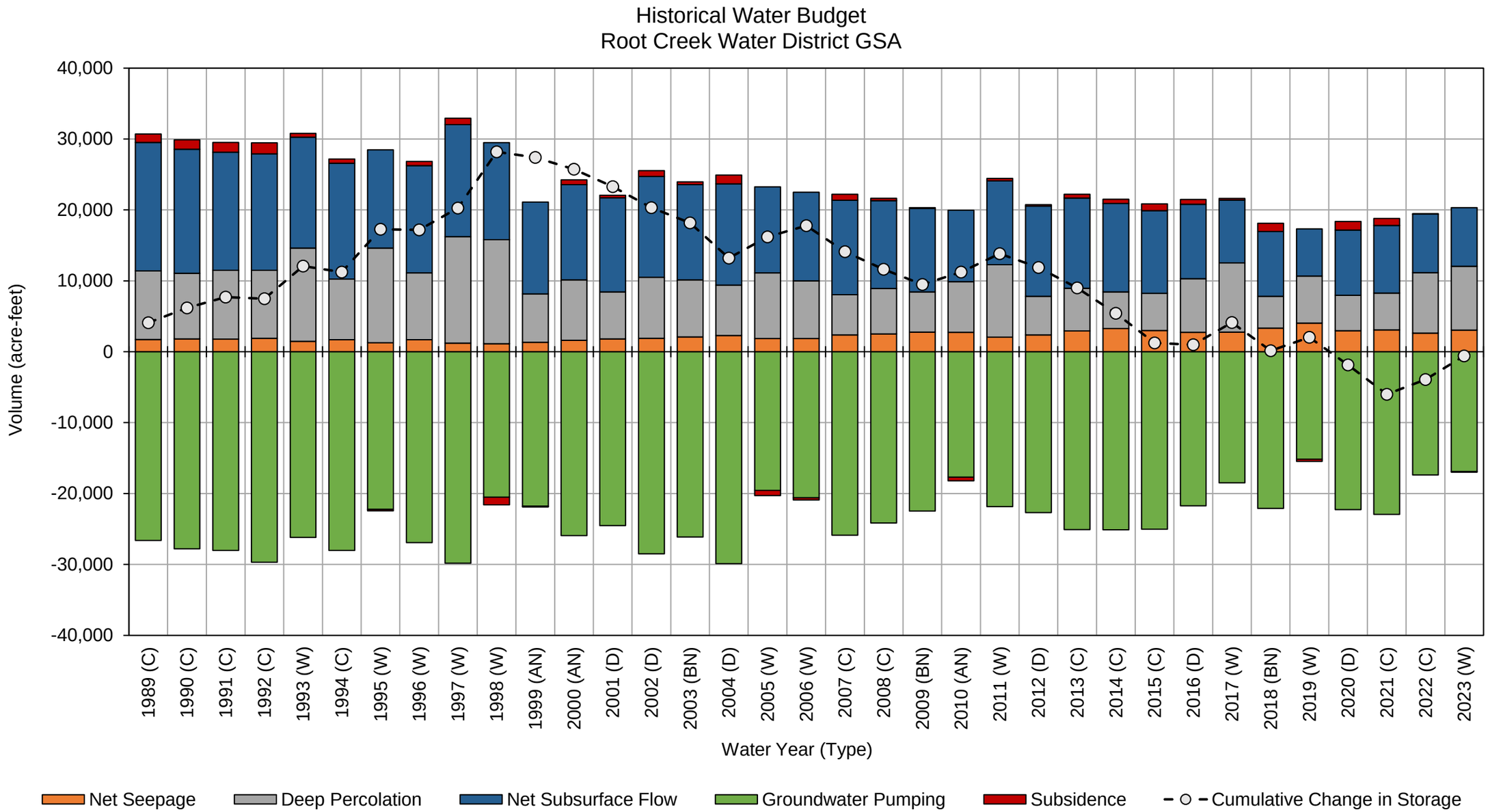
W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Root Creek Water District GSA Historical Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
1989 (C)		1,700	9,700	-27,000	-15,000
1990 (C)		1,800	9,300	-28,000	-17,000
1991 (C)		1,800	9,700	-28,000	-17,000
1992 (C)		1,900	9,600	-30,000	-18,000
1993 (W)		1,500	13,000	-26,000	-12,000
1994 (C)		1,700	8,500	-28,000	-18,000
1995 (W)		1,300	13,000	-22,000	-7,600
1996 (W)		1,700	9,400	-27,000	-16,000
1997 (W)		1,200	15,000	-30,000	-14,000
1998 (W)		1,100	15,000	-21,000	-4,700
1999 (AN)		1,300	6,800	-22,000	-14,000
2000 (AN)		1,600	8,500	-26,000	-16,000
2001 (D)		1,800	6,600	-25,000	-16,000
2002 (D)		1,900	8,600	-29,000	-18,000
2003 (BN)		2,100	8,000	-26,000	-16,000
2004 (D)		2,300	7,100	-30,000	-20,000
2005 (W)		1,900	9,300	-20,000	-8,400
2006 (W)		1,900	8,100	-21,000	-11,000
2007 (C)		2,400	5,700	-26,000	-18,000
2008 (C)		2,500	6,400	-24,000	-15,000
2009 (BN)		2,800	5,700	-22,000	-14,000
2010 (AN)		2,700	7,100	-18,000	-7,800
2011 (W)		2,100	10,000	-22,000	-9,600
2012 (D)		2,400	5,400	-23,000	-15,000
2013 (C)		2,900	6,000	-25,000	-16,000
2014 (C)		3,300	5,200	-25,000	-17,000
2015 (C)		3,000	5,200	-25,000	-17,000
2016 (D)		2,800	7,600	-22,000	-11,000
2017 (W)		2,800	9,800	-18,000	-6,000
2018 (BN)		3,300	4,500	-22,000	-14,000
2019 (W)		4,000	6,600	-15,000	-4,500
2020 (D)		3,000	5,000	-22,000	-14,000
2021 (C)		3,100	5,200	-23,000	-15,000
2022 (C)		2,600	8,500	-17,000	-6,200
2023 (W)		3,100	9,000	-17,000	-4,900
Average (1989-2023)		**2,300**	**8,200**	**-24,000**	**-13,000**
1989-2023	W	2,000	11,000	-22,000	-8,800
	AN	1,900	7,500	-22,000	-12,000
	BN	2,700	6,100	-24,000	-15,000
	D	2,400	6,700	-25,000	-16,000
	C	2,400	7,400	-25,000	-16,000
Average (1989-2015)		**2,000**	**8,600**	**-25,000**	**-14,000**
1989-2015	W	1,600	12,000	-23,000	-10,000
	AN	1,900	7,500	-22,000	-12,000
	BN	2,400	6,900	-24,000	-15,000
	D	2,100	6,900	-26,000	-17,000
	C	2,300	7,500	-27,000	-17,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Historical Water Budget
Root Creek Water District GSA
Volume (acre-feet)
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
1989 (C)
1990 (C)
1991 (C)
1992 (C)
1993 (W)
1994 (C)
1995 (W)
1996 (W)
1997 (W)
1998 (W)
1999 (AN)
2000 (AN)
2001 (D)
2002 (D)
2003 (BN)
2004 (D)
2005 (W)
2006 (W)
2007 (C)
2008 (C)
2009 (BN)
2010 (AN)
2011 (W)
2012 (D)
2013 (C)
2014 (C)
2015 (C)
2016 (D)
2017 (W)
2018 (BN)
2019 (W)
2020 (D)
2021 (C)
2022 (C)
2023 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Root Creek Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	6,400	5,600	720	-20,000	7,400	-320	-320
2025 (AN)	9,000	6,900	350	-21,000	7,700	2,800	2,500
2026 (AN)	9,100	6,700	130	-20,000	6,400	2,500	5,000
2027 (D)	5,700	3,400	210	-20,000	7,800	-3,000	2,100
2028 (D)	6,700	5,300	370	-23,000	8,900	-1,300	770
2029 (BN)	6,900	5,300	120	-21,000	8,300	-240	530
2030 (D)	6,800	4,900	470	-24,000	10,000	-2,100	-1,500
2031 (W)	11,000	10,000	-560	-16,000	5,800	11,000	9,600
2032 (W)	11,000	7,100	-360	-18,000	6,200	6,500	16,000
2033 (C)	6,800	2,600	220	-23,000	8,500	-4,700	11,000
2034 (C)	6,900	3,800	35	-23,000	8,800	-3,100	8,300
2035 (BN)	7,300	4,600	3	-23,000	8,800	-1,900	6,400
2036 (AN)	11,000	8,400	-470	-18,000	6,200	6,700	13,000
2037 (W)	9,600	9,000	-410	-18,000	7,000	7,300	20,000
2038 (D)	5,100	2,900	-120	-20,000	8,400	-3,400	17,000
2039 (C)	5,800	3,300	19	-22,000	8,900	-3,700	13,000
2040 (AN)	10,000	11,000	-81	-21,000	7,000	7,400	21,000
2041 (W)	10,000	6,200	-210	-20,000	7,600	3,300	24,000
2042 (W)	9,600	4,800	-360	-20,000	7,900	2,300	26,000
2043 (C)	5,200	2,200	-300	-20,000	8,200	-4,700	22,000
2044 (C)	5,800	3,100	360	-22,000	8,100	-4,800	17,000
2045 (W)	9,800	11,000	-590	-18,000	6,700	9,600	26,000
2046 (AN)	9,600	6,500	150	-21,000	7,600	2,800	29,000
2047 (W)	9,800	6,100	-140	-20,000	7,200	2,500	32,000
2048 (D)	4,800	2,500	59	-22,000	9,000	-5,500	26,000
2049 (W)	10,000	7,200	-730	-18,000	6,400	5,600	32,000
2050 (W)	9,700	11,000	-440	-17,000	5,700	8,800	41,000
2051 (AN)	9,400	5,700	480	-23,000	7,900	110	41,000
2052 (D)	4,800	2,800	-210	-22,000	8,500	-5,600	35,000
2053 (W)	9,700	9,200	-540	-19,000	6,600	6,300	41,000
2054 (C)	4,900	2,900	14	-20,000	7,500	-5,100	36,000
2055 (C)	5,200	3,100	-80	-20,000	7,400	-4,000	32,000
2056 (C)	5,200	4,200	6	-20,000	7,400	-2,700	29,000
2057 (C)	5,400	4,100	220	-20,000	7,400	-2,800	27,000
2058 (C)	5,300	4,700	160	-20,000	7,500	-2,200	24,000
2059 (C)	5,300	4,800	430	-21,000	8,100	-2,600	22,000
2060 (W)	9,900	11,000	-200	-19,000	6,700	8,700	31,000
2061 (C)	5,000	3,100	-23	-20,000	7,900	-3,900	27,000
2062 (W)	10,000	10,000	-490	-16,000	5,200	8,800	36,000
2063 (W)	9,900	6,400	82	-20,000	6,400	3,100	39,000
2064 (W)	9,200	10,000	290	-22,000	7,400	4,700	43,000
2065 (W)	9,400	11,000	-1,100	-15,000	4,700	8,800	52,000
2066 (AN)	9,500	5,300	150	-20,000	5,100	-73	52,000
2067 (AN)	9,400	6,000	-230	-19,000	4,700	730	53,000
2068 (D)	4,700	2,900	61	-19,000	5,600	-6,000	47,000
2069 (D)	4,700	4,300	400	-22,000	7,300	-5,000	42,000
2070 (BN)	4,900	5,100	66	-20,000	7,100	-3,100	39,000

MCSim_v2.0 - Projected with Projects

Root Creek Water District GSA Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		5,000	4,800	600	-24,000	8,700	-4,600	34,000
2072 (W)		9,500	10,000	-730	-16,000	5,500	8,500	42,000
2073 (W)		9,500	7,000	-290	-18,000	5,700	4,100	47,000
2074 (C)		5,100	2,700	540	-22,000	7,500	-6,600	40,000
2075 (C)		5,200	3,800	310	-22,000	7,800	-5,300	35,000
2076 (BN)		5,500	4,600	270	-22,000	8,000	-4,100	31,000
2077 (AN)		11,000	9,200	-360	-18,000	5,200	6,400	37,000
2078 (W)		9,400	9,200	-270	-18,000	5,900	6,100	43,000
2079 (D)		5,000	3,000	140	-20,000	6,700	-5,000	38,000
2080 (C)		5,800	3,400	400	-22,000	7,100	-5,500	33,000
2081 (C)		6,000	4,000	180	-21,000	6,900	-4,300	28,000
2082 (C)		5,700	4,200	560	-23,000	7,200	-4,900	23,000
2083 (D)		5,100	6,400	34	-20,000	7,300	-1,300	22,000
2084 (W)		11,000	12,000	-260	-17,000	4,500	9,900	32,000
2085 (BN)		5,700	2,800	250	-19,000	5,800	-4,800	27,000
2086 (W)		12,000	7,400	-990	-13,000	2,000	7,400	35,000
2087 (D)		5,100	2,800	840	-20,000	5,500	-6,000	29,000
2088 (C)		5,500	3,500	470	-22,000	6,400	-5,700	23,000
2089 (C)		5,000	7,400	-280	-17,000	5,100	460	23,000
2090 (W)		10,000	12,000	-300	-16,000	4,000	9,700	33,000
Average (2024-2039)		**7,800**	**5,600**	**46**	**-21,000**	**7,800**	**830**	
2024-2039	W	11,000	8,800	-440	-17,000	6,300	8,300	
	AN	9,600	7,300	5	-20,000	6,800	4,000	
	BN	6,800	5,200	280	-21,000	8,200	-830	
	D	6,100	4,100	230	-22,000	8,800	-2,400	
	C	6,500	3,200	93	-22,000	8,700	-3,800	
Average (2040-2090)		**7,400**	**6,100**	**-34**	**-20,000**	**6,700**	**390**	
2040-2090	W	9,900	9,100	-410	-18,000	5,900	6,600	
	AN	9,800	7,200	17	-20,000	6,200	2,900	
	BN	5,400	4,200	190	-21,000	7,000	-4,000	
	D	4,900	3,700	240	-21,000	7,300	-4,900	
	C	5,300	3,800	190	-21,000	7,300	-4,000	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Root Creek Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

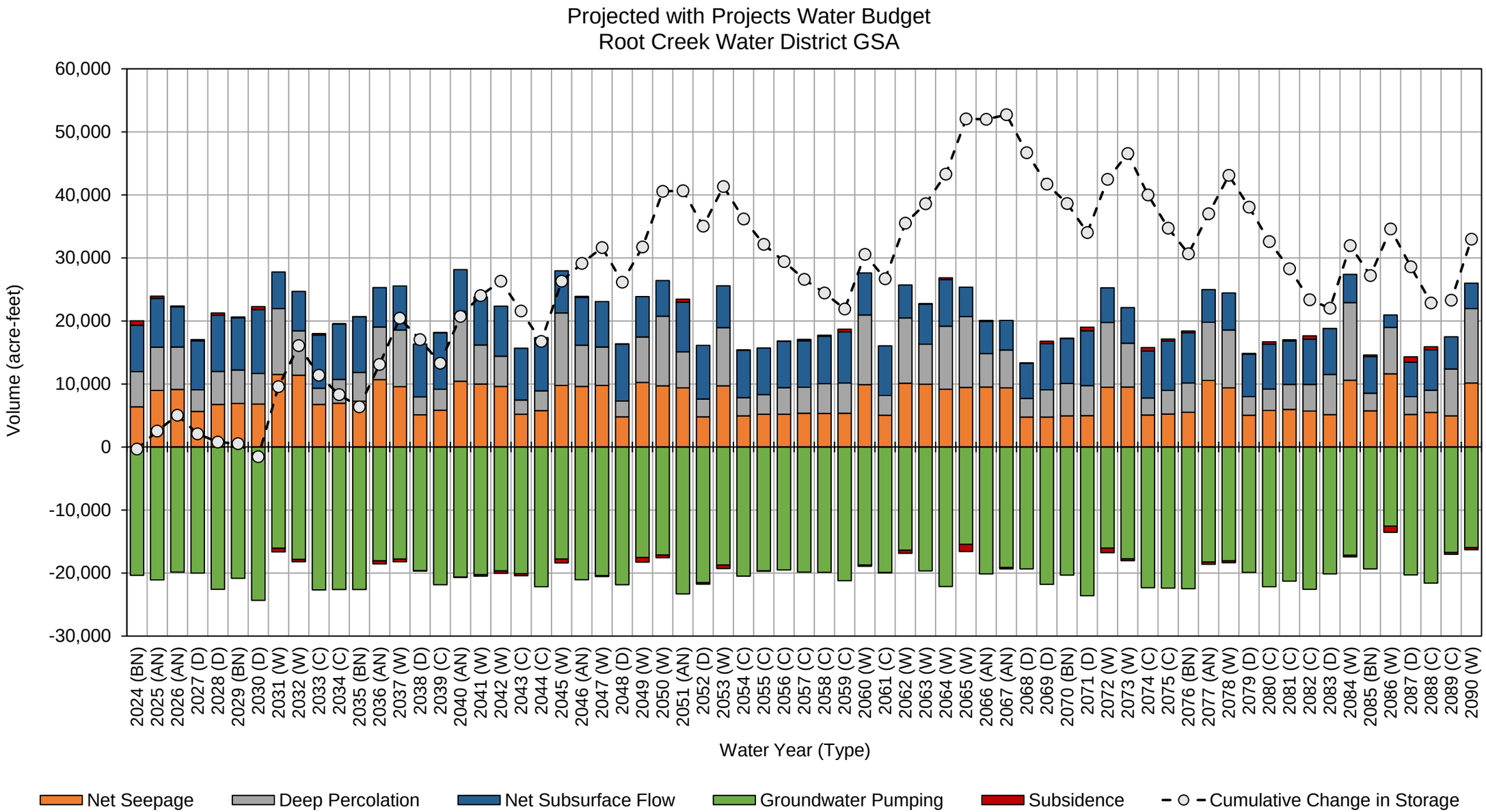
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	6,400	5,600	-20,000	-8,400
2025 (AN)	9,000	6,900	-21,000	-5,300
2026 (AN)	9,100	6,700	-20,000	-4,000
2027 (D)	5,700	3,400	-20,000	-11,000
2028 (D)	6,700	5,300	-23,000	-11,000
2029 (BN)	6,900	5,300	-21,000	-8,600
2030 (D)	6,800	4,900	-24,000	-13,000
2031 (W)	11,000	10,000	-16,000	5,900
2032 (W)	11,000	7,100	-18,000	600
2033 (C)	6,800	2,600	-23,000	-13,000
2034 (C)	6,900	3,800	-23,000	-12,000
2035 (BN)	7,300	4,600	-23,000	-11,000
2036 (AN)	11,000	8,400	-18,000	950
2037 (W)	9,600	9,000	-18,000	770
2038 (D)	5,100	2,900	-20,000	-12,000
2039 (C)	5,800	3,300	-22,000	-13,000
2040 (AN)	10,000	11,000	-21,000	500
2041 (W)	10,000	6,200	-20,000	-4,100
2042 (W)	9,600	4,800	-20,000	-5,300
2043 (C)	5,200	2,200	-20,000	-13,000
2044 (C)	5,800	3,100	-22,000	-13,000
2045 (W)	9,800	11,000	-18,000	3,500
2046 (AN)	9,600	6,500	-21,000	-4,900
2047 (W)	9,800	6,100	-20,000	-4,600
2048 (D)	4,800	2,500	-22,000	-15,000
2049 (W)	10,000	7,200	-18,000	-86
2050 (W)	9,700	11,000	-17,000	3,600
2051 (AN)	9,400	5,700	-23,000	-8,200
2052 (D)	4,800	2,800	-22,000	-14,000
2053 (W)	9,700	9,200	-19,000	180
2054 (C)	4,900	2,900	-20,000	-13,000
2055 (C)	5,200	3,100	-20,000	-11,000
2056 (C)	5,200	4,200	-20,000	-10,000
2057 (C)	5,400	4,100	-20,000	-10,000
2058 (C)	5,300	4,700	-20,000	-9,800
2059 (C)	5,300	4,800	-21,000	-11,000
2060 (W)	9,900	11,000	-19,000	2,200
2061 (C)	5,000	3,100	-20,000	-12,000
2062 (W)	10,000	10,000	-16,000	4,100
2063 (W)	9,900	6,400	-20,000	-3,400
2064 (W)	9,200	10,000	-22,000	-3,000
2065 (W)	9,400	11,000	-15,000	5,300
2066 (AN)	9,500	5,300	-20,000	-5,300
2067 (AN)	9,400	6,000	-19,000	-3,800
2068 (D)	4,700	2,900	-19,000	-12,000

Root Creek Water District GSA Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,700	4,300	-22,000	-13,000
2070 (BN)		4,900	5,100	-20,000	-10,000
2071 (D)		5,000	4,800	-24,000	-14,000
2072 (W)		9,500	10,000	-16,000	3,700
2073 (W)		9,500	7,000	-18,000	-1,300
2074 (C)		5,100	2,700	-22,000	-15,000
2075 (C)		5,200	3,800	-22,000	-13,000
2076 (BN)		5,500	4,600	-22,000	-12,000
2077 (AN)		11,000	9,200	-18,000	1,500
2078 (W)		9,400	9,200	-18,000	480
2079 (D)		5,000	3,000	-20,000	-12,000
2080 (C)		5,800	3,400	-22,000	-13,000
2081 (C)		6,000	4,000	-21,000	-11,000
2082 (C)		5,700	4,200	-23,000	-13,000
2083 (D)		5,100	6,400	-20,000	-8,600
2084 (W)		11,000	12,000	-17,000	5,700
2085 (BN)		5,700	2,800	-19,000	-11,000
2086 (W)		12,000	7,400	-13,000	6,400
2087 (D)		5,100	2,800	-20,000	-12,000
2088 (C)		5,500	3,500	-22,000	-13,000
2089 (C)		5,000	7,400	-17,000	-4,400
2090 (W)		10,000	12,000	-16,000	6,000
Average (2024-2039)		**7,800**	**5,600**	**-21,000**	**-7,000**
2024-2039	W	11,000	8,800	-17,000	2,400
	AN	9,600	7,300	-20,000	-2,800
	BN	6,800	5,200	-21,000	-9,300
	D	6,100	4,100	-22,000	-11,000
	C	6,500	3,200	-22,000	-13,000
Average (2040-2090)		**7,400**	**6,100**	**-20,000**	**-6,300**
2040-2090	W	9,900	9,100	-18,000	1,100
	AN	9,800	7,200	-20,000	-3,400
	BN	5,400	4,200	-21,000	-11,000
	D	4,900	3,700	-21,000	-12,000
	C	5,300	3,800	-21,000	-12,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects Water Budget
Root Creek Water District GSA
Volume (acre-feet)
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Root Creek Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	6,500	5,600	850	-21,000	7,600	-570	-570
2025 (AN)	9,100	6,700	460	-22,000	7,800	2,400	1,900
2026 (AN)	9,200	6,700	130	-21,000	7,000	2,400	4,300
2027 (D)	5,700	3,500	240	-21,000	8,100	-3,200	1,000
2028 (D)	5,900	5,000	530	-23,000	9,100	-2,700	-1,700
2029 (BN)	6,000	5,300	180	-21,000	8,700	-1,100	-2,800
2030 (D)	6,100	4,800	870	-25,000	9,600	-3,500	-6,300
2031 (W)	9,200	9,000	-640	-18,000	7,600	7,300	960
2032 (W)	9,000	6,900	-320	-19,000	7,400	4,400	5,300
2033 (C)	5,900	3,000	560	-23,000	9,000	-4,800	540
2034 (C)	6,100	4,600	260	-23,000	9,400	-3,000	-2,500
2035 (BN)	6,400	4,900	250	-23,000	9,300	-2,500	-4,900
2036 (AN)	8,200	7,300	-540	-19,000	7,800	4,000	-960
2037 (W)	7,600	8,800	-410	-19,000	8,100	5,400	4,400
2038 (D)	4,400	3,300	22	-20,000	9,200	-2,800	1,600
2039 (C)	5,100	3,900	250	-22,000	9,700	-3,400	-1,900
2040 (AN)	8,000	9,700	-28	-21,000	8,500	4,800	2,900
2041 (W)	7,700	6,100	-79	-21,000	8,700	1,400	4,300
2042 (W)	7,300	4,600	-250	-20,000	9,200	520	4,800
2043 (C)	4,400	2,700	-250	-20,000	9,600	-3,900	940
2044 (C)	5,000	3,500	490	-23,000	9,700	-4,300	-3,300
2045 (W)	7,500	11,000	-540	-18,000	8,100	7,500	4,200
2046 (AN)	7,300	6,600	260	-22,000	9,300	1,700	5,900
2047 (W)	7,400	6,000	-55	-21,000	9,100	1,200	7,100
2048 (D)	4,000	3,100	170	-22,000	11,000	-4,400	2,800
2049 (W)	7,900	6,700	-690	-18,000	8,100	4,000	6,800
2050 (W)	7,600	11,000	-310	-18,000	7,400	7,700	14,000
2051 (AN)	7,500	5,700	570	-24,000	9,600	-680	14,000
2052 (D)	4,200	3,300	-100	-22,000	10,000	-4,500	9,200
2053 (W)	7,500	8,900	-470	-19,000	8,200	4,900	14,000
2054 (C)	4,300	3,400	99	-21,000	9,400	-4,000	10,000
2055 (C)	4,600	3,600	-97	-20,000	9,200	-2,900	7,300
2056 (C)	4,600	4,300	-14	-20,000	9,100	-2,100	5,300
2057 (C)	4,700	4,200	180	-20,000	9,000	-2,200	3,000
2058 (C)	4,600	4,800	130	-20,000	9,100	-1,700	1,400
2059 (C)	4,600	4,800	410	-22,000	9,700	-2,300	-960
2060 (W)	7,700	9,700	-100	-20,000	8,000	5,700	4,700
2061 (C)	4,300	3,600	3	-20,000	9,300	-3,200	1,600
2062 (W)	7,900	9,800	-430	-17,000	6,600	7,000	8,500
2063 (W)	7,700	6,500	170	-20,000	7,900	1,900	10,000
2064 (W)	7,400	9,700	400	-23,000	8,600	3,000	13,000
2065 (W)	7,300	11,000	-980	-16,000	6,300	7,800	21,000
2066 (AN)	7,400	5,300	230	-21,000	7,300	-420	21,000
2067 (AN)	7,300	6,000	-150	-20,000	7,100	300	21,000
2068 (D)	4,200	3,500	130	-20,000	7,900	-4,300	17,000
2069 (D)	4,200	4,900	280	-22,000	9,200	-3,800	13,000
2070 (BN)	4,400	5,200	8	-21,000	8,700	-2,500	11,000

Root Creek Water District GSA Projected with Projects and Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		4,300	4,700	570	-24,000	10,000	-4,400	6,200
2072 (W)		7,400	8,900	-580	-18,000	7,200	5,200	11,000
2073 (W)		7,400	6,800	-210	-18,000	7,300	2,800	14,000
2074 (C)		4,500	3,200	500	-23,000	9,400	-5,400	8,900
2075 (C)		4,500	4,500	280	-23,000	9,600	-4,100	4,800
2076 (BN)		4,800	4,900	300	-23,000	9,600	-3,600	1,300
2077 (AN)		8,300	8,300	-270	-19,000	6,800	4,200	5,400
2078 (W)		7,300	9,000	-150	-19,000	7,400	4,600	10,000
2079 (D)		4,400	3,400	150	-20,000	8,600	-3,500	6,500
2080 (C)		5,100	4,000	330	-23,000	9,000	-4,300	2,200
2081 (C)		5,300	4,000	120	-22,000	8,700	-3,500	-1,300
2082 (C)		4,900	4,200	540	-23,000	9,000	-4,400	-5,700
2083 (D)		4,400	6,500	99	-21,000	8,800	-710	-6,400
2084 (W)		8,100	11,000	-220	-18,000	6,300	7,700	1,300
2085 (BN)		5,100	3,400	300	-20,000	7,400	-3,600	-2,300
2086 (W)		9,300	7,300	-920	-13,000	3,500	6,000	3,700
2087 (D)		4,500	3,400	890	-21,000	7,200	-4,700	-950
2088 (C)		4,700	4,000	430	-22,000	8,300	-4,600	-5,600
2089 (C)		4,200	7,600	-260	-17,000	6,800	1,200	-4,400
2090 (W)		8,000	11,000	-270	-17,000	5,500	7,400	3,100
Average (2024-2039)		**6,900**	**5,600**	**170**	**-21,000**	**8,500**	**-120**	
2024-2039	W	8,600	8,300	-450	-18,000	7,700	5,700	
	AN	8,900	6,900	16	-20,000	7,500	2,900	
	BN	6,300	5,300	430	-22,000	8,500	-1,400	
	D	5,500	4,200	410	-22,000	9,000	-3,100	
	C	5,700	3,800	360	-23,000	9,400	-3,800	
Average (2040-2090)		**6,000**	**6,100**	**12**	**-20,000**	**8,300**	**97**	
2040-2090	W	7,700	8,600	-320	-19,000	7,400	4,800	
	AN	7,600	6,900	100	-21,000	8,100	1,700	
	BN	4,800	4,500	200	-21,000	8,600	-3,200	
	D	4,300	4,100	270	-22,000	9,100	-3,800	
	C	4,700	4,100	180	-21,000	9,100	-3,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Root Creek Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

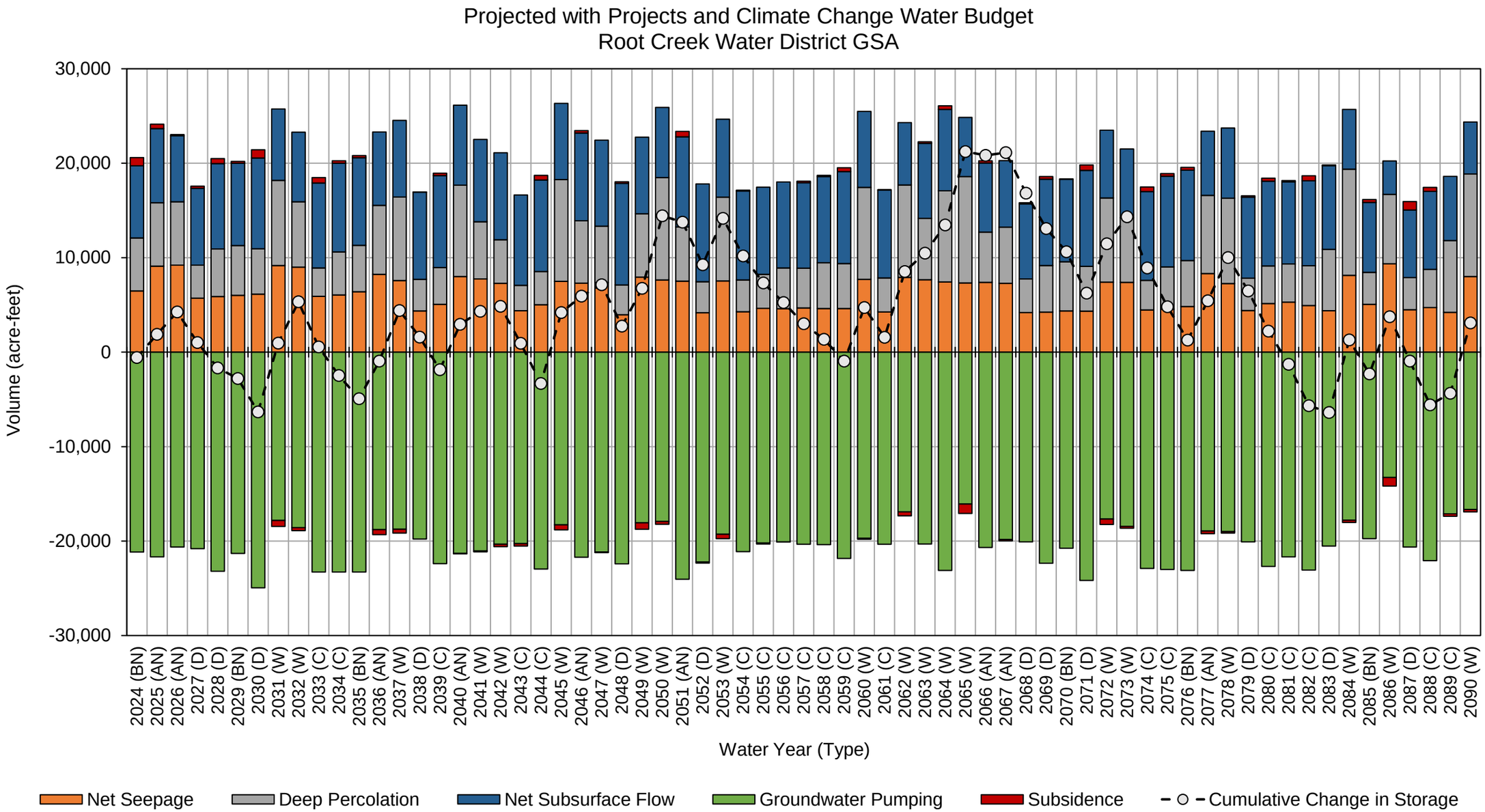
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	6,500	5,600	-21,000	-9,100
2025 (AN)	9,100	6,700	-22,000	-5,900
2026 (AN)	9,200	6,700	-21,000	-4,700
2027 (D)	5,700	3,500	-21,000	-12,000
2028 (D)	5,900	5,000	-23,000	-12,000
2029 (BN)	6,000	5,300	-21,000	-10,000
2030 (D)	6,100	4,800	-25,000	-14,000
2031 (W)	9,200	9,000	-18,000	360
2032 (W)	9,000	6,900	-19,000	-2,700
2033 (C)	5,900	3,000	-23,000	-14,000
2034 (C)	6,100	4,600	-23,000	-13,000
2035 (BN)	6,400	4,900	-23,000	-12,000
2036 (AN)	8,200	7,300	-19,000	-3,300
2037 (W)	7,600	8,800	-19,000	-2,300
2038 (D)	4,400	3,300	-20,000	-12,000
2039 (C)	5,100	3,900	-22,000	-13,000
2040 (AN)	8,000	9,700	-21,000	-3,600
2041 (W)	7,700	6,100	-21,000	-7,200
2042 (W)	7,300	4,600	-20,000	-8,400
2043 (C)	4,400	2,700	-20,000	-13,000
2044 (C)	5,000	3,500	-23,000	-14,000
2045 (W)	7,500	11,000	-18,000	-27
2046 (AN)	7,300	6,600	-22,000	-7,800
2047 (W)	7,400	6,000	-21,000	-7,800
2048 (D)	4,000	3,100	-22,000	-15,000
2049 (W)	7,900	6,700	-18,000	-3,400
2050 (W)	7,600	11,000	-18,000	560
2051 (AN)	7,500	5,700	-24,000	-11,000
2052 (D)	4,200	3,300	-22,000	-15,000
2053 (W)	7,500	8,900	-19,000	-2,900
2054 (C)	4,300	3,400	-21,000	-13,000
2055 (C)	4,600	3,600	-20,000	-12,000
2056 (C)	4,600	4,300	-20,000	-11,000
2057 (C)	4,700	4,200	-20,000	-11,000
2058 (C)	4,600	4,800	-20,000	-11,000
2059 (C)	4,600	4,800	-22,000	-12,000
2060 (W)	7,700	9,700	-20,000	-2,300
2061 (C)	4,300	3,600	-20,000	-12,000
2062 (W)	7,900	9,800	-17,000	800
2063 (W)	7,700	6,500	-20,000	-6,200
2064 (W)	7,400	9,700	-23,000	-6,000
2065 (W)	7,300	11,000	-16,000	2,500
2066 (AN)	7,400	5,300	-21,000	-8,000
2067 (AN)	7,300	6,000	-20,000	-6,600
2068 (D)	4,200	3,500	-20,000	-12,000

Root Creek Water District GSA Projected with Projects and Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,200	4,900	-22,000	-13,000
2070 (BN)		4,400	5,200	-21,000	-11,000
2071 (D)		4,300	4,700	-24,000	-15,000
2072 (W)		7,400	8,900	-18,000	-1,300
2073 (W)		7,400	6,800	-18,000	-4,200
2074 (C)		4,500	3,200	-23,000	-15,000
2075 (C)		4,500	4,500	-23,000	-14,000
2076 (BN)		4,800	4,900	-23,000	-13,000
2077 (AN)		8,300	8,300	-19,000	-2,300
2078 (W)		7,300	9,000	-19,000	-2,700
2079 (D)		4,400	3,400	-20,000	-12,000
2080 (C)		5,100	4,000	-23,000	-14,000
2081 (C)		5,300	4,000	-22,000	-12,000
2082 (C)		4,900	4,200	-23,000	-14,000
2083 (D)		4,400	6,500	-21,000	-9,700
2084 (W)		8,100	11,000	-18,000	1,600
2085 (BN)		5,100	3,400	-20,000	-11,000
2086 (W)		9,300	7,300	-13,000	3,400
2087 (D)		4,500	3,400	-21,000	-13,000
2088 (C)		4,700	4,000	-22,000	-13,000
2089 (C)		4,200	7,600	-17,000	-5,300
2090 (W)		8,000	11,000	-17,000	2,200
Average (2024-2039)		**6,900**	**5,600**	**-21,000**	**-8,700**
2024-2039	W	8,600	8,300	-18,000	-1,500
	AN	8,900	6,900	-20,000	-4,600
	BN	6,300	5,300	-22,000	-10,000
	D	5,500	4,200	-22,000	-12,000
	C	5,700	3,800	-23,000	-13,000
Average (2040-2090)		**6,000**	**6,100**	**-20,000**	**-8,300**
2040-2090	W	7,700	8,600	-19,000	-2,300
	AN	7,600	6,900	-21,000	-6,500
	BN	4,800	4,500	-21,000	-12,000
	D	4,300	4,100	-22,000	-13,000
	C	4,700	4,100	-21,000	-12,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected with Projects and Climate Change Water Budget
Root Creek Water District GSA
Volume (acre-feet)
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Root Creek Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	3,500	4,500	740	-20,000	8,200	-3,400	-3,400
2025 (AN)	2,600	4,700	510	-21,000	10,000	-3,400	-6,800
2026 (AN)	2,900	6,300	270	-20,000	9,500	-1,100	-7,900
2027 (D)	3,000	4,900	460	-20,000	9,800	-2,100	-10,000
2028 (D)	3,000	5,600	890	-23,000	10,000	-3,100	-13,000
2029 (BN)	3,200	5,600	580	-21,000	10,000	-2,100	-15,000
2030 (D)	3,300	5,100	1,300	-25,000	11,000	-4,500	-20,000
2031 (W)	2,600	7,300	-390	-17,000	9,600	2,600	-17,000
2032 (W)	2,600	6,700	39	-18,000	10,000	1,100	-16,000
2033 (C)	3,400	4,700	980	-24,000	11,000	-3,700	-20,000
2034 (C)	3,400	5,200	890	-24,000	11,000	-3,400	-23,000
2035 (BN)	3,700	5,100	930	-24,000	11,000	-3,600	-27,000
2036 (AN)	3,600	6,700	63	-19,000	9,500	800	-26,000
2037 (W)	2,900	9,400	17	-19,000	9,900	3,300	-23,000
2038 (D)	3,400	4,600	500	-21,000	10,000	-2,300	-25,000
2039 (C)	3,900	4,800	870	-24,000	10,000	-3,800	-29,000
2040 (AN)	3,400	8,700	720	-22,000	9,700	360	-28,000
2041 (W)	3,100	6,300	550	-22,000	10,000	-1,300	-30,000
2042 (W)	2,800	4,900	360	-21,000	11,000	-1,900	-32,000
2043 (C)	3,600	4,400	400	-22,000	10,000	-2,800	-34,000
2044 (C)	3,900	4,400	1,000	-24,000	9,800	-4,700	-39,000
2045 (W)	2,800	9,500	160	-19,000	9,800	3,300	-36,000
2046 (AN)	2,900	6,700	710	-23,000	11,000	-1,300	-37,000
2047 (W)	3,100	6,300	540	-22,000	11,000	-1,300	-38,000
2048 (D)	3,300	4,600	860	-24,000	11,000	-3,500	-42,000
2049 (W)	3,400	5,900	-88	-19,000	10,000	720	-41,000
2050 (W)	3,000	12,000	-41	-18,000	9,700	6,300	-35,000
2051 (AN)	2,900	5,700	1,000	-25,000	12,000	-3,600	-38,000
2052 (D)	3,300	5,000	560	-23,000	11,000	-3,000	-41,000
2053 (W)	3,000	8,000	28	-20,000	11,000	1,700	-40,000
2054 (C)	3,500	4,800	400	-22,000	11,000	-2,800	-43,000
2055 (C)	3,600	4,500	260	-21,000	10,000	-2,700	-45,000
2056 (C)	3,500	4,900	360	-21,000	9,800	-2,300	-48,000
2057 (C)	3,600	4,500	520	-21,000	9,600	-3,000	-51,000
2058 (C)	3,600	5,100	620	-21,000	9,600	-2,400	-53,000
2059 (C)	3,500	5,100	920	-23,000	9,900	-3,300	-56,000
2060 (W)	3,000	8,400	370	-20,000	10,000	1,700	-55,000
2061 (C)	3,500	5,000	530	-21,000	10,000	-2,200	-57,000
2062 (W)	3,300	9,300	-67	-17,000	8,900	4,000	-53,000
2063 (W)	3,300	6,300	460	-21,000	10,000	-800	-54,000
2064 (W)	2,900	11,000	870	-24,000	11,000	1,600	-52,000
2065 (W)	3,000	12,000	-310	-16,000	9,200	7,100	-45,000
2066 (AN)	3,200	5,200	480	-22,000	10,000	-2,700	-48,000
2067 (AN)	3,000	6,300	190	-20,000	9,800	-1,100	-49,000
2068 (D)	3,500	5,100	310	-21,000	9,400	-2,400	-51,000
2069 (D)	3,200	5,800	710	-23,000	10,000	-3,700	-55,000
2070 (BN)	3,300	5,700	540	-22,000	9,600	-2,500	-57,000

MCSim_v2.0 - Projected (No Action)

Root Creek Water District GSA Projected (No Action) Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		3,300	5,200	1,100	-25,000	10,000	-5,300	-63,000
2072 (W)		2,800	7,600	-190	-17,000	9,400	2,600	-60,000
2073 (W)		3,100	6,800	34	-19,000	9,700	820	-59,000
2074 (C)		3,700	4,700	790	-24,000	10,000	-4,700	-64,000
2075 (C)		3,500	5,300	860	-24,000	10,000	-4,200	-68,000
2076 (BN)		3,700	5,200	920	-24,000	10,000	-4,200	-72,000
2077 (AN)		3,700	6,800	200	-19,000	9,300	580	-72,000
2078 (W)		2,800	9,500	110	-19,000	9,900	3,200	-68,000
2079 (D)		3,700	4,700	400	-21,000	9,700	-2,800	-71,000
2080 (C)		4,100	4,800	900	-24,000	9,600	-4,400	-75,000
2081 (C)		4,200	4,500	820	-23,000	9,400	-4,000	-79,000
2082 (C)		3,800	4,700	1,100	-24,000	9,400	-5,300	-85,000
2083 (D)		3,100	7,100	690	-21,000	9,800	-830	-86,000
2084 (W)		3,700	9,600	310	-19,000	8,300	3,400	-82,000
2085 (BN)		4,200	4,400	600	-21,000	8,300	-3,300	-85,000
2086 (W)		4,600	6,300	-53	-14,000	6,200	3,200	-82,000
2087 (D)		3,500	4,800	750	-22,000	7,900	-4,700	-87,000
2088 (C)		3,500	5,000	1,100	-23,000	8,600	-4,900	-92,000
2089 (C)		3,000	8,500	280	-18,000	8,200	2,200	-90,000
2090 (W)		3,700	8,900	230	-17,000	7,500	3,100	-87,000
Average (2024-2039)		**3,200**	**5,700**	**540**	**-21,000**	**10,000**	**-1,800**	
2024-2039	W	2,700	7,800	-110	-18,000	9,900	2,400	
	AN	3,000	5,900	280	-20,000	9,700	-1,200	
	BN	3,400	5,100	750	-22,000	9,600	-3,000	
	D	3,200	5,000	790	-22,000	10,000	-3,000	
	C	3,500	4,900	920	-24,000	11,000	-3,700	
Average (2040-2090)		**3,400**	**6,400**	**490**	**-21,000**	**9,700**	**-1,100**	
2040-2090	W	3,200	8,200	180	-19,000	9,600	2,100	
	AN	3,200	6,600	550	-22,000	10,000	-1,300	
	BN	3,800	5,100	690	-22,000	9,300	-3,300	
	D	3,400	5,300	680	-23,000	10,000	-3,300	
	C	3,600	5,000	680	-22,000	9,700	-3,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Root Creek Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

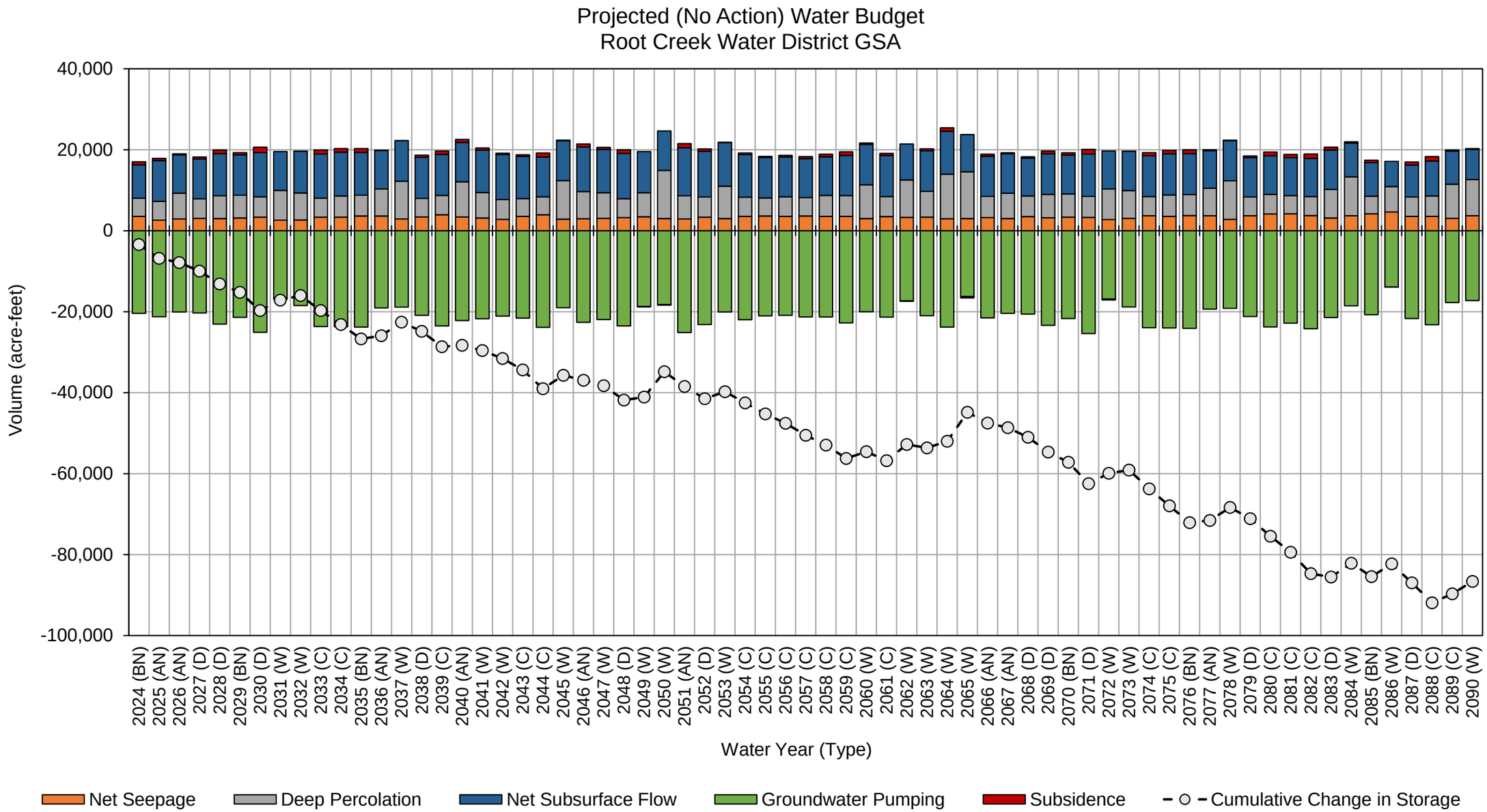
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	3,500	4,500	-20,000	-12,000
2025 (AN)	2,600	4,700	-21,000	-14,000
2026 (AN)	2,900	6,300	-20,000	-11,000
2027 (D)	3,000	4,900	-20,000	-12,000
2028 (D)	3,000	5,600	-23,000	-14,000
2029 (BN)	3,200	5,600	-21,000	-13,000
2030 (D)	3,300	5,100	-25,000	-17,000
2031 (W)	2,600	7,300	-17,000	-6,600
2032 (W)	2,600	6,700	-18,000	-9,100
2033 (C)	3,400	4,700	-24,000	-16,000
2034 (C)	3,400	5,200	-24,000	-15,000
2035 (BN)	3,700	5,100	-24,000	-15,000
2036 (AN)	3,600	6,700	-19,000	-8,800
2037 (W)	2,900	9,400	-19,000	-6,600
2038 (D)	3,400	4,600	-21,000	-13,000
2039 (C)	3,900	4,800	-24,000	-15,000
2040 (AN)	3,400	8,700	-22,000	-10,000
2041 (W)	3,100	6,300	-22,000	-12,000
2042 (W)	2,800	4,900	-21,000	-13,000
2043 (C)	3,600	4,400	-22,000	-14,000
2044 (C)	3,900	4,400	-24,000	-15,000
2045 (W)	2,800	9,500	-19,000	-6,600
2046 (AN)	2,900	6,700	-23,000	-13,000
2047 (W)	3,100	6,300	-22,000	-13,000
2048 (D)	3,300	4,600	-24,000	-16,000
2049 (W)	3,400	5,900	-19,000	-9,400
2050 (W)	3,000	12,000	-18,000	-3,400
2051 (AN)	2,900	5,700	-25,000	-17,000
2052 (D)	3,300	5,000	-23,000	-15,000
2053 (W)	3,000	8,000	-20,000	-9,100
2054 (C)	3,500	4,800	-22,000	-14,000
2055 (C)	3,600	4,500	-21,000	-13,000
2056 (C)	3,500	4,900	-21,000	-13,000
2057 (C)	3,600	4,500	-21,000	-13,000
2058 (C)	3,600	5,100	-21,000	-13,000
2059 (C)	3,500	5,100	-23,000	-14,000
2060 (W)	3,000	8,400	-20,000	-8,700
2061 (C)	3,500	5,000	-21,000	-13,000
2062 (W)	3,300	9,300	-17,000	-4,800
2063 (W)	3,300	6,300	-21,000	-11,000
2064 (W)	2,900	11,000	-24,000	-9,800
2065 (W)	3,000	12,000	-16,000	-1,700
2066 (AN)	3,200	5,200	-22,000	-13,000
2067 (AN)	3,000	6,300	-20,000	-11,000
2068 (D)	3,500	5,100	-21,000	-12,000

Root Creek Water District GSA Projected (No Action) Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		3,200	5,800	-23,000	-14,000
2070 (BN)		3,300	5,700	-22,000	-13,000
2071 (D)		3,300	5,200	-25,000	-17,000
2072 (W)		2,800	7,600	-17,000	-6,600
2073 (W)		3,100	6,800	-19,000	-8,900
2074 (C)		3,700	4,700	-24,000	-16,000
2075 (C)		3,500	5,300	-24,000	-15,000
2076 (BN)		3,700	5,200	-24,000	-15,000
2077 (AN)		3,700	6,800	-19,000	-8,900
2078 (W)		2,800	9,500	-19,000	-6,900
2079 (D)		3,700	4,700	-21,000	-13,000
2080 (C)		4,100	4,800	-24,000	-15,000
2081 (C)		4,200	4,500	-23,000	-14,000
2082 (C)		3,800	4,700	-24,000	-16,000
2083 (D)		3,100	7,100	-21,000	-11,000
2084 (W)		3,700	9,600	-19,000	-5,200
2085 (BN)		4,200	4,400	-21,000	-12,000
2086 (W)		4,600	6,300	-14,000	-3,000
2087 (D)		3,500	4,800	-22,000	-13,000
2088 (C)		3,500	5,000	-23,000	-15,000
2089 (C)		3,000	8,500	-18,000	-6,200
2090 (W)		3,700	8,900	-17,000	-4,600
Average (2024-2039)		**3,200**	**5,700**	**-21,000**	**-12,000**
2024-2039	W	2,700	7,800	-18,000	-7,500
	AN	3,000	5,900	-20,000	-11,000
	BN	3,400	5,100	-22,000	-13,000
	D	3,200	5,000	-22,000	-14,000
	C	3,500	4,900	-24,000	-15,000
Average (2040-2090)		**3,400**	**6,400**	**-21,000**	**-11,000**
2040-2090	W	3,200	8,200	-19,000	-7,700
	AN	3,200	6,600	-22,000	-12,000
	BN	3,800	5,100	-22,000	-13,000
	D	3,400	5,300	-23,000	-14,000
	C	3,600	5,000	-22,000	-14,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) Water Budget
Root Creek Water District GSA
Volume (acre-feet)
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Root Creek Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	3,600	4,500	930	-21,000	8,400	-3,800	-3,800
2025 (AN)	2,700	4,500	620	-22,000	10,000	-3,800	-7,500
2026 (AN)	3,000	6,400	400	-21,000	9,700	-1,400	-8,900
2027 (D)	3,100	5,000	600	-21,000	9,900	-2,600	-12,000
2028 (D)	3,100	5,700	1,000	-24,000	11,000	-3,400	-15,000
2029 (BN)	3,300	5,500	640	-22,000	10,000	-2,300	-17,000
2030 (D)	3,400	5,000	1,400	-26,000	11,000	-4,900	-22,000
2031 (W)	2,700	7,300	-140	-18,000	10,000	1,600	-21,000
2032 (W)	2,700	6,600	90	-19,000	11,000	680	-20,000
2033 (C)	3,400	4,600	1,000	-24,000	11,000	-4,100	-24,000
2034 (C)	3,400	5,400	1,000	-24,000	11,000	-3,700	-28,000
2035 (BN)	3,700	5,300	1,000	-25,000	11,000	-3,700	-31,000
2036 (AN)	3,700	6,800	170	-20,000	9,800	570	-31,000
2037 (W)	3,000	9,300	160	-20,000	10,000	2,900	-28,000
2038 (D)	3,500	4,600	460	-21,000	10,000	-2,200	-30,000
2039 (C)	4,100	4,800	950	-24,000	10,000	-3,900	-34,000
2040 (AN)	3,400	8,600	800	-23,000	10,000	72	-34,000
2041 (W)	3,300	6,200	660	-23,000	11,000	-1,700	-36,000
2042 (W)	2,900	4,800	430	-22,000	11,000	-2,200	-38,000
2043 (C)	3,600	4,400	380	-22,000	11,000	-2,800	-41,000
2044 (C)	4,000	4,300	1,100	-25,000	10,000	-5,100	-46,000
2045 (W)	2,900	9,700	190	-20,000	10,000	3,600	-42,000
2046 (AN)	3,000	6,800	770	-23,000	11,000	-1,400	-44,000
2047 (W)	3,000	6,200	630	-23,000	11,000	-1,400	-45,000
2048 (D)	3,200	4,800	890	-24,000	12,000	-3,500	-48,000
2049 (W)	3,400	5,800	-77	-19,000	11,000	670	-48,000
2050 (W)	3,300	12,000	0	-19,000	10,000	6,000	-42,000
2051 (AN)	3,300	5,800	1,100	-26,000	12,000	-3,800	-46,000
2052 (D)	3,500	5,000	630	-24,000	12,000	-3,100	-49,000
2053 (W)	3,100	8,200	83	-21,000	11,000	1,900	-47,000
2054 (C)	3,600	4,700	460	-23,000	11,000	-3,000	-50,000
2055 (C)	3,800	4,400	300	-22,000	10,000	-2,700	-53,000
2056 (C)	3,700	4,800	410	-22,000	10,000	-2,400	-55,000
2057 (C)	3,800	4,600	520	-22,000	10,000	-3,000	-58,000
2058 (C)	3,700	5,200	610	-22,000	9,900	-2,400	-60,000
2059 (C)	3,700	5,100	900	-23,000	10,000	-3,500	-64,000
2060 (W)	3,100	8,400	500	-21,000	10,000	1,300	-62,000
2061 (C)	3,500	5,000	540	-22,000	10,000	-2,400	-65,000
2062 (W)	3,400	9,000	-20	-18,000	9,400	3,900	-61,000
2063 (W)	3,400	6,600	490	-22,000	10,000	-930	-62,000
2064 (W)	3,100	11,000	990	-25,000	11,000	900	-61,000
2065 (W)	3,100	12,000	-190	-17,000	9,800	7,200	-54,000
2066 (AN)	3,300	5,200	430	-22,000	10,000	-2,800	-57,000
2067 (AN)	3,300	6,300	250	-21,000	10,000	-1,300	-58,000
2068 (D)	3,600	5,200	350	-21,000	9,700	-2,600	-61,000
2069 (D)	3,400	5,800	770	-24,000	10,000	-3,600	-64,000
2070 (BN)	3,500	5,700	570	-22,000	10,000	-2,400	-67,000

Root Creek Water District GSA Projected (No Action) with Climate Change Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2071 (D)		3,400	5,100	1,200	-26,000	11,000	-5,500	-72,000
2072 (W)		2,900	7,500	19	-19,000	10,000	1,800	-70,000
2073 (W)		3,100	6,800	66	-20,000	10,000	630	-70,000
2074 (C)		3,800	4,700	820	-25,000	10,000	-4,800	-75,000
2075 (C)		3,600	5,400	950	-25,000	11,000	-4,200	-79,000
2076 (BN)		3,800	5,400	1,000	-25,000	11,000	-4,100	-83,000
2077 (AN)		3,700	7,000	290	-20,000	9,800	650	-82,000
2078 (W)		3,300	9,500	210	-20,000	10,000	3,000	-79,000
2079 (D)		3,800	4,700	370	-21,000	10,000	-2,500	-82,000
2080 (C)		4,200	4,800	920	-24,000	10,000	-4,300	-86,000
2081 (C)		4,300	4,500	820	-23,000	10,000	-3,700	-90,000
2082 (C)		3,800	4,600	1,100	-25,000	10,000	-5,200	-95,000
2083 (D)		3,200	7,100	690	-22,000	10,000	-470	-95,000
2084 (W)		3,900	9,900	340	-19,000	9,000	3,800	-92,000
2085 (BN)		4,200	4,500	590	-21,000	8,900	-3,000	-95,000
2086 (W)		4,700	6,600	-15	-15,000	6,900	3,500	-91,000
2087 (D)		3,600	4,900	680	-22,000	8,500	-4,400	-96,000
2088 (C)		3,600	5,100	1,100	-24,000	9,200	-4,800	-100,000
2089 (C)		3,200	8,500	250	-18,000	8,700	2,500	-98,000
2090 (W)		3,800	9,300	230	-18,000	8,100	3,400	-94,000
Average (2024-2039)		**3,300**	**5,700**	**650**	**-22,000**	**10,000**	**-2,100**	
2024-2039	W	2,800	7,700	36	-19,000	10,000	1,700	
	AN	3,100	5,900	400	-21,000	9,900	-1,500	
	BN	3,500	5,100	870	-23,000	9,700	-3,300	
	D	3,300	5,100	870	-23,000	10,000	-3,300	
	C	3,600	4,900	1,000	-24,000	11,000	-3,900	
Average (2040-2090)		**3,500**	**6,400**	**530**	**-22,000**	**10,000**	**-1,200**	
2040-2090	W	3,300	8,200	250	-20,000	10,000	2,000	
	AN	3,400	6,600	600	-23,000	11,000	-1,400	
	BN	3,800	5,200	720	-23,000	9,800	-3,200	
	D	3,500	5,300	700	-23,000	10,000	-3,200	
	C	3,700	5,000	700	-23,000	10,000	-3,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Root Creek Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

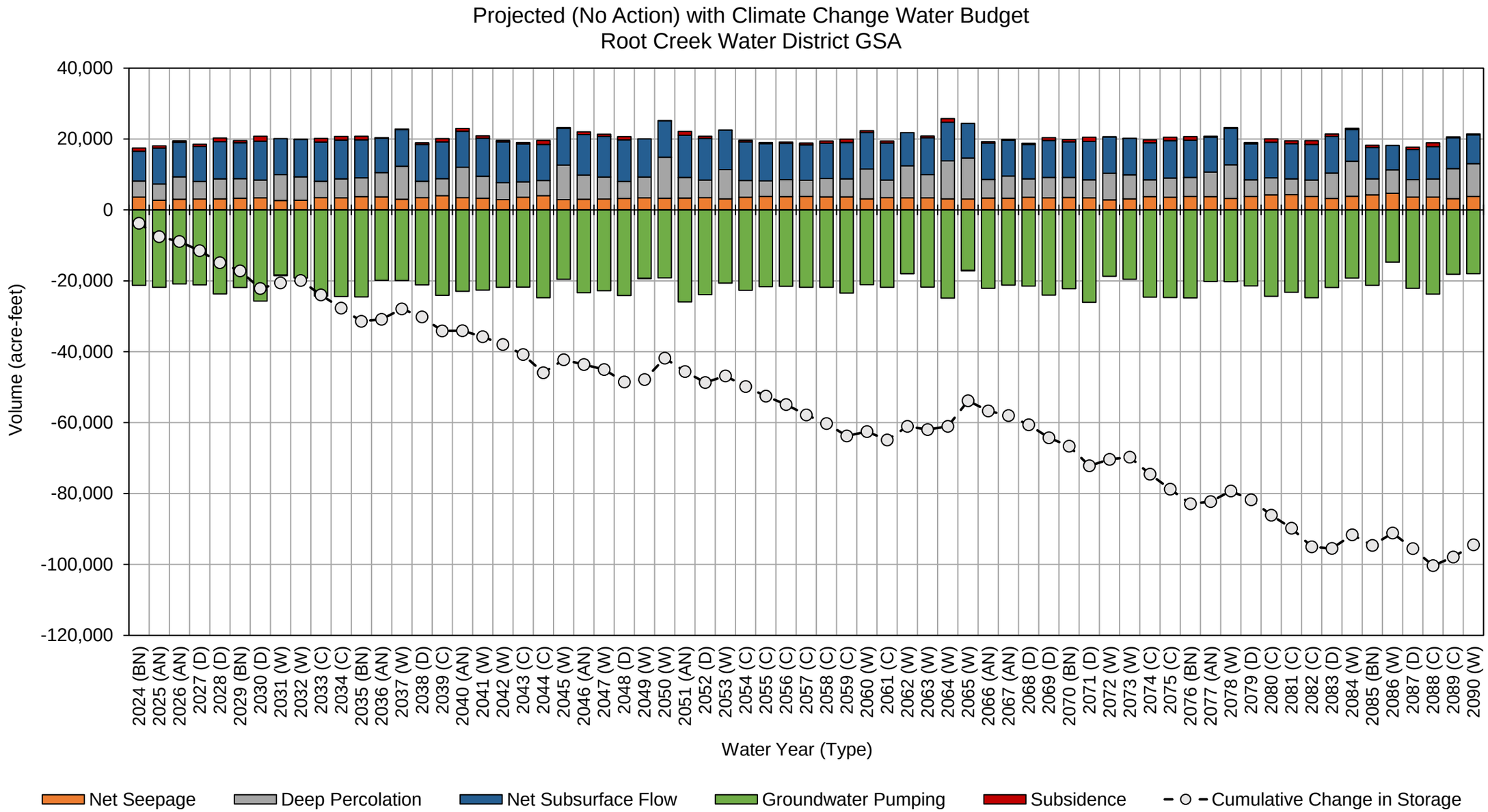
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	3,600	4,500	-21,000	-13,000
2025 (AN)	2,700	4,500	-22,000	-15,000
2026 (AN)	3,000	6,400	-21,000	-12,000
2027 (D)	3,100	5,000	-21,000	-13,000
2028 (D)	3,100	5,700	-24,000	-15,000
2029 (BN)	3,300	5,500	-22,000	-13,000
2030 (D)	3,400	5,000	-26,000	-17,000
2031 (W)	2,700	7,300	-18,000	-8,400
2032 (W)	2,700	6,600	-19,000	-9,900
2033 (C)	3,400	4,600	-24,000	-16,000
2034 (C)	3,400	5,400	-24,000	-16,000
2035 (BN)	3,700	5,300	-25,000	-16,000
2036 (AN)	3,700	6,800	-20,000	-9,400
2037 (W)	3,000	9,300	-20,000	-7,600
2038 (D)	3,500	4,600	-21,000	-13,000
2039 (C)	4,100	4,800	-24,000	-15,000
2040 (AN)	3,400	8,600	-23,000	-11,000
2041 (W)	3,300	6,200	-23,000	-13,000
2042 (W)	2,900	4,800	-22,000	-14,000
2043 (C)	3,600	4,400	-22,000	-14,000
2044 (C)	4,000	4,300	-25,000	-16,000
2045 (W)	2,900	9,700	-20,000	-6,900
2046 (AN)	3,000	6,800	-23,000	-14,000
2047 (W)	3,000	6,200	-23,000	-13,000
2048 (D)	3,200	4,800	-24,000	-16,000
2049 (W)	3,400	5,800	-19,000	-10,000
2050 (W)	3,300	12,000	-19,000	-4,300
2051 (AN)	3,300	5,800	-26,000	-17,000
2052 (D)	3,500	5,000	-24,000	-15,000
2053 (W)	3,100	8,200	-21,000	-9,300
2054 (C)	3,600	4,700	-23,000	-14,000
2055 (C)	3,800	4,400	-22,000	-13,000
2056 (C)	3,700	4,800	-22,000	-13,000
2057 (C)	3,800	4,600	-22,000	-13,000
2058 (C)	3,700	5,200	-22,000	-13,000
2059 (C)	3,700	5,100	-23,000	-15,000
2060 (W)	3,100	8,400	-21,000	-9,600
2061 (C)	3,500	5,000	-22,000	-13,000
2062 (W)	3,400	9,000	-18,000	-5,500
2063 (W)	3,400	6,600	-22,000	-12,000
2064 (W)	3,100	11,000	-25,000	-11,000
2065 (W)	3,100	12,000	-17,000	-2,400
2066 (AN)	3,300	5,200	-22,000	-14,000
2067 (AN)	3,300	6,300	-21,000	-12,000
2068 (D)	3,600	5,200	-21,000	-13,000

Root Creek Water District GSA Projected (No Action) with Climate Change Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		3,400	5,800	-24,000	-15,000
2070 (BN)		3,500	5,700	-22,000	-13,000
2071 (D)		3,400	5,100	-26,000	-18,000
2072 (W)		2,900	7,500	-19,000	-8,400
2073 (W)		3,100	6,800	-20,000	-9,700
2074 (C)		3,800	4,700	-25,000	-16,000
2075 (C)		3,600	5,400	-25,000	-16,000
2076 (BN)		3,800	5,400	-25,000	-16,000
2077 (AN)		3,700	7,000	-20,000	-9,500
2078 (W)		3,300	9,500	-20,000	-7,500
2079 (D)		3,800	4,700	-21,000	-13,000
2080 (C)		4,200	4,800	-24,000	-15,000
2081 (C)		4,300	4,500	-23,000	-14,000
2082 (C)		3,800	4,600	-25,000	-16,000
2083 (D)		3,200	7,100	-22,000	-12,000
2084 (W)		3,900	9,900	-19,000	-5,500
2085 (BN)		4,200	4,500	-21,000	-12,000
2086 (W)		4,700	6,600	-15,000	-3,400
2087 (D)		3,600	4,900	-22,000	-14,000
2088 (C)		3,600	5,100	-24,000	-15,000
2089 (C)		3,200	8,500	-18,000	-6,500
2090 (W)		3,800	9,300	-18,000	-4,900
Average (2024-2039)		**3,300**	**5,700**	**-22,000**	**-13,000**
2024-2039	W	2,800	7,700	-19,000	-8,600
	AN	3,100	5,900	-21,000	-12,000
	BN	3,500	5,100	-23,000	-14,000
	D	3,300	5,100	-23,000	-15,000
	C	3,600	4,900	-24,000	-16,000
Average (2040-2090)		**3,500**	**6,400**	**-22,000**	**-12,000**
2040-2090	W	3,300	8,200	-20,000	-8,400
	AN	3,400	6,600	-23,000	-13,000
	BN	3,800	5,200	-23,000	-14,000
	D	3,500	5,300	-23,000	-14,000
	C	3,700	5,000	-23,000	-14,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Projected (No Action) with Climate Change Water Budget
Root Creek Water District GSA
Volume (acre-feet)
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
-120,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

Root Creek Water District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)	Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2024 (BN)	6,400	5,600	720	-20,000	7,400	-320	-320
2025 (AN)	9,000	6,900	440	-21,000	7,500	2,700	2,400
2026 (AN)	9,100	6,700	120	-20,000	6,400	2,500	4,900
2027 (D)	5,700	3,400	250	-20,000	7,600	-3,000	1,900
2028 (D)	6,700	5,300	610	-23,000	8,200	-1,800	110
2029 (BN)	6,900	5,300	330	-21,000	7,600	-650	-530
2030 (D)	6,800	4,900	700	-24,000	9,400	-2,600	-3,100
2031 (W)	12,000	10,000	-570	-16,000	5,700	11,000	8,000
2032 (W)	11,000	7,000	-200	-18,000	5,600	6,000	14,000
2033 (C)	6,800	2,600	340	-23,000	7,800	-5,200	8,800
2034 (C)	7,000	3,800	140	-23,000	8,200	-3,500	5,300
2035 (BN)	7,300	4,600	99	-23,000	8,300	-2,400	2,900
2036 (AN)	11,000	8,400	-380	-18,000	5,700	6,300	9,200
2037 (W)	9,600	9,000	-350	-18,000	6,500	7,000	16,000
2038 (D)	5,100	2,900	-92	-20,000	7,900	-3,800	12,000
2039 (C)	5,900	3,300	82	-22,000	8,500	-4,100	8,300
2040 (AN)	10,000	11,000	-24	-21,000	6,600	7,100	15,000
2041 (W)	10,000	6,200	-150	-20,000	7,200	3,000	18,000
2042 (W)	9,700	4,800	-300	-20,000	7,500	2,000	21,000
2043 (C)	5,300	2,200	-240	-20,000	7,800	-5,000	16,000
2044 (C)	5,800	3,100	390	-22,000	7,700	-5,100	10,000
2045 (W)	9,800	12,000	-550	-18,000	6,500	9,500	20,000
2046 (AN)	9,700	6,500	190	-21,000	7,300	2,600	22,000
2047 (W)	9,800	6,100	-98	-20,000	6,900	2,300	25,000
2048 (D)	4,800	2,500	110	-22,000	8,700	-5,700	19,000
2049 (W)	10,000	7,200	-720	-18,000	6,300	5,500	25,000
2050 (W)	9,800	11,000	-410	-17,000	5,700	9,000	34,000
2051 (AN)	9,500	5,700	520	-23,000	7,600	-57	34,000
2052 (D)	4,900	2,800	-190	-22,000	8,200	-5,800	28,000
2053 (W)	9,800	9,200	-530	-19,000	6,500	6,300	34,000
2054 (C)	5,100	2,900	29	-20,000	7,300	-5,200	29,000
2055 (C)	5,300	3,100	-97	-20,000	7,200	-4,100	25,000
2056 (C)	5,300	4,200	-4	-20,000	7,200	-2,800	22,000
2057 (C)	5,500	4,100	210	-20,000	7,100	-3,000	19,000
2058 (C)	5,400	4,700	170	-20,000	7,300	-2,300	17,000
2059 (C)	5,400	4,800	440	-21,000	7,800	-2,800	14,000
2060 (W)	10,000	11,000	-190	-19,000	6,500	8,600	22,000
2061 (C)	5,100	3,100	12	-20,000	7,600	-4,100	18,000
2062 (W)	10,000	10,000	-470	-16,000	5,200	8,900	27,000
2063 (W)	10,000	6,400	110	-20,000	6,200	3,100	30,000
2064 (W)	9,300	10,000	310	-22,000	7,200	4,600	35,000
2065 (W)	9,600	11,000	-1,100	-15,000	4,700	9,000	44,000
2066 (AN)	9,600	5,300	160	-20,000	5,200	130	44,000
2067 (AN)	9,500	6,000	-250	-19,000	4,800	920	45,000
2068 (D)	4,900	2,900	30	-19,000	5,800	-5,700	39,000
2069 (D)	4,900	4,300	320	-22,000	7,100	-5,200	34,000

Root Creek Water District GSA Sensitivity - Projected with Projects Groundwater System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Subsidence	Total Groundwater Extractions	Total Net Subsurface Flows	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
2070 (BN)		5,100	5,100	52	-20,000	6,800	-3,300	31,000
2071 (D)		5,100	4,800	600	-24,000	8,200	-5,000	26,000
2072 (W)		9,600	10,000	-730	-16,000	5,300	8,400	34,000
2073 (W)		9,600	6,900	-260	-18,000	5,600	4,100	38,000
2074 (C)		5,200	2,700	520	-22,000	7,200	-6,700	32,000
2075 (C)		5,300	3,800	310	-22,000	7,500	-5,500	26,000
2076 (BN)		5,600	4,600	290	-22,000	7,600	-4,300	22,000
2077 (AN)		11,000	9,200	-340	-18,000	4,900	6,300	28,000
2078 (W)		9,500	9,200	-250	-18,000	5,700	6,000	34,000
2079 (D)		5,100	3,000	170	-20,000	6,600	-5,000	29,000
2080 (C)		5,900	3,400	380	-22,000	6,800	-5,700	24,000
2081 (C)		6,100	4,000	190	-21,000	6,600	-4,500	19,000
2082 (C)		5,800	4,200	580	-23,000	6,800	-5,200	14,000
2083 (D)		5,200	6,400	70	-20,000	7,000	-1,400	12,000
2084 (W)		11,000	12,000	-210	-17,000	4,300	9,900	22,000
2085 (BN)		5,800	2,800	300	-19,000	5,500	-4,900	17,000
2086 (W)		12,000	7,400	-960	-13,000	1,700	7,300	25,000
2087 (D)		5,200	2,800	890	-20,000	5,300	-6,100	19,000
2088 (C)		5,600	3,500	480	-22,000	6,100	-5,900	13,000
2089 (C)		5,000	7,400	-280	-17,000	5,000	440	13,000
2090 (W)		10,000	12,000	-270	-16,000	3,800	9,600	23,000
Average (2024-2039)		**7,900**	**5,600**	**140**	**-21,000**	**7,400**	**520**	
2024-2039	W	11,000	8,800	-370	-17,000	6,000	8,000	
	AN	9,600	7,300	58	-20,000	6,600	3,900	
	BN	6,900	5,200	380	-21,000	7,800	-1,100	
	D	6,100	4,100	370	-22,000	8,300	-2,800	
	C	6,500	3,200	190	-22,000	8,200	-4,300	
Average (2040-2090)		**7,500**	**6,100**	**-17**	**-20,000**	**6,500**	**280**	
2040-2090	W	10,000	9,100	-380	-18,000	5,700	6,500	
	AN	9,900	7,200	43	-20,000	6,100	2,800	
	BN	5,500	4,200	210	-21,000	6,600	-4,200	
	D	5,000	3,700	250	-21,000	7,100	-5,000	
	C	5,400	3,800	190	-21,000	7,100	-4,200	

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical

Root Creek Water District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

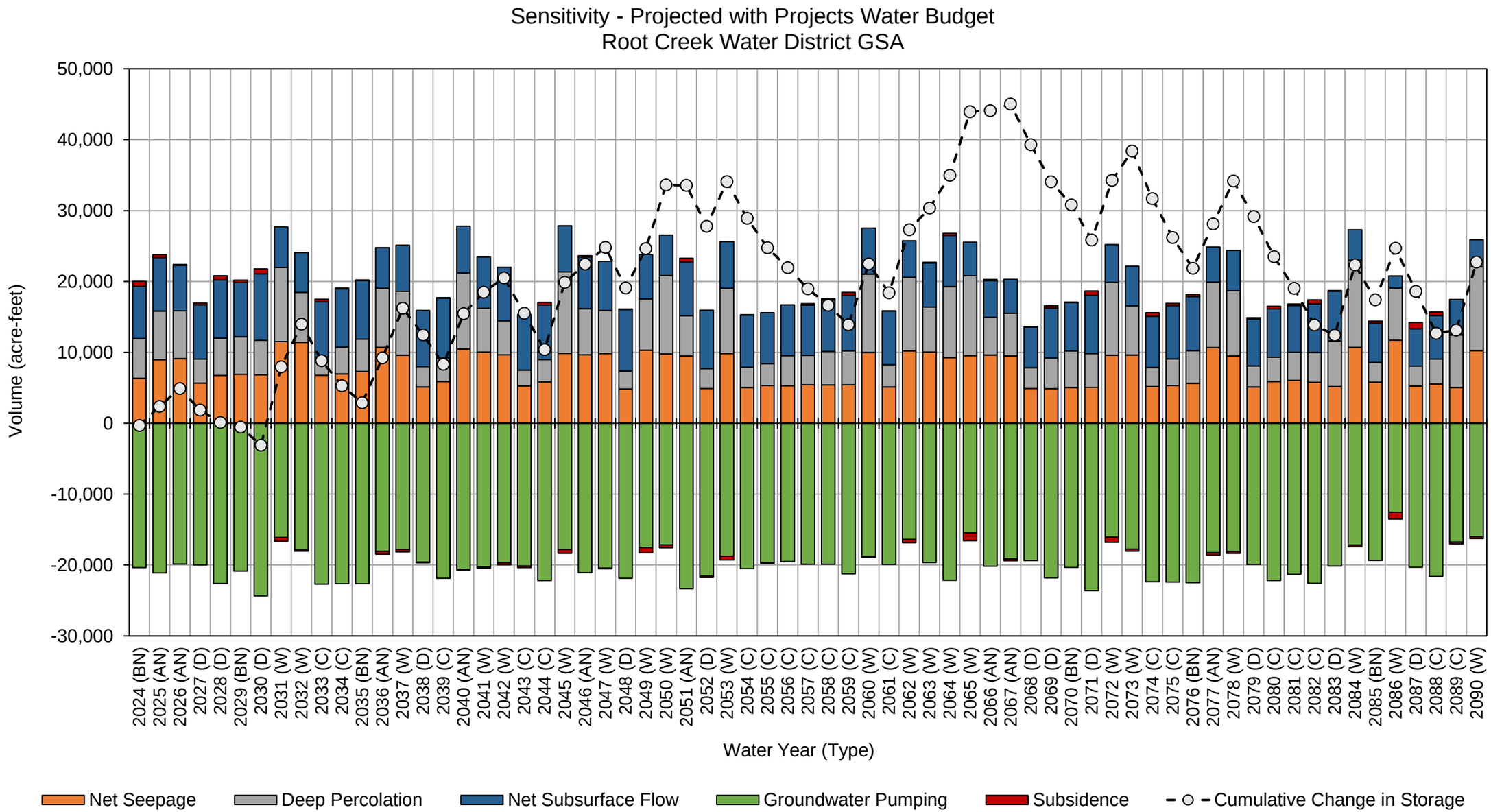
WY (Type)	Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2024 (BN)	6,400	5,600	-20,000	-8,400
2025 (AN)	9,000	6,900	-21,000	-5,300
2026 (AN)	9,100	6,700	-20,000	-4,000
2027 (D)	5,700	3,400	-20,000	-11,000
2028 (D)	6,700	5,300	-23,000	-11,000
2029 (BN)	6,900	5,300	-21,000	-8,600
2030 (D)	6,800	4,900	-24,000	-13,000
2031 (W)	12,000	10,000	-16,000	5,900
2032 (W)	11,000	7,000	-18,000	620
2033 (C)	6,800	2,600	-23,000	-13,000
2034 (C)	7,000	3,800	-23,000	-12,000
2035 (BN)	7,300	4,600	-23,000	-11,000
2036 (AN)	11,000	8,400	-18,000	1,000
2037 (W)	9,600	9,000	-18,000	820
2038 (D)	5,100	2,900	-20,000	-12,000
2039 (C)	5,900	3,300	-22,000	-13,000
2040 (AN)	10,000	11,000	-21,000	570
2041 (W)	10,000	6,200	-20,000	-4,000
2042 (W)	9,700	4,800	-20,000	-5,200
2043 (C)	5,300	2,200	-20,000	-13,000
2044 (C)	5,800	3,100	-22,000	-13,000
2045 (W)	9,800	12,000	-18,000	3,600
2046 (AN)	9,700	6,500	-21,000	-4,900
2047 (W)	9,800	6,100	-20,000	-4,500
2048 (D)	4,800	2,500	-22,000	-15,000
2049 (W)	10,000	7,200	-18,000	7
2050 (W)	9,800	11,000	-17,000	3,700
2051 (AN)	9,500	5,700	-23,000	-8,100
2052 (D)	4,900	2,800	-22,000	-14,000
2053 (W)	9,800	9,200	-19,000	310
2054 (C)	5,100	2,900	-20,000	-13,000
2055 (C)	5,300	3,100	-20,000	-11,000
2056 (C)	5,300	4,200	-20,000	-10,000
2057 (C)	5,500	4,100	-20,000	-10,000
2058 (C)	5,400	4,700	-20,000	-9,700
2059 (C)	5,400	4,800	-21,000	-11,000
2060 (W)	10,000	11,000	-19,000	2,300
2061 (C)	5,100	3,100	-20,000	-12,000
2062 (W)	10,000	10,000	-16,000	4,200
2063 (W)	10,000	6,400	-20,000	-3,300
2064 (W)	9,300	10,000	-22,000	-2,900
2065 (W)	9,600	11,000	-15,000	5,400
2066 (AN)	9,600	5,300	-20,000	-5,200
2067 (AN)	9,500	6,000	-19,000	-3,600
2068 (D)	4,900	2,900	-19,000	-12,000

Root Creek Water District GSA Sensitivity - Projected with Projects Surface Water System Water Budget Summary (acre-feet, rounded)

WY (Type)		Total Net Seepage	Deep Percolation	Total Groundwater Extractions	Net Recharge to GWS
2069 (D)		4,900	4,300	-22,000	-13,000
2070 (BN)		5,100	5,100	-20,000	-10,000
2071 (D)		5,100	4,800	-24,000	-14,000
2072 (W)		9,600	10,000	-16,000	3,800
2073 (W)		9,600	6,900	-18,000	-1,200
2074 (C)		5,200	2,700	-22,000	-14,000
2075 (C)		5,300	3,800	-22,000	-13,000
2076 (BN)		5,600	4,600	-22,000	-12,000
2077 (AN)		11,000	9,200	-18,000	1,700
2078 (W)		9,500	9,200	-18,000	600
2079 (D)		5,100	3,000	-20,000	-12,000
2080 (C)		5,900	3,400	-22,000	-13,000
2081 (C)		6,100	4,000	-21,000	-11,000
2082 (C)		5,800	4,200	-23,000	-13,000
2083 (D)		5,200	6,400	-20,000	-8,500
2084 (W)		11,000	12,000	-17,000	5,800
2085 (BN)		5,800	2,800	-19,000	-11,000
2086 (W)		12,000	7,400	-13,000	6,500
2087 (D)		5,200	2,800	-20,000	-12,000
2088 (C)		5,600	3,500	-22,000	-13,000
2089 (C)		5,000	7,400	-17,000	-4,300
2090 (W)		10,000	12,000	-16,000	6,100
Average (2024-2039)		**7,900**	**5,600**	**-21,000**	**-7,000**
2024-2039	W	11,000	8,800	-17,000	2,400
	AN	9,600	7,300	-20,000	-2,800
	BN	6,900	5,200	-21,000	-9,300
	D	6,100	4,100	-22,000	-11,000
	C	6,500	3,200	-22,000	-13,000
Average (2040-2090)		**7,500**	**6,100**	**-20,000**	**-6,200**
2040-2090	W	10,000	9,100	-18,000	1,200
	AN	9,900	7,200	-20,000	-3,300
	BN	5,500	4,200	-21,000	-11,000
	D	5,000	3,700	-21,000	-12,000
	C	5,400	3,800	-21,000	-11,000

Note: Water Year Type is based on the San Joaquin Valley Water Year Index and is classified into five types:

W Wet
AN Above Normal
BN Below Normal
D Dry
C Critical


Sensitivity - Projected with Projects Water Budget
Root Creek Water District GSA
Volume (acre-feet)
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
-30,000
2024 (BN)
2025 (AN)
2026 (AN)
2027 (D)
2028 (D)
2029 (BN)
2030 (D)
2031 (W)
2032 (W)
2033 (C)
2034 (C)
2035 (BN)
2036 (AN)
2037 (W)
2038 (D)
2039 (C)
2040 (AN)
2041 (W)
2042 (W)
2043 (C)
2044 (C)
2045 (W)
2046 (AN)
2047 (W)
2048 (D)
2049 (W)
2050 (W)
2051 (AN)
2052 (D)
2053 (W)
2054 (C)
2055 (C)
2056 (C)
2057 (C)
2058 (C)
2059 (C)
2060 (W)
2061 (C)
2062 (W)
2063 (W)
2064 (W)
2065 (W)
2066 (AN)
2067 (AN)
2068 (D)
2069 (D)
2070 (BN)
2071 (D)
2072 (W)
2073 (W)
2074 (C)
2075 (C)
2076 (BN)
2077 (AN)
2078 (W)
2079 (D)
2080 (C)
2081 (C)
2082 (C)
2083 (D)
2084 (W)
2085 (BN)
2086 (W)
2087 (D)
2088 (C)
2089 (C)
2090 (W)
Water Year (Type)
Net Seepage
Deep Percolation
Net Subsurface Flow
Groundwater Pumping
Subsidence
Cumulative Change in Storage

APPENDIX E

Groundwater Elevation Hydrographs for RMS Wells

LSCE

APPENDIX E.1

Chowchilla Subbasin Groundwater Elevation Hydrographs for RMS Wells

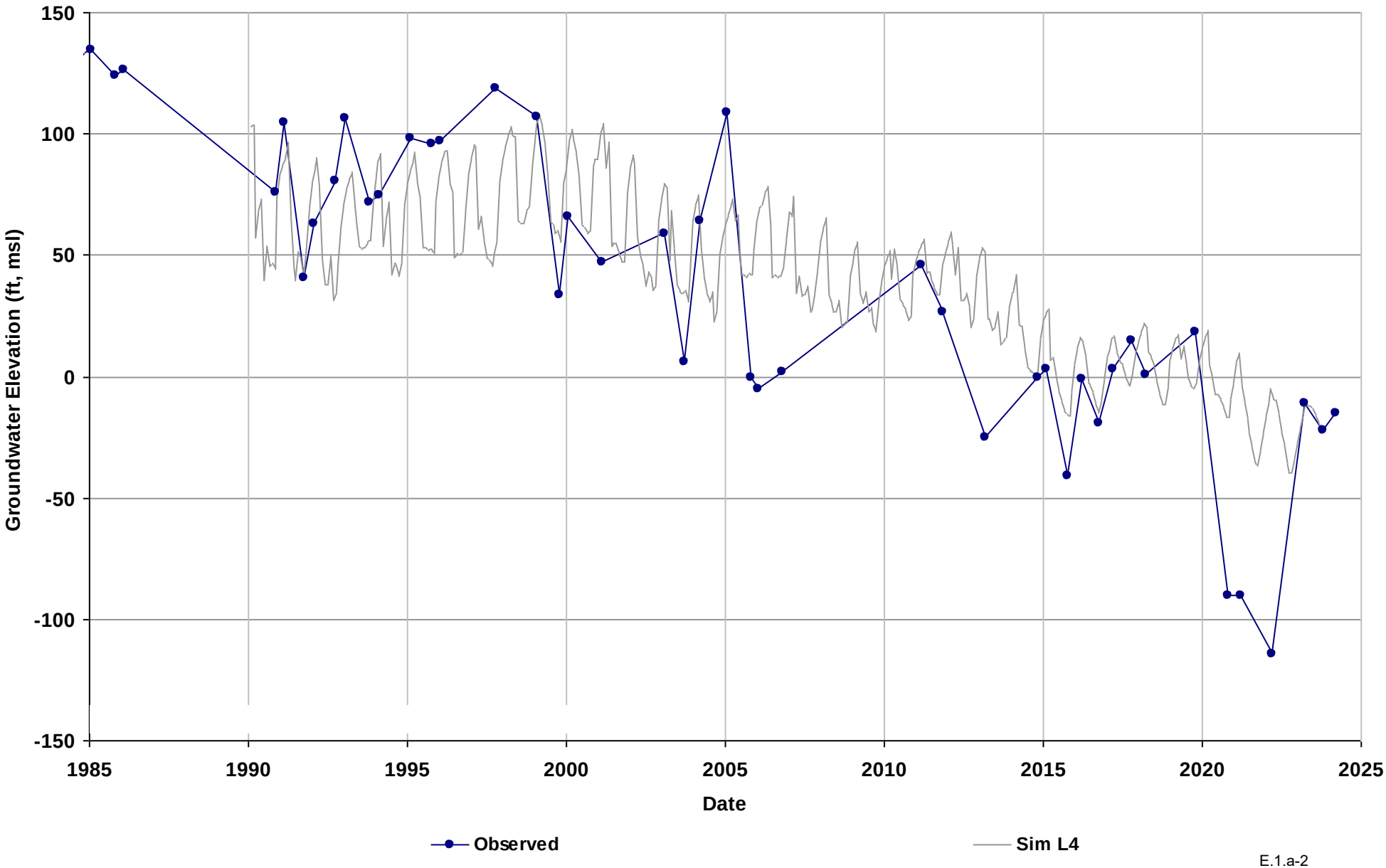
LSCE

APPENDIX E.1.a

Chowchilla Subbasin Groundwater Elevation Hydrographs for RMS Wells - Historical Scenario

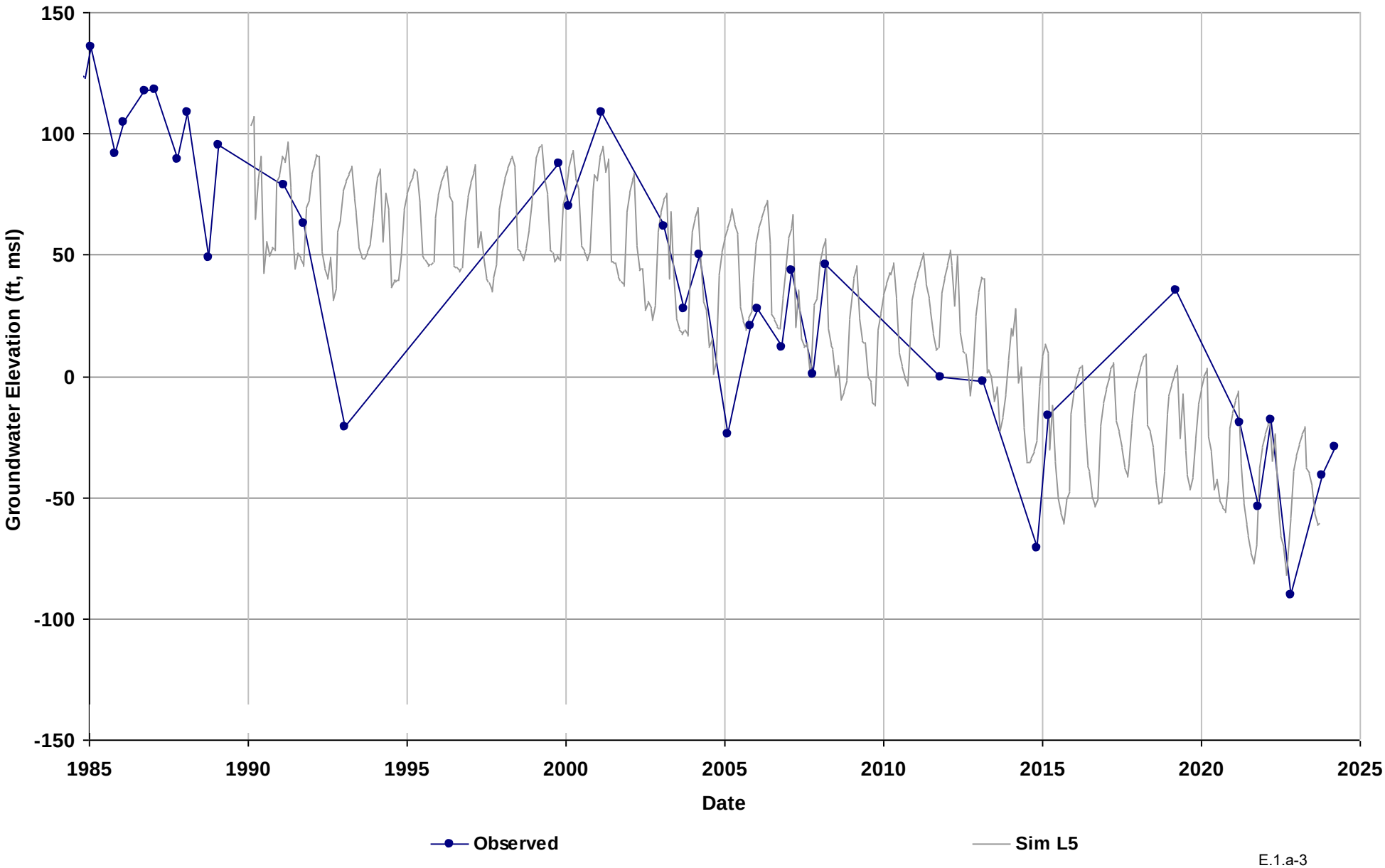
RMS ID: CWD RMS-1
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 168

Total Depth (ft): 275
Perf Top (ft): 160
Perf Bottom (ft): 275
Top Model Layer: 4
Bottom Model Layer: 4



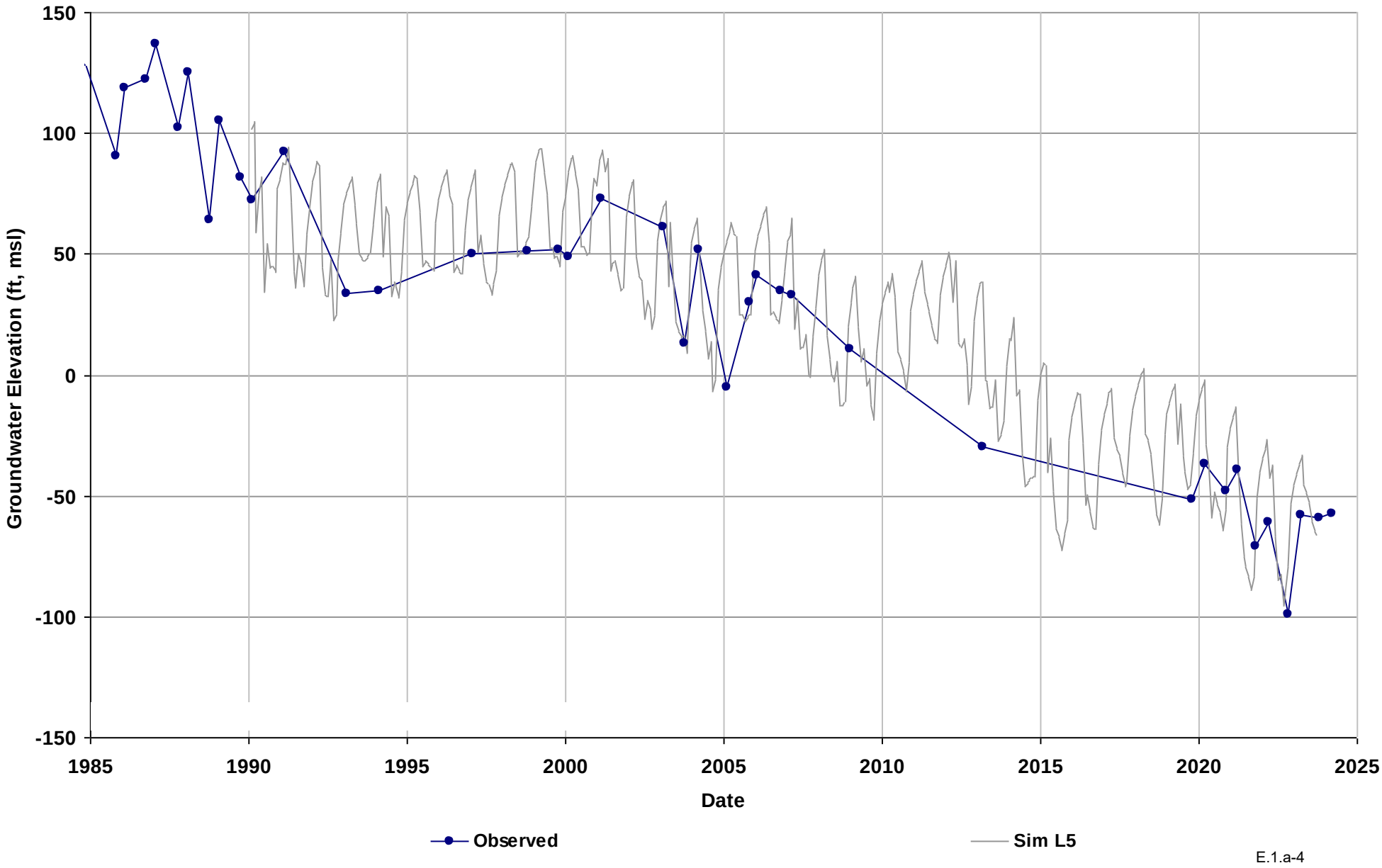
RMS ID: CWD RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 5
Bottom Model Layer: 5



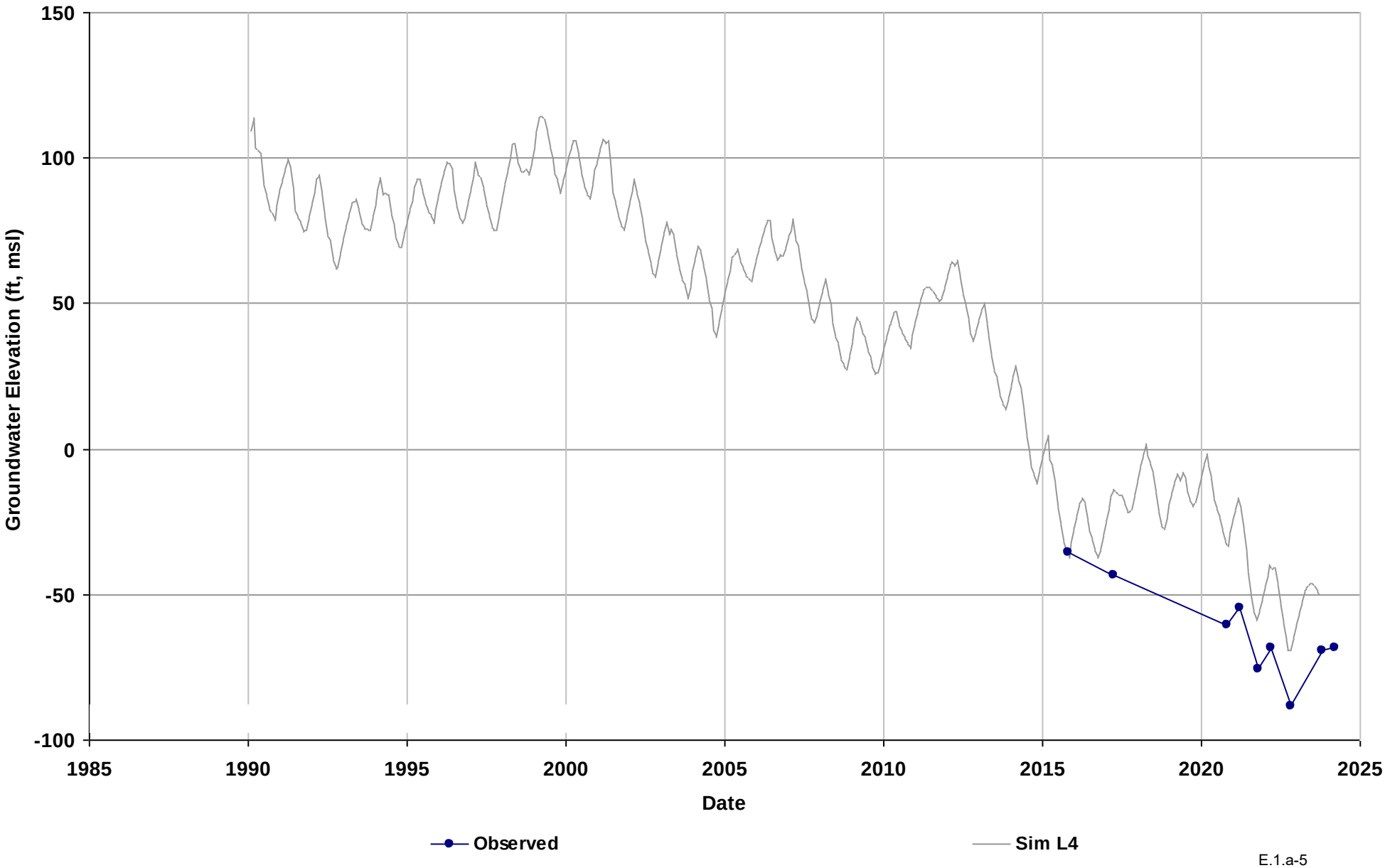
RMS ID: CWD RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 206

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



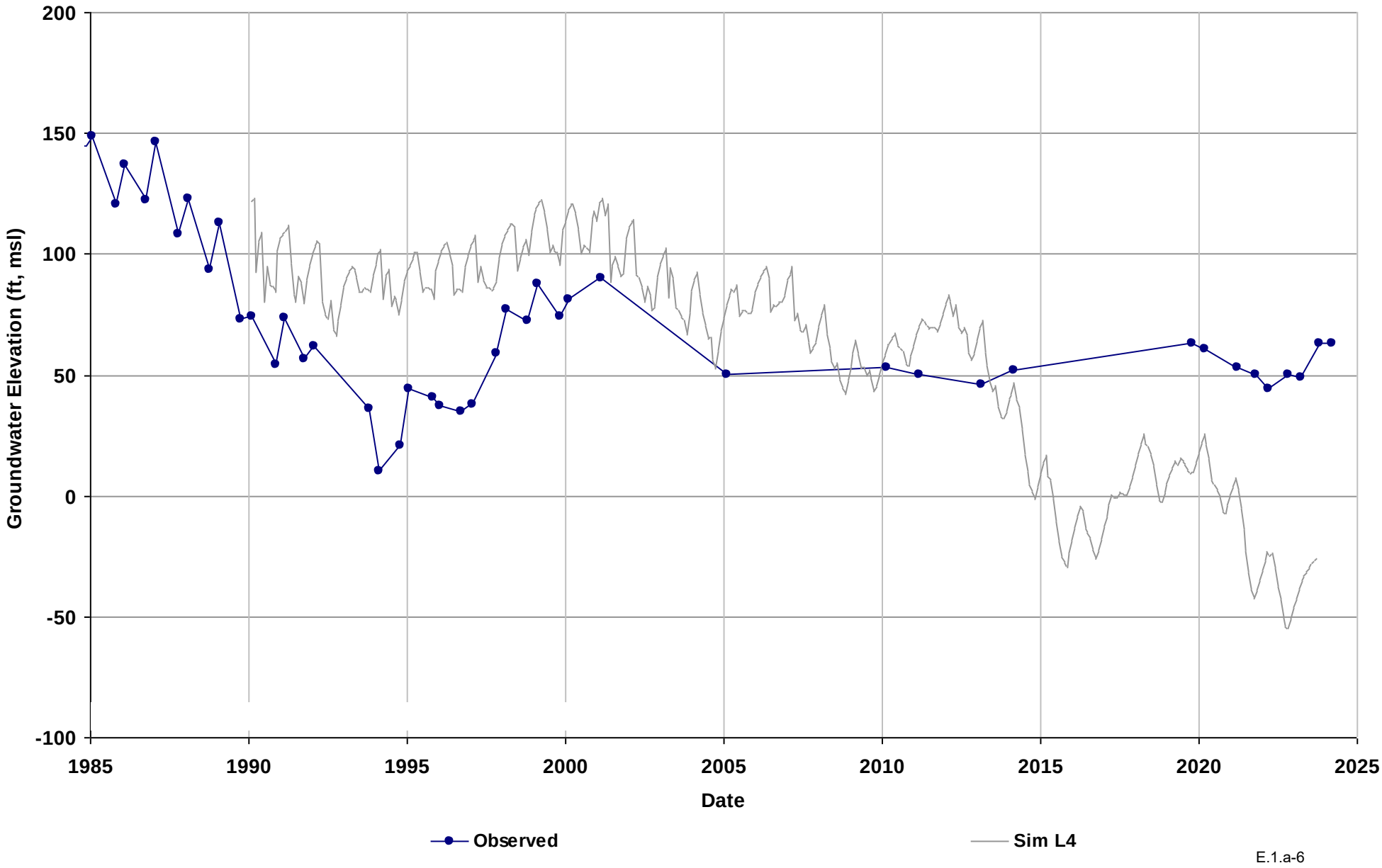
RMS ID: CWD RMS-4
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft): 800
Perf Top (ft): 320
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



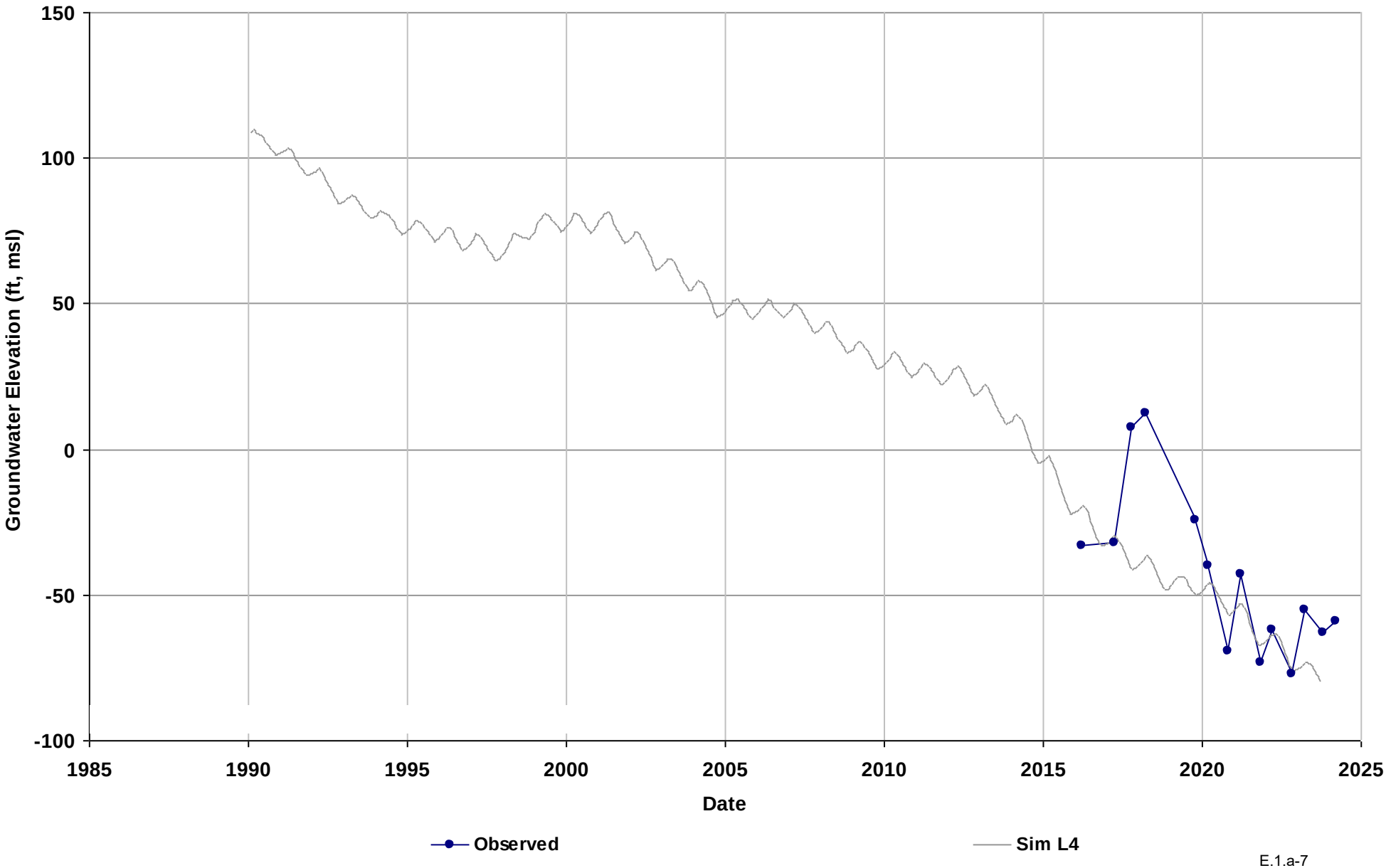
RMS ID: CWD RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 207

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



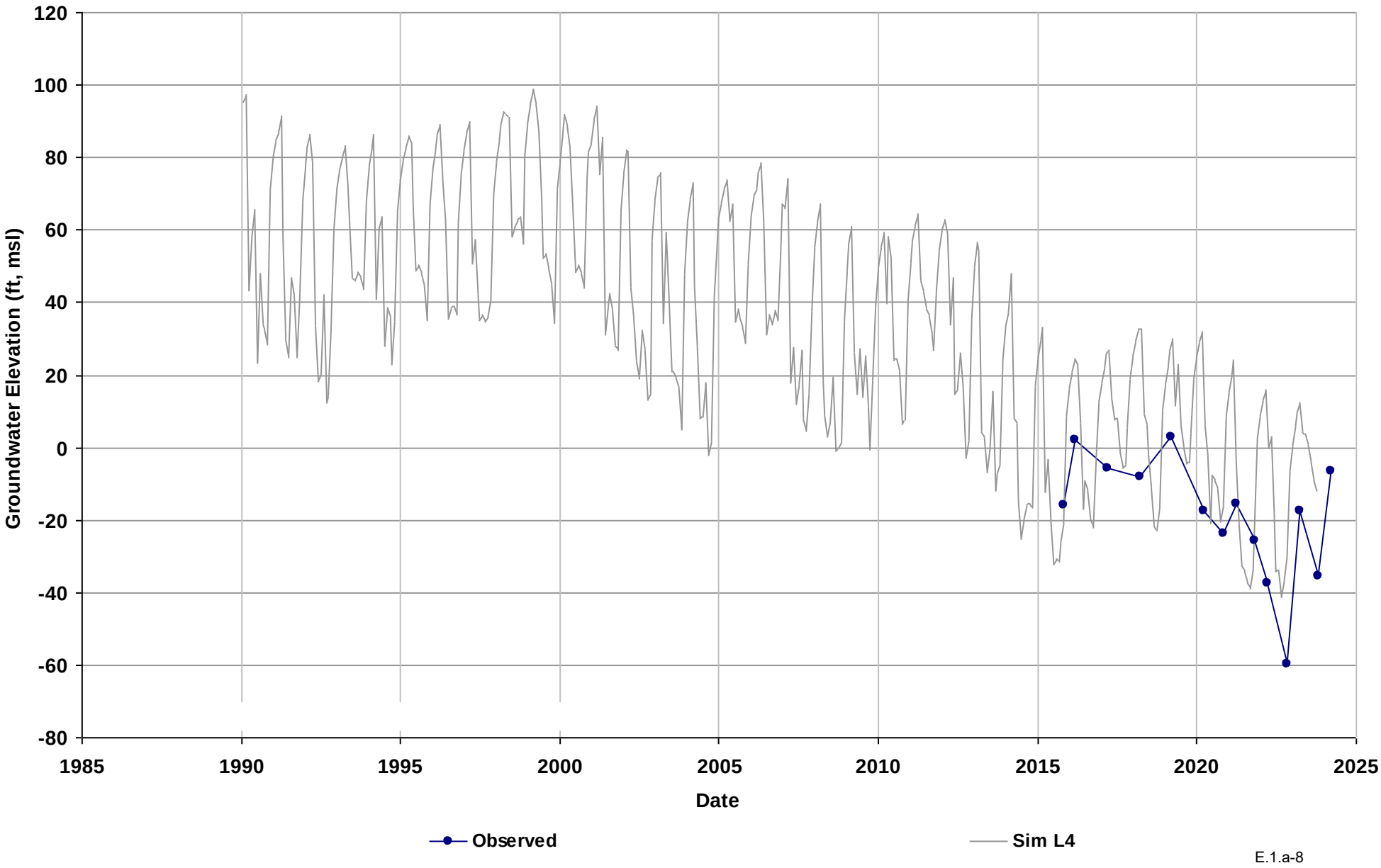
RMS ID: CWD RMS-6
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 275

Total Depth (ft): 820
Perf Top (ft): 257
Perf Bottom (ft): 726
Top Model Layer: 4
Bottom Model Layer: 4



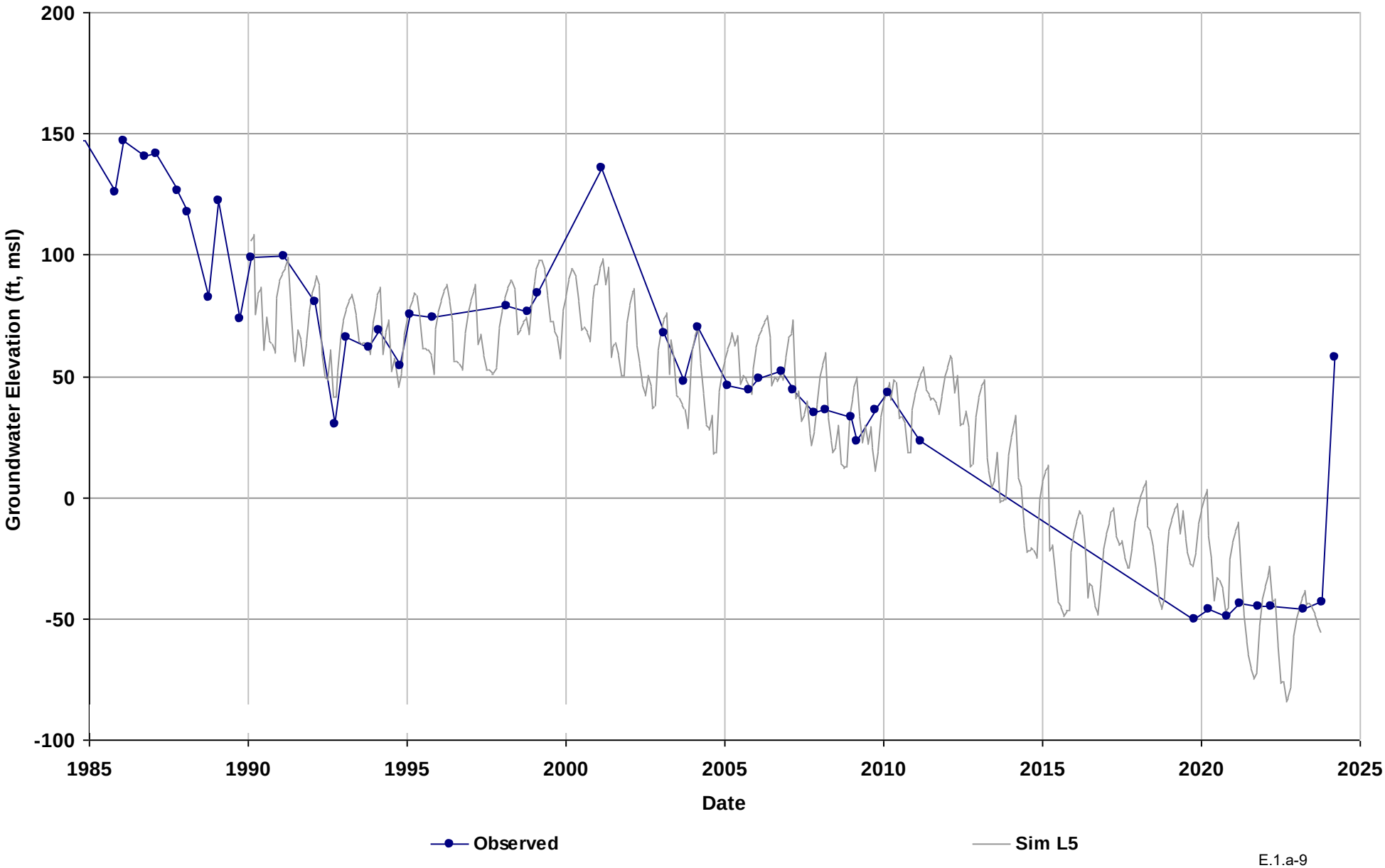
RMS ID: CWD RMS-7
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 169

Total Depth (ft): 330
Perf Top (ft): 135
Perf Bottom (ft): 288
Top Model Layer: 4
Bottom Model Layer: 4



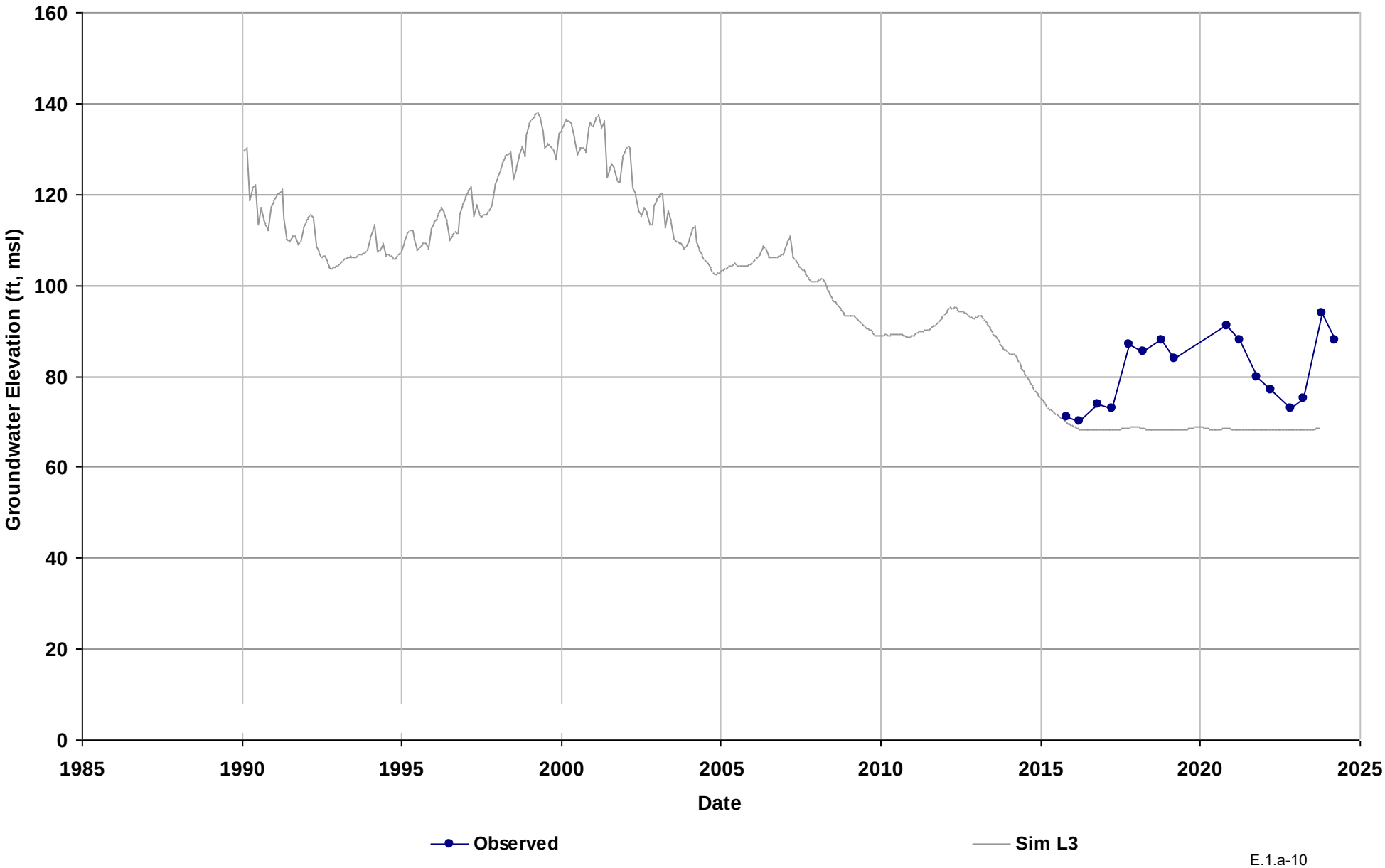
RMS ID: CWD RMS-8
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 219

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



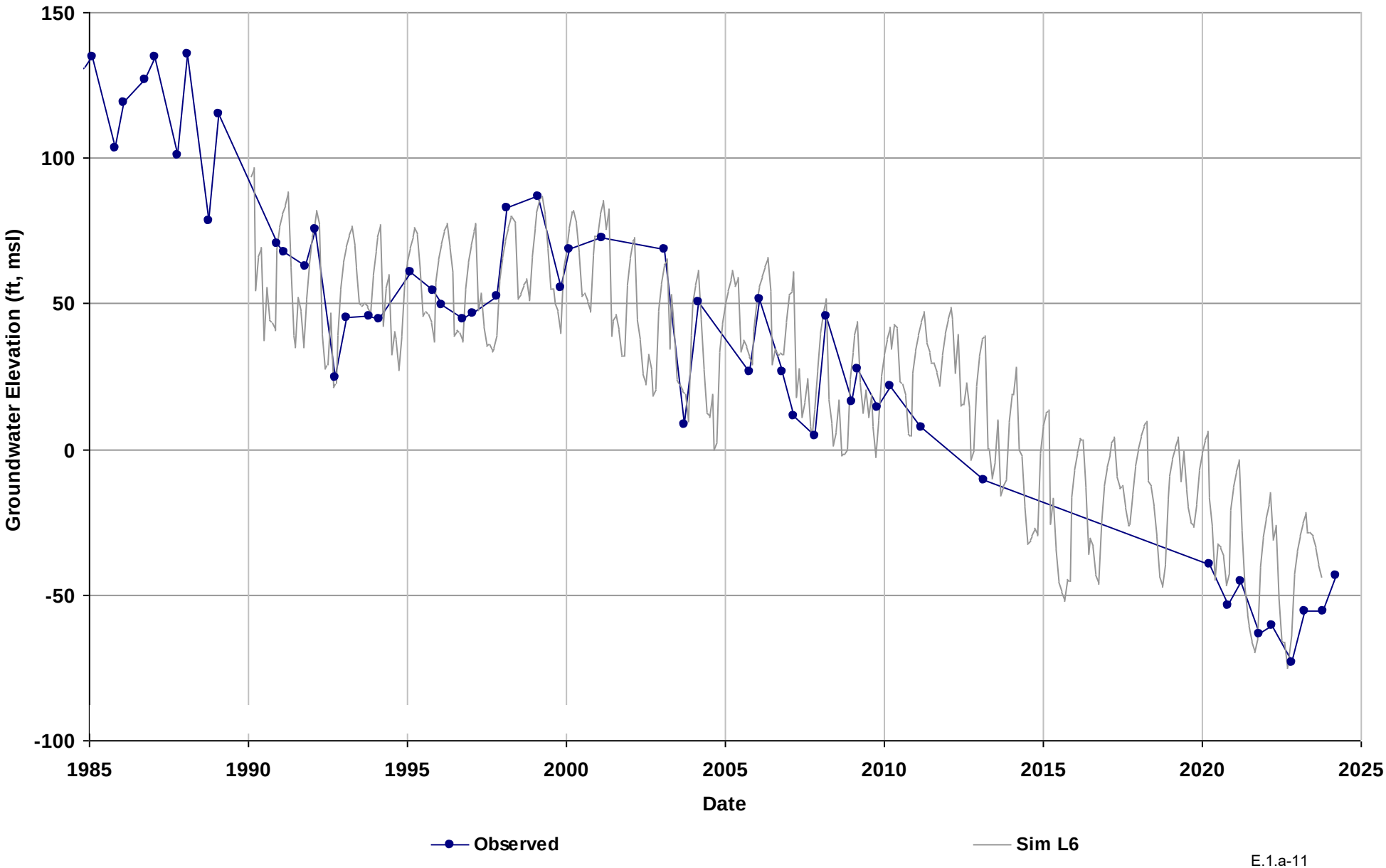
RMS ID: CWD RMS-9
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 164

Total Depth (ft): 97
Perf Top (ft): 82
Perf Bottom (ft): 97
Top Model Layer: 3
Bottom Model Layer: 3



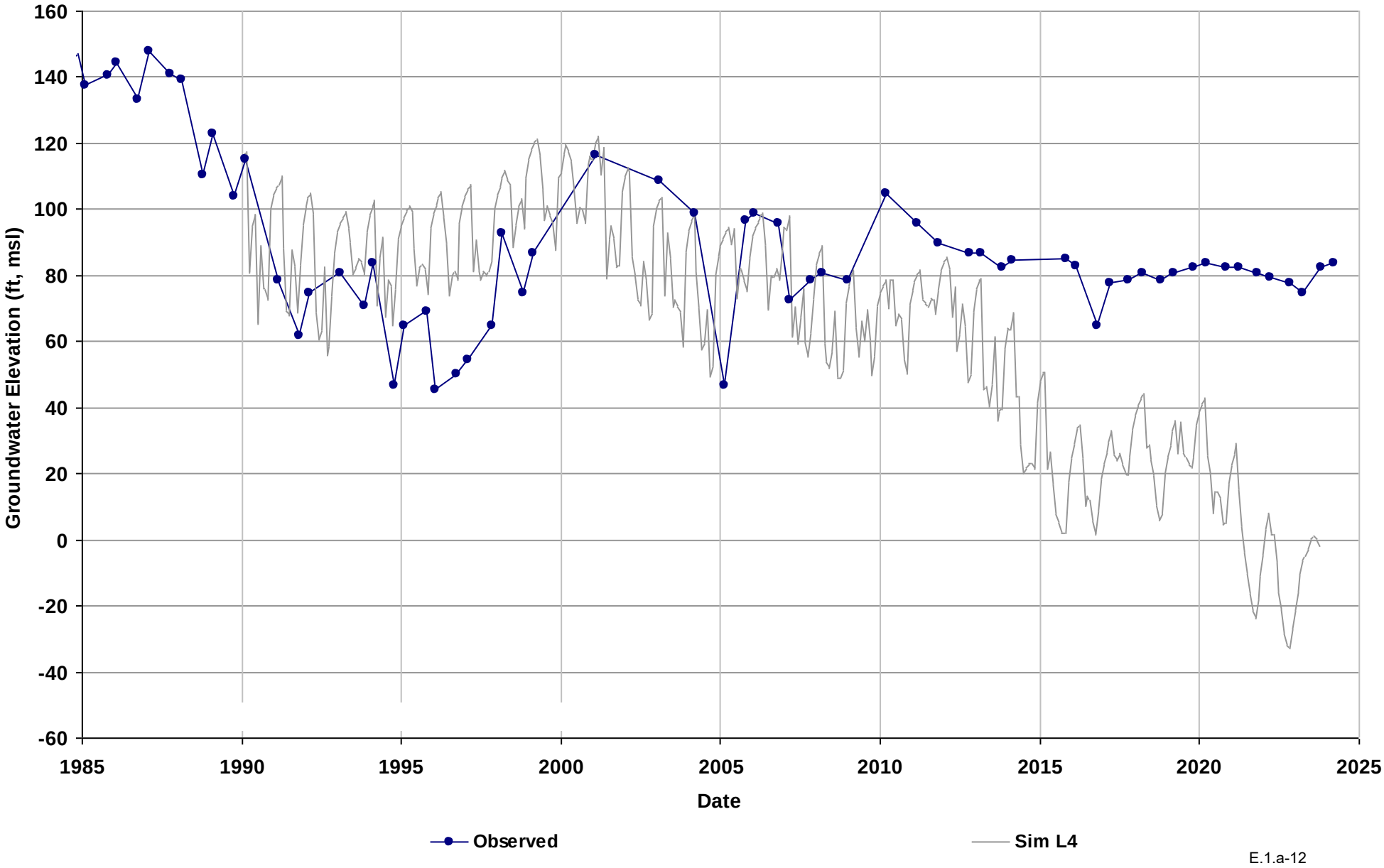
RMS ID: CWD RMS-10
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 182

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



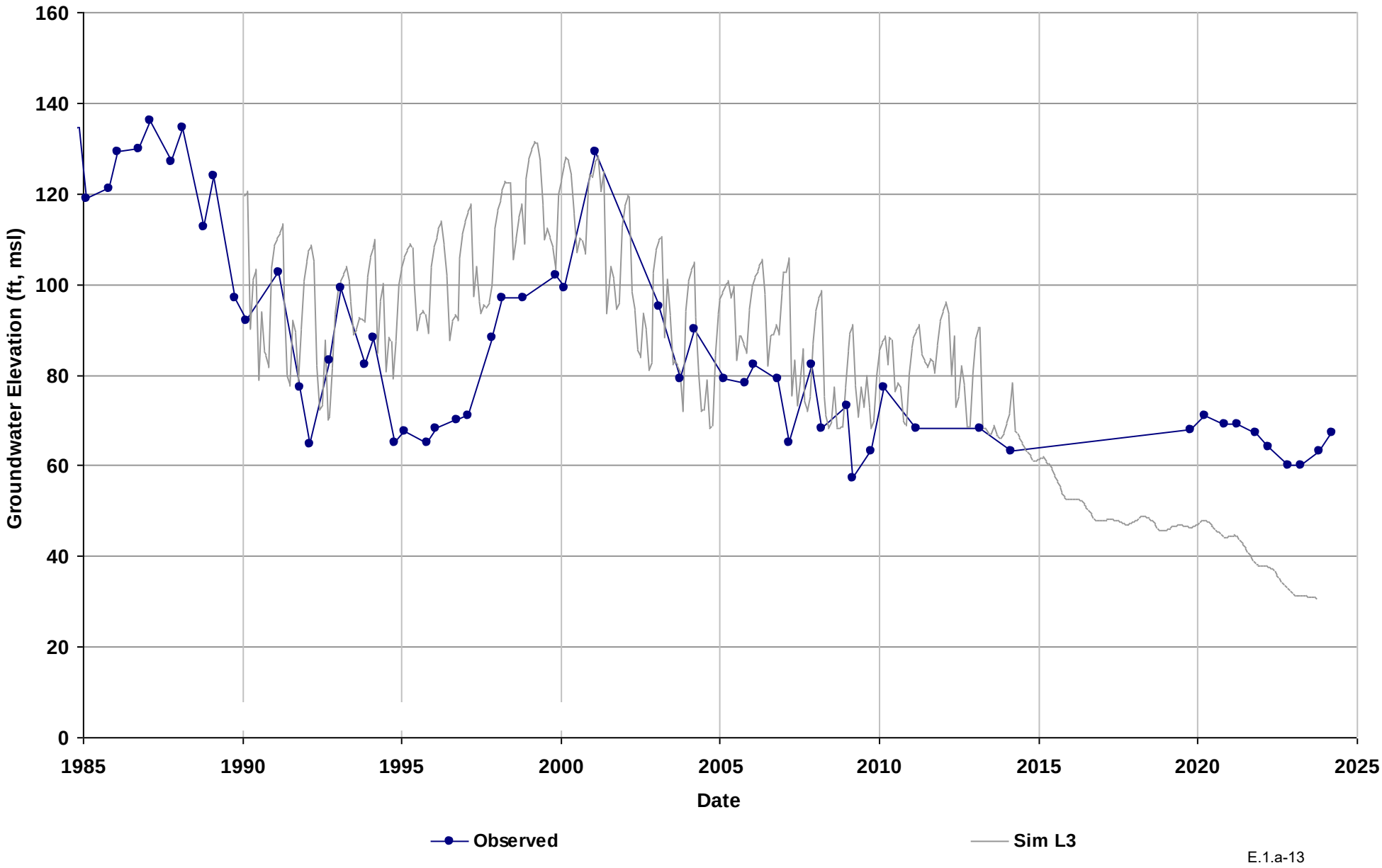
RMS ID: CWD RMS-11
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 199

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



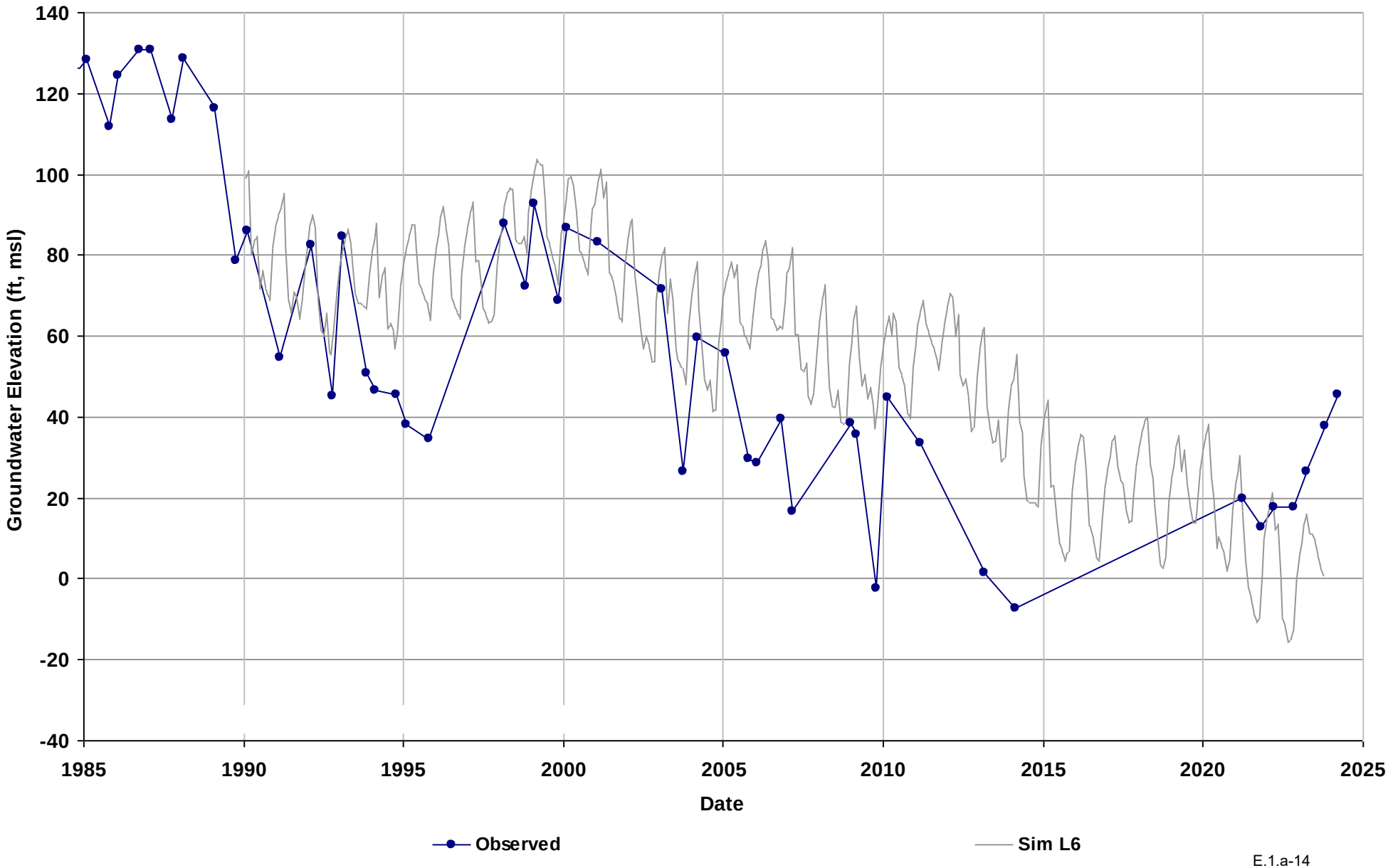
RMS ID: CWD RMS-12
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 176

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



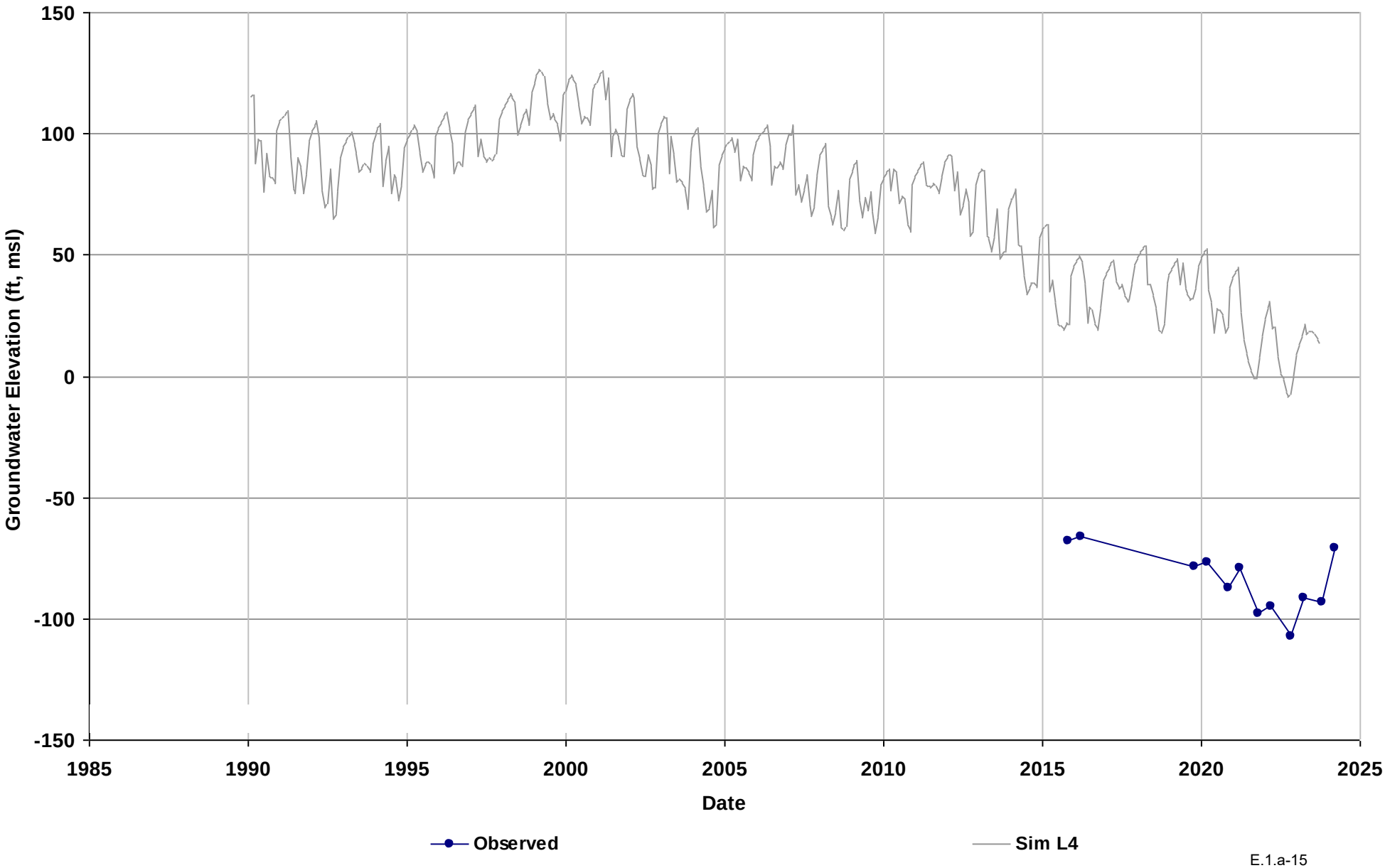
RMS ID: CWD RMS-13
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 167

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



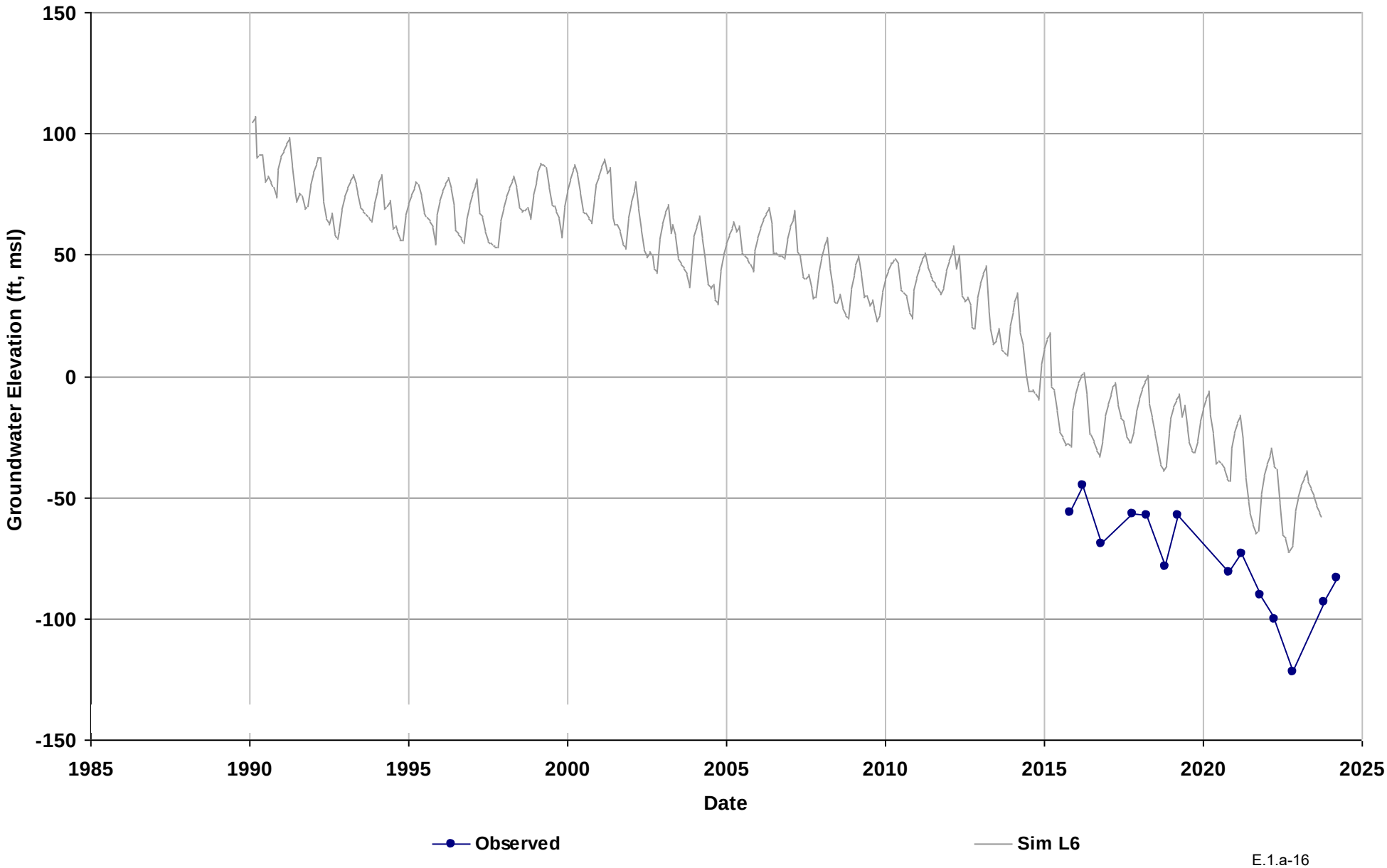
RMS ID: CWD RMS-14
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 152

Total Depth (ft): 455
Perf Top (ft): 185
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



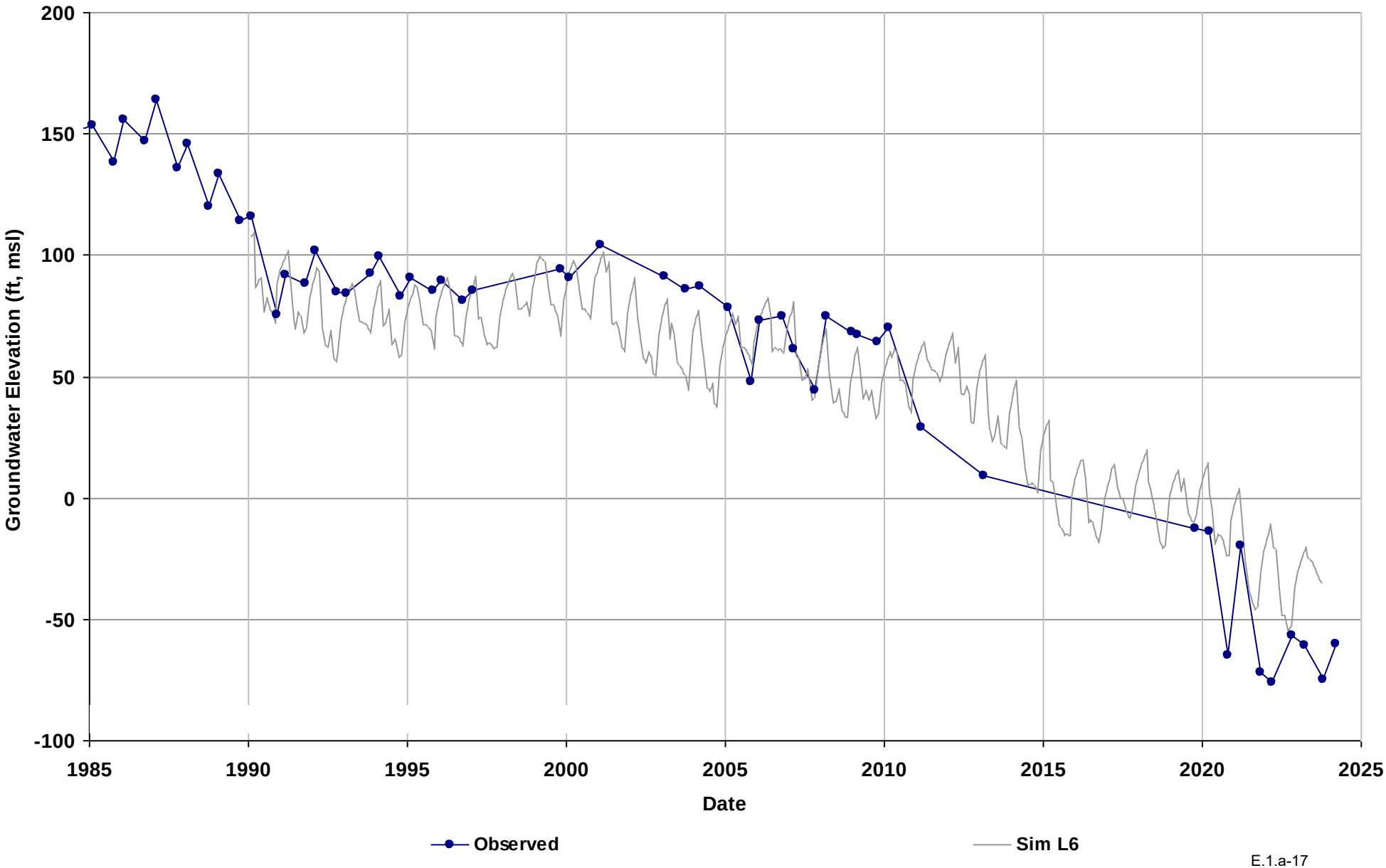
RMS ID: CWD RMS-15
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 213

Total Depth (ft): 955
Perf Top (ft): 290
Perf Bottom (ft): 935
Top Model Layer: 6
Bottom Model Layer: 6



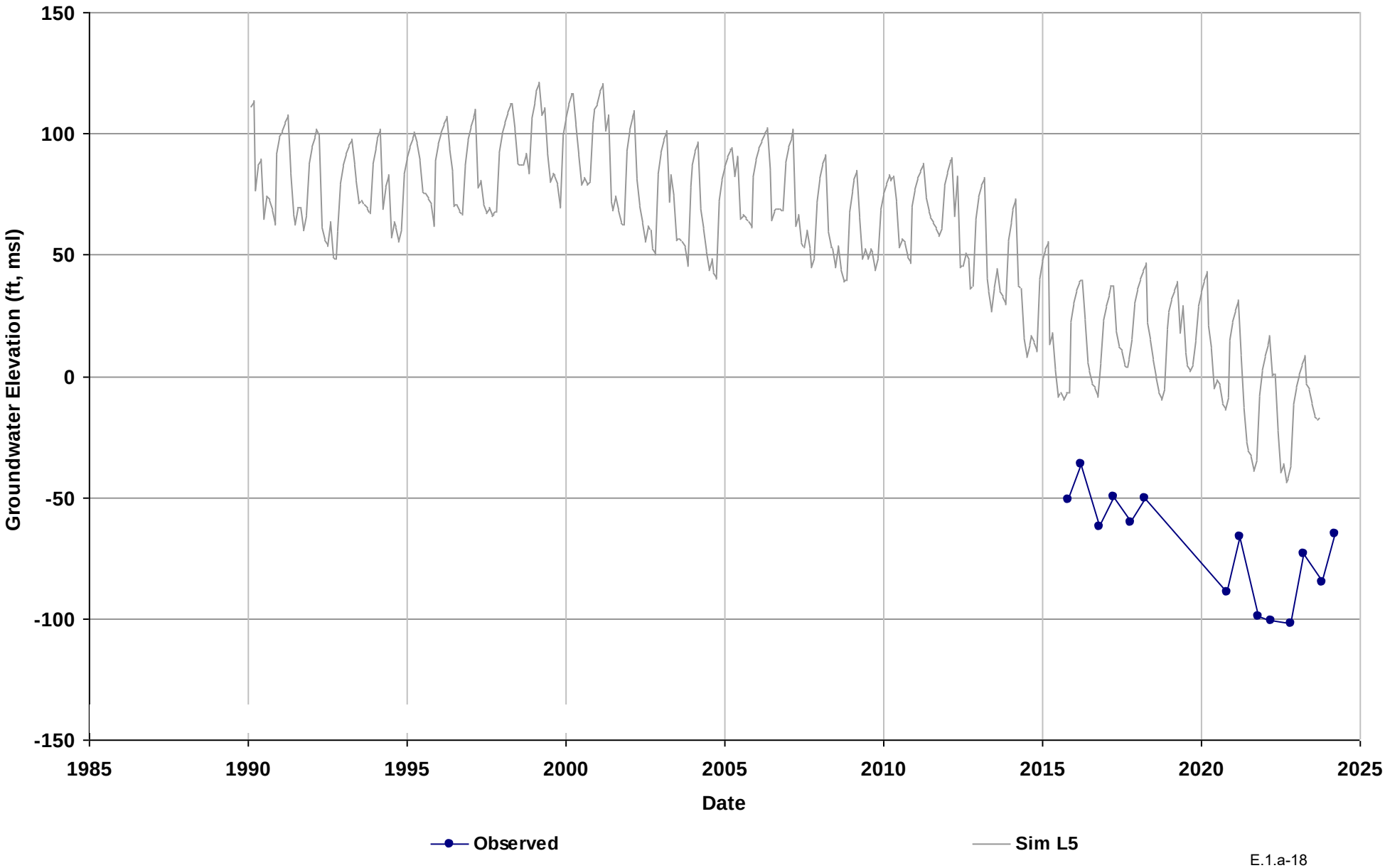
RMS ID: CWD RMS-16
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 212

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



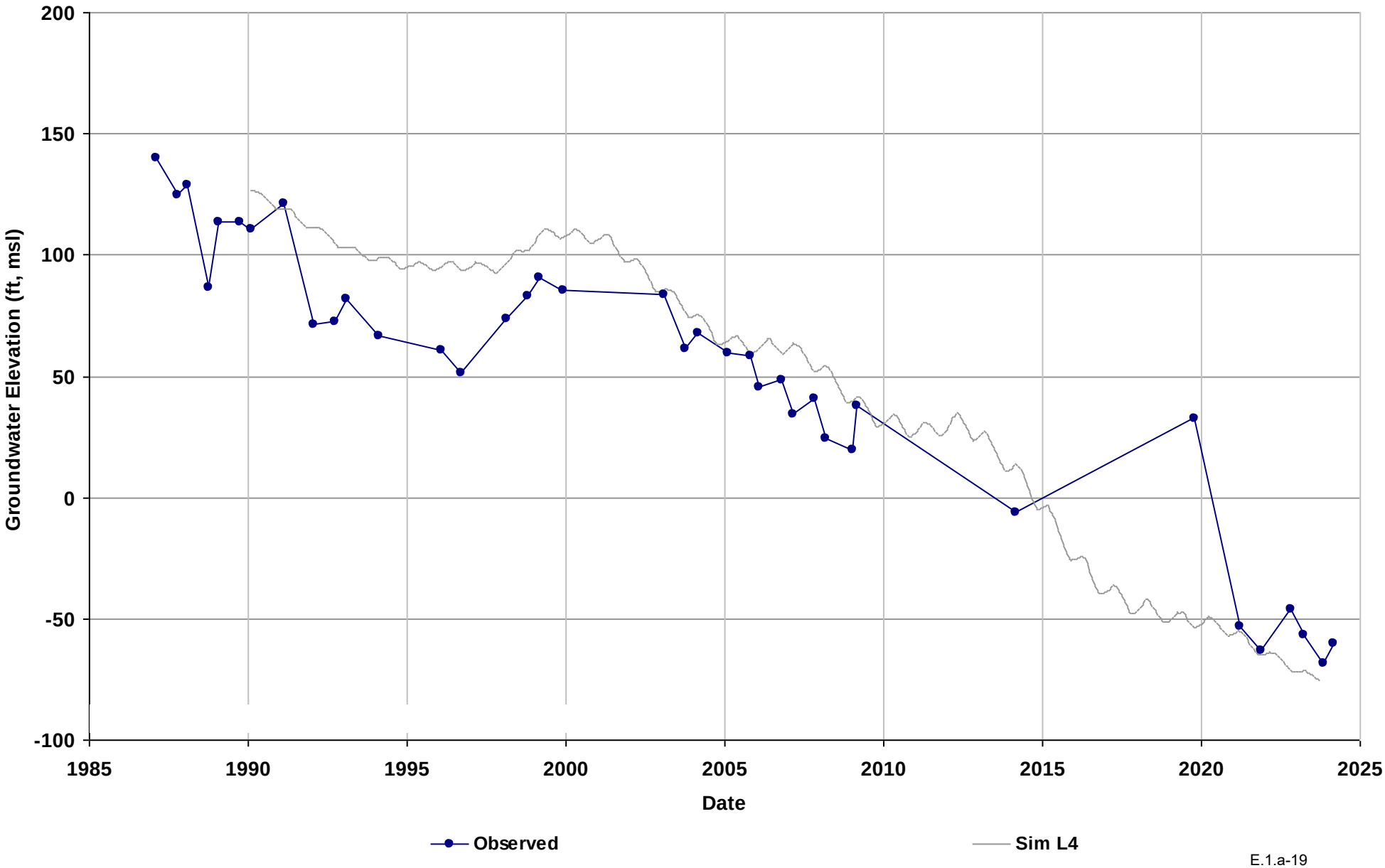
RMS ID: CWD RMS-17
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Total Depth (ft): 624
Perf Top (ft): 278
Perf Bottom (ft): 588
Top Model Layer: 5
Bottom Model Layer: 5



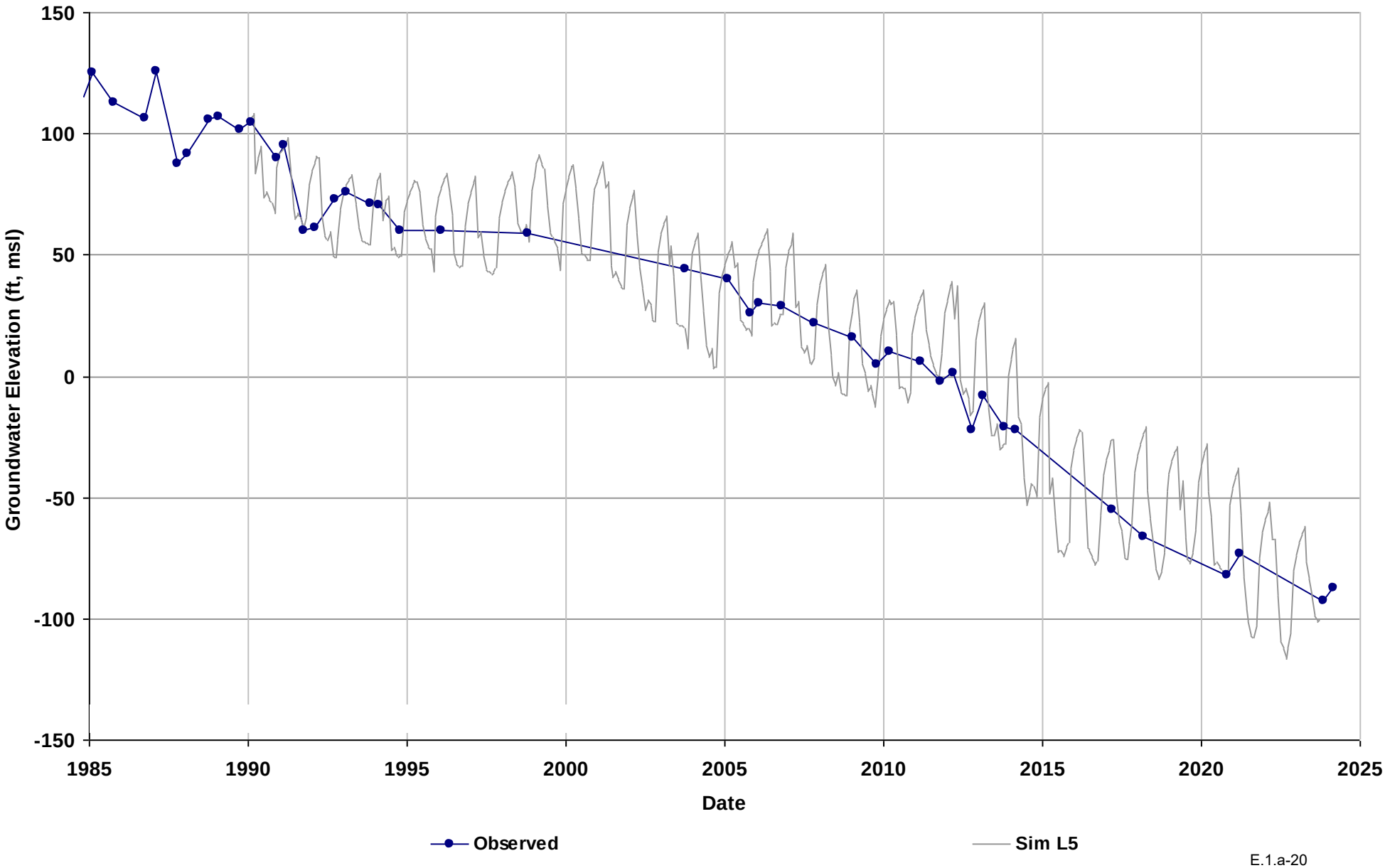
RMS ID: MCE RMS-1
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 276

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



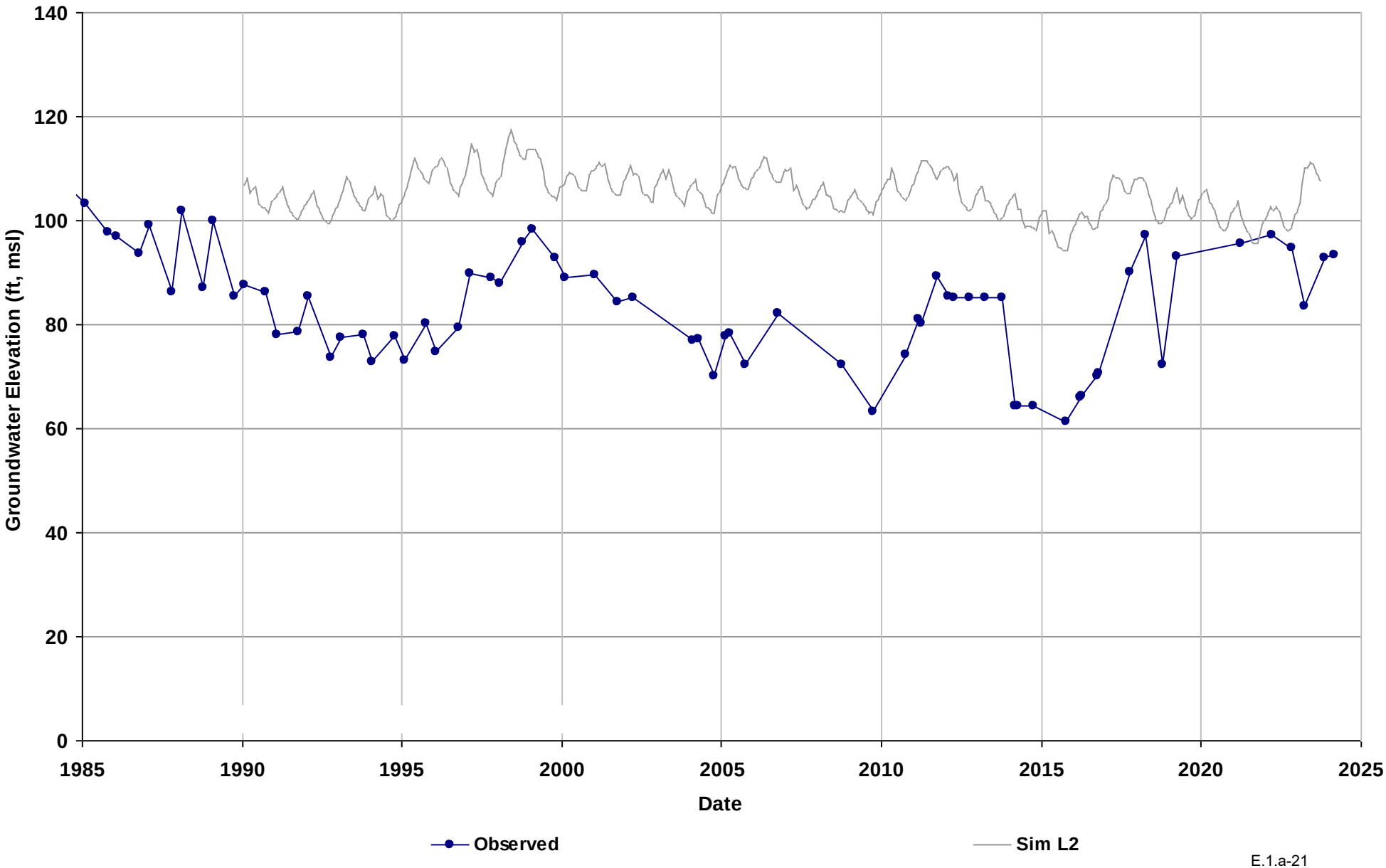
RMS ID: MCE RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 272

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 5
Bottom Model Layer: 5



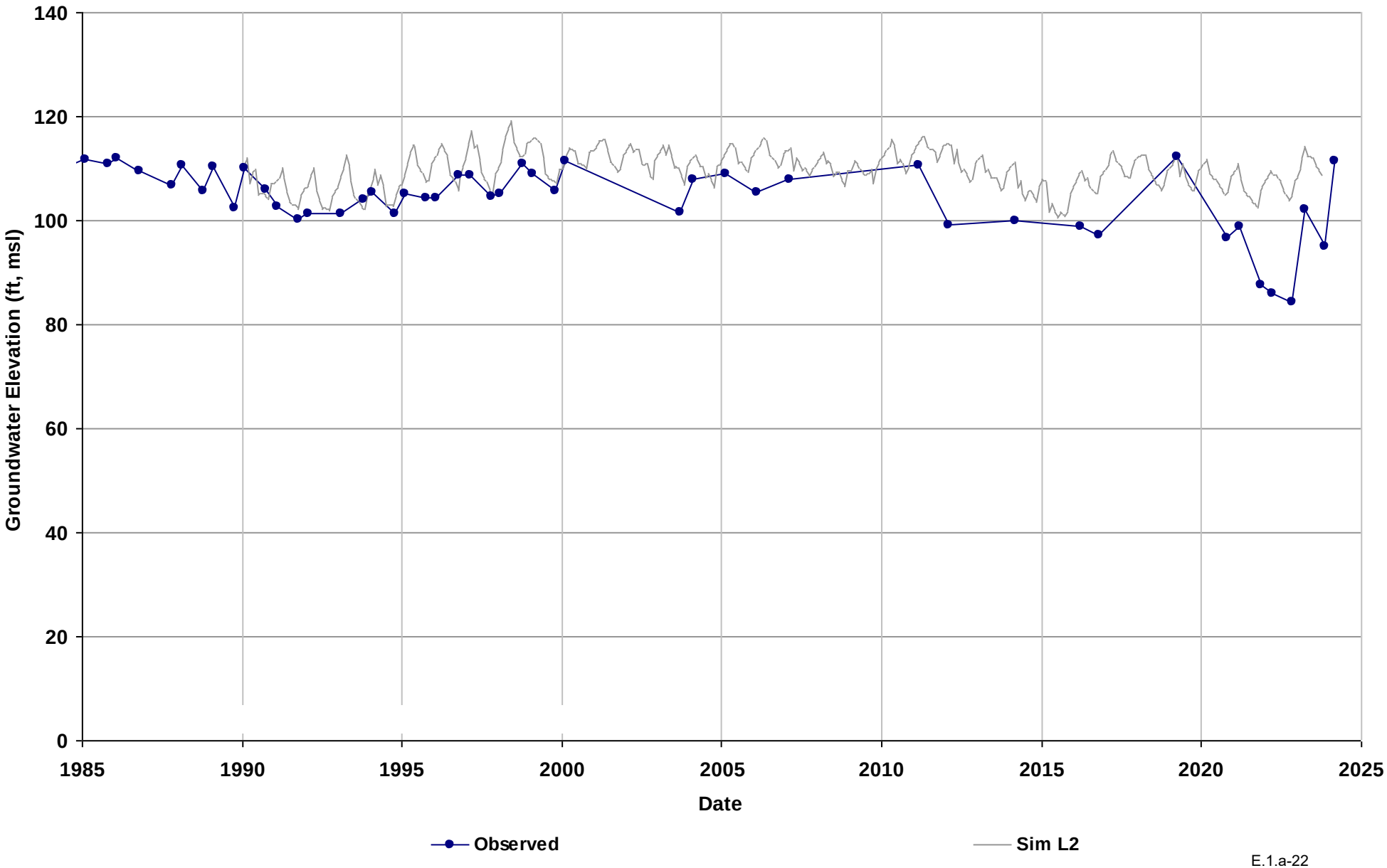
RMS ID: MCW RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 12127

Total Depth (ft): 150
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



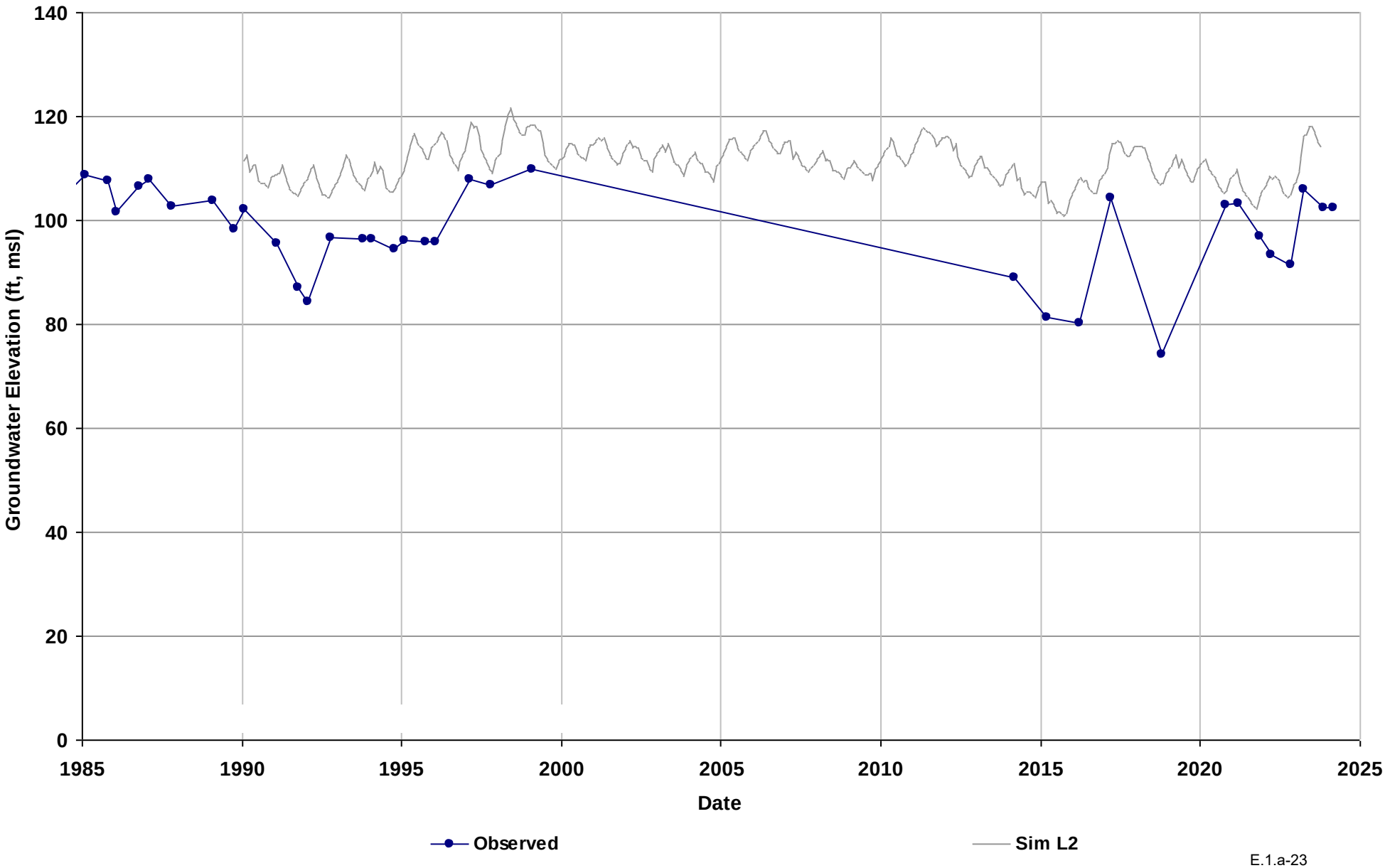
RMS ID: MCW RMS-2
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



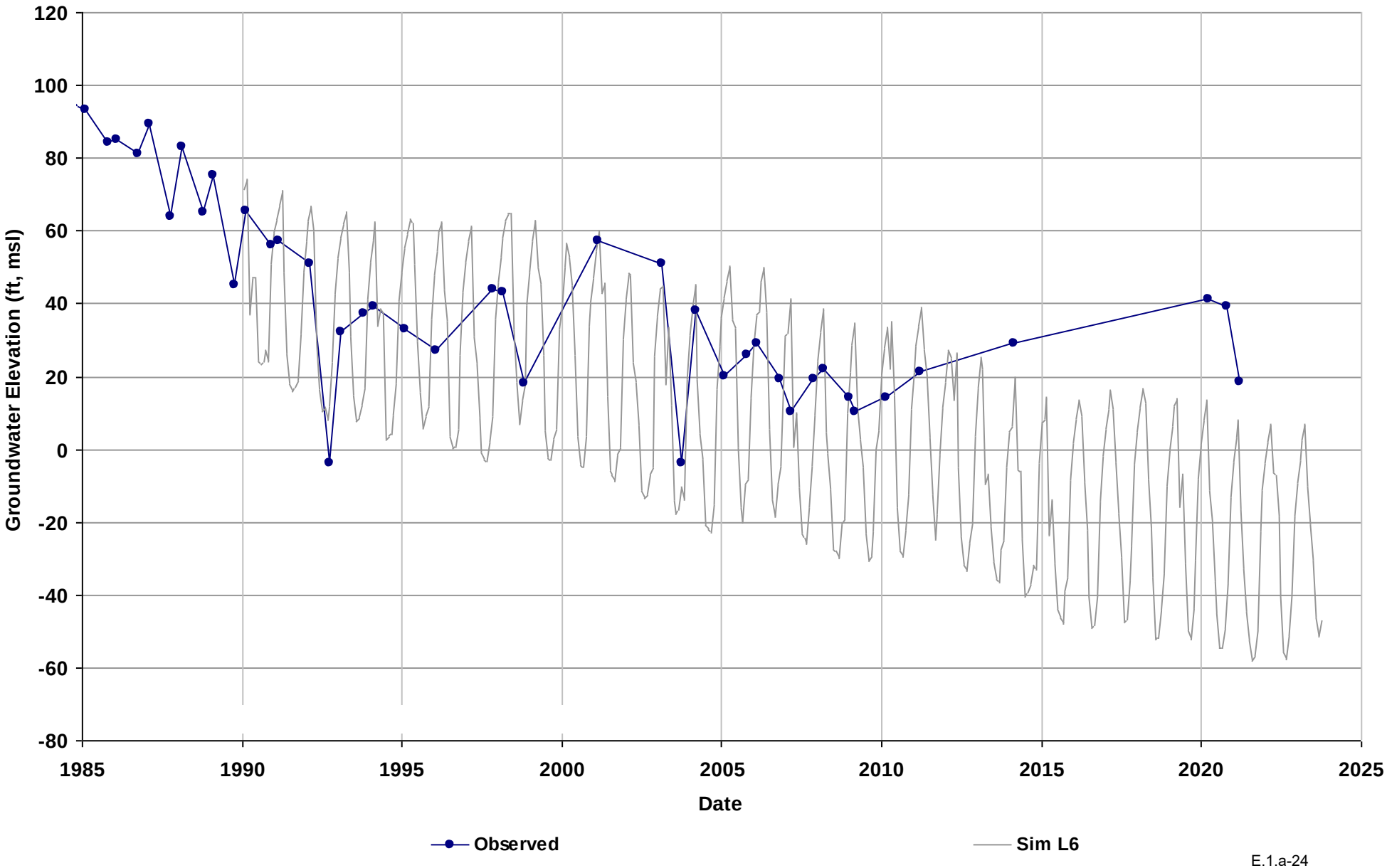
RMS ID: MCW RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



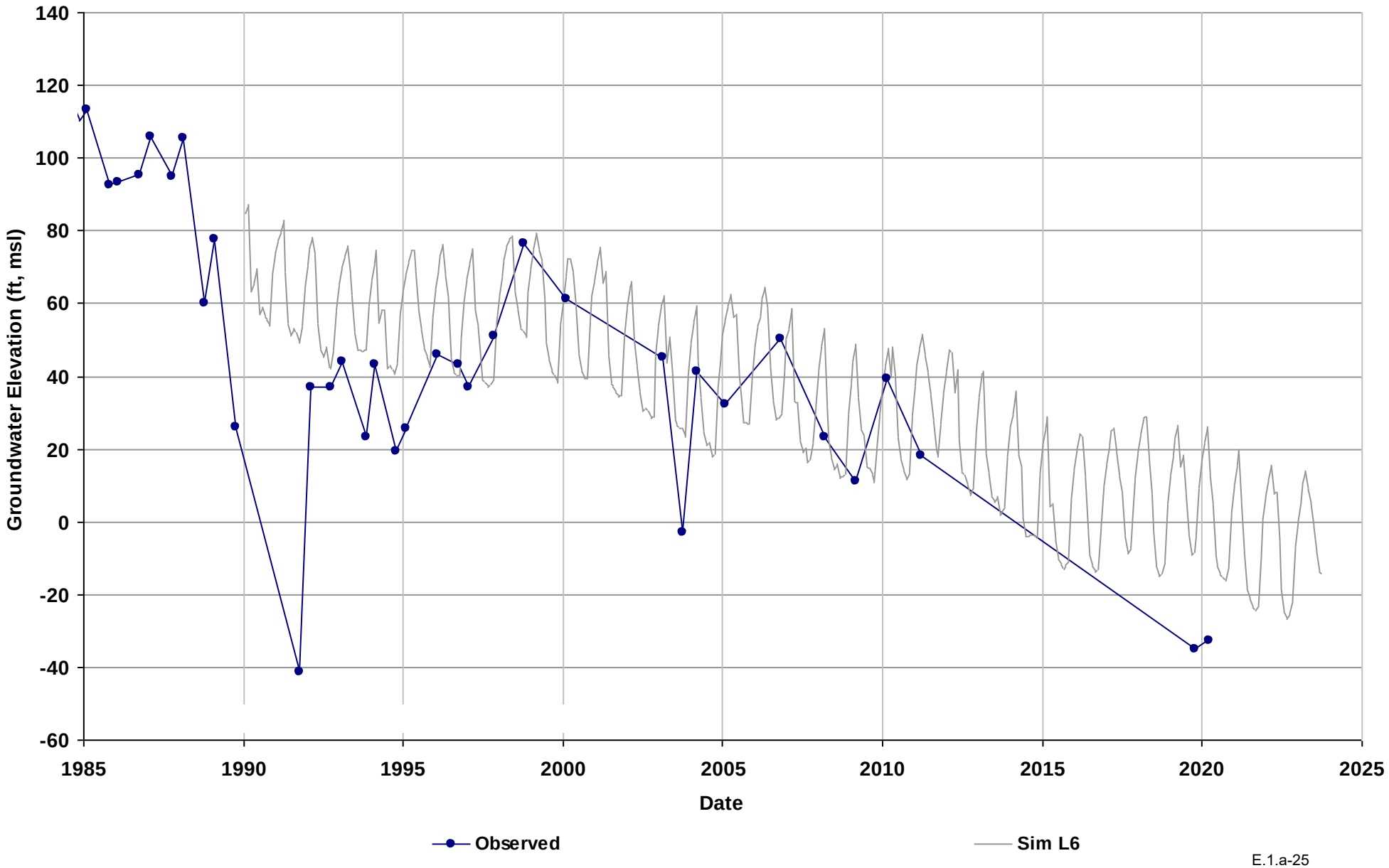
RMS ID: MCW RMS-4
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



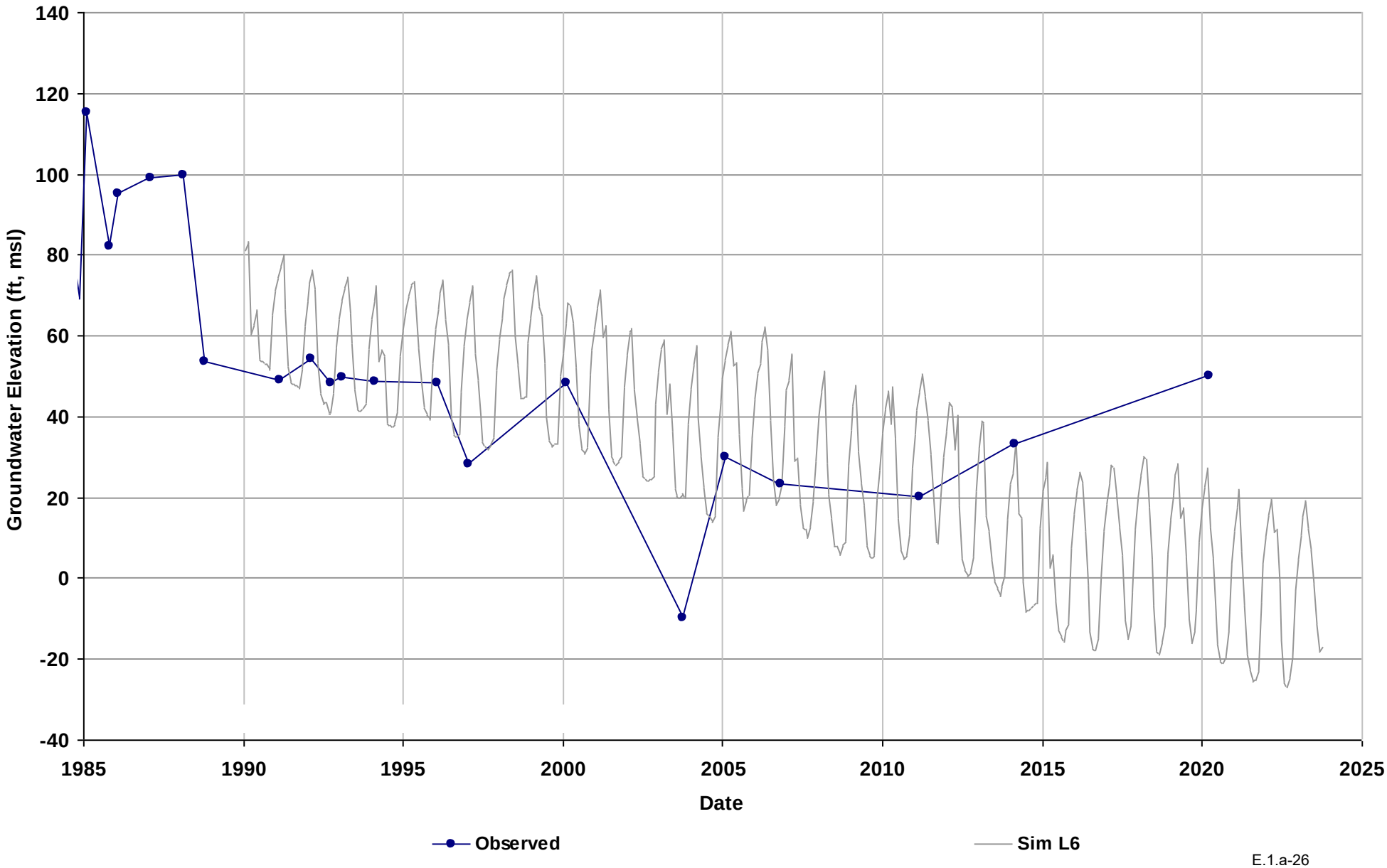
RMS ID: MCW RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 146

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



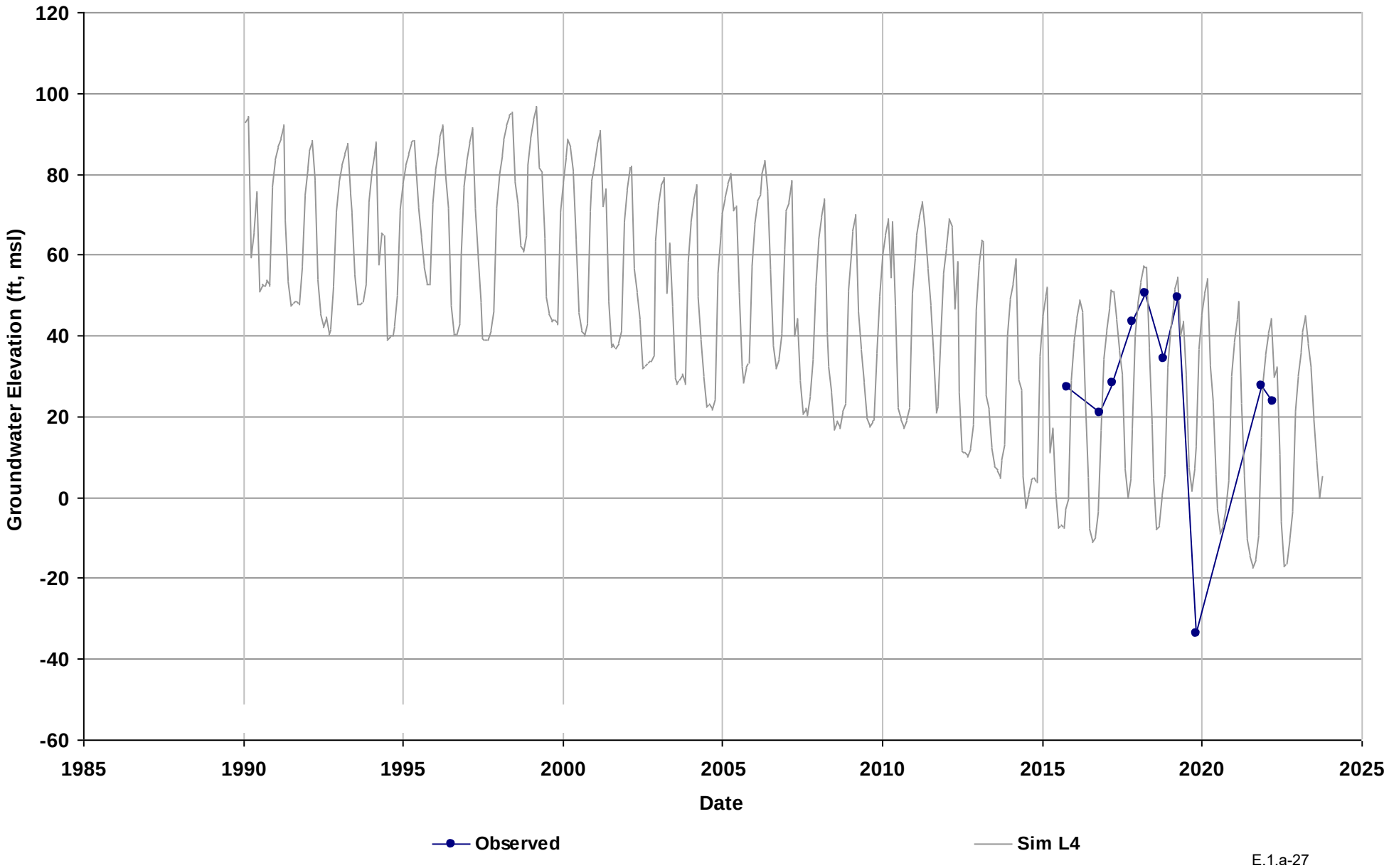
RMS ID: MCW RMS-6
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 139

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



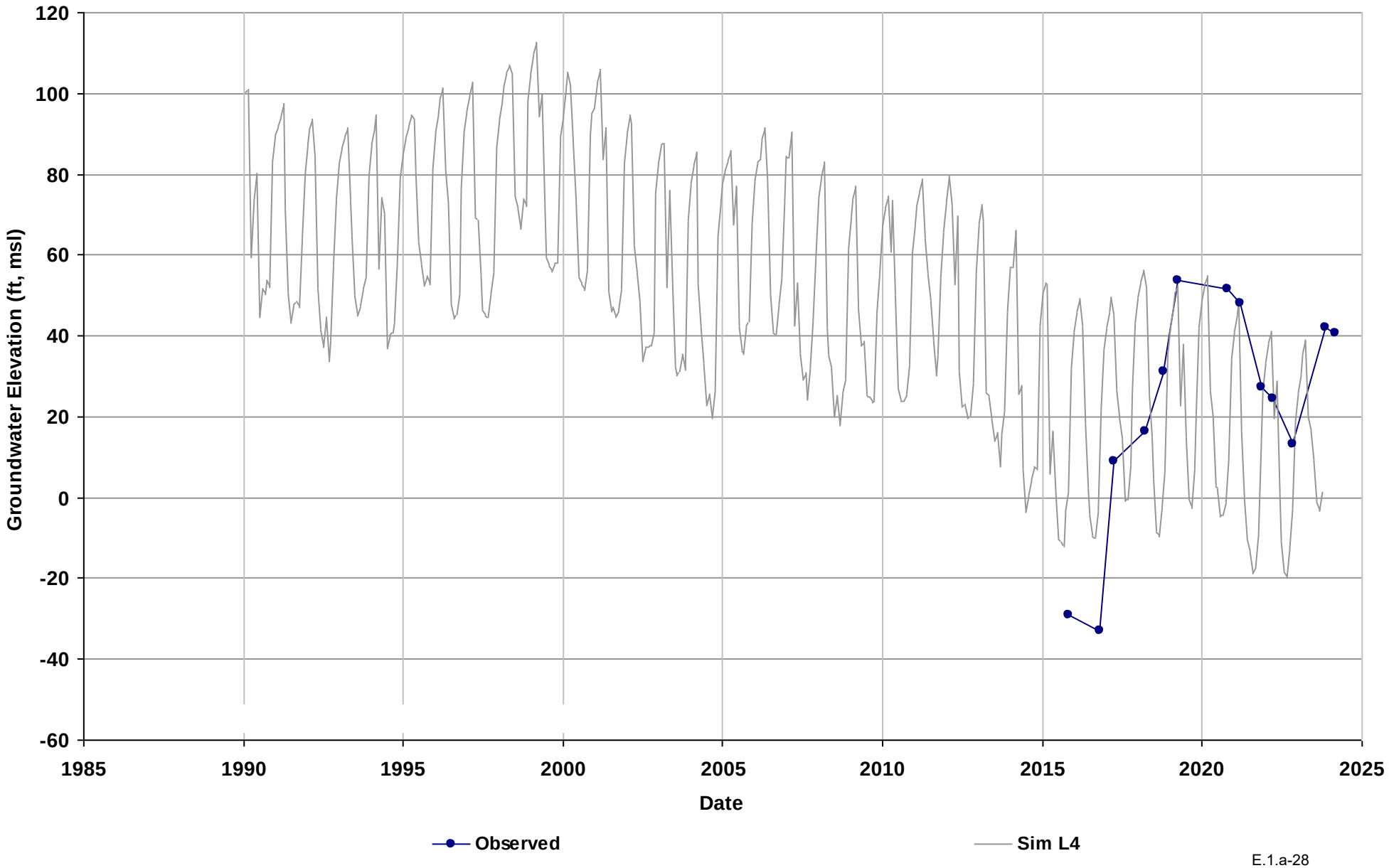
RMS ID: MCW RMS-7
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 138

Total Depth (ft): 800
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



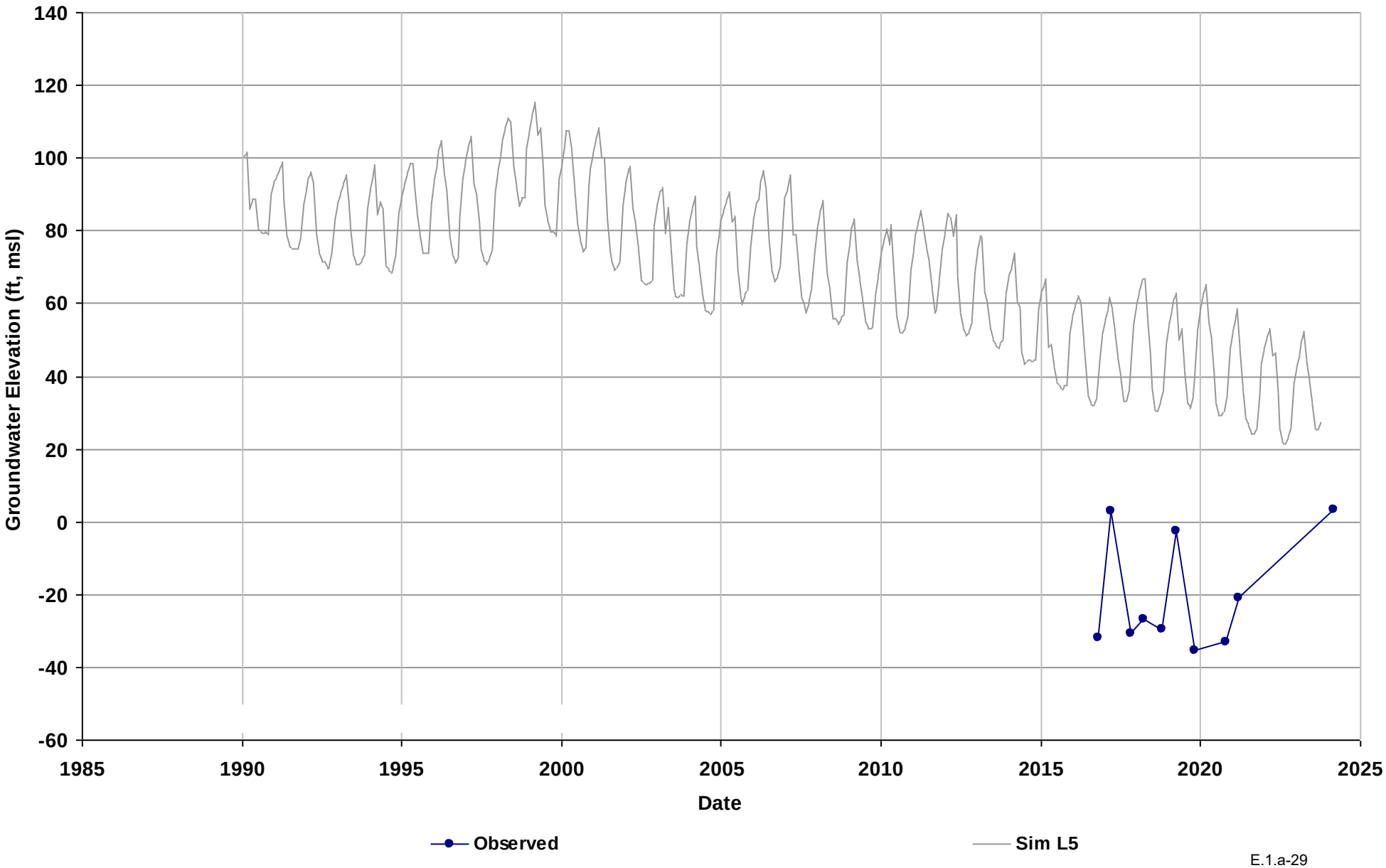
RMS ID: MCW RMS-8
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 142

Total Depth (ft): 480
Perf Top (ft): 160
Perf Bottom (ft): 475
Top Model Layer: 4
Bottom Model Layer: 4



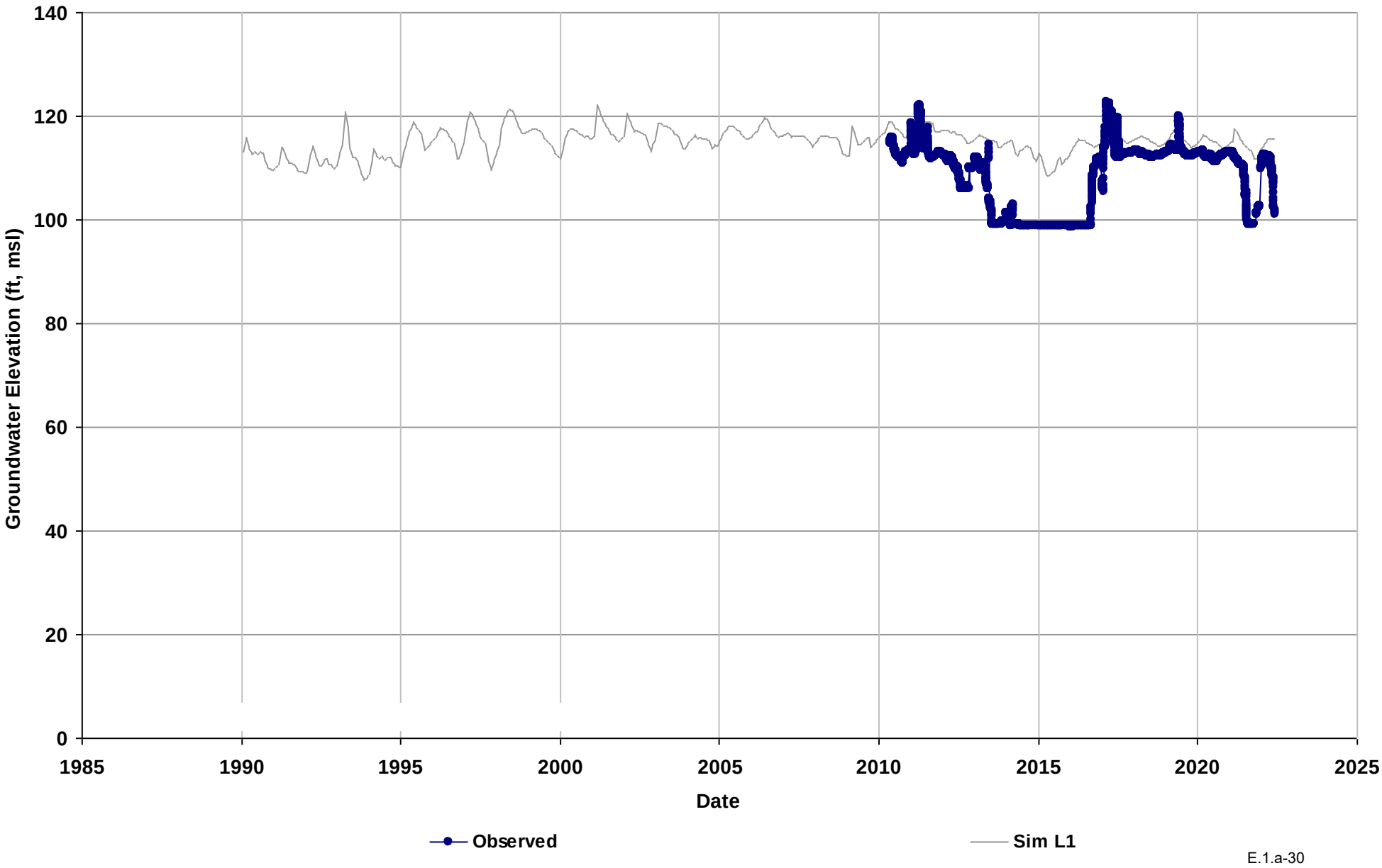
RMS ID: MCW RMS-9
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 155

Total Depth (ft): 700
Perf Top (ft): 265
Perf Bottom (ft): 696
Top Model Layer: 5
Bottom Model Layer: 5



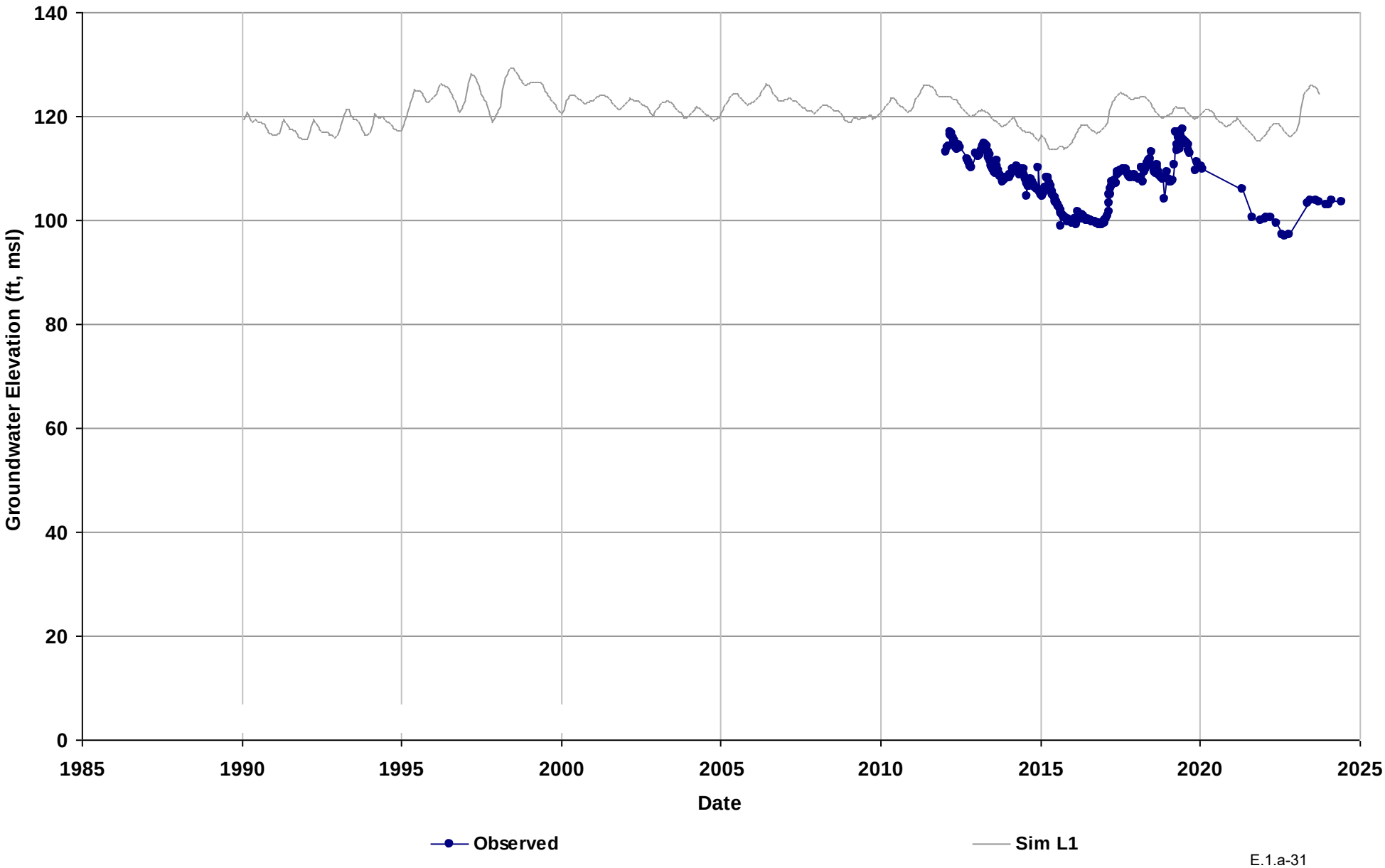
RMS ID: MCW RMS-10
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 26
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



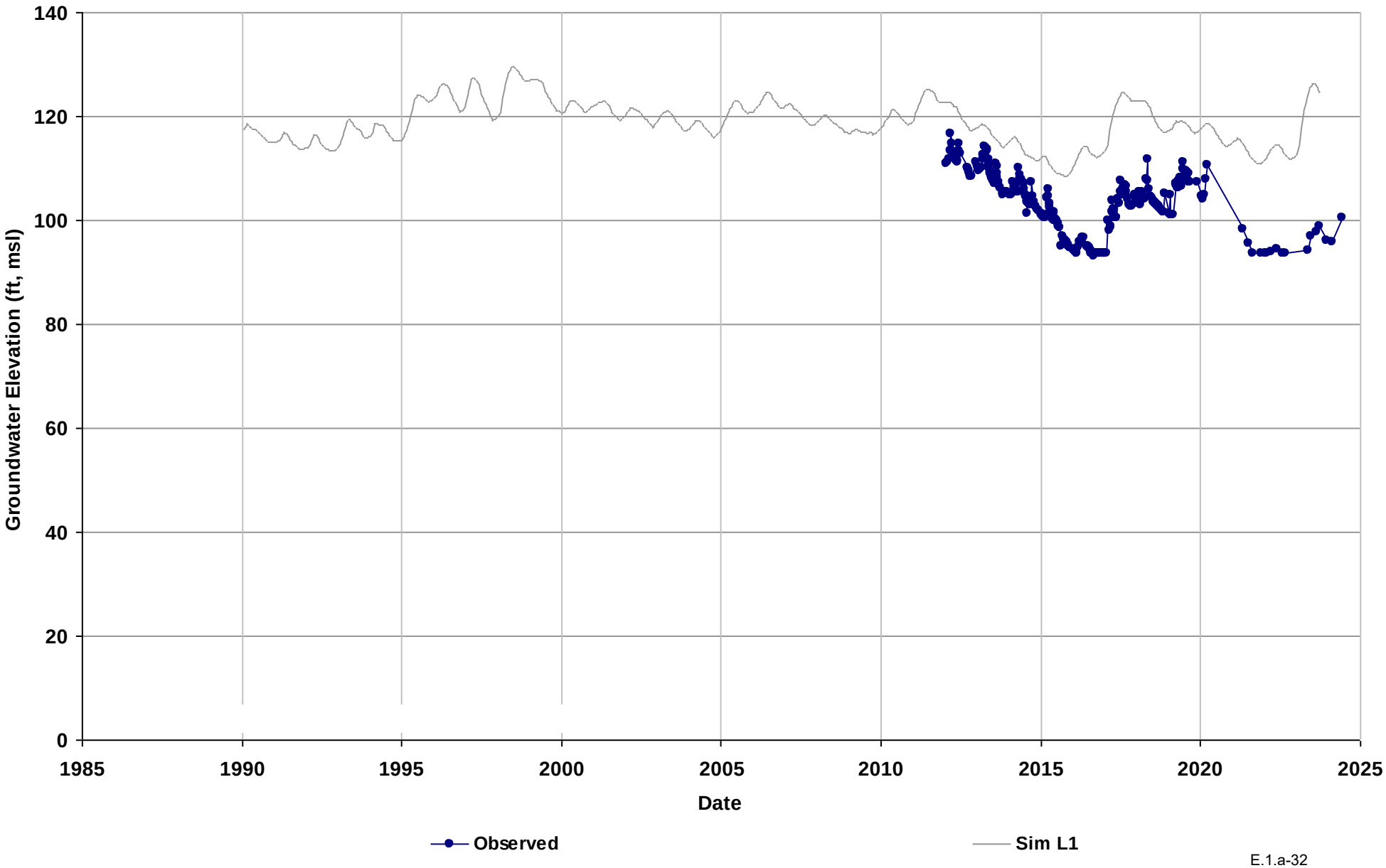
RMS ID: MCW RMS-11
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



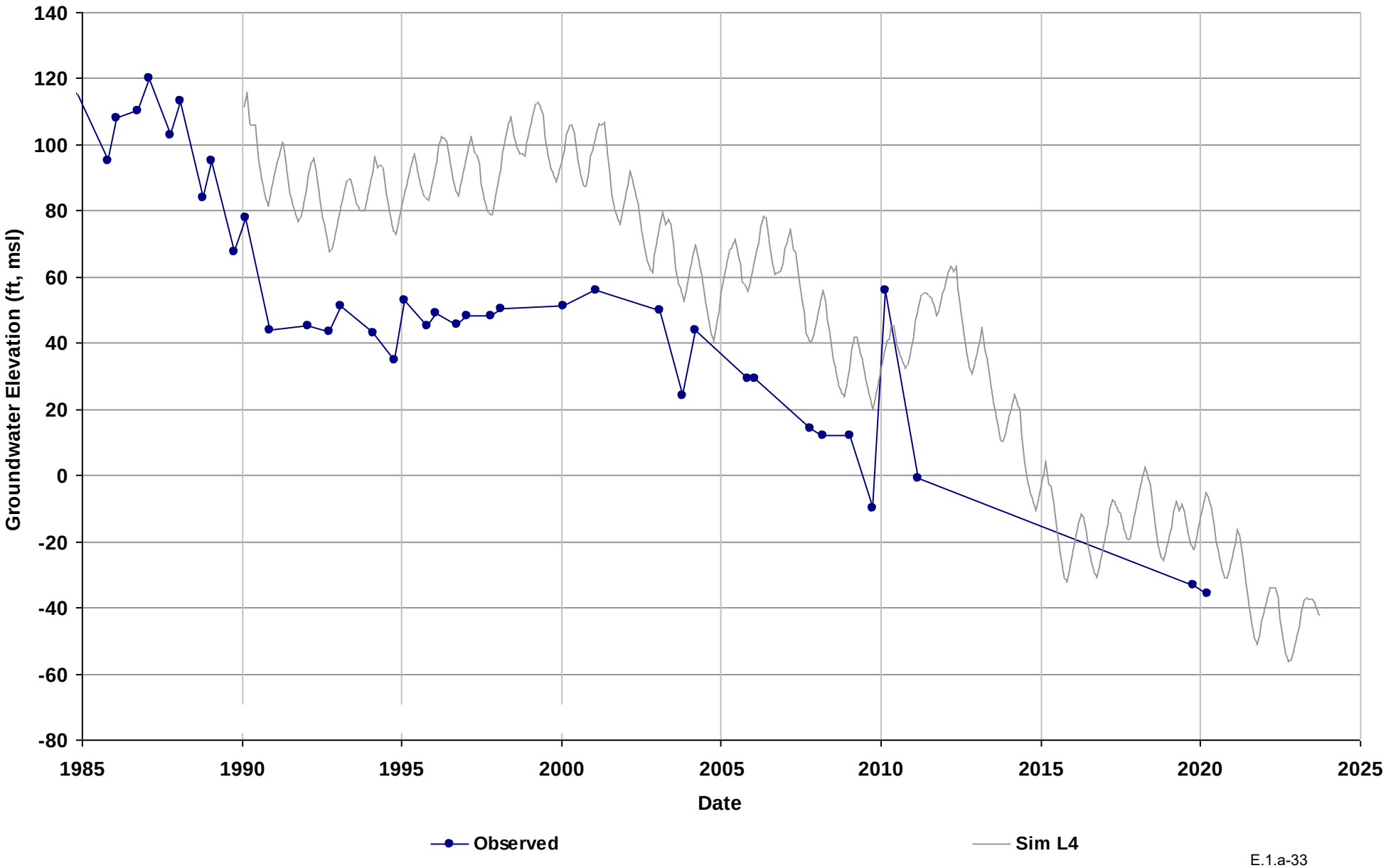
RMS ID: MCW RMS-12
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 120

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



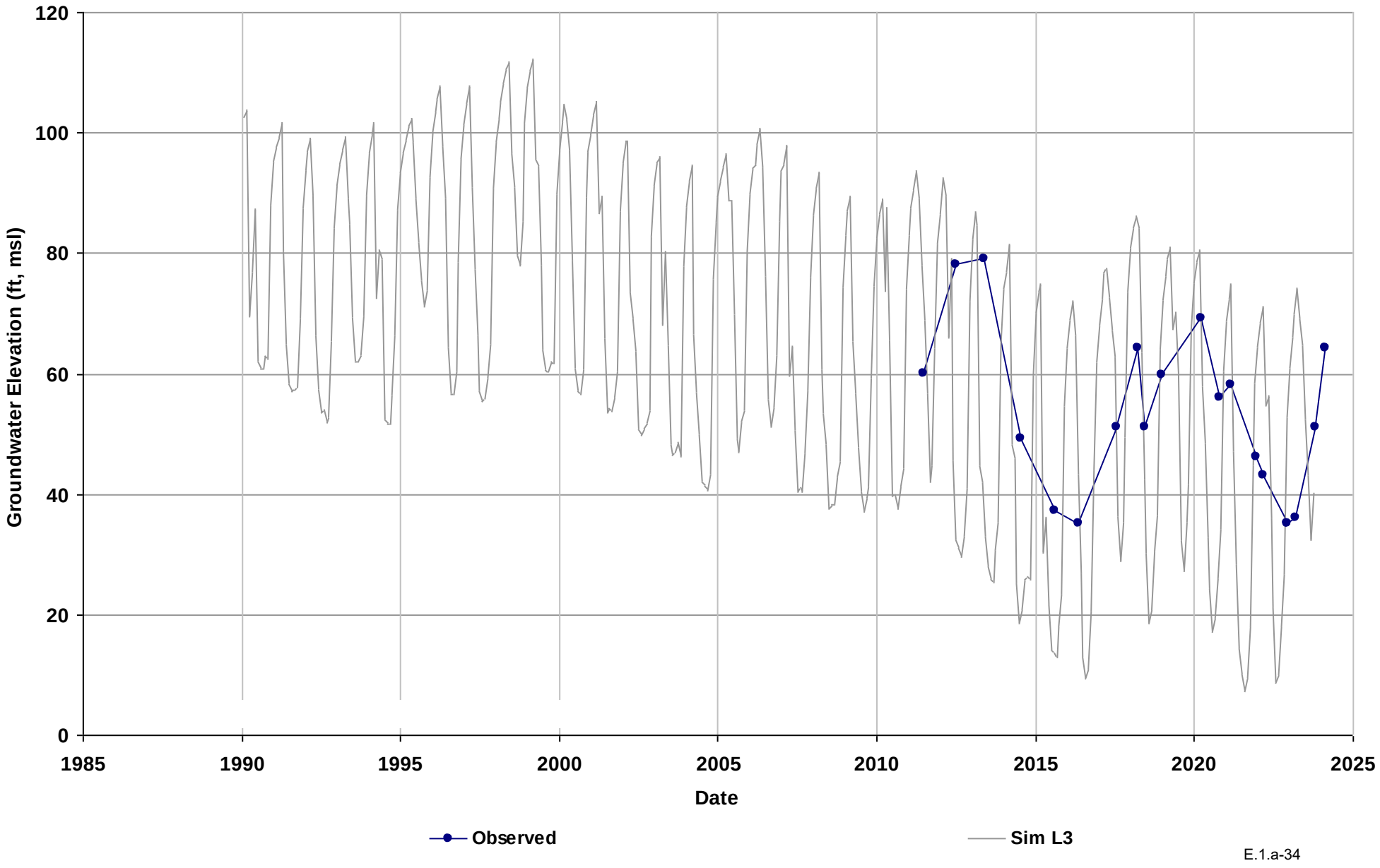
RMS ID: MER RMS-1
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



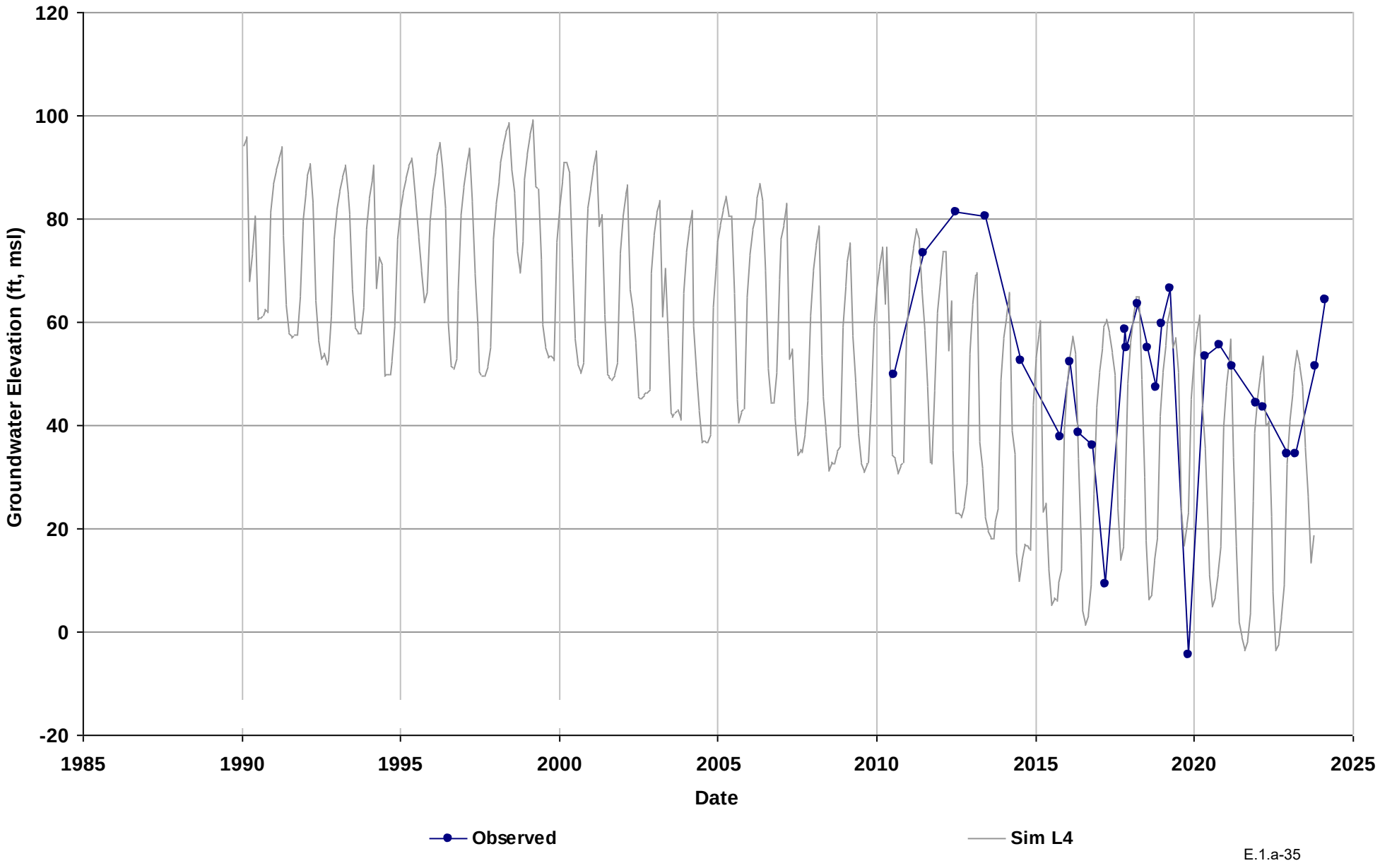
RMS ID: TRT RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 134

Total Depth (ft): 196
Perf Top (ft): 158
Perf Bottom (ft): 192
Top Model Layer: 3
Bottom Model Layer: 3



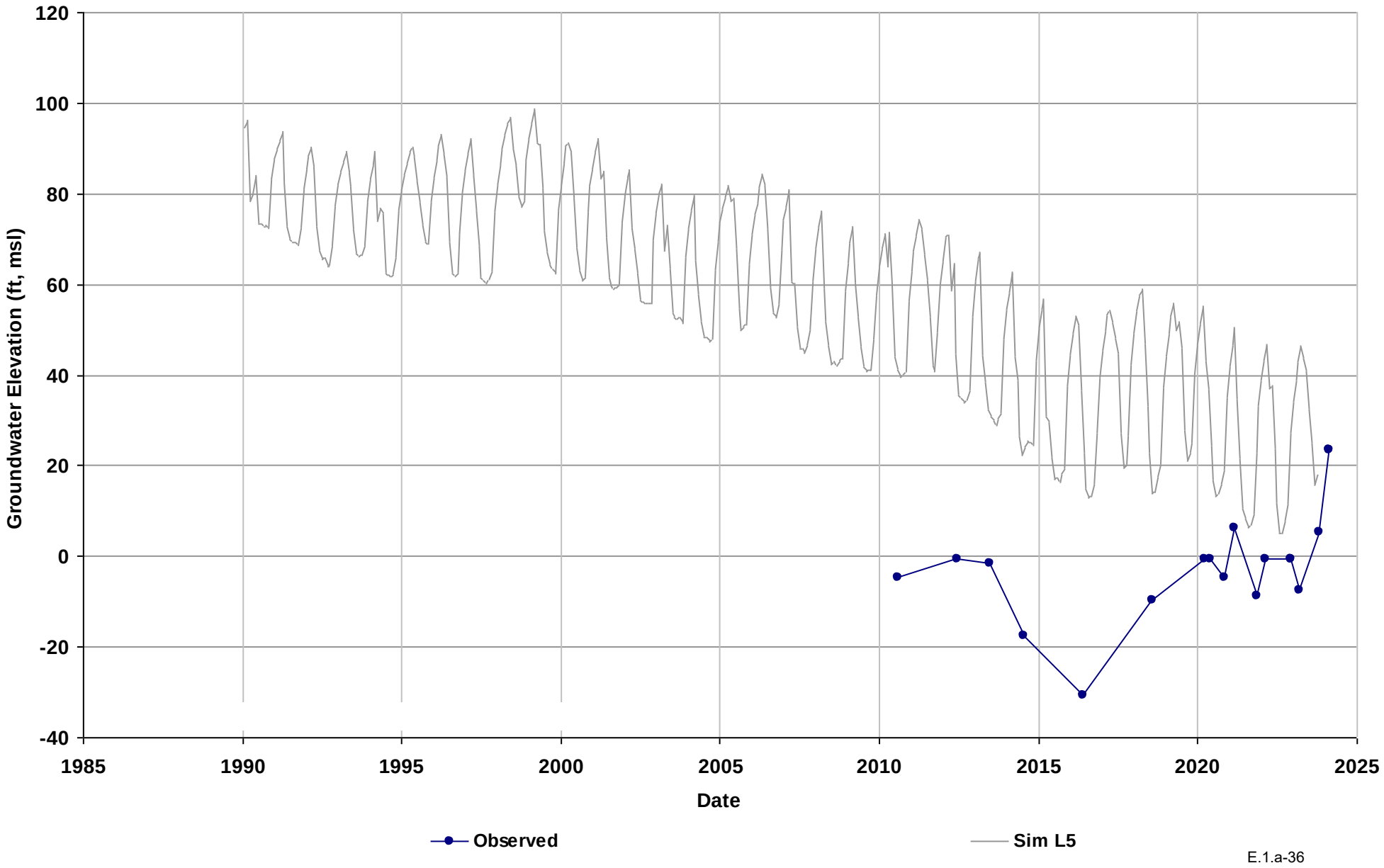
RMS ID: TRT RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 135

Total Depth (ft): 500
Perf Top (ft): 300
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



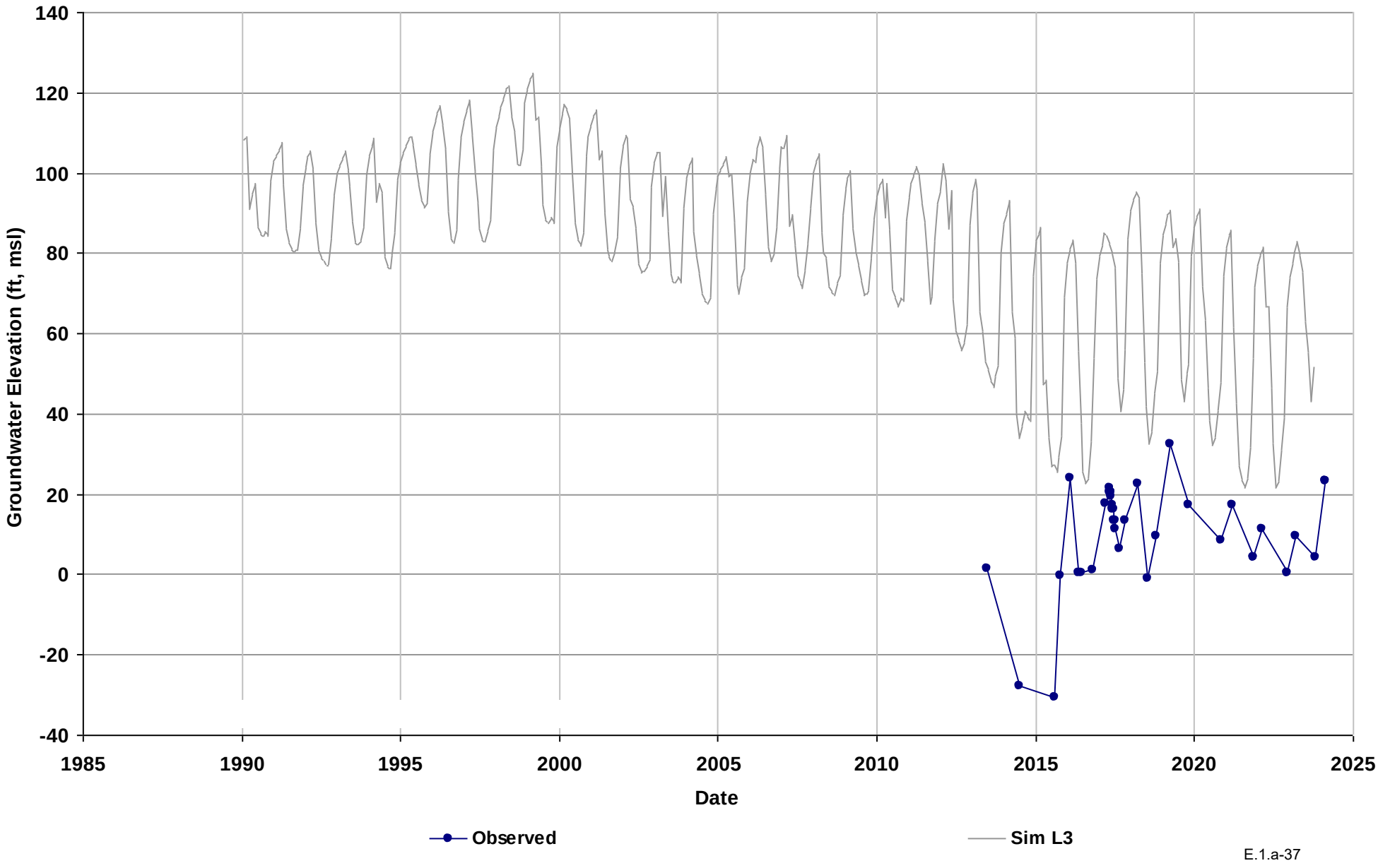
RMS ID: TRT RMS-3
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft): 799
Perf Top (ft): 168
Perf Bottom (ft): 790
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: TRT RMS-4
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 141

Total Depth (ft): 840
Perf Top (ft): 190
Perf Bottom (ft): 260
Top Model Layer: 3
Bottom Model Layer: 3

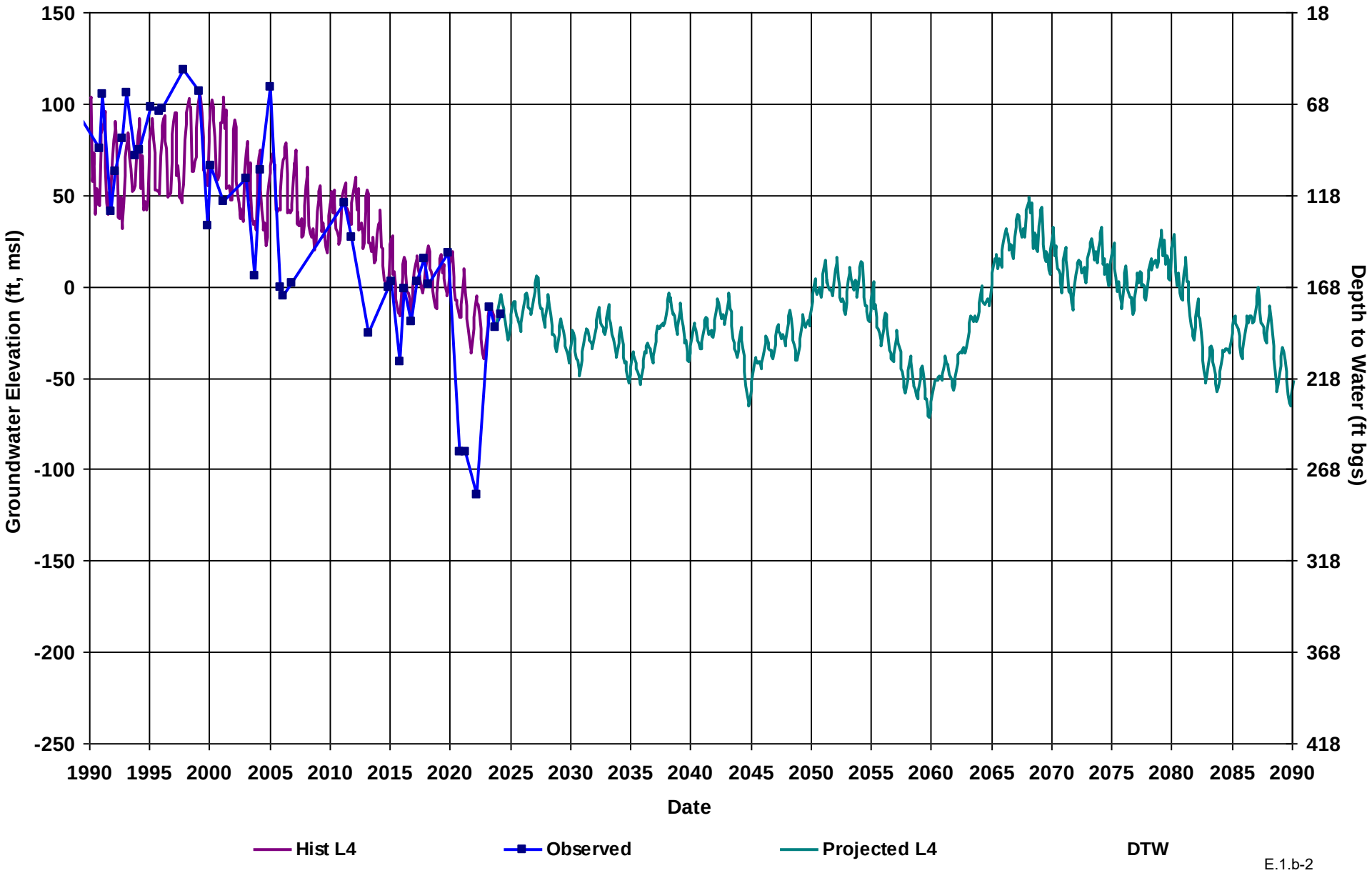


APPENDIX E.1.b

Chowchilla Subbasin Groundwater Elevation Hydrographs for RMS Wells - Projected with Projects Scenario

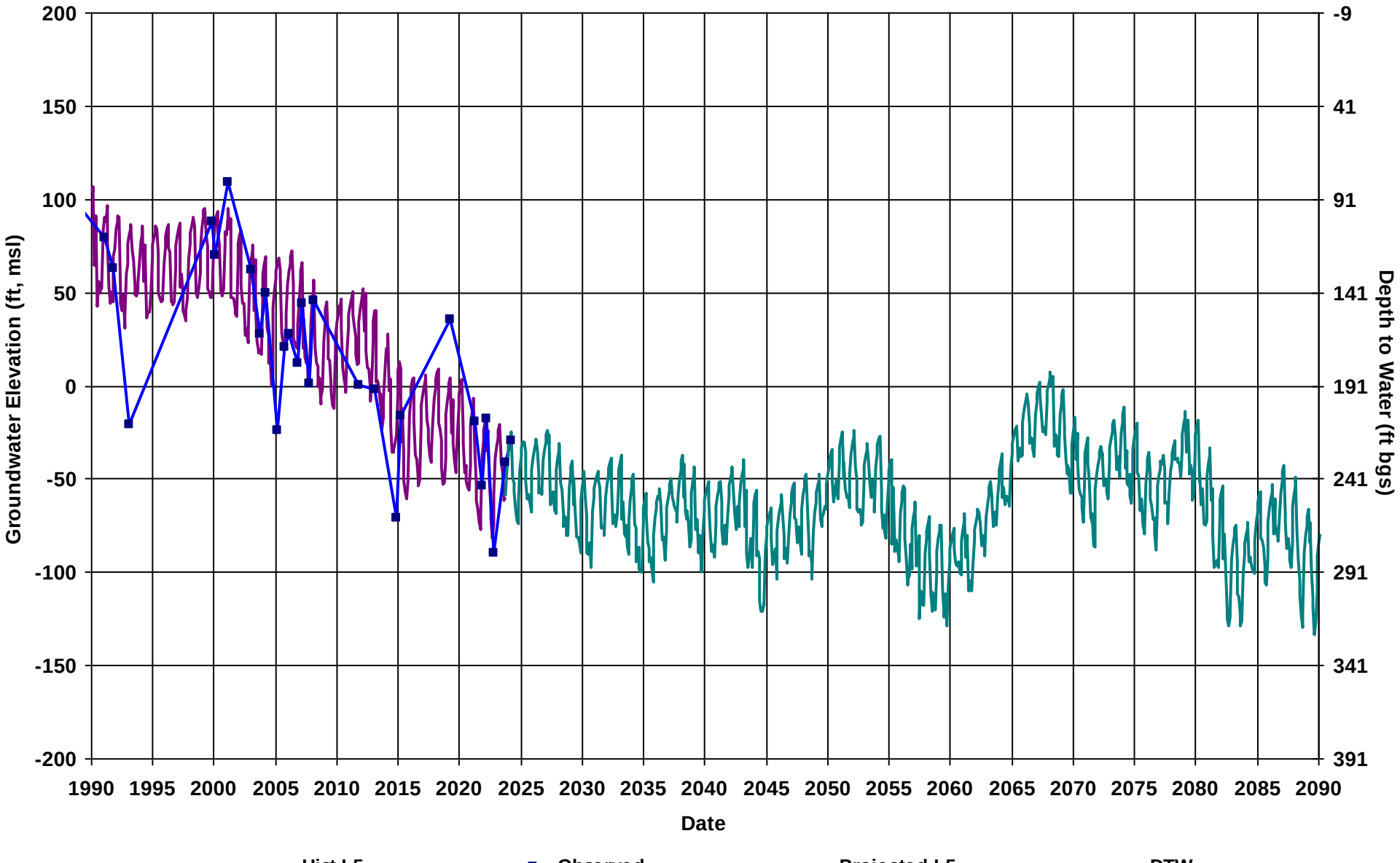
RMS ID: CWD RMS-1
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 168

Total Depth (ft): 275
Perf Top (ft): 160
Perf Bottom (ft): 275
Top Model Layer: 4
Bottom Model Layer: 4



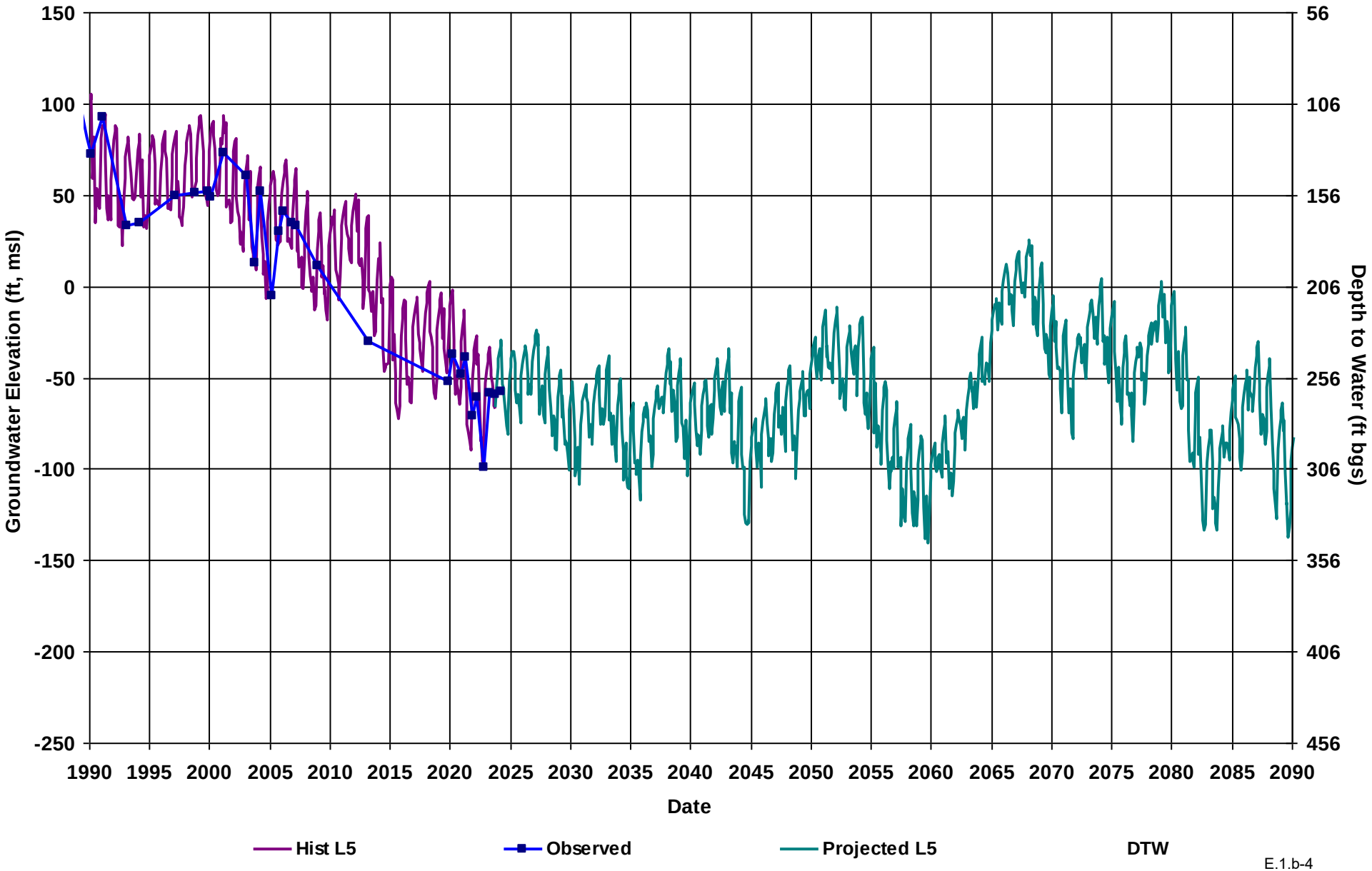
RMS ID: CWD RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 5
Bottom Model Layer: 5



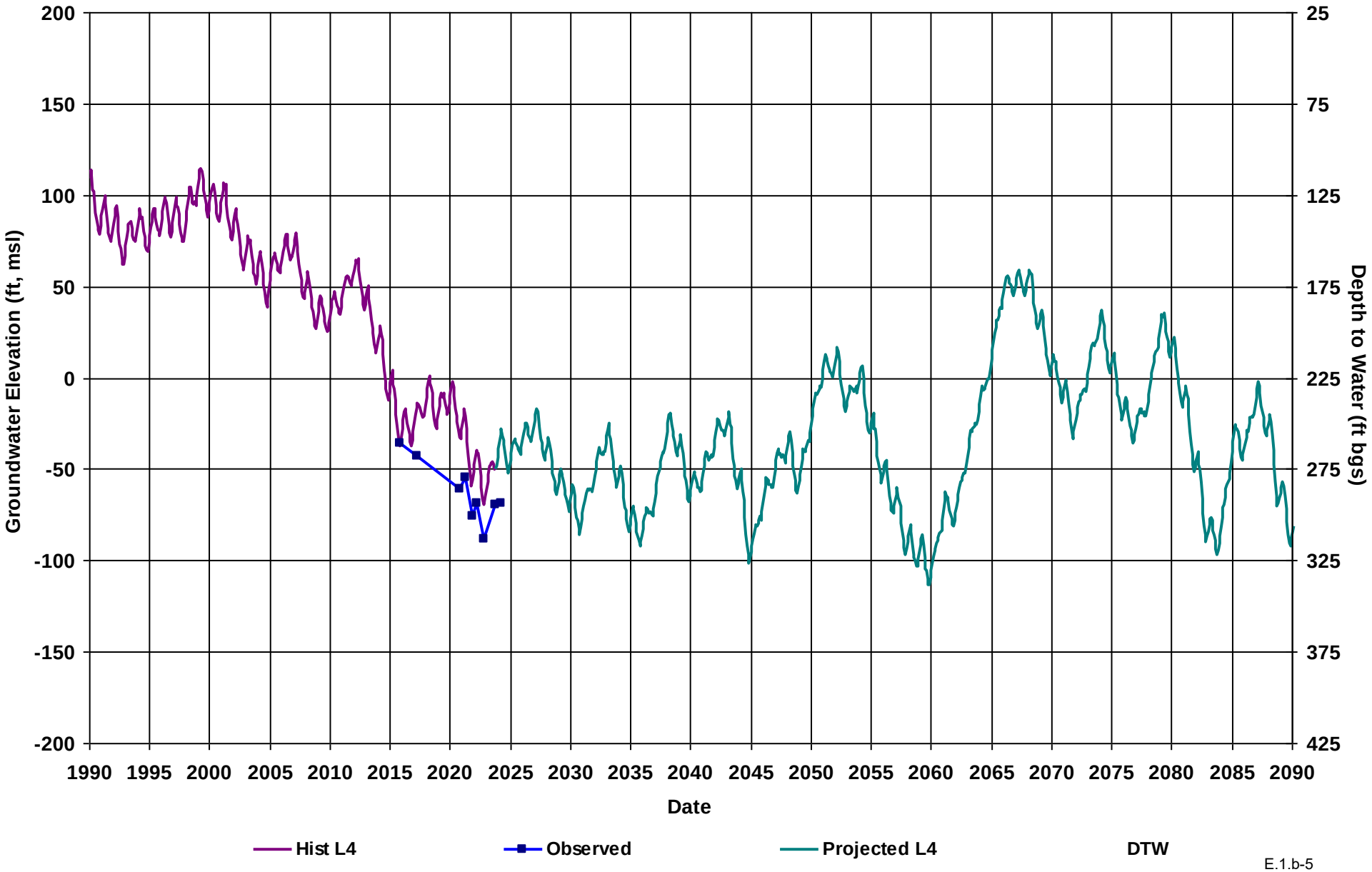
RMS ID: CWD RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 206

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



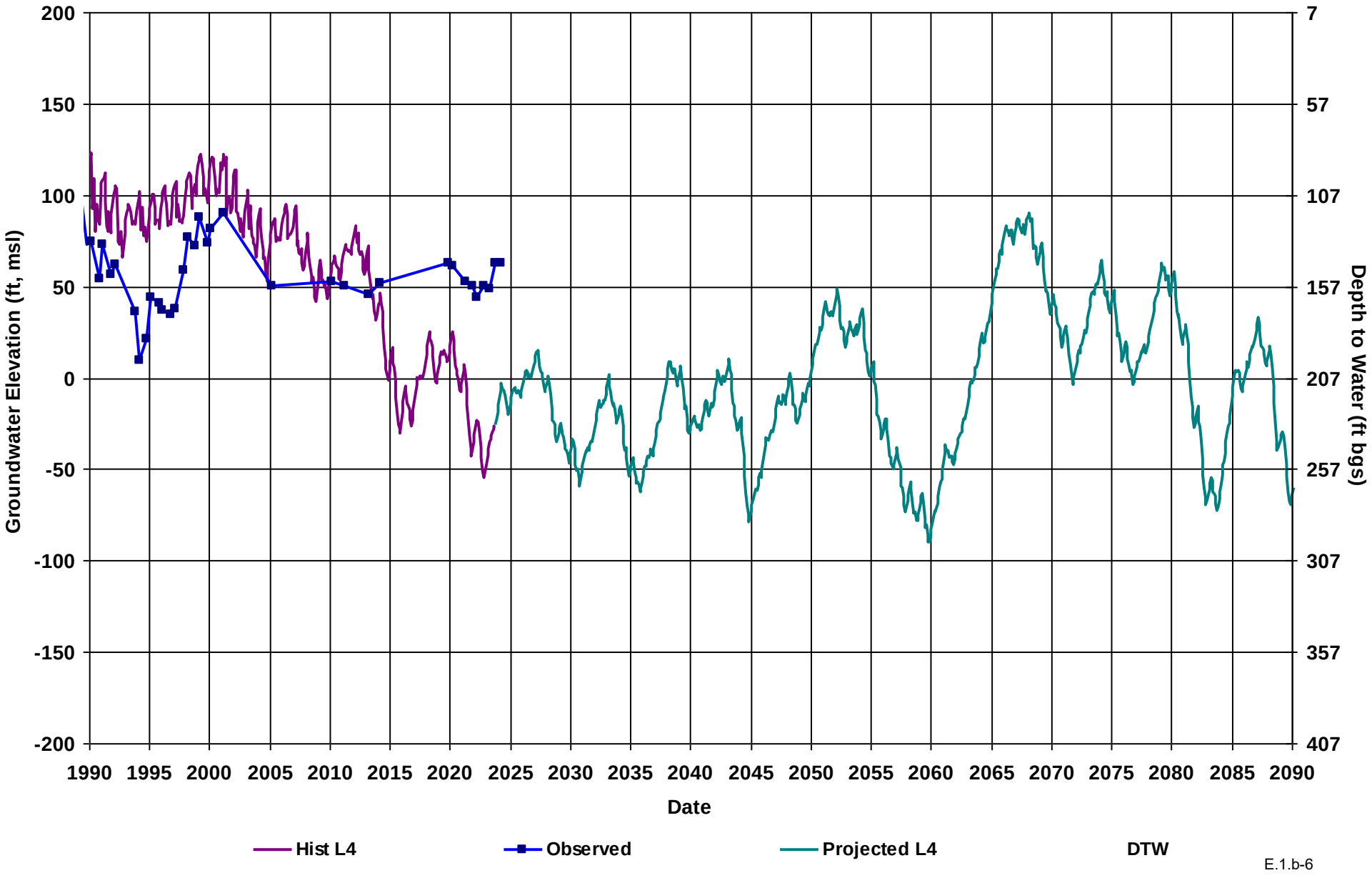
RMS ID: CWD RMS-4
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft): 800
Perf Top (ft): 320
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



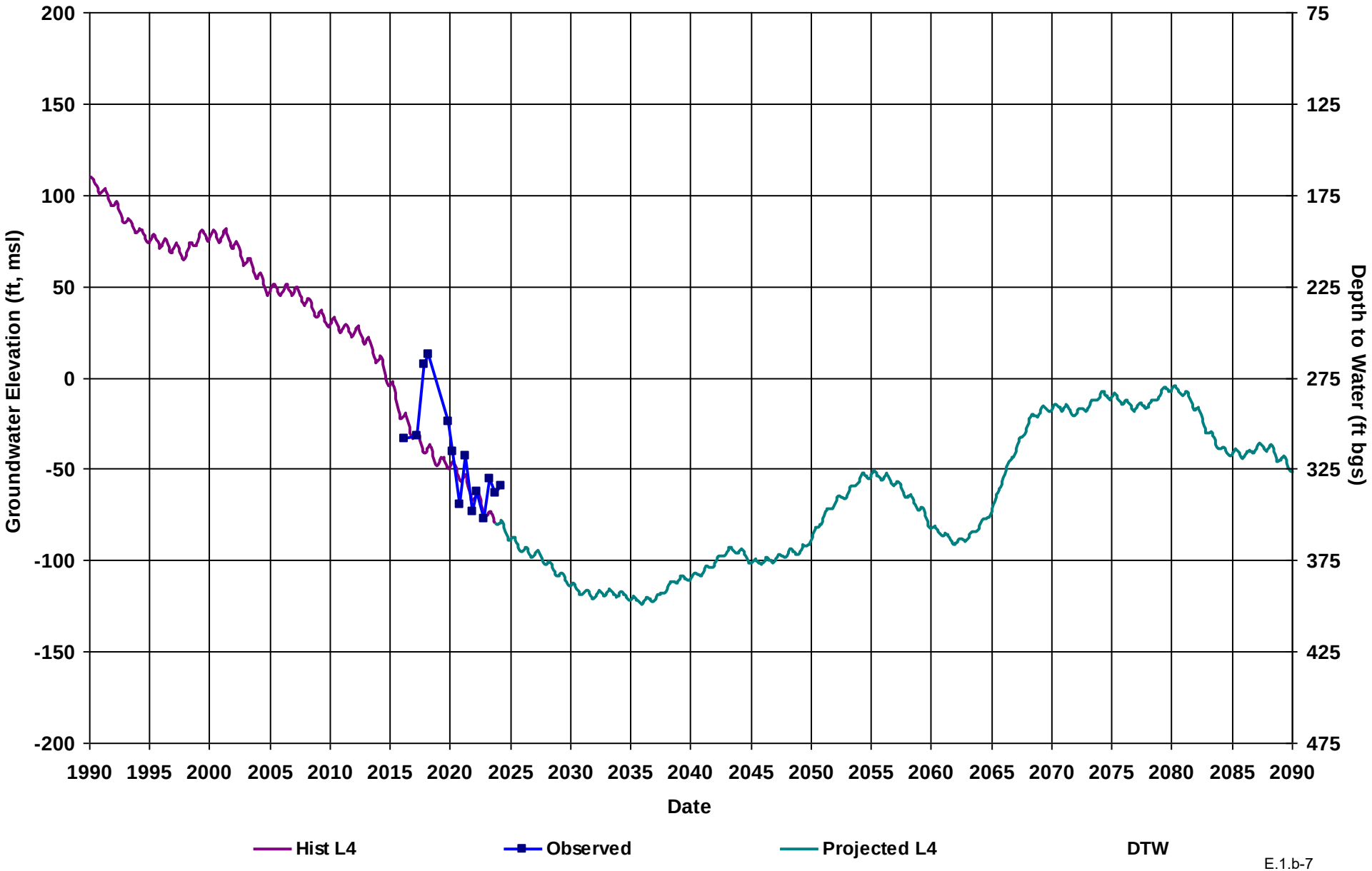
RMS ID: CWD RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 207

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



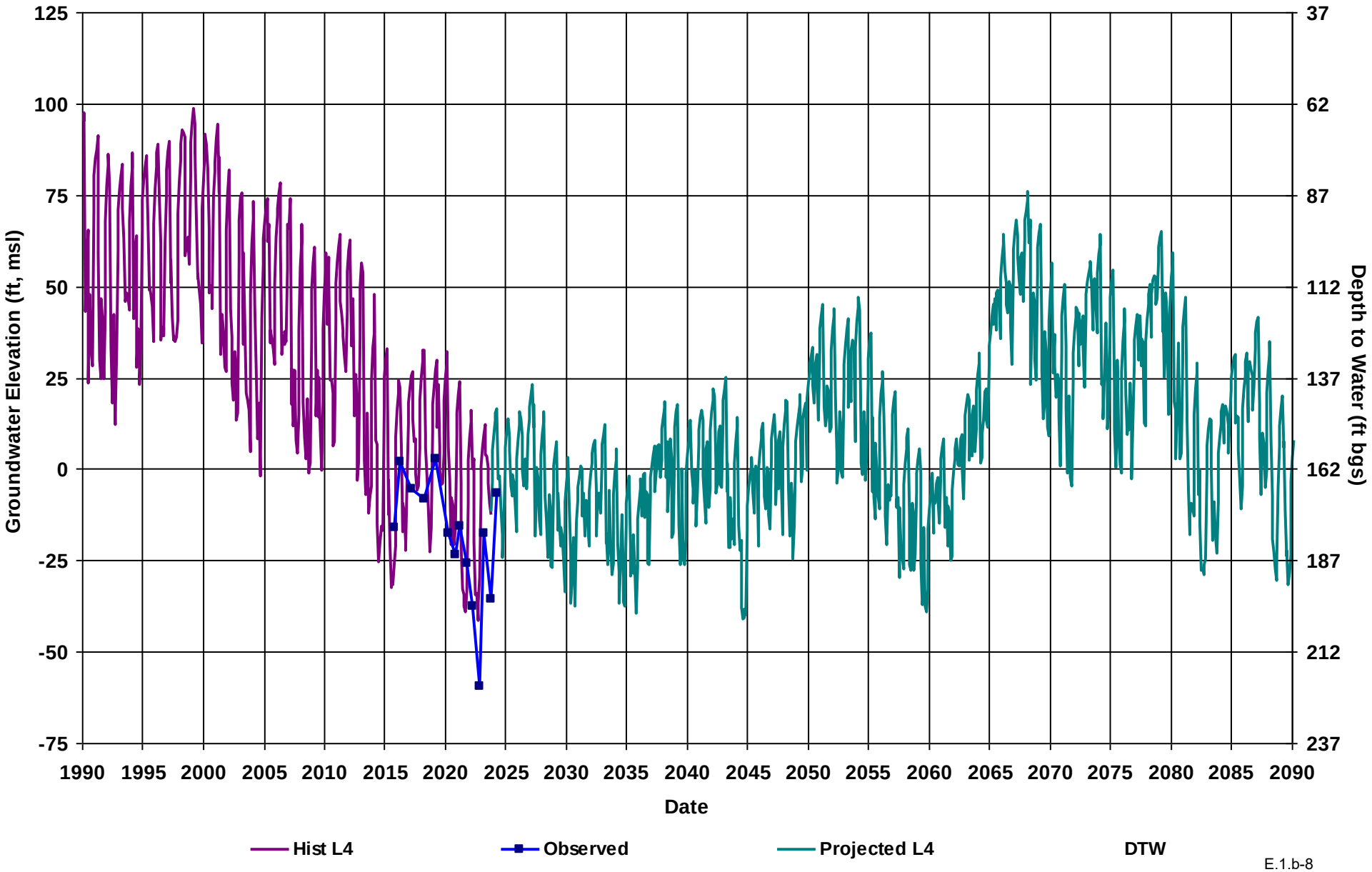
RMS ID: CWD RMS-6
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 275

Total Depth (ft): 820
Perf Top (ft): 257
Perf Bottom (ft): 726
Top Model Layer: 4
Bottom Model Layer: 4



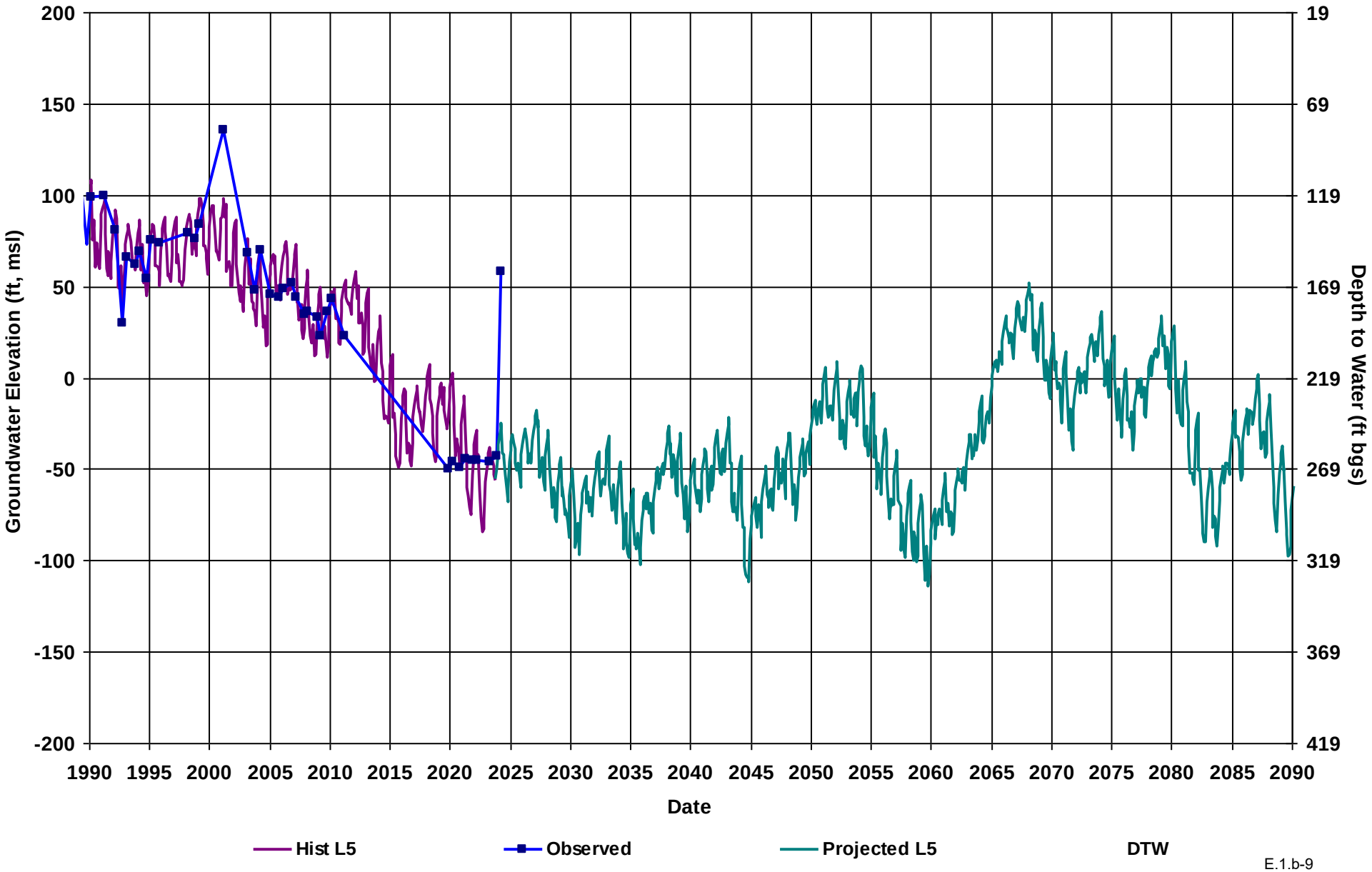
RMS ID: CWD RMS-7
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 169

Total Depth (ft): 330
Perf Top (ft): 135
Perf Bottom (ft): 288
Top Model Layer: 4
Bottom Model Layer: 4



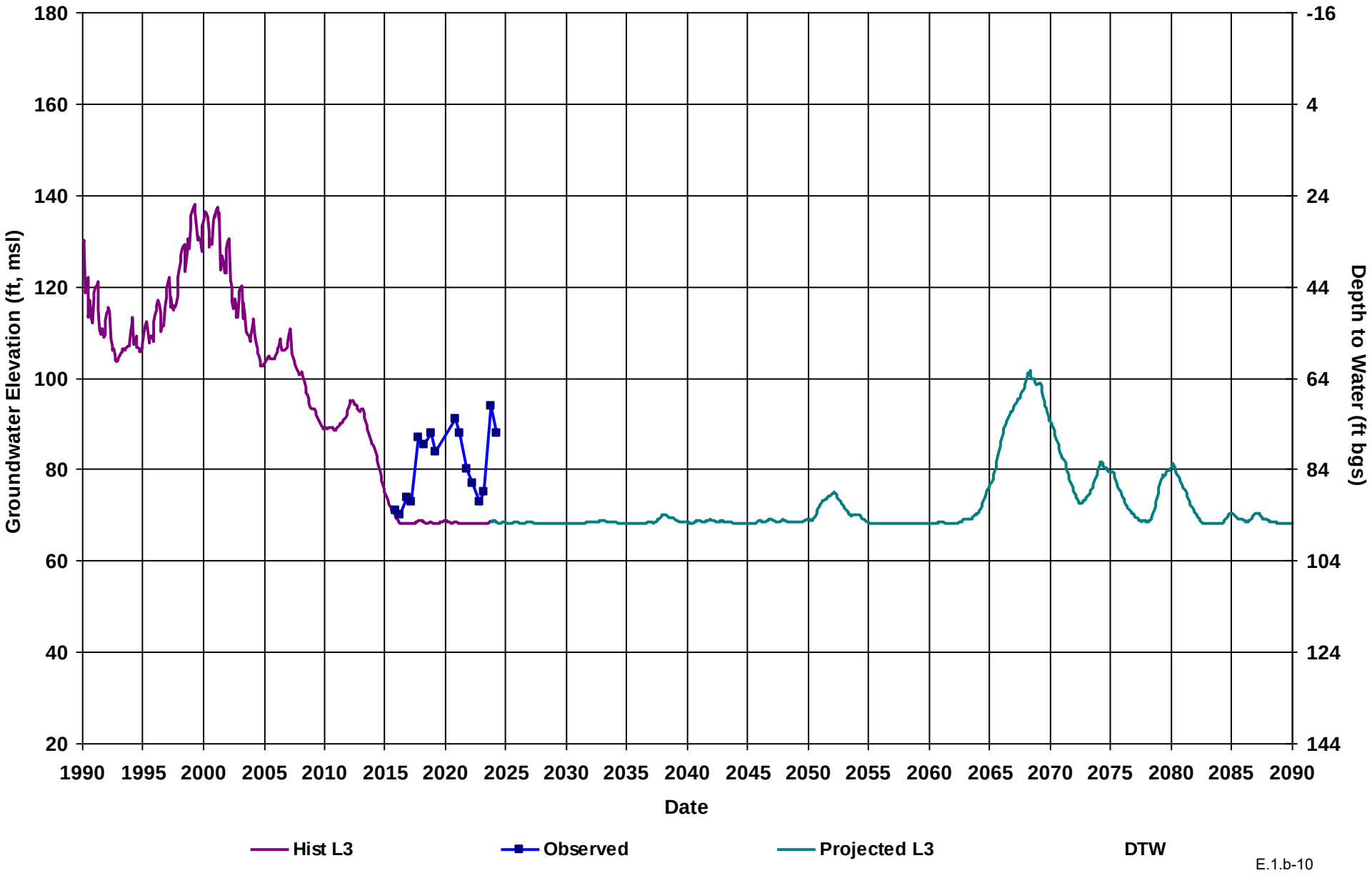
RMS ID: CWD RMS-8
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 219

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



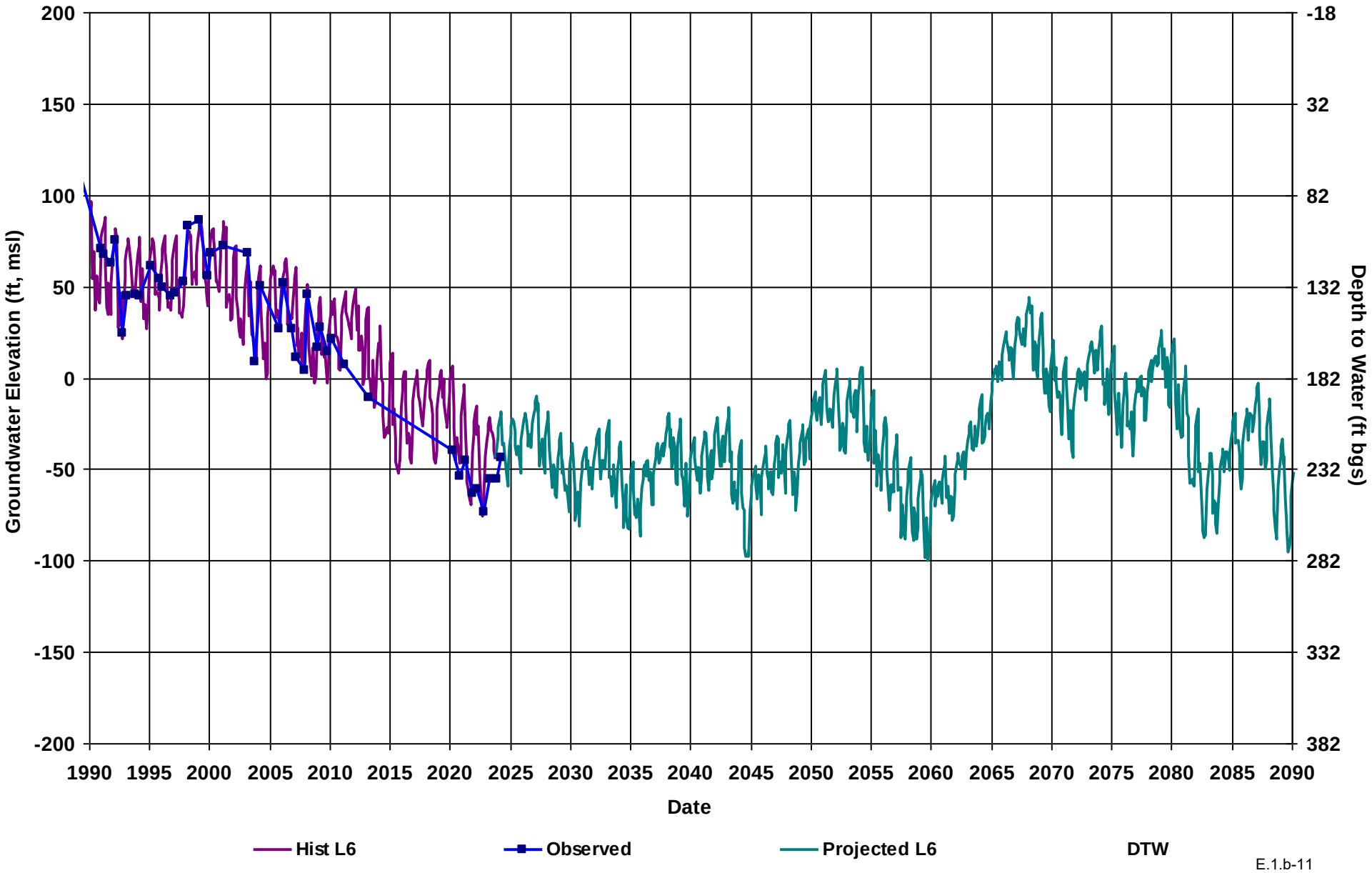
RMS ID: CWD RMS-9
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 164

Total Depth (ft): 97
Perf Top (ft): 82
Perf Bottom (ft): 97
Top Model Layer: 3
Bottom Model Layer: 3



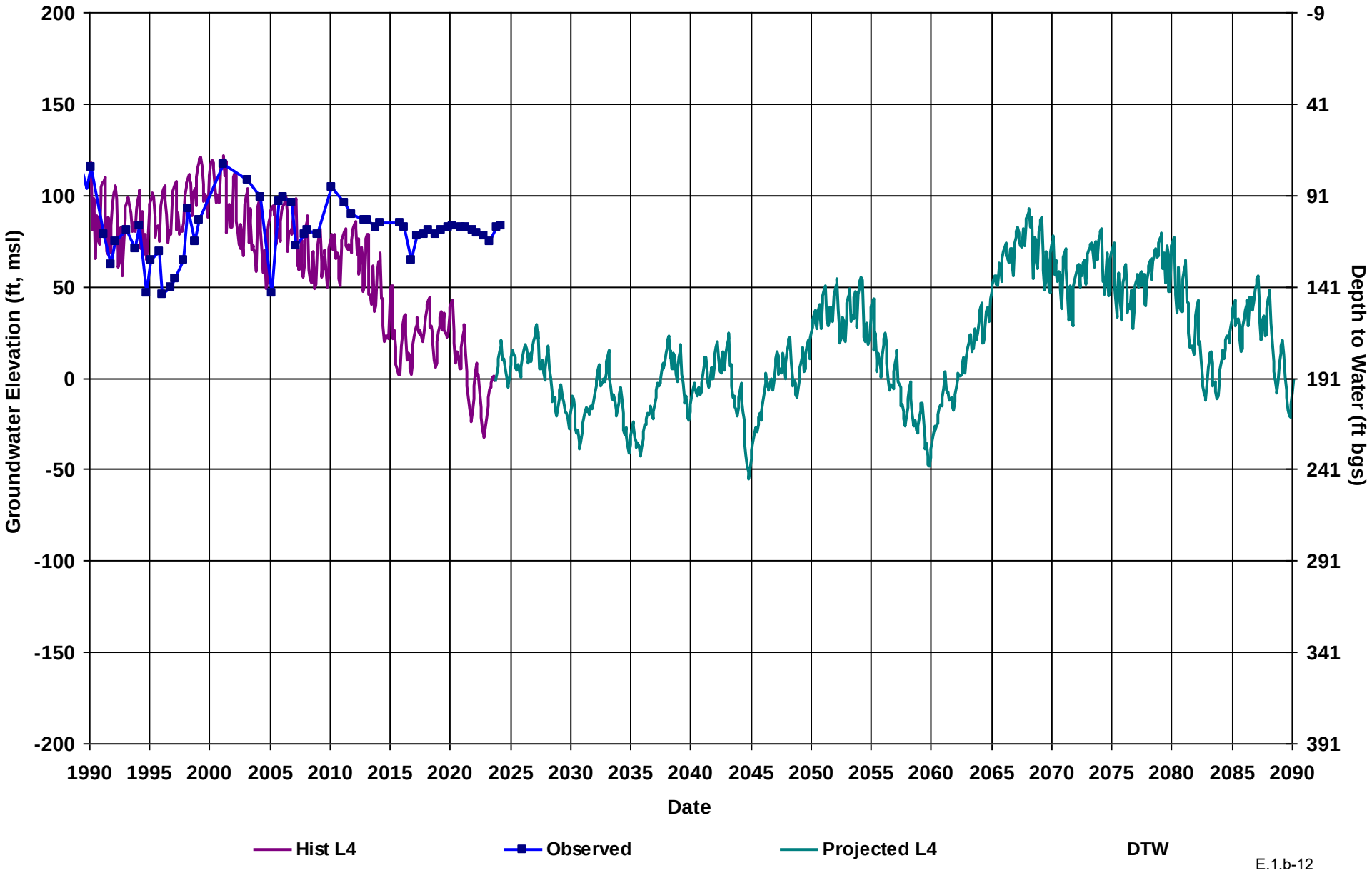
RMS ID: CWD RMS-10
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 182

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



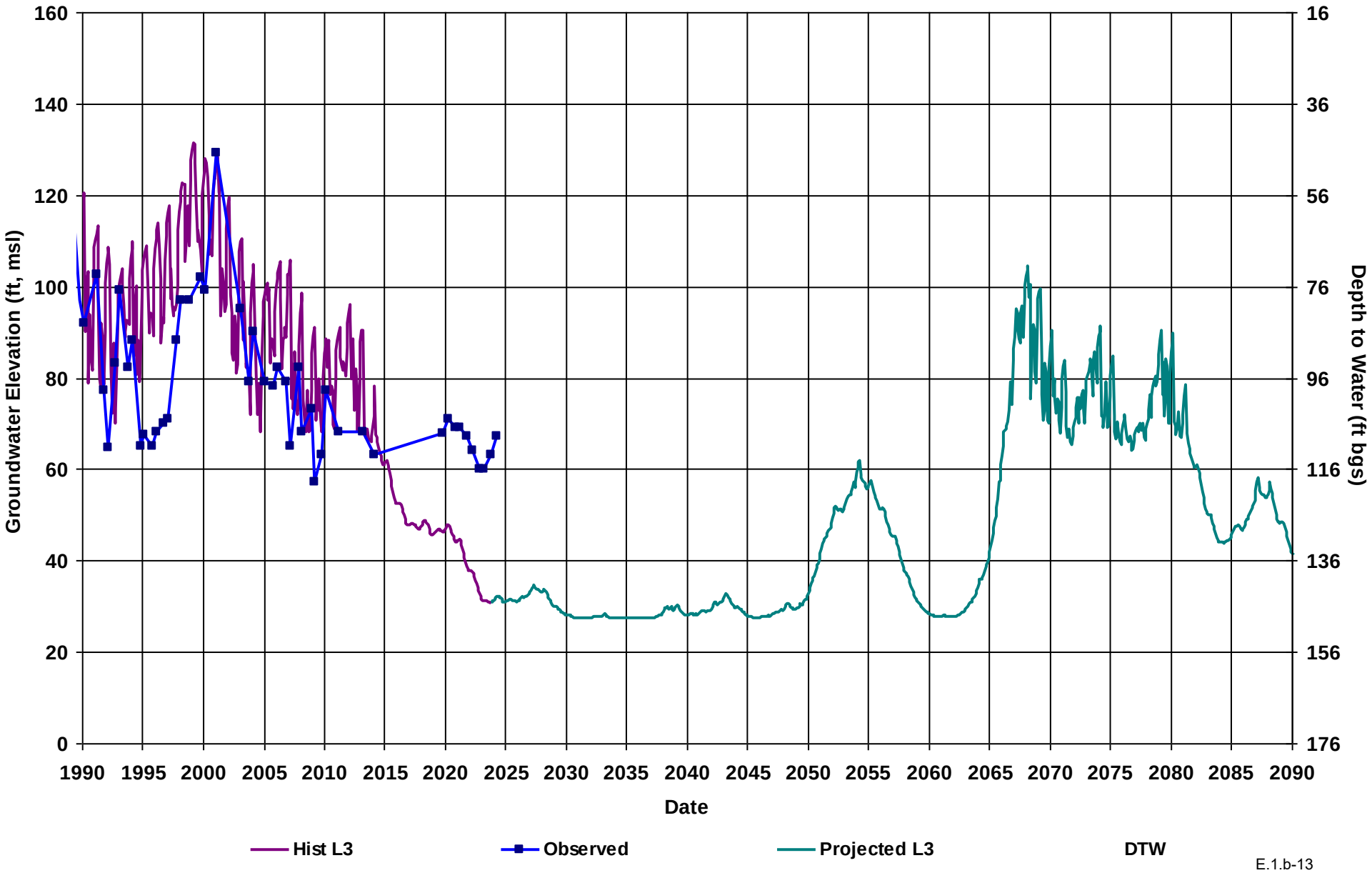
RMS ID: CWD RMS-11
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 199

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



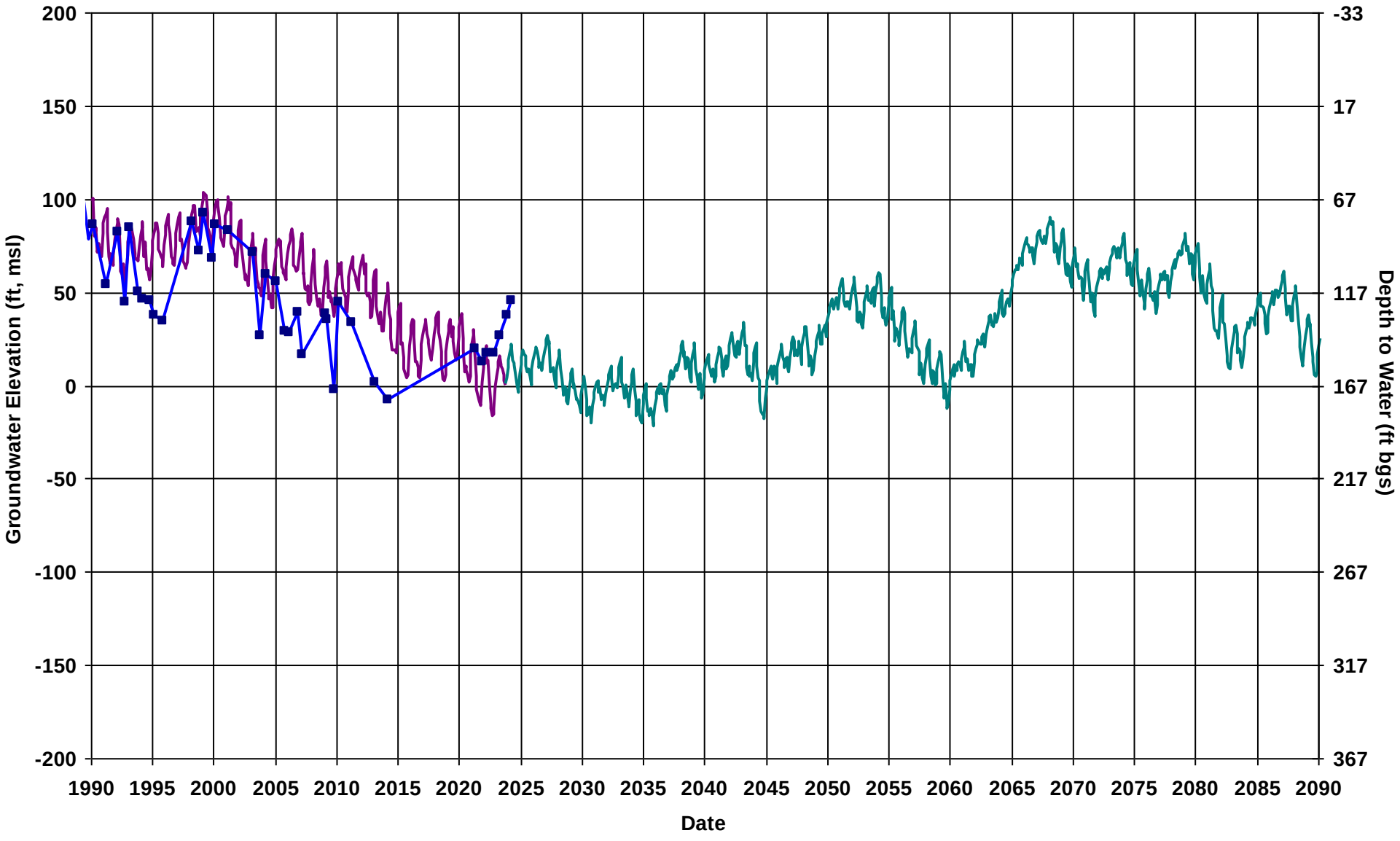
RMS ID: CWD RMS-12
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 176

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



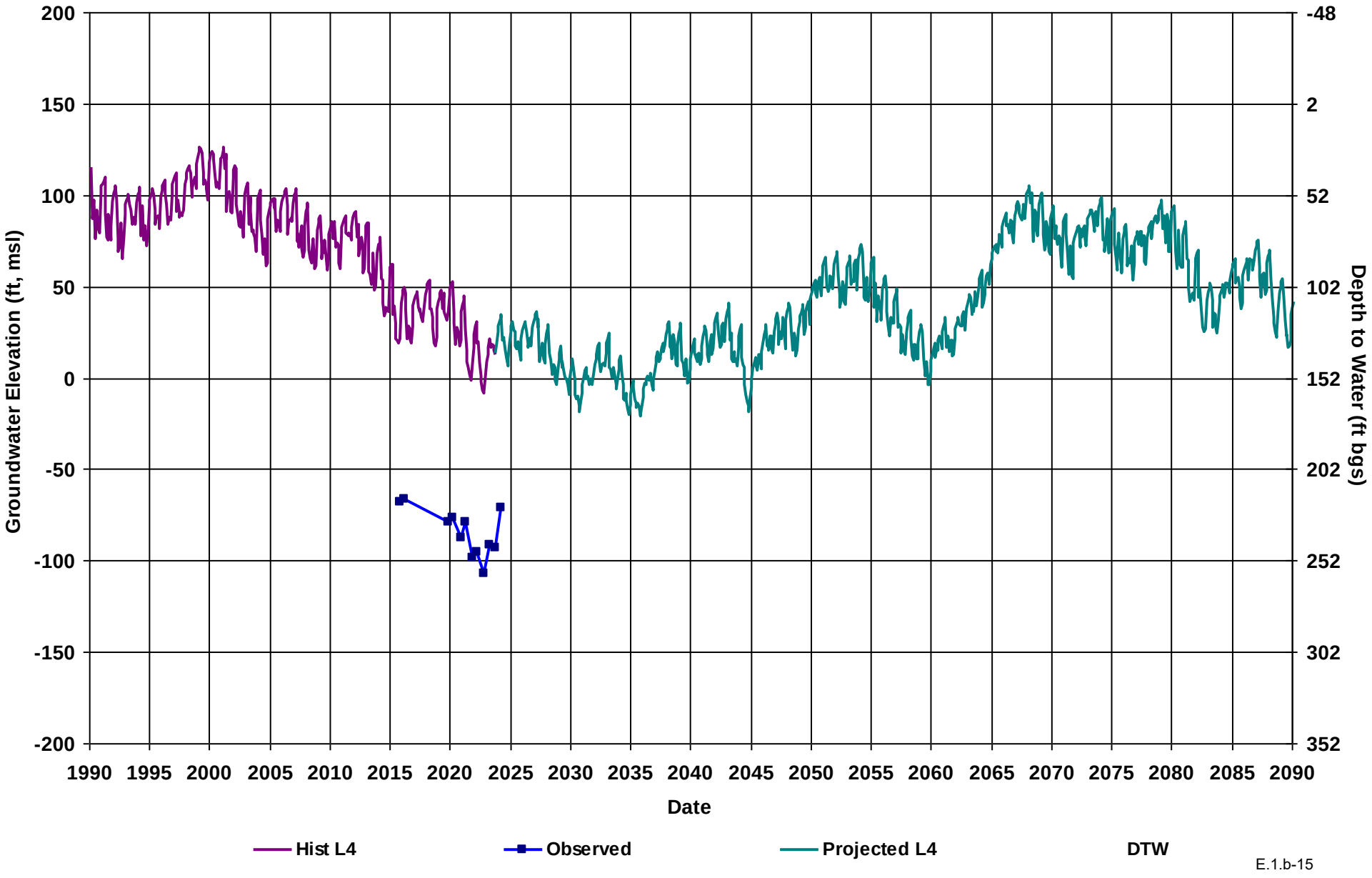
RMS ID: CWD RMS-13
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 167

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



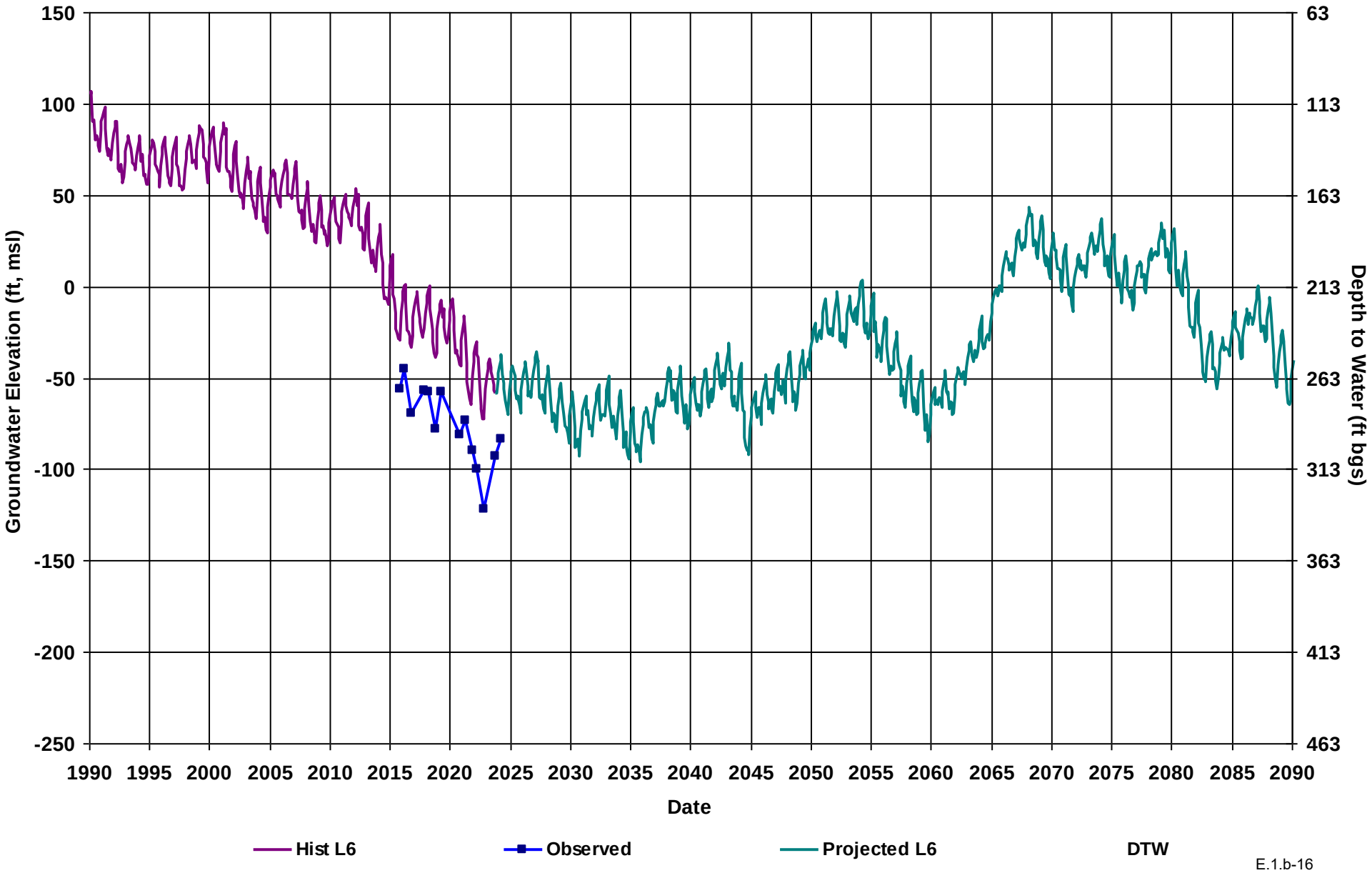
RMS ID: CWD RMS-14
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 152

Total Depth (ft): 455
Perf Top (ft): 185
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



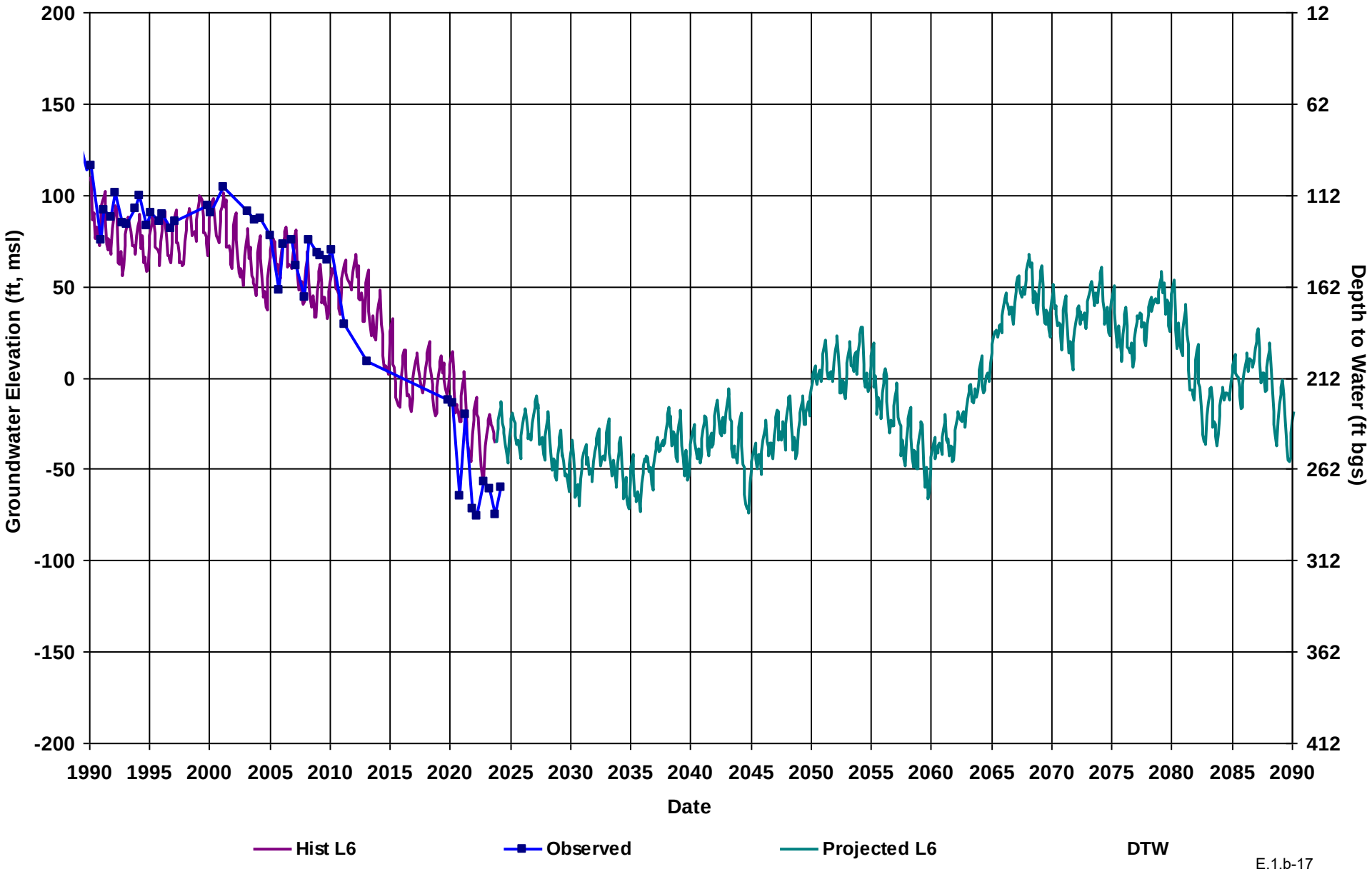
RMS ID: CWD RMS-15
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 213

Total Depth (ft): 955
Perf Top (ft): 290
Perf Bottom (ft): 935
Top Model Layer: 6
Bottom Model Layer: 6



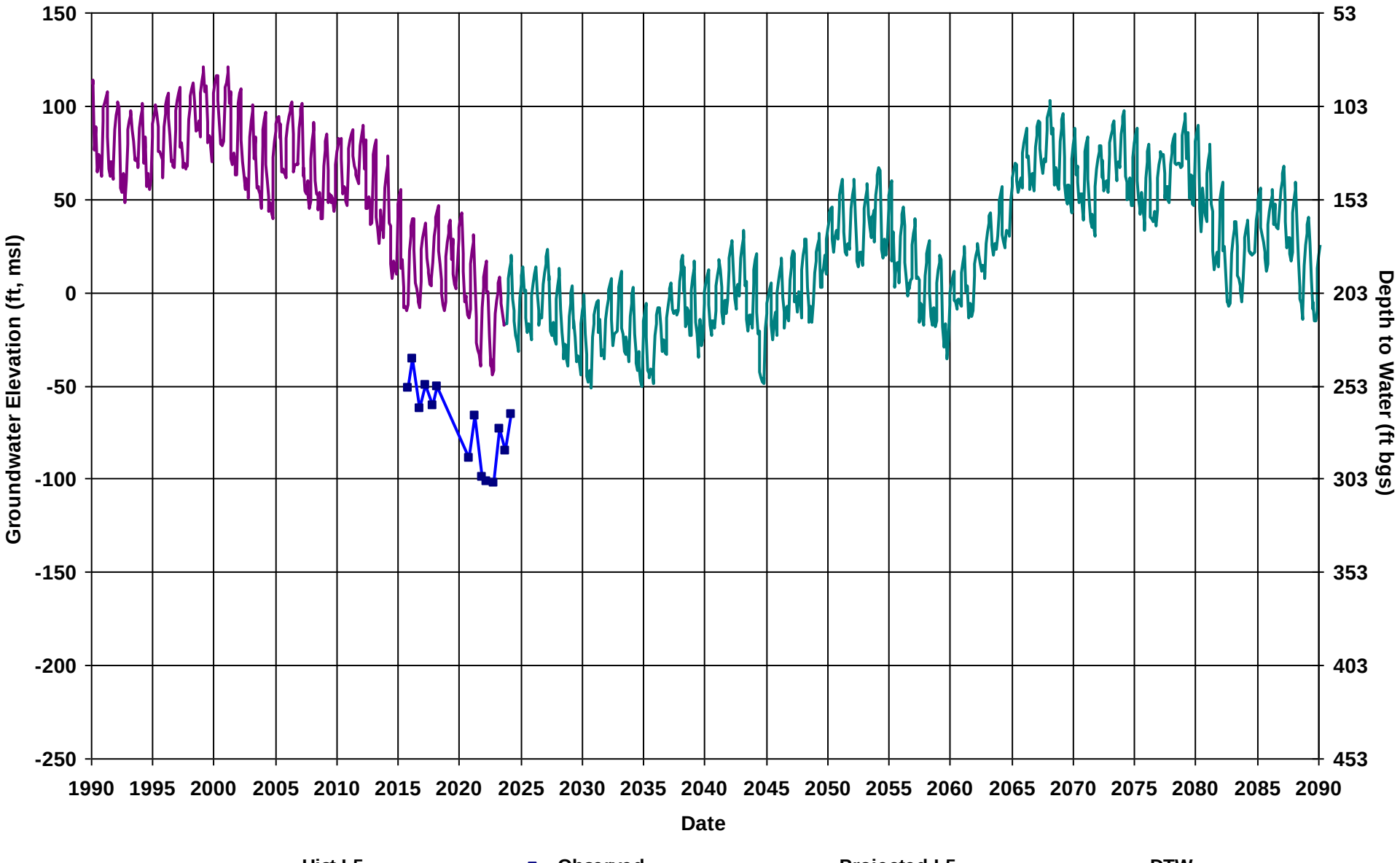
RMS ID: CWD RMS-16
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 212

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



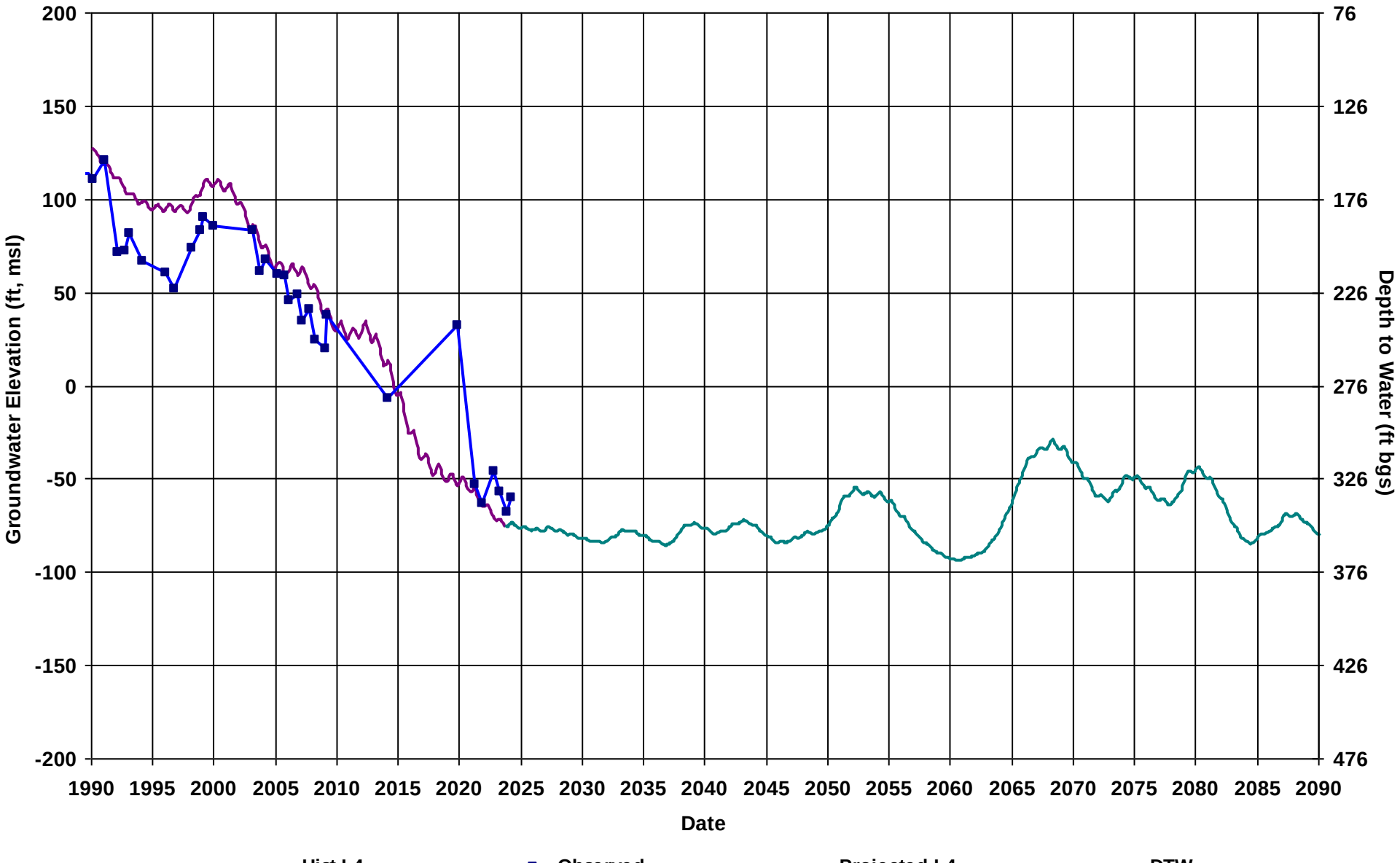
RMS ID: CWD RMS-17
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Total Depth (ft): 624
Perf Top (ft): 278
Perf Bottom (ft): 588
Top Model Layer: 5
Bottom Model Layer: 5



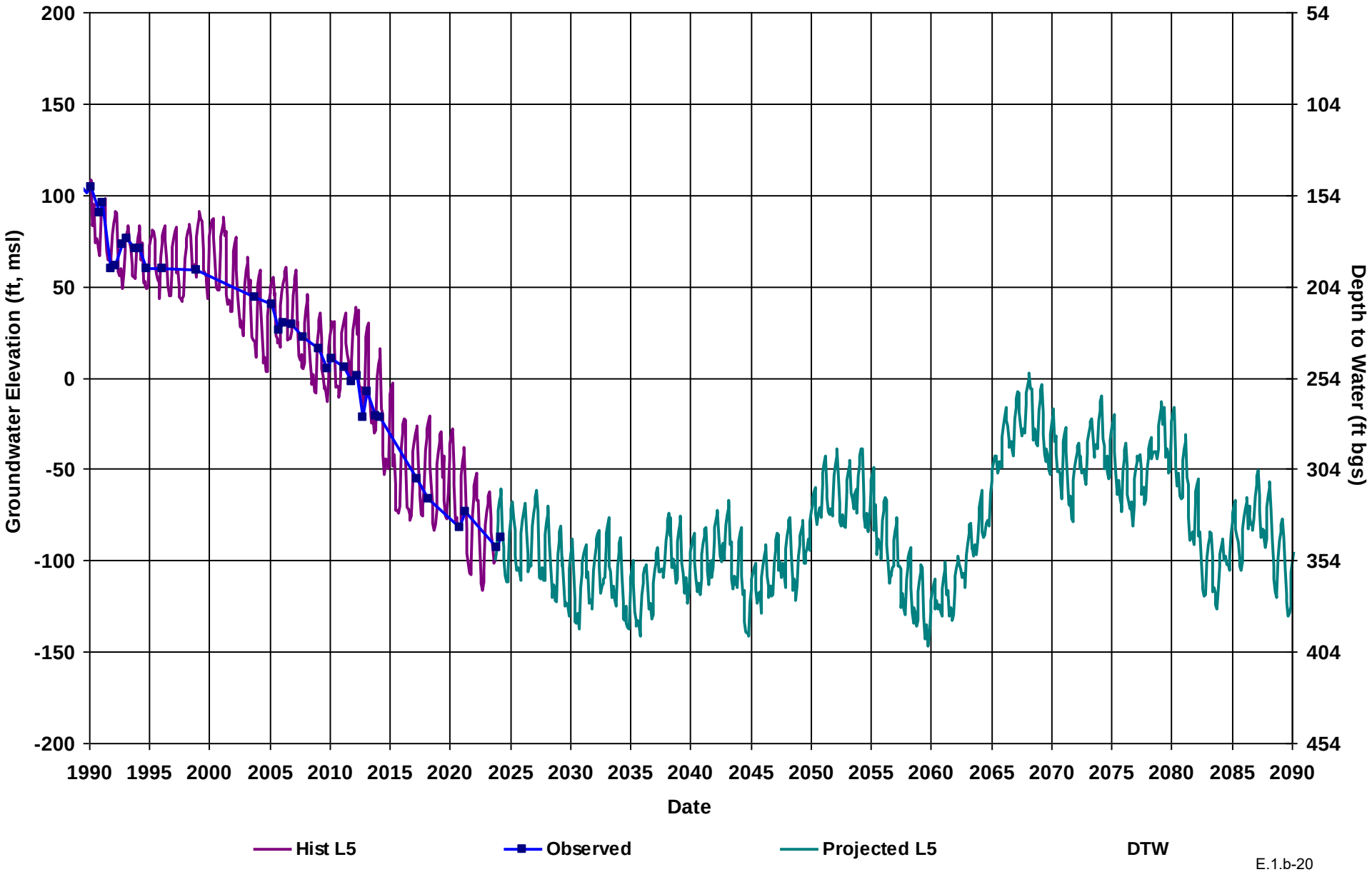
RMS ID: MCE RMS-1
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 276

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



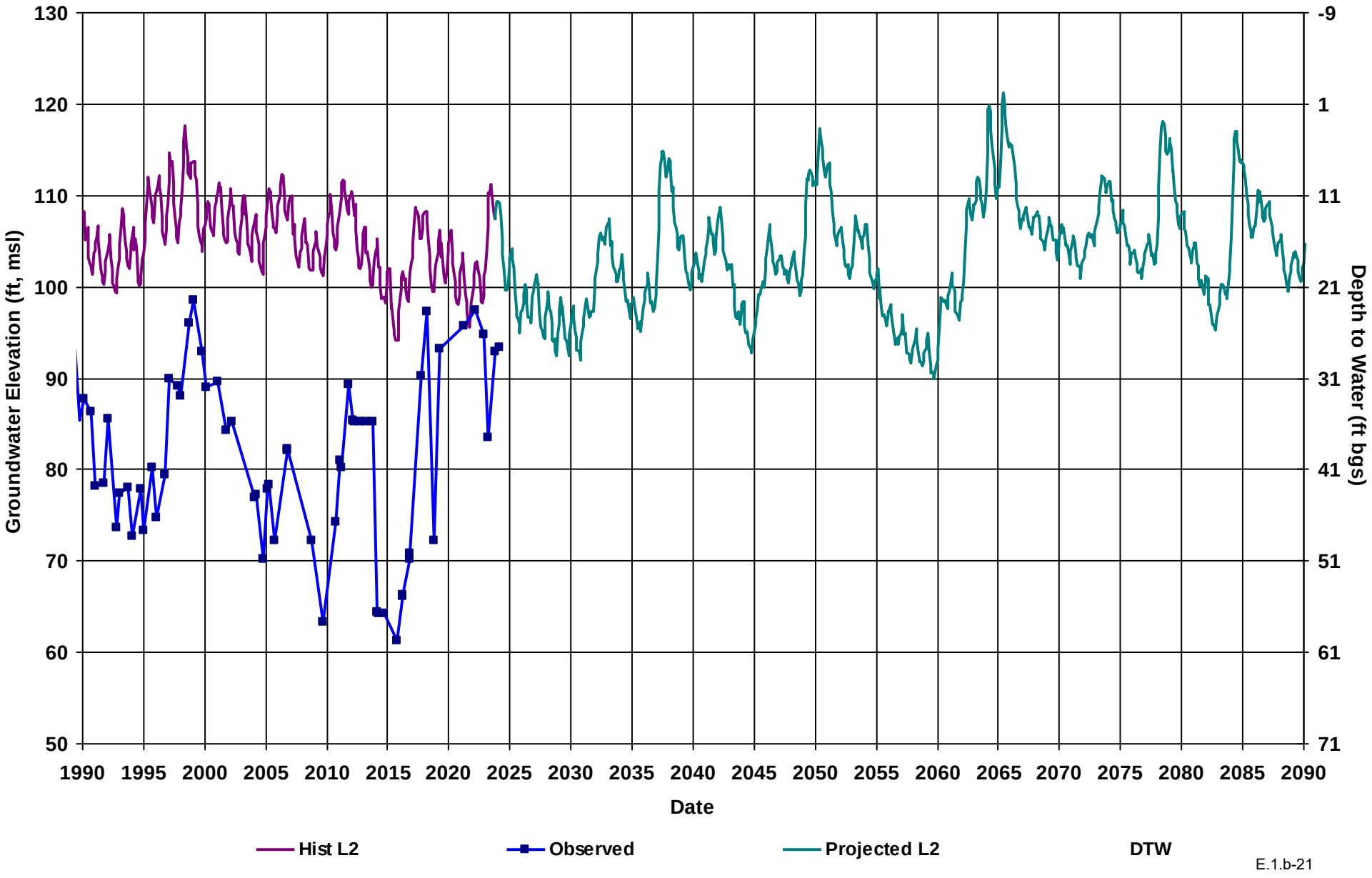
RMS ID: MCE RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 272

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 5
Bottom Model Layer: 5



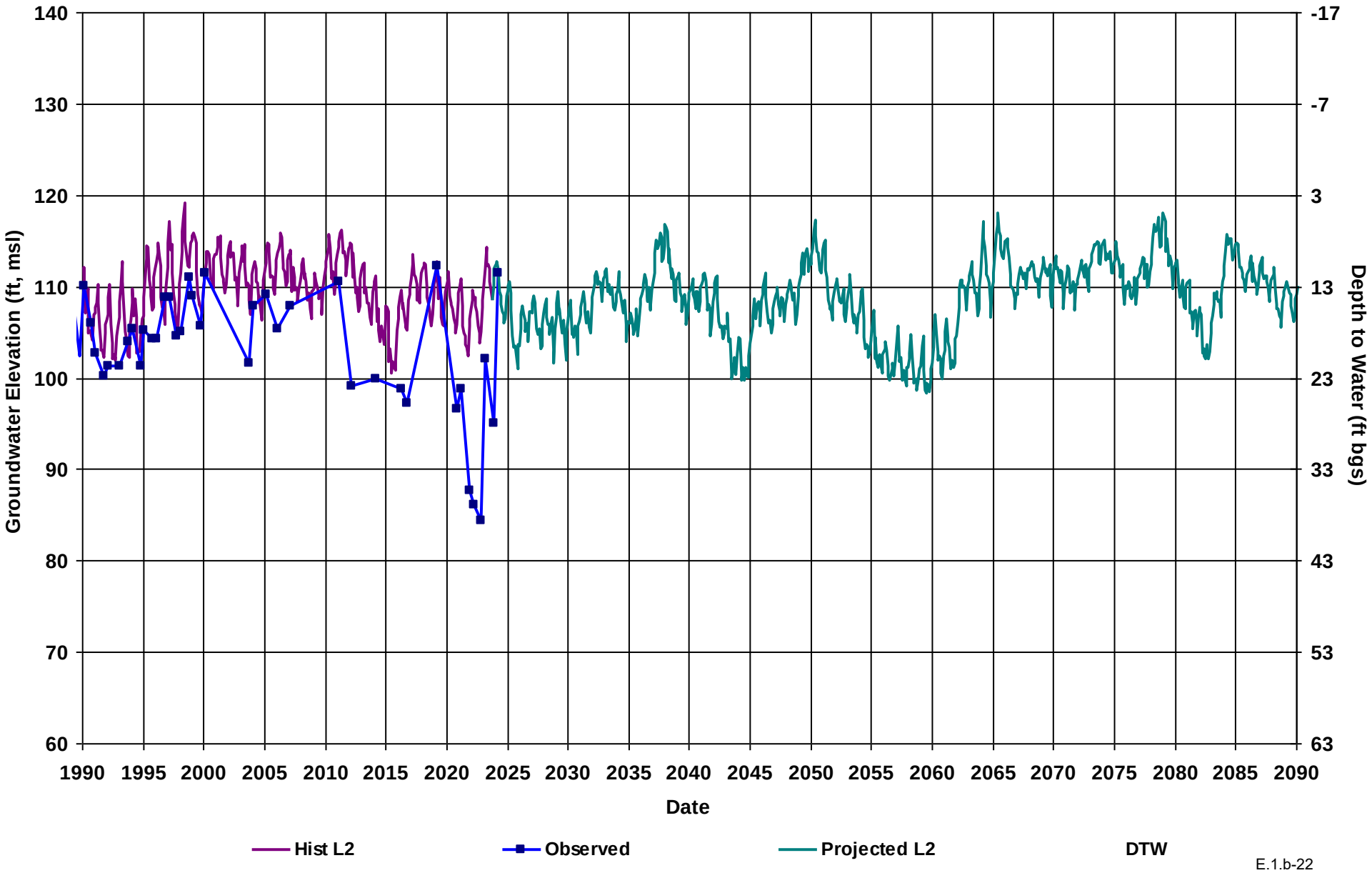
RMS ID: MCW RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 12127

Total Depth (ft): 150
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



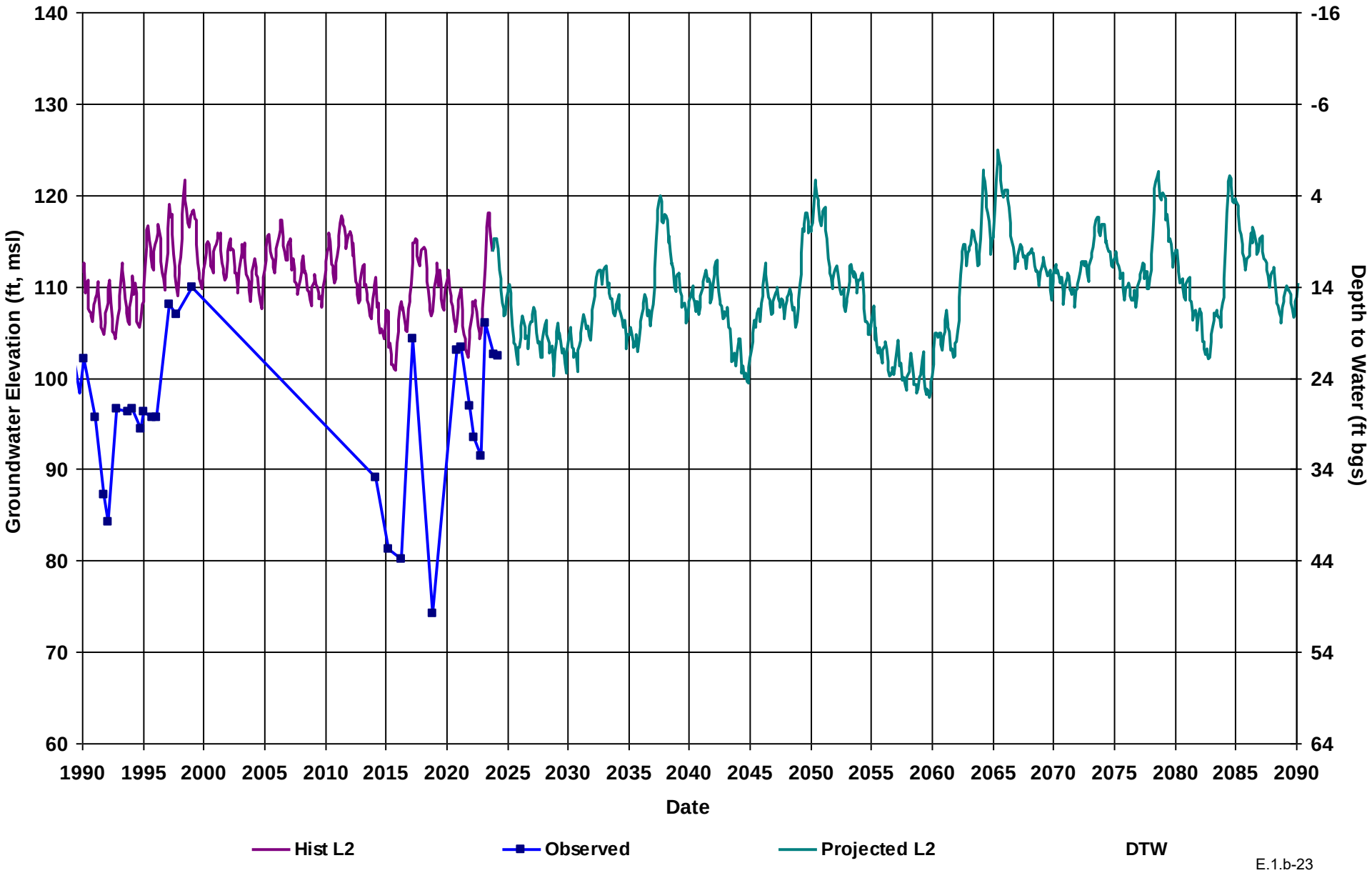
RMS ID: MCW RMS-2
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



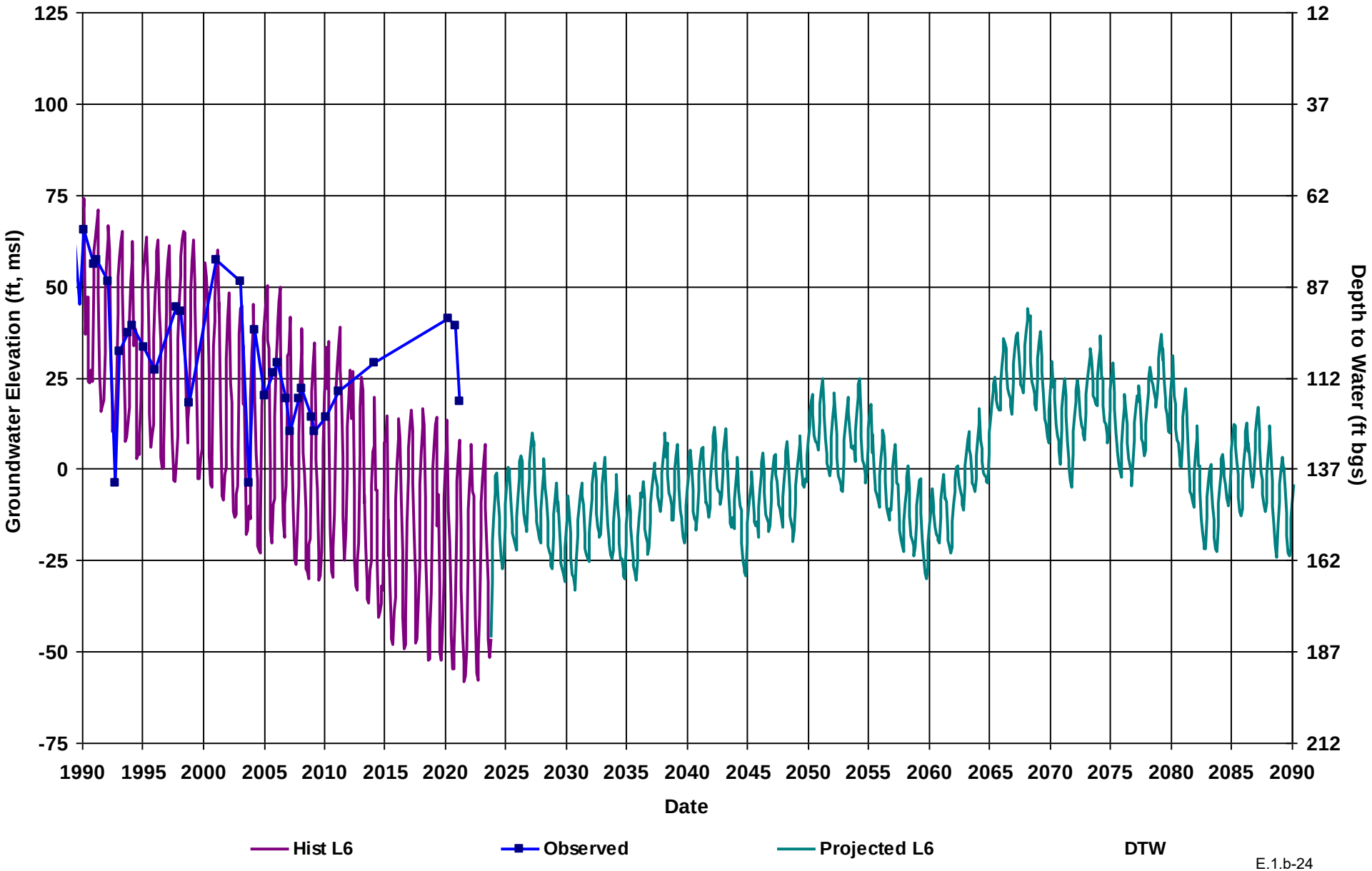
RMS ID: MCW RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



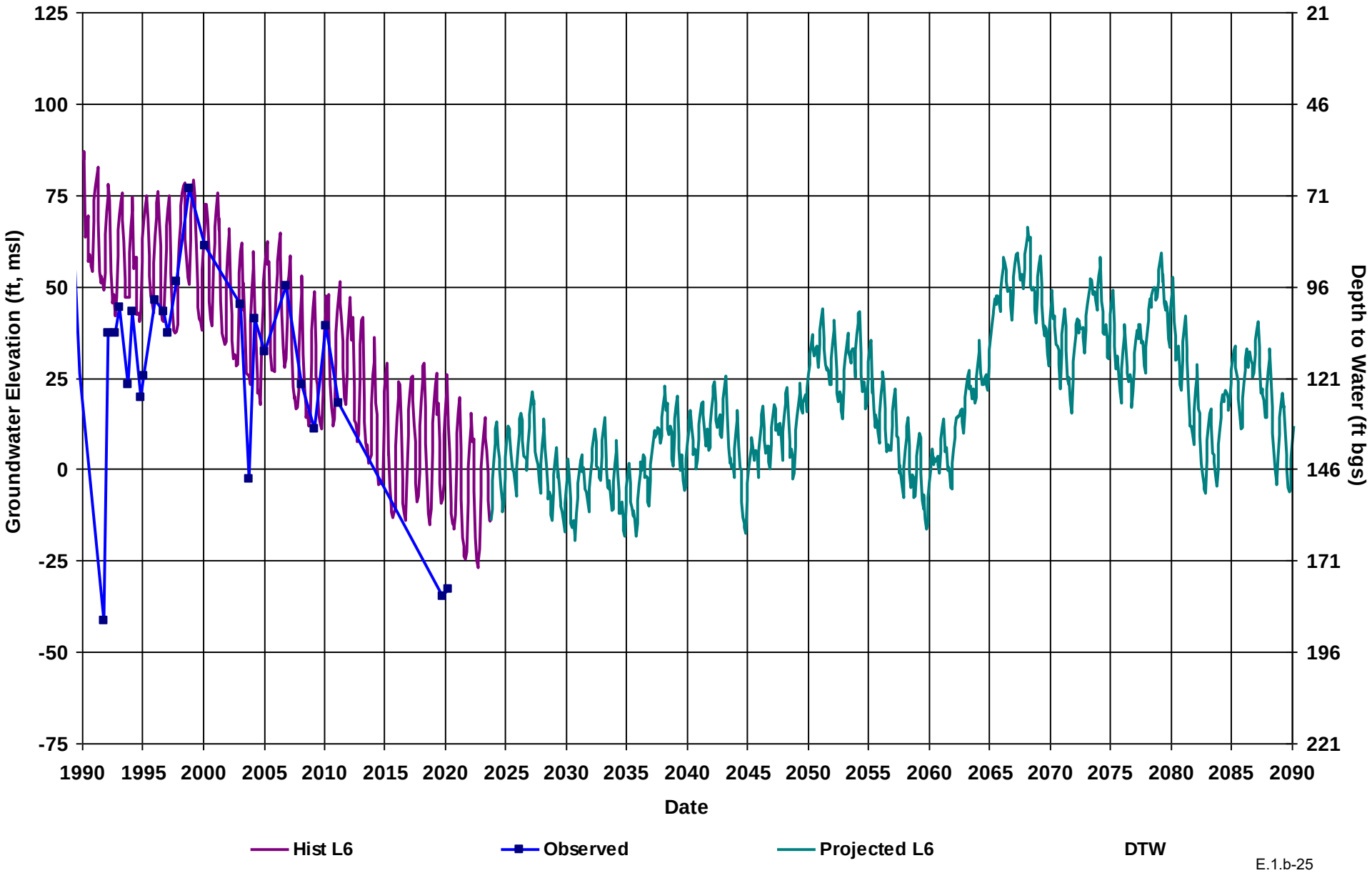
RMS ID: MCW RMS-4
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



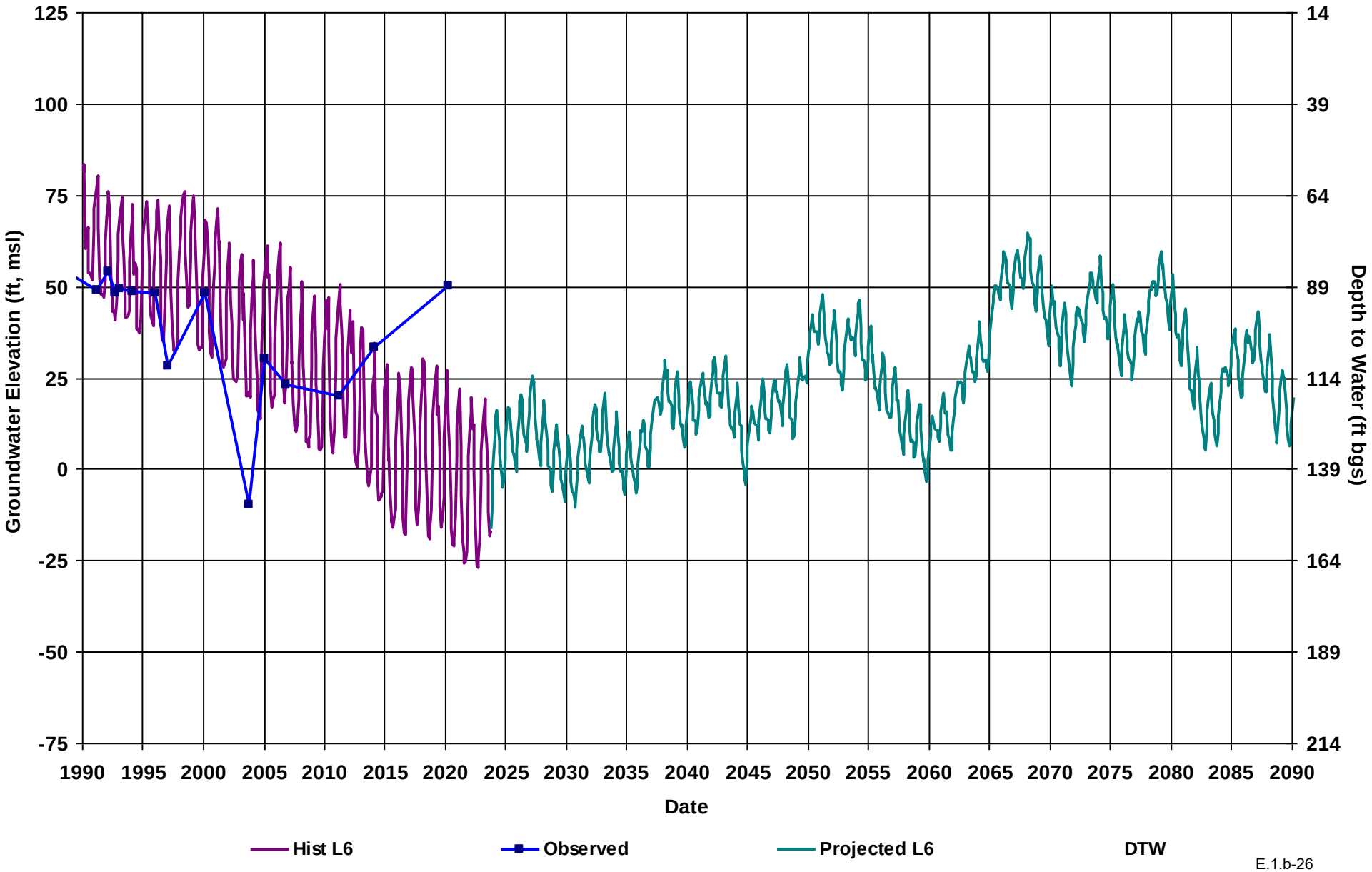
RMS ID: MCW RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 146

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



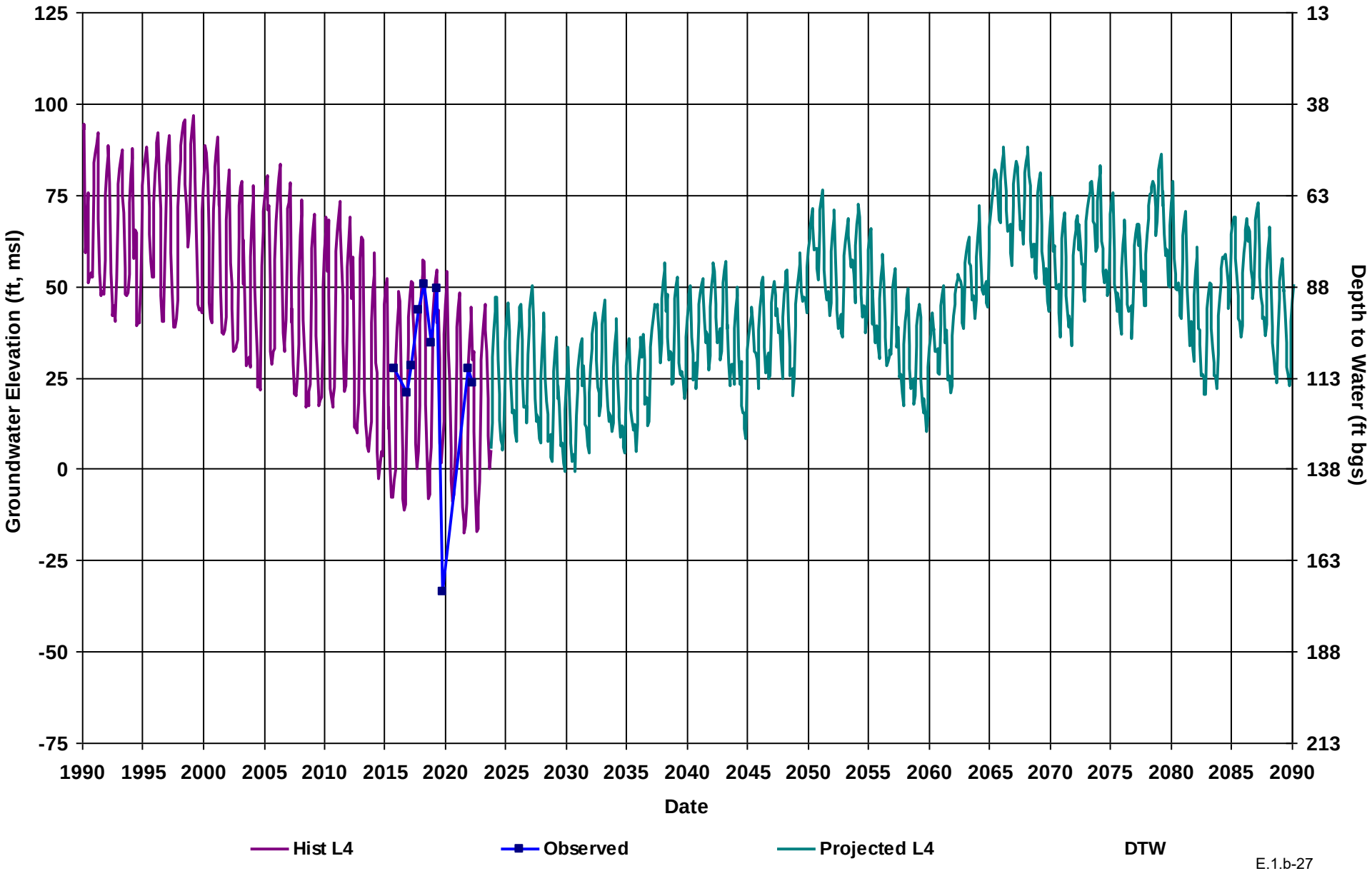
RMS ID: MCW RMS-6
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 139

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



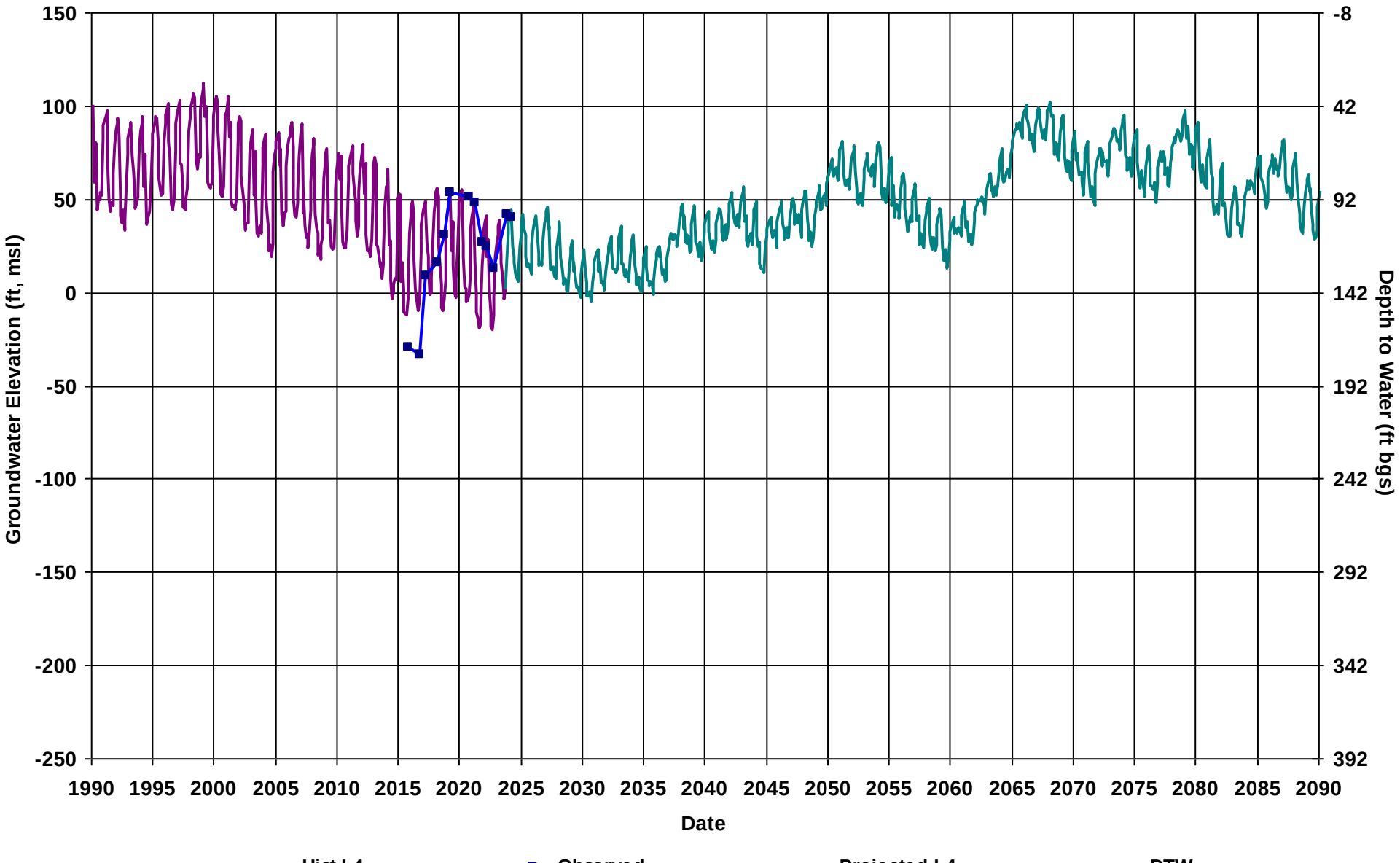
RMS ID: MCW RMS-7
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 138

Total Depth (ft): 800
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



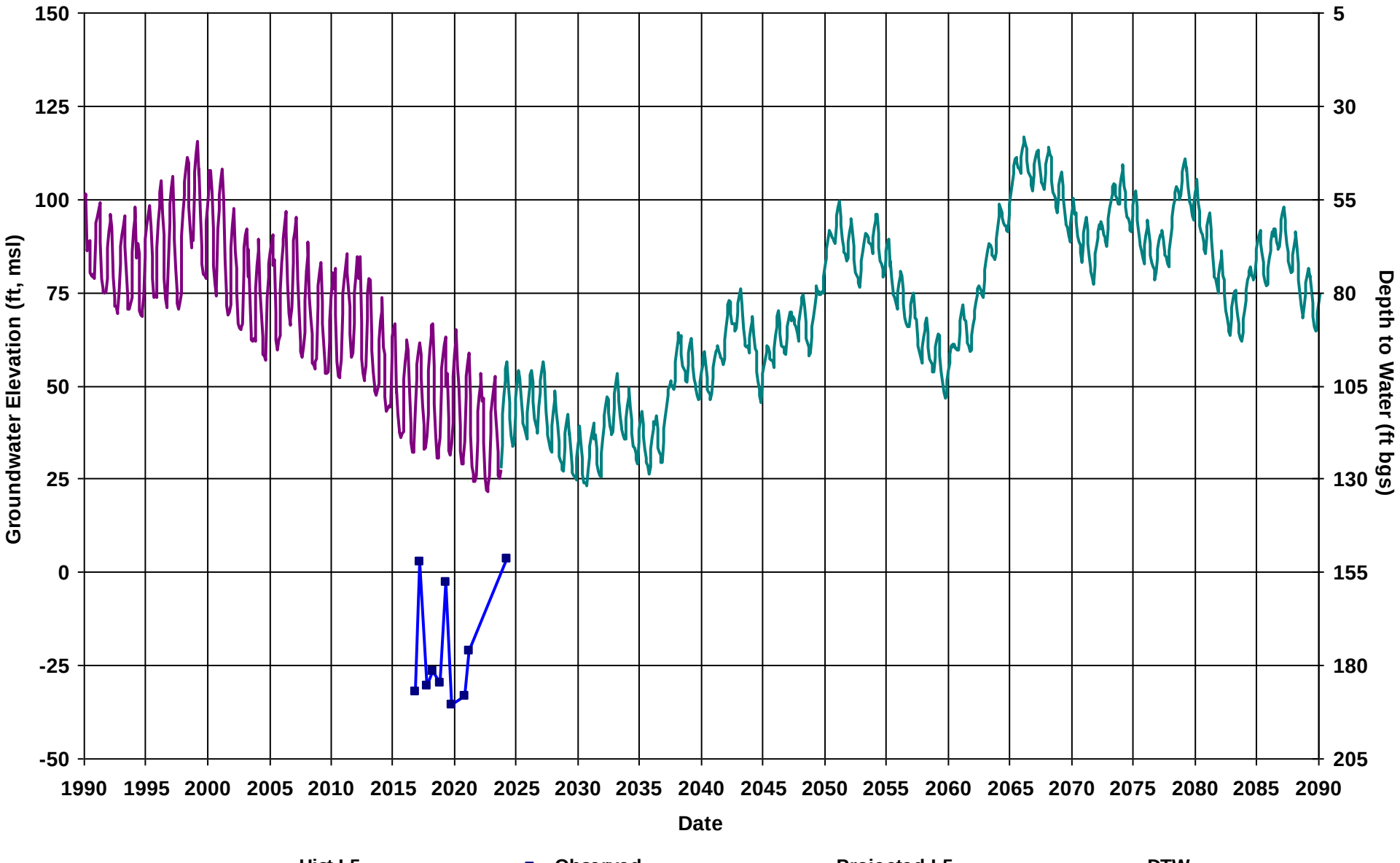
RMS ID: MCW RMS-8
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 142

Total Depth (ft): 480
Perf Top (ft): 160
Perf Bottom (ft): 475
Top Model Layer: 4
Bottom Model Layer: 4



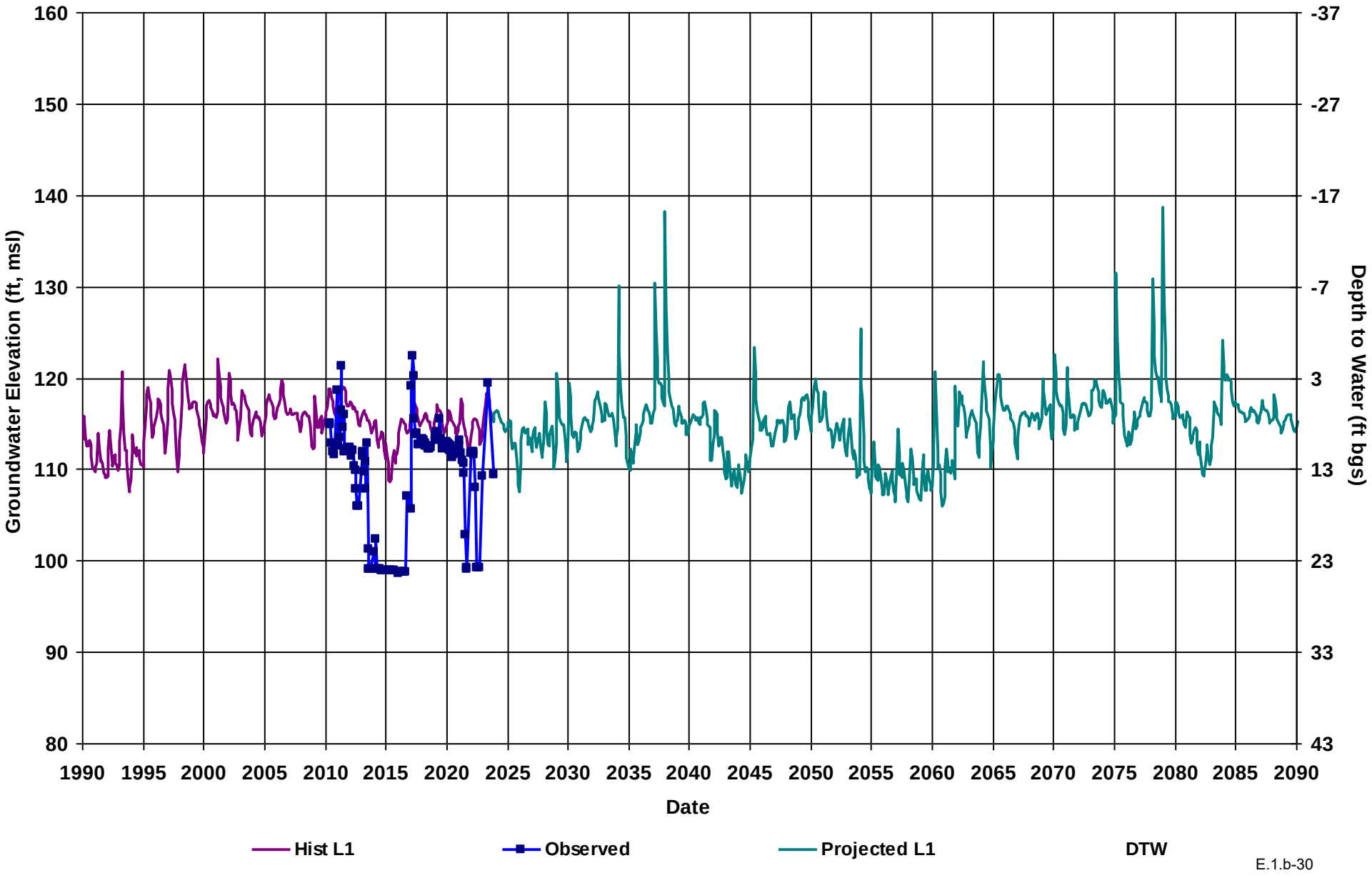
RMS ID: MCW RMS-9
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 155

Total Depth (ft): 700
Perf Top (ft): 265
Perf Bottom (ft): 696
Top Model Layer: 5
Bottom Model Layer: 5



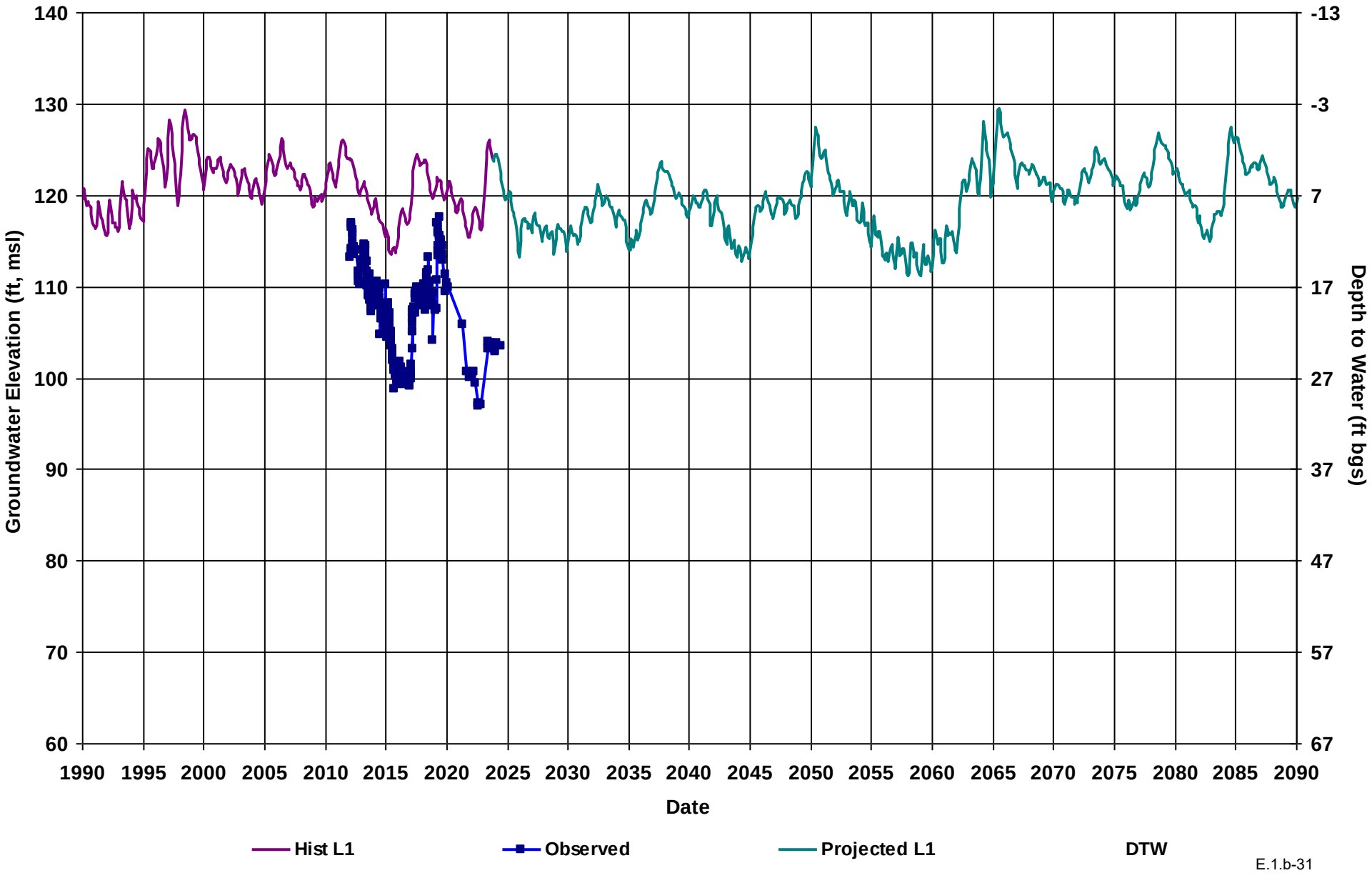
RMS ID: MCW RMS-10
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 26
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



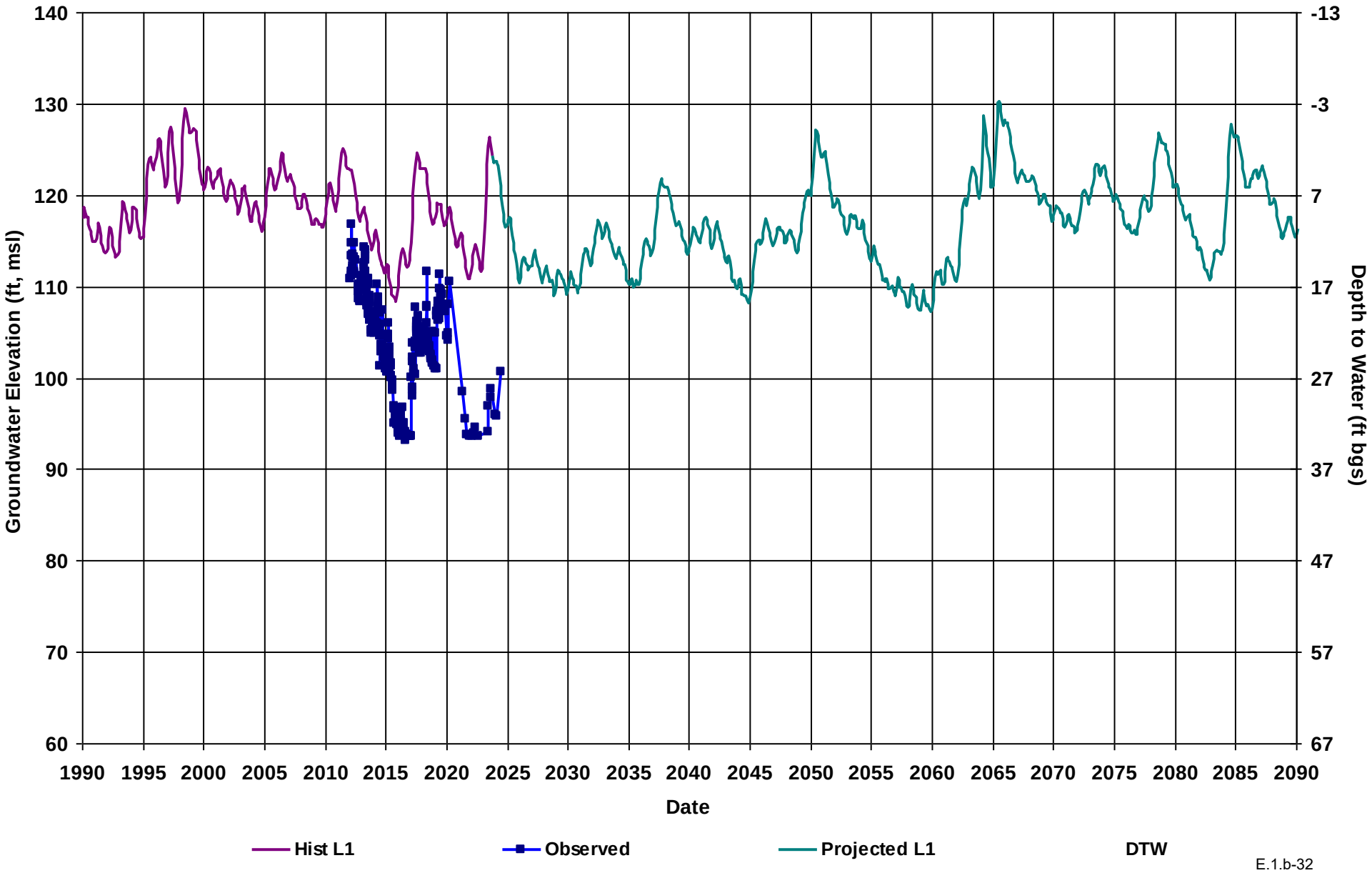
RMS ID: MCW RMS-11
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



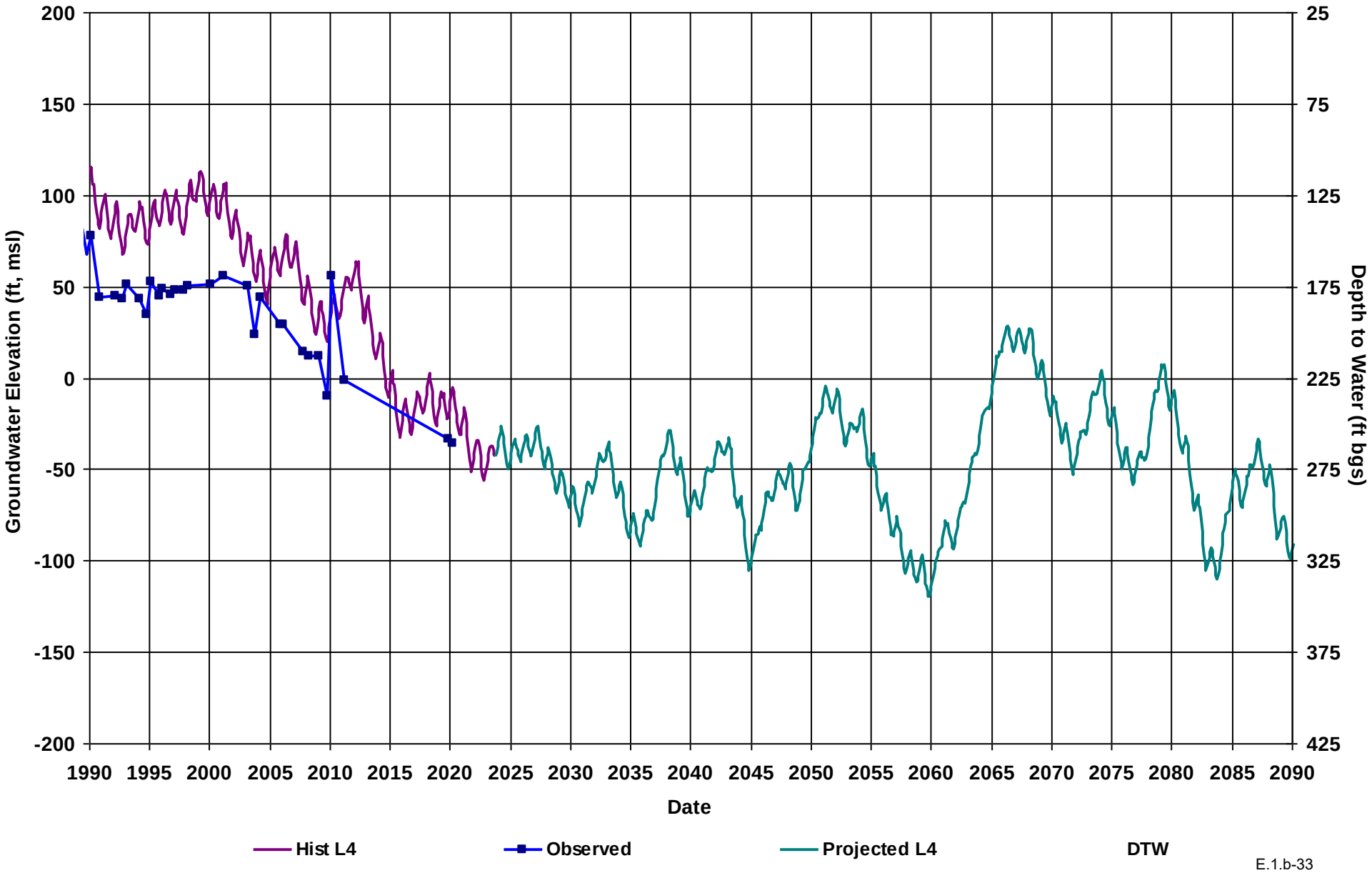
RMS ID: MCW RMS-12
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 120

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



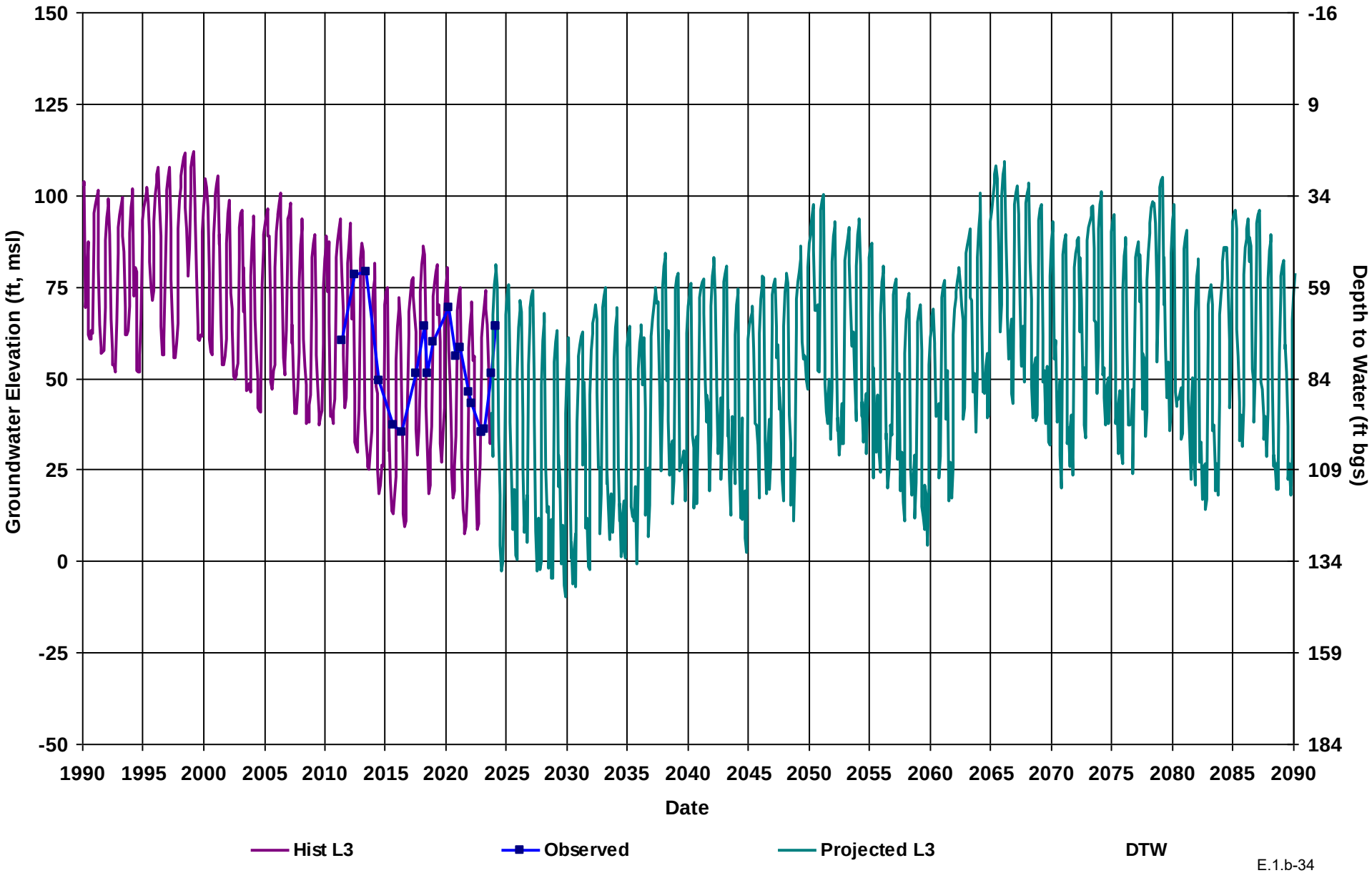
RMS ID: MER RMS-1
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



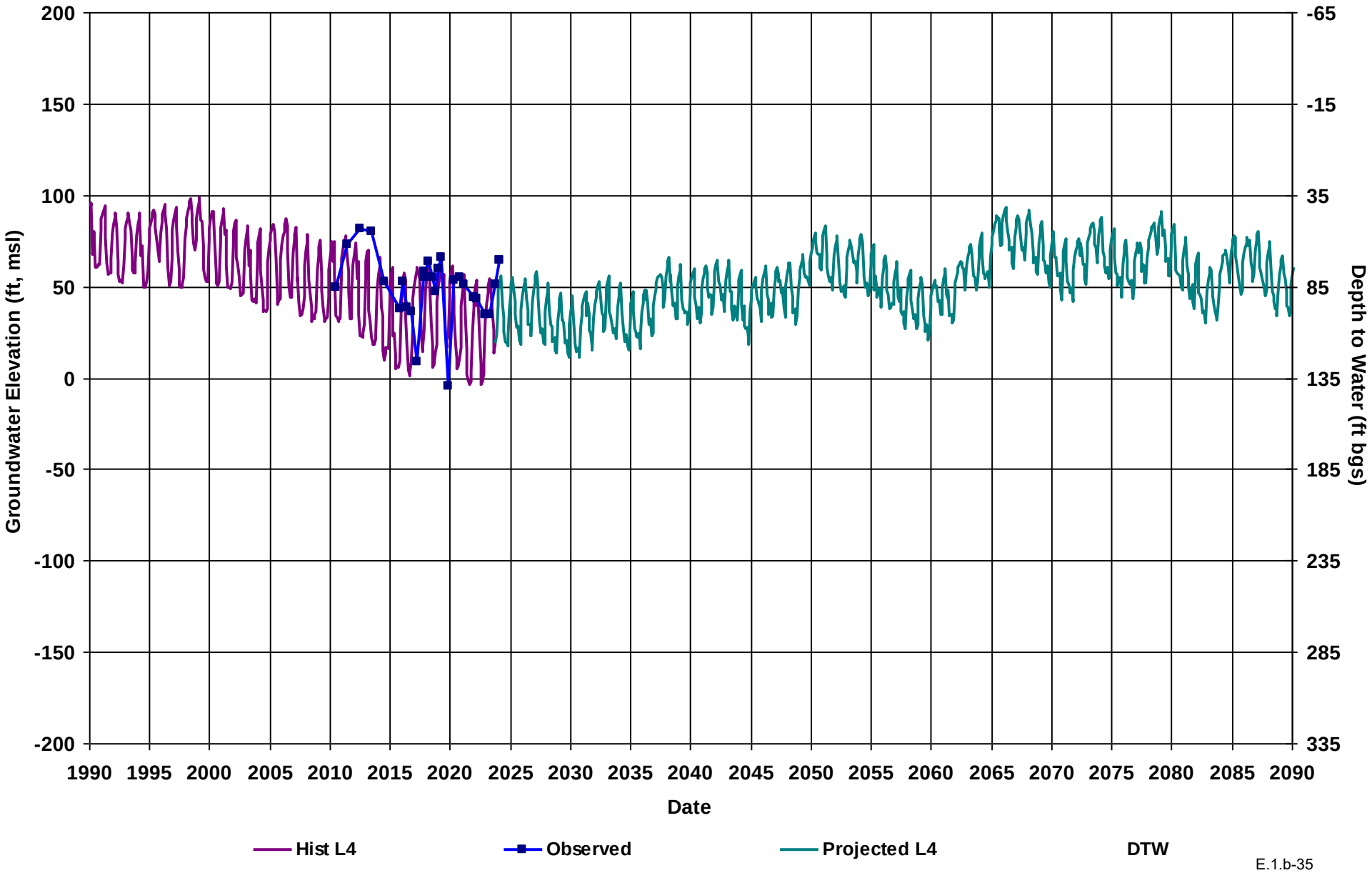
RMS ID: TRT RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 134

Total Depth (ft): 196
Perf Top (ft): 158
Perf Bottom (ft): 192
Top Model Layer: 3
Bottom Model Layer: 3



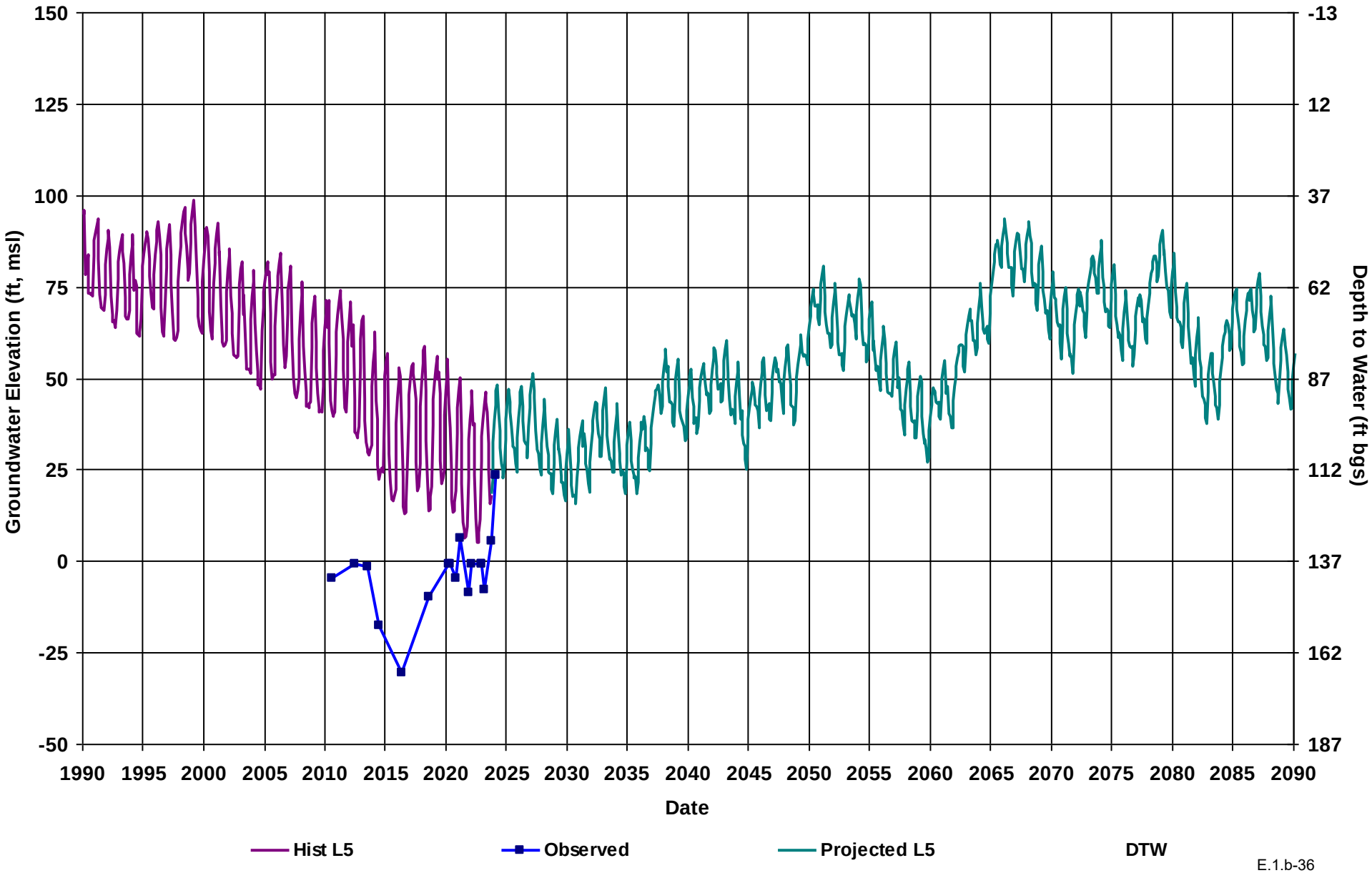
RMS ID: TRT RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 135

Total Depth (ft): 500
Perf Top (ft): 300
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



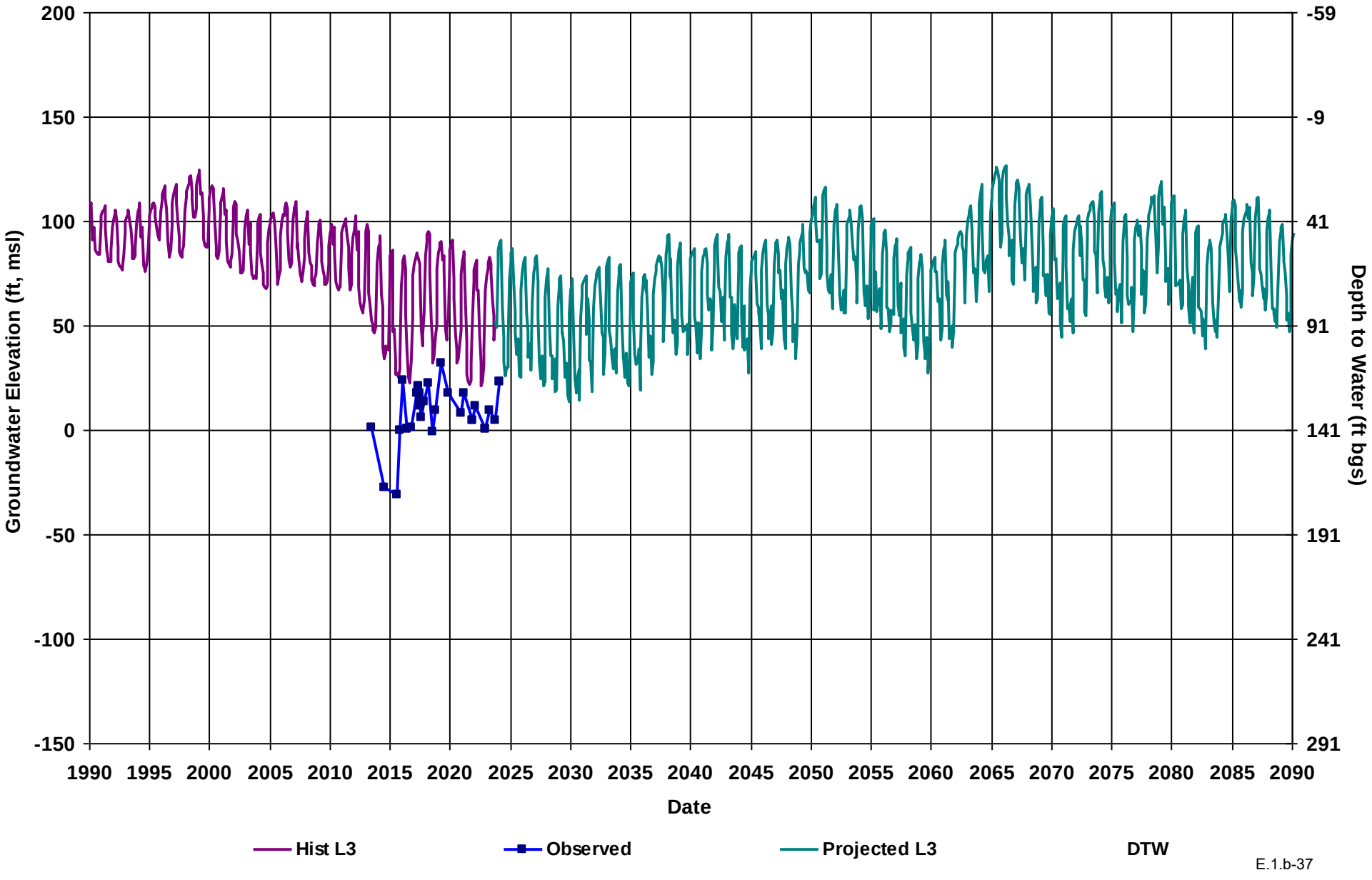
RMS ID: TRT RMS-3
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft): 799
Perf Top (ft): 168
Perf Bottom (ft): 790
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: TRT RMS-4
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 141

Total Depth (ft): 840
Perf Top (ft): 190
Perf Bottom (ft): 260
Top Model Layer: 3
Bottom Model Layer: 3



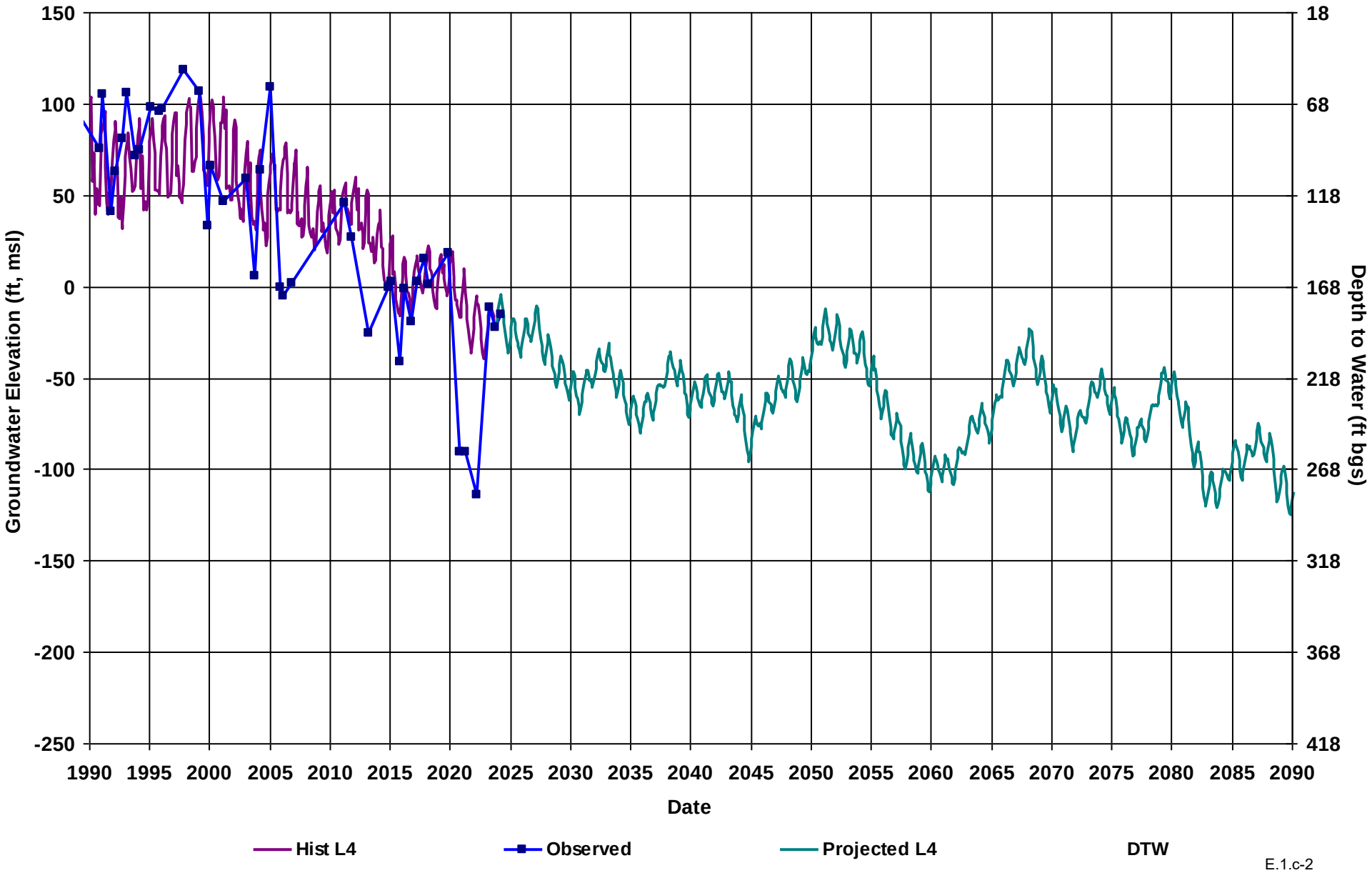
APPENDIX E.1.c

Chowchilla Subbasin Groundwater Elevation Hydrographs for RMS Wells - Projected with Projects with Climate Change Scenario

LSCE

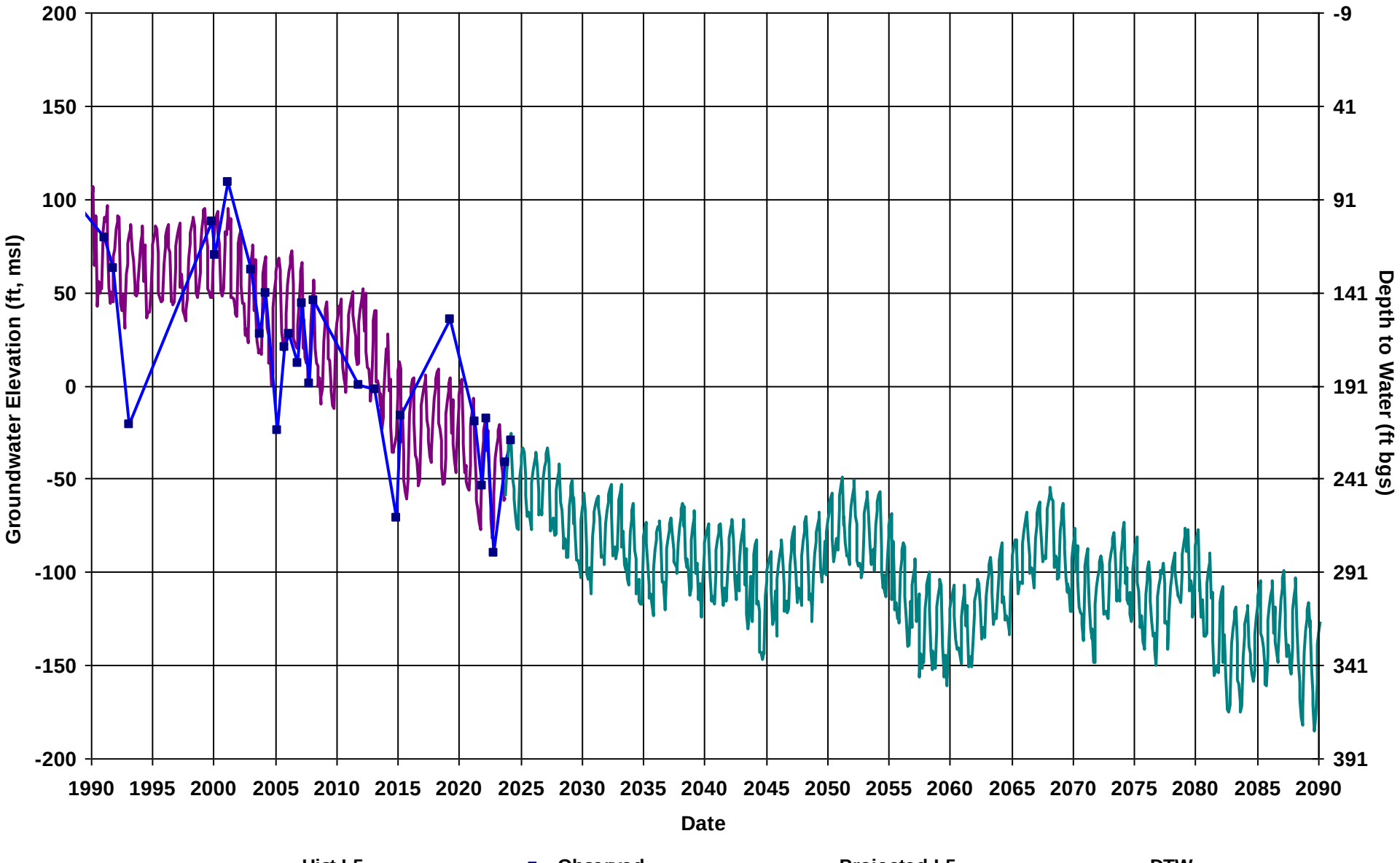
RMS ID: CWD RMS-1
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 168

Total Depth (ft): 275
Perf Top (ft): 160
Perf Bottom (ft): 275
Top Model Layer: 4
Bottom Model Layer: 4



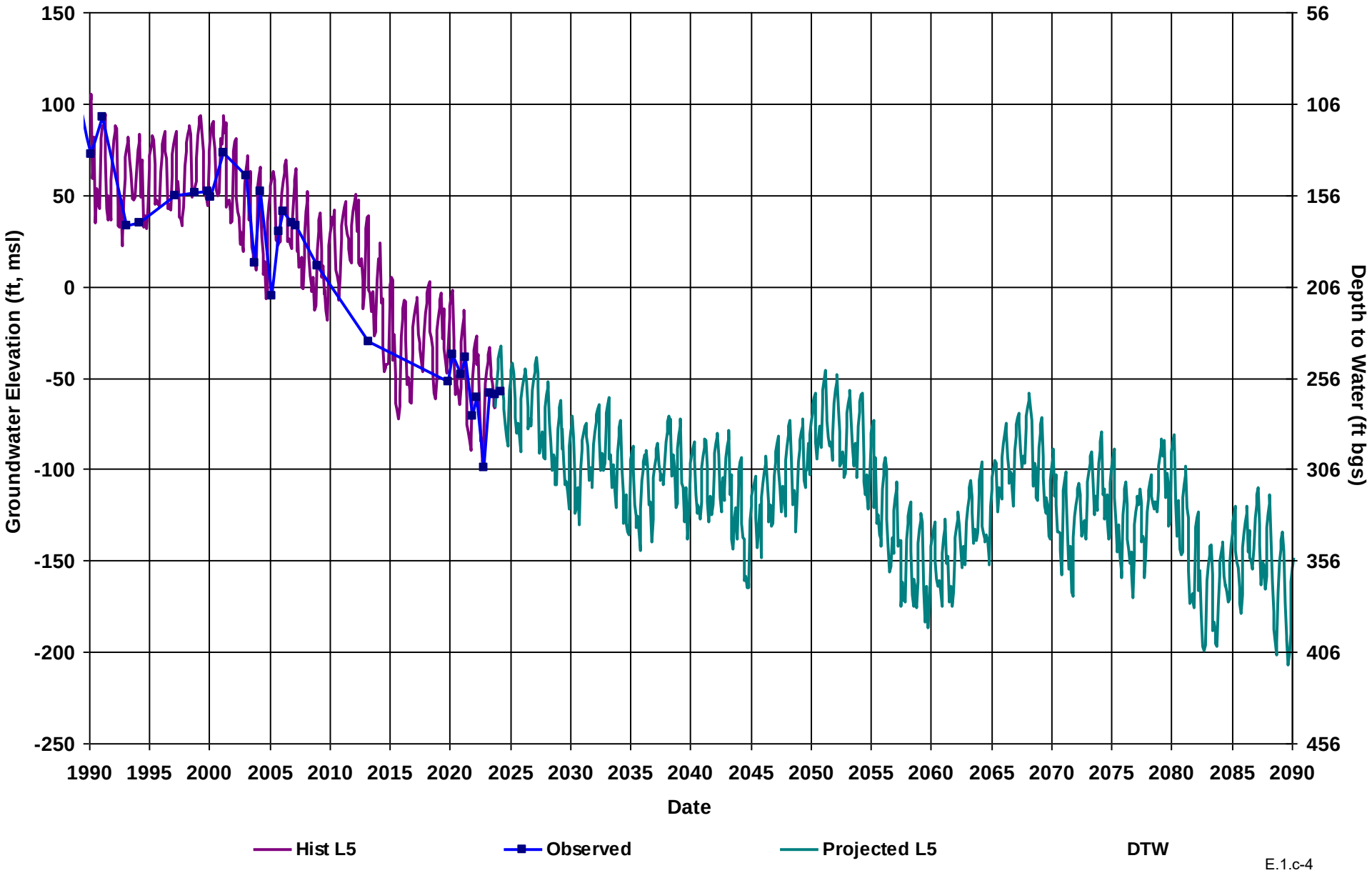
RMS ID: CWD RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 5
Bottom Model Layer: 5



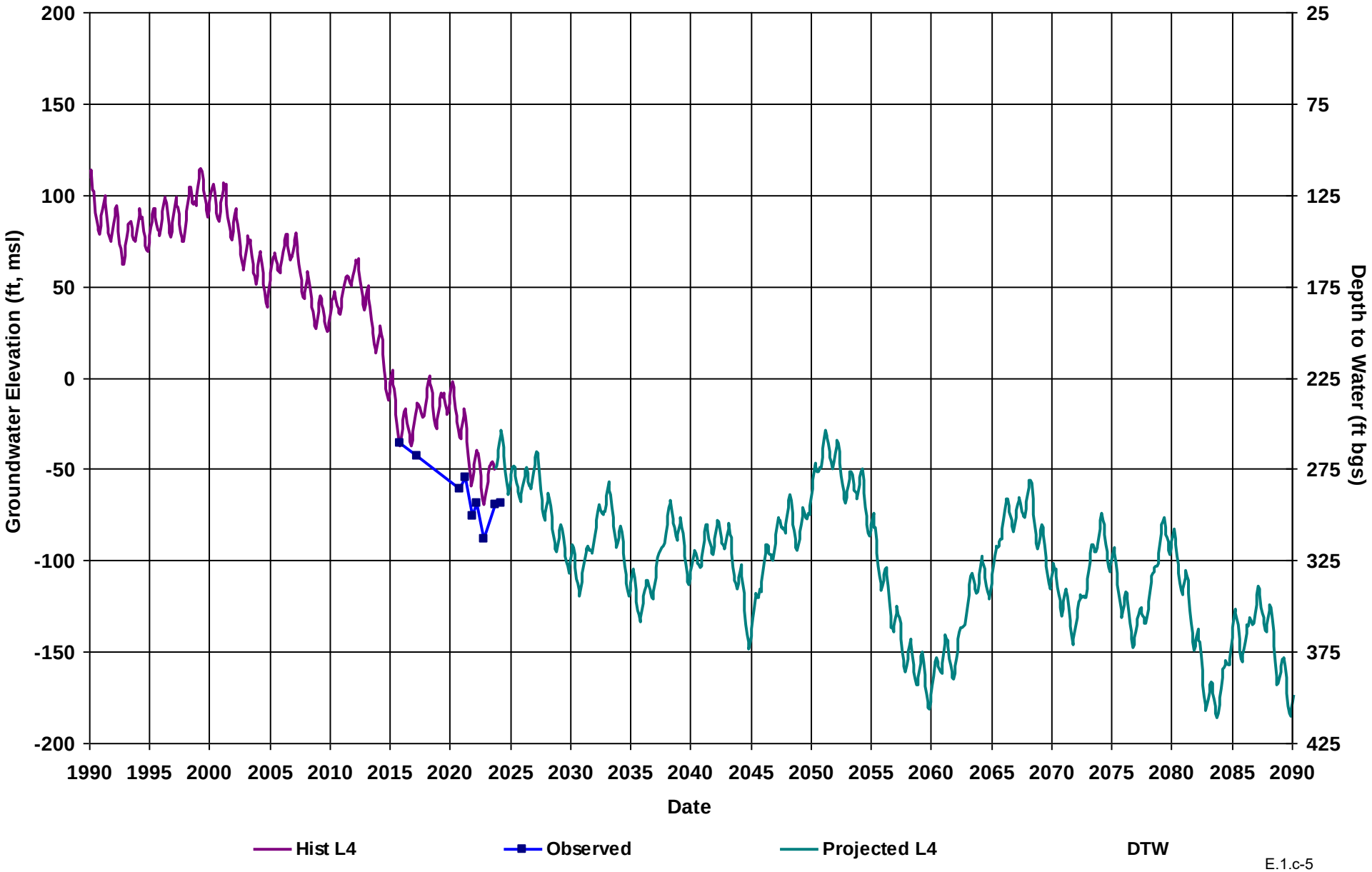
RMS ID: CWD RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 206

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



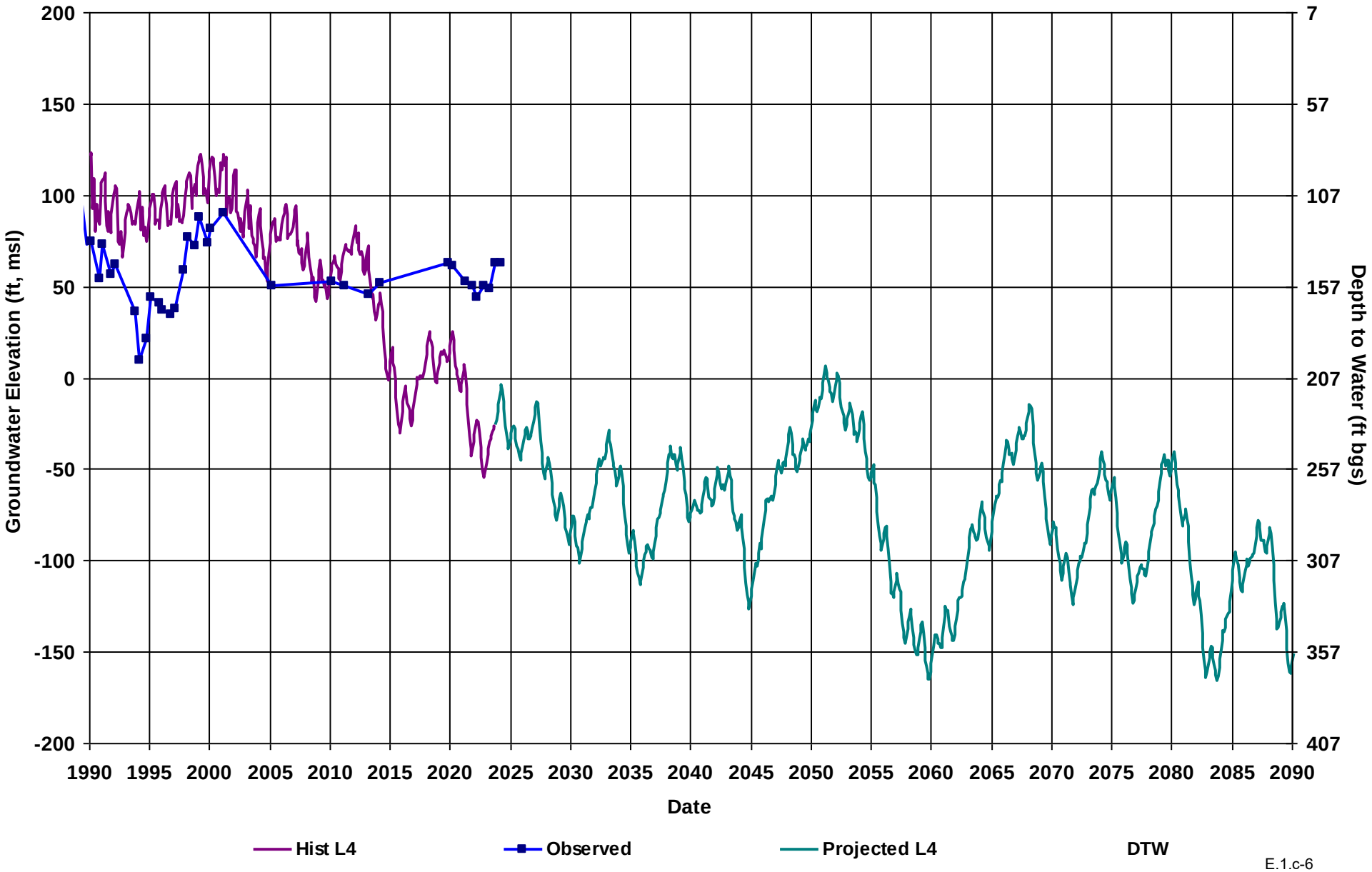
RMS ID: CWD RMS-4
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft): 800
Perf Top (ft): 320
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



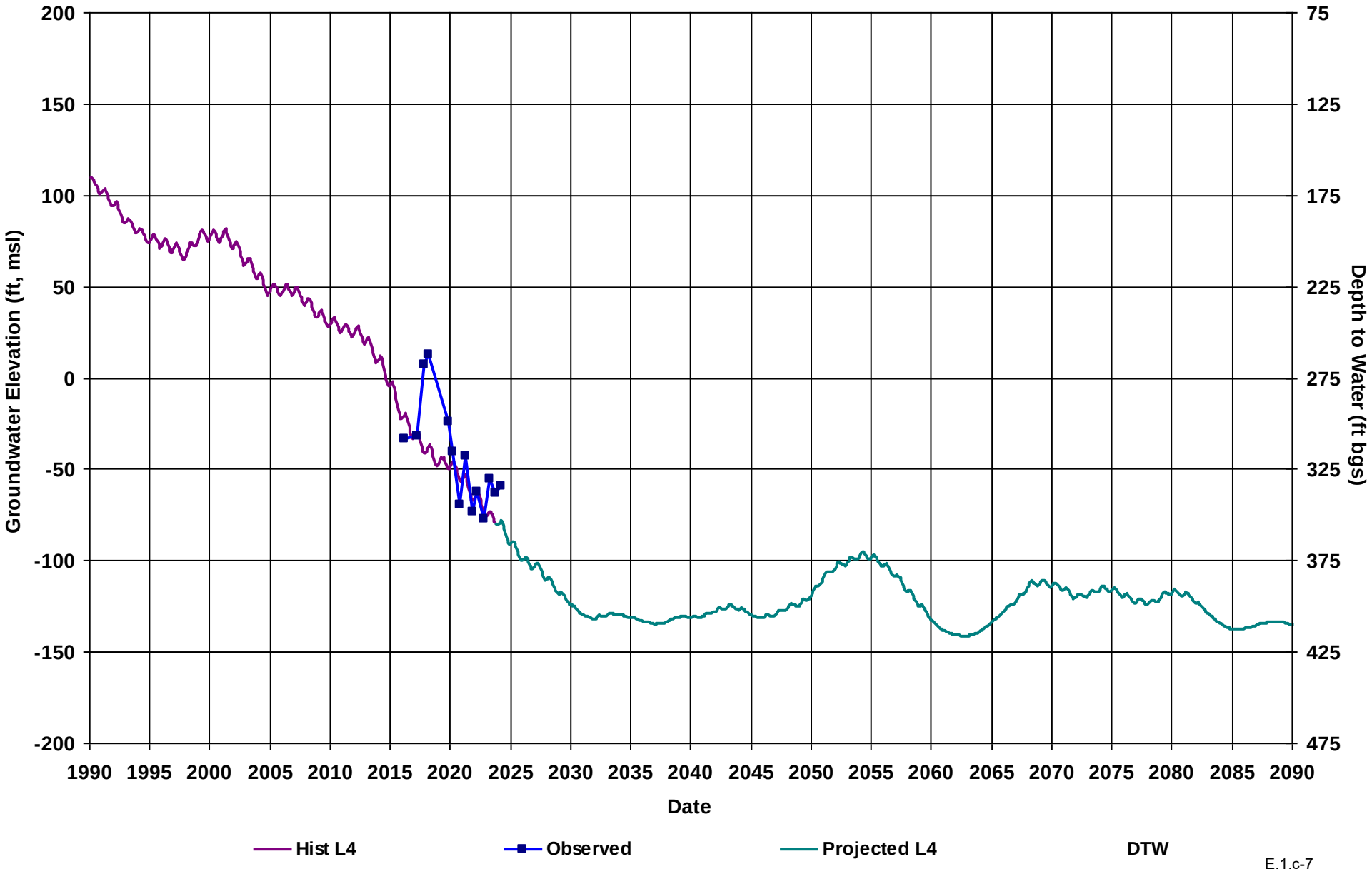
RMS ID: CWD RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 207

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



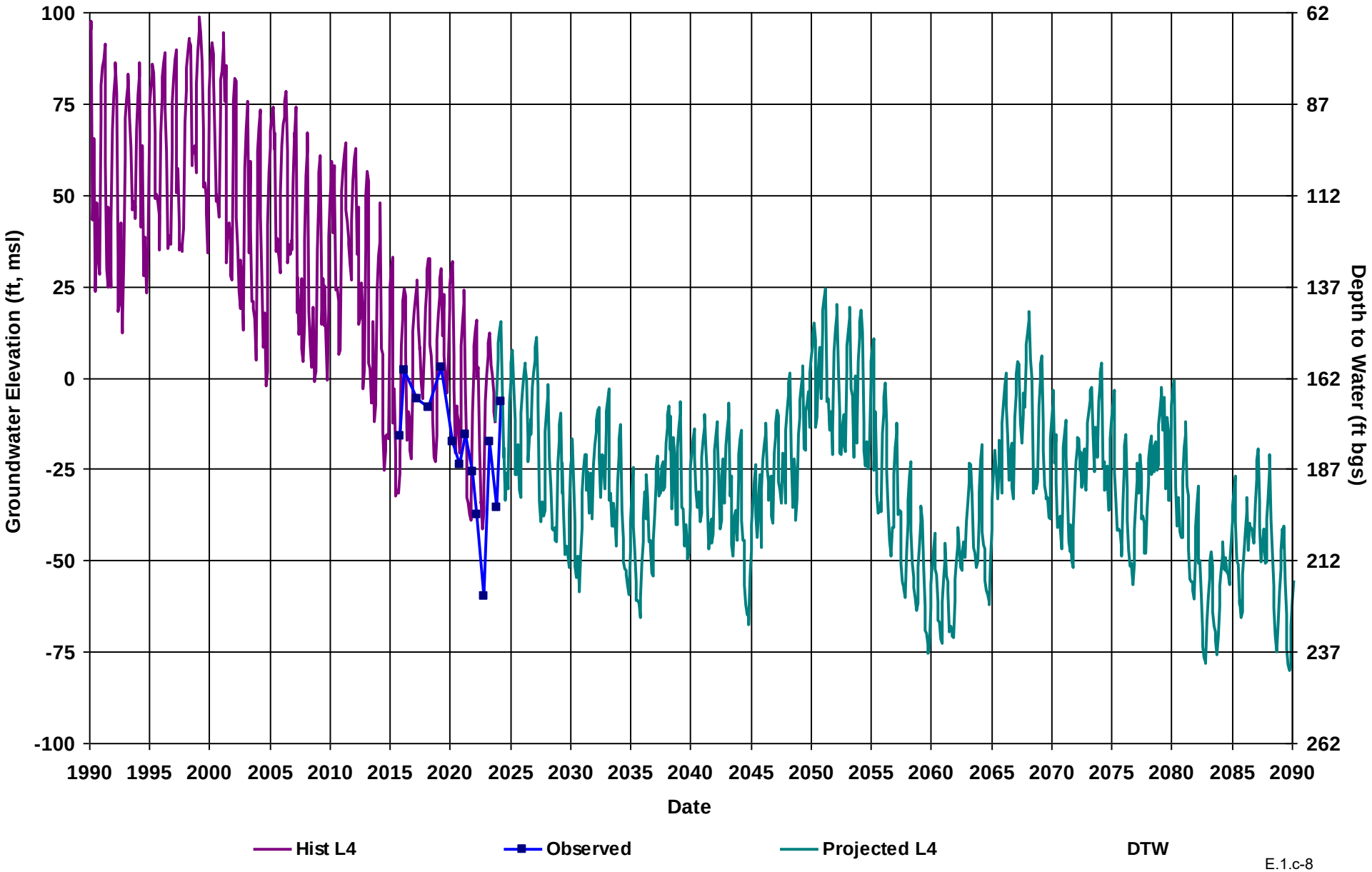
RMS ID: CWD RMS-6
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 275

Total Depth (ft): 820
Perf Top (ft): 257
Perf Bottom (ft): 726
Top Model Layer: 4
Bottom Model Layer: 4



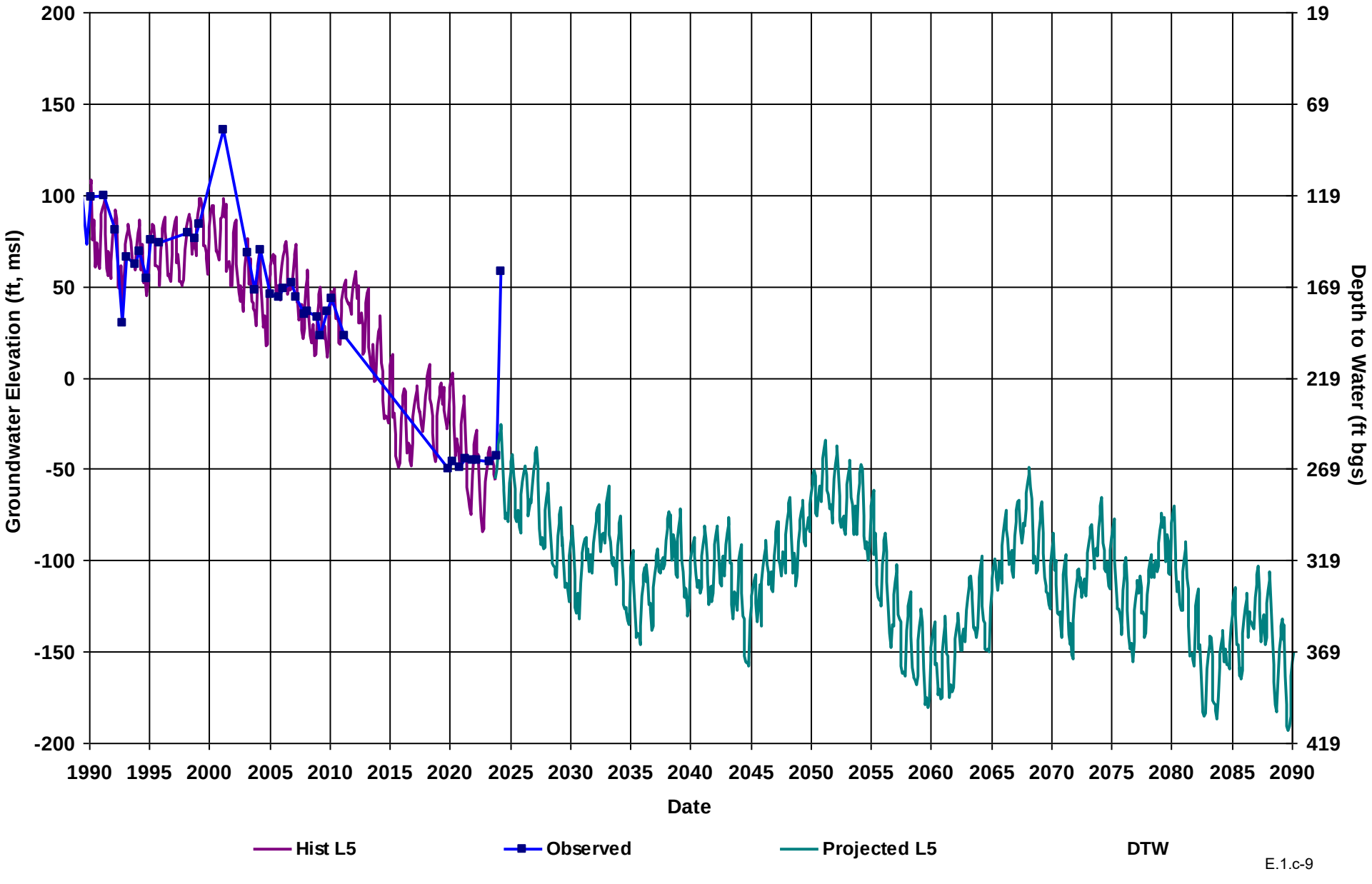
RMS ID: CWD RMS-7
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 169

Total Depth (ft): 330
Perf Top (ft): 135
Perf Bottom (ft): 288
Top Model Layer: 4
Bottom Model Layer: 4



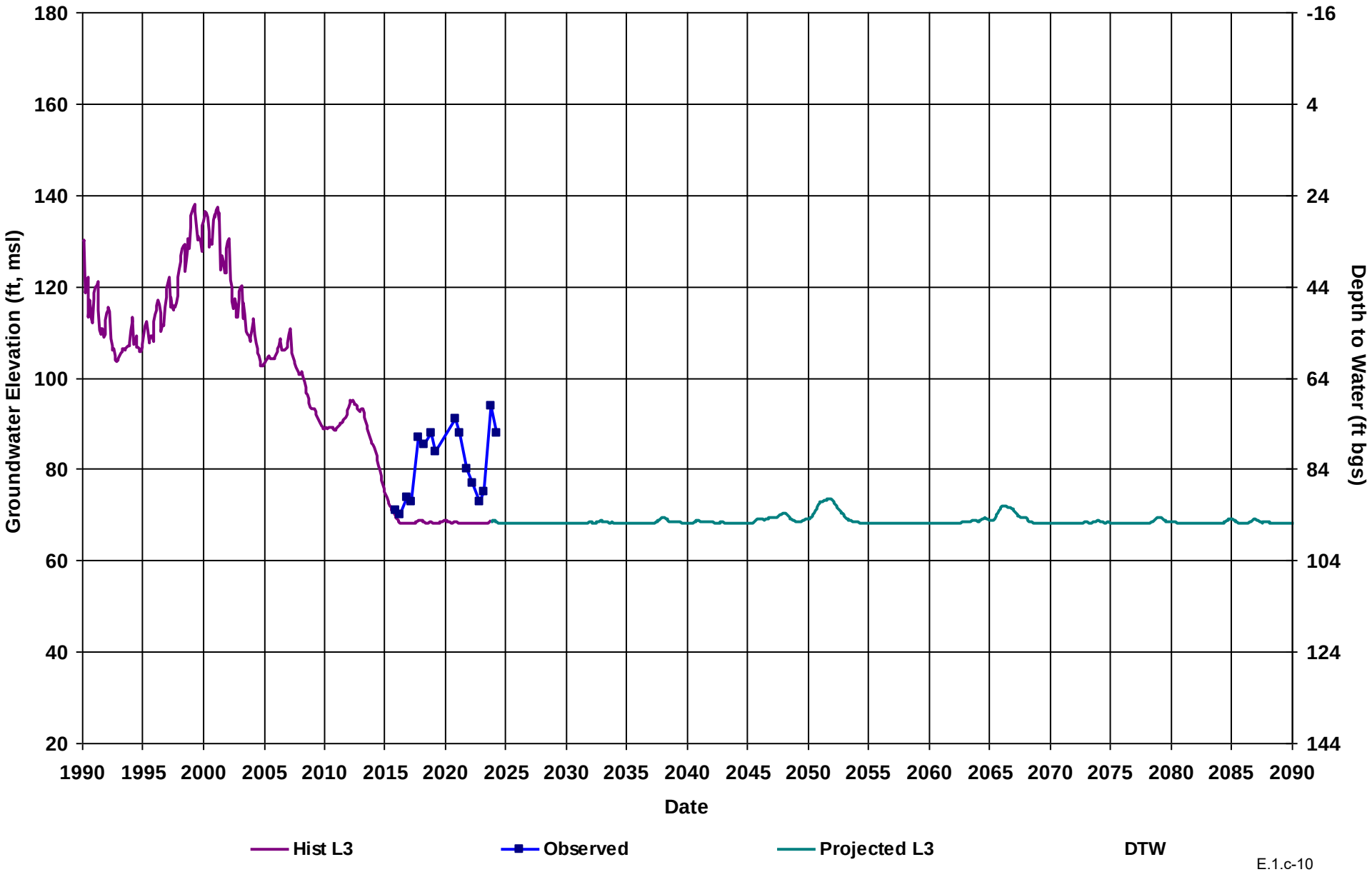
RMS ID: CWD RMS-8
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 219

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



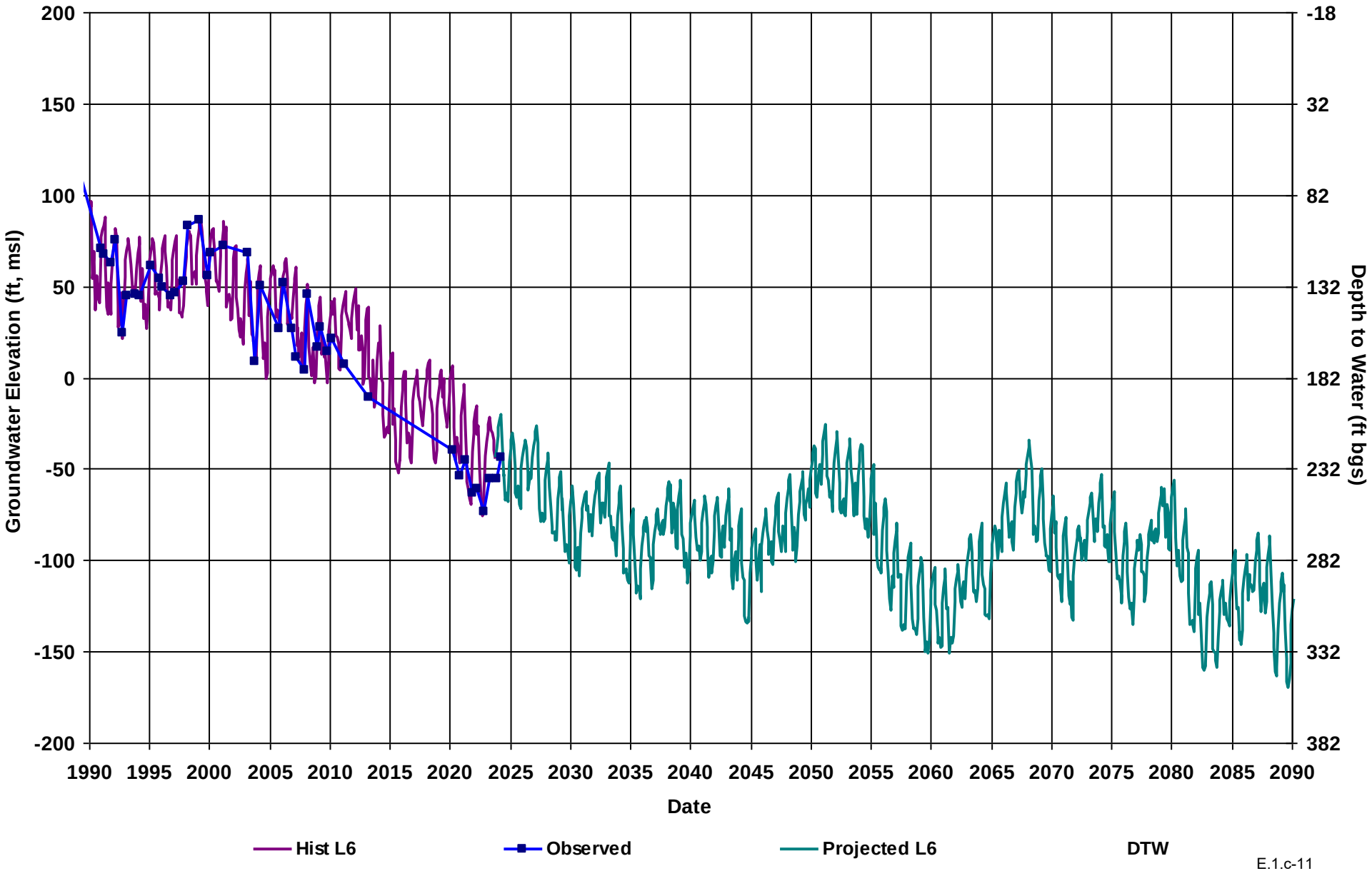
RMS ID: CWD RMS-9
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 164

Total Depth (ft): 97
Perf Top (ft): 82
Perf Bottom (ft): 97
Top Model Layer: 3
Bottom Model Layer: 3



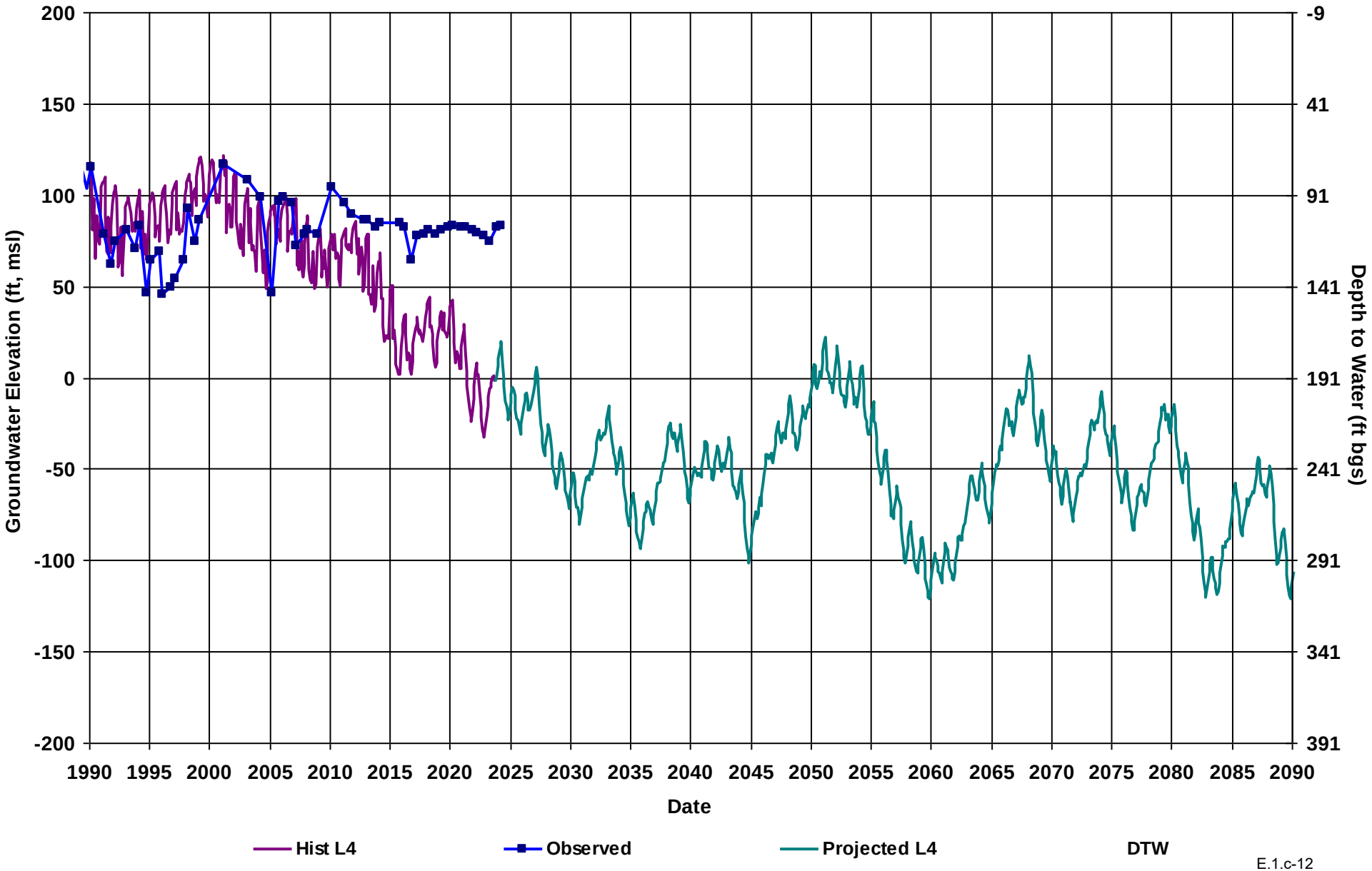
RMS ID: CWD RMS-10
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 182

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



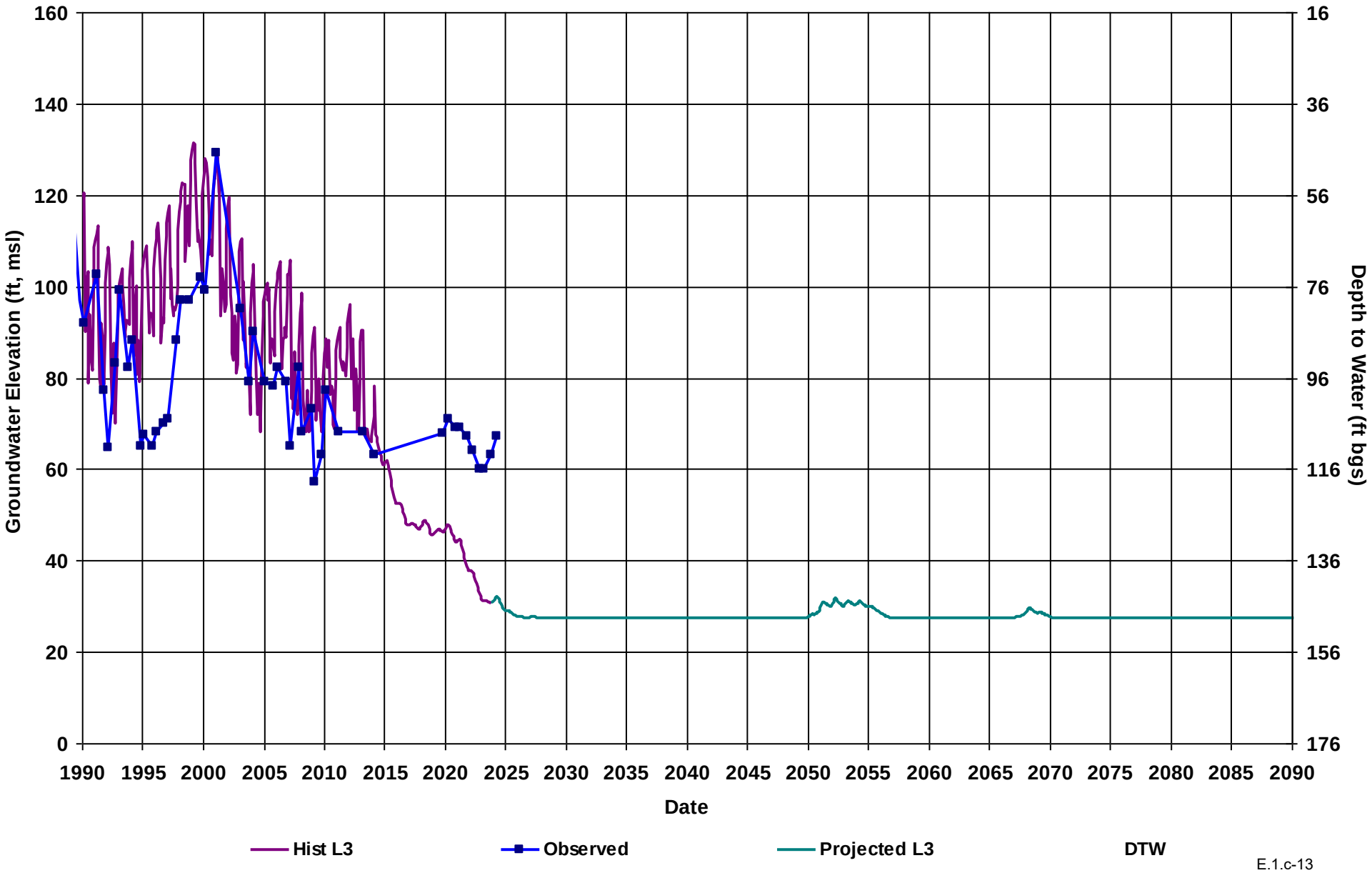
RMS ID: CWD RMS-11
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 199

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



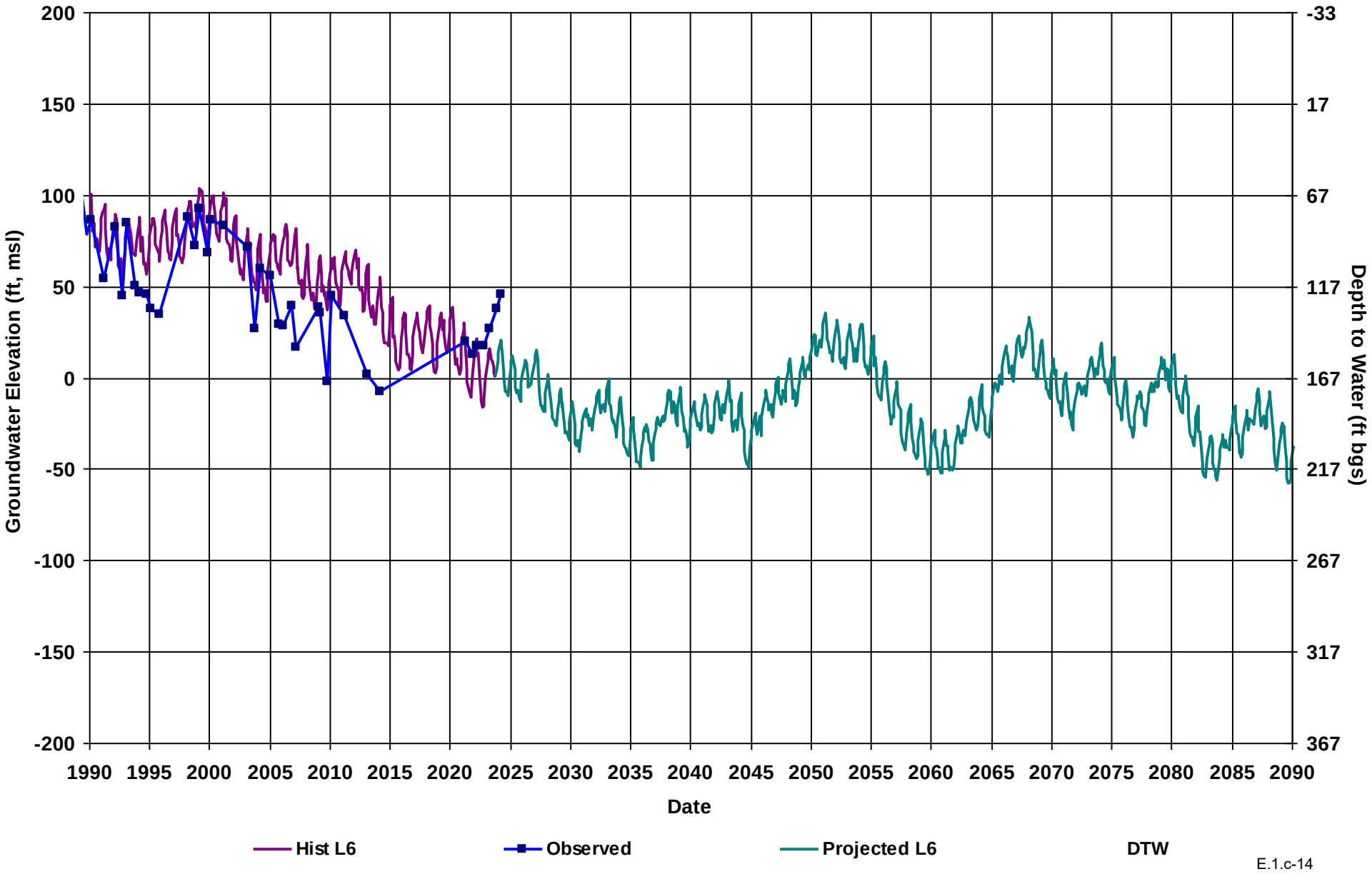
RMS ID: CWD RMS-12
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 176

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



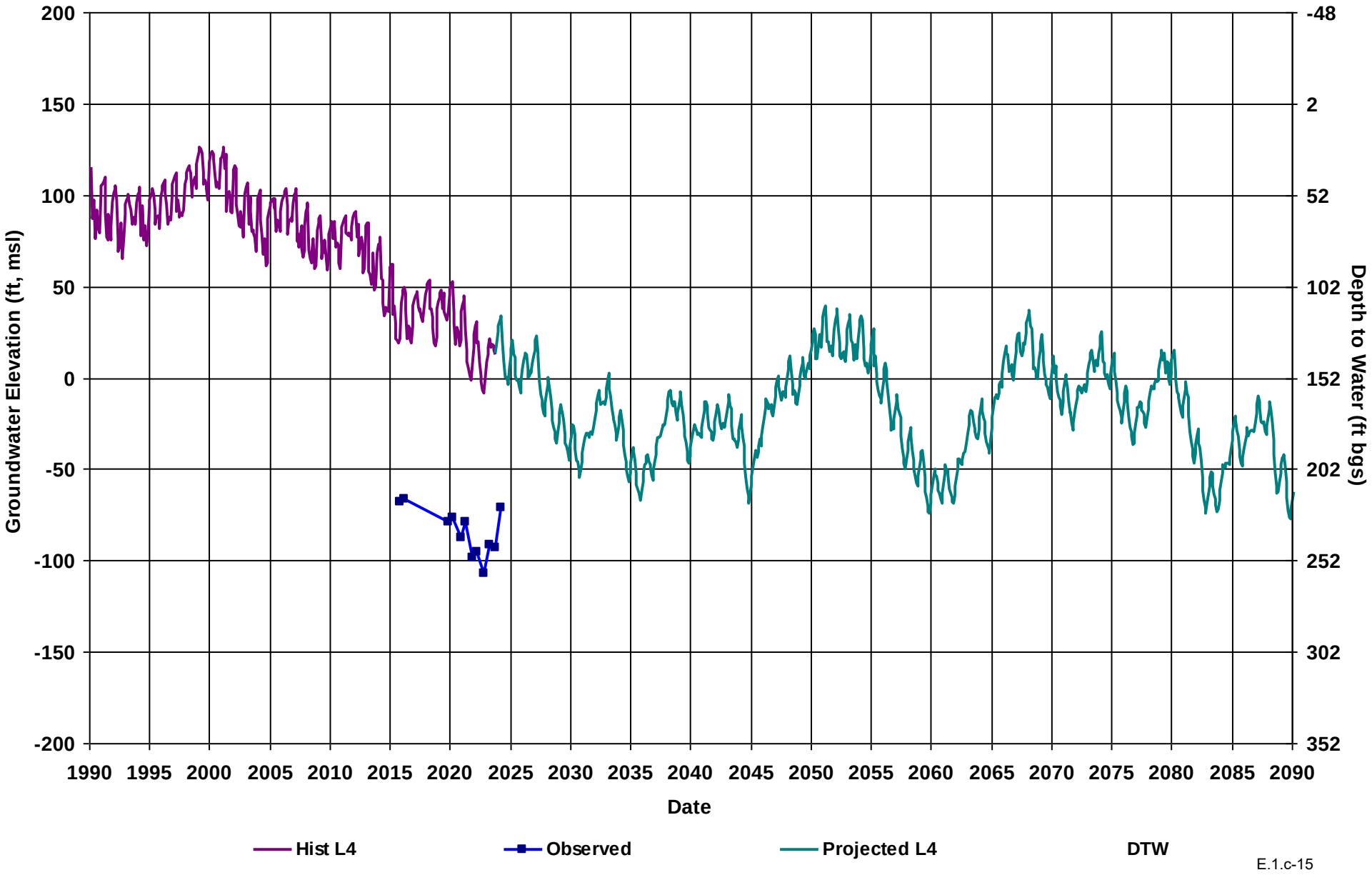
RMS ID: CWD RMS-13
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 167

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



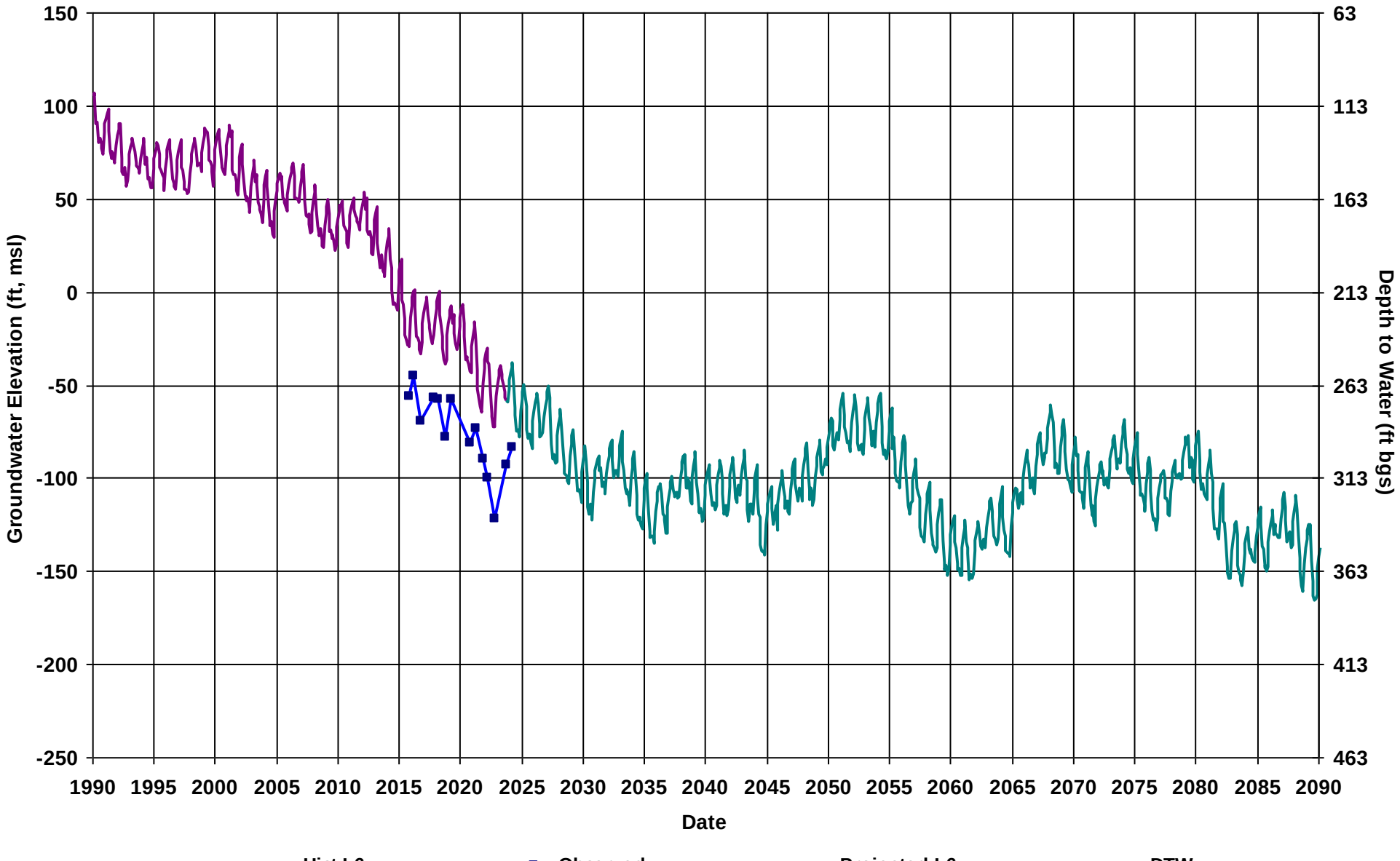
RMS ID: CWD RMS-14
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 152

Total Depth (ft): 455
Perf Top (ft): 185
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



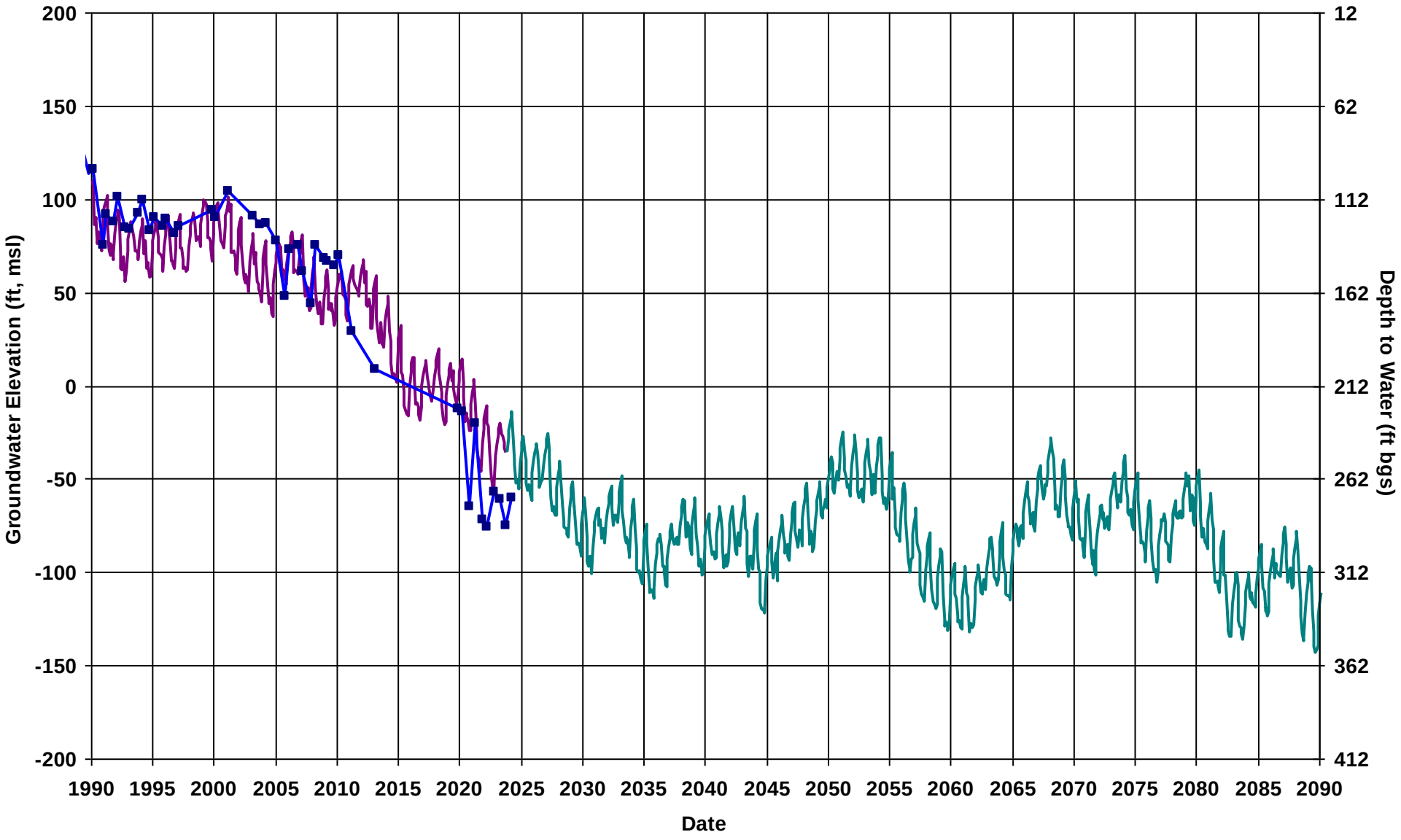
RMS ID: CWD RMS-15
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 213

Total Depth (ft): 955
Perf Top (ft): 290
Perf Bottom (ft): 935
Top Model Layer: 6
Bottom Model Layer: 6



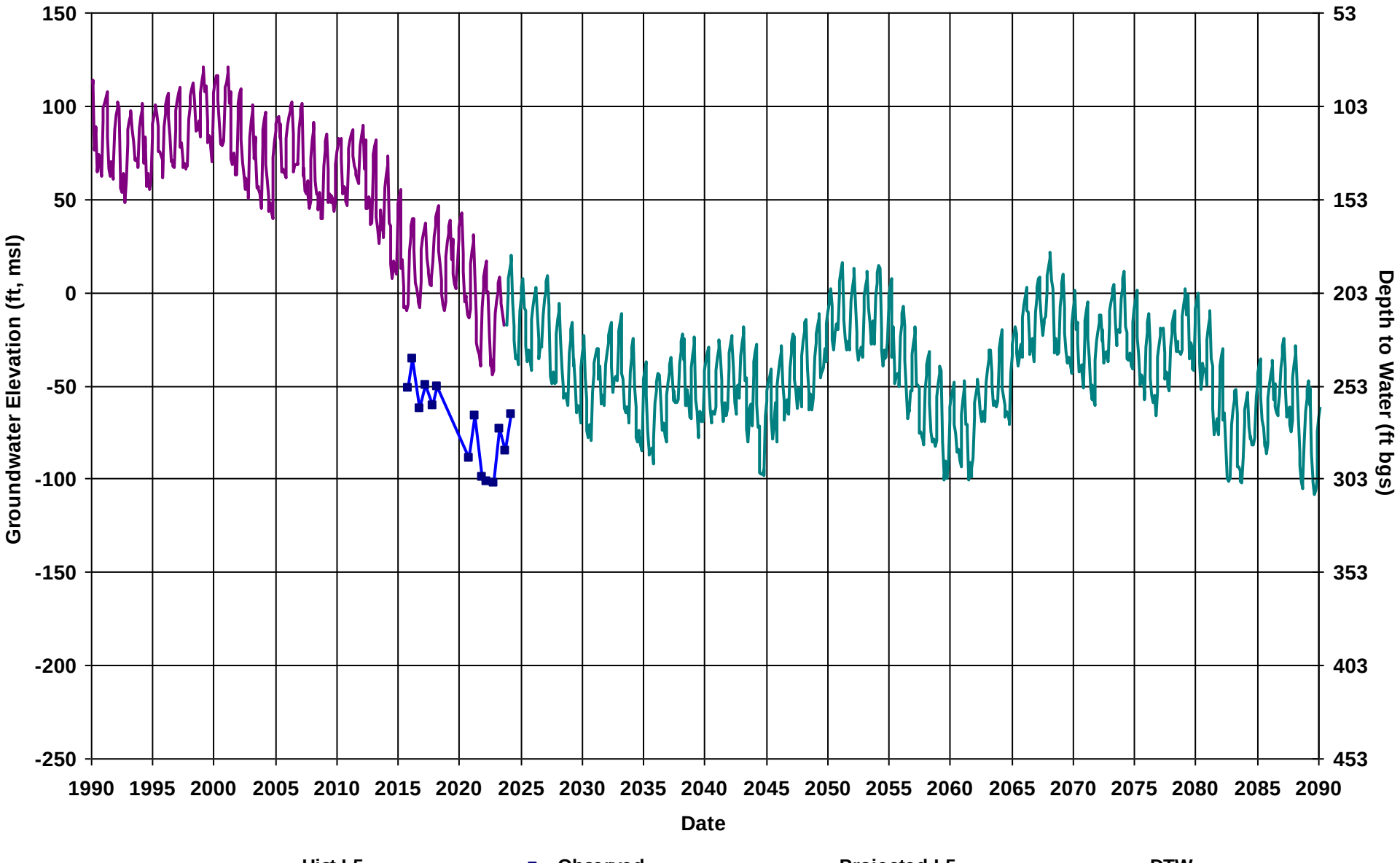
RMS ID: CWD RMS-16
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 212

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



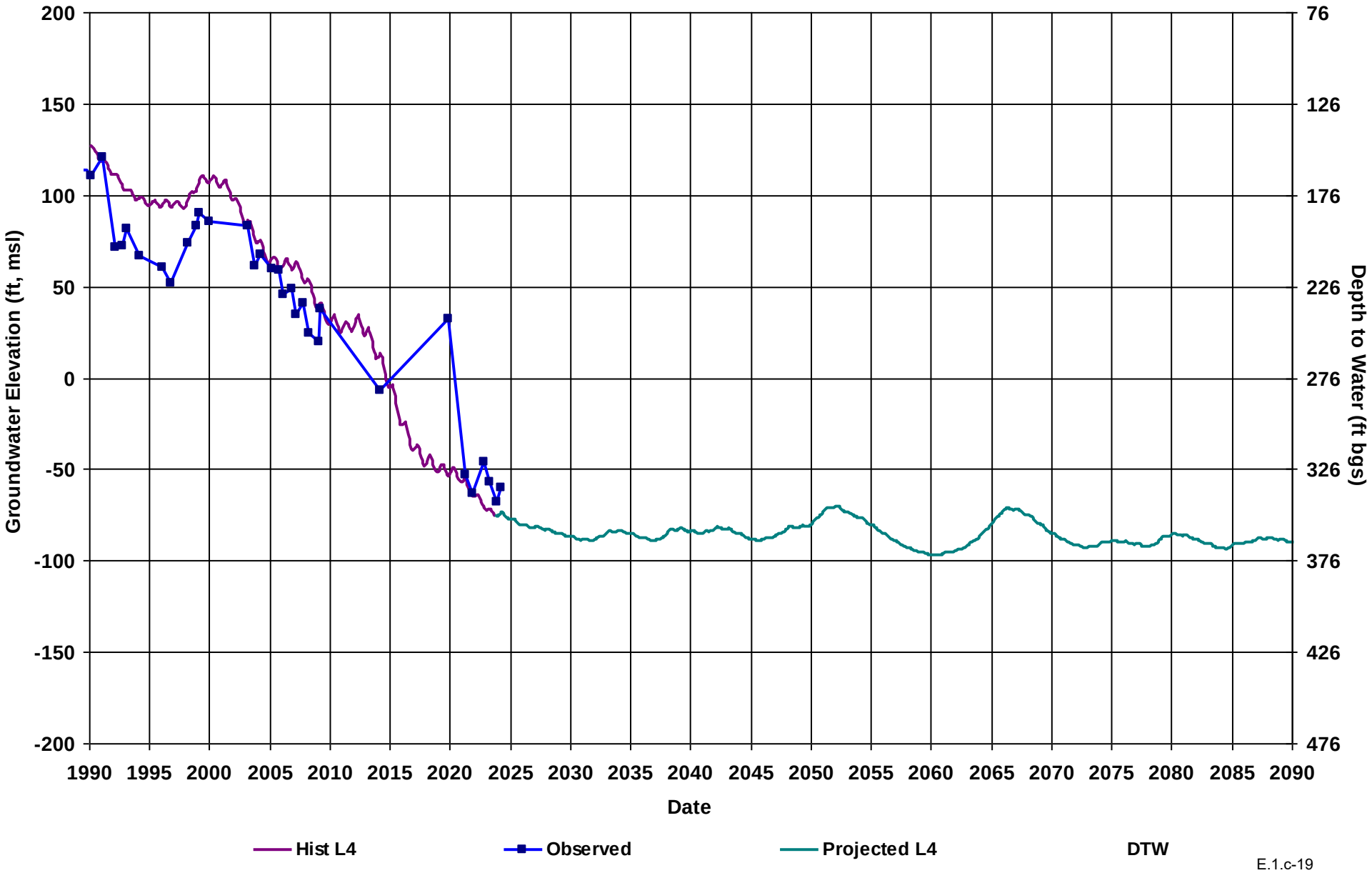
RMS ID: CWD RMS-17
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Total Depth (ft): 624
Perf Top (ft): 278
Perf Bottom (ft): 588
Top Model Layer: 5
Bottom Model Layer: 5



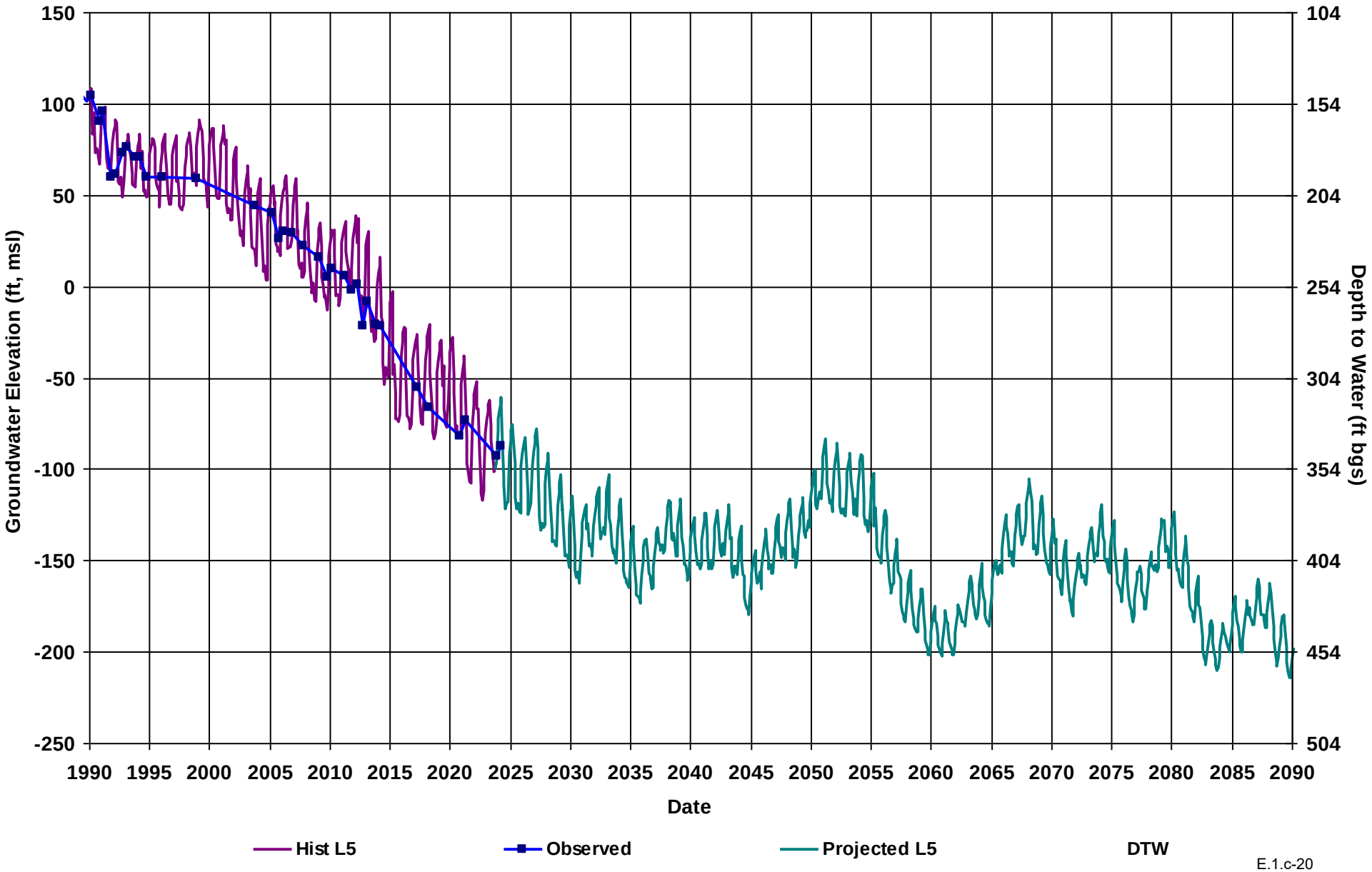
RMS ID: MCE RMS-1
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 276

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



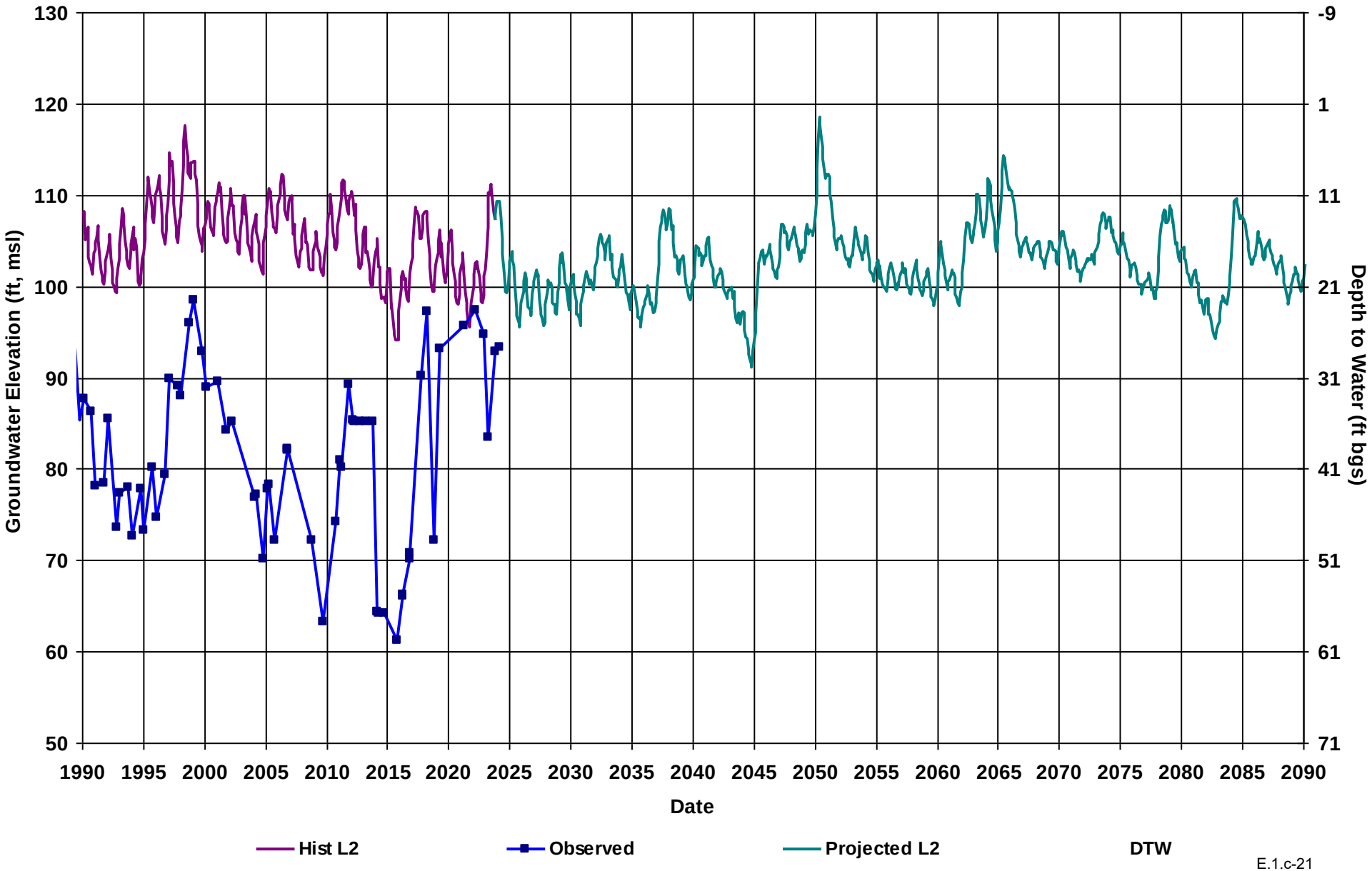
RMS ID: MCE RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 272

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 5
Bottom Model Layer: 5



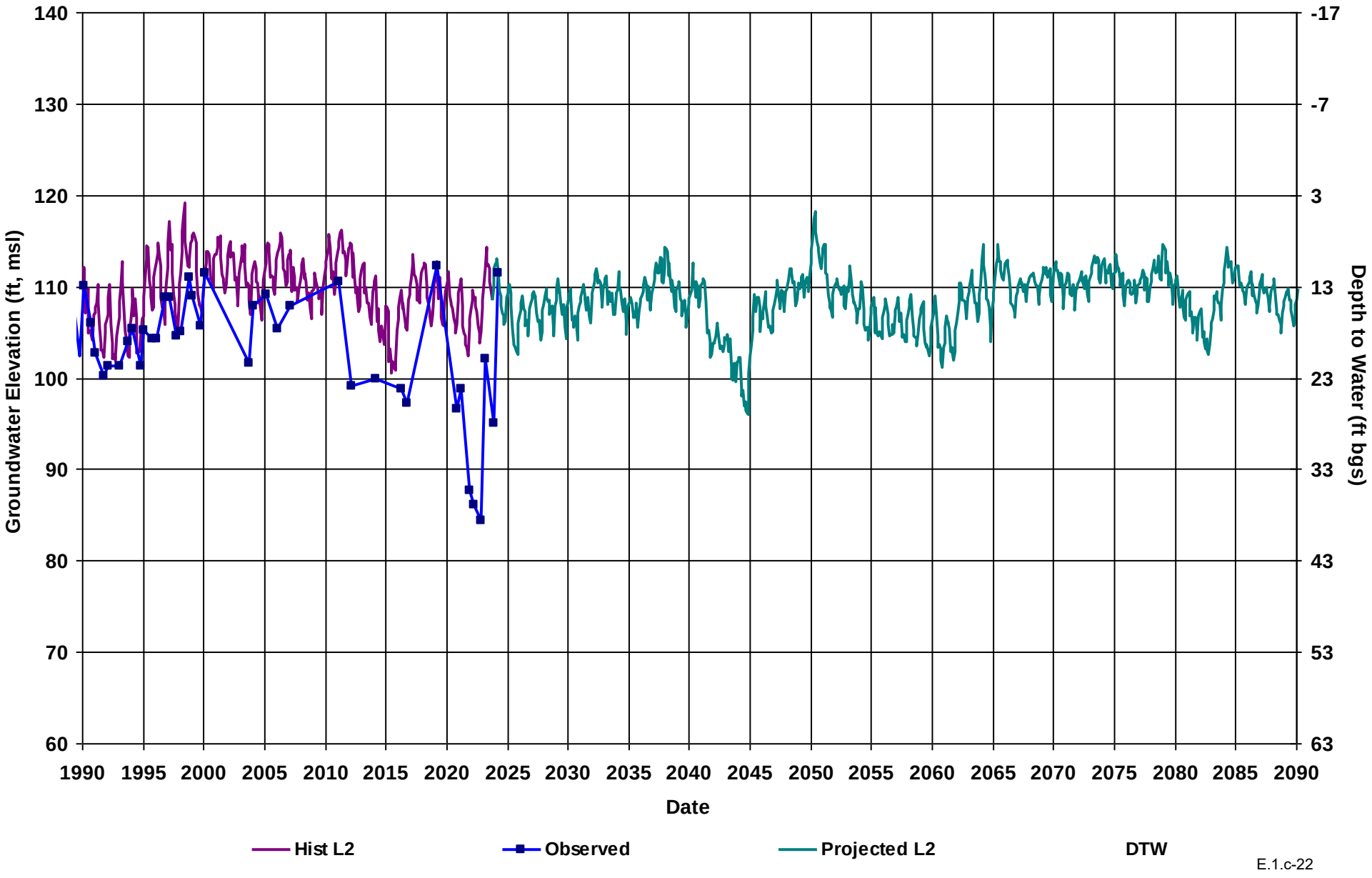
RMS ID: MCW RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 12127

Total Depth (ft): 150
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



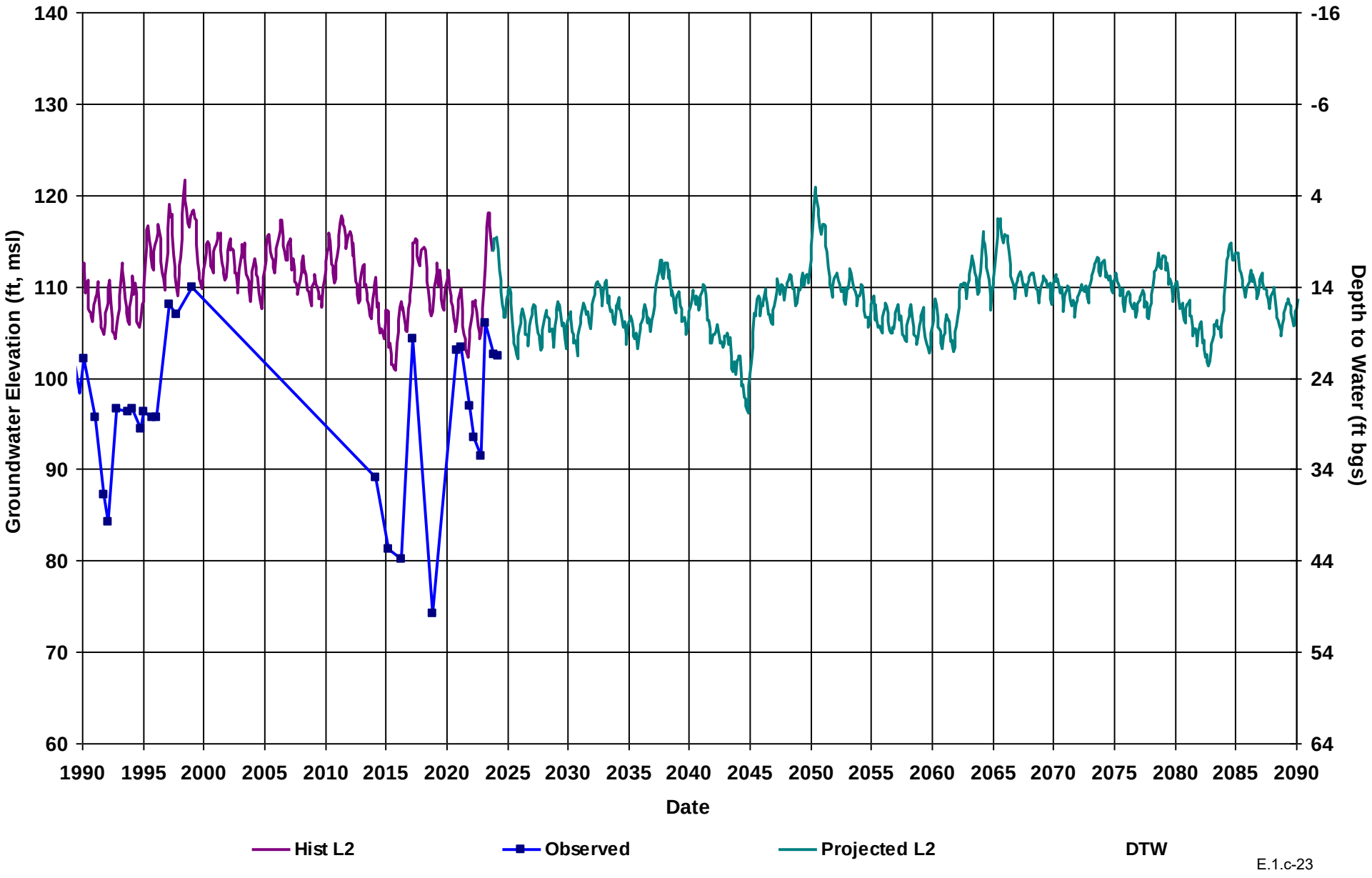
RMS ID: MCW RMS-2
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



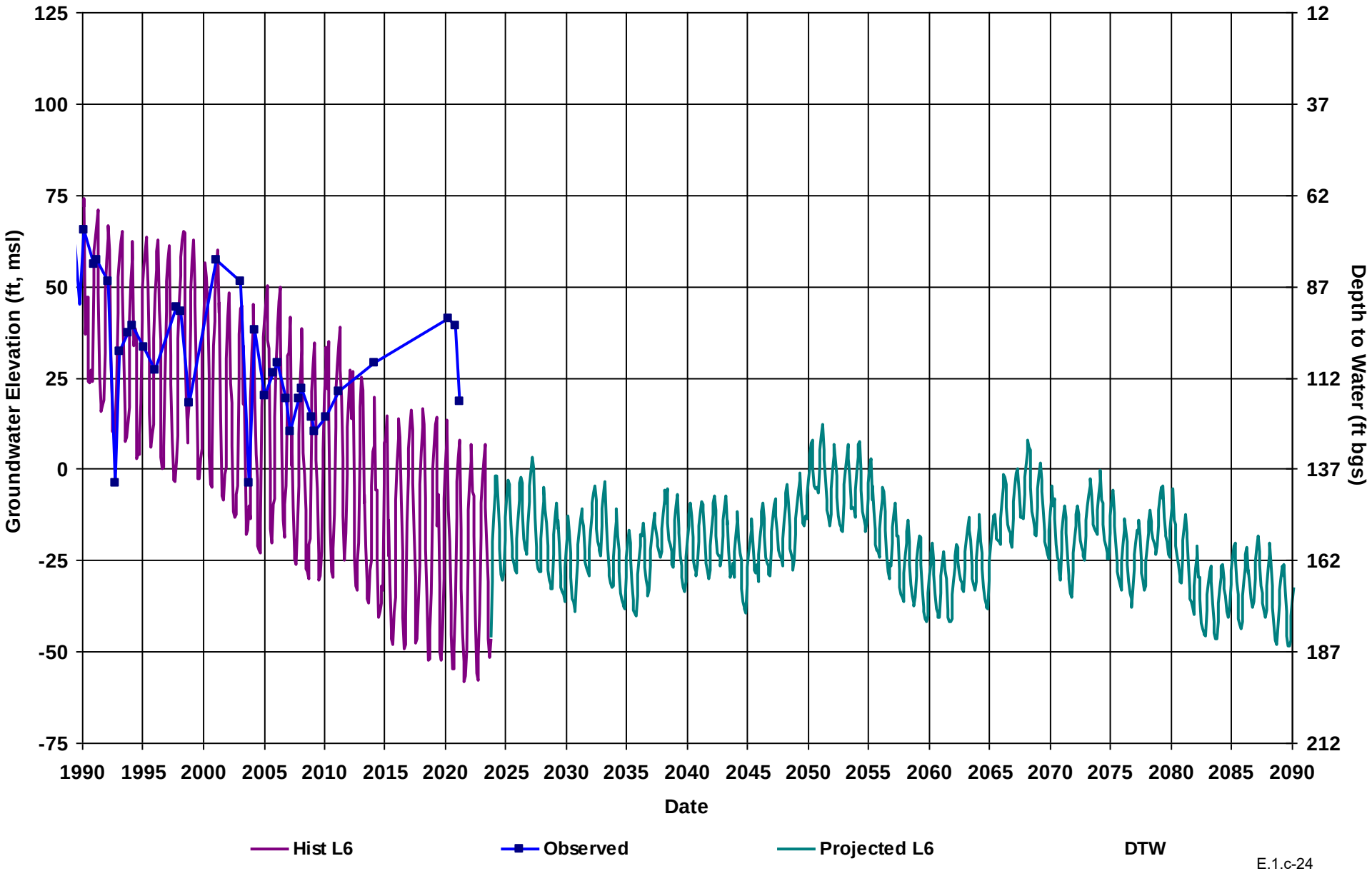
RMS ID: MCW RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



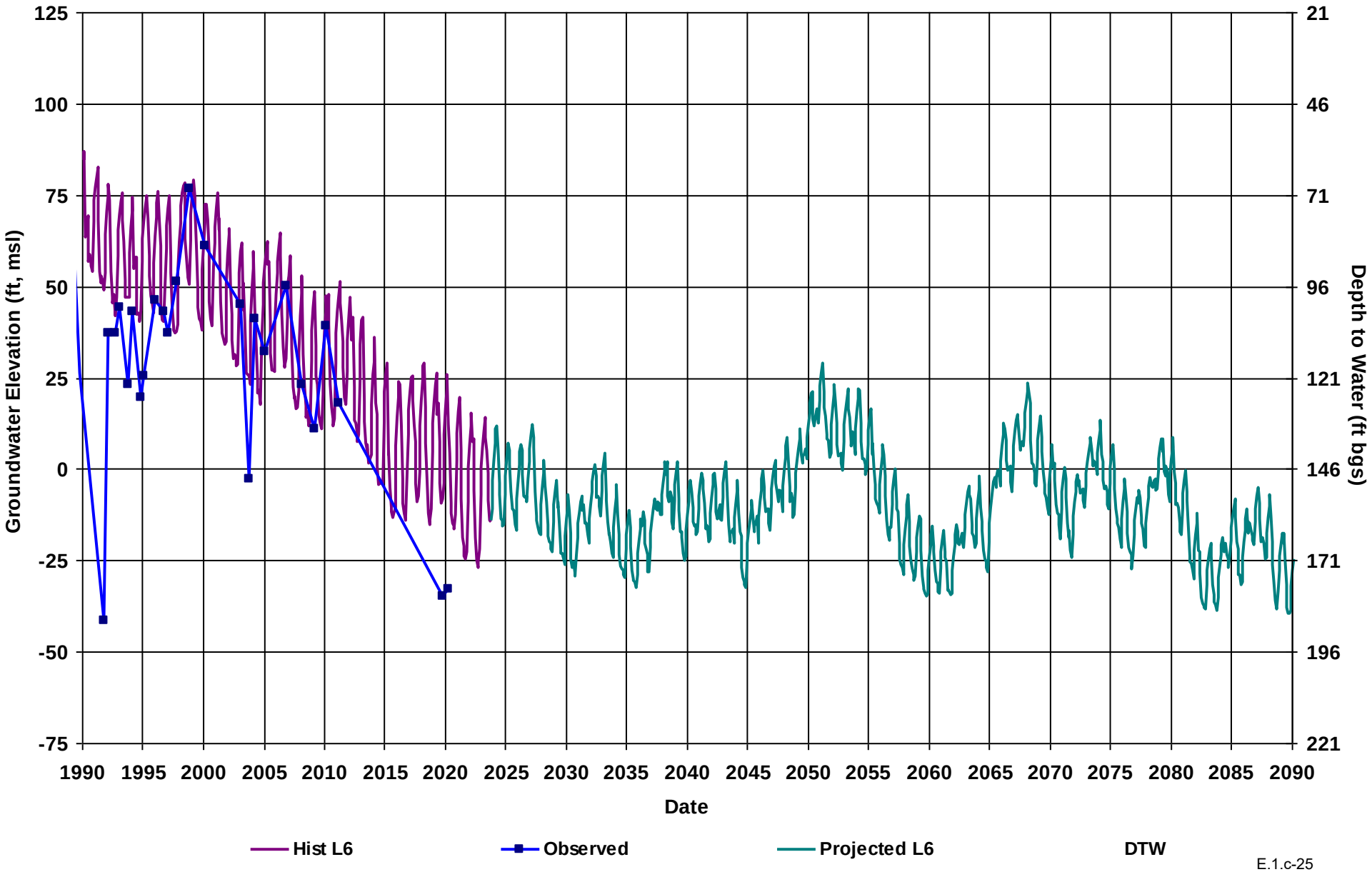
RMS ID: MCW RMS-4
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



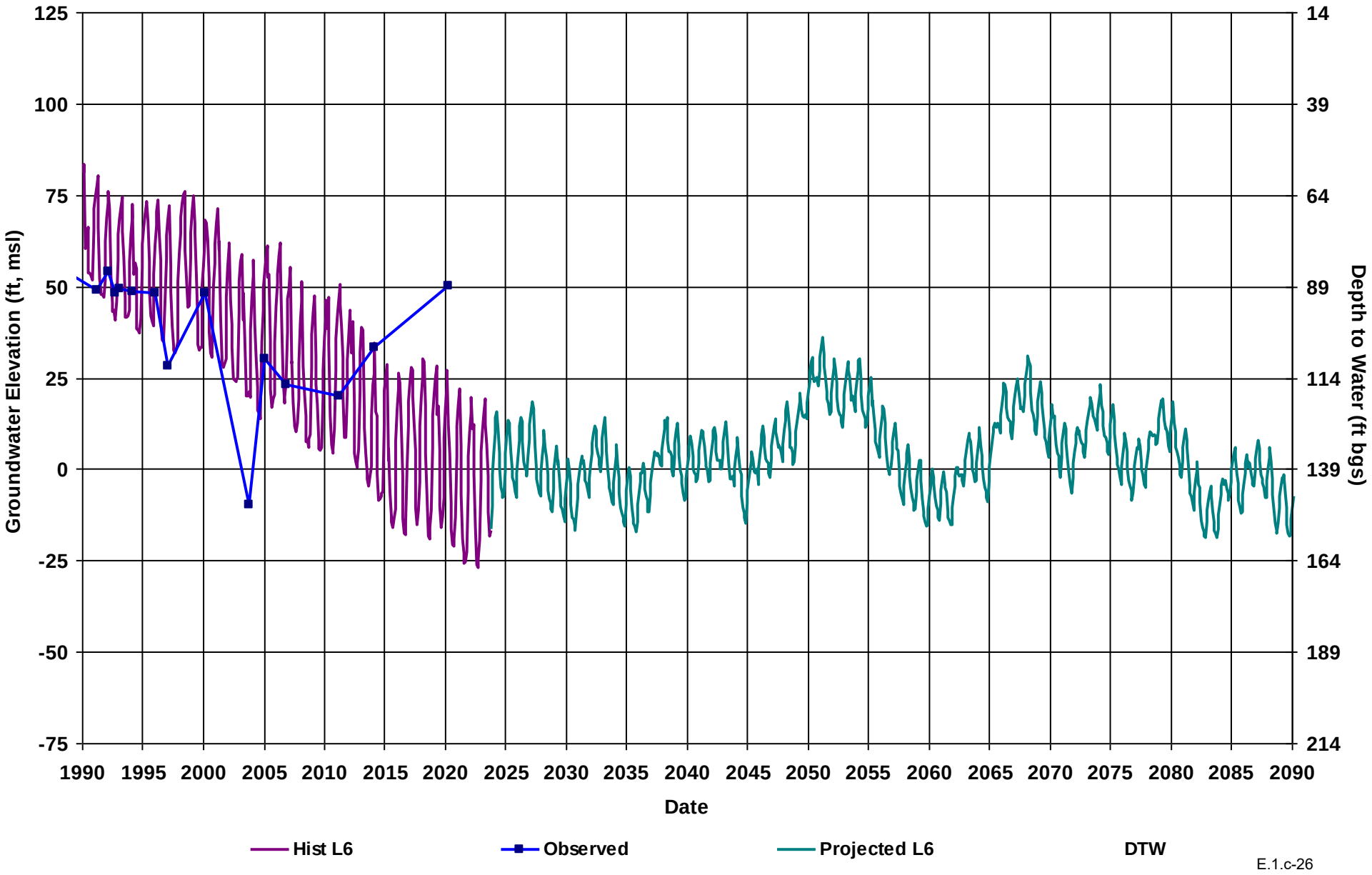
RMS ID: MCW RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 146

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



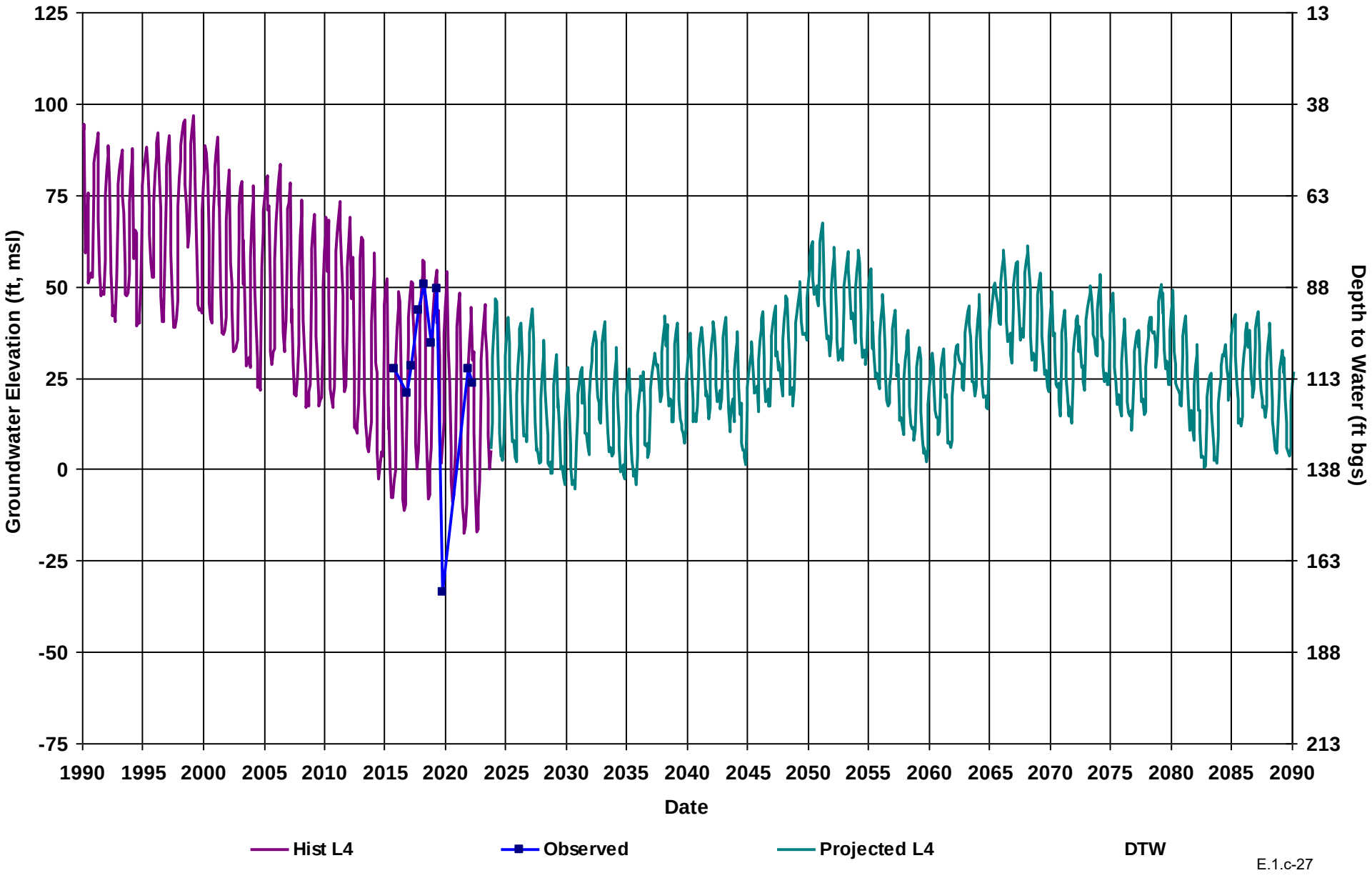
RMS ID: MCW RMS-6
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 139

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



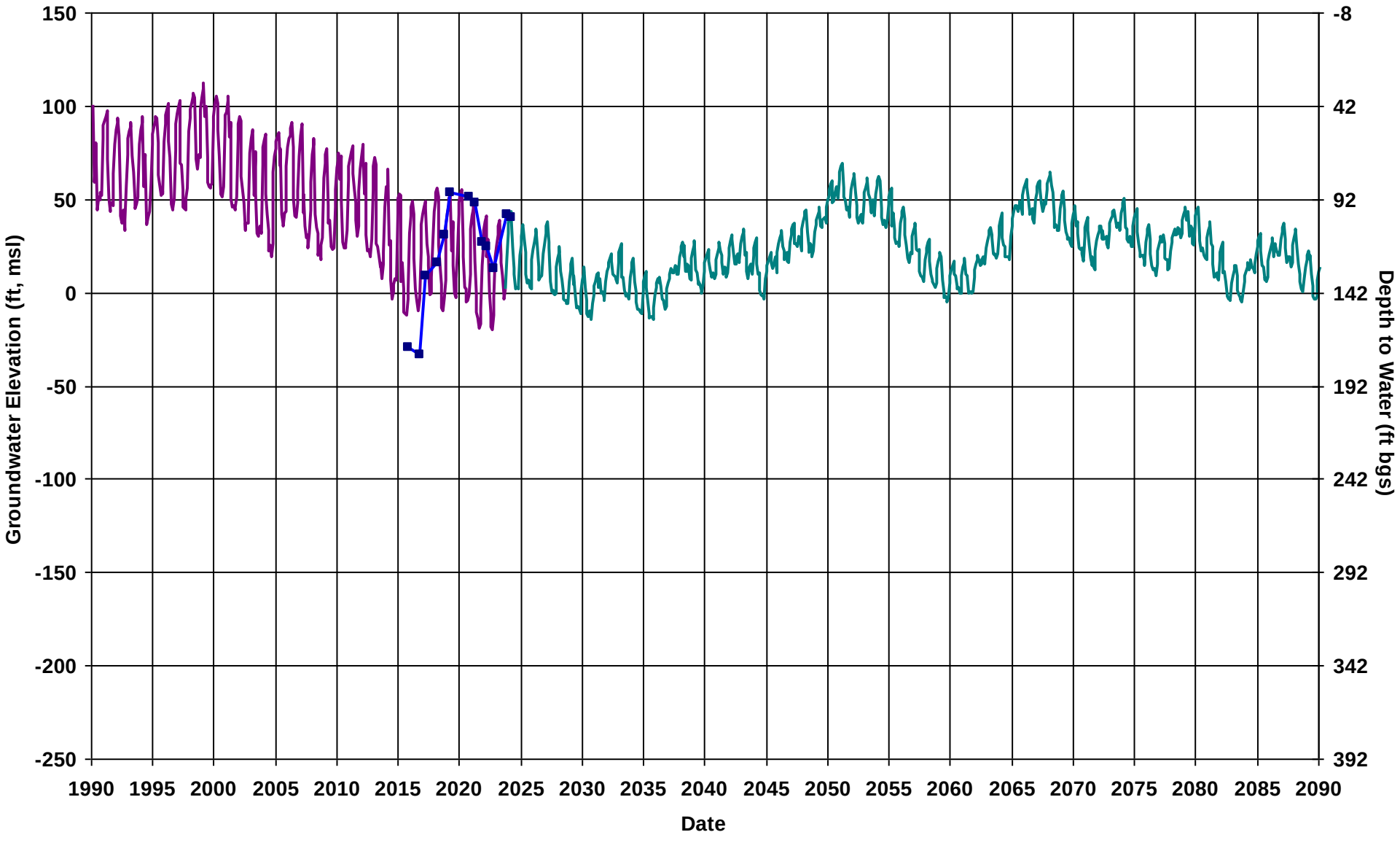
RMS ID: MCW RMS-7
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 138

Total Depth (ft): 800
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



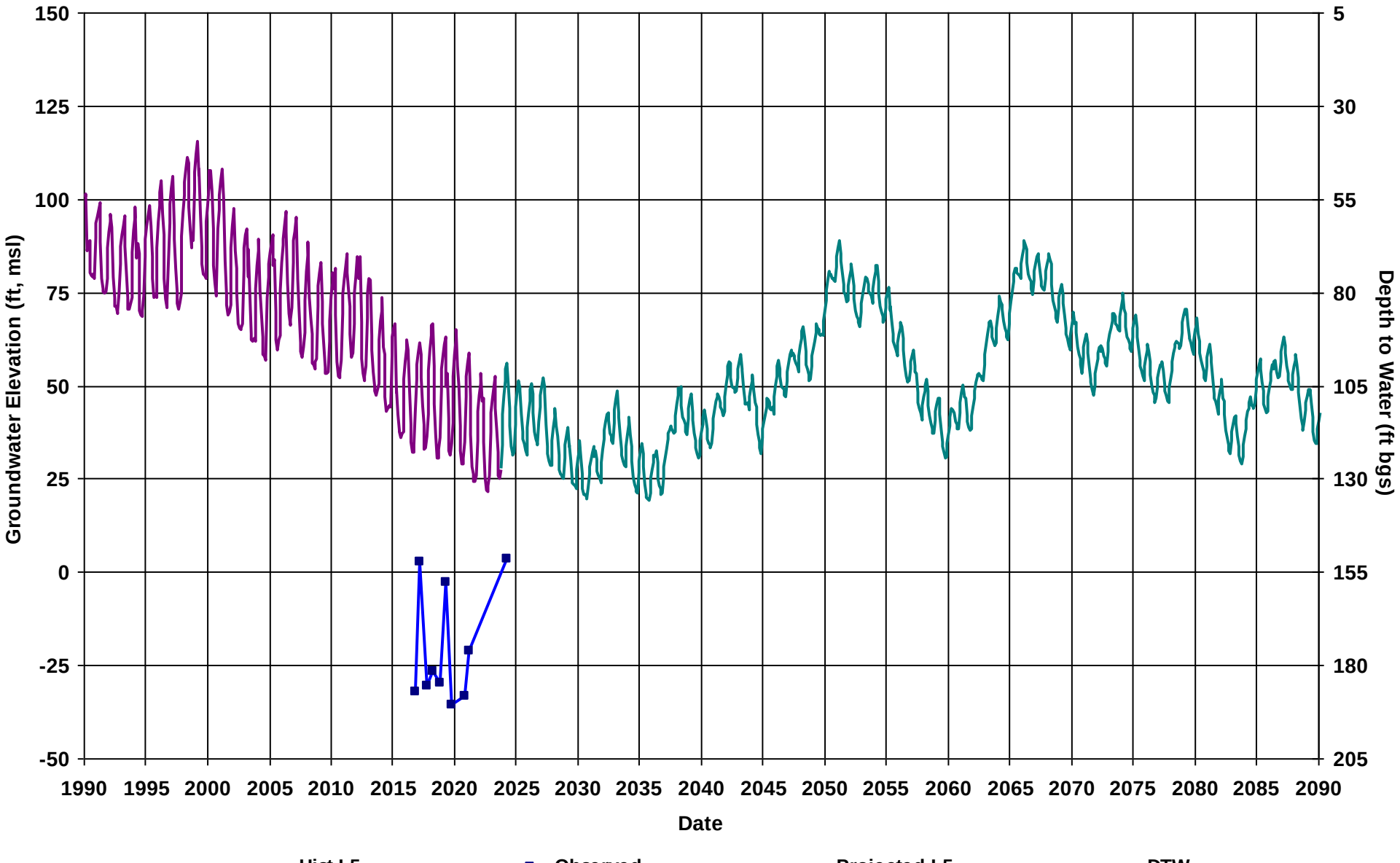
RMS ID: MCW RMS-8
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 142

Total Depth (ft): 480
Perf Top (ft): 160
Perf Bottom (ft): 475
Top Model Layer: 4
Bottom Model Layer: 4



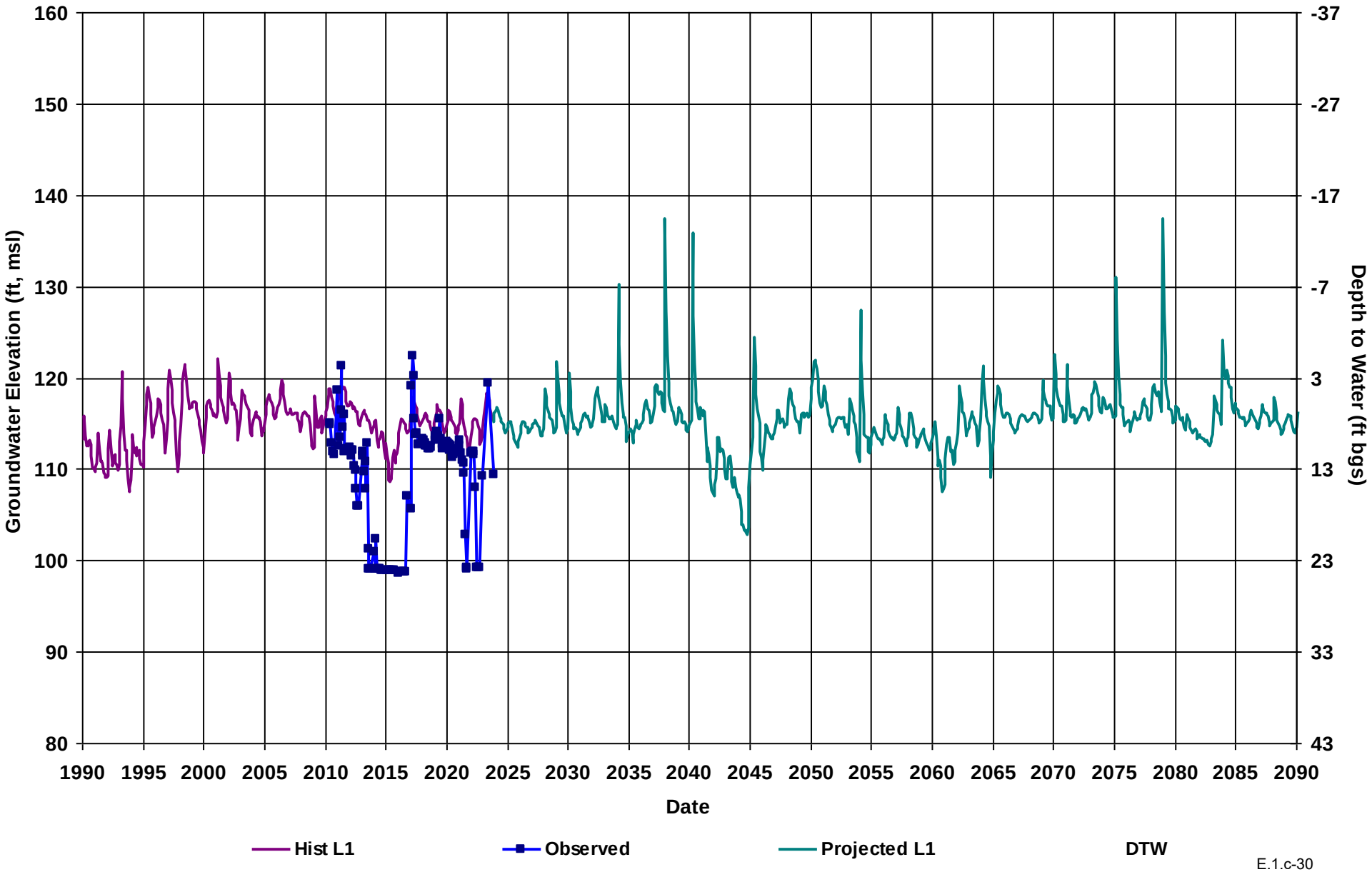
RMS ID: MCW RMS-9
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 155

Total Depth (ft): 700
Perf Top (ft): 265
Perf Bottom (ft): 696
Top Model Layer: 5
Bottom Model Layer: 5



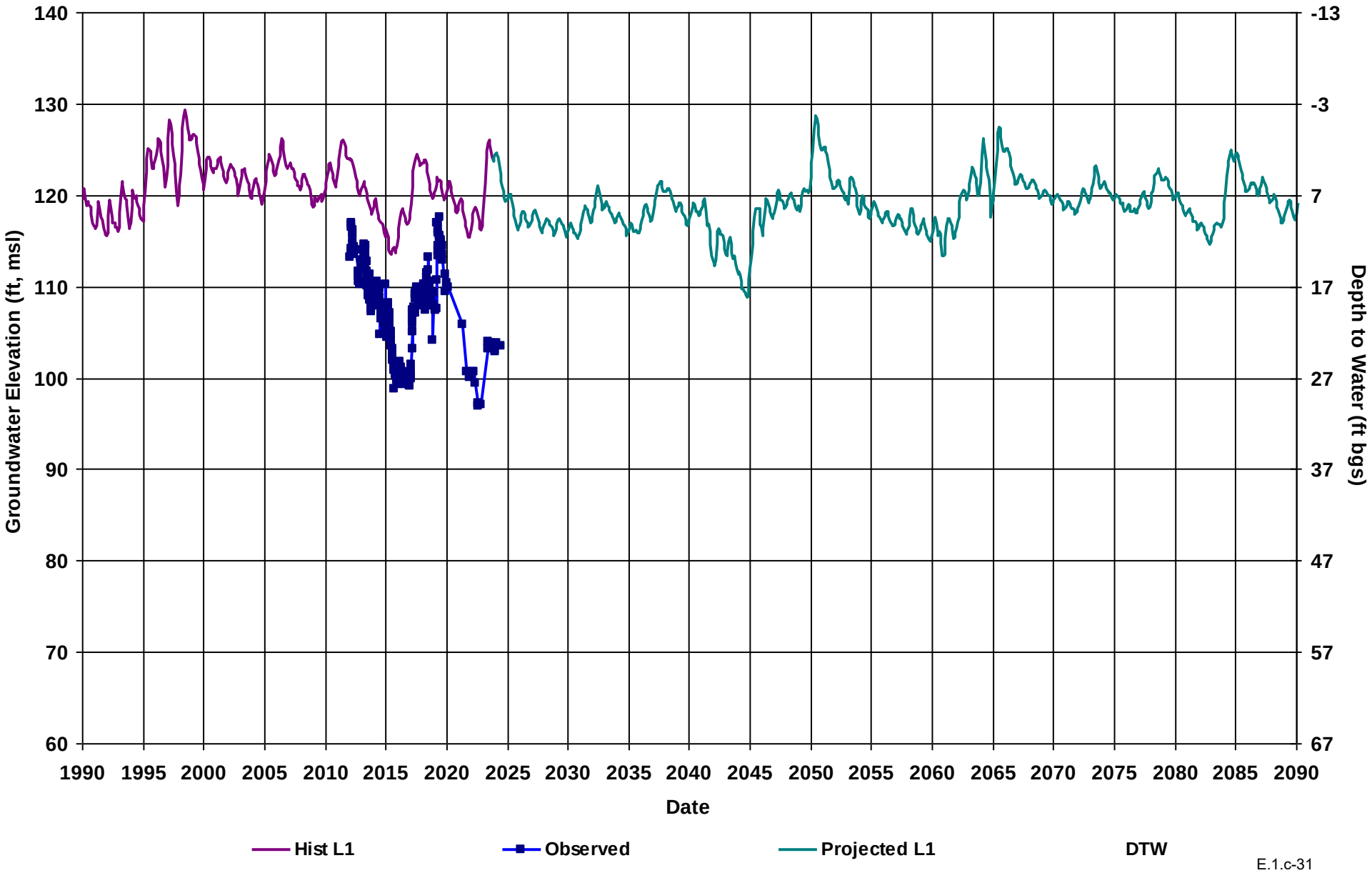
RMS ID: MCW RMS-10
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 26
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



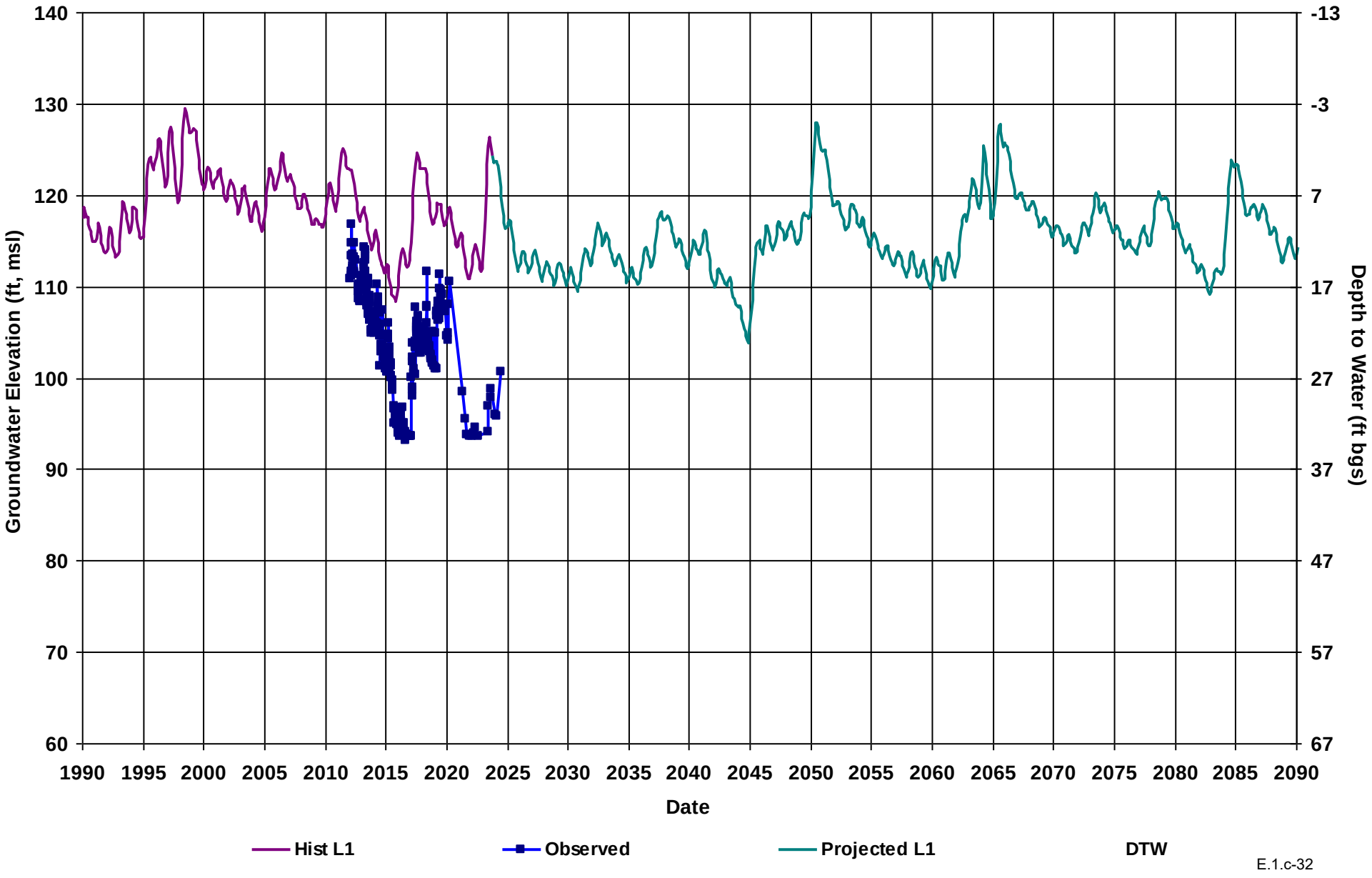
RMS ID: MCW RMS-11
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



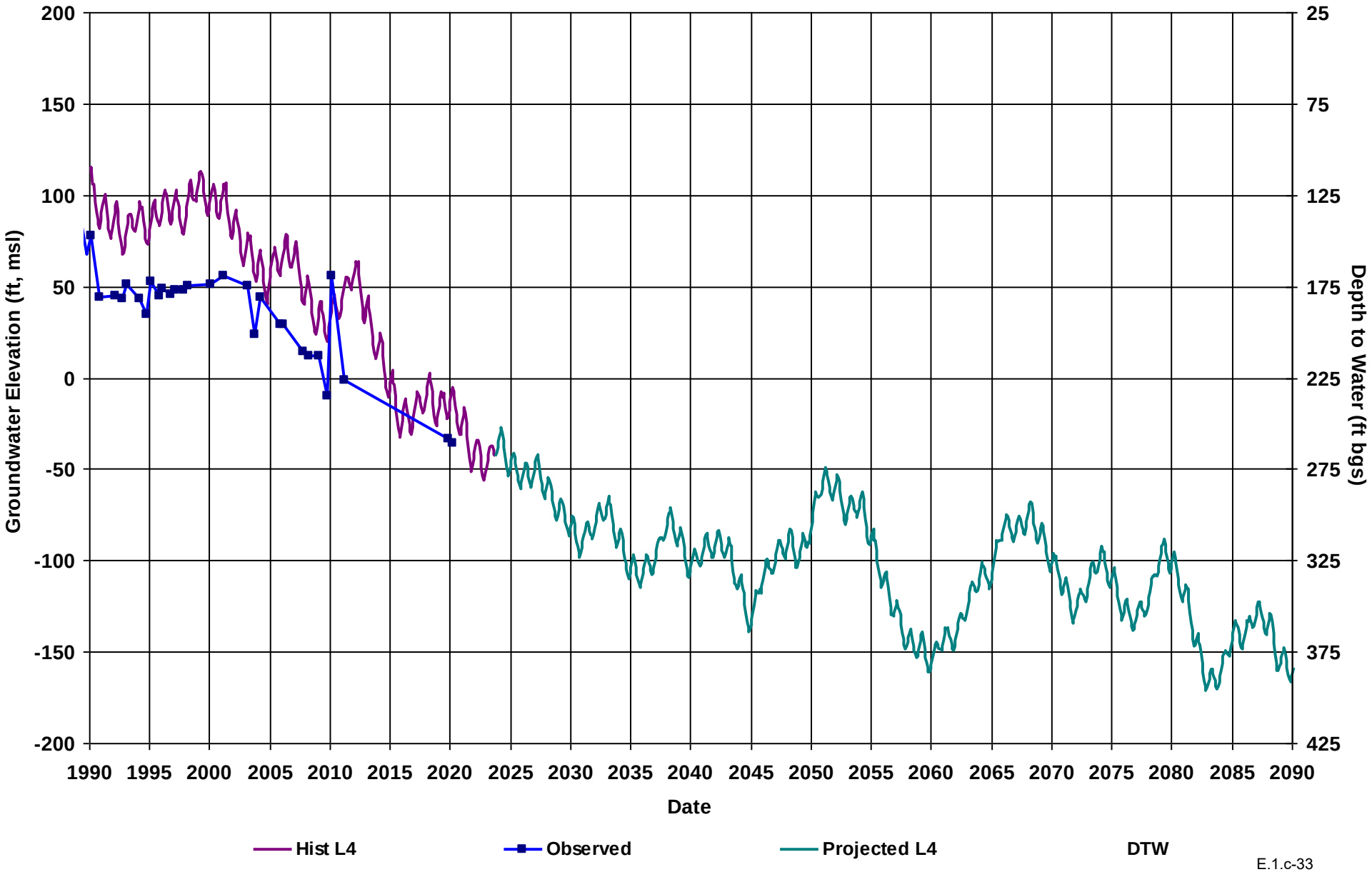
RMS ID: MCW RMS-12
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 120

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



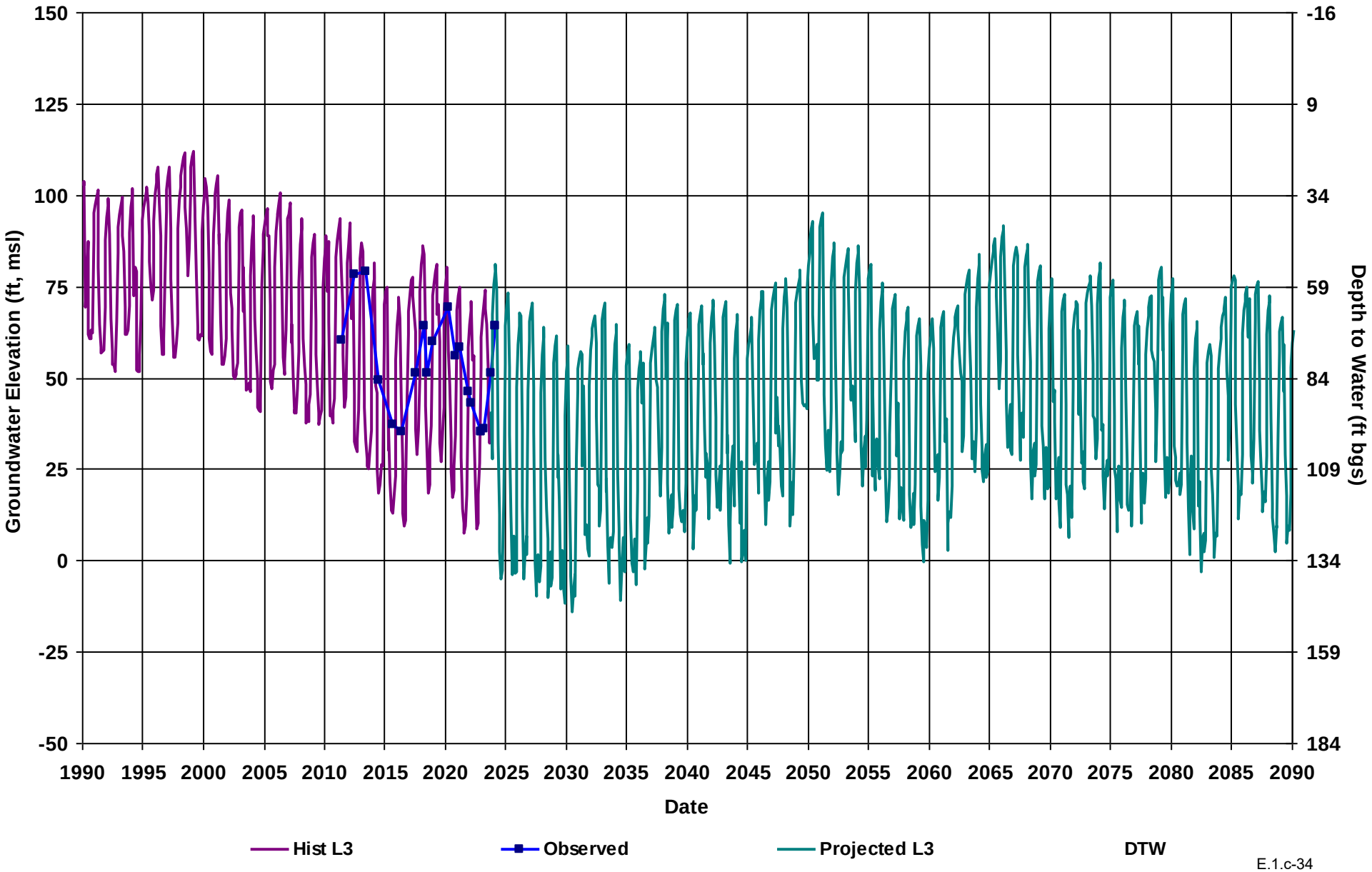
RMS ID: MER RMS-1
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



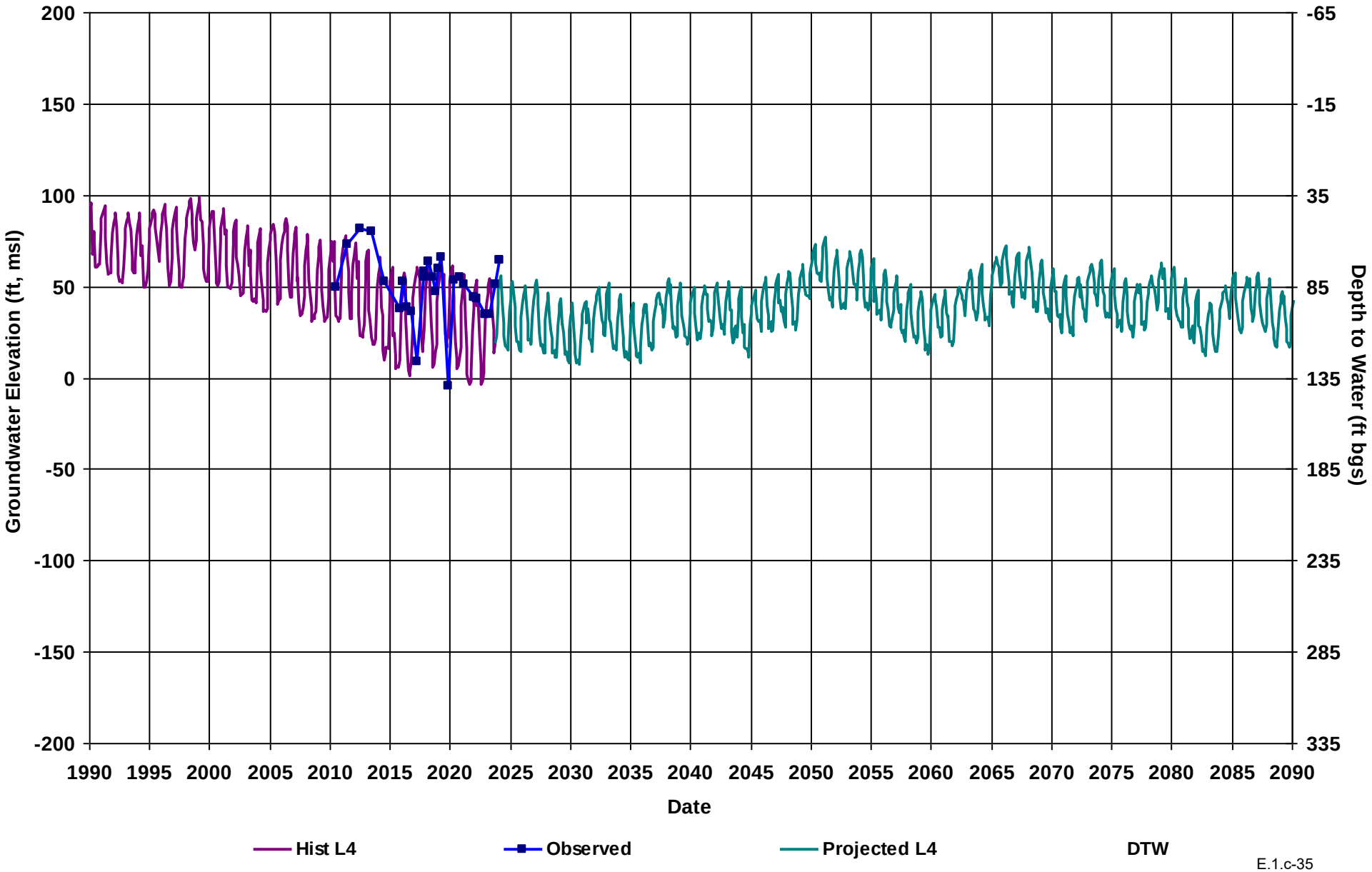
RMS ID: TRT RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 134

Total Depth (ft): 196
Perf Top (ft): 158
Perf Bottom (ft): 192
Top Model Layer: 3
Bottom Model Layer: 3



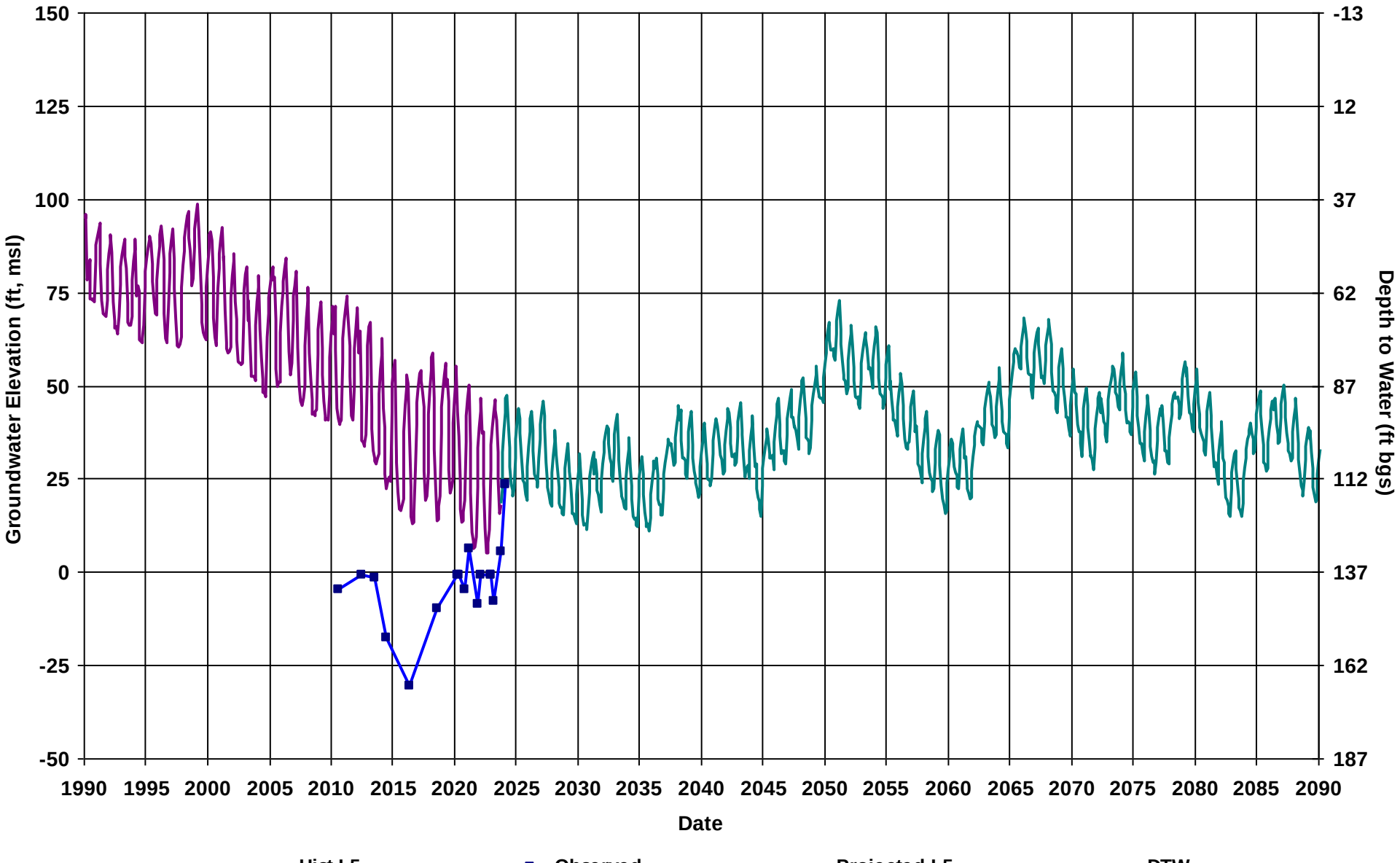
RMS ID: TRT RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 135

Total Depth (ft): 500
Perf Top (ft): 300
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



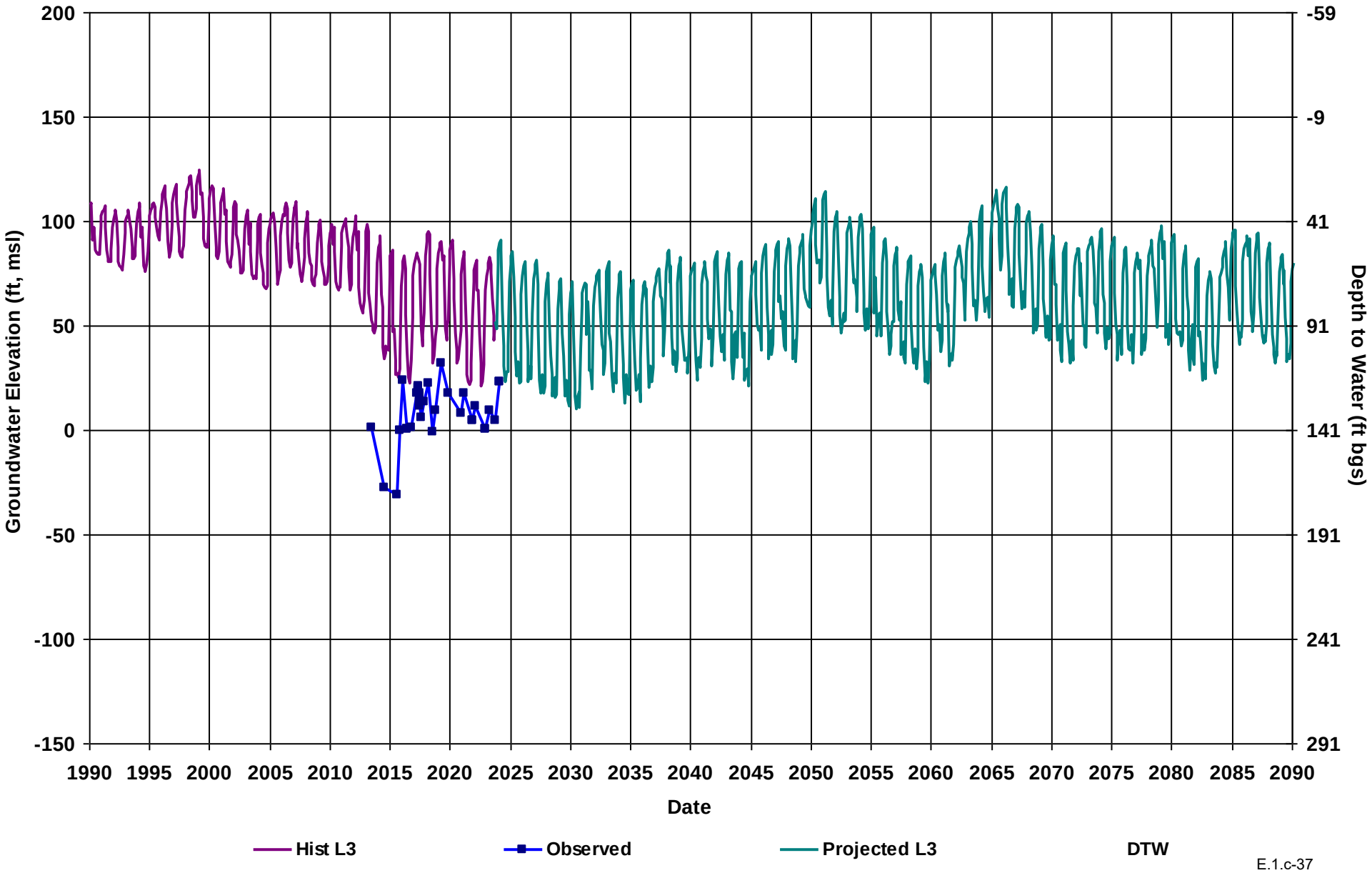
RMS ID: TRT RMS-3
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft): 799
Perf Top (ft): 168
Perf Bottom (ft): 790
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: TRT RMS-4
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 141

Total Depth (ft): 840
Perf Top (ft): 190
Perf Bottom (ft): 260
Top Model Layer: 3
Bottom Model Layer: 3

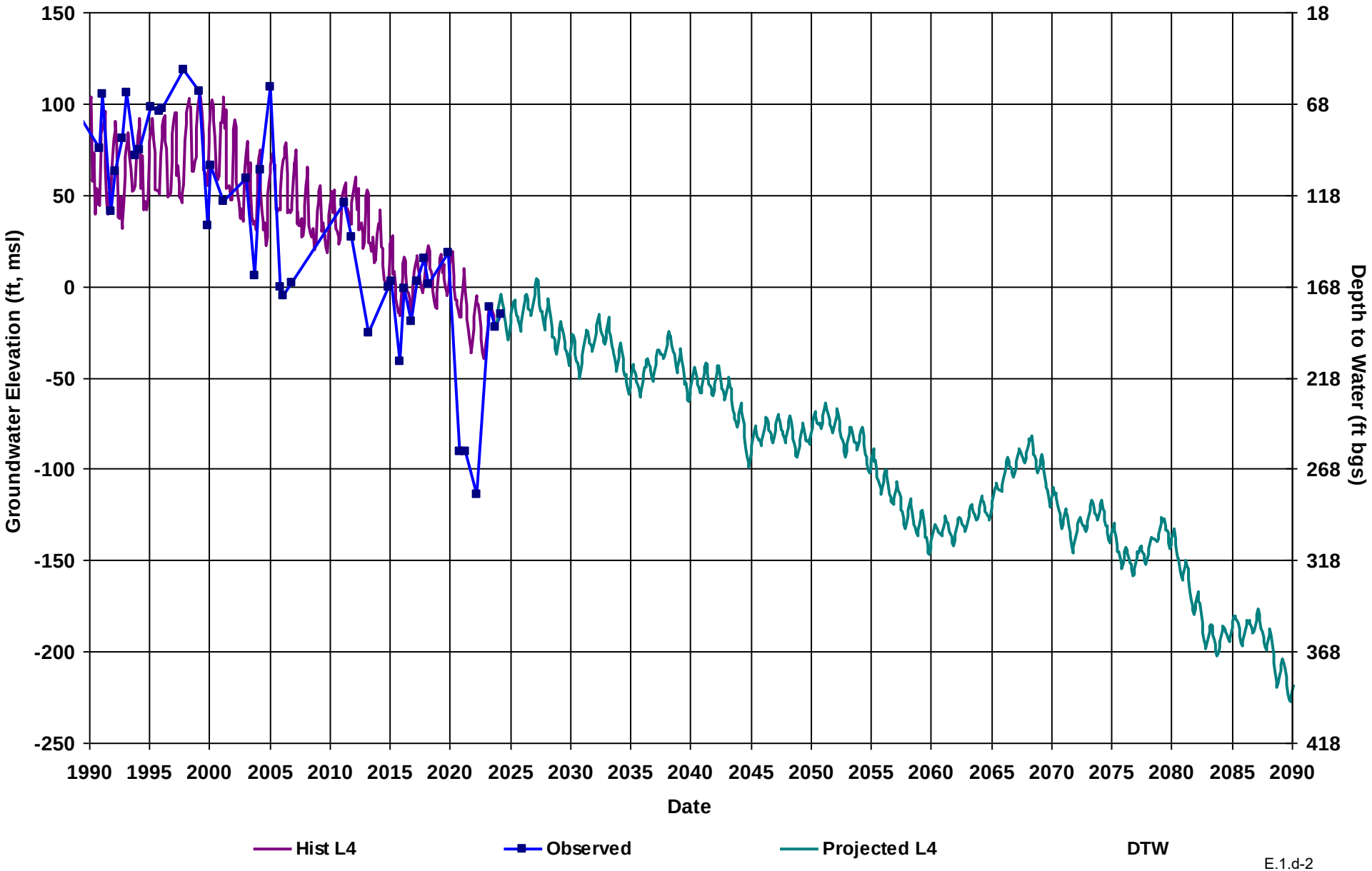


APPENDIX E.1.d

Chowchilla Subbasin Groundwater Elevation Hydrographs for RMS Wells - Projected (No Action) Scenario

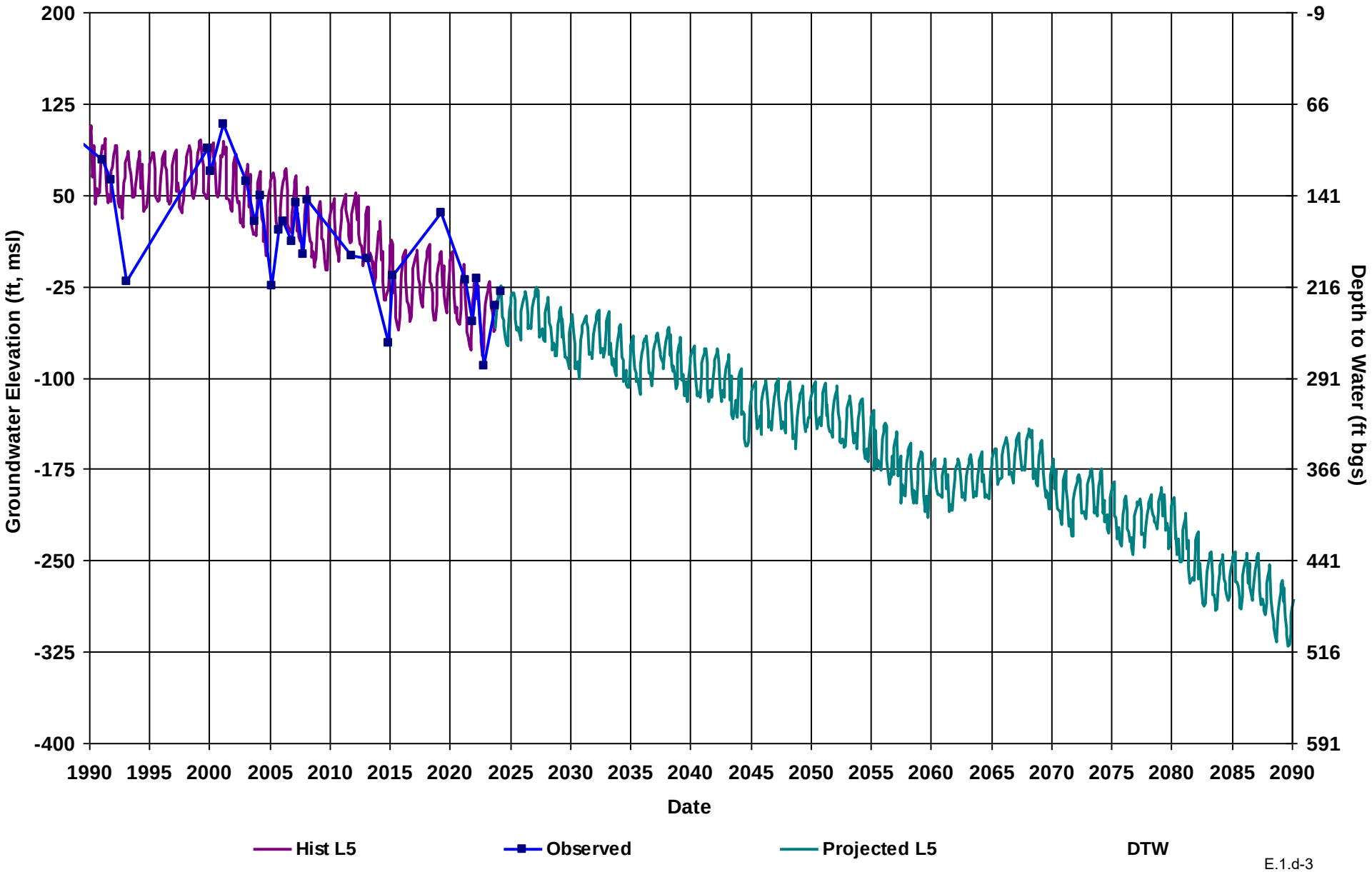
RMS ID: CWD RMS-1
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 168

Total Depth (ft): 275
Perf Top (ft): 160
Perf Bottom (ft): 275
Top Model Layer: 4
Bottom Model Layer: 4



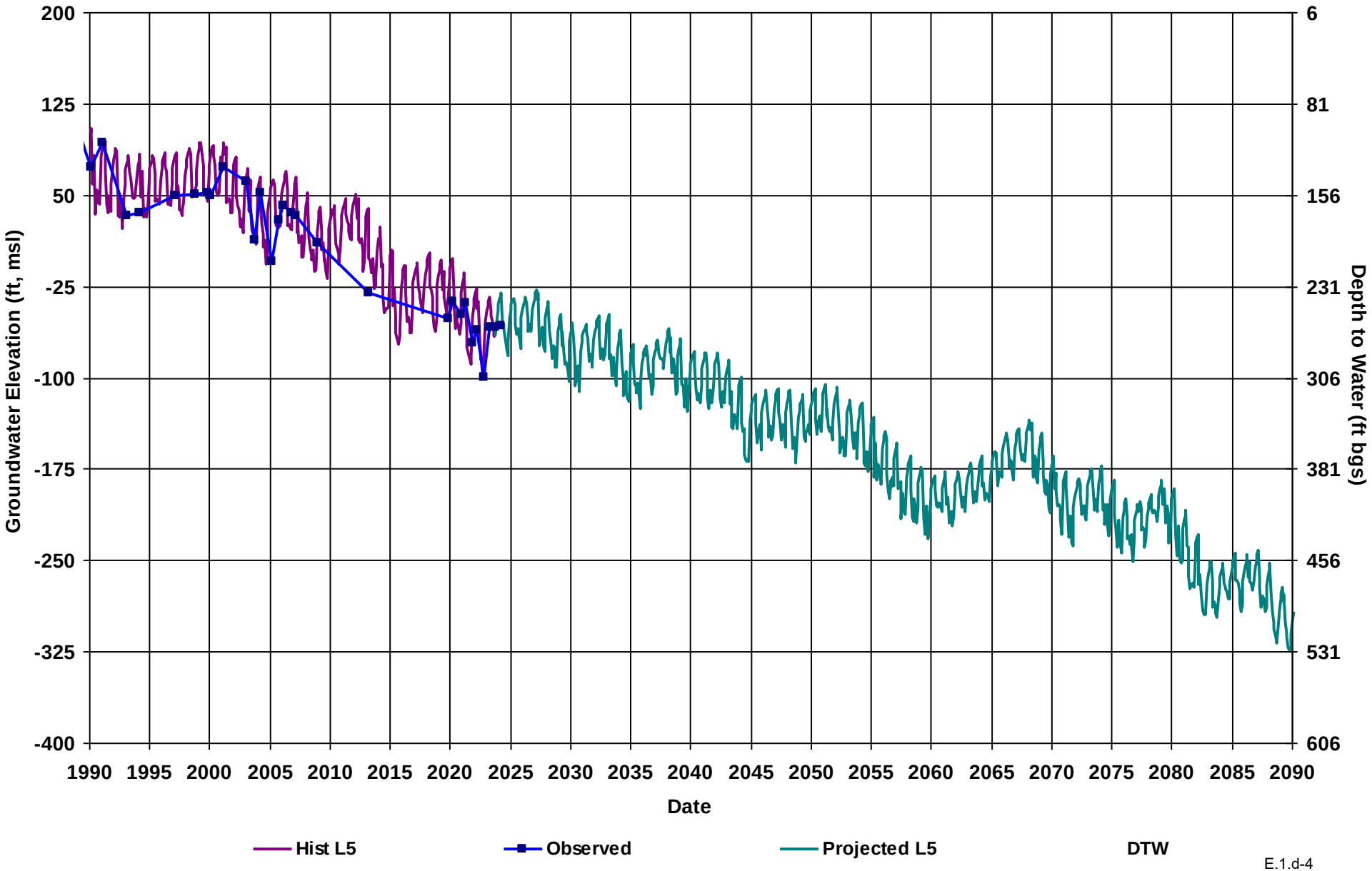
RMS ID: CWD RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 5
Bottom Model Layer: 5



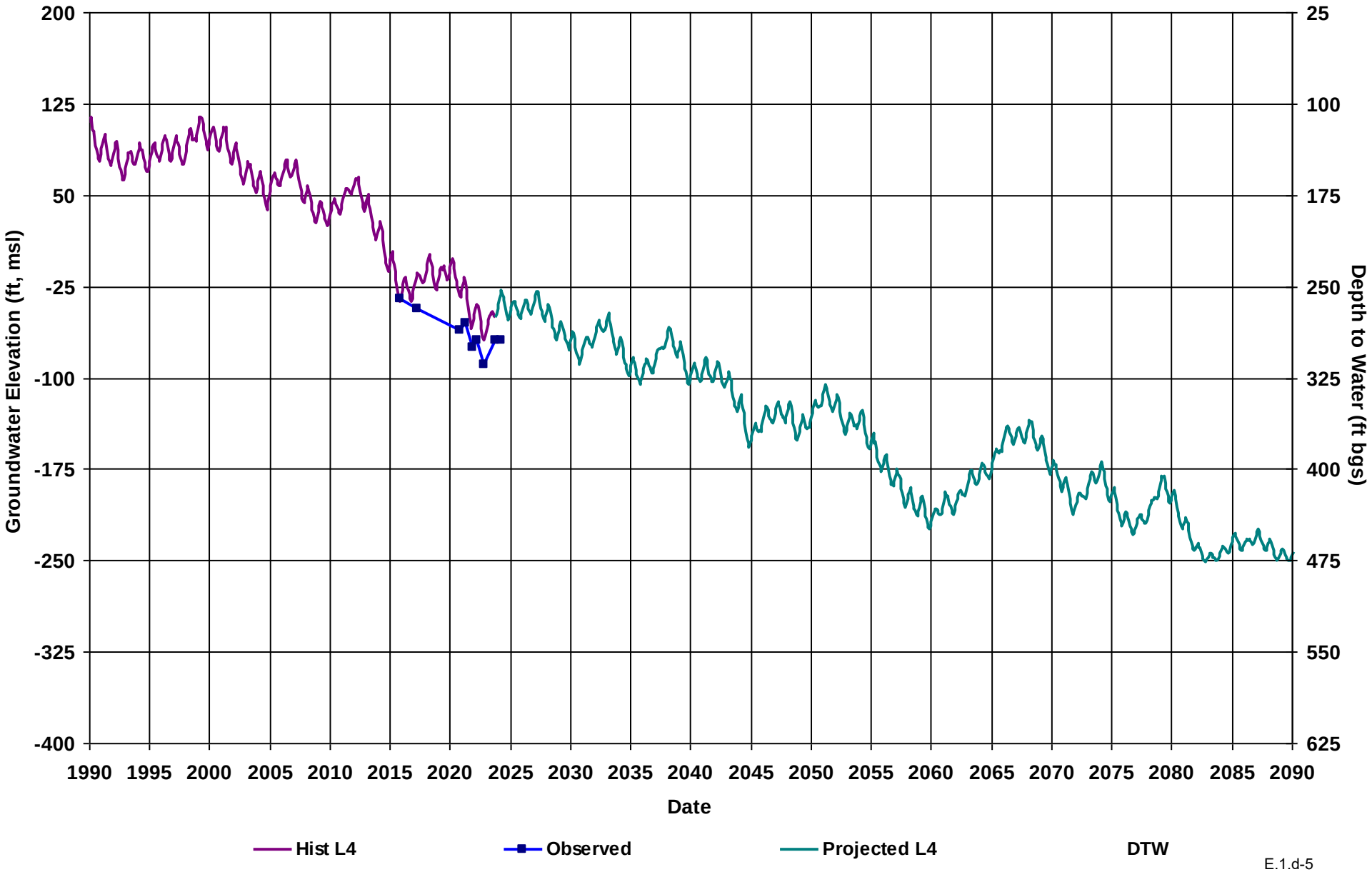
RMS ID: CWD RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 206

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



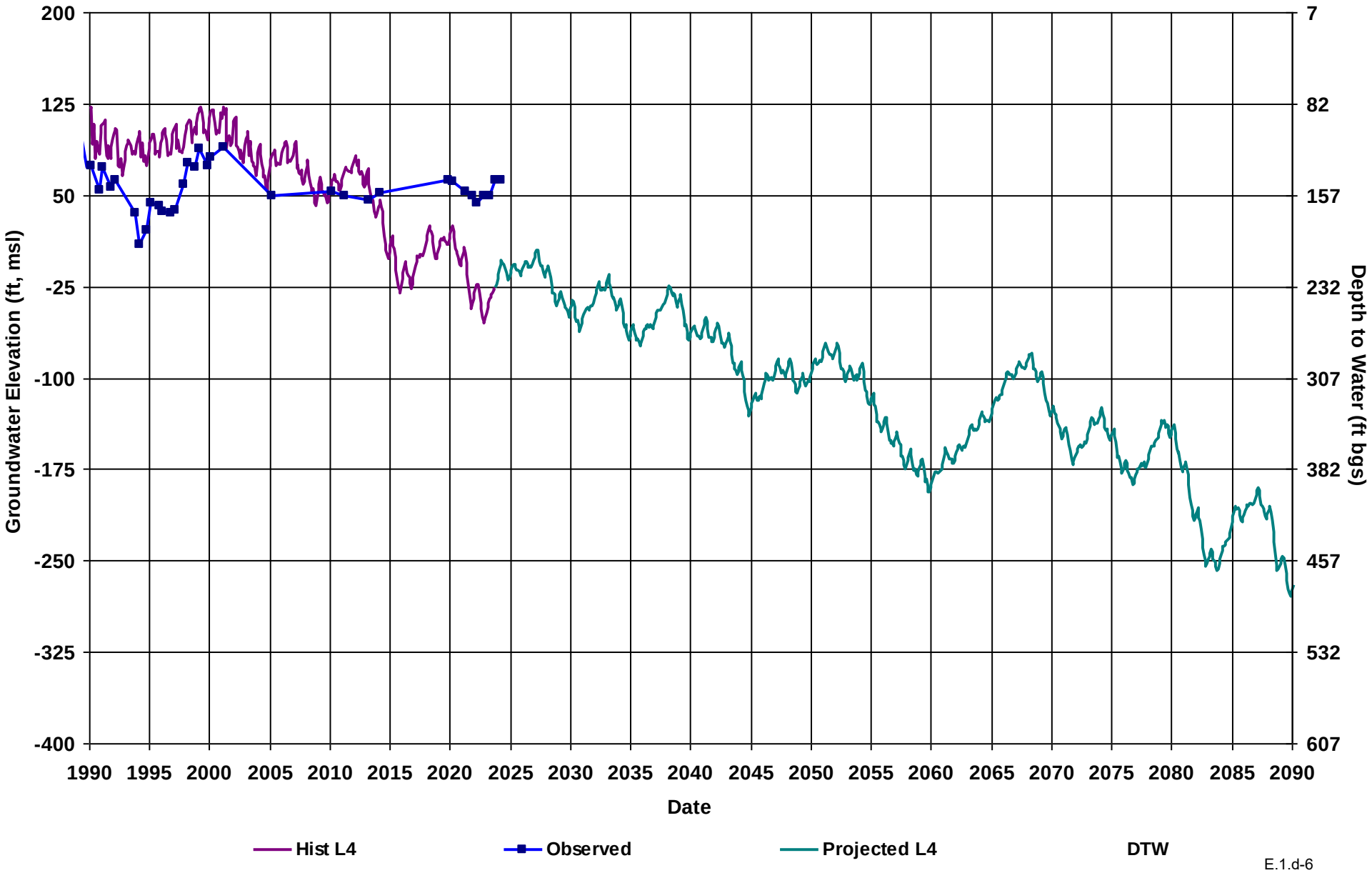
RMS ID: CWD RMS-4
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft): 800
Perf Top (ft): 320
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



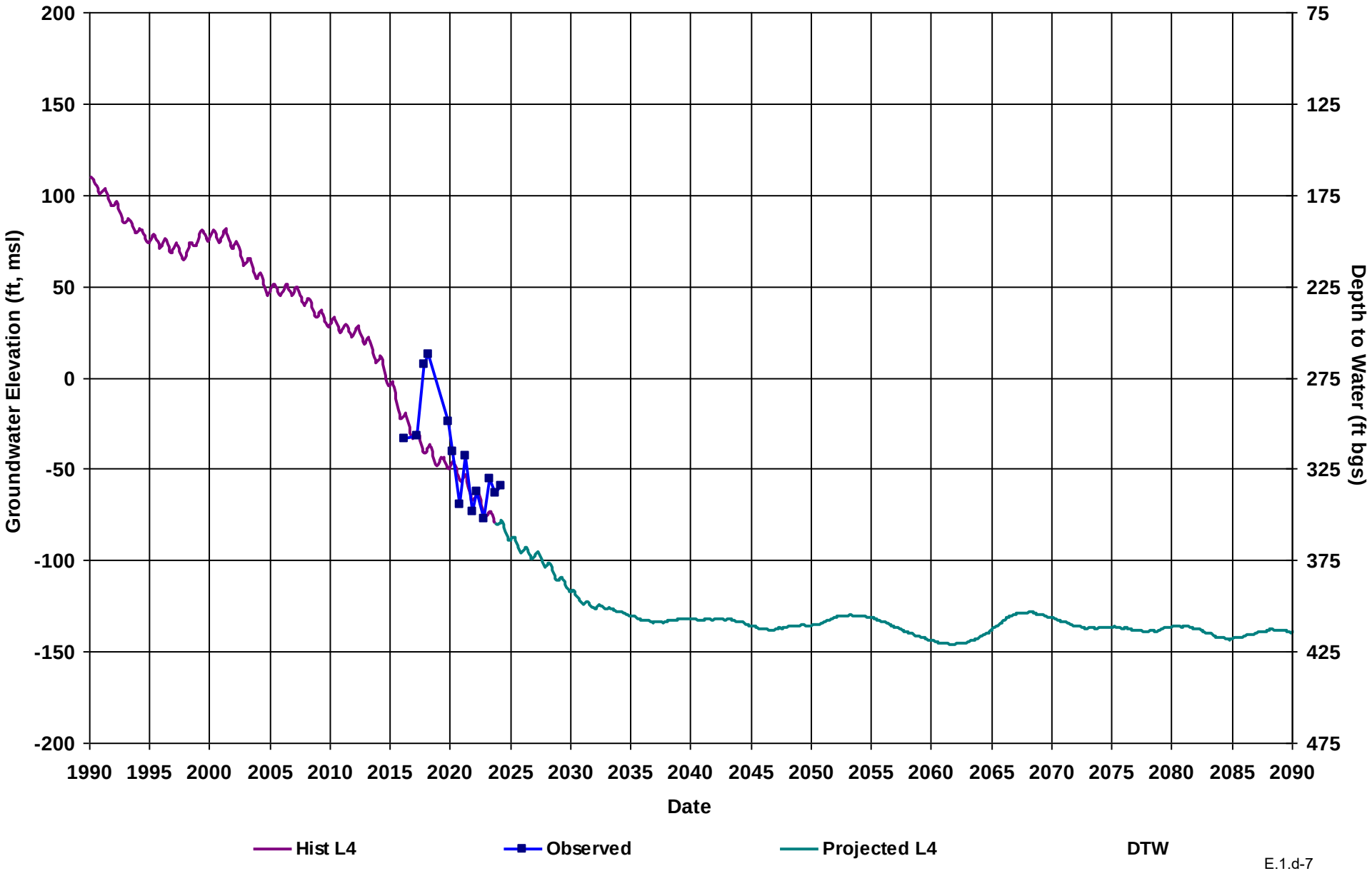
RMS ID: CWD RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 207

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



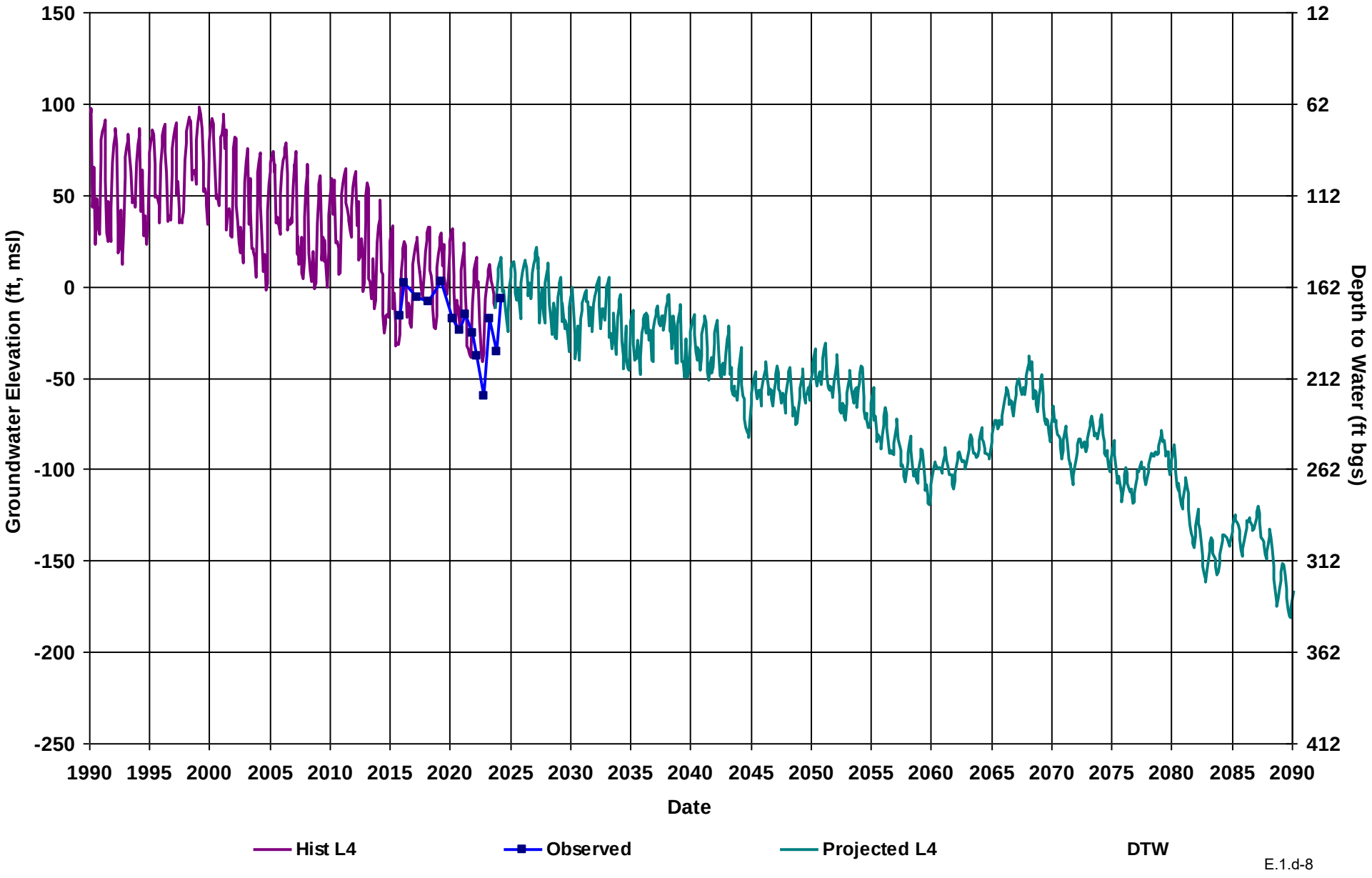
RMS ID: CWD RMS-6
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 275

Total Depth (ft): 820
Perf Top (ft): 257
Perf Bottom (ft): 726
Top Model Layer: 4
Bottom Model Layer: 4



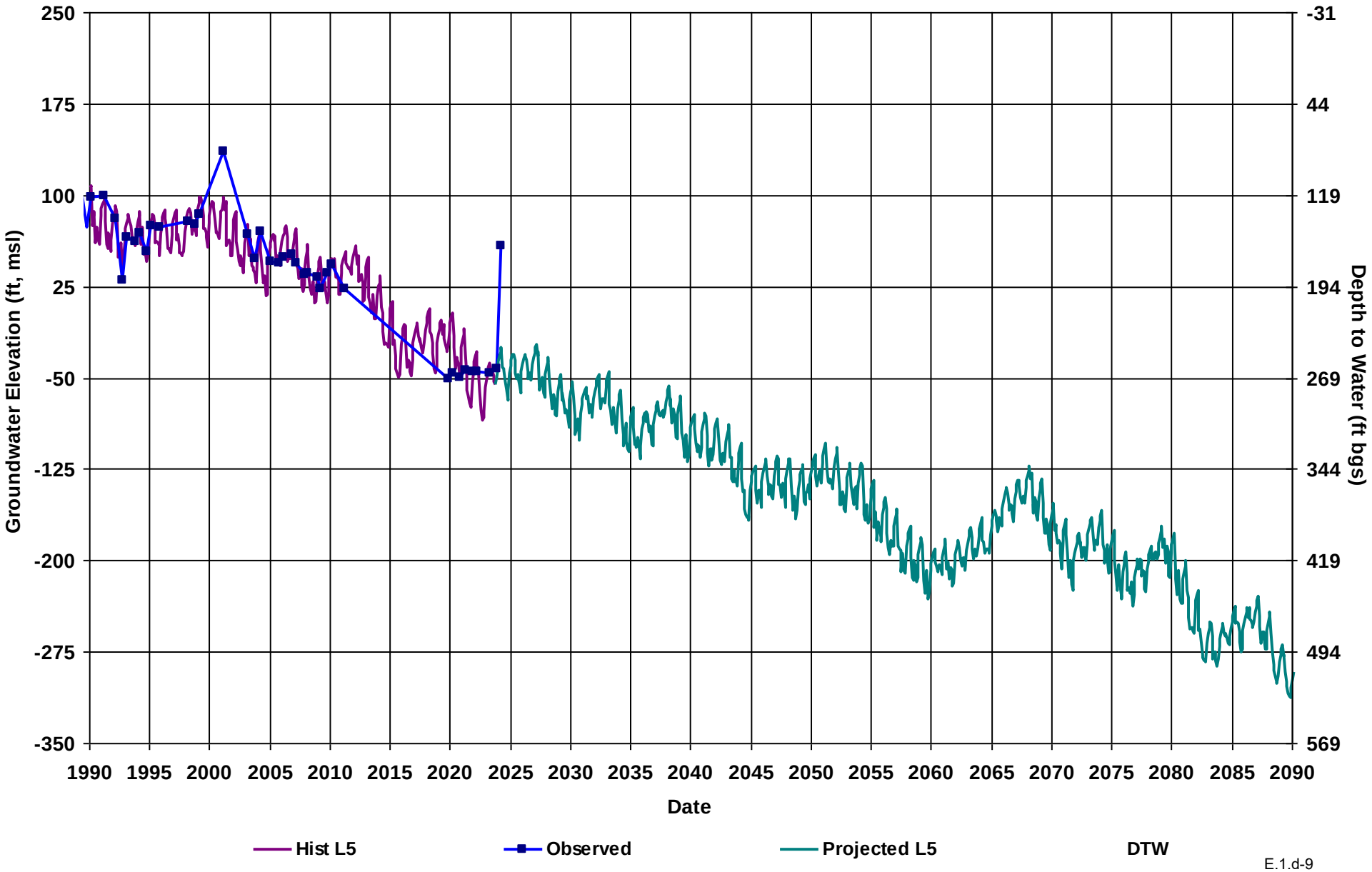
RMS ID: CWD RMS-7
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 169

Total Depth (ft): 330
Perf Top (ft): 135
Perf Bottom (ft): 288
Top Model Layer: 4
Bottom Model Layer: 4



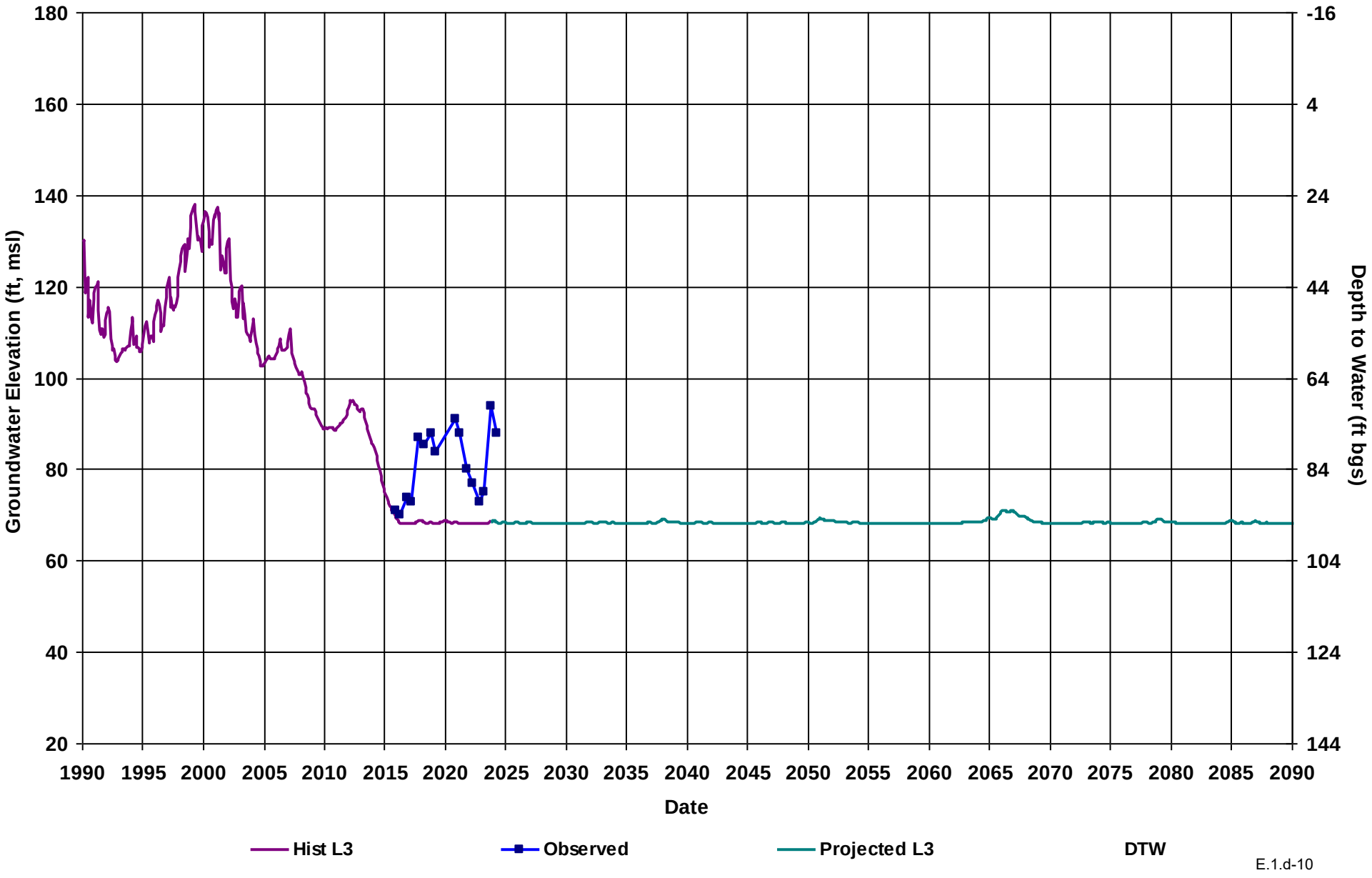
RMS ID: CWD RMS-8
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 219

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



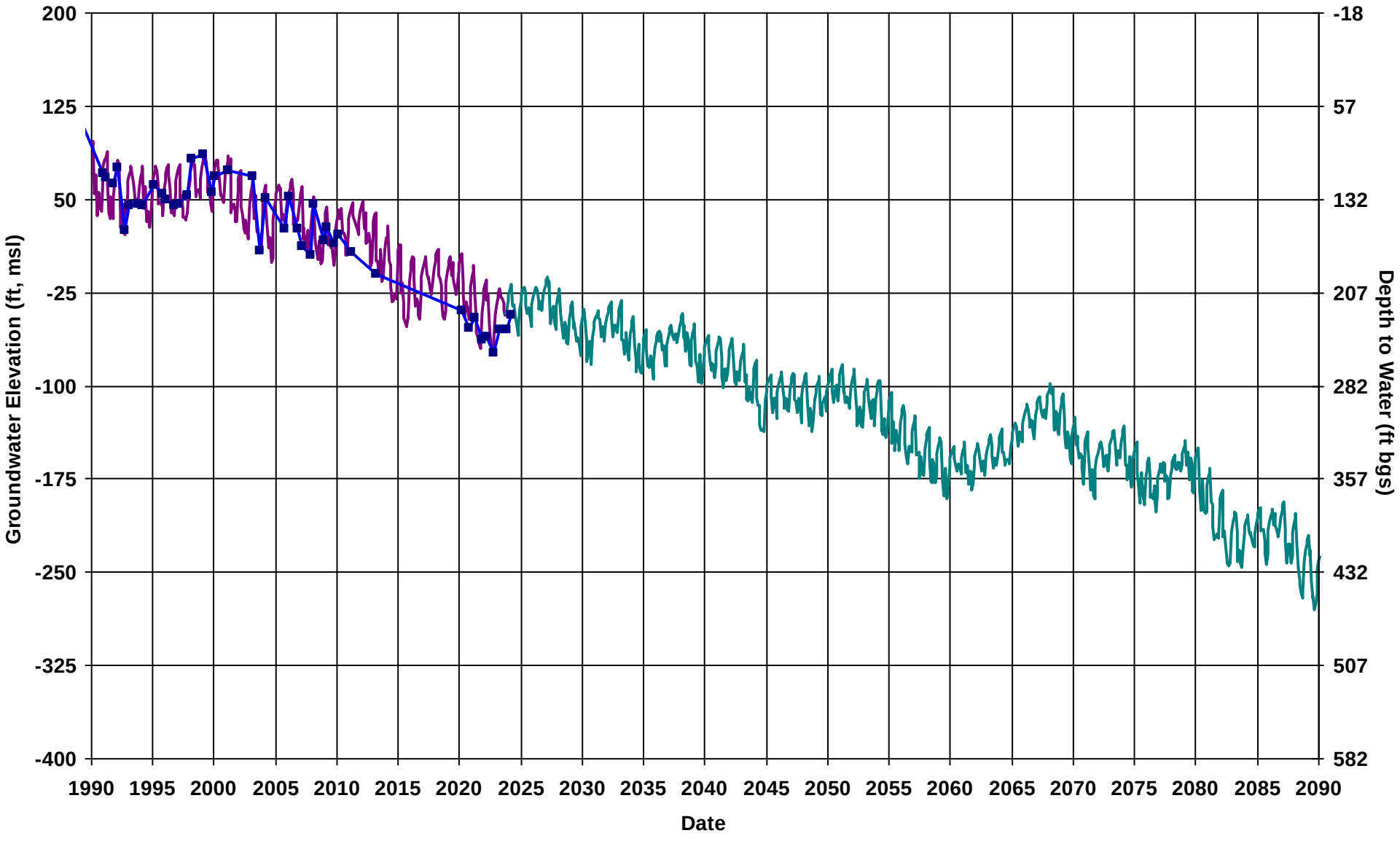
RMS ID: CWD RMS-9
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 164

Total Depth (ft): 97
Perf Top (ft): 82
Perf Bottom (ft): 97
Top Model Layer: 3
Bottom Model Layer: 3



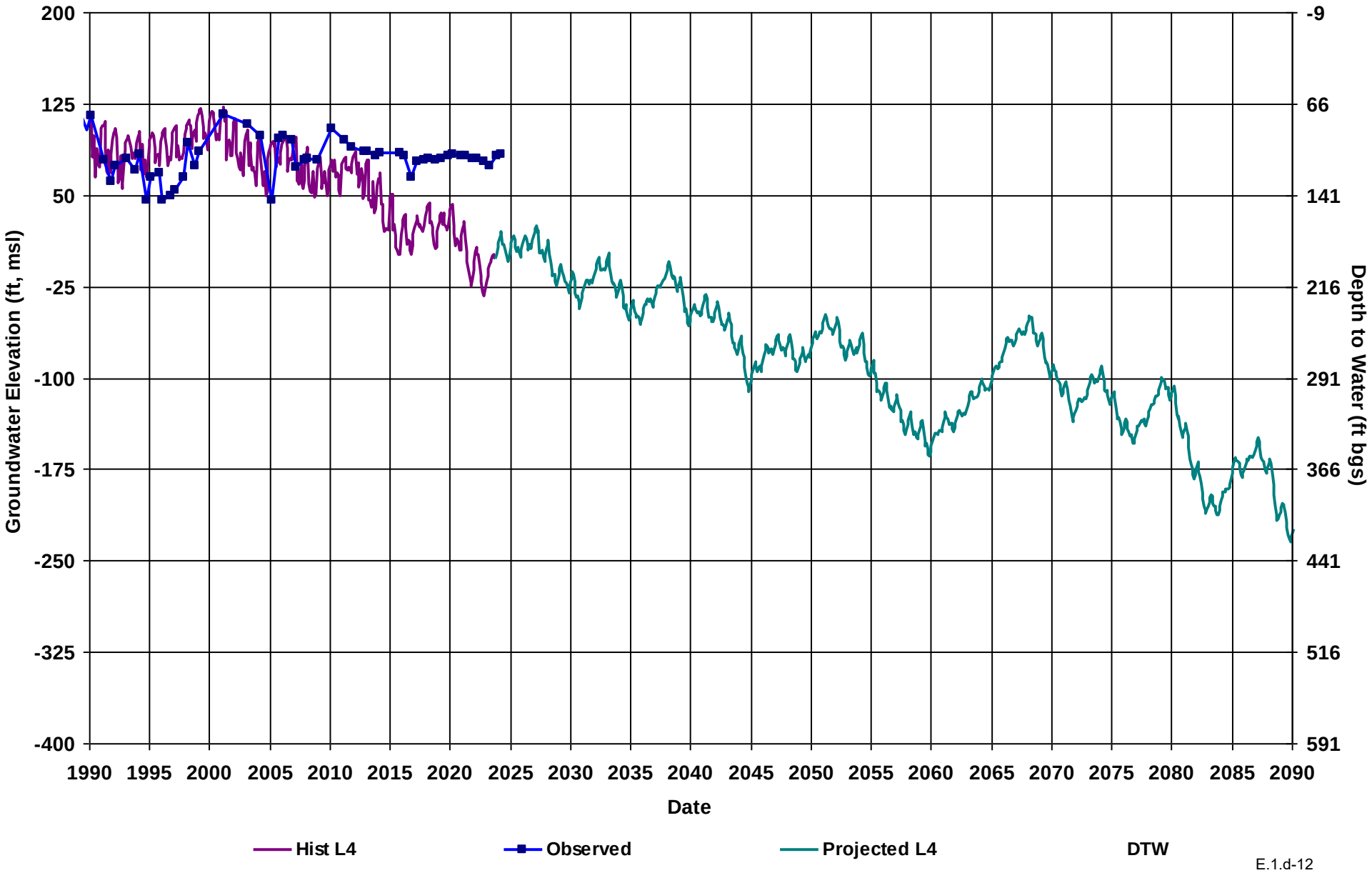
RMS ID: CWD RMS-10
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 182

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



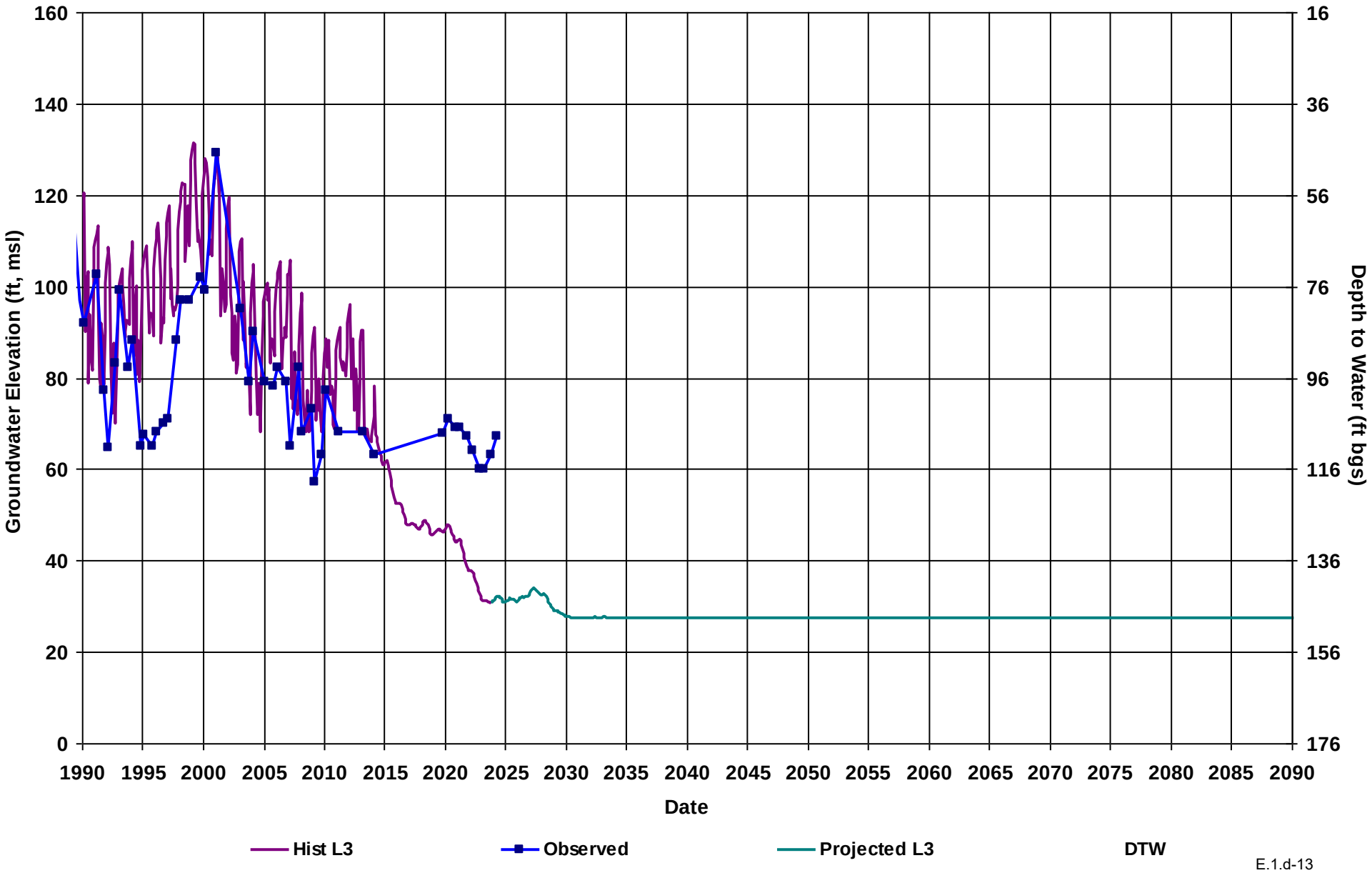
RMS ID: CWD RMS-11
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 199

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



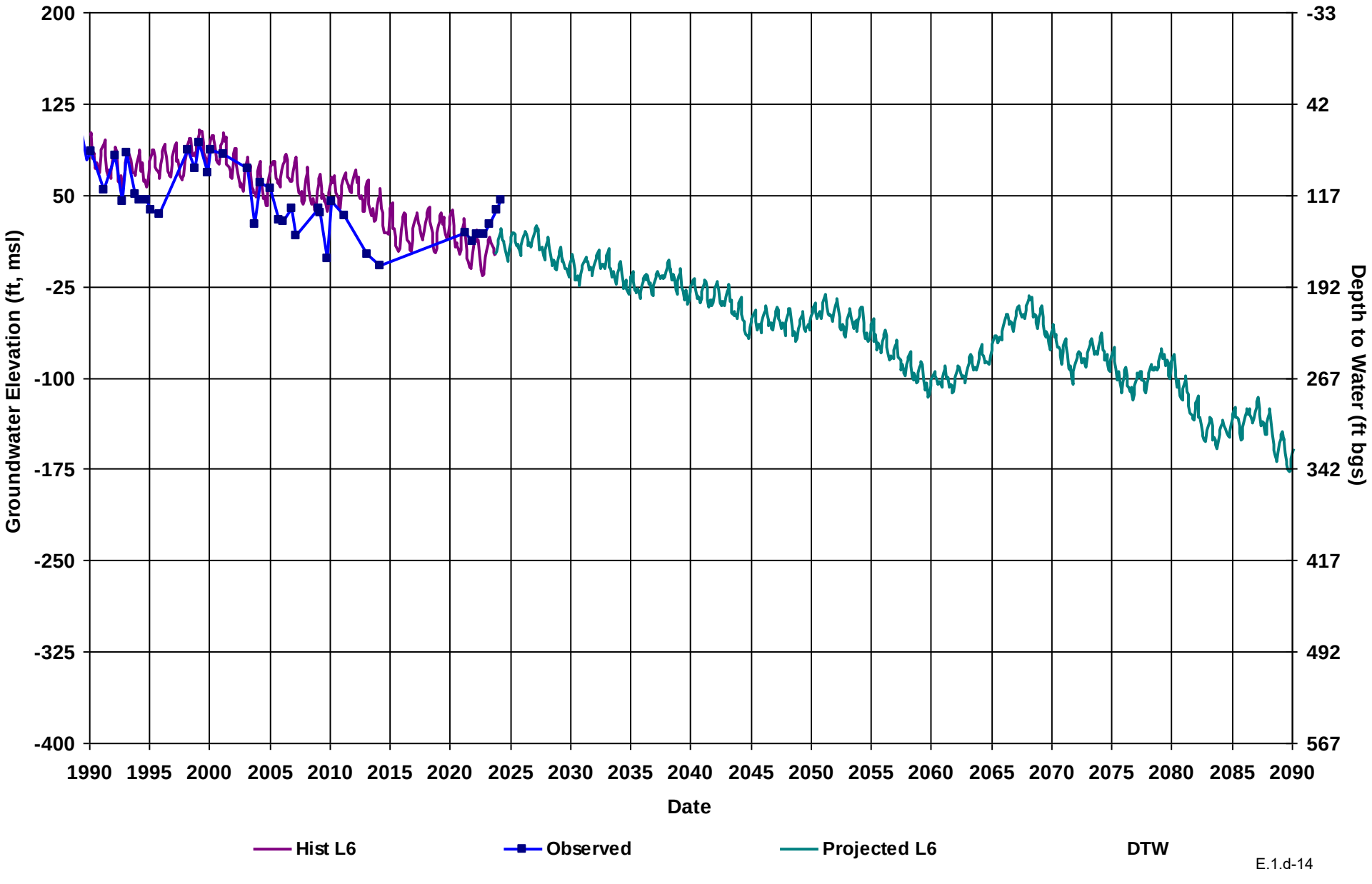
RMS ID: CWD RMS-12
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 176

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



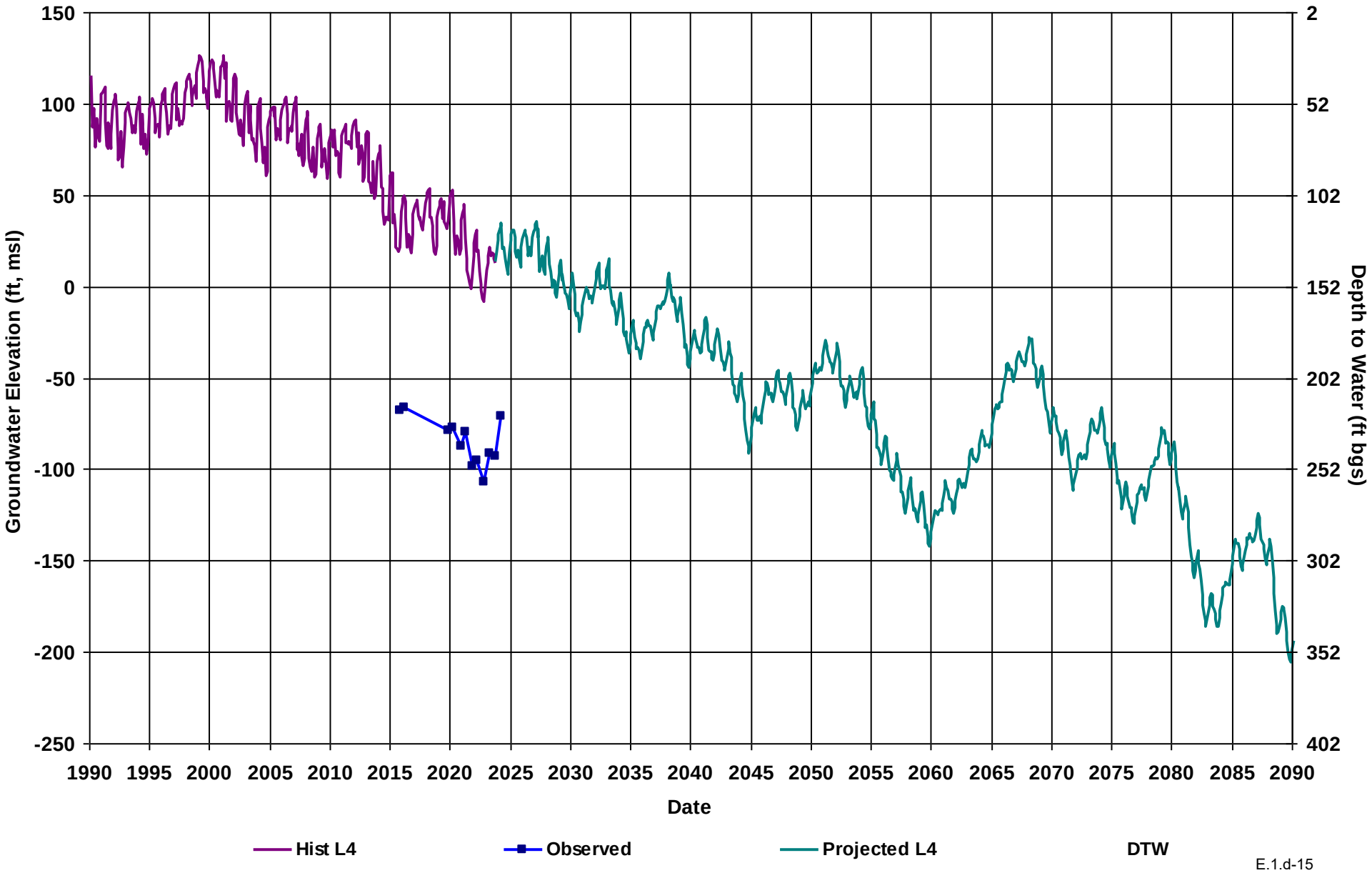
RMS ID: CWD RMS-13
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 167

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



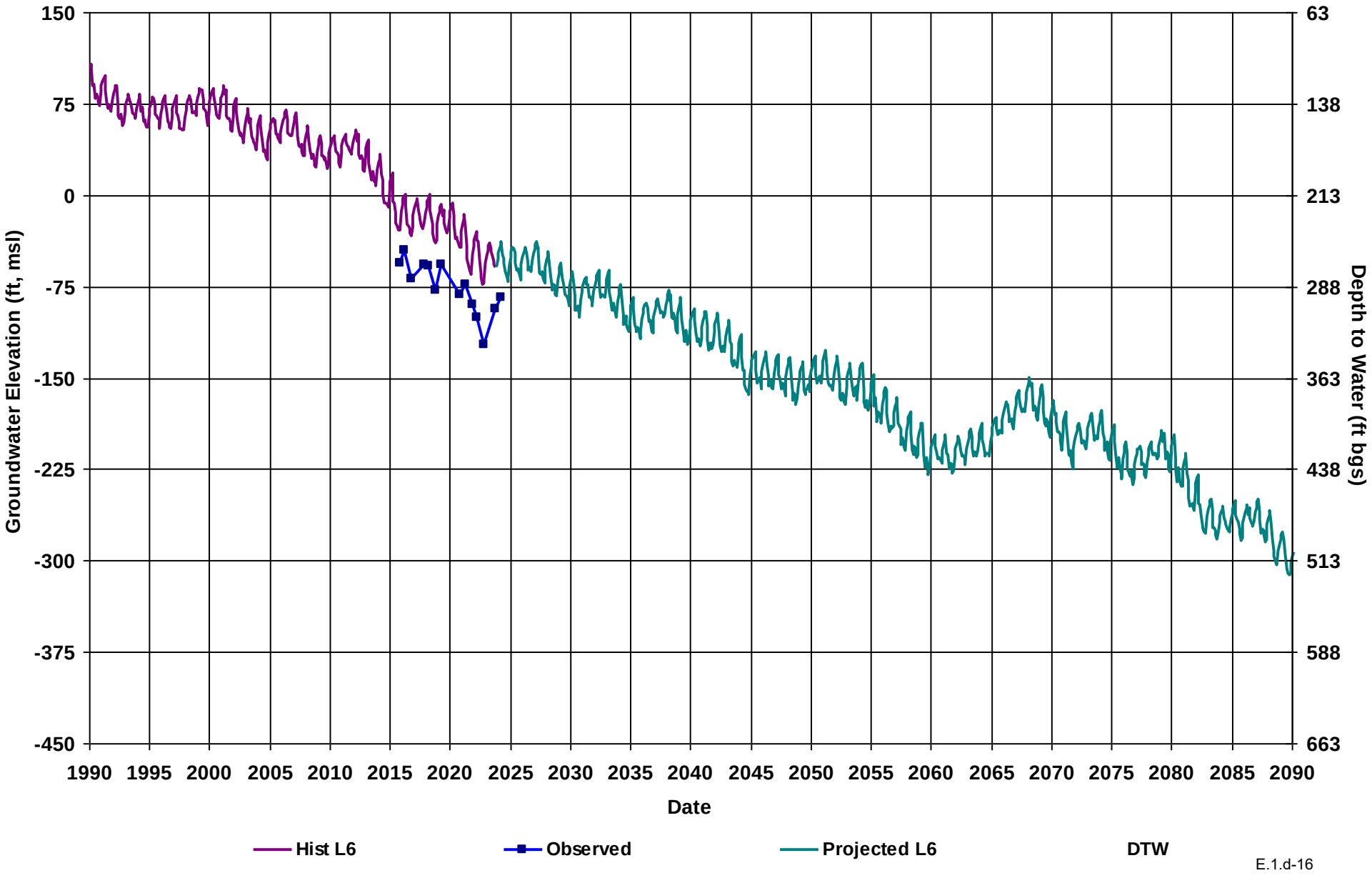
RMS ID: CWD RMS-14
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 152

Total Depth (ft): 455
Perf Top (ft): 185
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



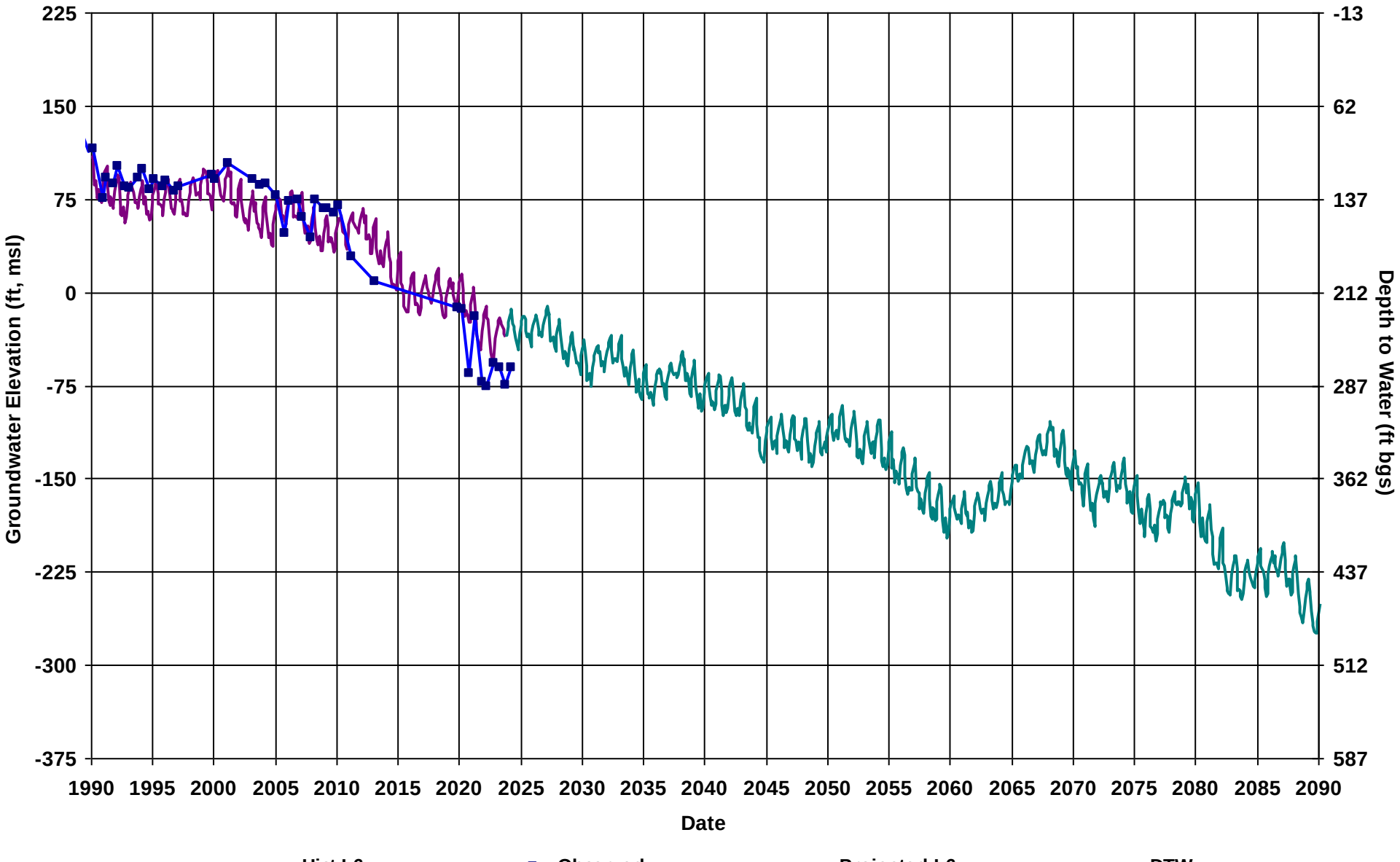
RMS ID: CWD RMS-15
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 213

Total Depth (ft): 955
Perf Top (ft): 290
Perf Bottom (ft): 935
Top Model Layer: 6
Bottom Model Layer: 6



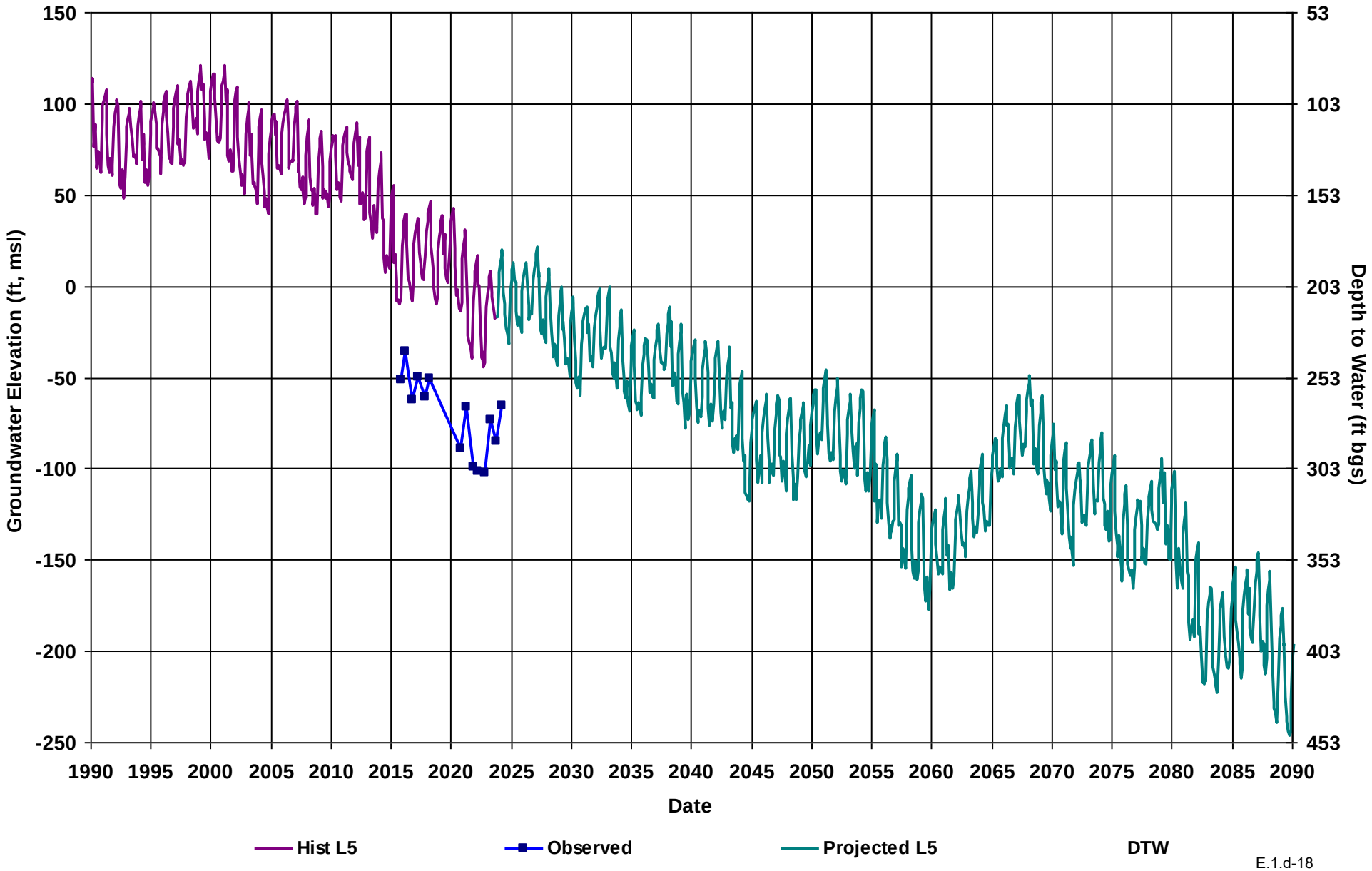
RMS ID: CWD RMS-16
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 212

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



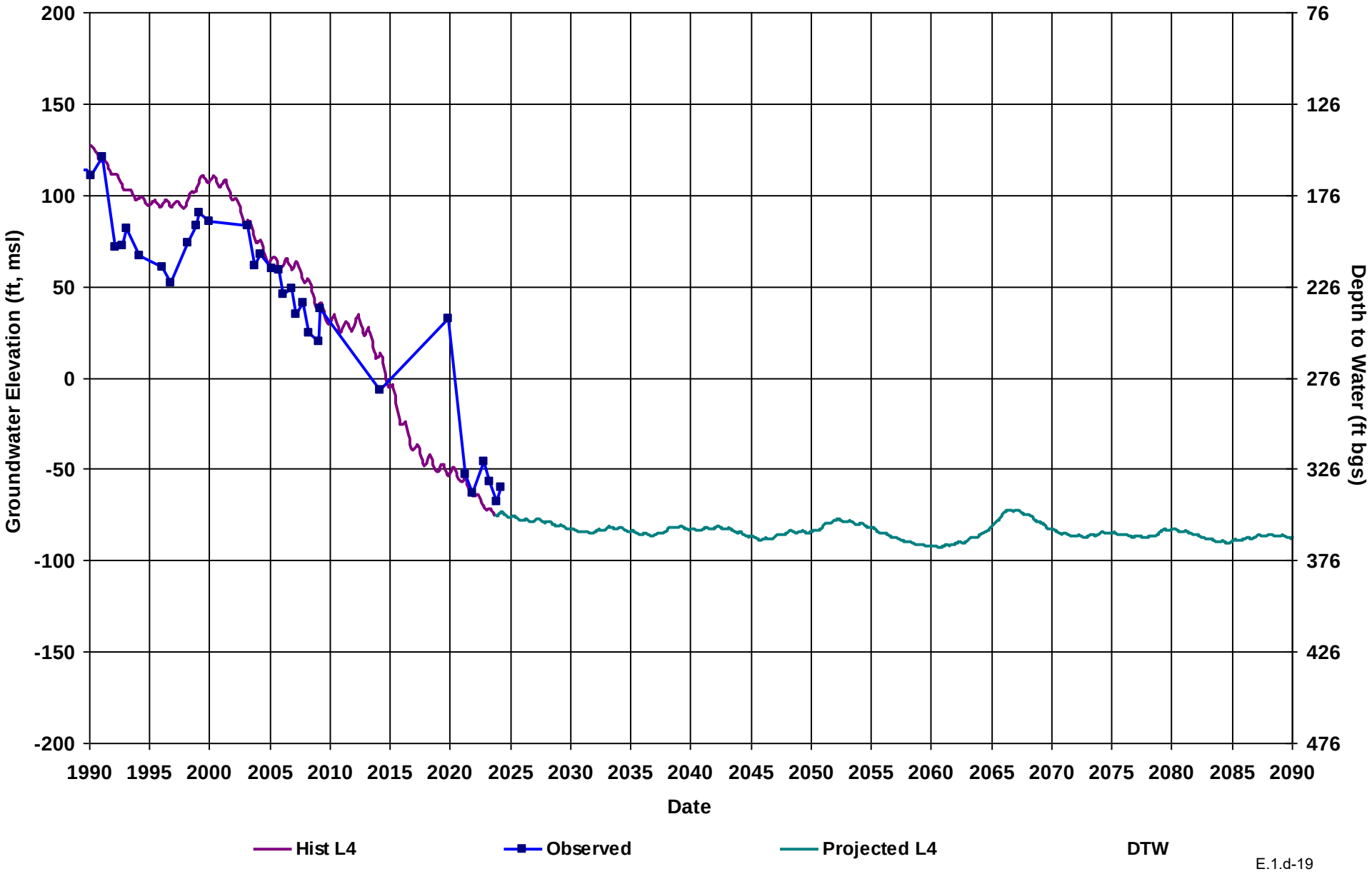
RMS ID: CWD RMS-17
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Total Depth (ft): 624
Perf Top (ft): 278
Perf Bottom (ft): 588
Top Model Layer: 5
Bottom Model Layer: 5



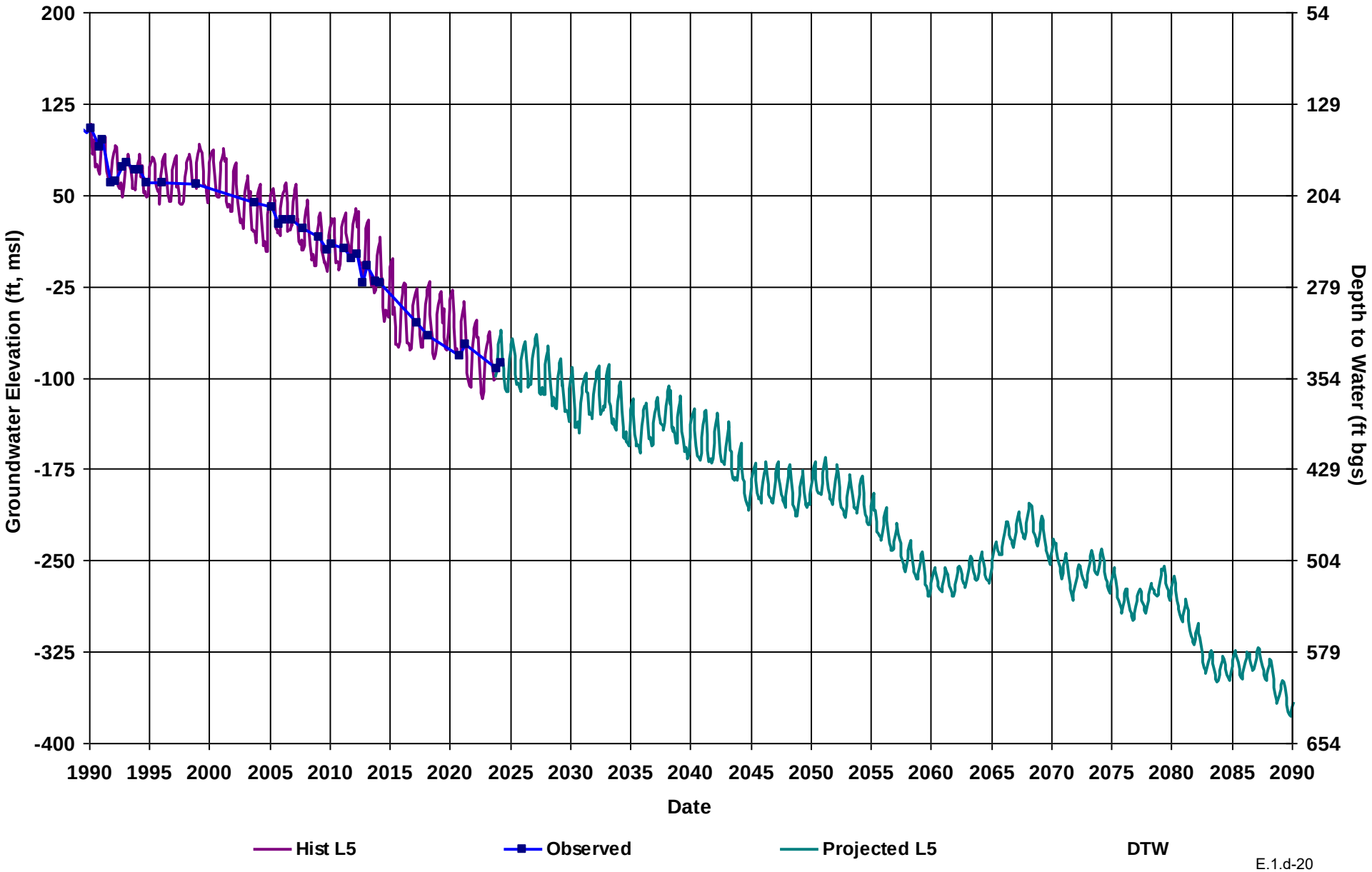
RMS ID: MCE RMS-1
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 276

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



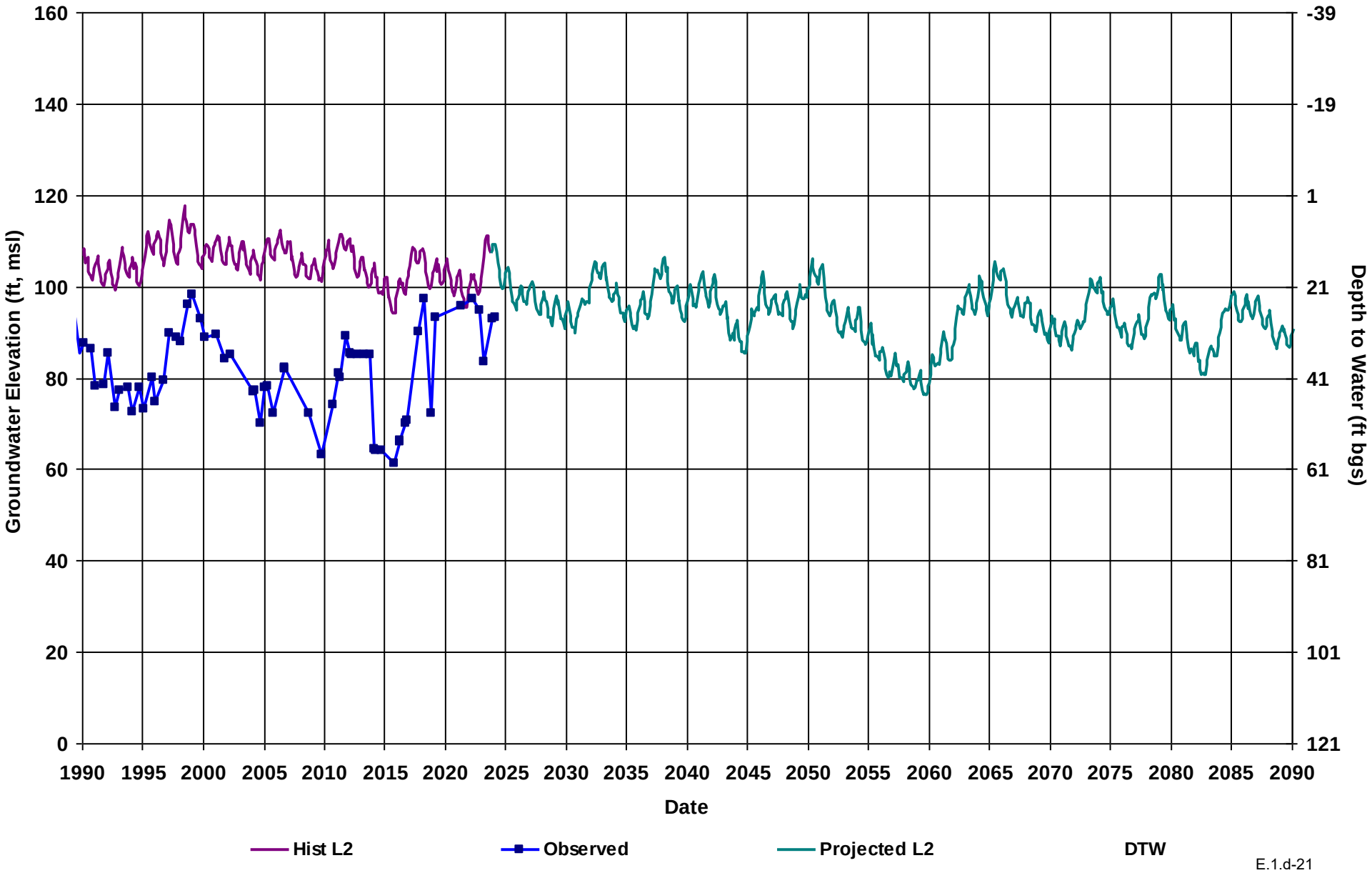
RMS ID: MCE RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 272

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 5
Bottom Model Layer: 5



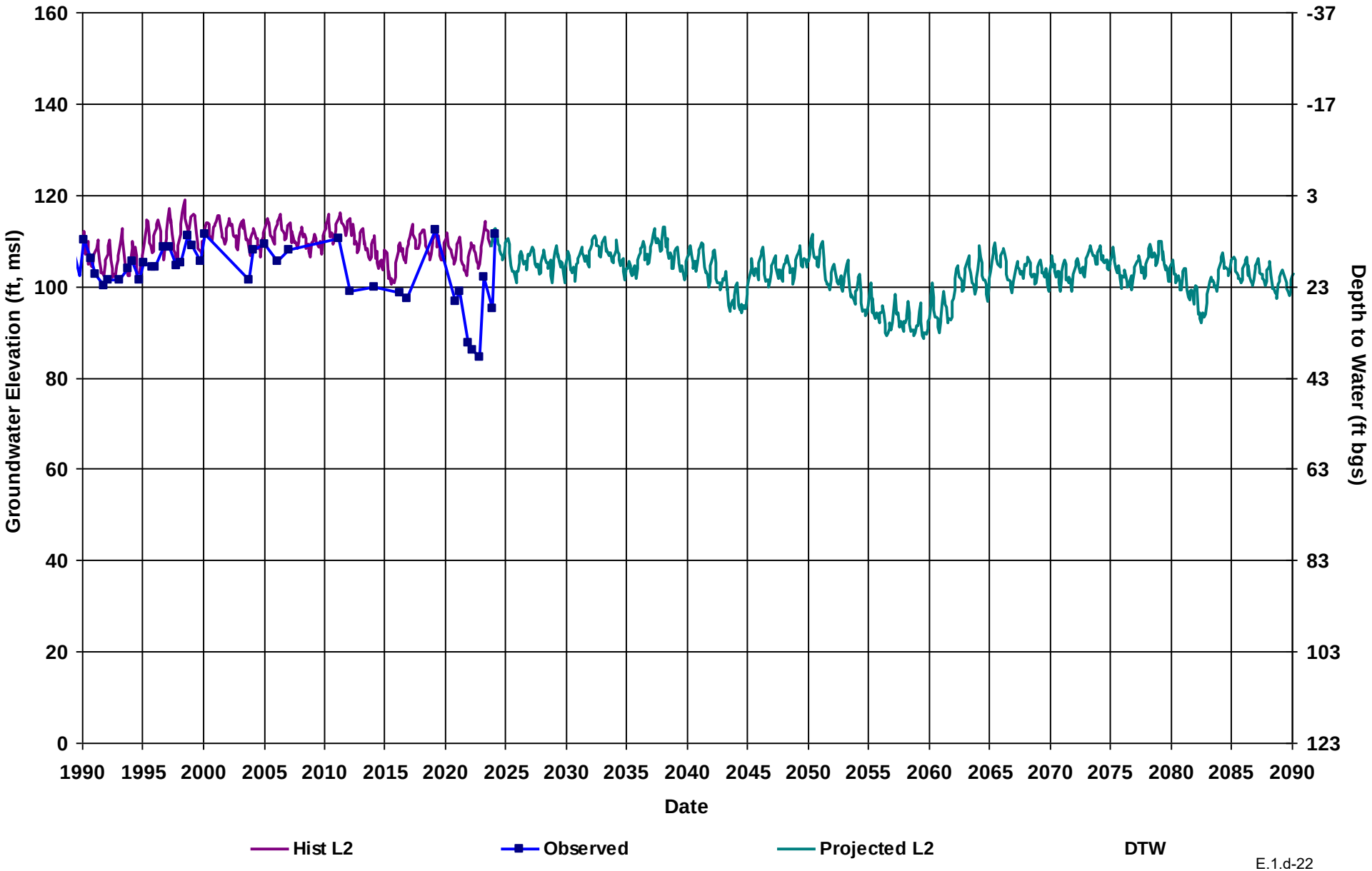
RMS ID: MCW RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 12127

Total Depth (ft): 150
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



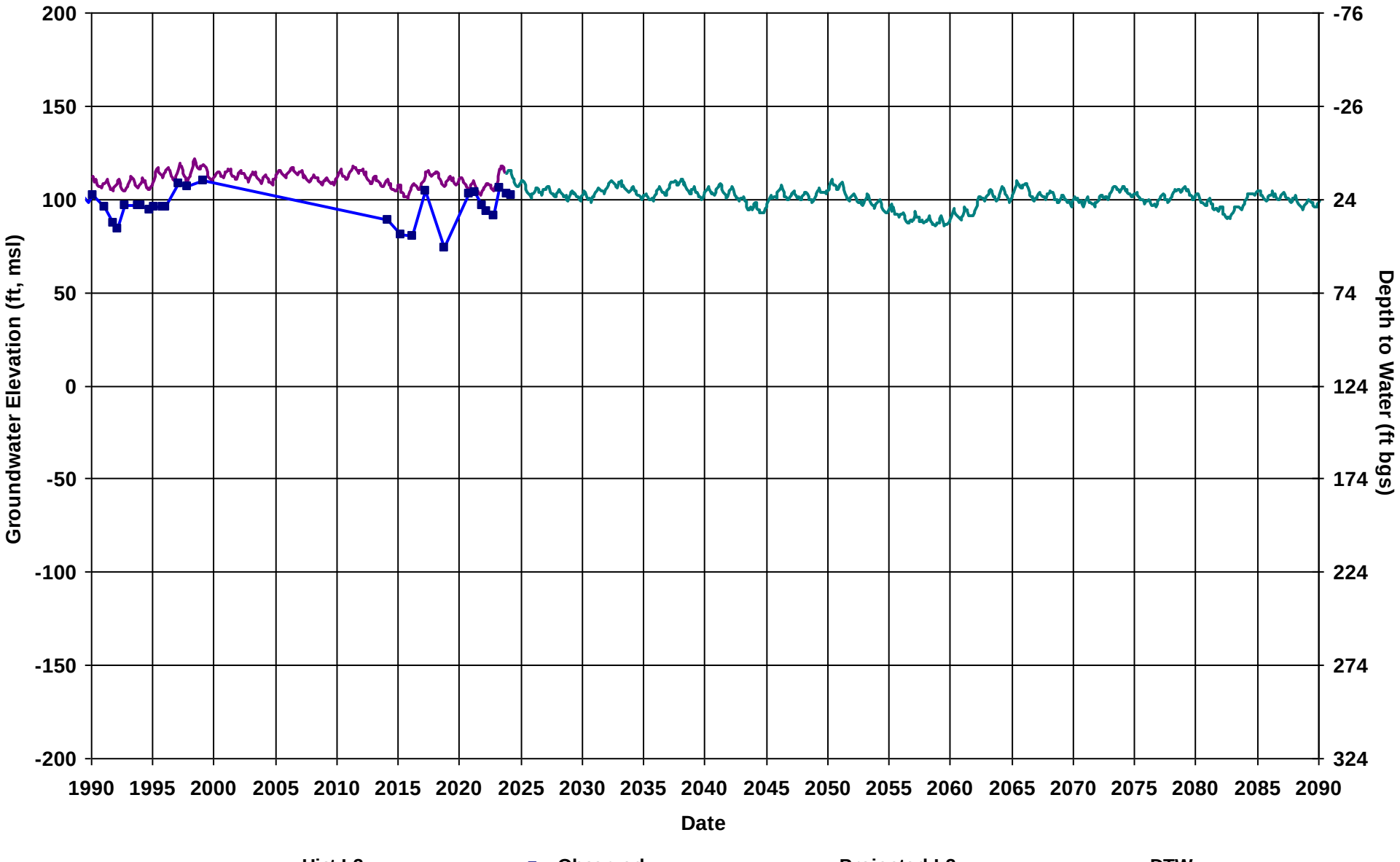
RMS ID: MCW RMS-2
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



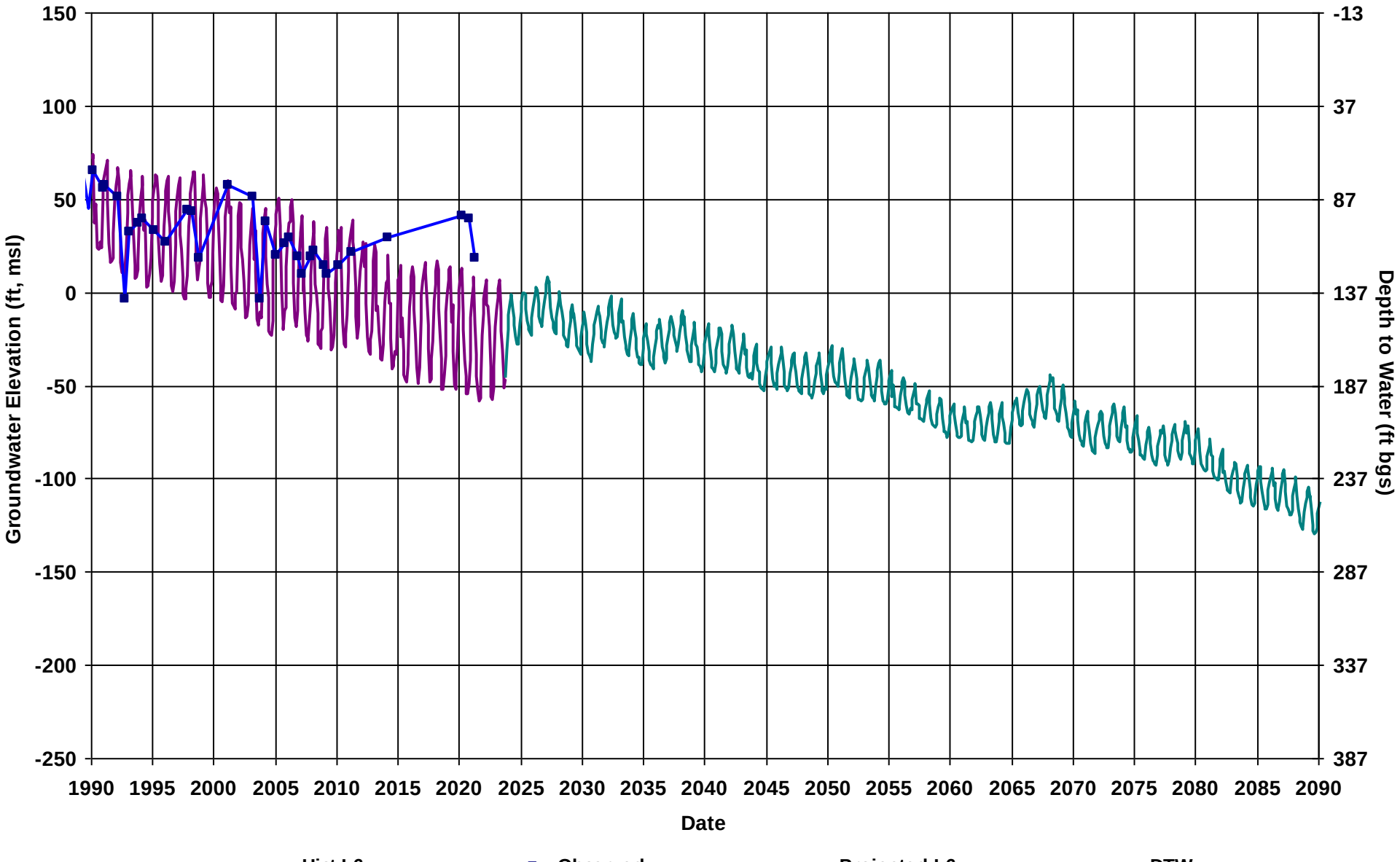
RMS ID: MCW RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



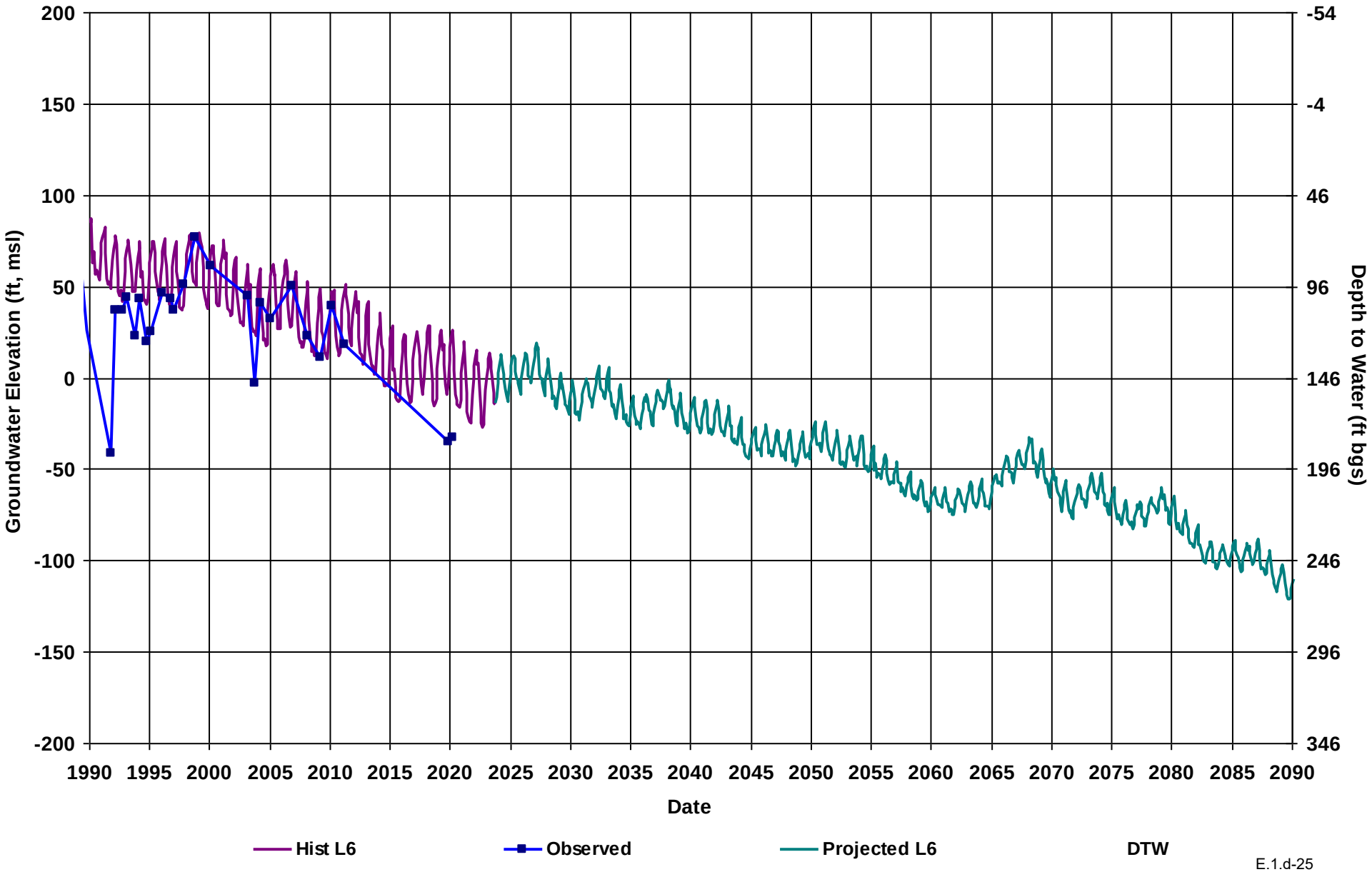
RMS ID: MCW RMS-4
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



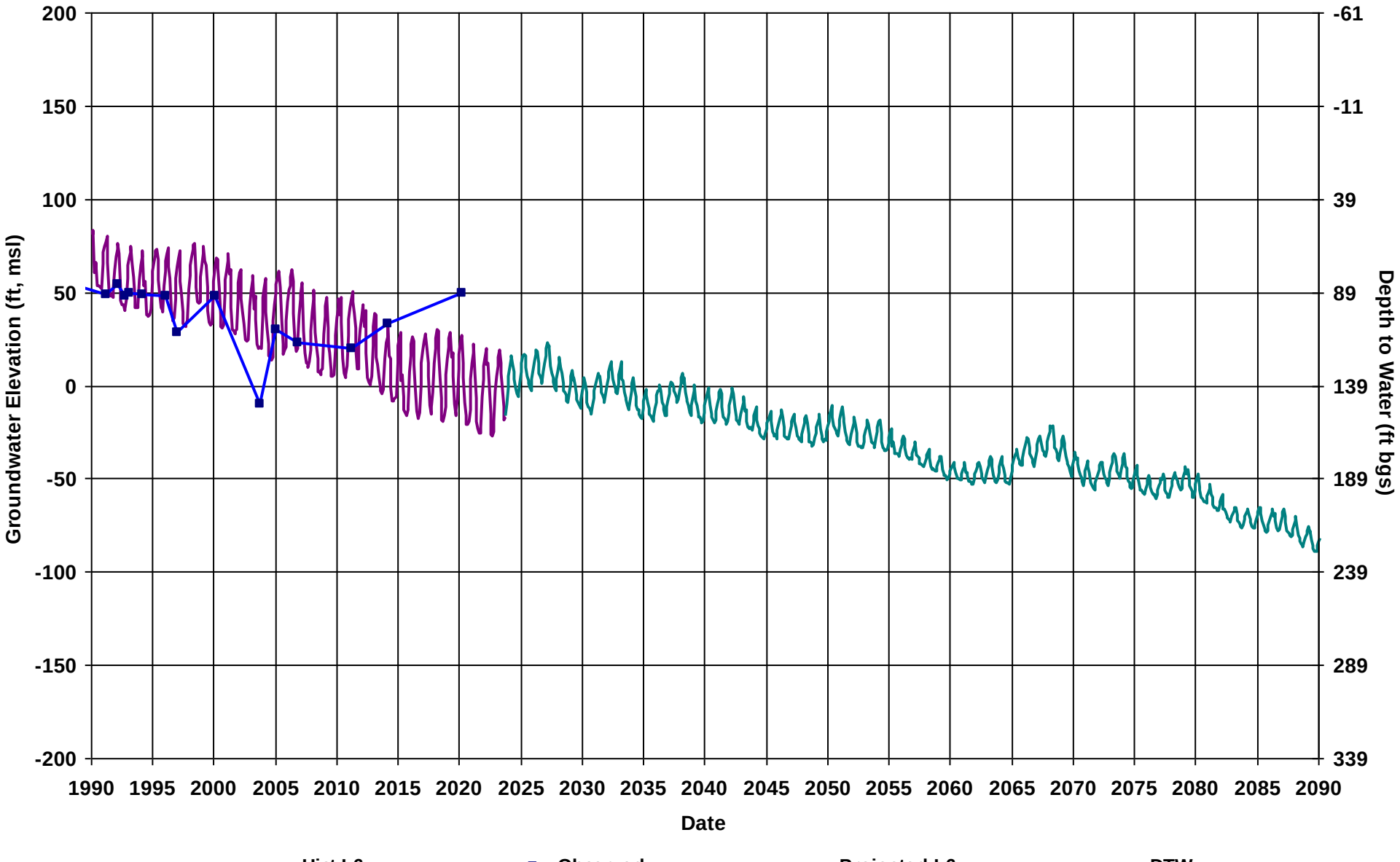
RMS ID: MCW RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 146

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



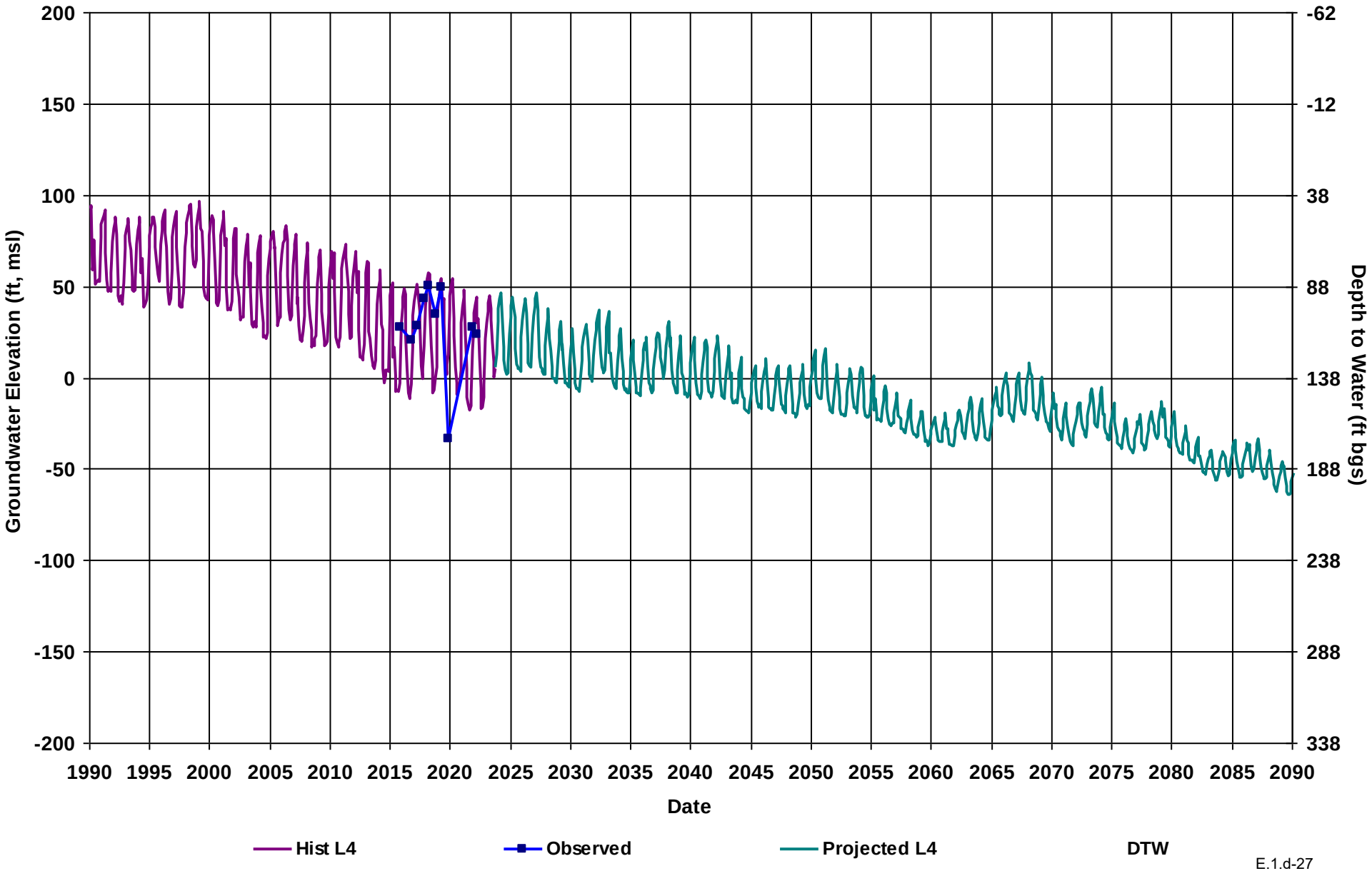
RMS ID: MCW RMS-6
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 139

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



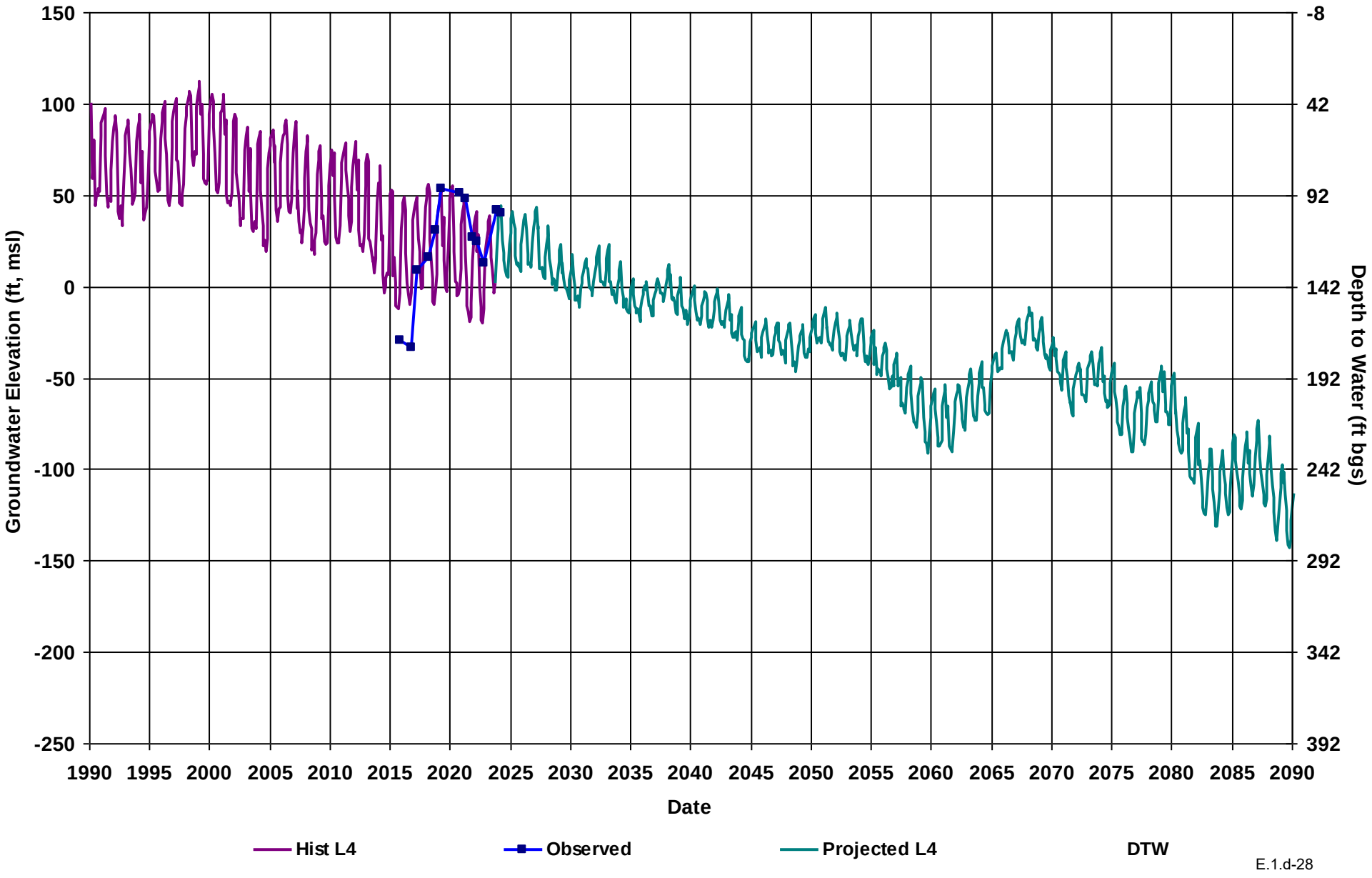
RMS ID: MCW RMS-7
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 138

Total Depth (ft): 800
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



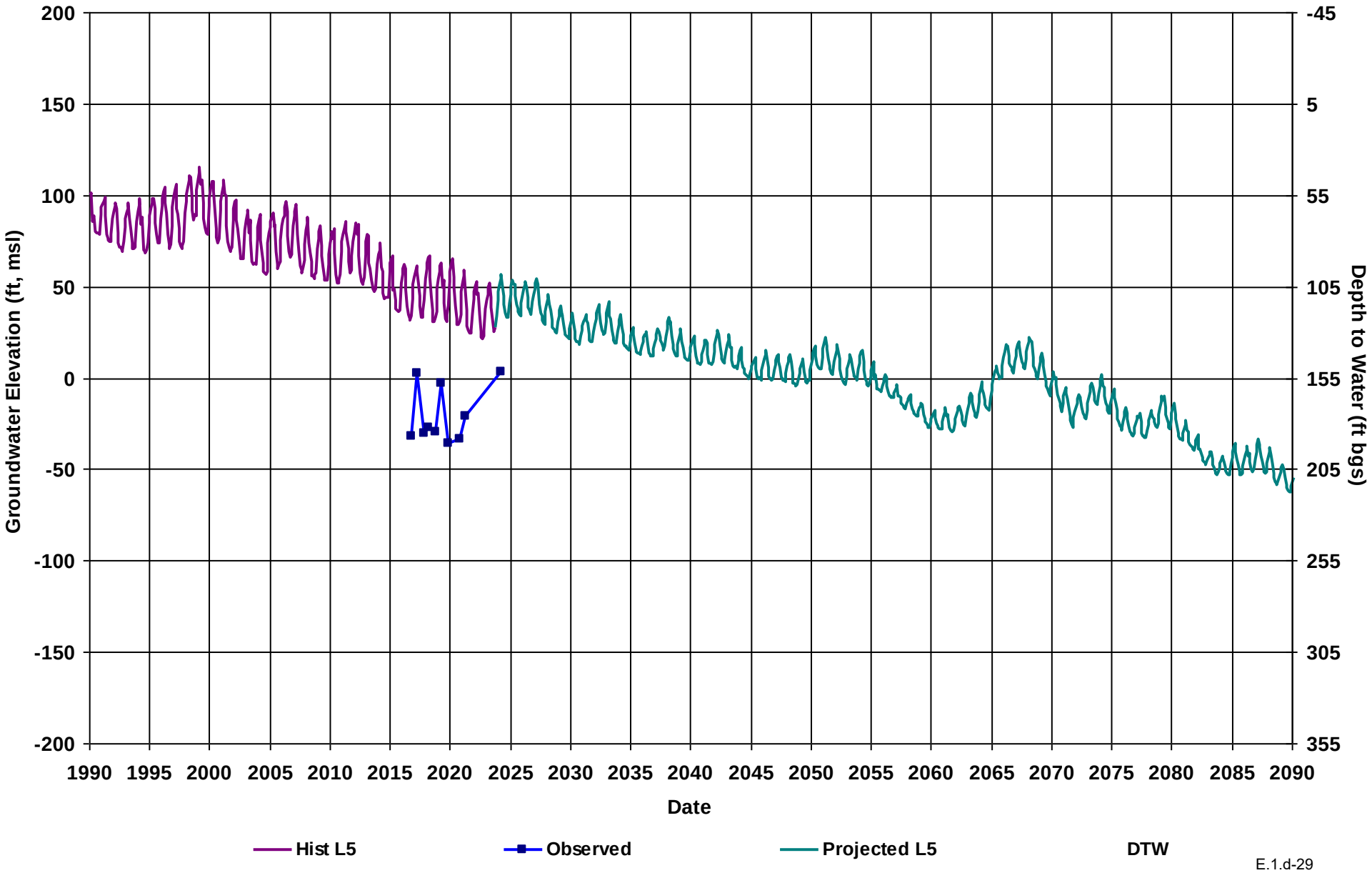
RMS ID: MCW RMS-8
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 142

Total Depth (ft): 480
Perf Top (ft): 160
Perf Bottom (ft): 475
Top Model Layer: 4
Bottom Model Layer: 4



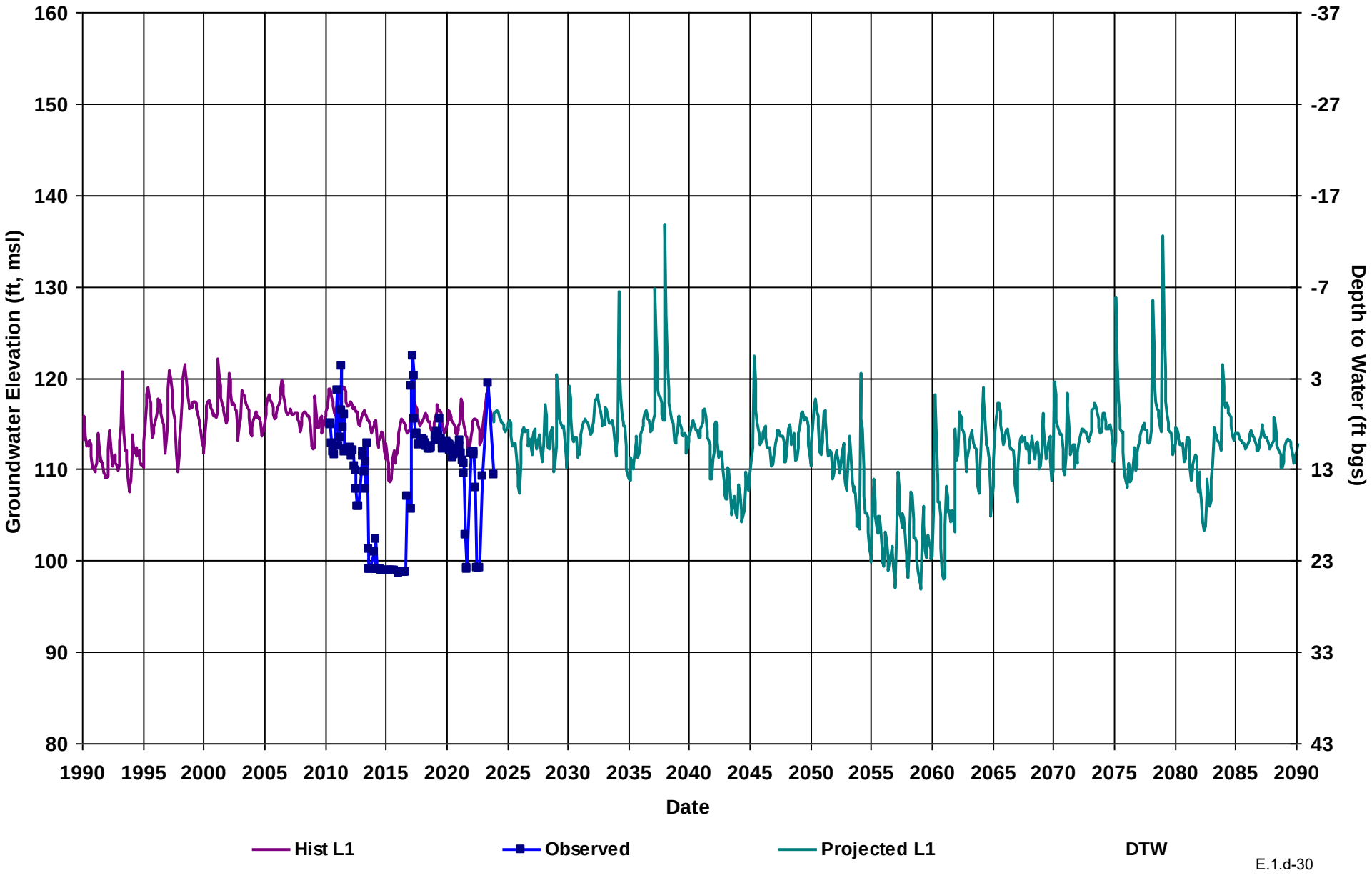
RMS ID: MCW RMS-9
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 155

Total Depth (ft): 700
Perf Top (ft): 265
Perf Bottom (ft): 696
Top Model Layer: 5
Bottom Model Layer: 5



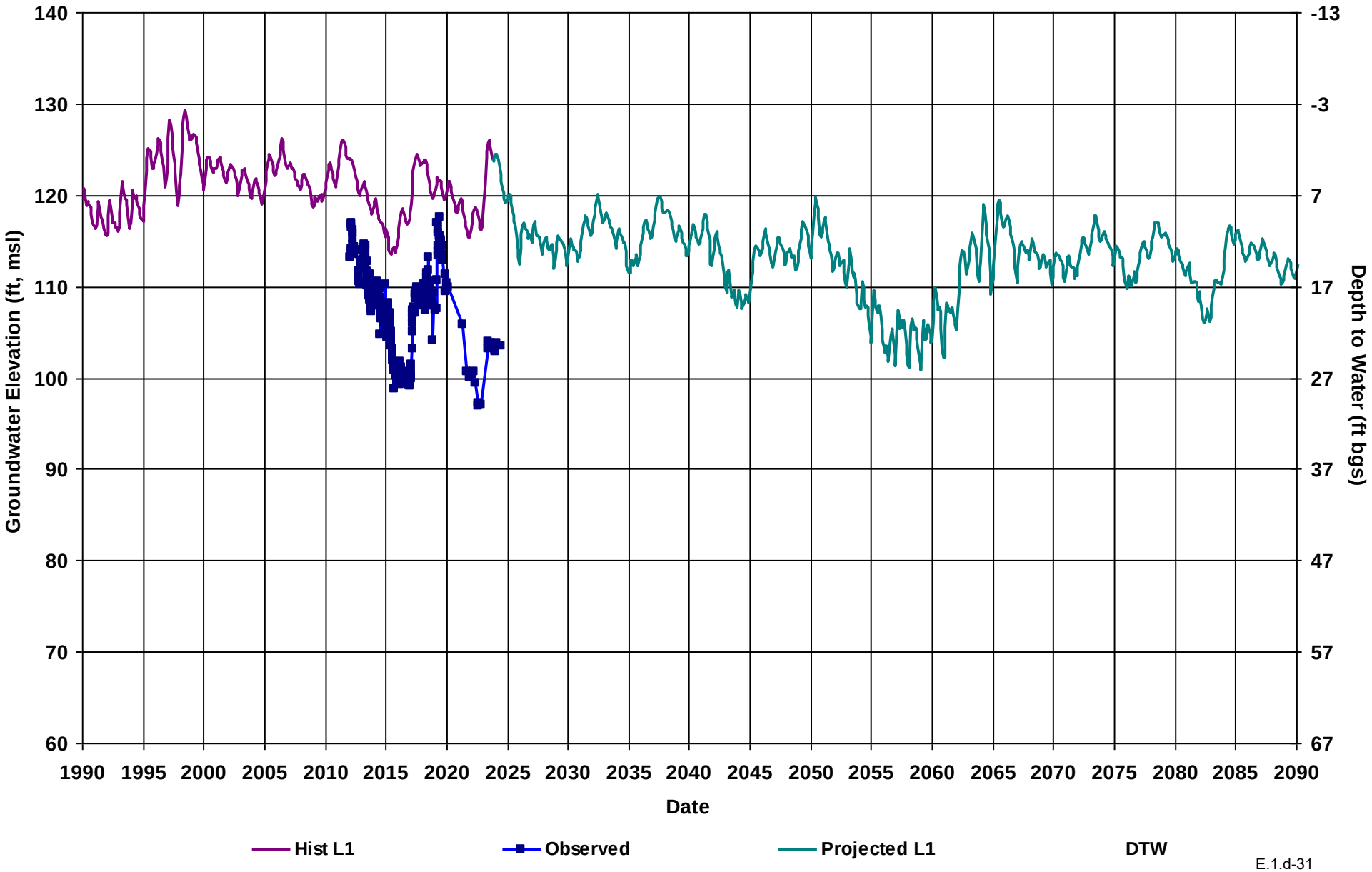
RMS ID: MCW RMS-10
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 26
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



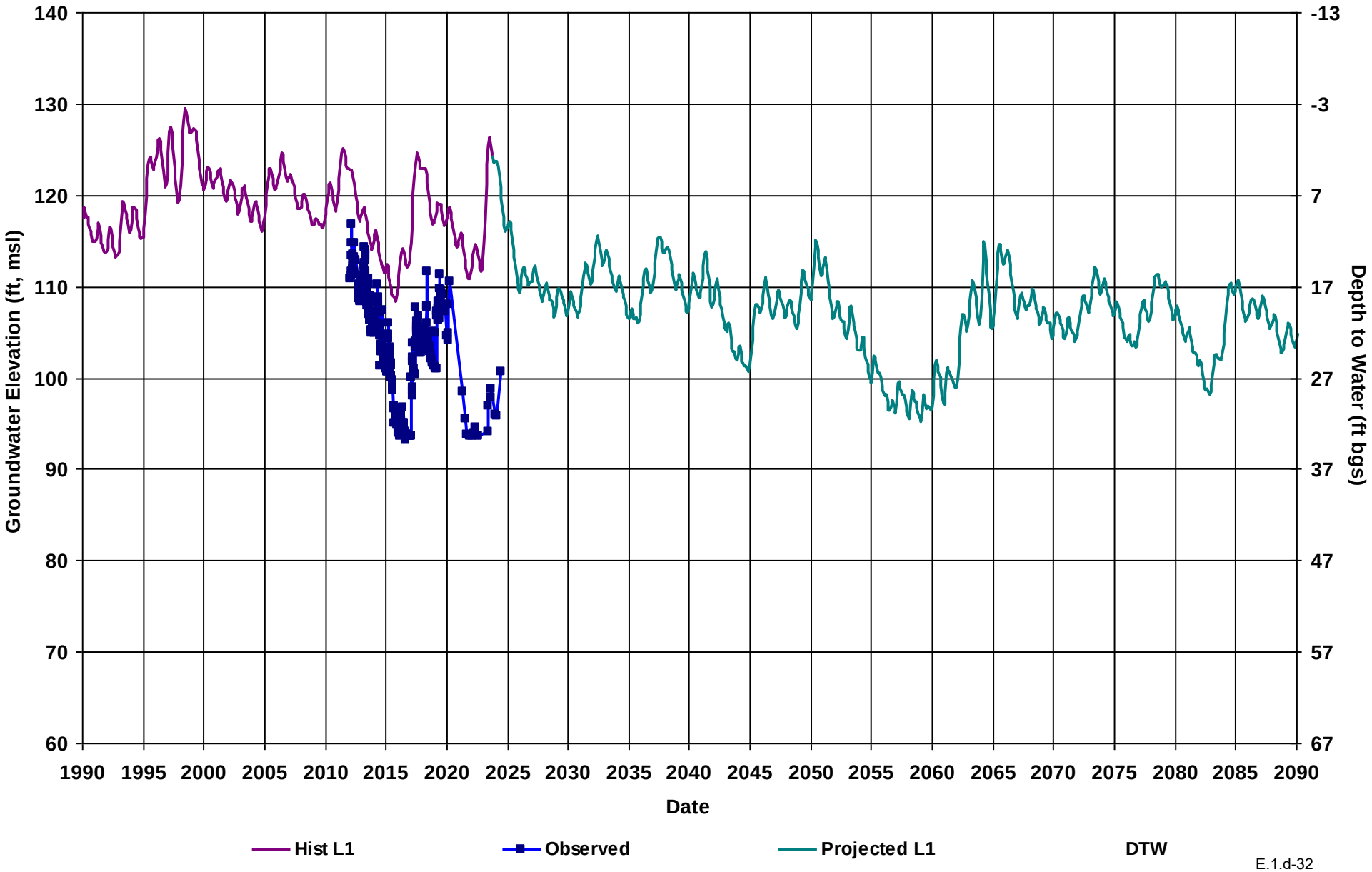
RMS ID: MCW RMS-11
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



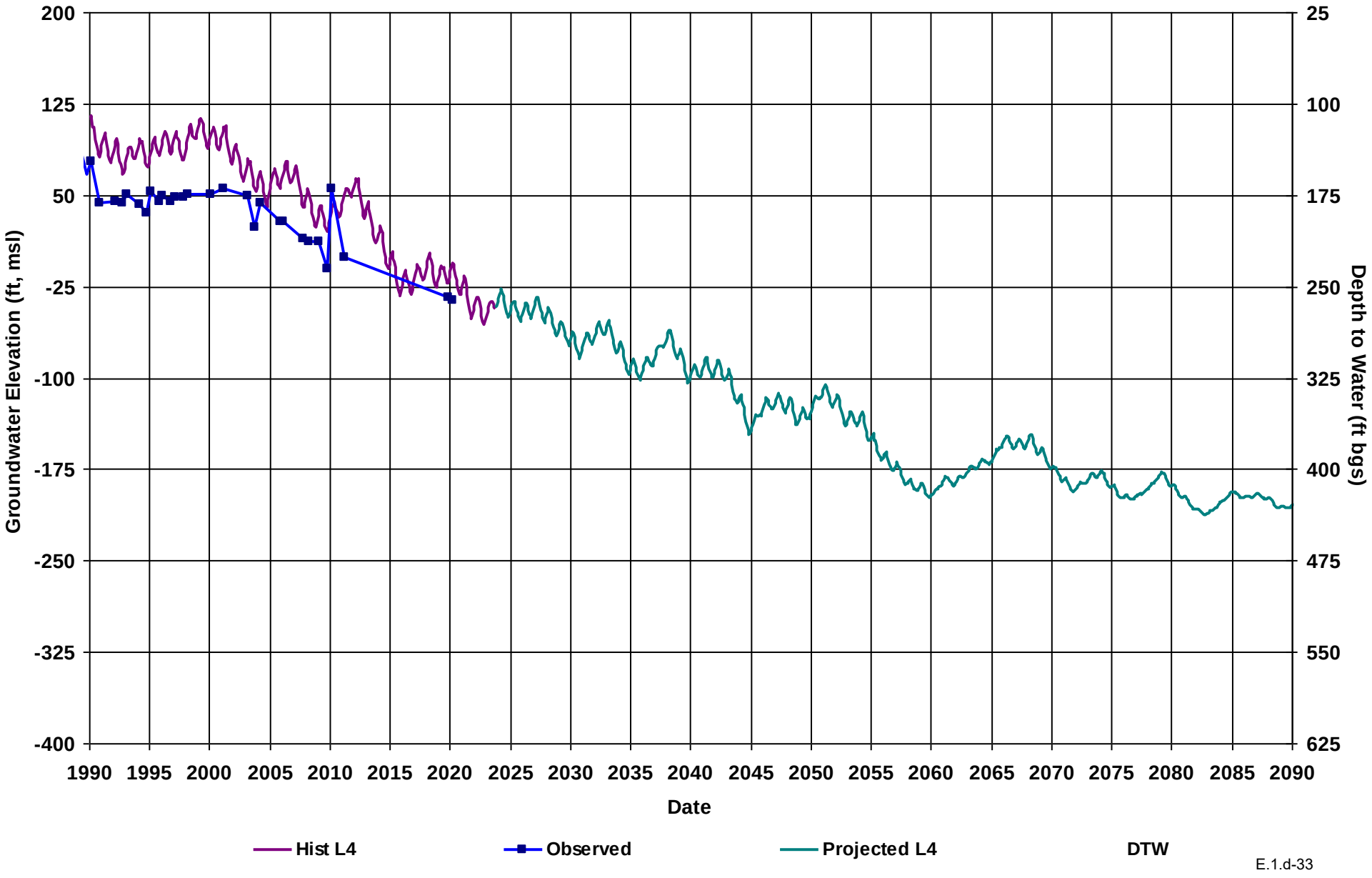
RMS ID: MCW RMS-12
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 120

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



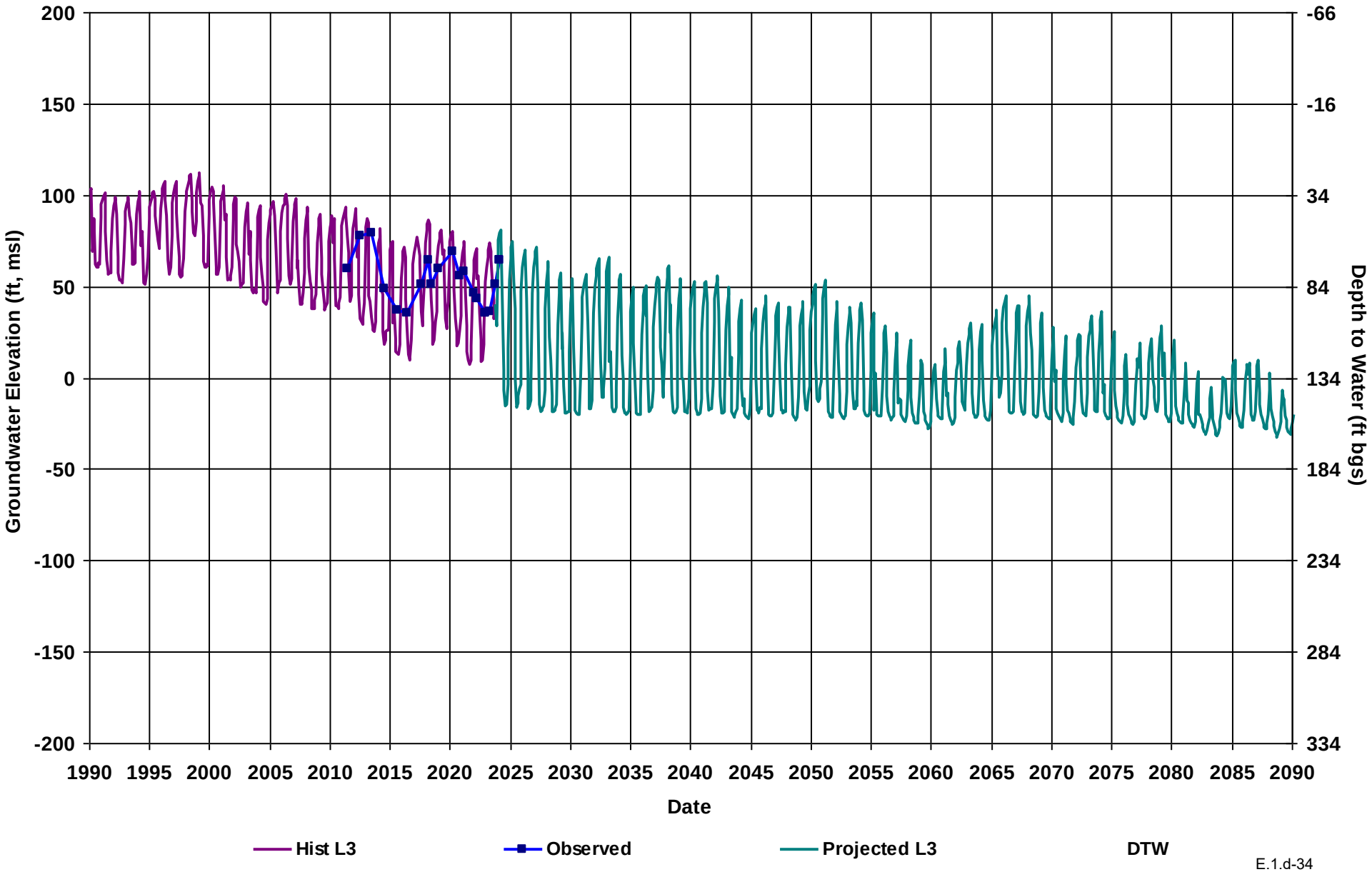
RMS ID: MER RMS-1
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



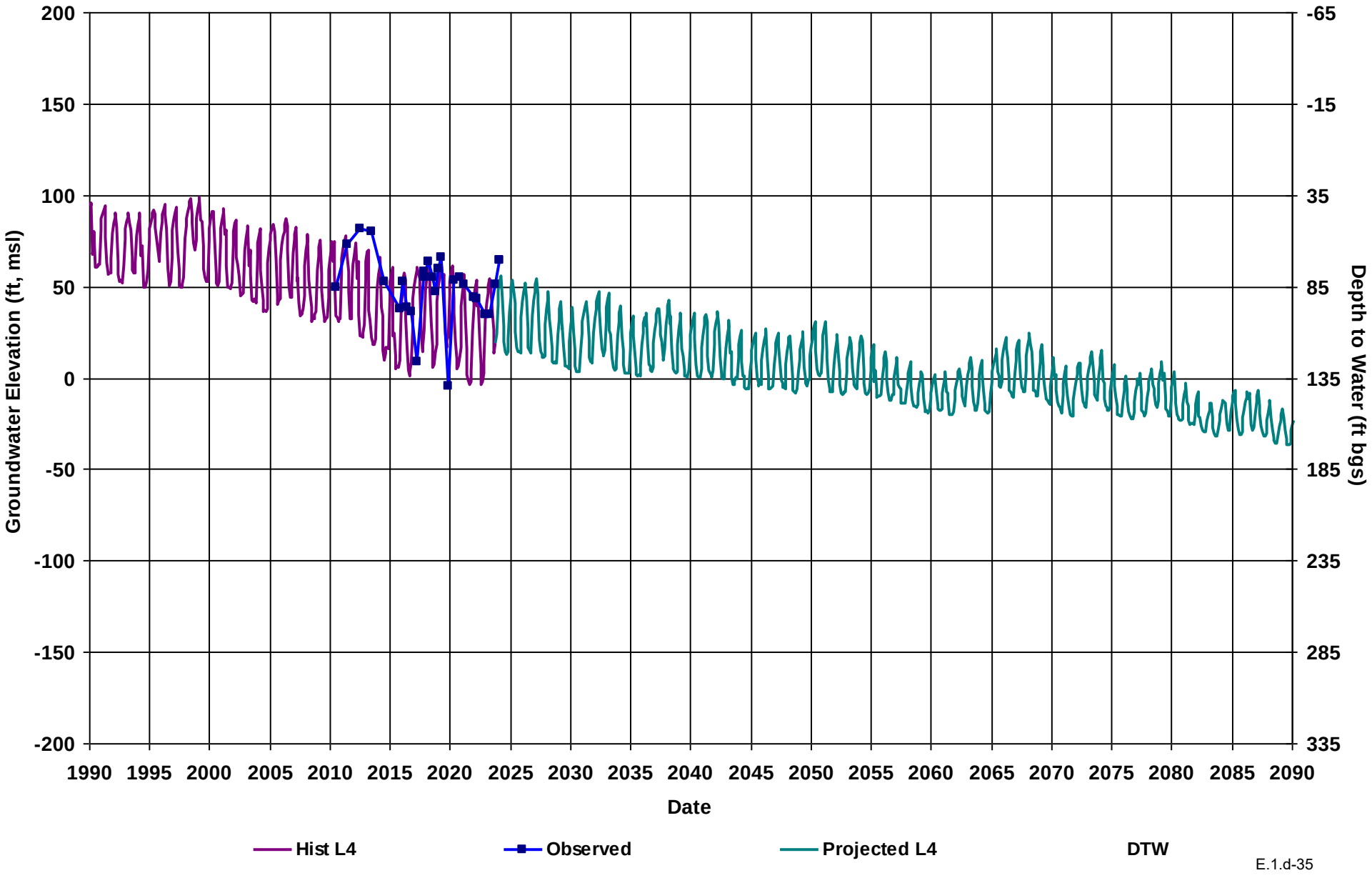
RMS ID: TRT RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 134

Total Depth (ft): 196
Perf Top (ft): 158
Perf Bottom (ft): 192
Top Model Layer: 3
Bottom Model Layer: 3



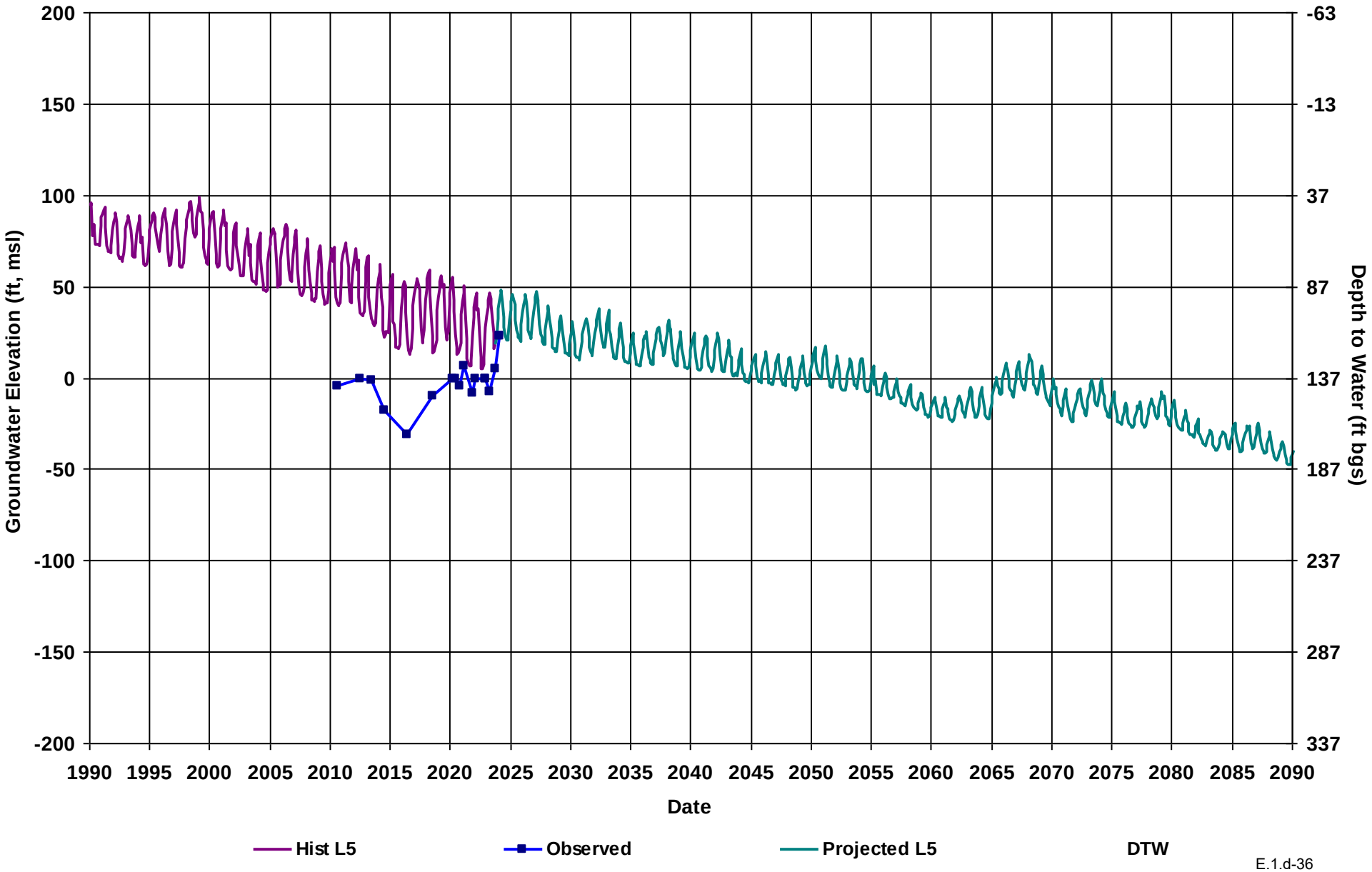
RMS ID: TRT RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 135

Total Depth (ft): 500
Perf Top (ft): 300
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



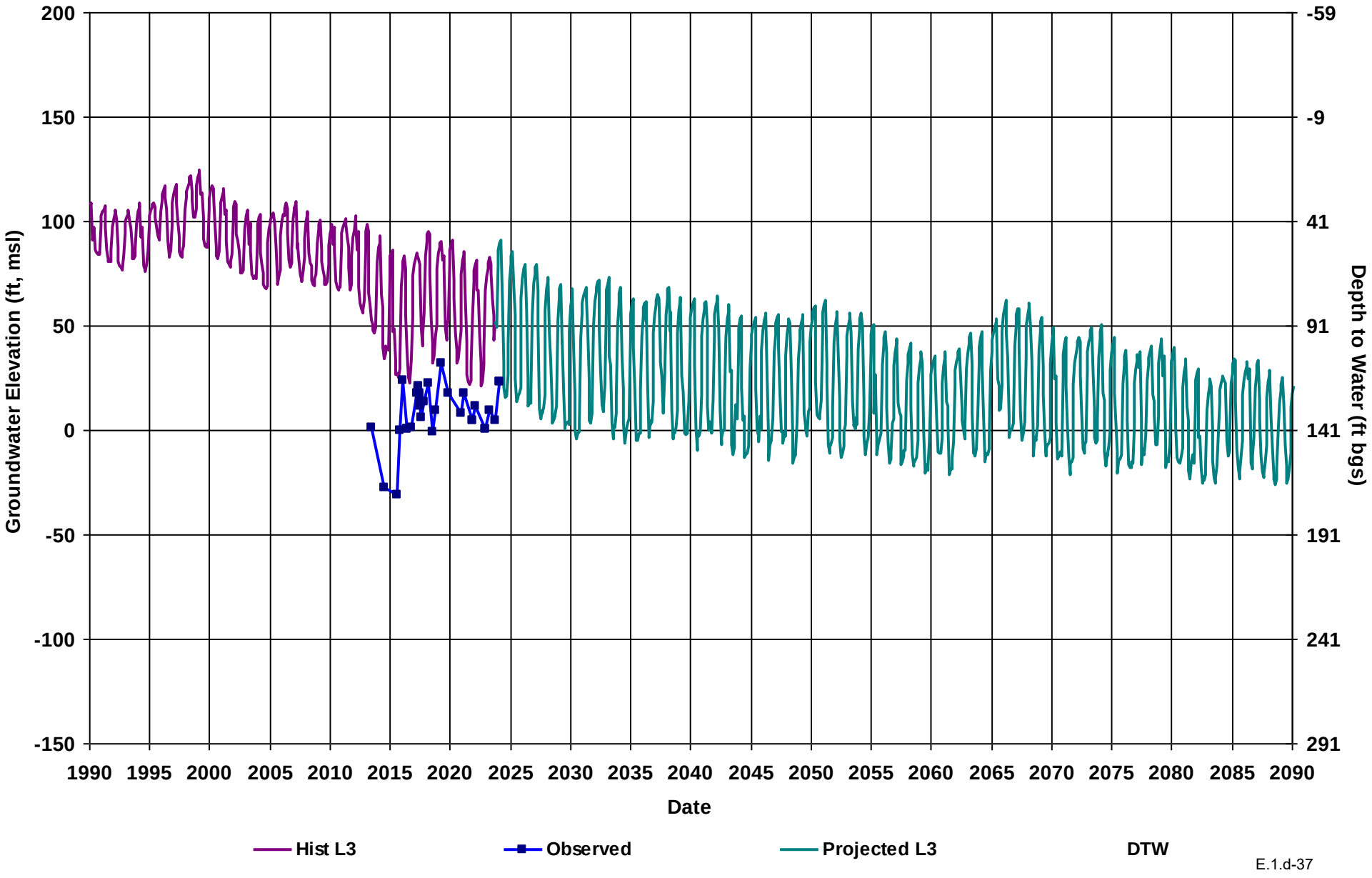
RMS ID: TRT RMS-3
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft): 799
Perf Top (ft): 168
Perf Bottom (ft): 790
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: TRT RMS-4
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 141

Total Depth (ft): 840
Perf Top (ft): 190
Perf Bottom (ft): 260
Top Model Layer: 3
Bottom Model Layer: 3

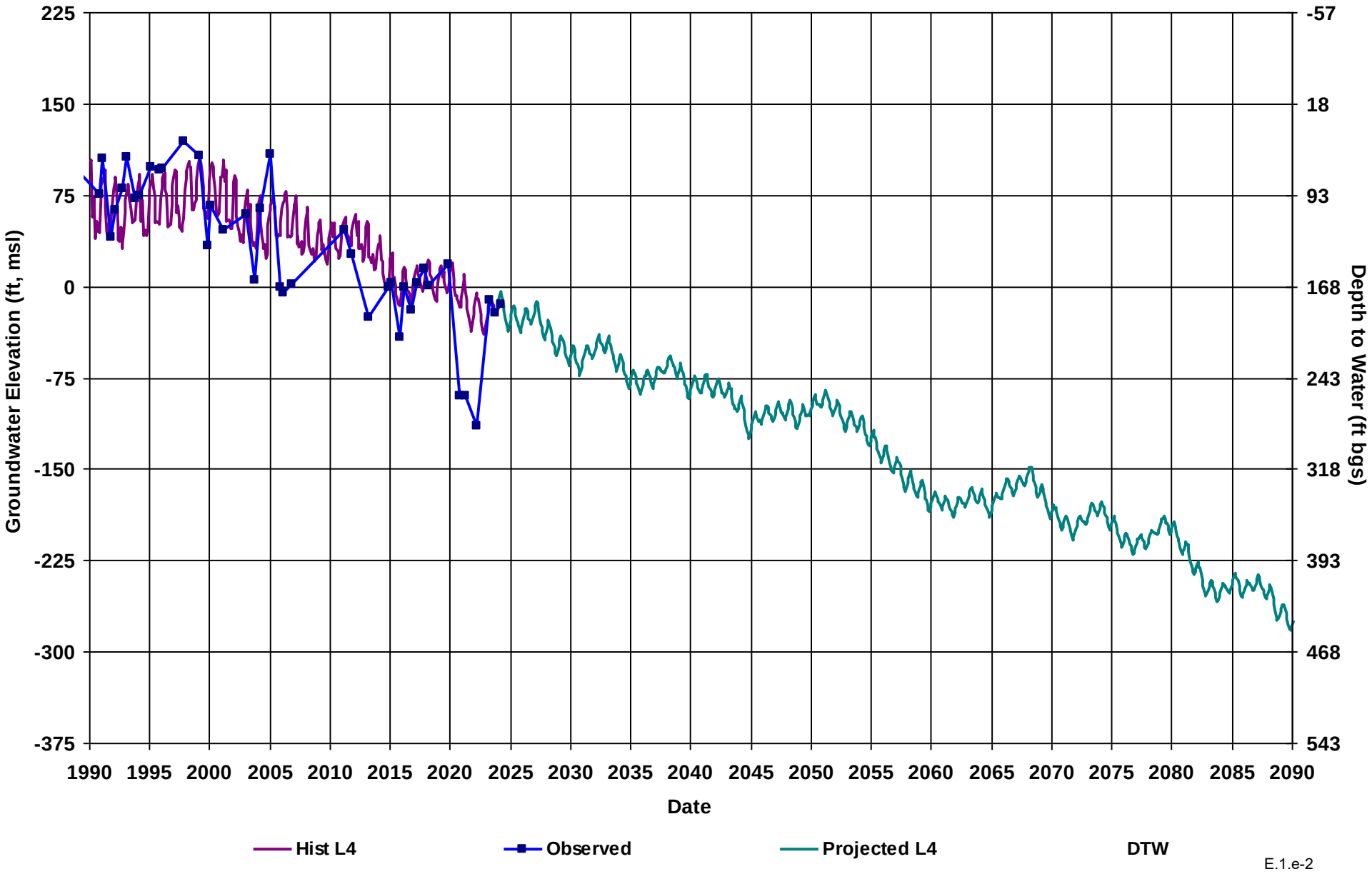


APPENDIX E.1.e

Chowchilla Subbasin Groundwater Elevation Hydrographs for RMS Wells - Projected (No Action) with Climate Change Scenario

RMS ID: CWD RMS-1
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 168

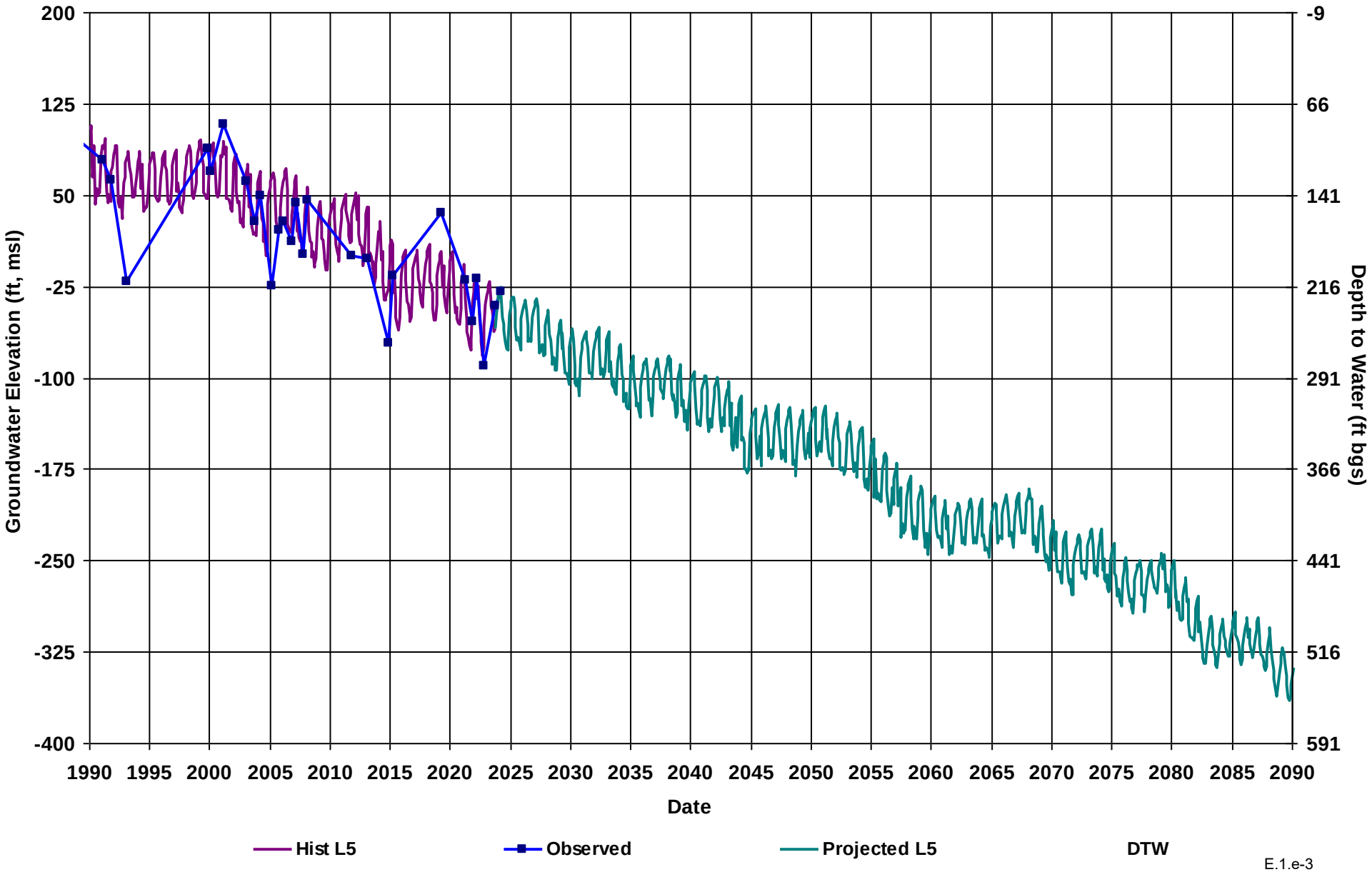
Total Depth (ft): 275
Perf Top (ft): 160
Perf Bottom (ft): 275
Top Model Layer: 4
Bottom Model Layer: 4



E.1.e-2

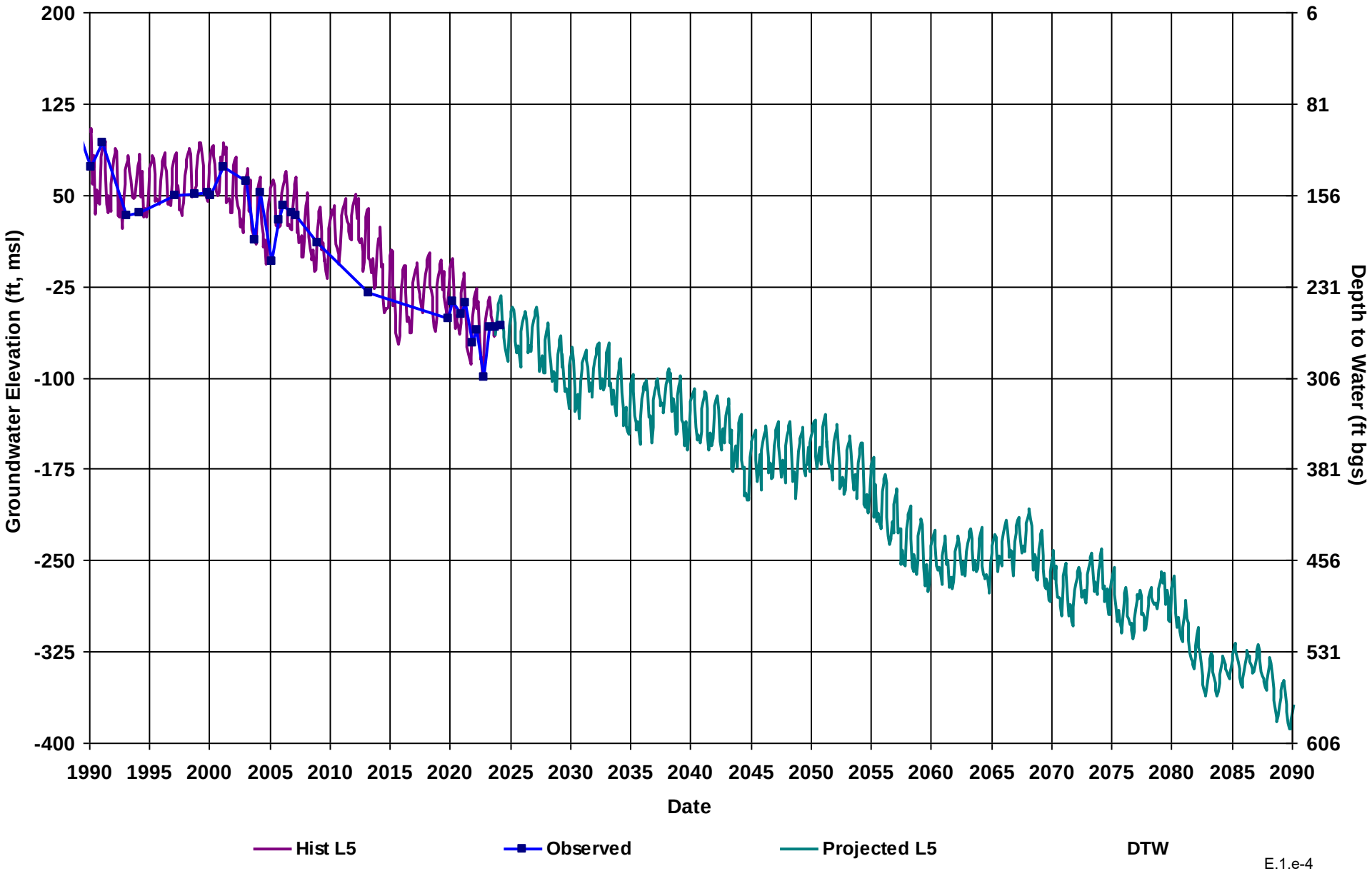
RMS ID: CWD RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 5
Bottom Model Layer: 5



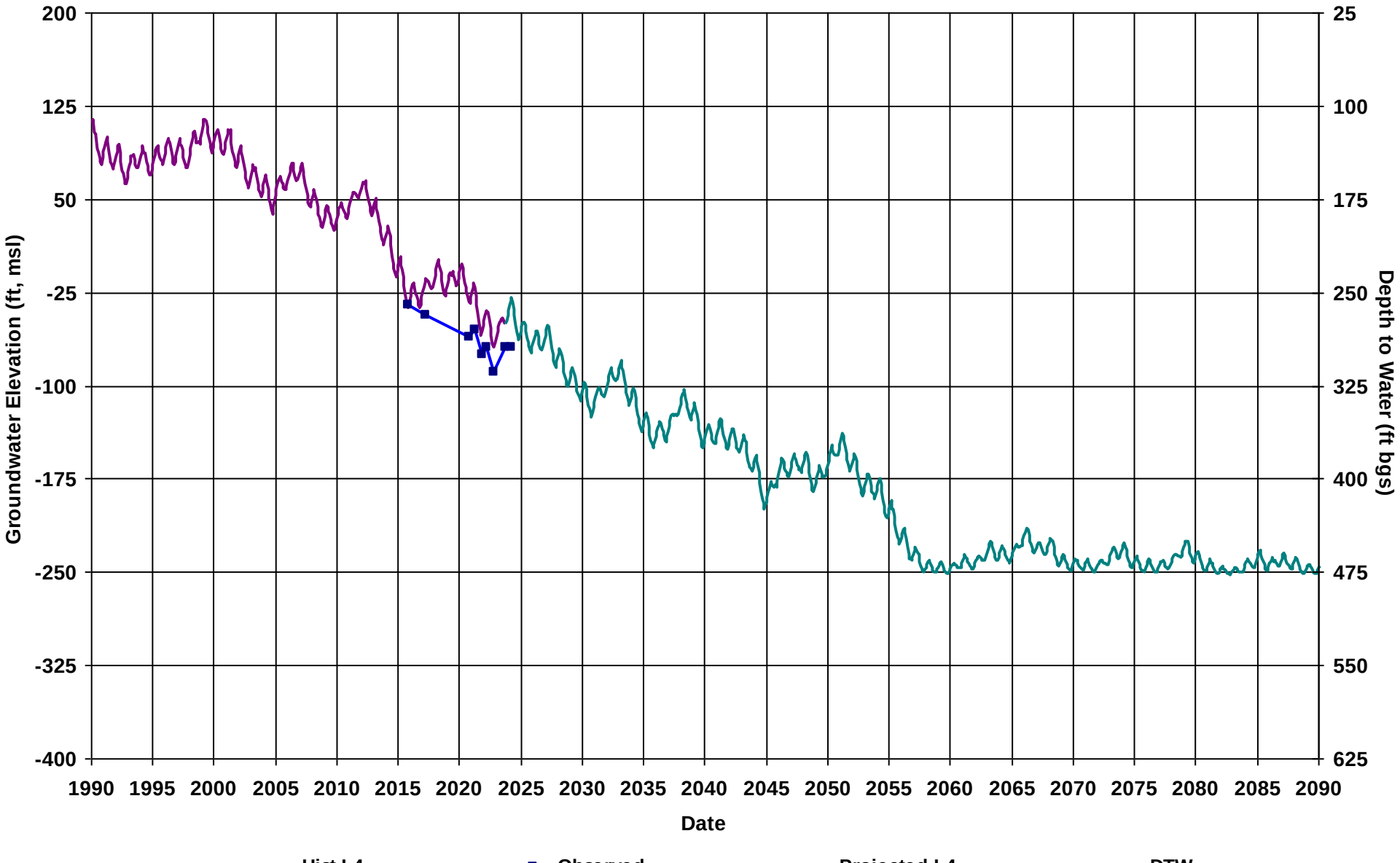
RMS ID: CWD RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 206

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



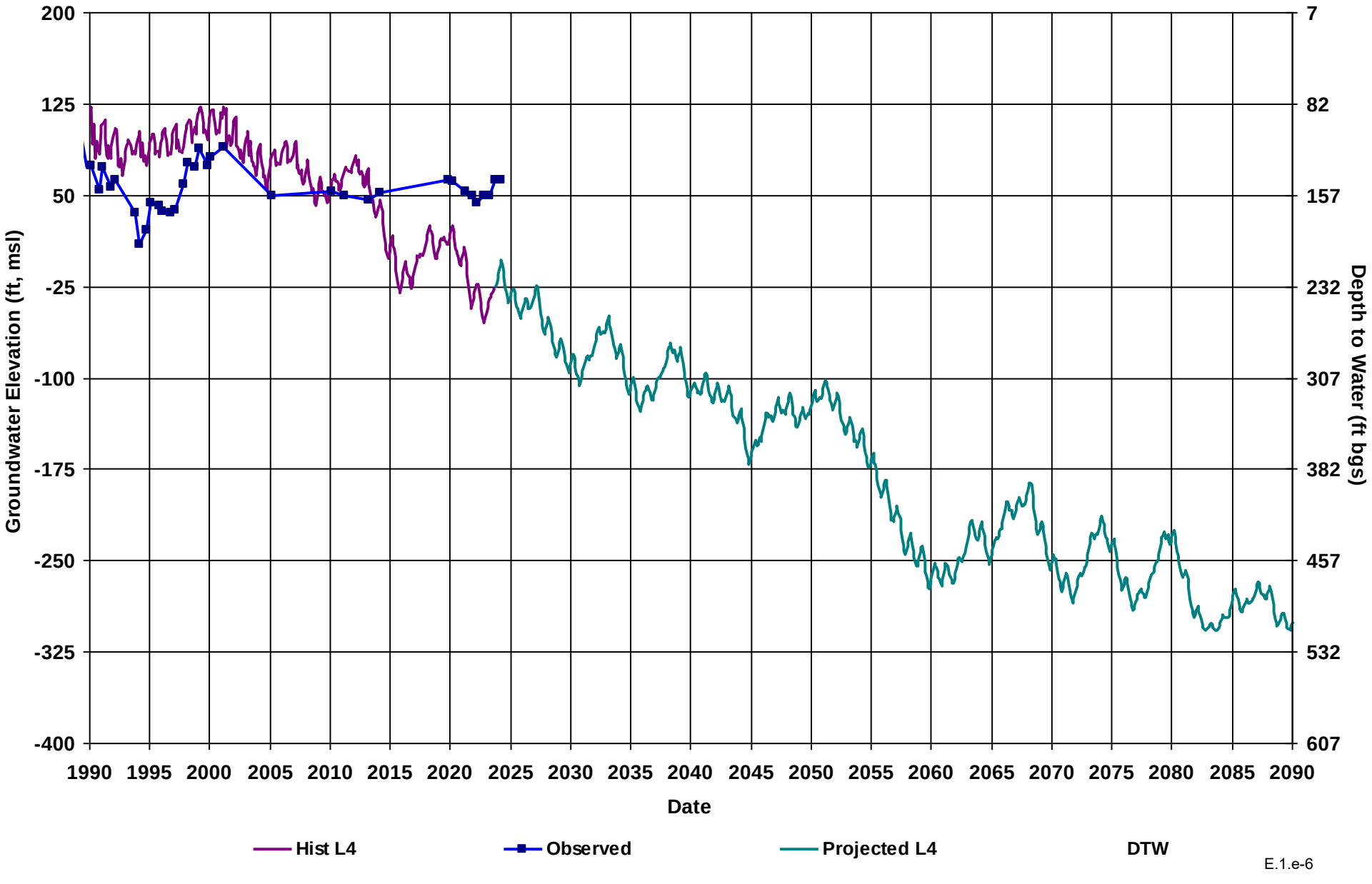
RMS ID: CWD RMS-4
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft): 800
Perf Top (ft): 320
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



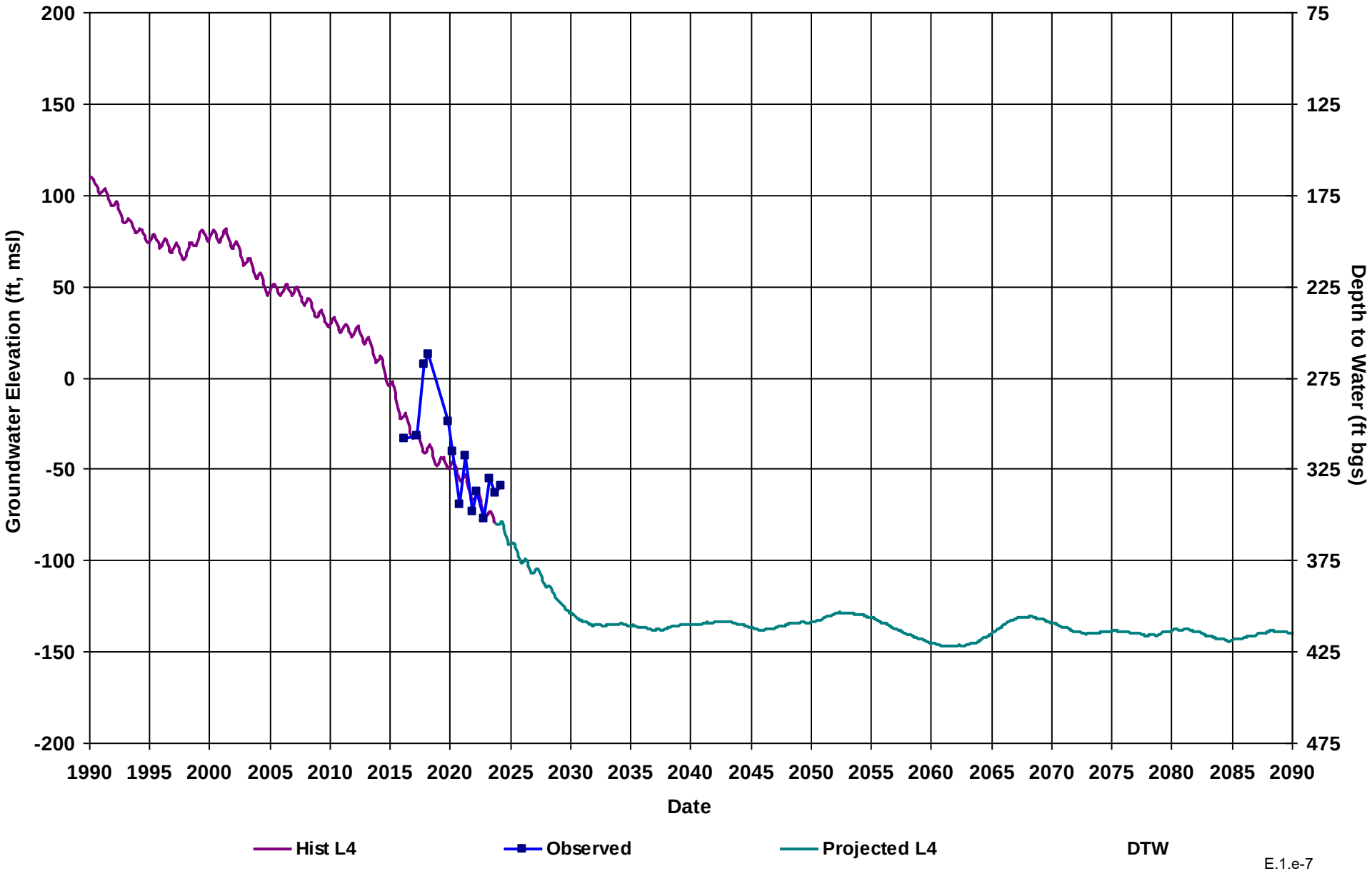
RMS ID: CWD RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 207

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



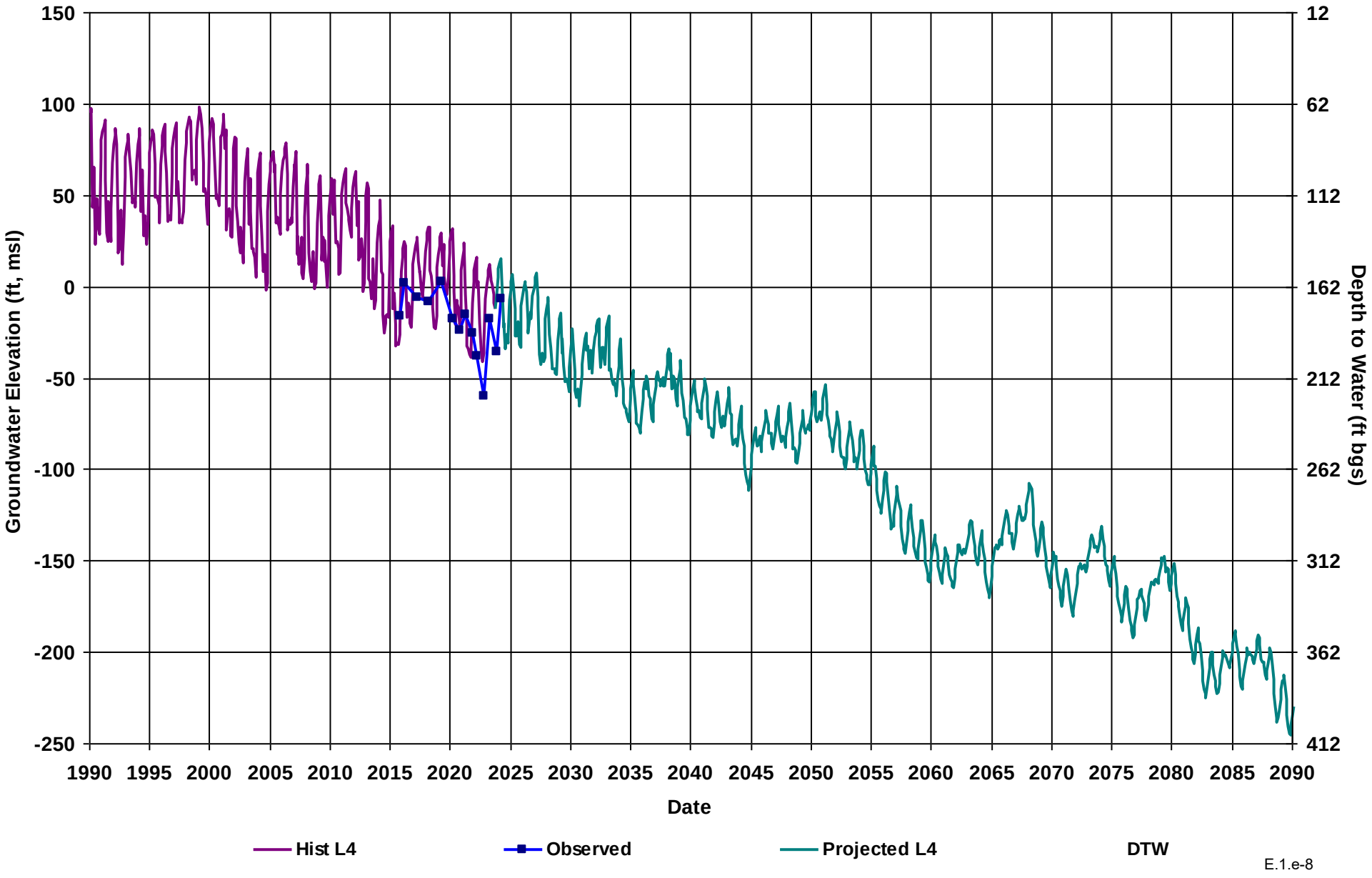
RMS ID: CWD RMS-6
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 275

Total Depth (ft): 820
Perf Top (ft): 257
Perf Bottom (ft): 726
Top Model Layer: 4
Bottom Model Layer: 4



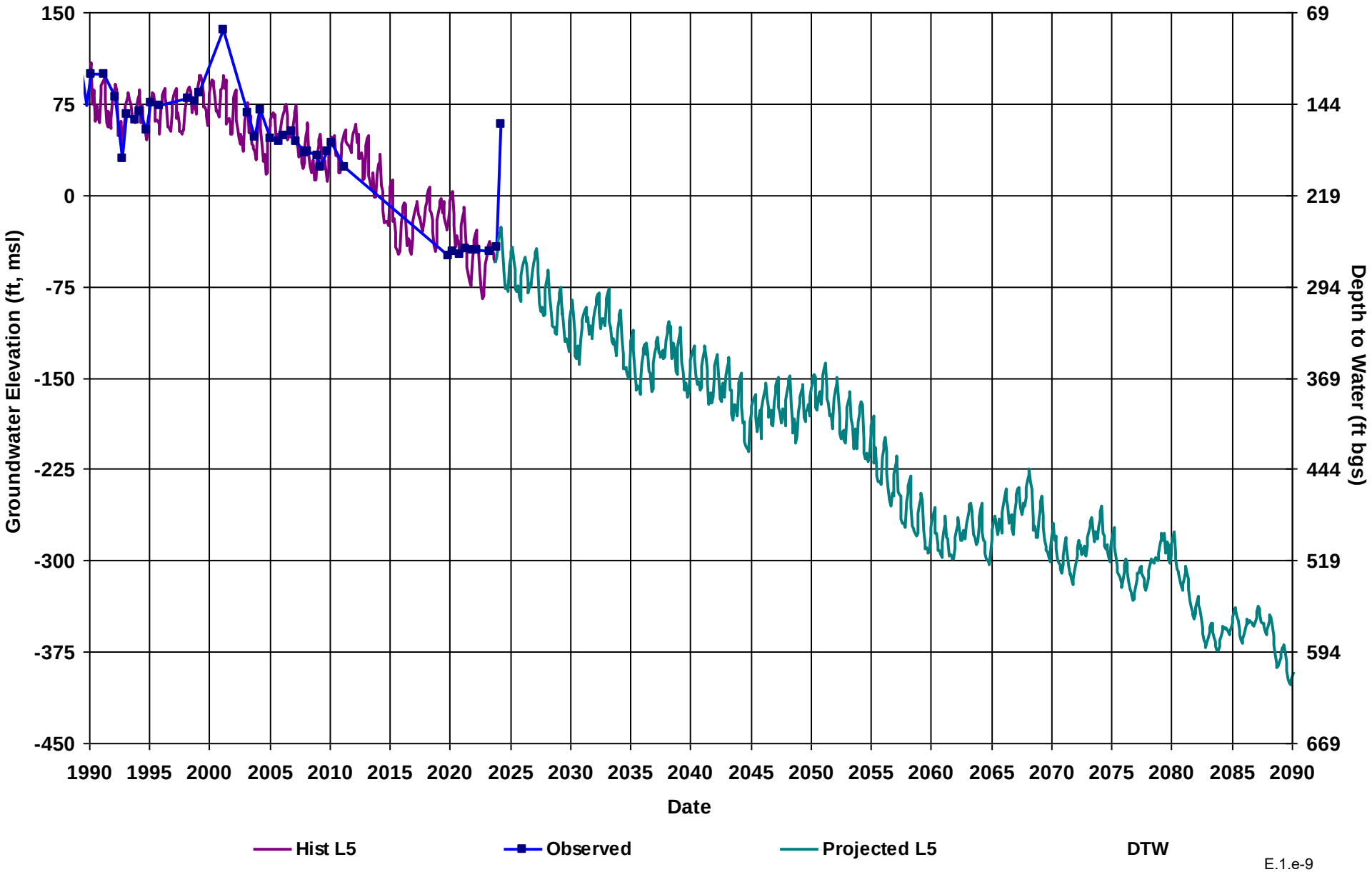
RMS ID: CWD RMS-7
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 169

Total Depth (ft): 330
Perf Top (ft): 135
Perf Bottom (ft): 288
Top Model Layer: 4
Bottom Model Layer: 4



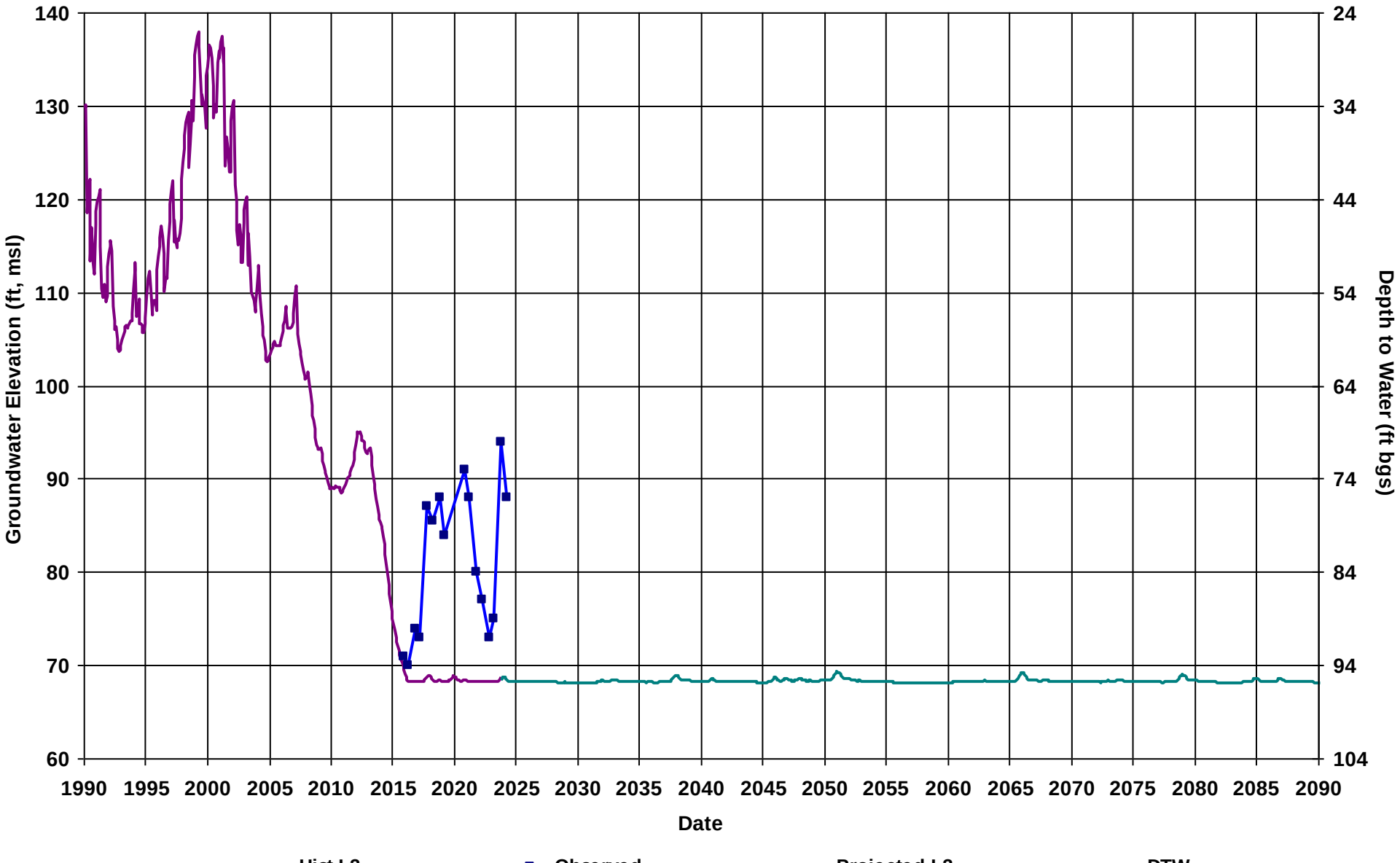
RMS ID: CWD RMS-8
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 219

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 5
Bottom Model Layer: 5



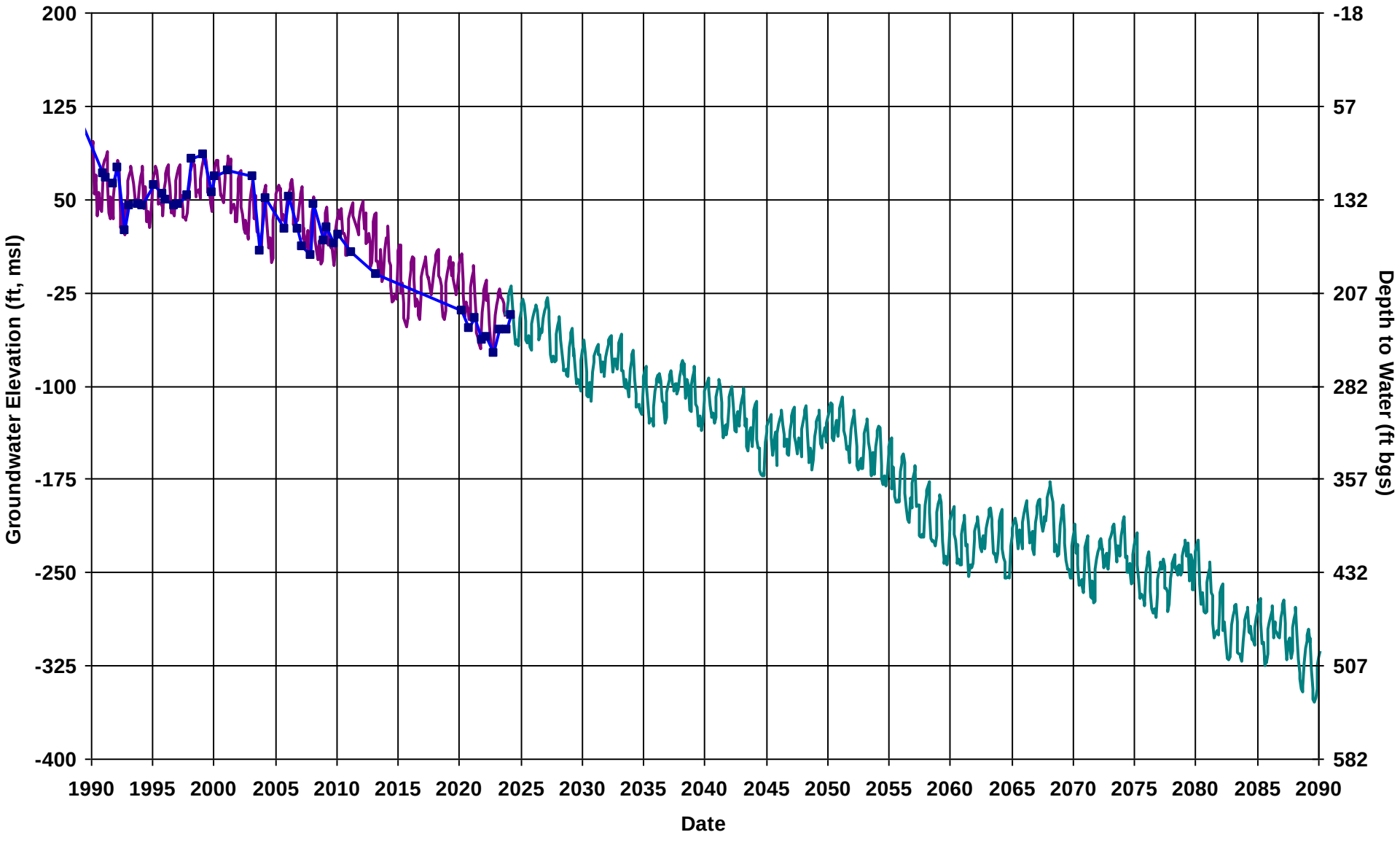
RMS ID: CWD RMS-9
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 164

Total Depth (ft): 97
Perf Top (ft): 82
Perf Bottom (ft): 97
Top Model Layer: 3
Bottom Model Layer: 3



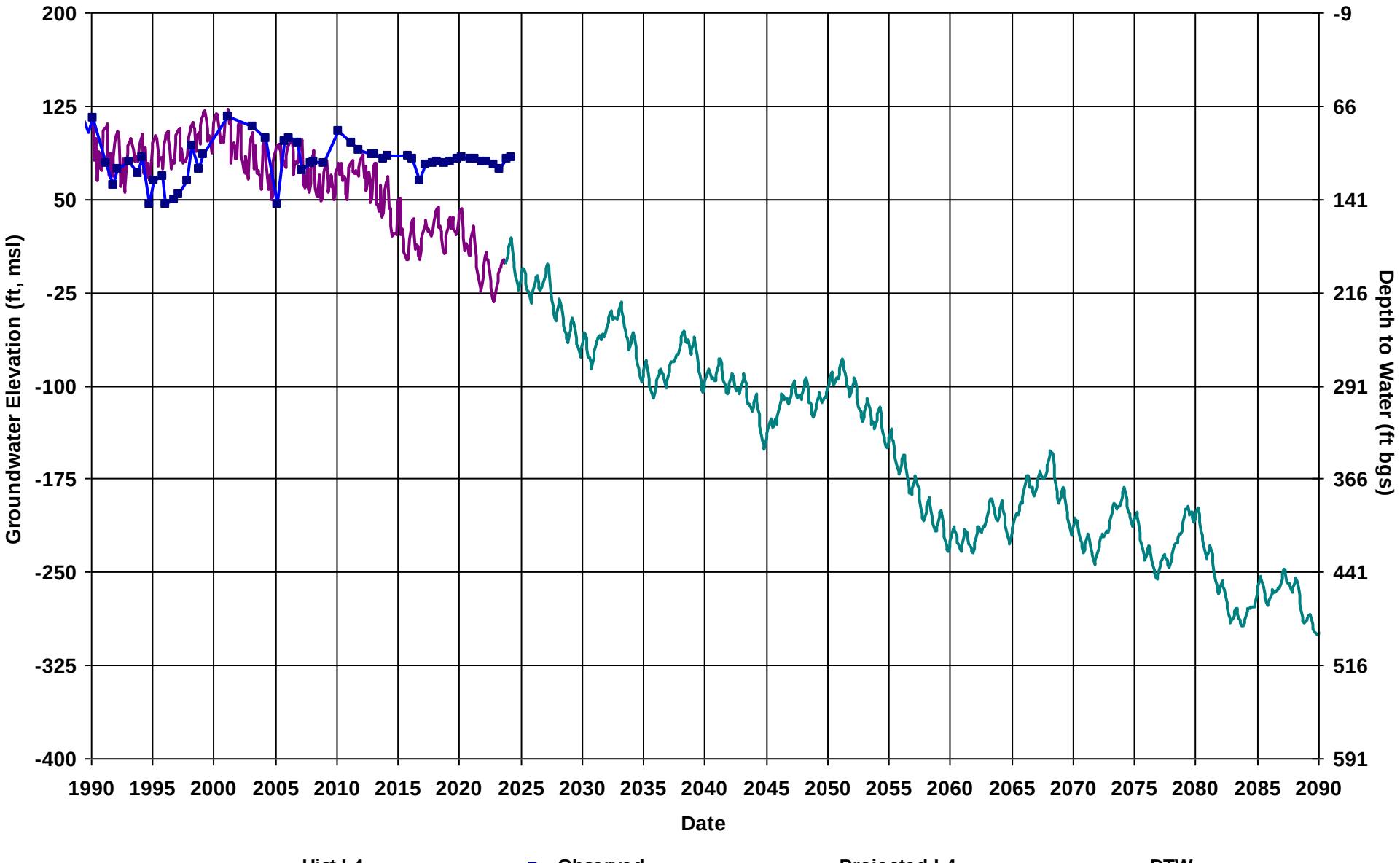
RMS ID: CWD RMS-10
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 182

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



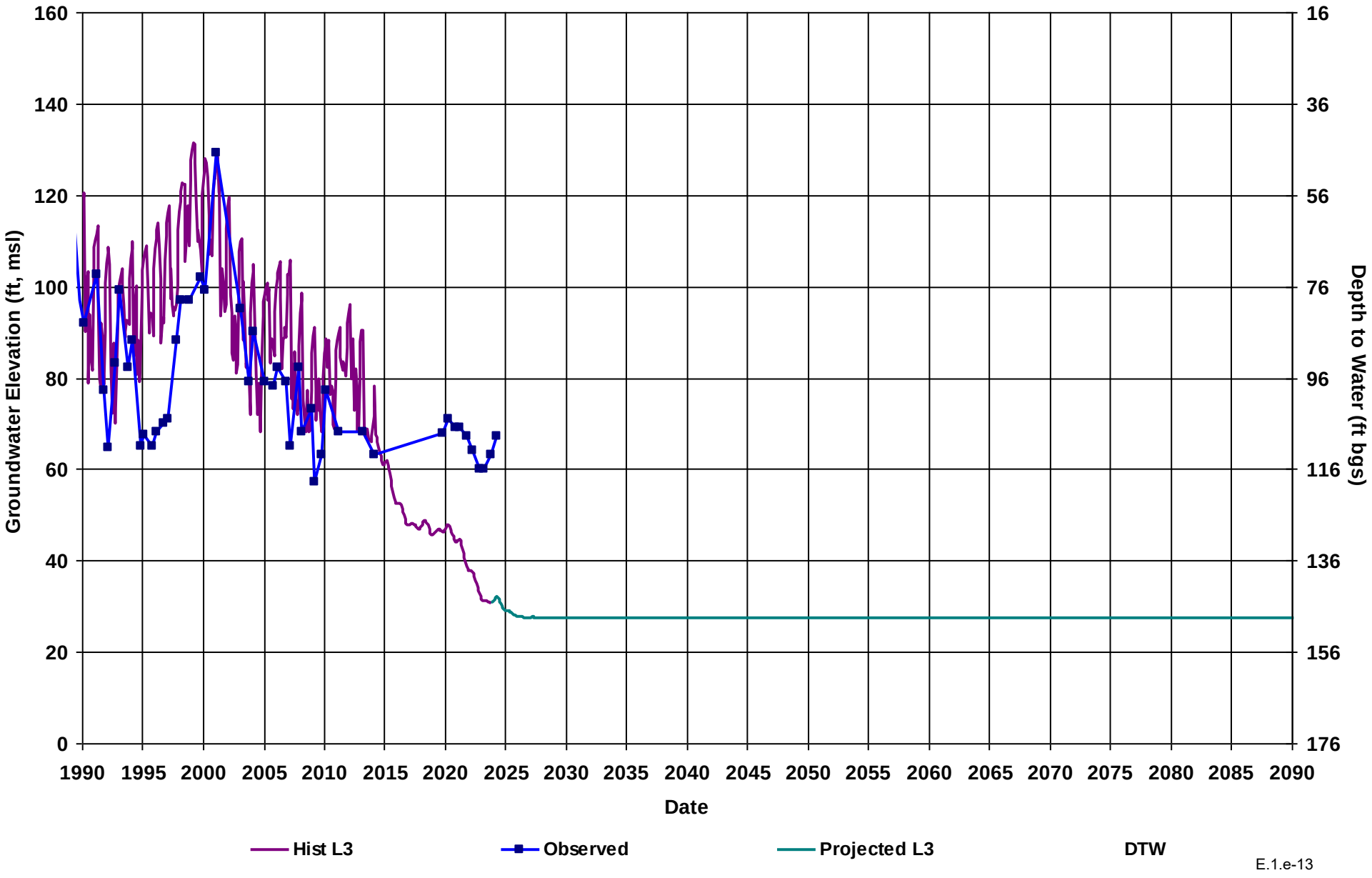
RMS ID: CWD RMS-11
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 199

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



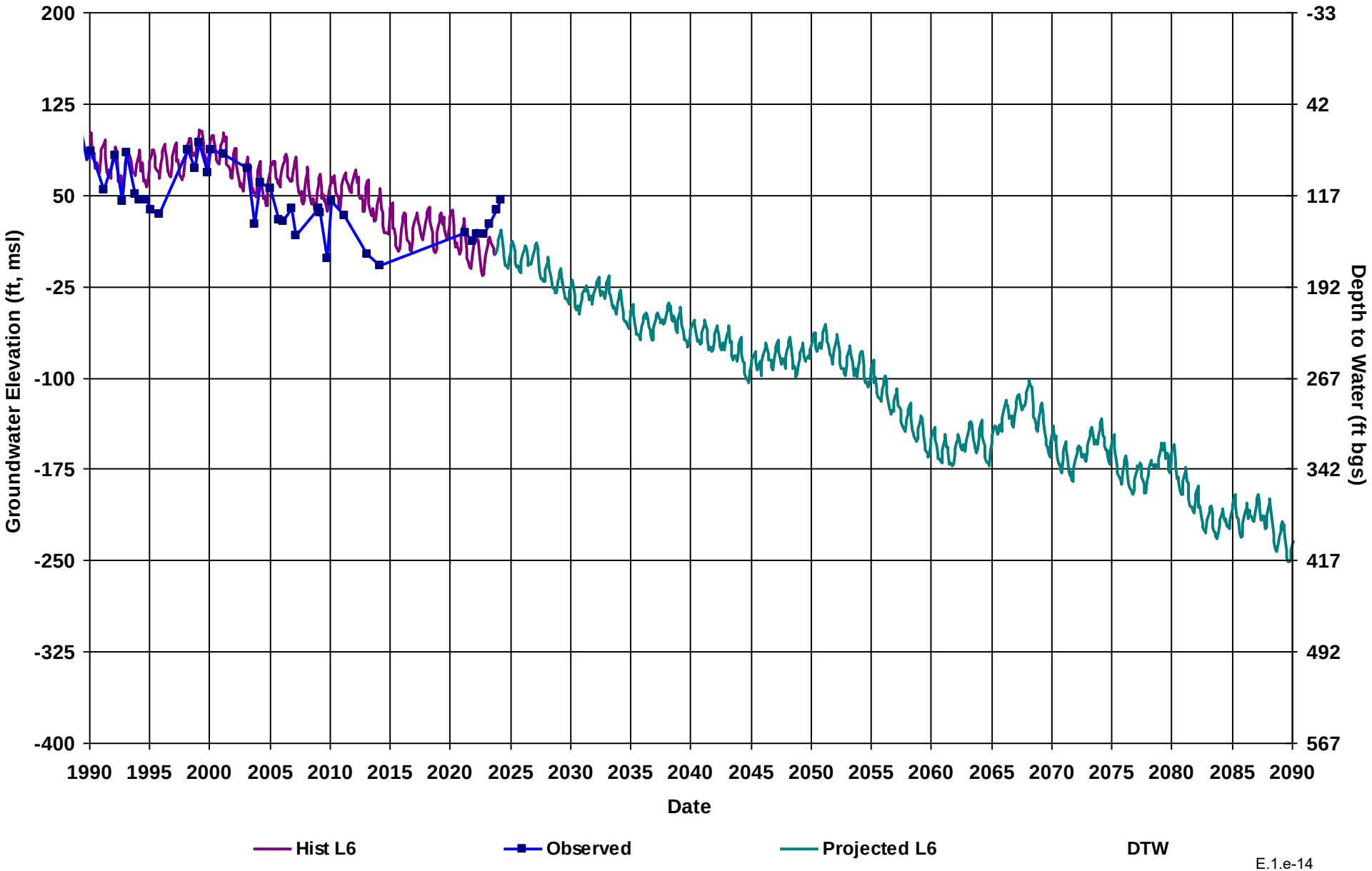
RMS ID: CWD RMS-12
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 176

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



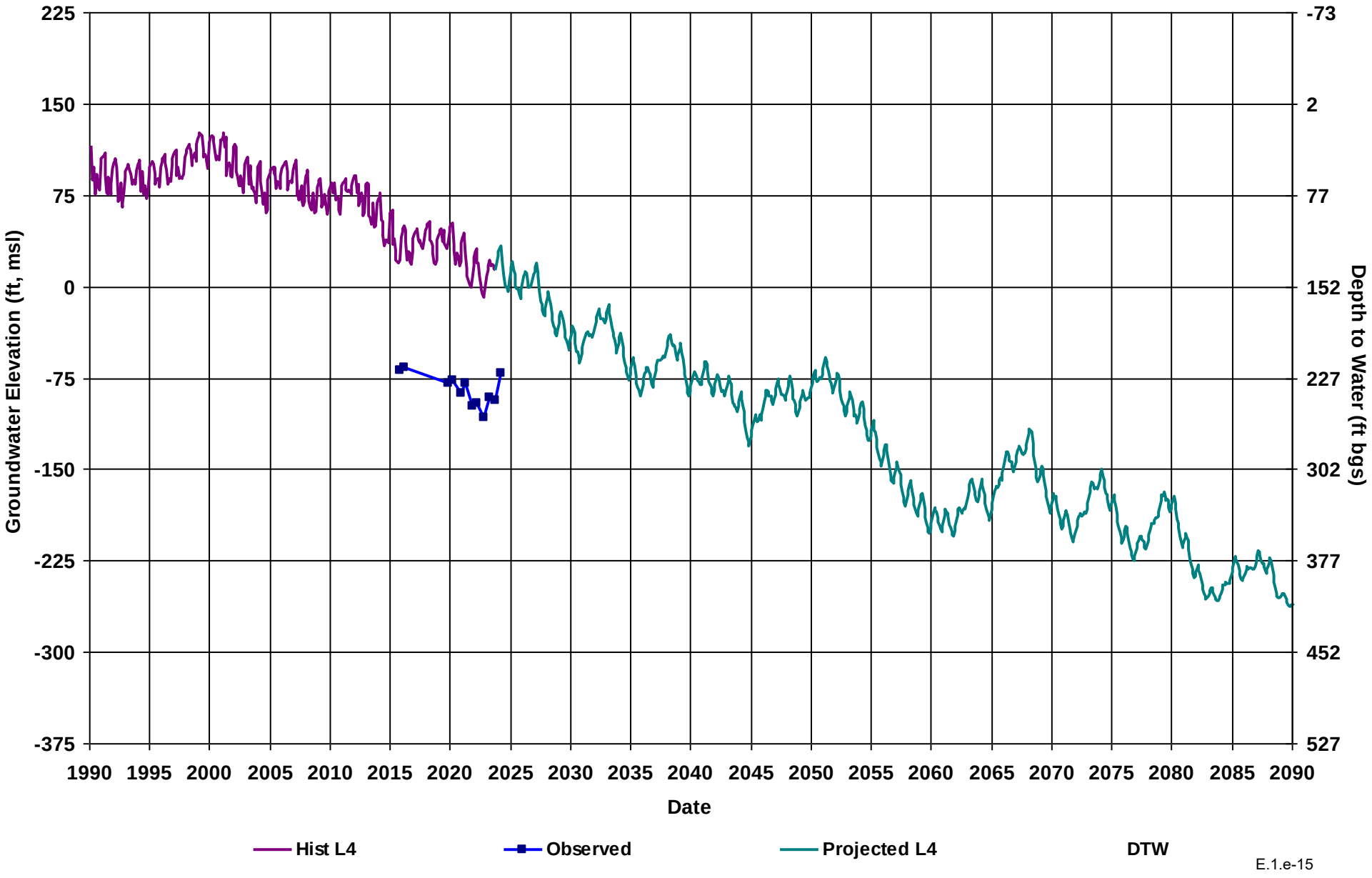
RMS ID: CWD RMS-13
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 167

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



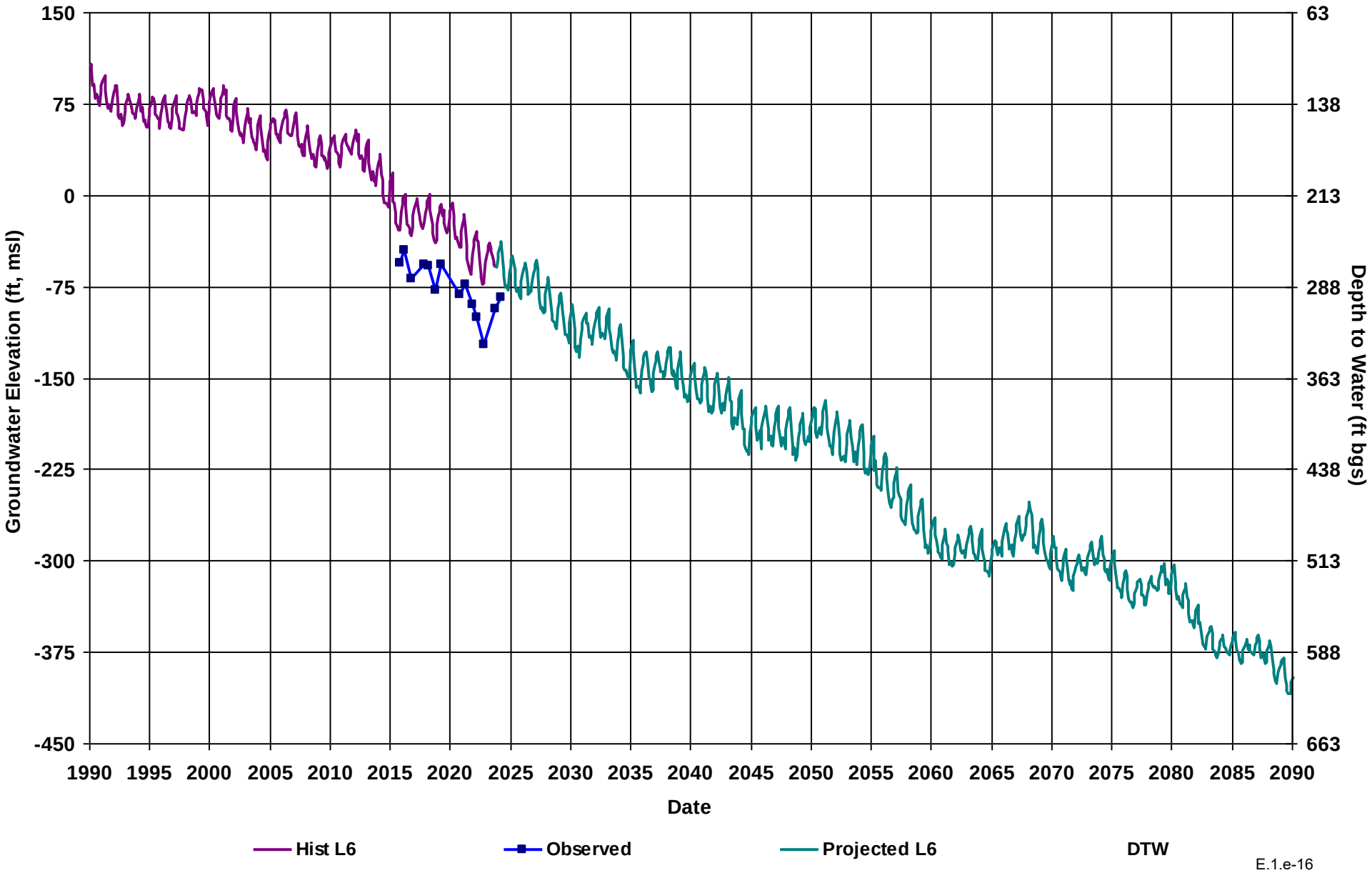
RMS ID: CWD RMS-14
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 152

Total Depth (ft): 455
Perf Top (ft): 185
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



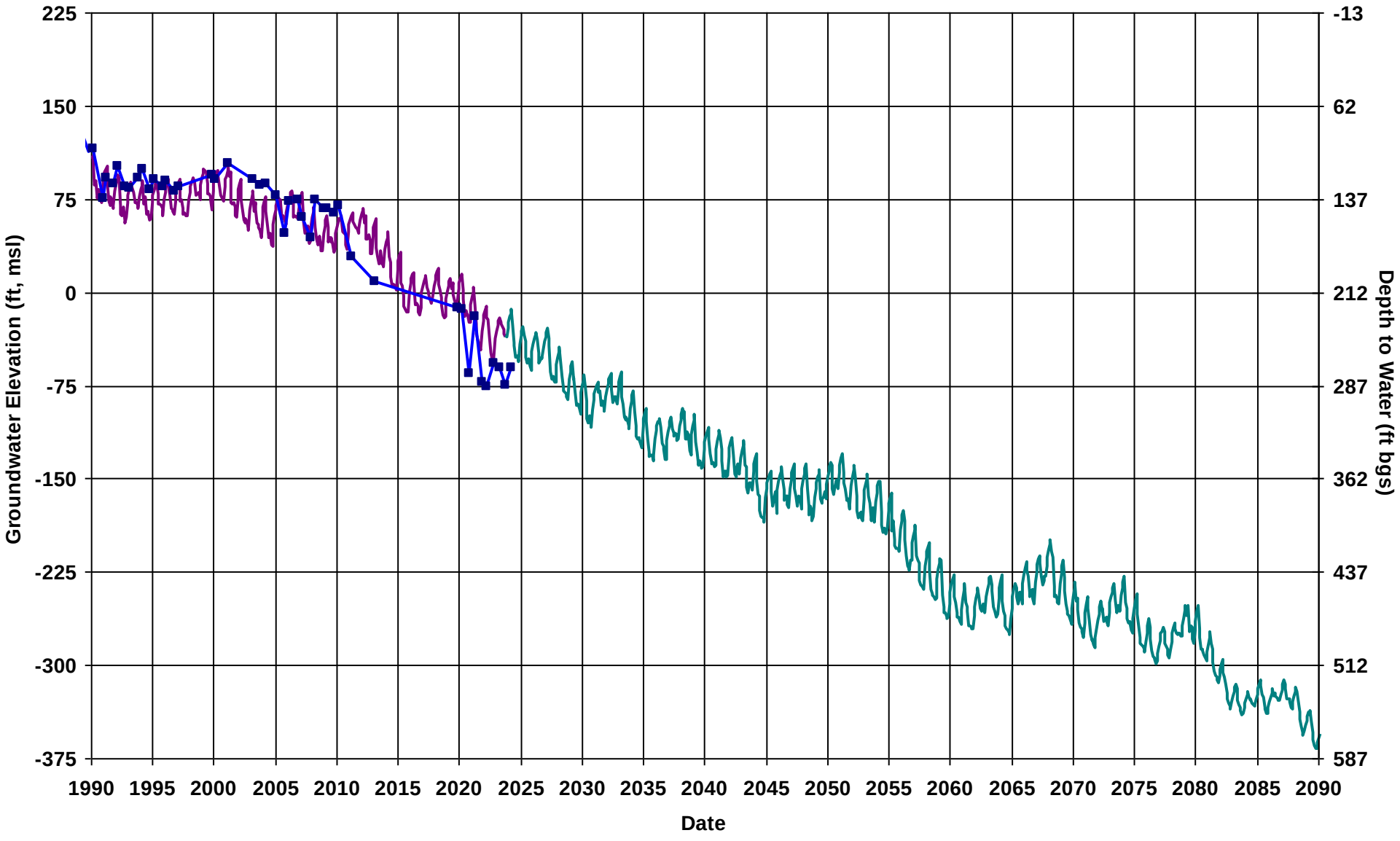
RMS ID: CWD RMS-15
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 213

Total Depth (ft): 955
Perf Top (ft): 290
Perf Bottom (ft): 935
Top Model Layer: 6
Bottom Model Layer: 6



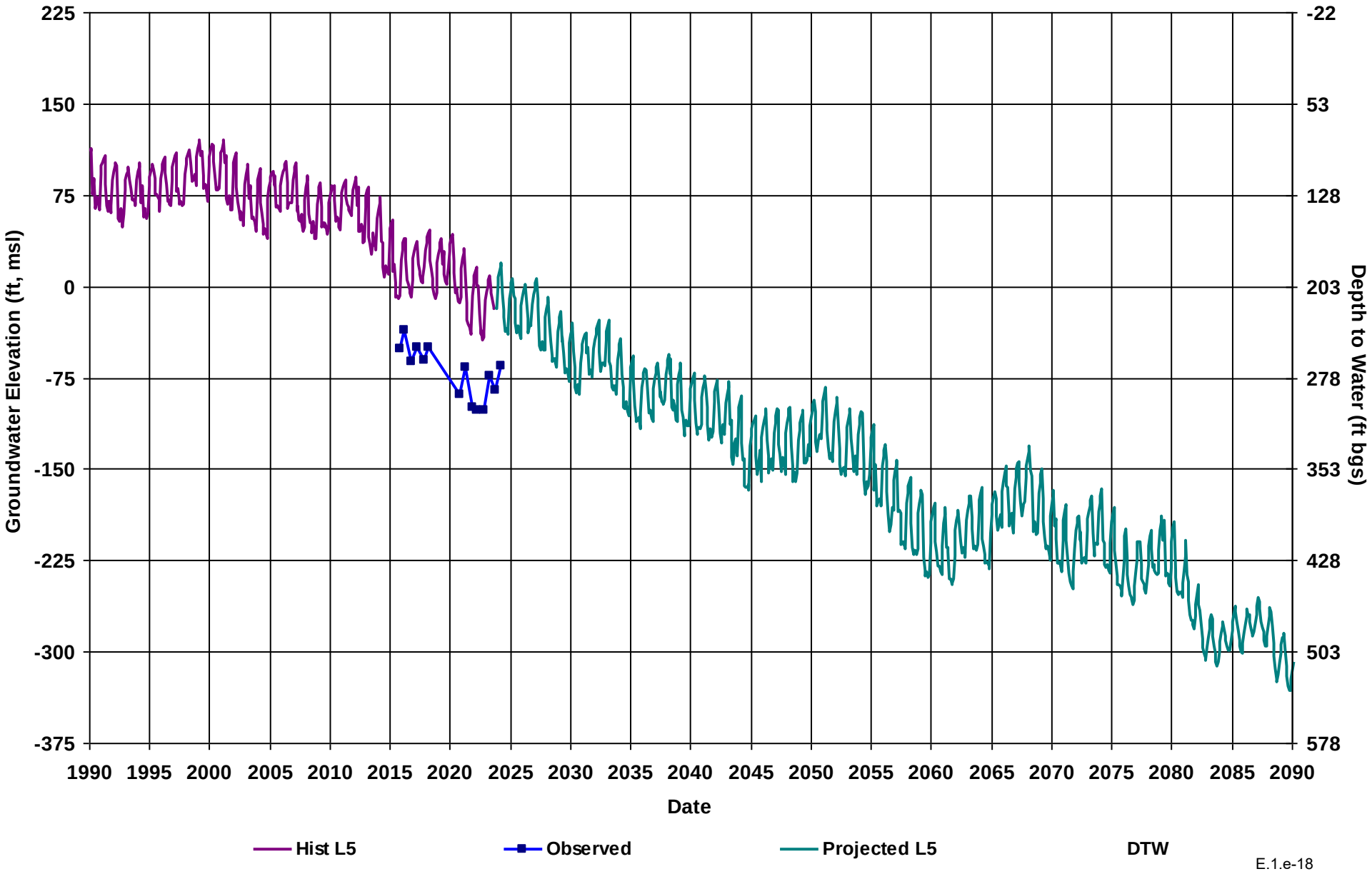
RMS ID: CWD RMS-16
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 212

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



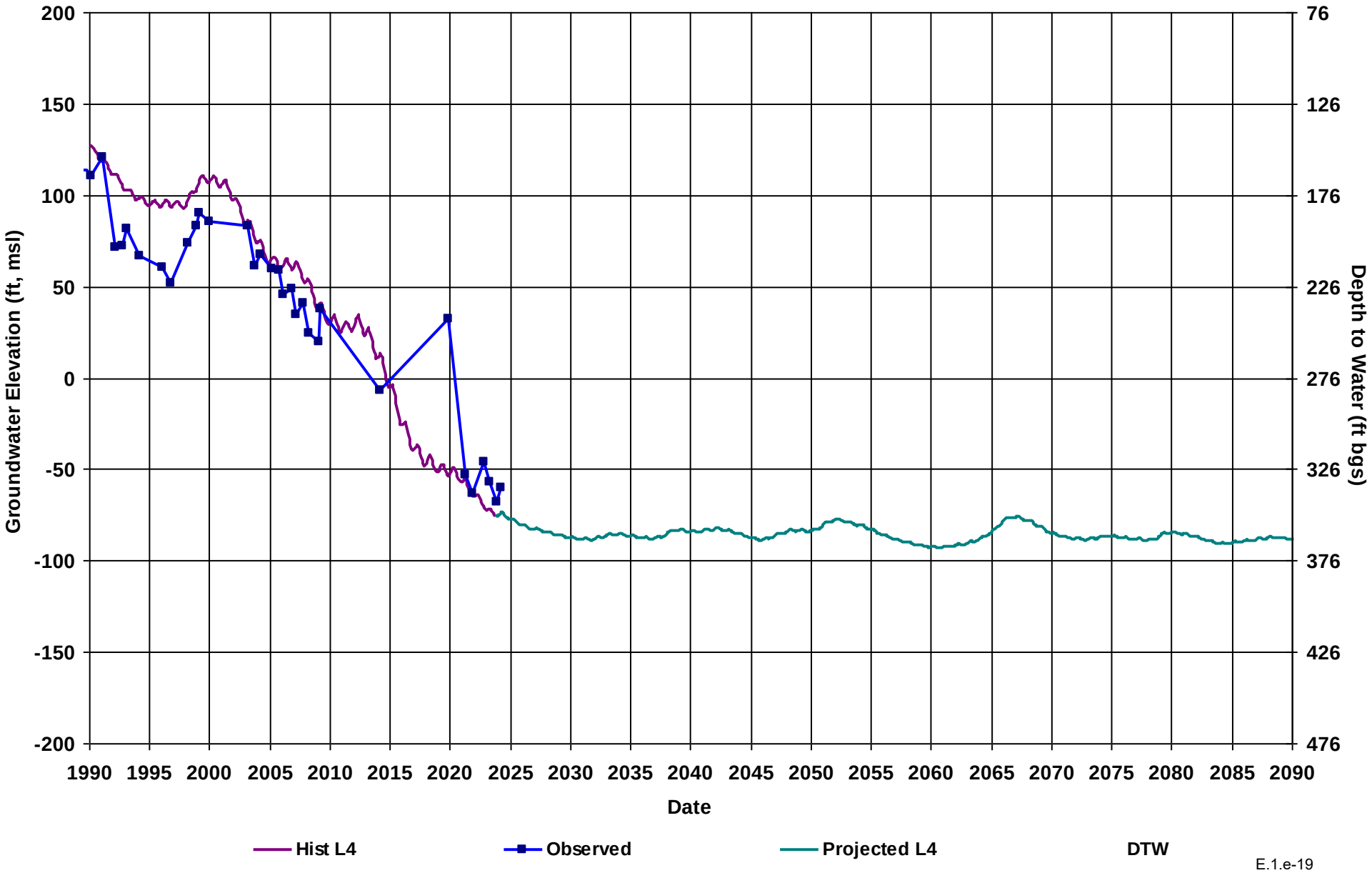
RMS ID: CWD RMS-17
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 203

Total Depth (ft): 624
Perf Top (ft): 278
Perf Bottom (ft): 588
Top Model Layer: 5
Bottom Model Layer: 5



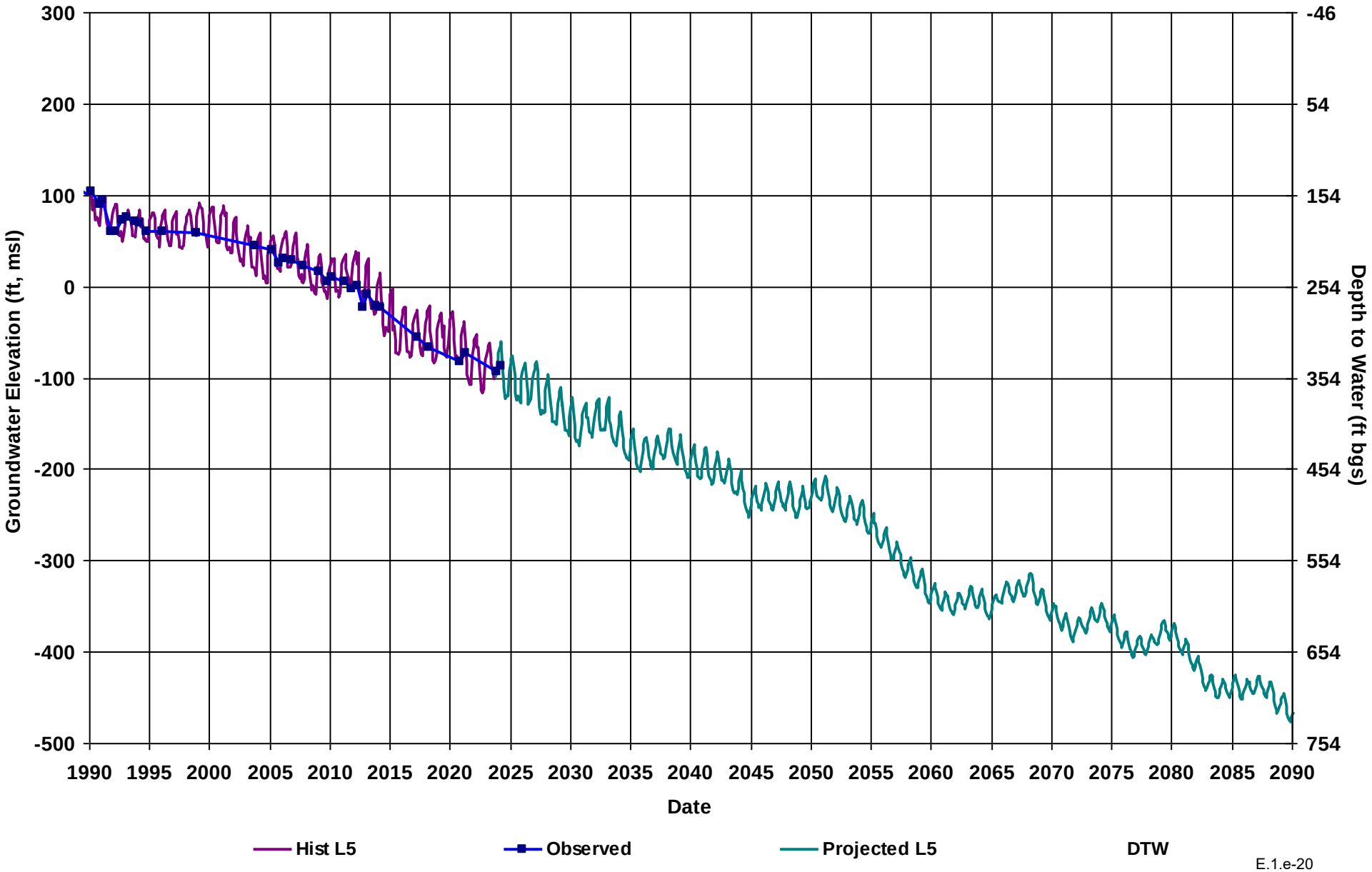
RMS ID: MCE RMS-1
Depth Zone: Unconfined
Subbasin: Chowchilla
GSE (ft, msl): 276

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



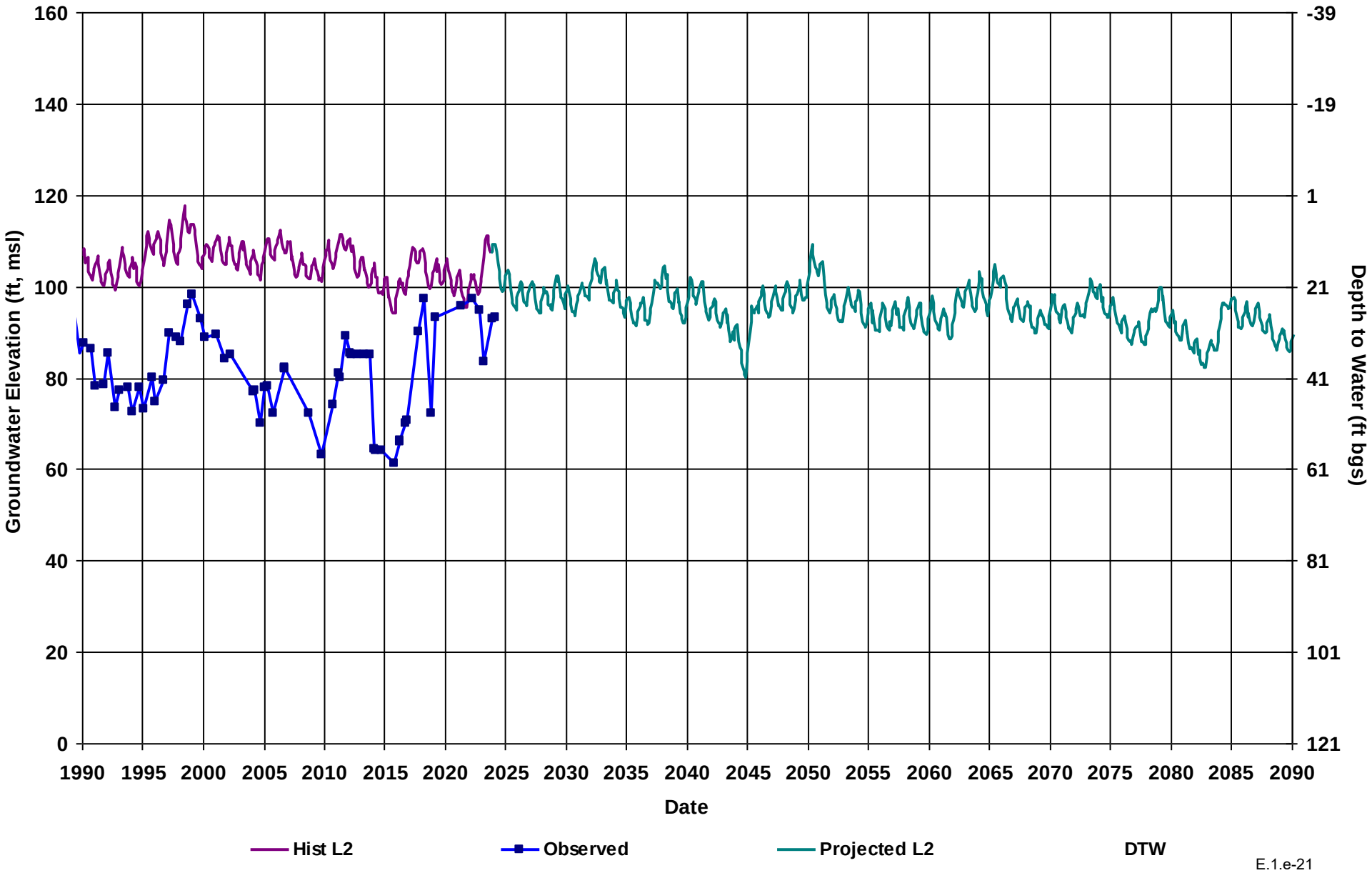
RMS ID: MCE RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 272

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 5
Bottom Model Layer: 5



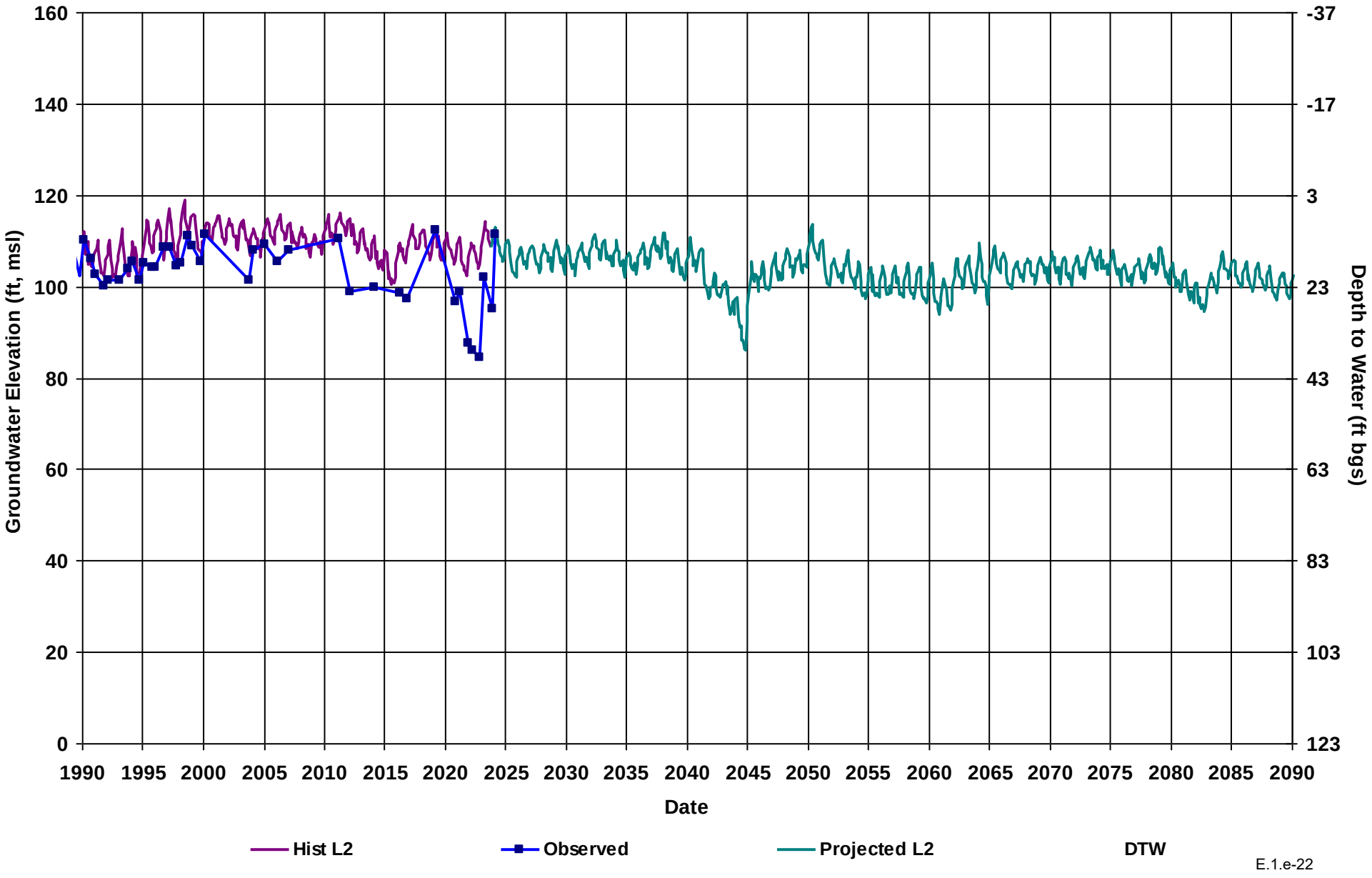
RMS ID: MCW RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 12127

Total Depth (ft): 150
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



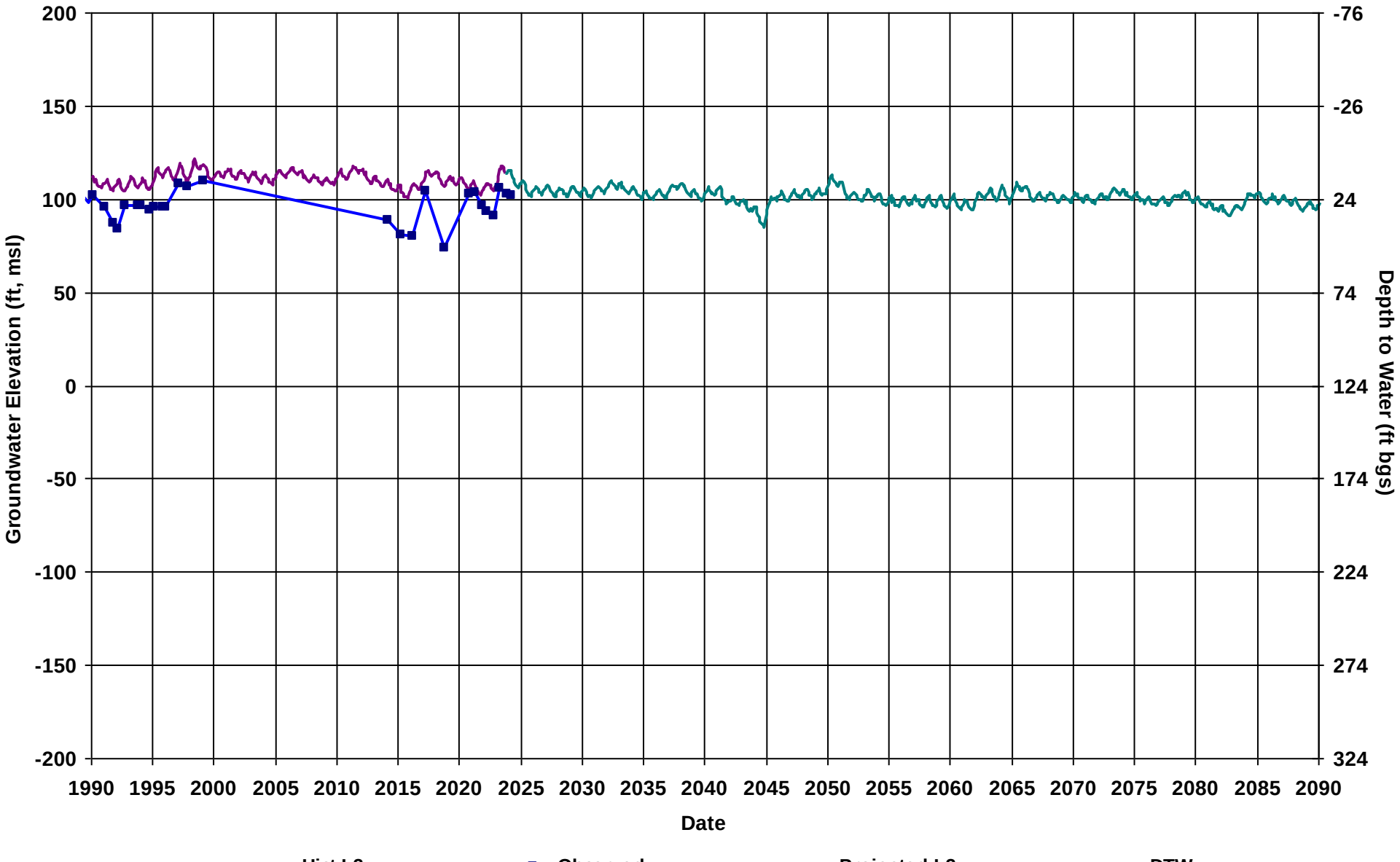
RMS ID: MCW RMS-2
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



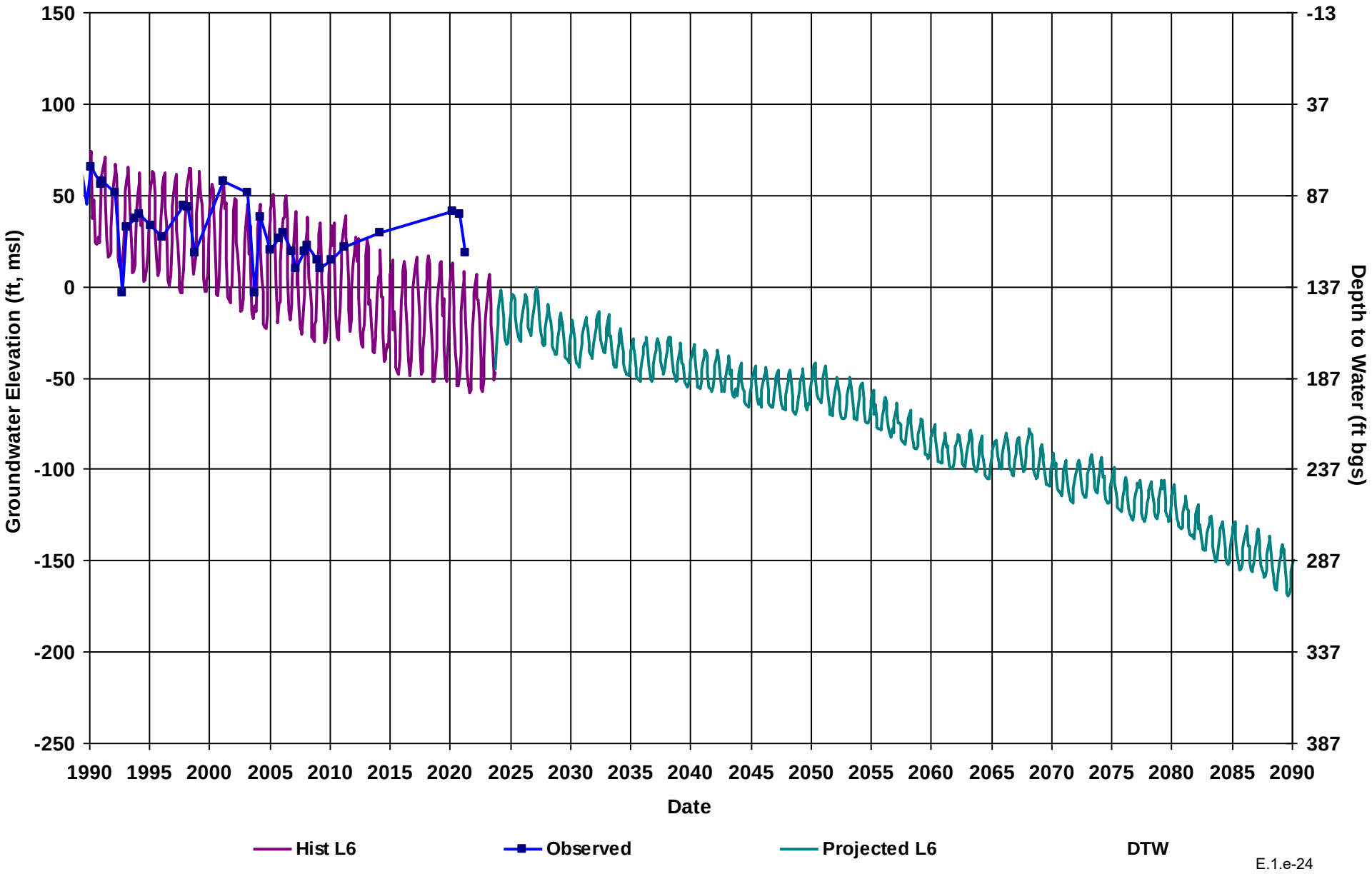
RMS ID: MCW RMS-3
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 2
Bottom Model Layer: 2



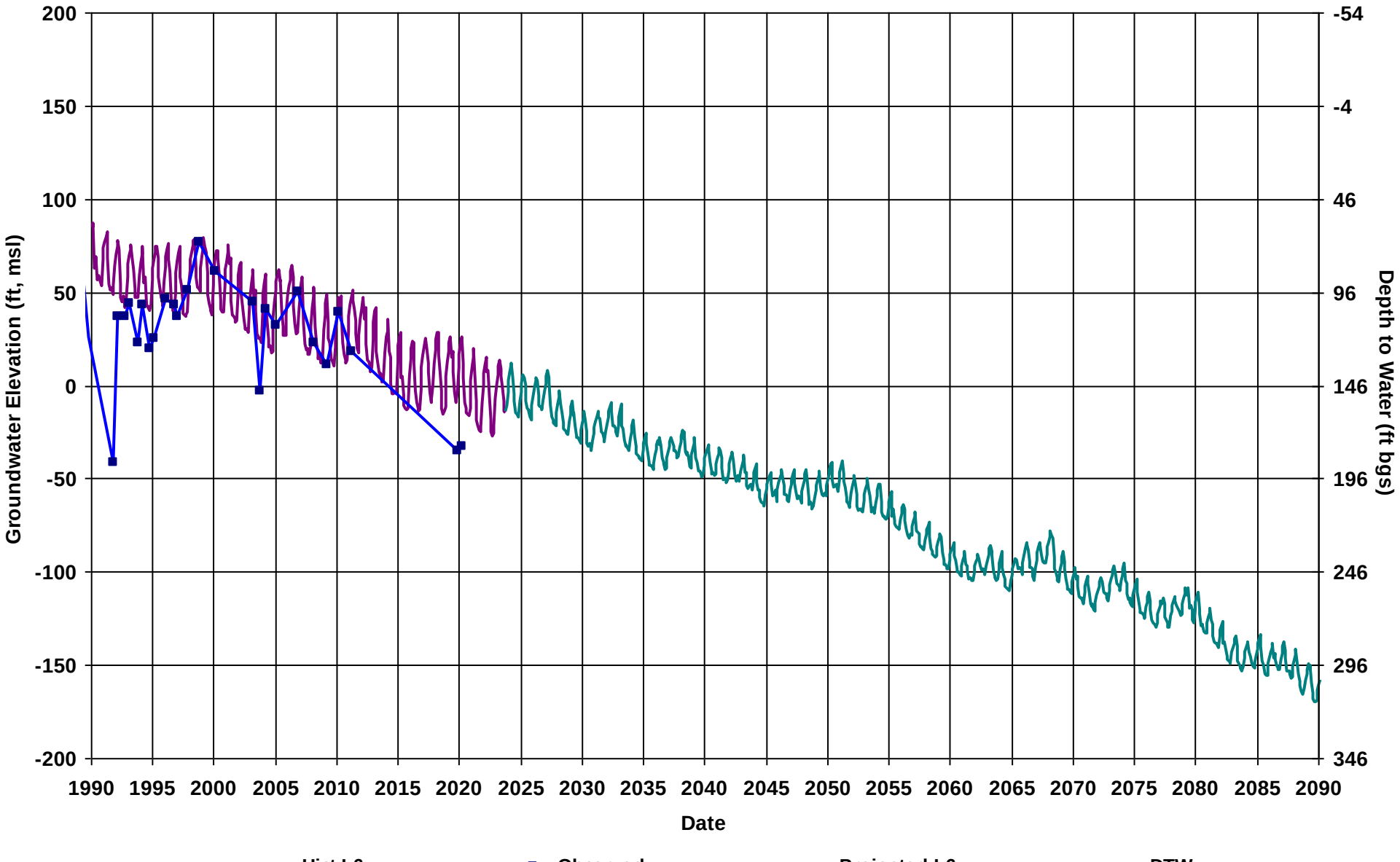
RMS ID: MCW RMS-4
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



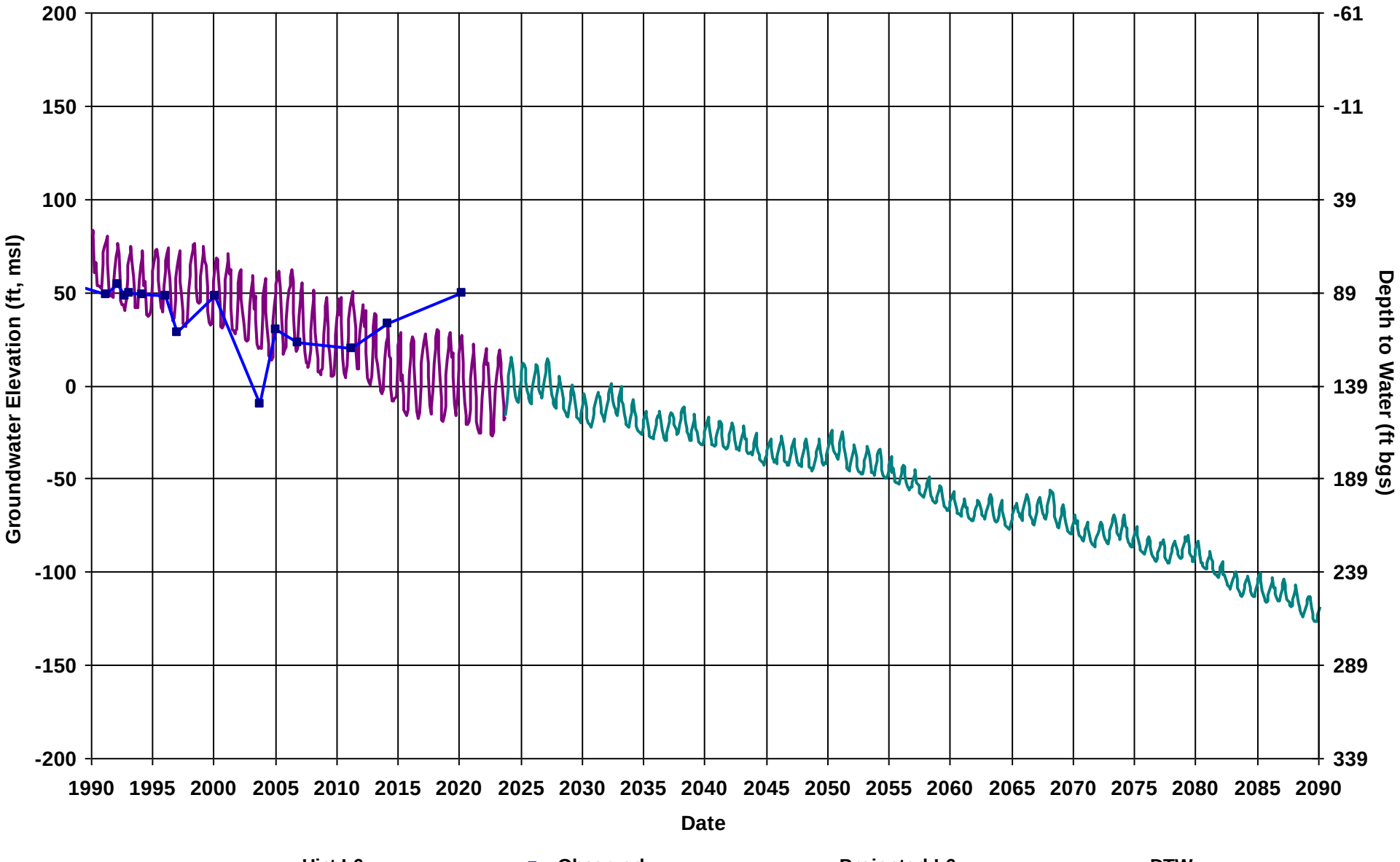
RMS ID: MCW RMS-5
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 146

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



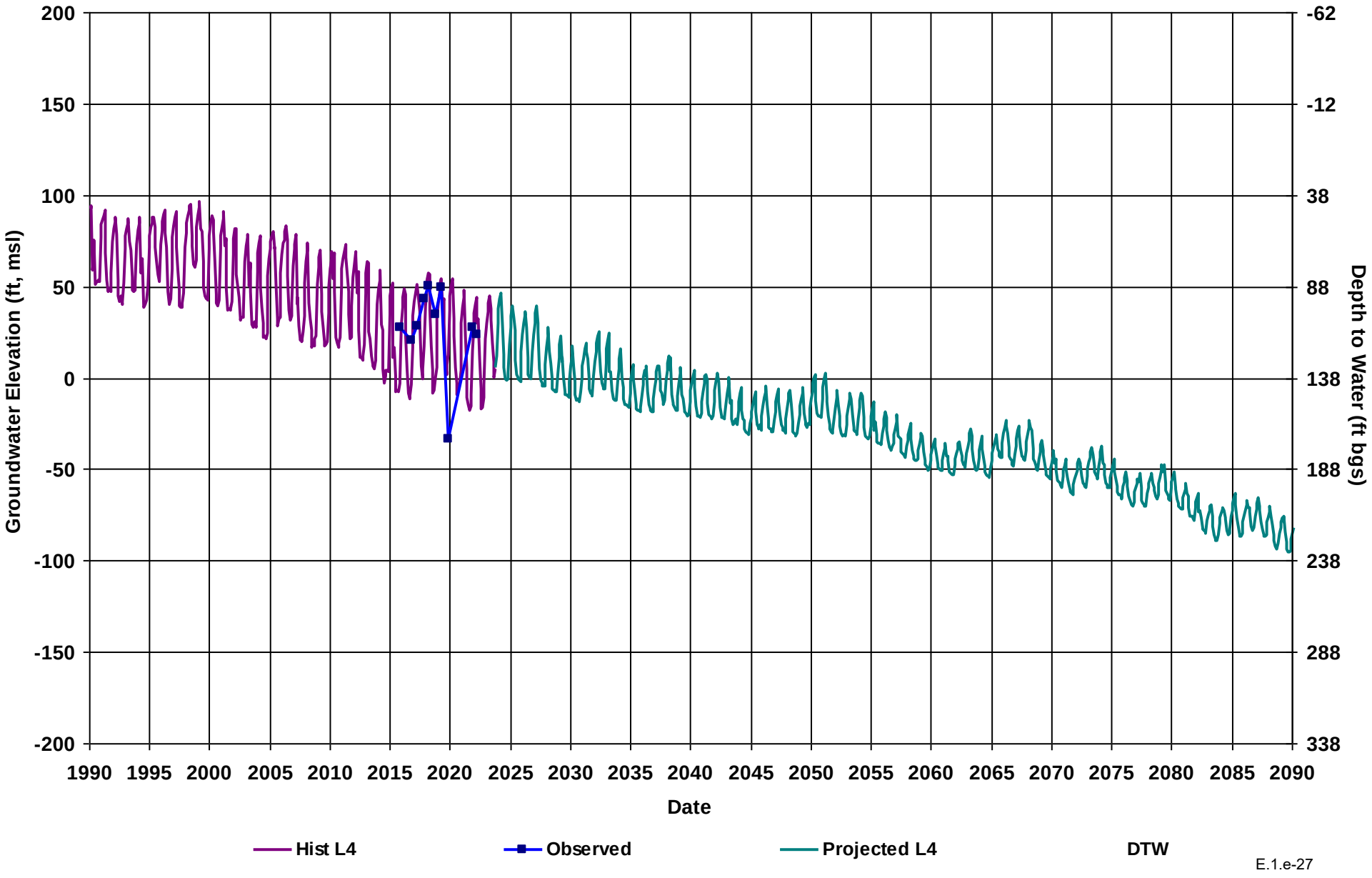
RMS ID: MCW RMS-6
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 139

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



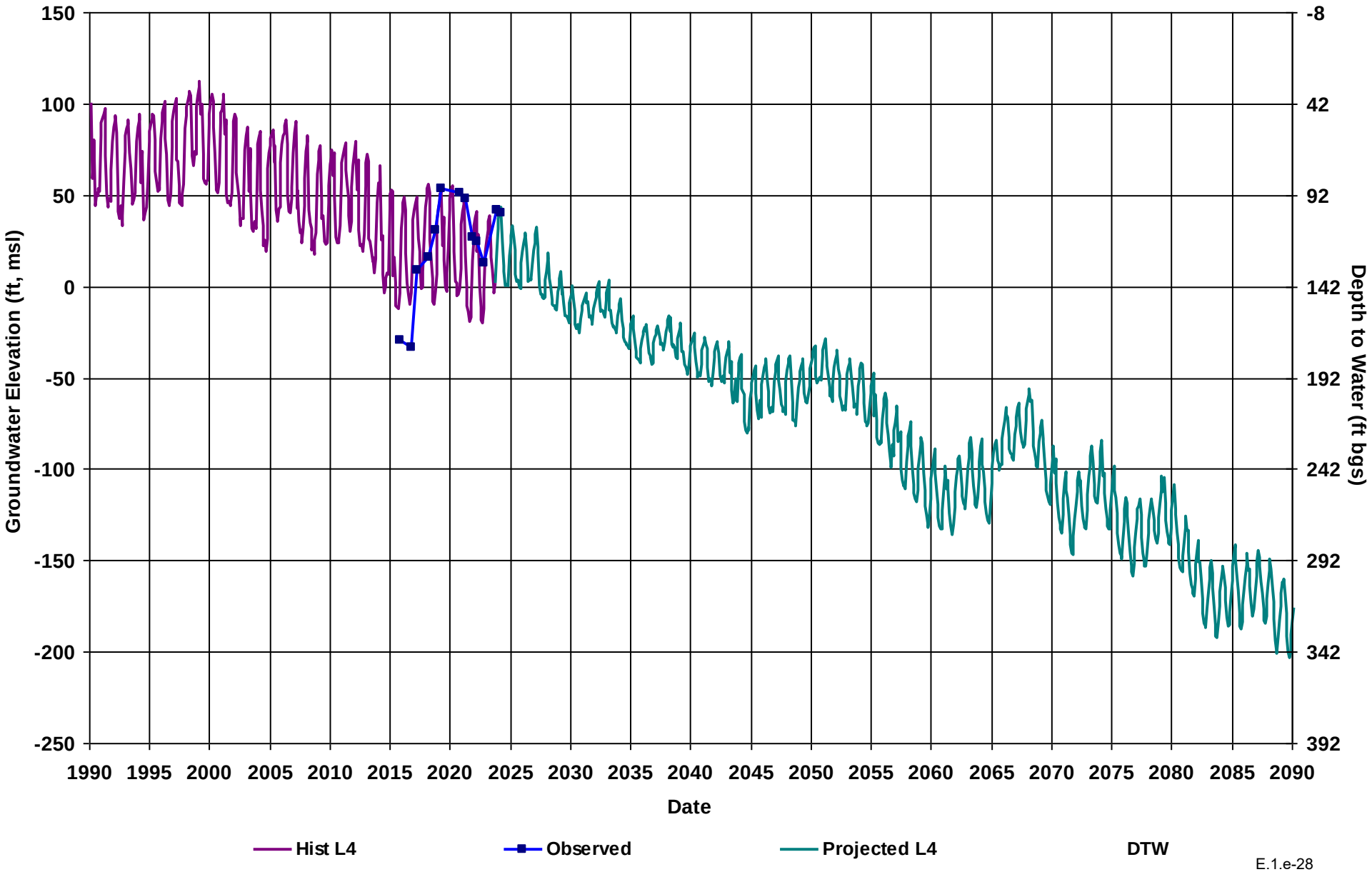
RMS ID: MCW RMS-7
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 138

Total Depth (ft): 800
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



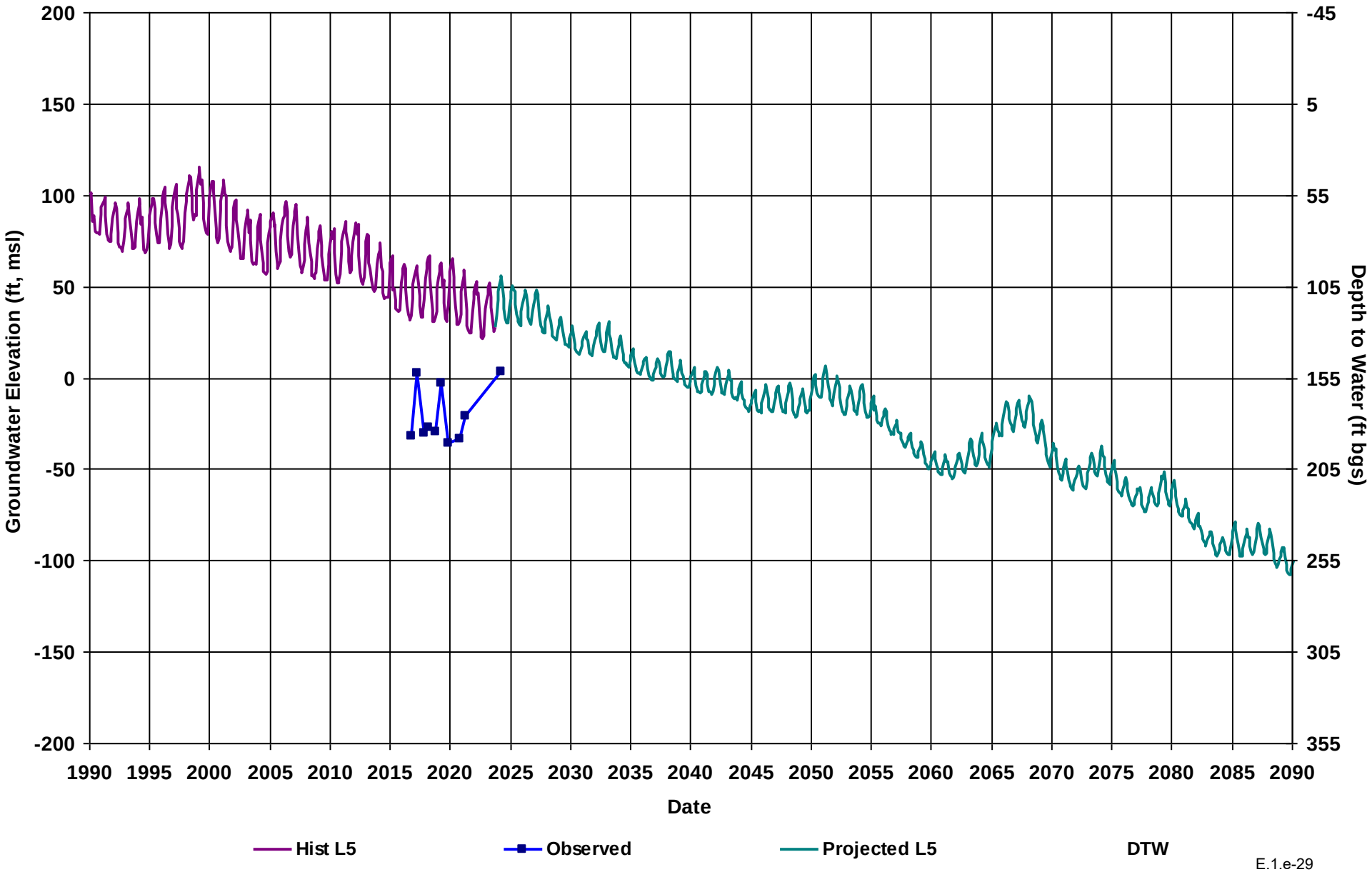
RMS ID: MCW RMS-8
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 142

Total Depth (ft): 480
Perf Top (ft): 160
Perf Bottom (ft): 475
Top Model Layer: 4
Bottom Model Layer: 4



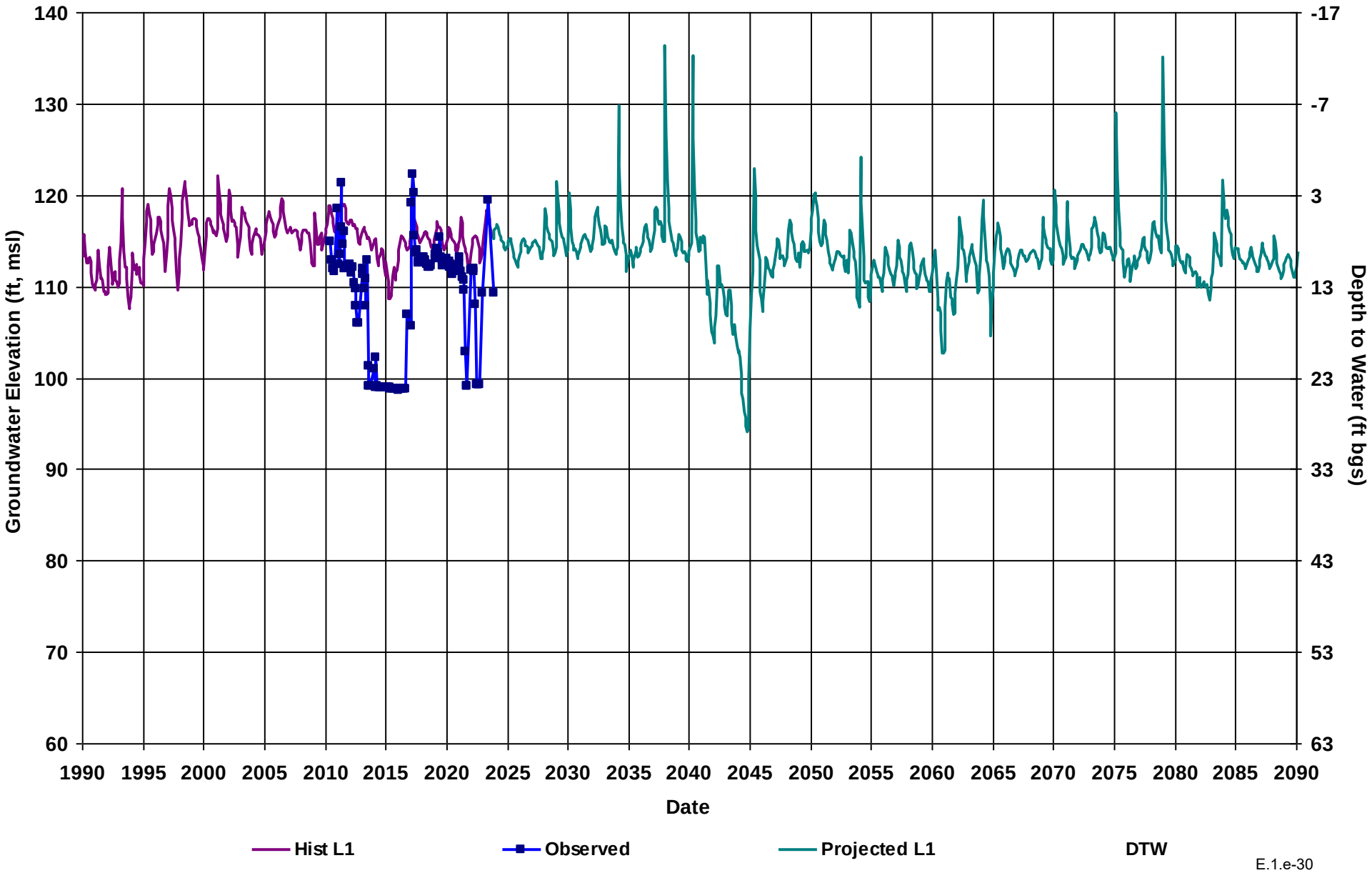
RMS ID: MCW RMS-9
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 155

Total Depth (ft): 700
Perf Top (ft): 265
Perf Bottom (ft): 696
Top Model Layer: 5
Bottom Model Layer: 5



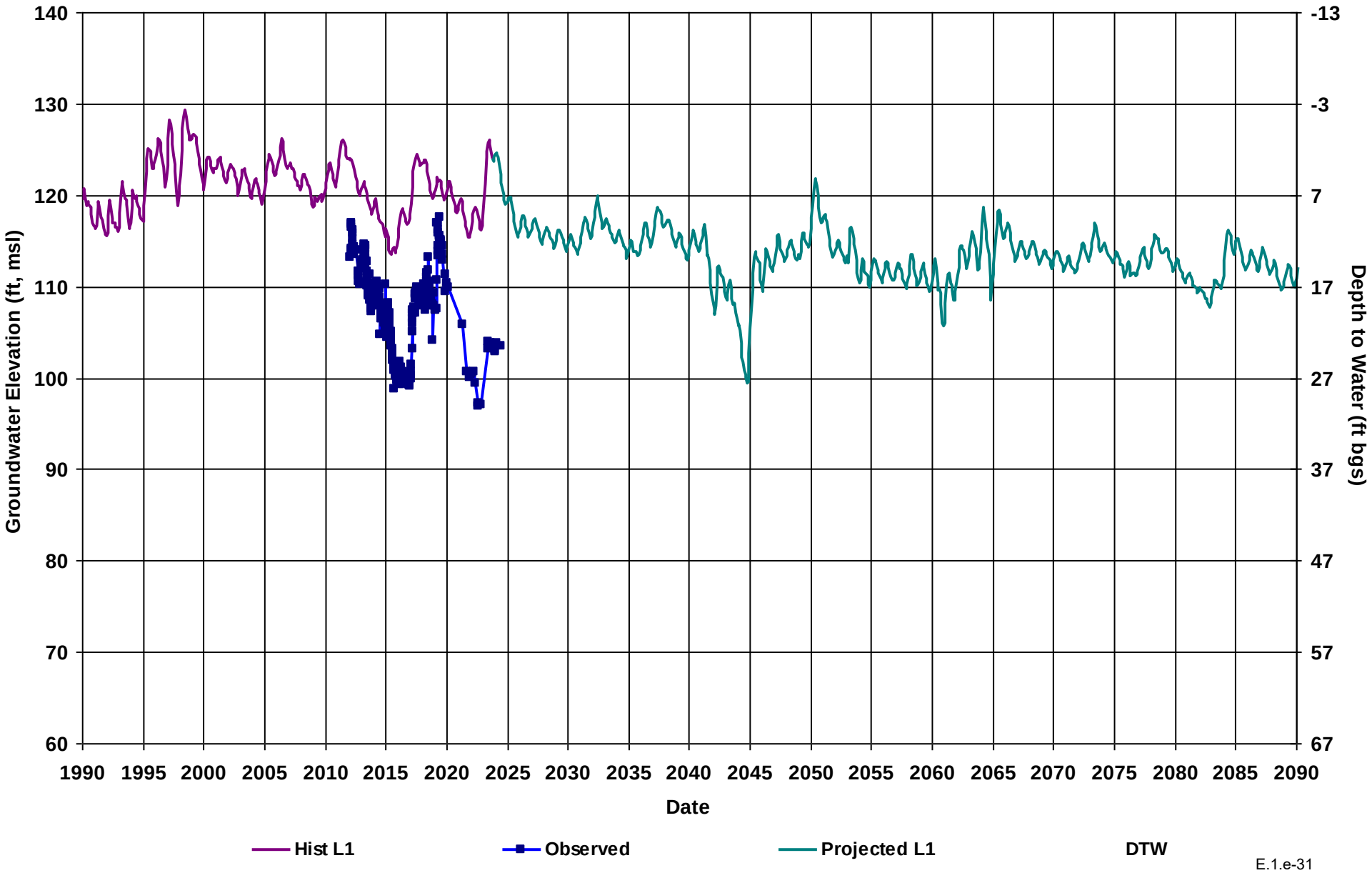
RMS ID: MCW RMS-10
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 26
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



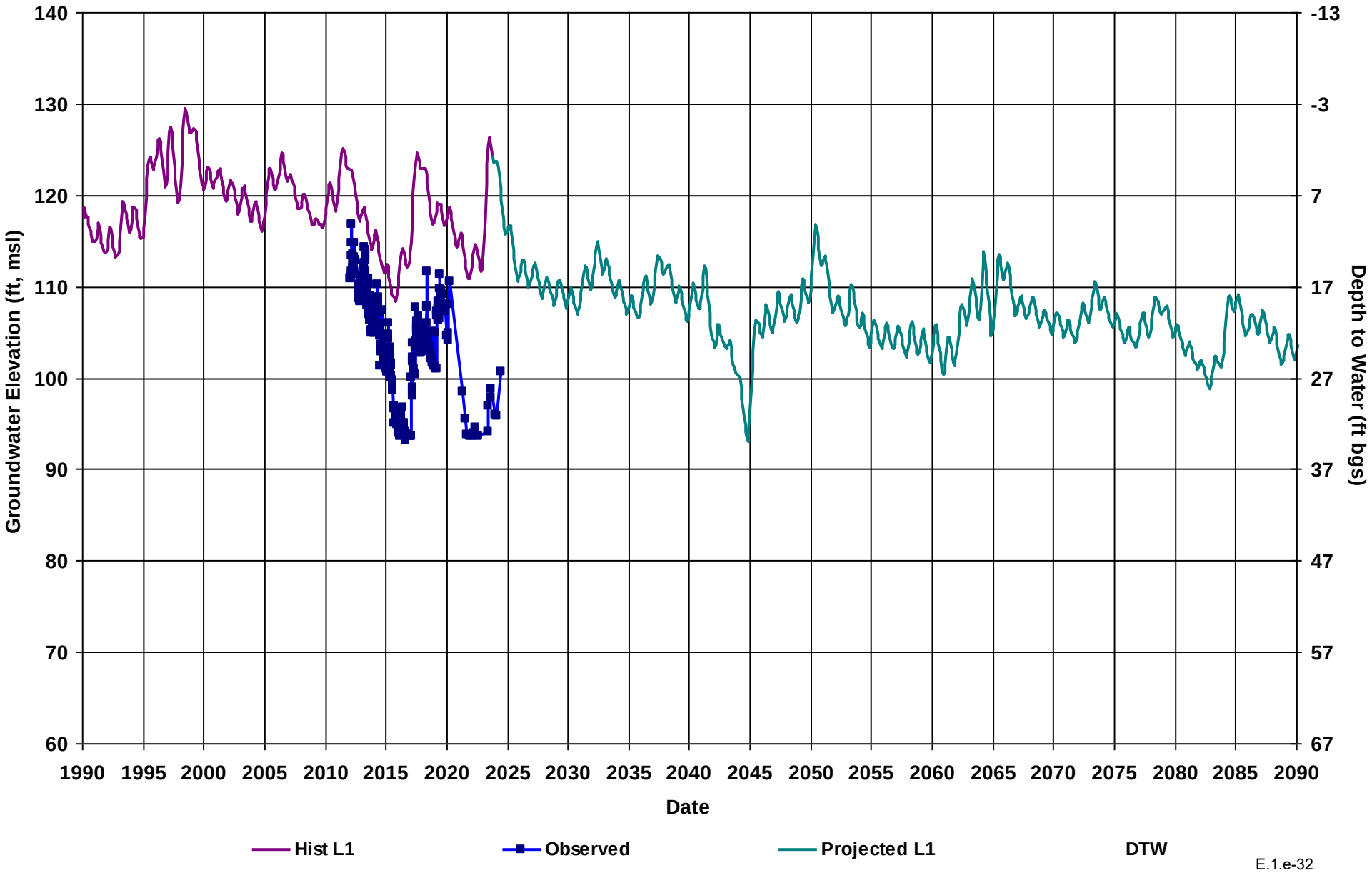
RMS ID: MCW RMS-11
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 123

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



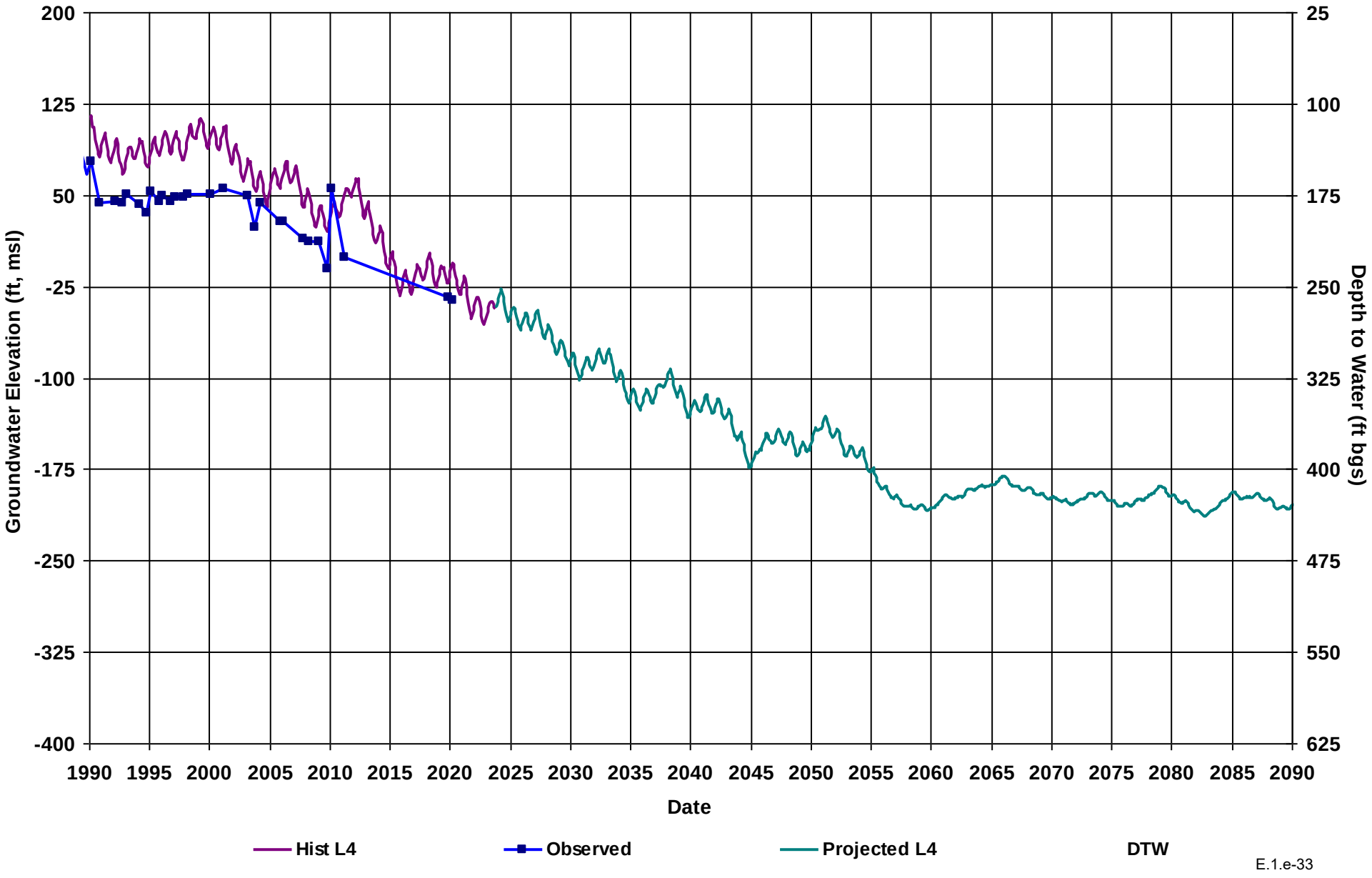
RMS ID: MCW RMS-12
Depth Zone: Shallow
Subbasin: Chowchilla
GSE (ft, msl): 120

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



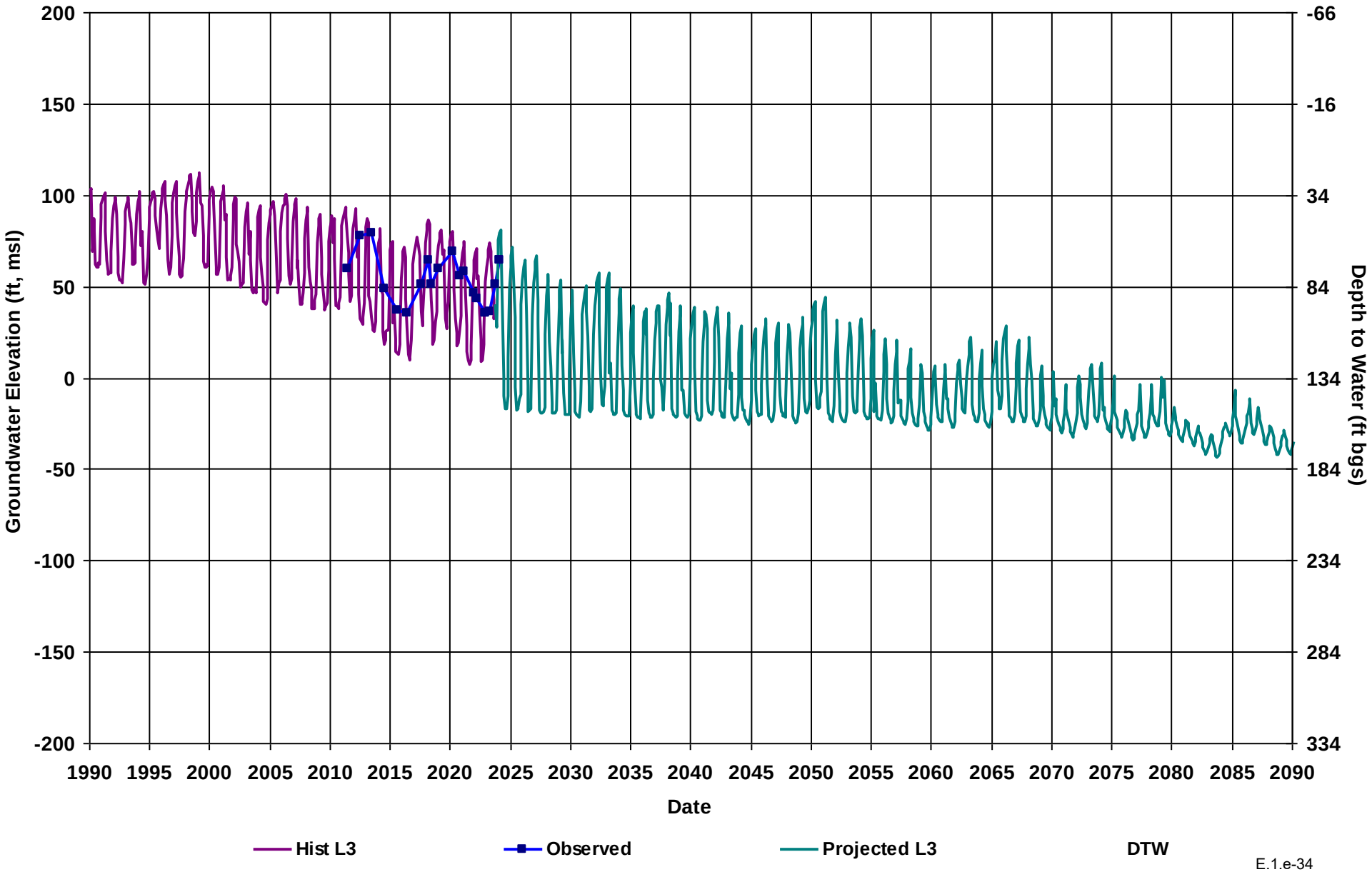
RMS ID: MER RMS-1
Depth Zone: Unknown
Subbasin: Chowchilla
GSE (ft, msl): 225

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



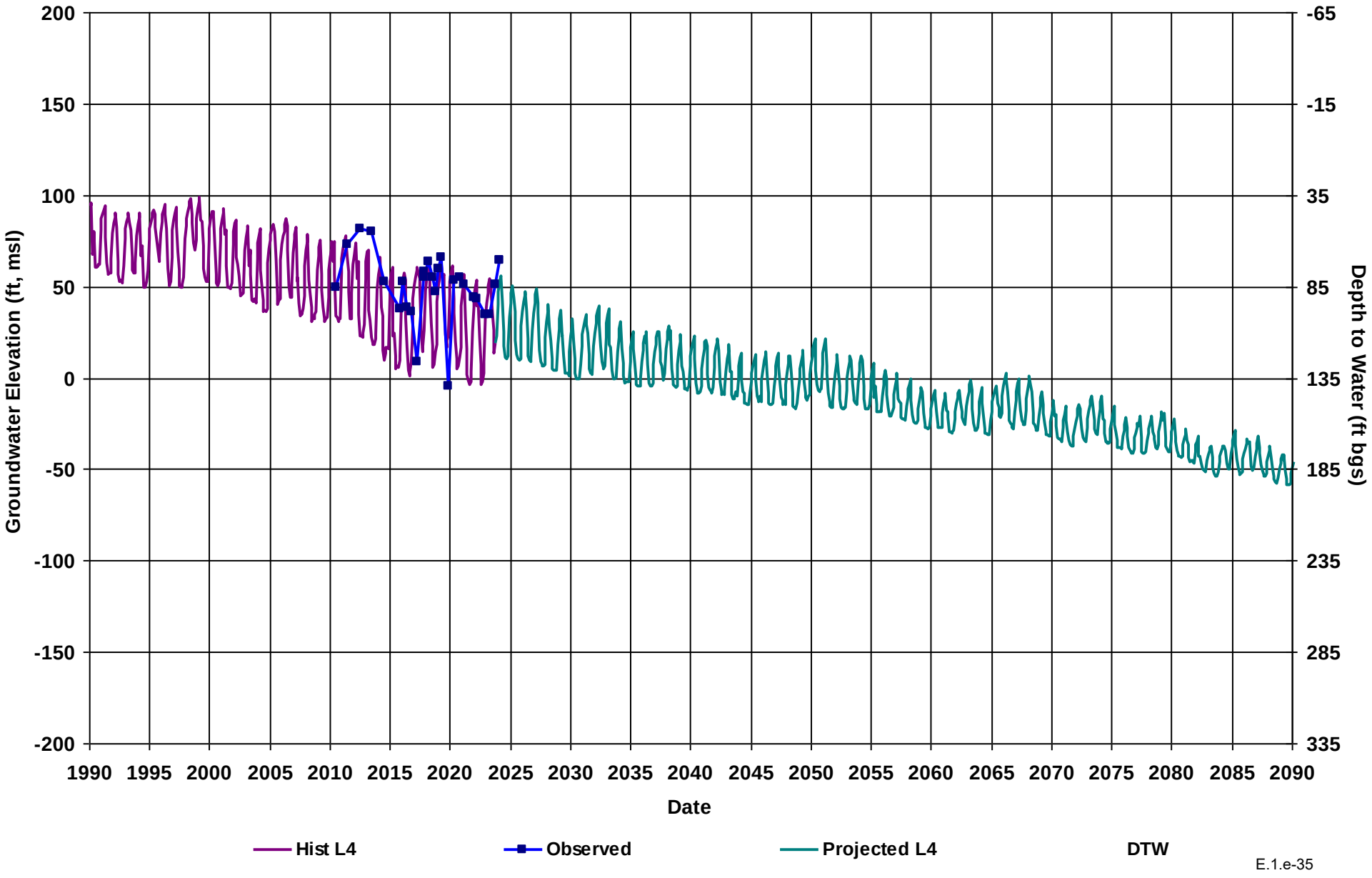
RMS ID: TRT RMS-1
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 134

Total Depth (ft): 196
Perf Top (ft): 158
Perf Bottom (ft): 192
Top Model Layer: 3
Bottom Model Layer: 3



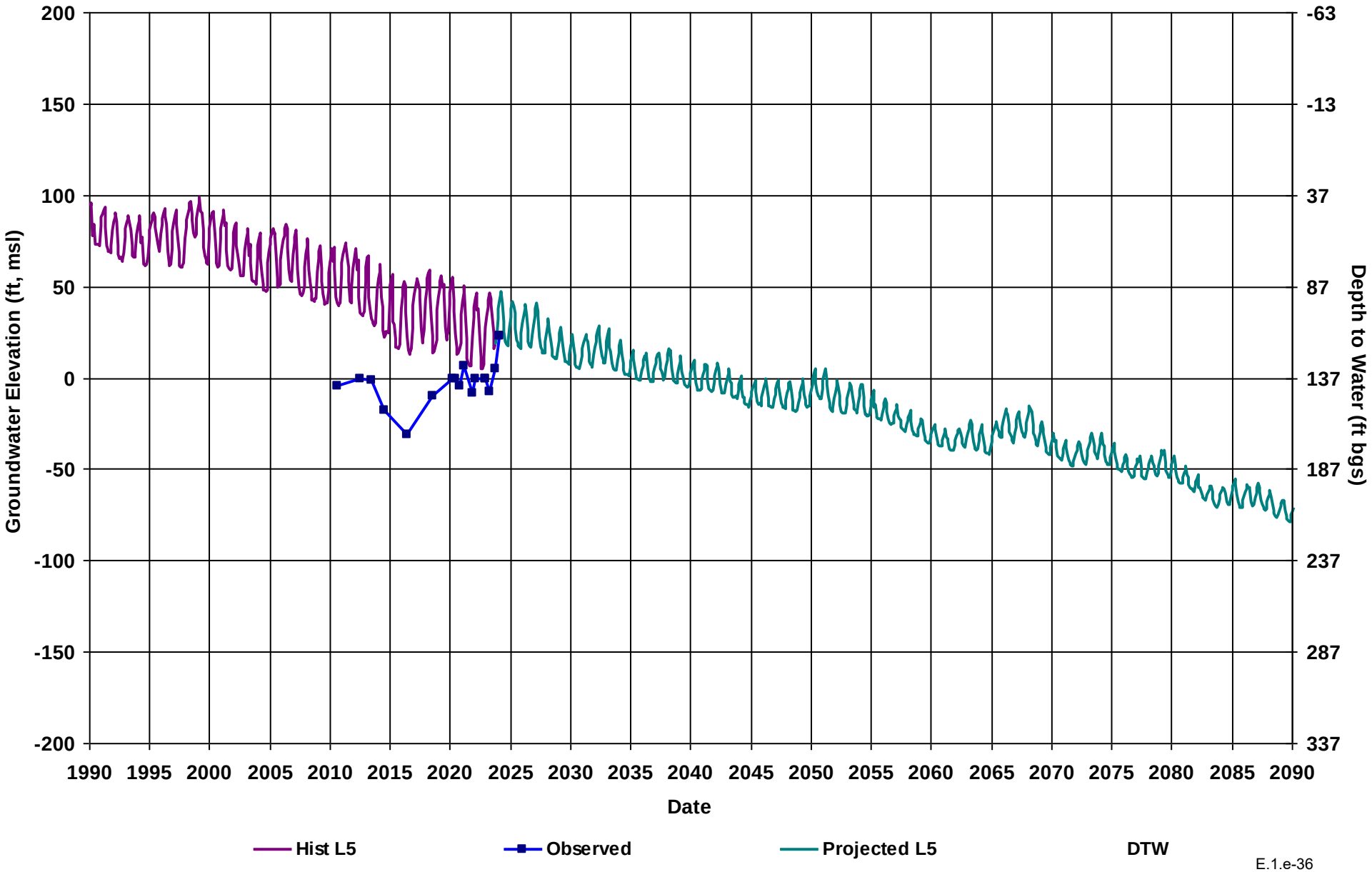
RMS ID: TRT RMS-2
Depth Zone: Lower
Subbasin: Chowchilla
GSE (ft, msl): 135

Total Depth (ft): 500
Perf Top (ft): 300
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



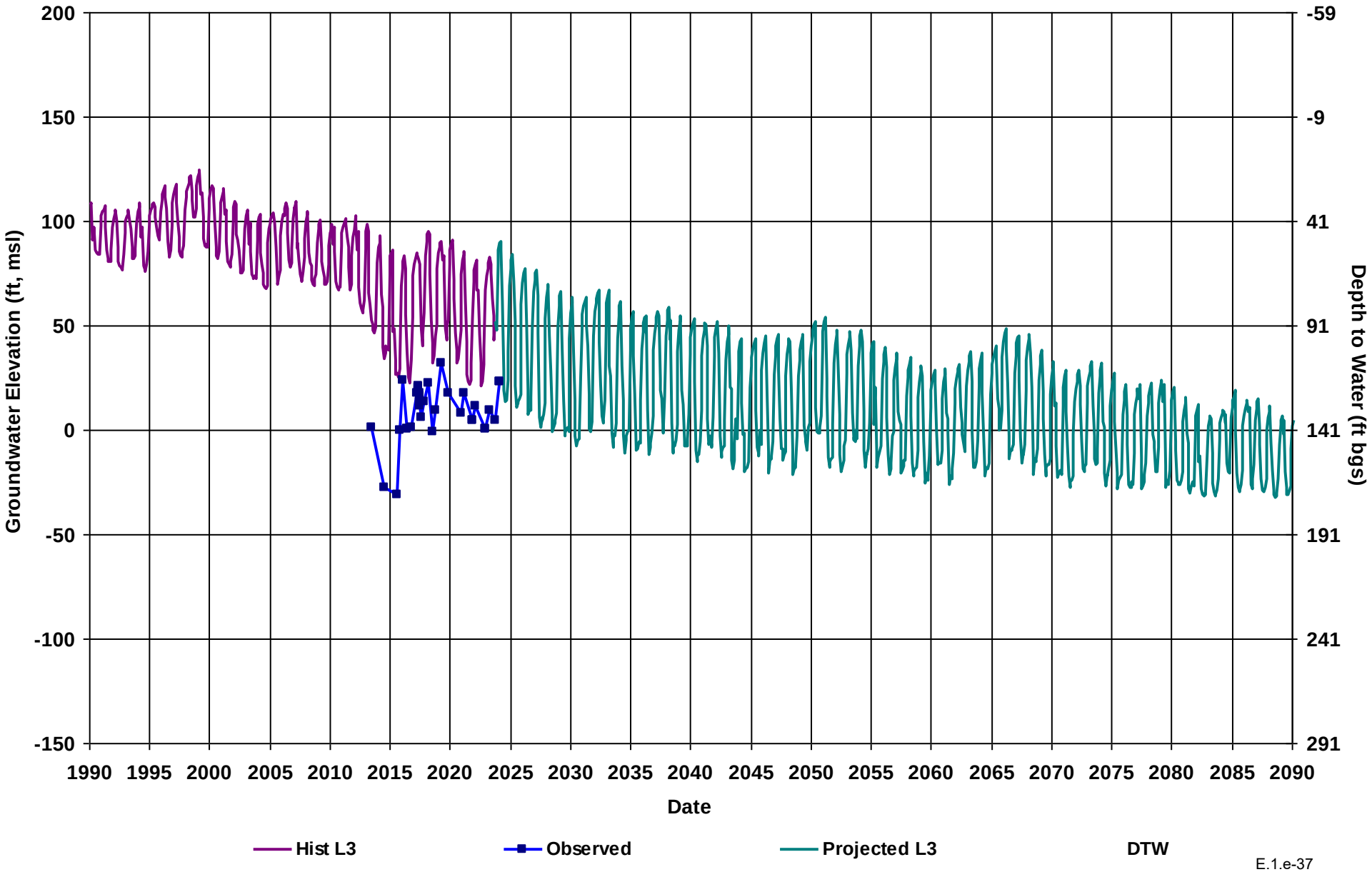
RMS ID: TRT RMS-3
Depth Zone: Composite
Subbasin: Chowchilla
GSE (ft, msl): 137

Total Depth (ft): 799
Perf Top (ft): 168
Perf Bottom (ft): 790
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: TRT RMS-4
Depth Zone: Upper
Subbasin: Chowchilla
GSE (ft, msl): 141

Total Depth (ft): 840
Perf Top (ft): 190
Perf Bottom (ft): 260
Top Model Layer: 3
Bottom Model Layer: 3



APPENDIX E.2

Madera Subbasin Groundwater Elevation Hydrographs for RMS Wells

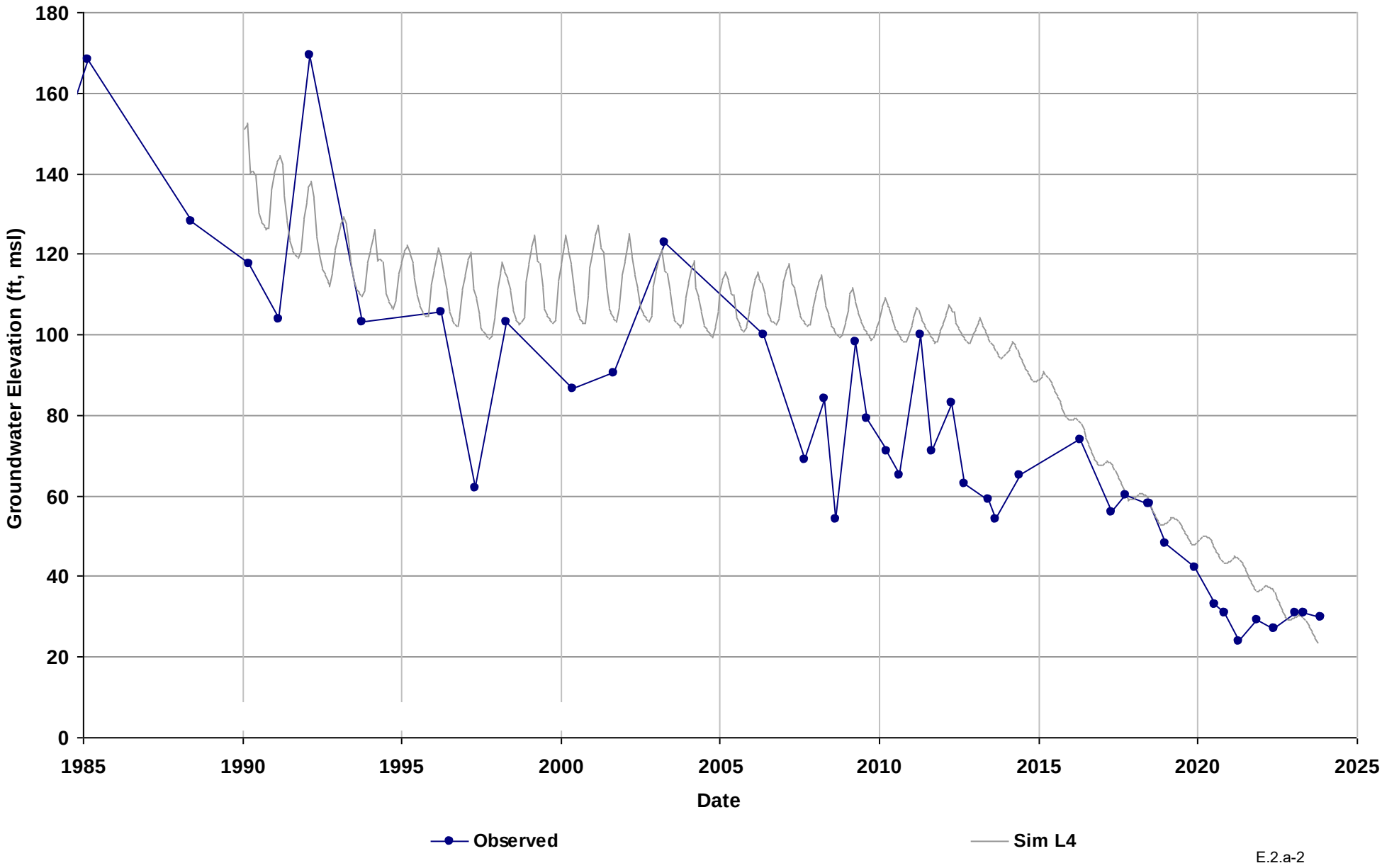
LSCE

APPENDIX E.2.a

Madera Subbasin Groundwater Elevation Hydrographs for RMS Wells - Historical Scenario

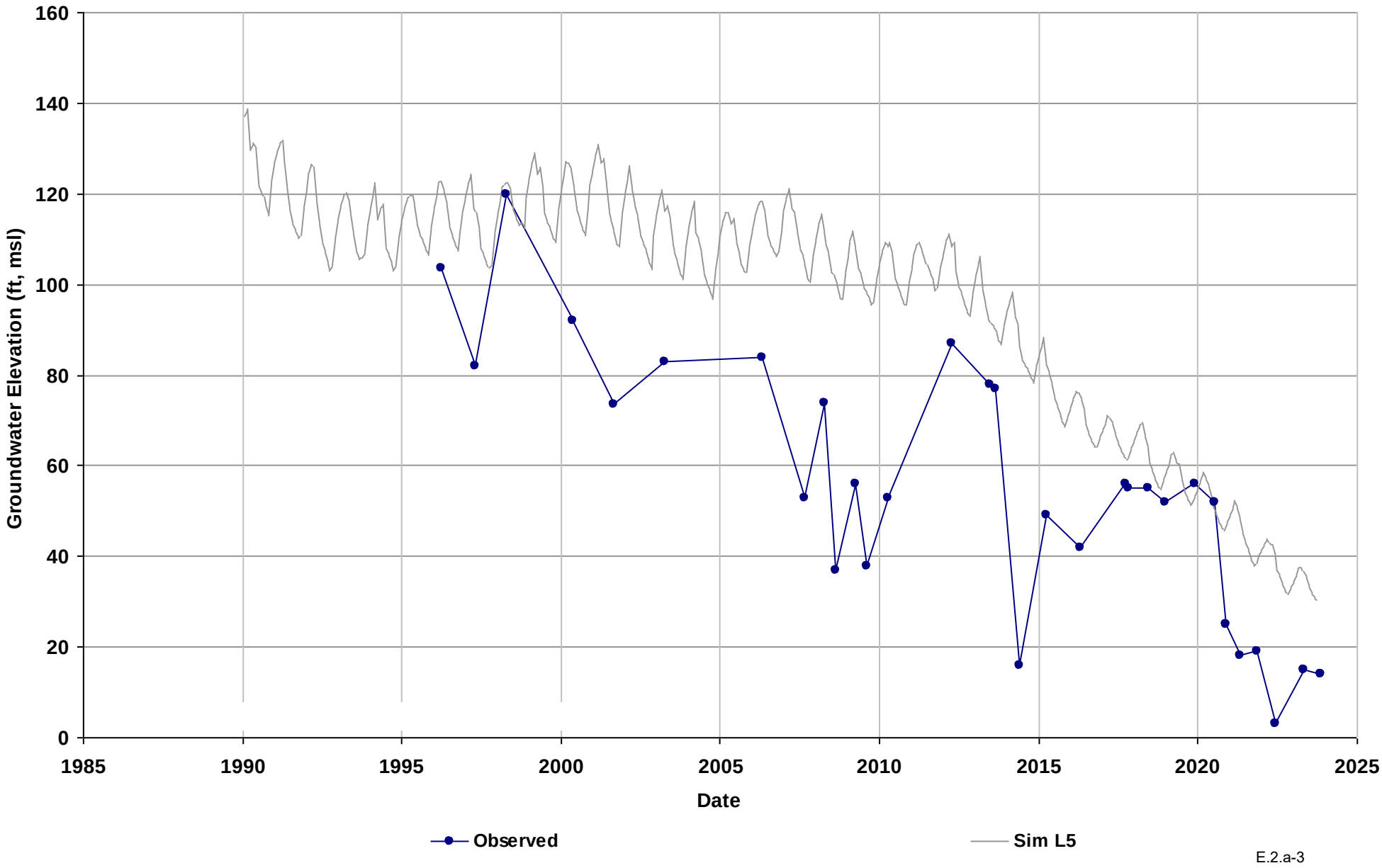
RMS ID: COM RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 278

Total Depth (ft): 520
Perf Top (ft): 210
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



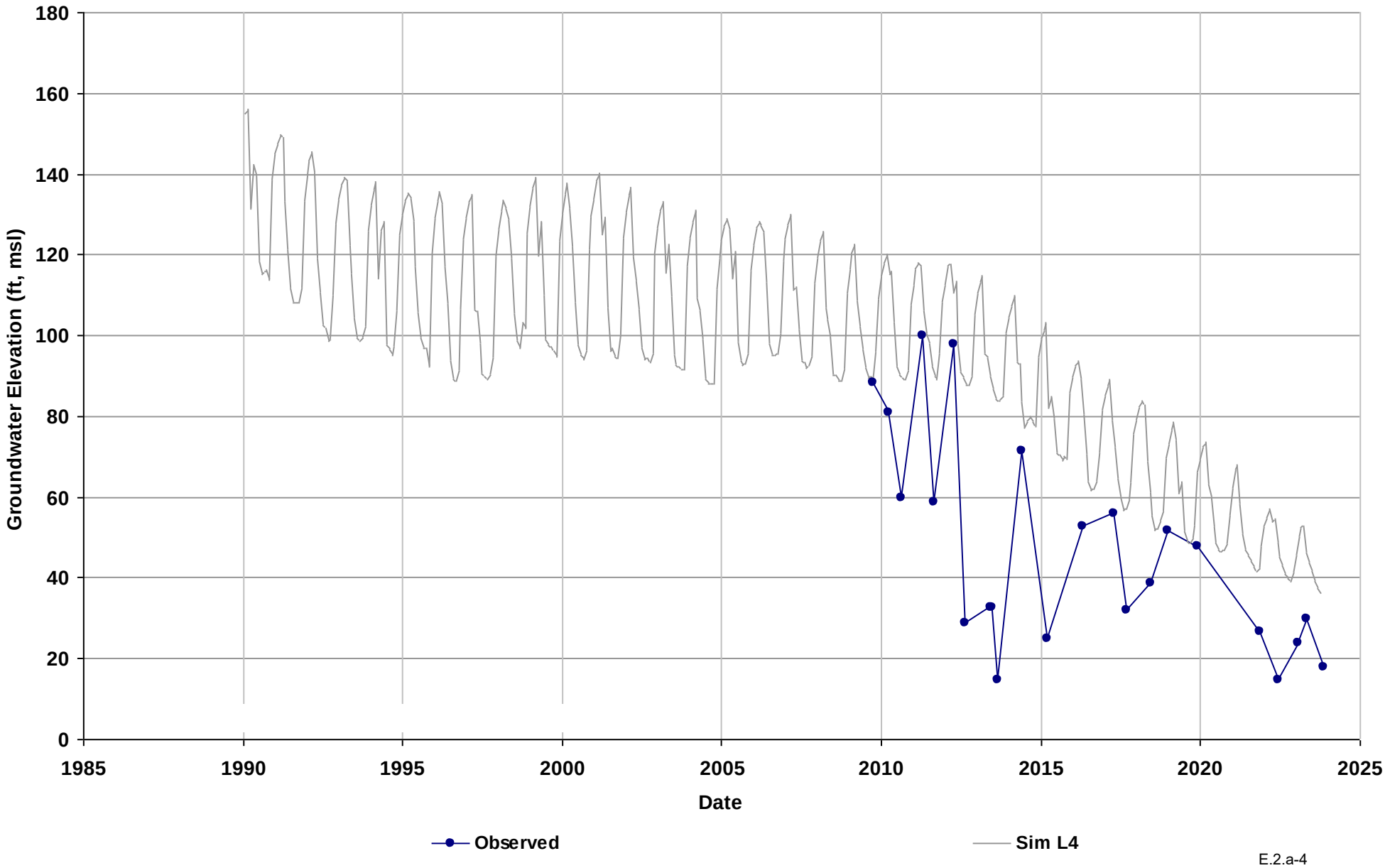
RMS ID: COM RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 262

Total Depth (ft): 590
Perf Top (ft): 370
Perf Bottom (ft): 590
Top Model Layer: 5
Bottom Model Layer: 5



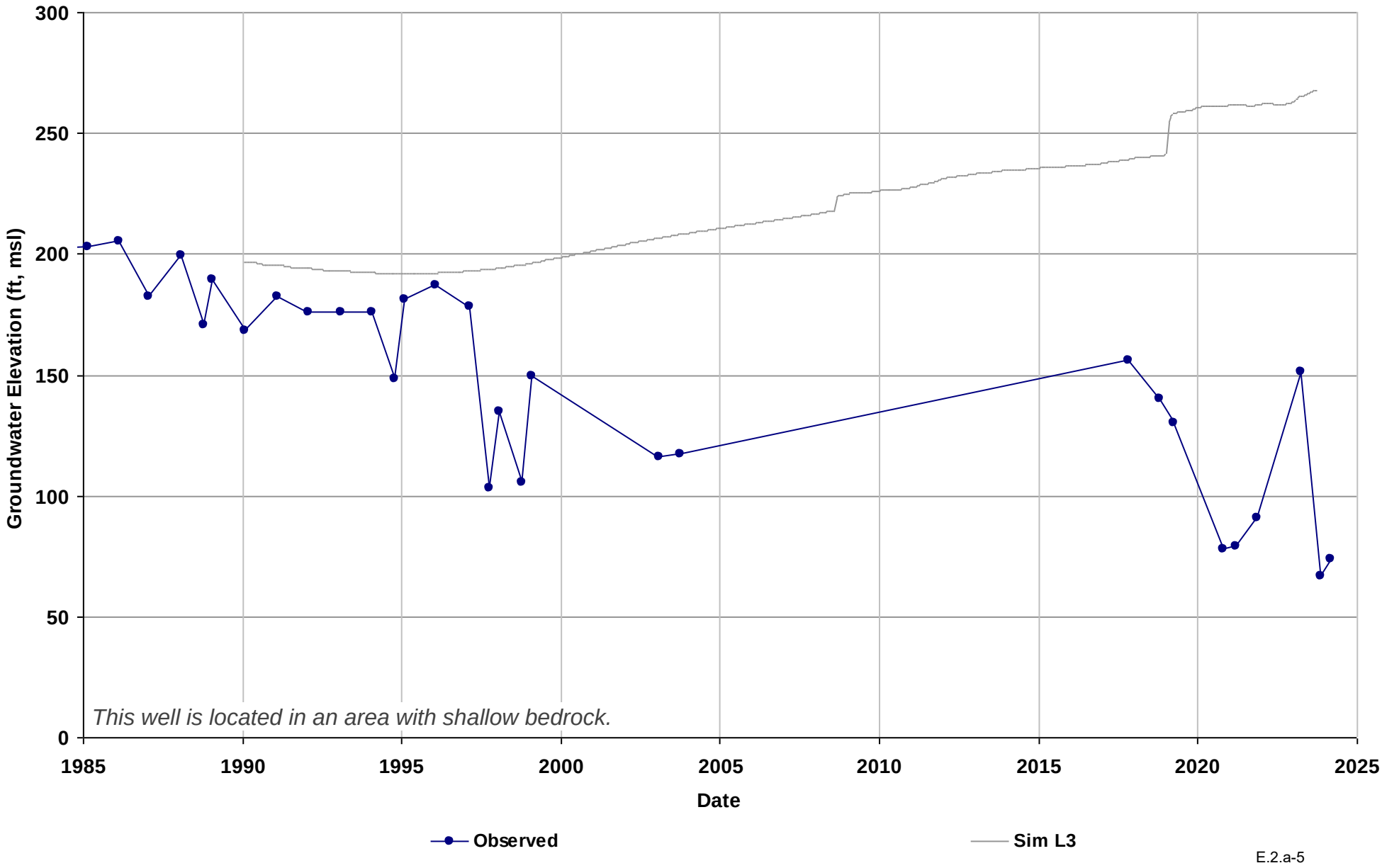
RMS ID: COM RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 267

Total Depth (ft): 588
Perf Top (ft): 433
Perf Bottom (ft): 568
Top Model Layer: 4
Bottom Model Layer: 4



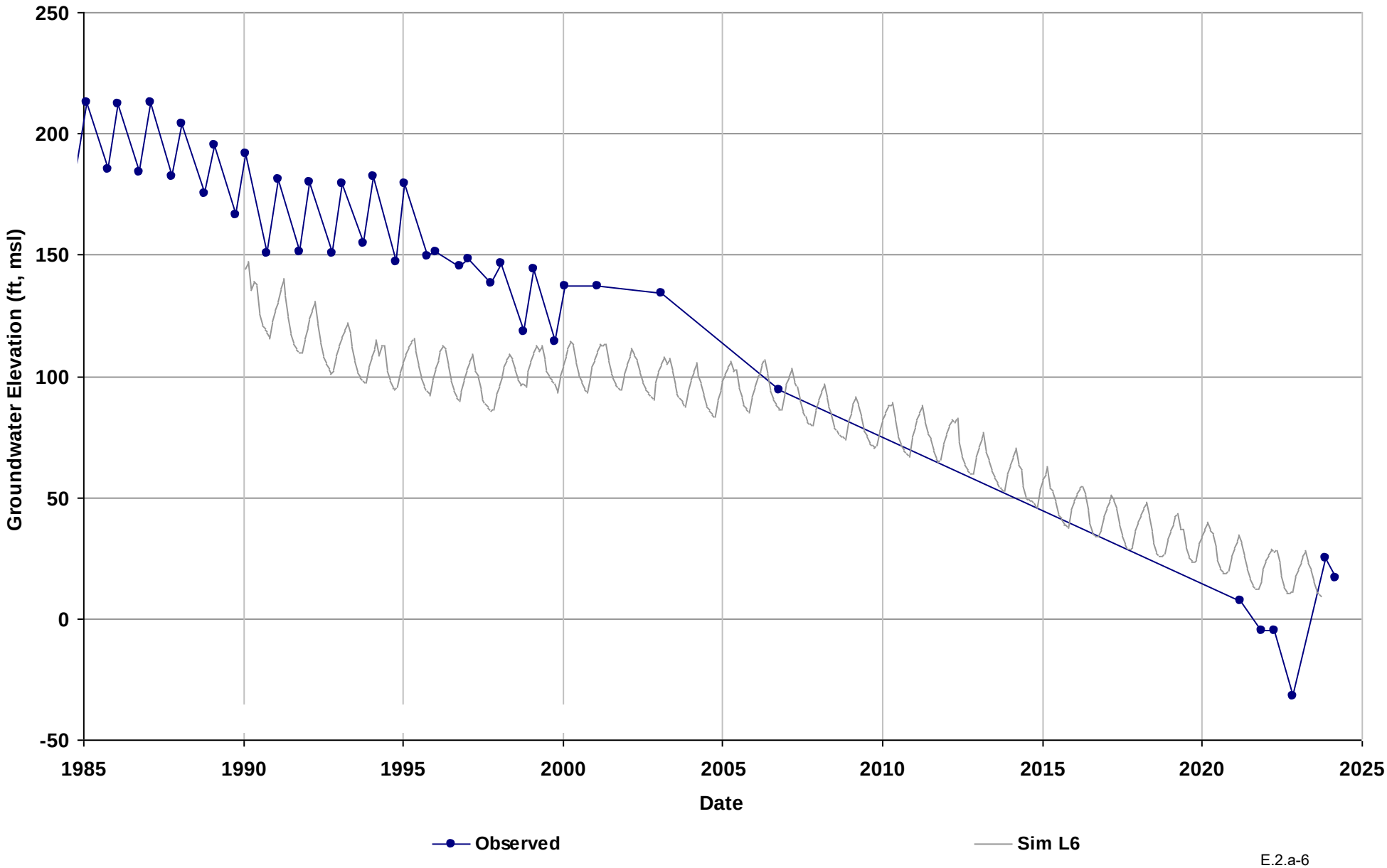
RMS ID: MCE RMS-2
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 378

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



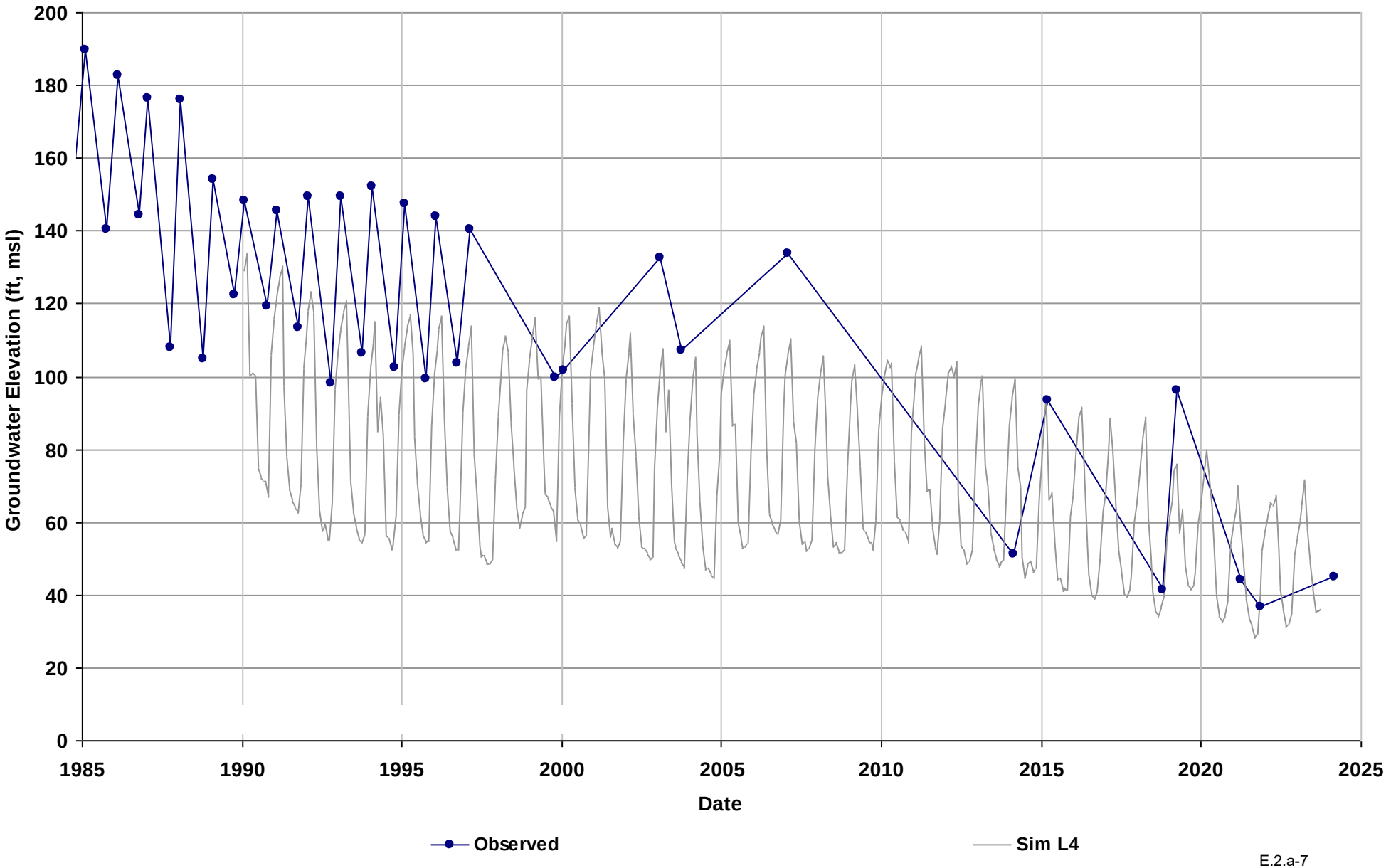
RMS ID: MCE RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 325

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



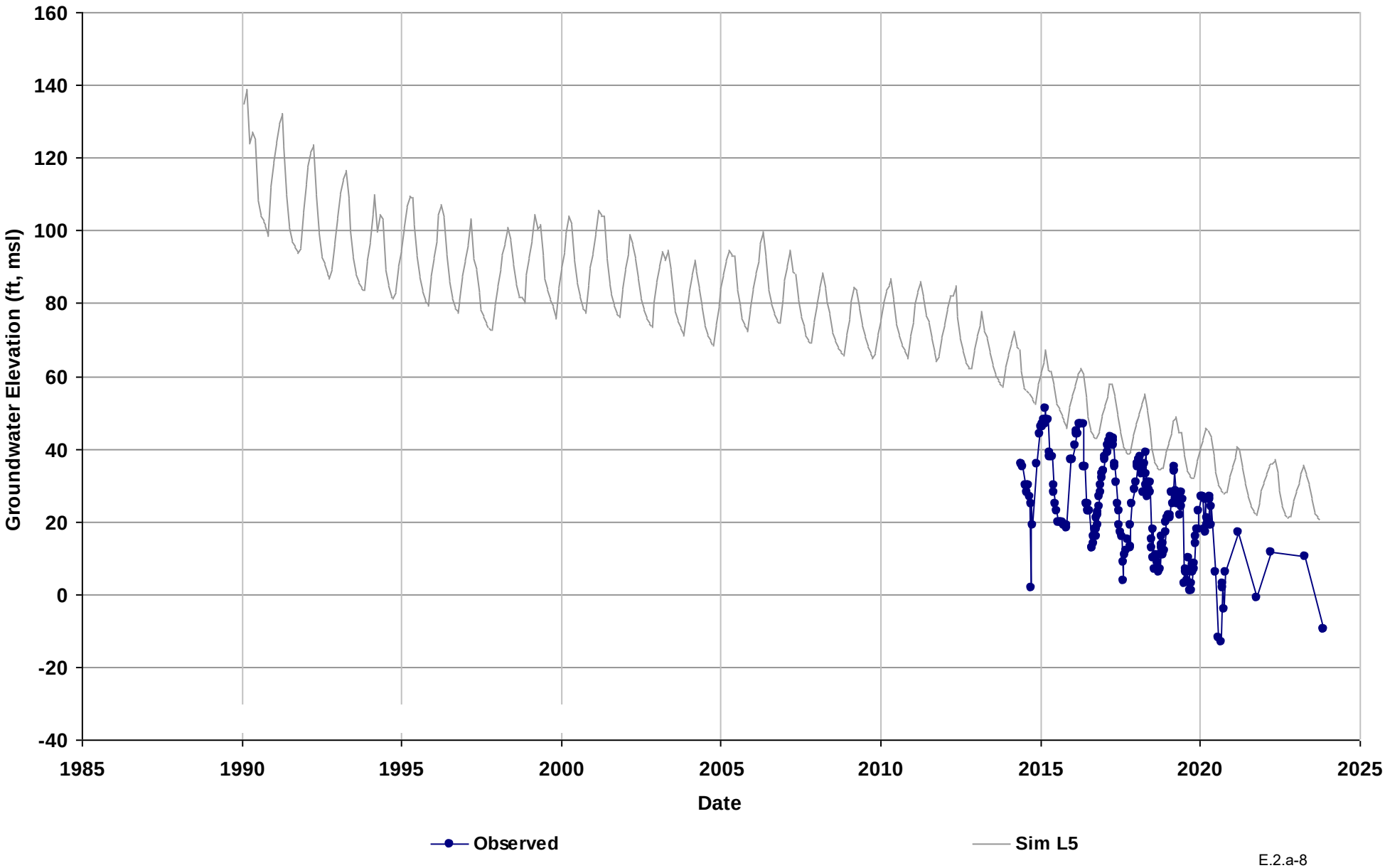
RMS ID: MCE RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



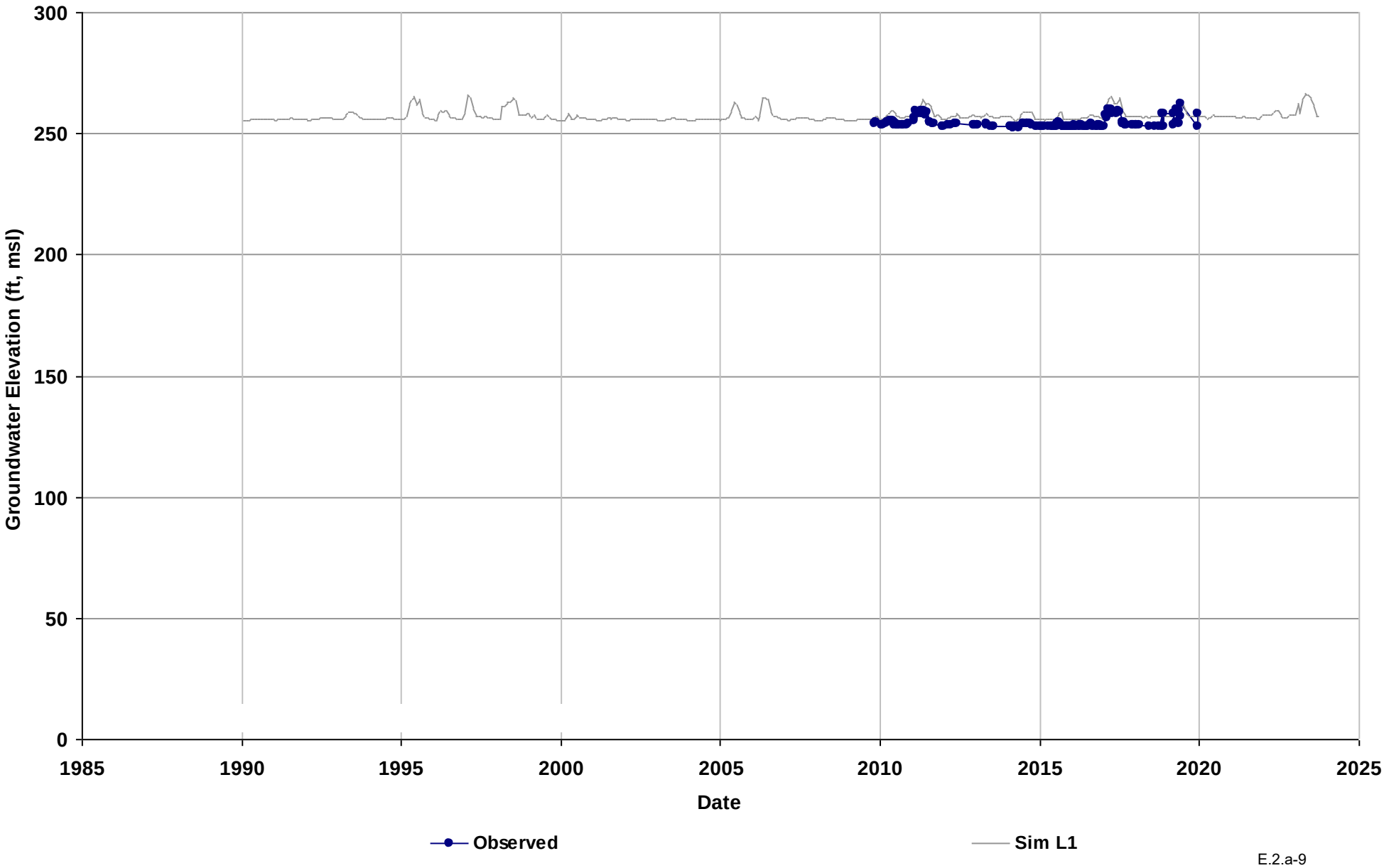
RMS ID: MCE RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 328

Total Depth (ft): 550
Perf Top (ft): 450
Perf Bottom (ft): 550
Top Model Layer: 5
Bottom Model Layer: 5



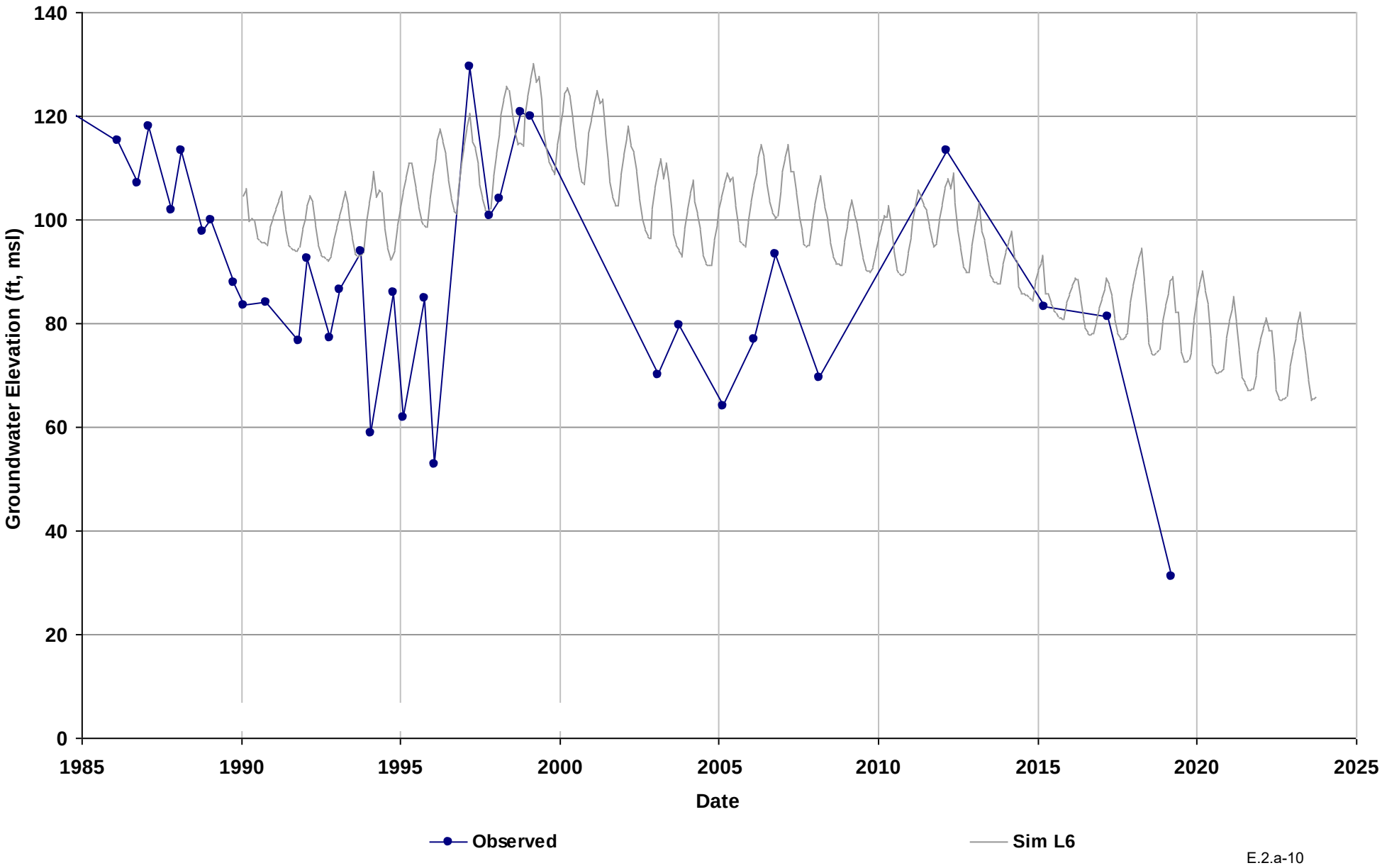
RMS ID: MCE RMS-9
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



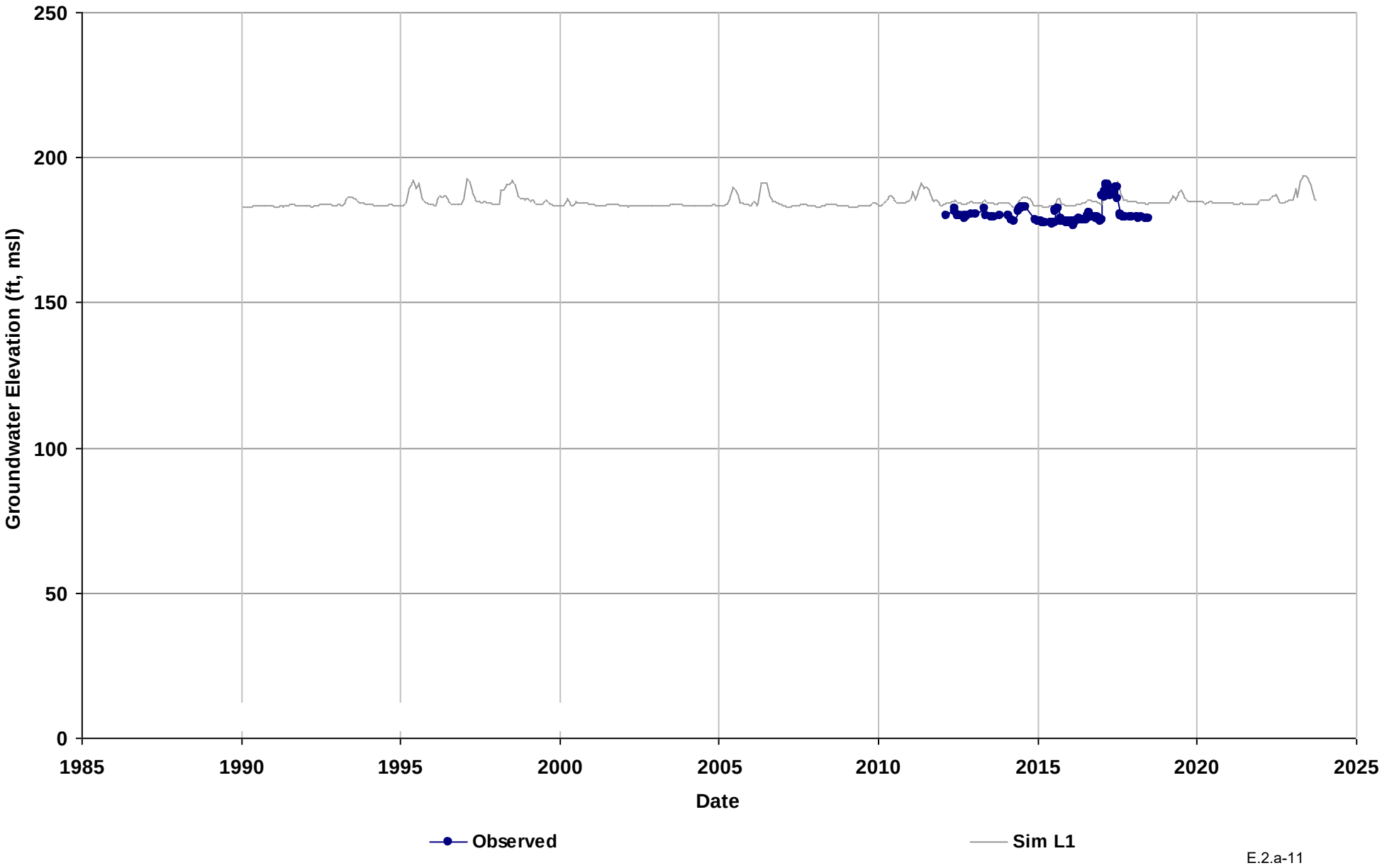
RMS ID: MCW RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 163

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



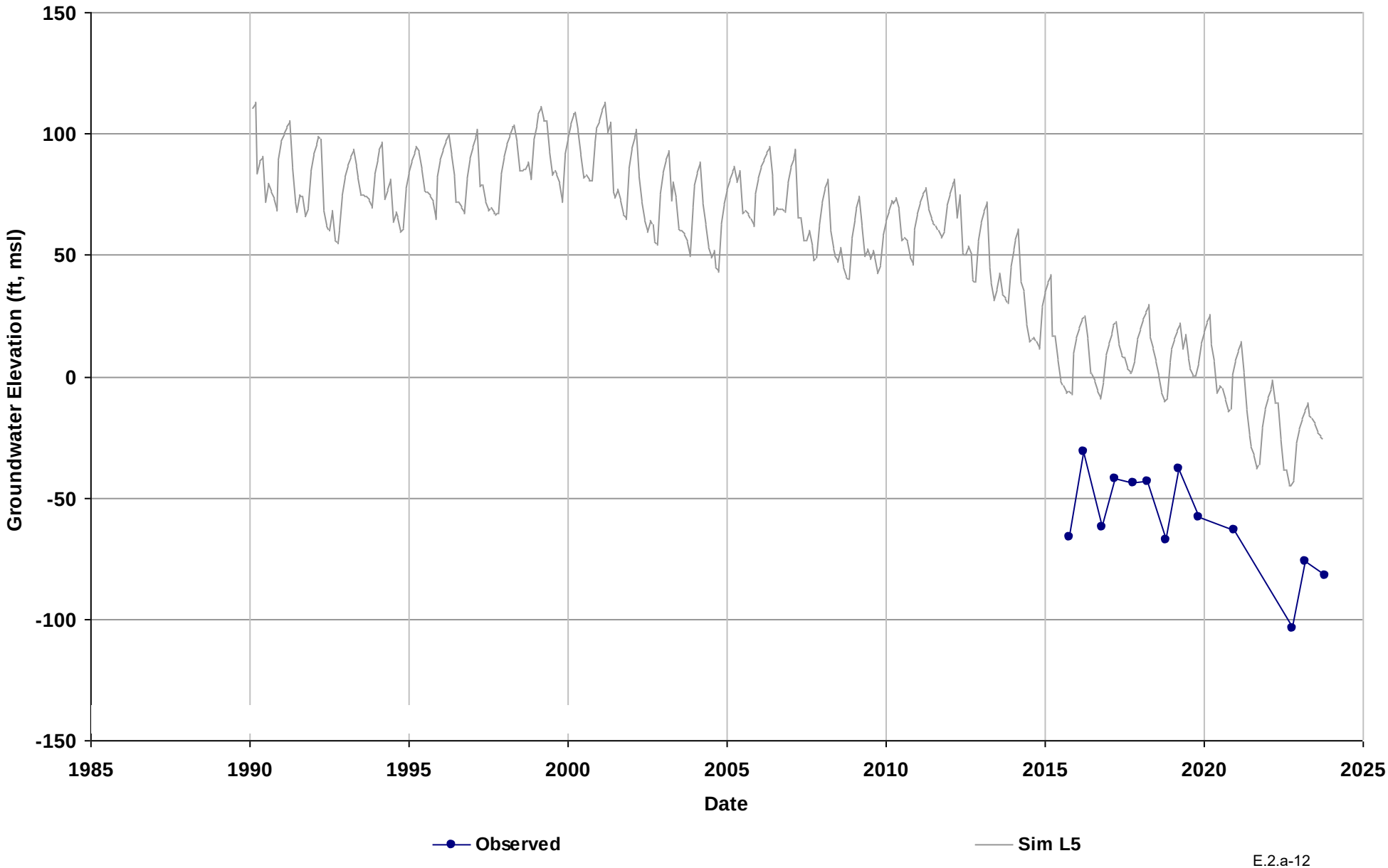
RMS ID: MCW RMS-5
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 199

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



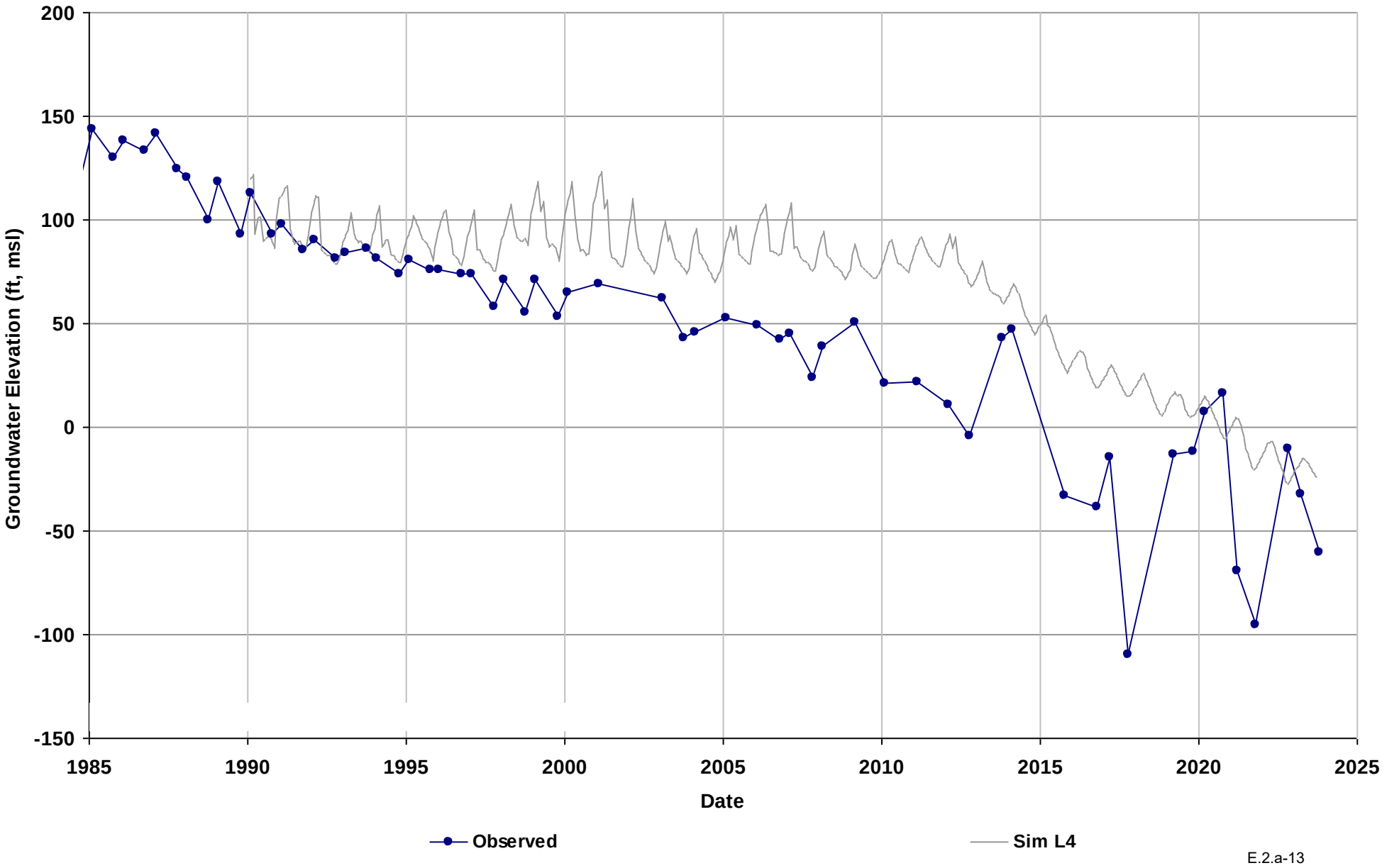
RMS ID: MID RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 294

Total Depth (ft): 563
Perf Top (ft): 298
Perf Bottom (ft): 509
Top Model Layer: 5
Bottom Model Layer: 5



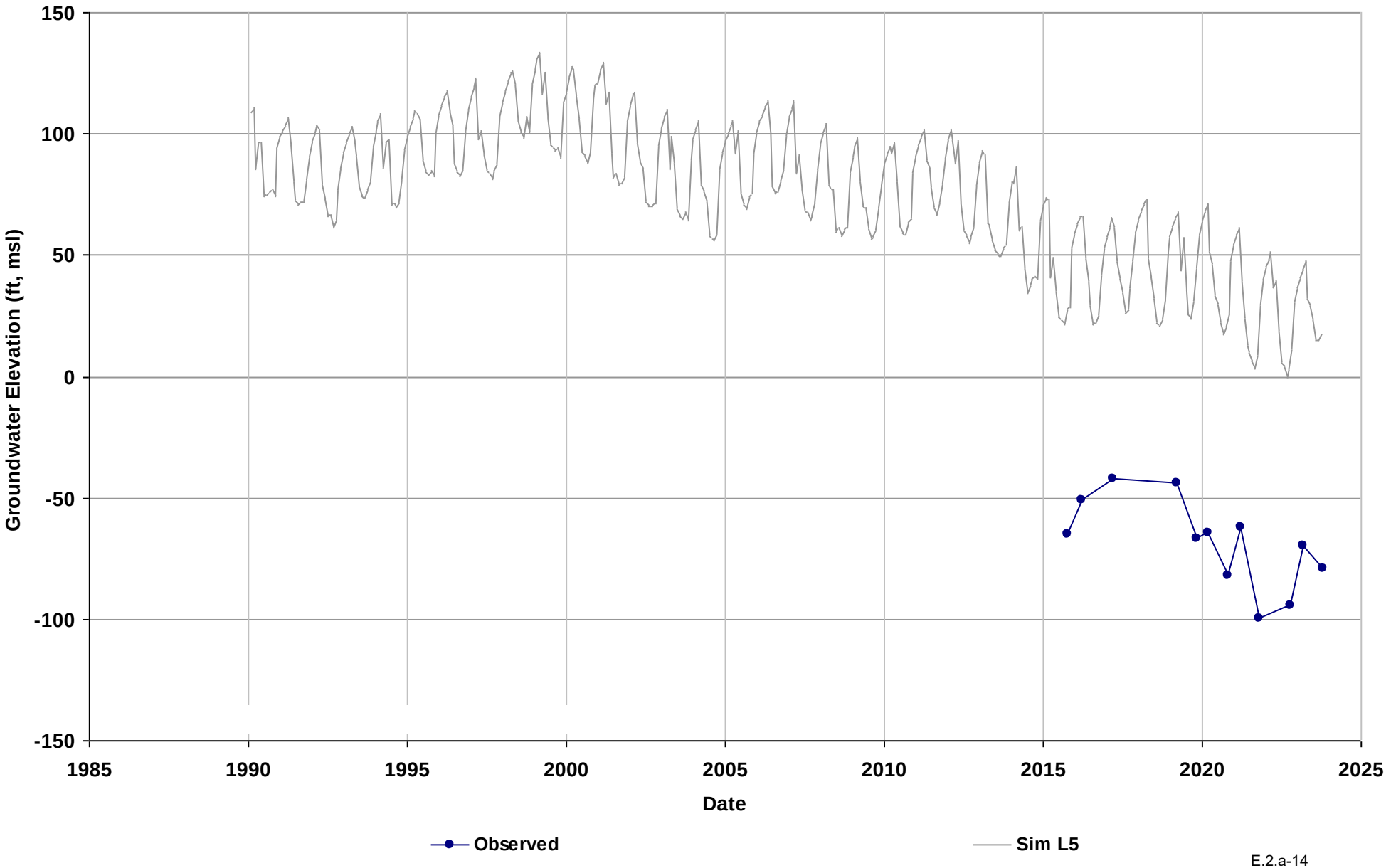
RMS ID: MID RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Total Depth (ft): 516
Perf Top (ft): 260
Perf Bottom (ft): 507
Top Model Layer: 4
Bottom Model Layer: 4



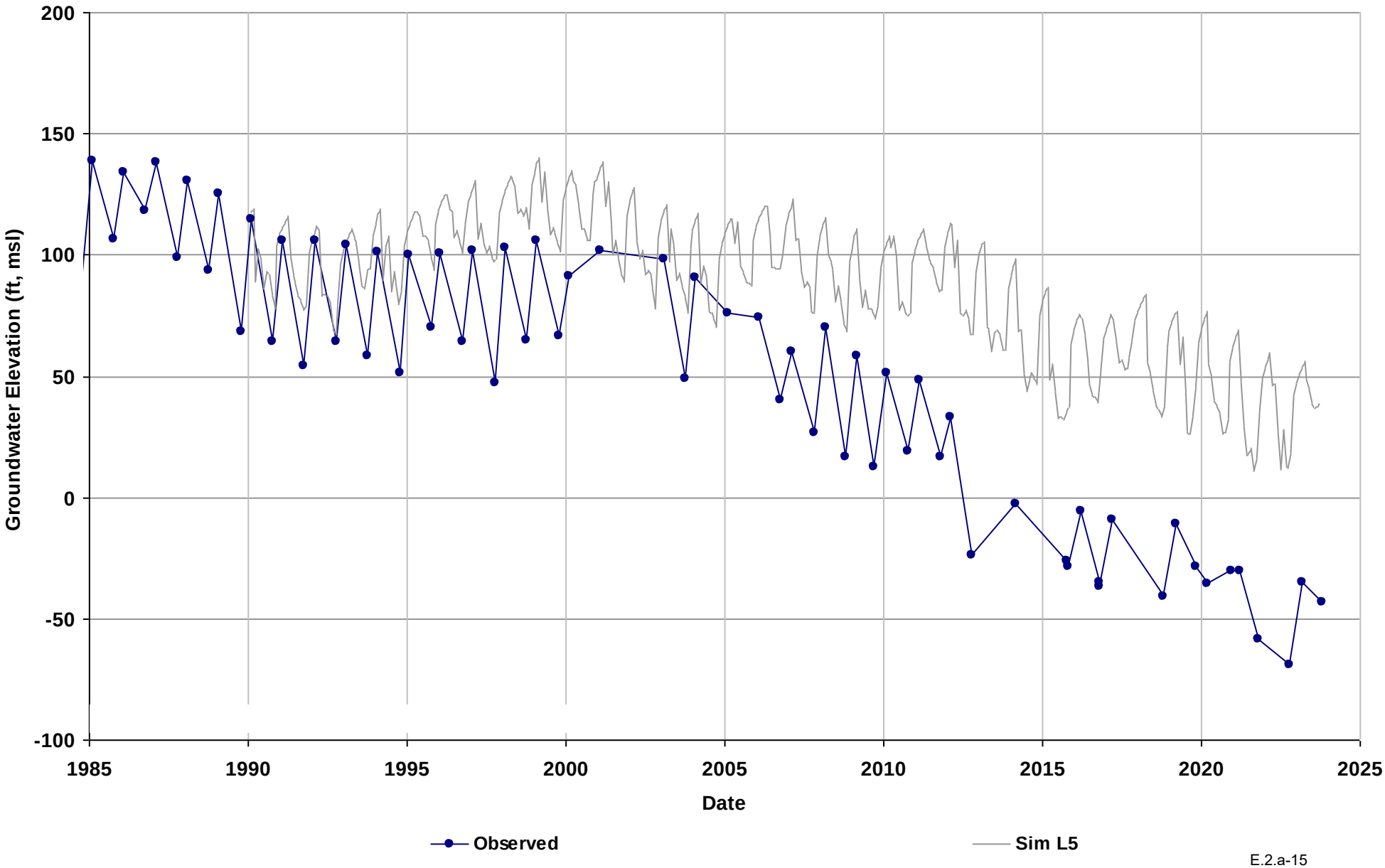
RMS ID: MID RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 259

Total Depth (ft): 698
Perf Top (ft): 320
Perf Bottom (ft): 667
Top Model Layer: 5
Bottom Model Layer: 5



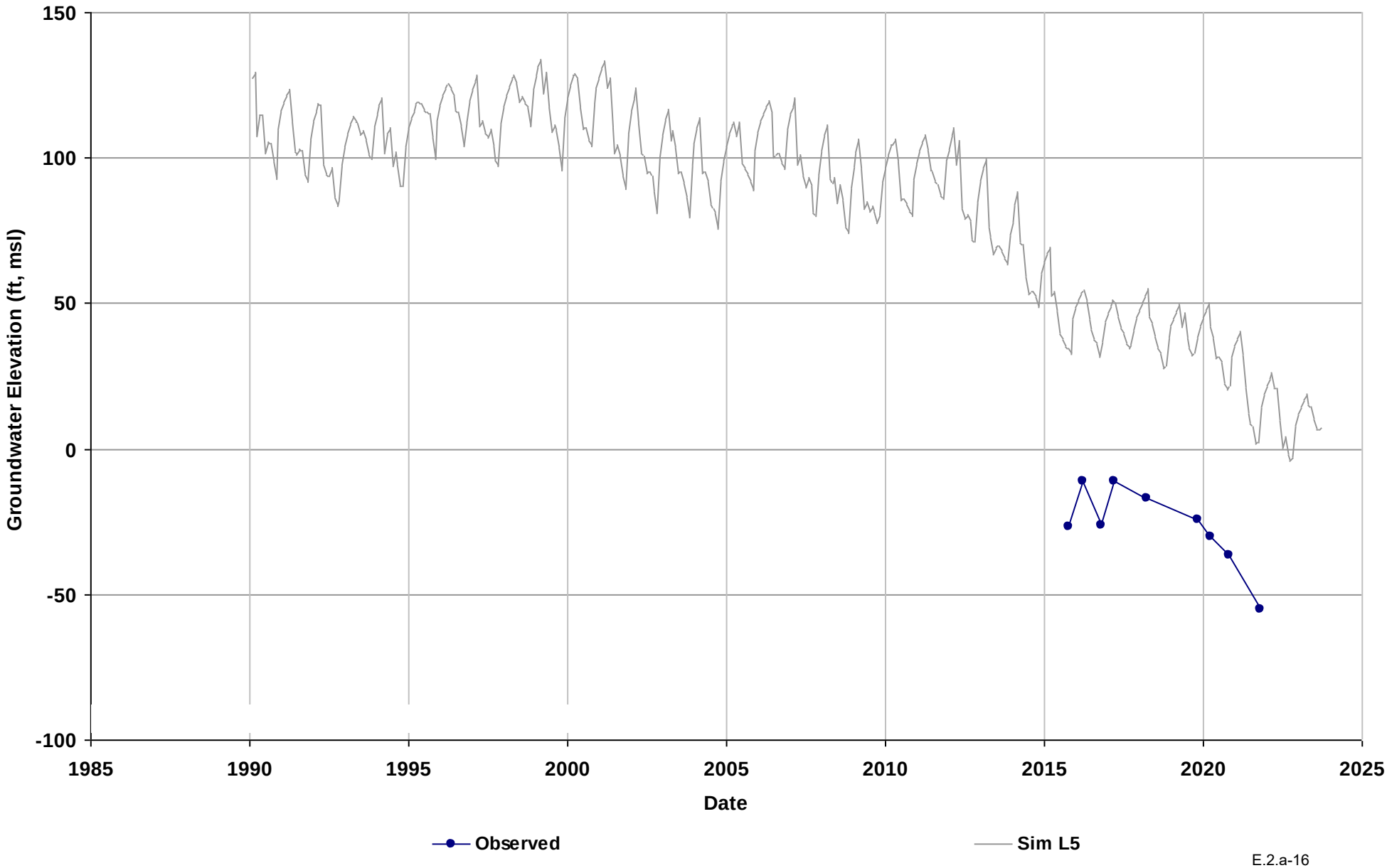
RMS ID: MID RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 239

Total Depth (ft): 570
Perf Top (ft): 270
Perf Bottom (ft): 570
Top Model Layer: 5
Bottom Model Layer: 5



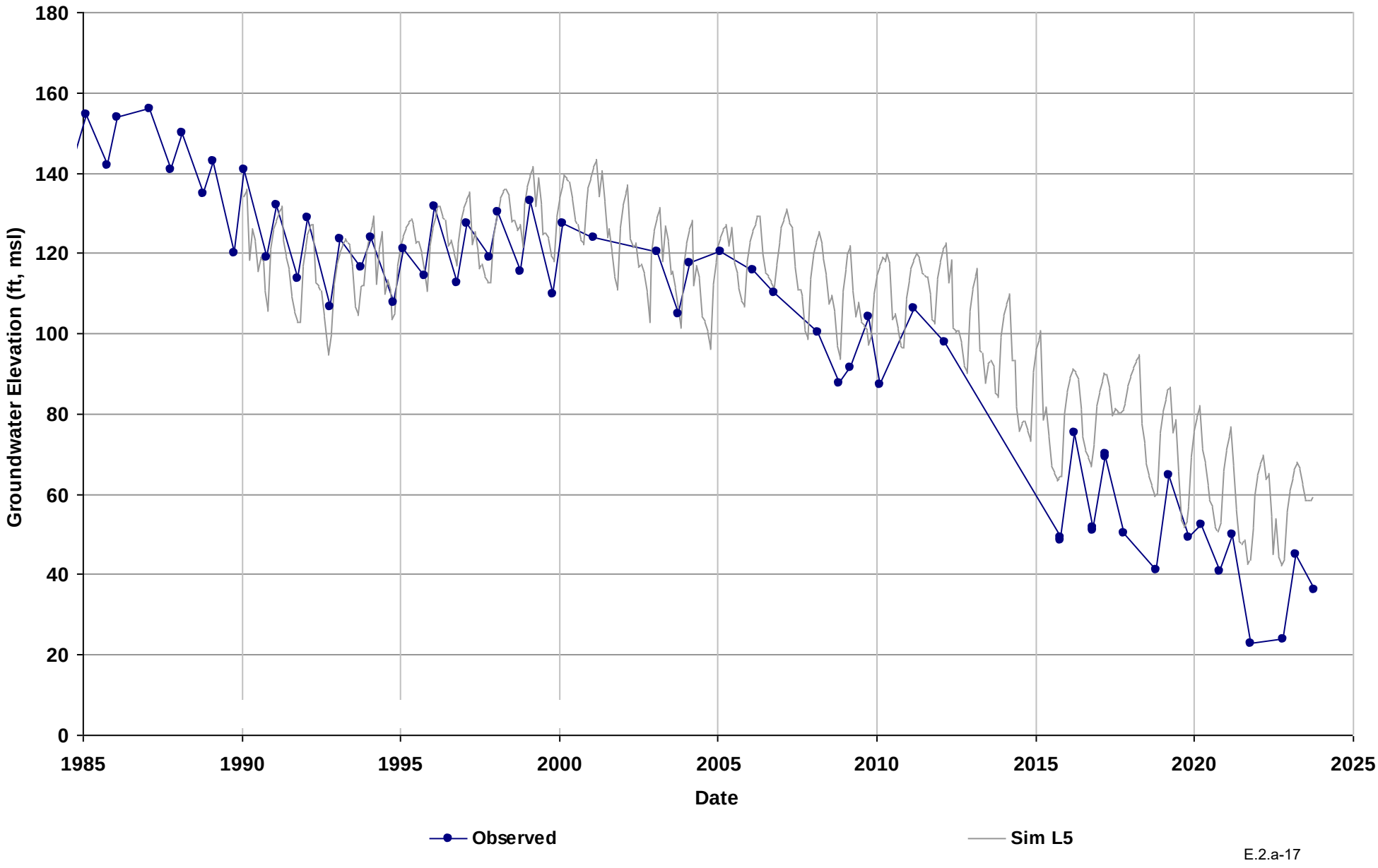
RMS ID: MID RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 237

Total Depth (ft): 680
Perf Top (ft): 320
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



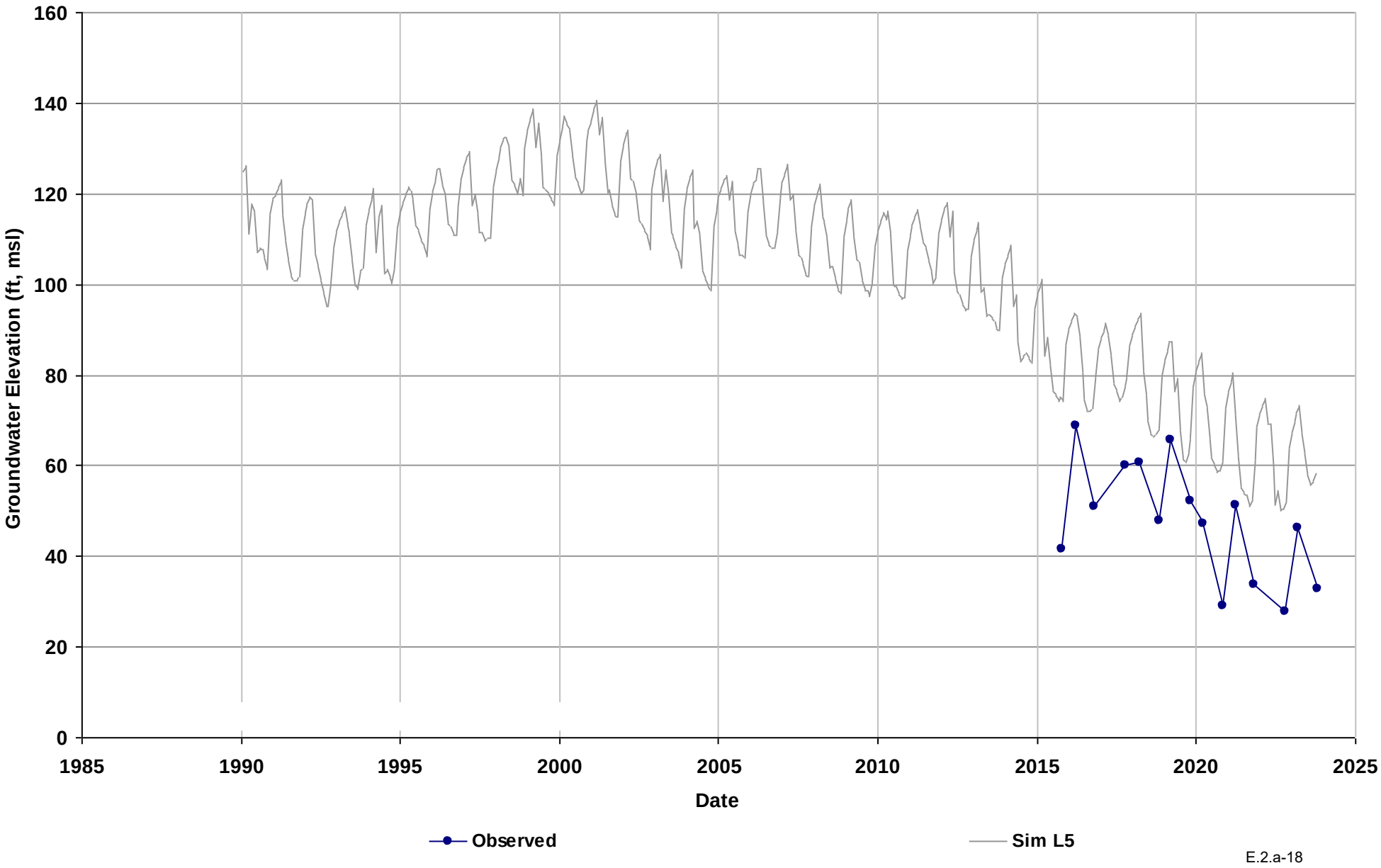
RMS ID: MID RMS-7
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 238

Total Depth (ft): 656
Perf Top (ft): 290
Perf Bottom (ft): 635
Top Model Layer: 5
Bottom Model Layer: 5



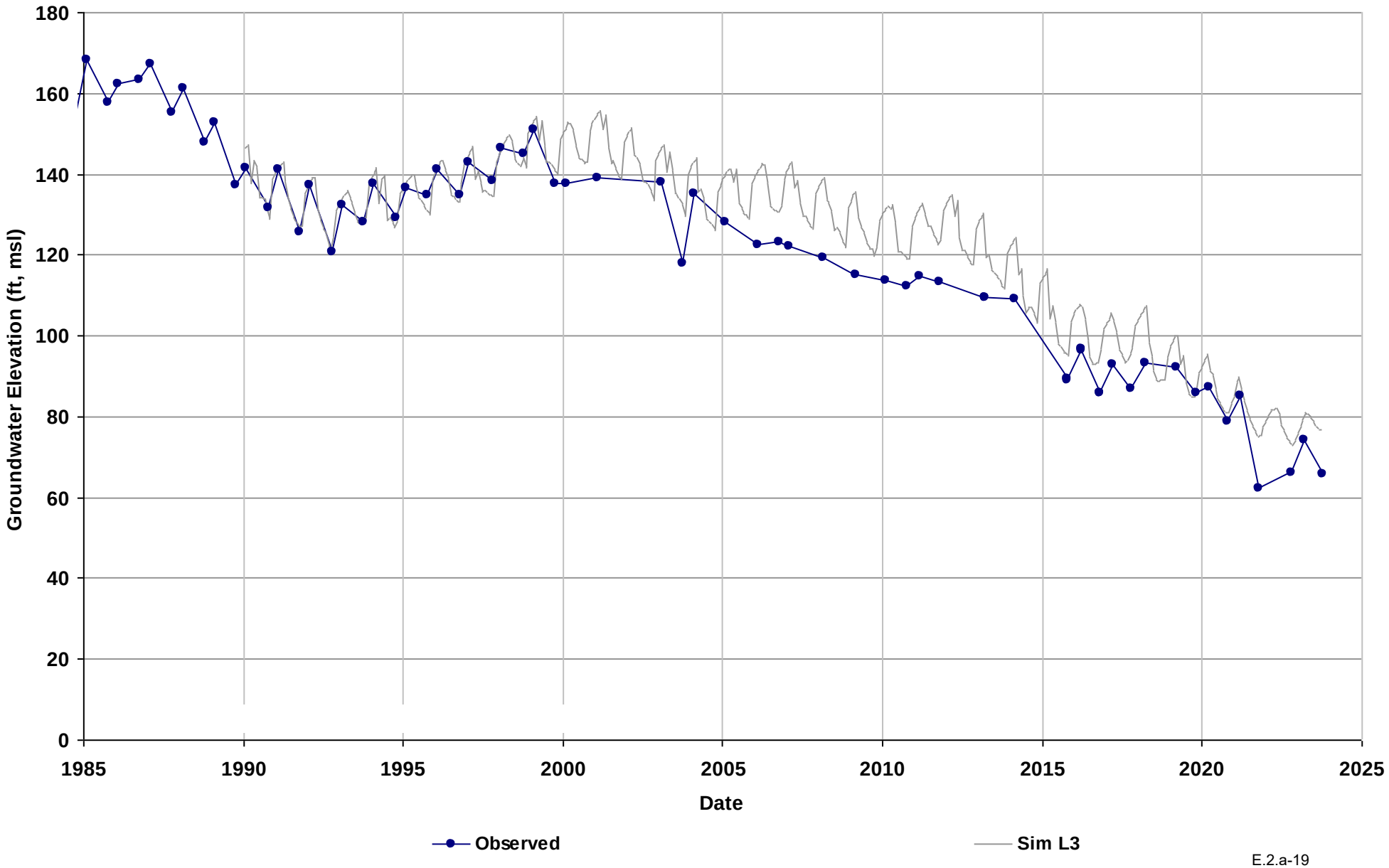
RMS ID: MID RMS-10
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 213

Total Depth (ft): 615
Perf Top (ft): 315
Perf Bottom (ft): 615
Top Model Layer: 5
Bottom Model Layer: 5



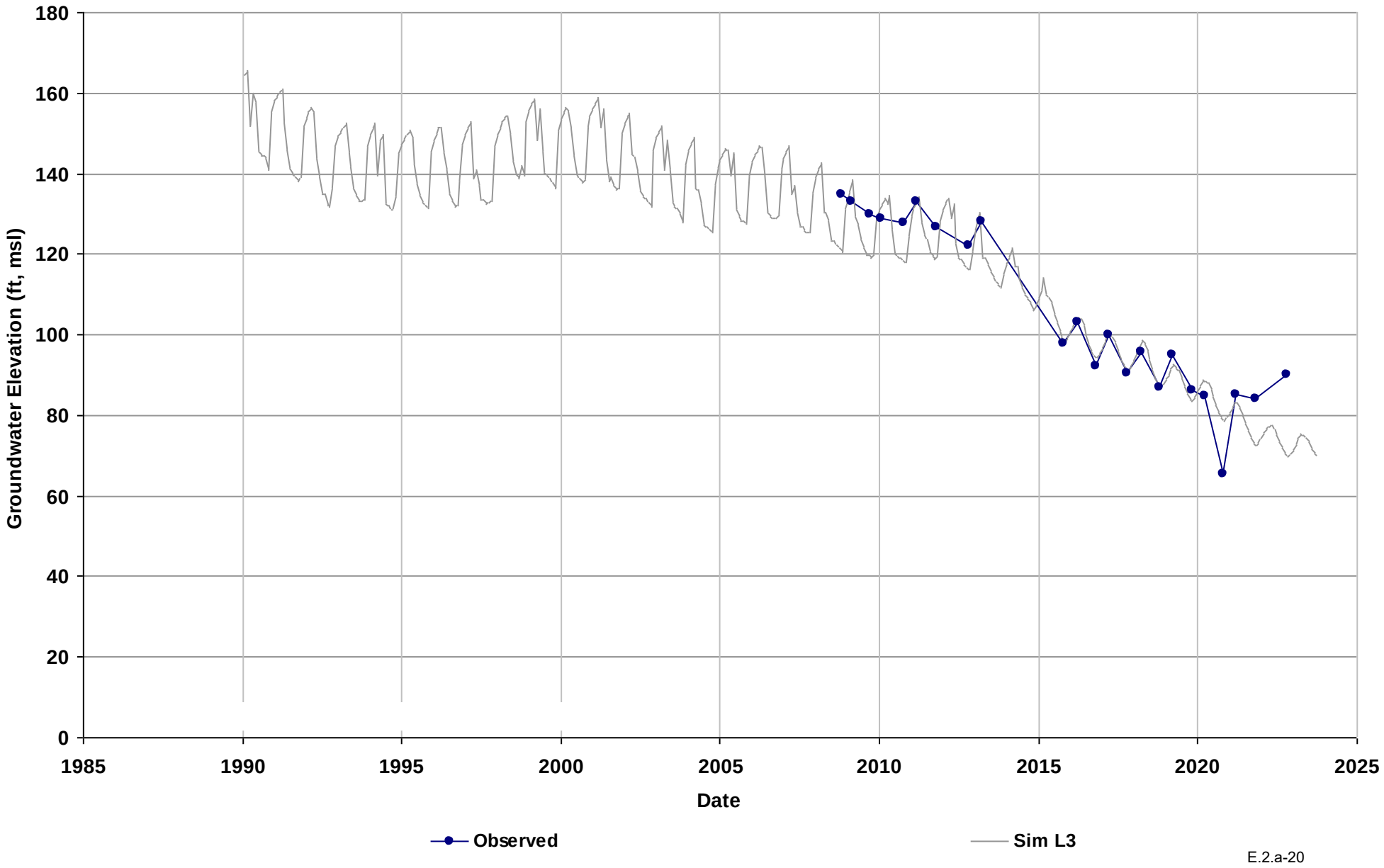
RMS ID: MID RMS-11
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 315
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



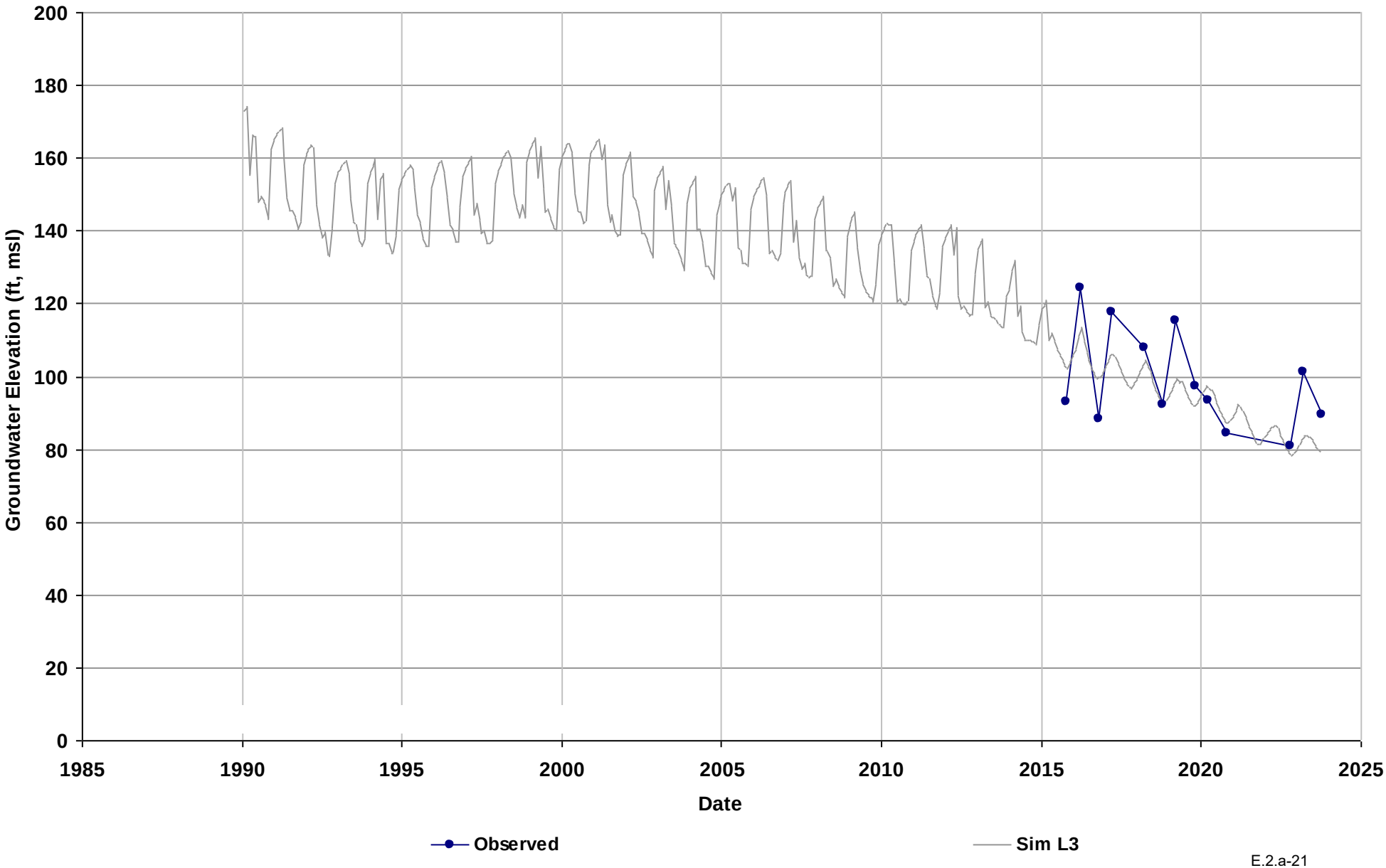
RMS ID: MID RMS-12
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 263

Total Depth (ft): 176
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



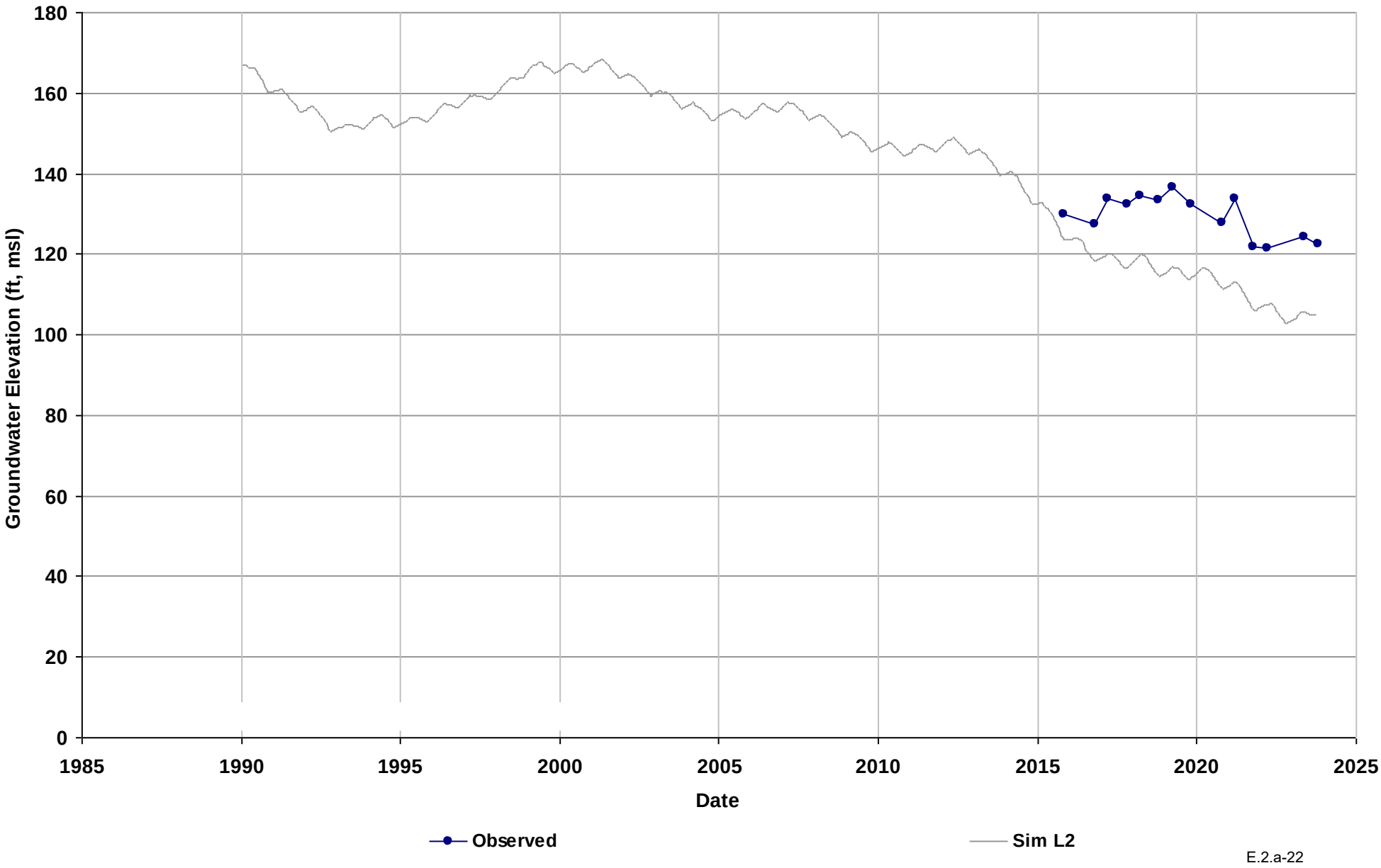
RMS ID: MID RMS-13
Depth Zone: Composite
Subbasin: Madera
GSE (ft, msl): 272

Total Depth (ft): 600
Perf Top (ft): 228
Perf Bottom (ft): 552
Top Model Layer: 3
Bottom Model Layer: 3



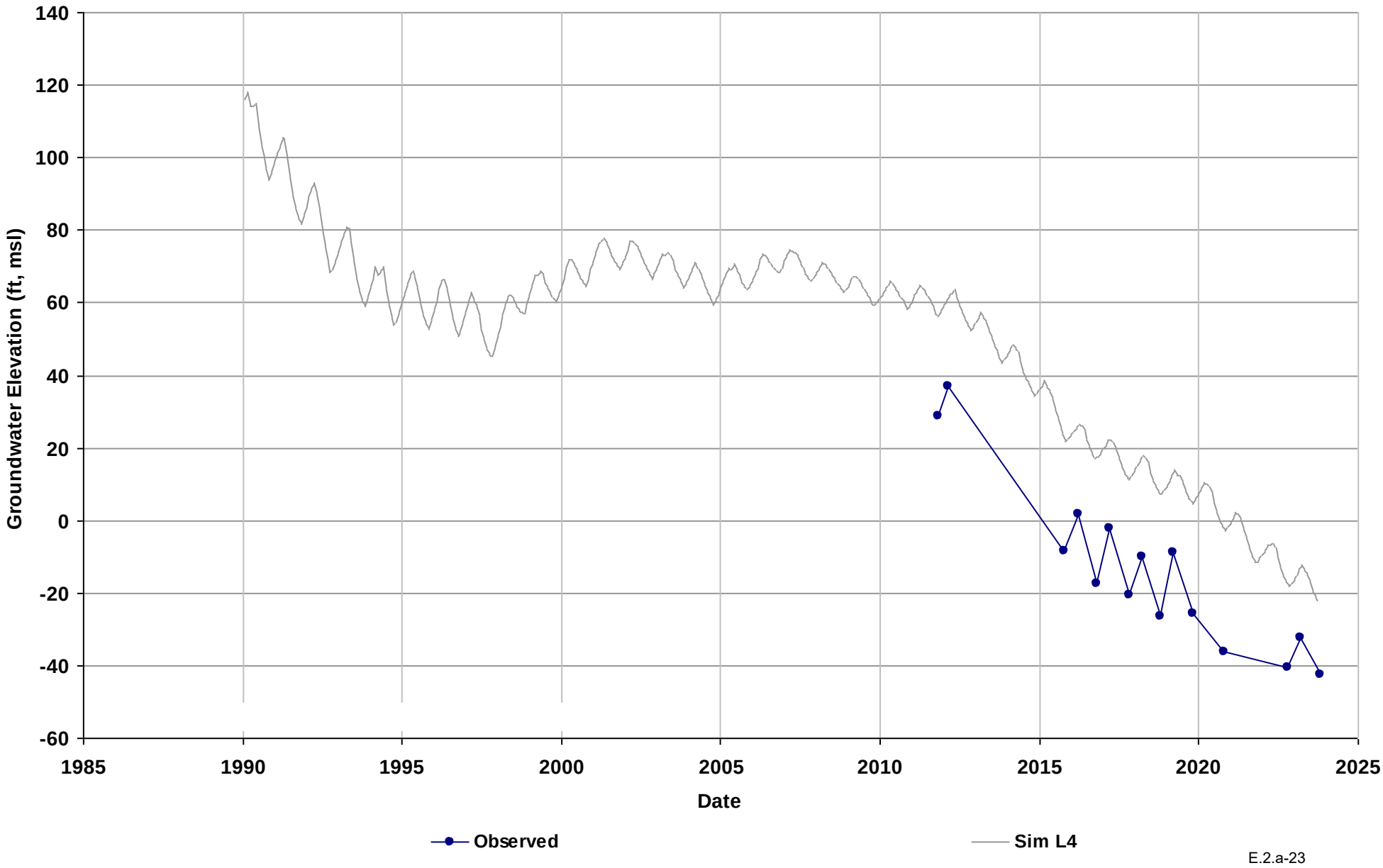
RMS ID: MID RMS-15
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 247

Total Depth (ft): 502
Perf Top (ft): 160
Perf Bottom (ft): 200
Top Model Layer: 2
Bottom Model Layer: 2



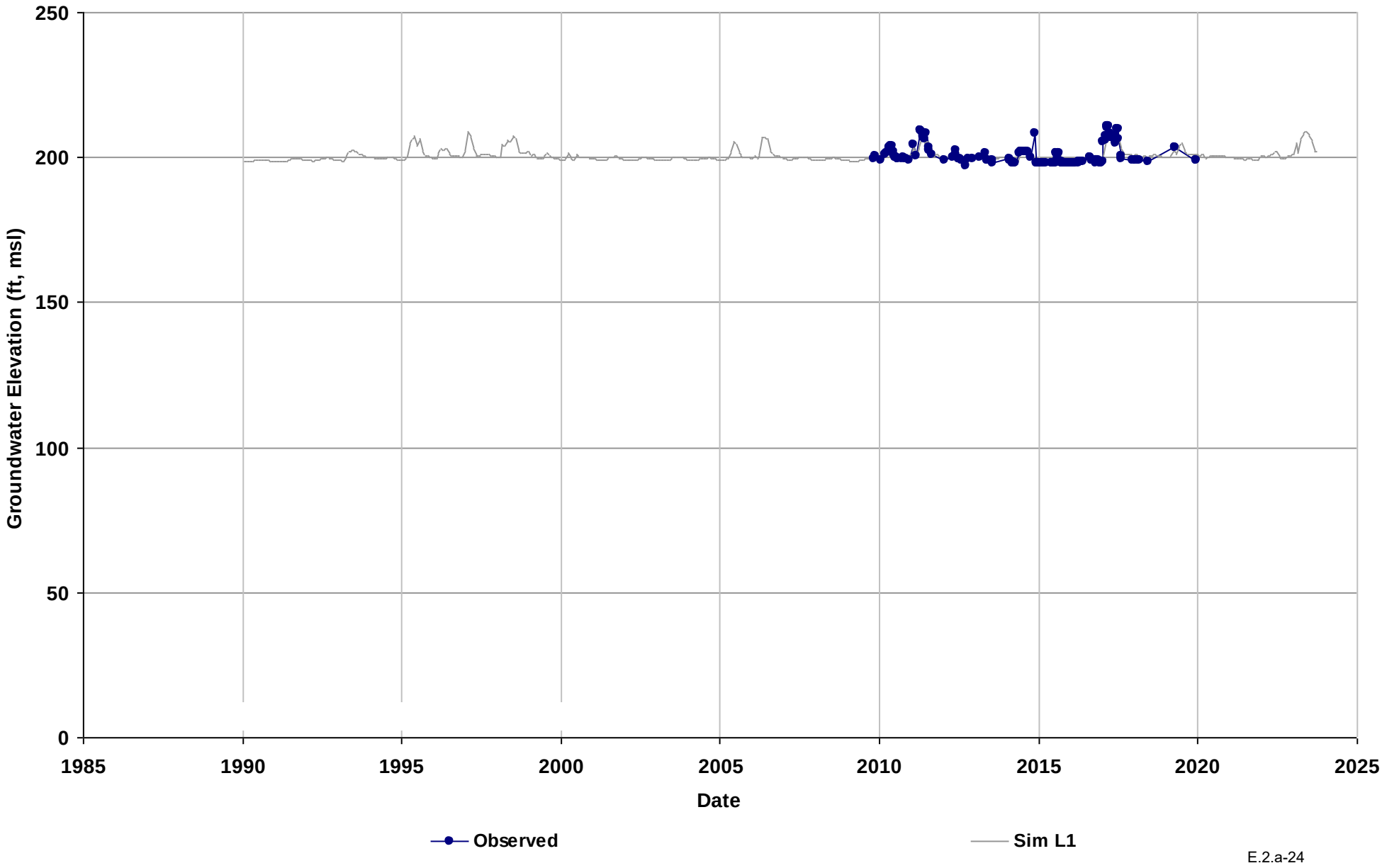
RMS ID: MID RMS-16
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft): 452
Perf Top (ft): 348
Perf Bottom (ft): 388
Top Model Layer: 4
Bottom Model Layer: 4



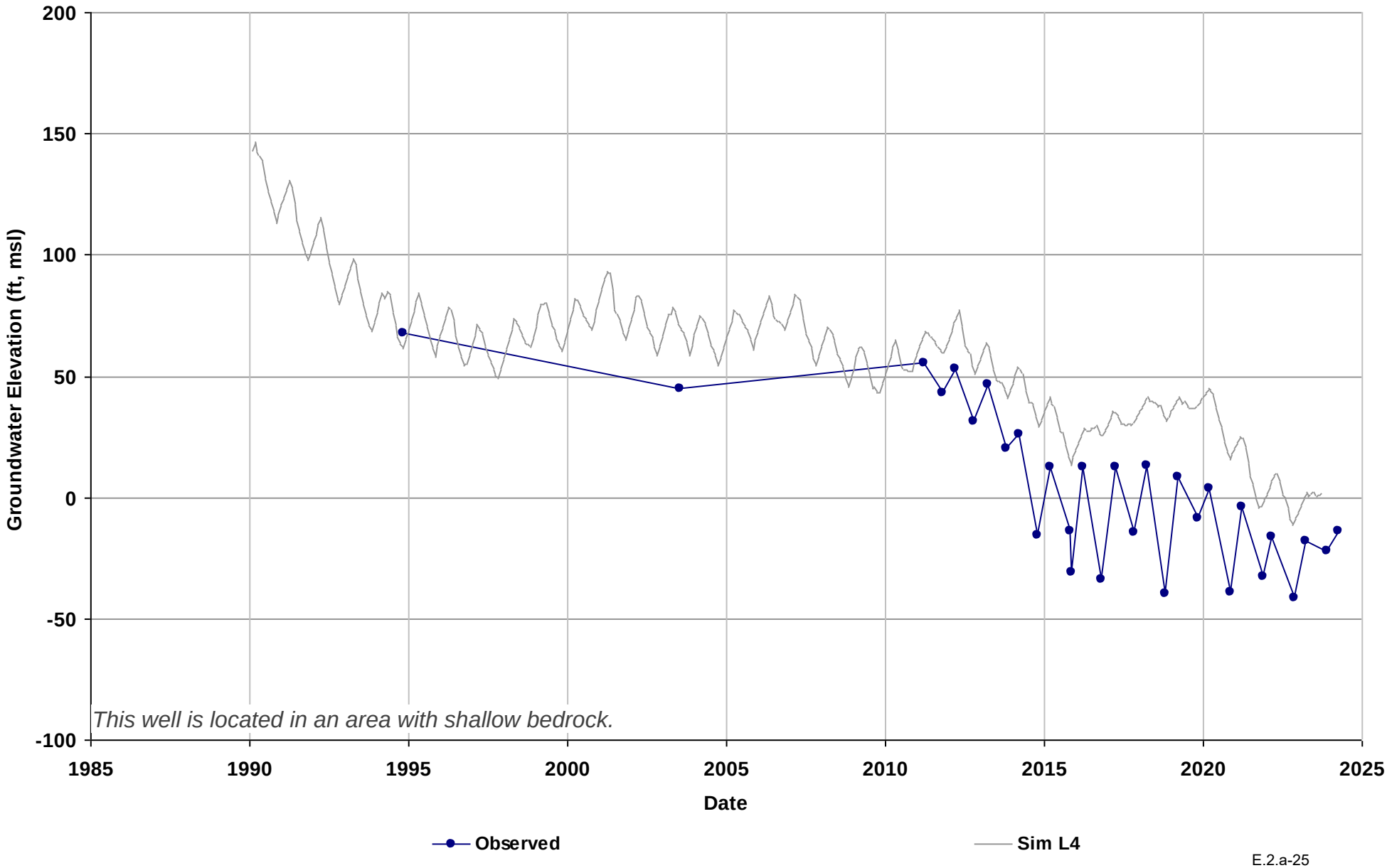
RMS ID: MID RMS-17
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 224

Total Depth (ft): 47
Perf Top (ft): 26
Perf Bottom (ft): 46
Top Model Layer: 1
Bottom Model Layer: 1



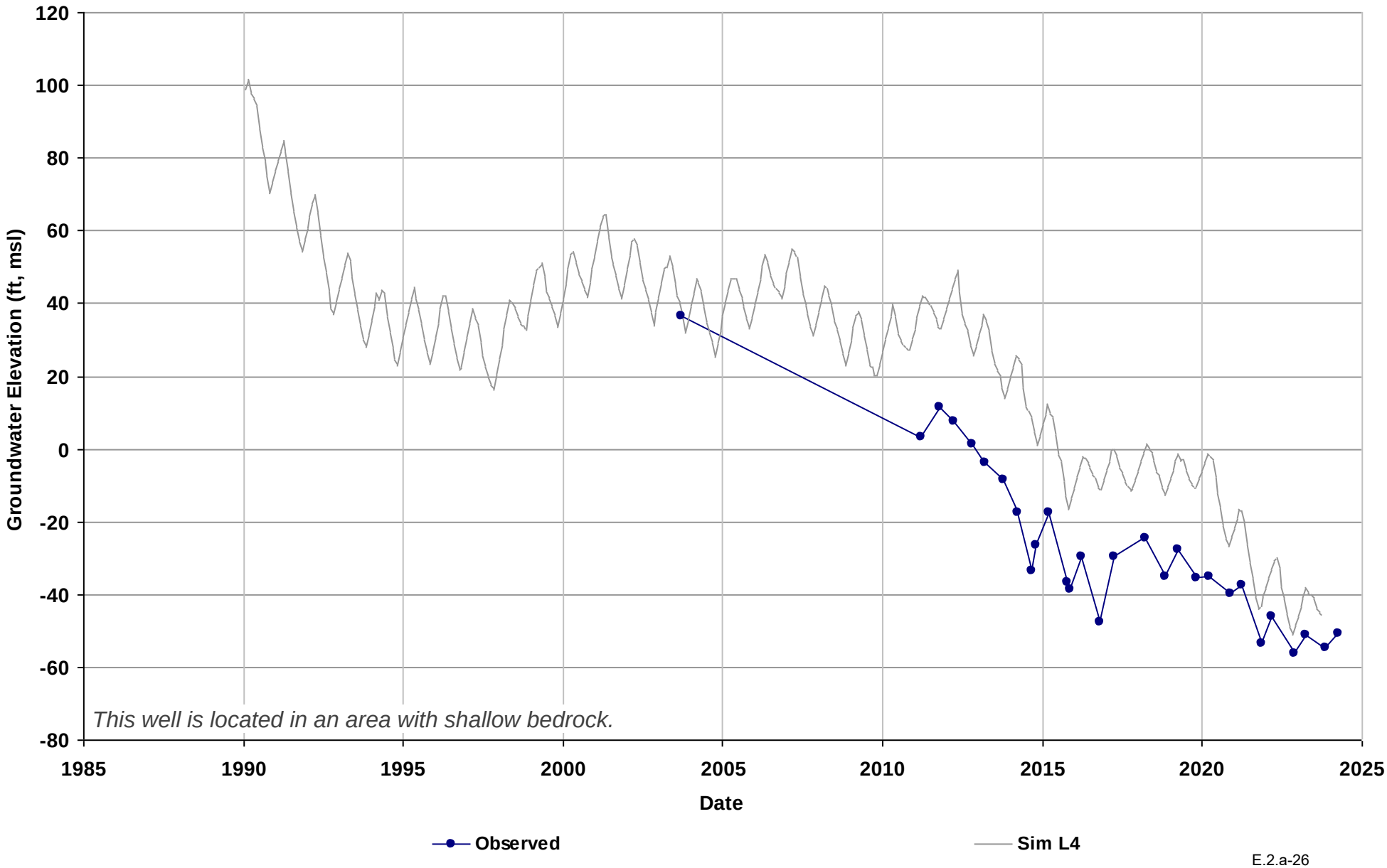
RMS ID: MWD RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 504
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



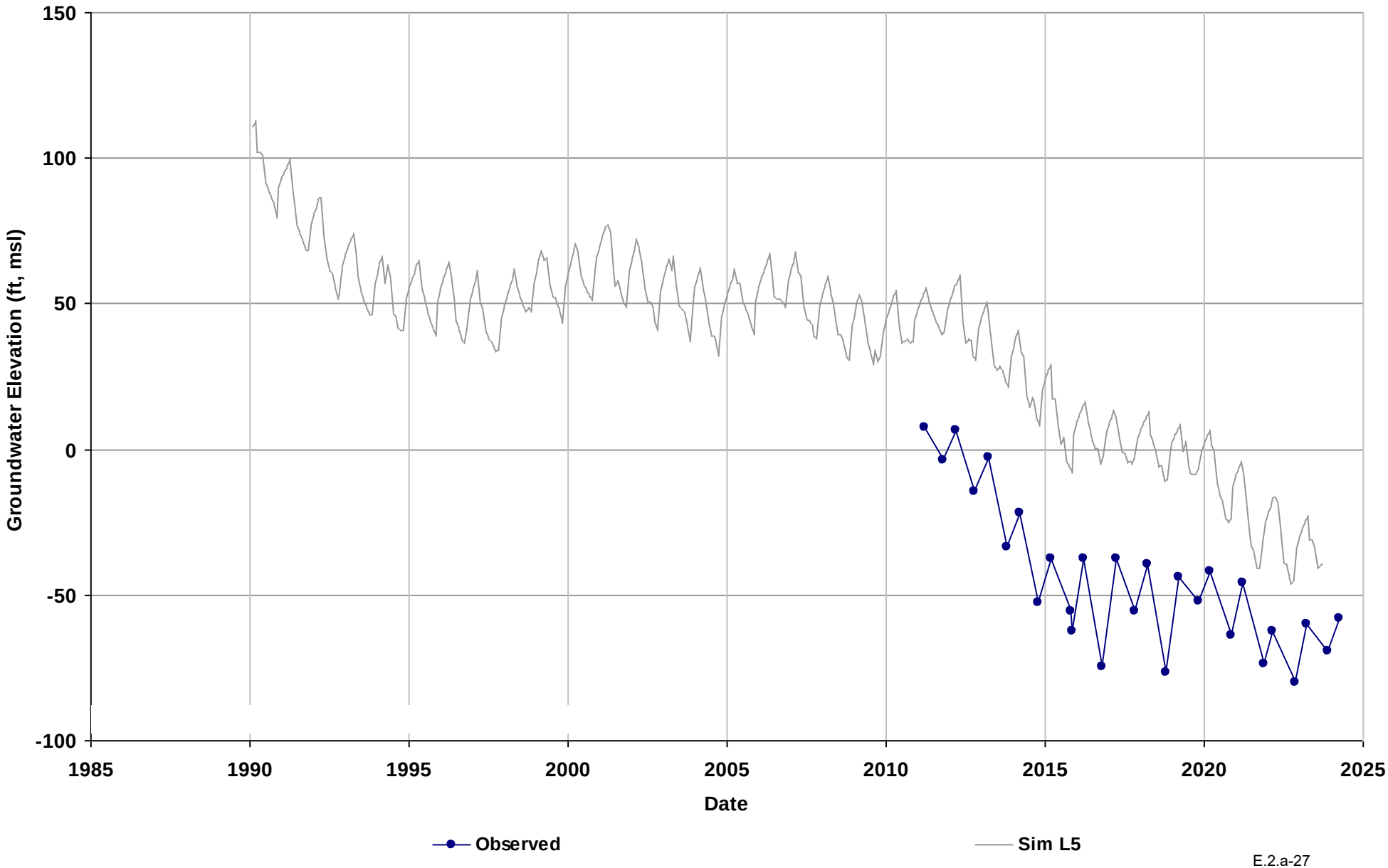
RMS ID: MWD RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 365

Total Depth (ft): 537
Perf Top (ft): 200
Perf Bottom (ft): 537
Top Model Layer: 4
Bottom Model Layer: 4



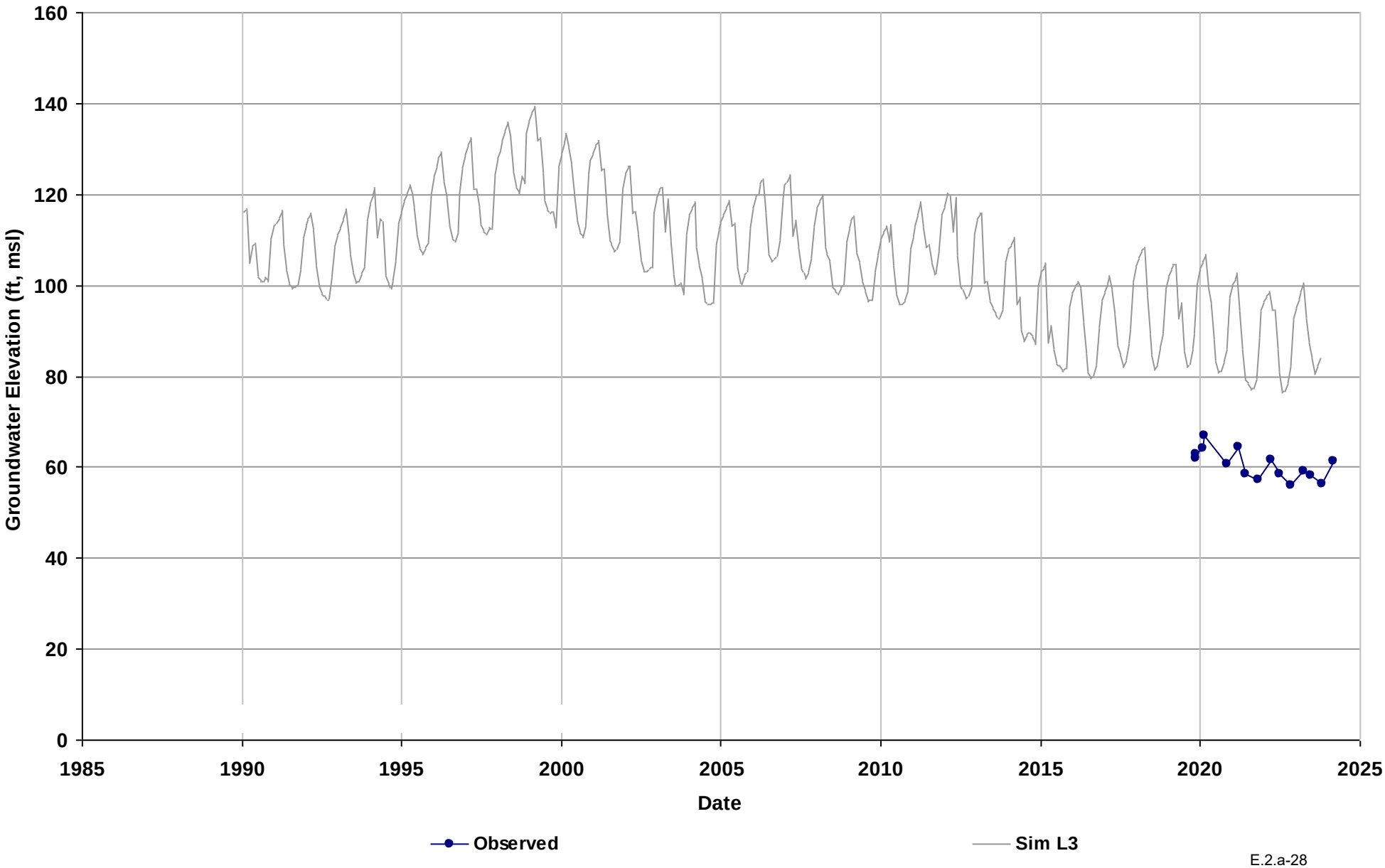
RMS ID: MWD RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 358

Total Depth (ft): 800
Perf Top (ft): 380
Perf Bottom (ft): 800
Top Model Layer: 5
Bottom Model Layer: 5



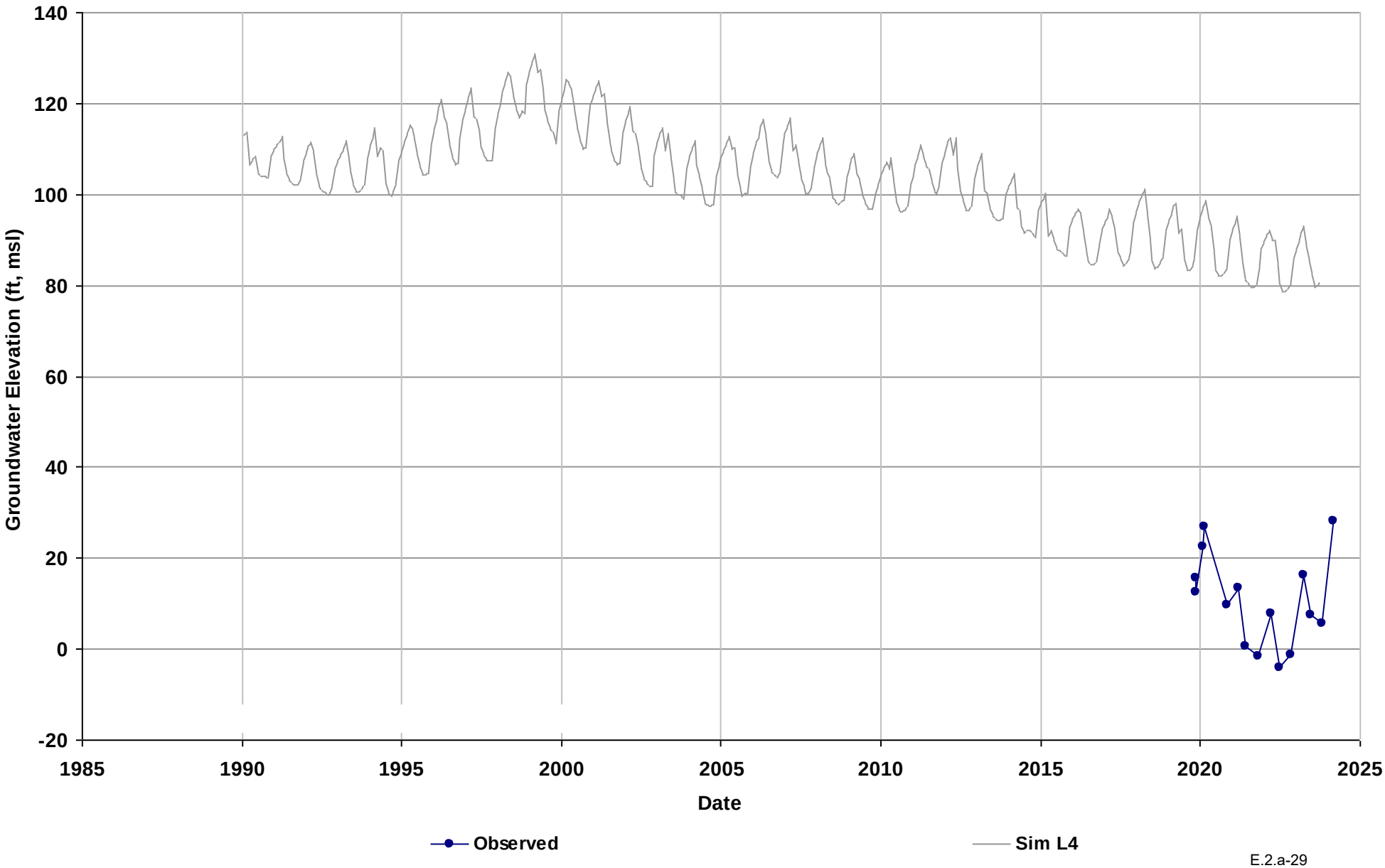
RMS ID: MSB03B
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 295
Perf Top (ft): 215
Perf Bottom (ft): 285
Top Model Layer: 3
Bottom Model Layer: 3



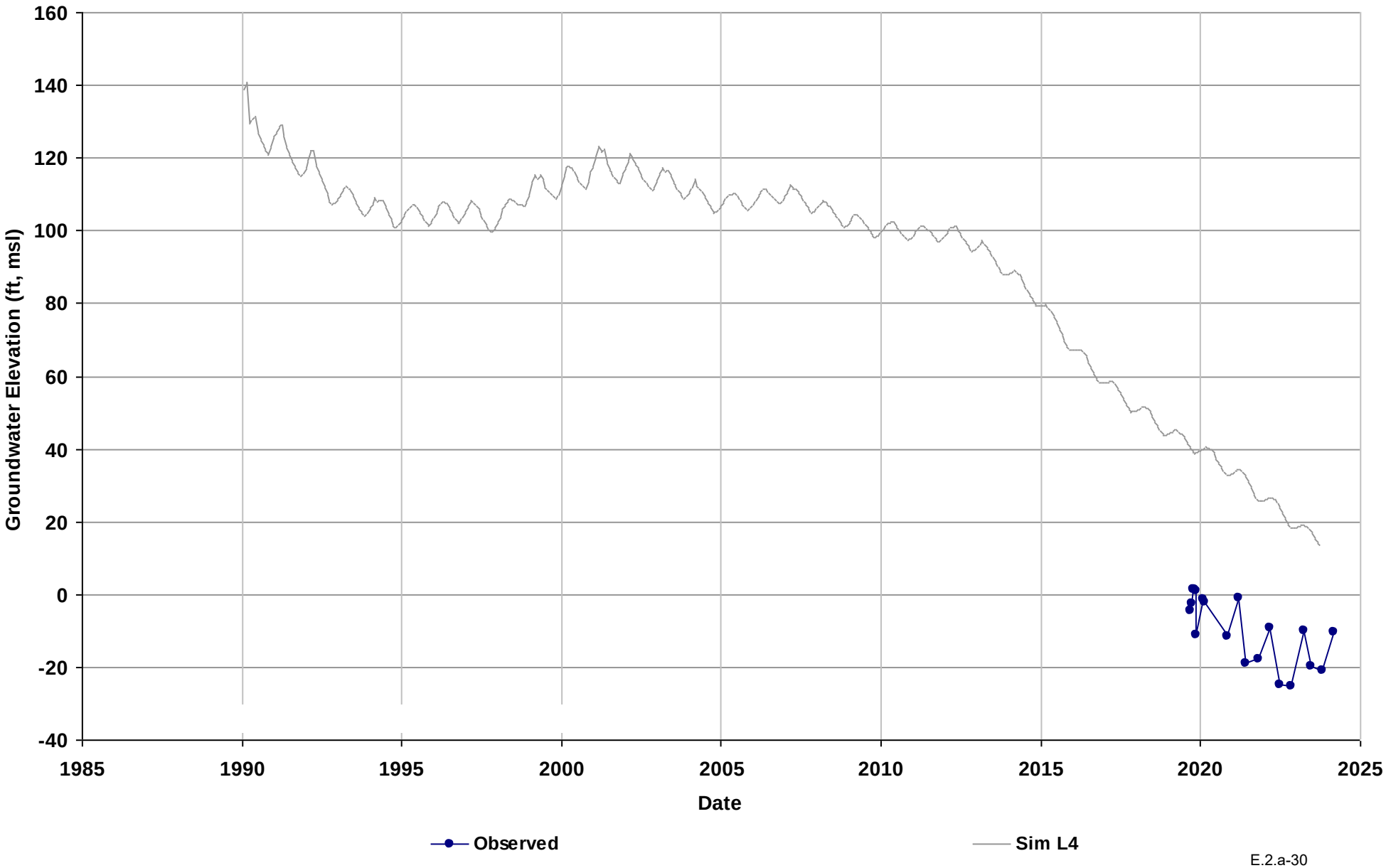
RMS ID: MSB03C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 430
Perf Top (ft): 355
Perf Bottom (ft): 420
Top Model Layer: 4
Bottom Model Layer: 4



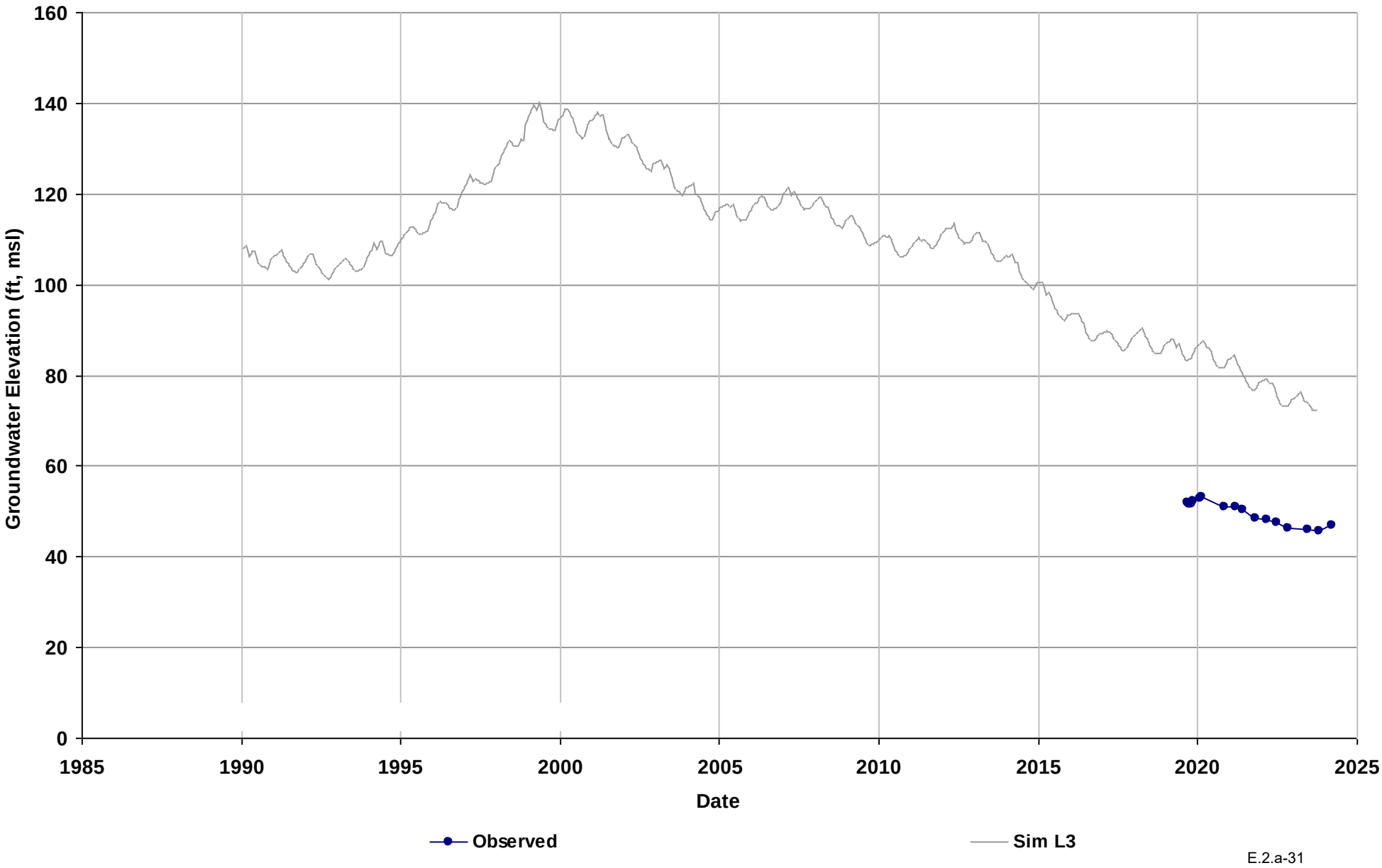
RMS ID: MSB04B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 695
Perf Top (ft): 530
Perf Bottom (ft): 685
Top Model Layer: 4
Bottom Model Layer: 4



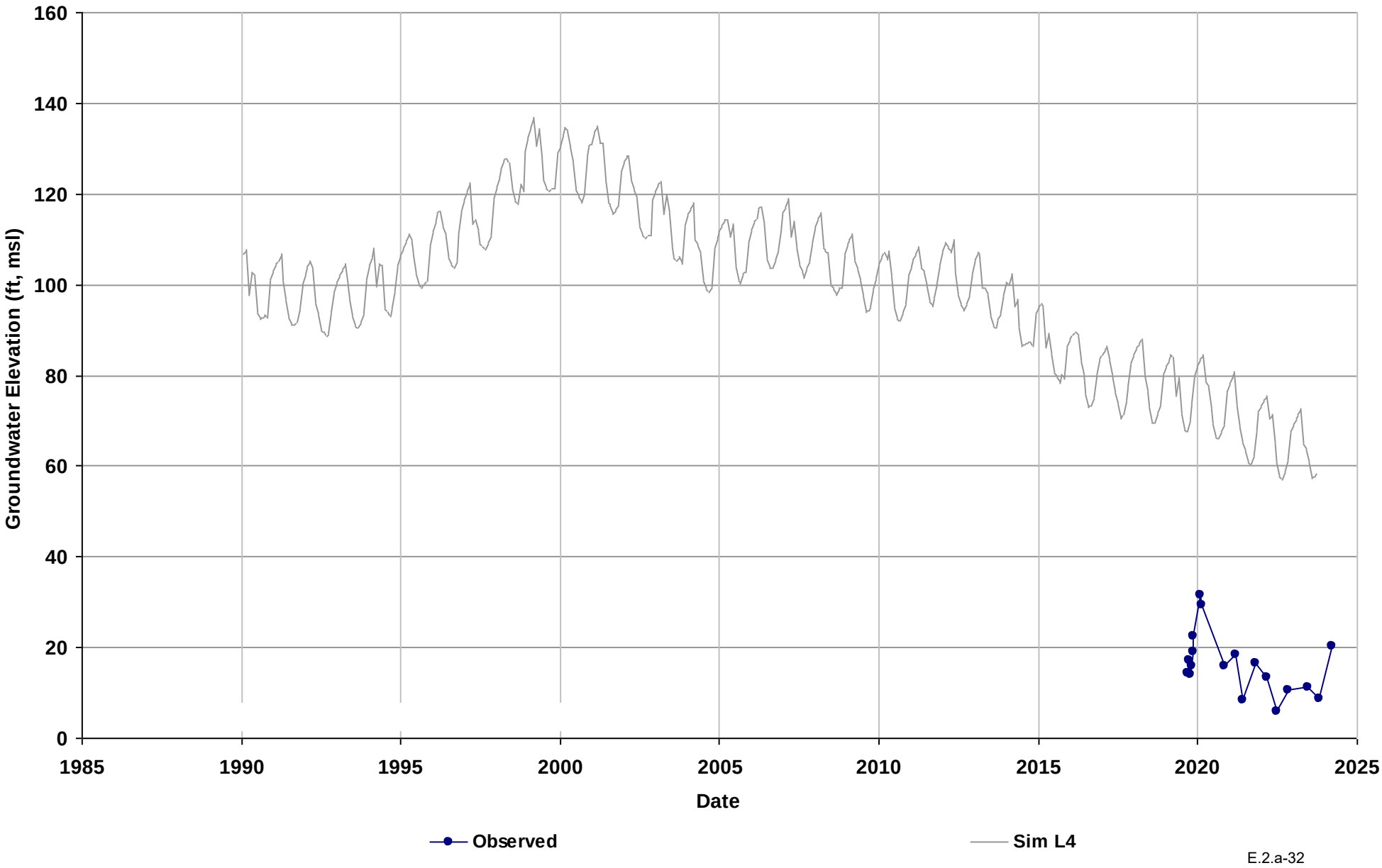
RMS ID: MSB05A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 210
Perf Top (ft): 140
Perf Bottom (ft): 200
Top Model Layer: 3
Bottom Model Layer: 3



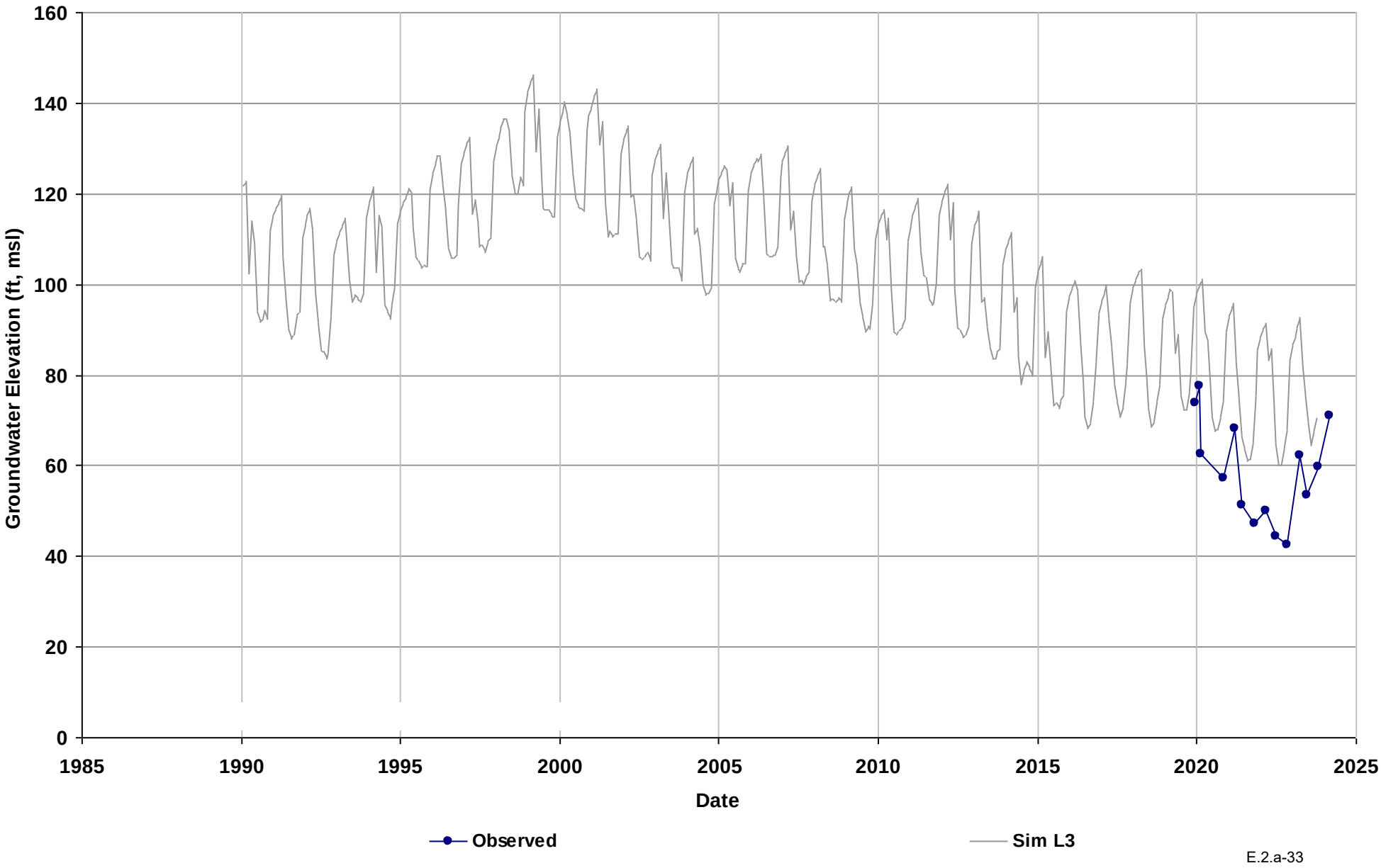
RMS ID: MSB05B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 375
Perf Top (ft): 240
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



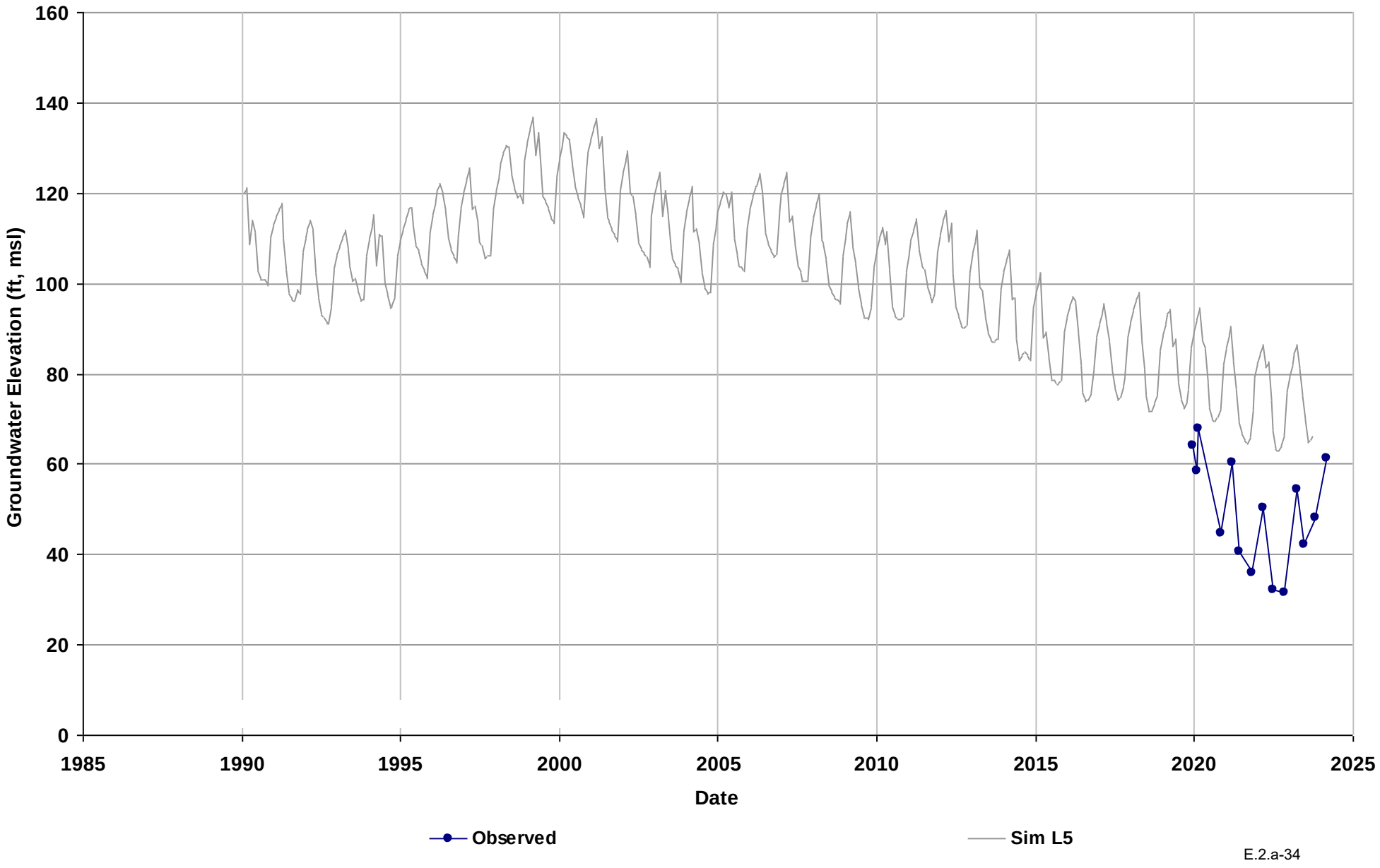
RMS ID: MSB06A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 350
Perf Top (ft): 135
Perf Bottom (ft): 340
Top Model Layer: 3
Bottom Model Layer: 3



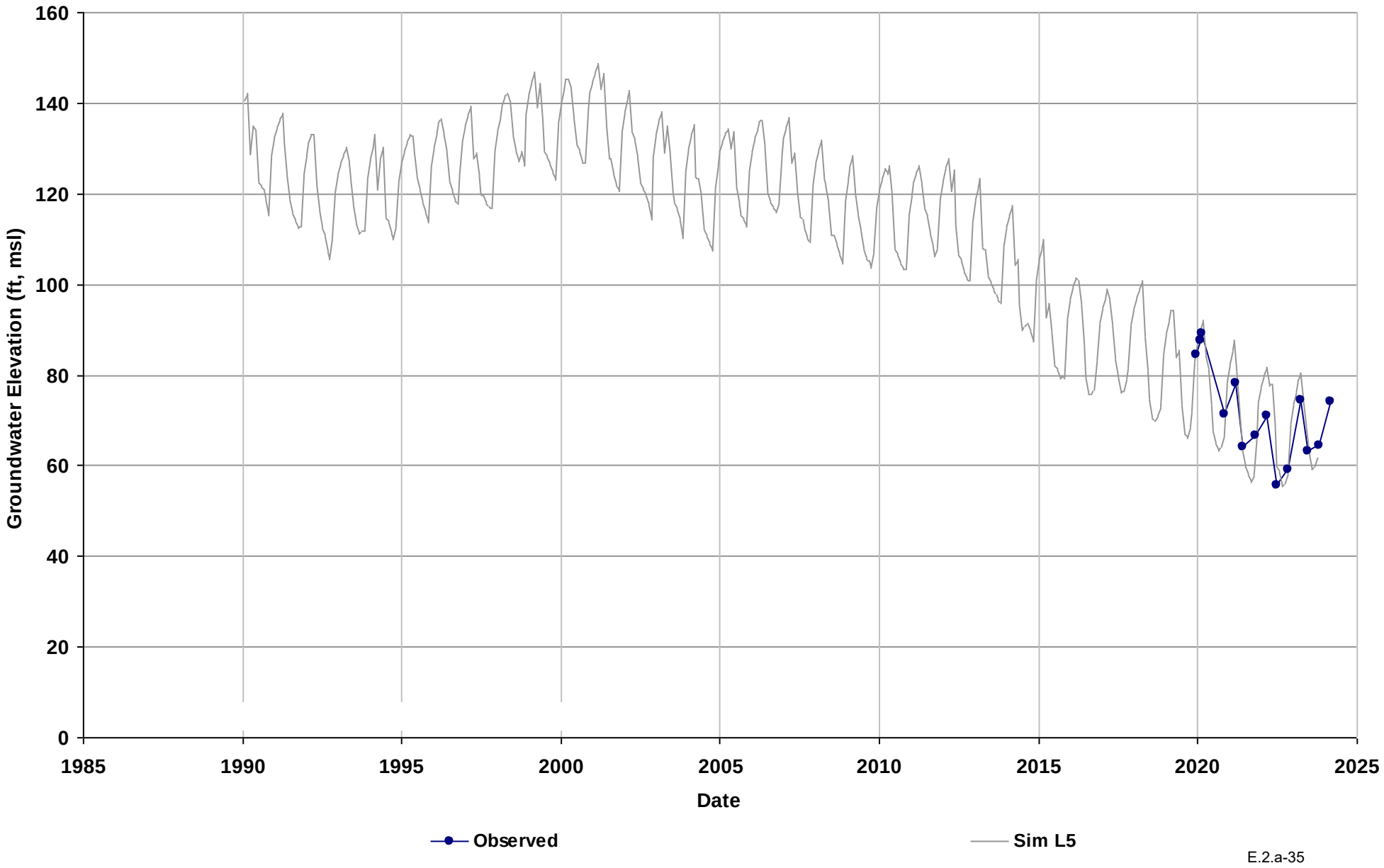
RMS ID: MSB06C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 715
Perf Top (ft): 630
Perf Bottom (ft): 705
Top Model Layer: 5
Bottom Model Layer: 5



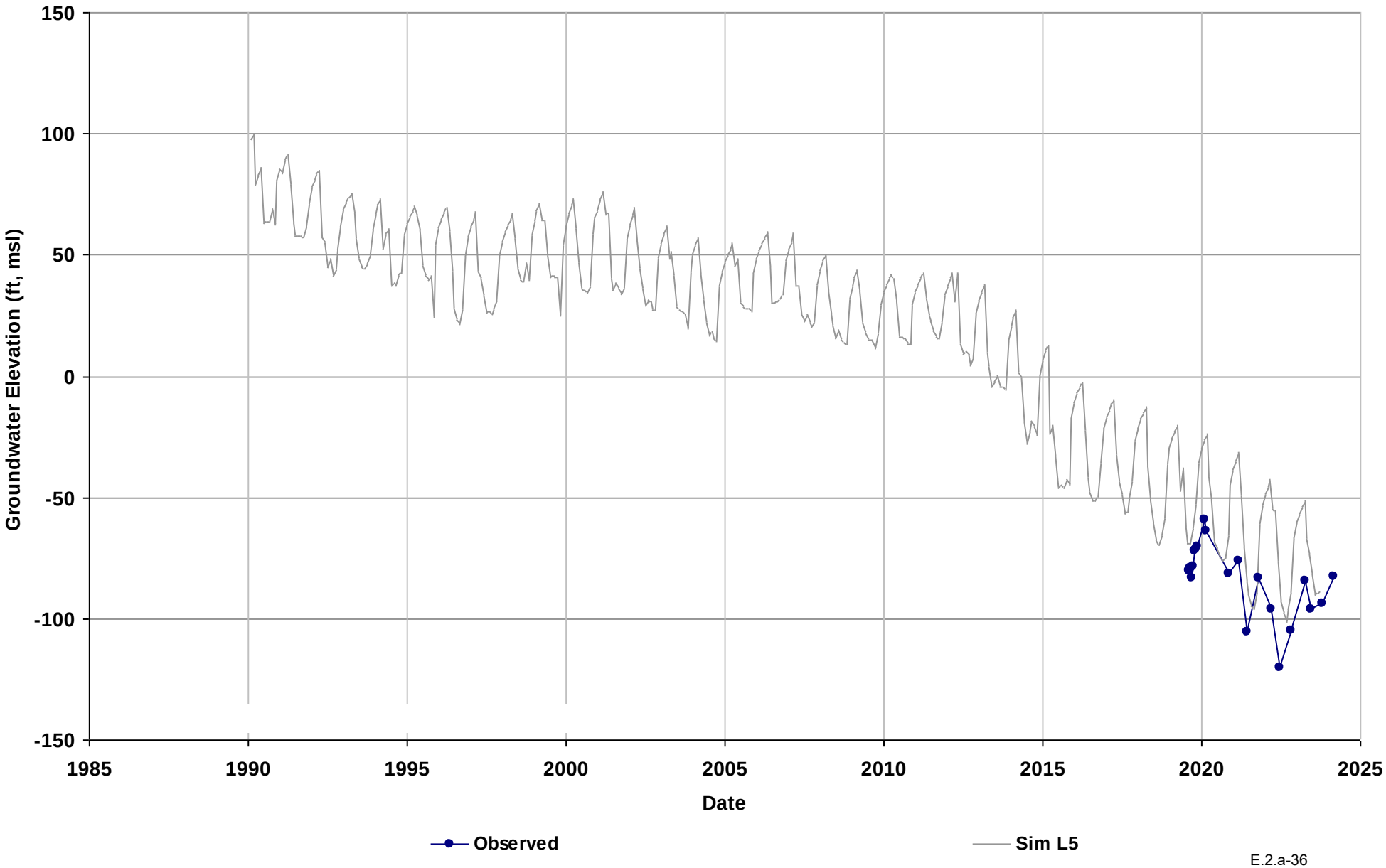
RMS ID: MSB09C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 955
Perf Top (ft): 880
Perf Bottom (ft): 945
Top Model Layer: 5
Bottom Model Layer: 5



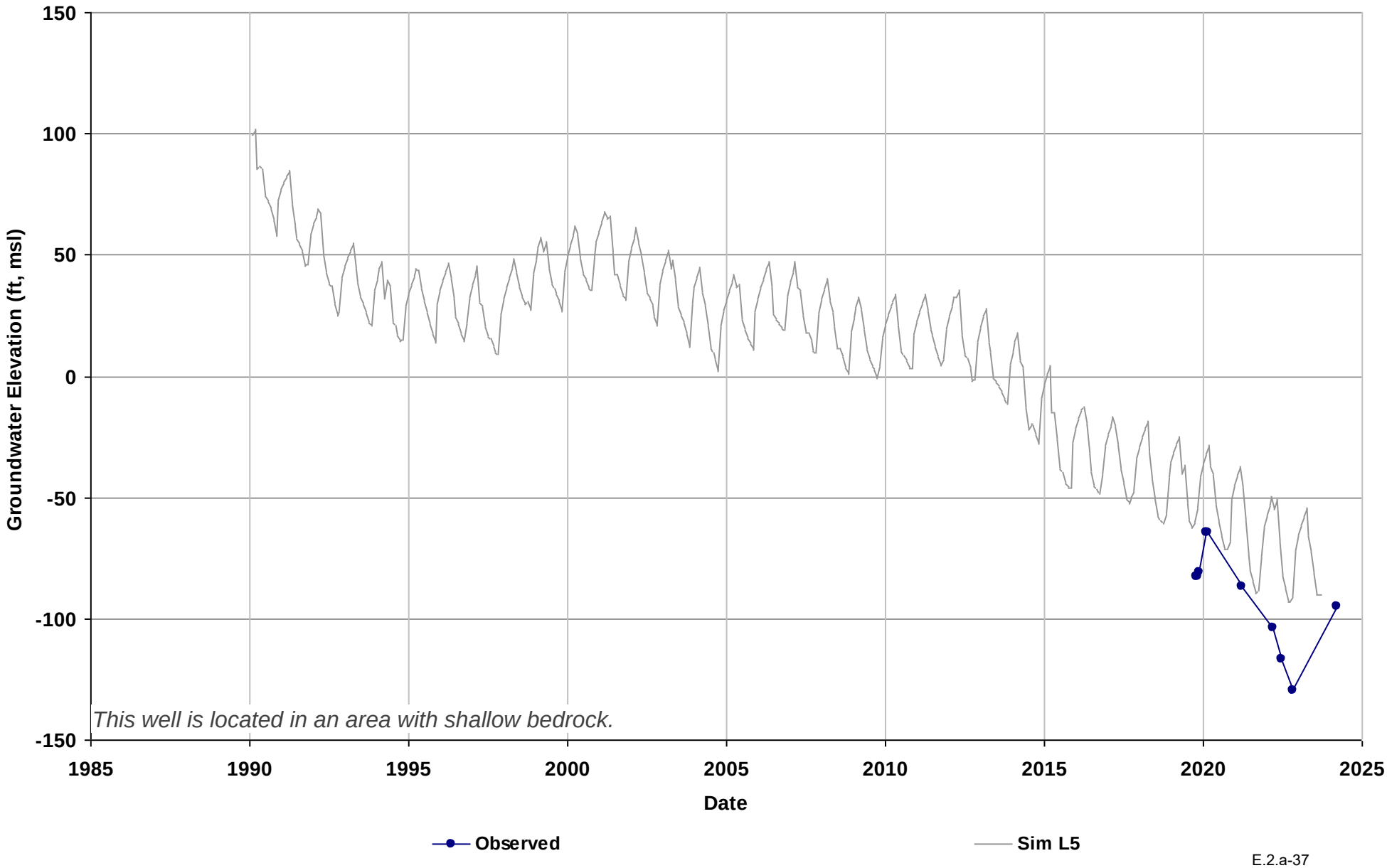
RMS ID: MSB10C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Total Depth (ft): 880
Perf Top (ft): 790
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



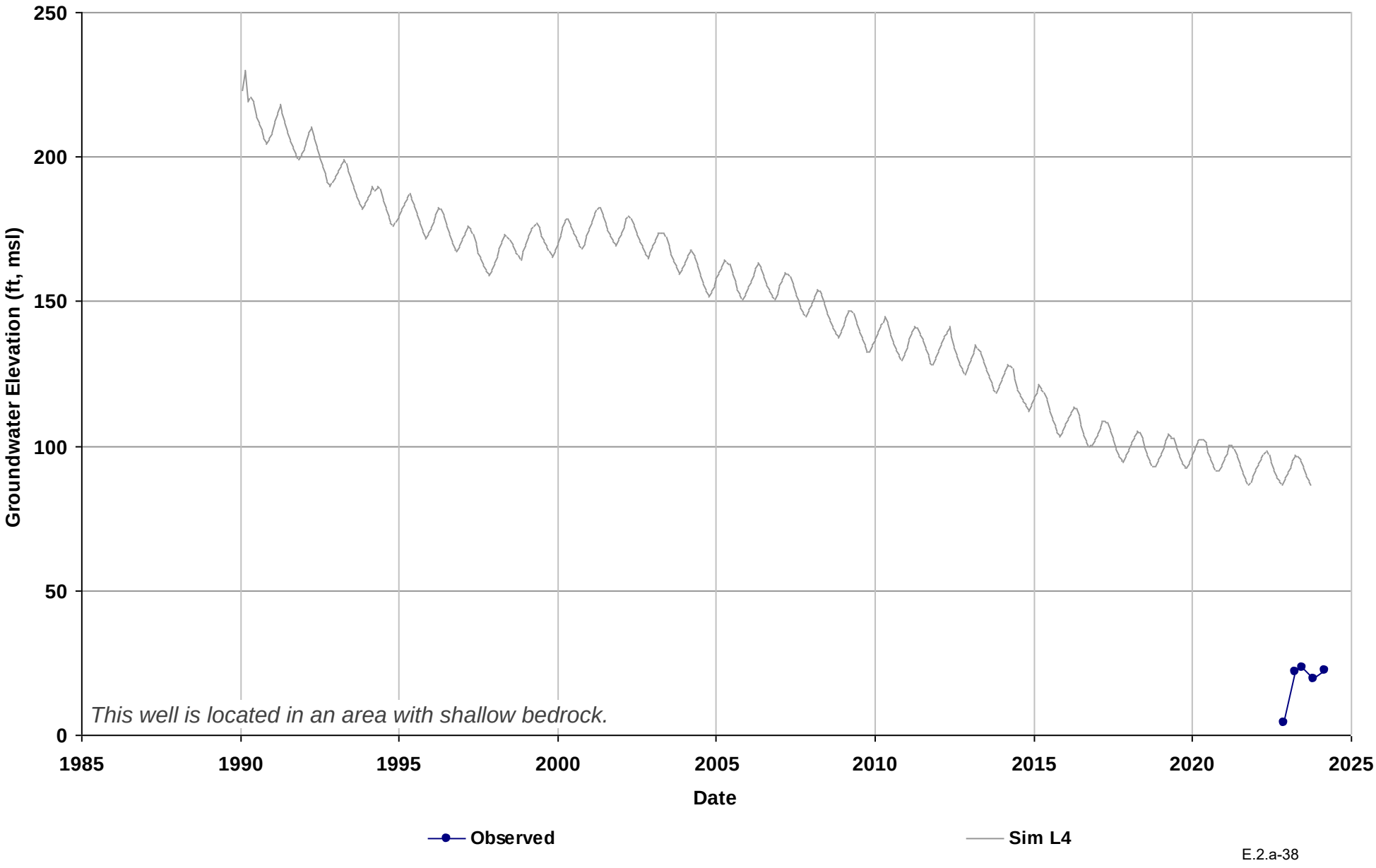
RMS ID: MSB11C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Total Depth (ft): 880
Perf Top (ft): 775
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: MSB12
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 465
Perf Top (ft): 355
Perf Bottom (ft): 465
Top Model Layer: 4
Bottom Model Layer: 4

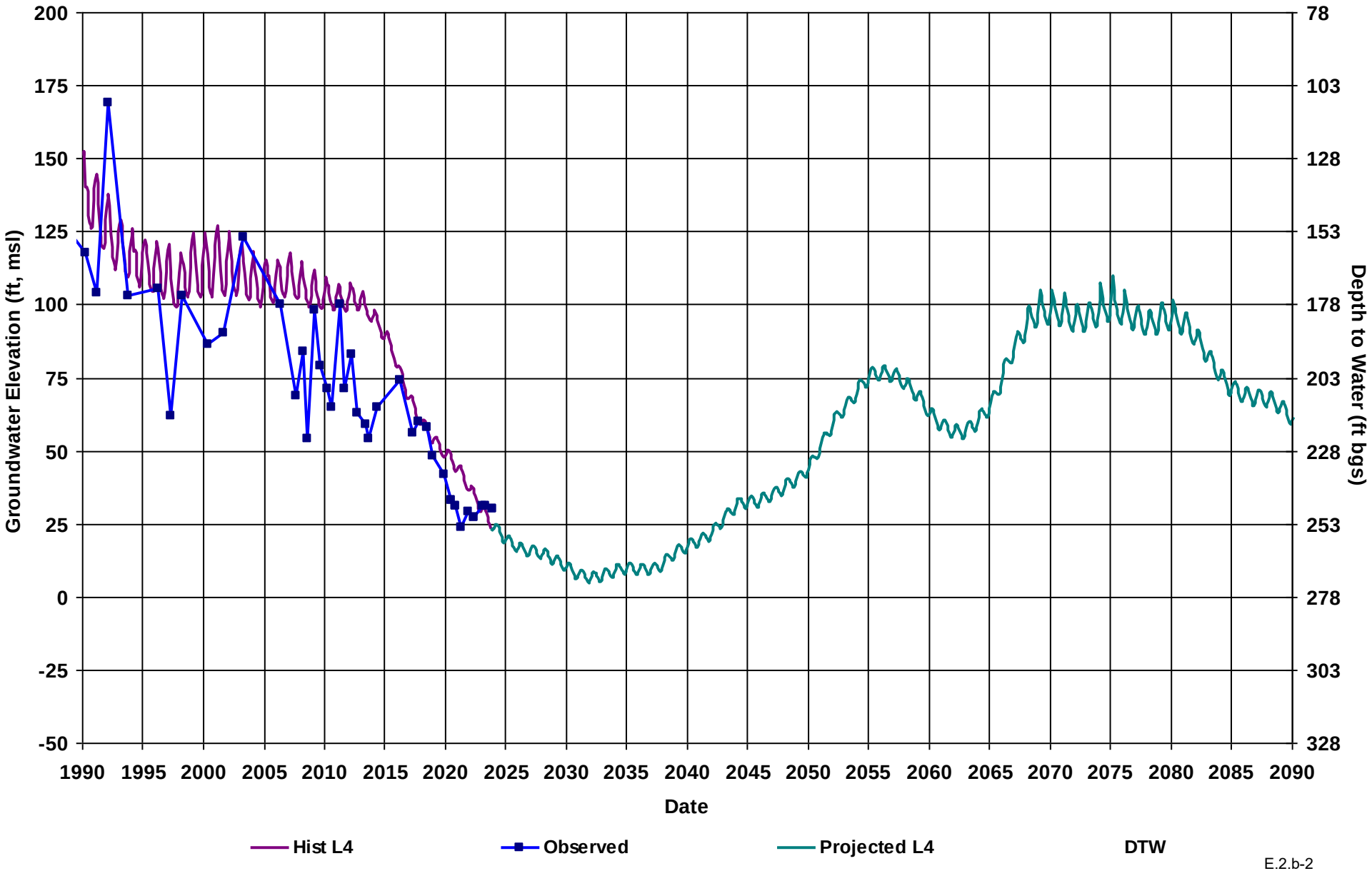


APPENDIX E.2.b

Madera Subbasin Groundwater Elevation Hydrographs for RMS Wells - Projected with Projects Scenario

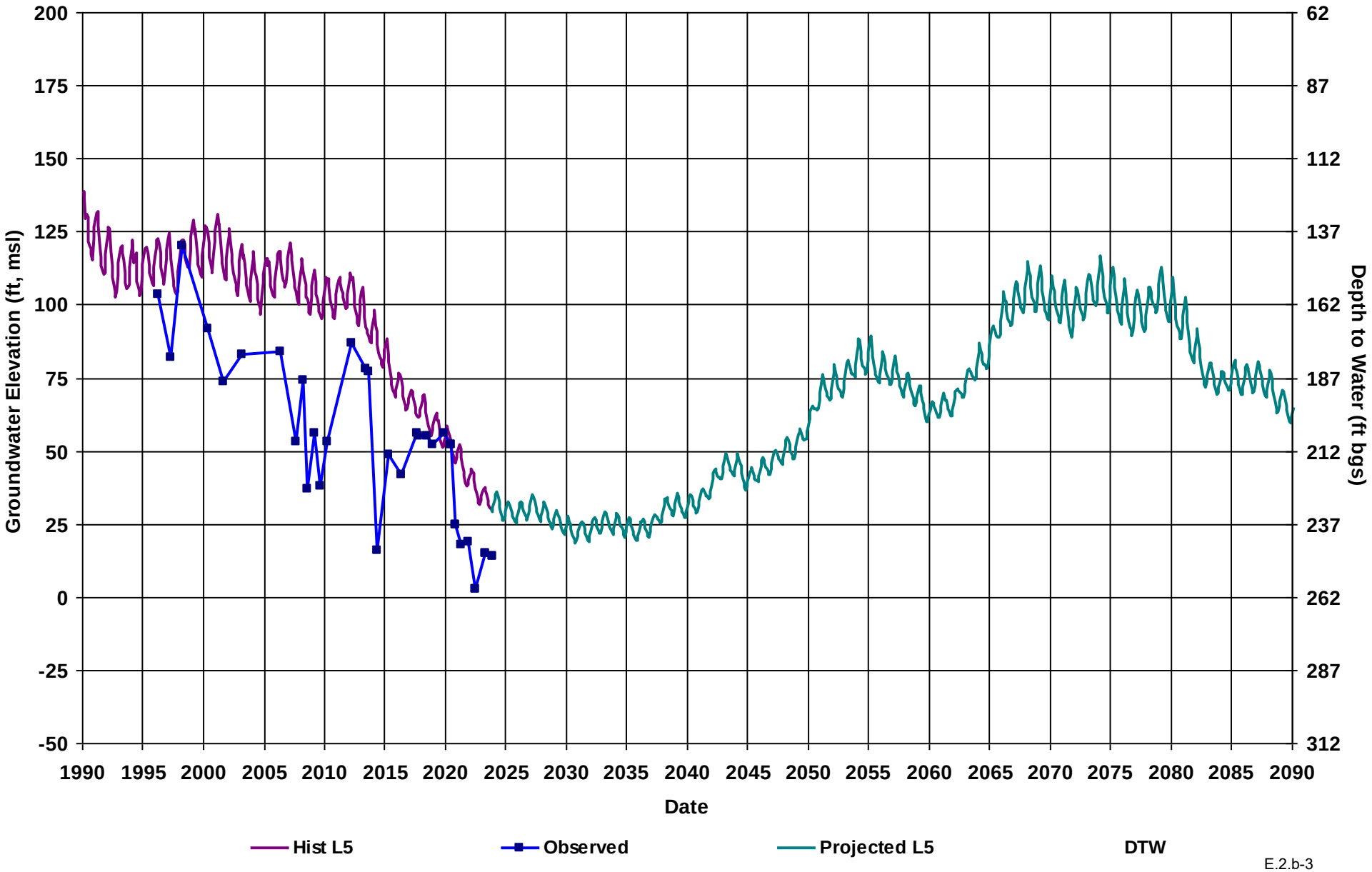
RMS ID: COM RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 278

Total Depth (ft): 520
Perf Top (ft): 210
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



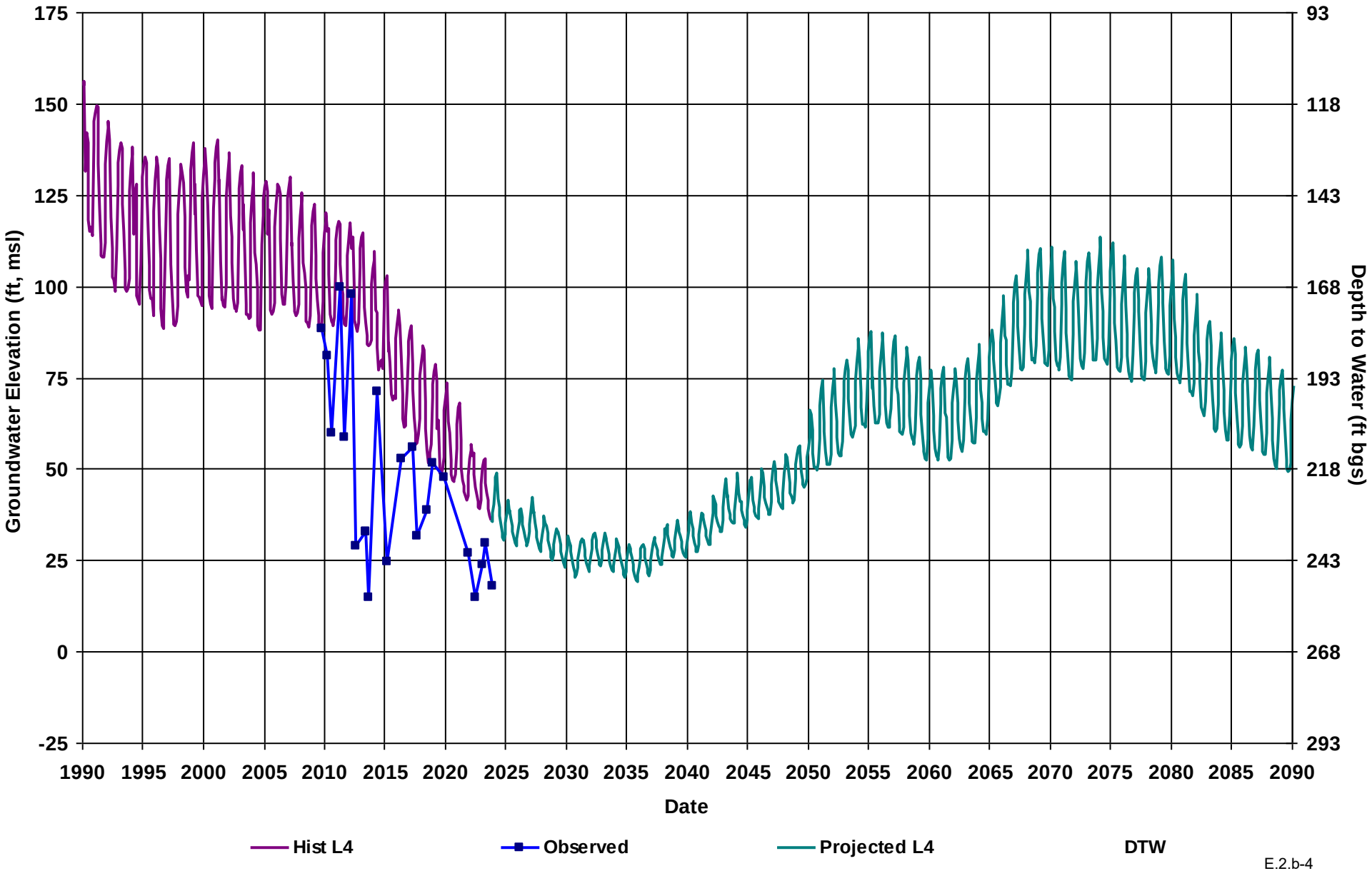
RMS ID: COM RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 262

Total Depth (ft): 590
Perf Top (ft): 370
Perf Bottom (ft): 590
Top Model Layer: 5
Bottom Model Layer: 5



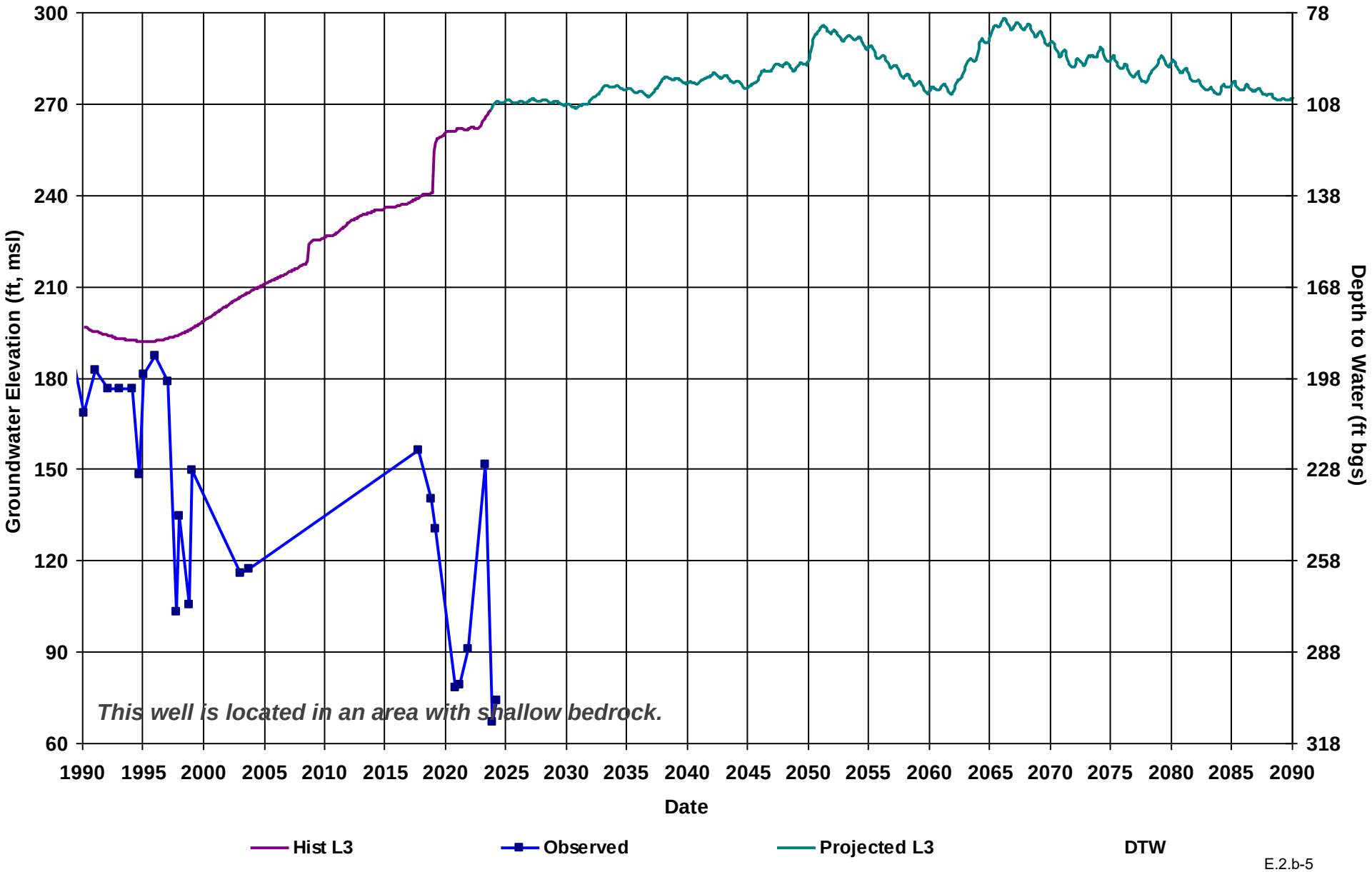
RMS ID: COM RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 267

Total Depth (ft): 588
Perf Top (ft): 433
Perf Bottom (ft): 568
Top Model Layer: 4
Bottom Model Layer: 4



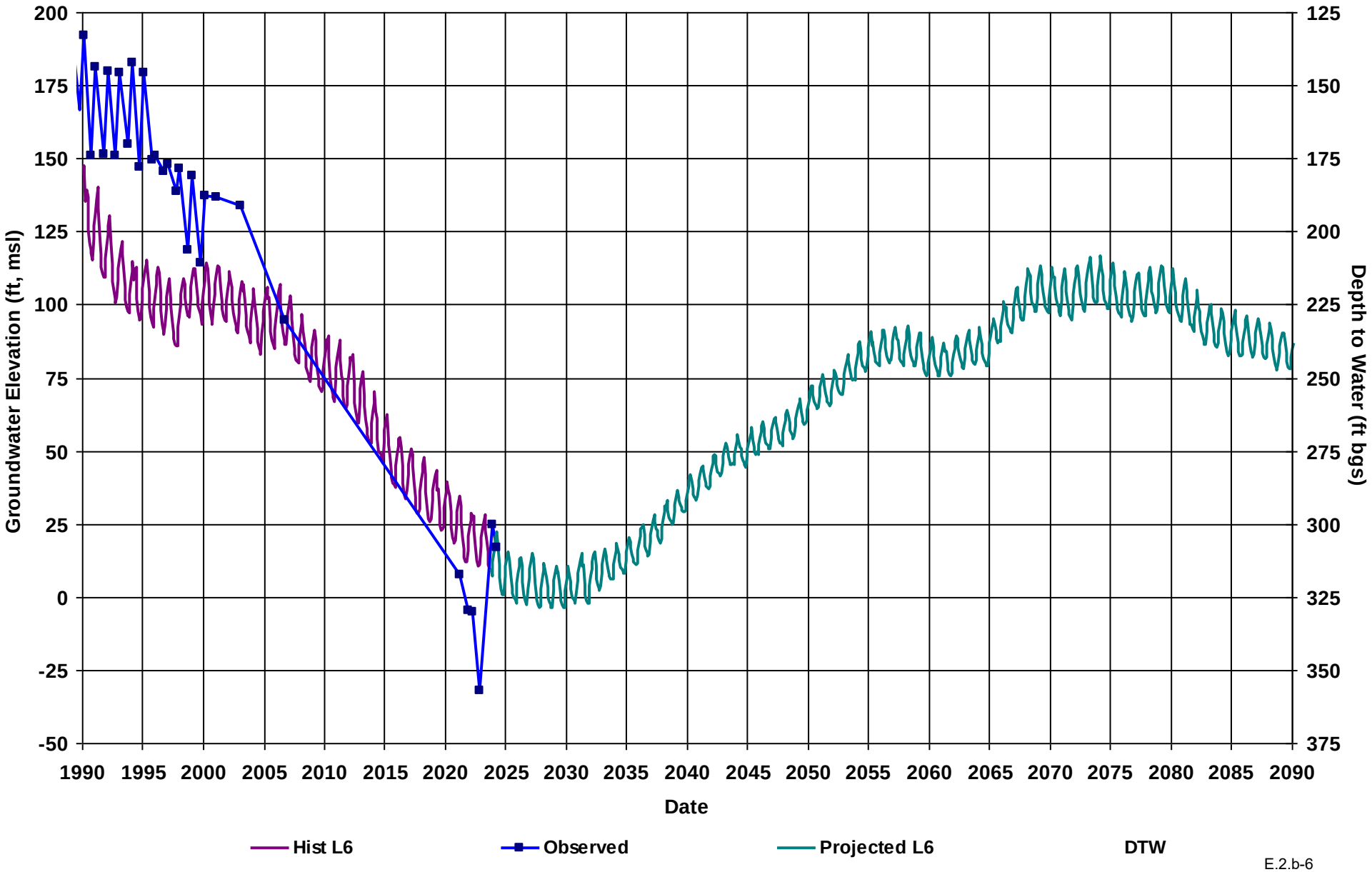
RMS ID: MCE RMS-2
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 378

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



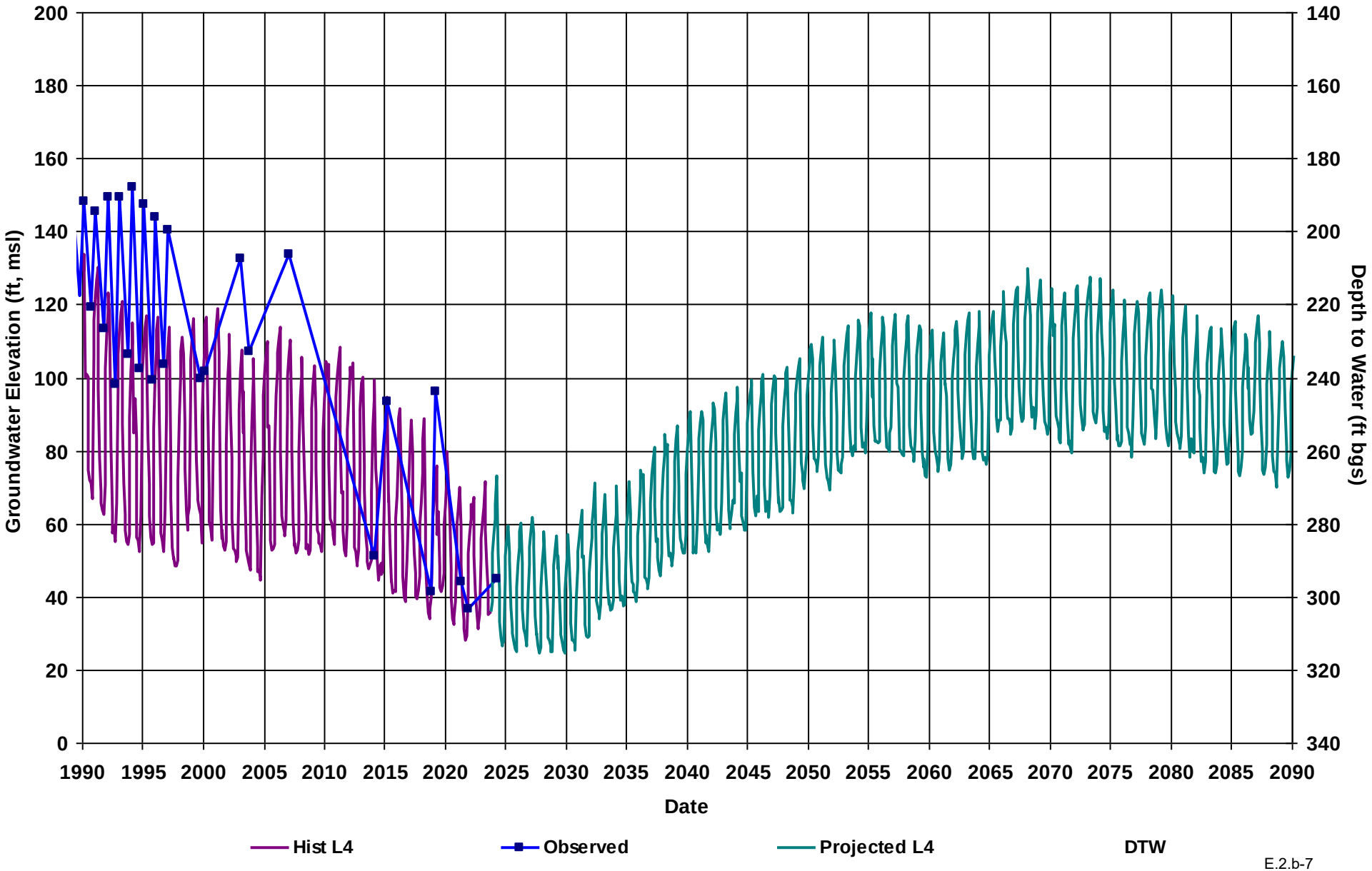
RMS ID: MCE RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 325

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



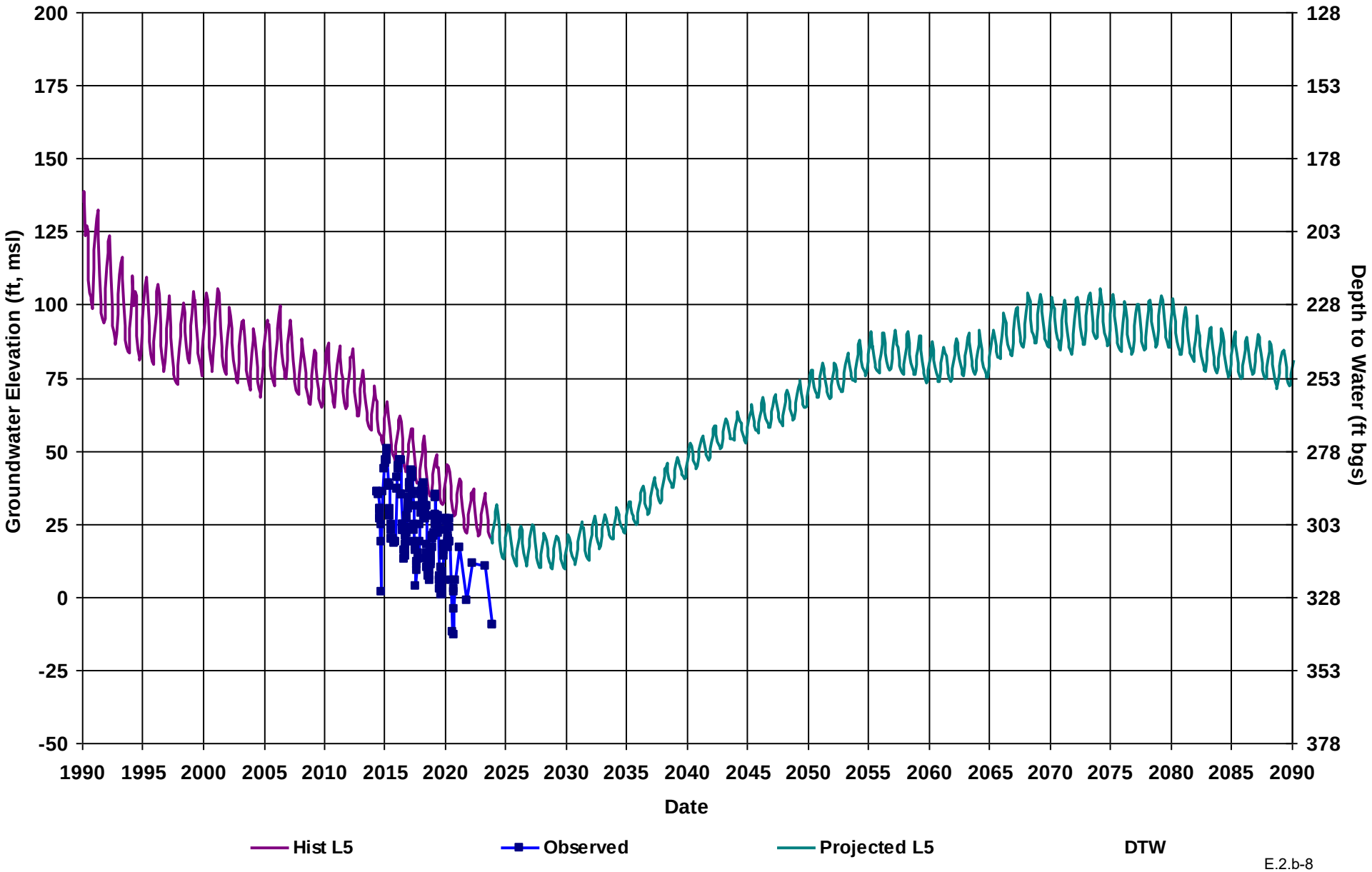
RMS ID: MCE RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



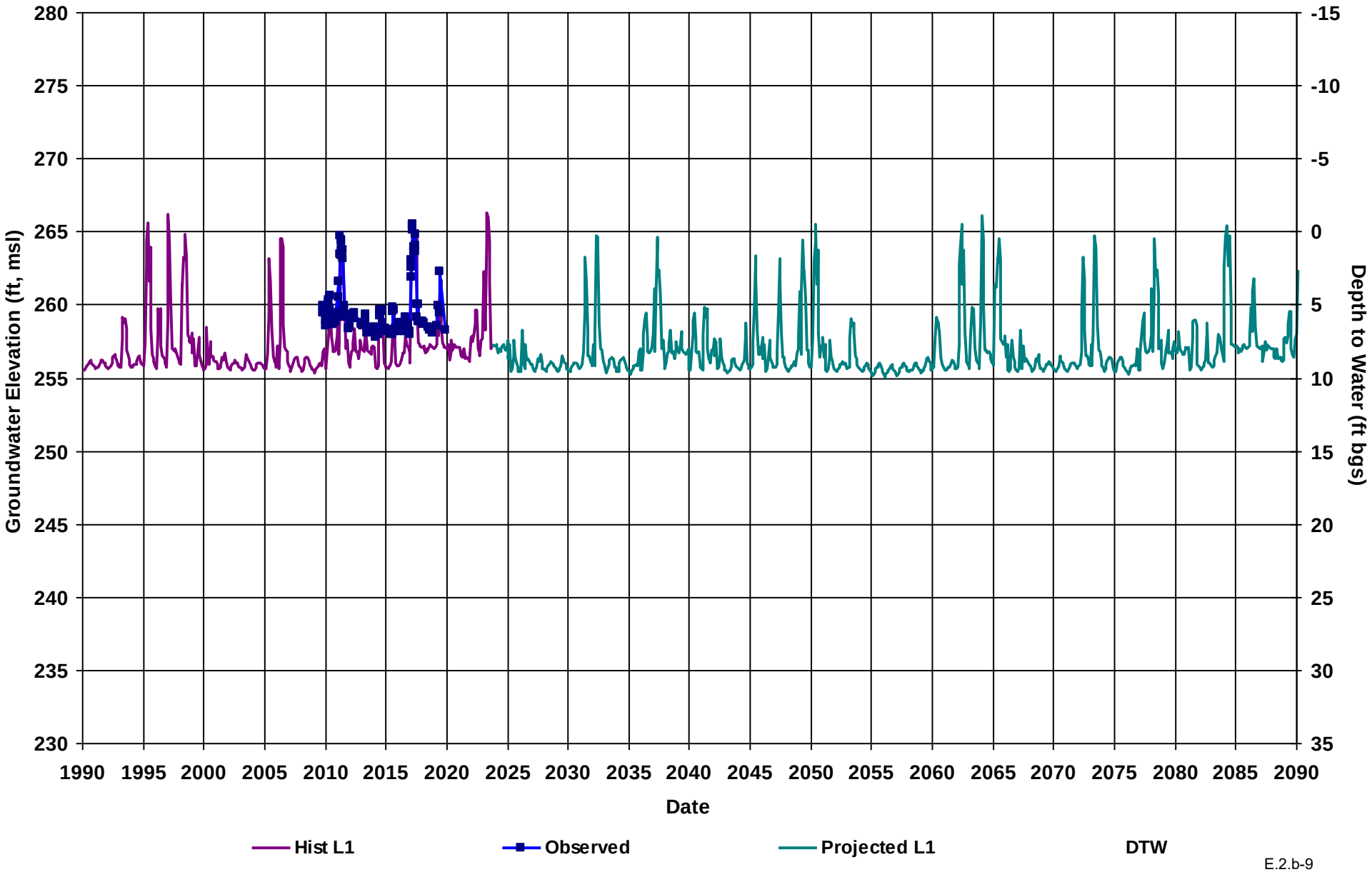
RMS ID: MCE RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 328

Total Depth (ft): 550
Perf Top (ft): 450
Perf Bottom (ft): 550
Top Model Layer: 5
Bottom Model Layer: 5



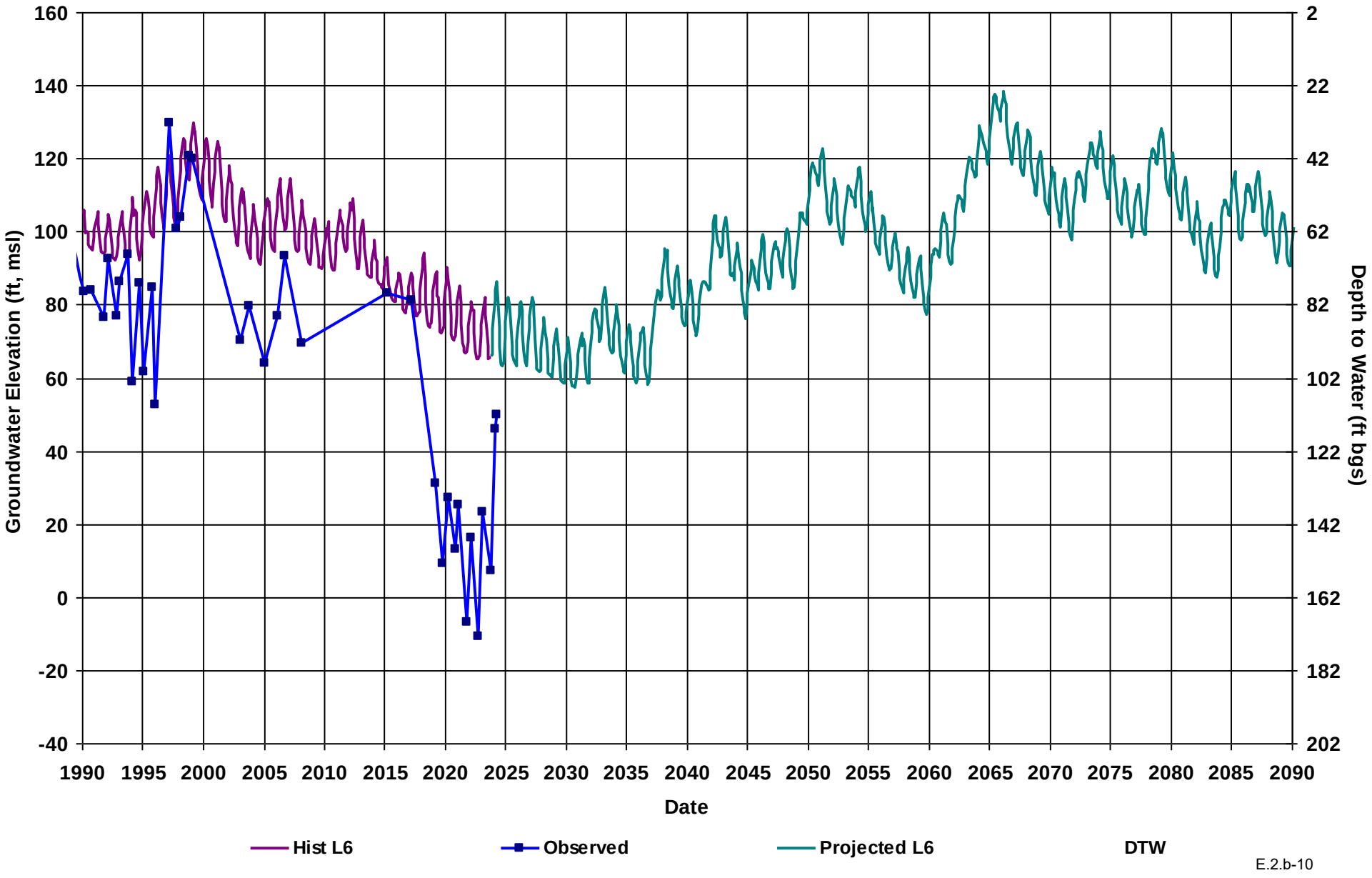
RMS ID: MCE RMS-9
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



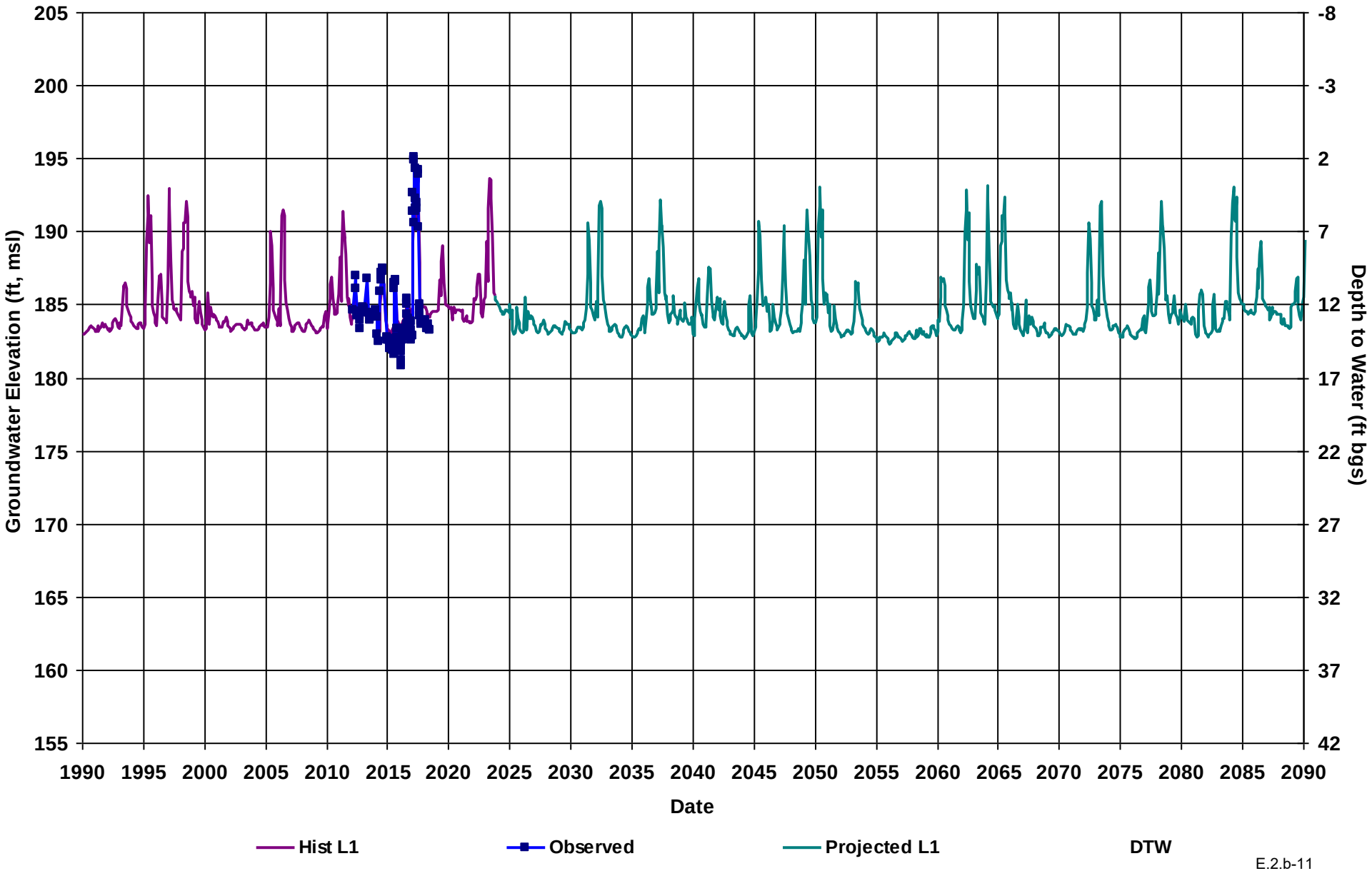
RMS ID: MCW RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 163

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



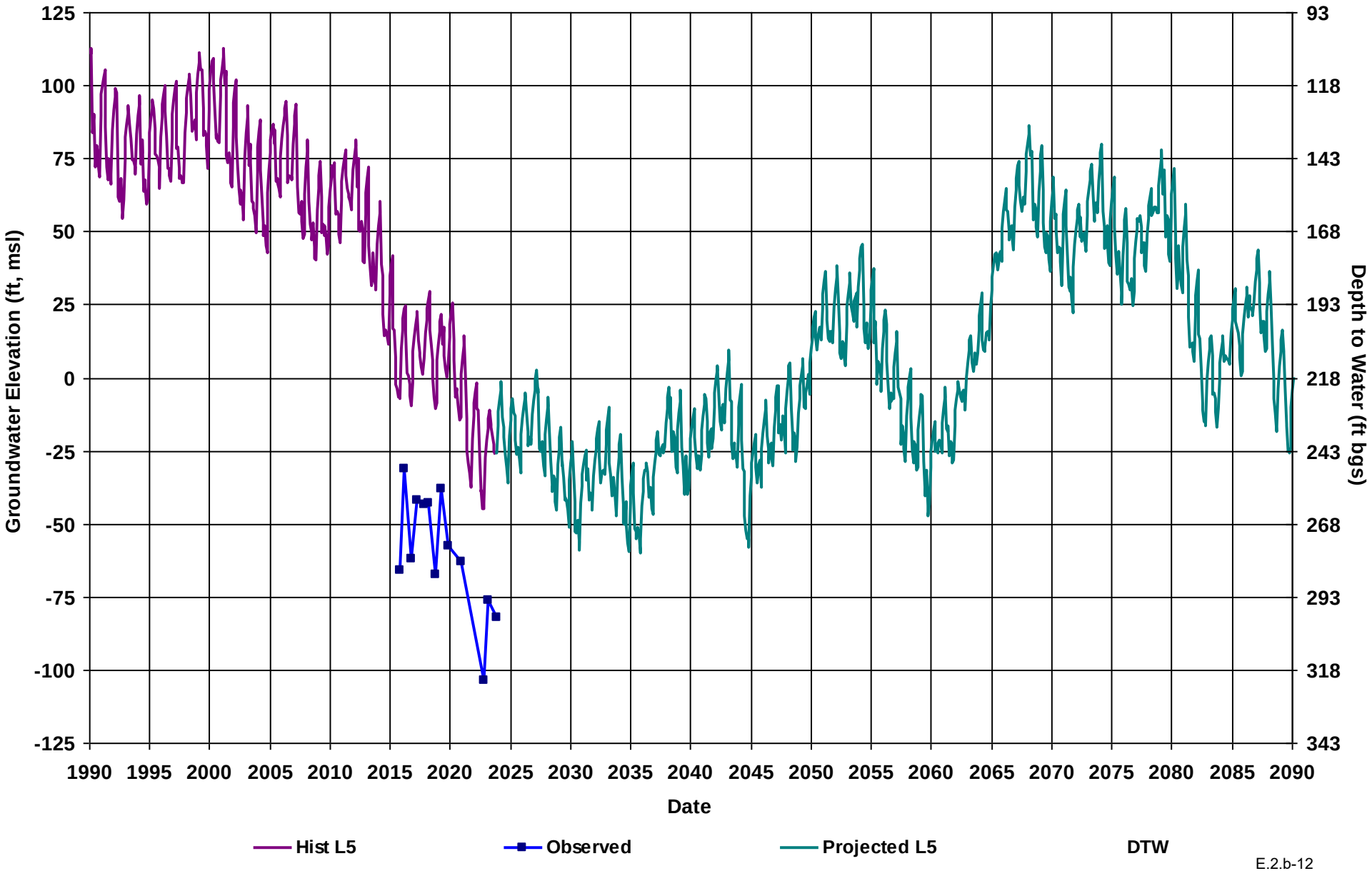
RMS ID: MCW RMS-5
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 199

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



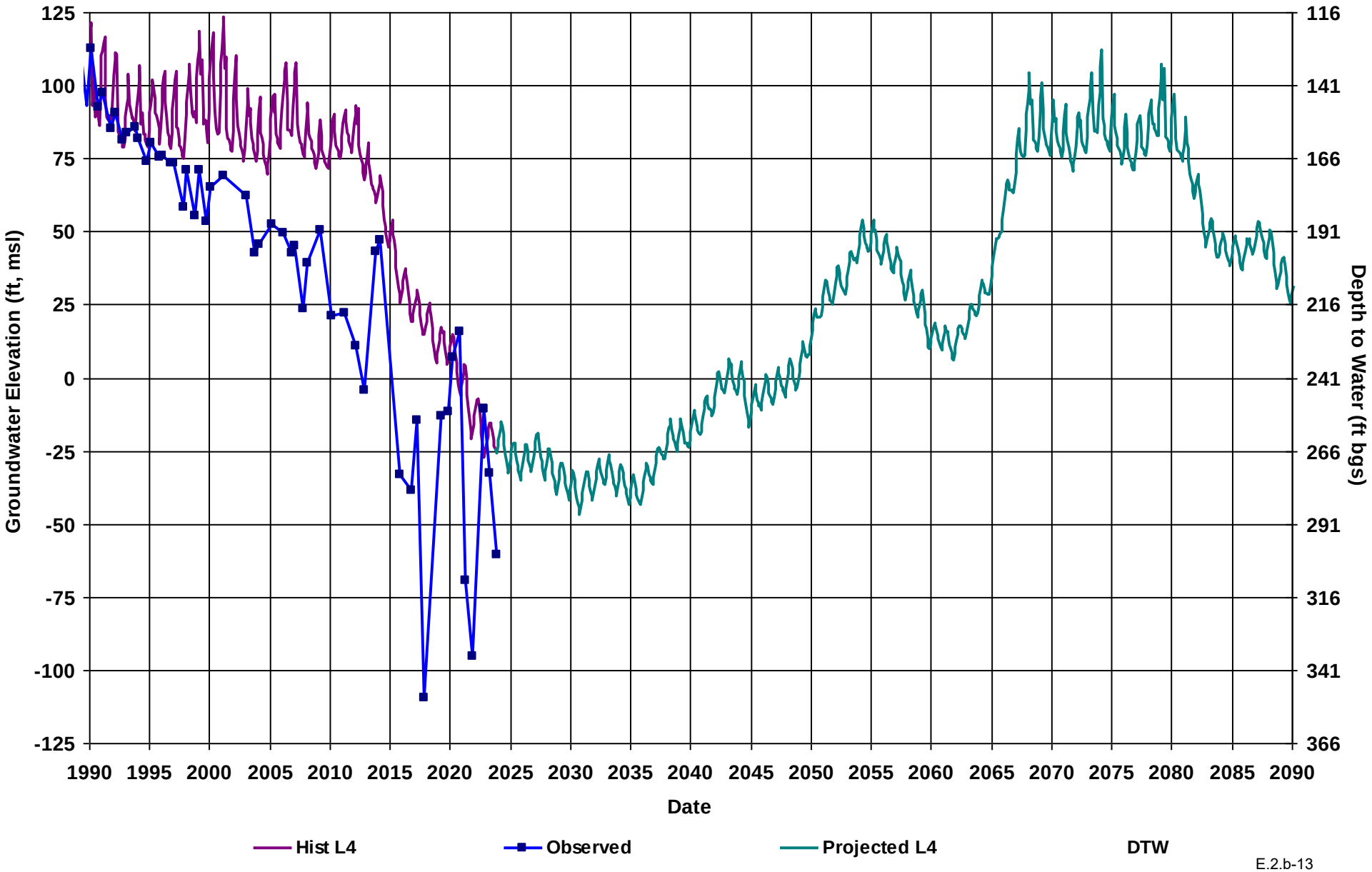
RMS ID: MID RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 294

Total Depth (ft): 563
Perf Top (ft): 298
Perf Bottom (ft): 509
Top Model Layer: 5
Bottom Model Layer: 5



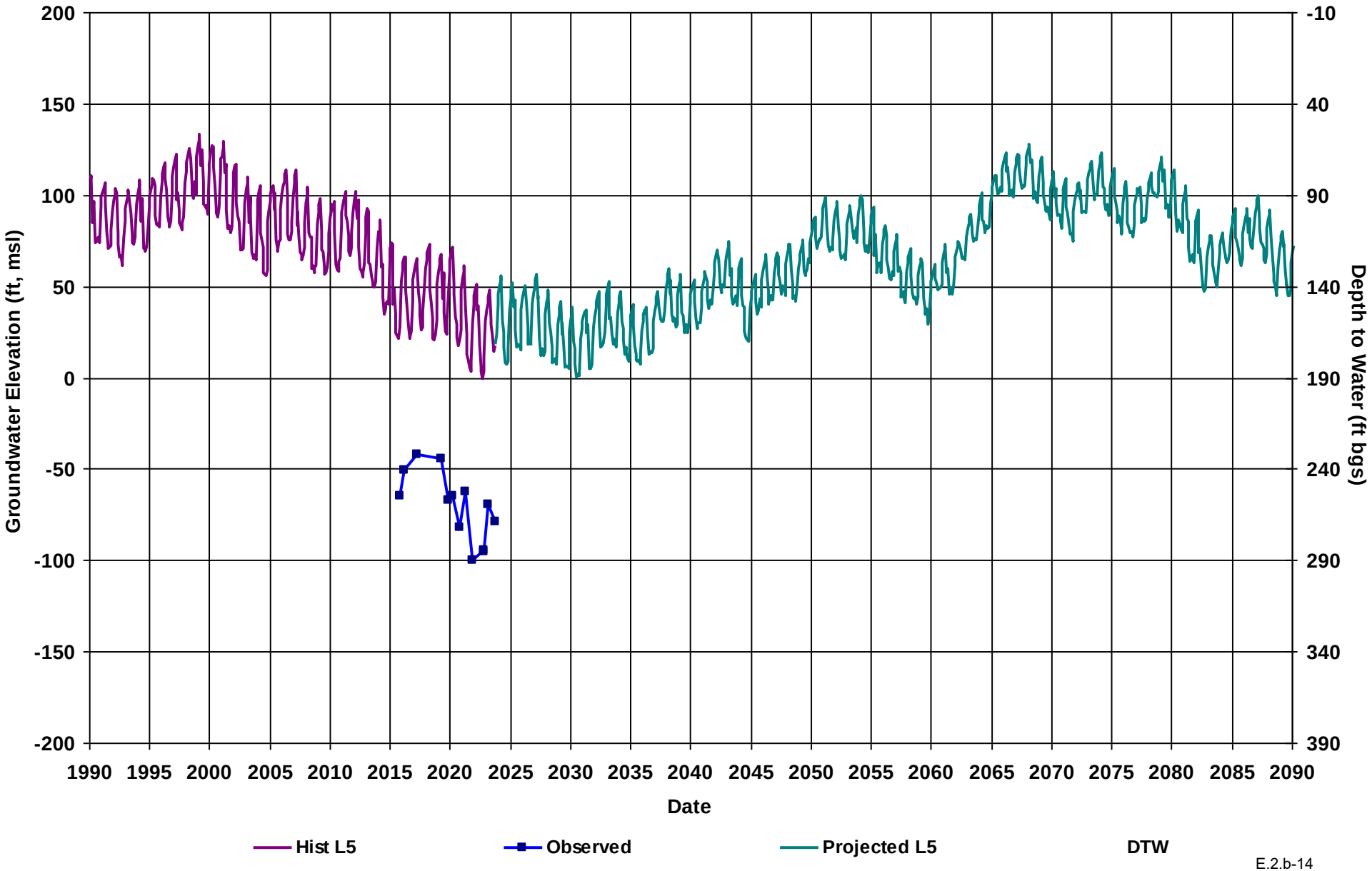
RMS ID: MID RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Total Depth (ft): 516
Perf Top (ft): 260
Perf Bottom (ft): 507
Top Model Layer: 4
Bottom Model Layer: 4



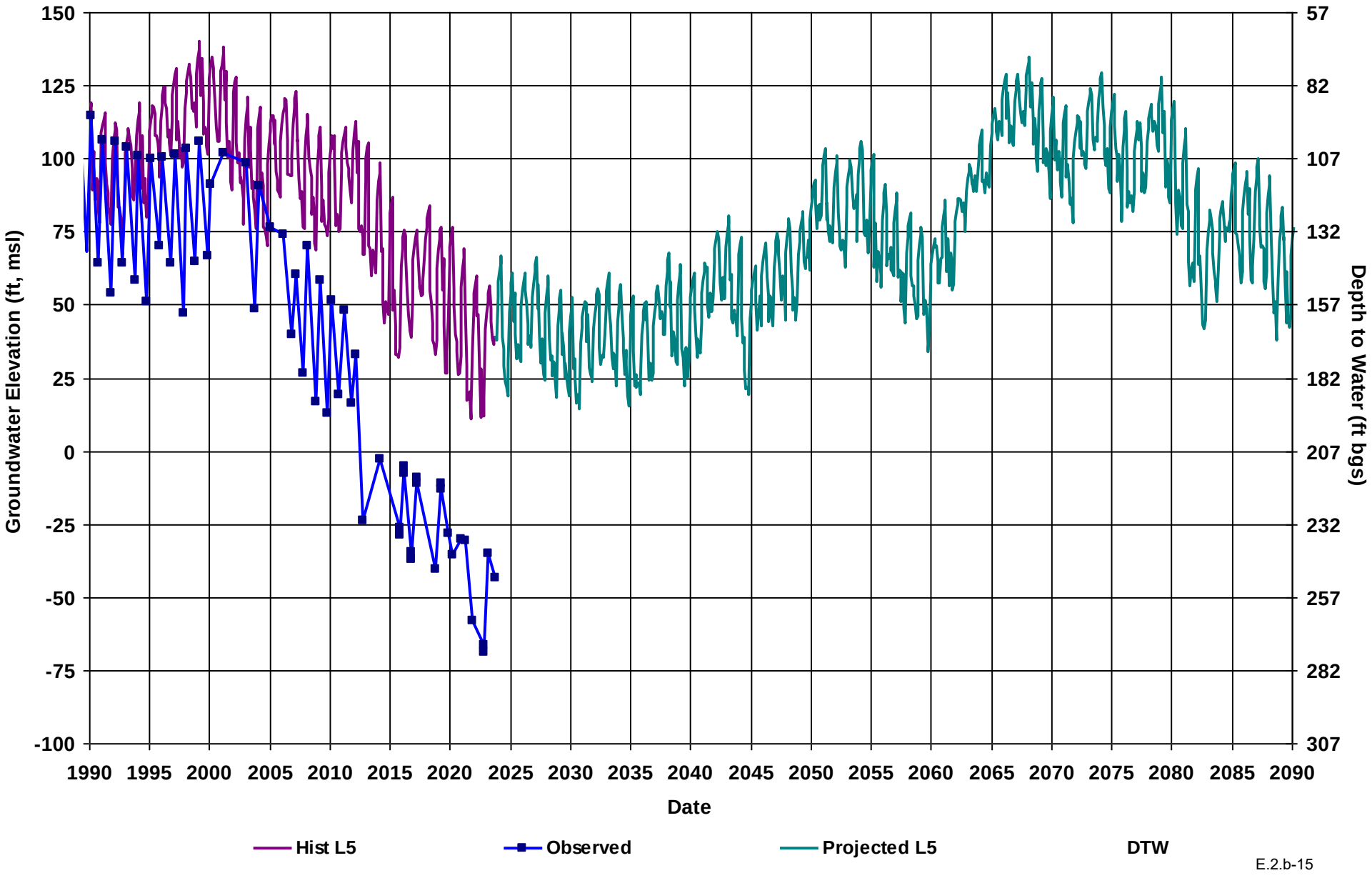
RMS ID: MID RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 259

Total Depth (ft): 698
Perf Top (ft): 320
Perf Bottom (ft): 667
Top Model Layer: 5
Bottom Model Layer: 5



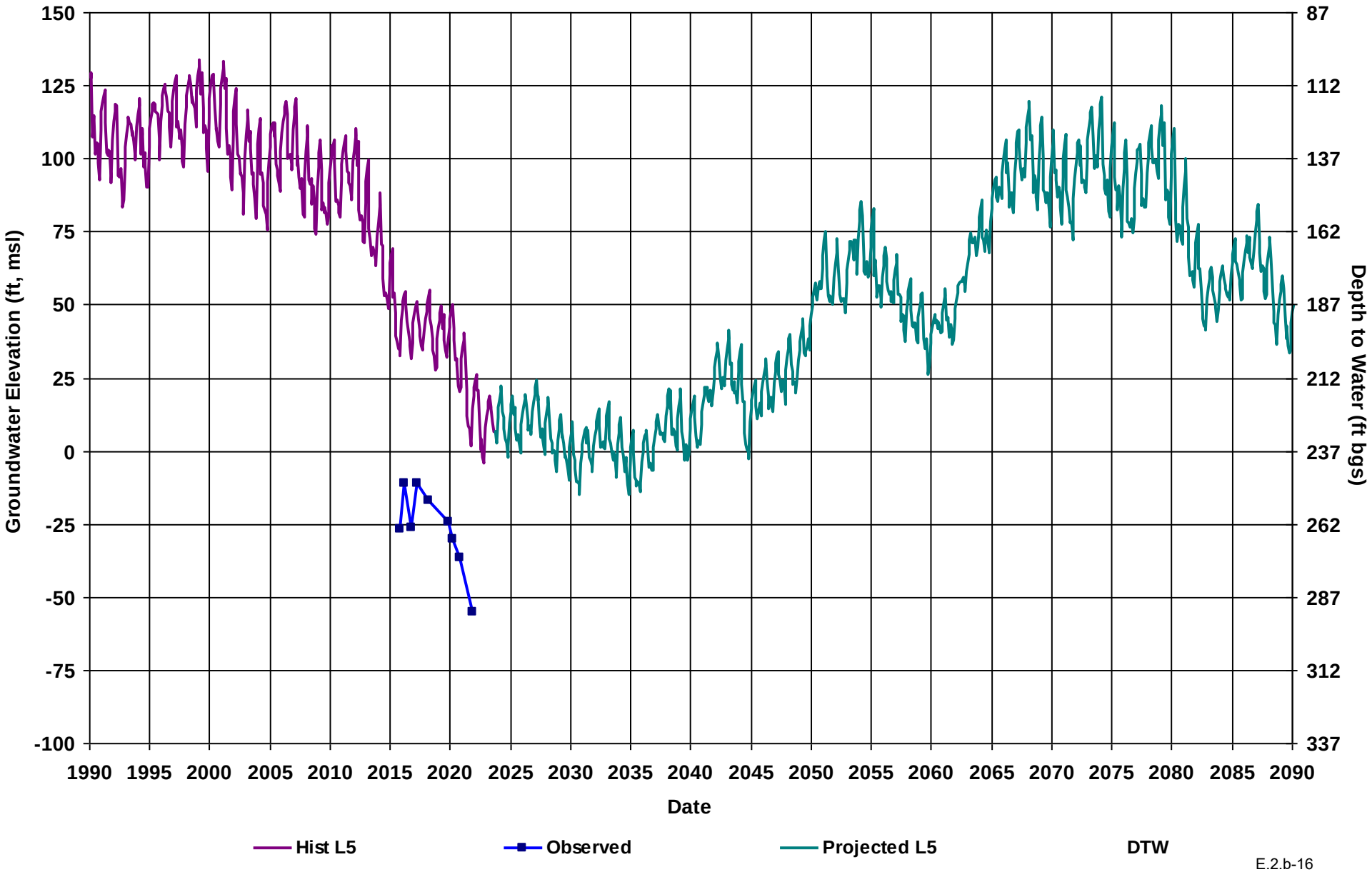
RMS ID: MID RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 239

Total Depth (ft): 570
Perf Top (ft): 270
Perf Bottom (ft): 570
Top Model Layer: 5
Bottom Model Layer: 5



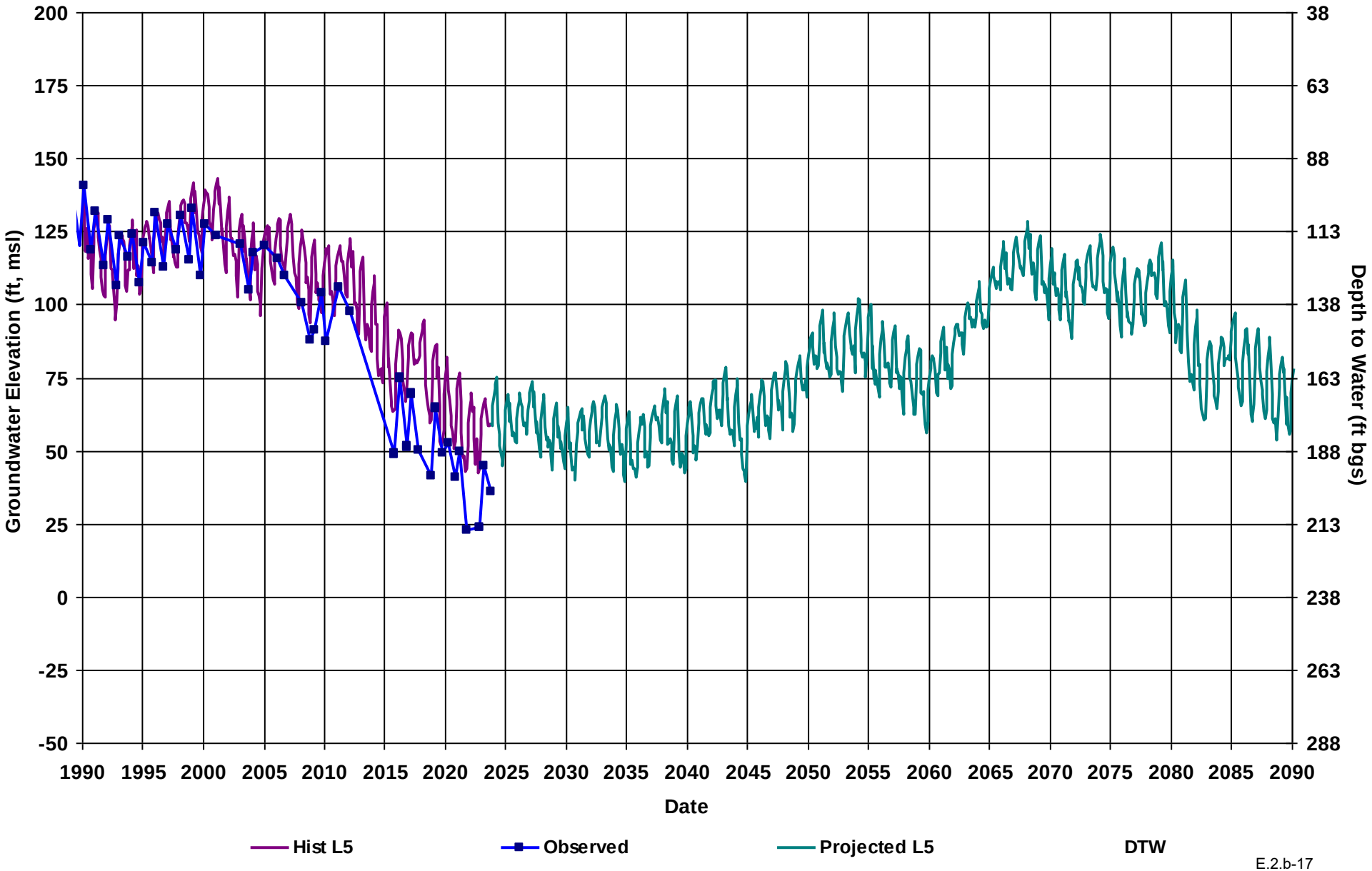
RMS ID: MID RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 237

Total Depth (ft): 680
Perf Top (ft): 320
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



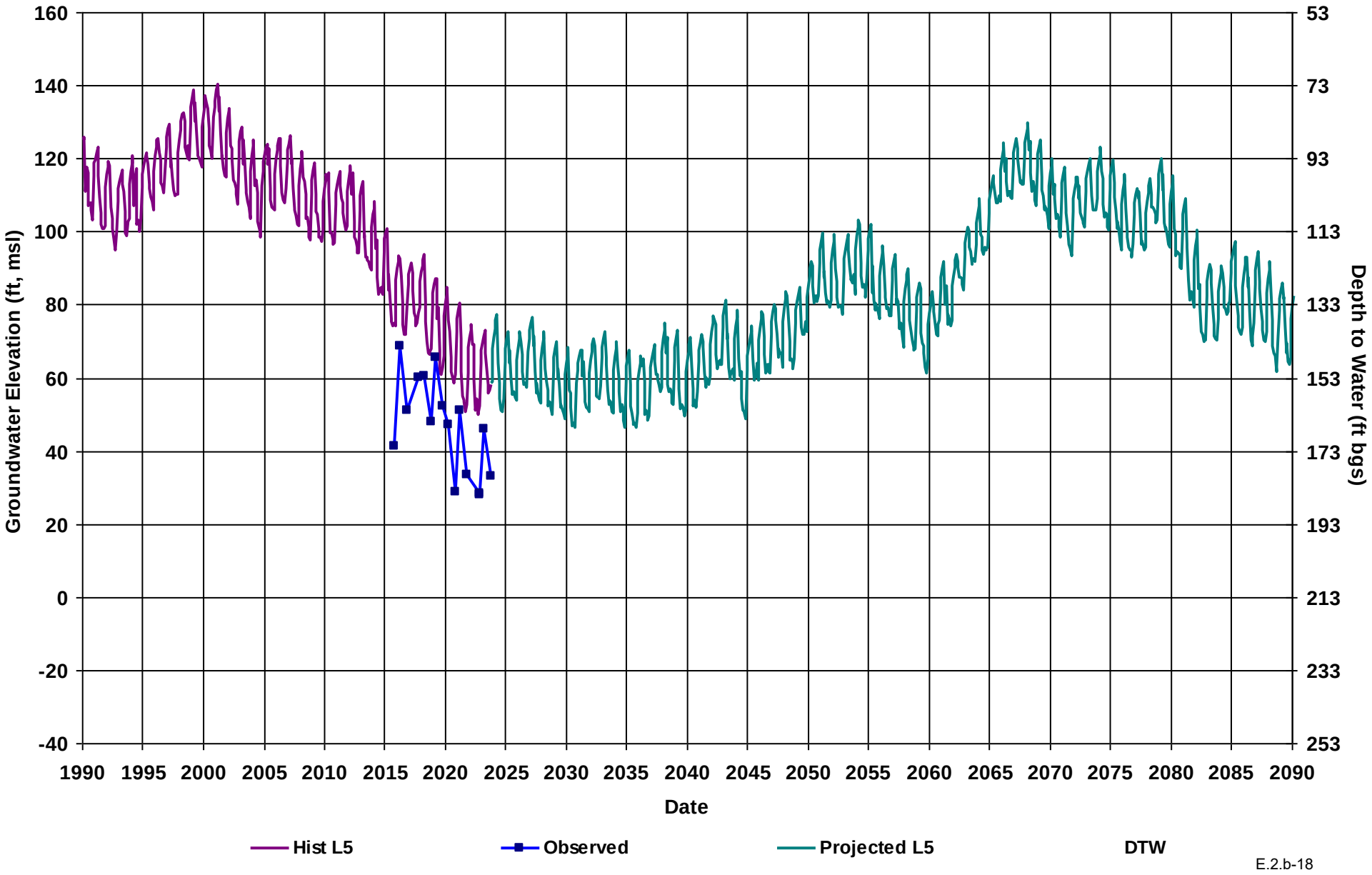
RMS ID: MID RMS-7
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 238

Total Depth (ft): 656
Perf Top (ft): 290
Perf Bottom (ft): 635
Top Model Layer: 5
Bottom Model Layer: 5



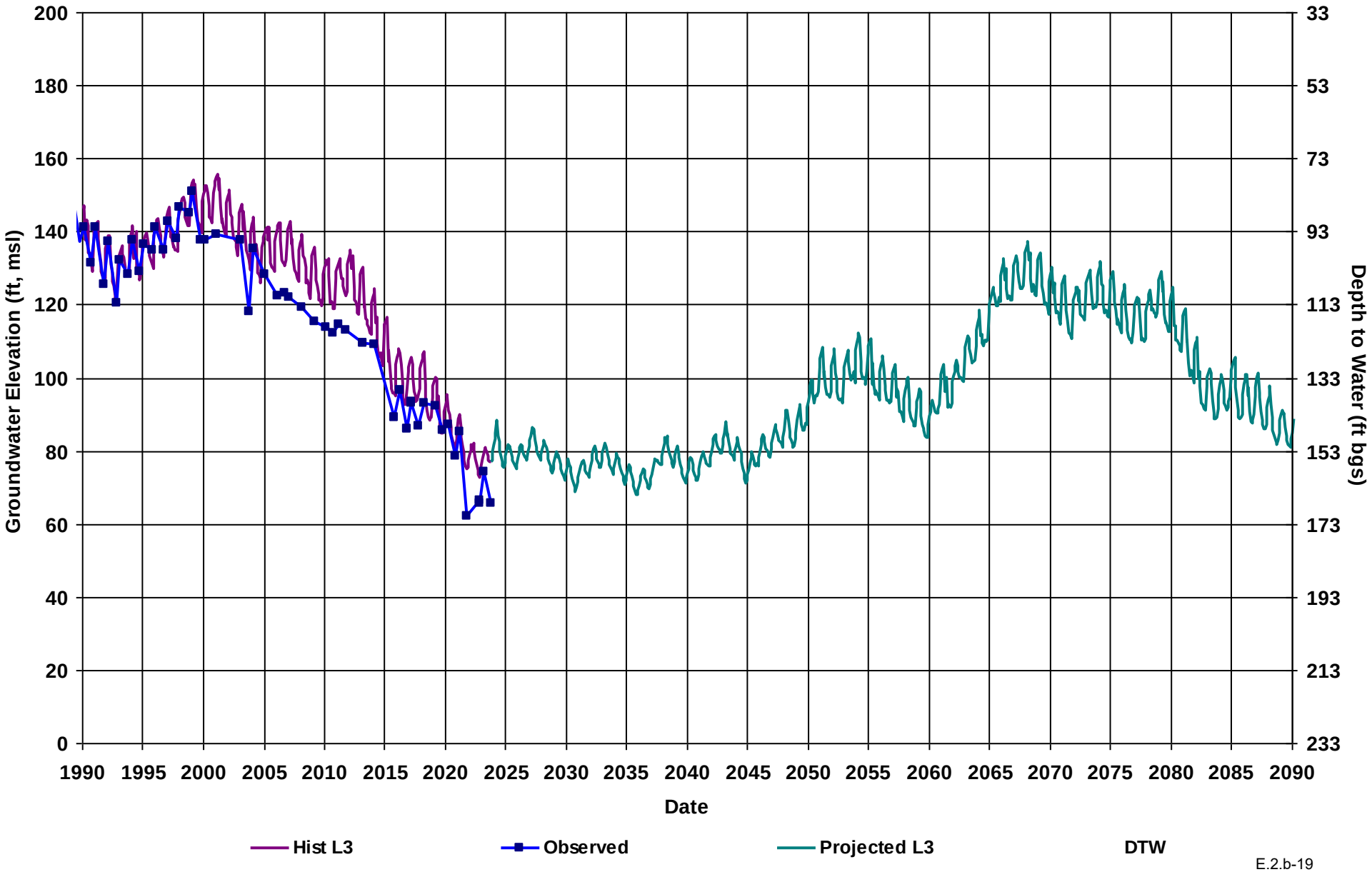
RMS ID: MID RMS-10
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 213

Total Depth (ft): 615
Perf Top (ft): 315
Perf Bottom (ft): 615
Top Model Layer: 5
Bottom Model Layer: 5



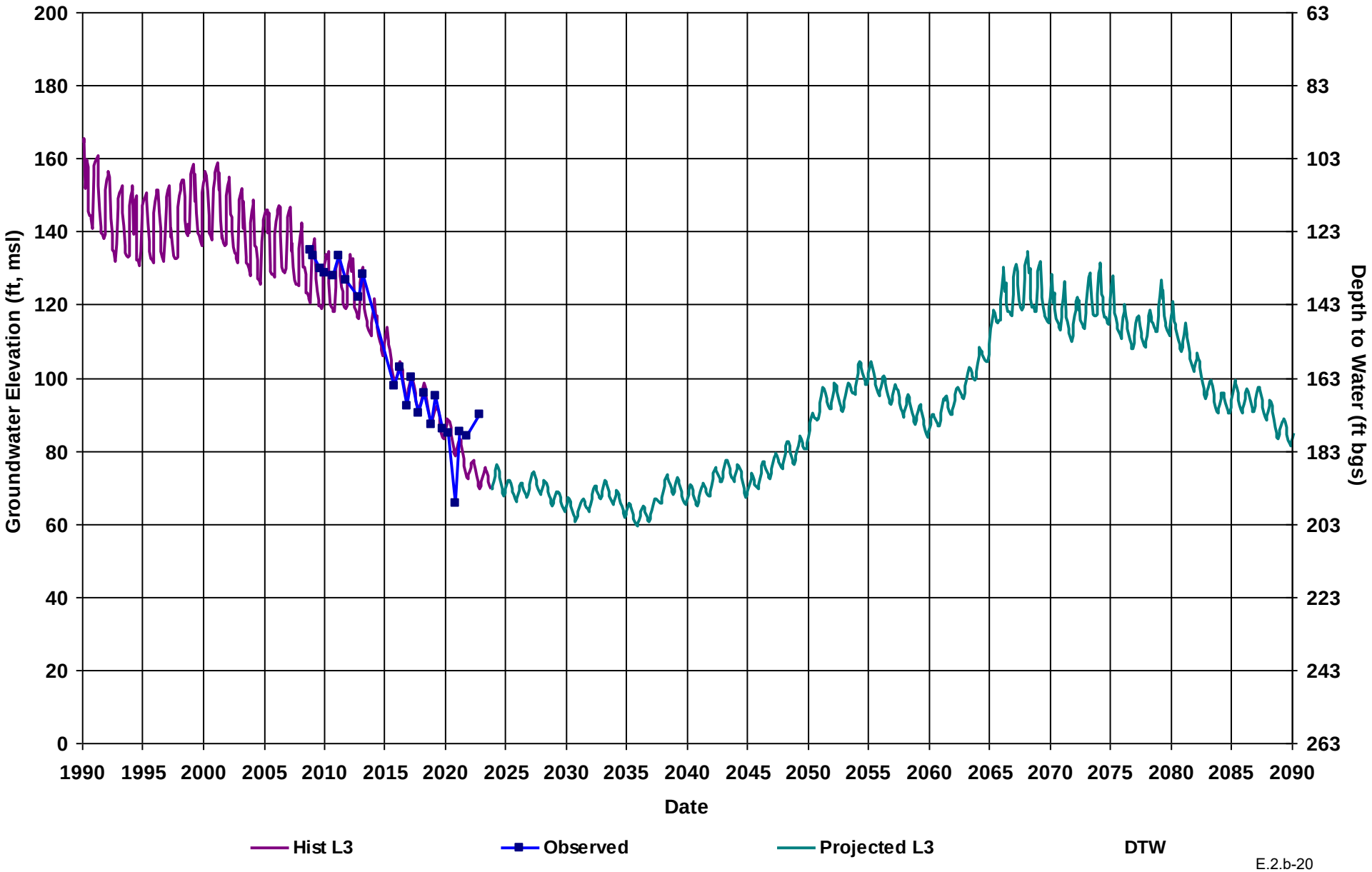
RMS ID: MID RMS-11
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 315
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



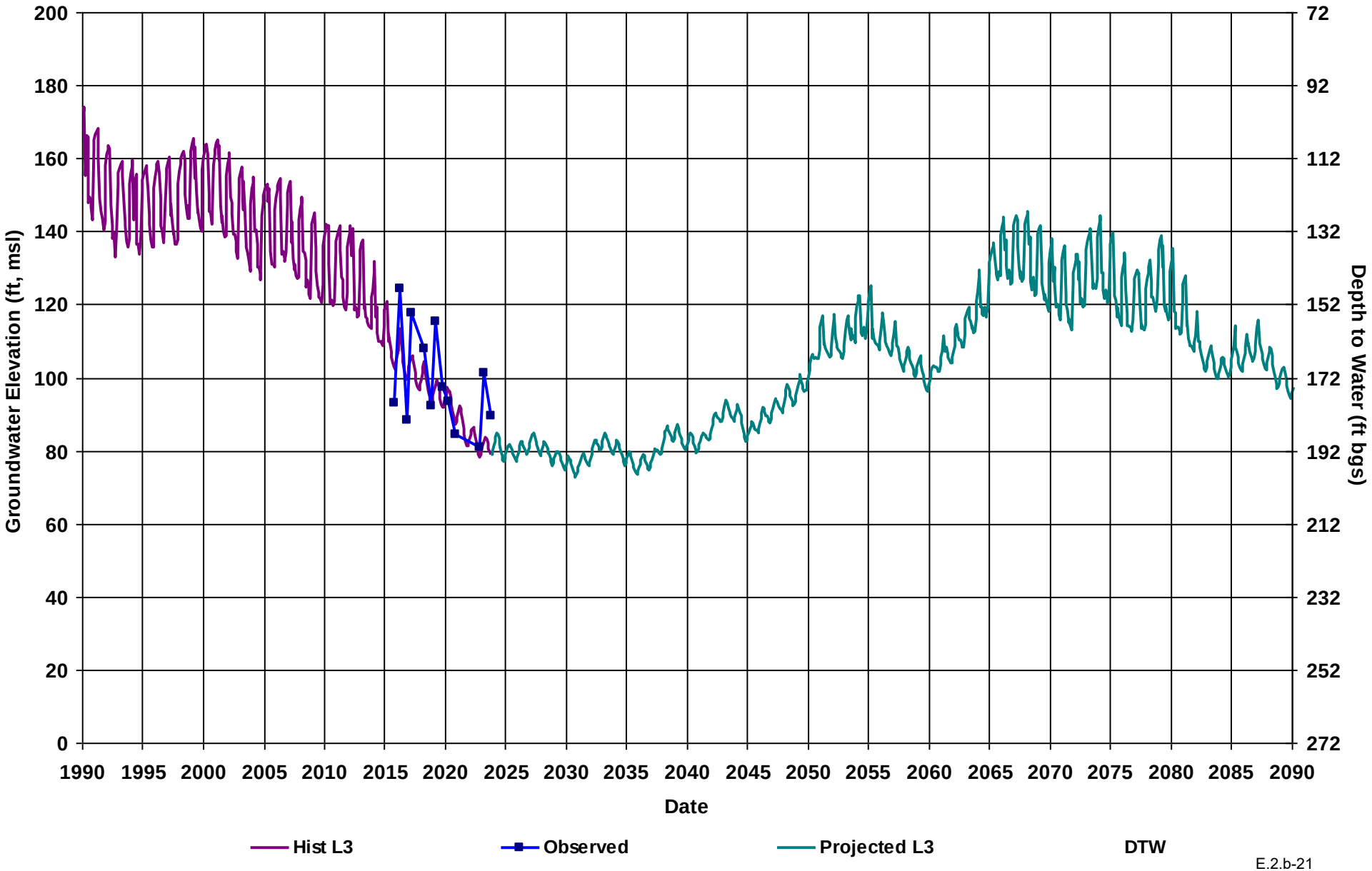
RMS ID: MID RMS-12
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 263

Total Depth (ft): 176
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



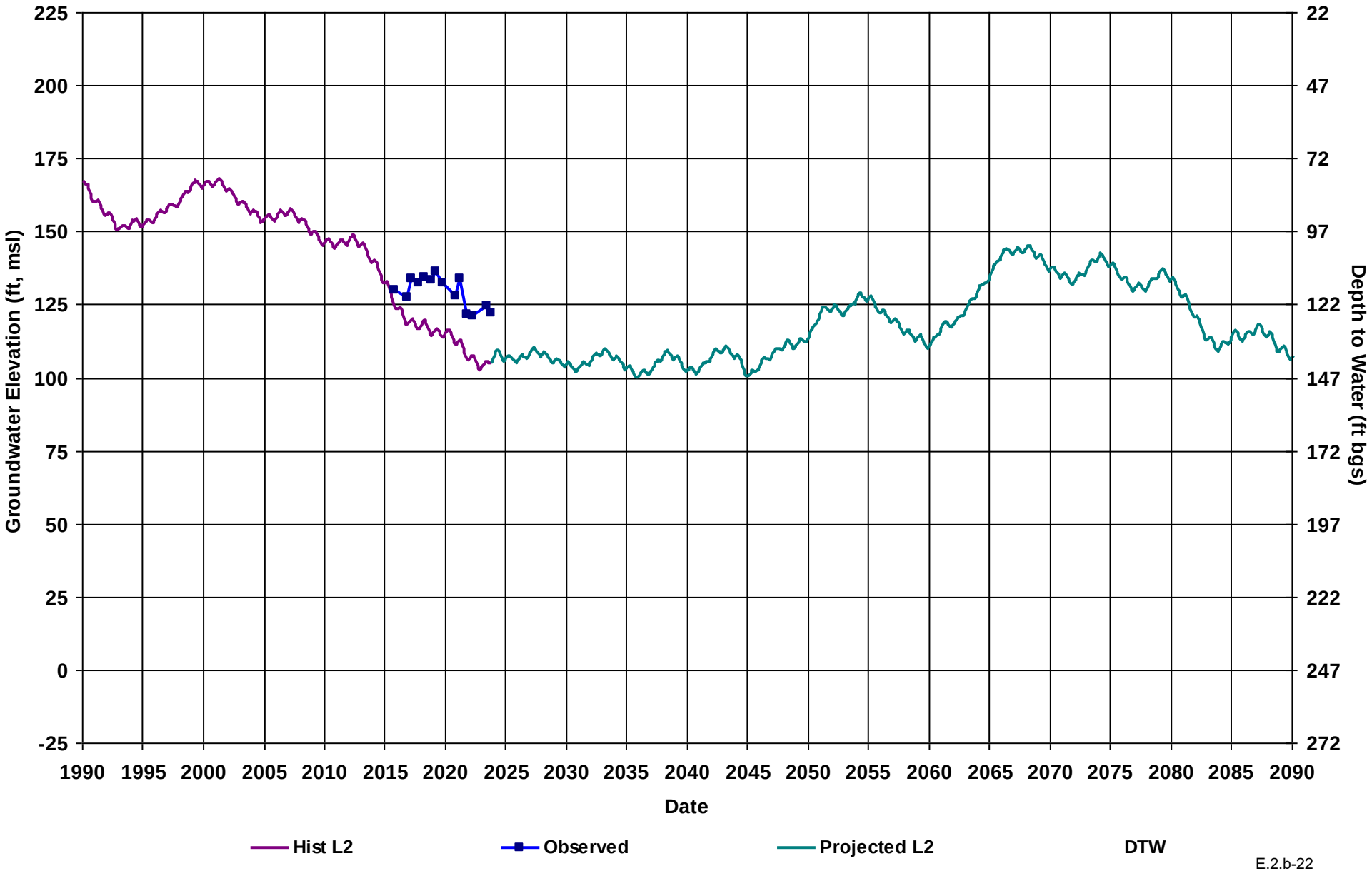
RMS ID: MID RMS-13
Depth Zone: Composite
Subbasin: Madera
GSE (ft, msl): 272

Total Depth (ft): 600
Perf Top (ft): 228
Perf Bottom (ft): 552
Top Model Layer: 3
Bottom Model Layer: 3



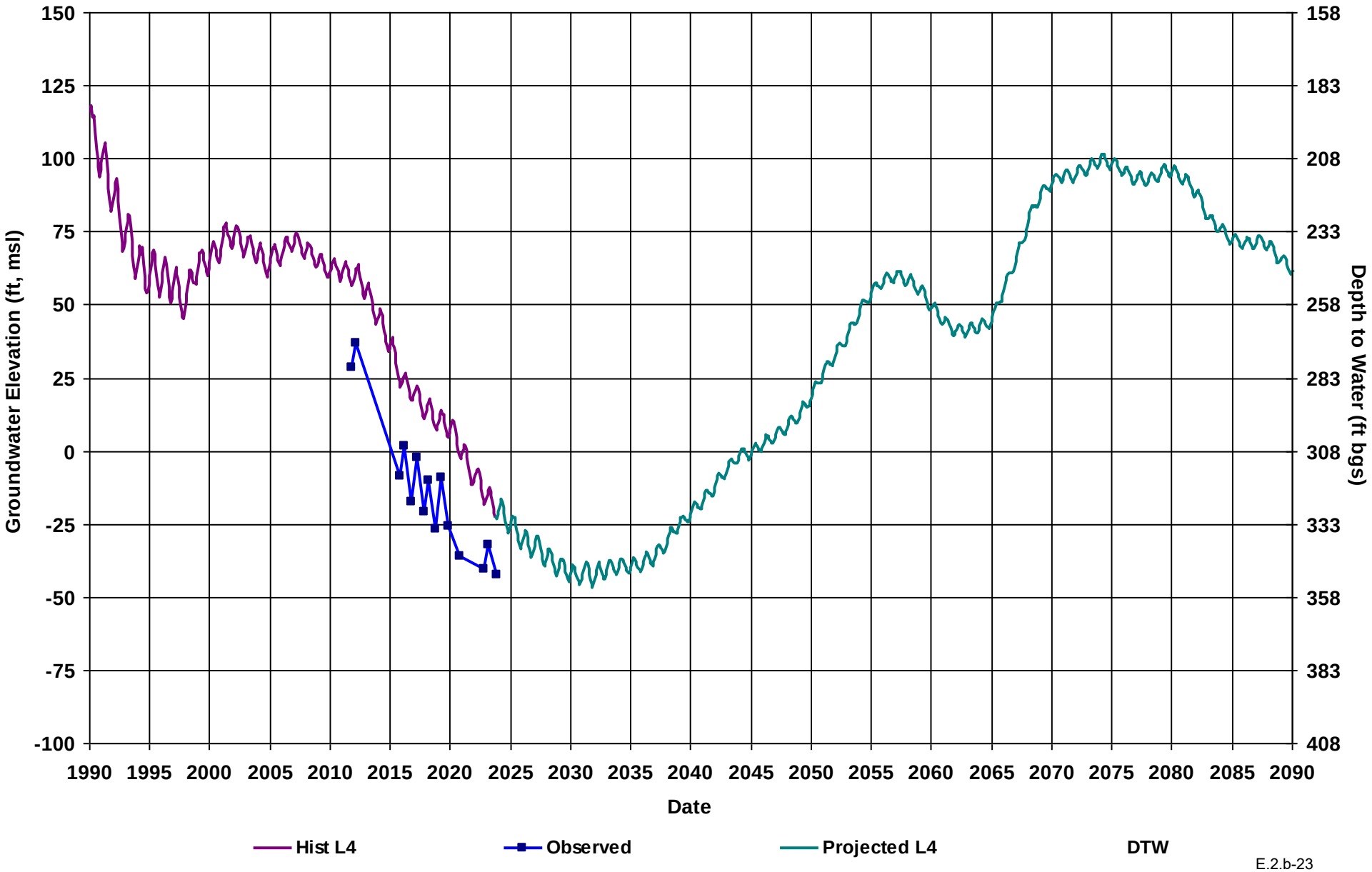
RMS ID: MID RMS-15
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 247

Total Depth (ft): 502
Perf Top (ft): 160
Perf Bottom (ft): 200
Top Model Layer: 2
Bottom Model Layer: 2



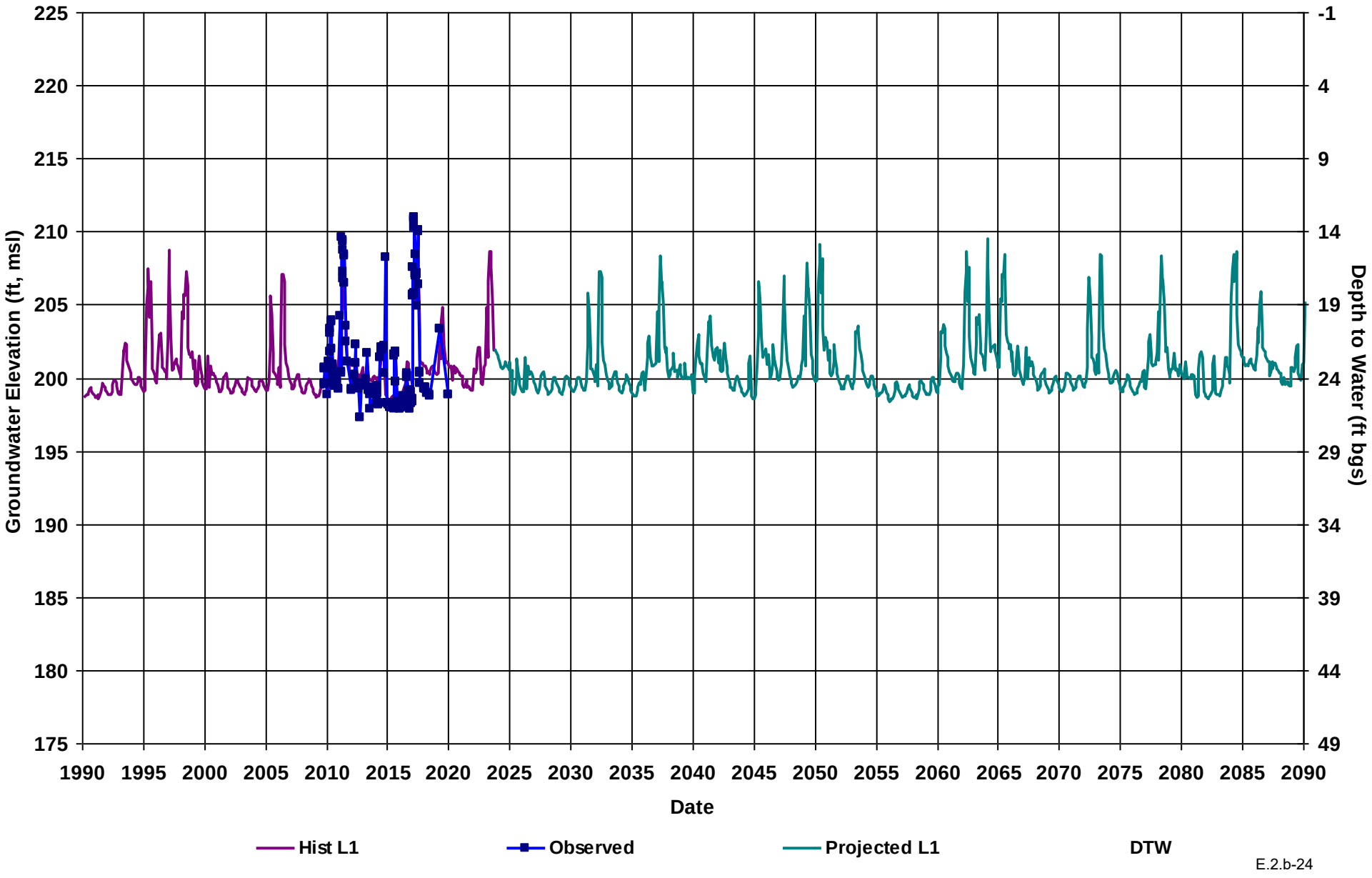
RMS ID: MID RMS-16
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft): 452
Perf Top (ft): 348
Perf Bottom (ft): 388
Top Model Layer: 4
Bottom Model Layer: 4



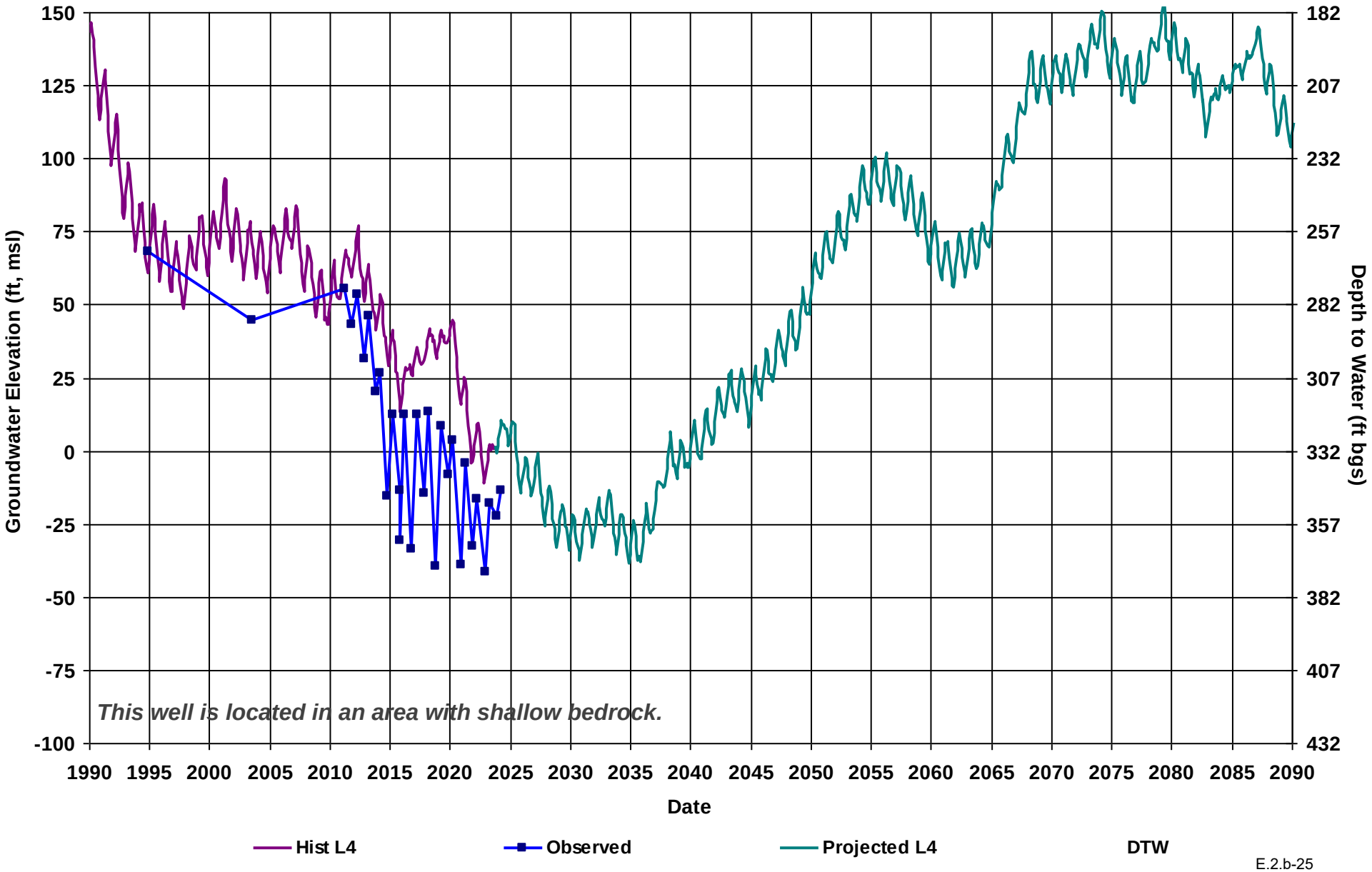
RMS ID: MID RMS-17
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 224

Total Depth (ft): 47
Perf Top (ft): 26
Perf Bottom (ft): 46
Top Model Layer: 1
Bottom Model Layer: 1



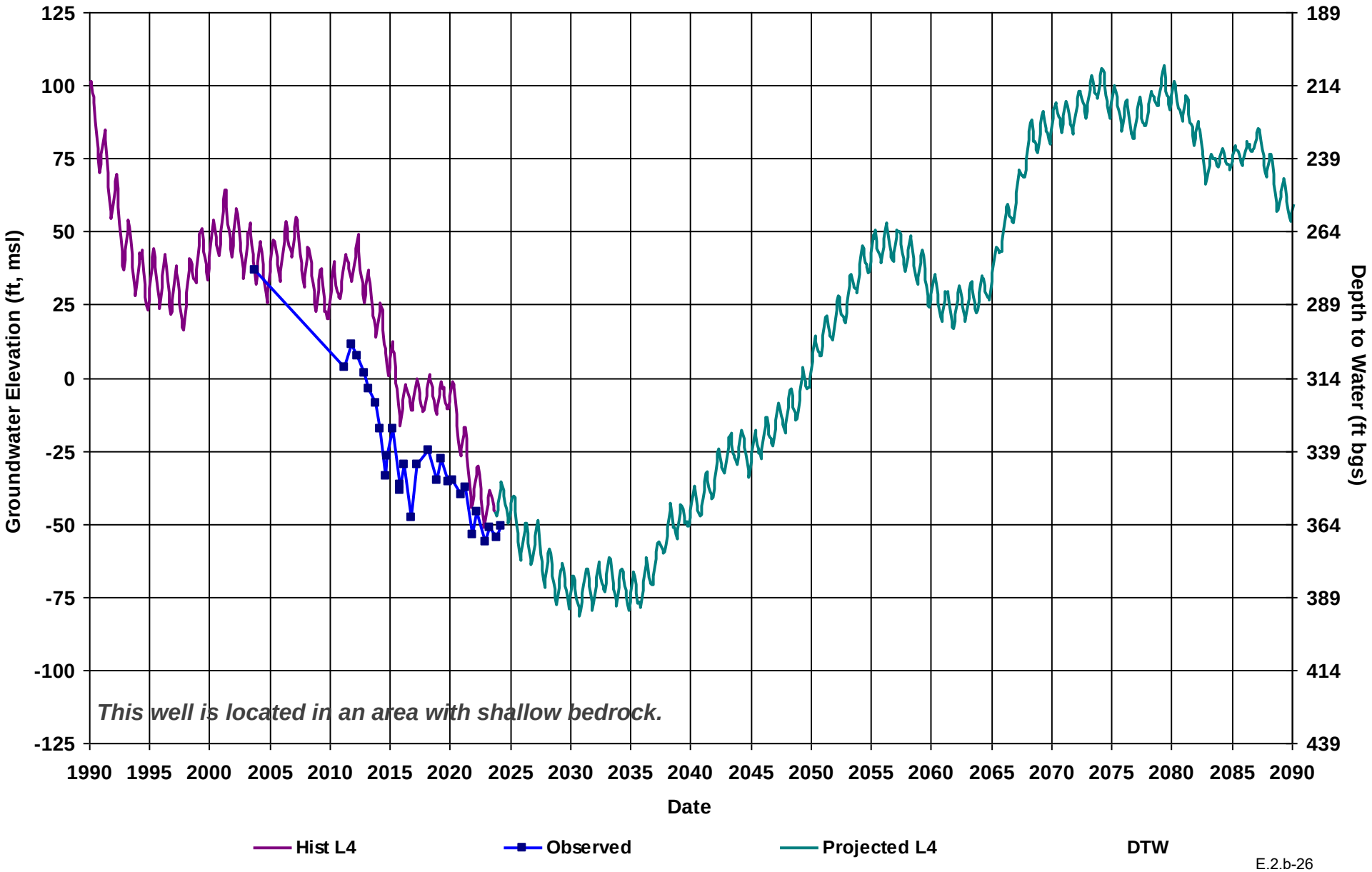
RMS ID: MWD RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 504
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



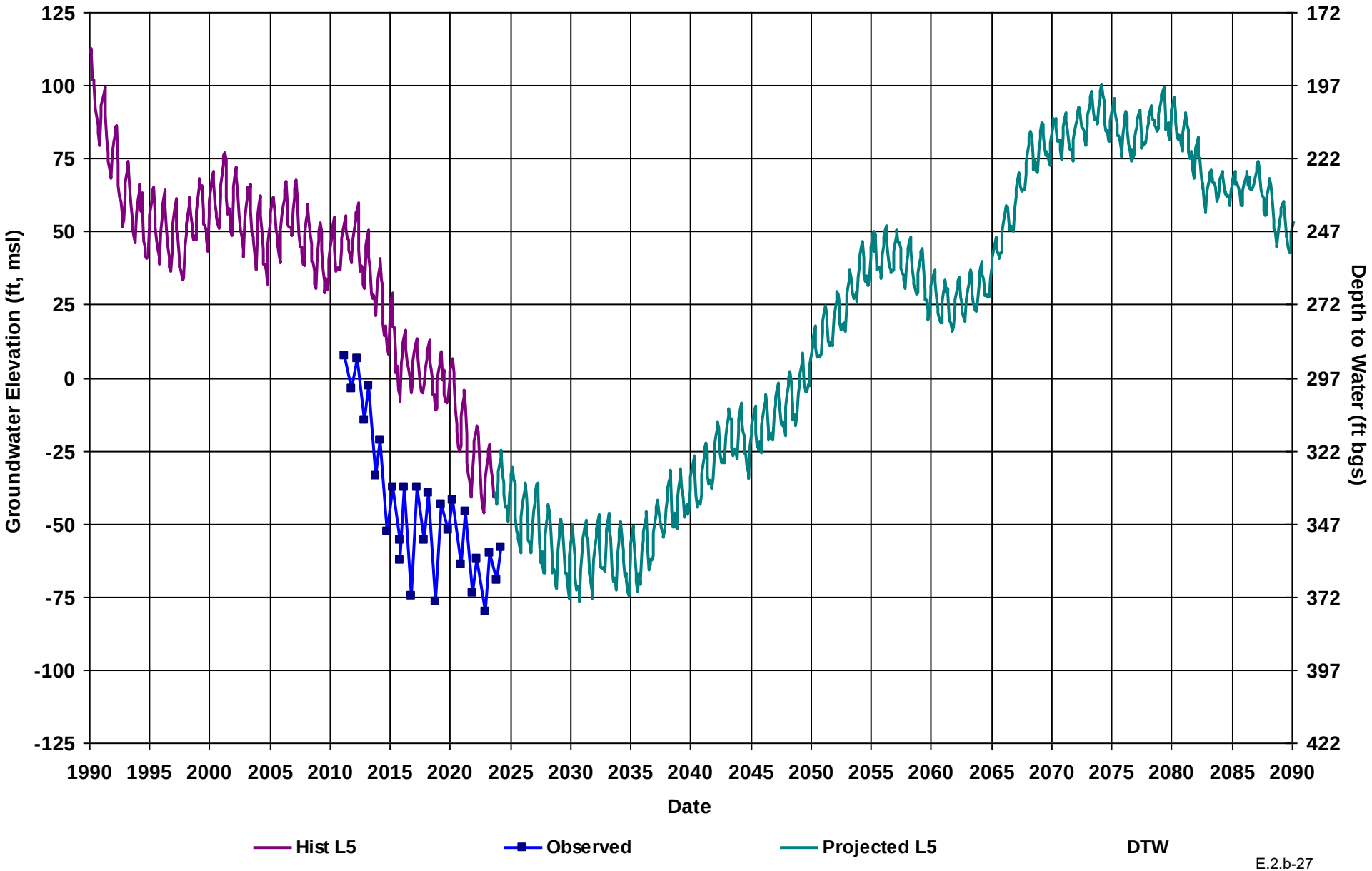
RMS ID: MWD RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 365

Total Depth (ft): 537
Perf Top (ft): 200
Perf Bottom (ft): 537
Top Model Layer: 4
Bottom Model Layer: 4



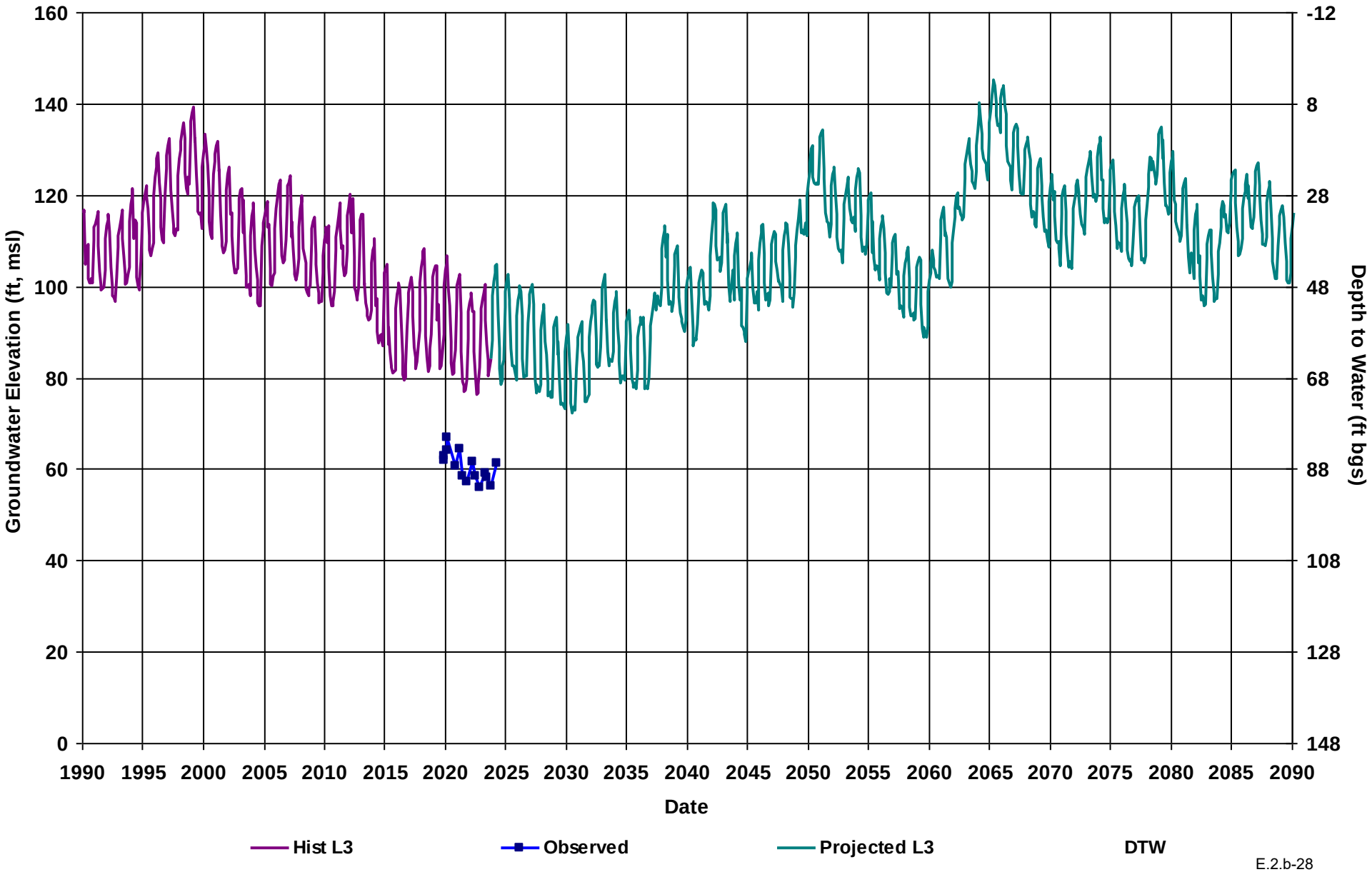
RMS ID: MWD RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 358

Total Depth (ft): 800
Perf Top (ft): 380
Perf Bottom (ft): 800
Top Model Layer: 5
Bottom Model Layer: 5



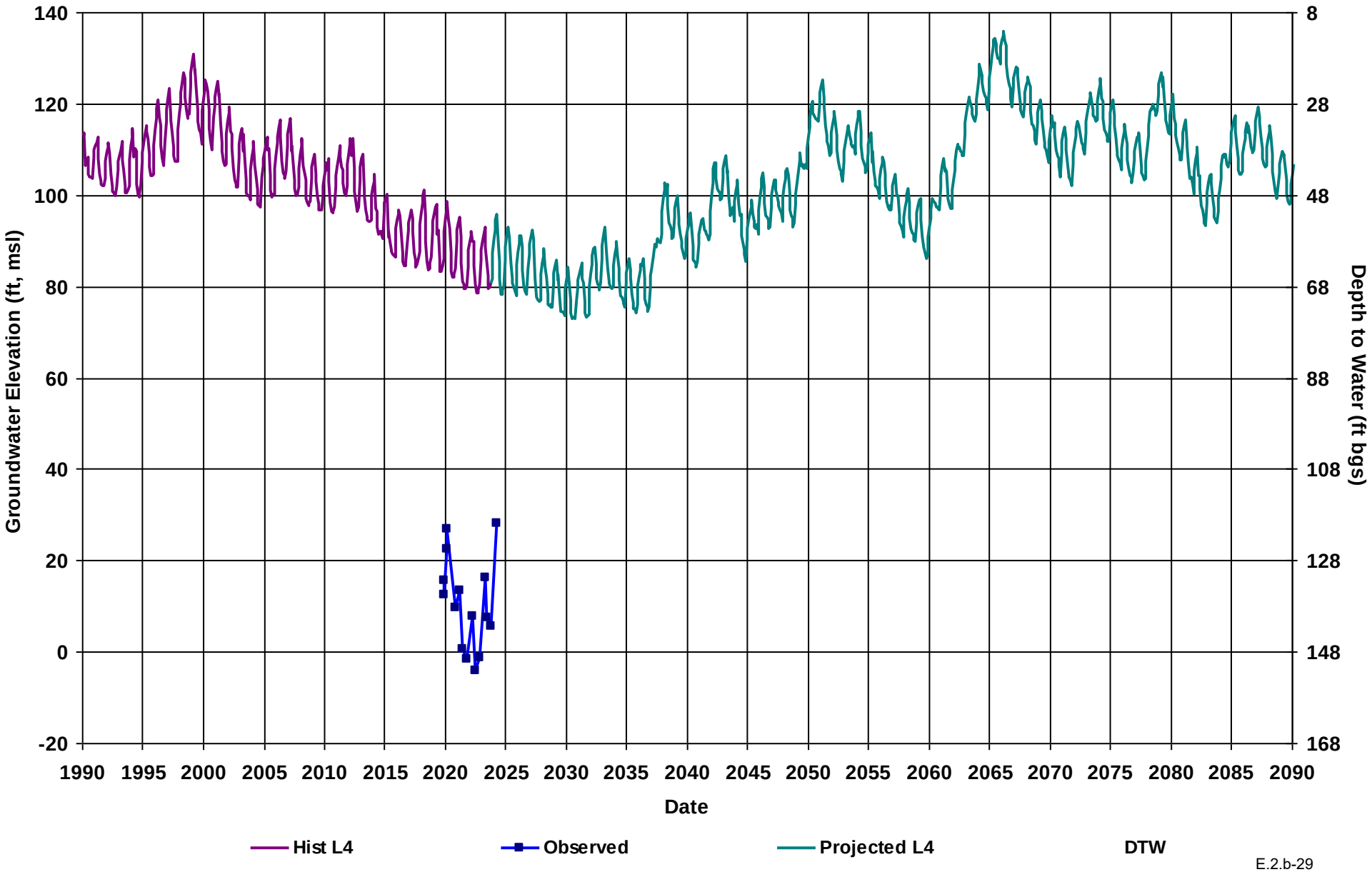
RMS ID: MSB03B
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 295
Perf Top (ft): 215
Perf Bottom (ft): 285
Top Model Layer: 3
Bottom Model Layer: 3



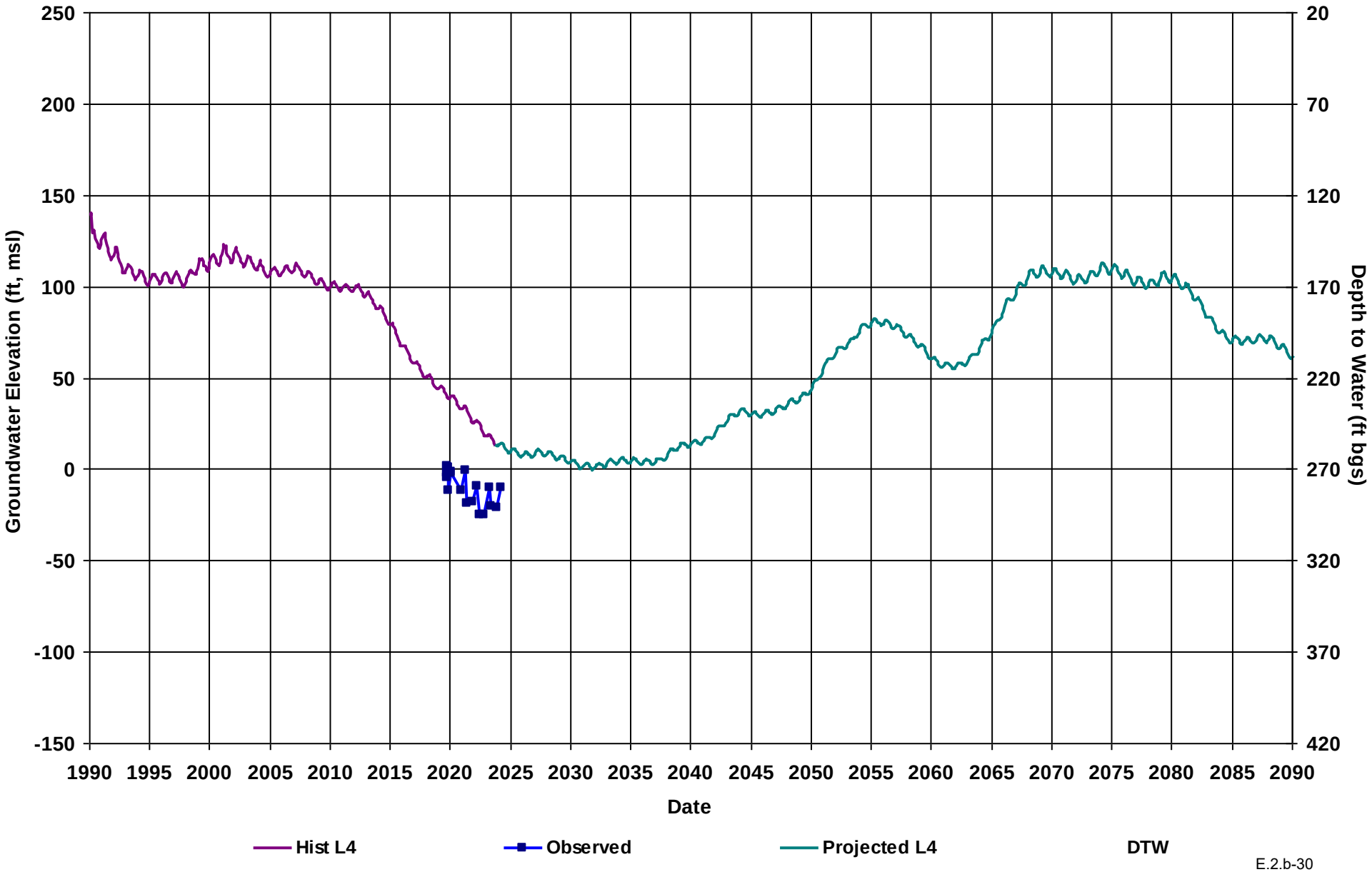
RMS ID: MSB03C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 430
Perf Top (ft): 355
Perf Bottom (ft): 420
Top Model Layer: 4
Bottom Model Layer: 4



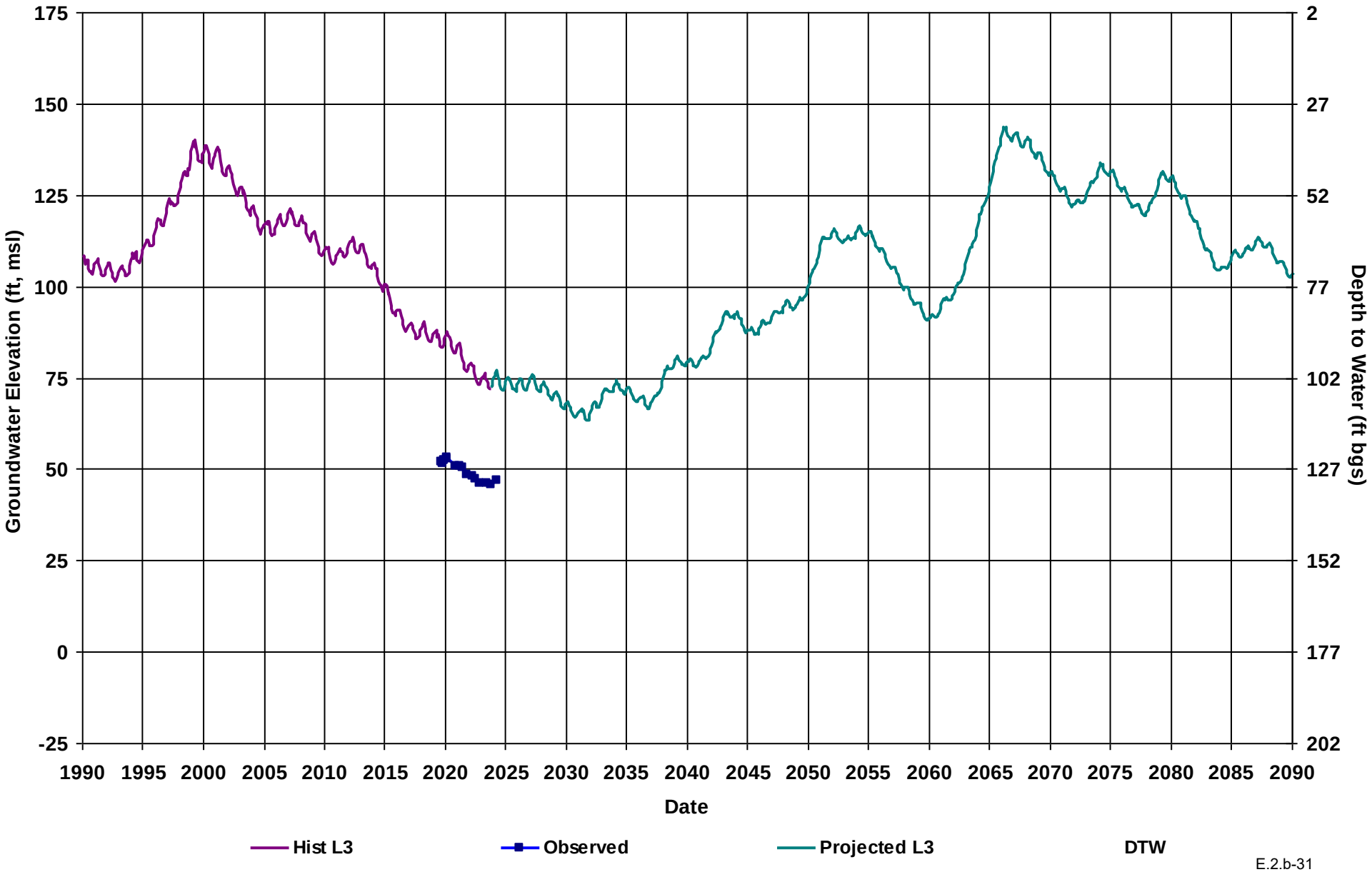
RMS ID: MSB04B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 695
Perf Top (ft): 530
Perf Bottom (ft): 685
Top Model Layer: 4
Bottom Model Layer: 4



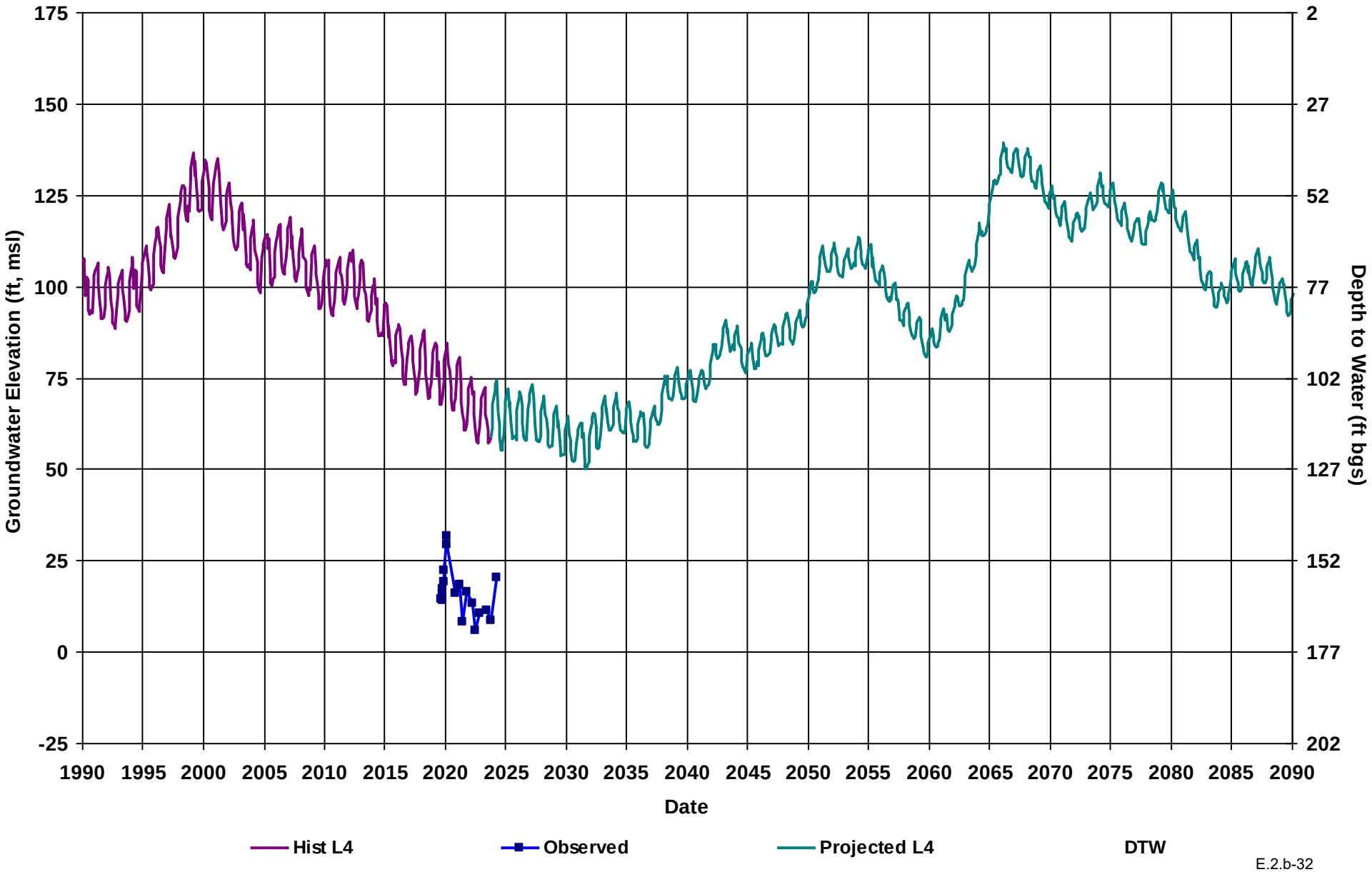
RMS ID: MSB05A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 210
Perf Top (ft): 140
Perf Bottom (ft): 200
Top Model Layer: 3
Bottom Model Layer: 3



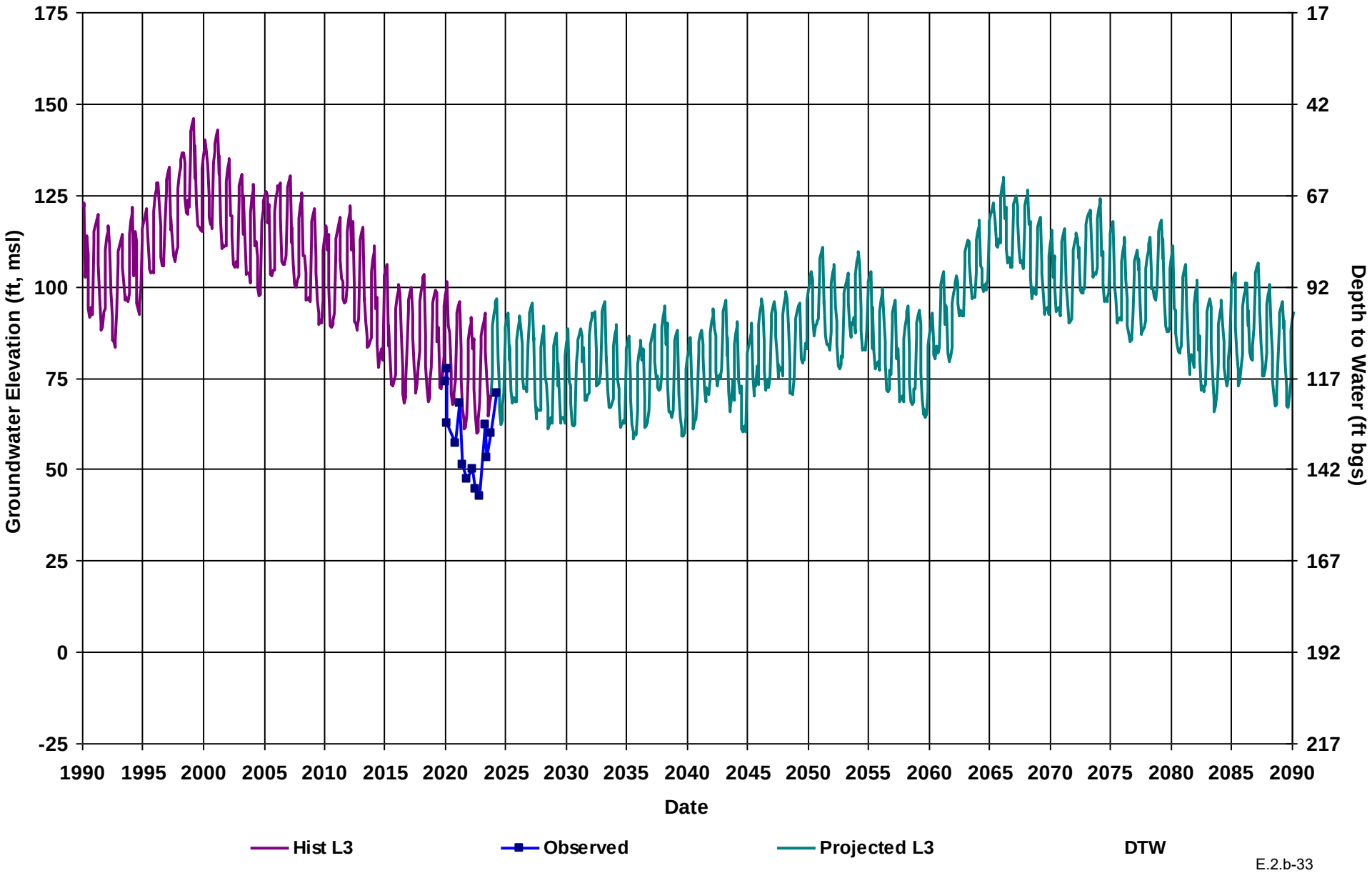
RMS ID: MSB05B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 375
Perf Top (ft): 240
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



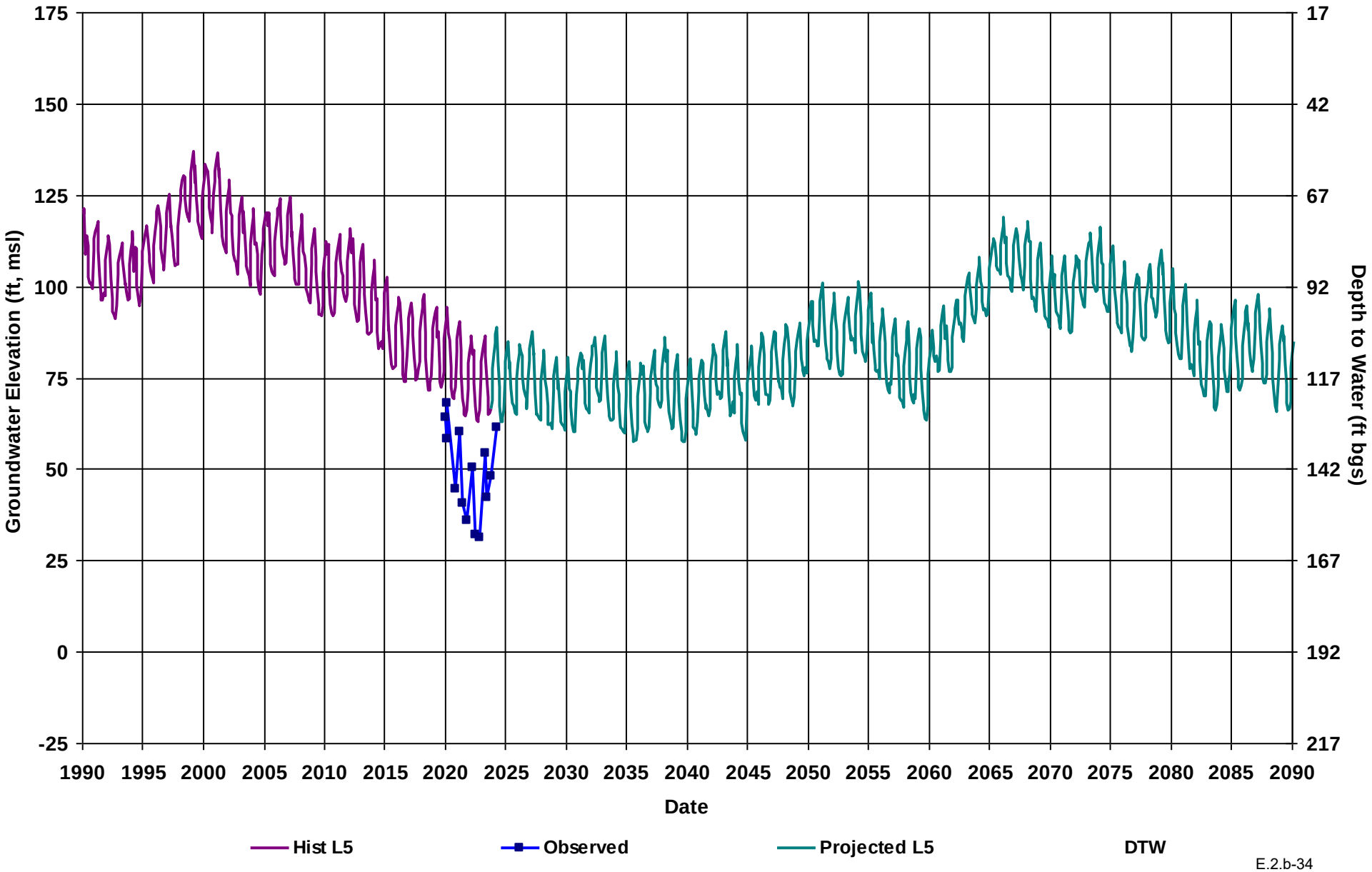
RMS ID: MSB06A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 350
Perf Top (ft): 135
Perf Bottom (ft): 340
Top Model Layer: 3
Bottom Model Layer: 3



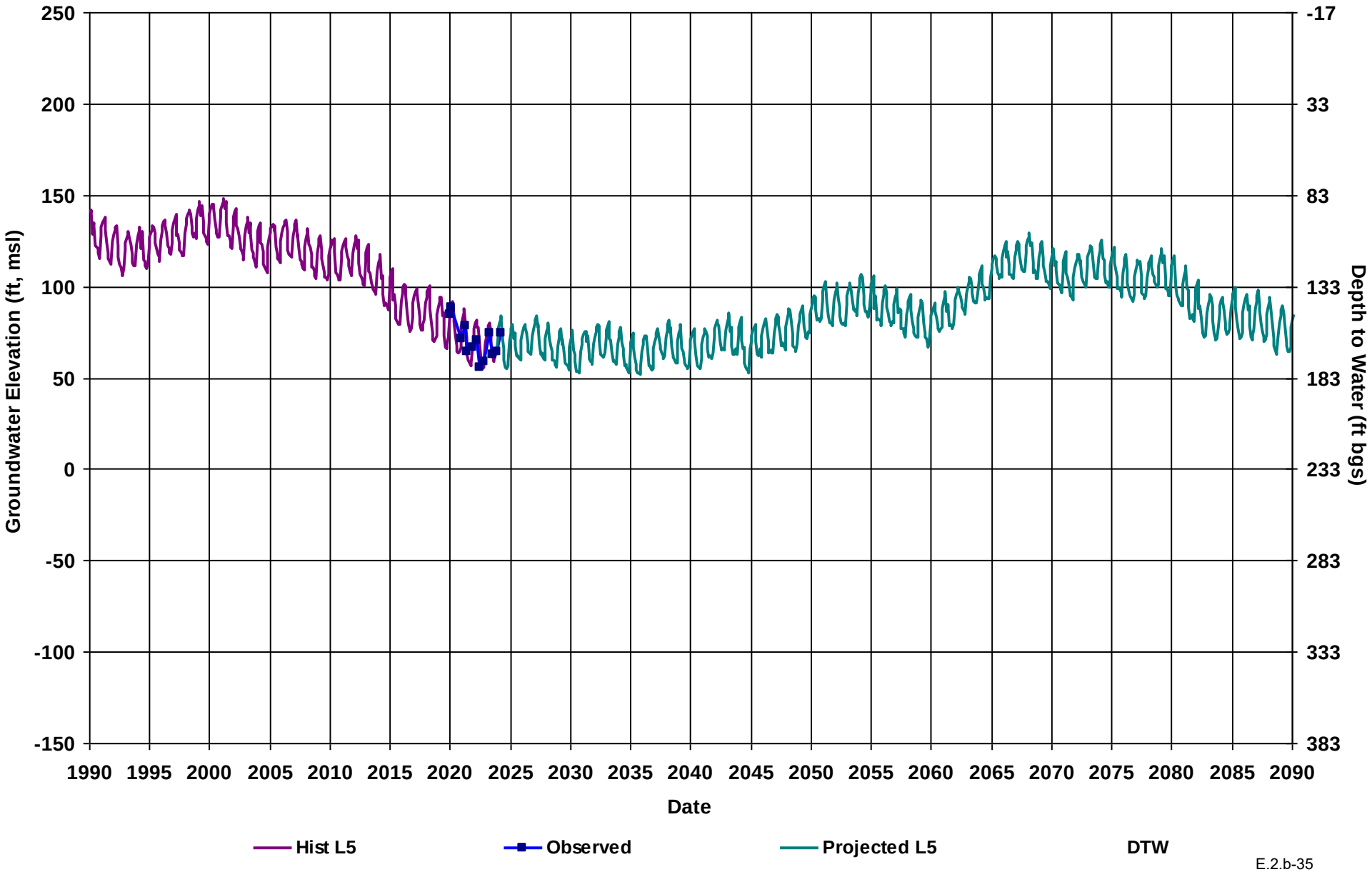
RMS ID: MSB06C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 715
Perf Top (ft): 630
Perf Bottom (ft): 705
Top Model Layer: 5
Bottom Model Layer: 5



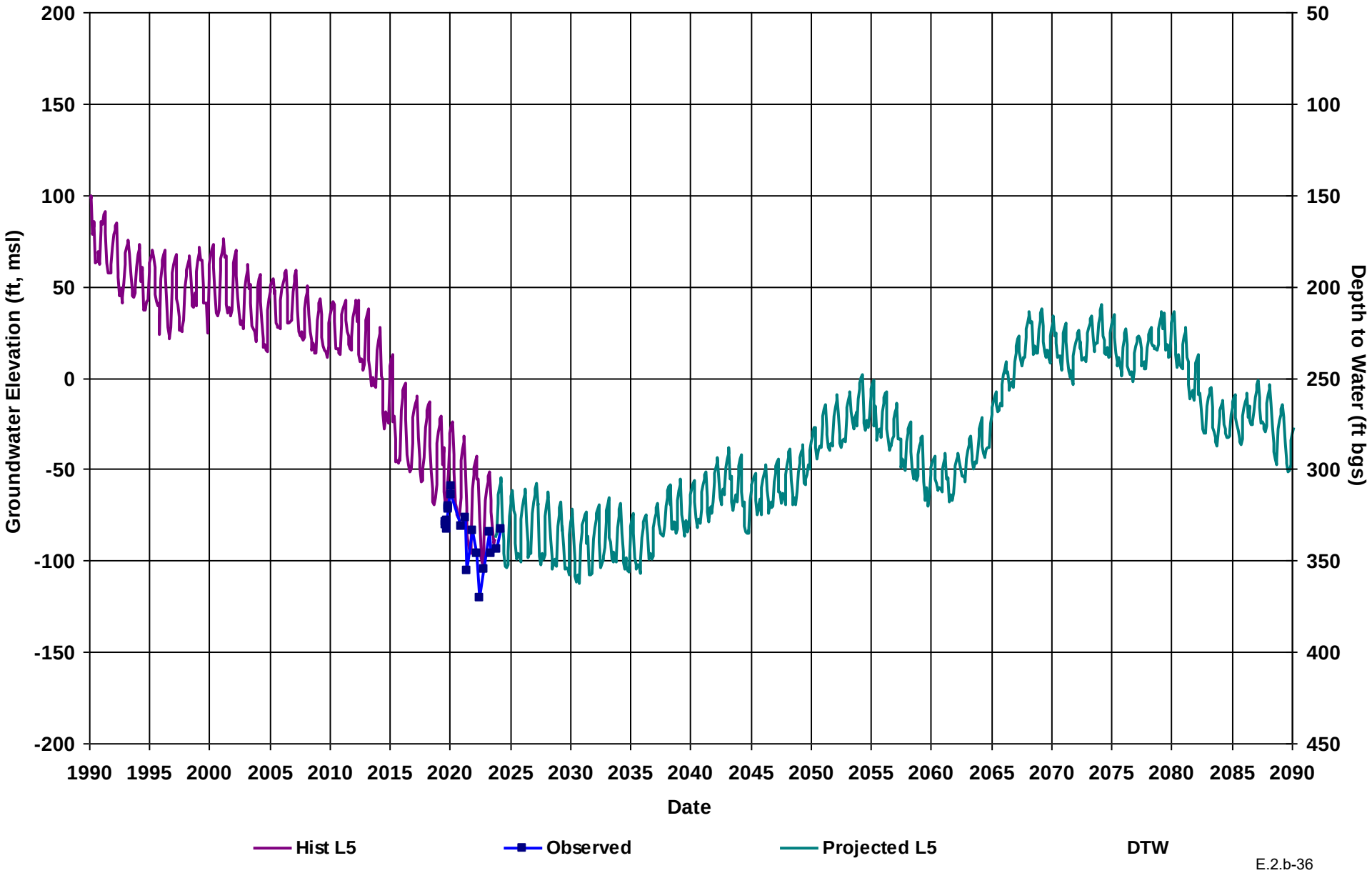
RMS ID: MSB09C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 955
Perf Top (ft): 880
Perf Bottom (ft): 945
Top Model Layer: 5
Bottom Model Layer: 5



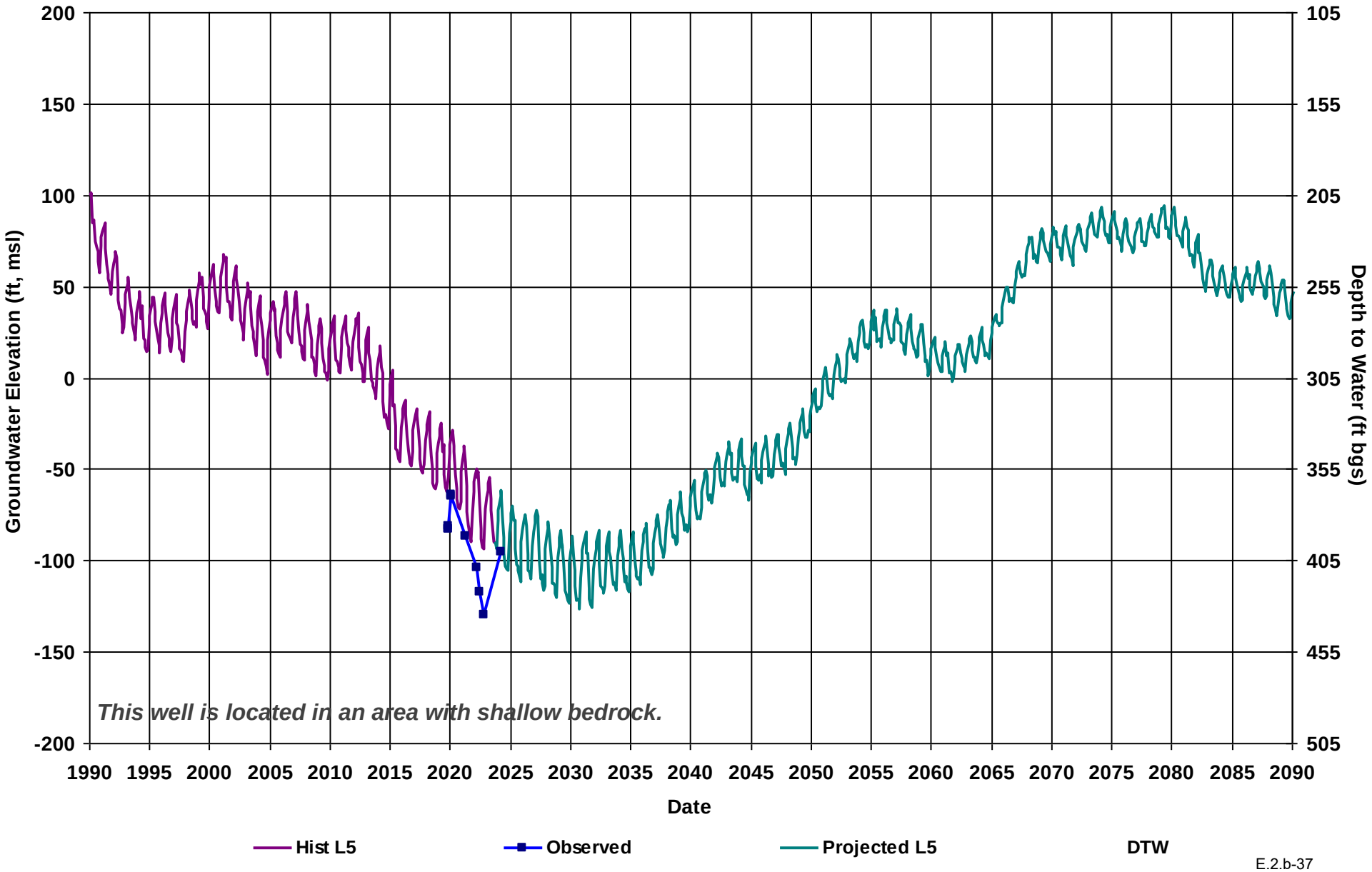
RMS ID: MSB10C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Total Depth (ft): 880
Perf Top (ft): 790
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



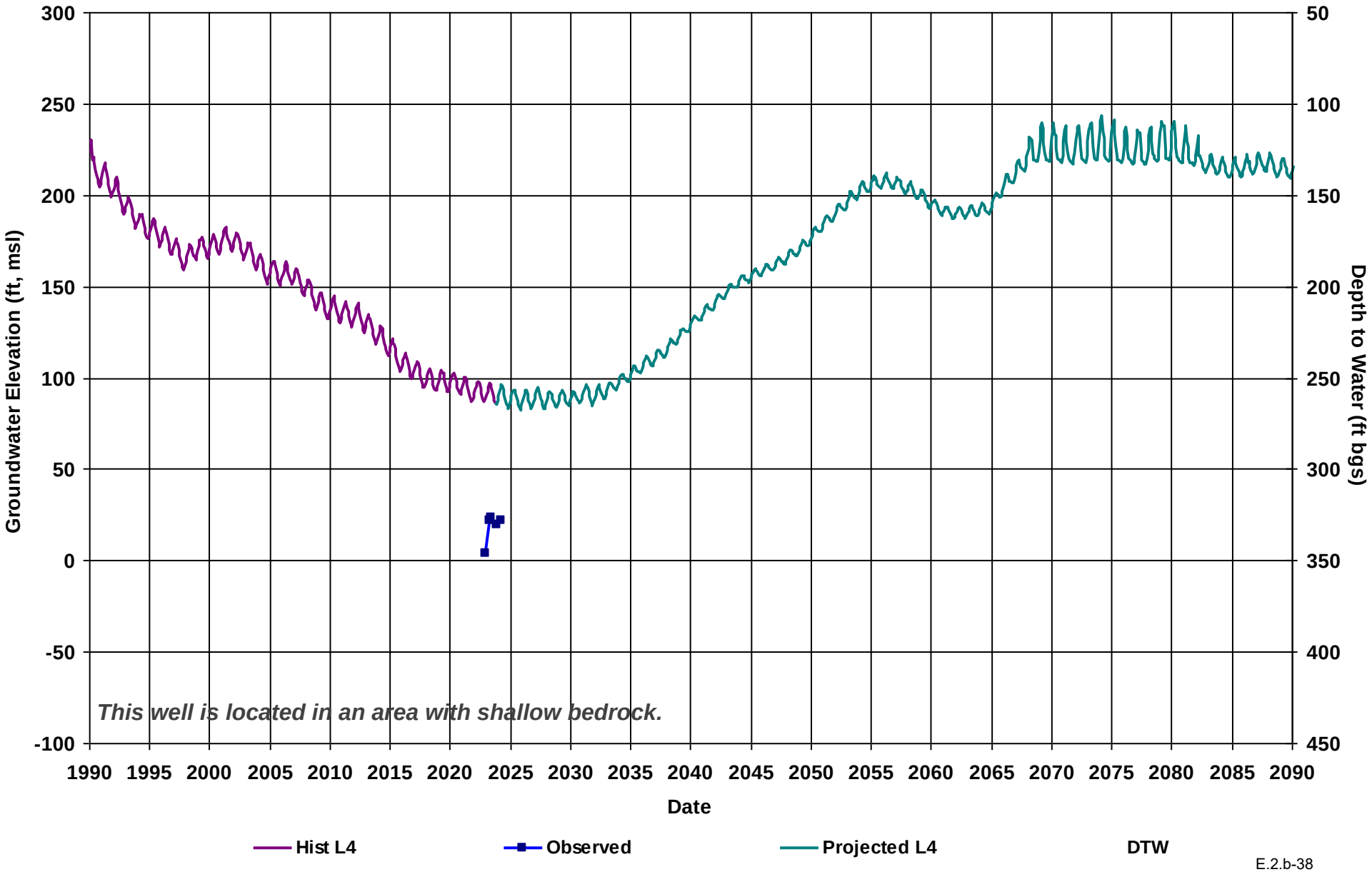
RMS ID: MSB11C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Total Depth (ft): 880
Perf Top (ft): 775
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: MSB12
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 465
Perf Top (ft): 355
Perf Bottom (ft): 465
Top Model Layer: 4
Bottom Model Layer: 4

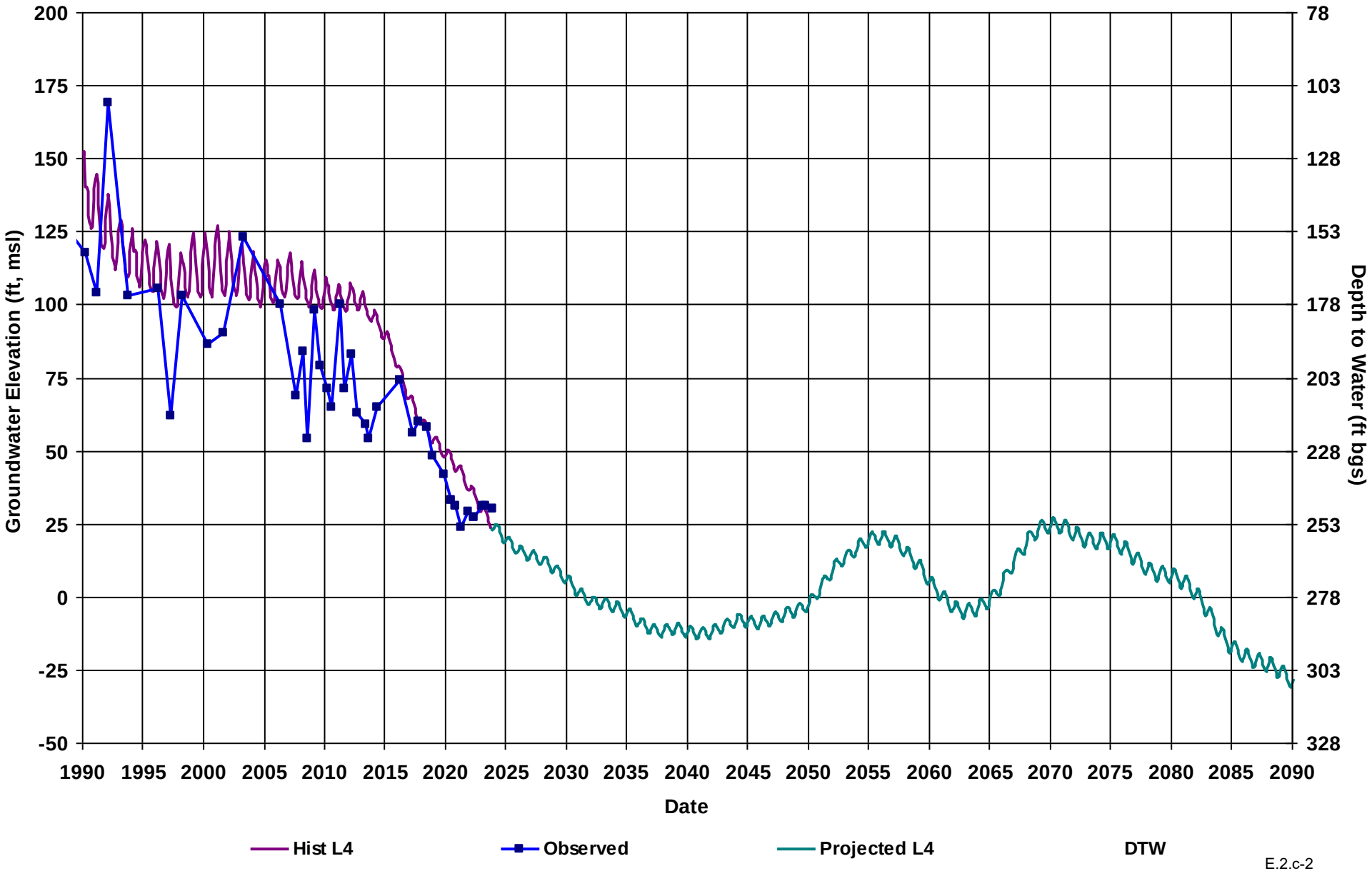


APPENDIX E.2.c

Madera Subbasin Groundwater Elevation Hydrographs for RMS Wells - Projected with Projects with Climate Change Scenario

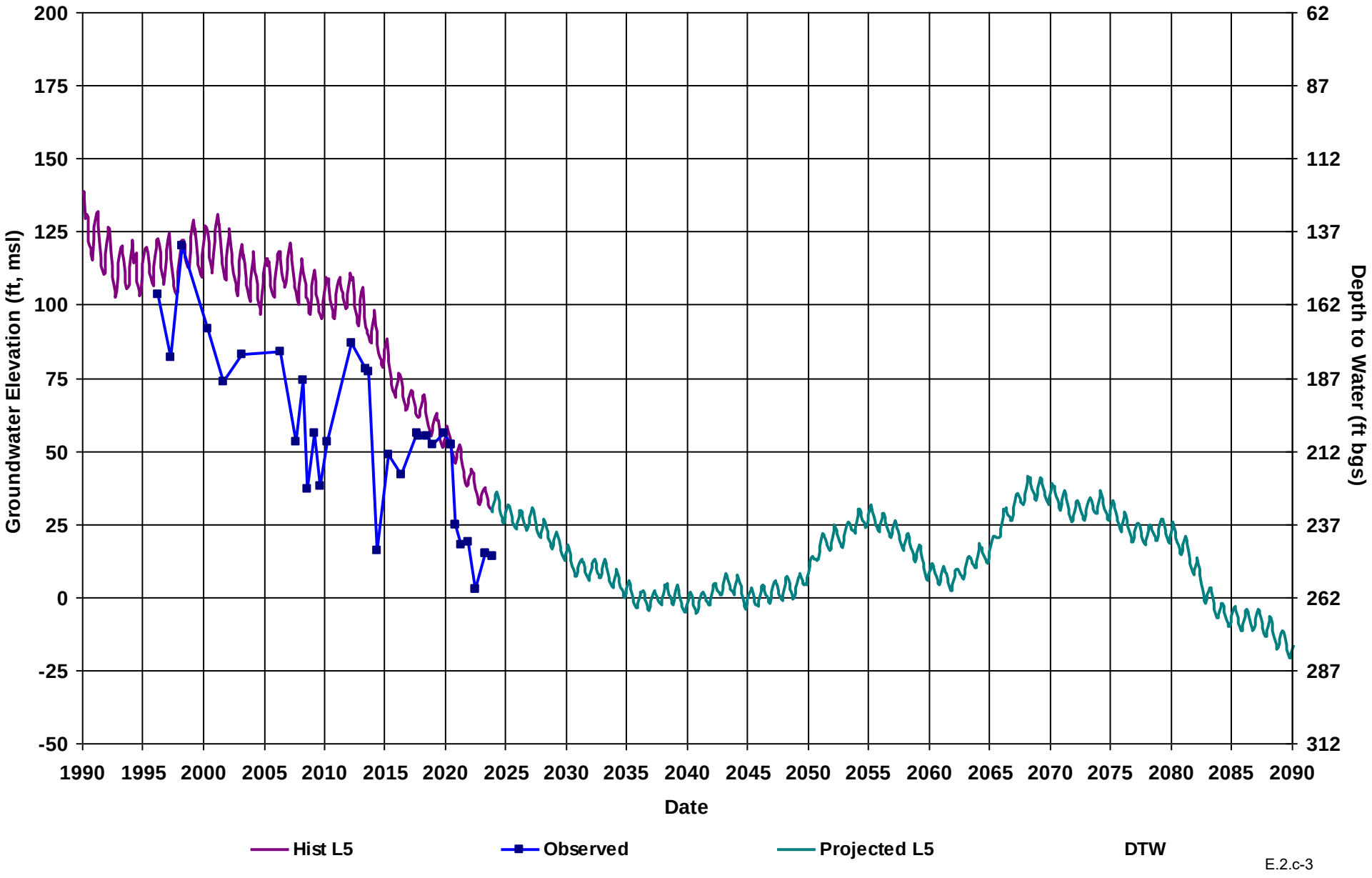
RMS ID: COM RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 278

Total Depth (ft): 520
Perf Top (ft): 210
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



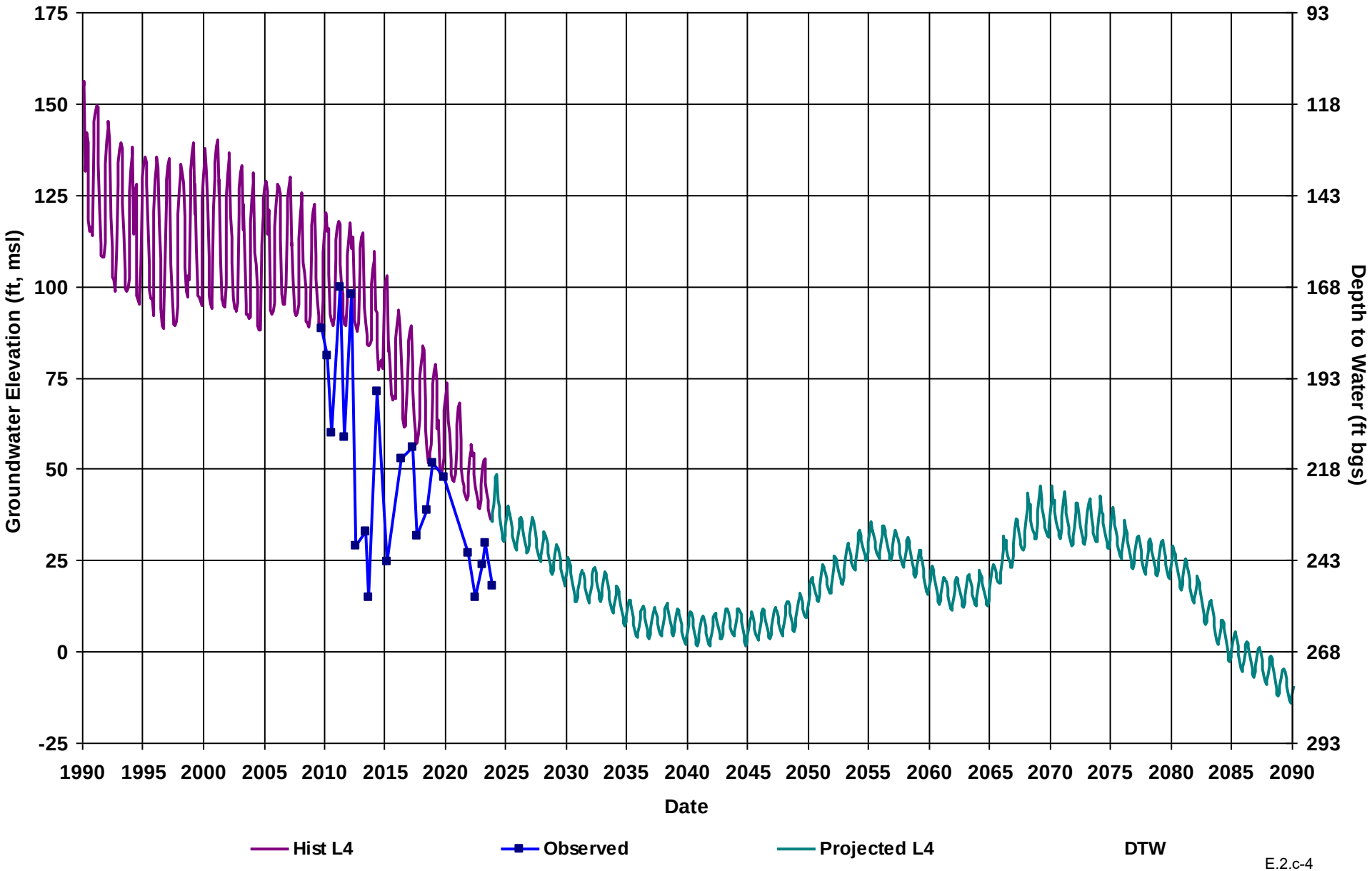
RMS ID: COM RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 262

Total Depth (ft): 590
Perf Top (ft): 370
Perf Bottom (ft): 590
Top Model Layer: 5
Bottom Model Layer: 5



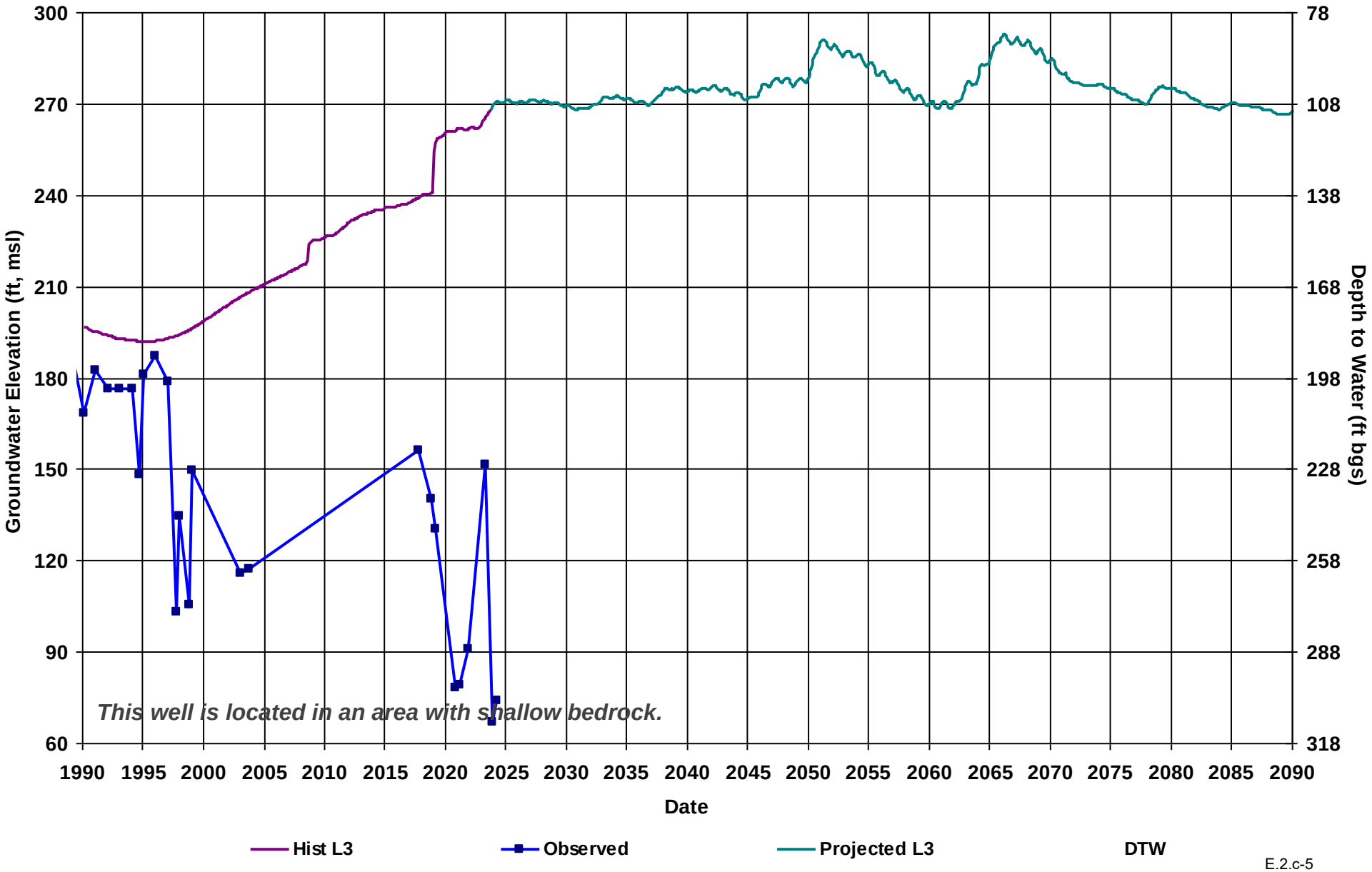
RMS ID: COM RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 267

Total Depth (ft): 588
Perf Top (ft): 433
Perf Bottom (ft): 568
Top Model Layer: 4
Bottom Model Layer: 4



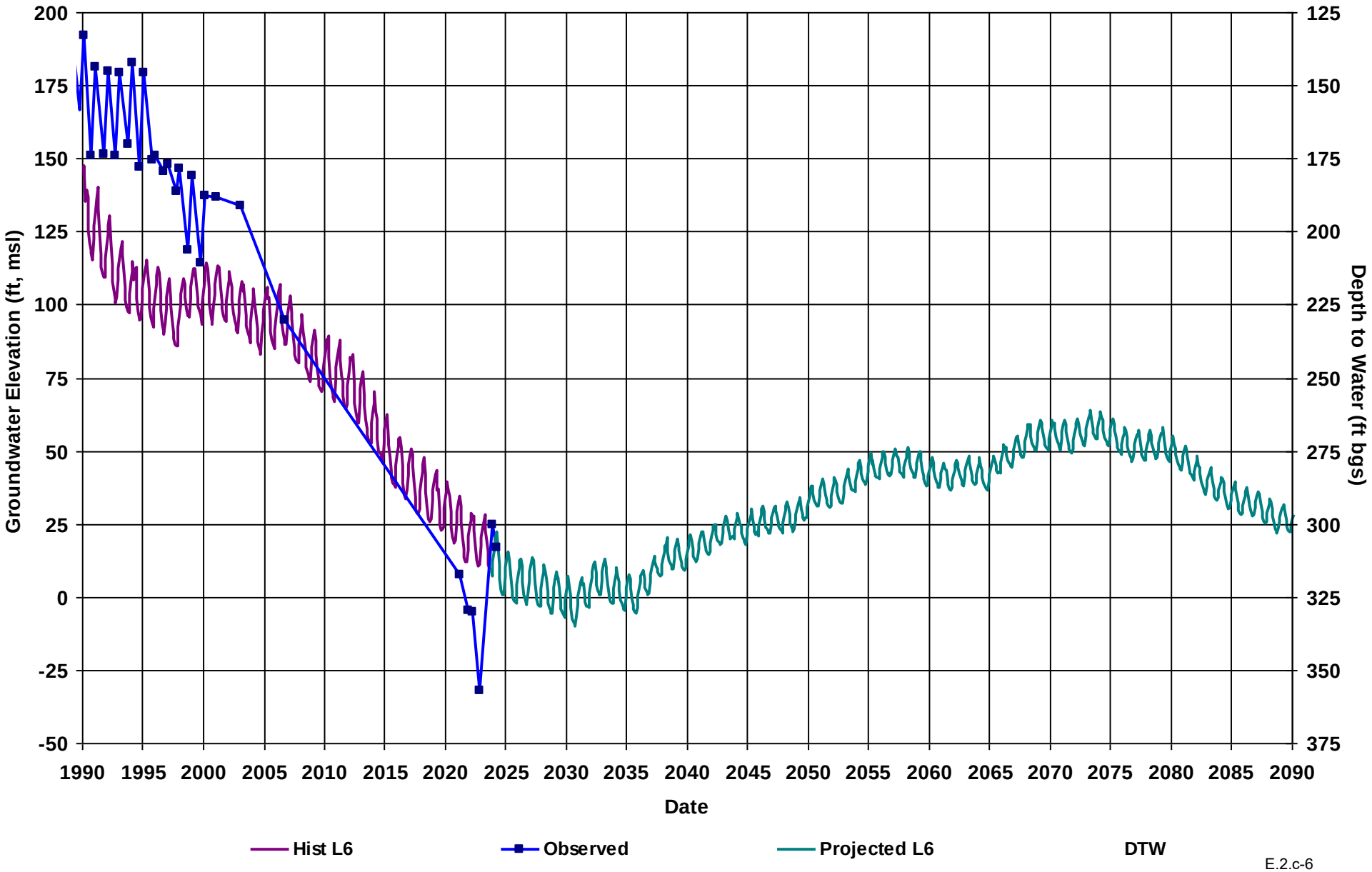
RMS ID: MCE RMS-2
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 378

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



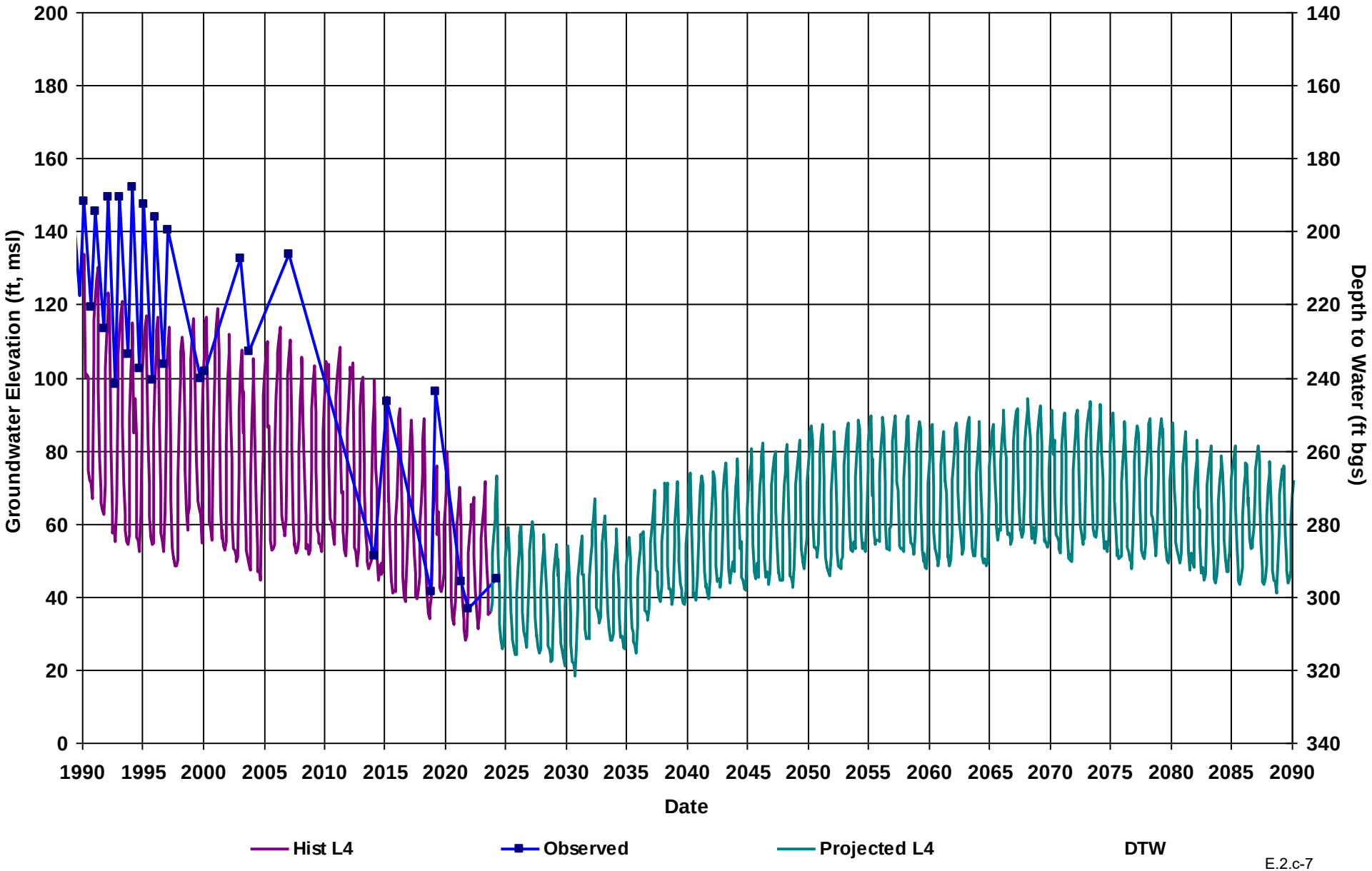
RMS ID: MCE RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 325

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



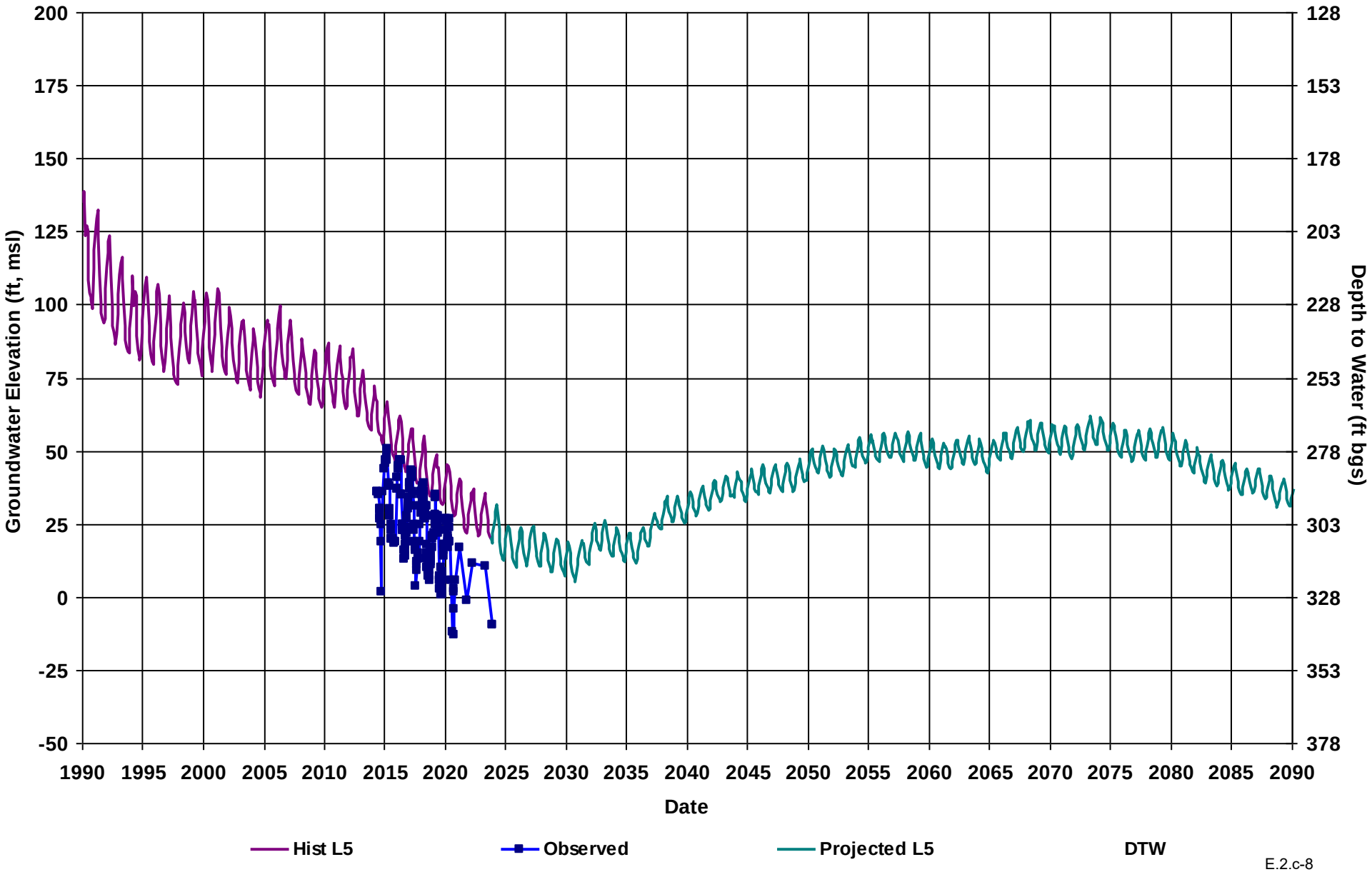
RMS ID: MCE RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



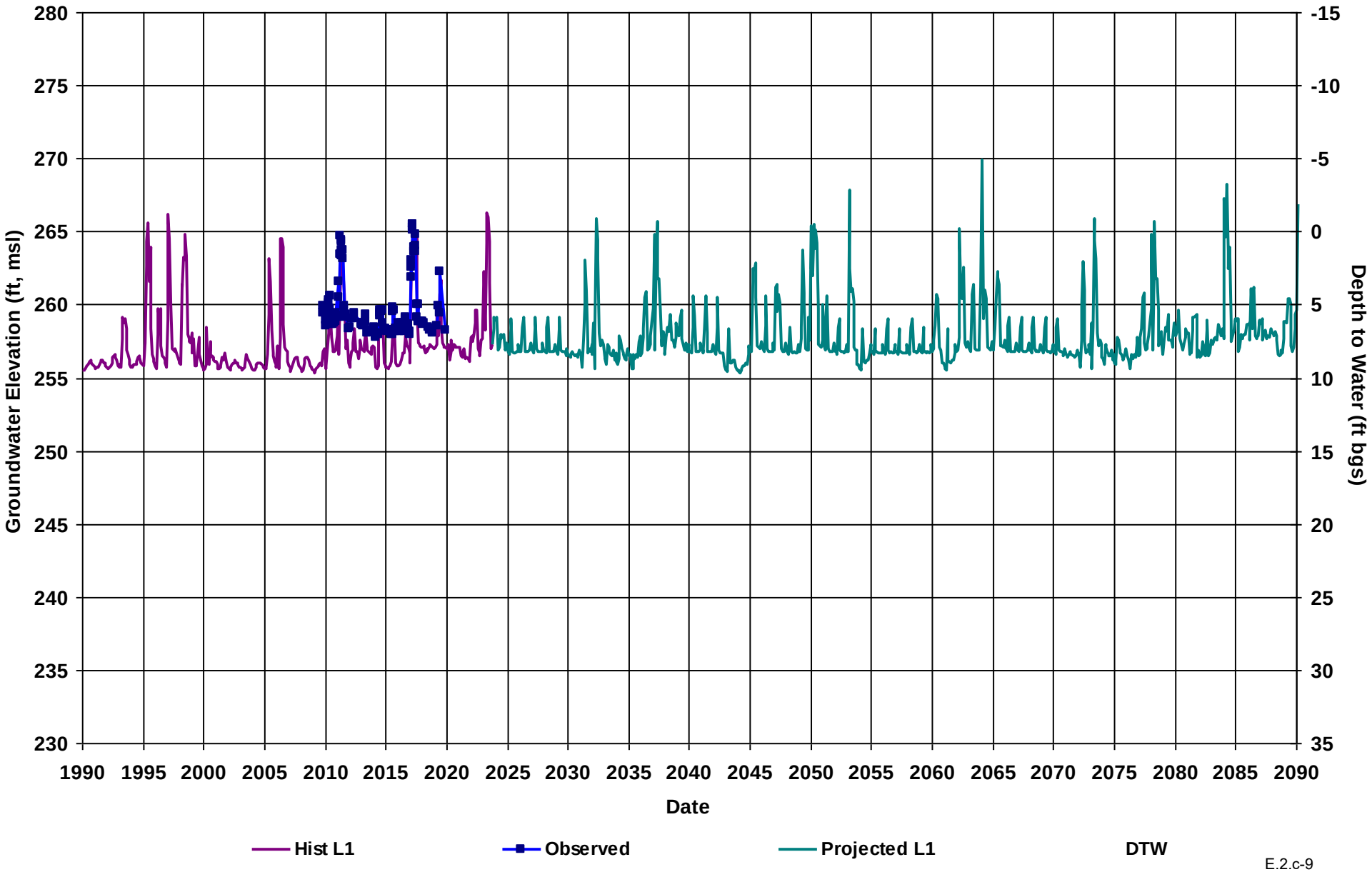
RMS ID: MCE RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 328

Total Depth (ft): 550
Perf Top (ft): 450
Perf Bottom (ft): 550
Top Model Layer: 5
Bottom Model Layer: 5



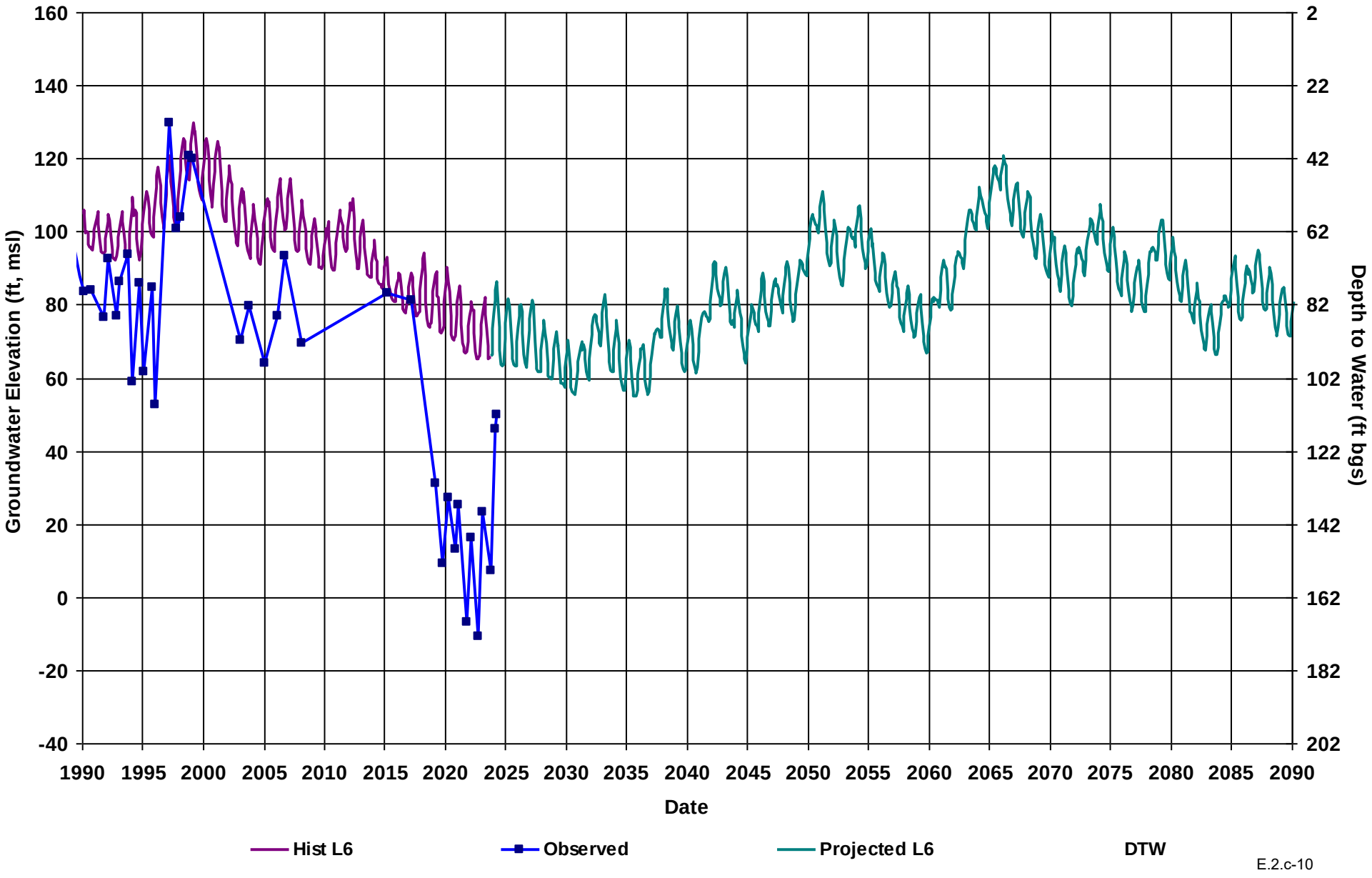
RMS ID: MCE RMS-9
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



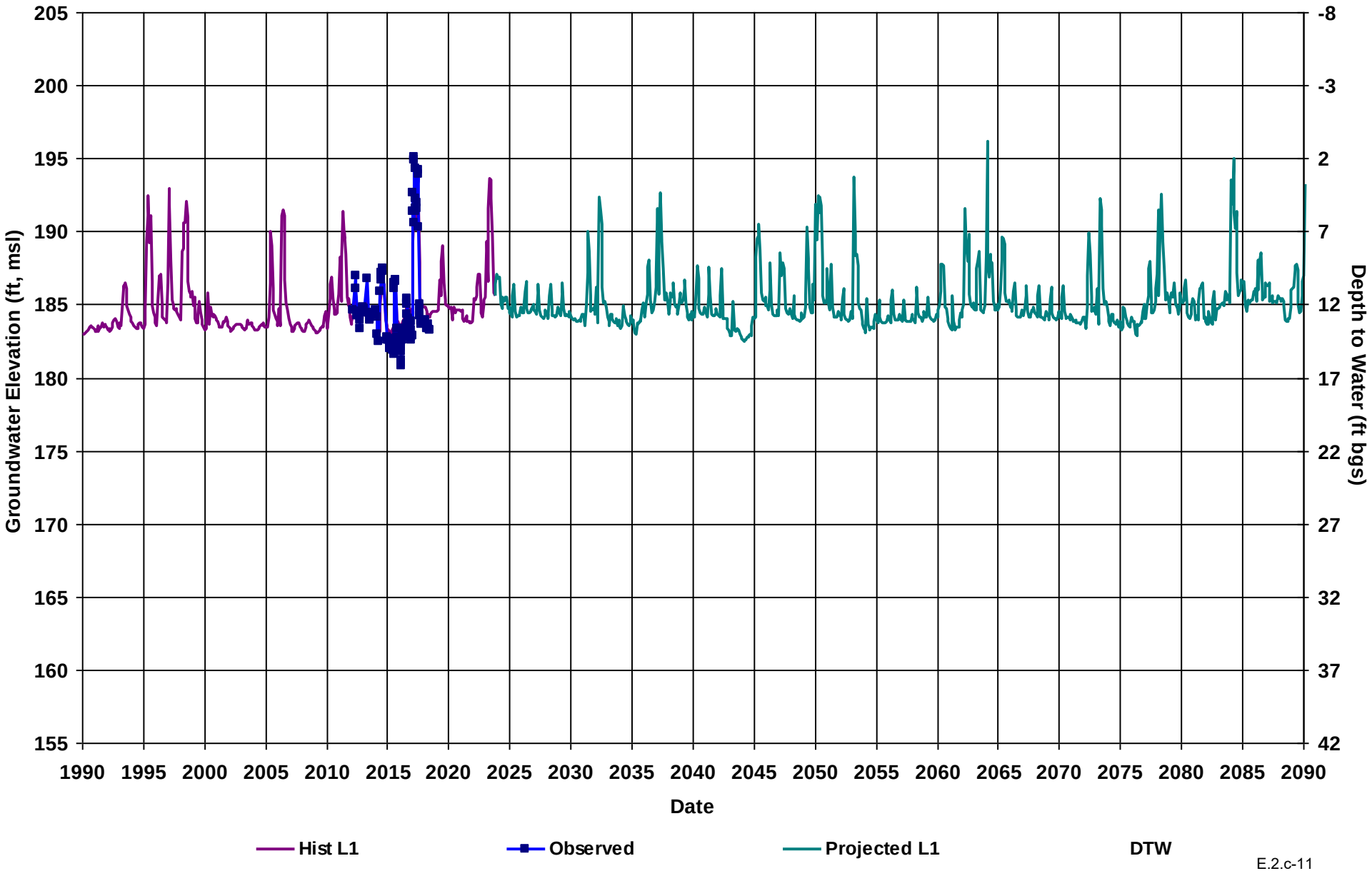
RMS ID: MCW RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 163

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



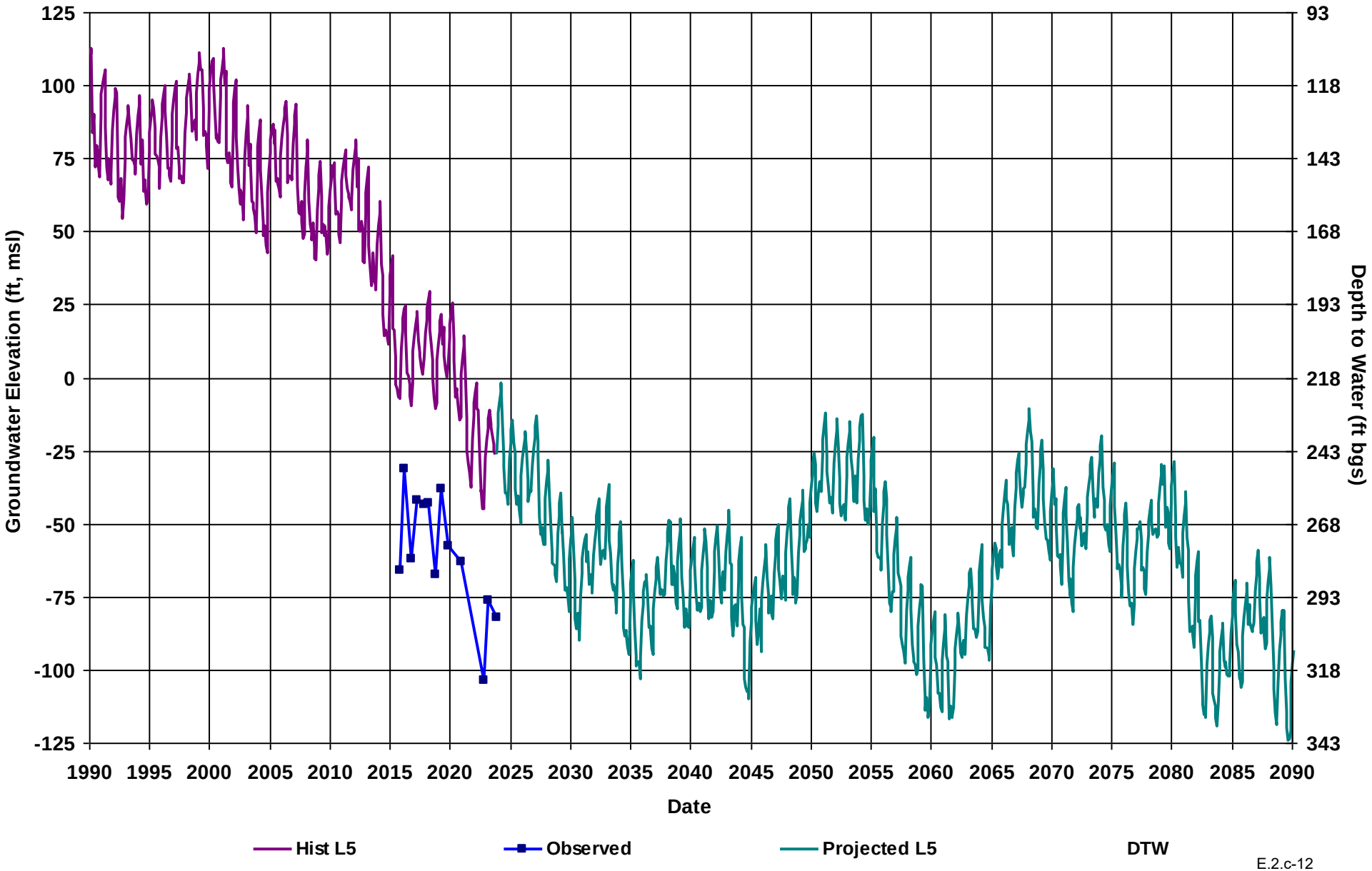
RMS ID: MCW RMS-5
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 199

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



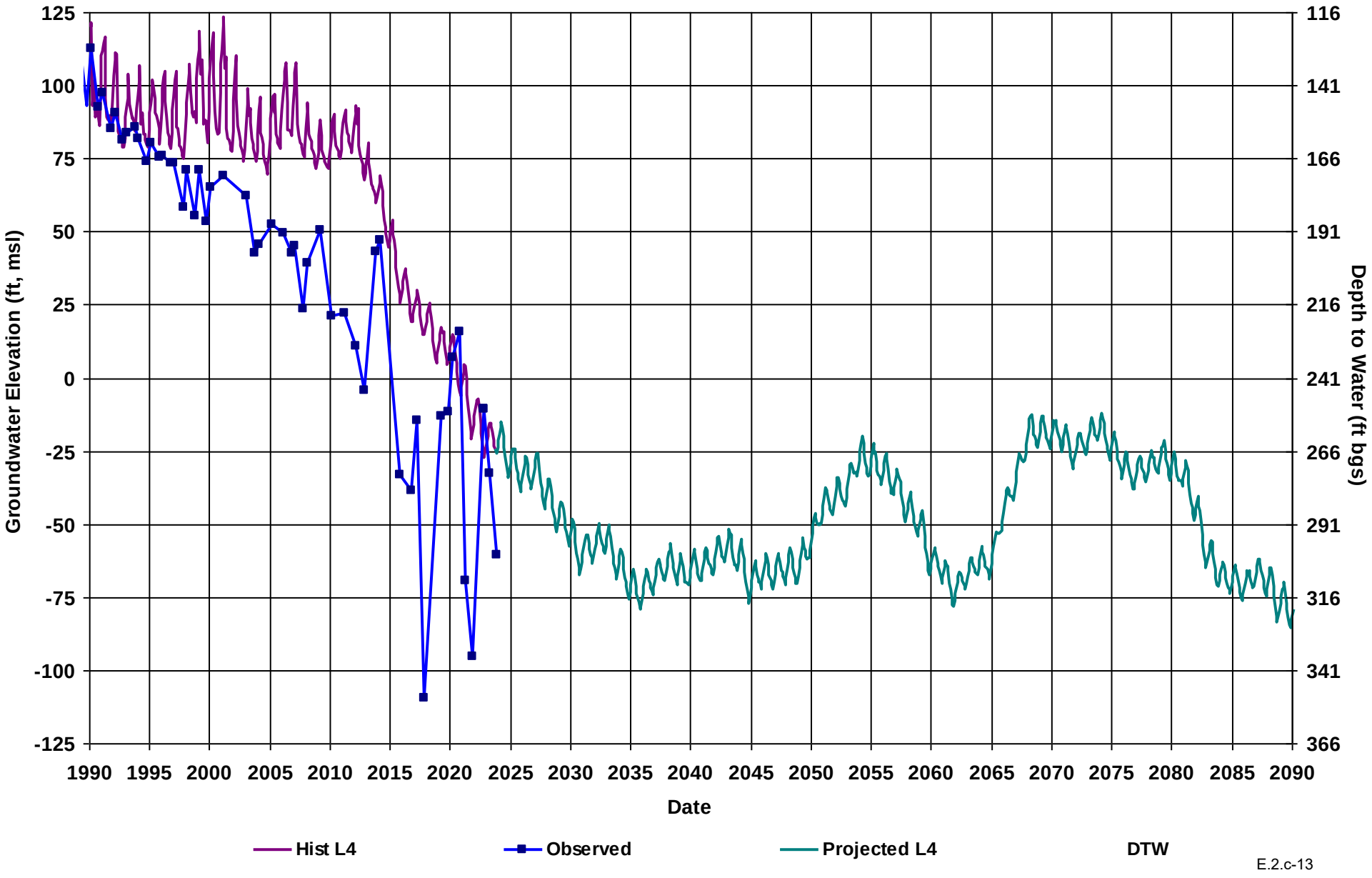
RMS ID: MID RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 294

Total Depth (ft): 563
Perf Top (ft): 298
Perf Bottom (ft): 509
Top Model Layer: 5
Bottom Model Layer: 5



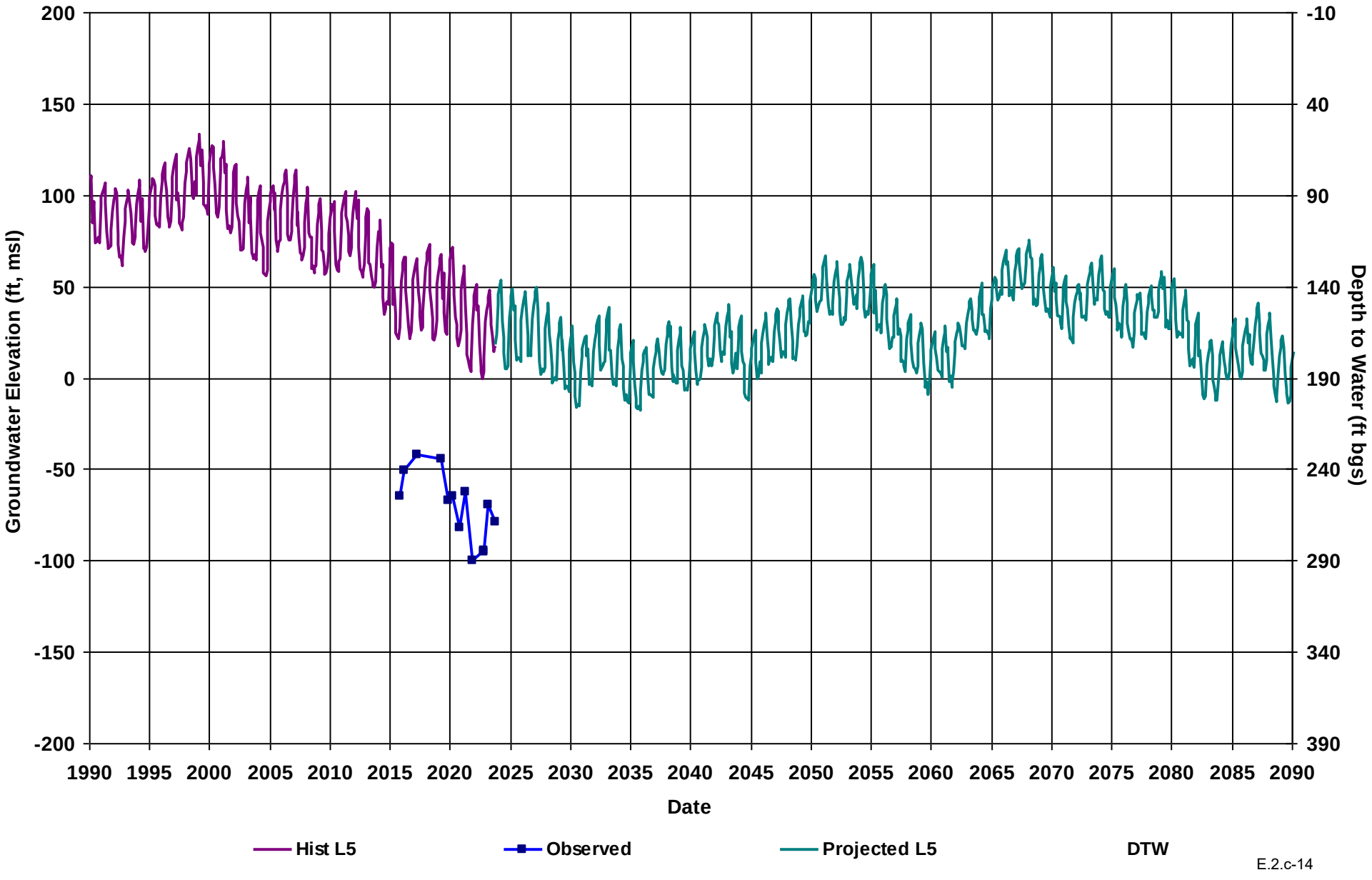
RMS ID: MID RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Total Depth (ft): 516
Perf Top (ft): 260
Perf Bottom (ft): 507
Top Model Layer: 4
Bottom Model Layer: 4



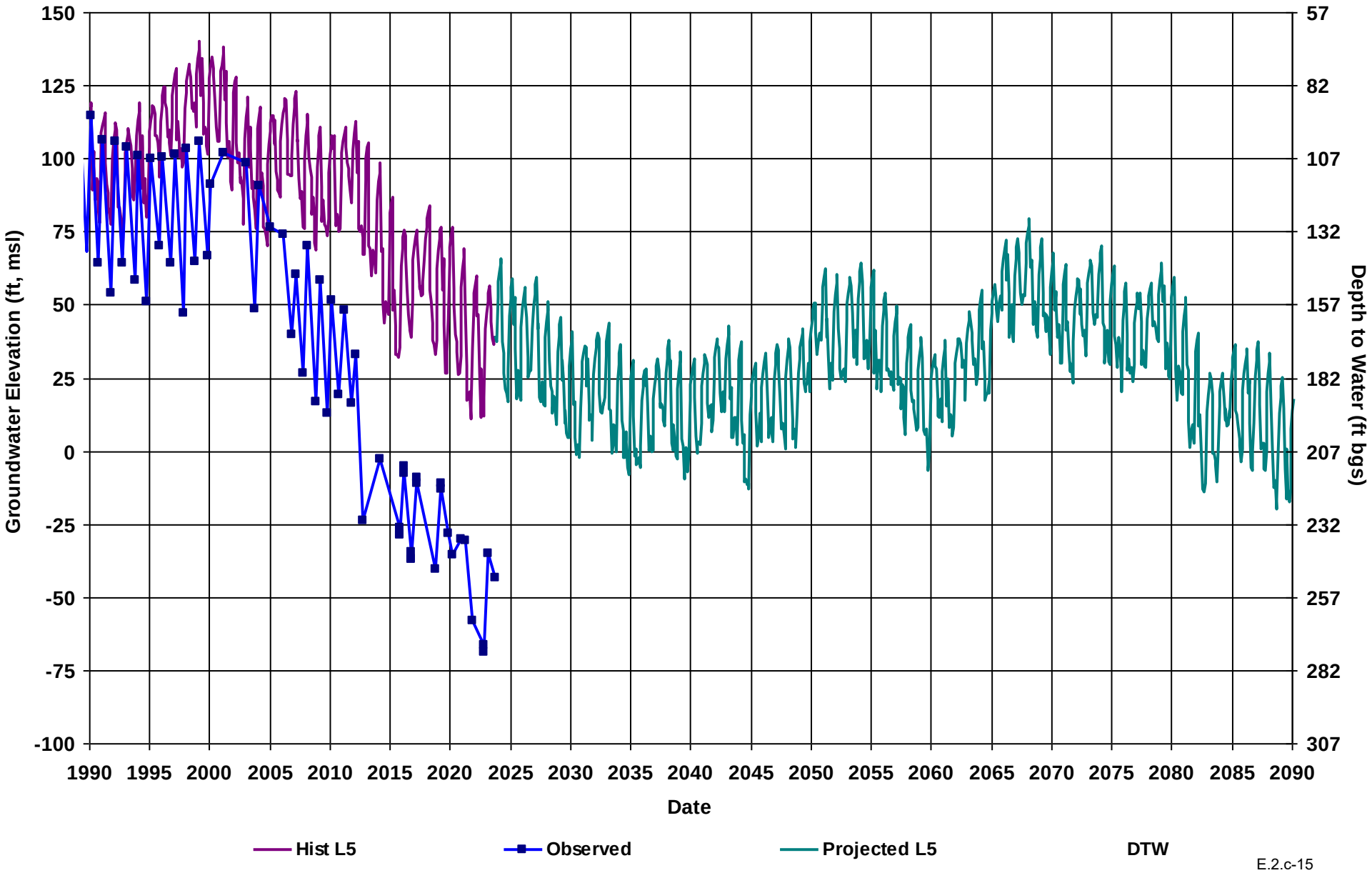
RMS ID: MID RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 259

Total Depth (ft): 698
Perf Top (ft): 320
Perf Bottom (ft): 667
Top Model Layer: 5
Bottom Model Layer: 5



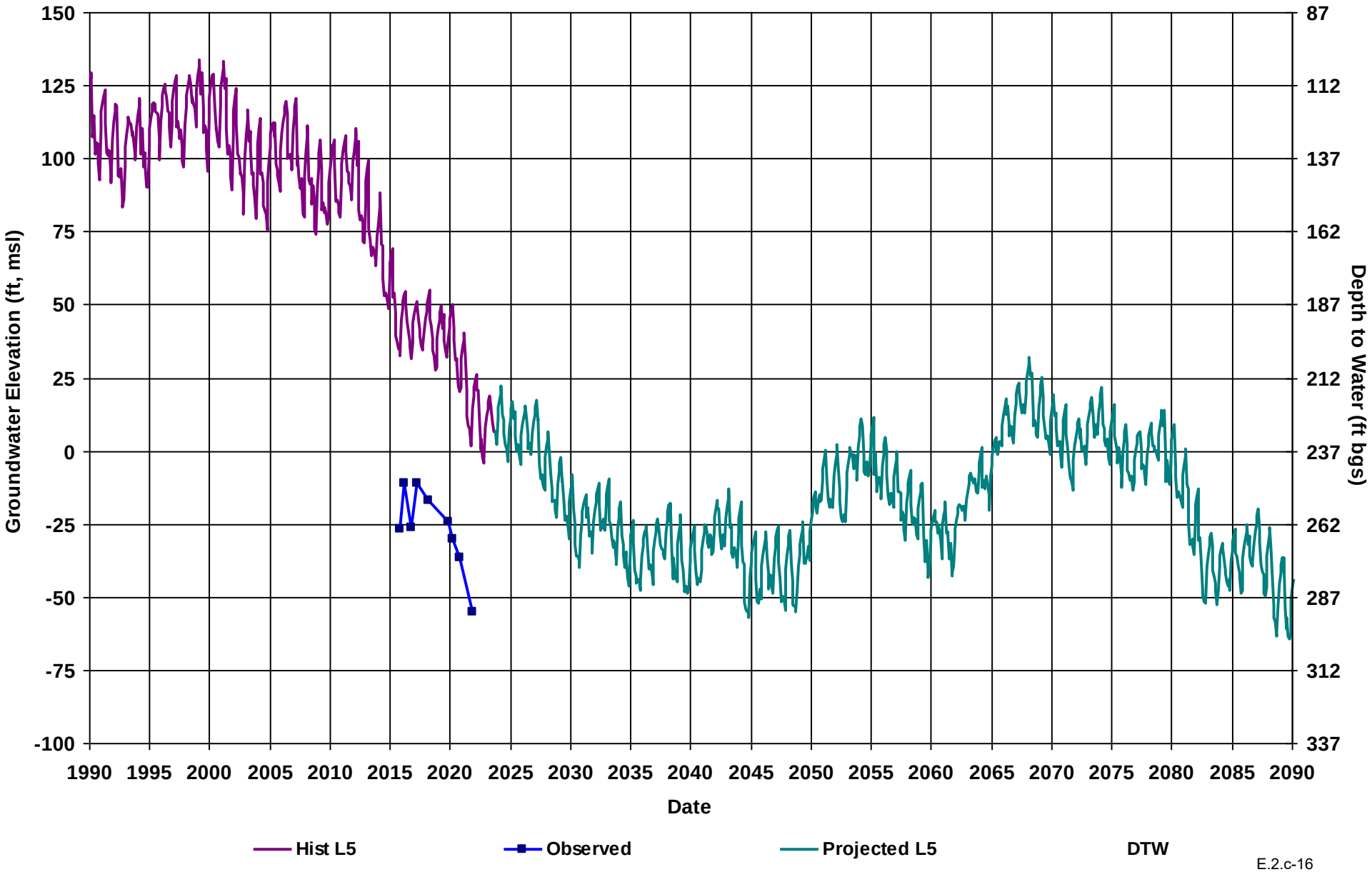
RMS ID: MID RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 239

Total Depth (ft): 570
Perf Top (ft): 270
Perf Bottom (ft): 570
Top Model Layer: 5
Bottom Model Layer: 5



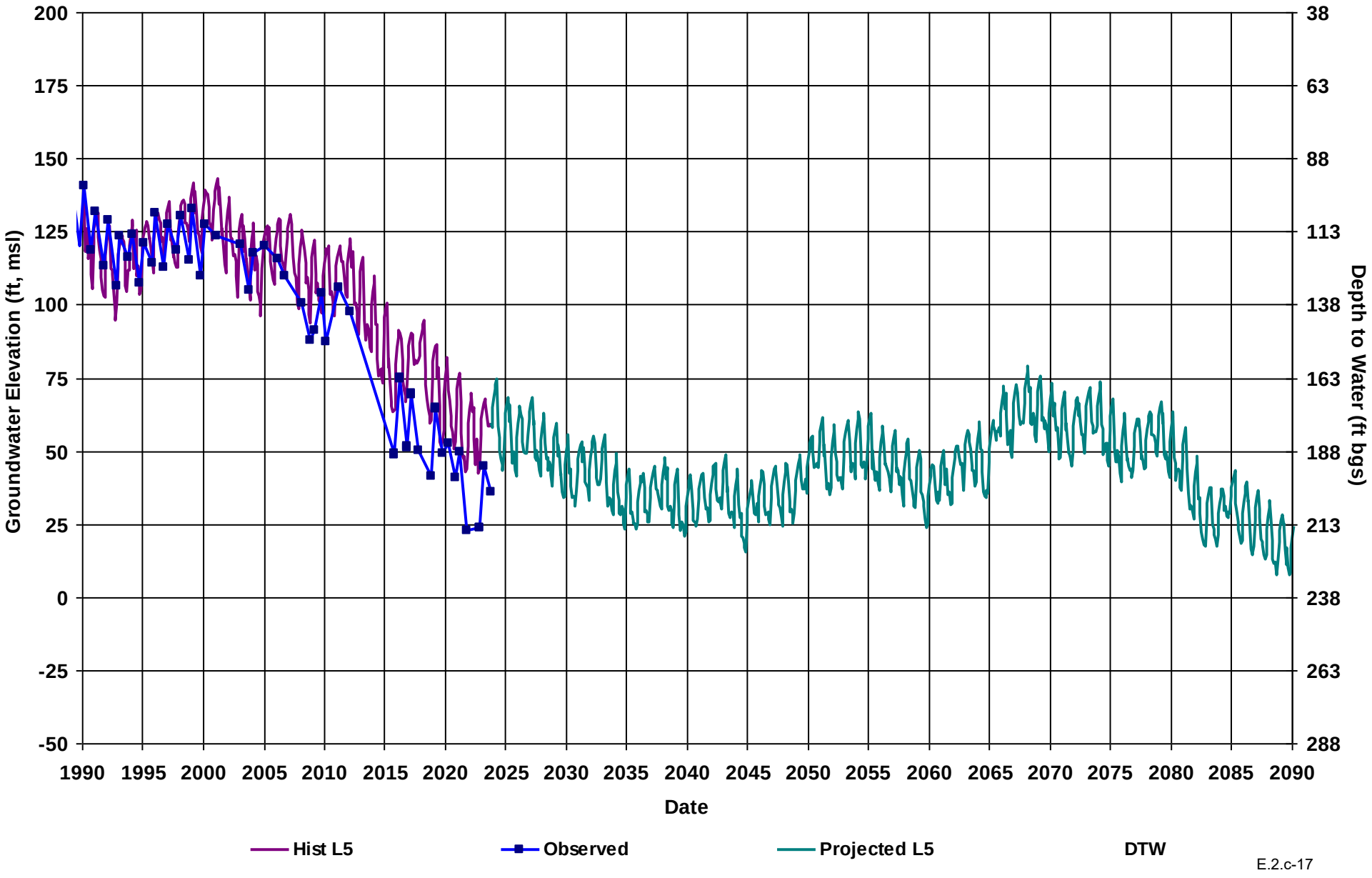
RMS ID: MID RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 237

Total Depth (ft): 680
Perf Top (ft): 320
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



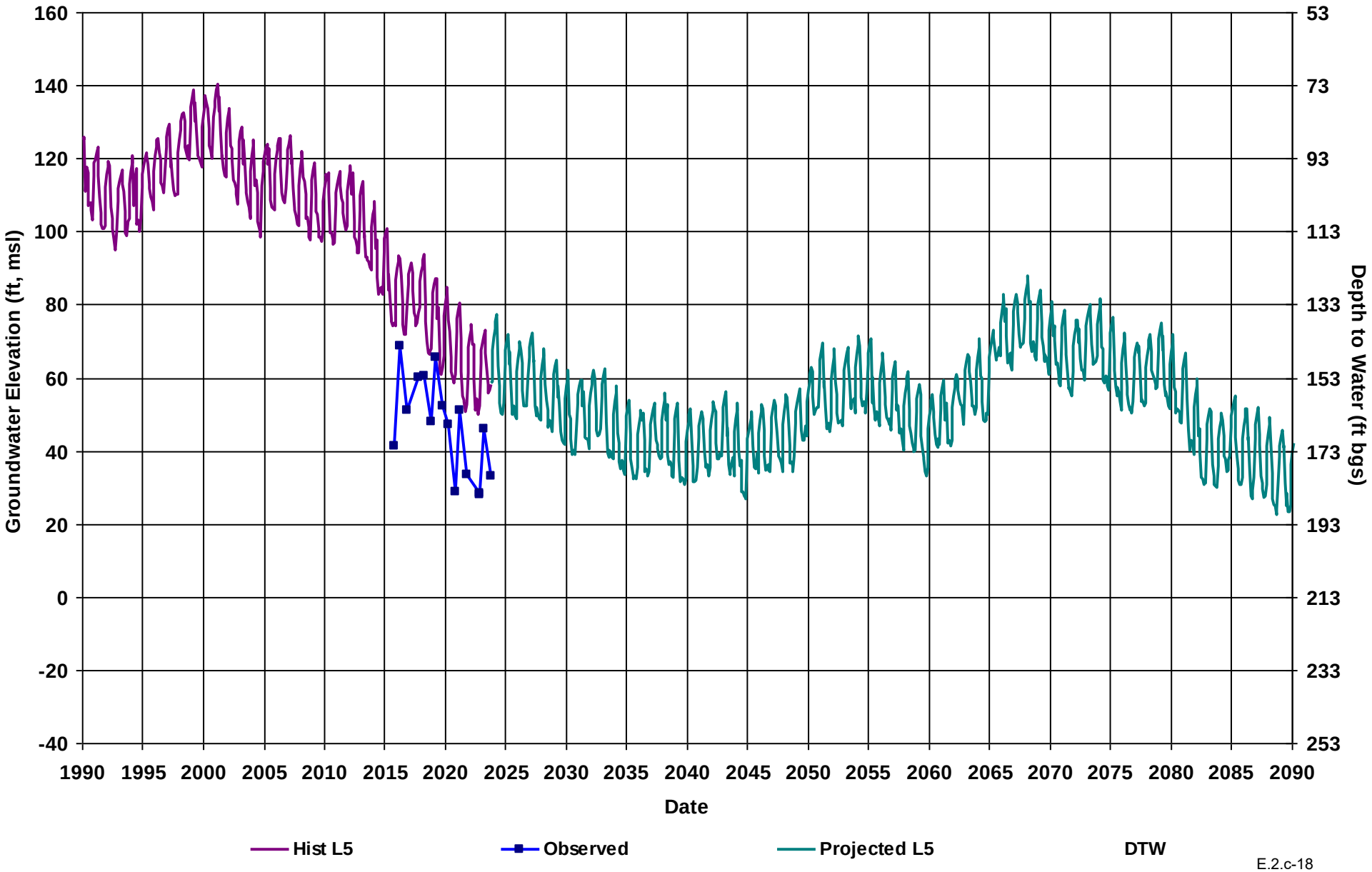
RMS ID: MID RMS-7
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 238

Total Depth (ft): 656
Perf Top (ft): 290
Perf Bottom (ft): 635
Top Model Layer: 5
Bottom Model Layer: 5



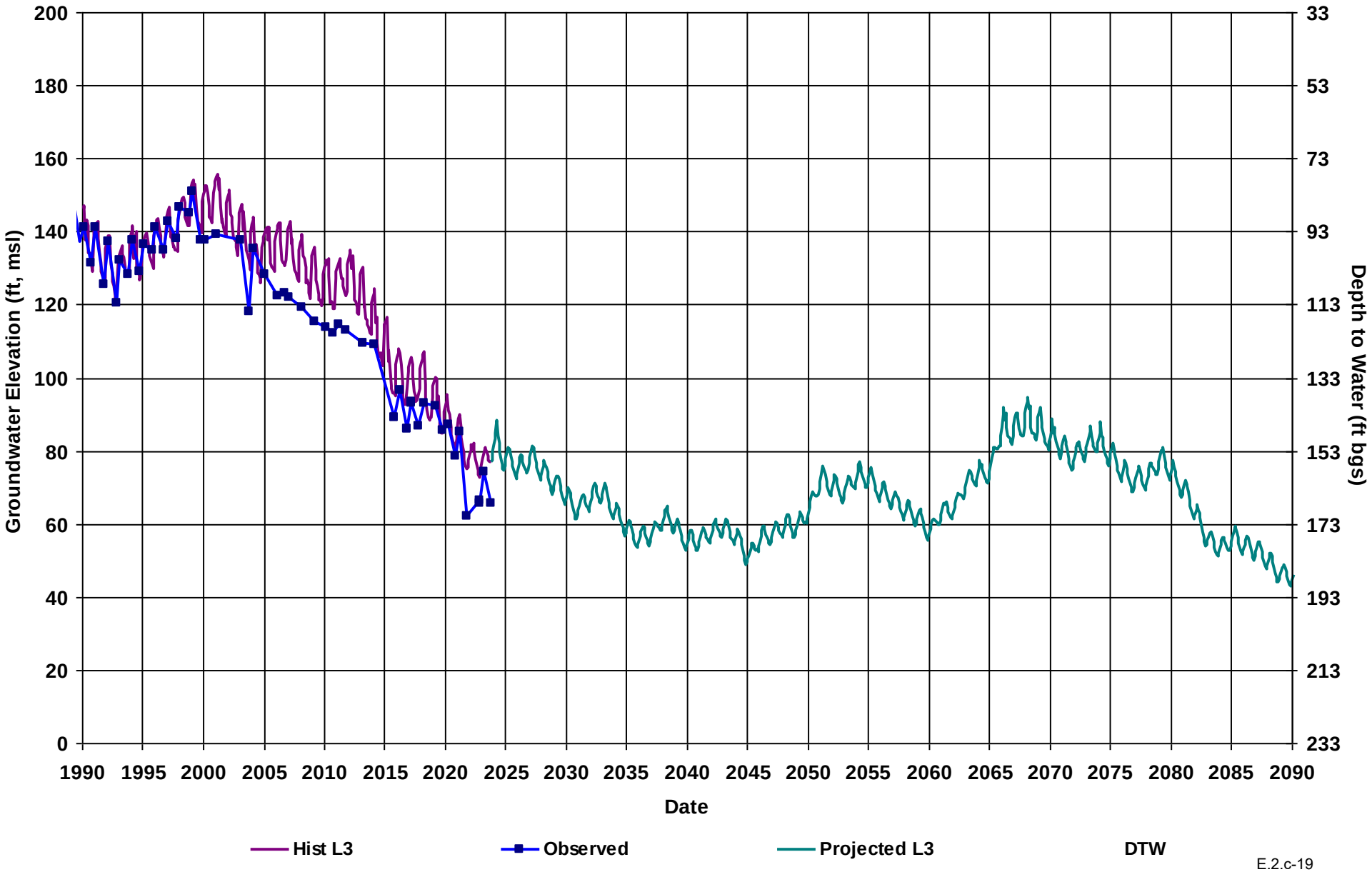
RMS ID: MID RMS-10
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 213

Total Depth (ft): 615
Perf Top (ft): 315
Perf Bottom (ft): 615
Top Model Layer: 5
Bottom Model Layer: 5



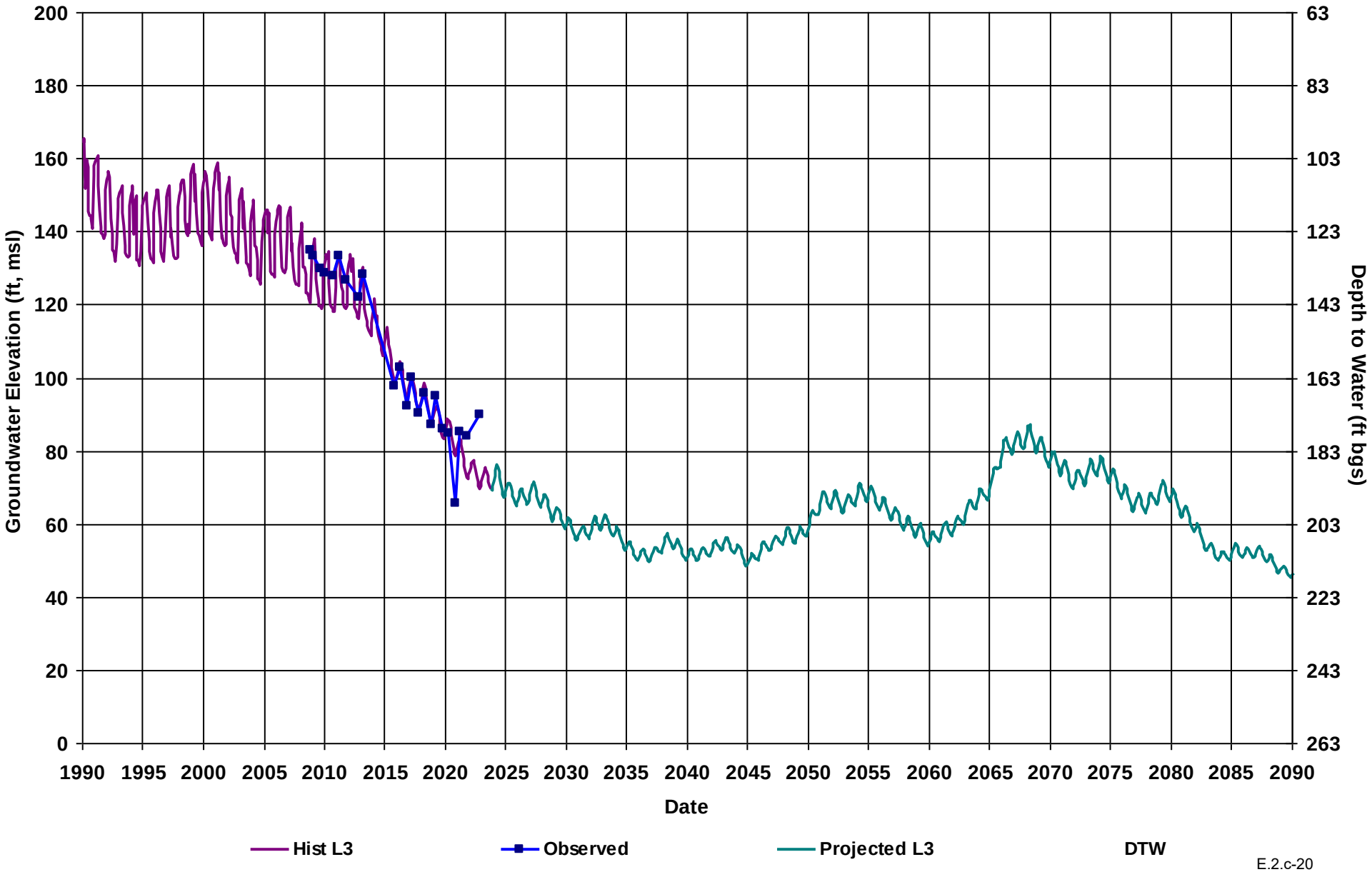
RMS ID: MID RMS-11
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 315
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



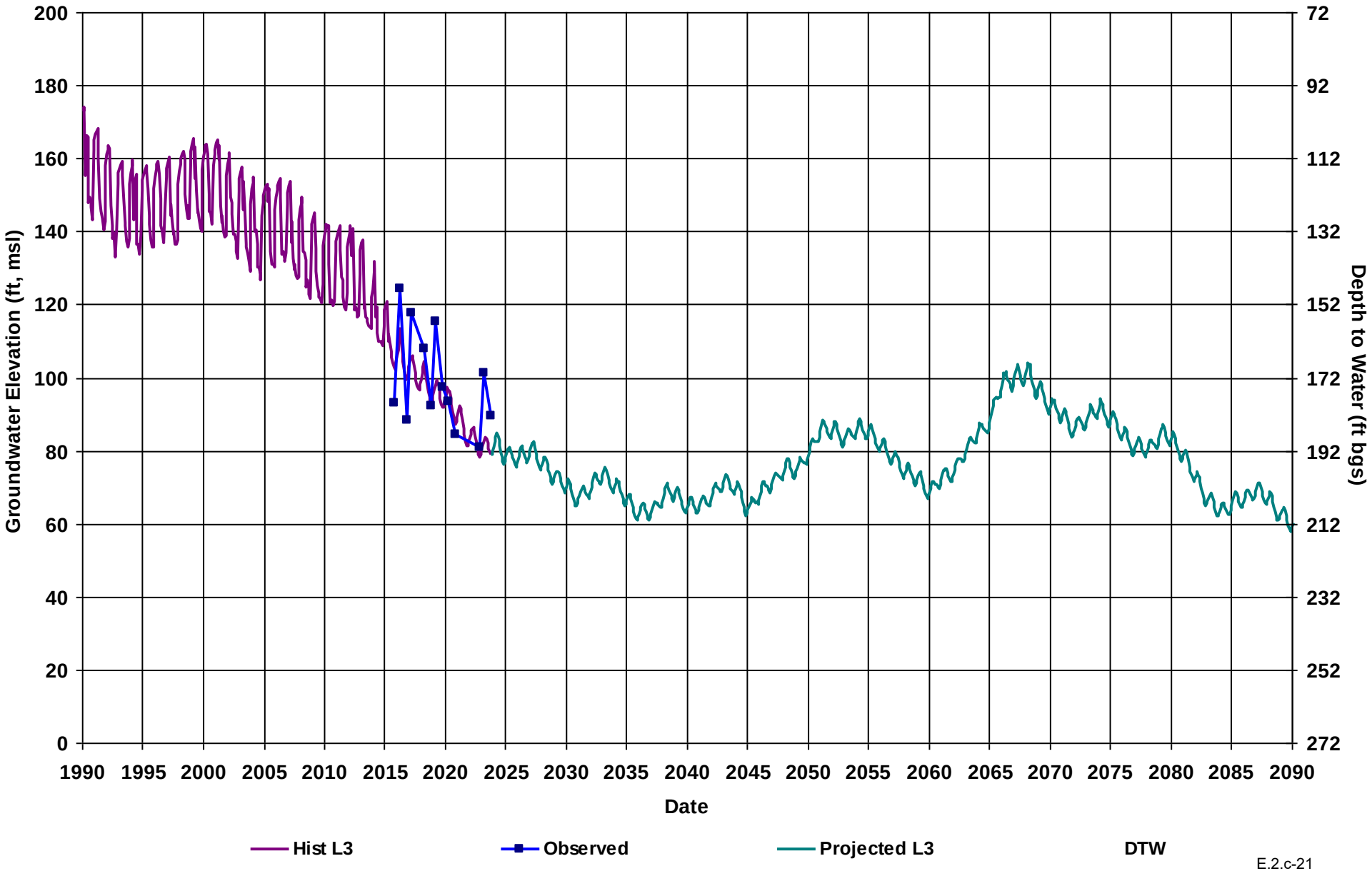
RMS ID: MID RMS-12
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 263

Total Depth (ft): 176
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



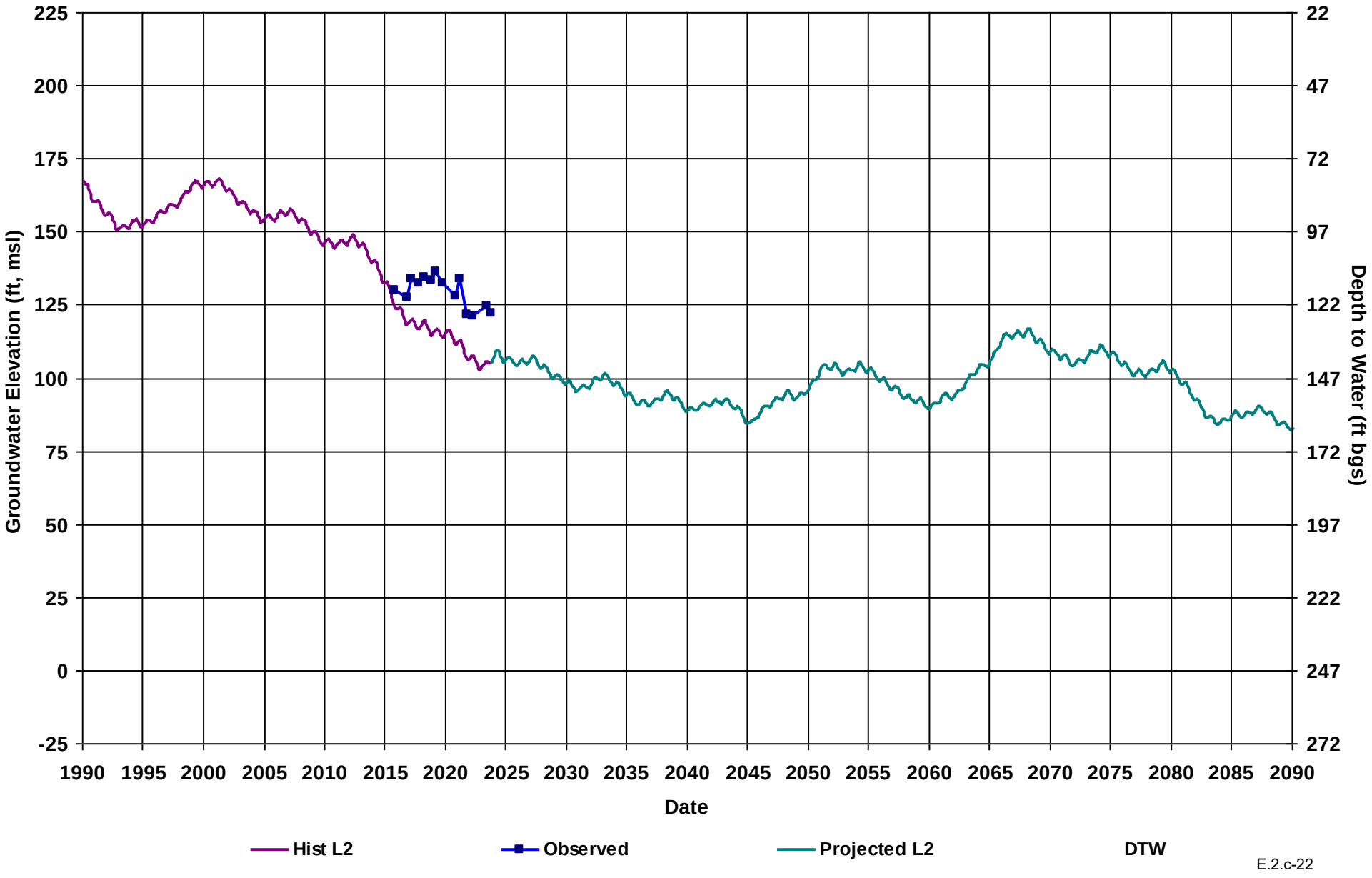
RMS ID: MID RMS-13
Depth Zone: Composite
Subbasin: Madera
GSE (ft, msl): 272

Total Depth (ft): 600
Perf Top (ft): 228
Perf Bottom (ft): 552
Top Model Layer: 3
Bottom Model Layer: 3



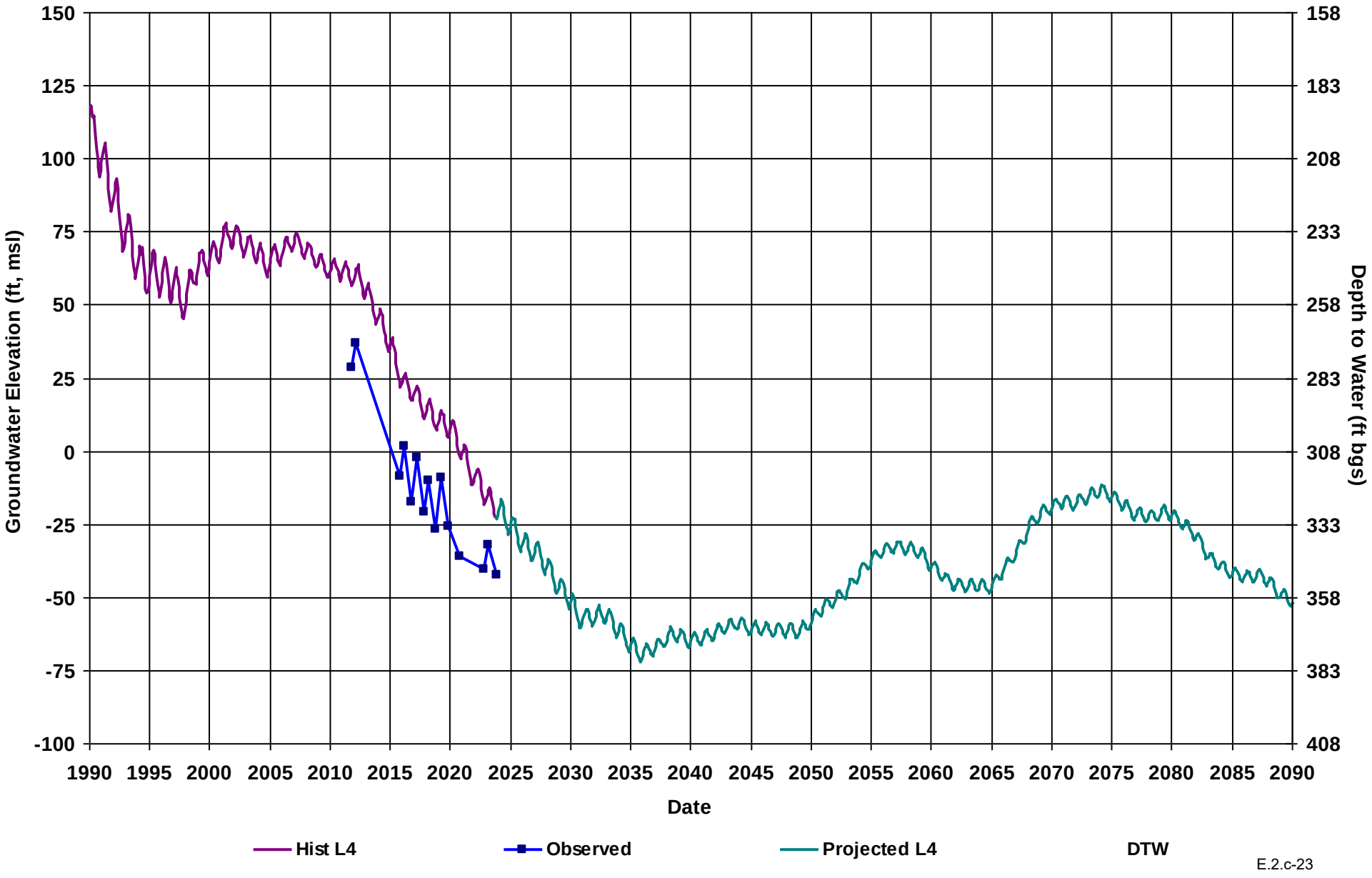
RMS ID: MID RMS-15
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 247

Total Depth (ft): 502
Perf Top (ft): 160
Perf Bottom (ft): 200
Top Model Layer: 2
Bottom Model Layer: 2



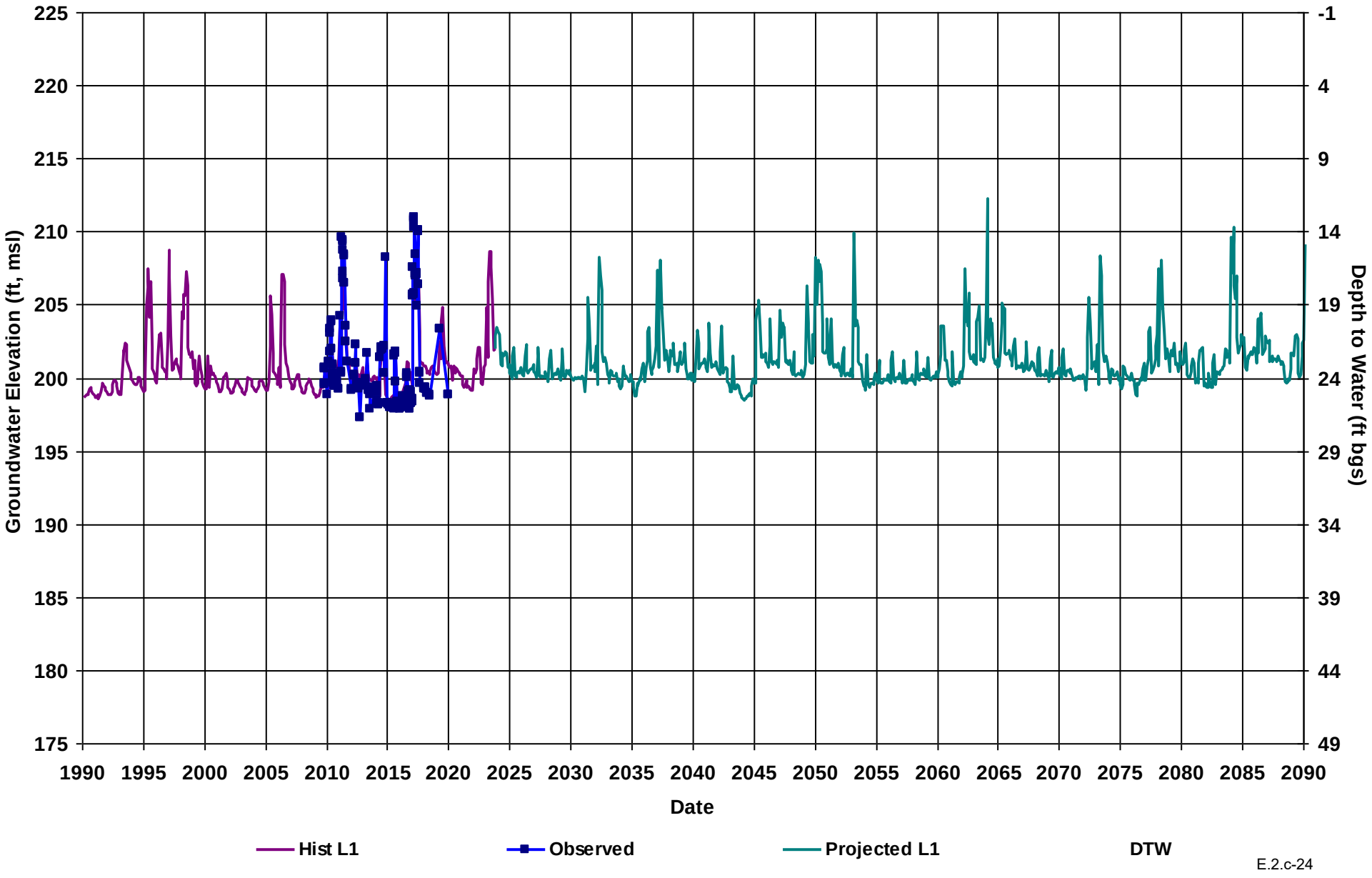
RMS ID: MID RMS-16
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft): 452
Perf Top (ft): 348
Perf Bottom (ft): 388
Top Model Layer: 4
Bottom Model Layer: 4



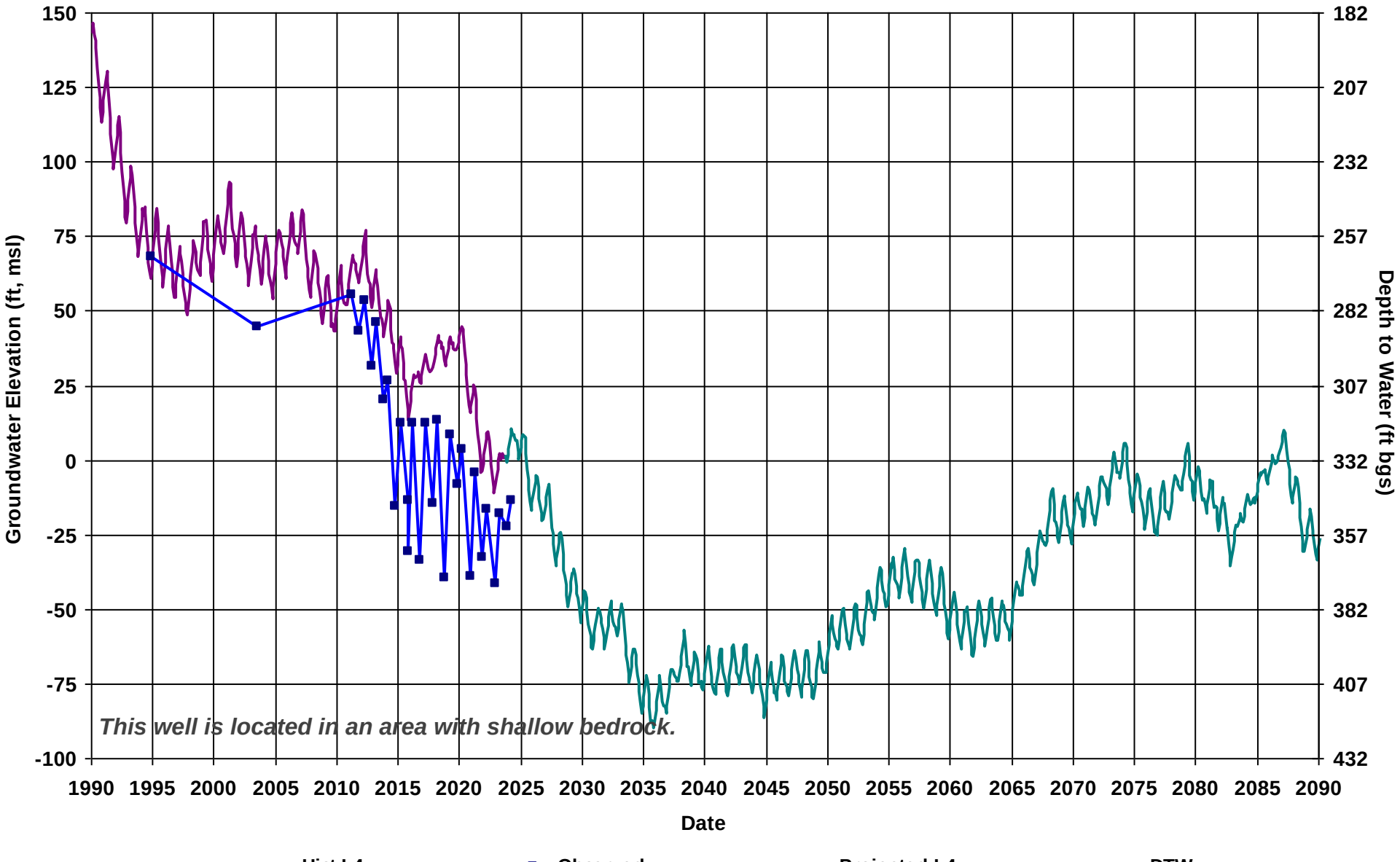
RMS ID: MID RMS-17
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 224

Total Depth (ft): 47
Perf Top (ft): 26
Perf Bottom (ft): 46
Top Model Layer: 1
Bottom Model Layer: 1



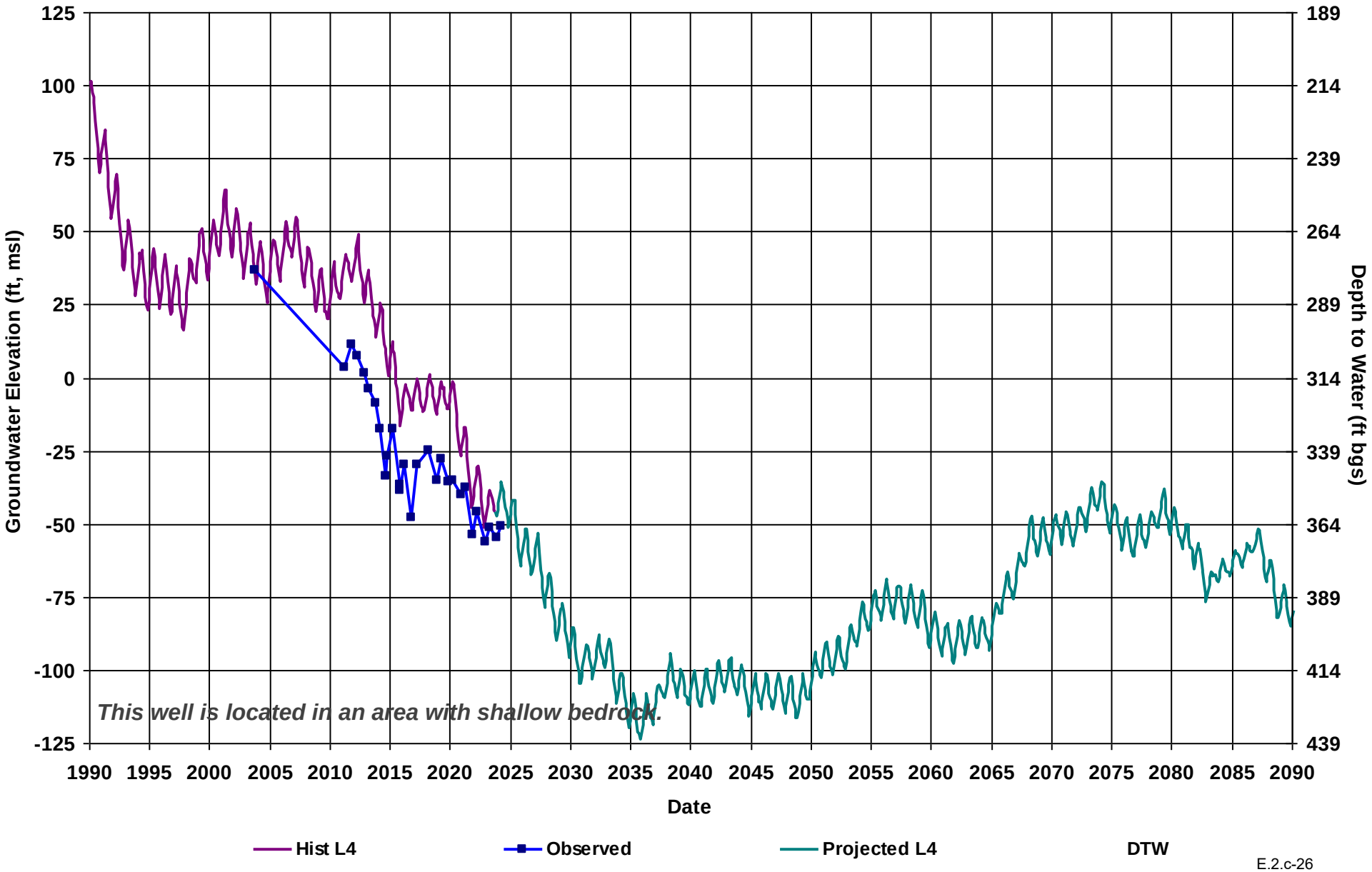
RMS ID: MWD RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 504
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



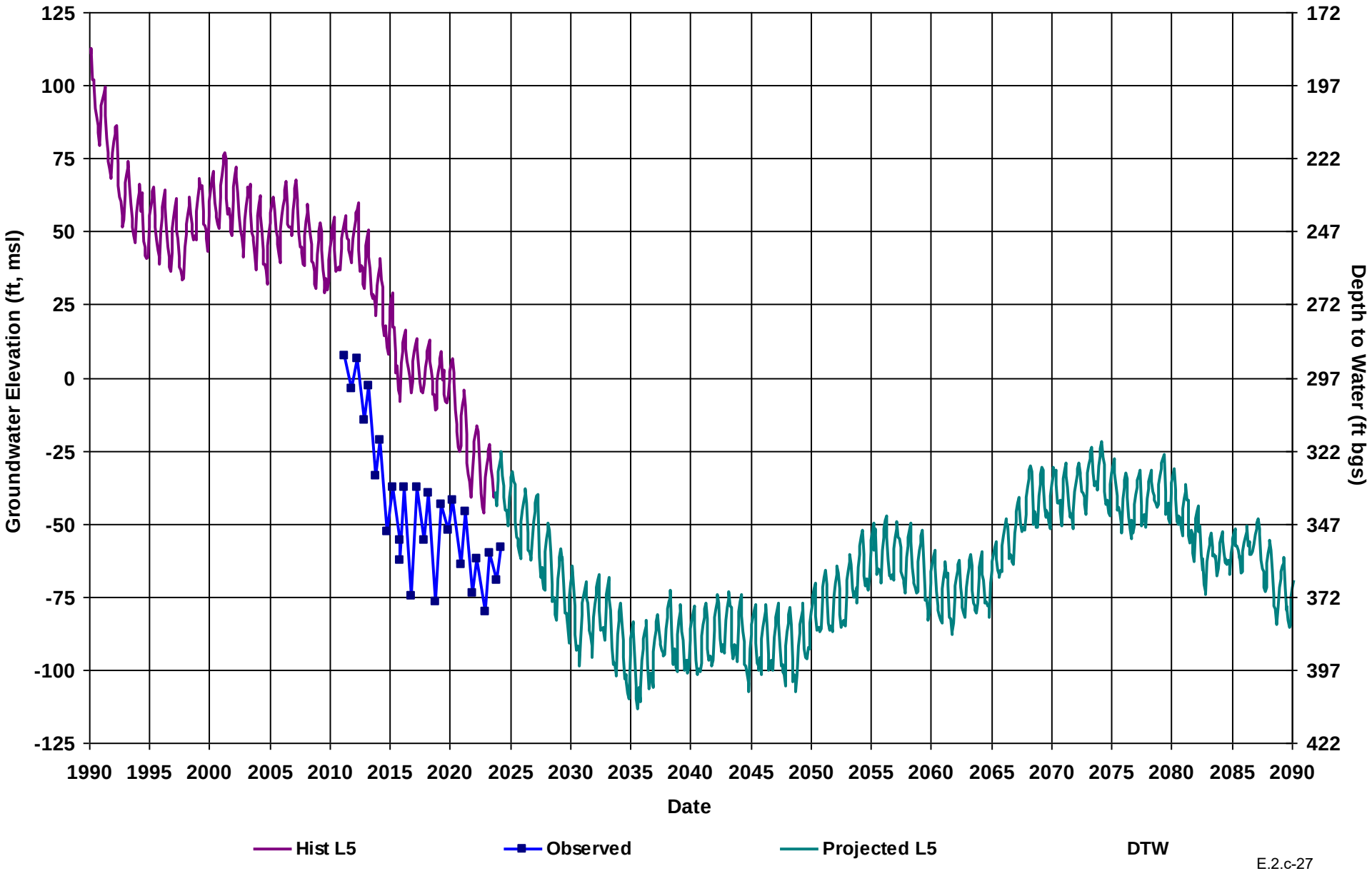
RMS ID: MWD RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 365

Total Depth (ft): 537
Perf Top (ft): 200
Perf Bottom (ft): 537
Top Model Layer: 4
Bottom Model Layer: 4



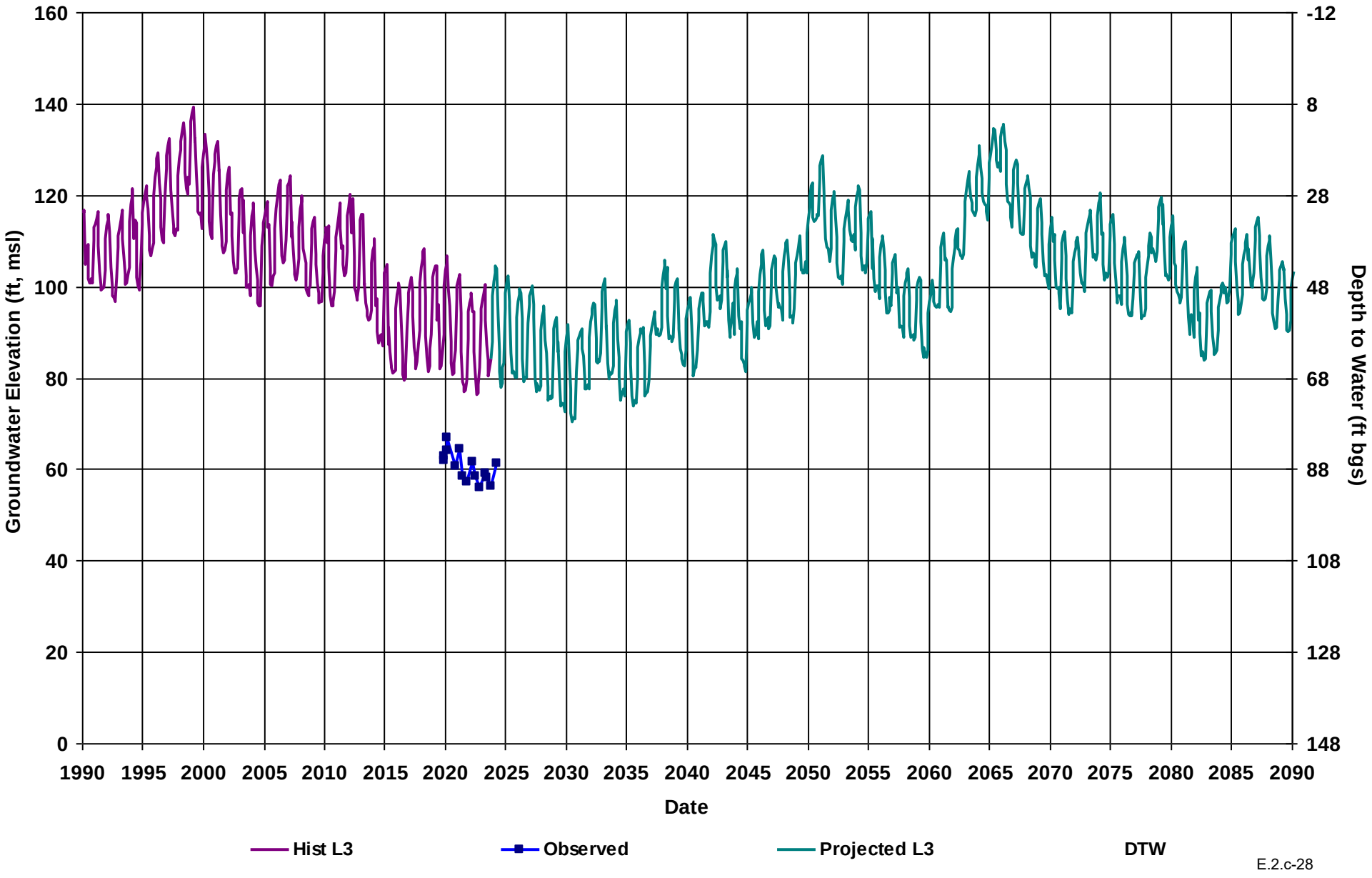
RMS ID: MWD RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 358

Total Depth (ft): 800
Perf Top (ft): 380
Perf Bottom (ft): 800
Top Model Layer: 5
Bottom Model Layer: 5



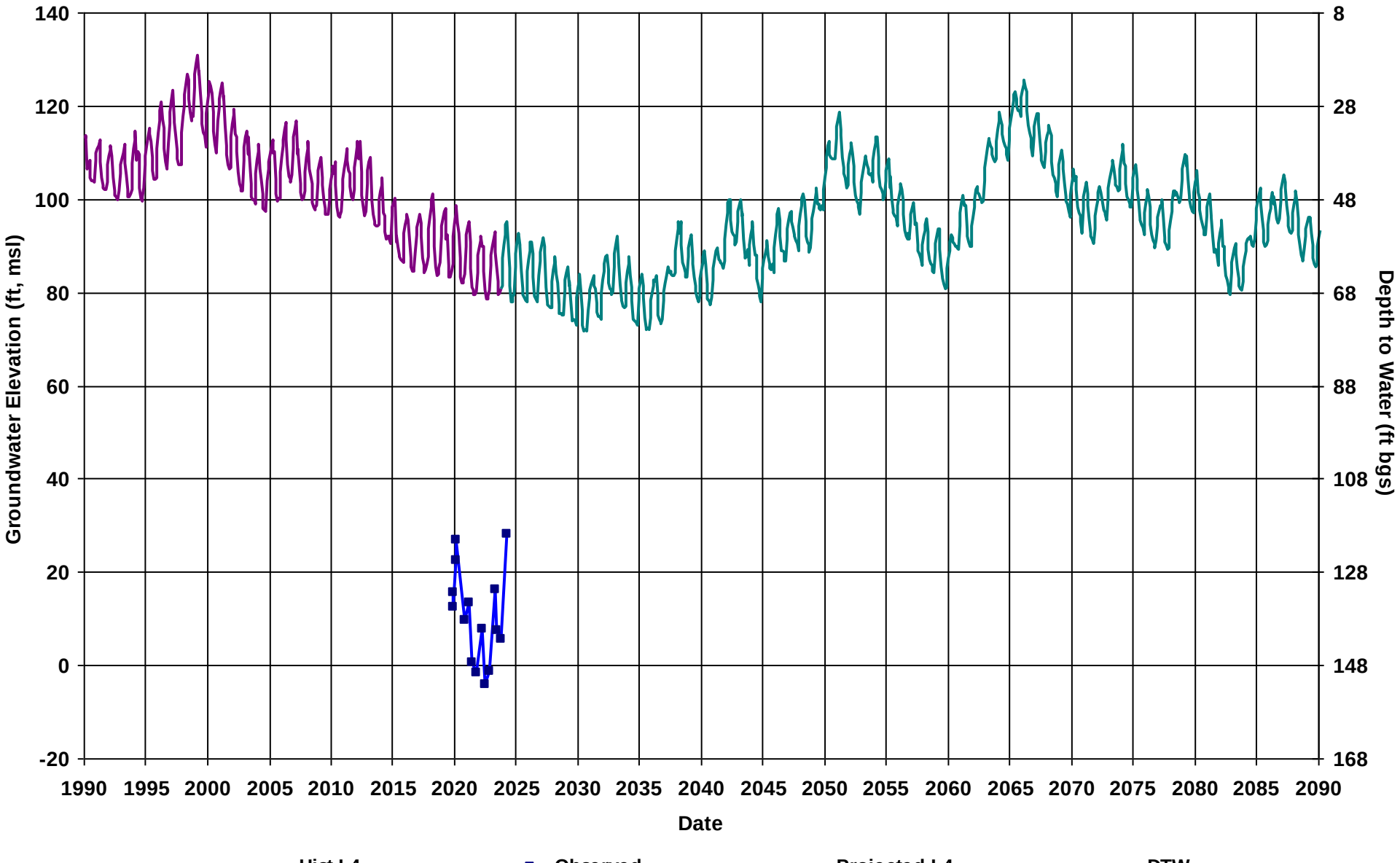
RMS ID: MSB03B
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 295
Perf Top (ft): 215
Perf Bottom (ft): 285
Top Model Layer: 3
Bottom Model Layer: 3



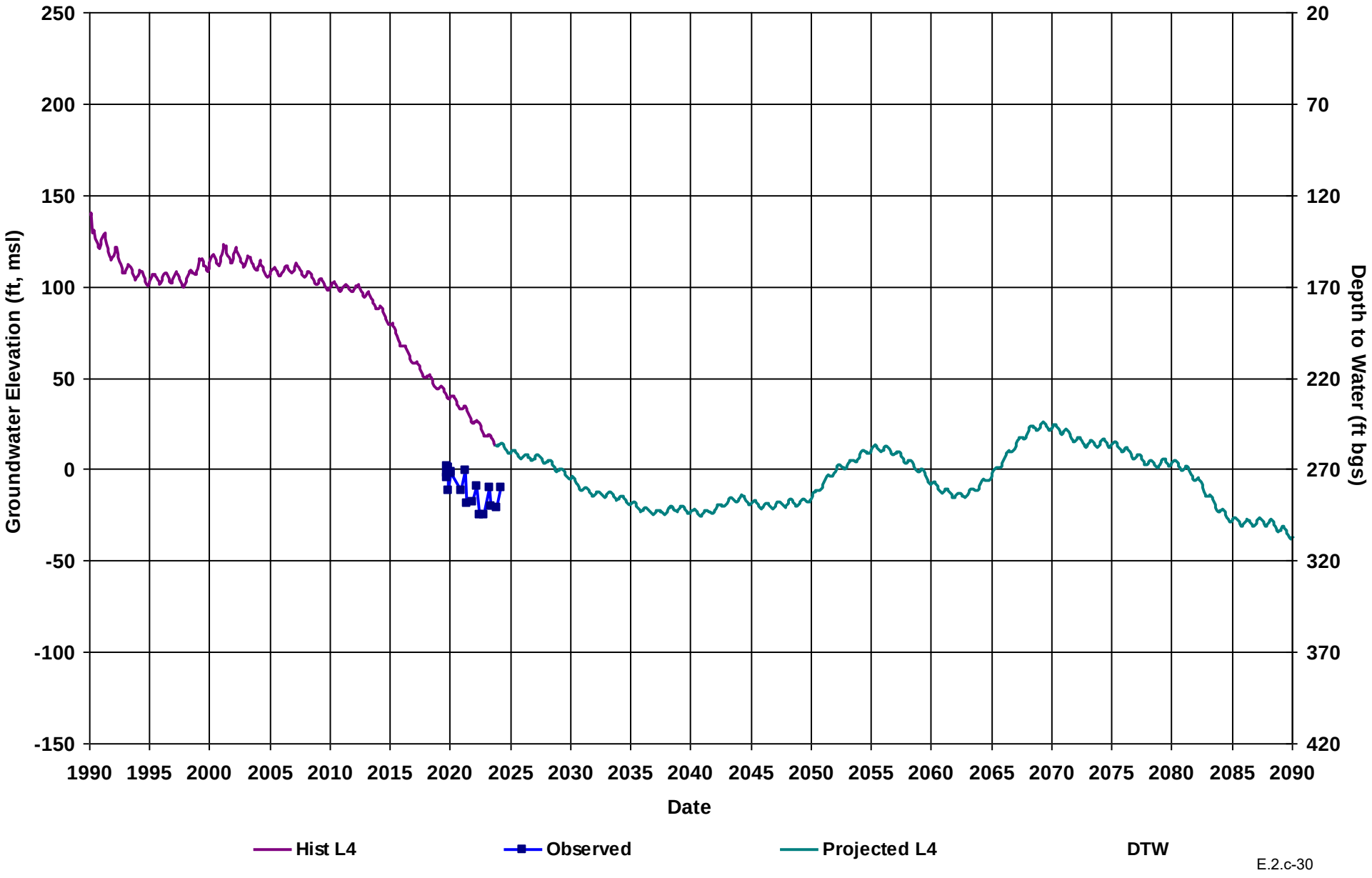
RMS ID: MSB03C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 430
Perf Top (ft): 355
Perf Bottom (ft): 420
Top Model Layer: 4
Bottom Model Layer: 4



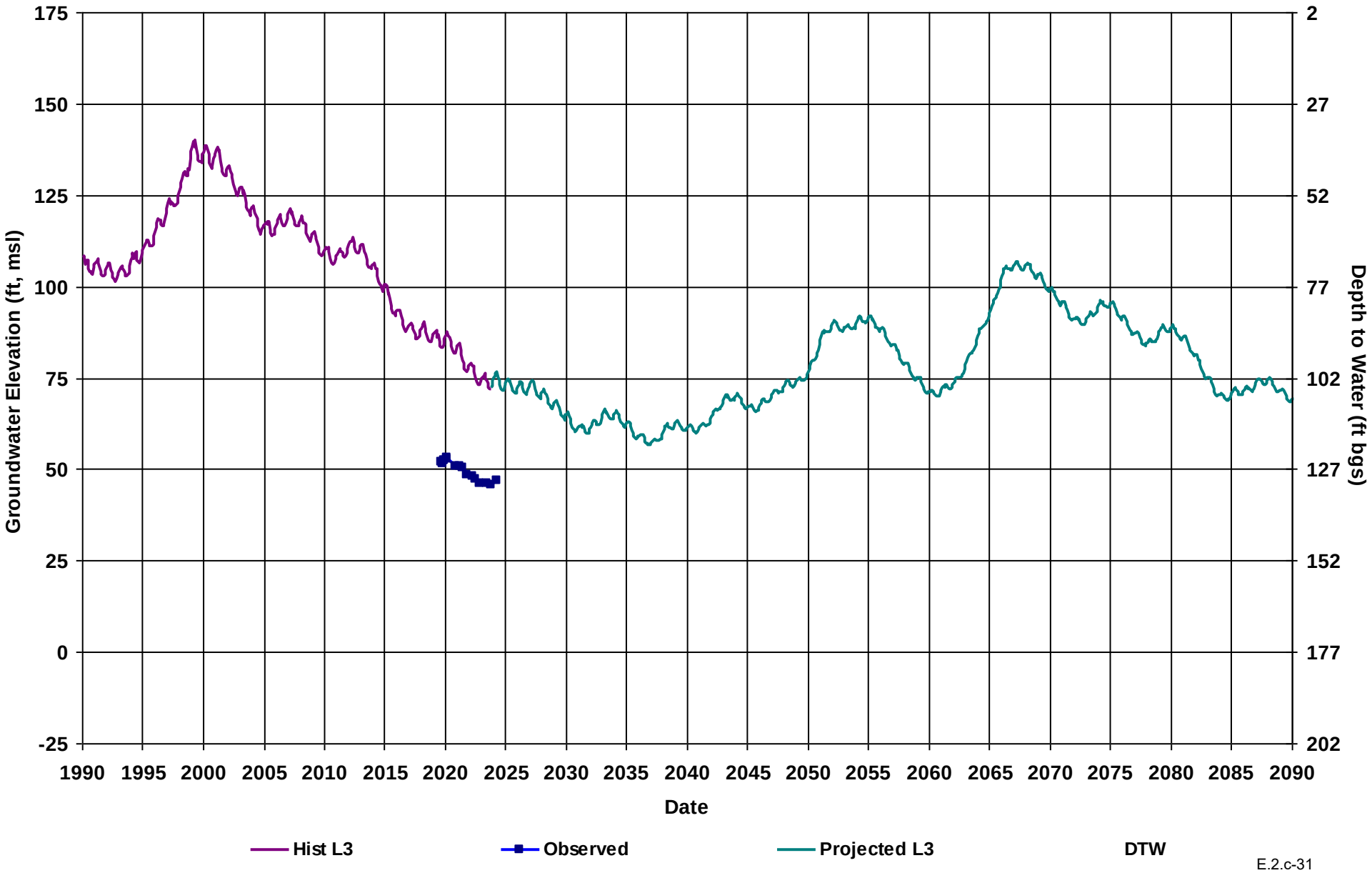
RMS ID: MSB04B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 695
Perf Top (ft): 530
Perf Bottom (ft): 685
Top Model Layer: 4
Bottom Model Layer: 4



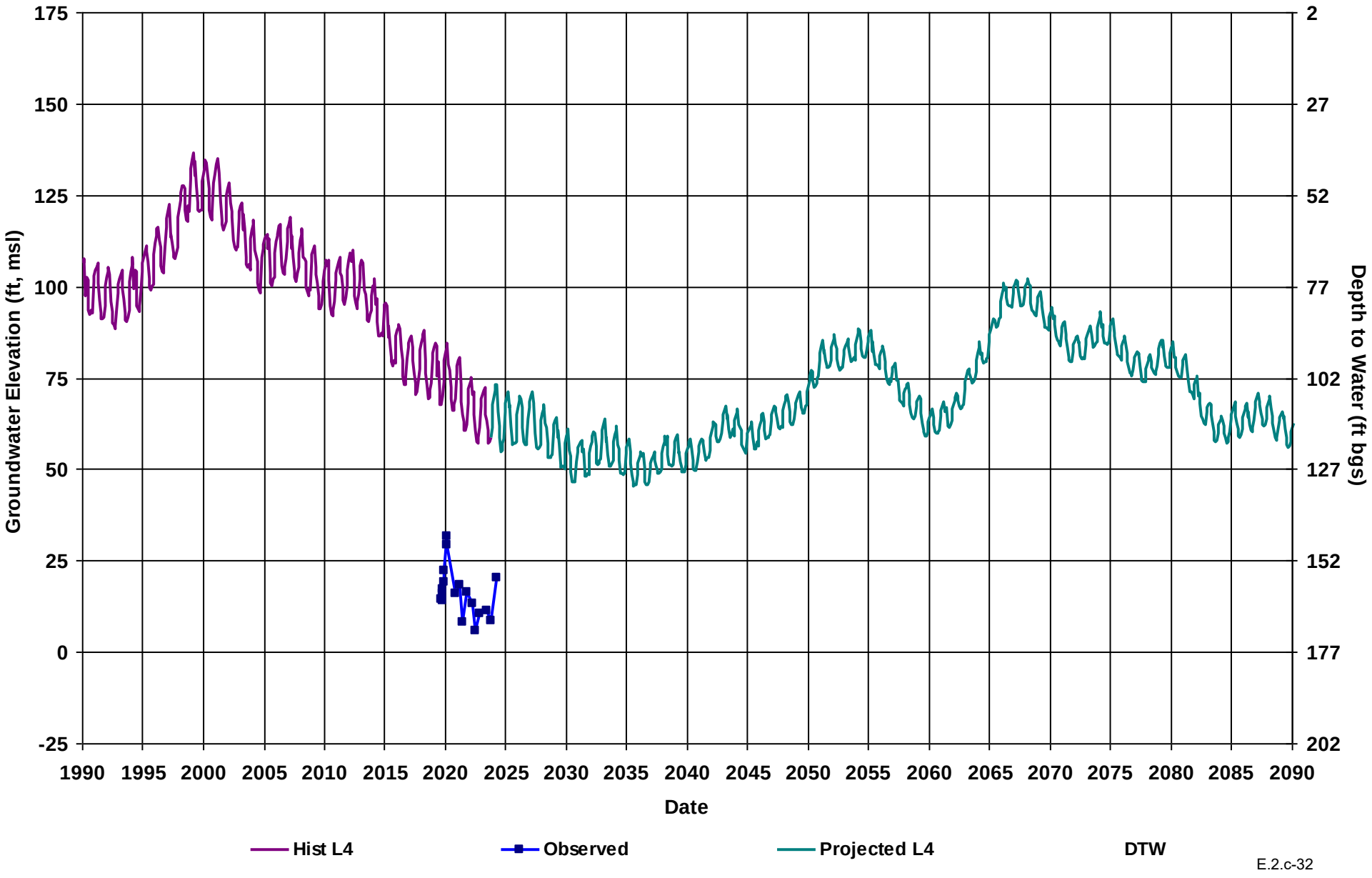
RMS ID: MSB05A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 210
Perf Top (ft): 140
Perf Bottom (ft): 200
Top Model Layer: 3
Bottom Model Layer: 3



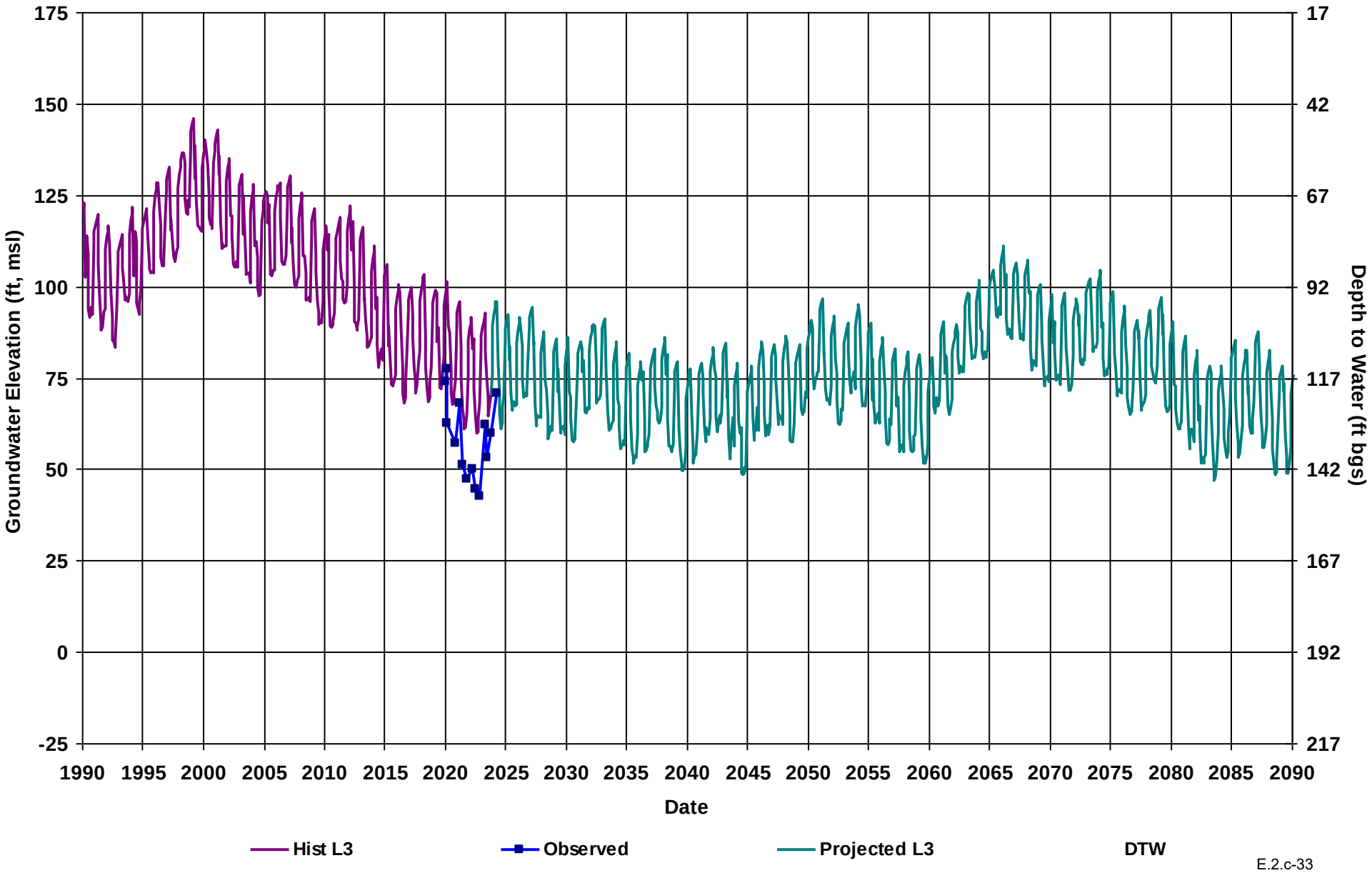
RMS ID: MSB05B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 375
Perf Top (ft): 240
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



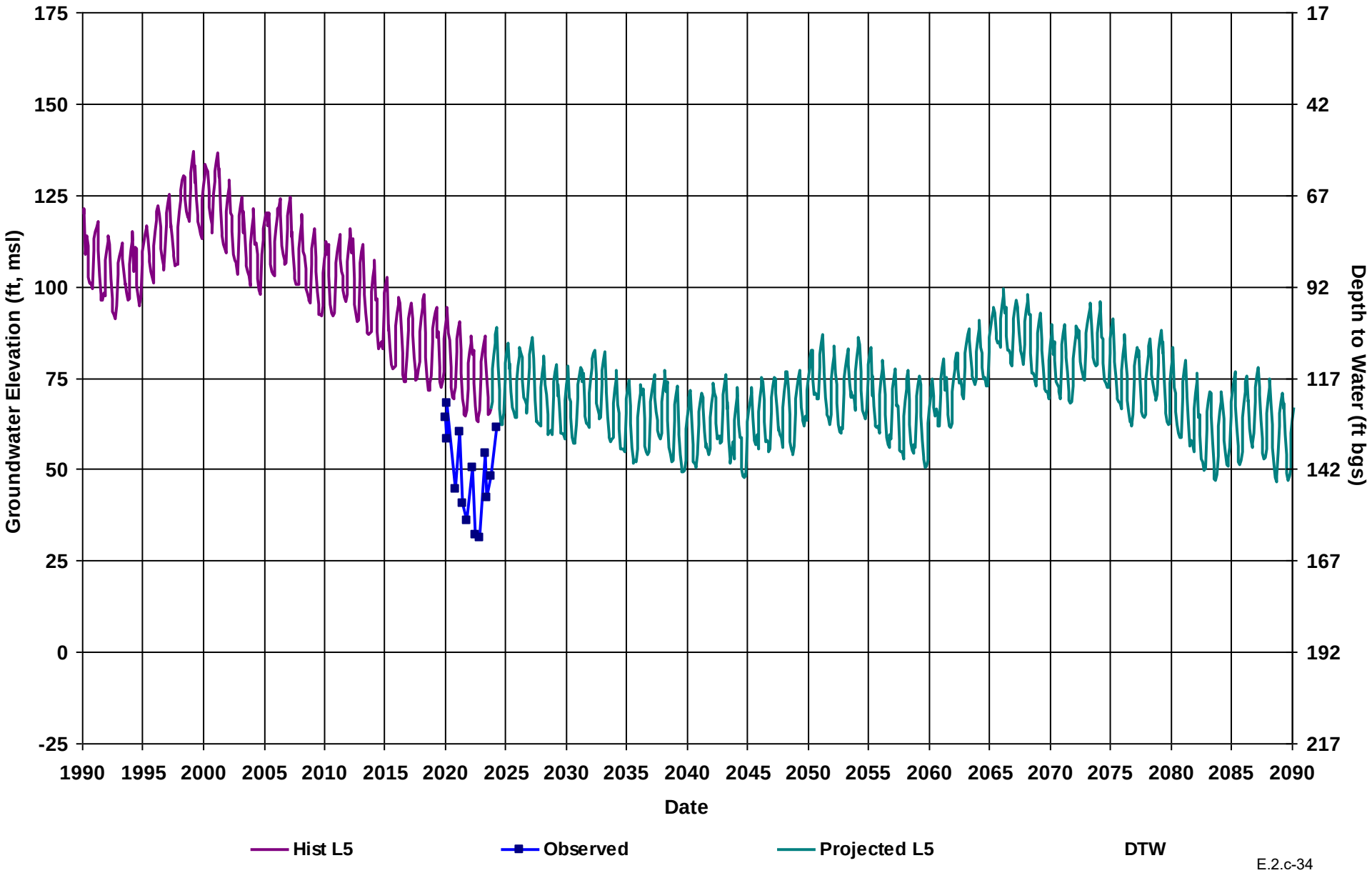
RMS ID: MSB06A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 350
Perf Top (ft): 135
Perf Bottom (ft): 340
Top Model Layer: 3
Bottom Model Layer: 3



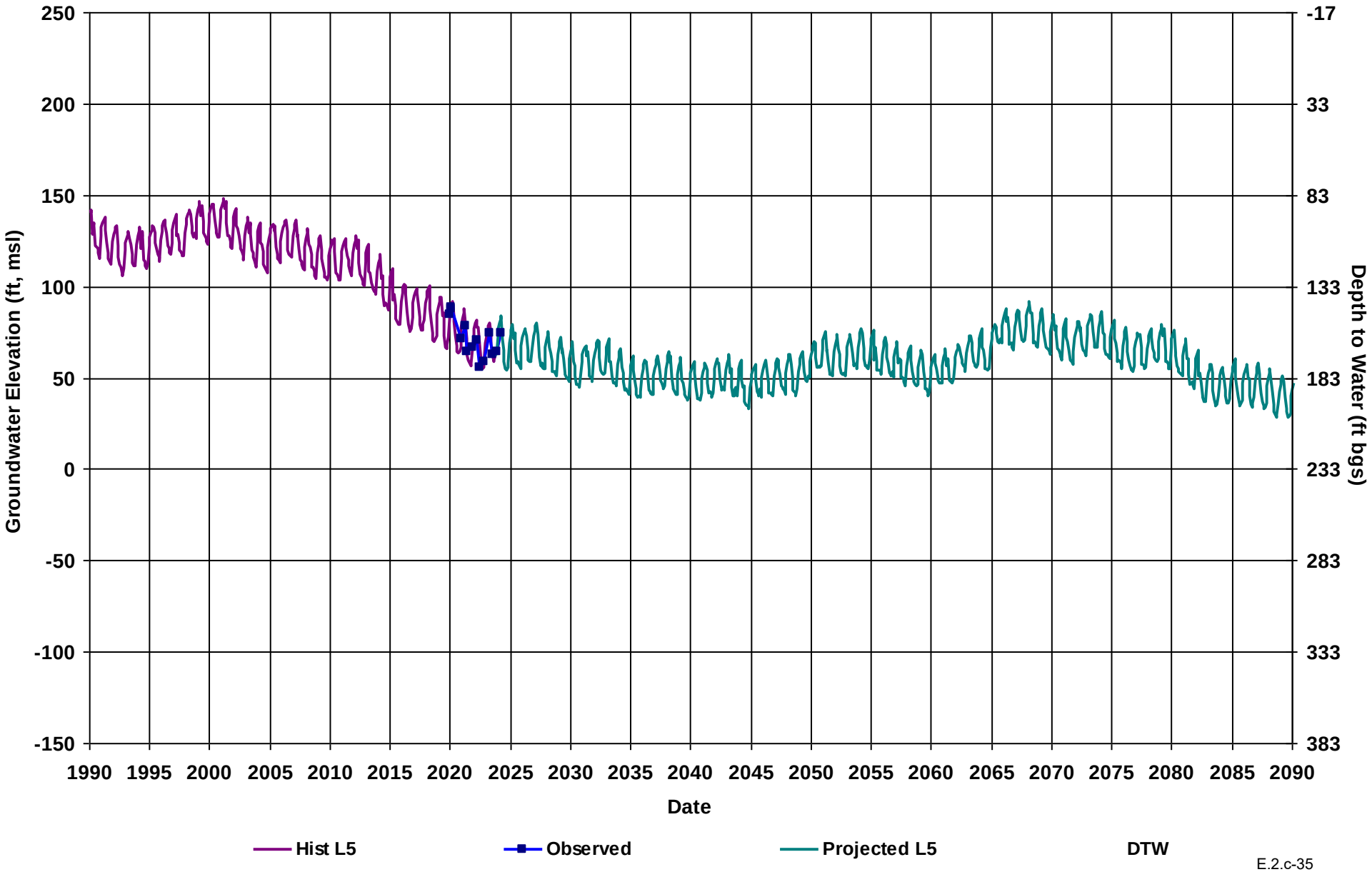
RMS ID: MSB06C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 715
Perf Top (ft): 630
Perf Bottom (ft): 705
Top Model Layer: 5
Bottom Model Layer: 5



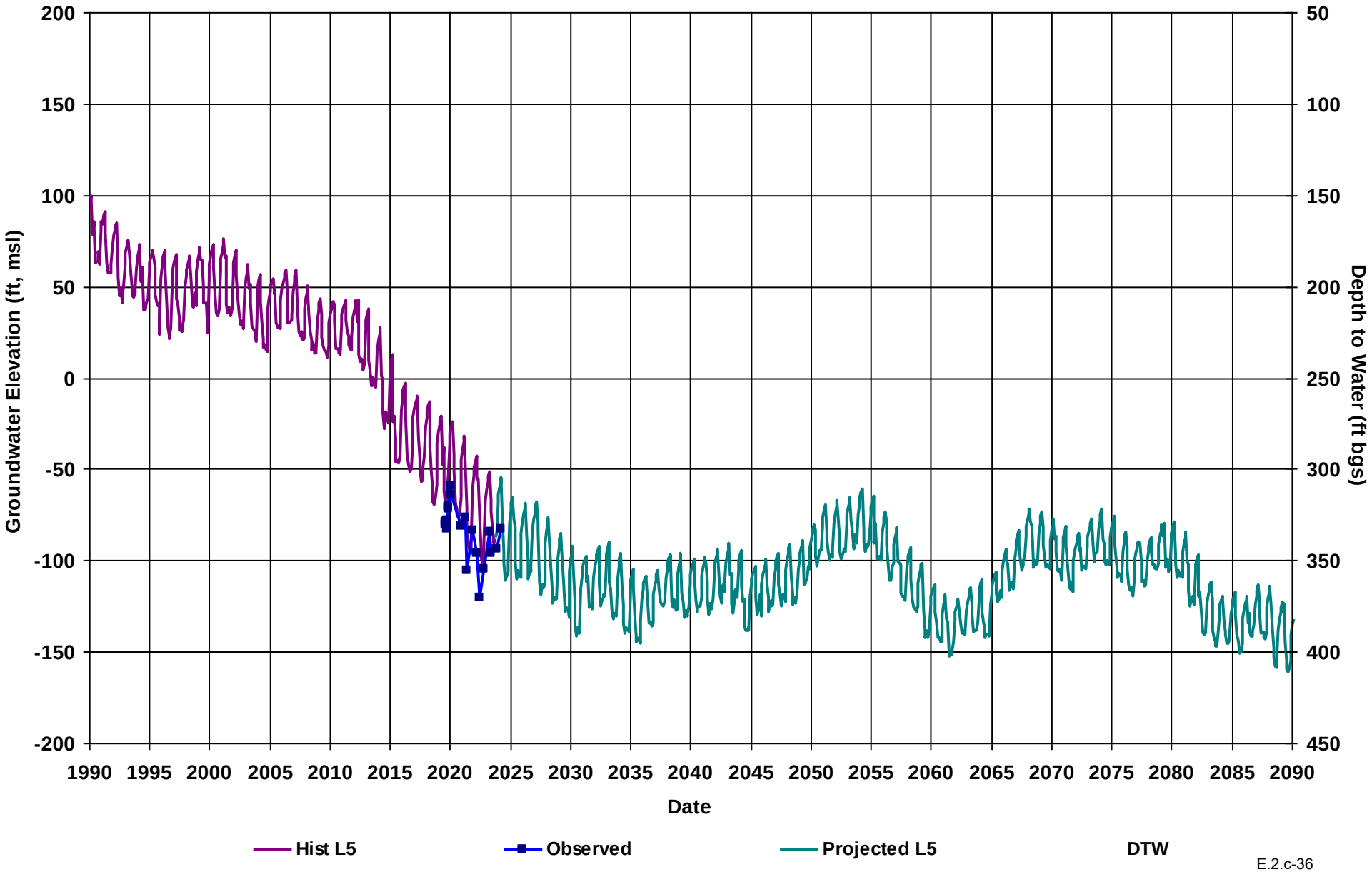
RMS ID: MSB09C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 955
Perf Top (ft): 880
Perf Bottom (ft): 945
Top Model Layer: 5
Bottom Model Layer: 5



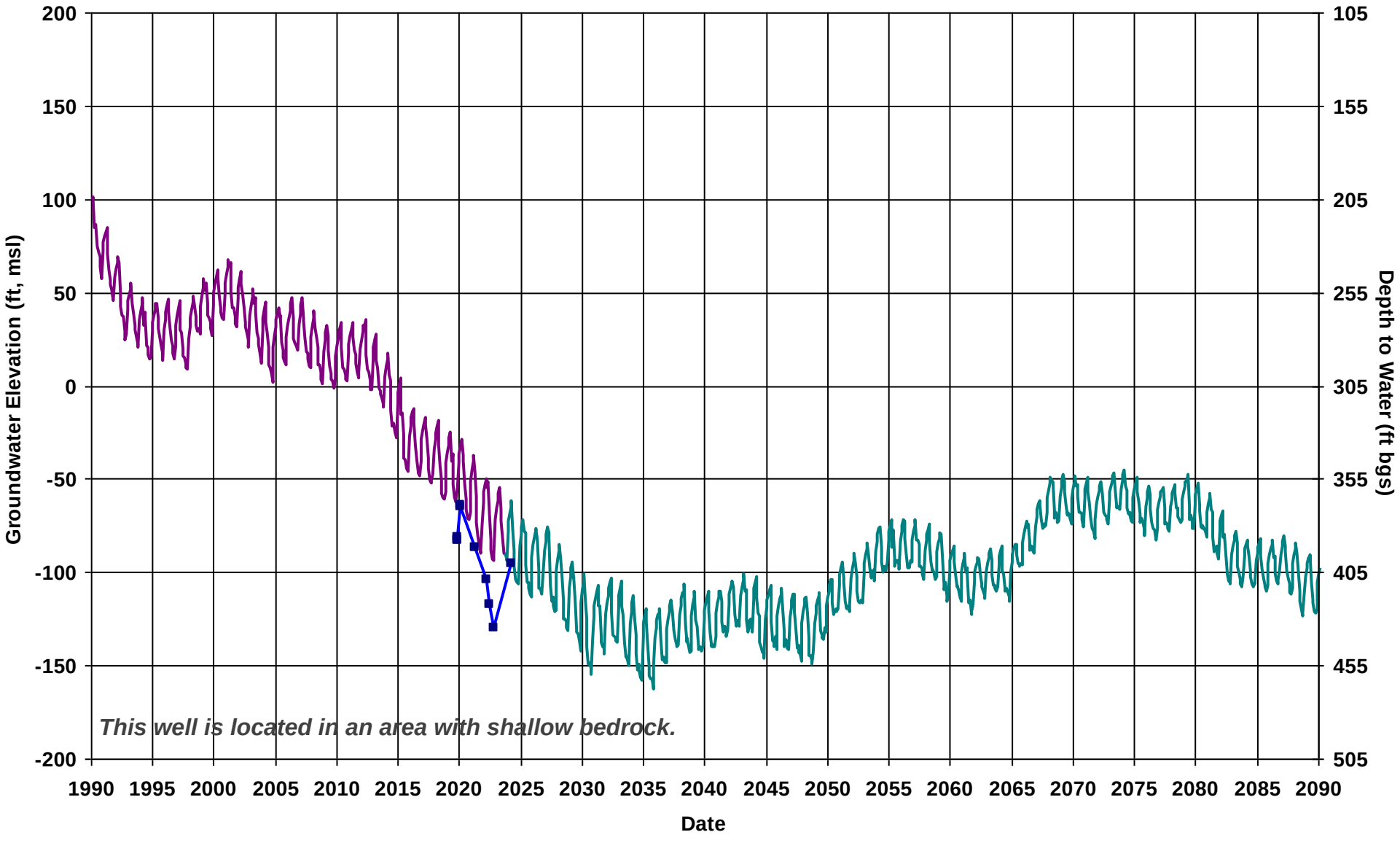
RMS ID: MSB10C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Total Depth (ft): 880
Perf Top (ft): 790
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



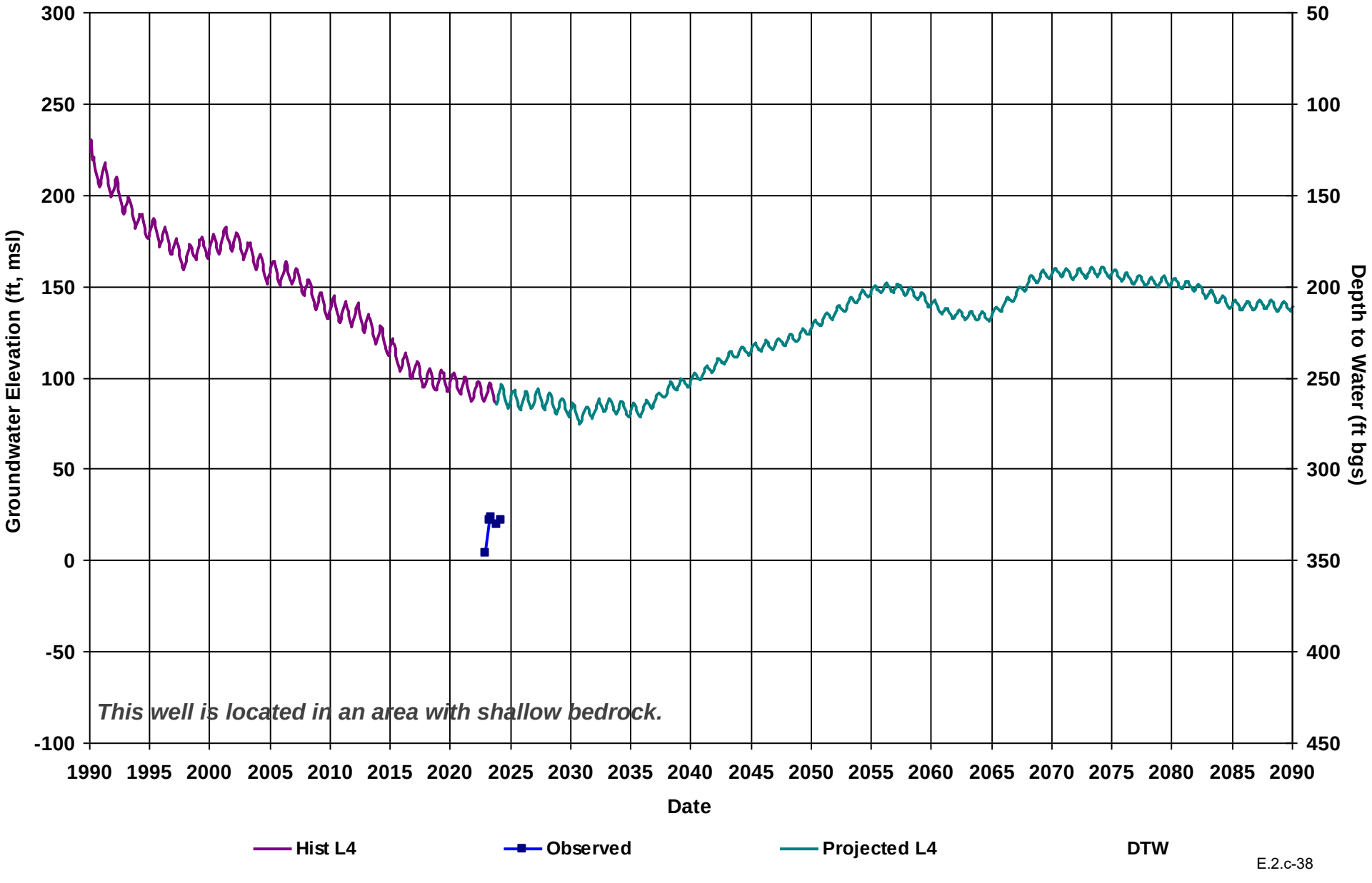
RMS ID: MSB11C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Total Depth (ft): 880
Perf Top (ft): 775
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: MSB12
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 465
Perf Top (ft): 355
Perf Bottom (ft): 465
Top Model Layer: 4
Bottom Model Layer: 4

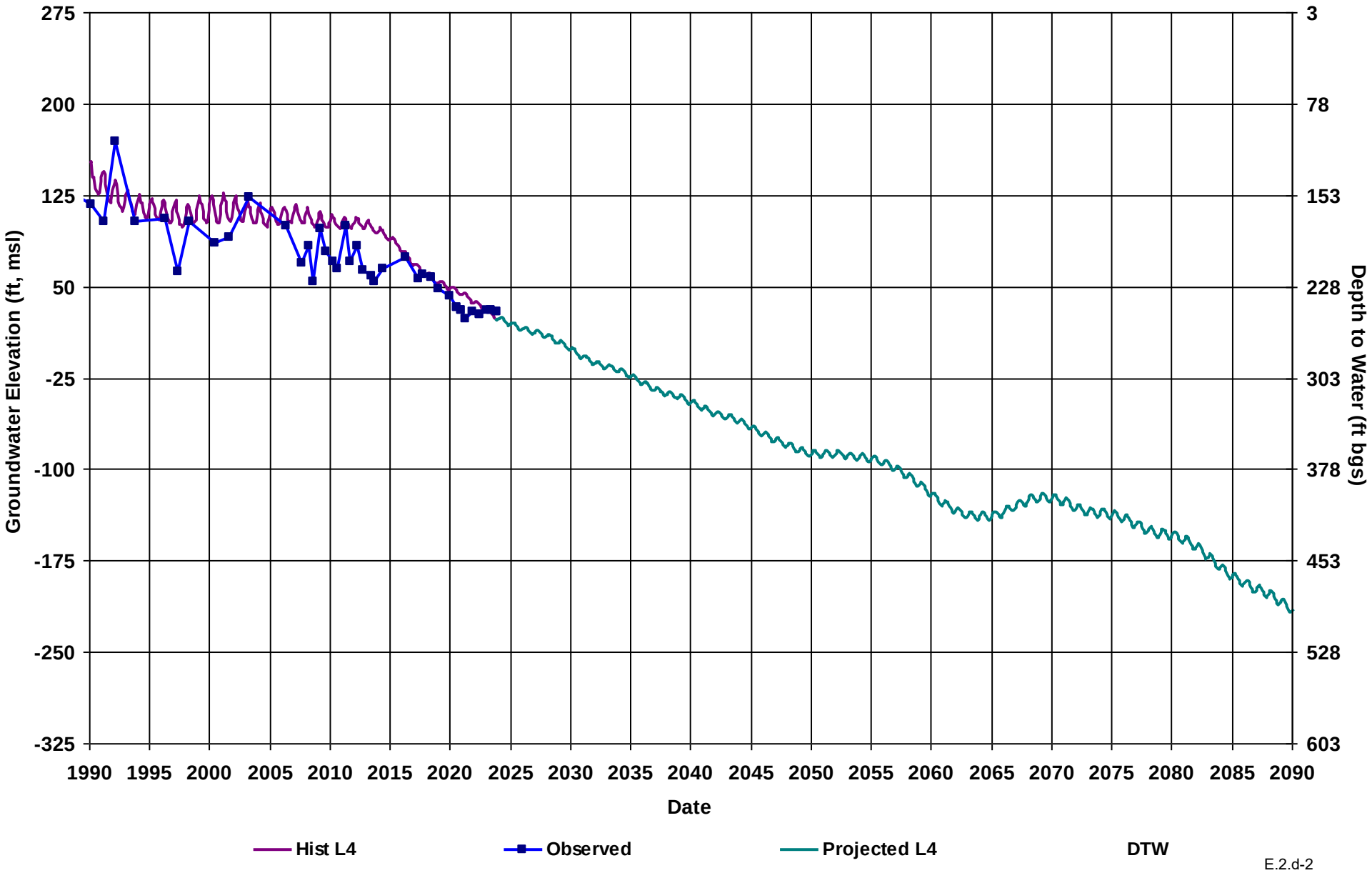


APPENDIX E.2.d

Madera Subbasin Groundwater Elevation Hydrographs for RMS Wells - Projected (No Action) Scenario

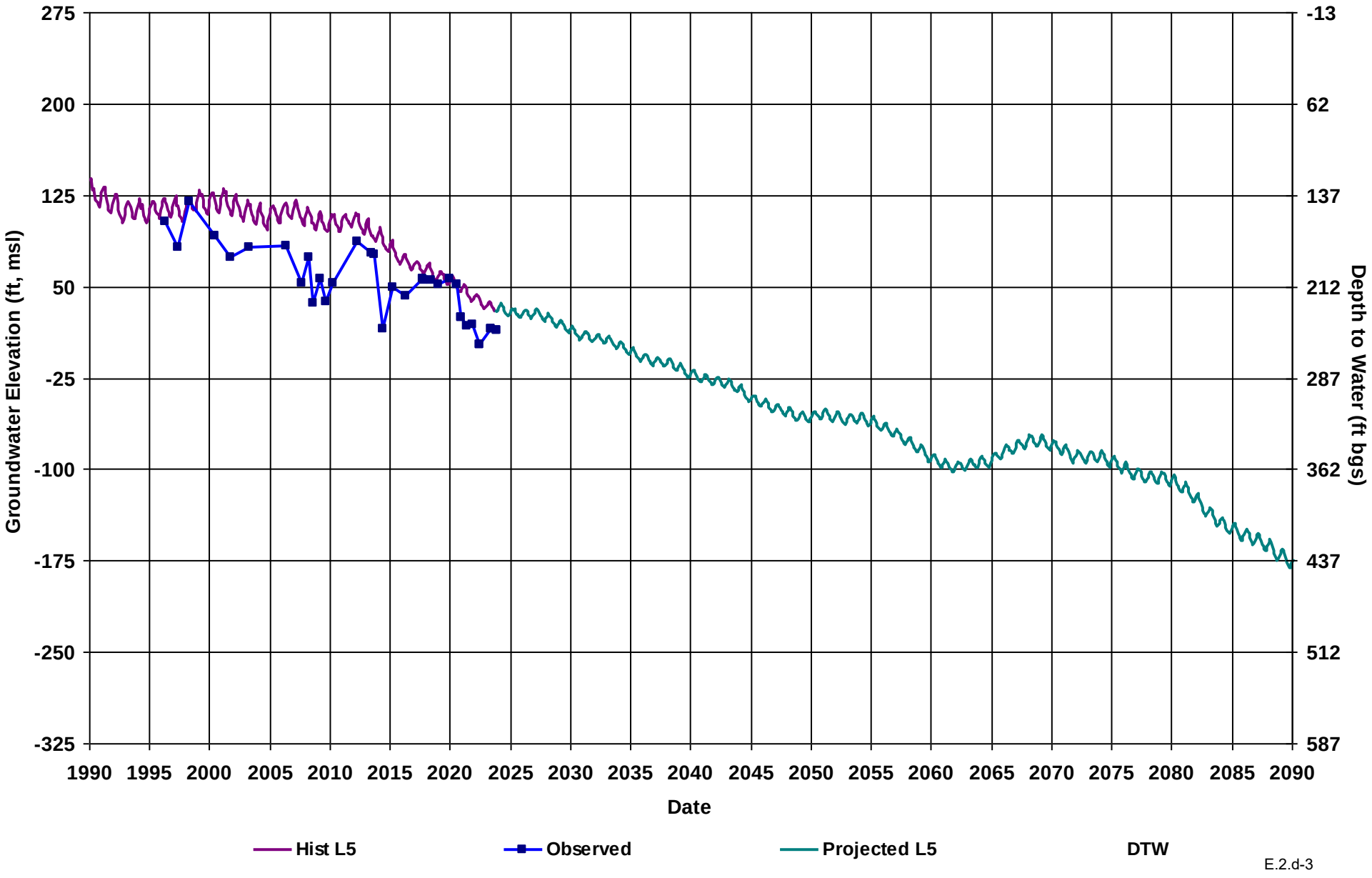
RMS ID: COM RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 278

Total Depth (ft): 520
Perf Top (ft): 210
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



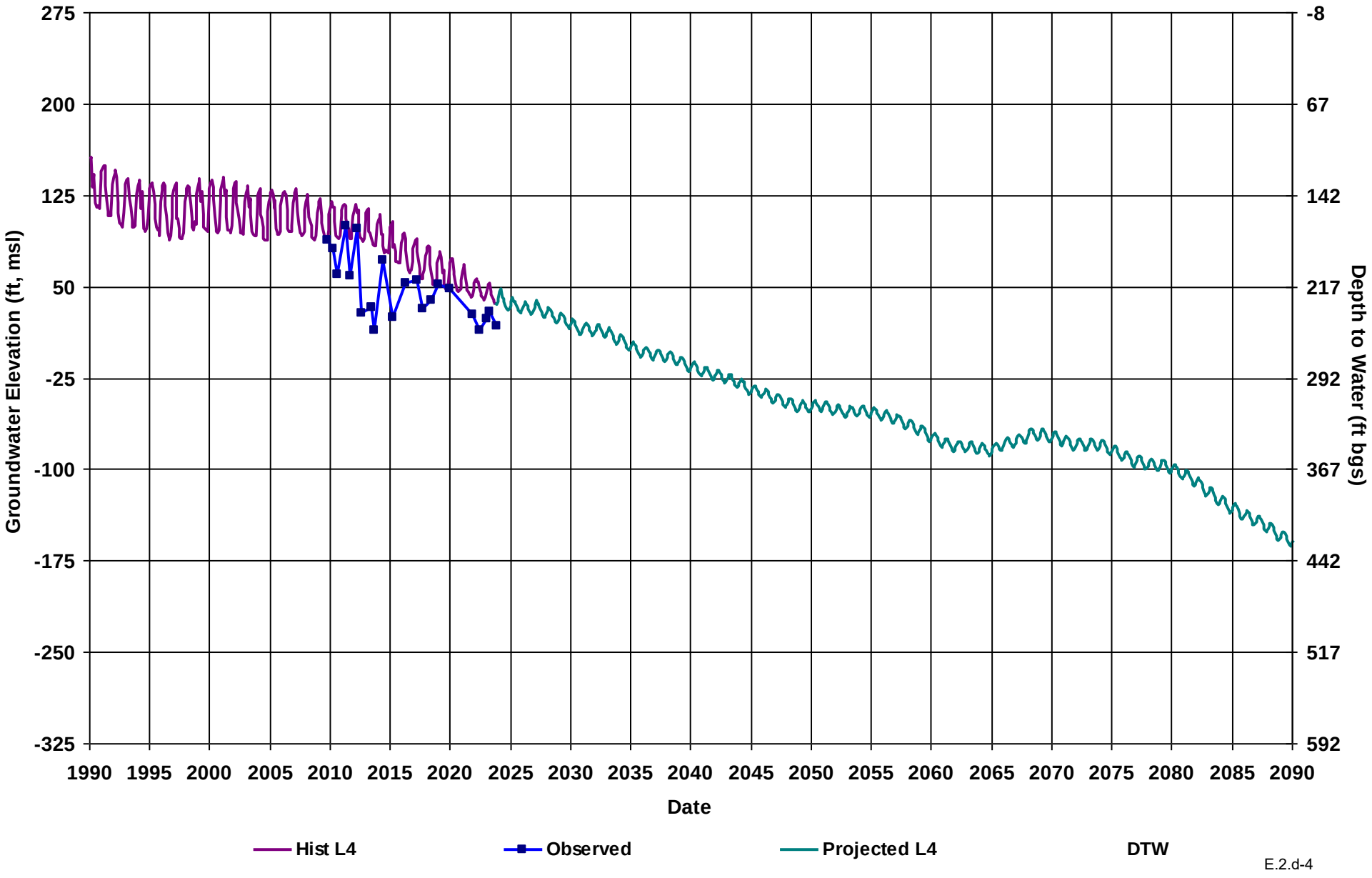
RMS ID: COM RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 262

Total Depth (ft): 590
Perf Top (ft): 370
Perf Bottom (ft): 590
Top Model Layer: 5
Bottom Model Layer: 5



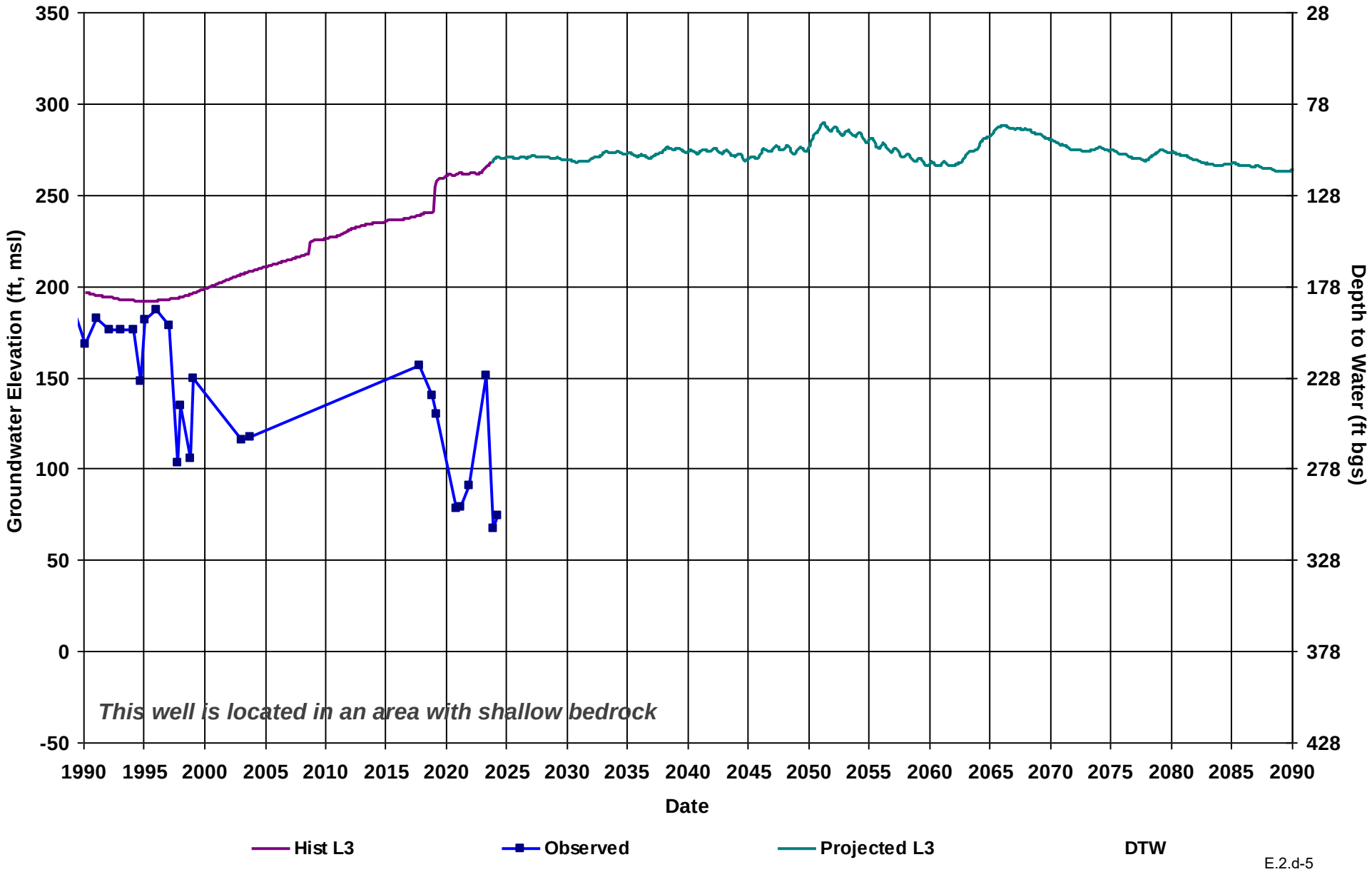
RMS ID: COM RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 267

Total Depth (ft): 588
Perf Top (ft): 433
Perf Bottom (ft): 568
Top Model Layer: 4
Bottom Model Layer: 4



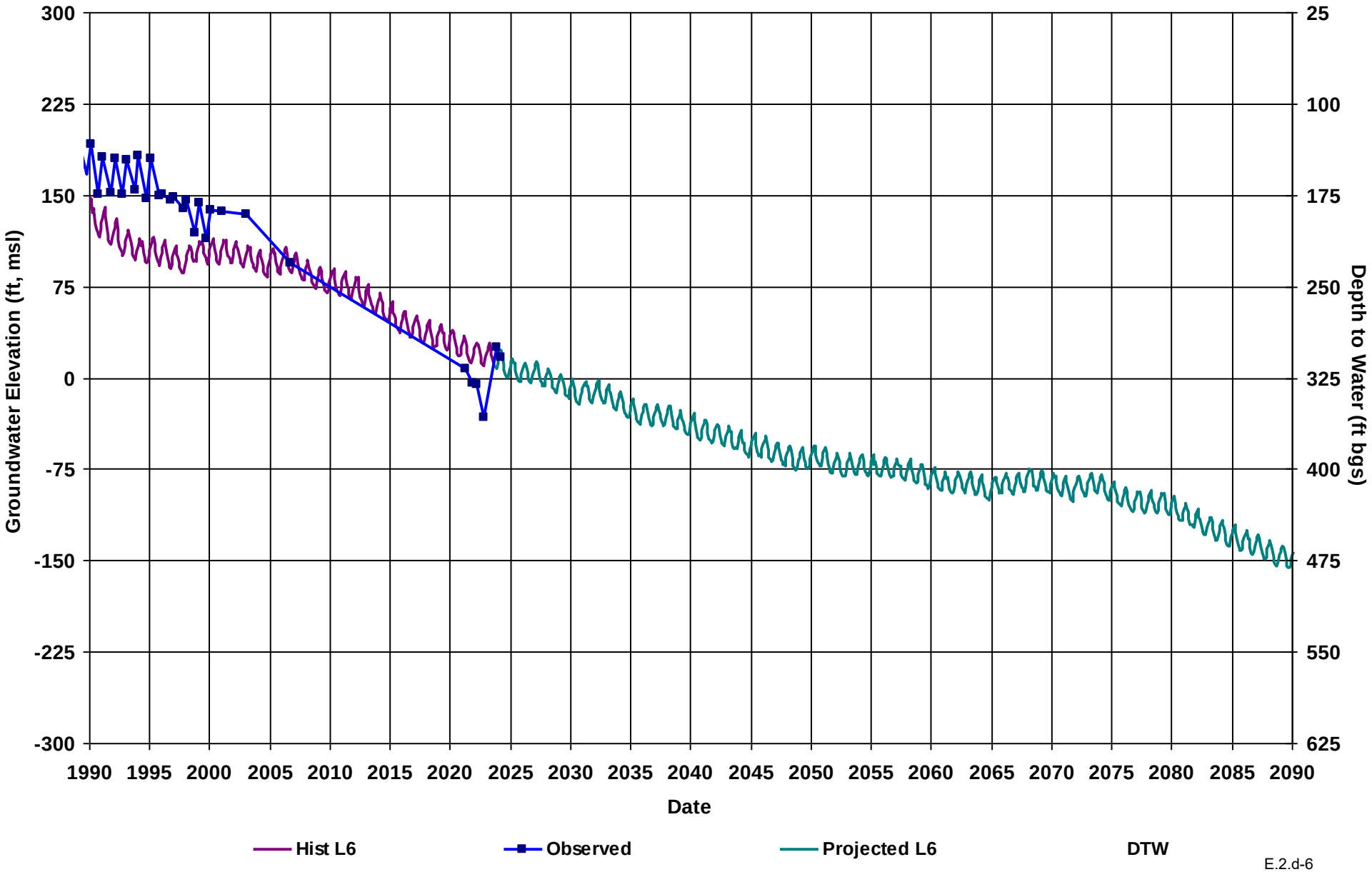
RMS ID: MCE RMS-2
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 378

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



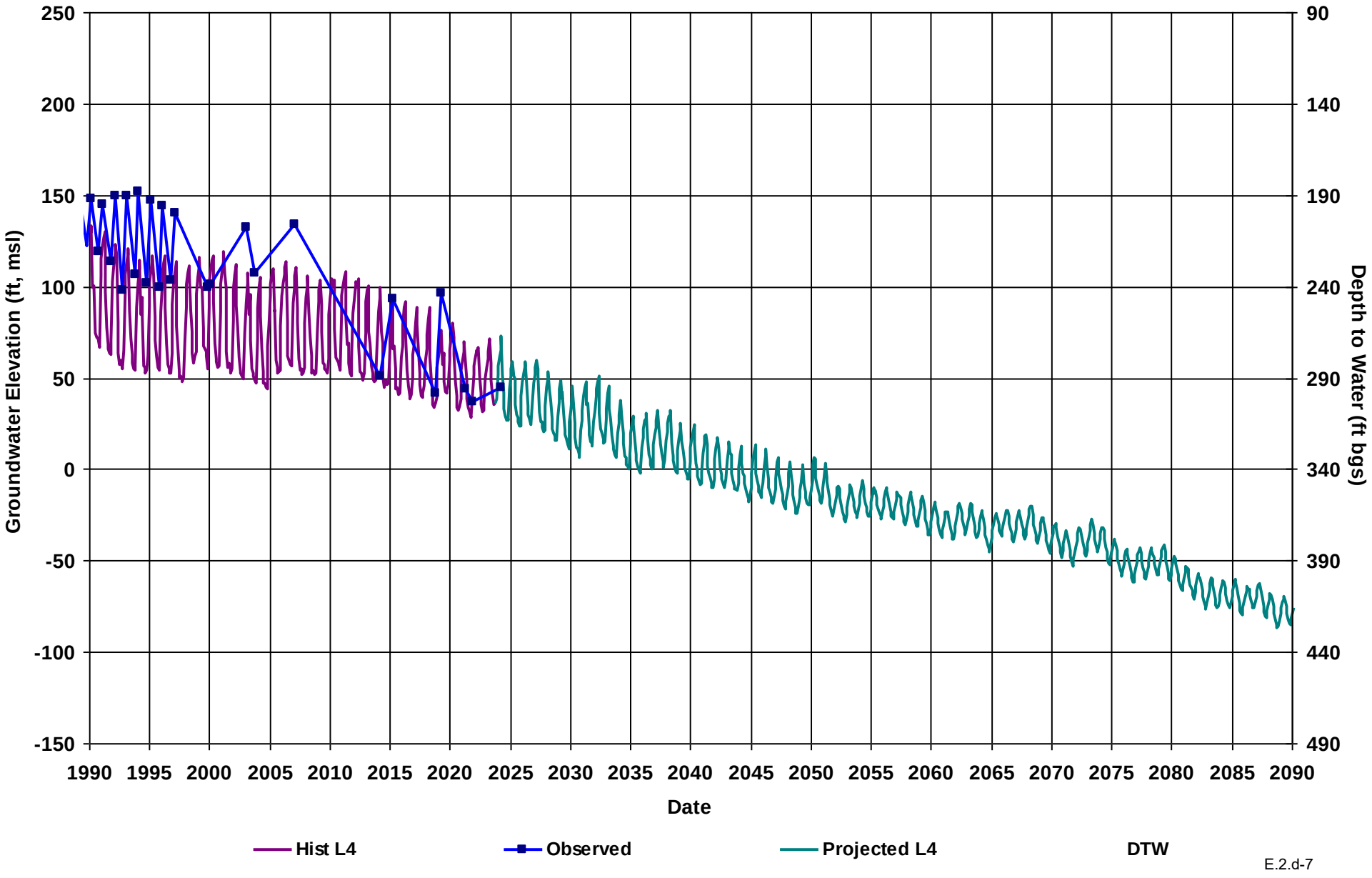
RMS ID: MCE RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 325

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



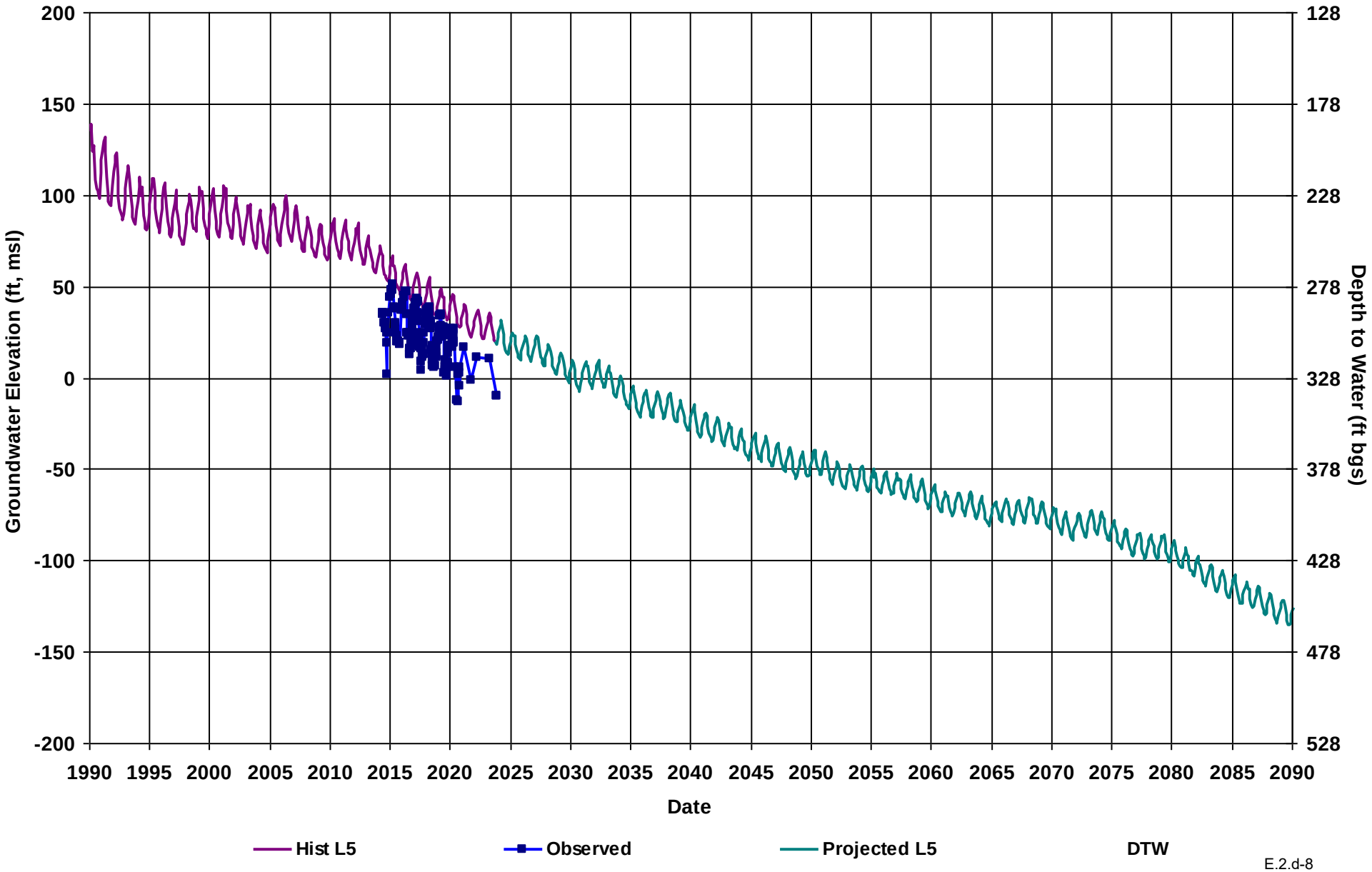
RMS ID: MCE RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



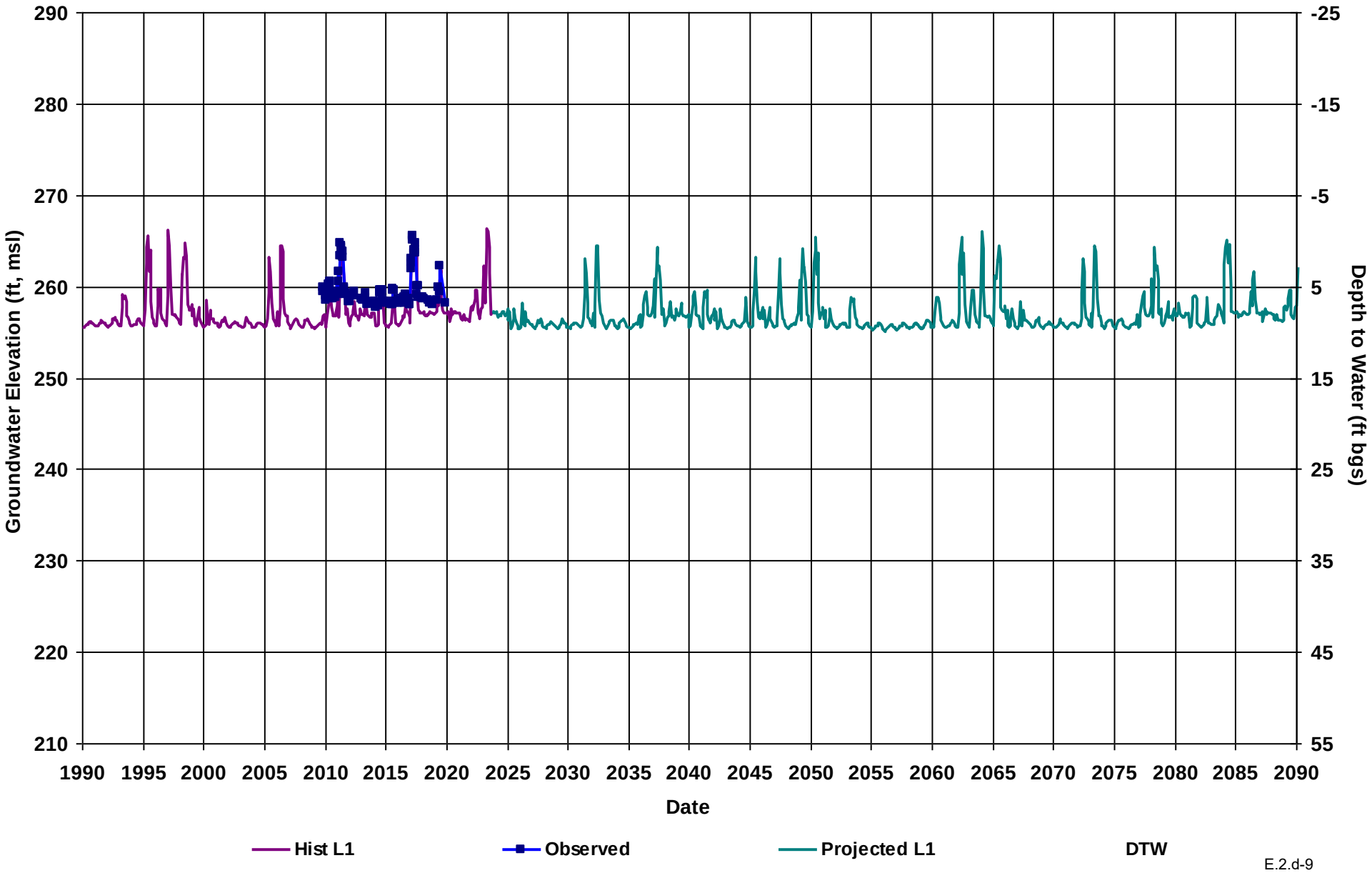
RMS ID: MCE RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 328

Total Depth (ft): 550
Perf Top (ft): 450
Perf Bottom (ft): 550
Top Model Layer: 5
Bottom Model Layer: 5



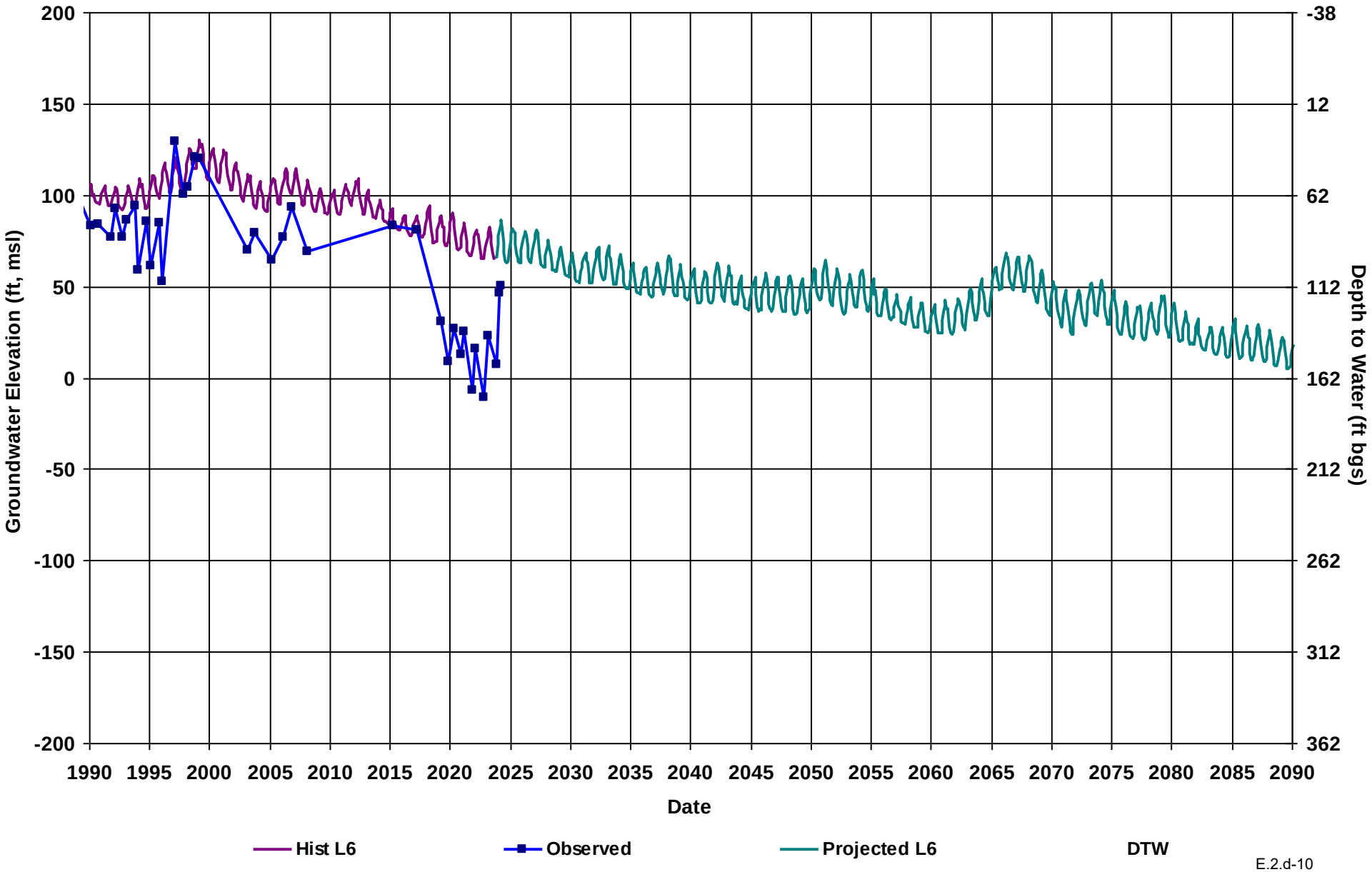
RMS ID: MCE RMS-9
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



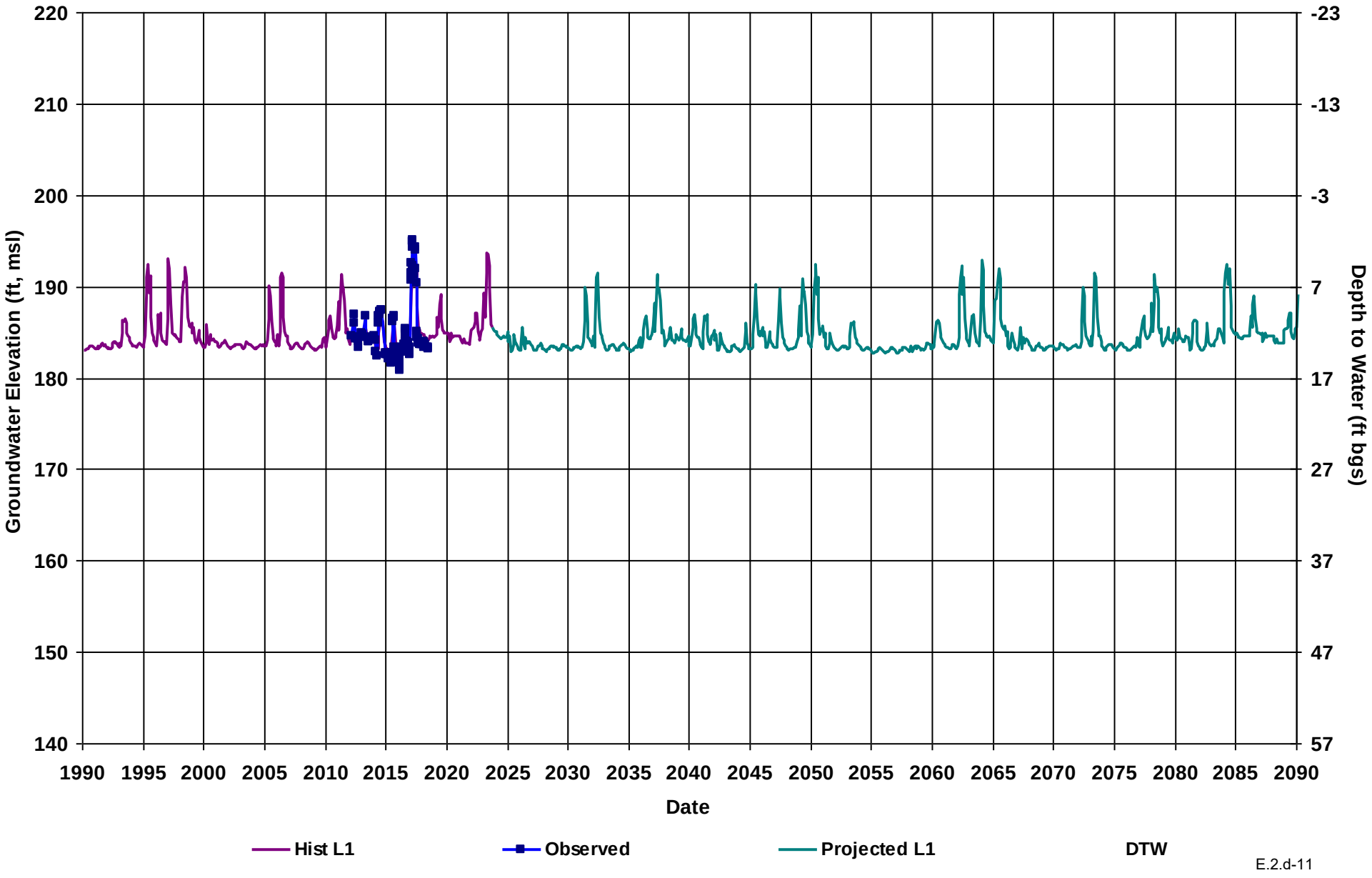
RMS ID: MCW RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 163

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



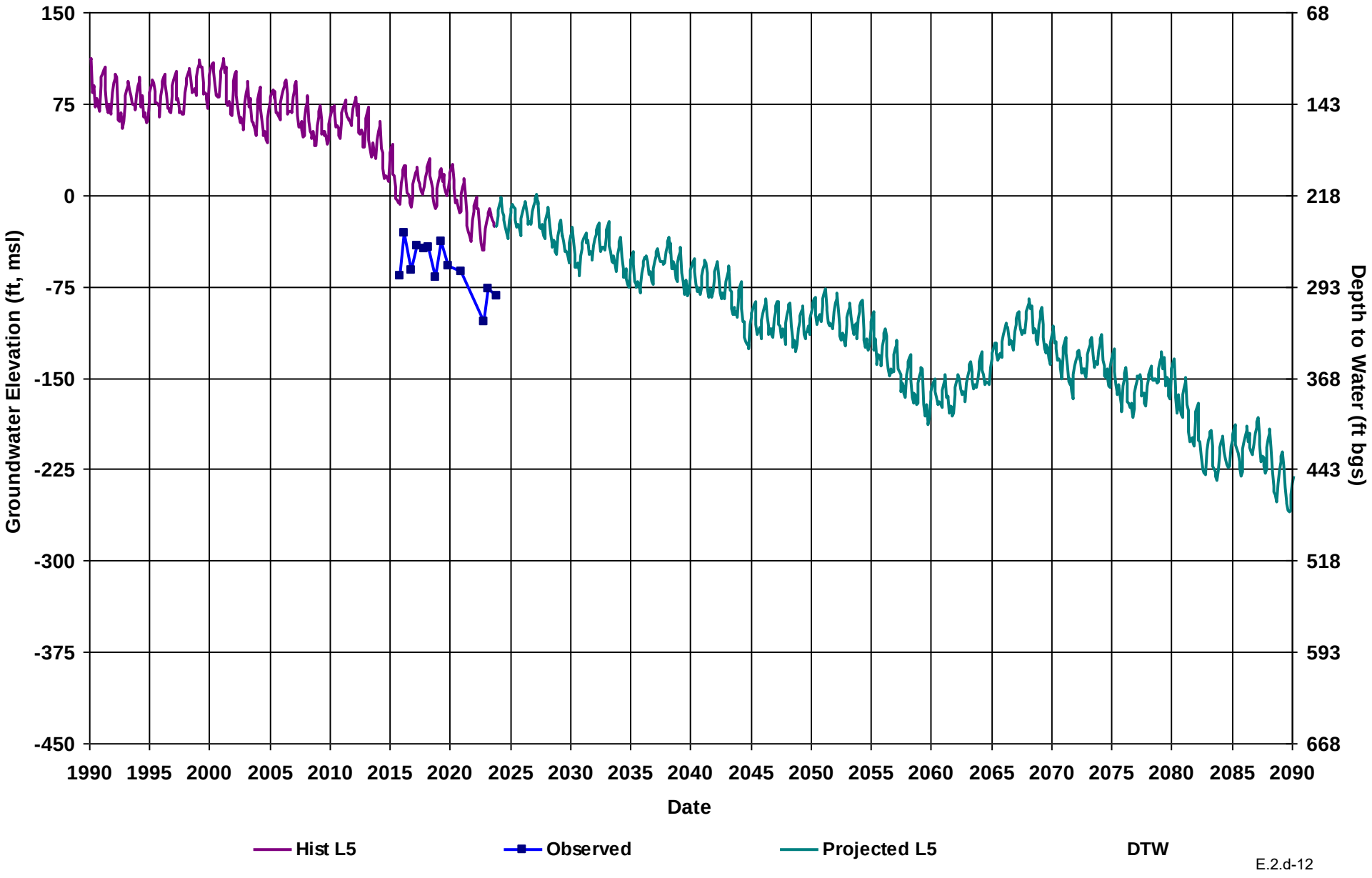
RMS ID: MCW RMS-5
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 199

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



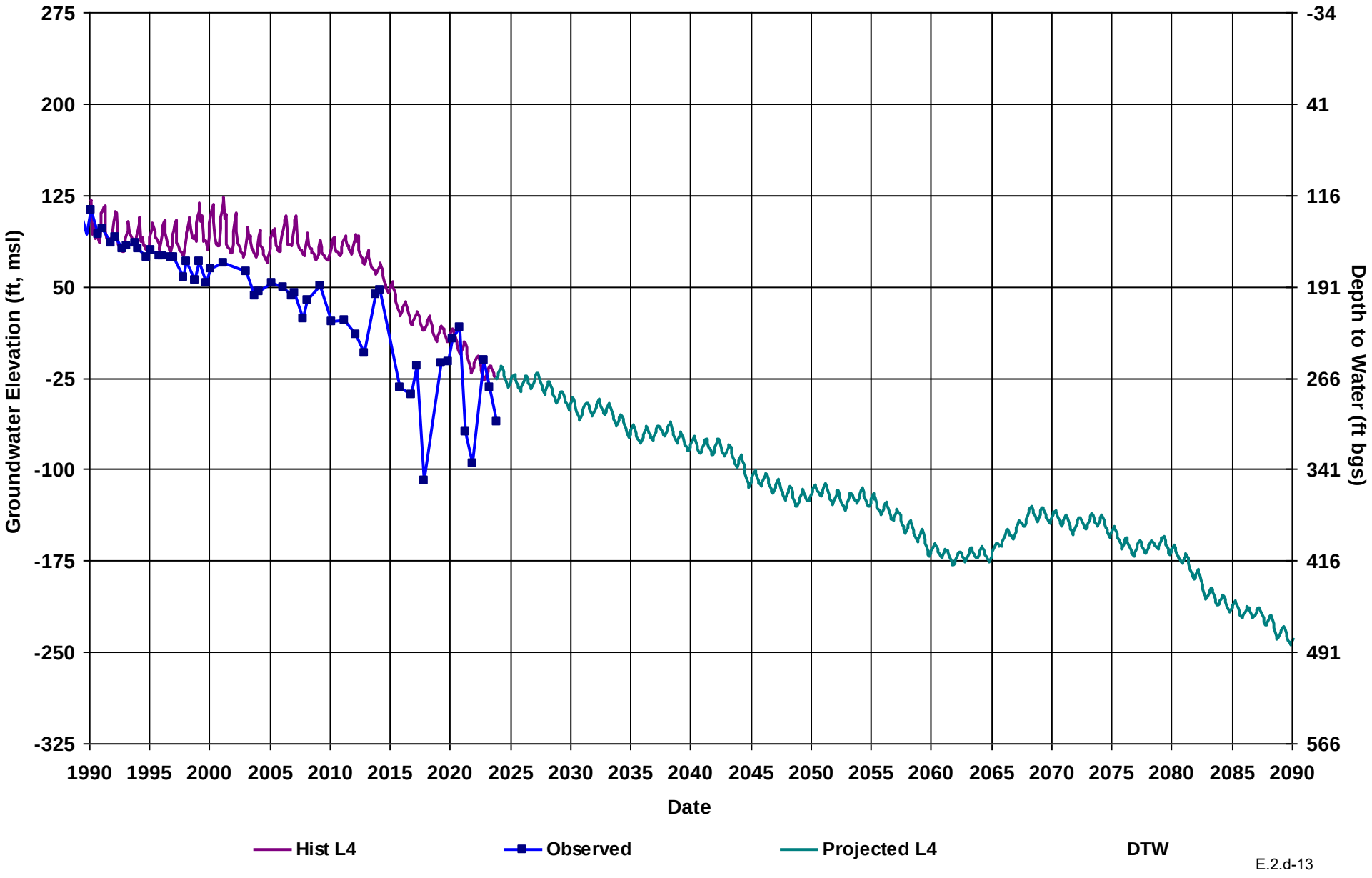
RMS ID: MID RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 294

Total Depth (ft): 563
Perf Top (ft): 298
Perf Bottom (ft): 509
Top Model Layer: 5
Bottom Model Layer: 5



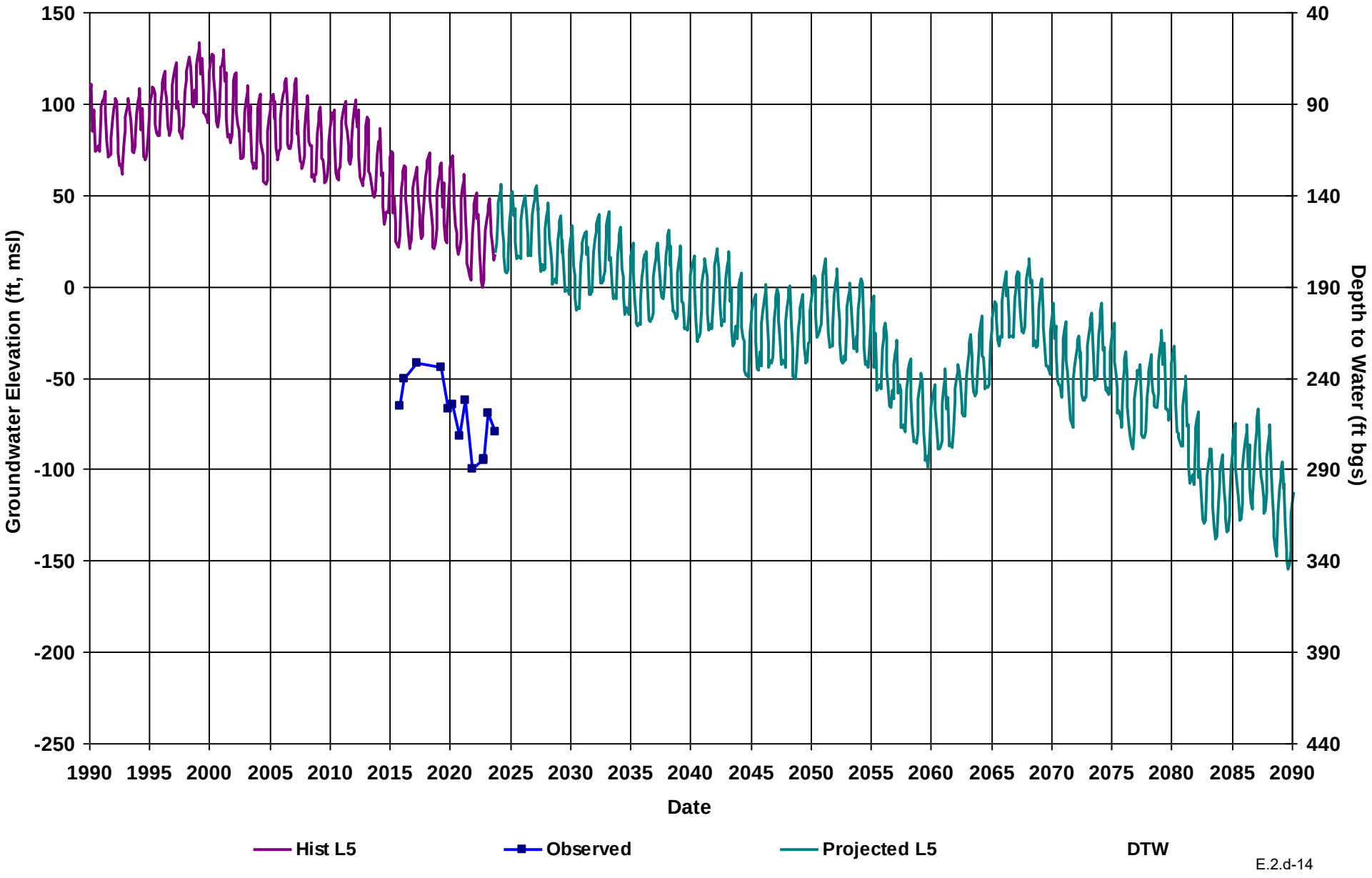
RMS ID: MID RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Total Depth (ft): 516
Perf Top (ft): 260
Perf Bottom (ft): 507
Top Model Layer: 4
Bottom Model Layer: 4



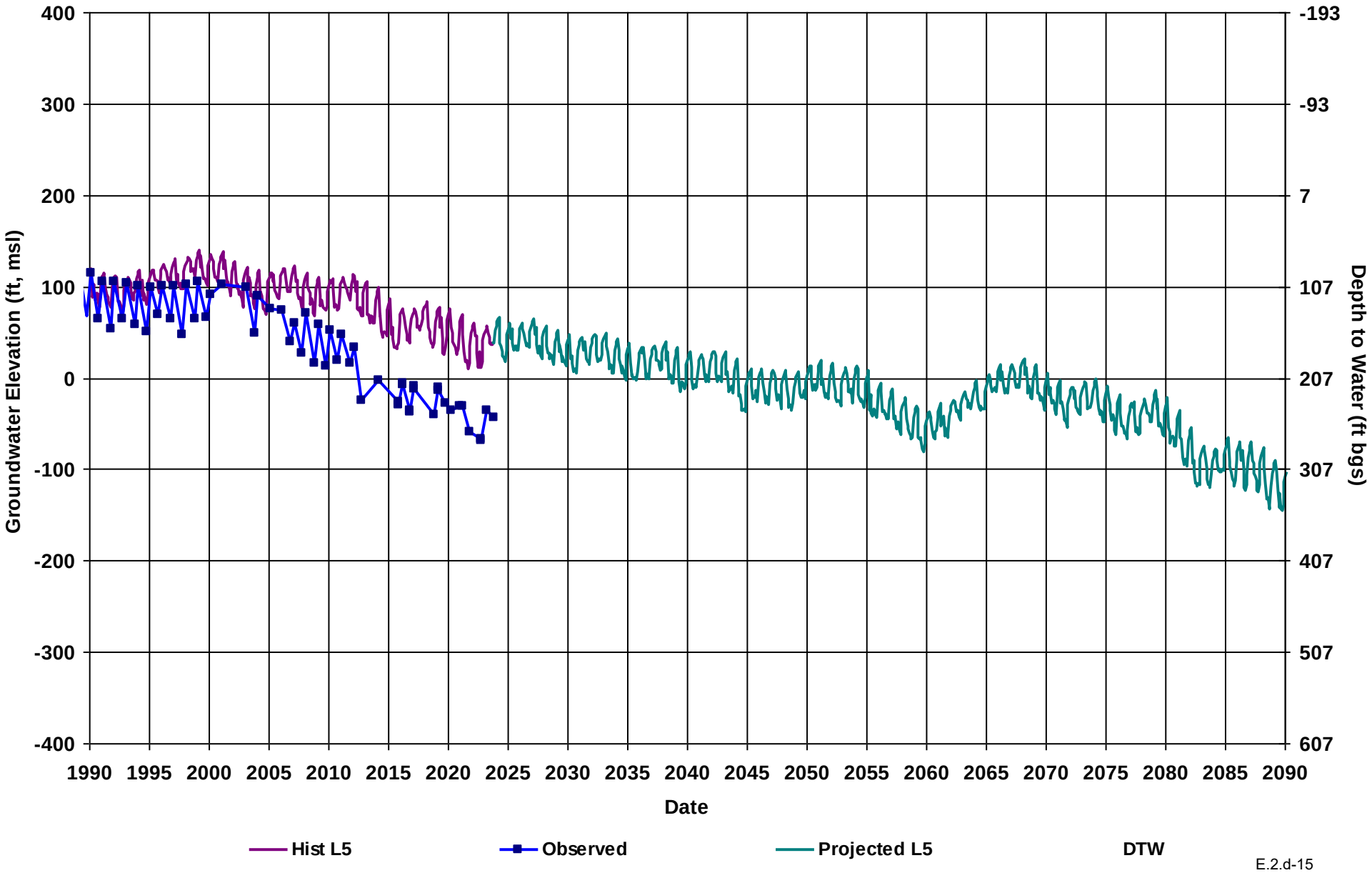
RMS ID: MID RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 259

Total Depth (ft): 698
Perf Top (ft): 320
Perf Bottom (ft): 667
Top Model Layer: 5
Bottom Model Layer: 5



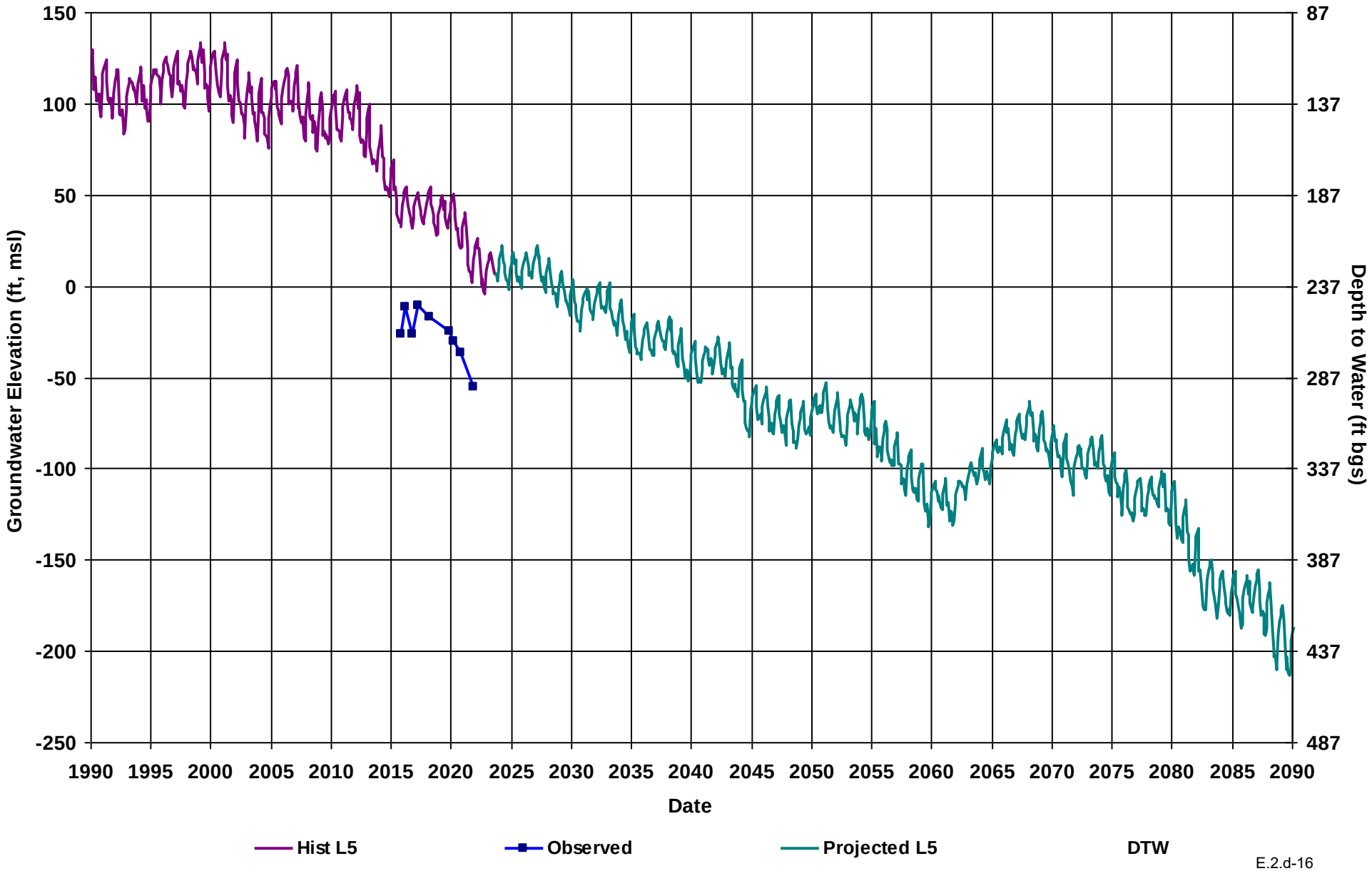
RMS ID: MID RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 239

Total Depth (ft): 570
Perf Top (ft): 270
Perf Bottom (ft): 570
Top Model Layer: 5
Bottom Model Layer: 5



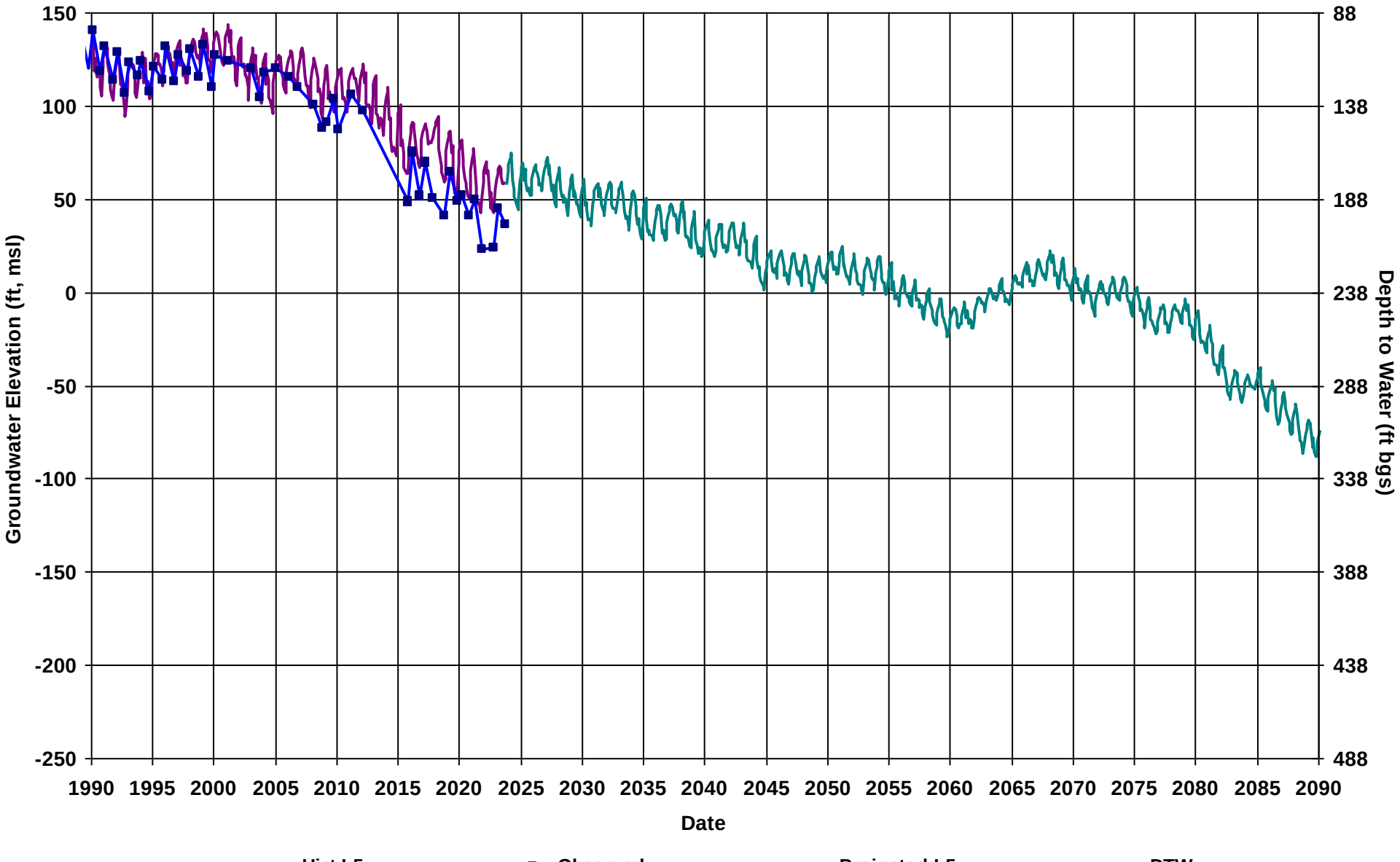
RMS ID: MID RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 237

Total Depth (ft): 680
Perf Top (ft): 320
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



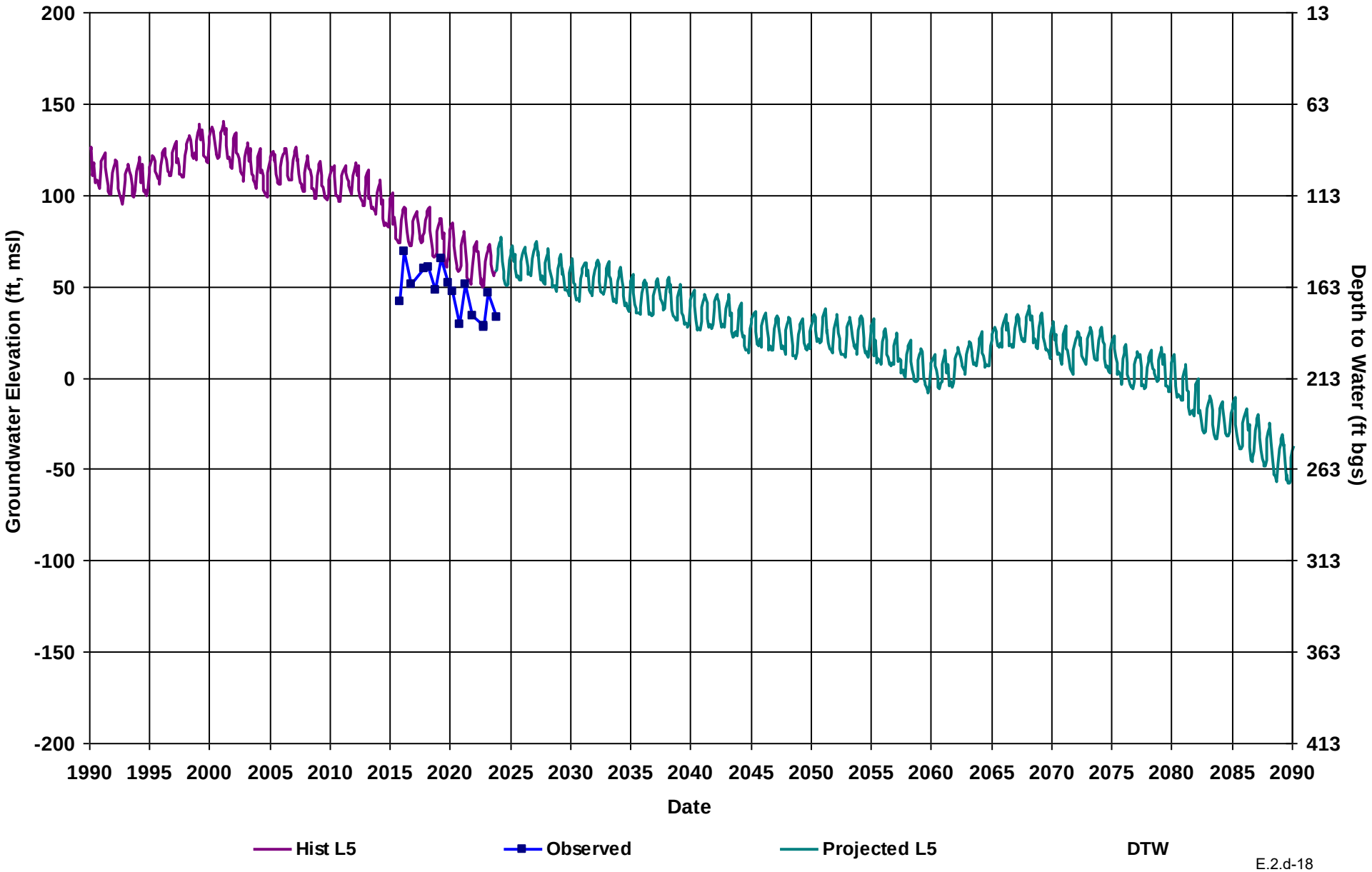
RMS ID: MID RMS-7
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 238

Total Depth (ft): 656
Perf Top (ft): 290
Perf Bottom (ft): 635
Top Model Layer: 5
Bottom Model Layer: 5



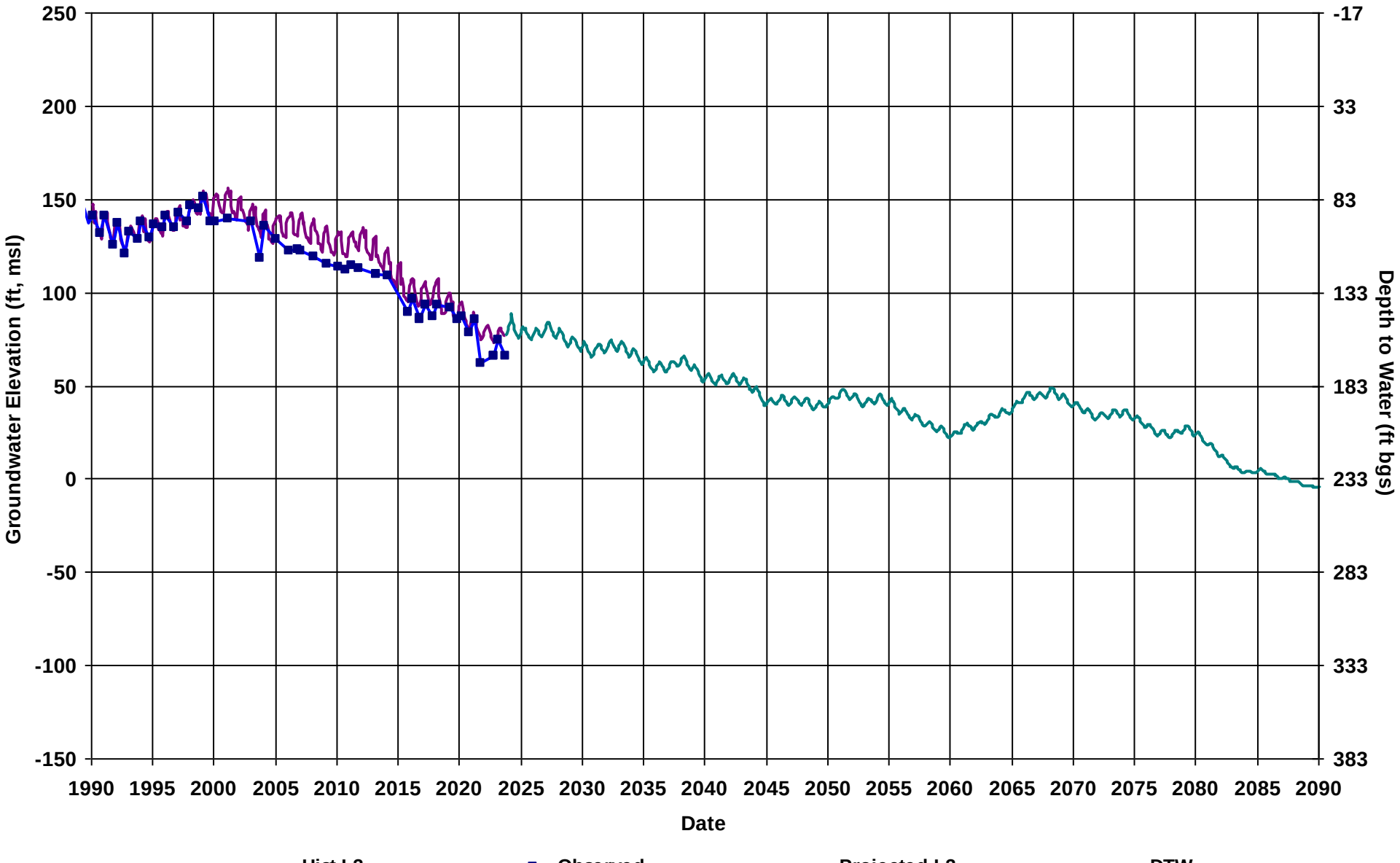
RMS ID: MID RMS-10
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 213

Total Depth (ft): 615
Perf Top (ft): 315
Perf Bottom (ft): 615
Top Model Layer: 5
Bottom Model Layer: 5



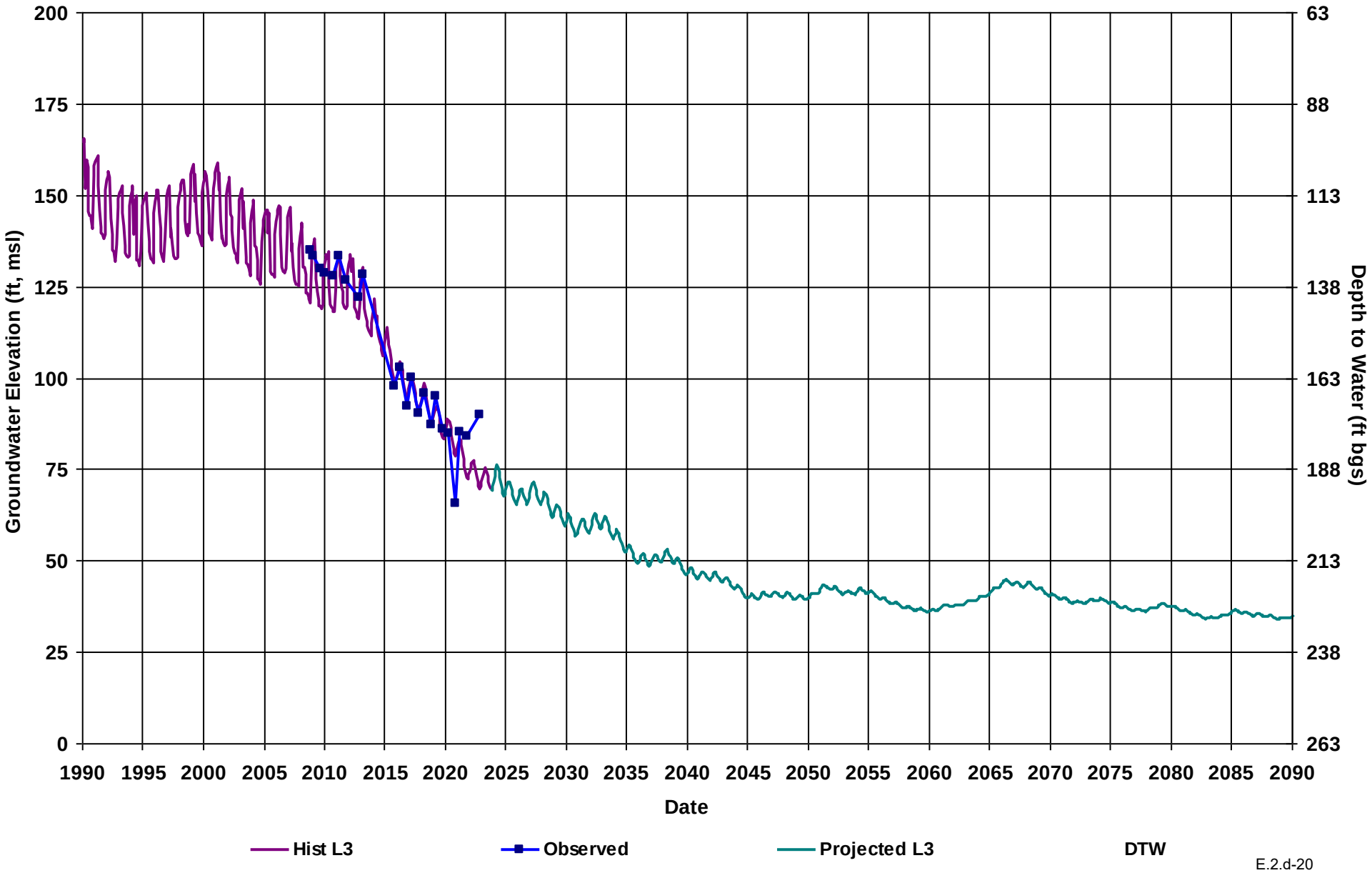
RMS ID: MID RMS-11
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 315
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



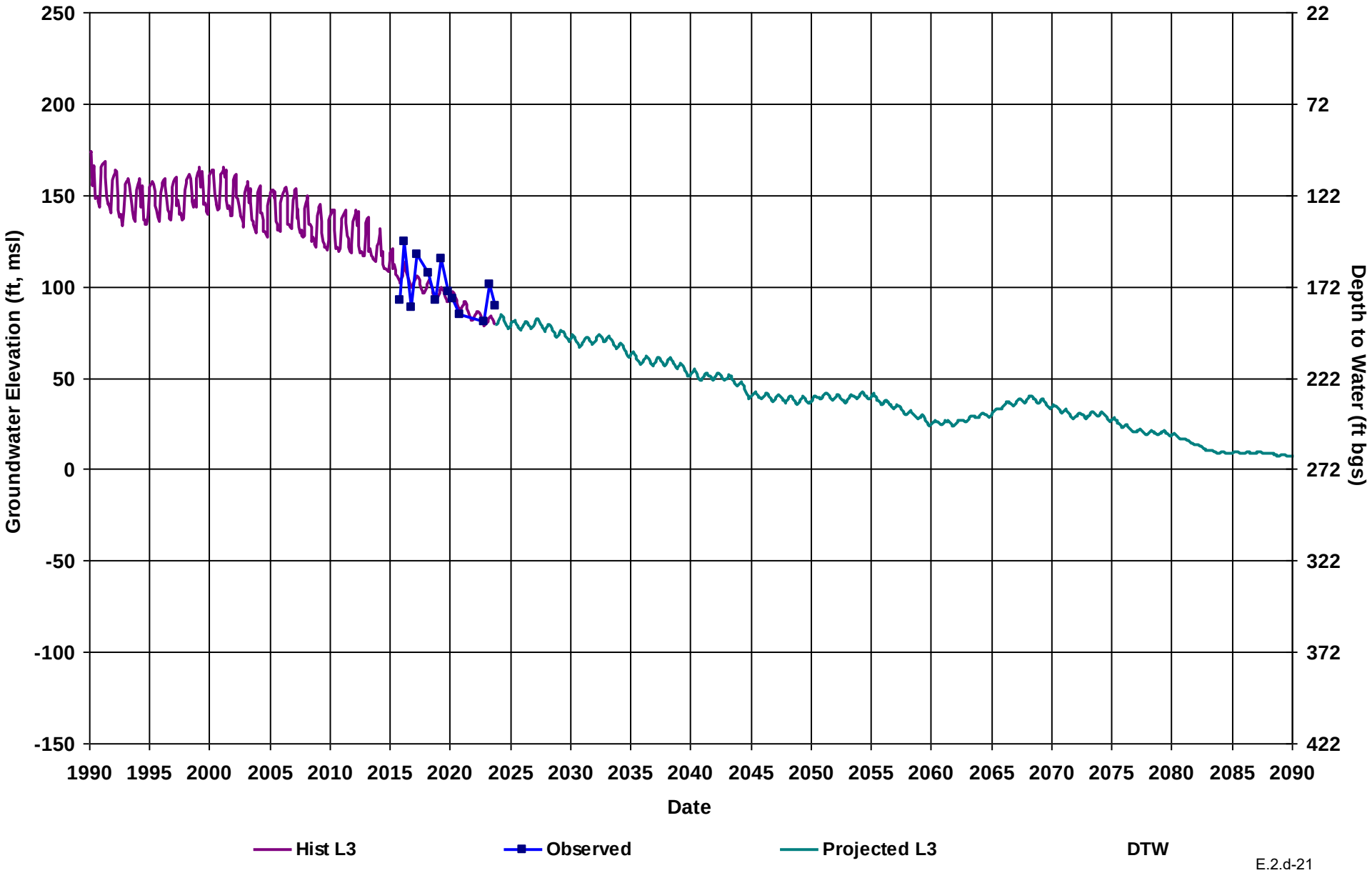
RMS ID: MID RMS-12
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 263

Total Depth (ft): 176
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



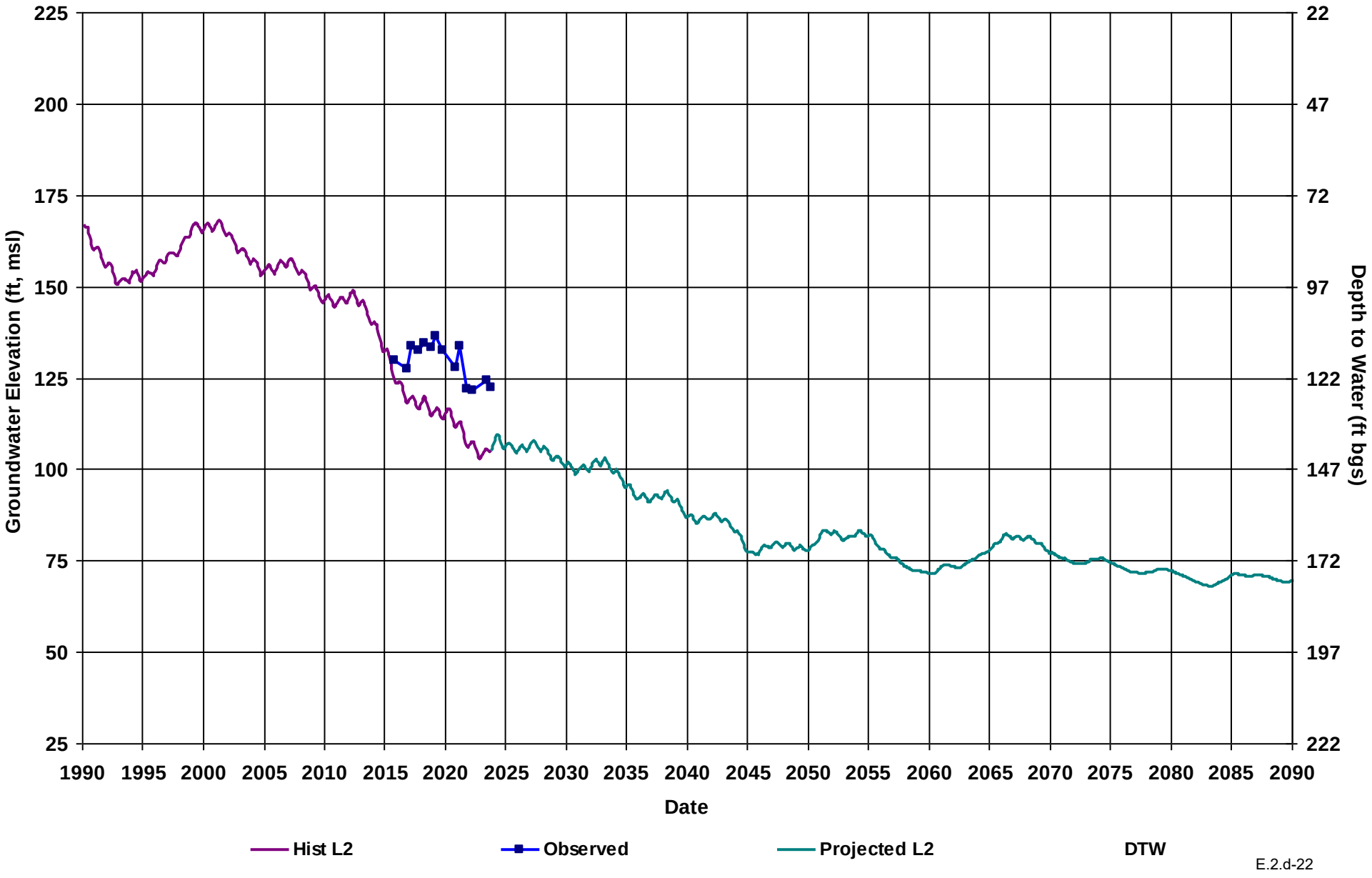
RMS ID: MID RMS-13
Depth Zone: Composite
Subbasin: Madera
GSE (ft, msl): 272

Total Depth (ft): 600
Perf Top (ft): 228
Perf Bottom (ft): 552
Top Model Layer: 3
Bottom Model Layer: 3



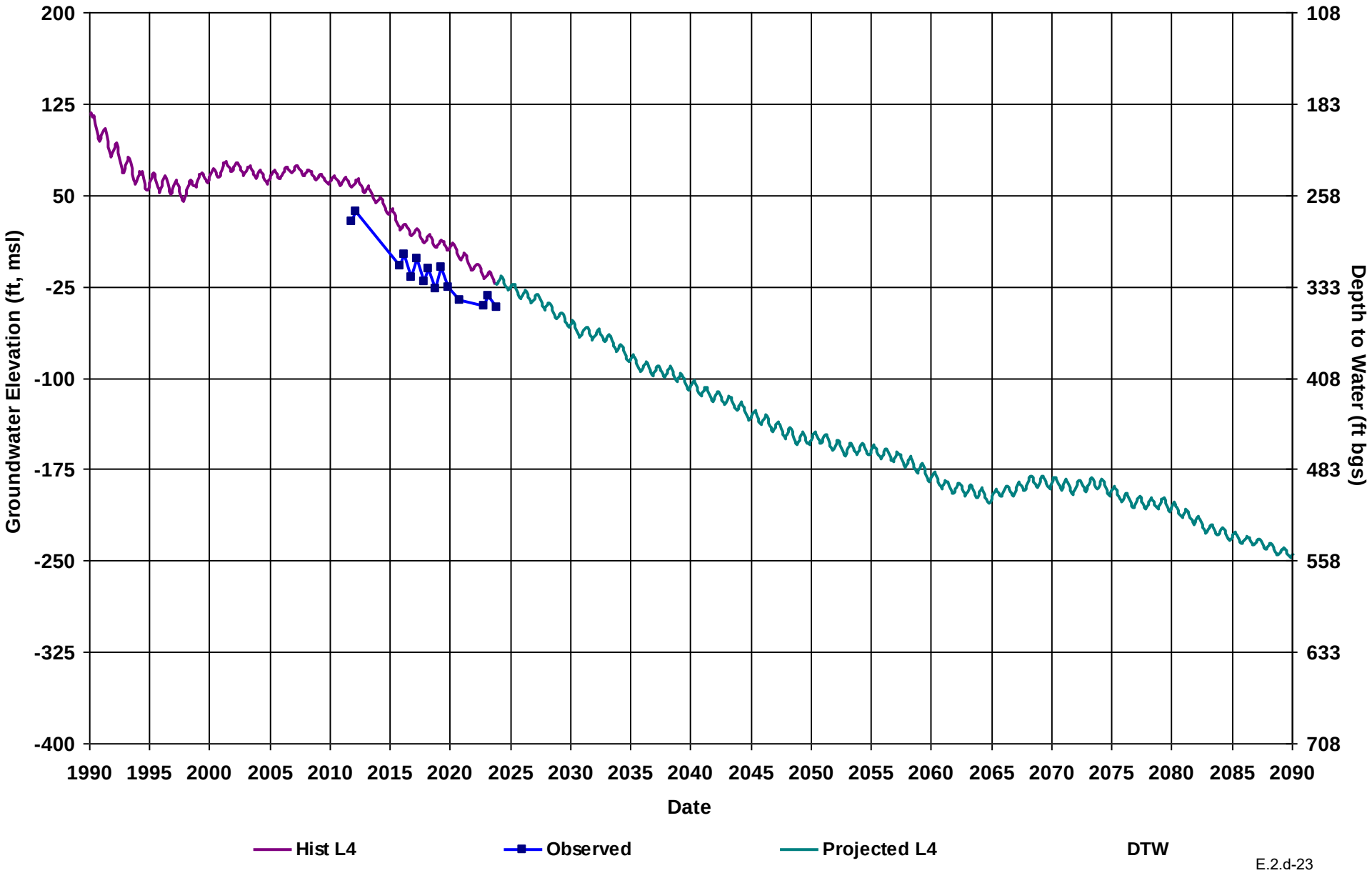
RMS ID: MID RMS-15
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 247

Total Depth (ft): 502
Perf Top (ft): 160
Perf Bottom (ft): 200
Top Model Layer: 2
Bottom Model Layer: 2



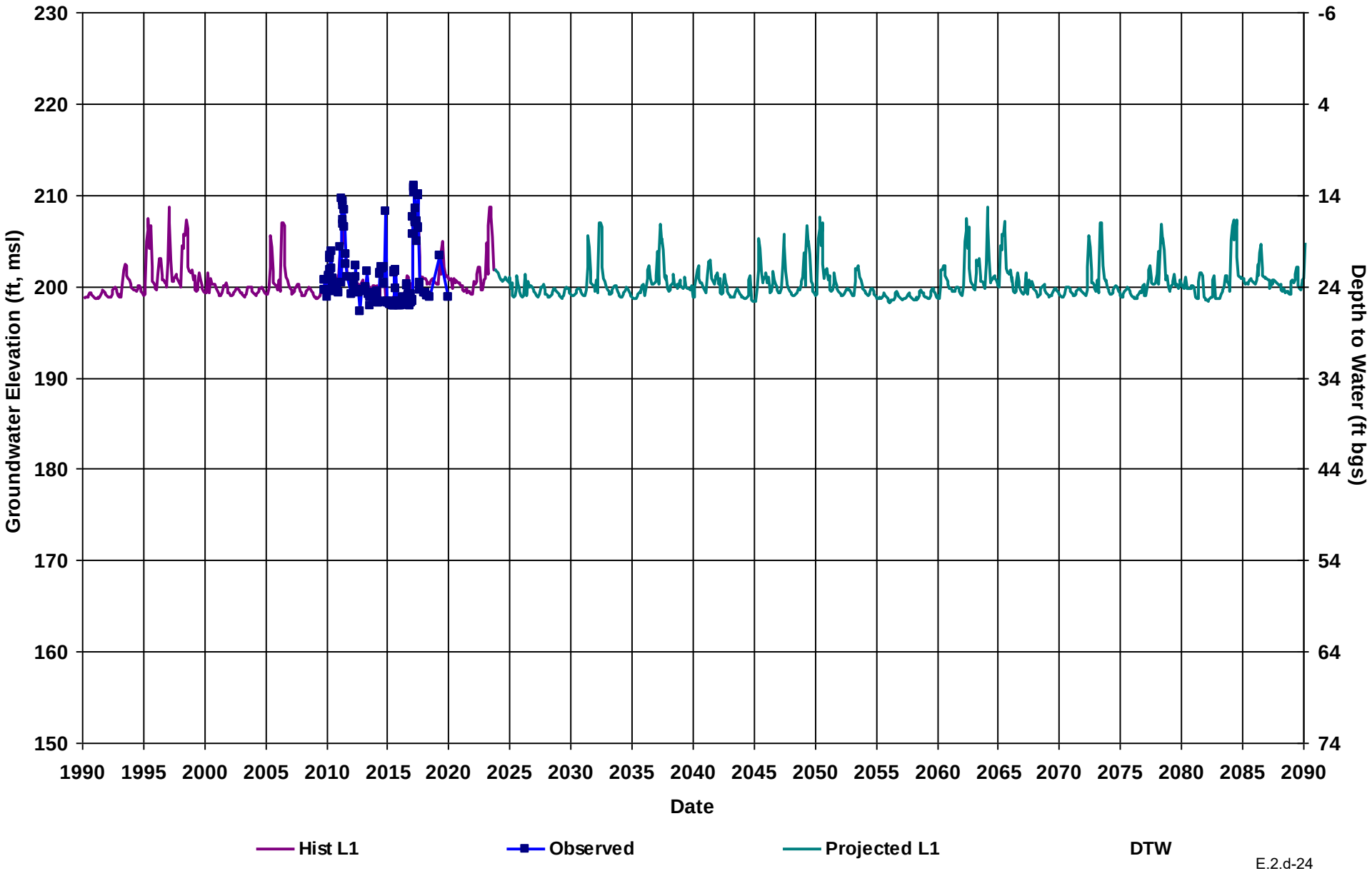
RMS ID: MID RMS-16
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft): 452
Perf Top (ft): 348
Perf Bottom (ft): 388
Top Model Layer: 4
Bottom Model Layer: 4



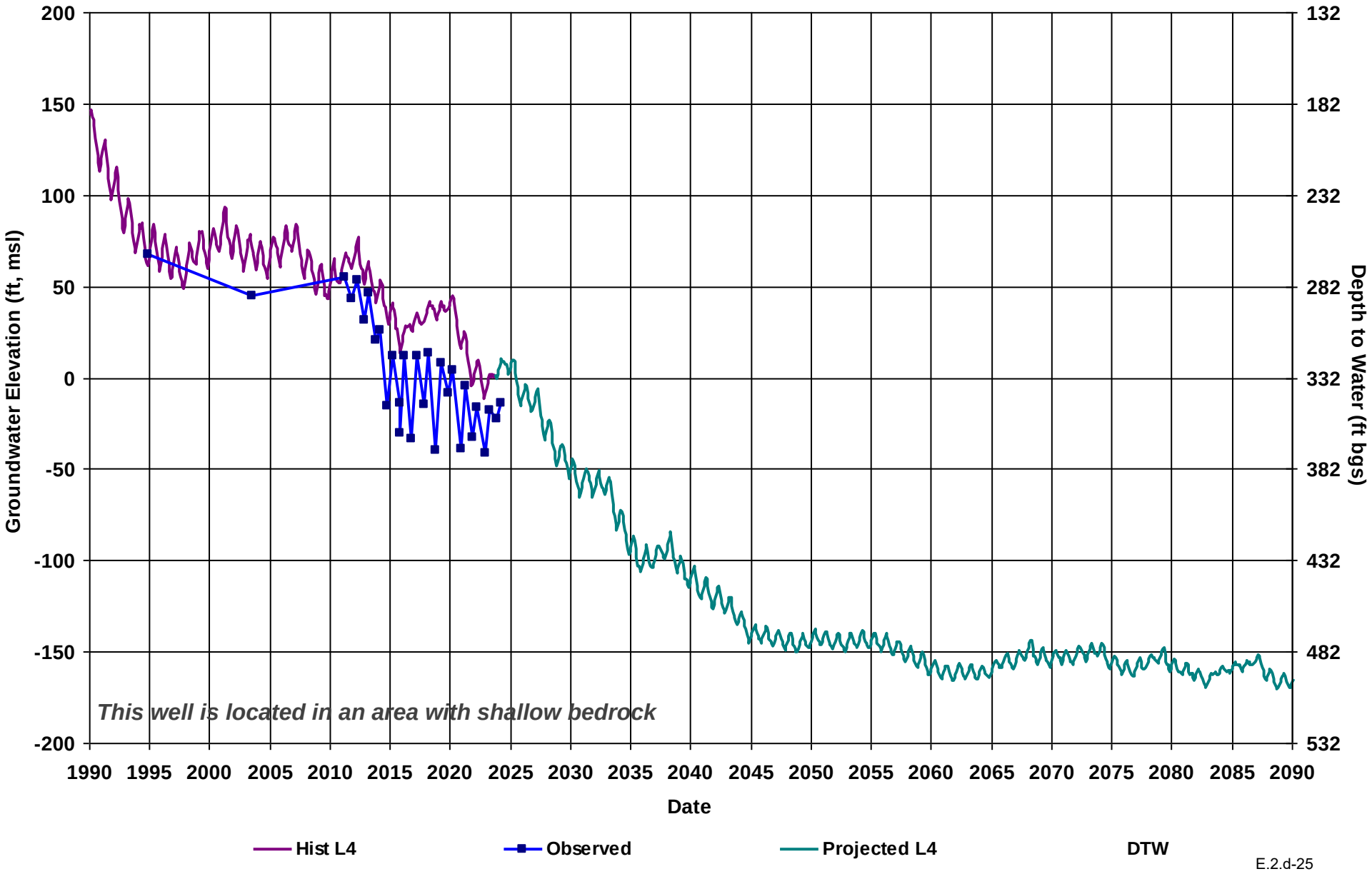
RMS ID: MID RMS-17
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 224

Total Depth (ft): 47
Perf Top (ft): 26
Perf Bottom (ft): 46
Top Model Layer: 1
Bottom Model Layer: 1



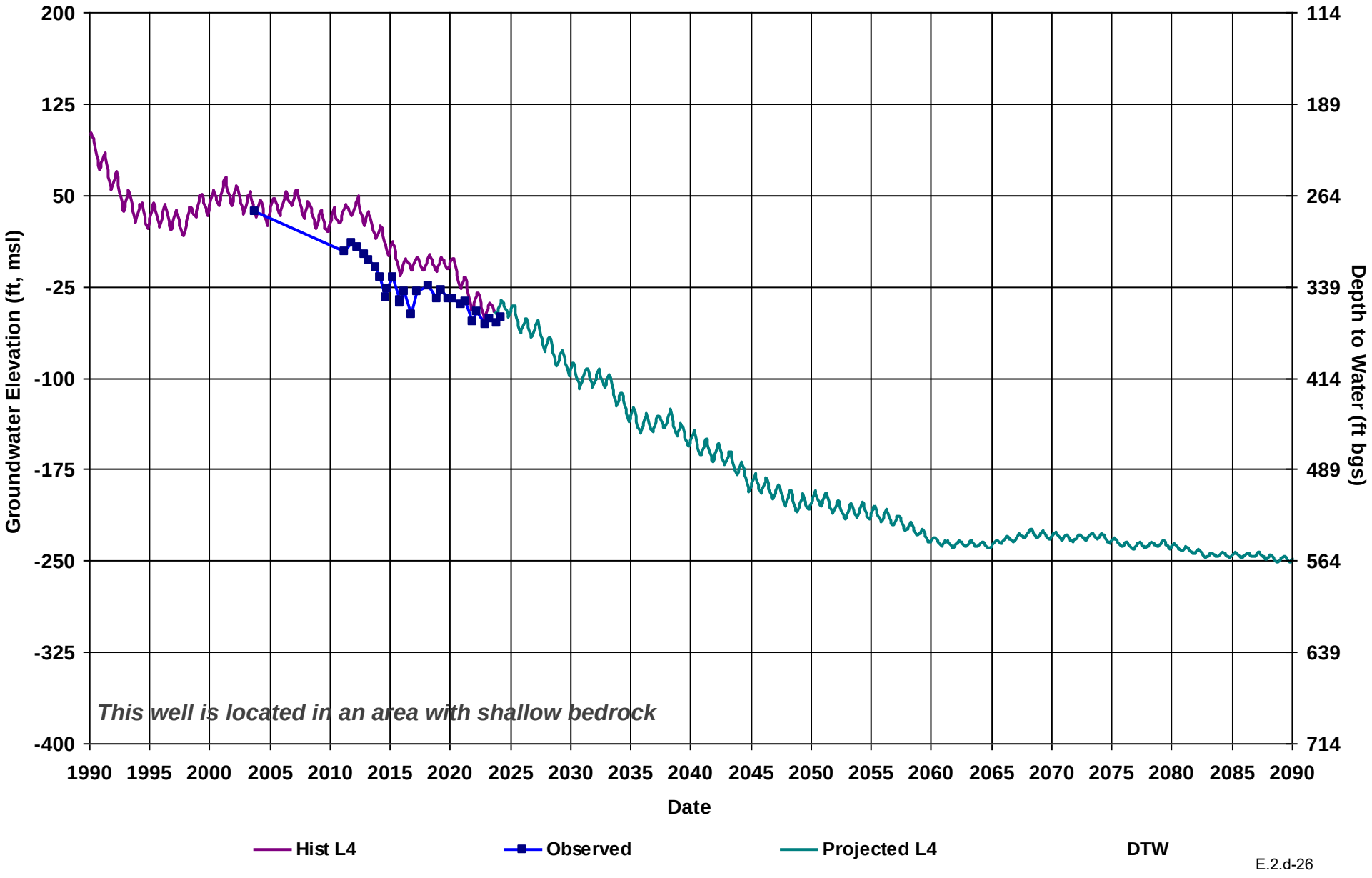
RMS ID: MWD RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 504
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



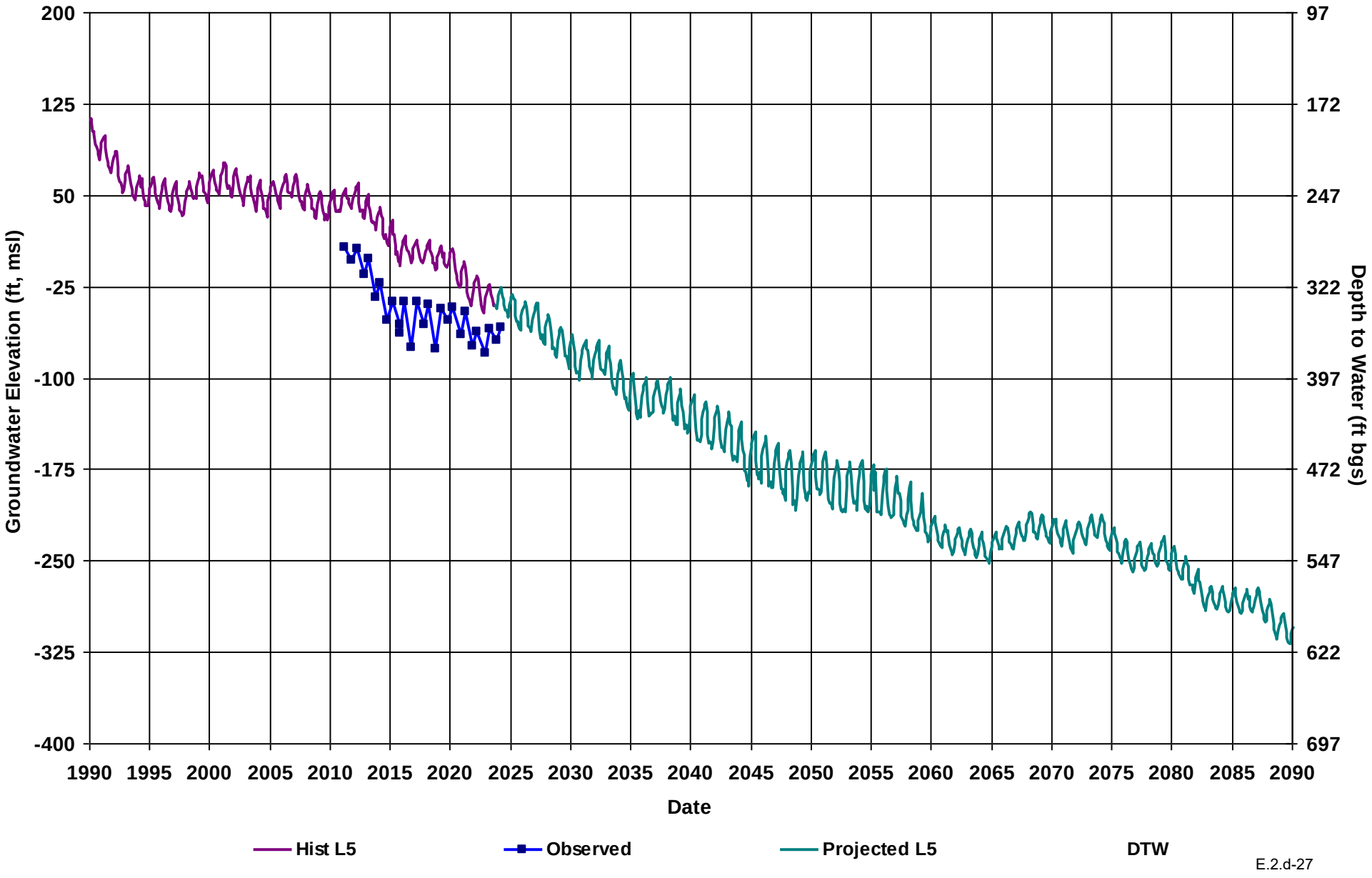
RMS ID: MWD RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 365

Total Depth (ft): 537
Perf Top (ft): 200
Perf Bottom (ft): 537
Top Model Layer: 4
Bottom Model Layer: 4



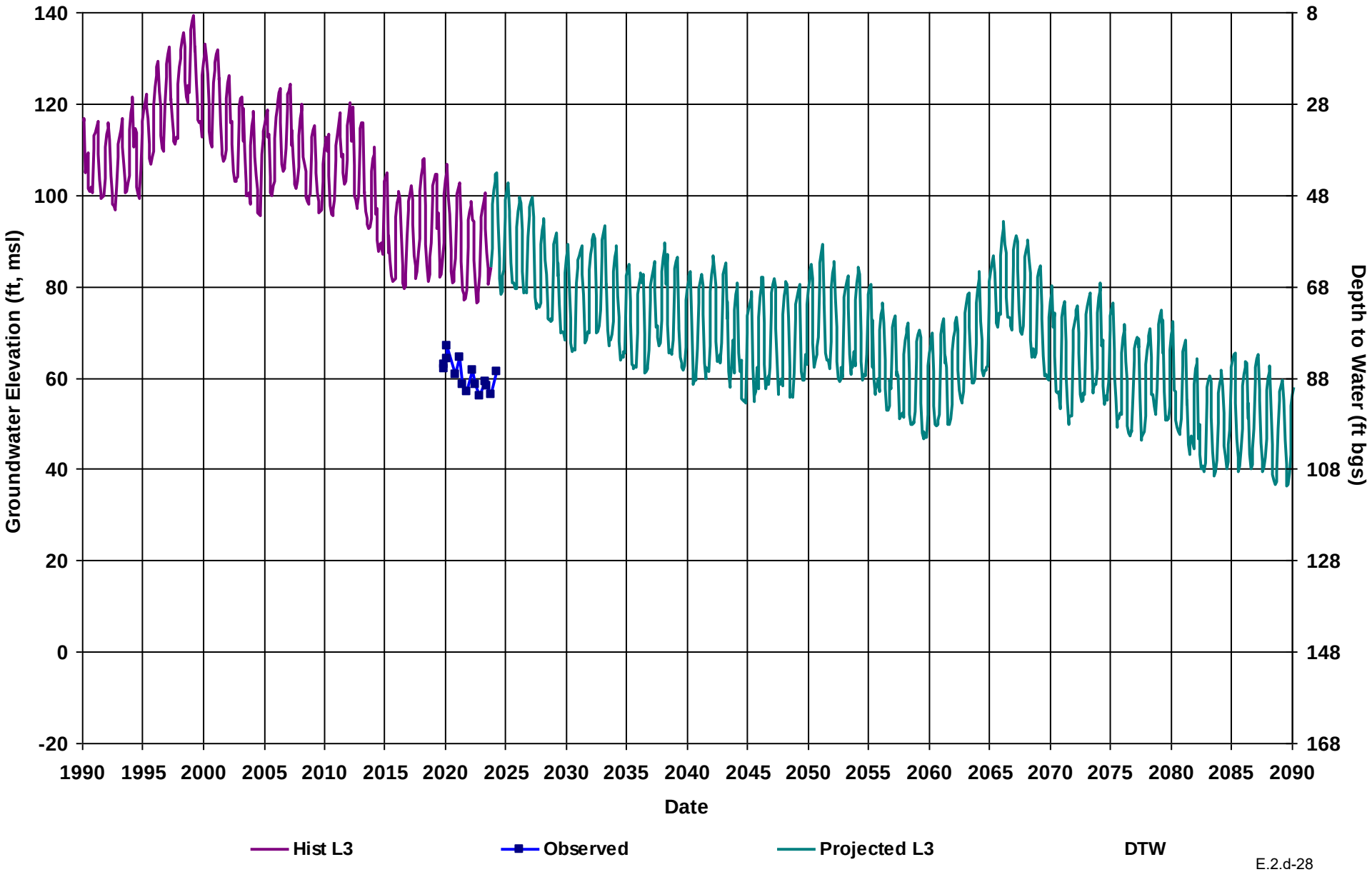
RMS ID: MWD RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 358

Total Depth (ft): 800
Perf Top (ft): 380
Perf Bottom (ft): 800
Top Model Layer: 5
Bottom Model Layer: 5



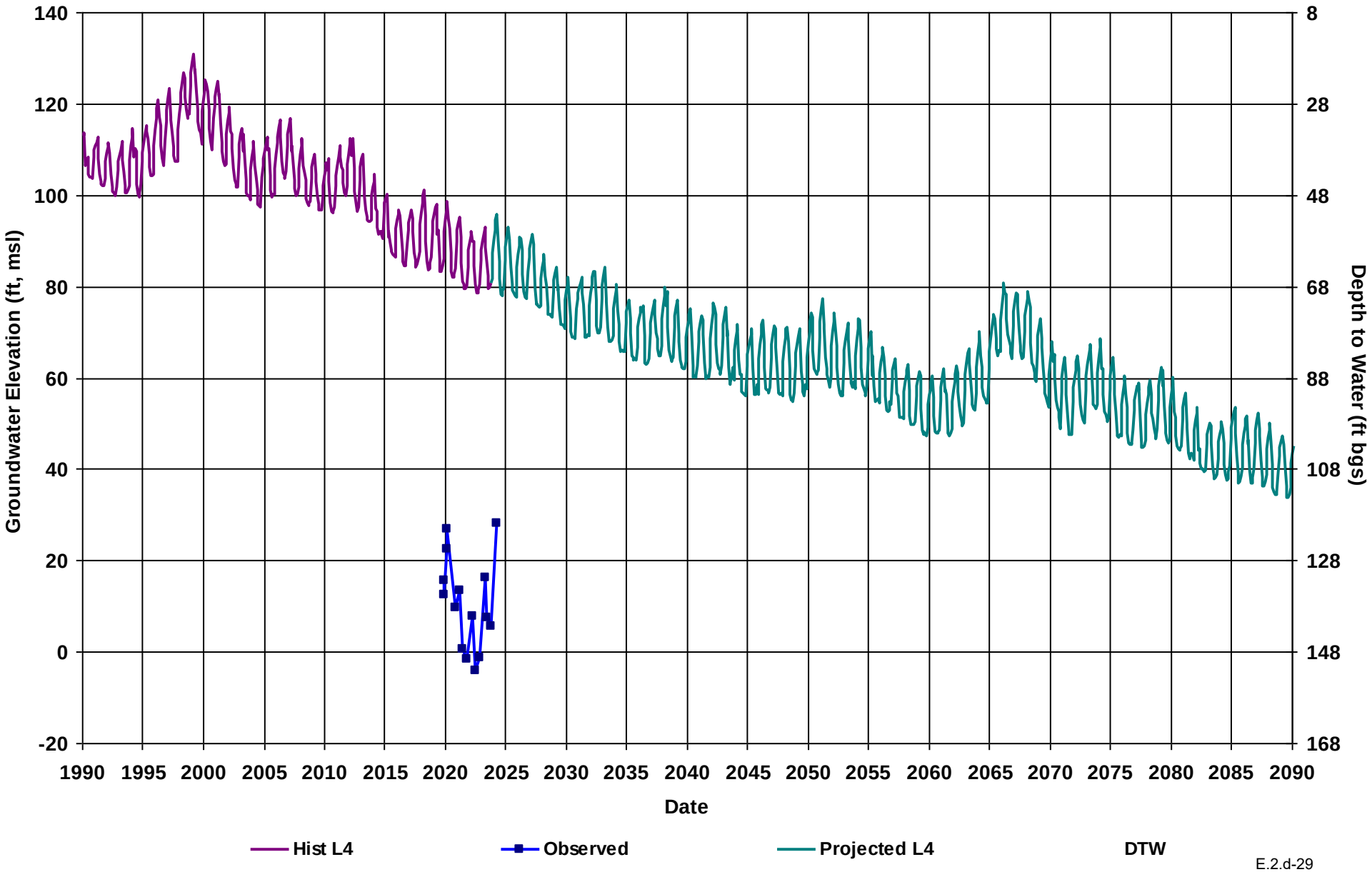
RMS ID: MSB03B
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 295
Perf Top (ft): 215
Perf Bottom (ft): 285
Top Model Layer: 3
Bottom Model Layer: 3



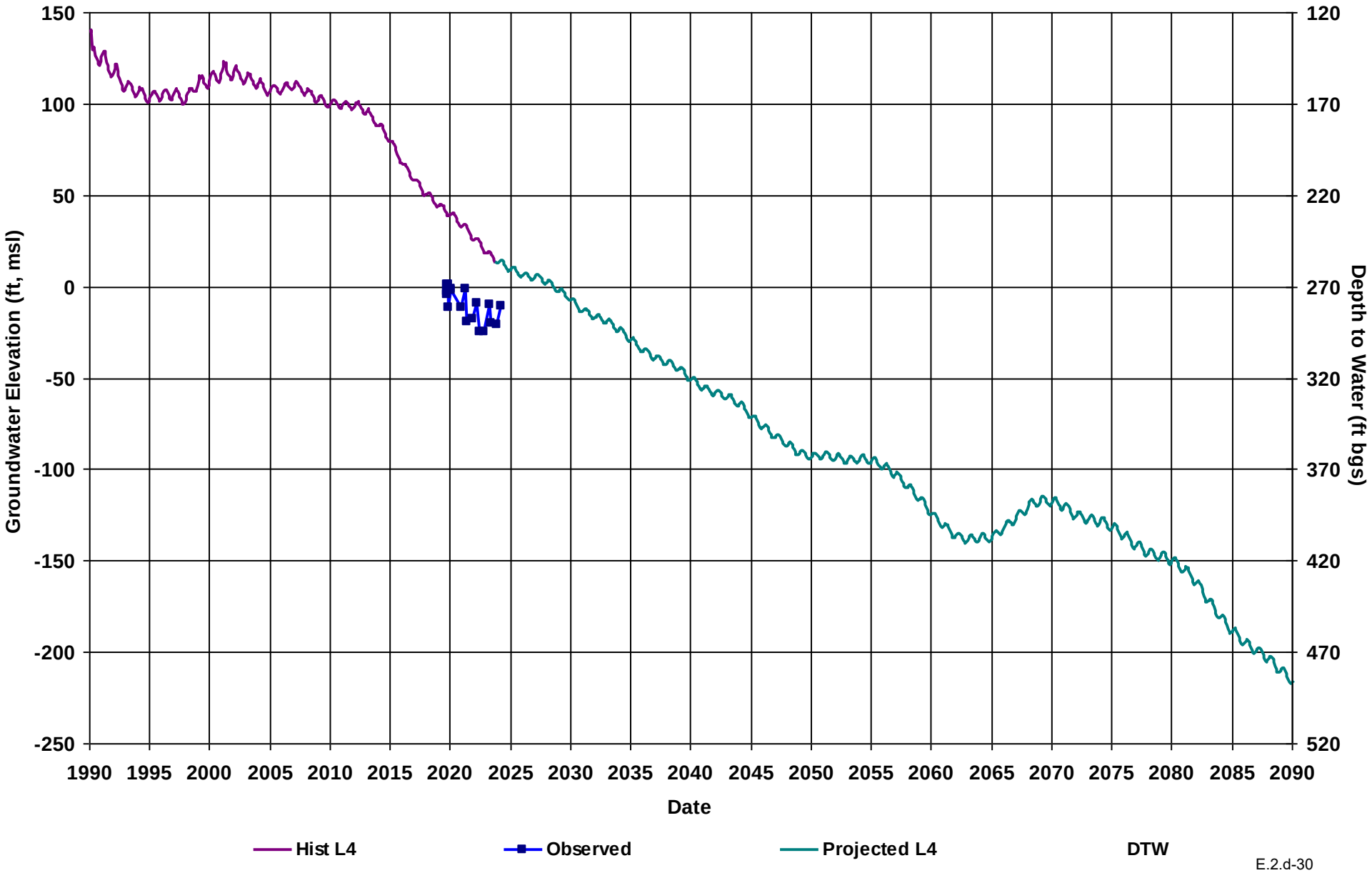
RMS ID: MSB03C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 430
Perf Top (ft): 355
Perf Bottom (ft): 420
Top Model Layer: 4
Bottom Model Layer: 4



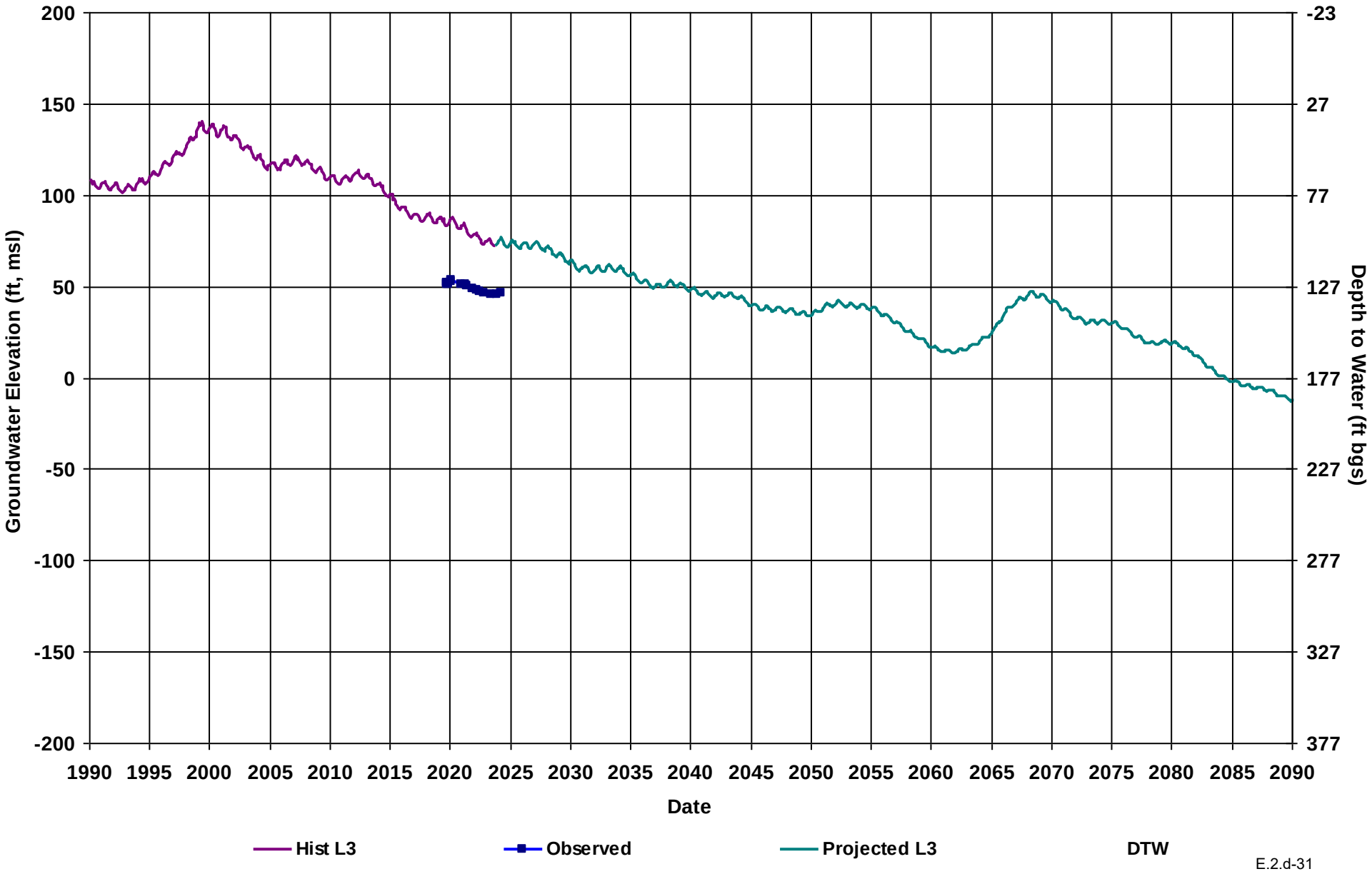
RMS ID: MSB04B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 695
Perf Top (ft): 530
Perf Bottom (ft): 685
Top Model Layer: 4
Bottom Model Layer: 4



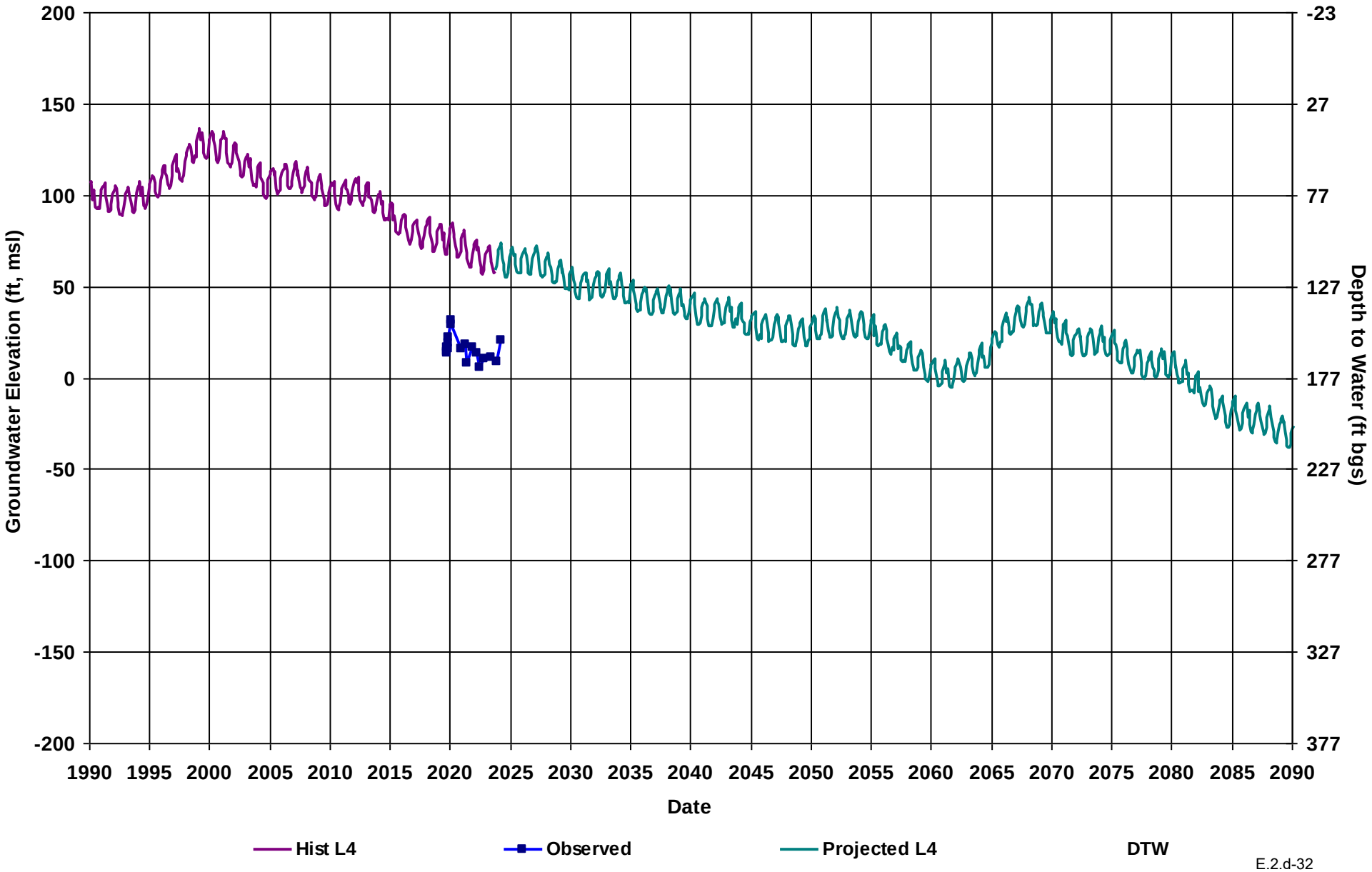
RMS ID: MSB05A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 210
Perf Top (ft): 140
Perf Bottom (ft): 200
Top Model Layer: 3
Bottom Model Layer: 3



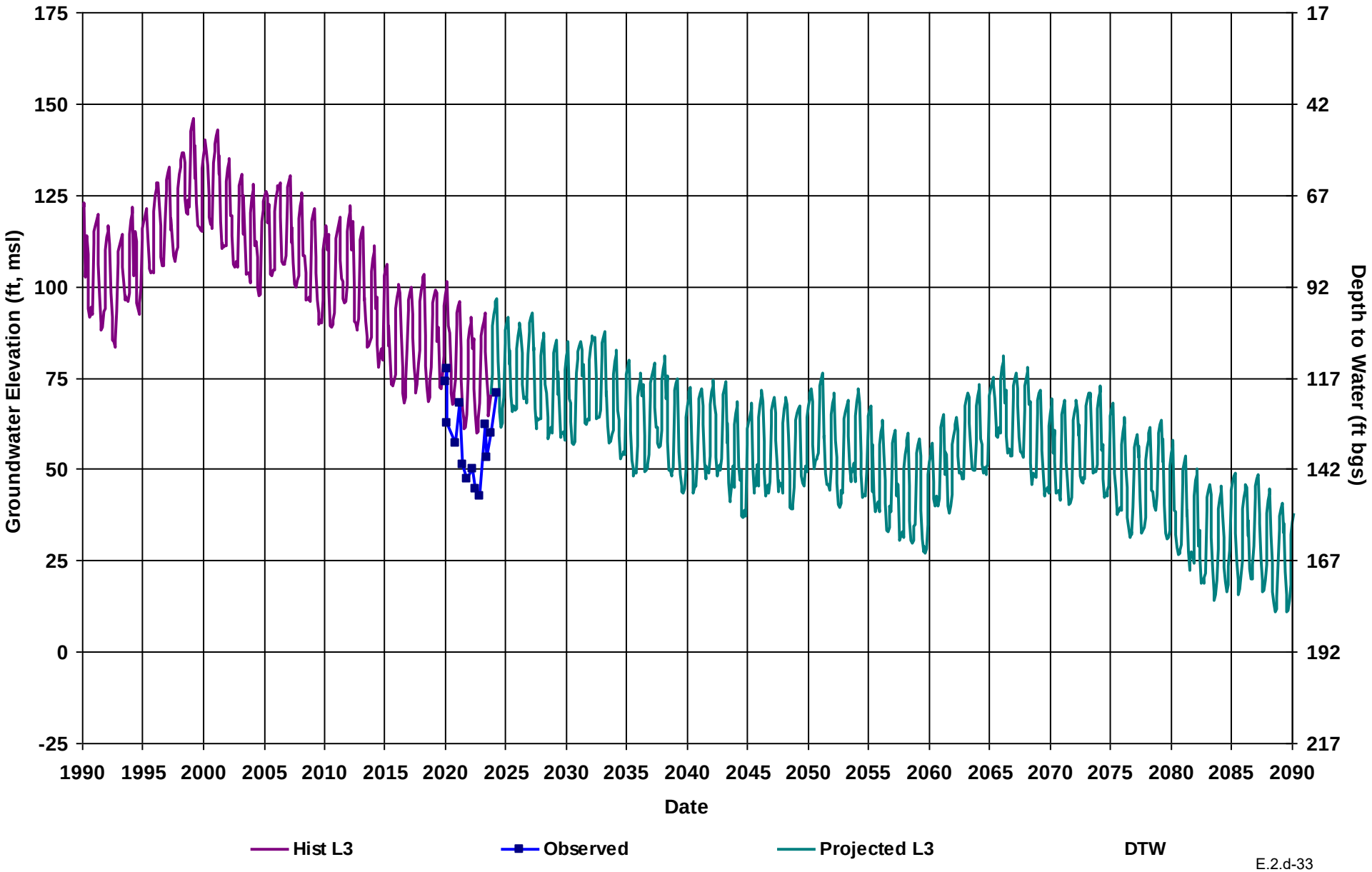
RMS ID: MSB05B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 375
Perf Top (ft): 240
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



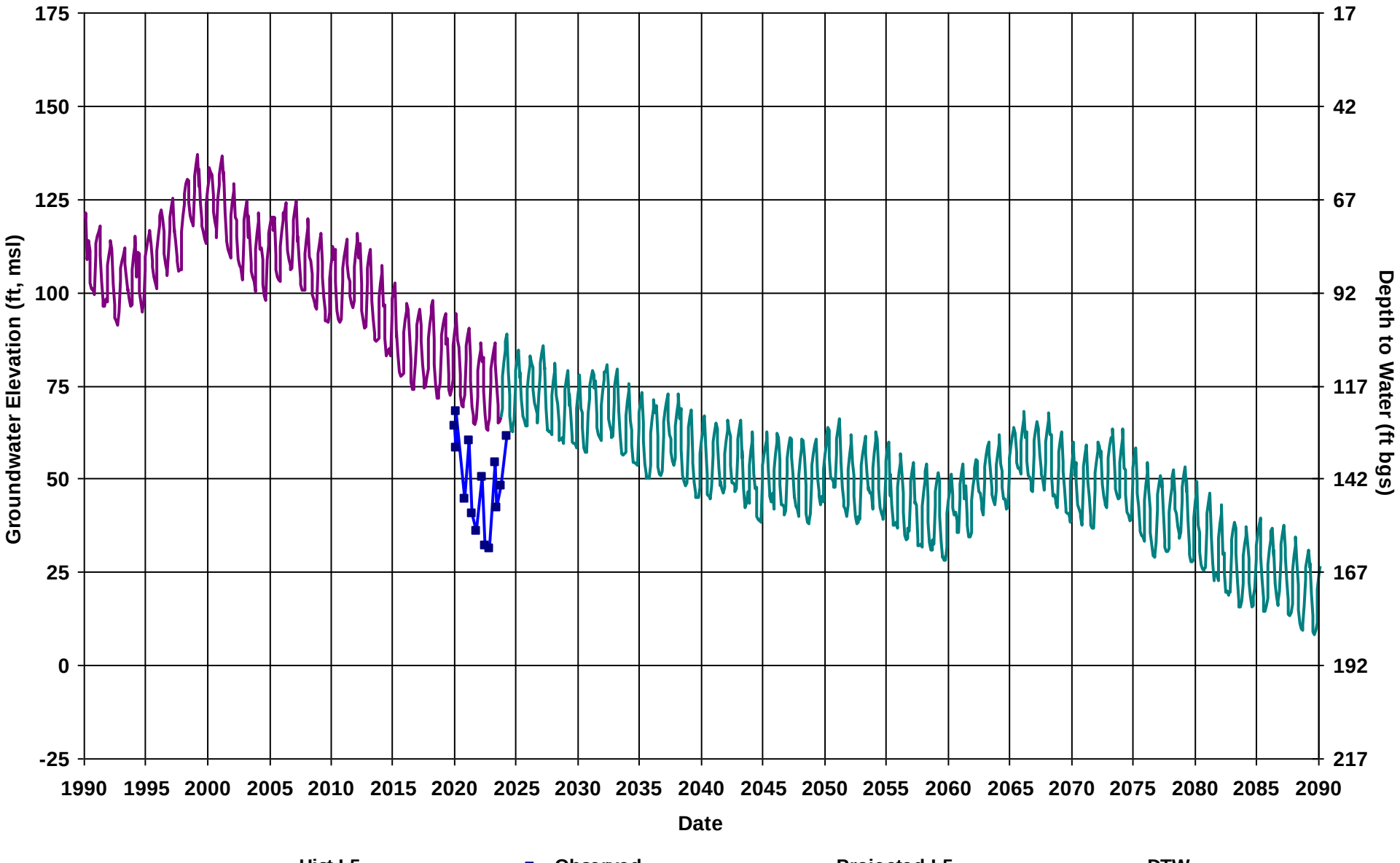
RMS ID: MSB06A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 350
Perf Top (ft): 135
Perf Bottom (ft): 340
Top Model Layer: 3
Bottom Model Layer: 3



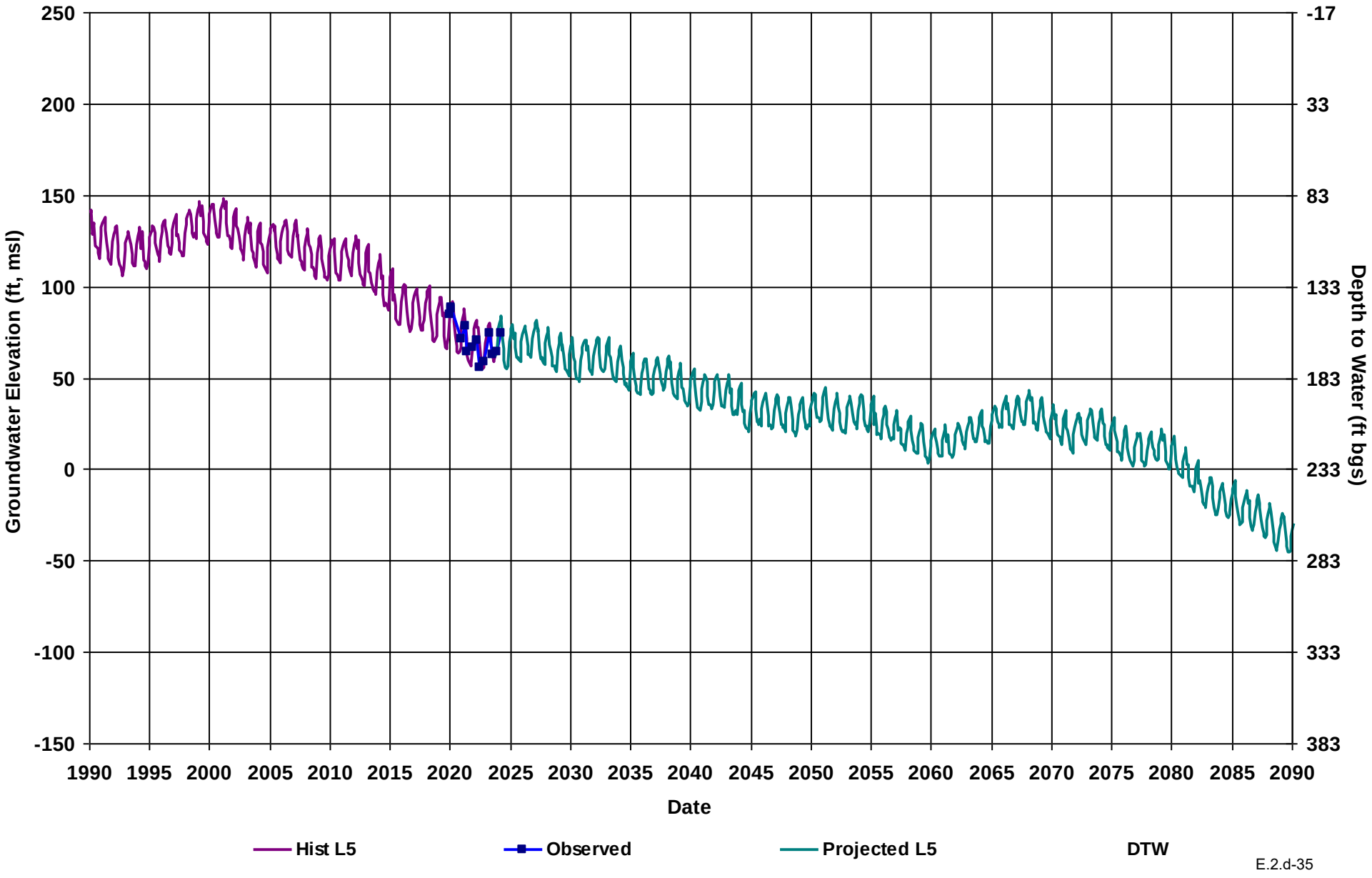
RMS ID: MSB06C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 715
Perf Top (ft): 630
Perf Bottom (ft): 705
Top Model Layer: 5
Bottom Model Layer: 5



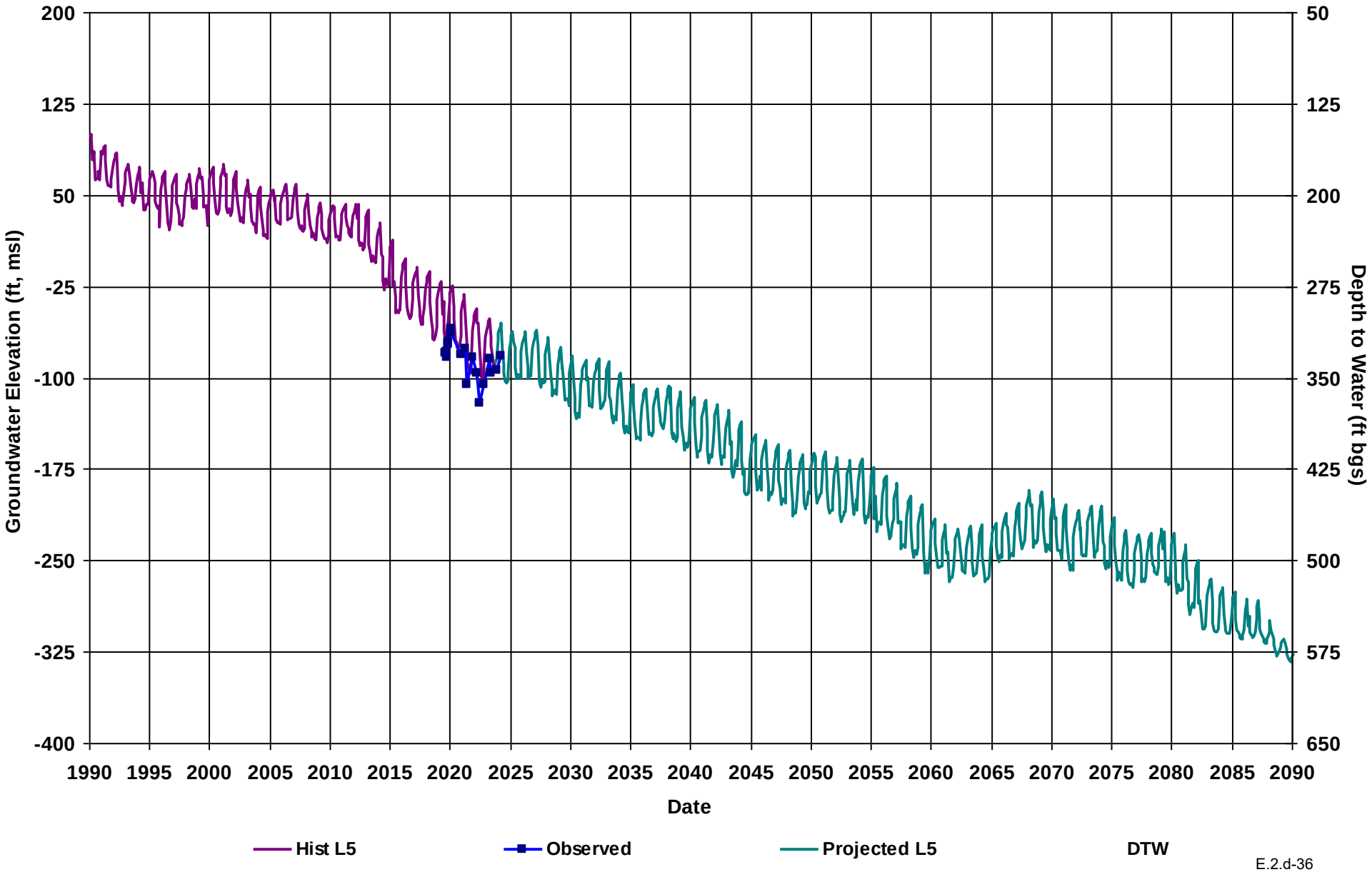
RMS ID: MSB09C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 955
Perf Top (ft): 880
Perf Bottom (ft): 945
Top Model Layer: 5
Bottom Model Layer: 5



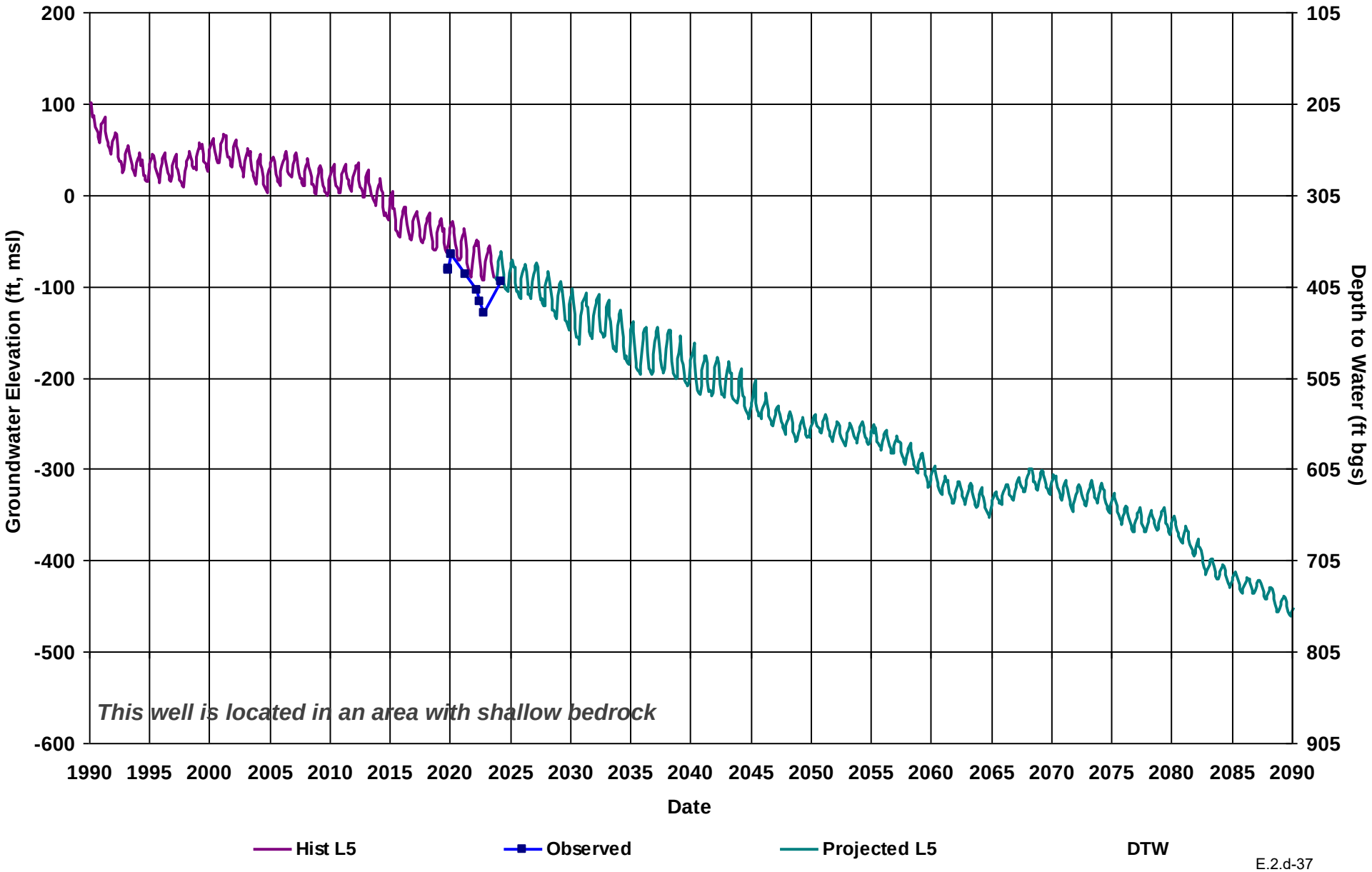
RMS ID: MSB10C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Total Depth (ft): 880
Perf Top (ft): 790
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



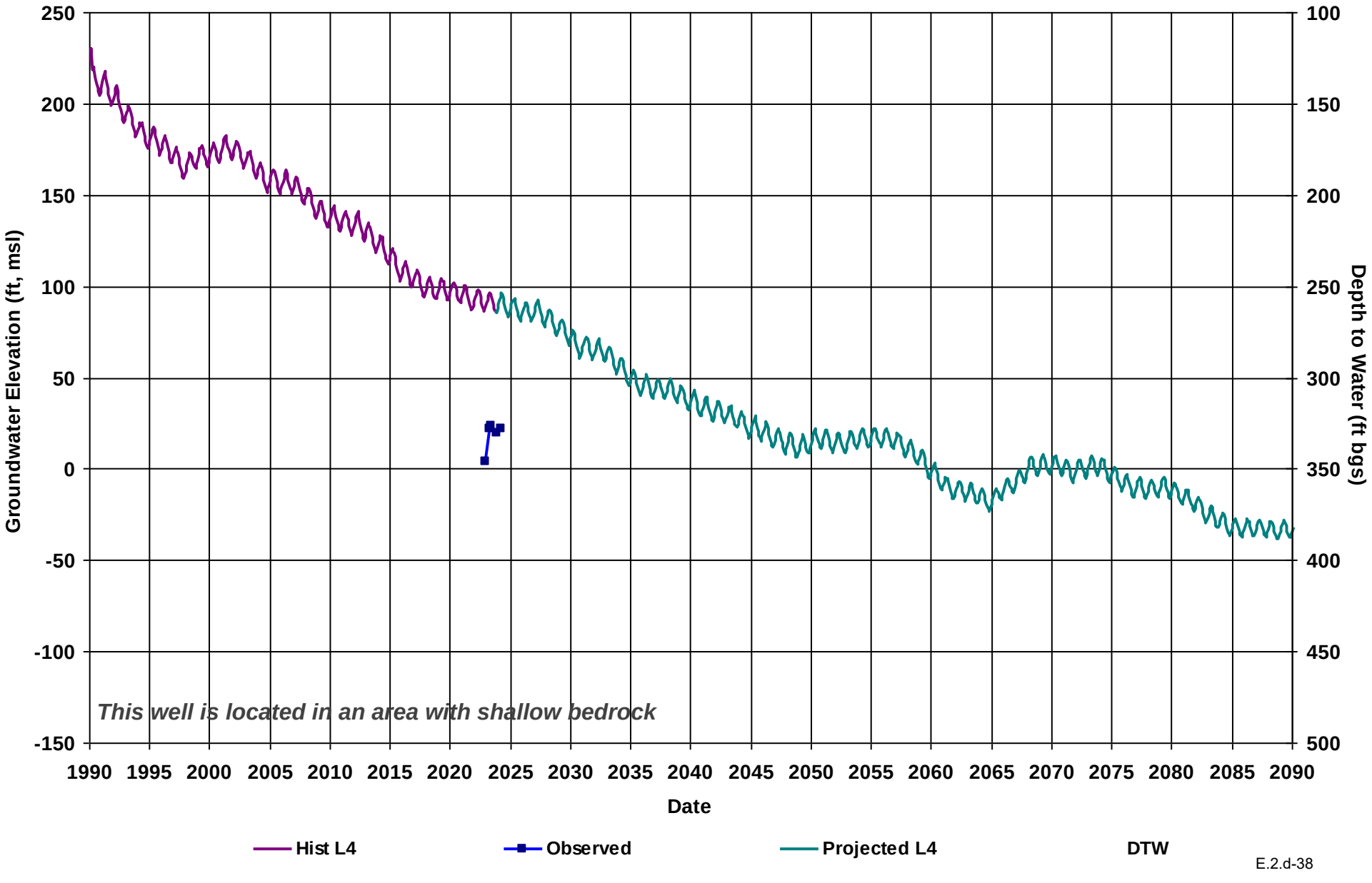
RMS ID: MSB11C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Total Depth (ft): 880
Perf Top (ft): 775
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: MSB12
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 465
Perf Top (ft): 355
Perf Bottom (ft): 465
Top Model Layer: 4
Bottom Model Layer: 4

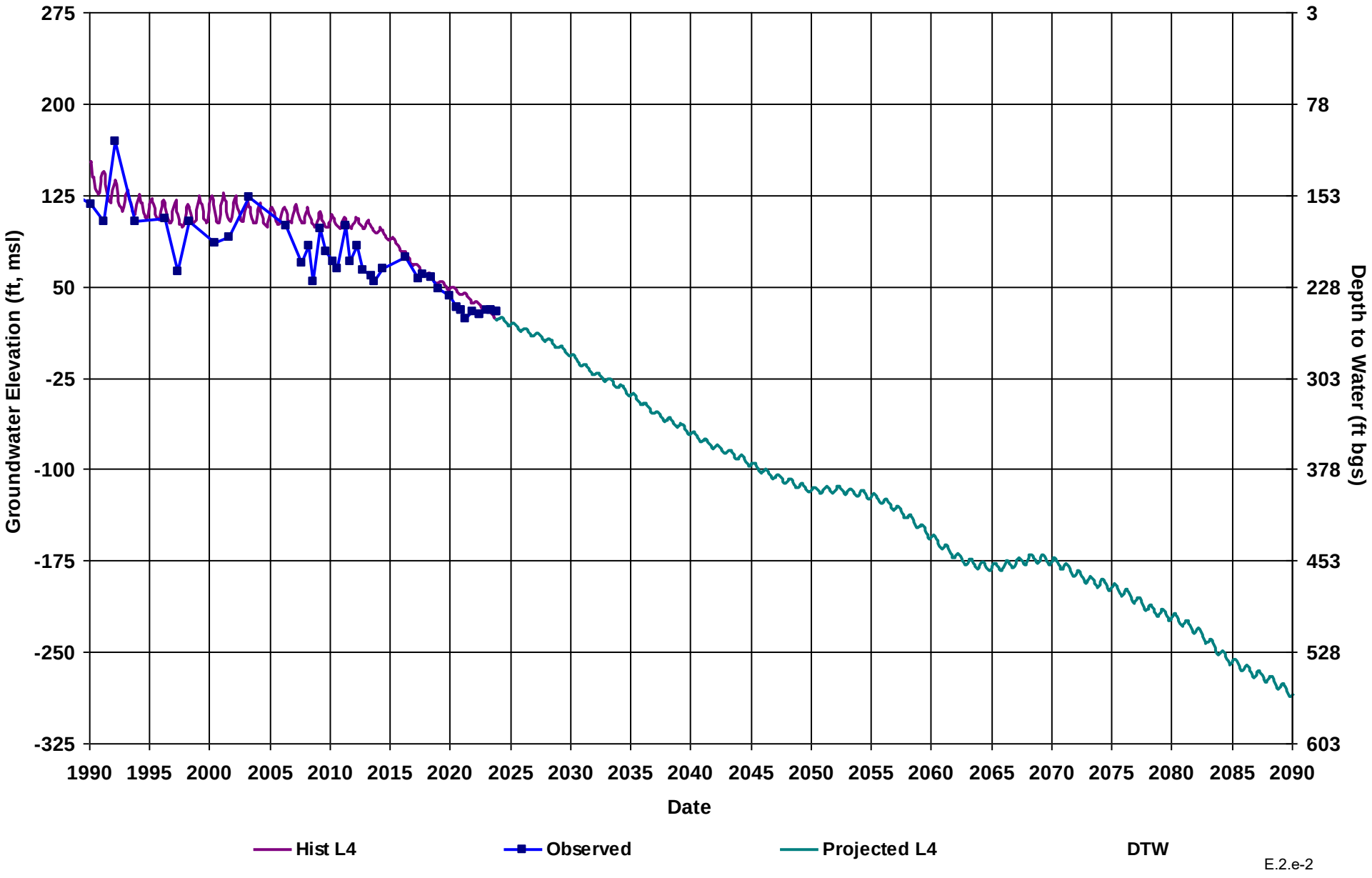


APPENDIX E.2.e

Madera Subbasin Groundwater Elevation Hydrographs for RMS Wells - Projected (No Action) with Climate Change Scenario

RMS ID: COM RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 278

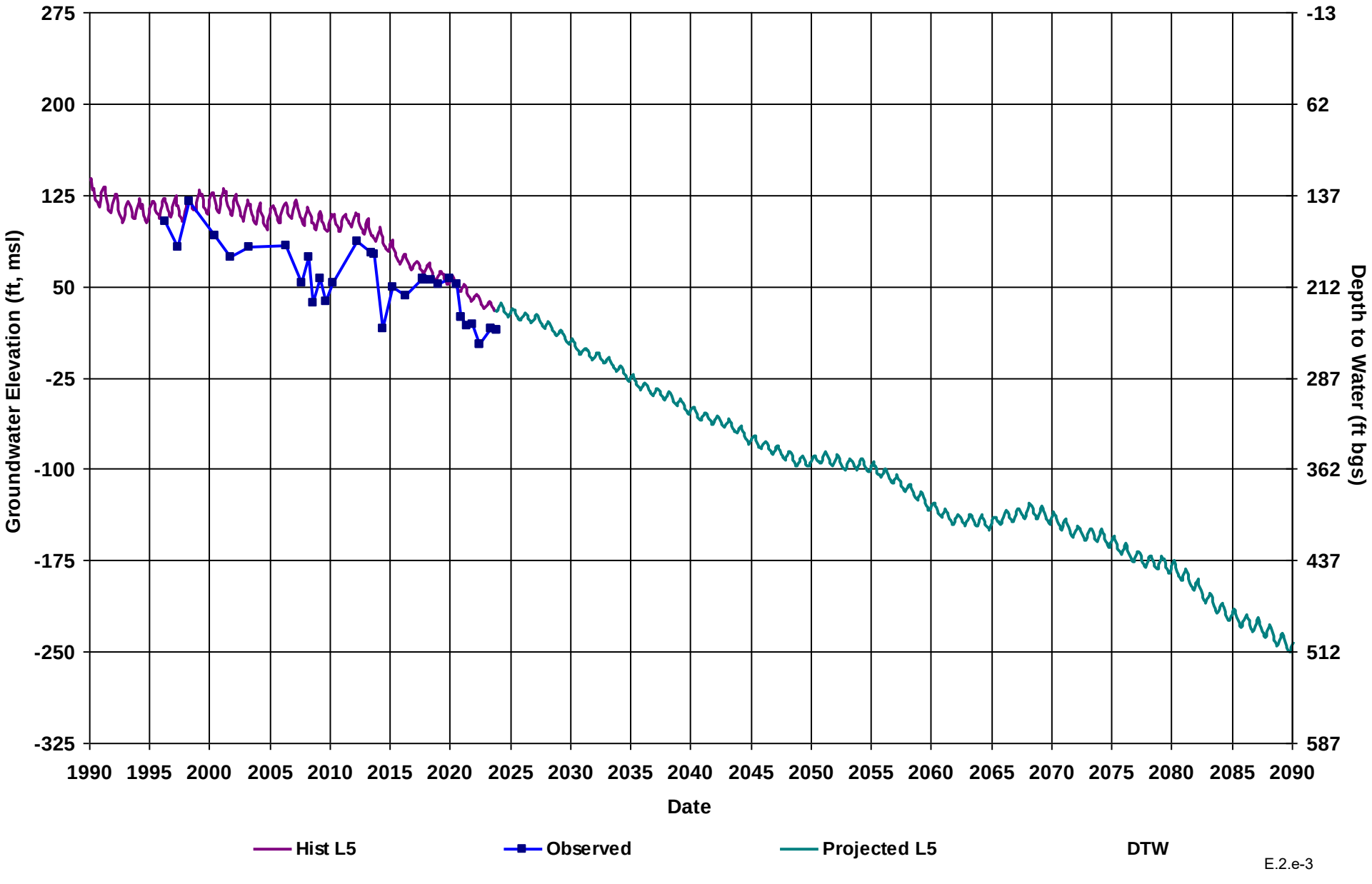
Total Depth (ft): 520
Perf Top (ft): 210
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



E.2.e-2

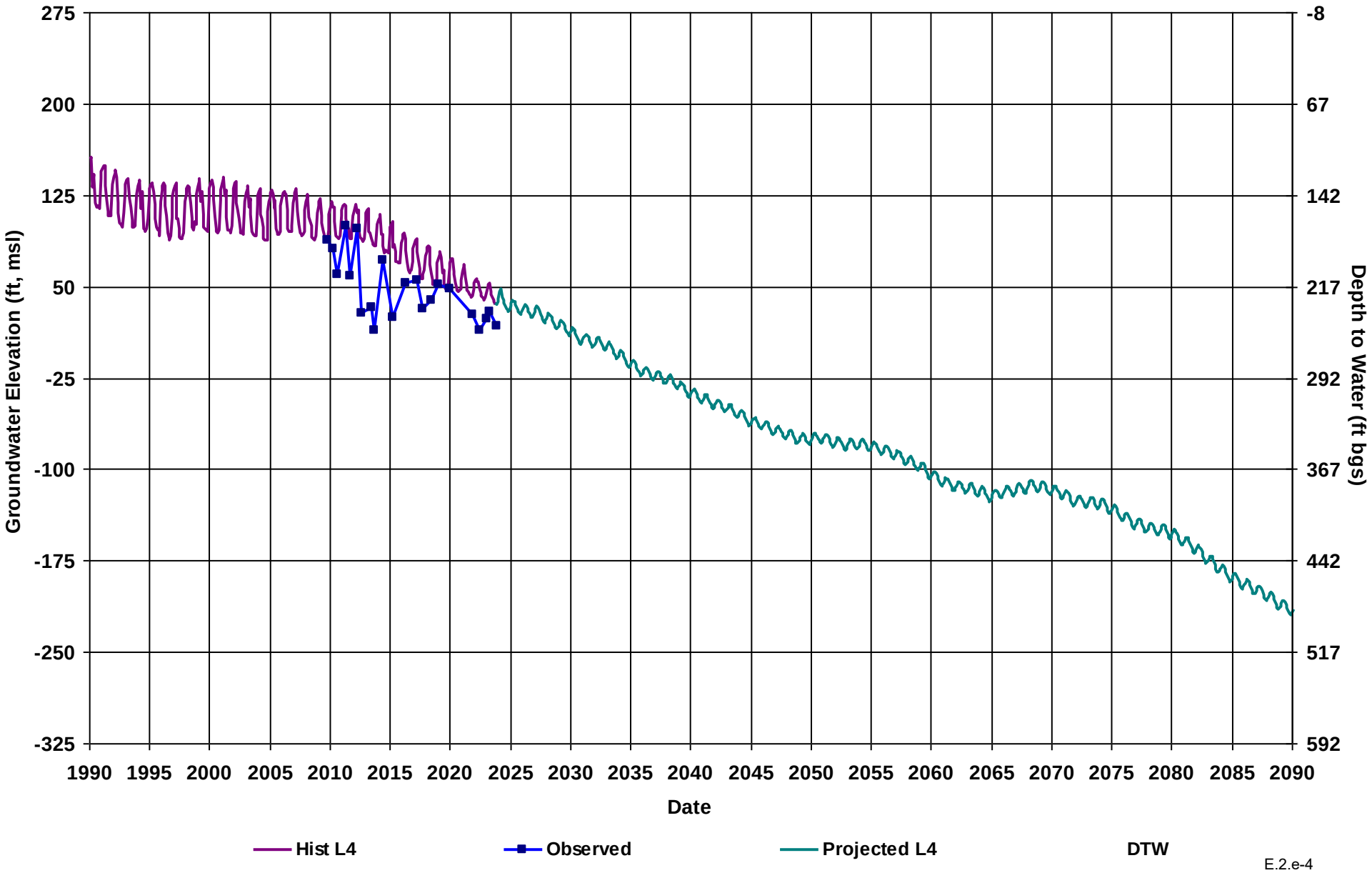
RMS ID: COM RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 262

Total Depth (ft): 590
Perf Top (ft): 370
Perf Bottom (ft): 590
Top Model Layer: 5
Bottom Model Layer: 5



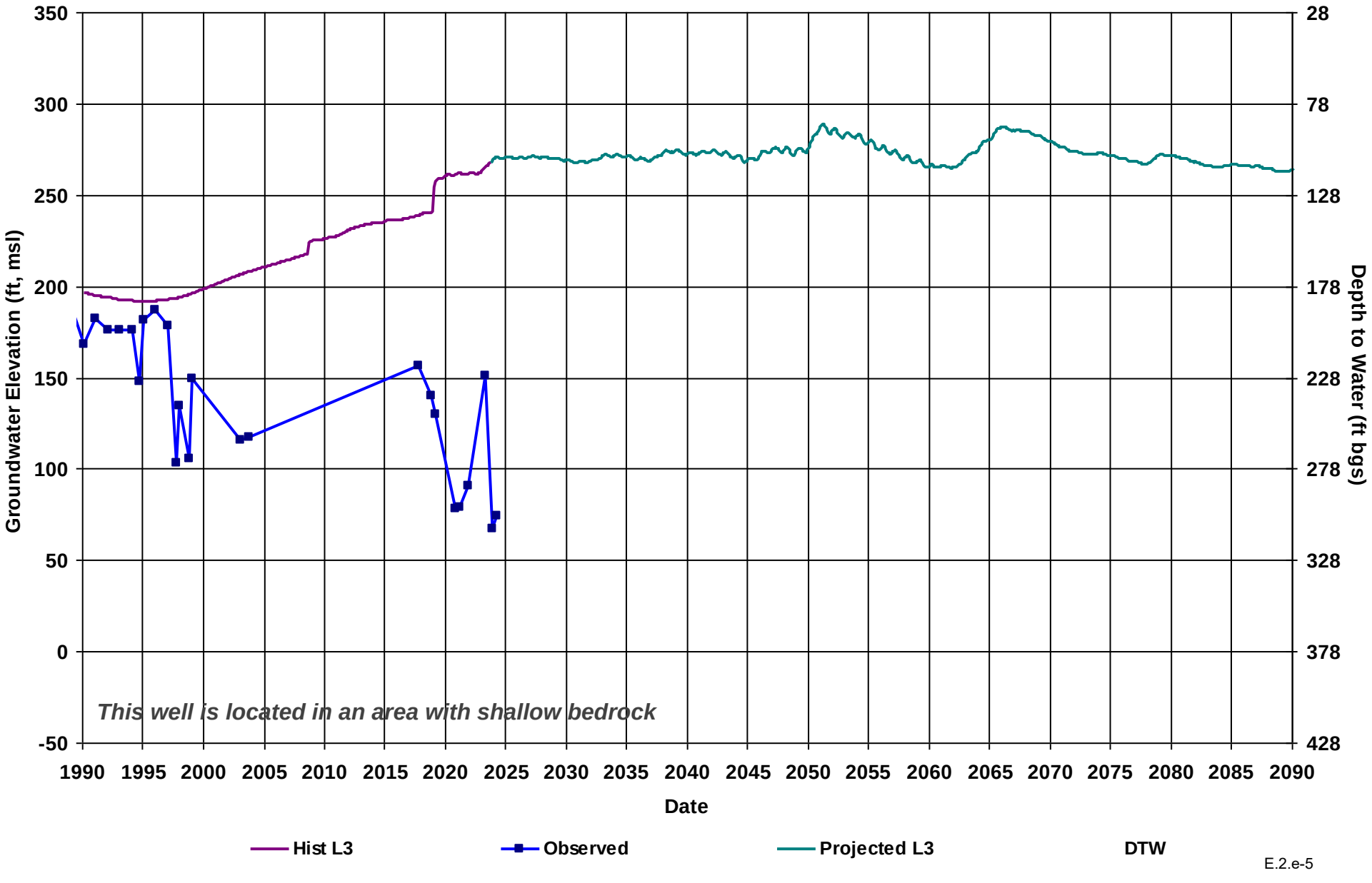
RMS ID: COM RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 267

Total Depth (ft): 588
Perf Top (ft): 433
Perf Bottom (ft): 568
Top Model Layer: 4
Bottom Model Layer: 4



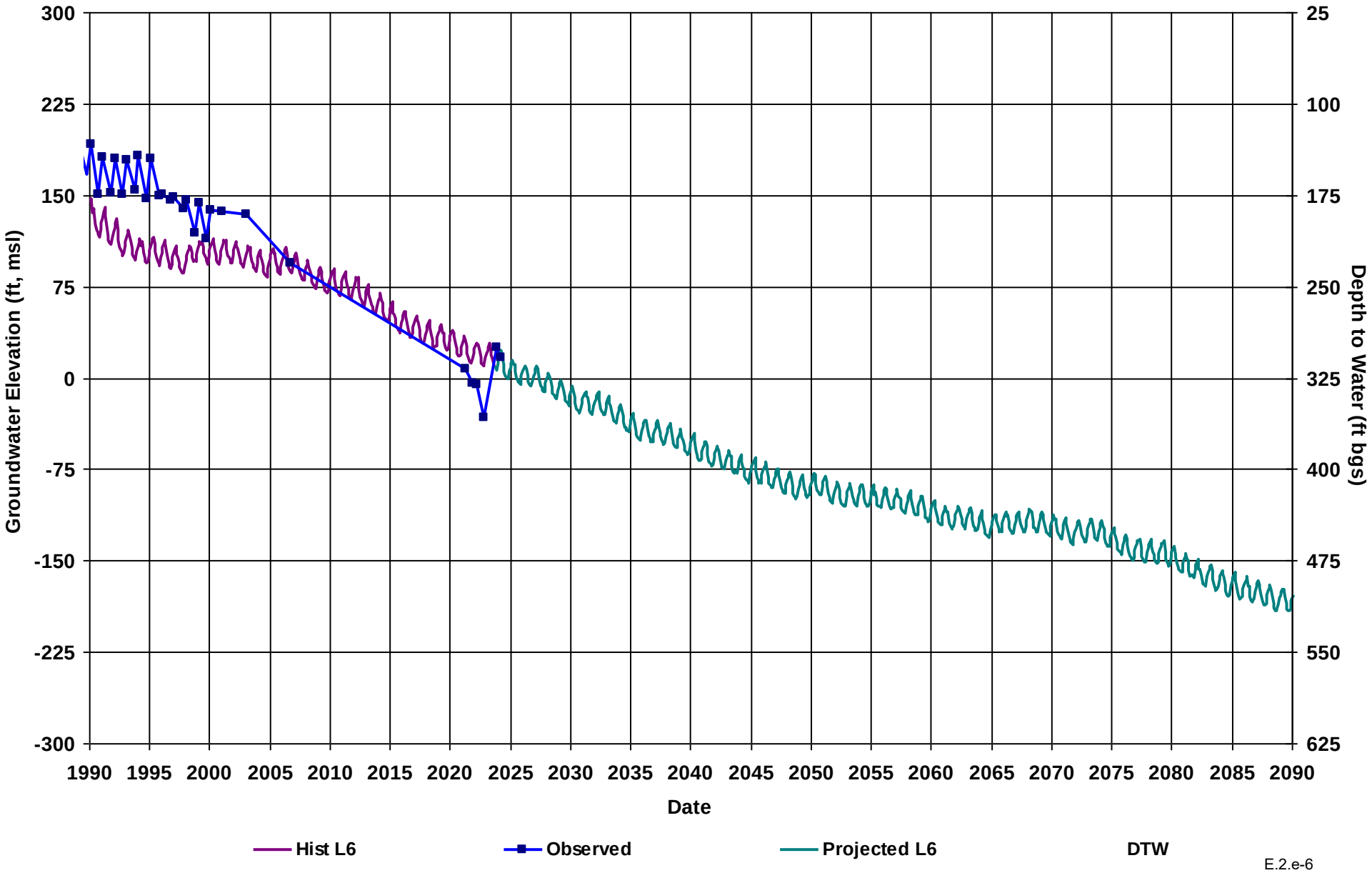
RMS ID: MCE RMS-2
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 378

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



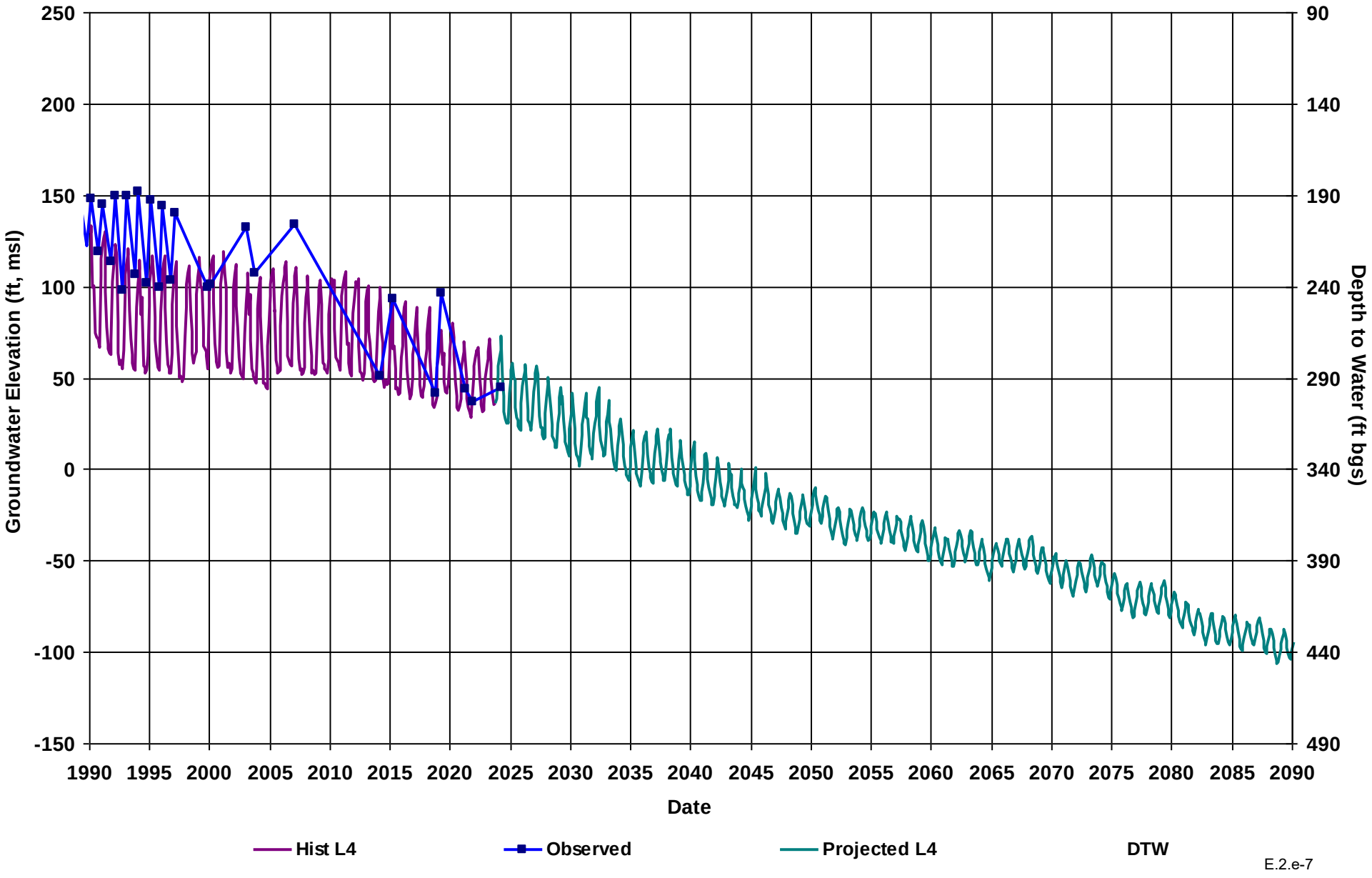
RMS ID: MCE RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 325

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



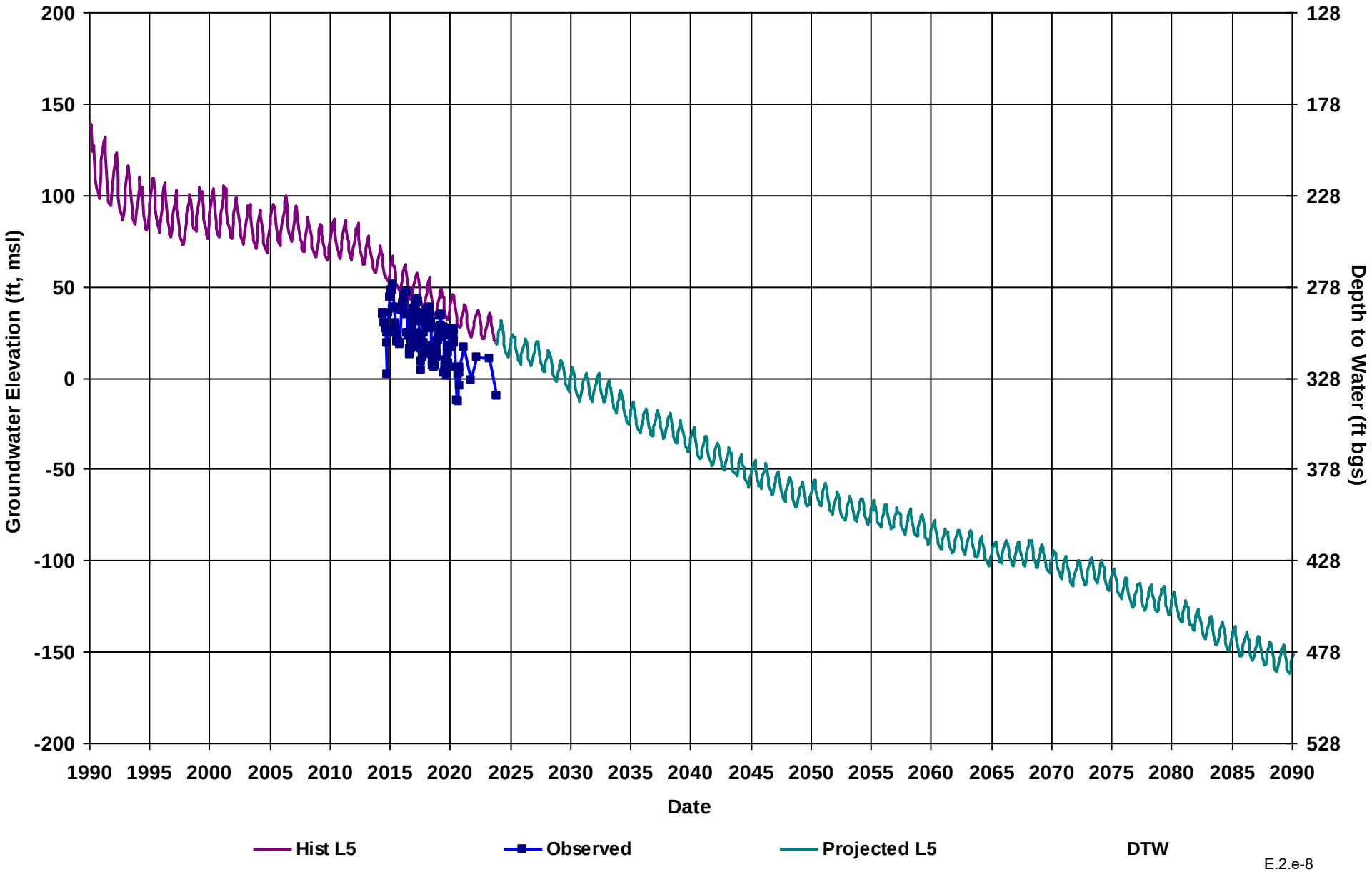
RMS ID: MCE RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



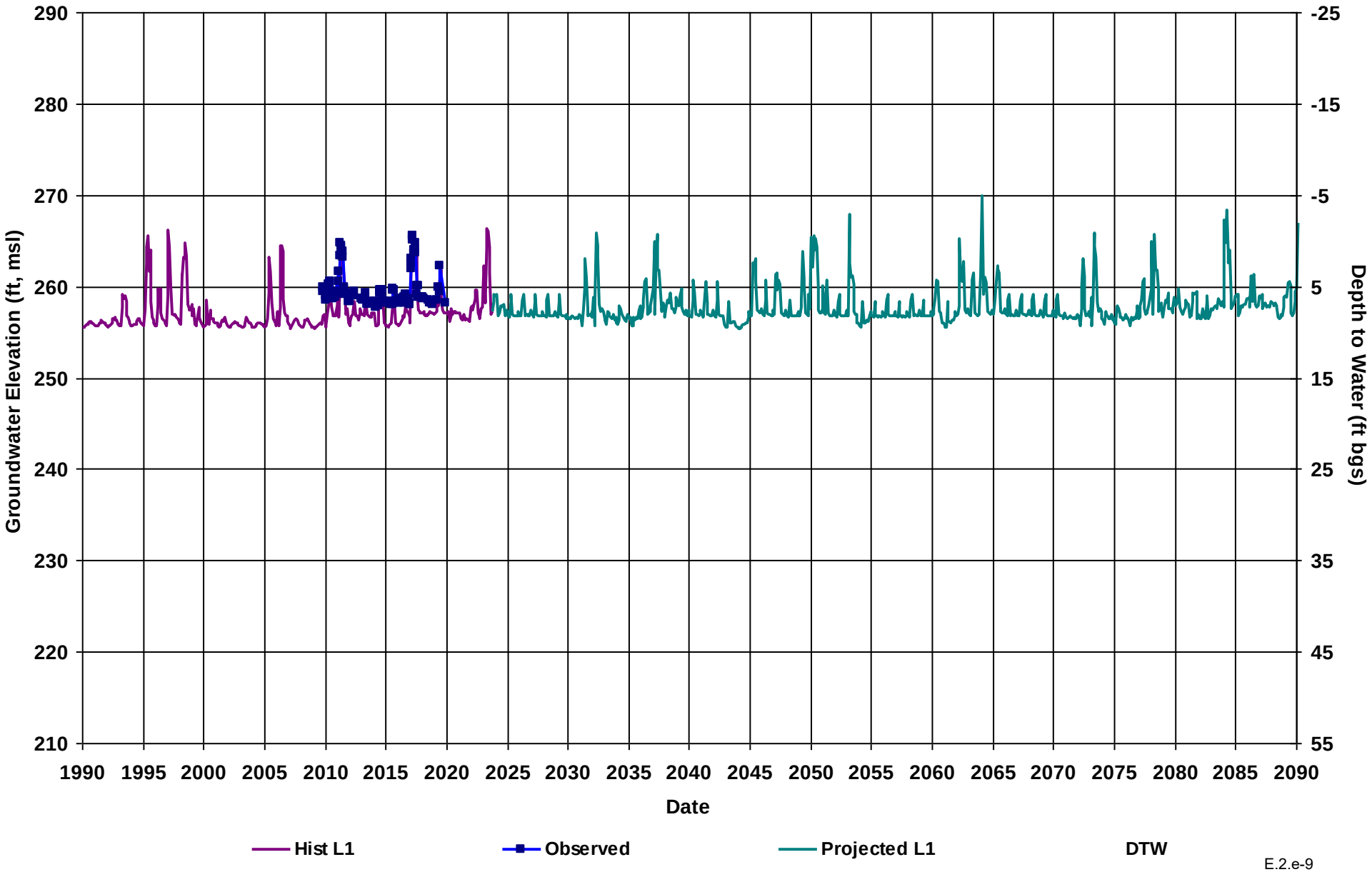
RMS ID: MCE RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 328

Total Depth (ft): 550
Perf Top (ft): 450
Perf Bottom (ft): 550
Top Model Layer: 5
Bottom Model Layer: 5



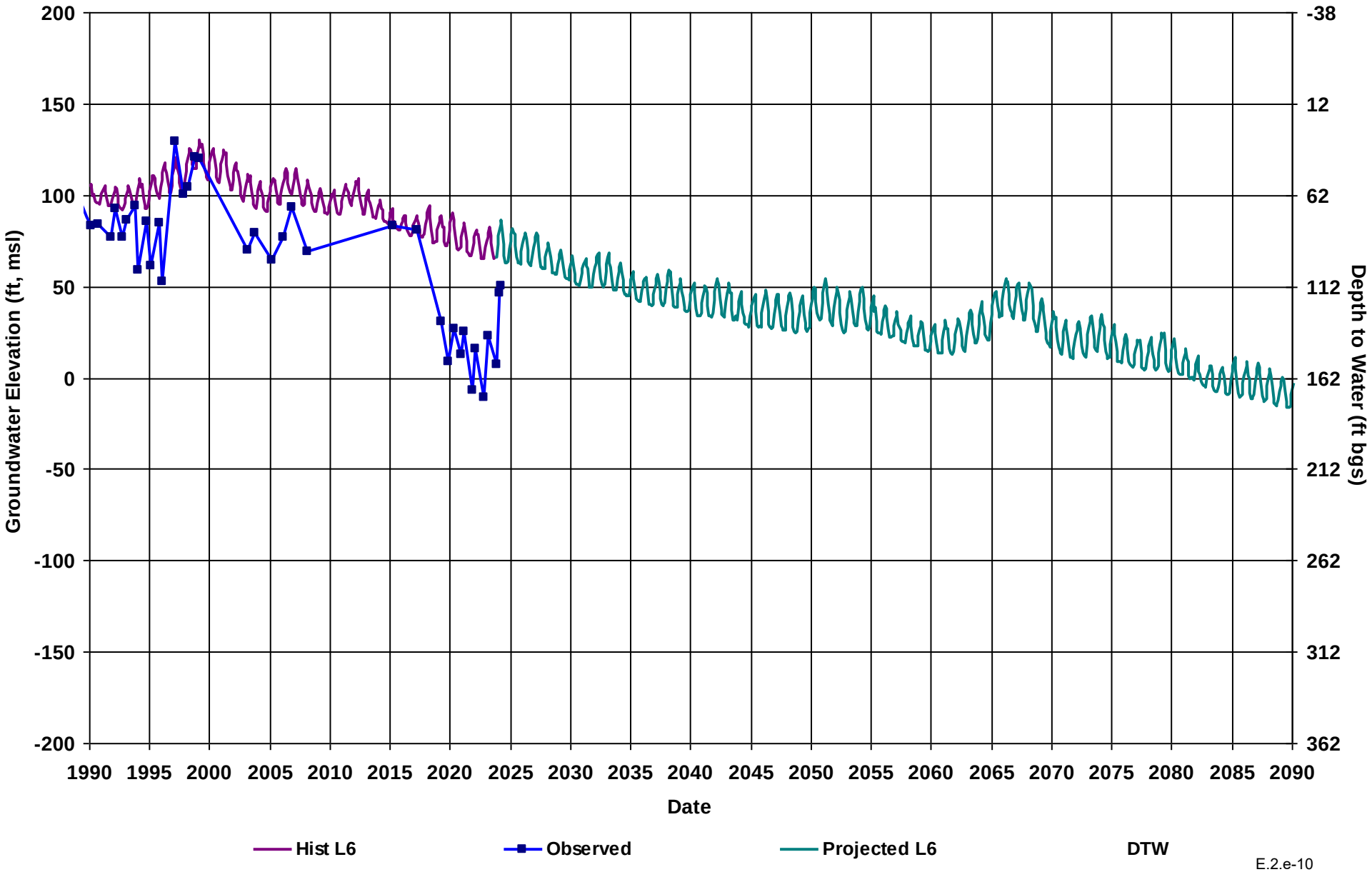
RMS ID: MCE RMS-9
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



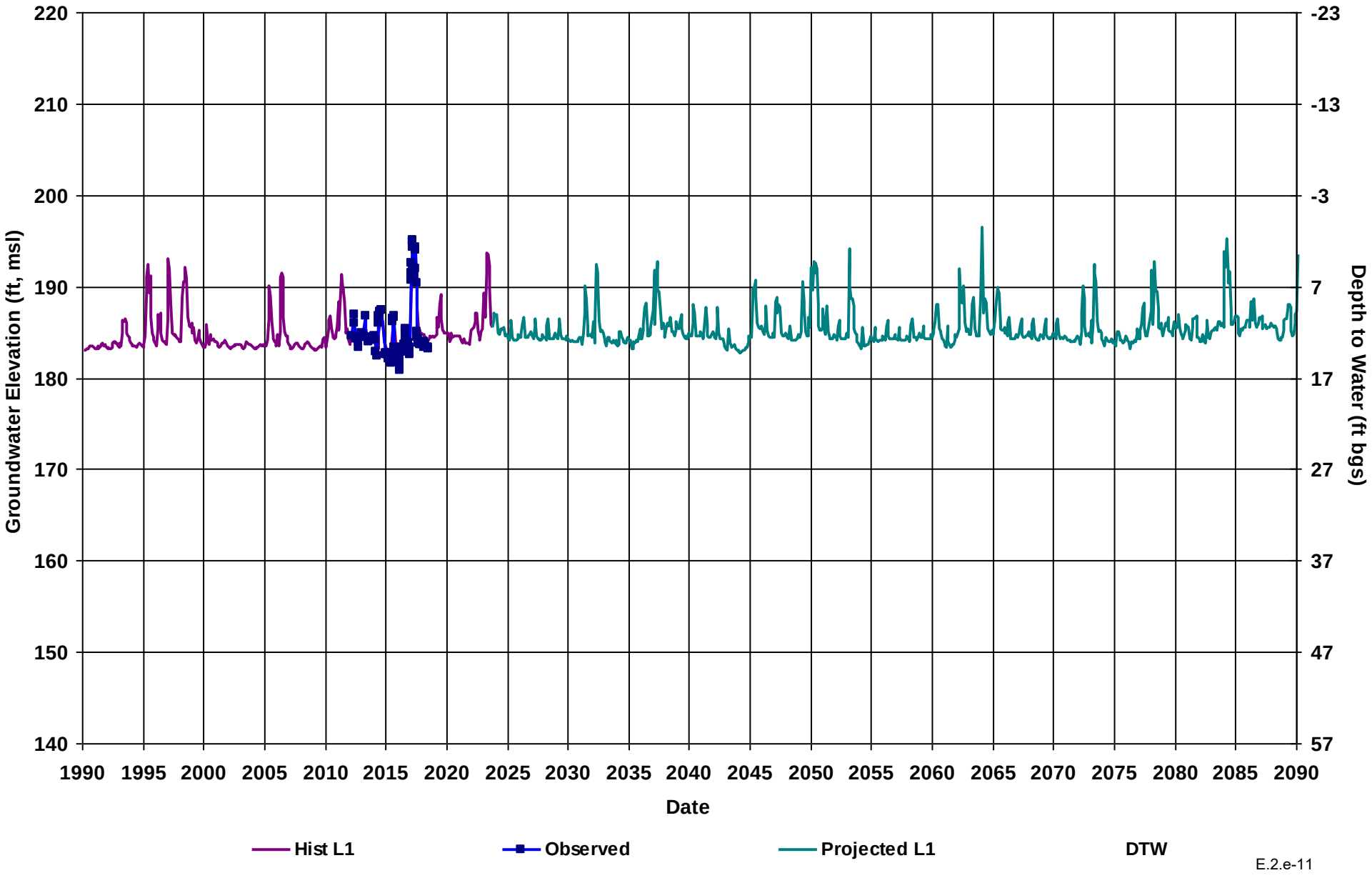
RMS ID: MCW RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 163

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



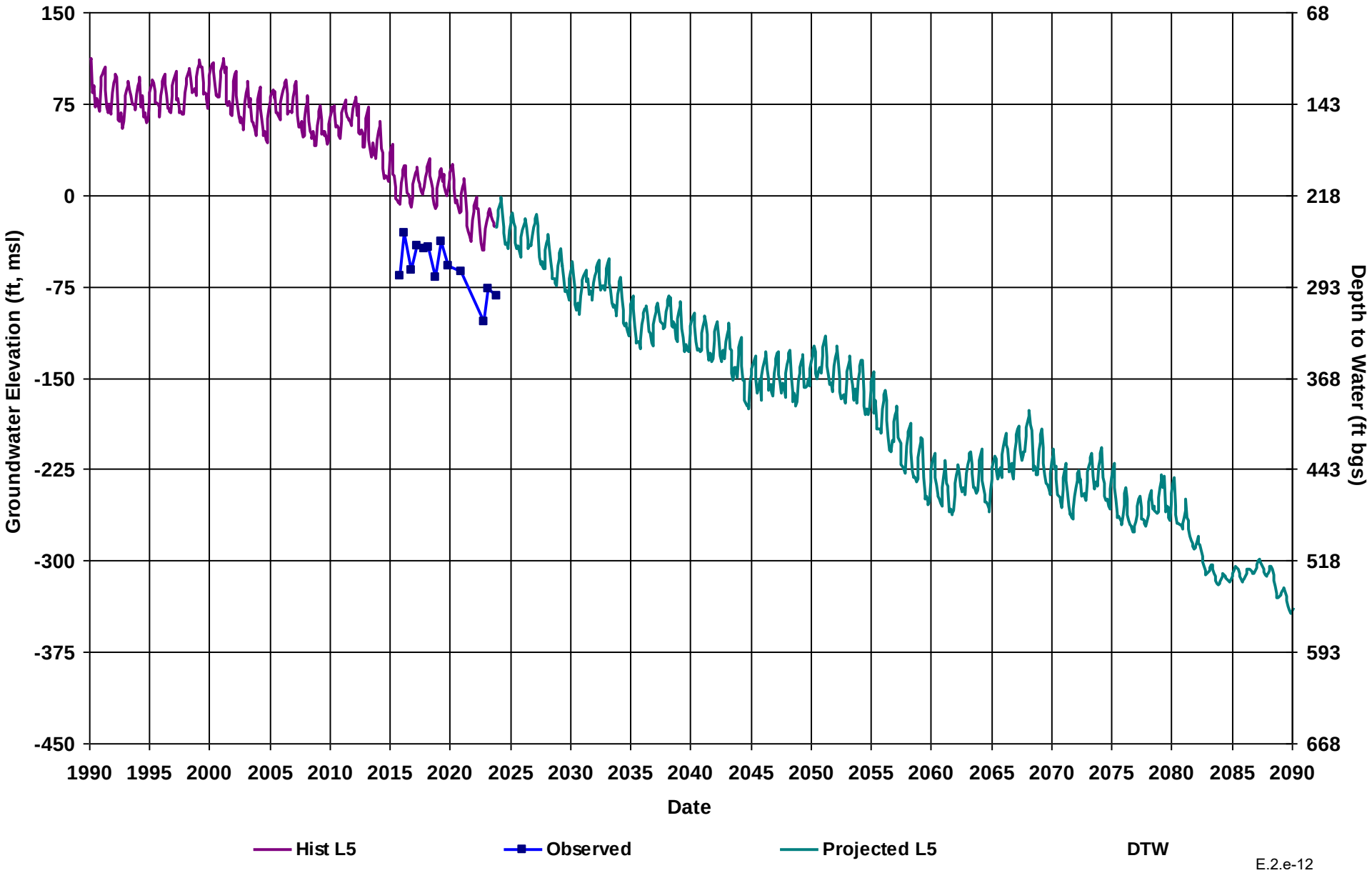
RMS ID: MCW RMS-5
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 199

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



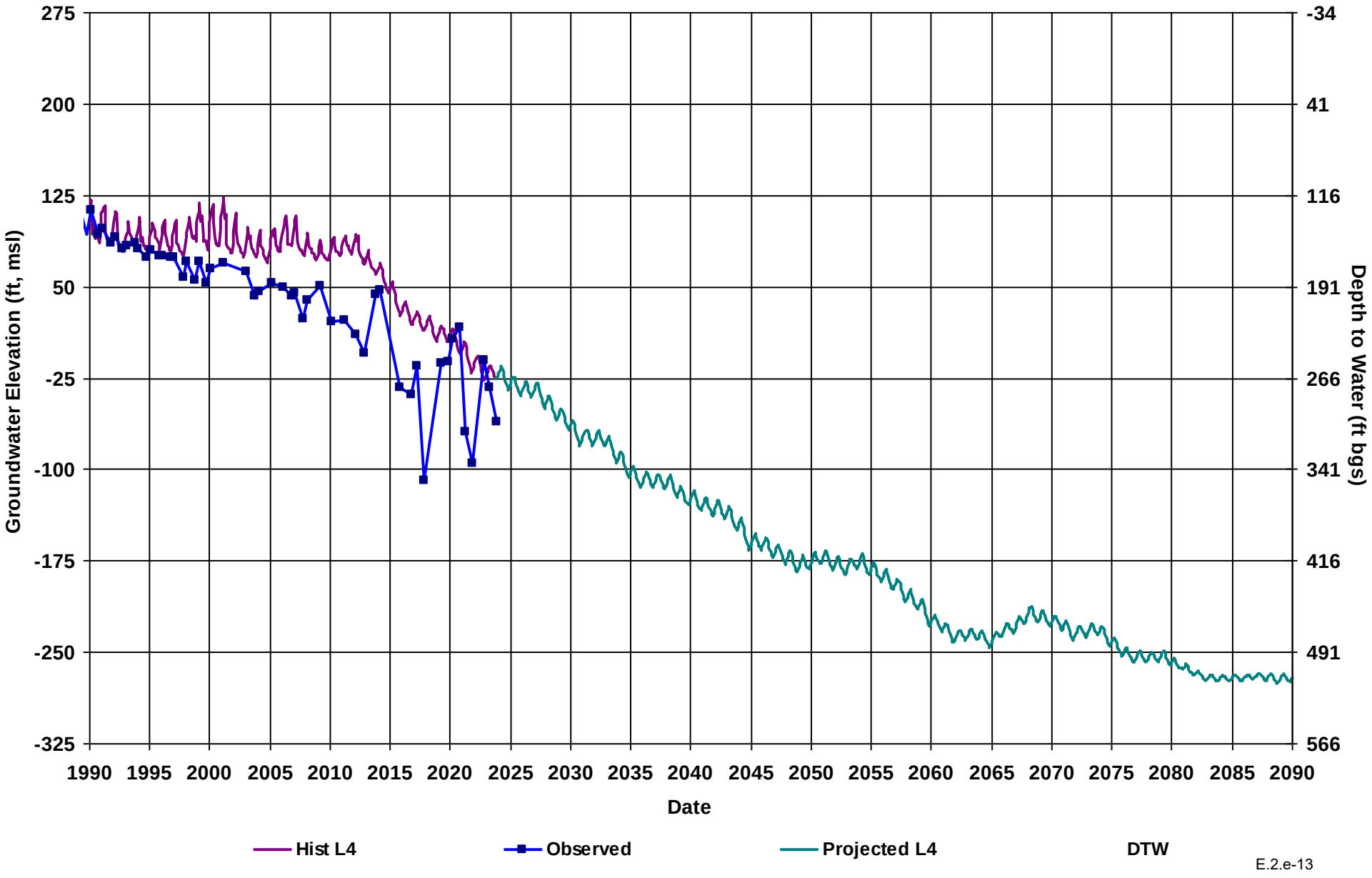
RMS ID: MID RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 294

Total Depth (ft): 563
Perf Top (ft): 298
Perf Bottom (ft): 509
Top Model Layer: 5
Bottom Model Layer: 5



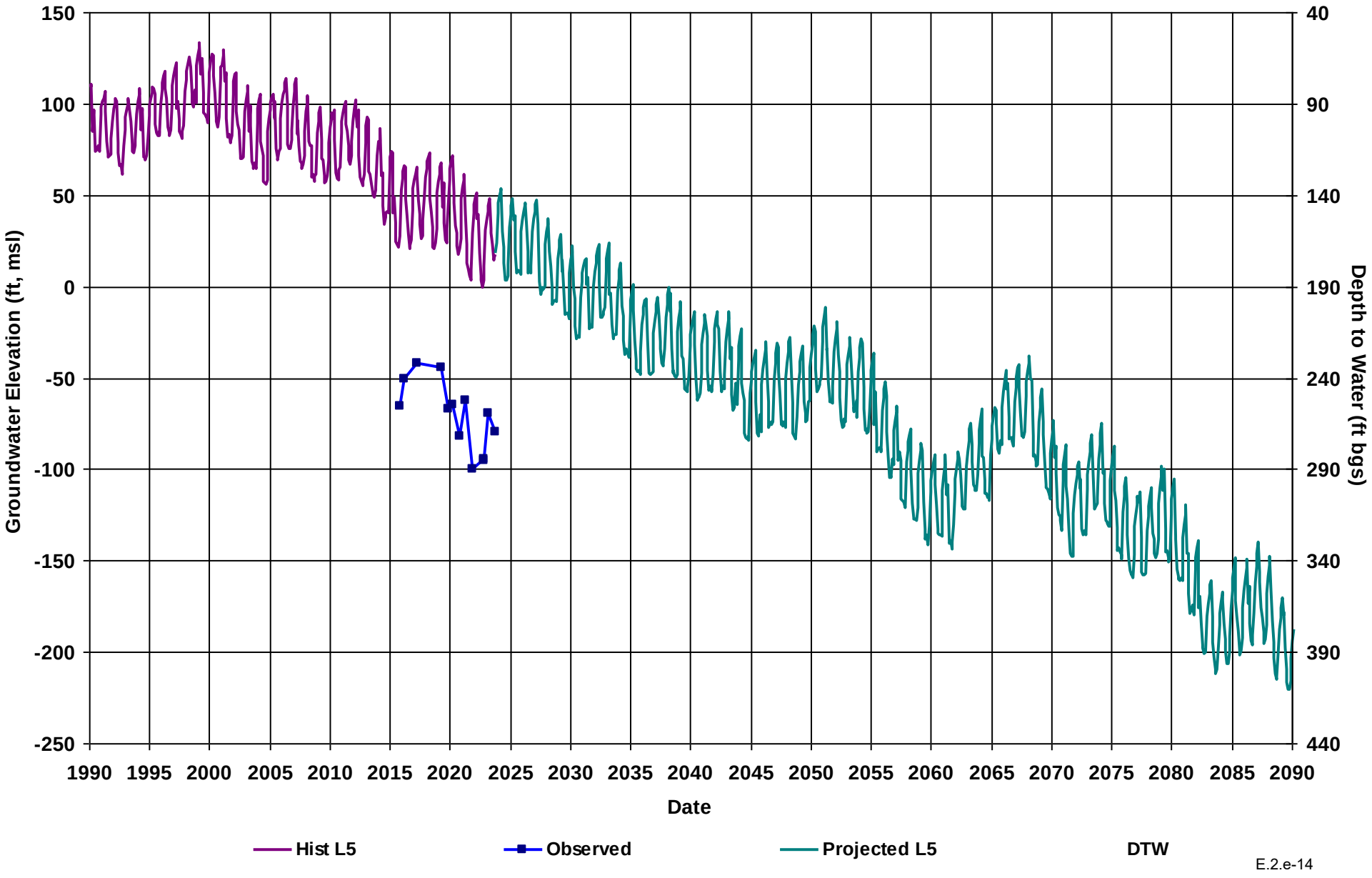
RMS ID: MID RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Total Depth (ft): 516
Perf Top (ft): 260
Perf Bottom (ft): 507
Top Model Layer: 4
Bottom Model Layer: 4



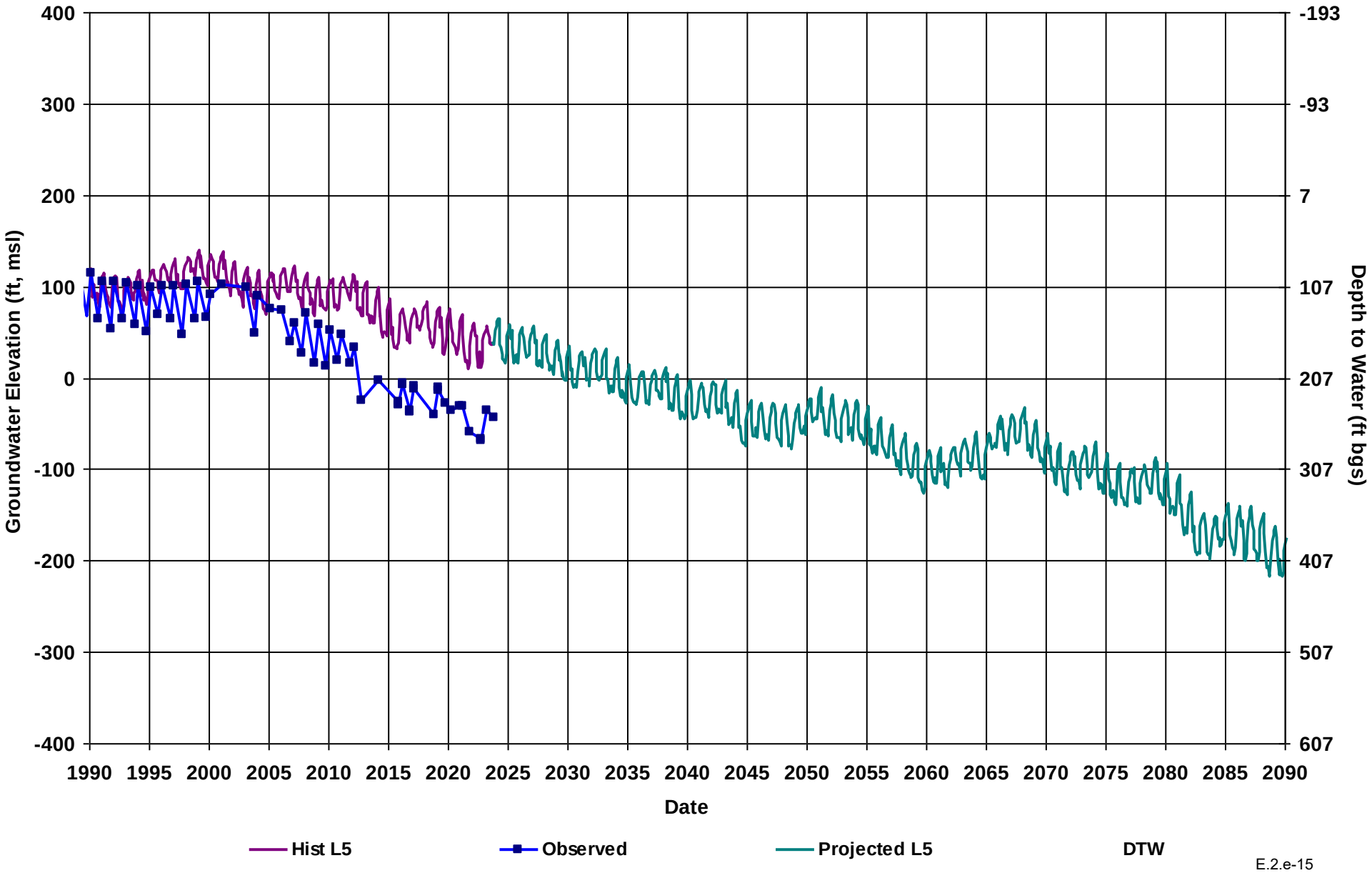
RMS ID: MID RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 259

Total Depth (ft): 698
Perf Top (ft): 320
Perf Bottom (ft): 667
Top Model Layer: 5
Bottom Model Layer: 5



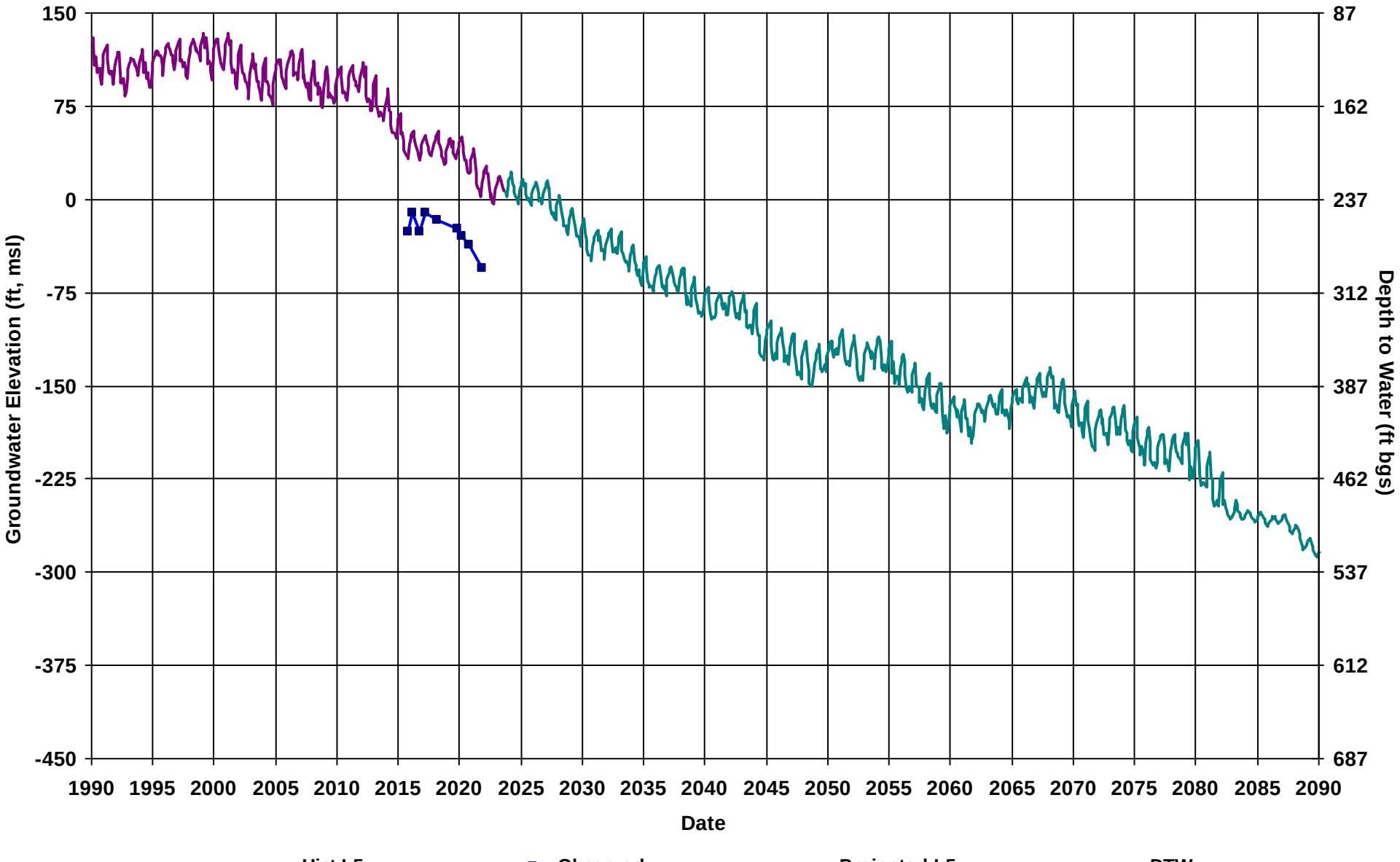
RMS ID: MID RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 239

Total Depth (ft): 570
Perf Top (ft): 270
Perf Bottom (ft): 570
Top Model Layer: 5
Bottom Model Layer: 5



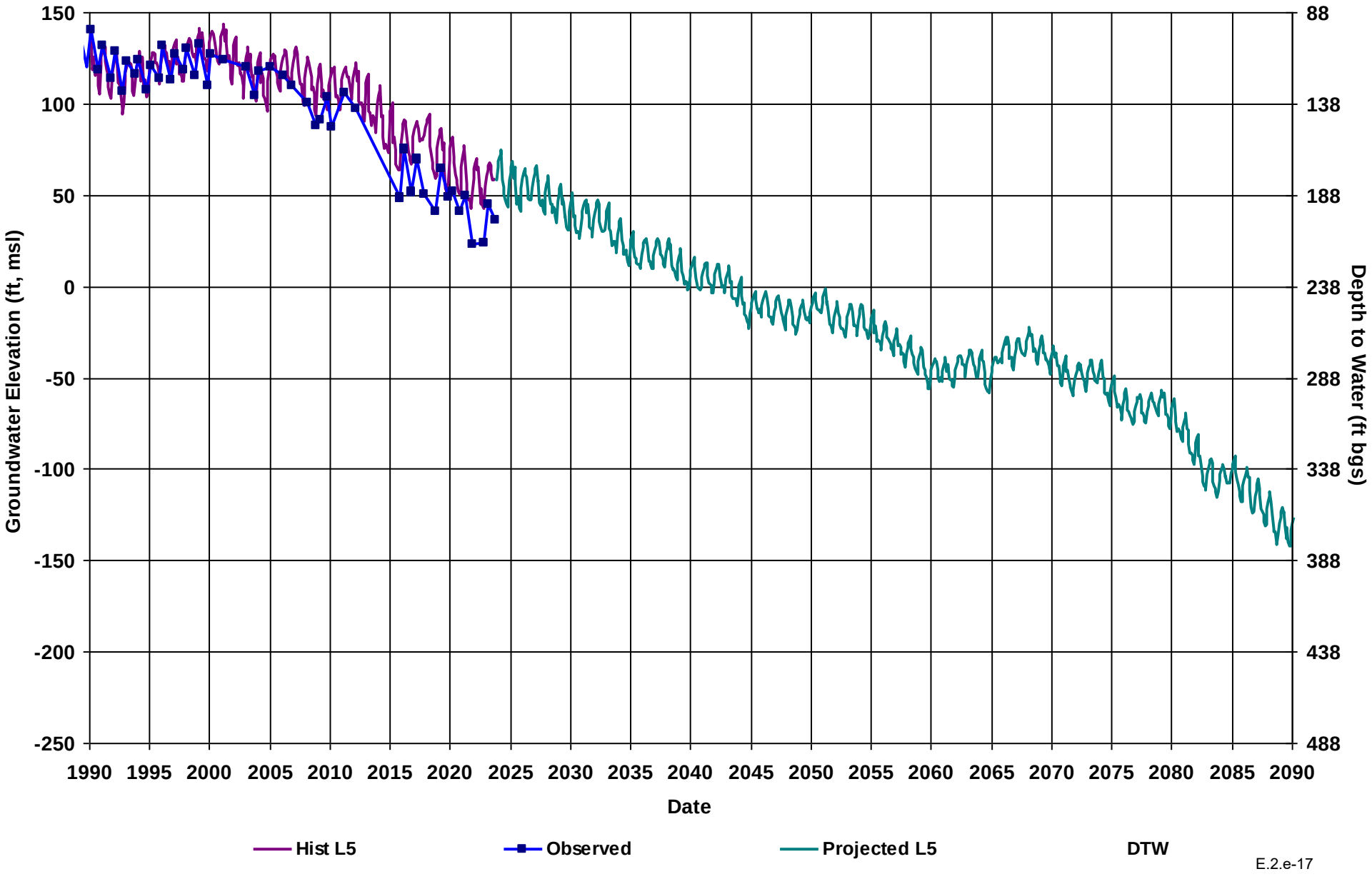
RMS ID: MID RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 237

Total Depth (ft): 680
Perf Top (ft): 320
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



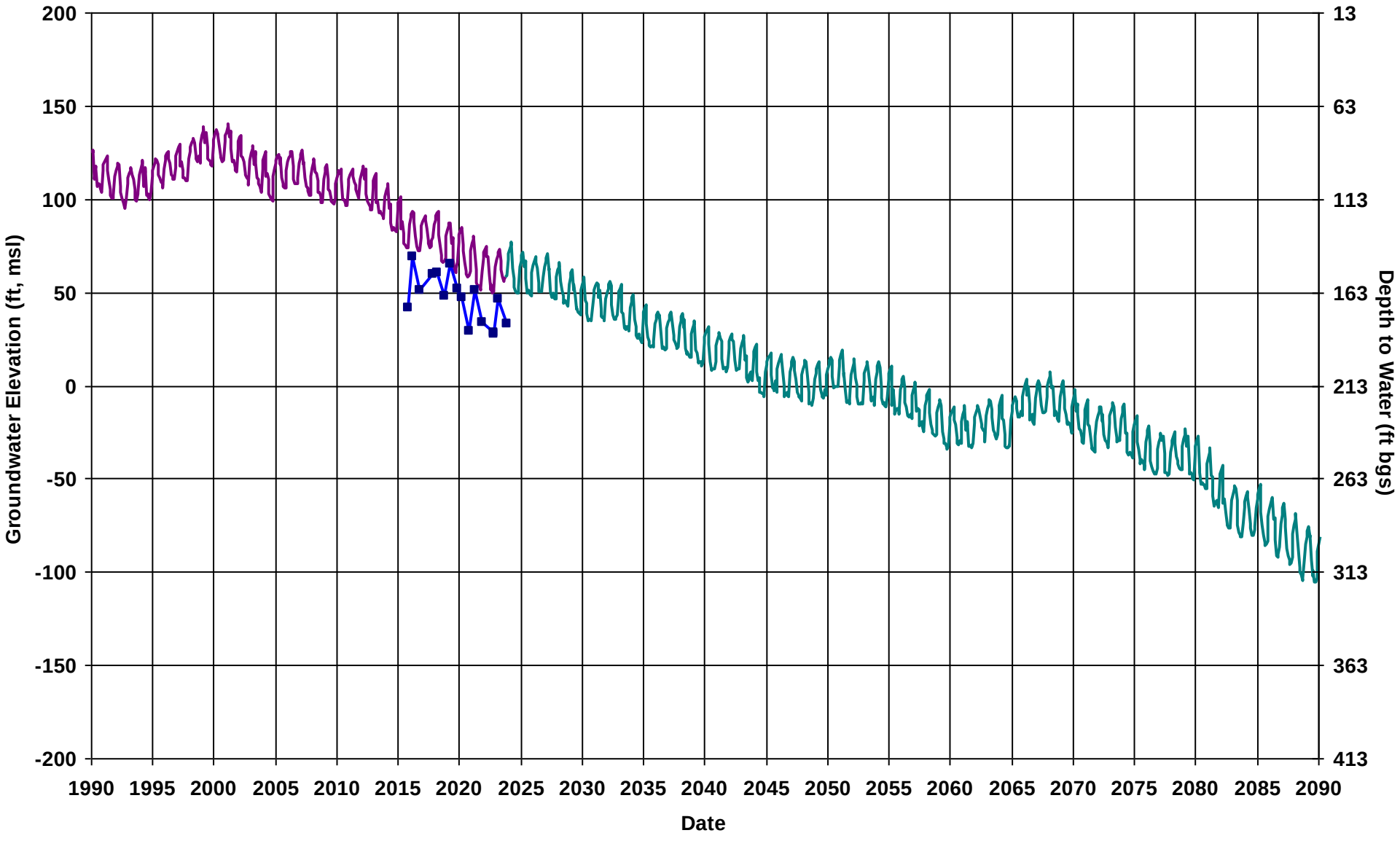
RMS ID: MID RMS-7
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 238

Total Depth (ft): 656
Perf Top (ft): 290
Perf Bottom (ft): 635
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: MID RMS-10
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 213

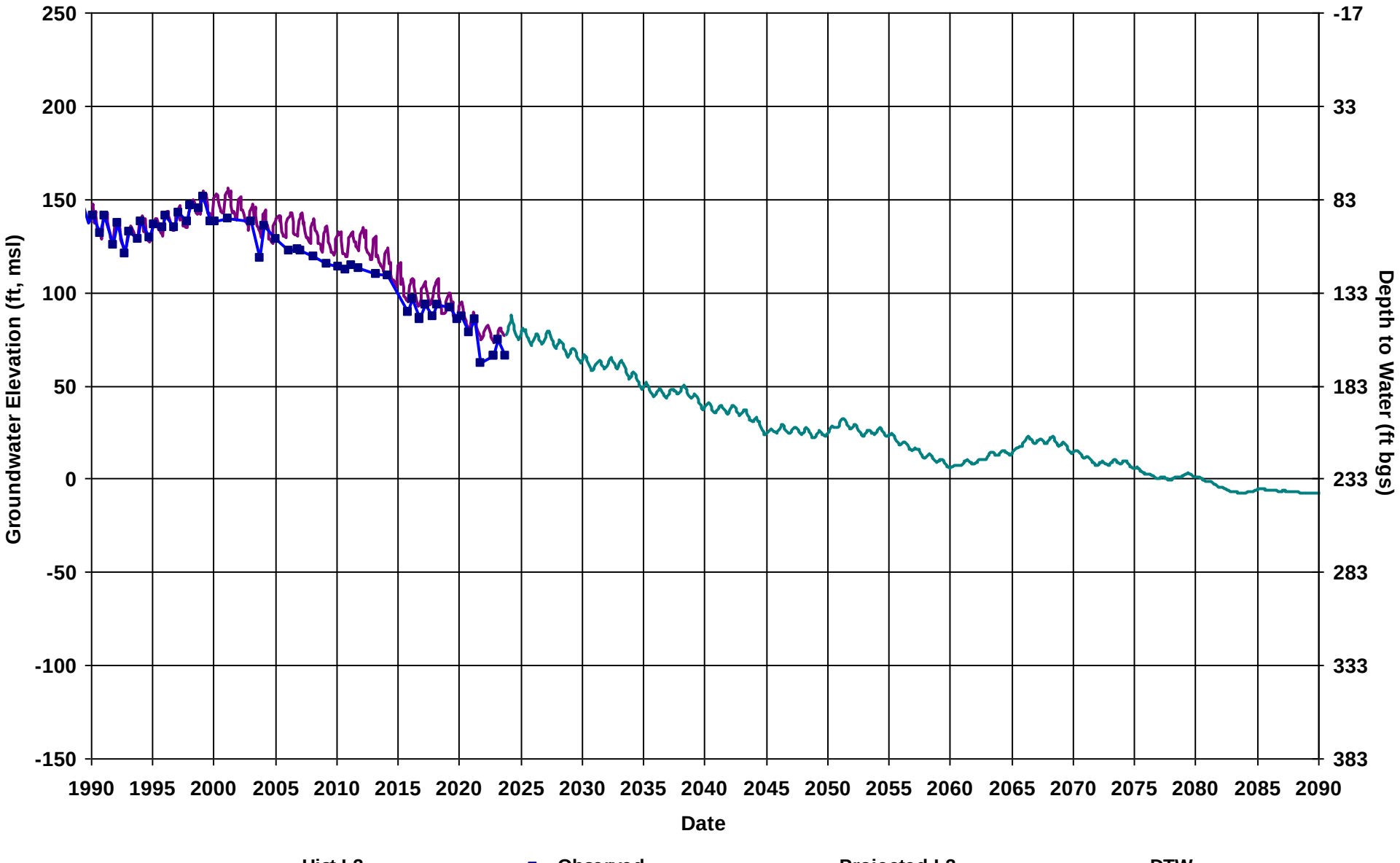
Total Depth (ft): 615
Perf Top (ft): 315
Perf Bottom (ft): 615
Top Model Layer: 5
Bottom Model Layer: 5



E.2.e-18

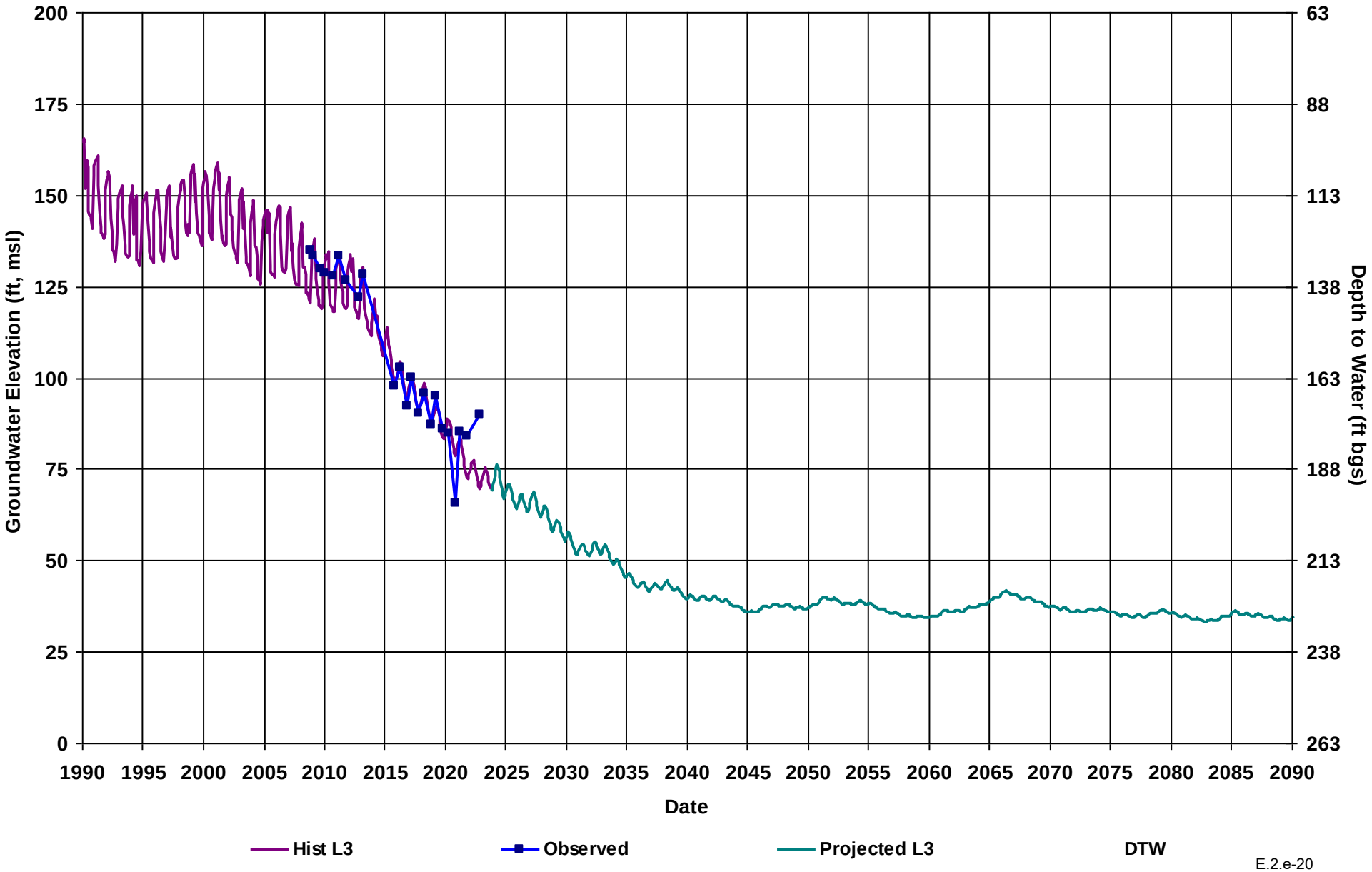
RMS ID: MID RMS-11
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 315
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



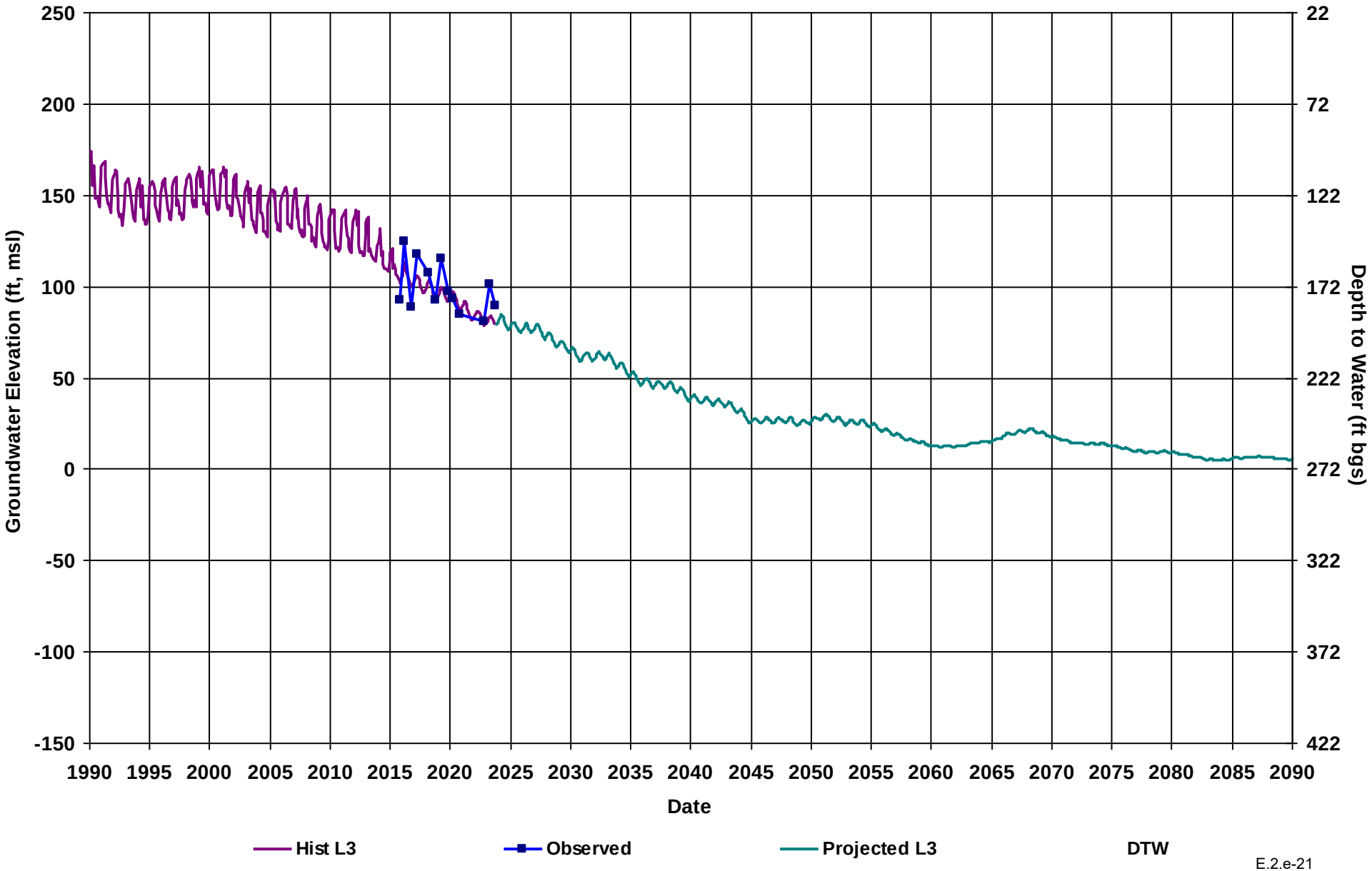
RMS ID: MID RMS-12
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 263

Total Depth (ft): 176
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



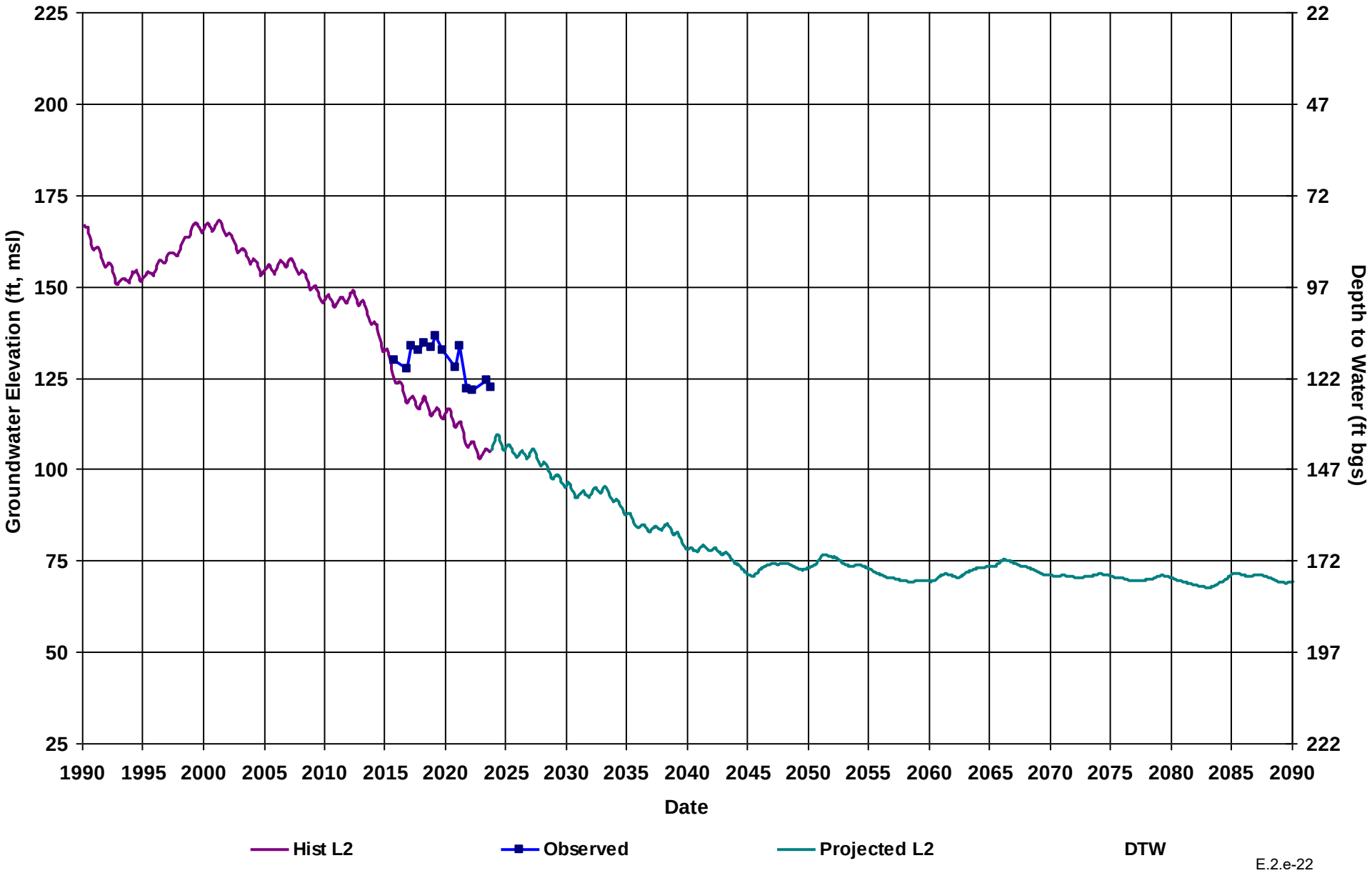
RMS ID: MID RMS-13
Depth Zone: Composite
Subbasin: Madera
GSE (ft, msl): 272

Total Depth (ft): 600
Perf Top (ft): 228
Perf Bottom (ft): 552
Top Model Layer: 3
Bottom Model Layer: 3



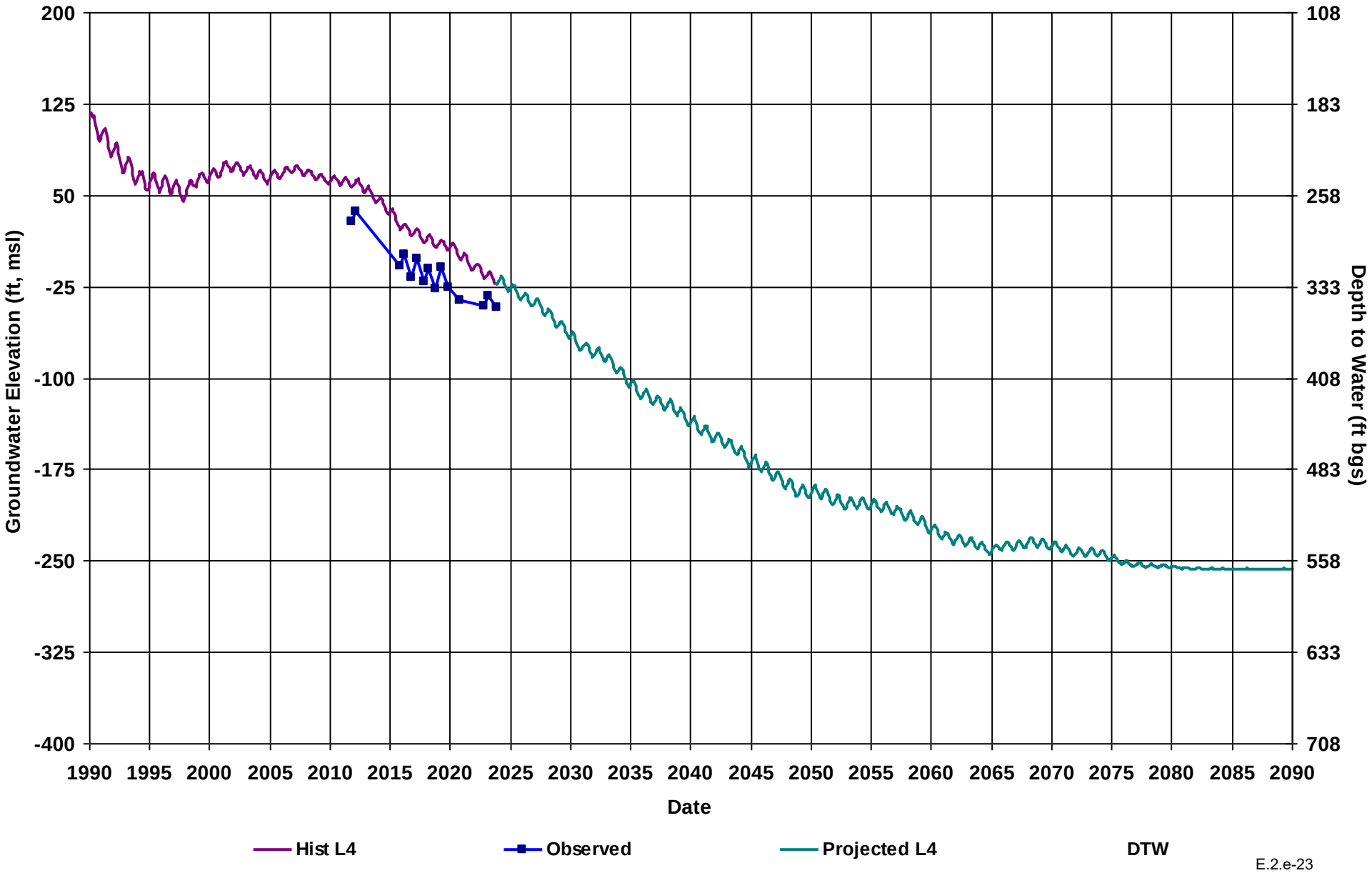
RMS ID: MID RMS-15
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 247

Total Depth (ft): 502
Perf Top (ft): 160
Perf Bottom (ft): 200
Top Model Layer: 2
Bottom Model Layer: 2



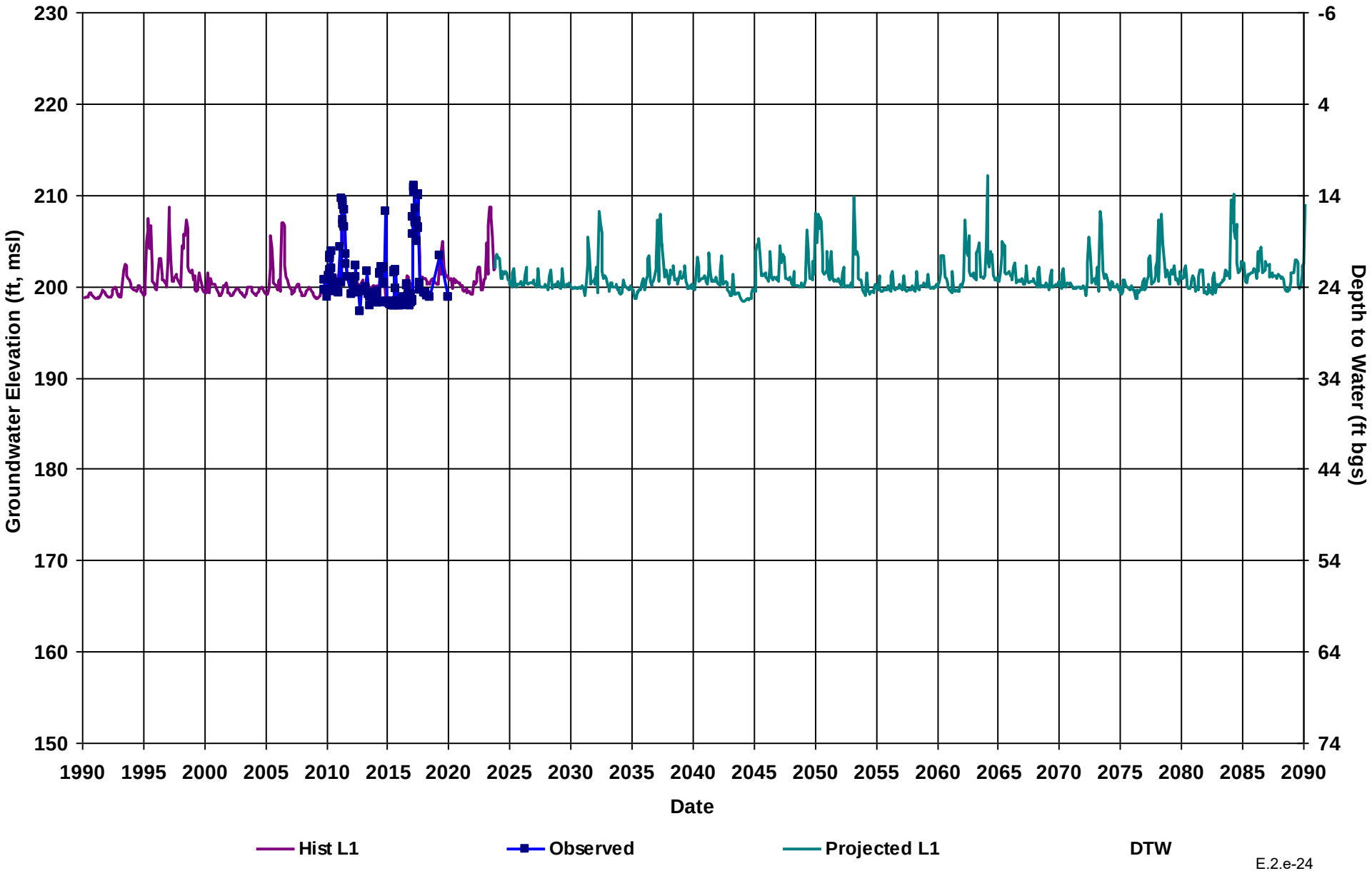
RMS ID: MID RMS-16
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft): 452
Perf Top (ft): 348
Perf Bottom (ft): 388
Top Model Layer: 4
Bottom Model Layer: 4



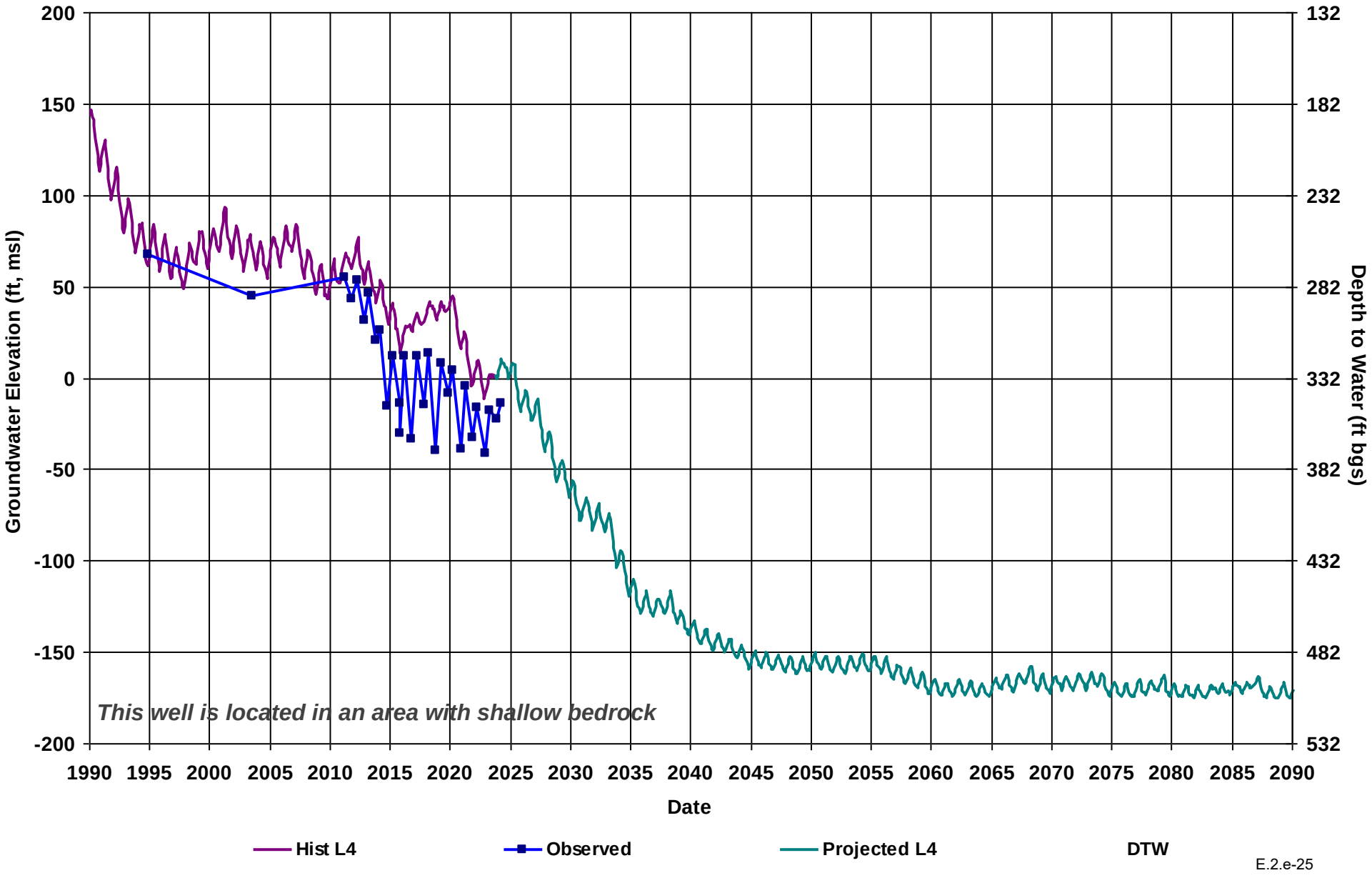
RMS ID: MID RMS-17
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 224

Total Depth (ft): 47
Perf Top (ft): 26
Perf Bottom (ft): 46
Top Model Layer: 1
Bottom Model Layer: 1



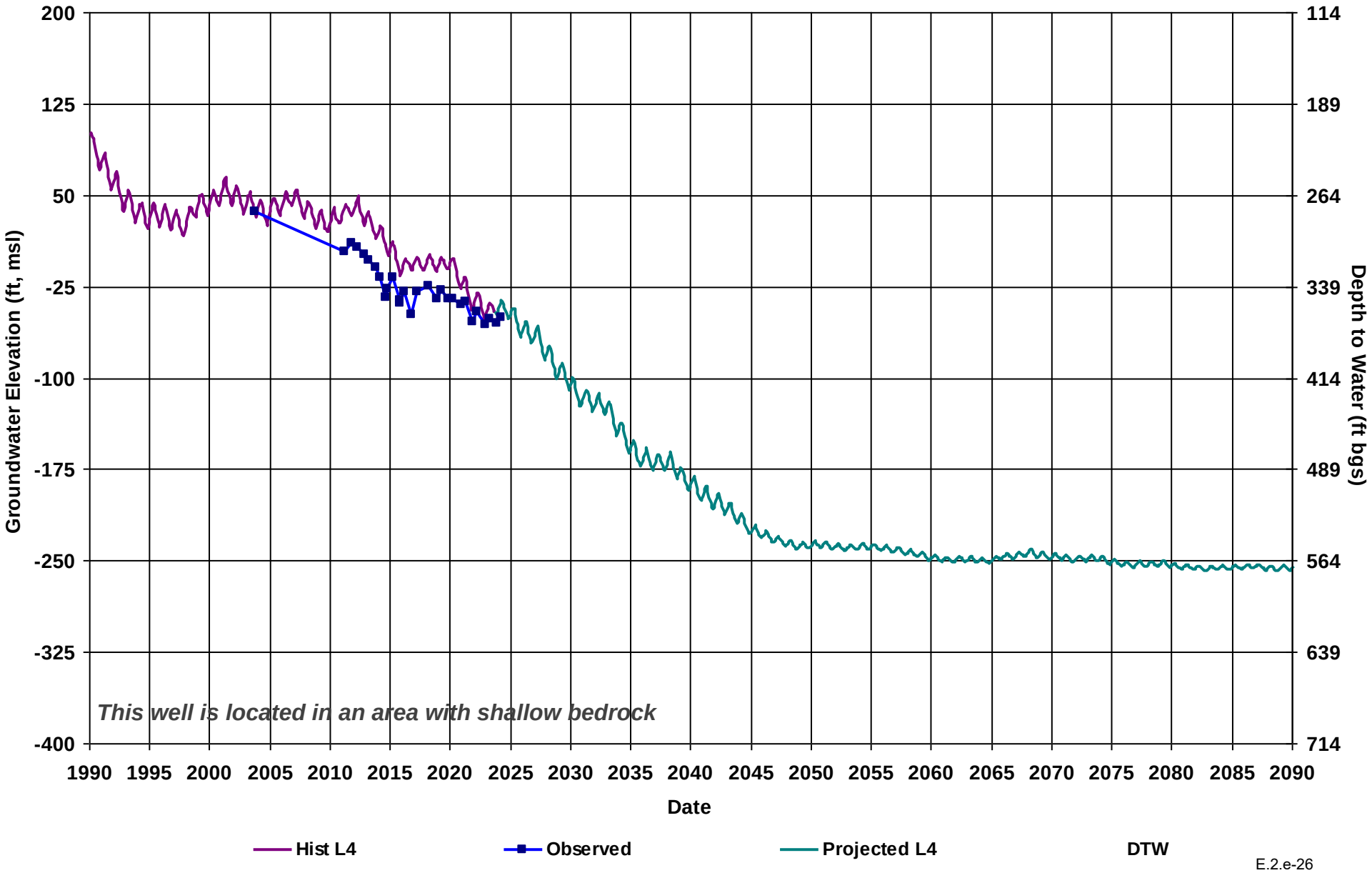
RMS ID: MWD RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 504
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



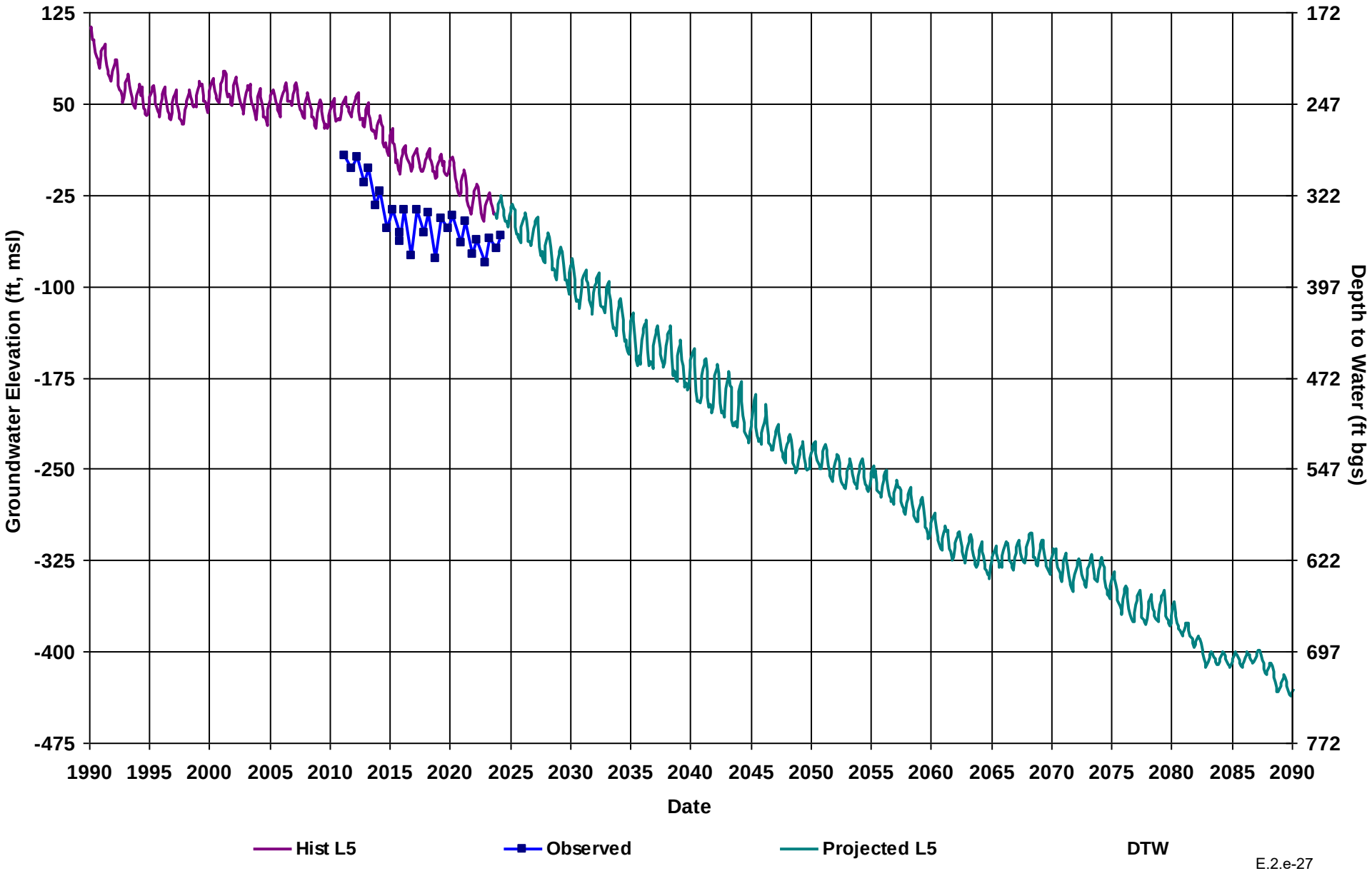
RMS ID: MWD RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 365

Total Depth (ft): 537
Perf Top (ft): 200
Perf Bottom (ft): 537
Top Model Layer: 4
Bottom Model Layer: 4



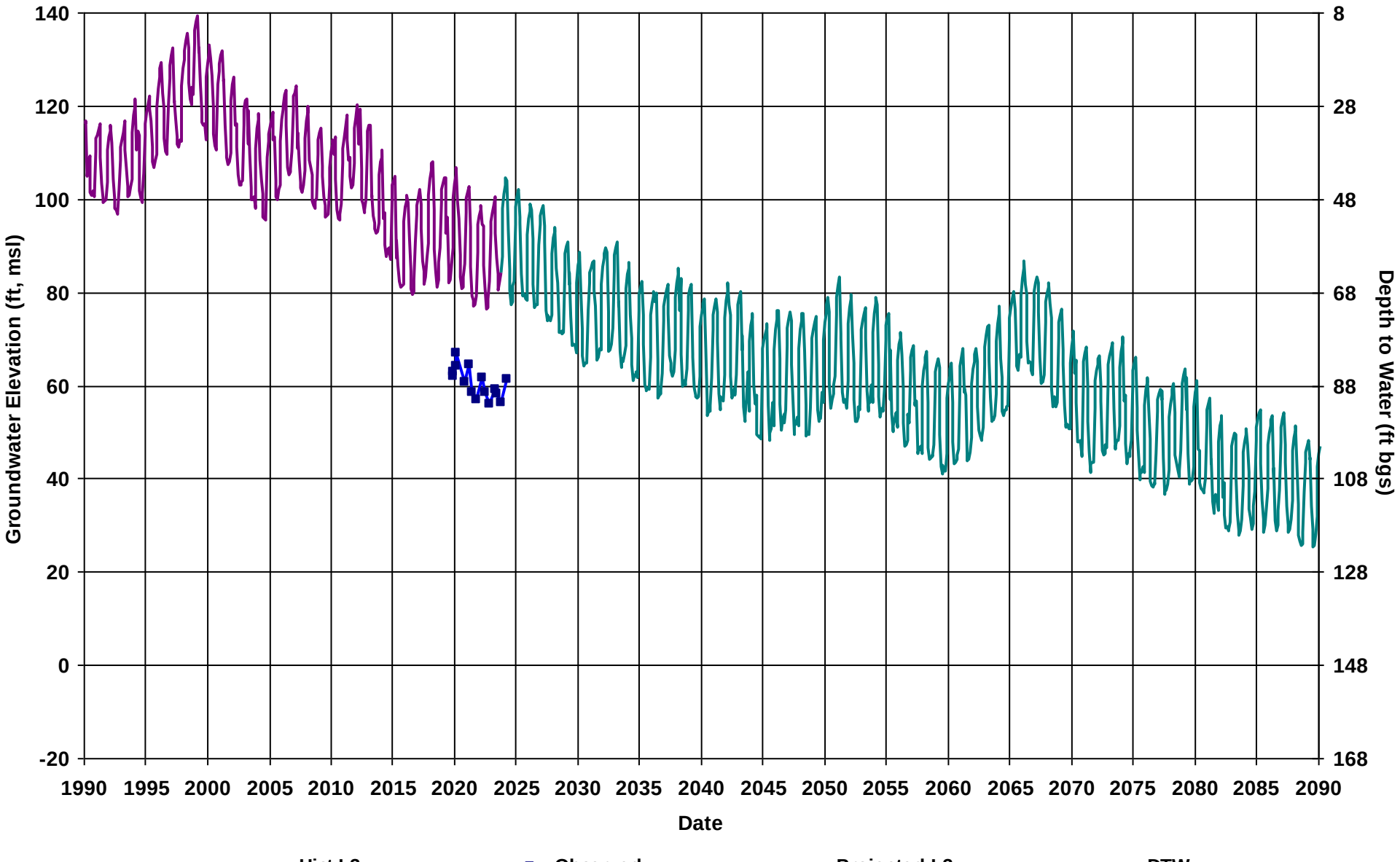
RMS ID: MWD RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 358

Total Depth (ft): 800
Perf Top (ft): 380
Perf Bottom (ft): 800
Top Model Layer: 5
Bottom Model Layer: 5



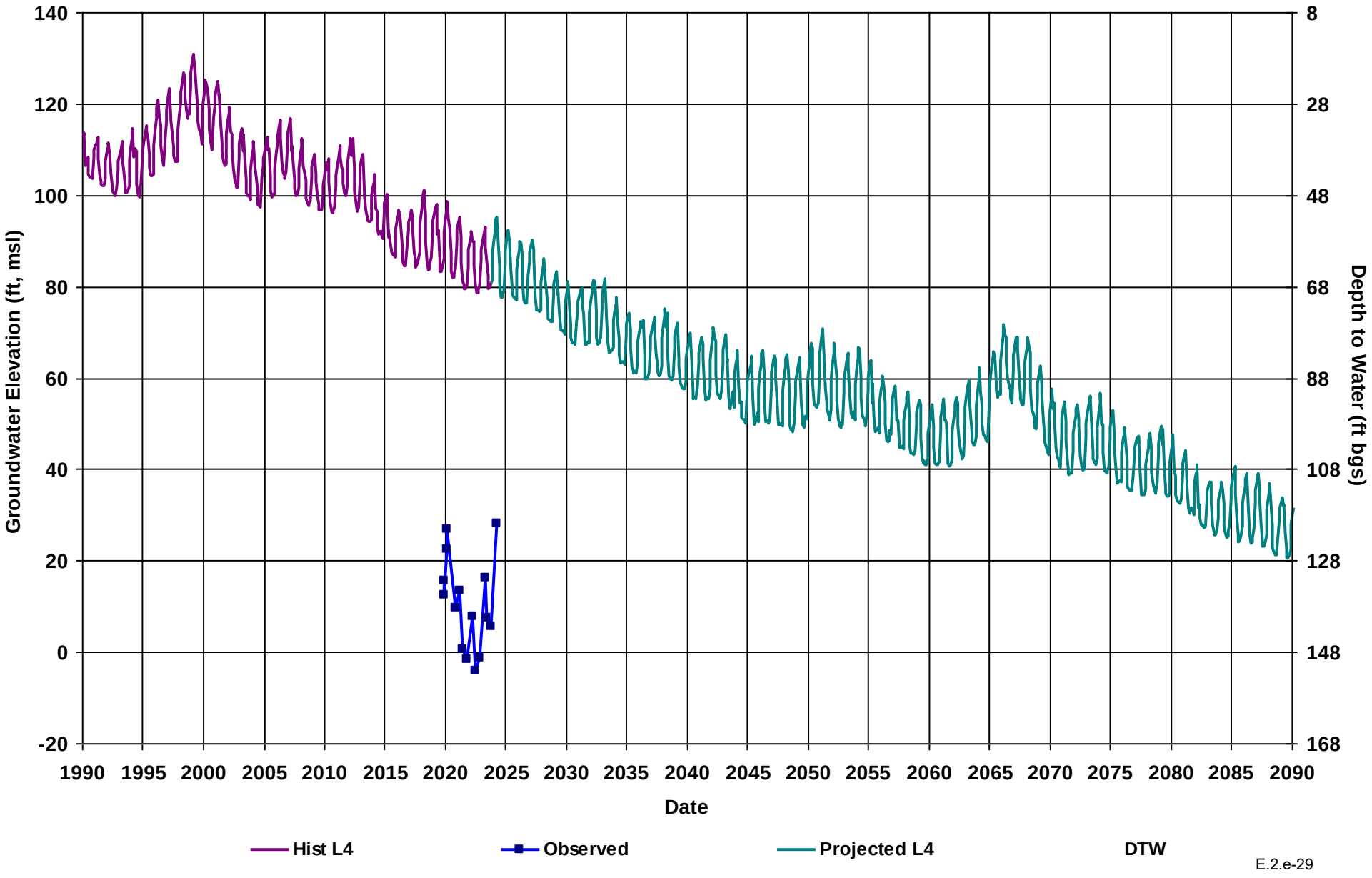
RMS ID: MSB03B
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 295
Perf Top (ft): 215
Perf Bottom (ft): 285
Top Model Layer: 3
Bottom Model Layer: 3



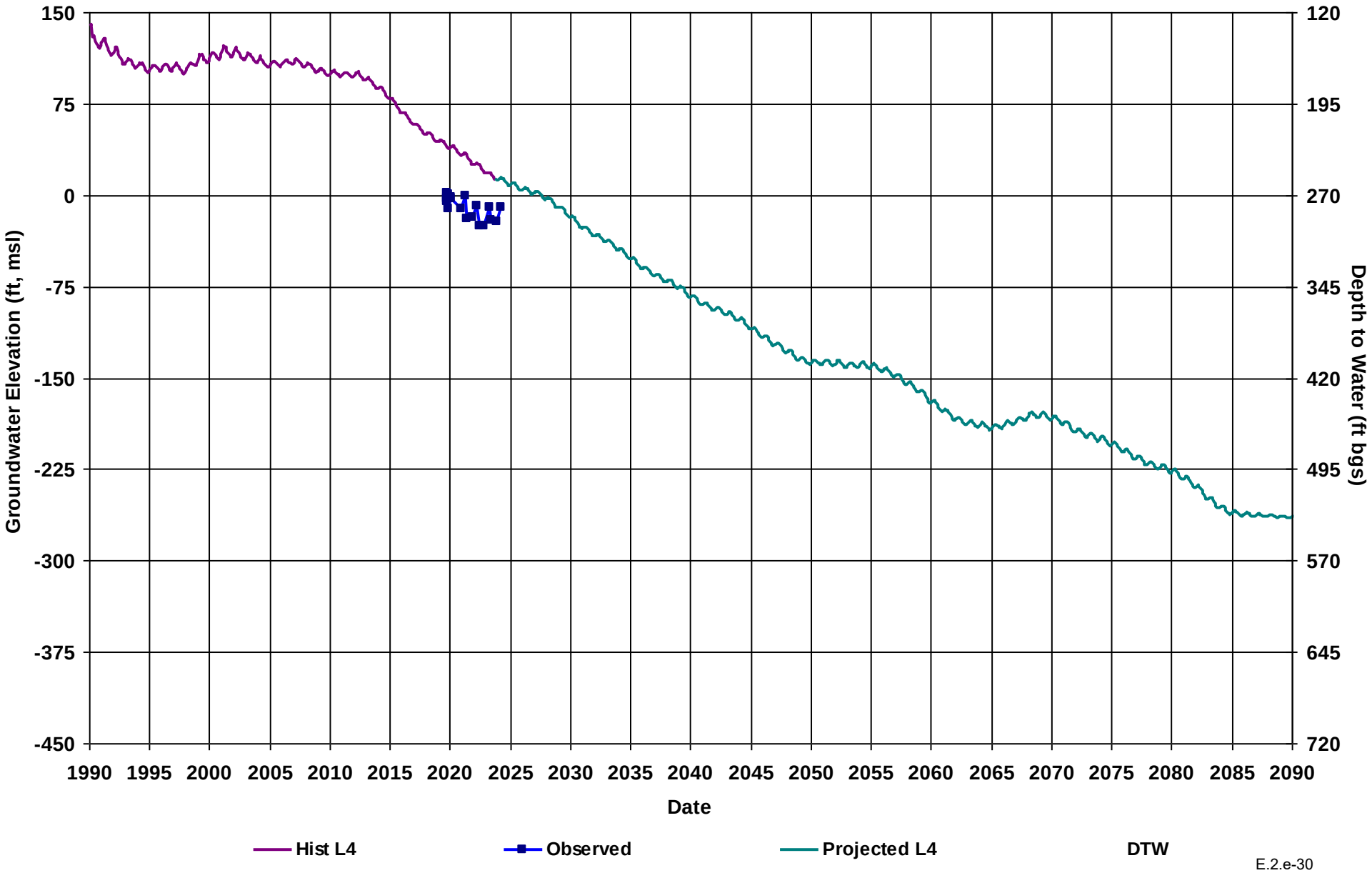
RMS ID: MSB03C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 430
Perf Top (ft): 355
Perf Bottom (ft): 420
Top Model Layer: 4
Bottom Model Layer: 4



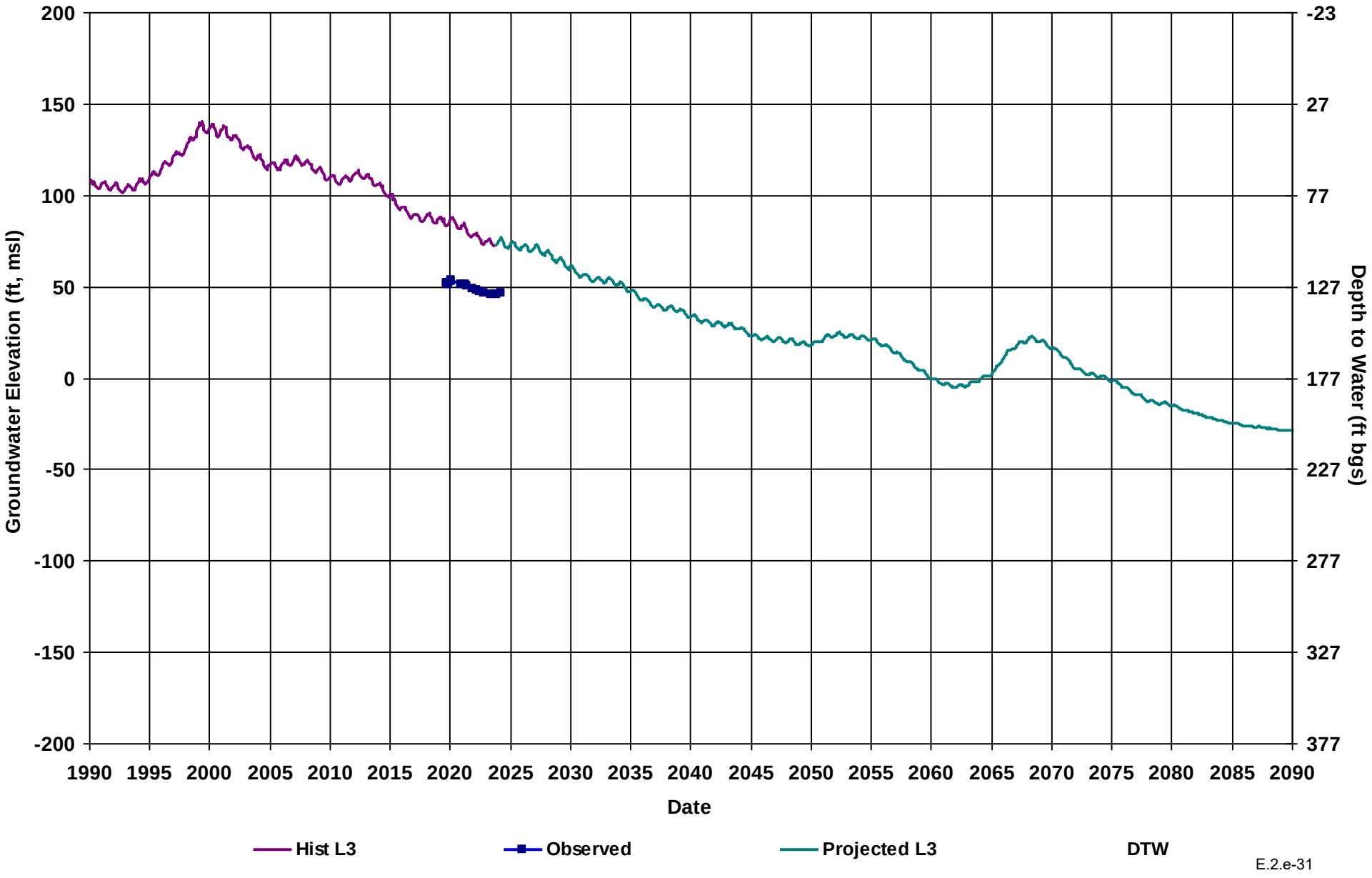
RMS ID: MSB04B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 695
Perf Top (ft): 530
Perf Bottom (ft): 685
Top Model Layer: 4
Bottom Model Layer: 4



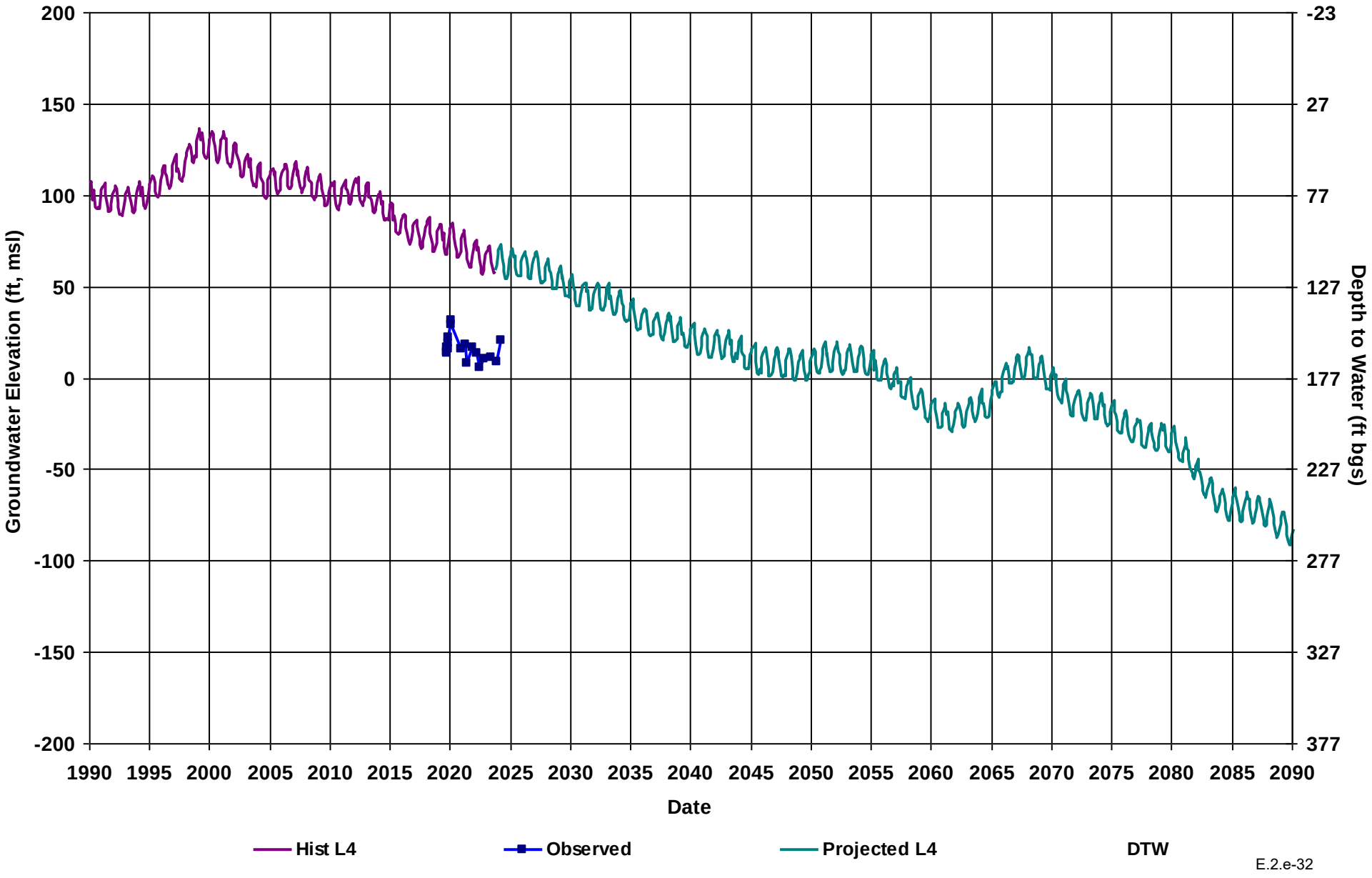
RMS ID: MSB05A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 210
Perf Top (ft): 140
Perf Bottom (ft): 200
Top Model Layer: 3
Bottom Model Layer: 3



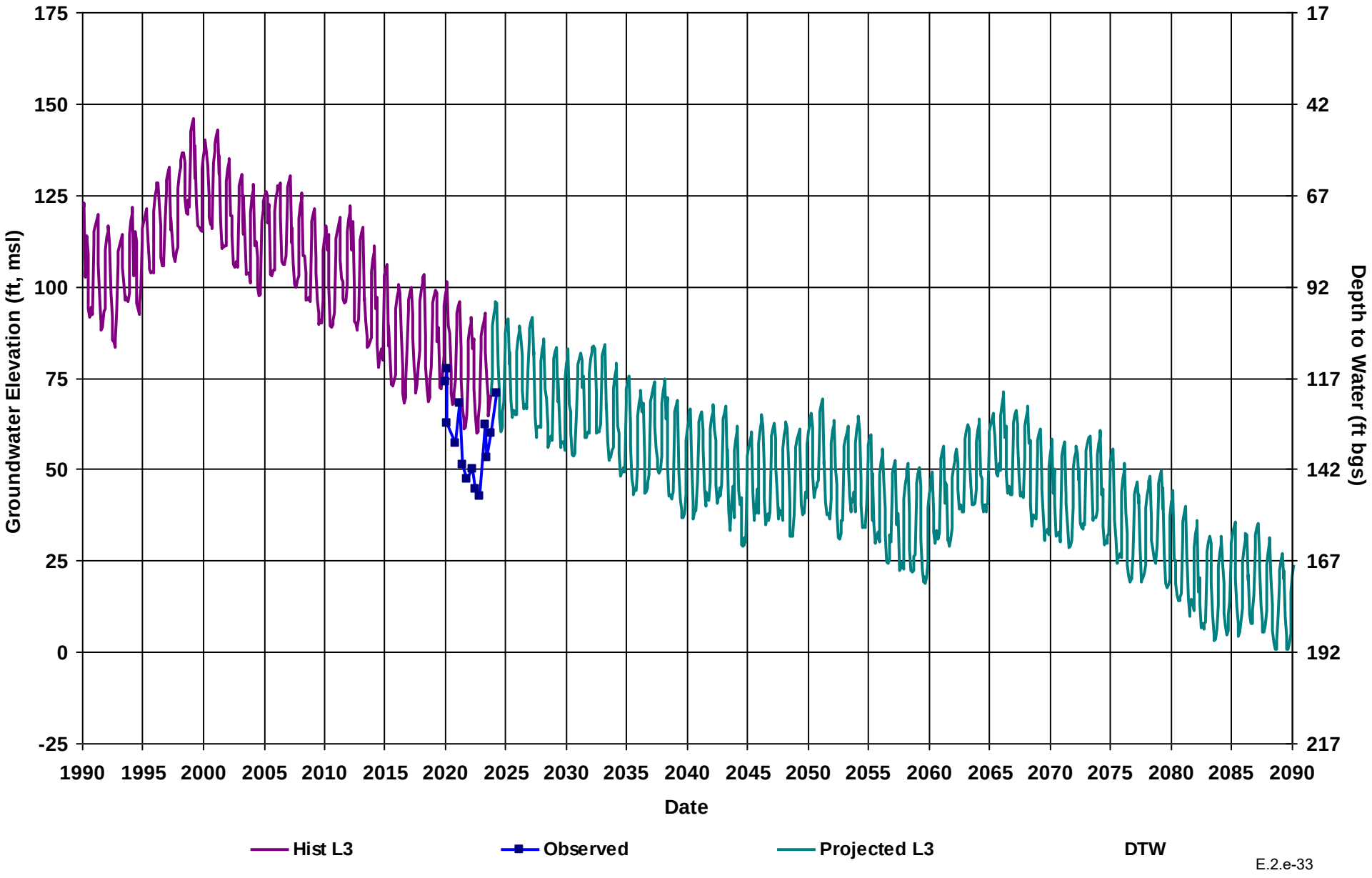
RMS ID: MSB05B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 375
Perf Top (ft): 240
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



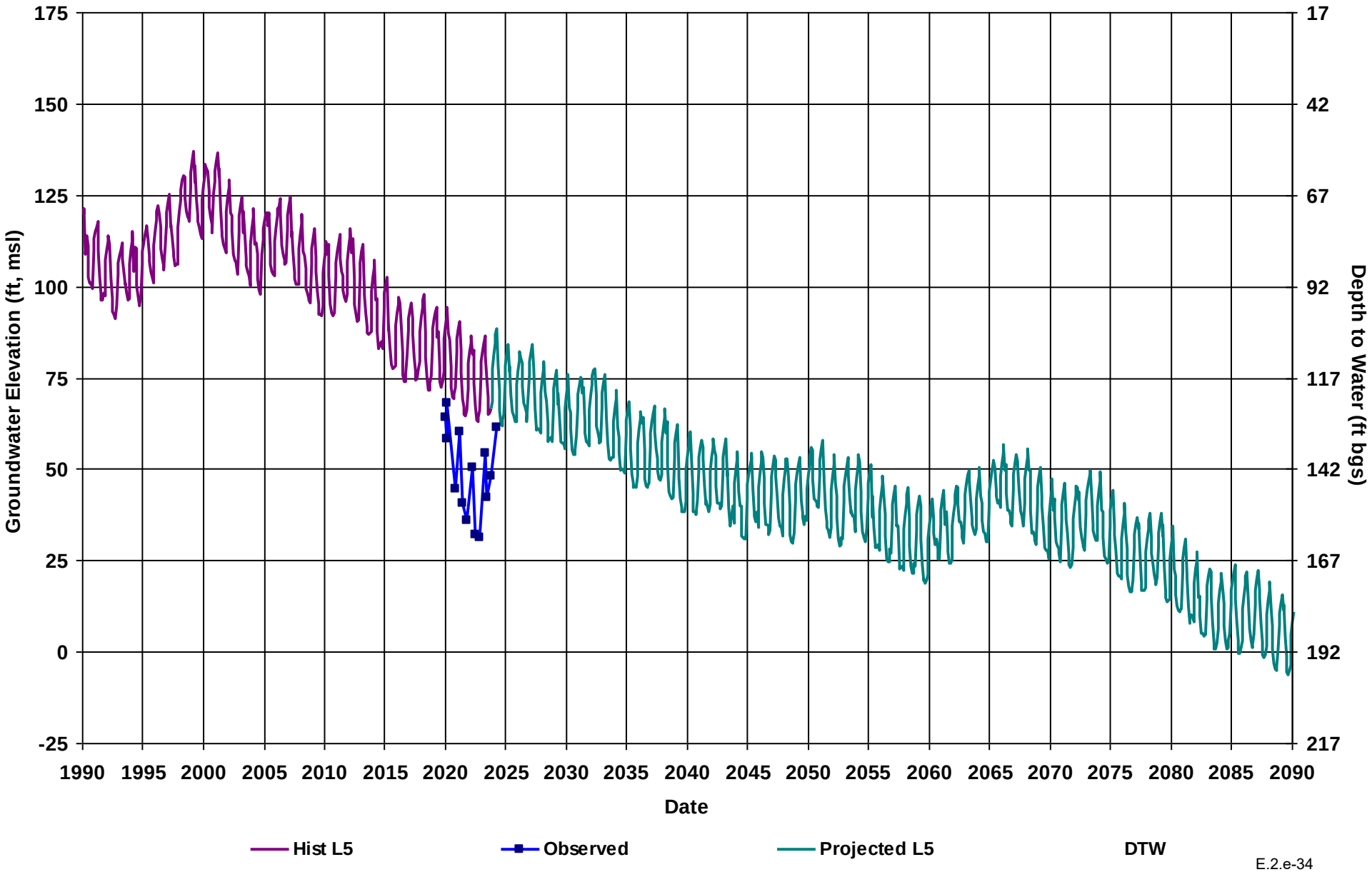
RMS ID: MSB06A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 350
Perf Top (ft): 135
Perf Bottom (ft): 340
Top Model Layer: 3
Bottom Model Layer: 3



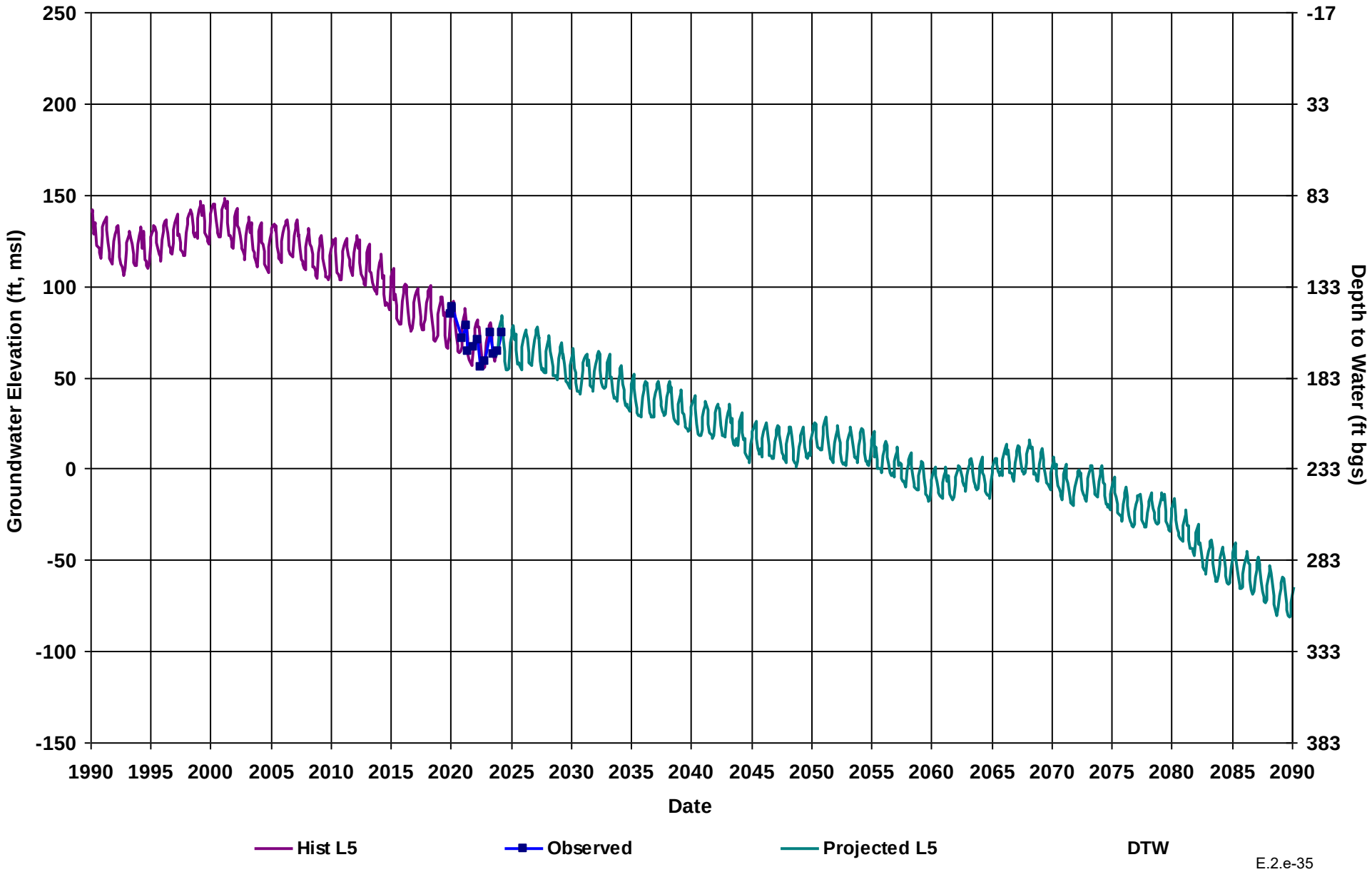
RMS ID: MSB06C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 715
Perf Top (ft): 630
Perf Bottom (ft): 705
Top Model Layer: 5
Bottom Model Layer: 5



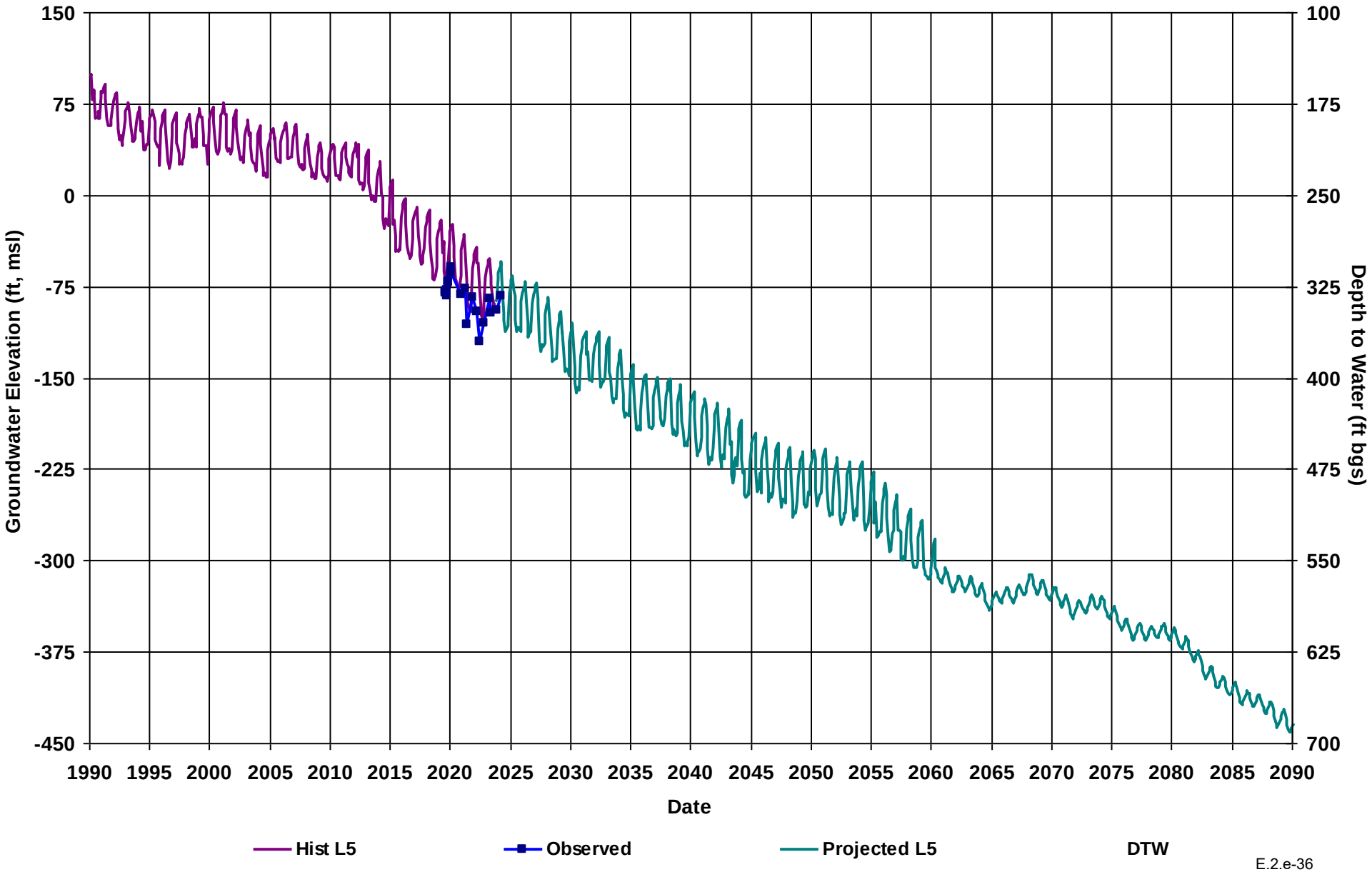
RMS ID: MSB09C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 955
Perf Top (ft): 880
Perf Bottom (ft): 945
Top Model Layer: 5
Bottom Model Layer: 5



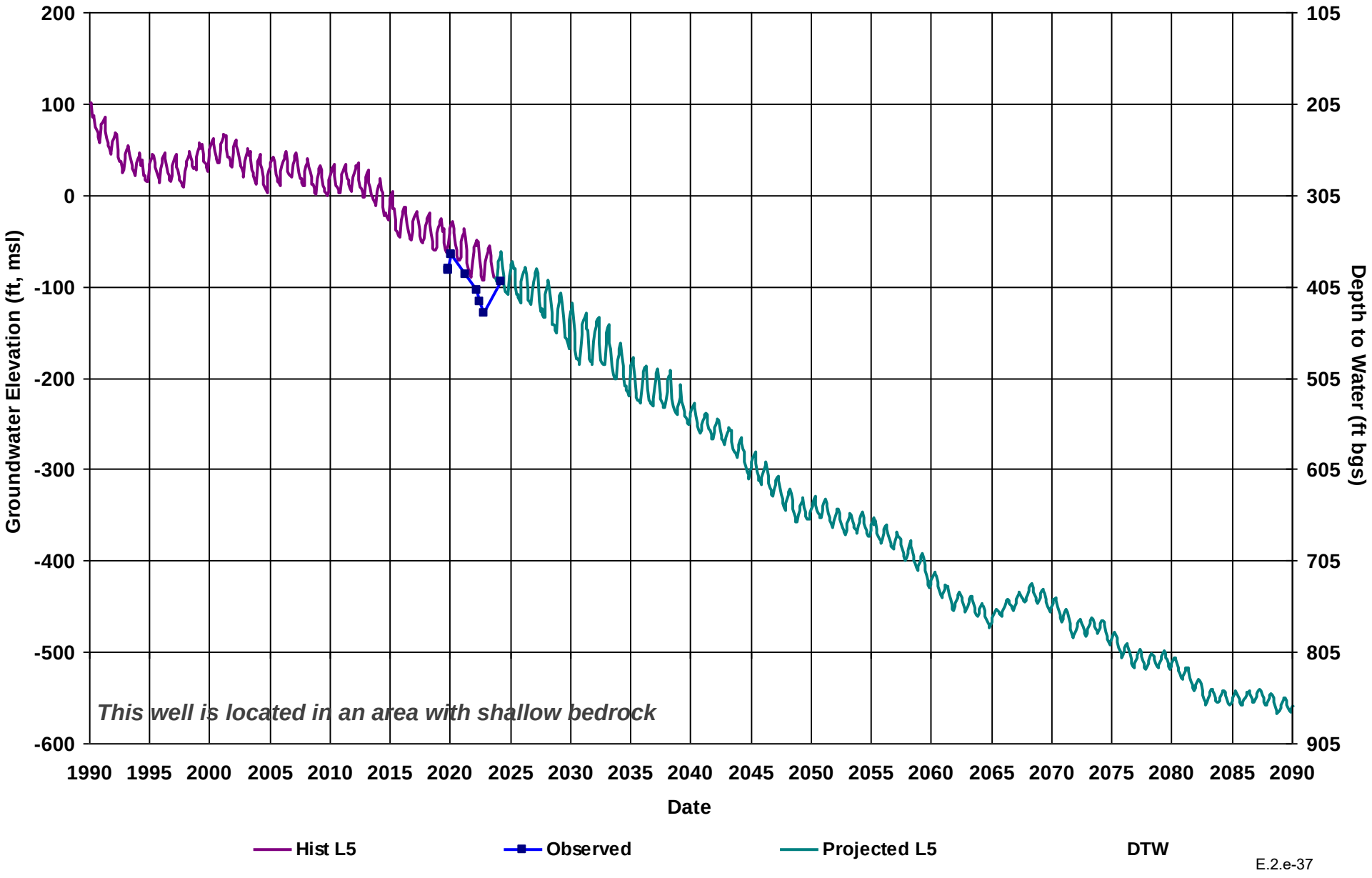
RMS ID: MSB10C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Total Depth (ft): 880
Perf Top (ft): 790
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



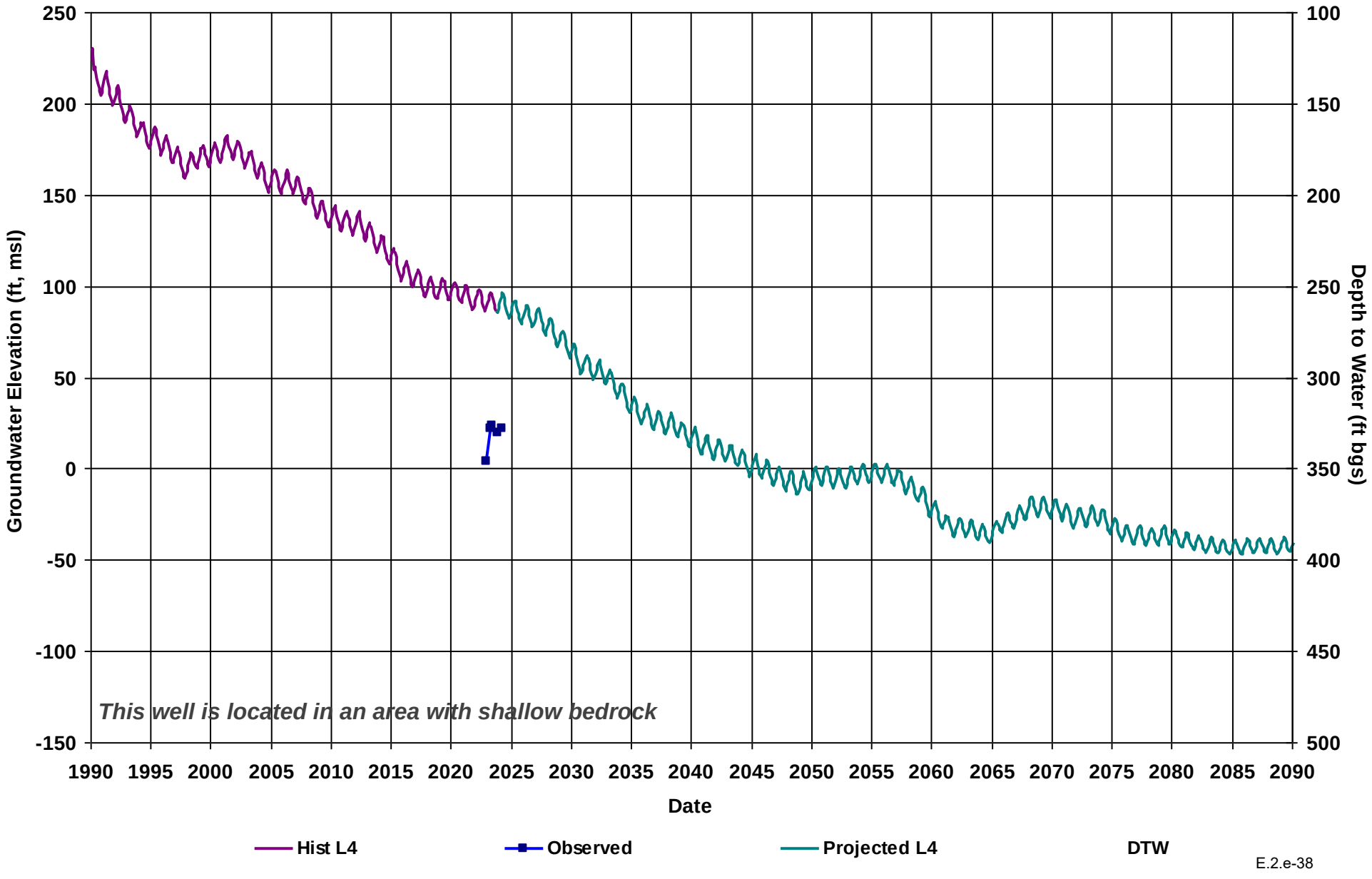
RMS ID: MSB11C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Total Depth (ft): 880
Perf Top (ft): 775
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: MSB12
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 465
Perf Top (ft): 355
Perf Bottom (ft): 465
Top Model Layer: 4
Bottom Model Layer: 4

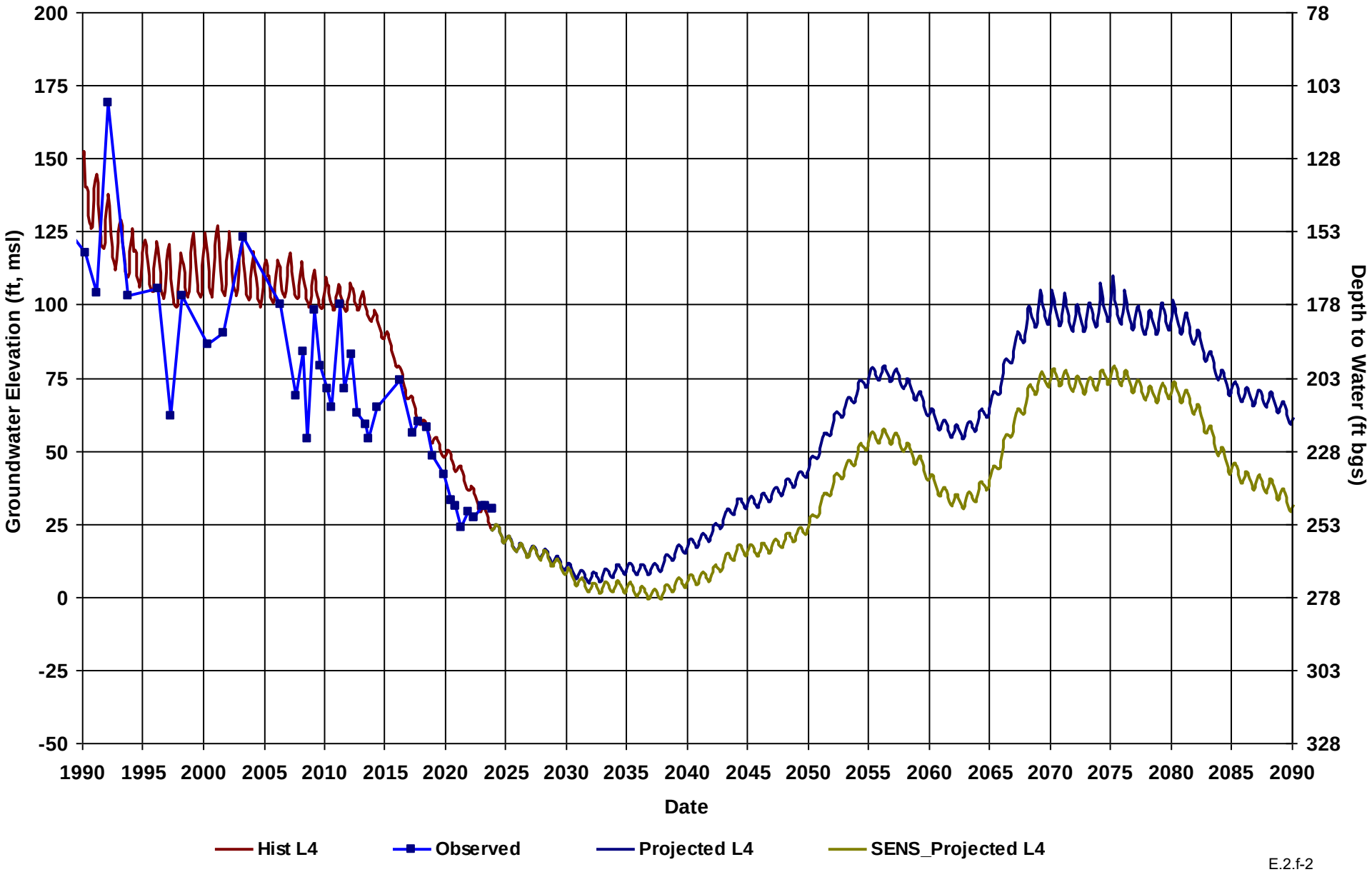


APPENDIX E.2.f

Madera Subbasin Groundwater Elevation Hydrographs for RMS Wells - Sensitivity - Projected with Projects Scenario

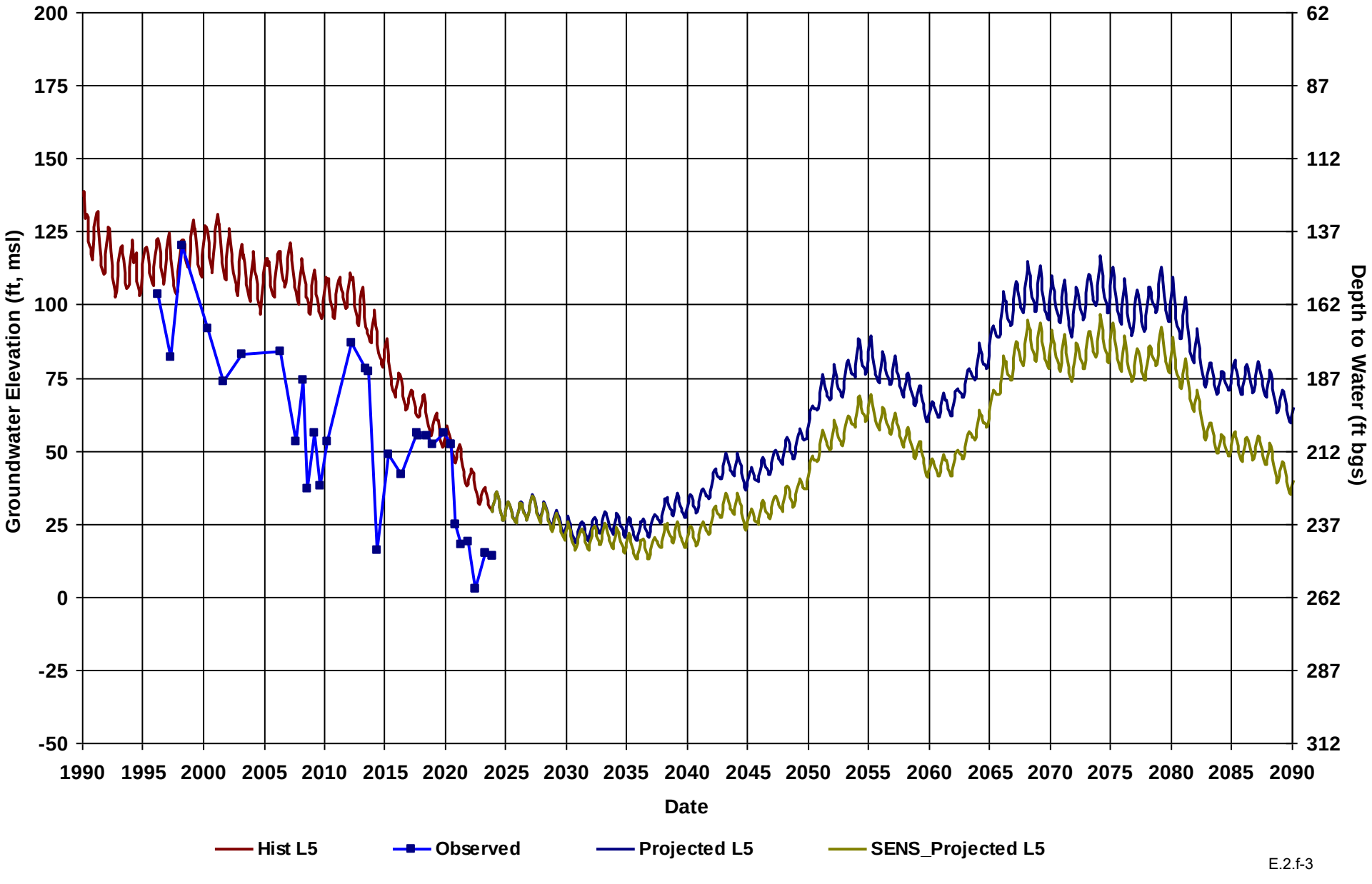
RMS ID: COM RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 278

Total Depth (ft): 520
Perf Top (ft): 210
Perf Bottom (ft): 510
Top Model Layer: 4
Bottom Model Layer: 4



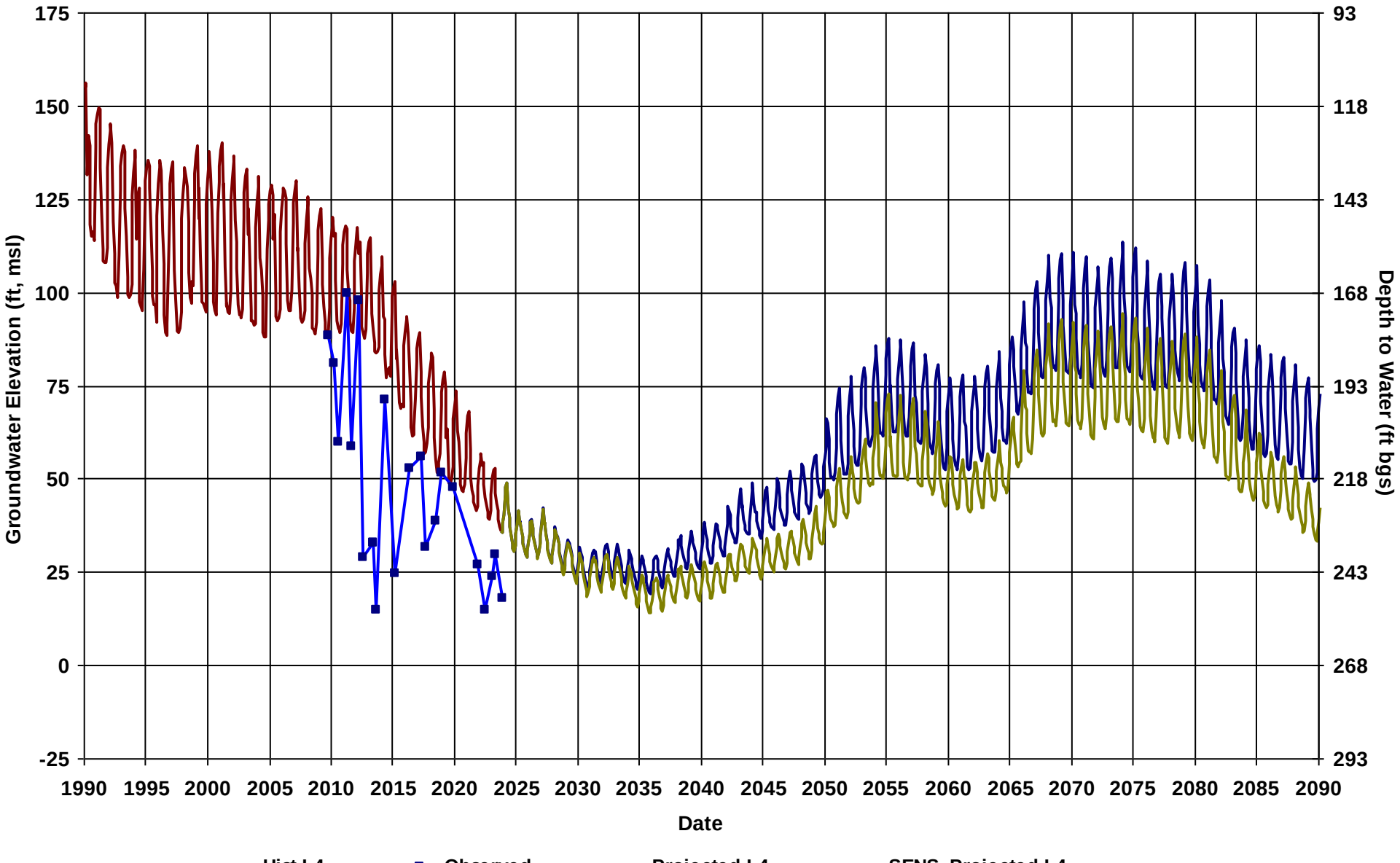
RMS ID: COM RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 262

Total Depth (ft): 590
Perf Top (ft): 370
Perf Bottom (ft): 590
Top Model Layer: 5
Bottom Model Layer: 5



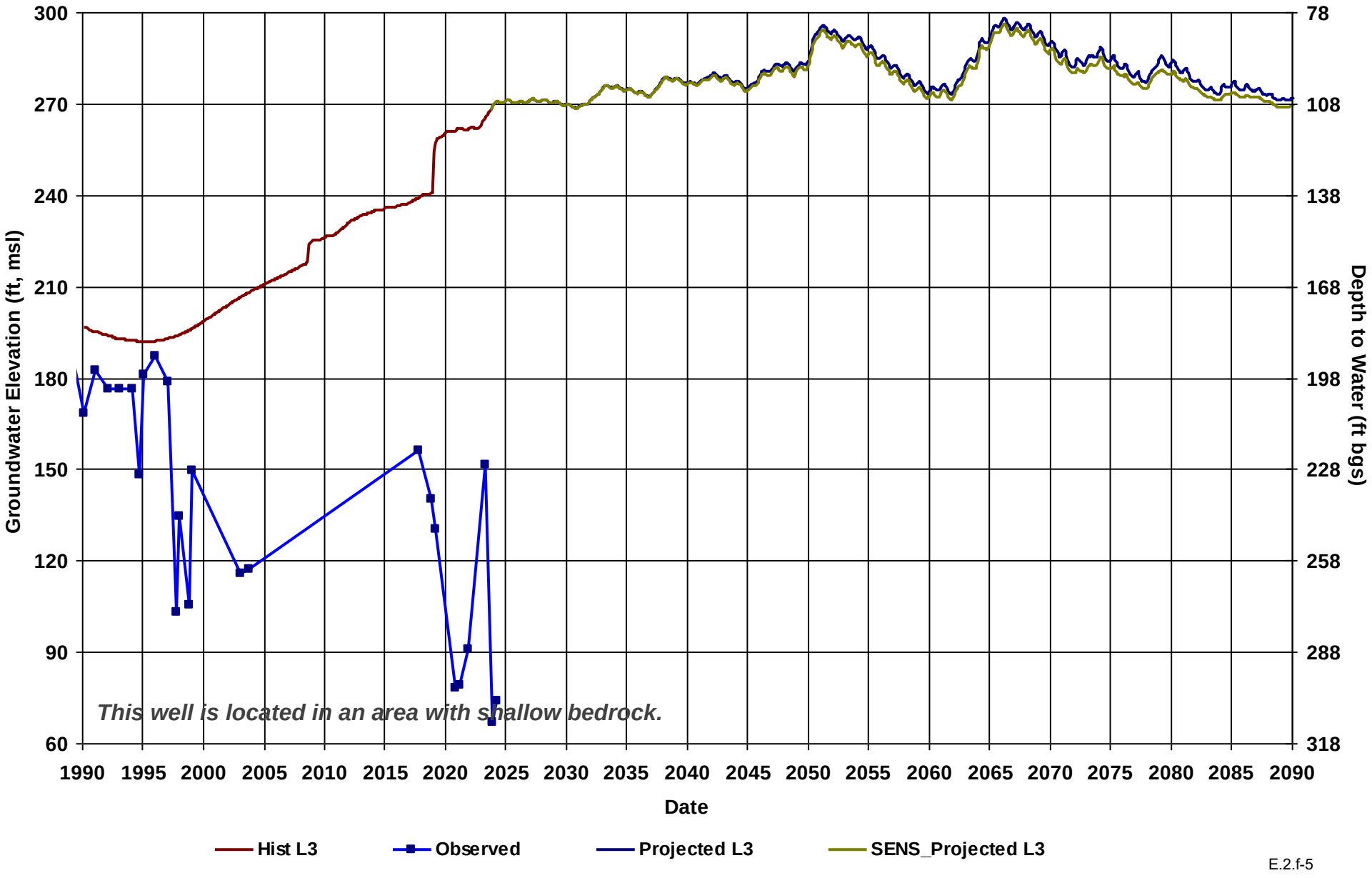
RMS ID: COM RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 267

Total Depth (ft): 588
Perf Top (ft): 433
Perf Bottom (ft): 568
Top Model Layer: 4
Bottom Model Layer: 4



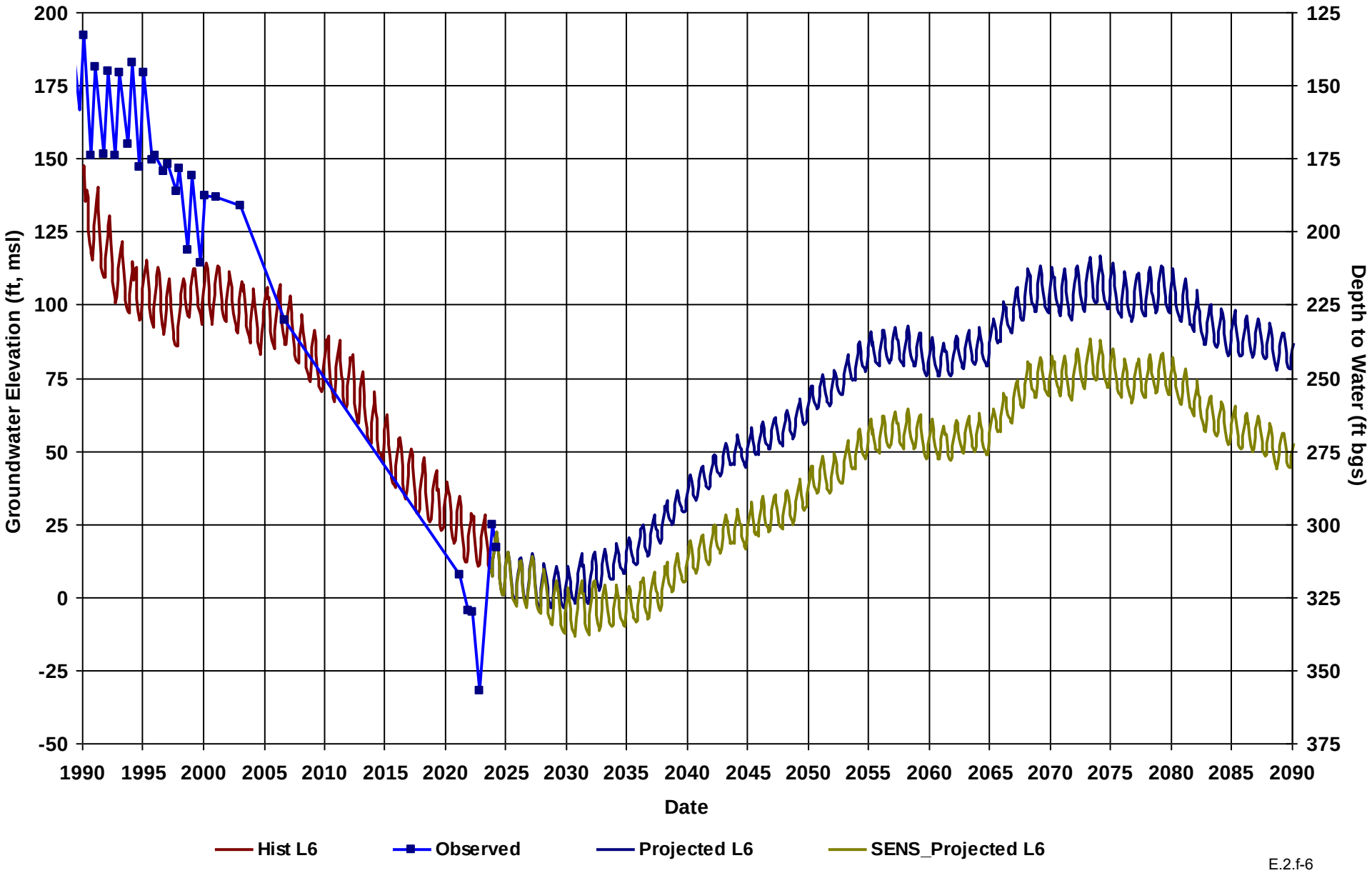
RMS ID: MCE RMS-2
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 378

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



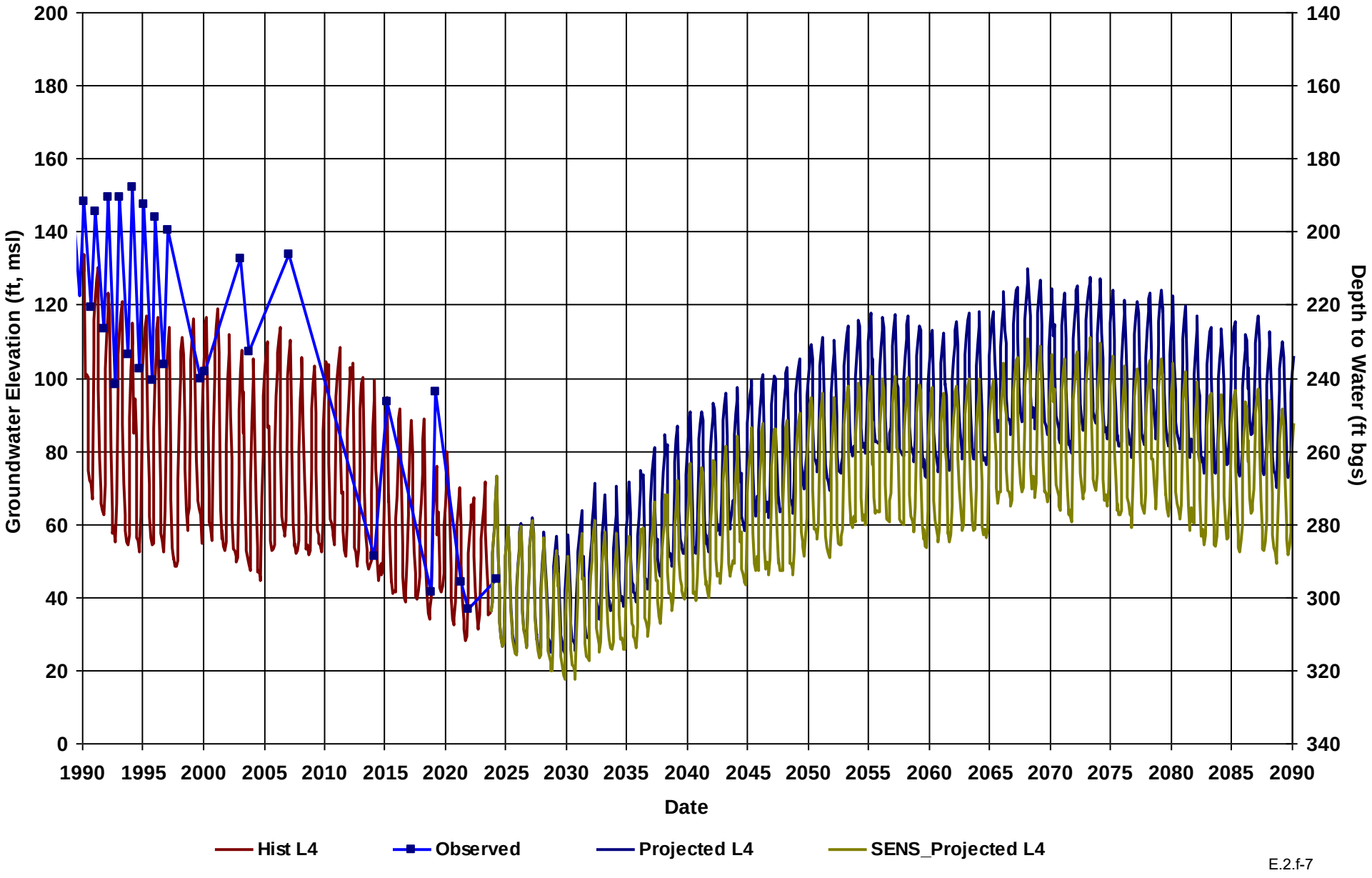
RMS ID: MCE RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 325

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



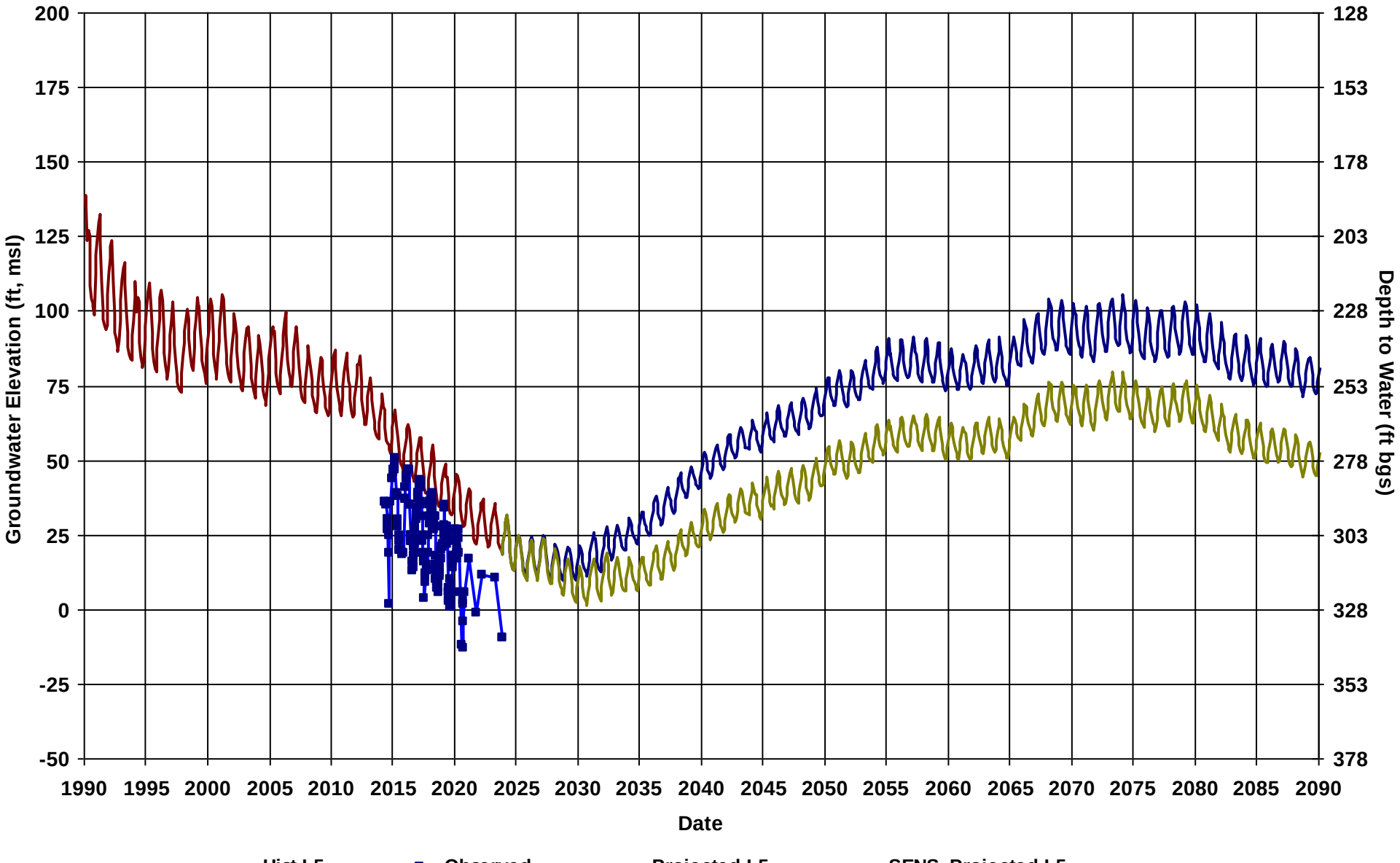
RMS ID: MCE RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



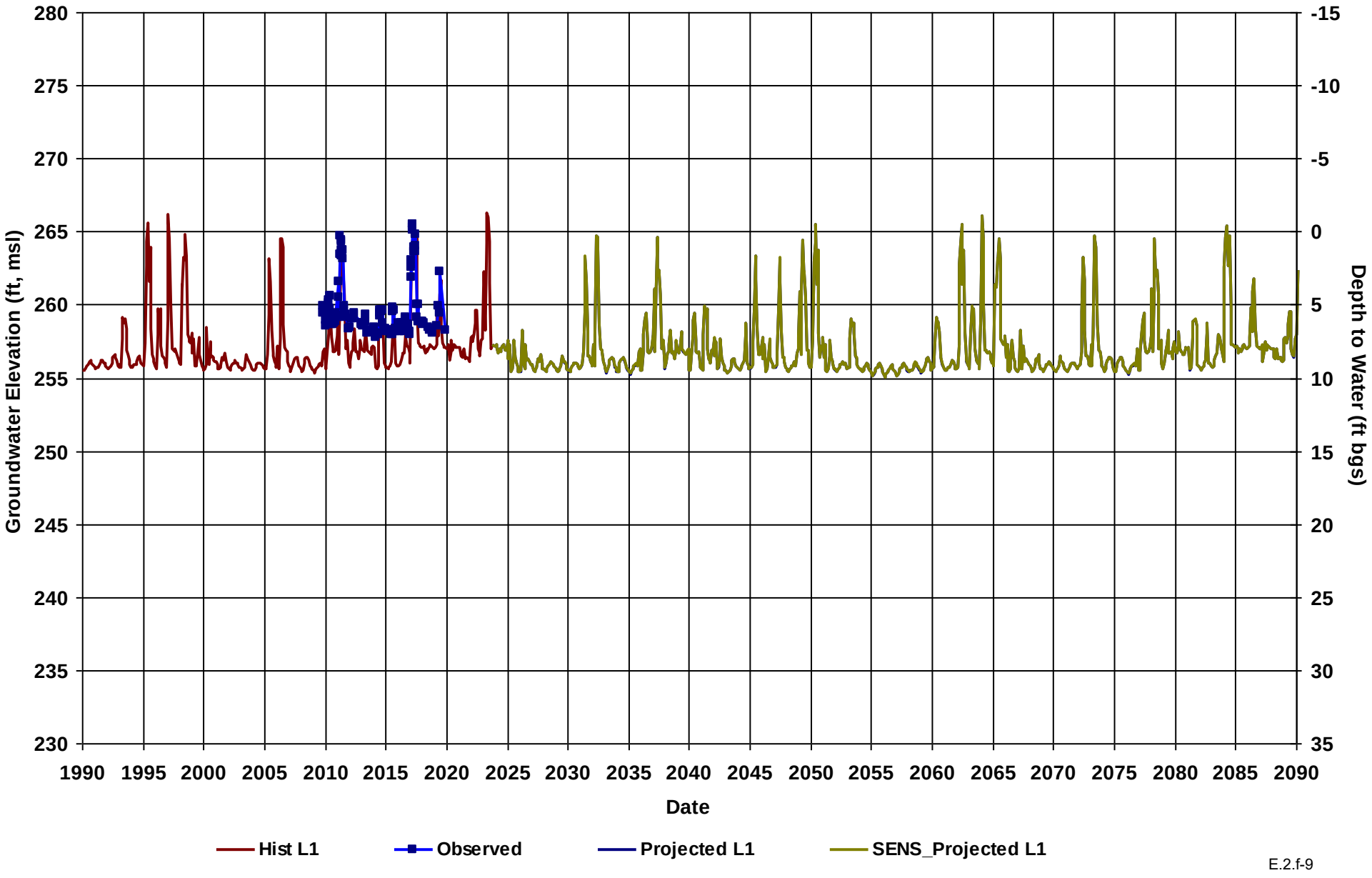
RMS ID: MCE RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 328

Total Depth (ft): 550
Perf Top (ft): 450
Perf Bottom (ft): 550
Top Model Layer: 5
Bottom Model Layer: 5



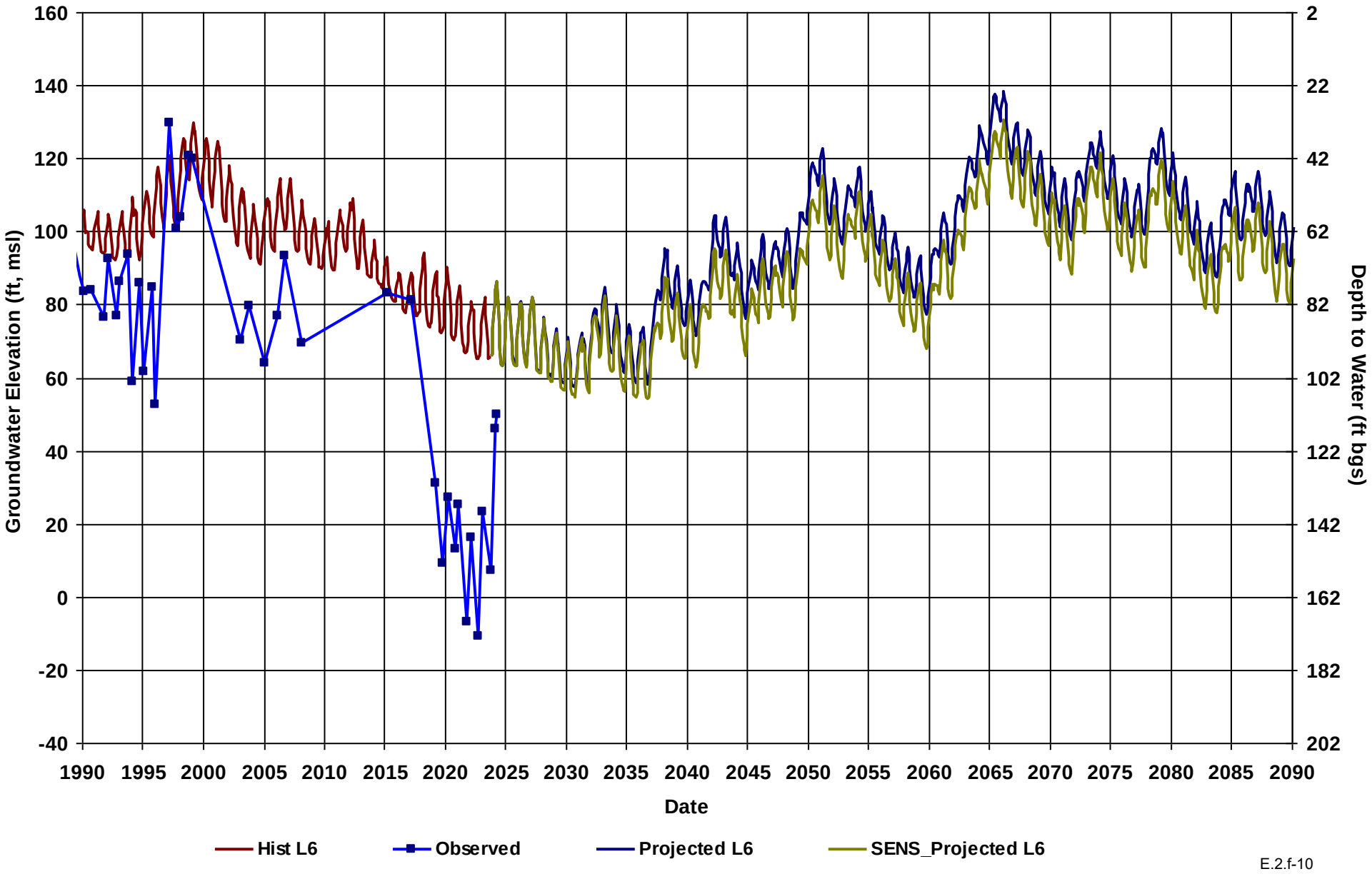
RMS ID: MCE RMS-9
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



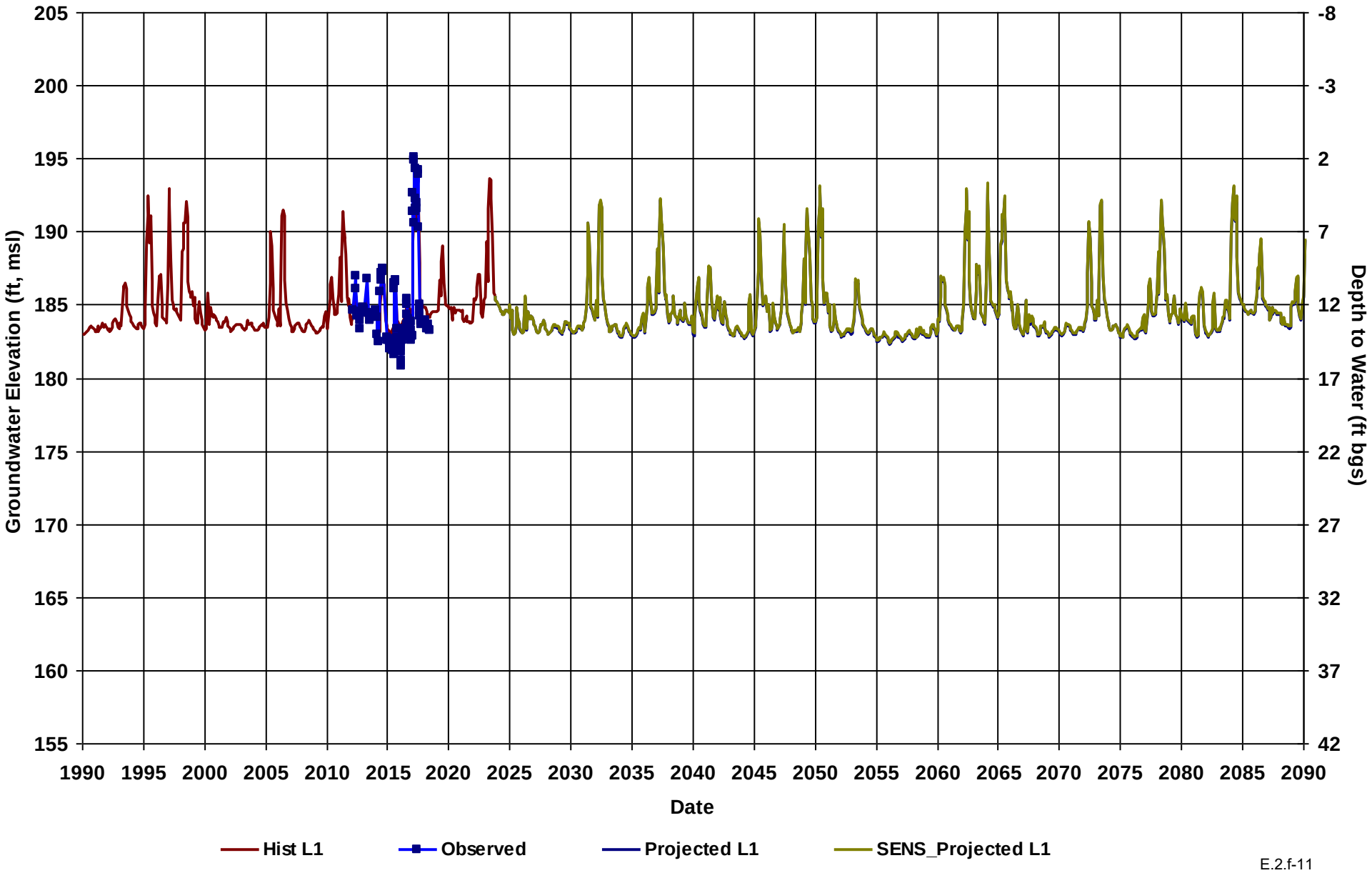
RMS ID: MCW RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 163

Total Depth (ft):
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 6
Bottom Model Layer: 6



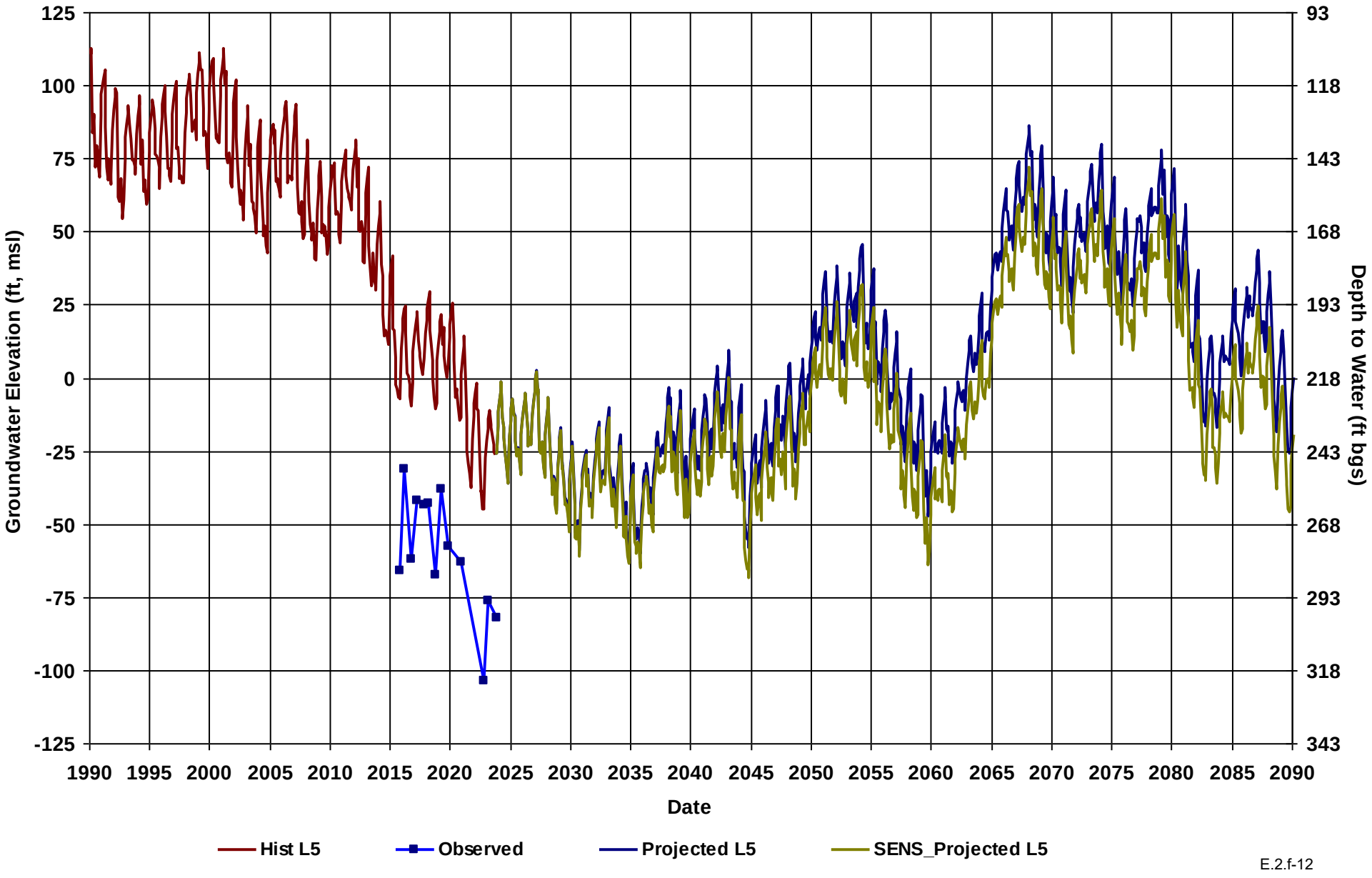
RMS ID: MCW RMS-5
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 199

Total Depth (ft): 30
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



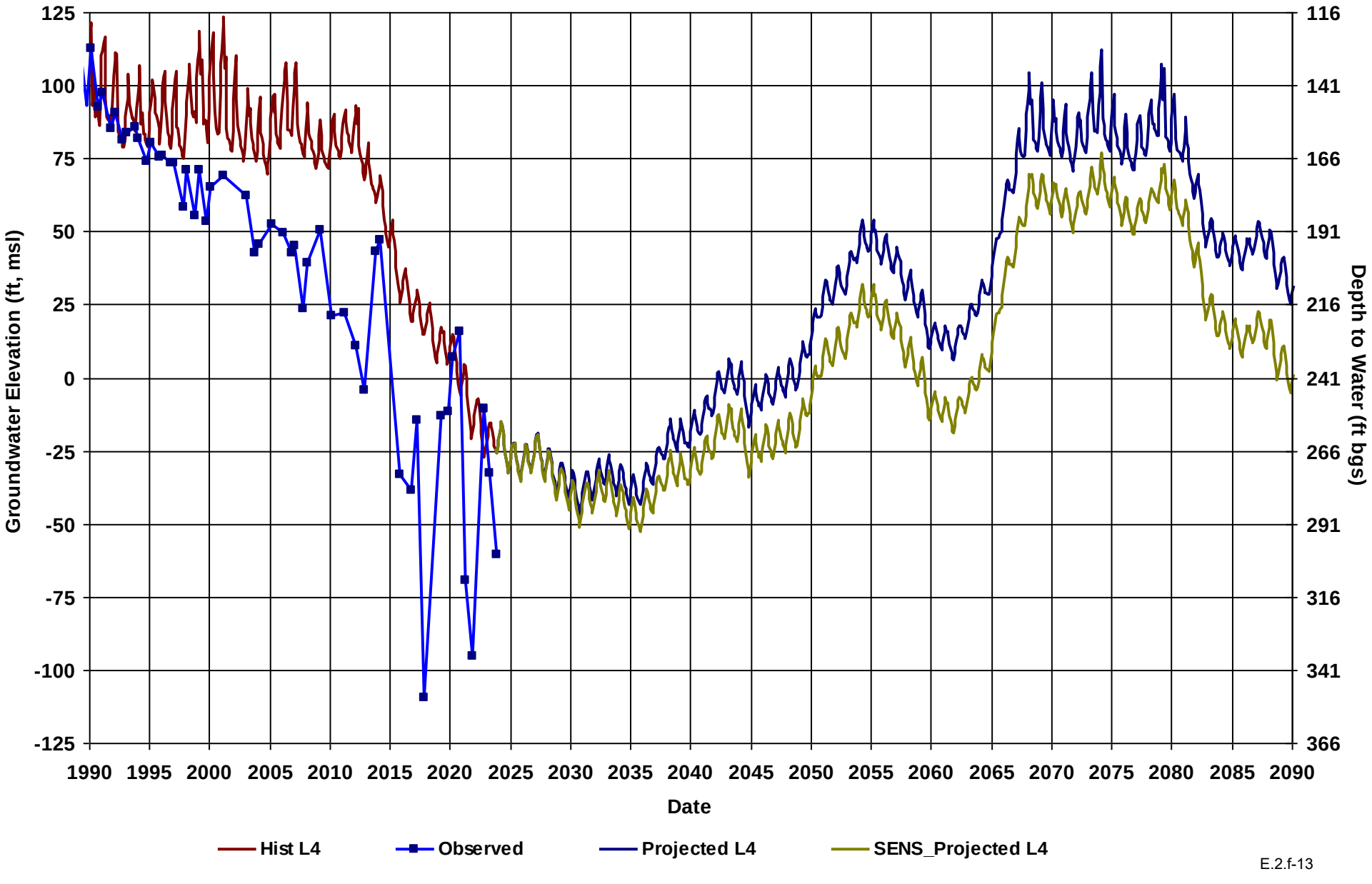
RMS ID: MID RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 294

Total Depth (ft): 563
Perf Top (ft): 298
Perf Bottom (ft): 509
Top Model Layer: 5
Bottom Model Layer: 5



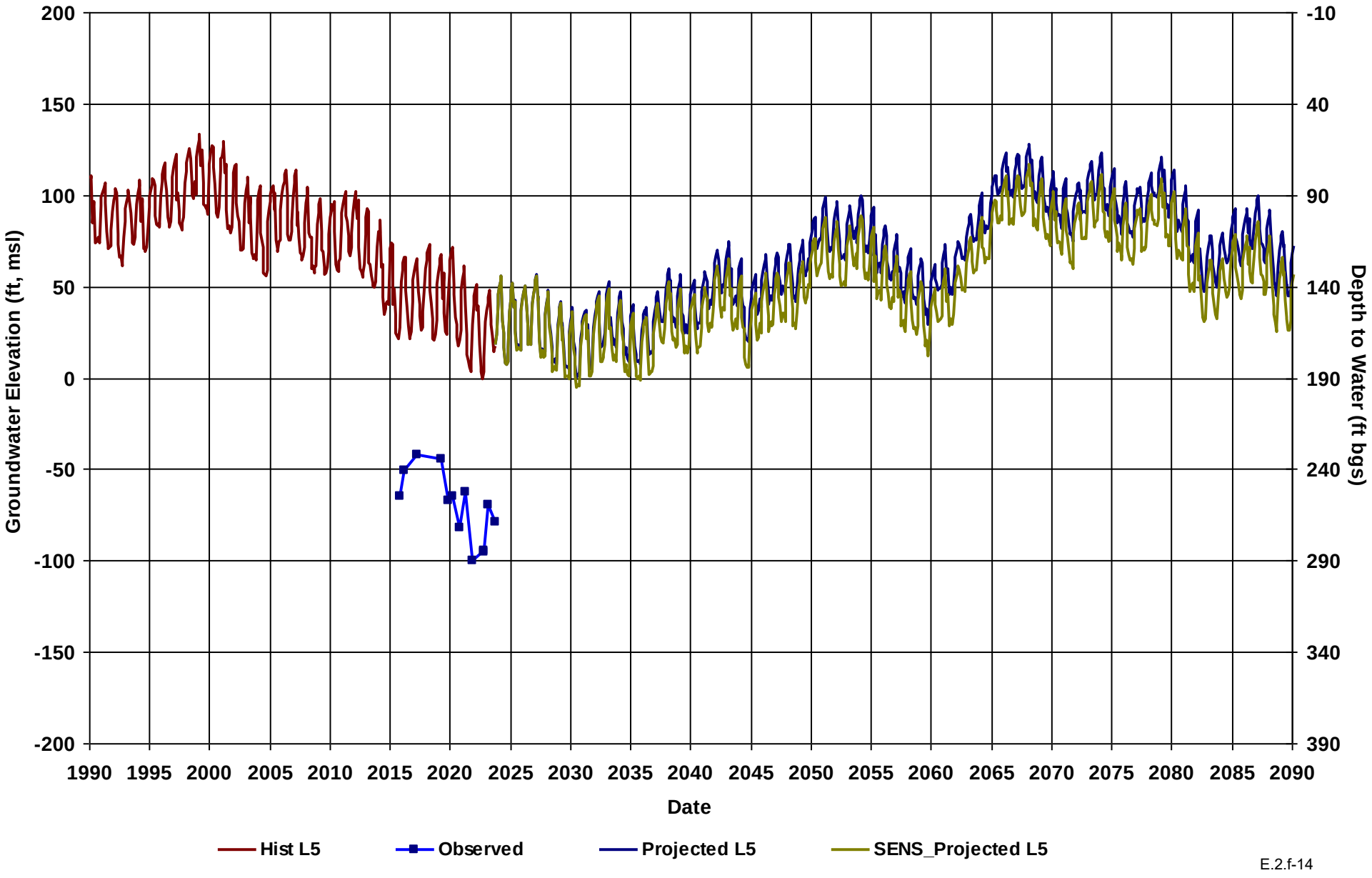
RMS ID: MID RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 273

Total Depth (ft): 516
Perf Top (ft): 260
Perf Bottom (ft): 507
Top Model Layer: 4
Bottom Model Layer: 4



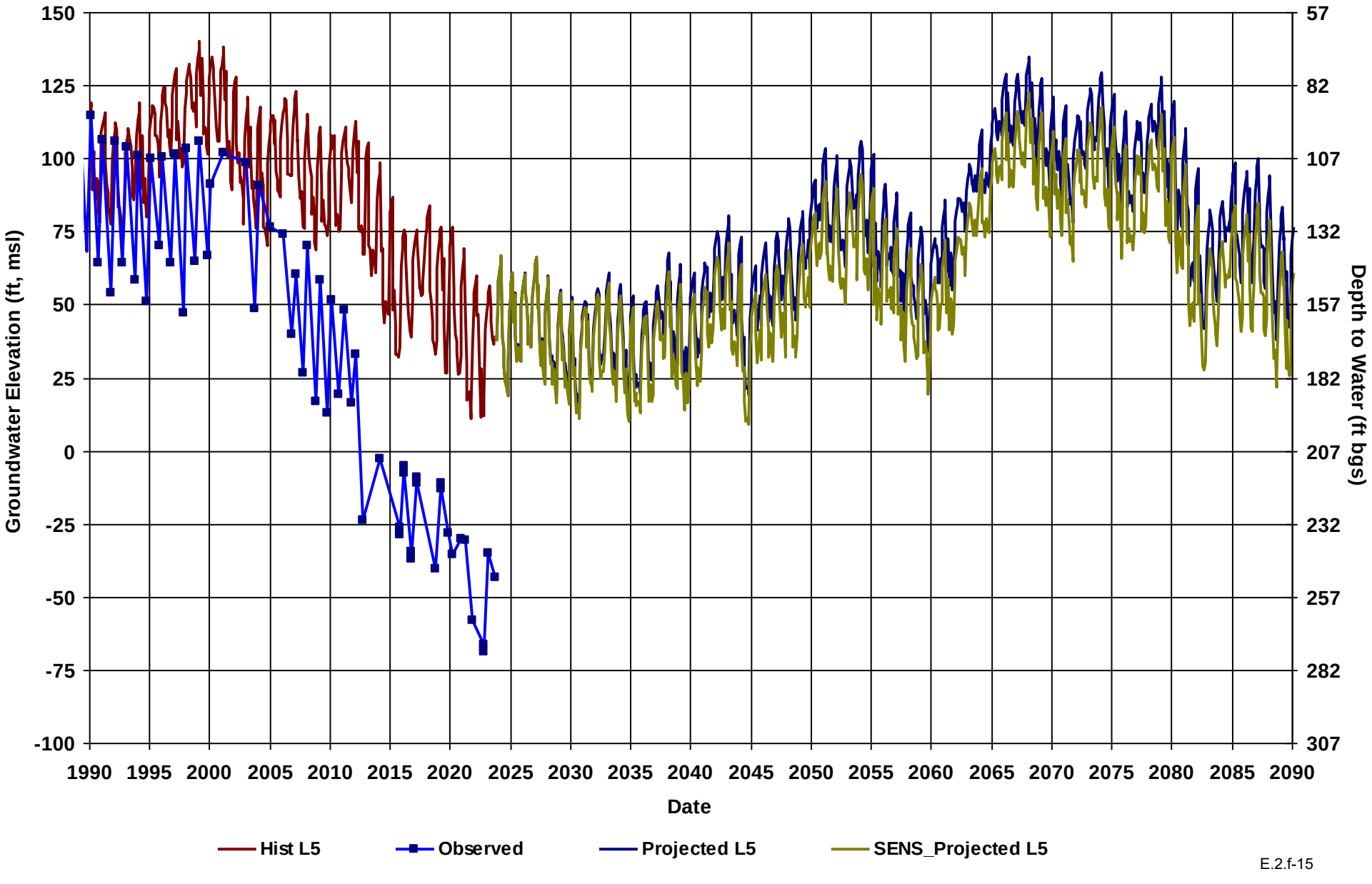
RMS ID: MID RMS-4
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 259

Total Depth (ft): 698
Perf Top (ft): 320
Perf Bottom (ft): 667
Top Model Layer: 5
Bottom Model Layer: 5



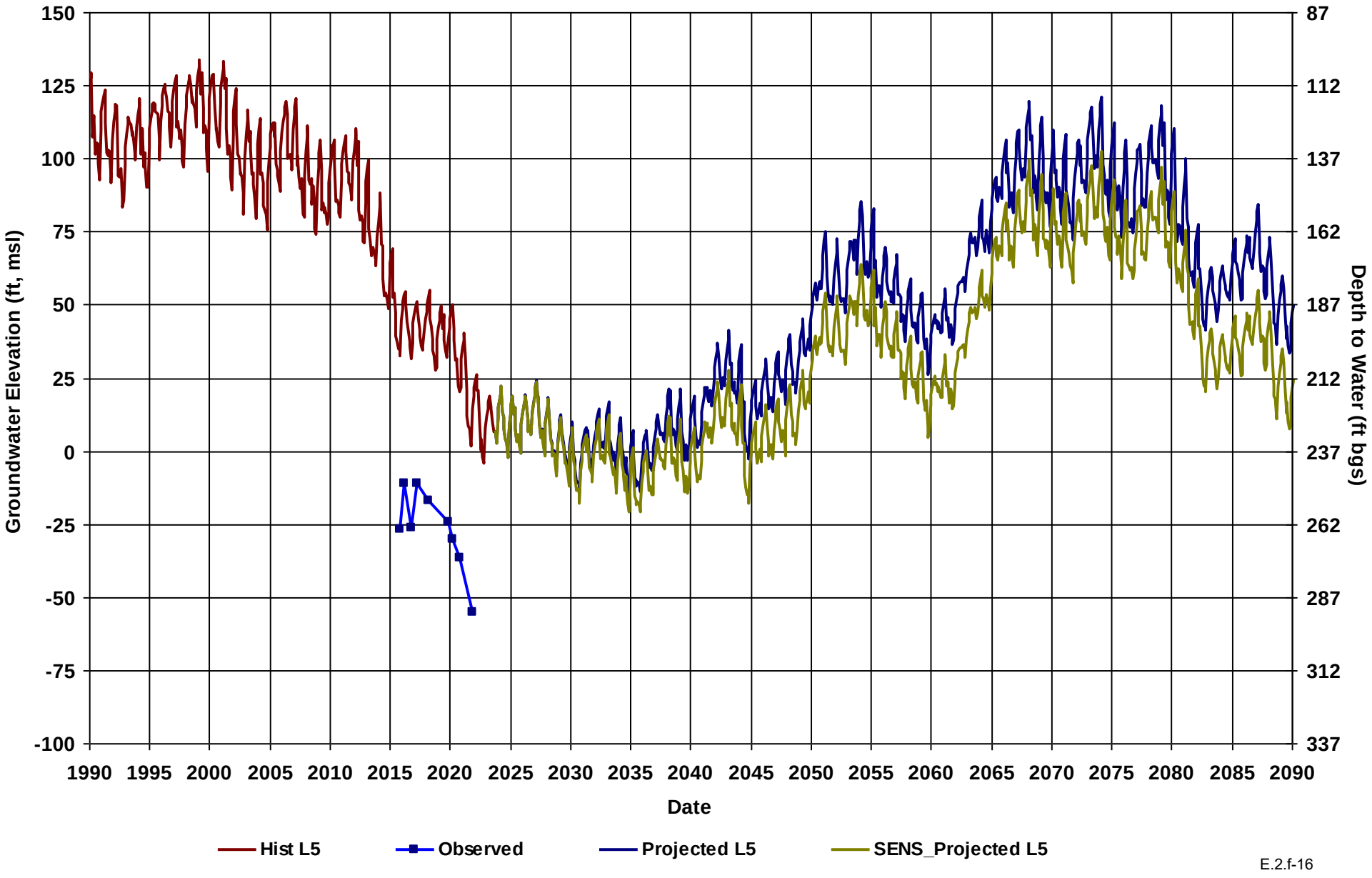
RMS ID: MID RMS-5
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 239

Total Depth (ft): 570
Perf Top (ft): 270
Perf Bottom (ft): 570
Top Model Layer: 5
Bottom Model Layer: 5



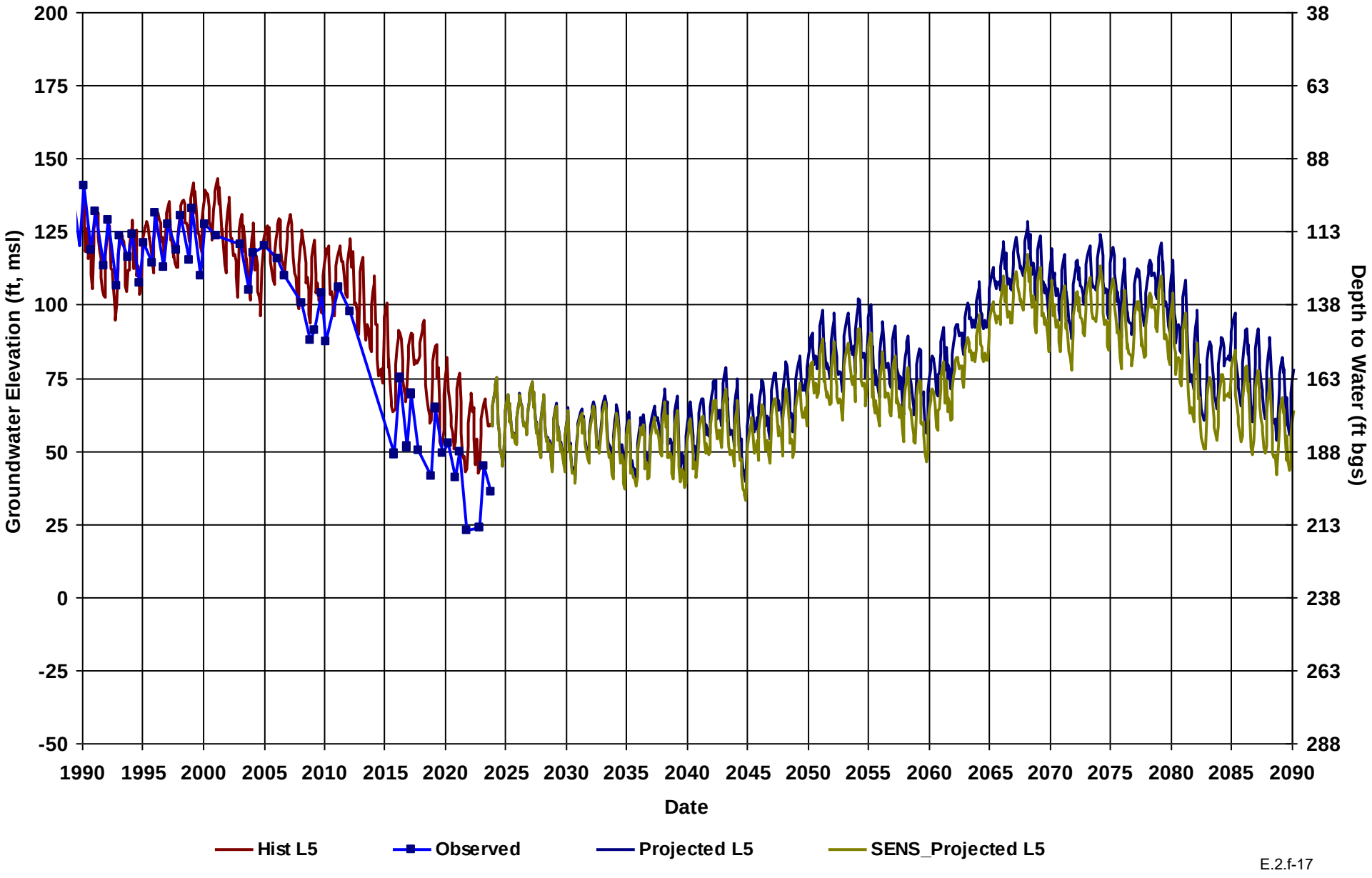
RMS ID: MID RMS-6
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 237

Total Depth (ft): 680
Perf Top (ft): 320
Perf Bottom (ft): 680
Top Model Layer: 5
Bottom Model Layer: 5



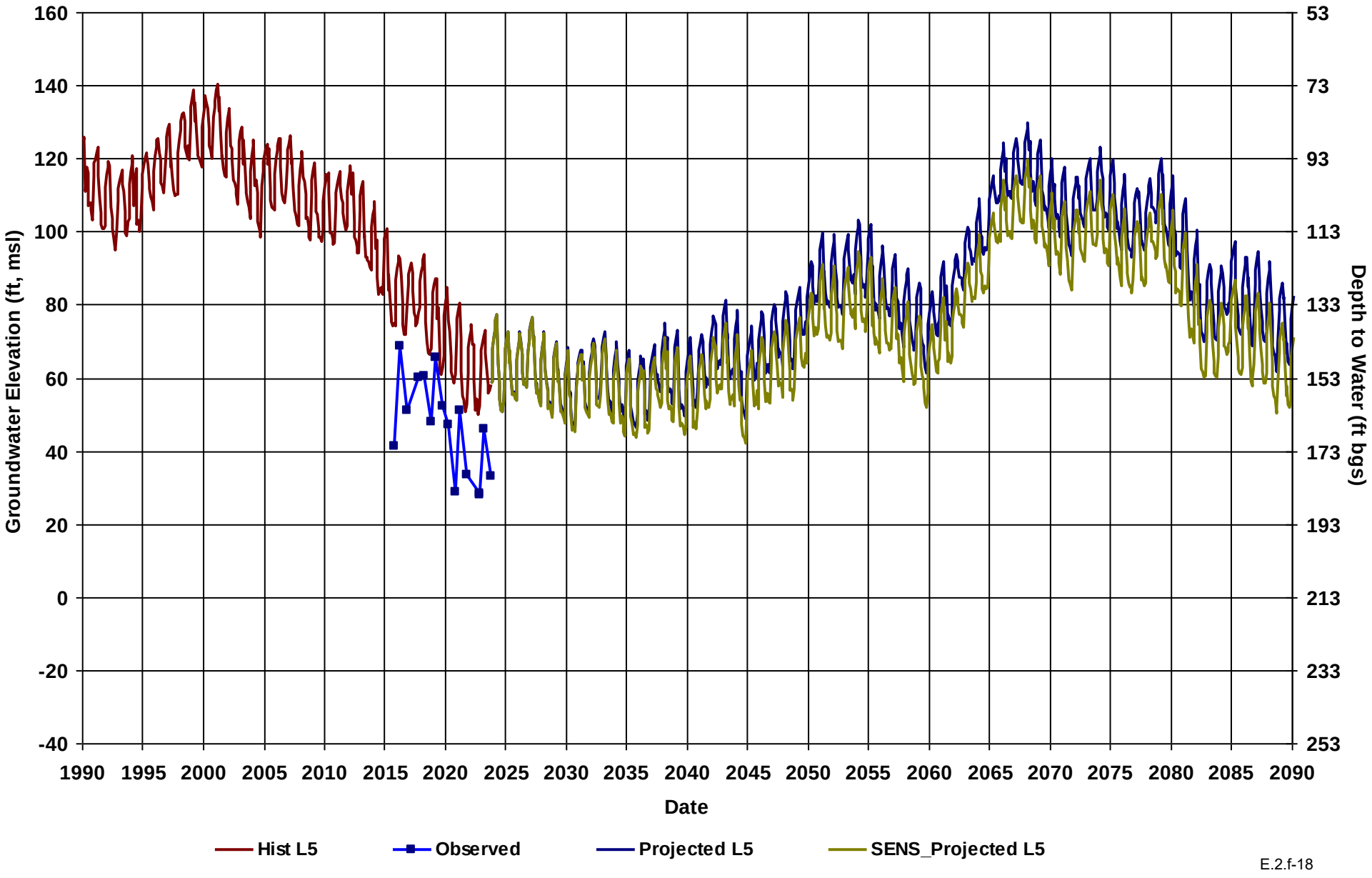
RMS ID: MID RMS-7
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 238

Total Depth (ft): 656
Perf Top (ft): 290
Perf Bottom (ft): 635
Top Model Layer: 5
Bottom Model Layer: 5



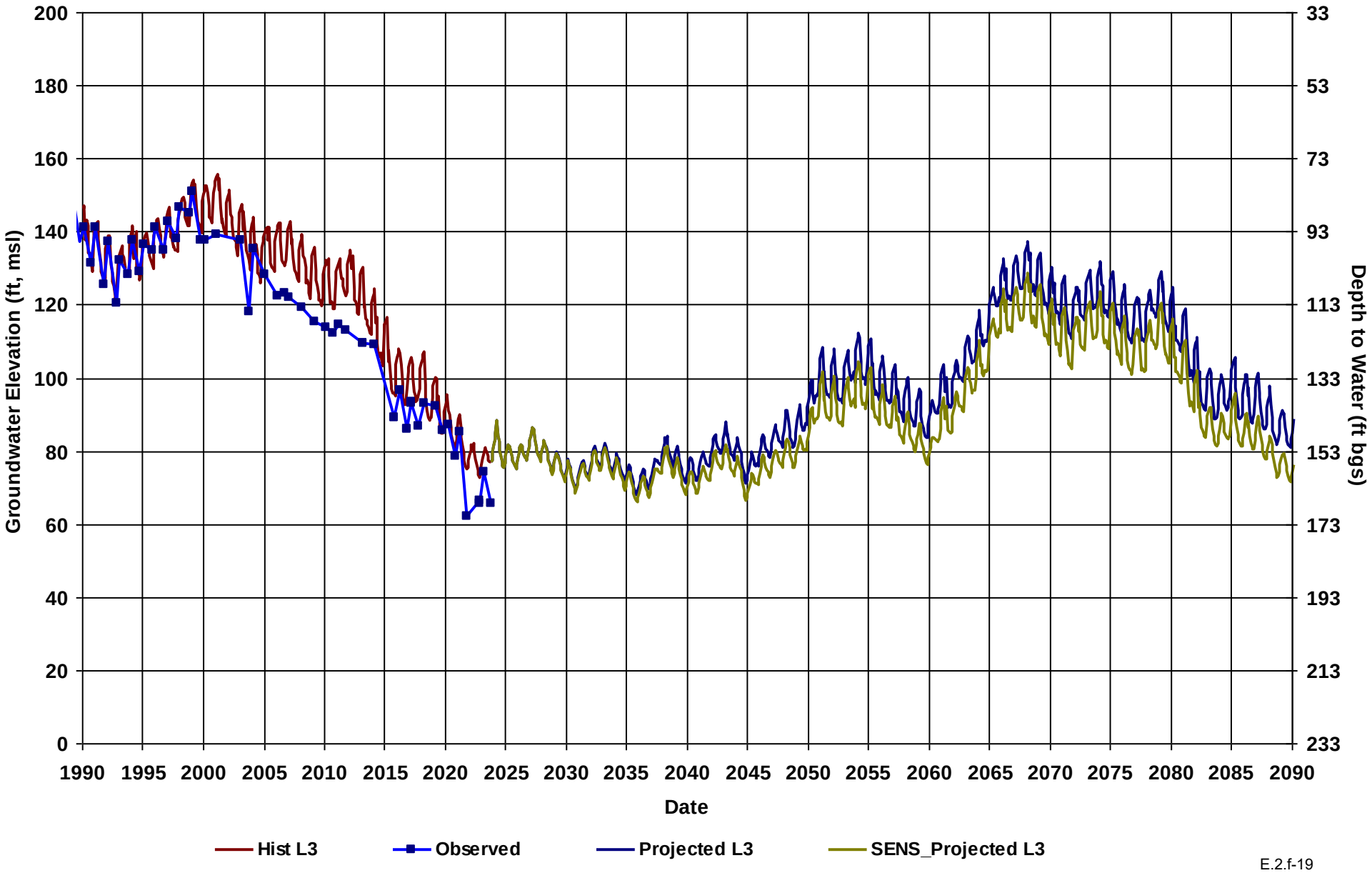
RMS ID: MID RMS-10
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 213

Total Depth (ft): 615
Perf Top (ft): 315
Perf Bottom (ft): 615
Top Model Layer: 5
Bottom Model Layer: 5



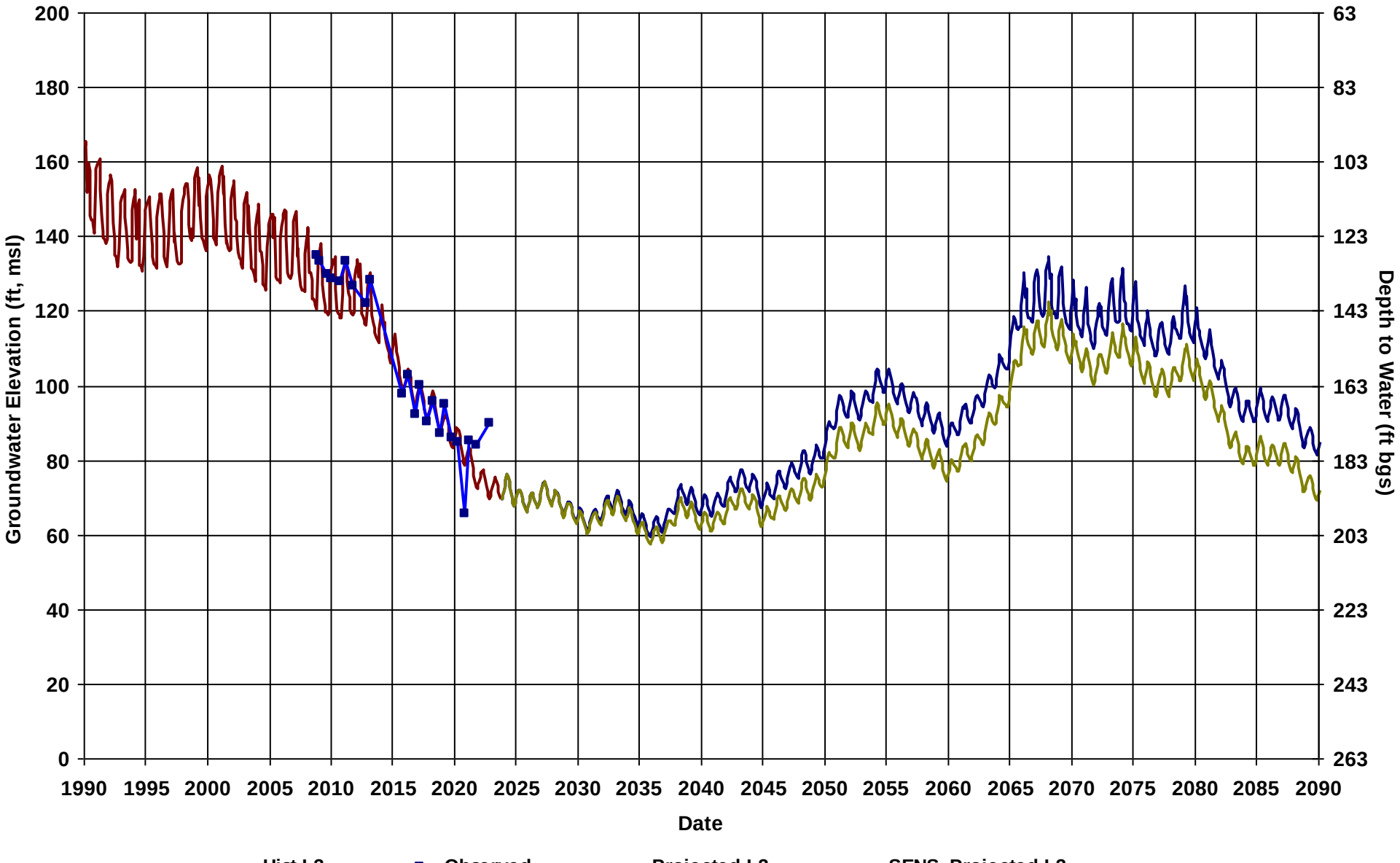
RMS ID: MID RMS-11
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 315
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



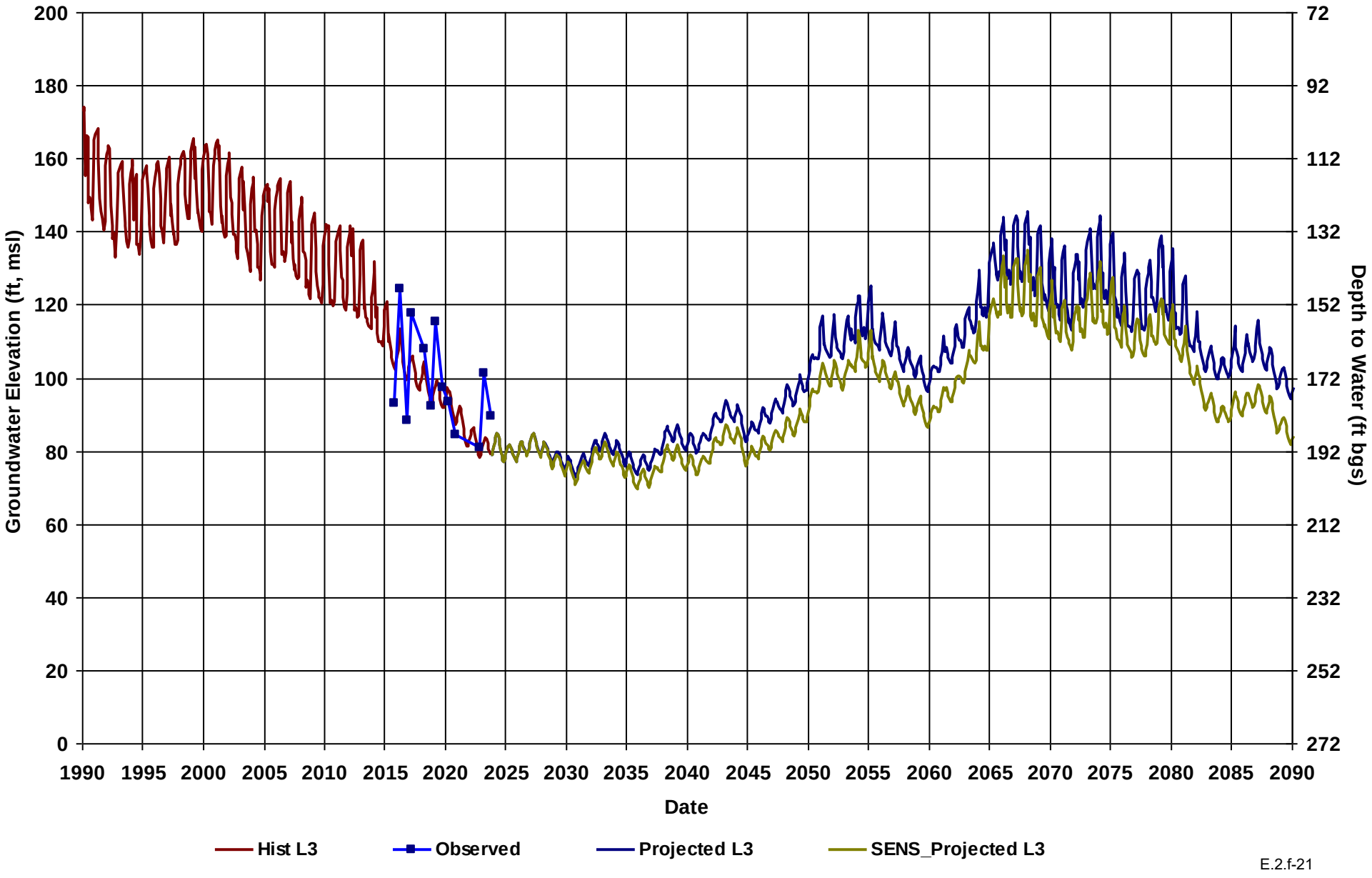
RMS ID: MID RMS-12
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 263

Total Depth (ft): 176
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



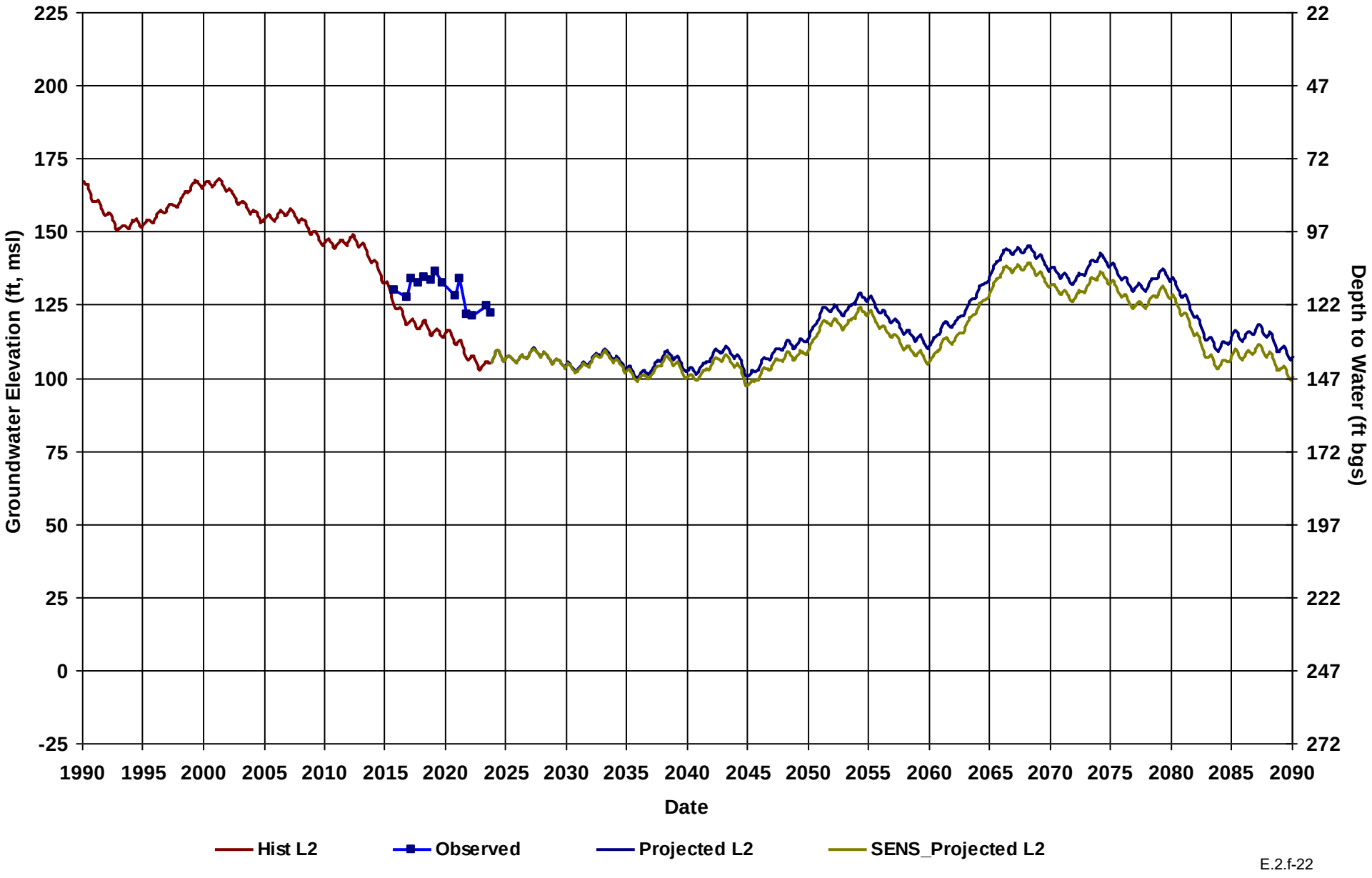
RMS ID: MID RMS-13
Depth Zone: Composite
Subbasin: Madera
GSE (ft, msl): 272

Total Depth (ft): 600
Perf Top (ft): 228
Perf Bottom (ft): 552
Top Model Layer: 3
Bottom Model Layer: 3



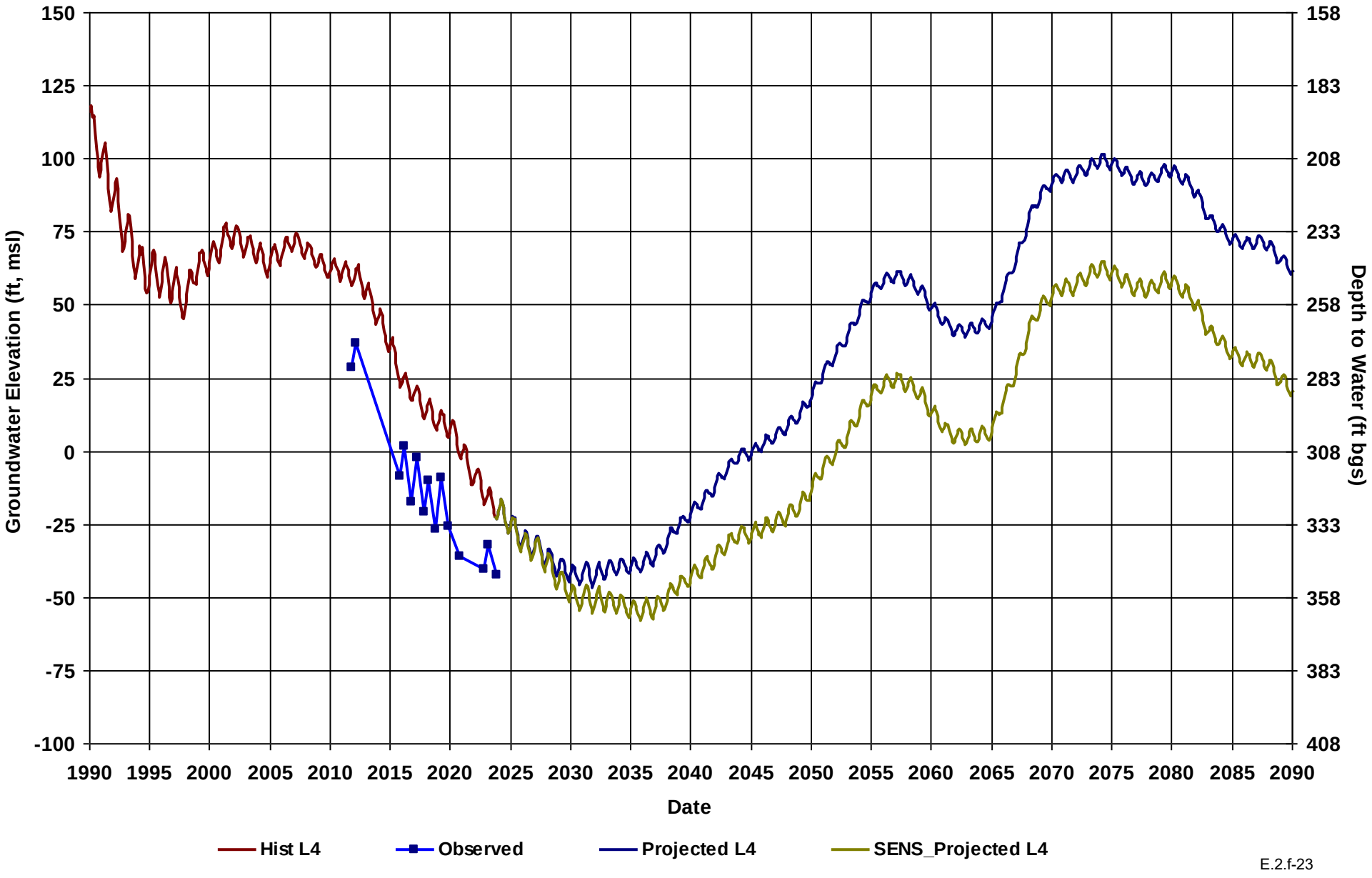
RMS ID: MID RMS-15
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 247

Total Depth (ft): 502
Perf Top (ft): 160
Perf Bottom (ft): 200
Top Model Layer: 2
Bottom Model Layer: 2



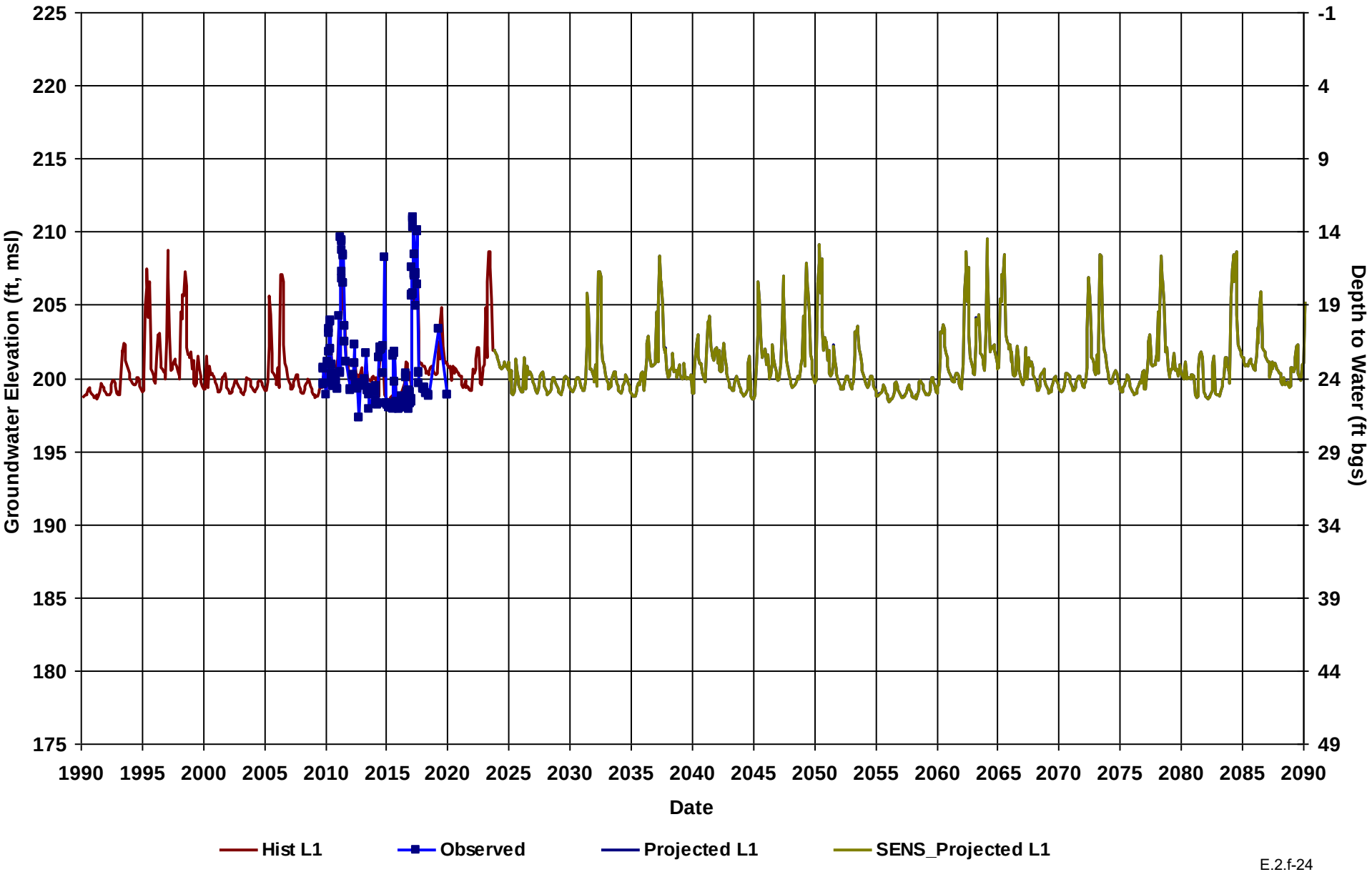
RMS ID: MID RMS-16
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 340

Total Depth (ft): 452
Perf Top (ft): 348
Perf Bottom (ft): 388
Top Model Layer: 4
Bottom Model Layer: 4



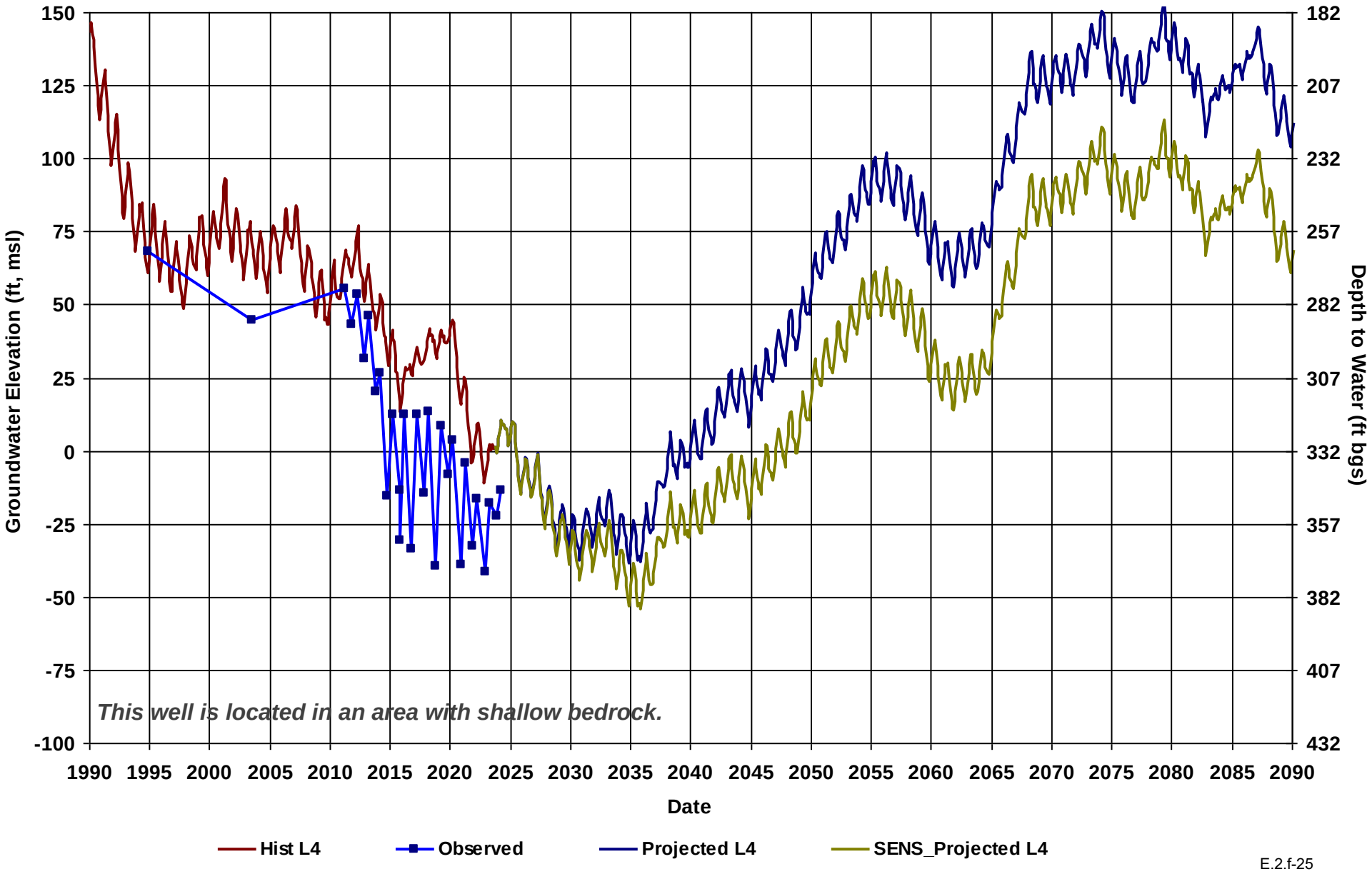
RMS ID: MID RMS-17
Depth Zone: Shallow
Subbasin: Madera
GSE (ft, msl): 224

Total Depth (ft): 47
Perf Top (ft): 26
Perf Bottom (ft): 46
Top Model Layer: 1
Bottom Model Layer: 1



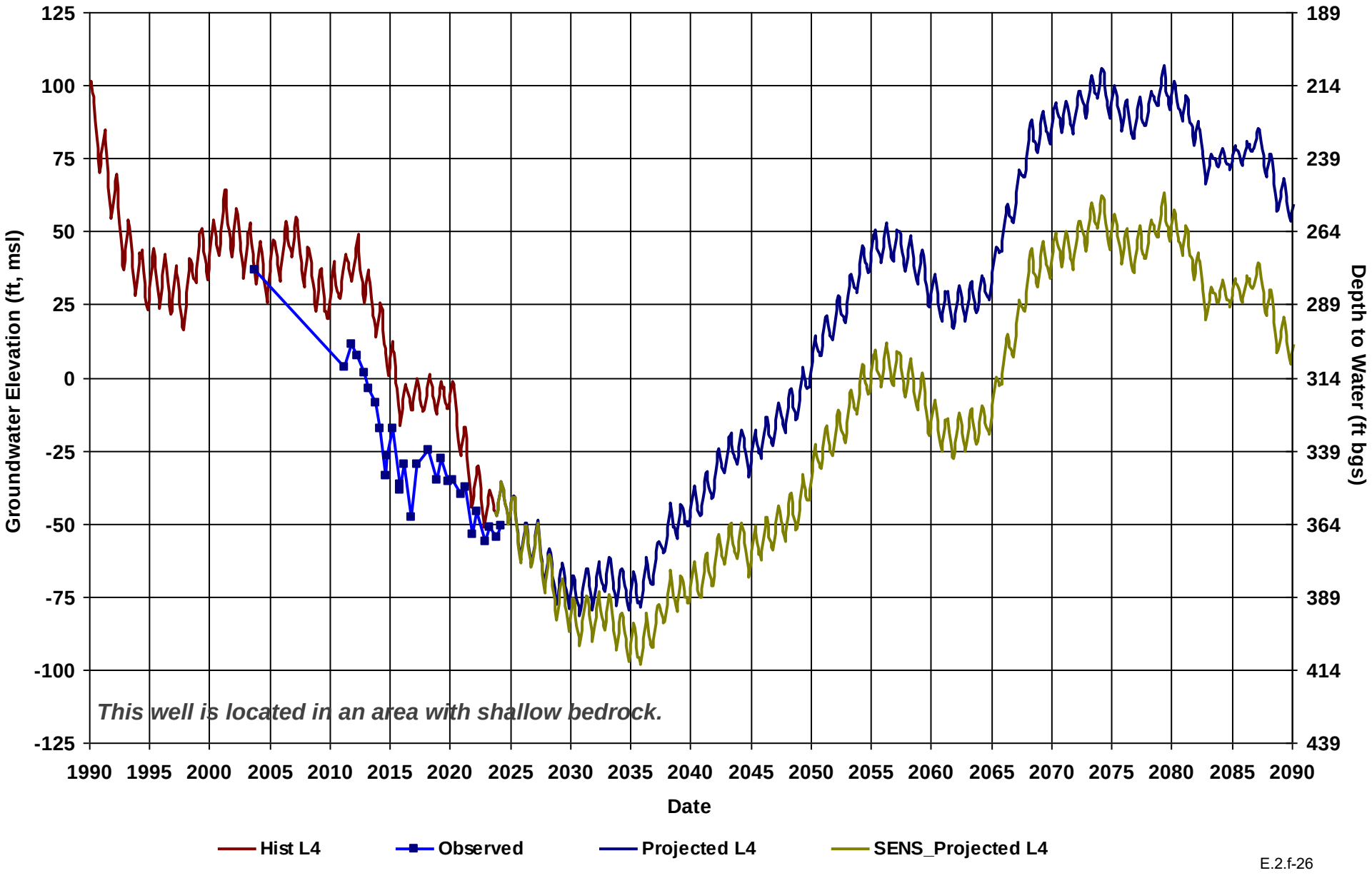
RMS ID: MWD RMS-1
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 504
Perf Top (ft): 200
Perf Bottom (ft): 500
Top Model Layer: 4
Bottom Model Layer: 4



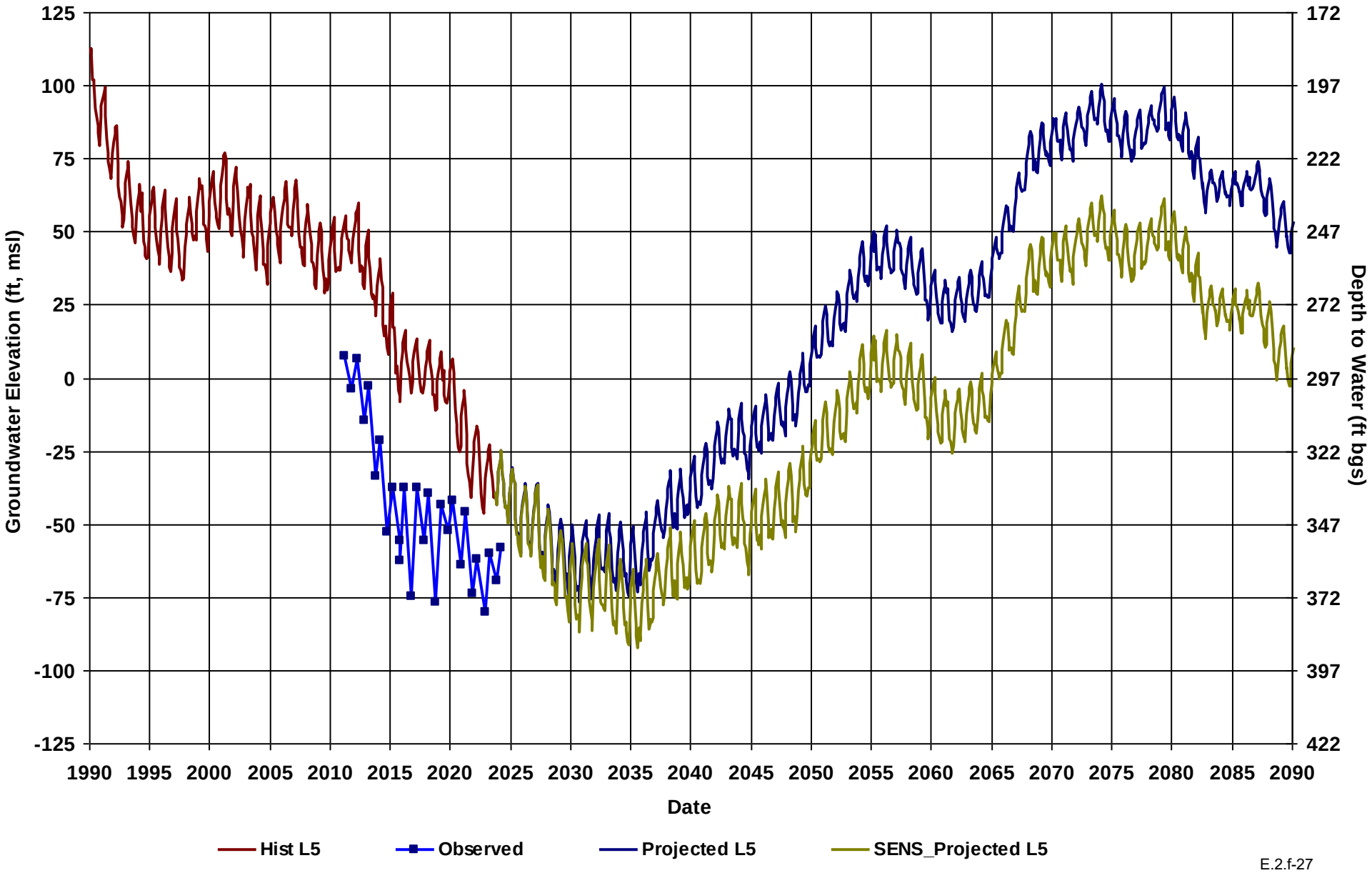
RMS ID: MWD RMS-2
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 365

Total Depth (ft): 537
Perf Top (ft): 200
Perf Bottom (ft): 537
Top Model Layer: 4
Bottom Model Layer: 4



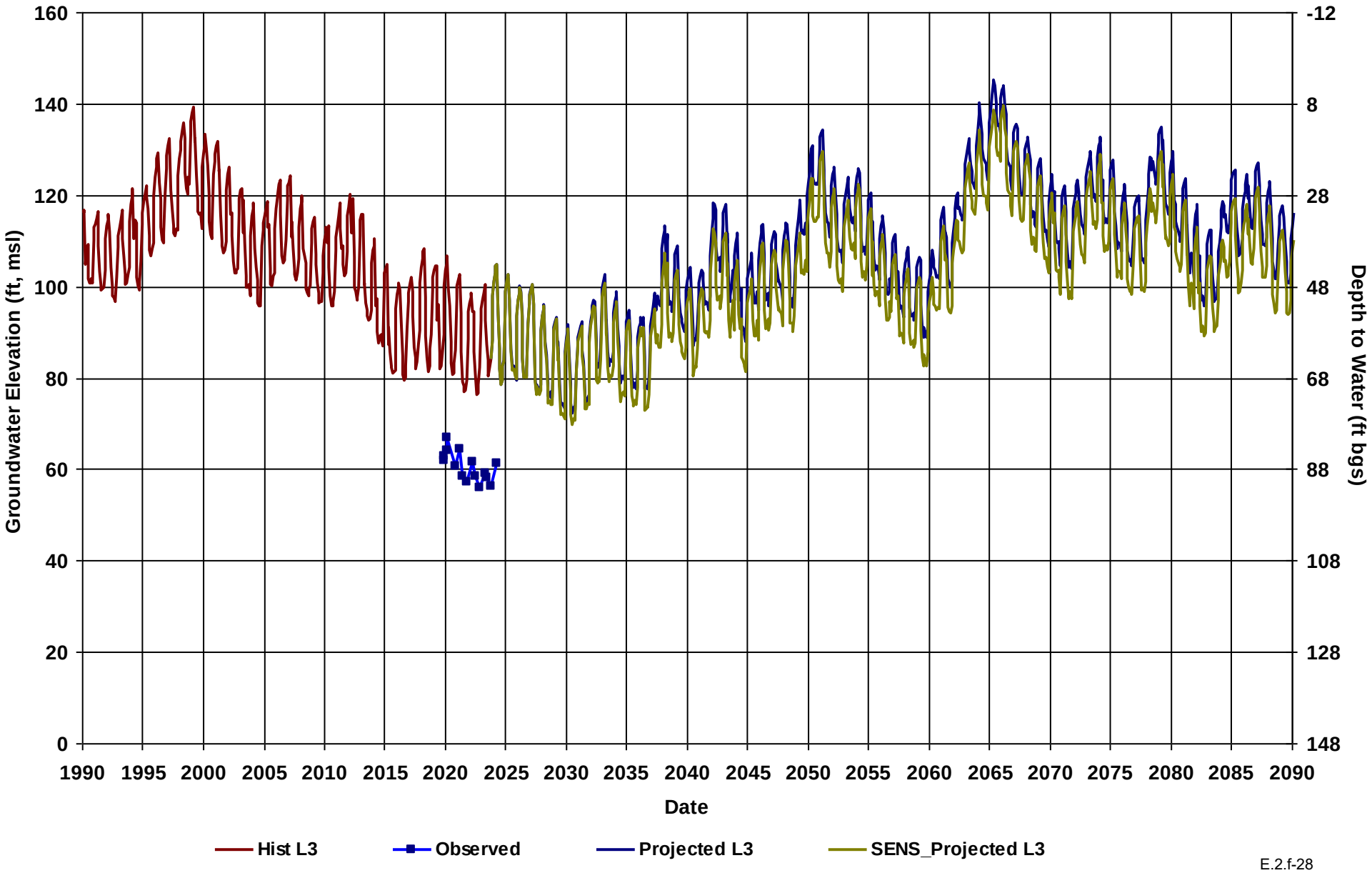
RMS ID: MWD RMS-3
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 358

Total Depth (ft): 800
Perf Top (ft): 380
Perf Bottom (ft): 800
Top Model Layer: 5
Bottom Model Layer: 5



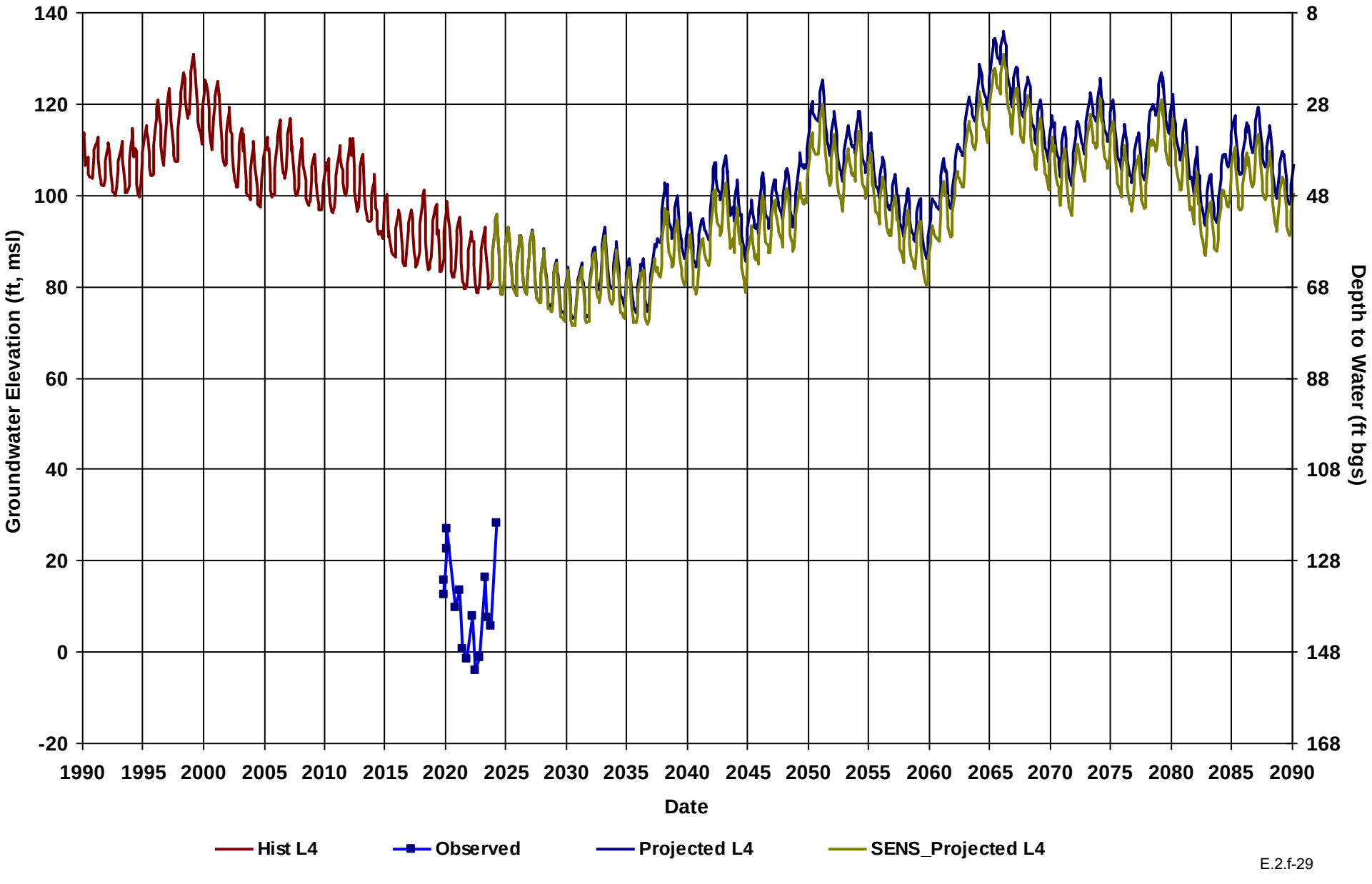
RMS ID: MSB03B
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 295
Perf Top (ft): 215
Perf Bottom (ft): 285
Top Model Layer: 3
Bottom Model Layer: 3



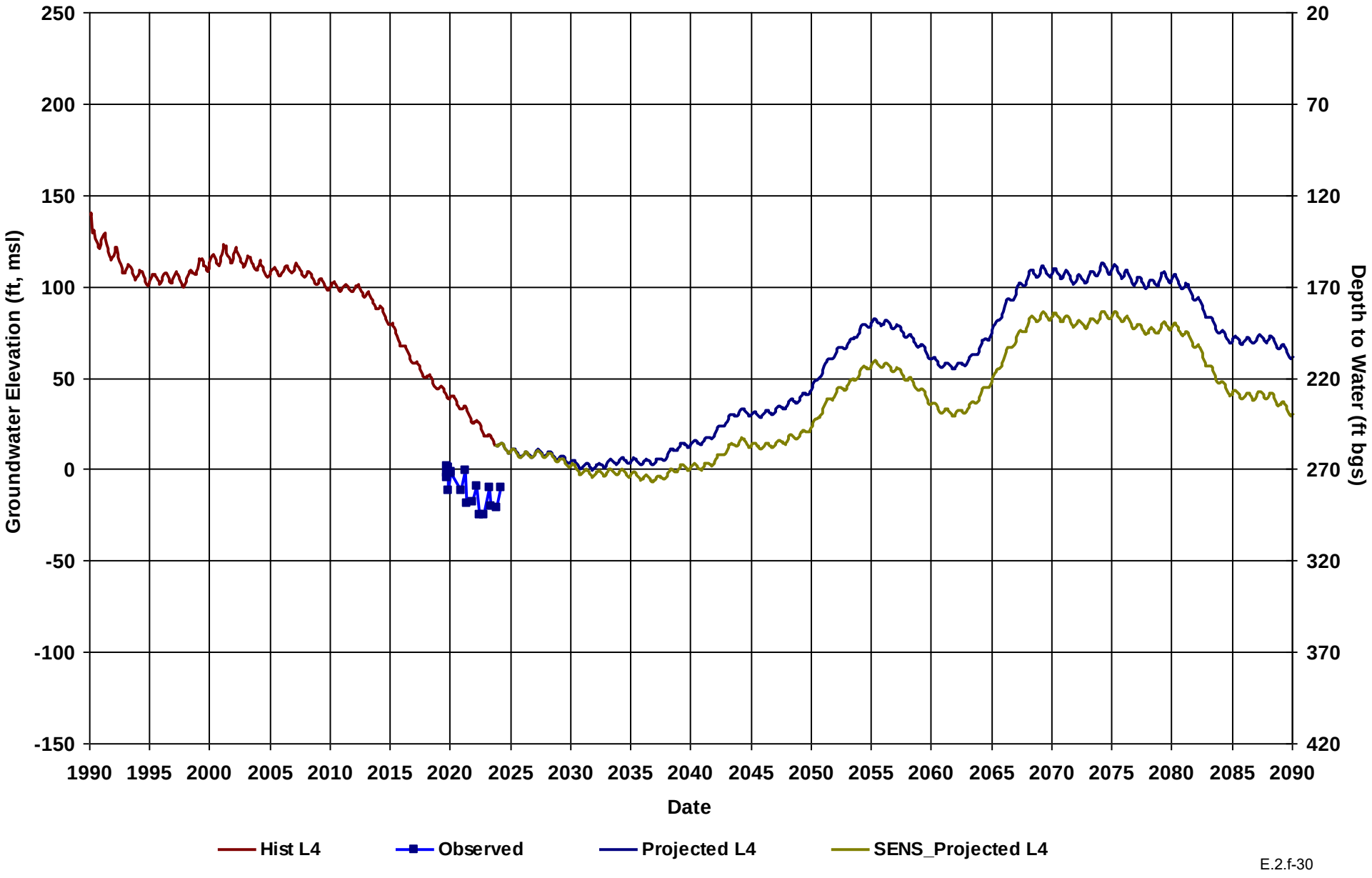
RMS ID: MSB03C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 148

Total Depth (ft): 430
Perf Top (ft): 355
Perf Bottom (ft): 420
Top Model Layer: 4
Bottom Model Layer: 4



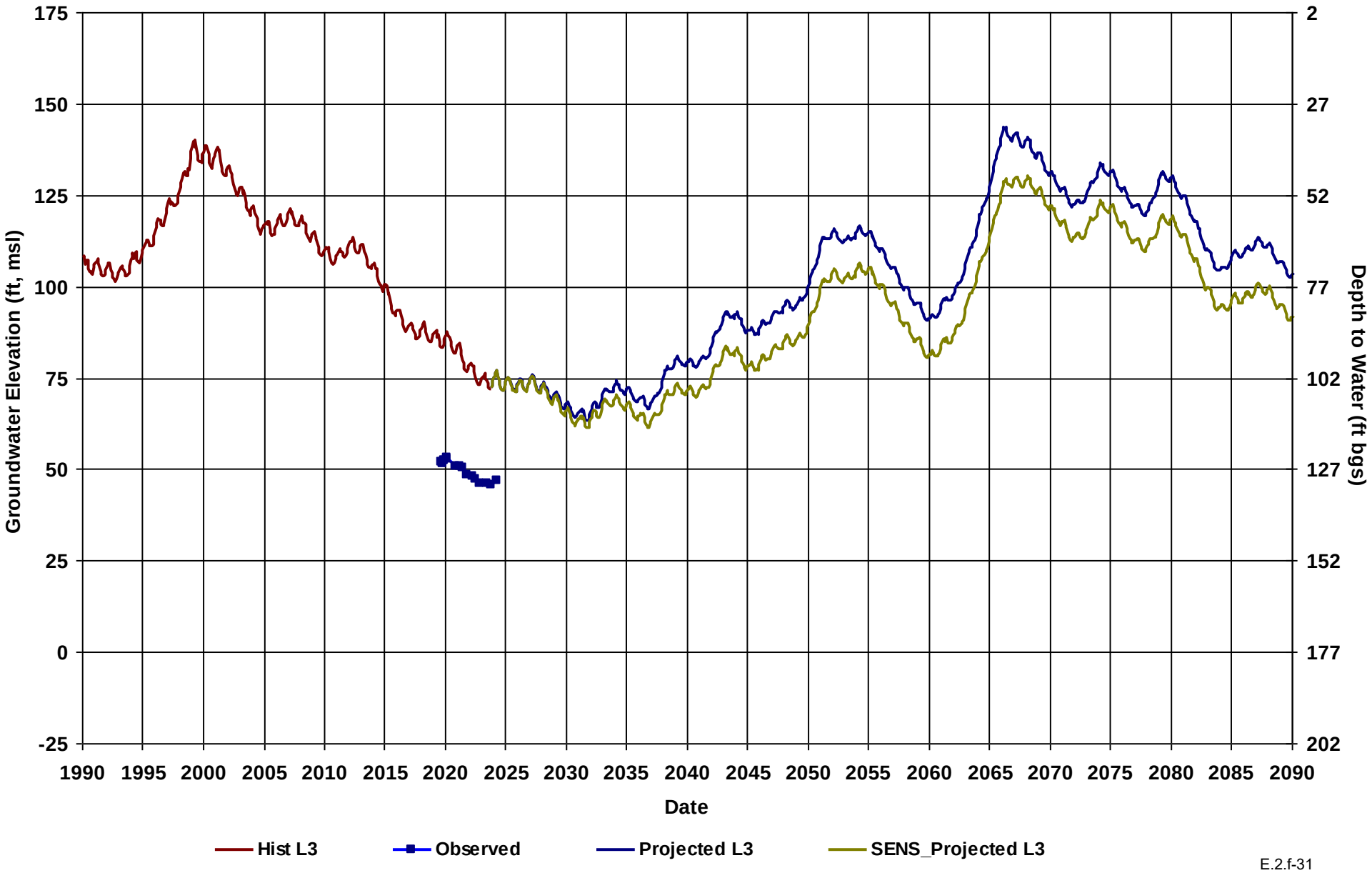
RMS ID: MSB04B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 270

Total Depth (ft): 695
Perf Top (ft): 530
Perf Bottom (ft): 685
Top Model Layer: 4
Bottom Model Layer: 4



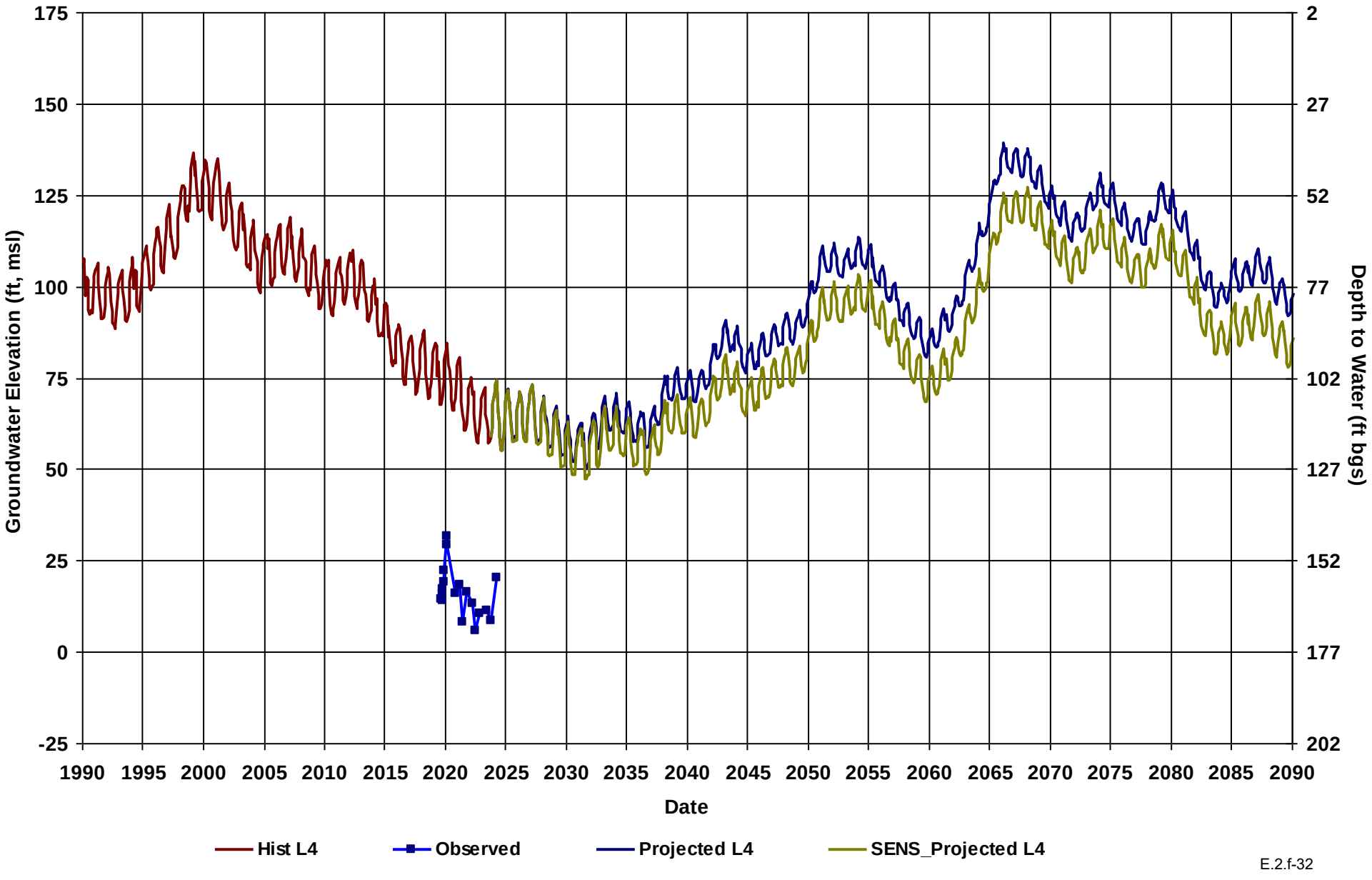
RMS ID: MSB05A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 210
Perf Top (ft): 140
Perf Bottom (ft): 200
Top Model Layer: 3
Bottom Model Layer: 3



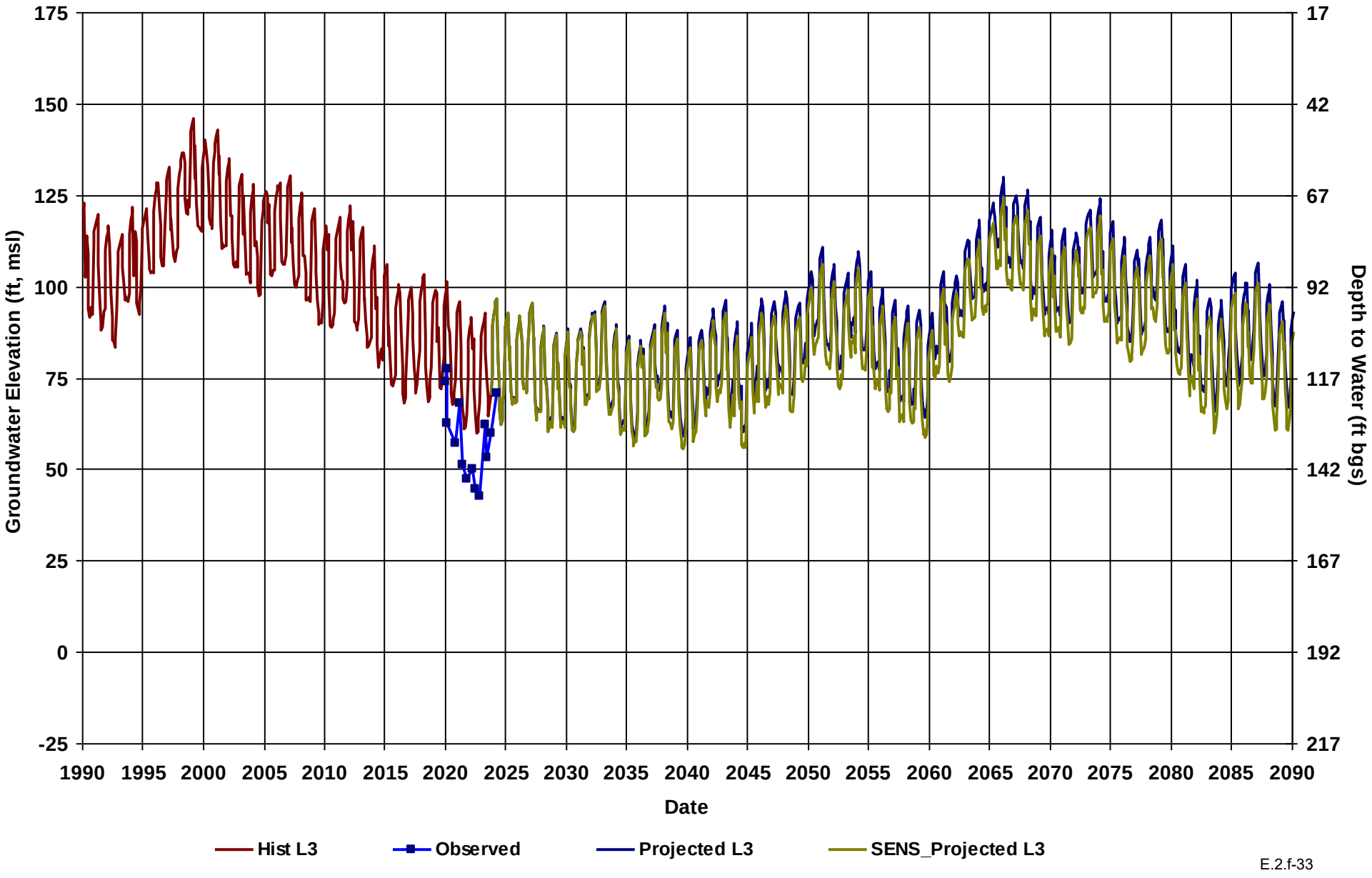
RMS ID: MSB05B
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 177

Total Depth (ft): 375
Perf Top (ft): 240
Perf Bottom (ft): 365
Top Model Layer: 4
Bottom Model Layer: 4



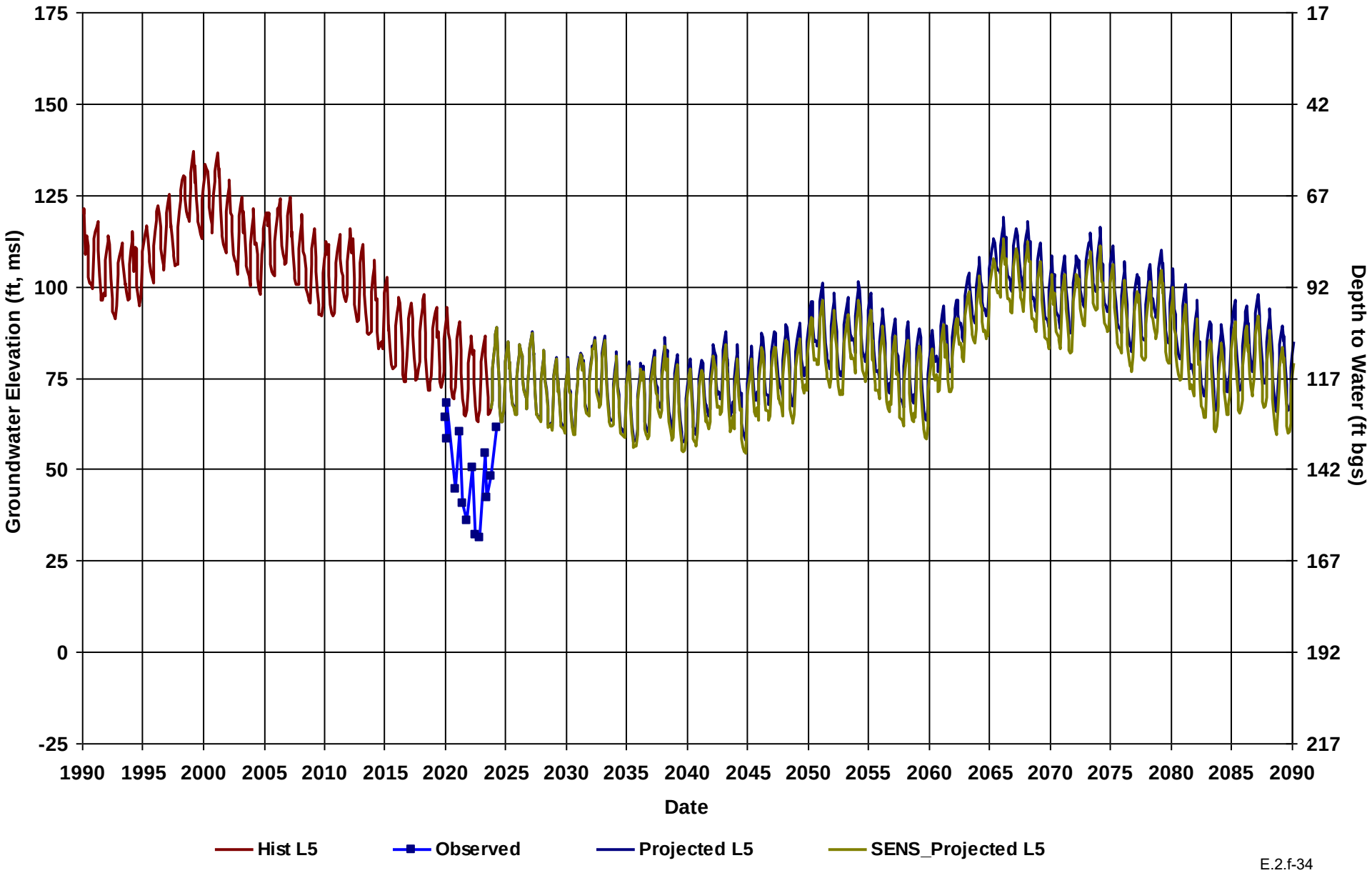
RMS ID: MSB06A
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 350
Perf Top (ft): 135
Perf Bottom (ft): 340
Top Model Layer: 3
Bottom Model Layer: 3



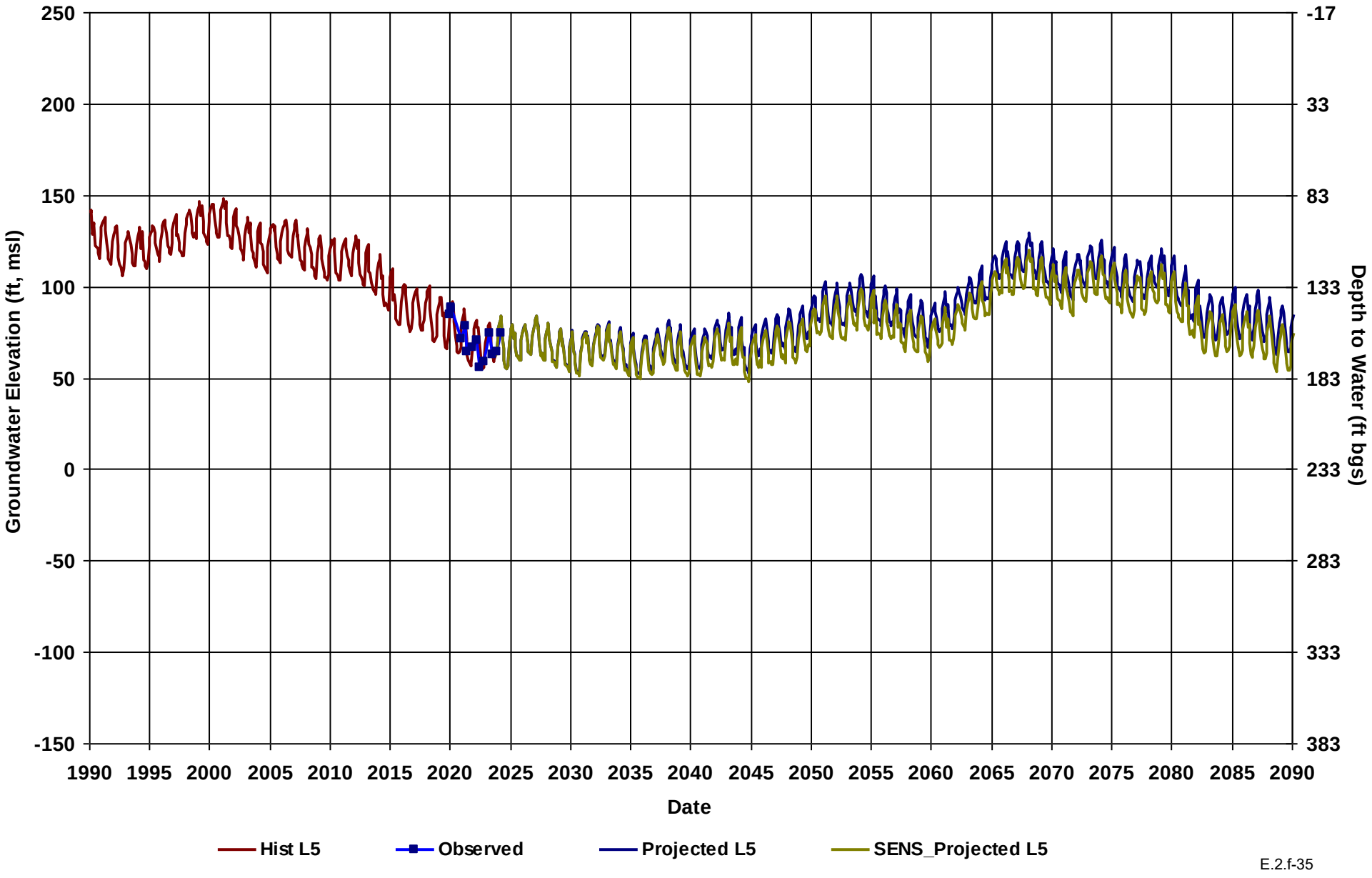
RMS ID: MSB06C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 192

Total Depth (ft): 715
Perf Top (ft): 630
Perf Bottom (ft): 705
Top Model Layer: 5
Bottom Model Layer: 5



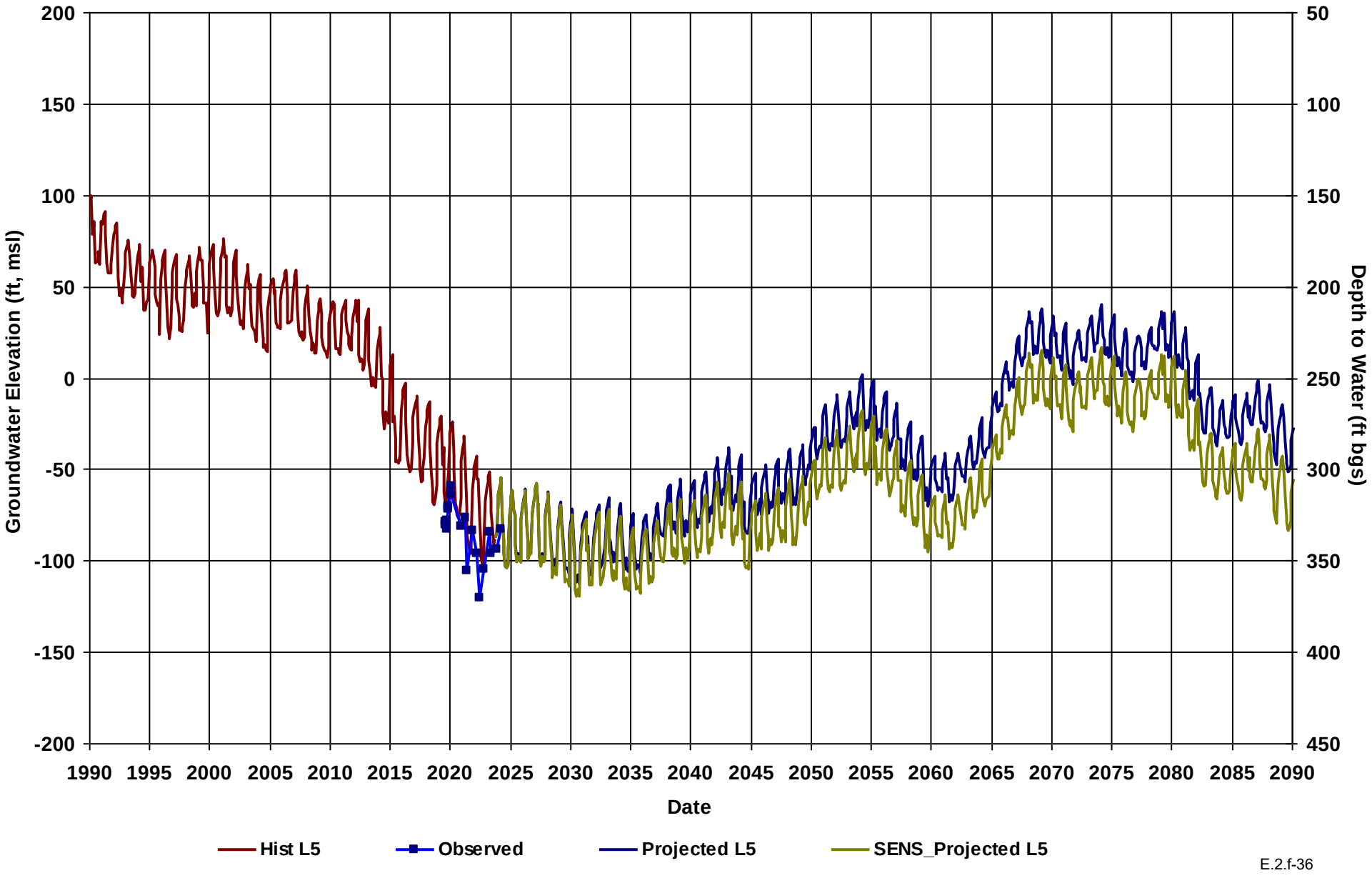
RMS ID: MSB09C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 233

Total Depth (ft): 955
Perf Top (ft): 880
Perf Bottom (ft): 945
Top Model Layer: 5
Bottom Model Layer: 5



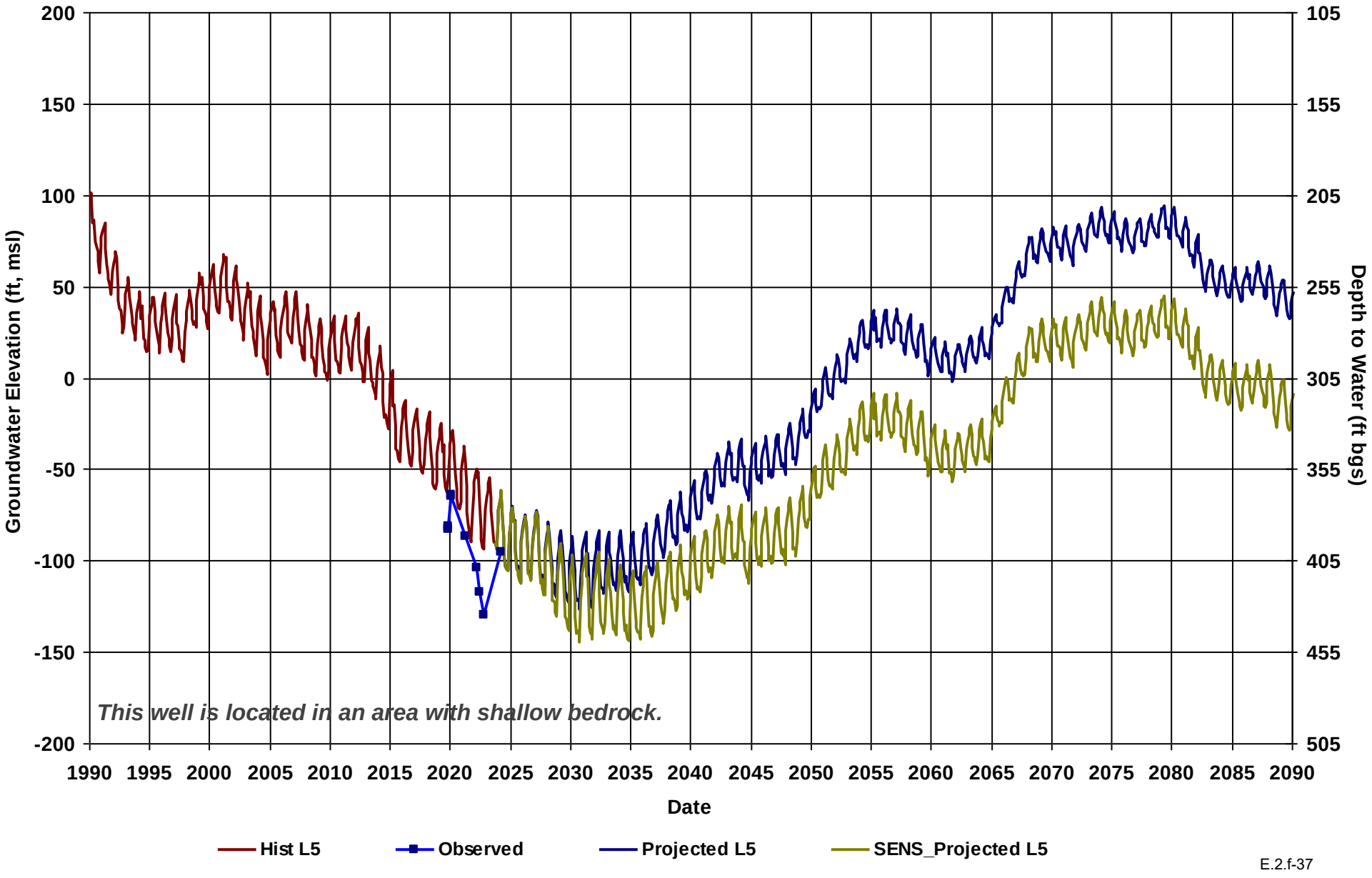
RMS ID: MSB10C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 250

Total Depth (ft): 880
Perf Top (ft): 790
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



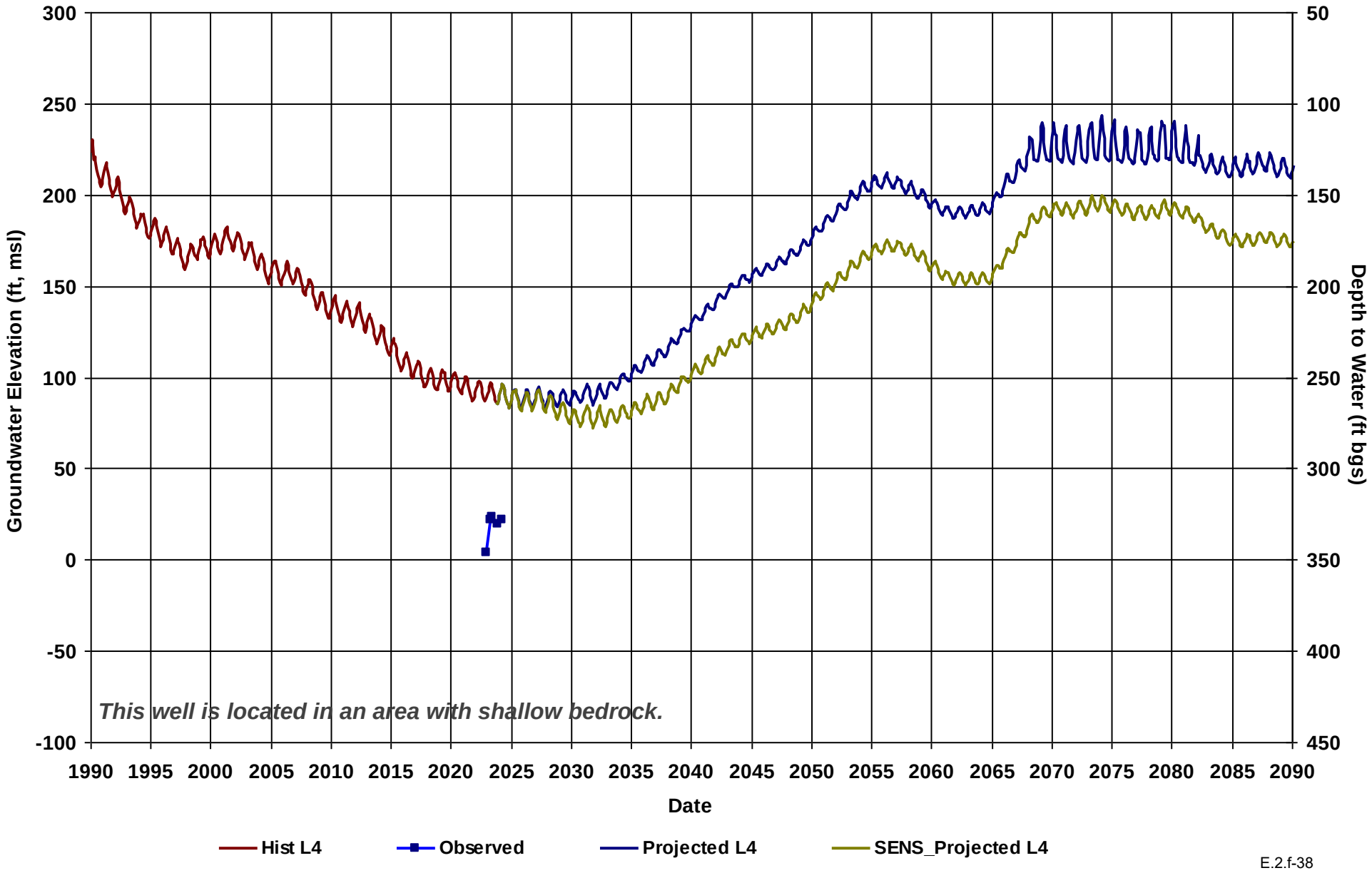
RMS ID: MSB11C
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 305

Total Depth (ft): 880
Perf Top (ft): 775
Perf Bottom (ft): 870
Top Model Layer: 5
Bottom Model Layer: 5



RMS ID: MSB12
Depth Zone: Lower
Subbasin: Madera
GSE (ft, msl): 350

Total Depth (ft): 465
Perf Top (ft): 355
Perf Bottom (ft): 465
Top Model Layer: 4
Bottom Model Layer: 4



APPENDIX F

Subsidence Hydrographs for RMS Stations

F.1 Chowchilla Subbasin RMS Groundwater Elevation Hydrographs

F.1.a Historical Scenario
F.1.b Projected with Projects Scenario
F.1.c Projected with Projects with Climate Change Scenario
F.1.d Projected (No Action) Scenario
F.1.e Projected (No Action) with Climate Change Scenario

F.2 Madera Subbasin RMS Groundwater Elevation Hydrographs

F.2.a Historical Scenario
F.2.b Projected with Projects Scenario
F.2.c Projected with Projects with Climate Change Scenario
F.2.d Projected (No Action) Scenario
F.2.e Projected (No Action) with Climate Change Scenario
F.2.f Sensitivity – Projected with Projects Scenario

LSCE

APPENDIX F.1

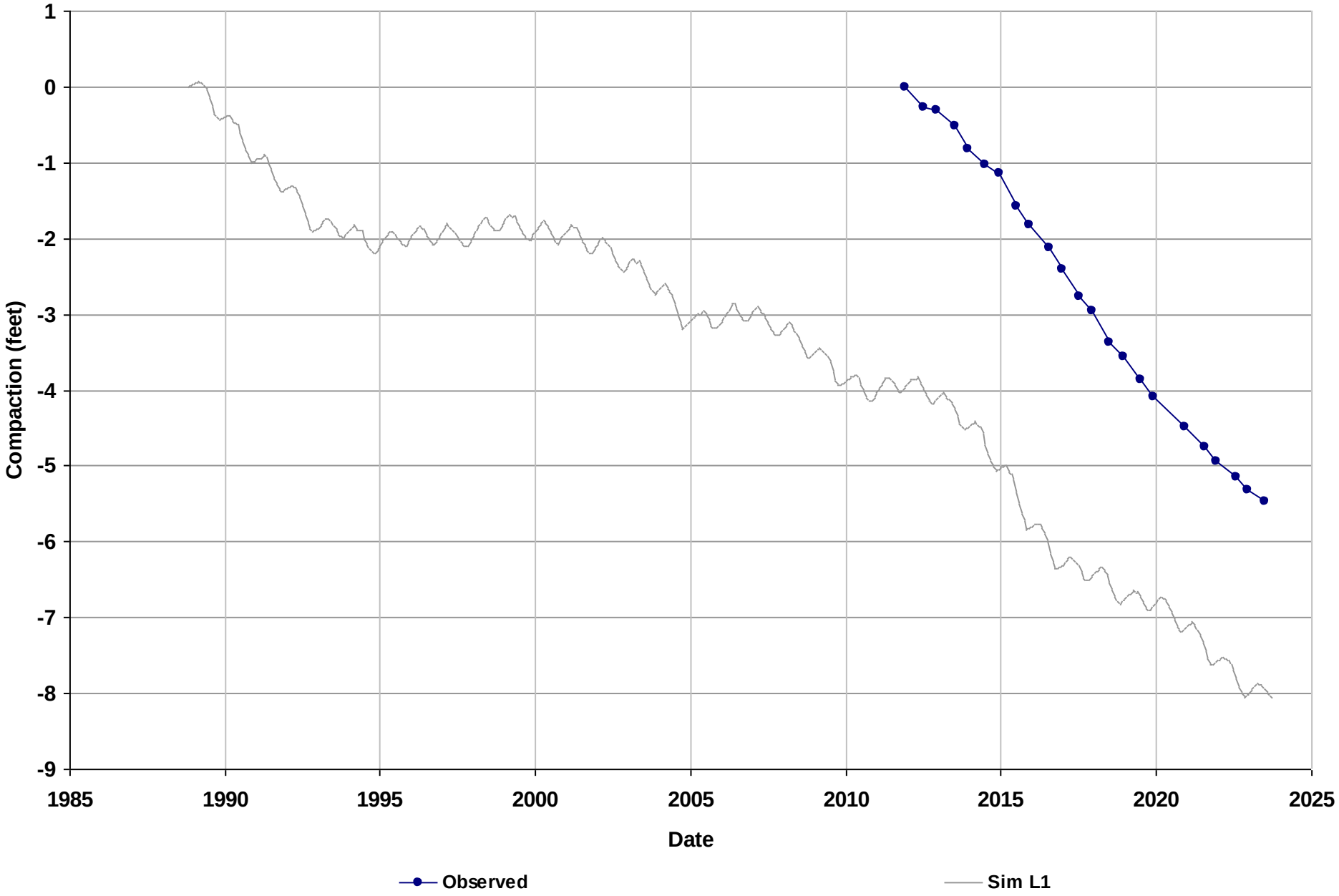
Chowchilla Subbasin Subsidence Hydrographs for RMS Stations

LSCE

APPENDIX F.1.a

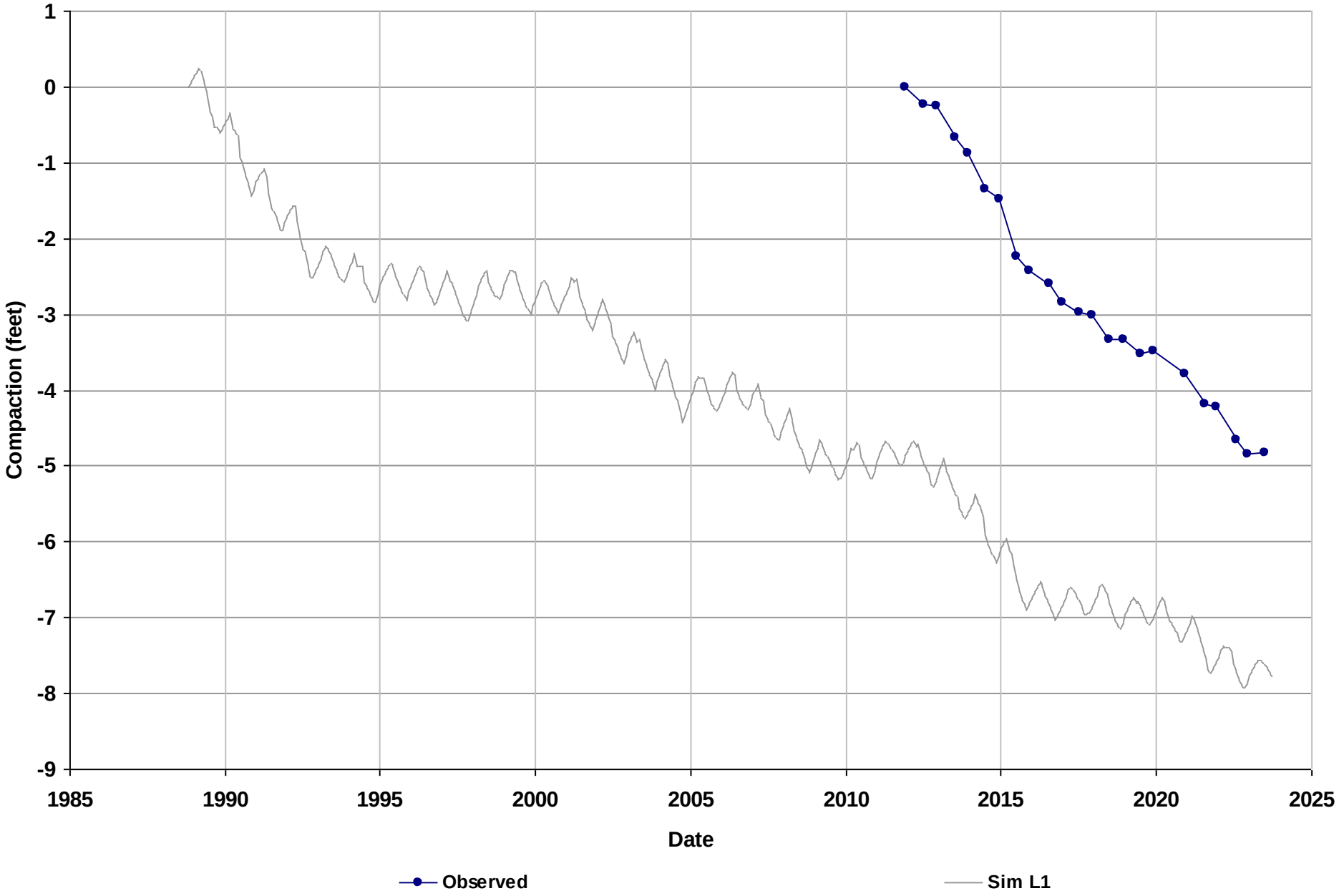
Chowchilla Subbasin Subsidence Hydrographs for RMS Stations - Historical Scenario

Station Name: SJRRP_123
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

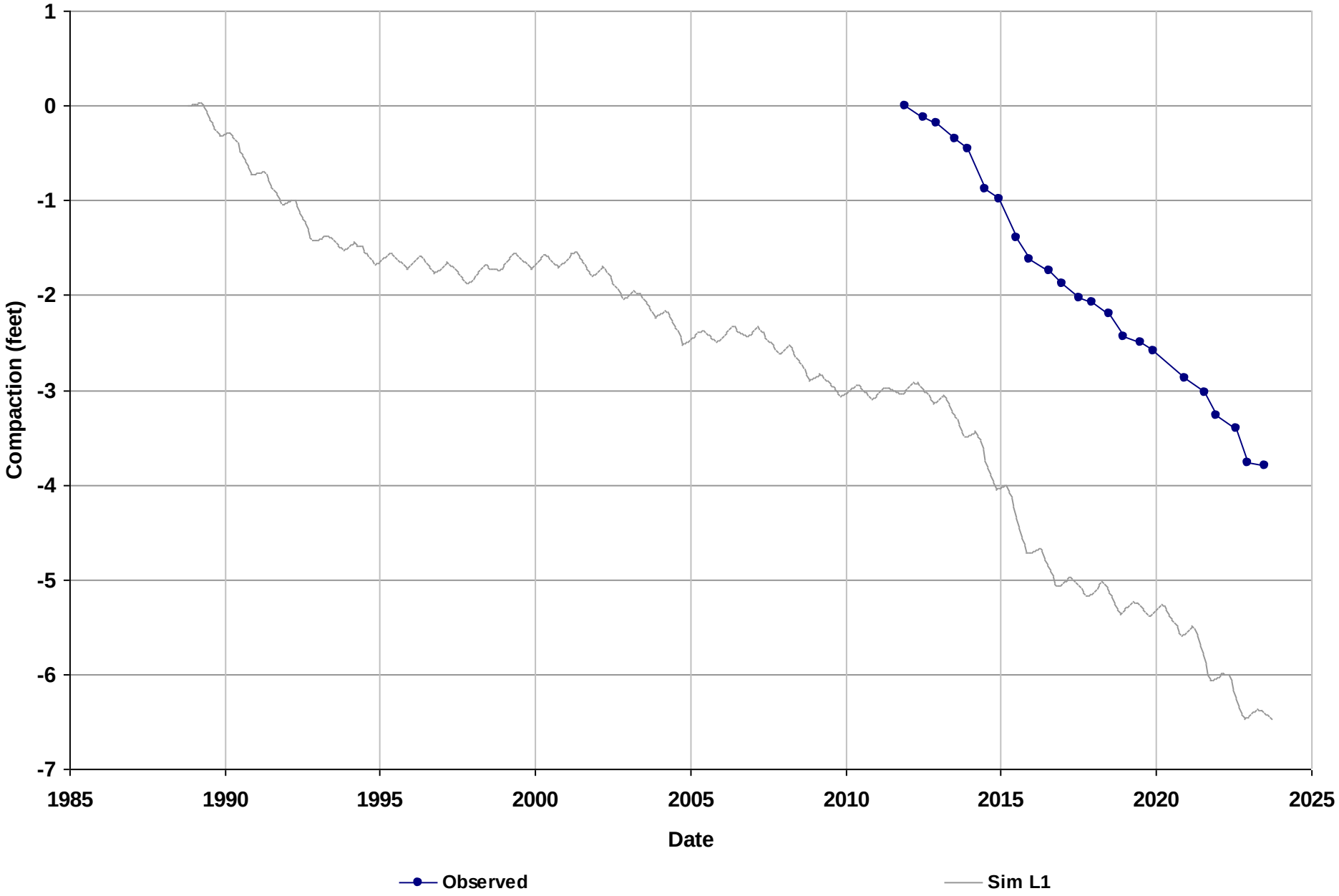


F.1.a-2

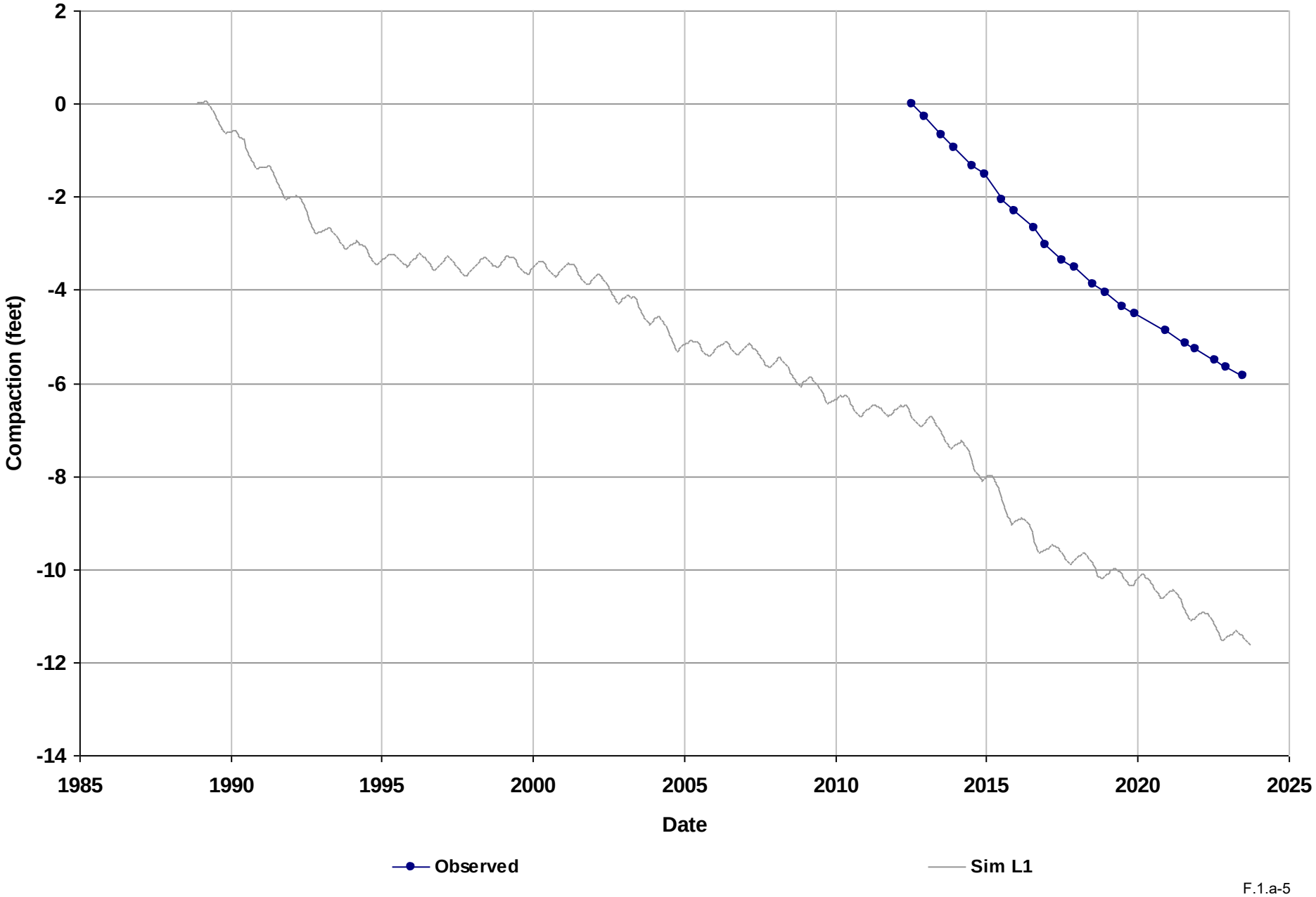
Station Name: SJRRP_124
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



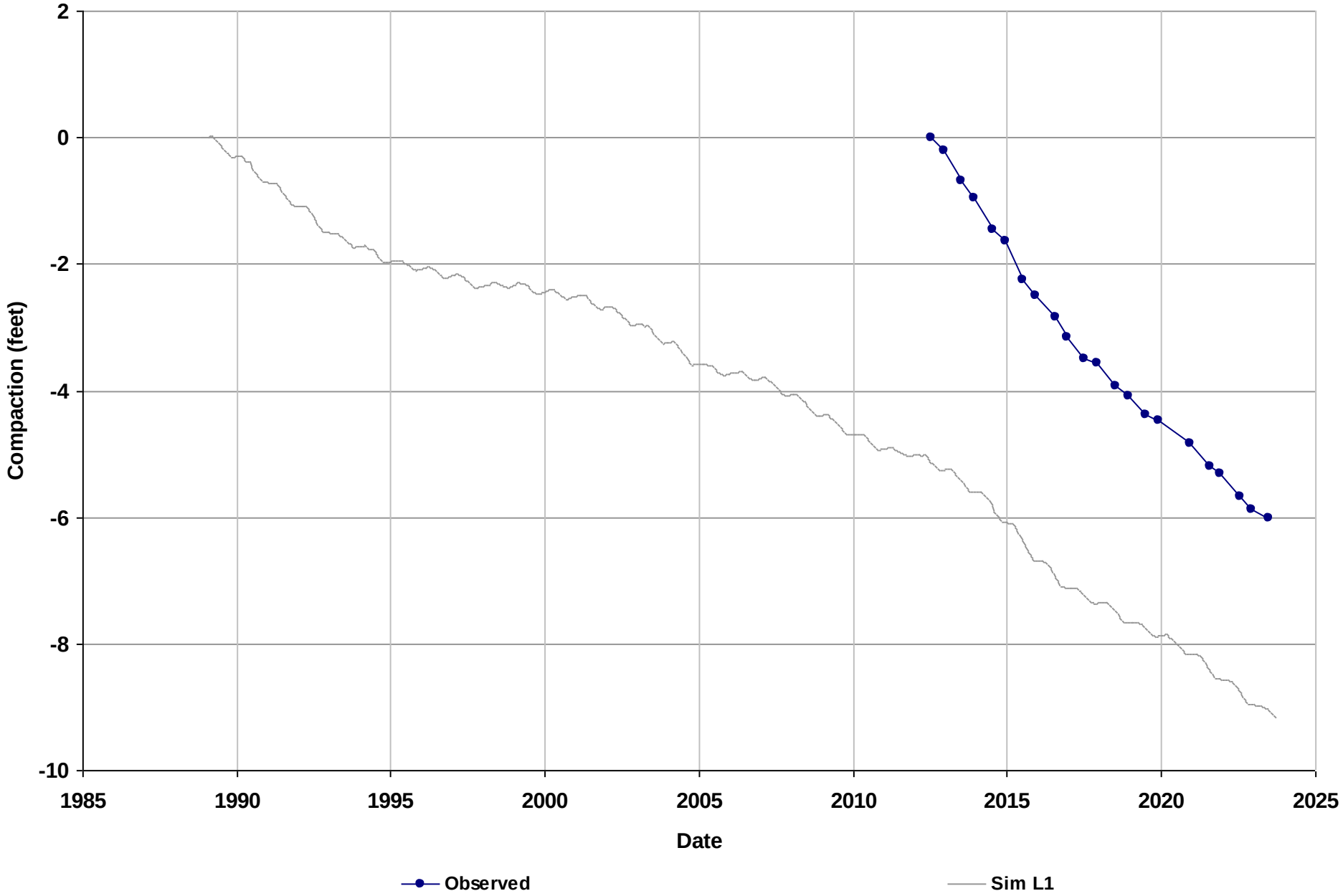
Station Name: SJRRP_135
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



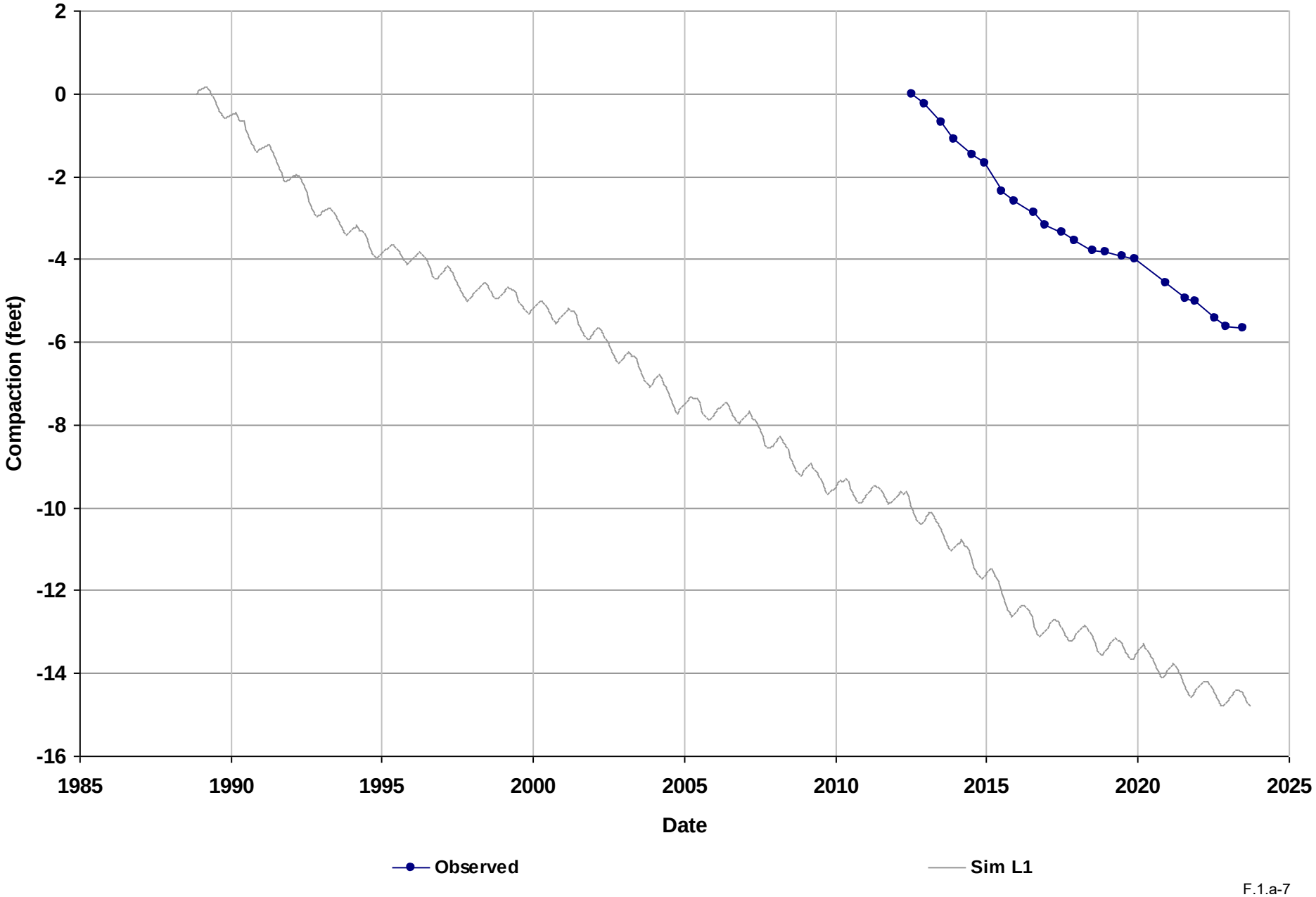
Station Name: SJRRP_1053R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



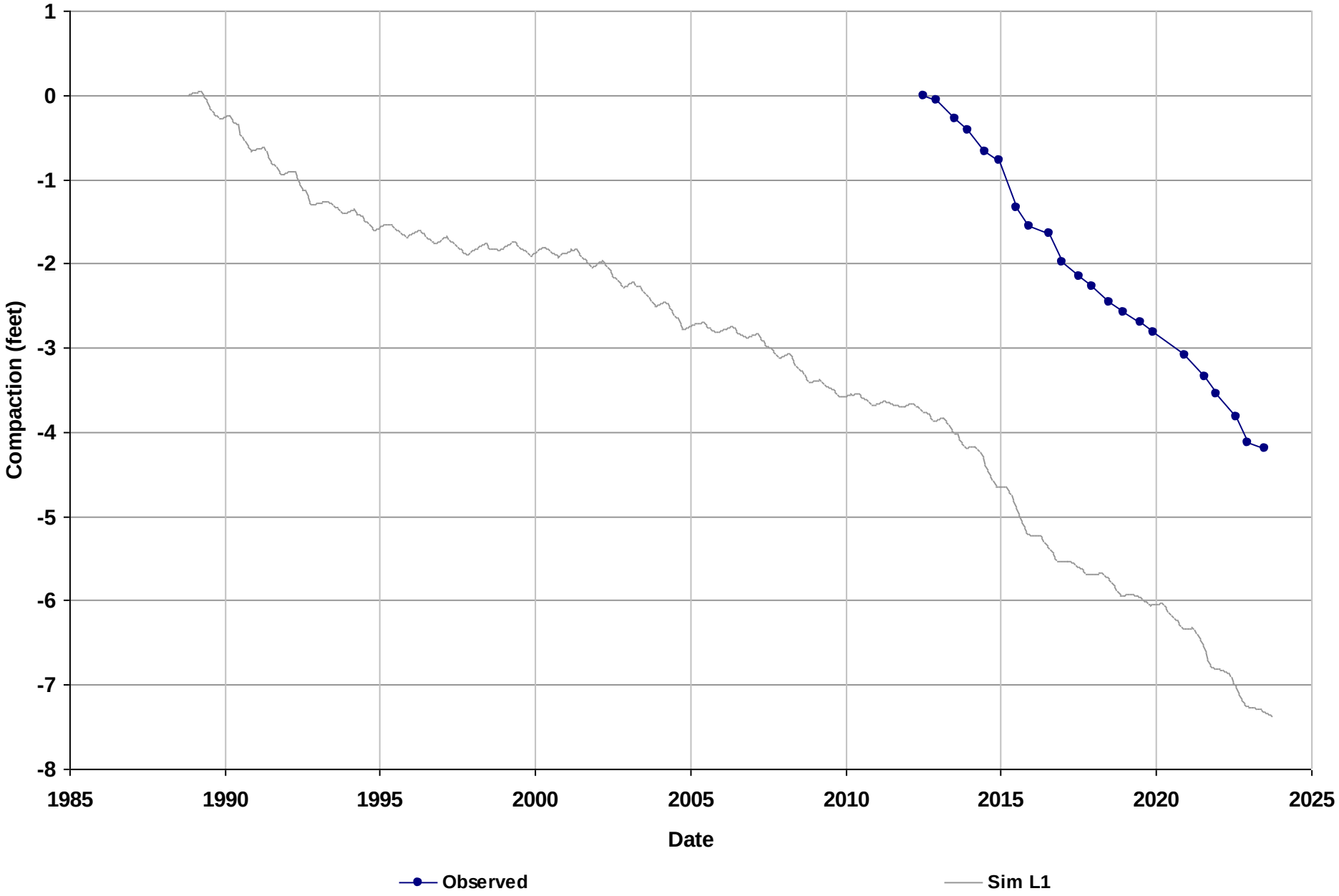
Station Name: SJRRP_1054R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_1055R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

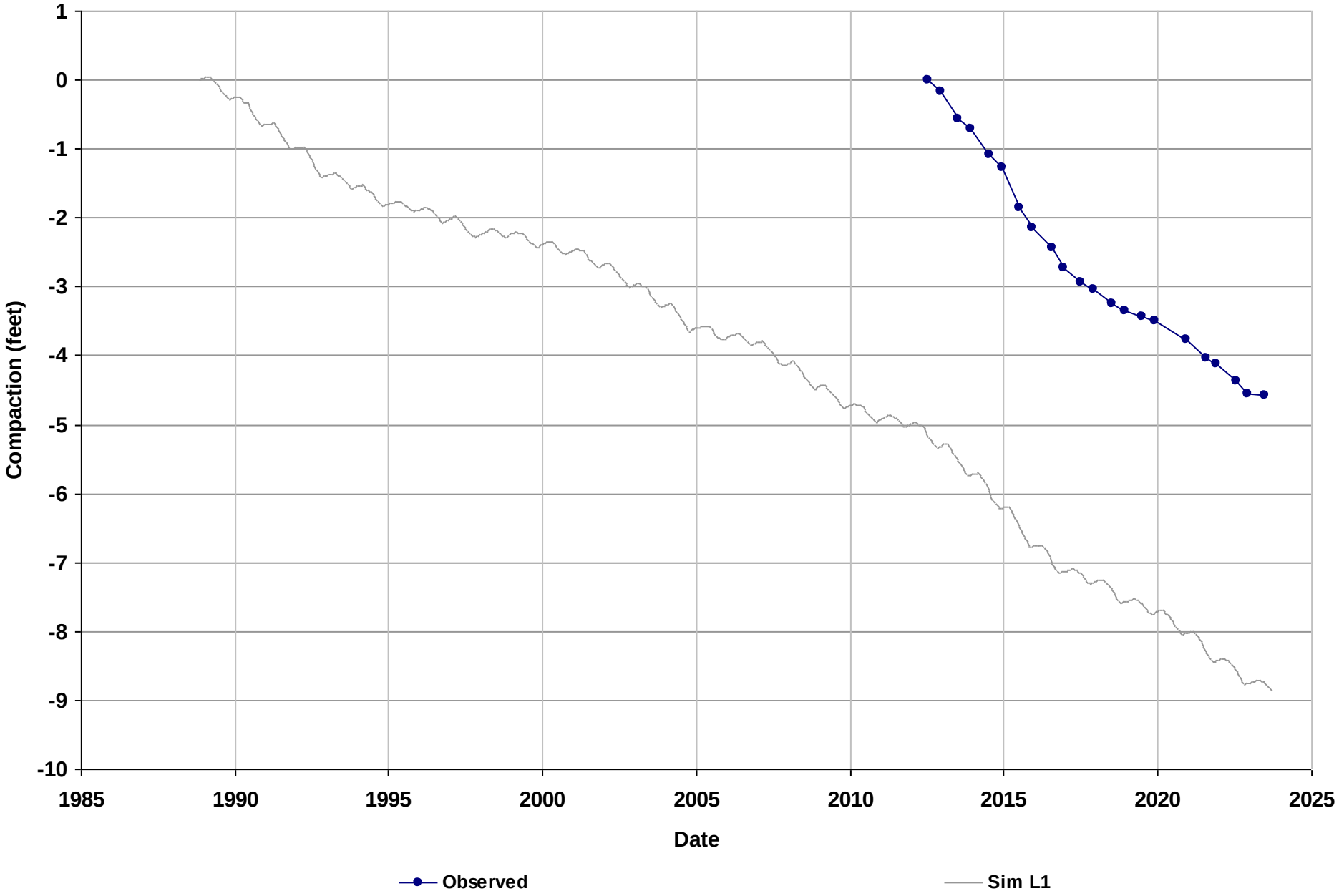


Station Name: SJRRP_2076
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

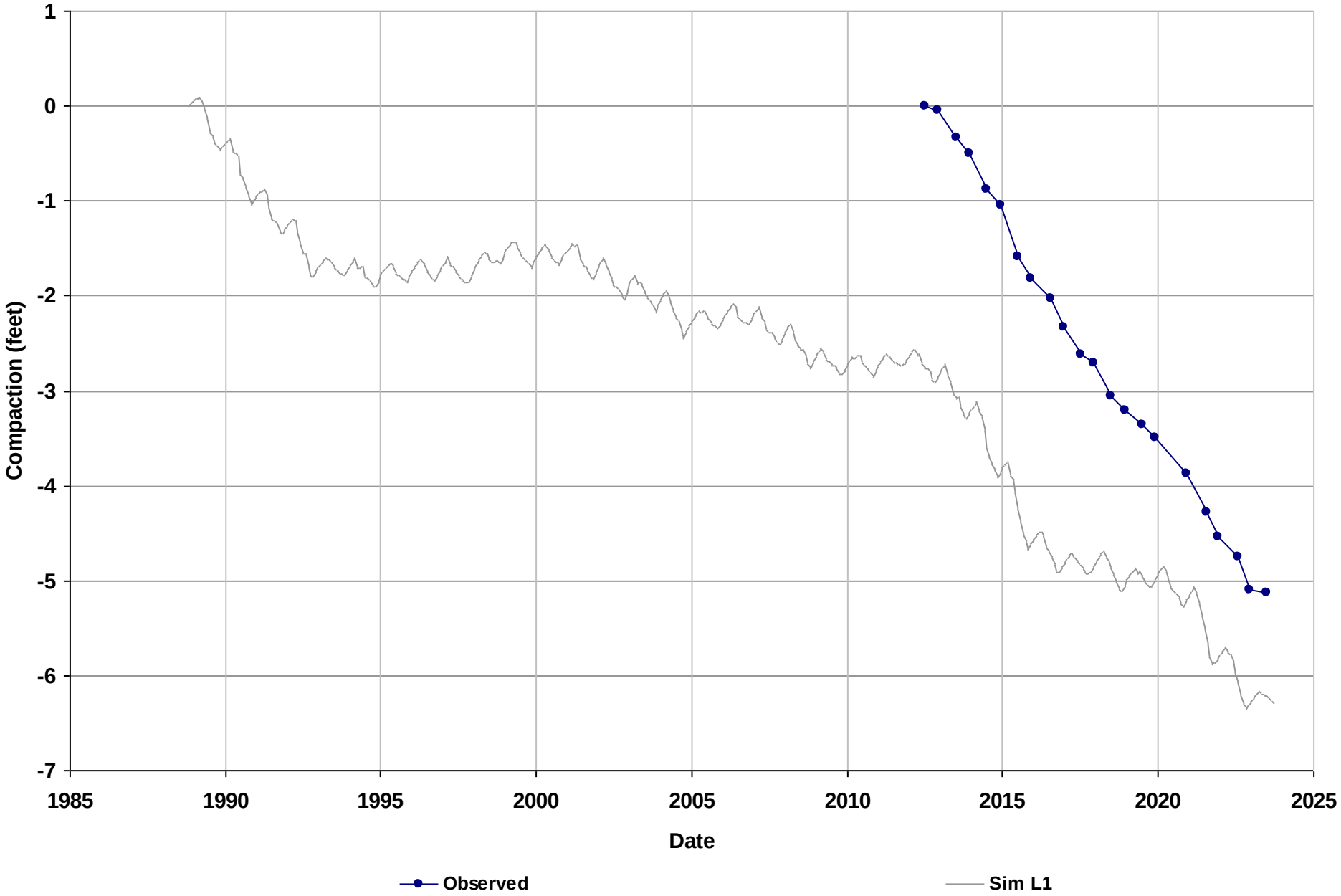


F.1.a-8

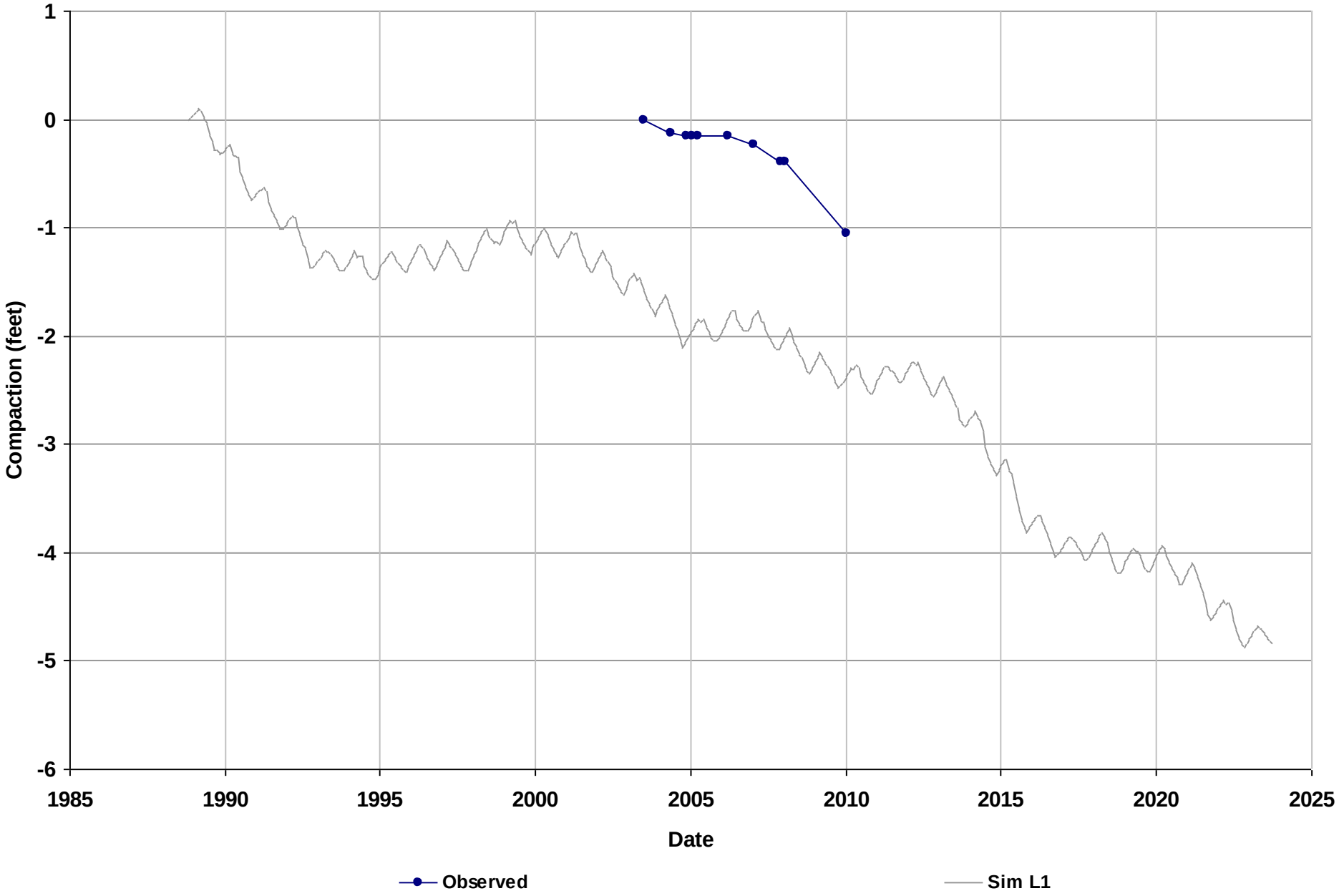
Station Name: SJRRP_2362
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_2378
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



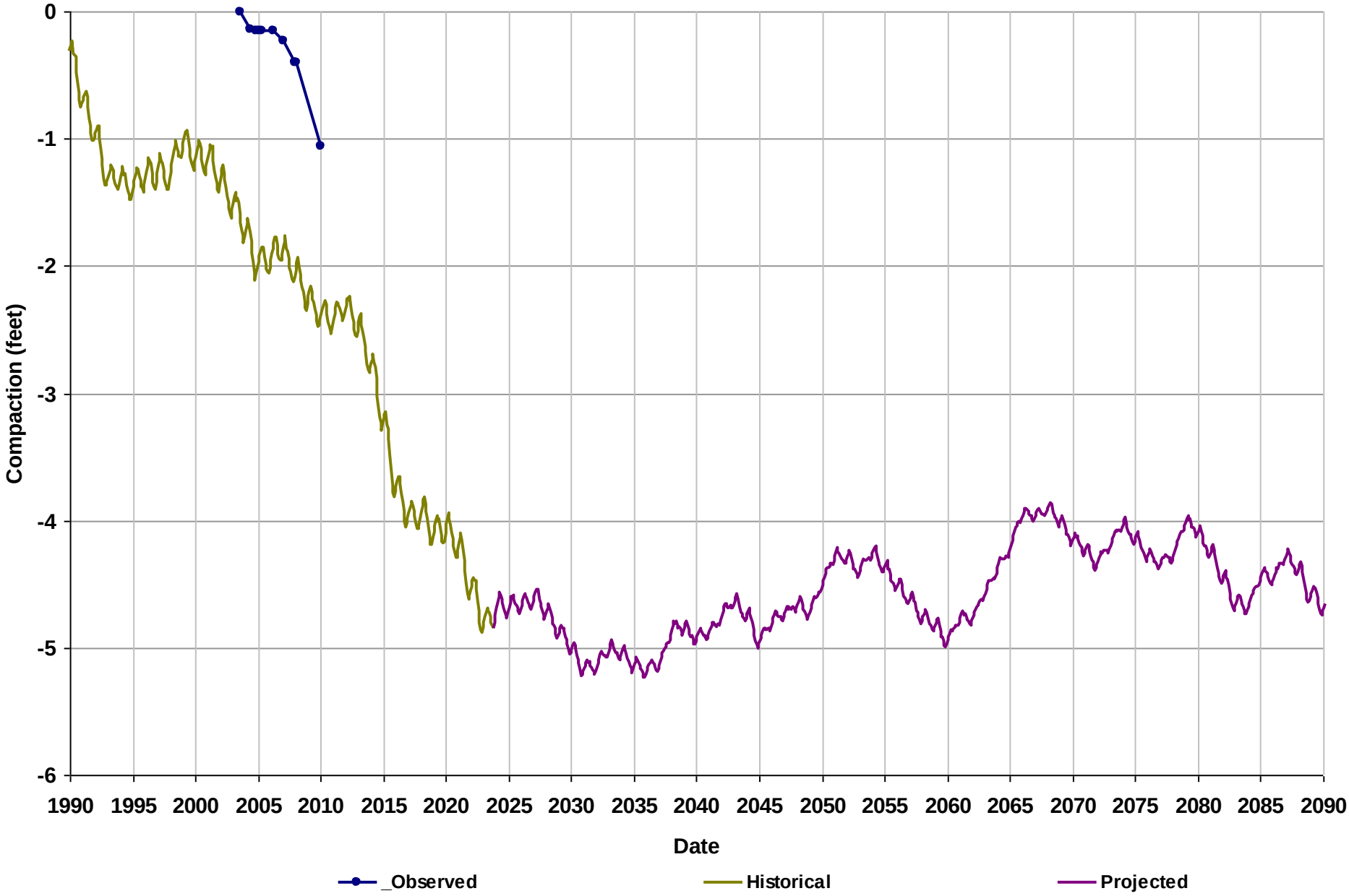
Station Name: InSAR at Bypass Curv
Data Source: USGS
Subbasin: Chowchilla
Data Type: InSAR



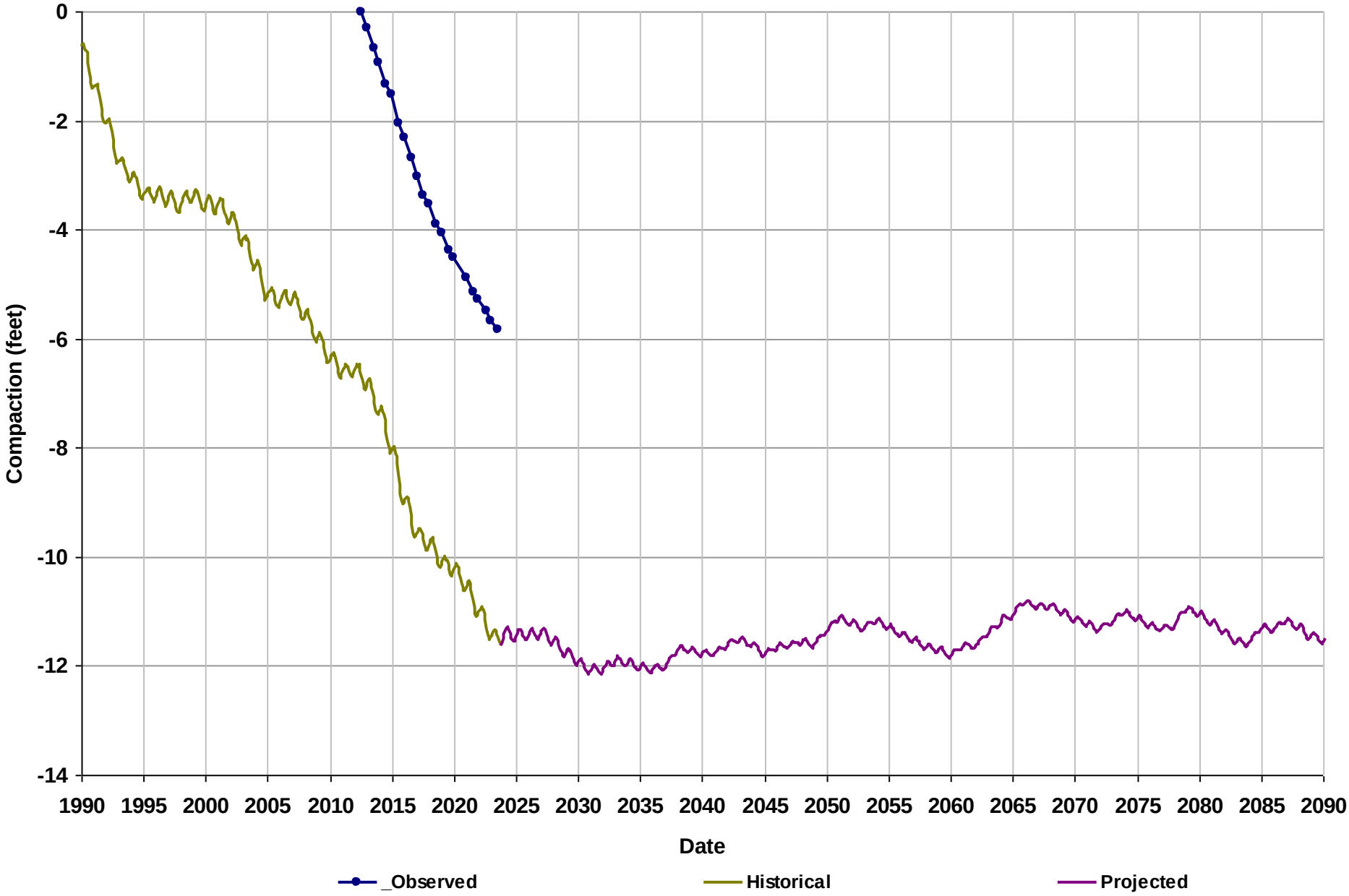
APPENDIX F.1.b

Chowchilla Subbasin Subsidence Hydrographs for RMS Stations - Projected with Projects Scenario

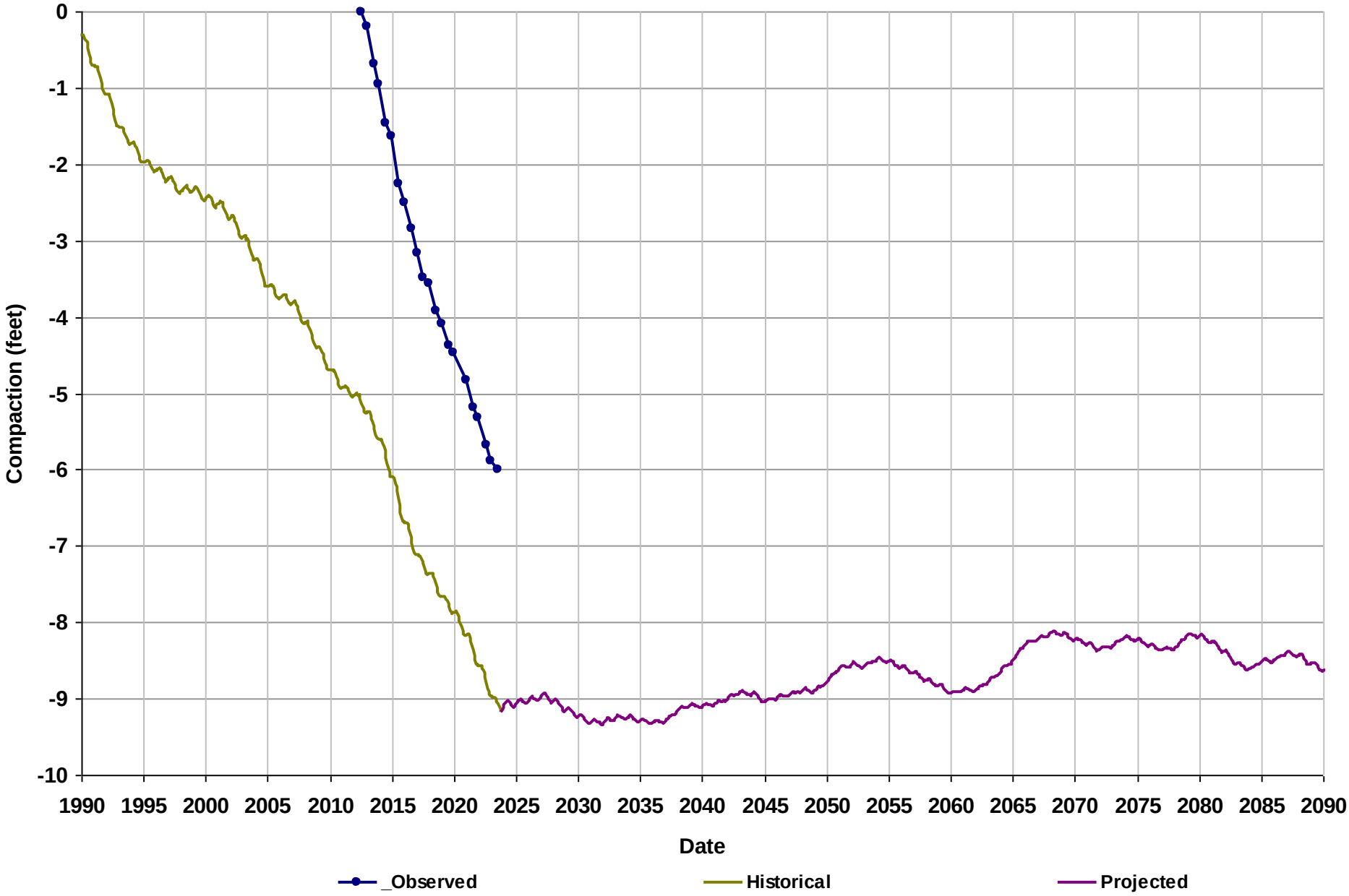
Station Name: InSAR at Bypass Curv
Data Source: USGS
Subbasin: Chowchilla
Data Type: InSAR



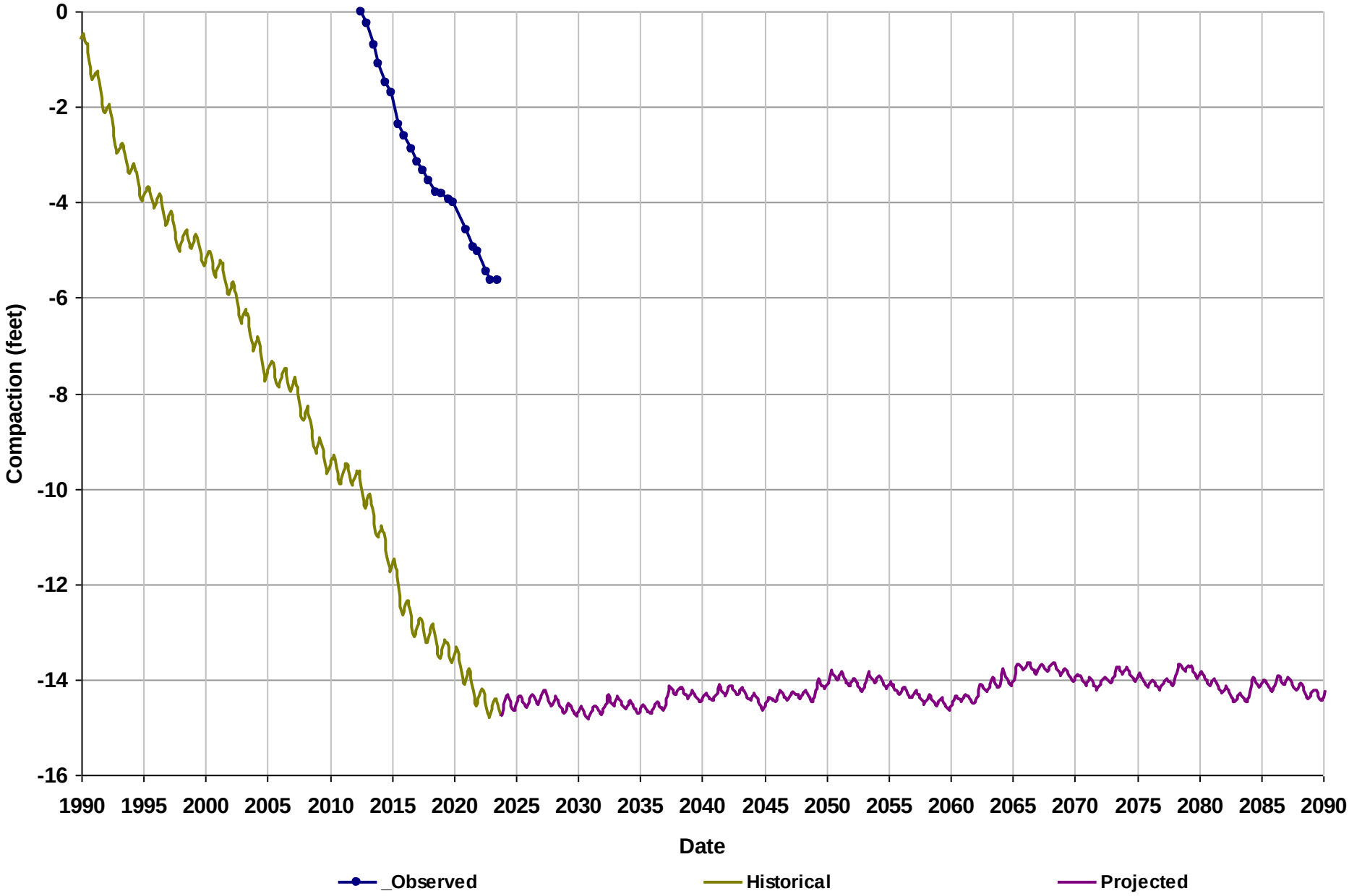
Station Name: SJRRP_1053R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



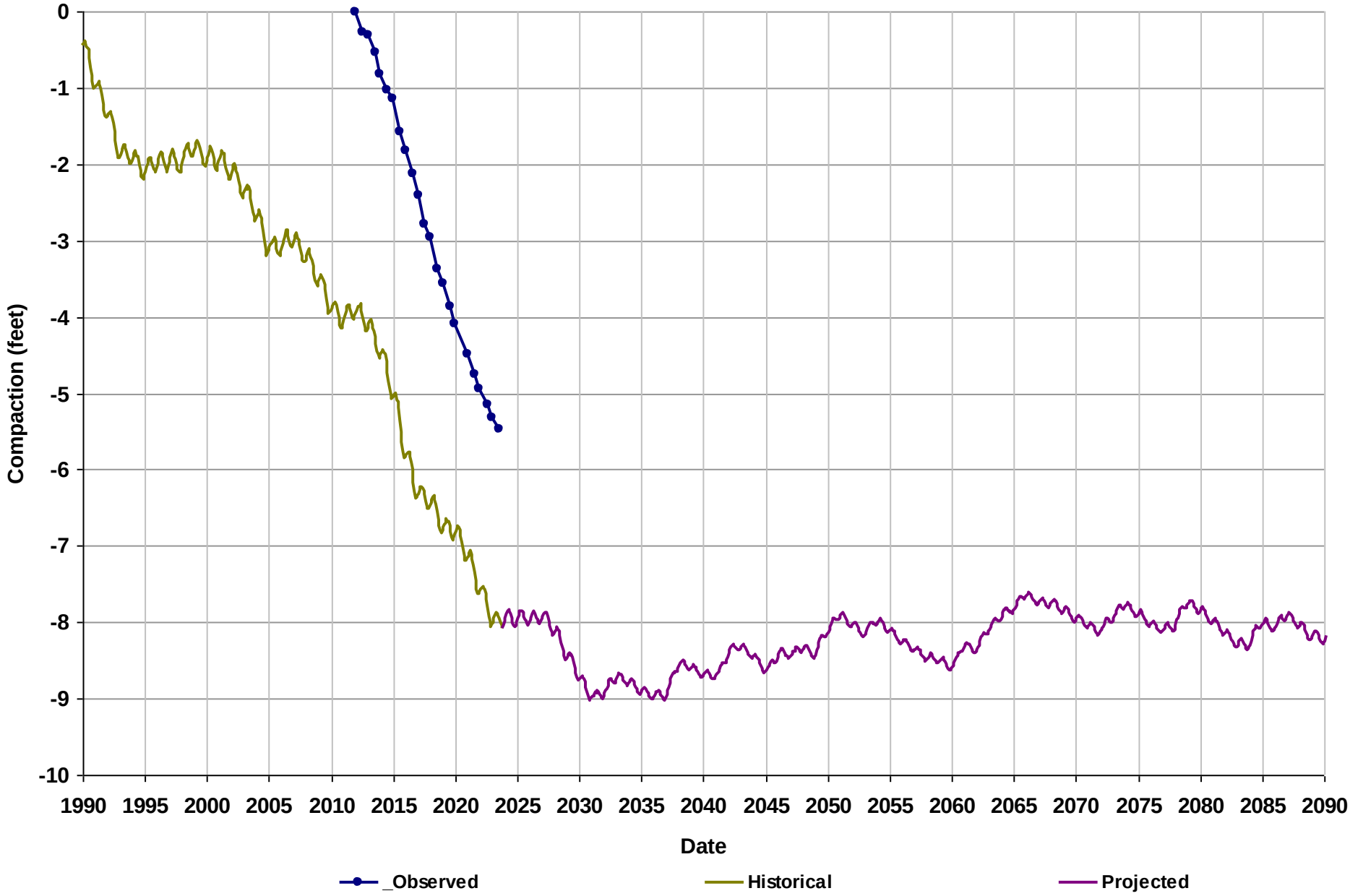
Station Name: SJRRP_1054R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



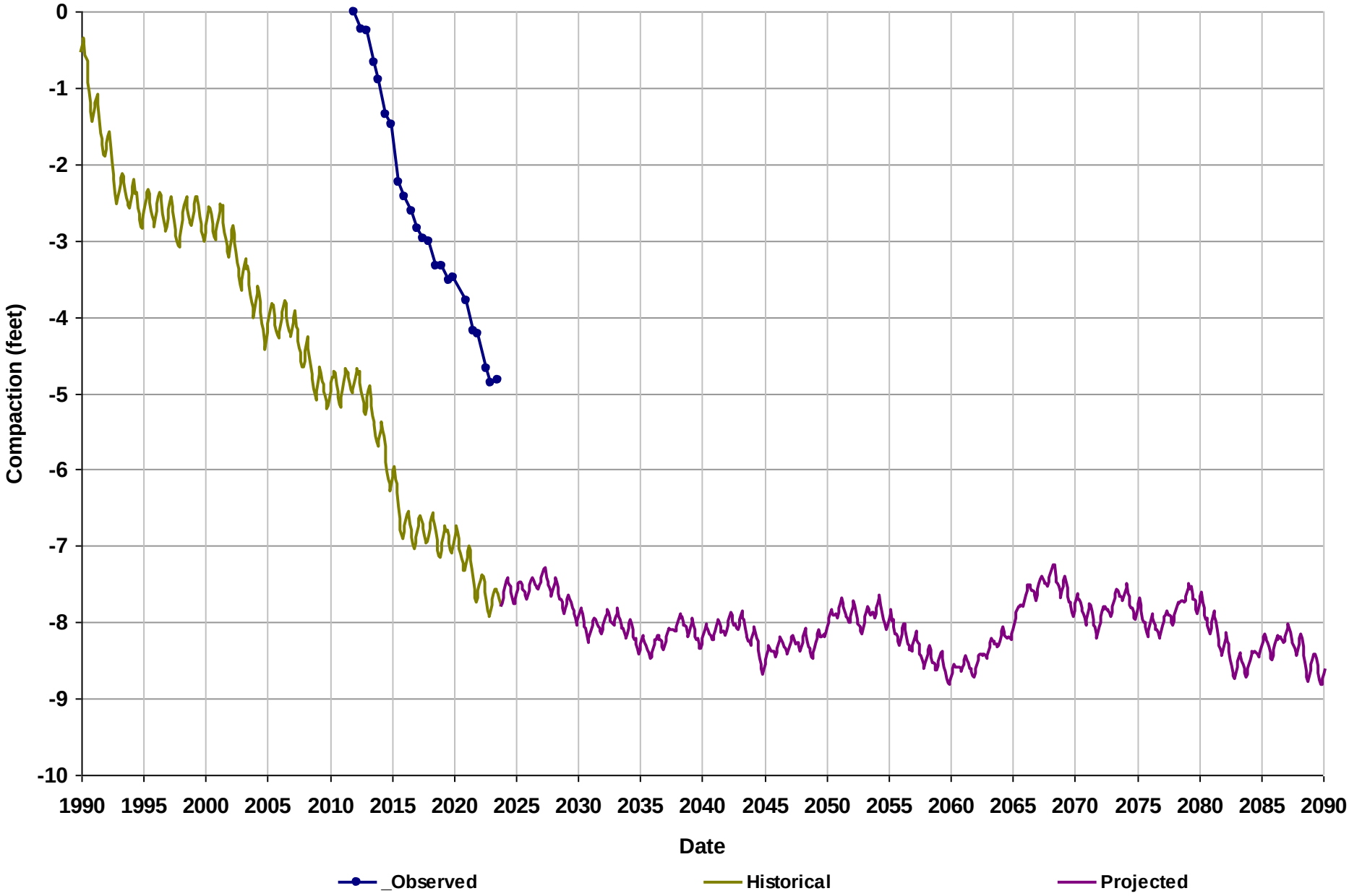
Station Name: SJRRP_1055R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



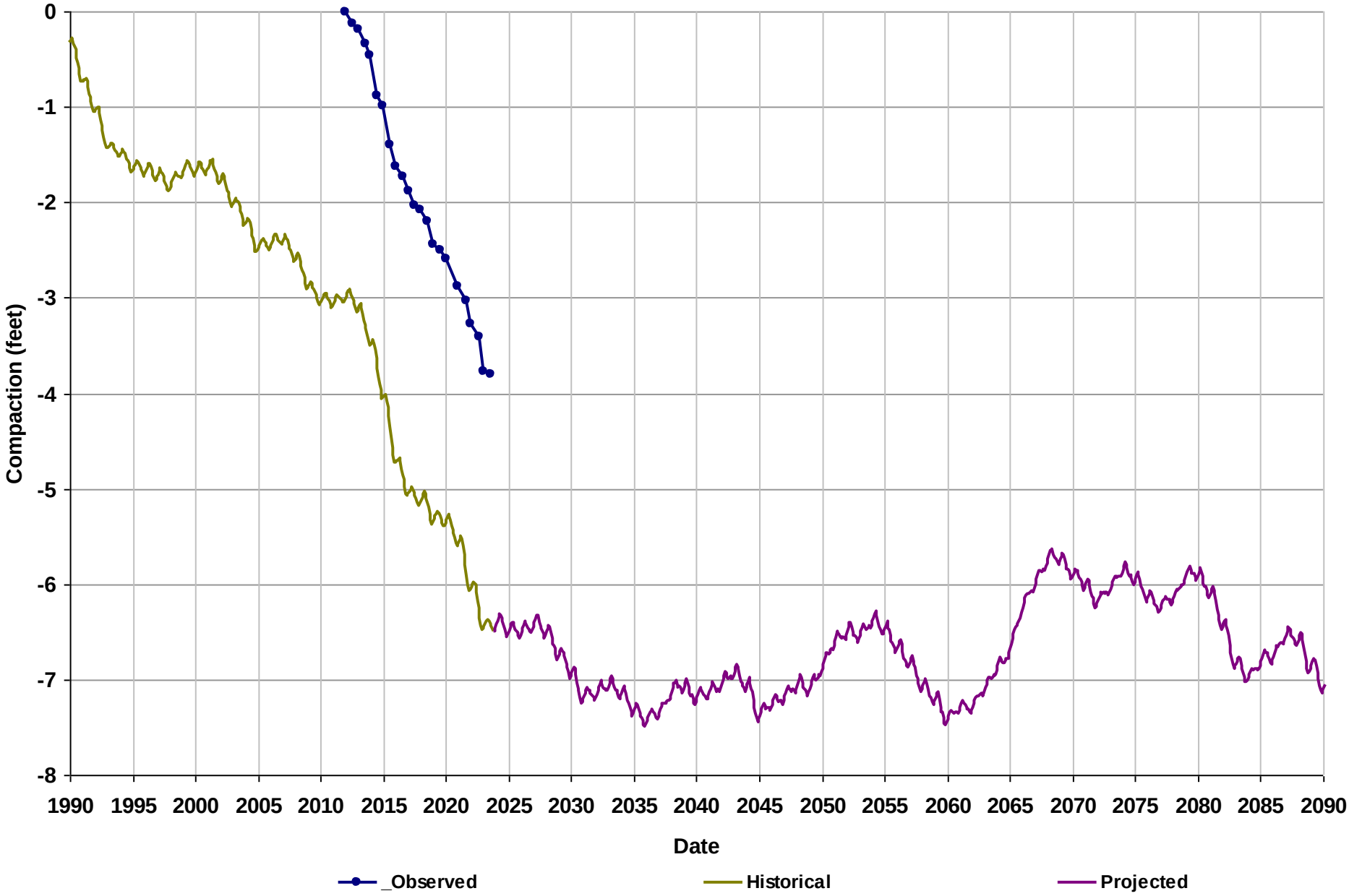
Station Name: SJRRP_123
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



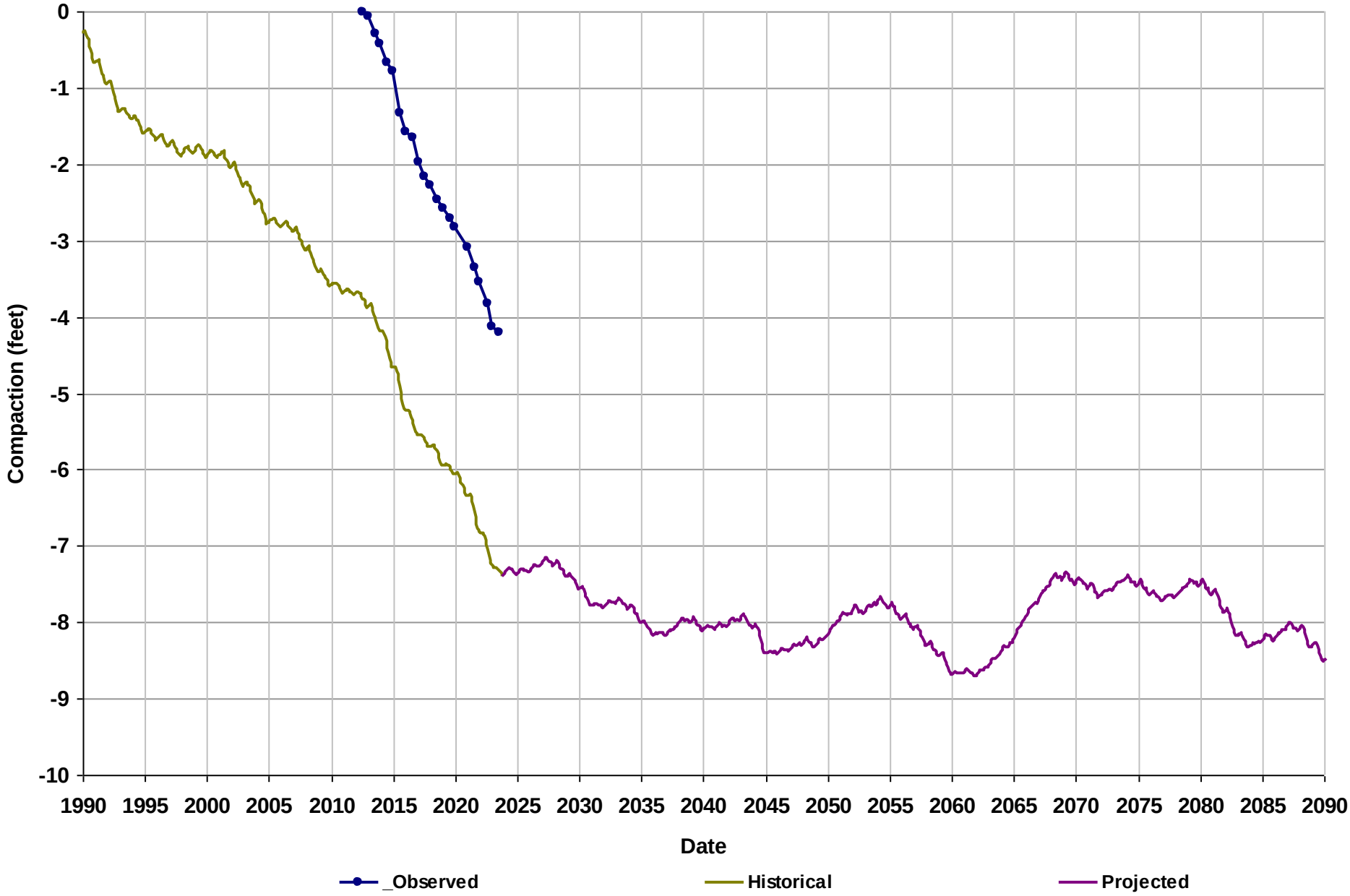
Station Name: SJRRP_124
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



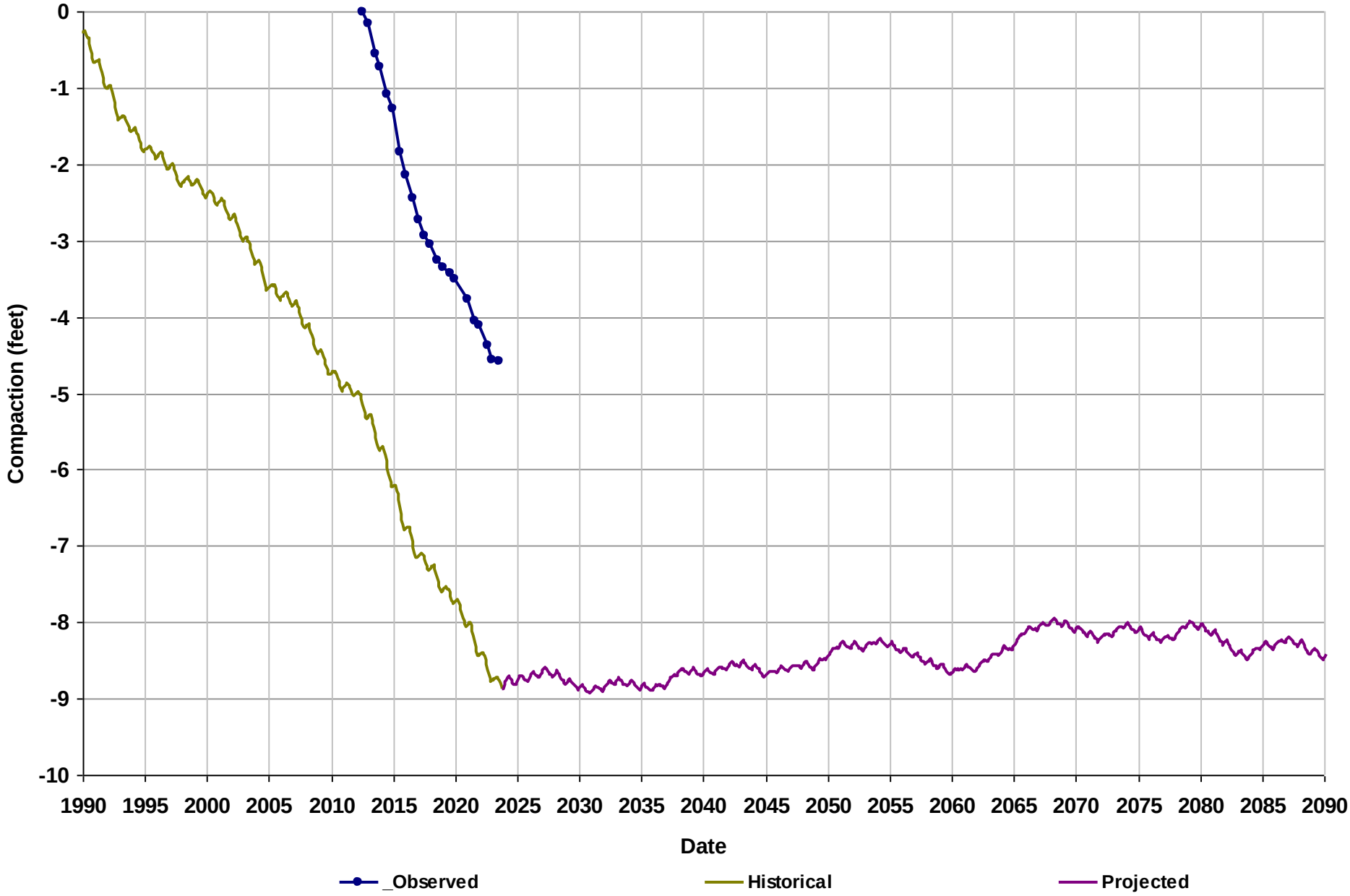
Station Name: SJRRP_135
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



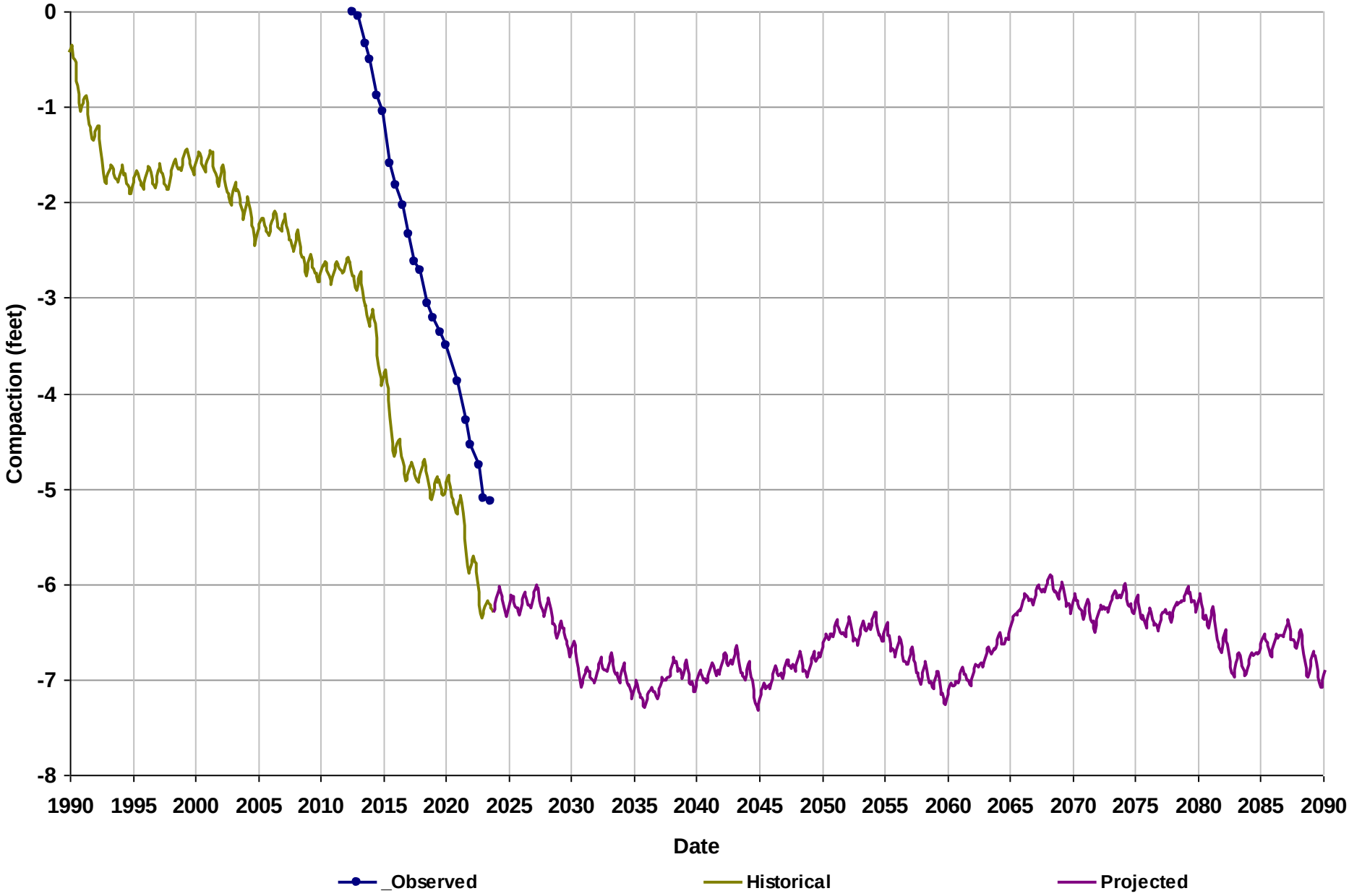
Station Name: SJRRP_2076
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_2362
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



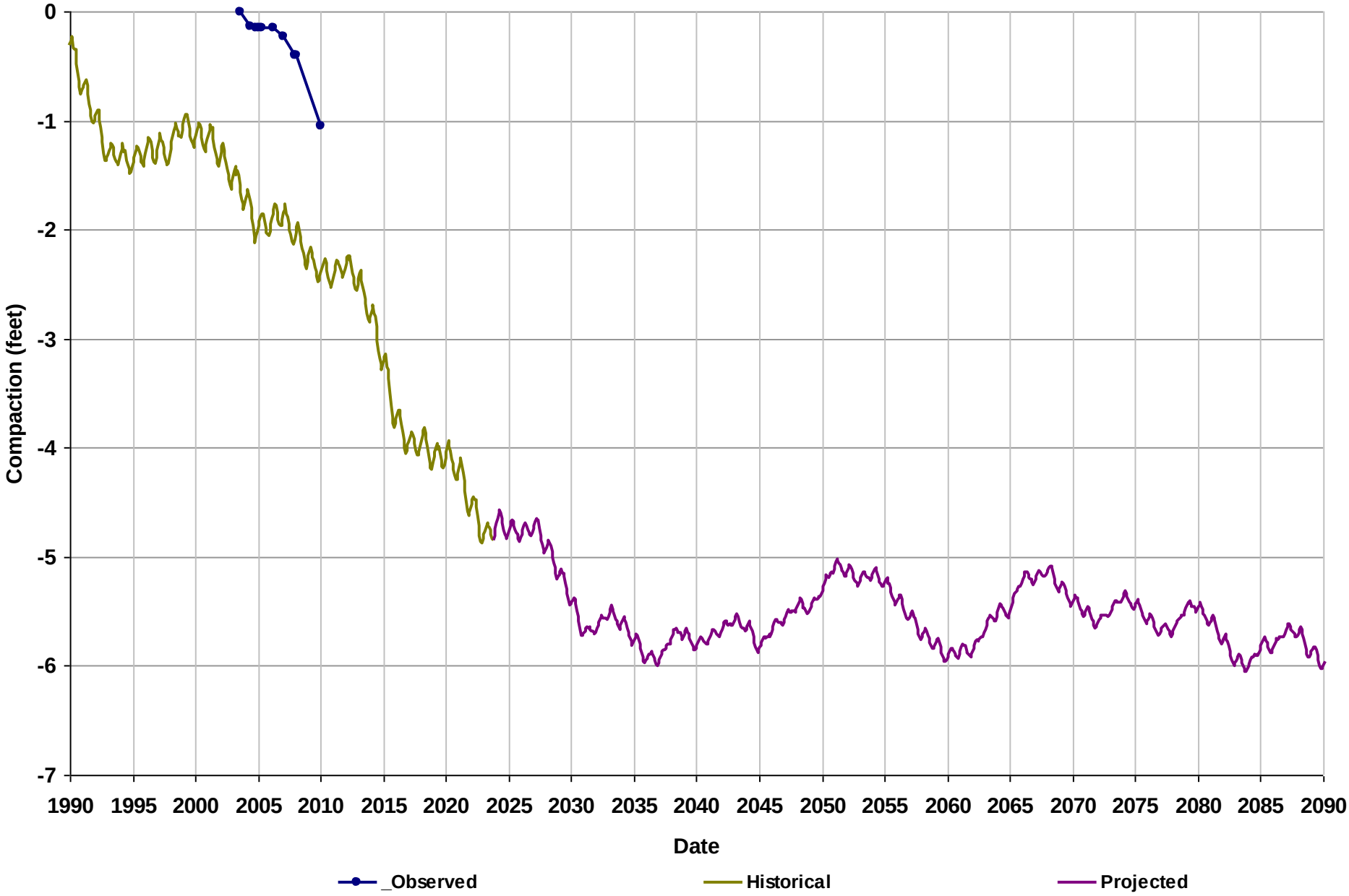
Station Name: SJRRP_2378
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



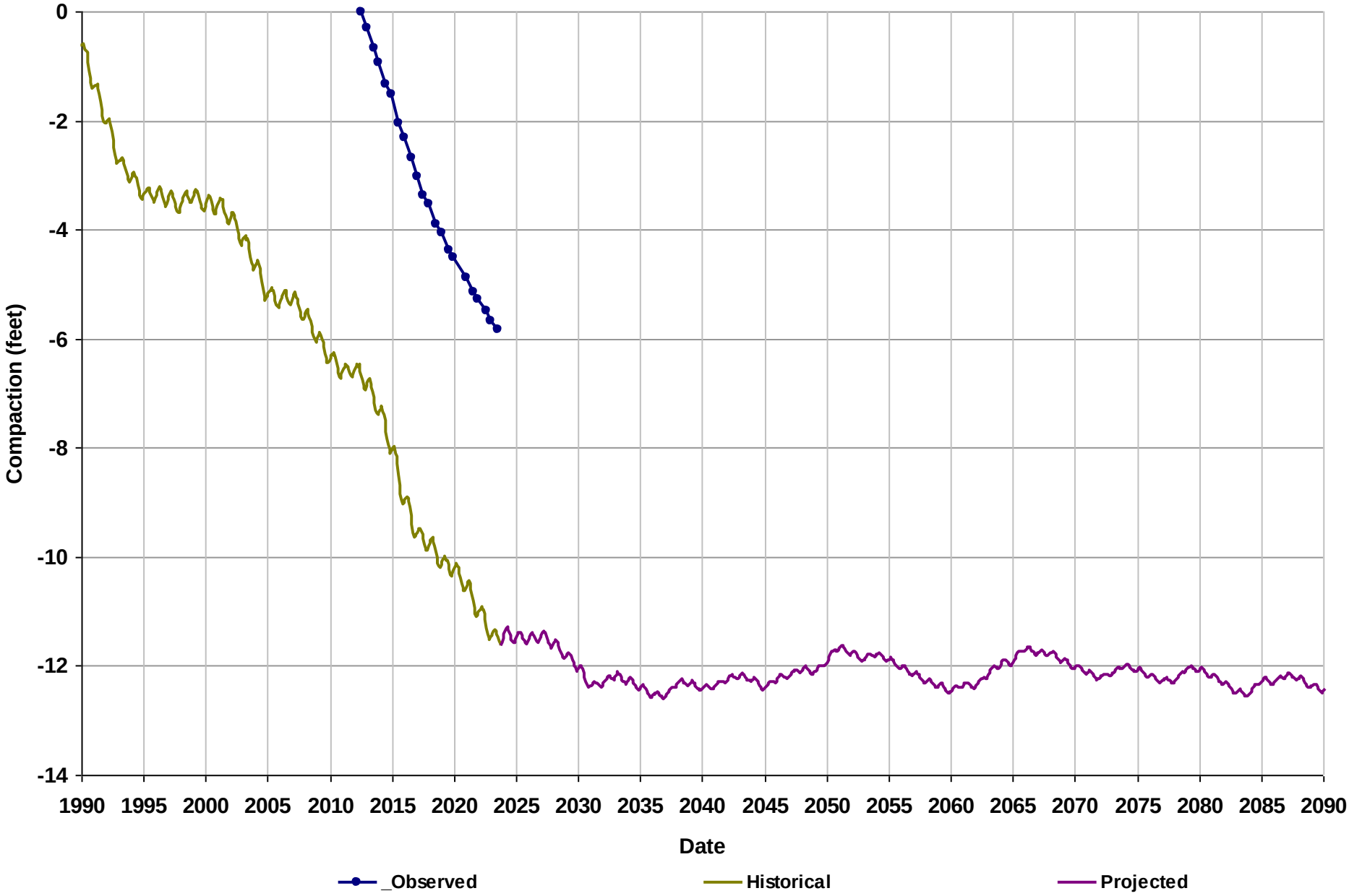
APPENDIX F.1.c

Chowchilla Subbasin Subsidence Hydrographs for RMS Stations - Projected with Projects with Climate Change Scenario

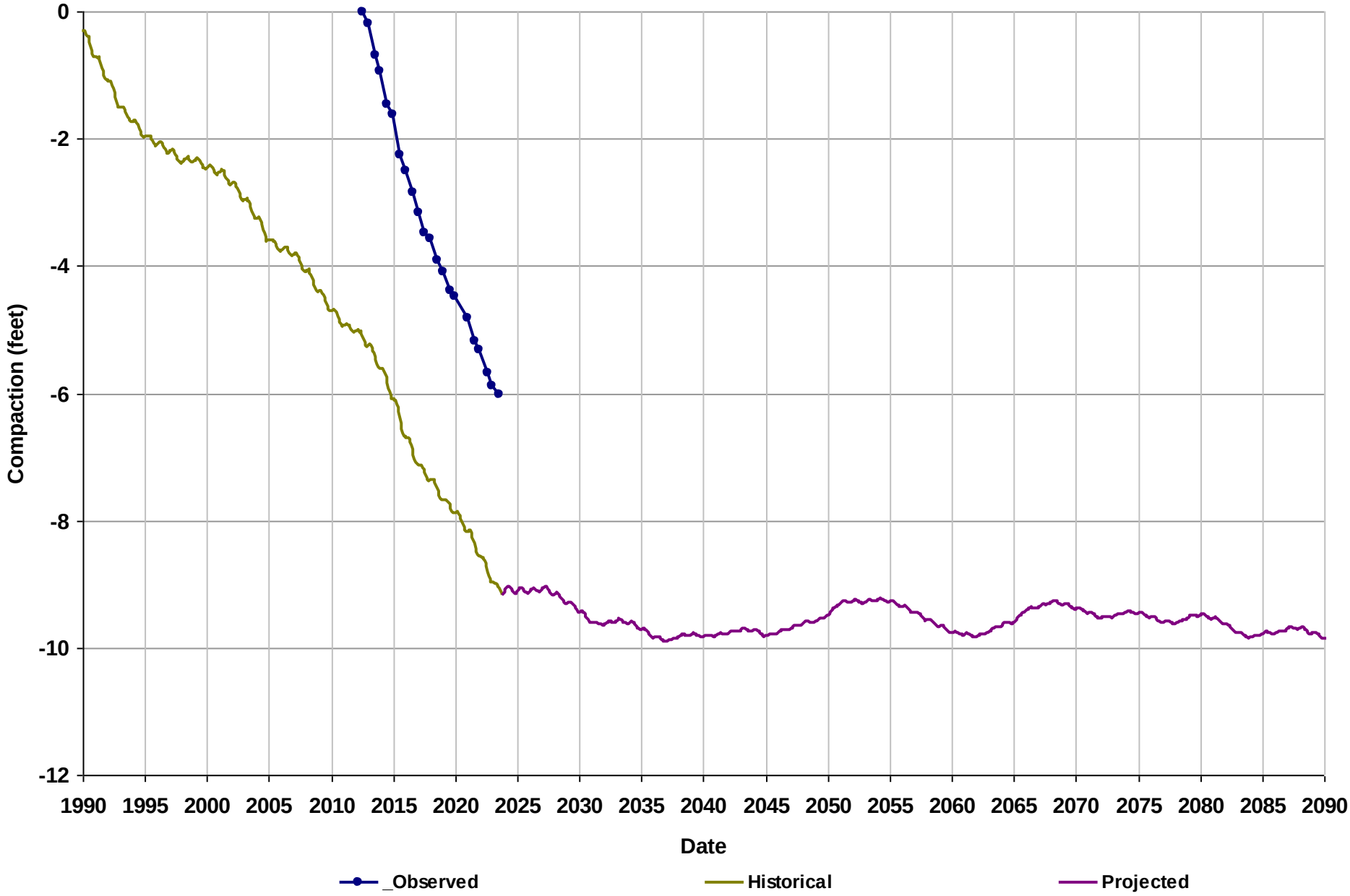
Station Name: InSAR at Bypass Curv
Data Source: USGS
Subbasin: Chowchilla
Data Type: InSAR



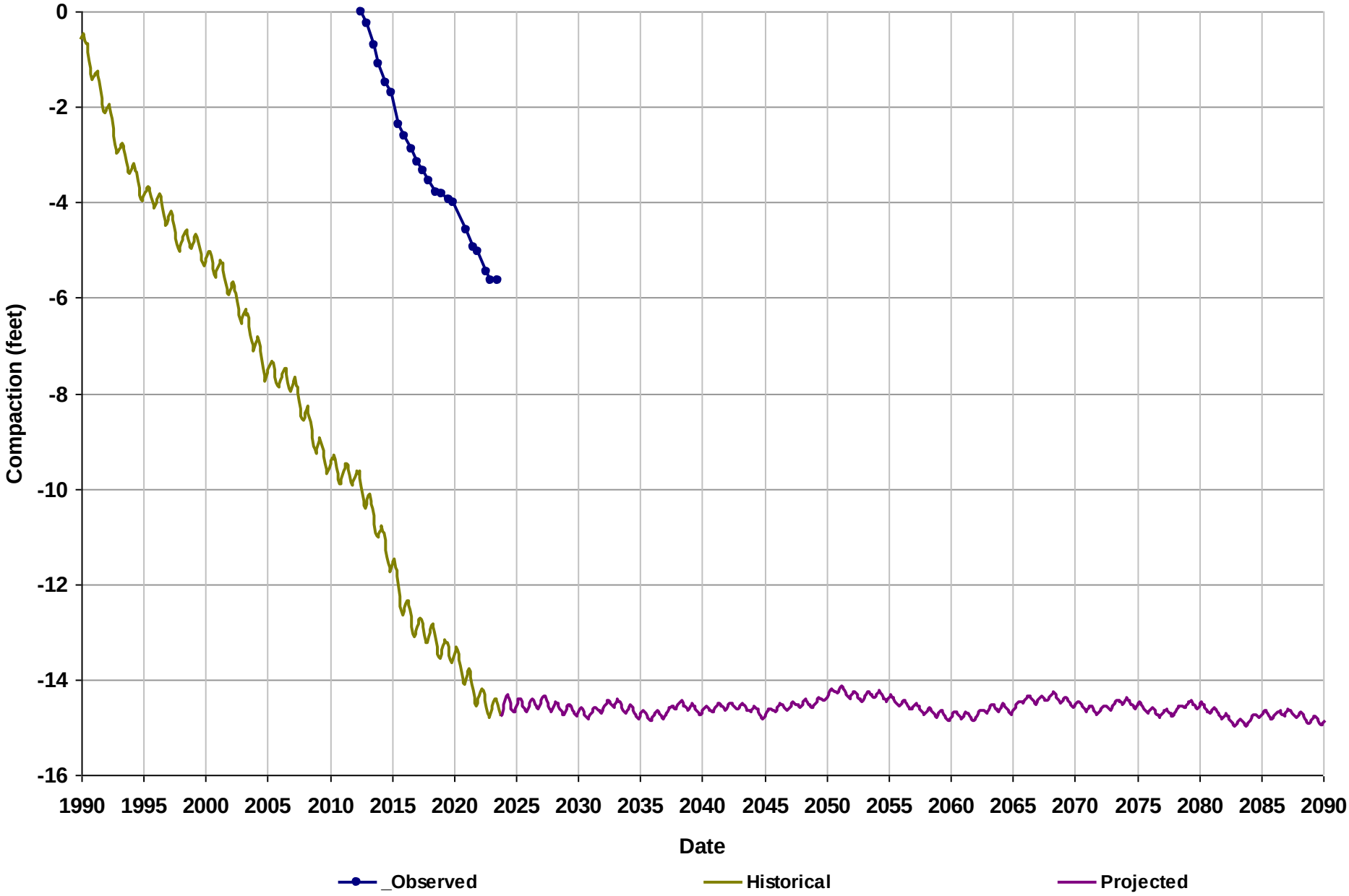
Station Name: SJRRP_1053R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



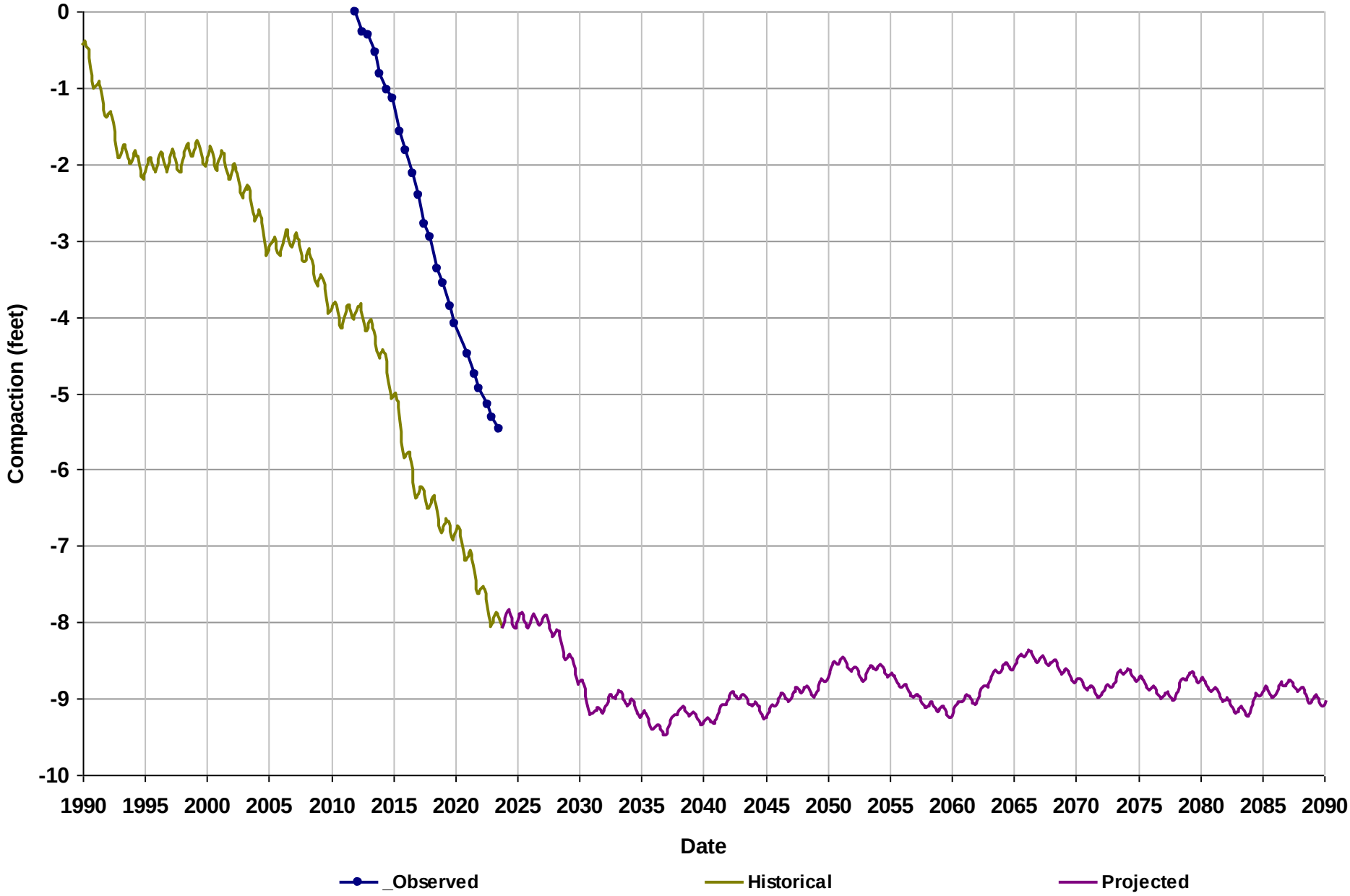
Station Name: SJRRP_1054R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



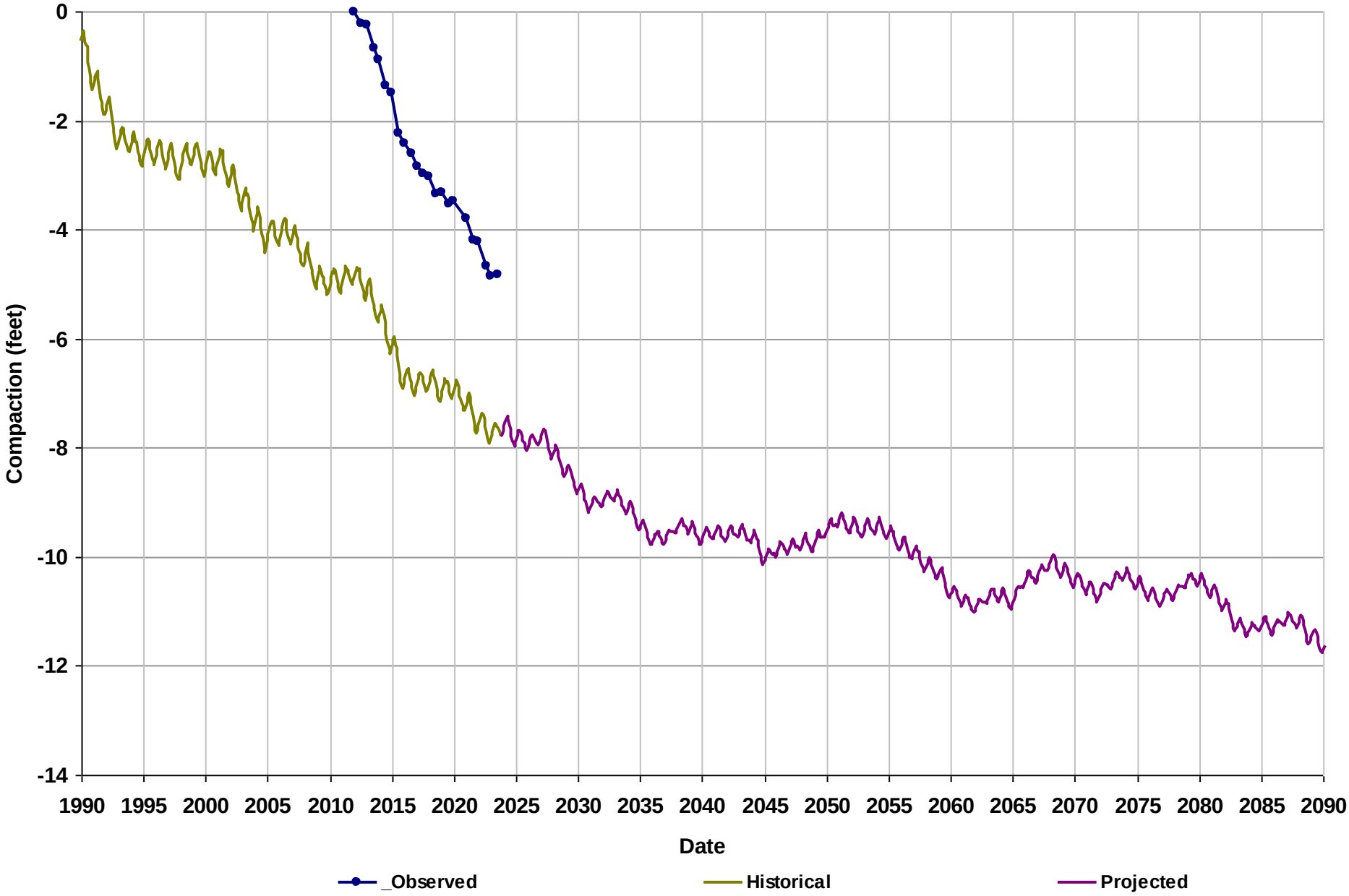
Station Name: SJRRP_1055R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



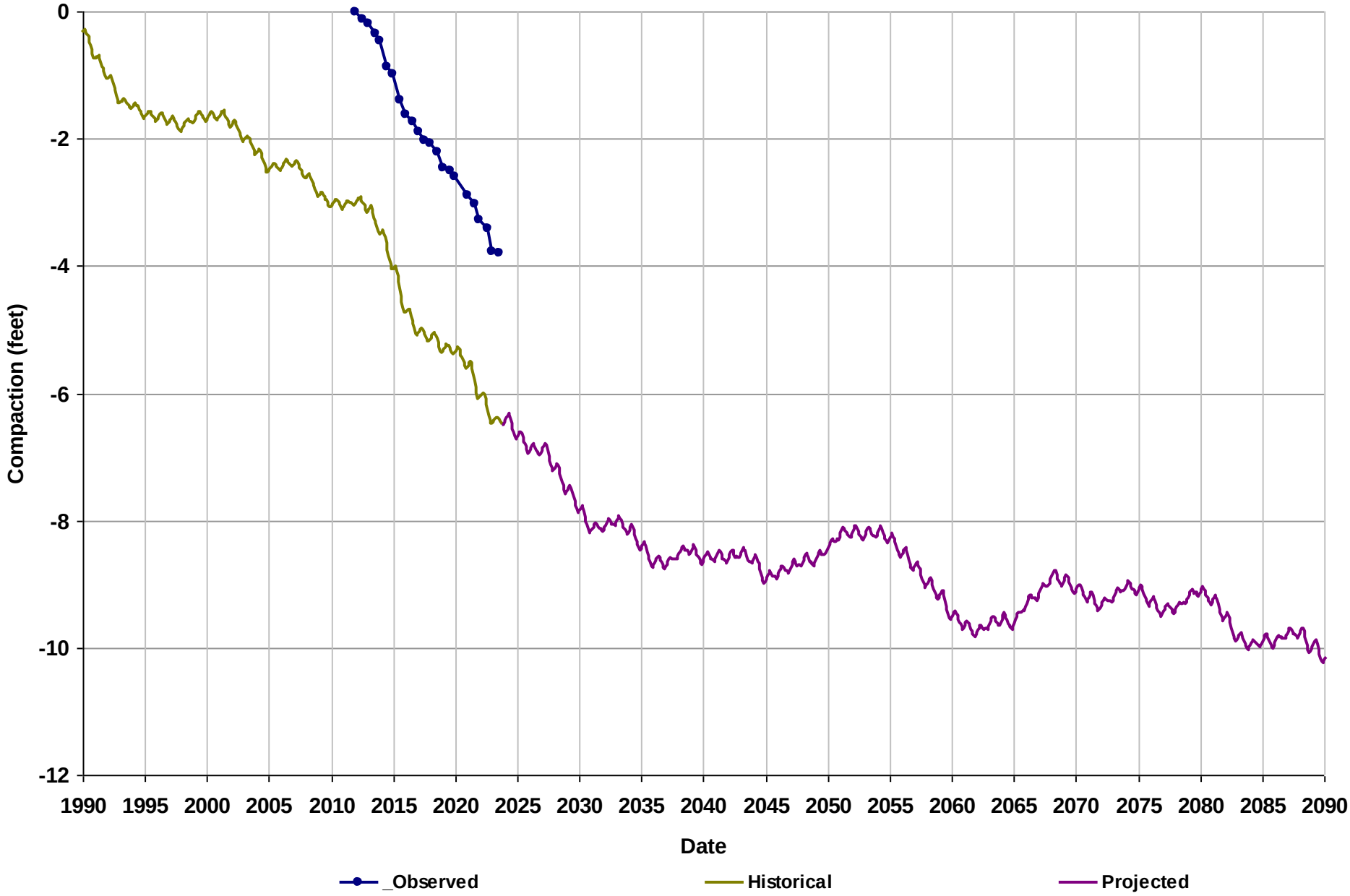
Station Name: SJRRP_123
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



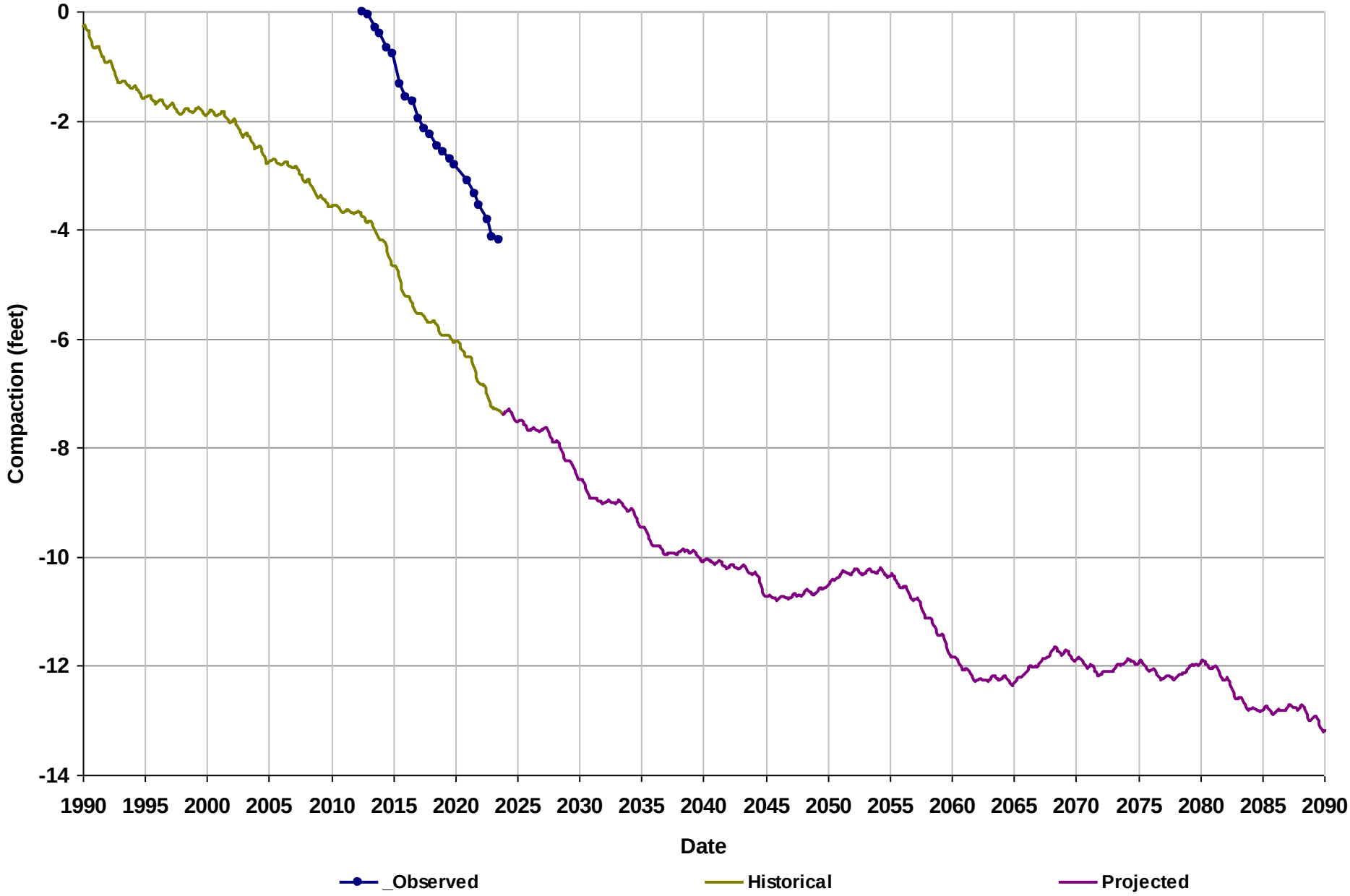
Station Name: SJRRP_124
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



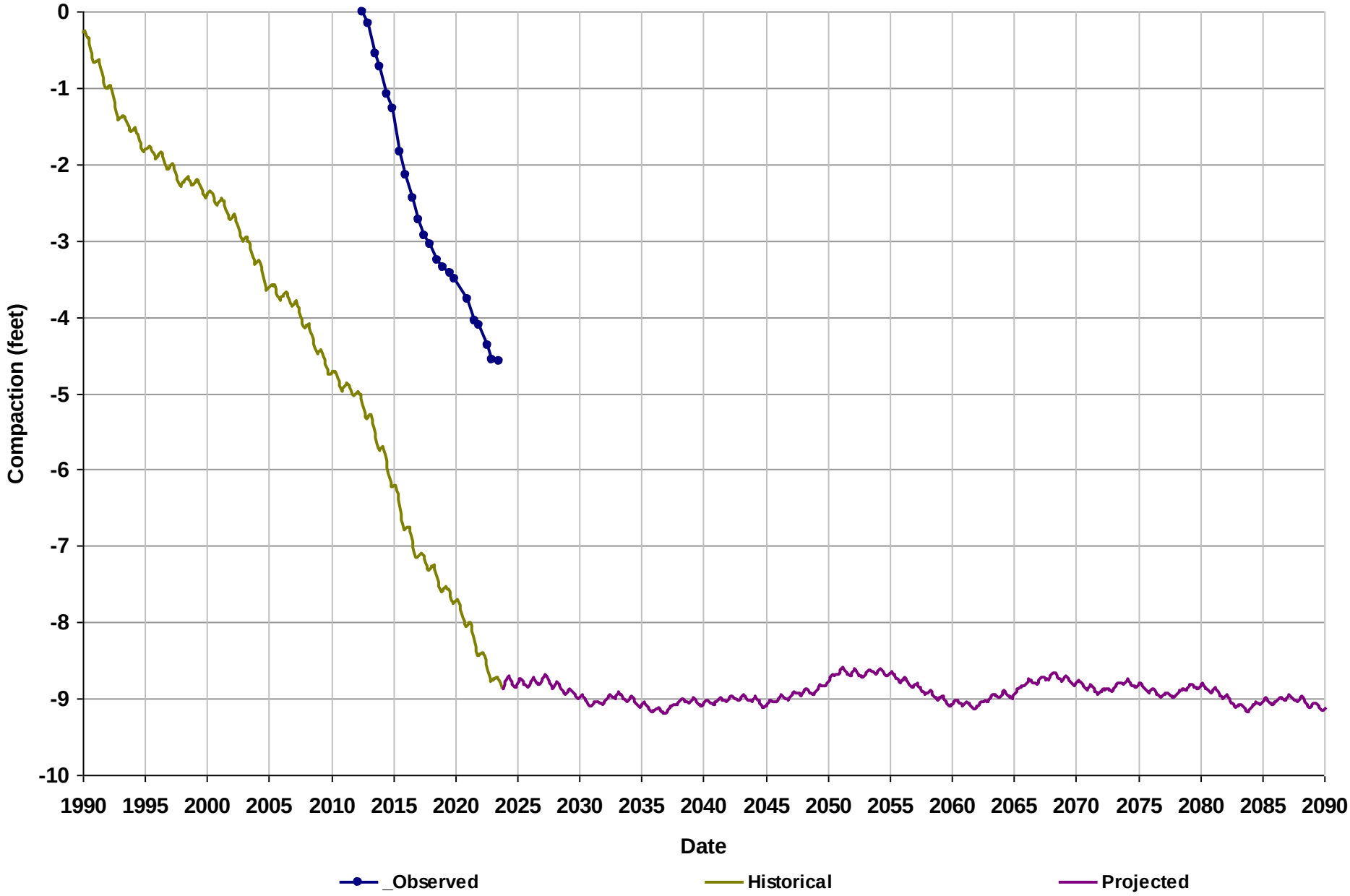
Station Name: SJRRP_135
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



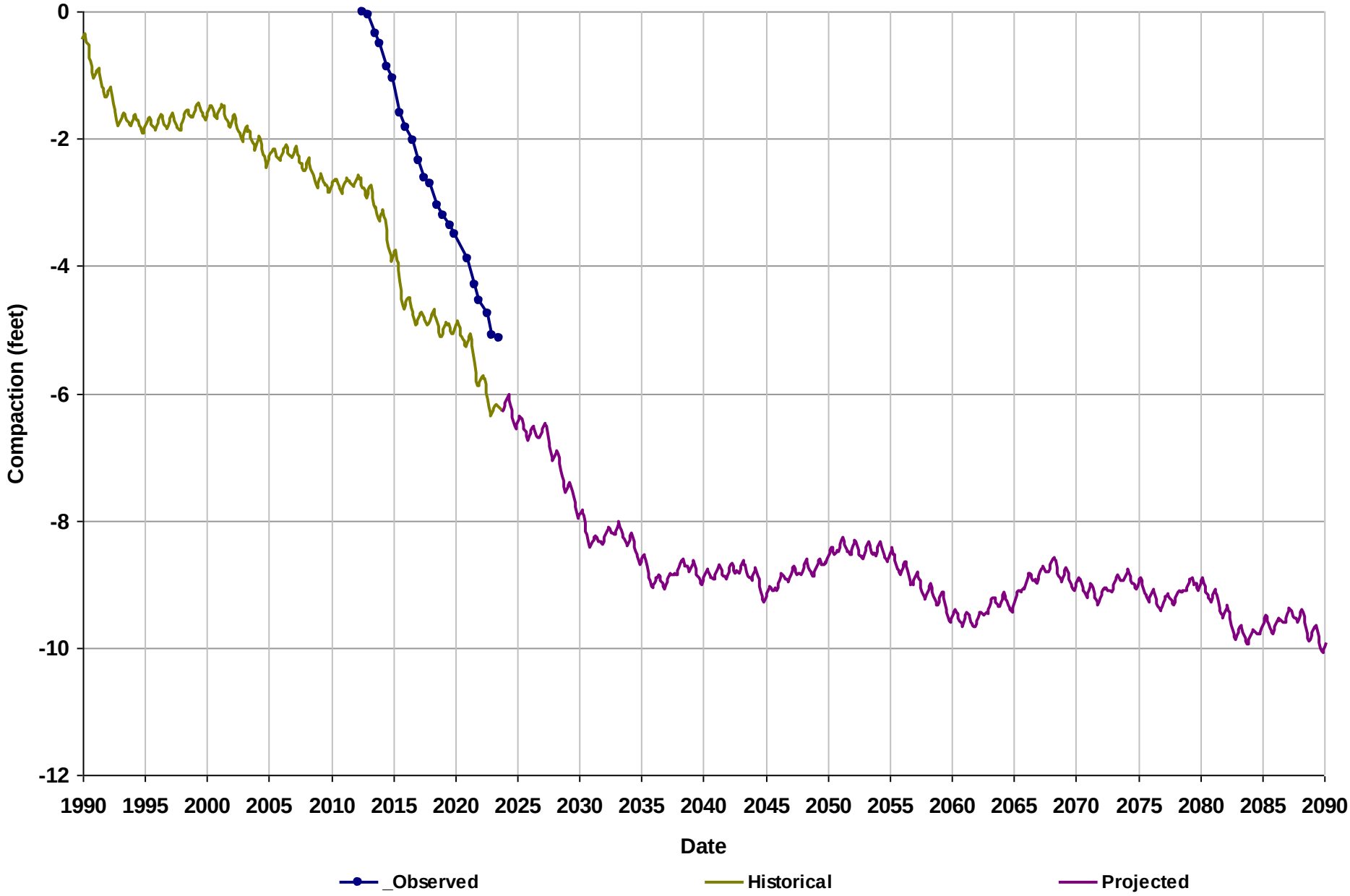
Station Name: SJRRP_2076
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_2362
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_2378
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

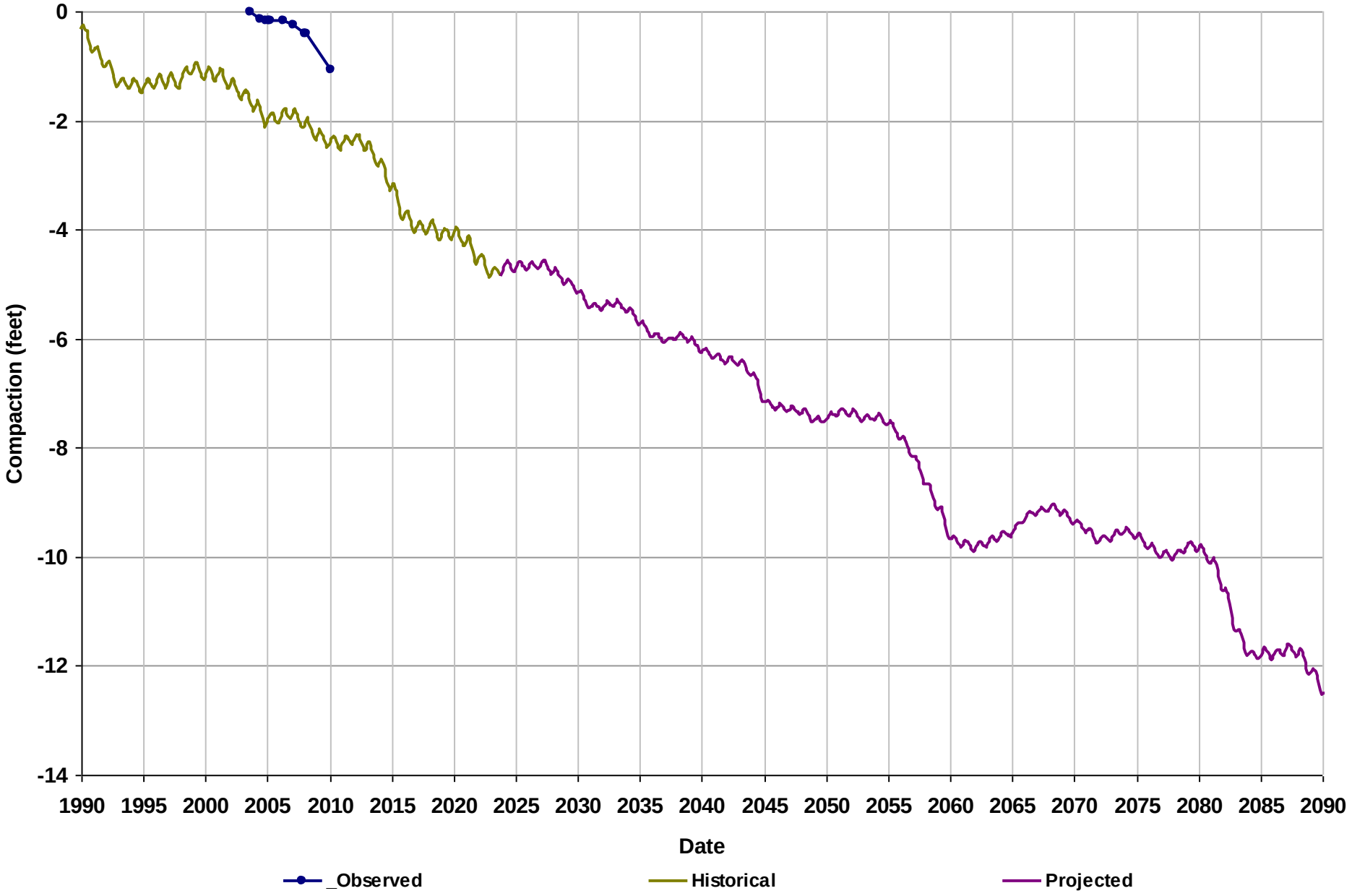


APPENDIX F.1.d

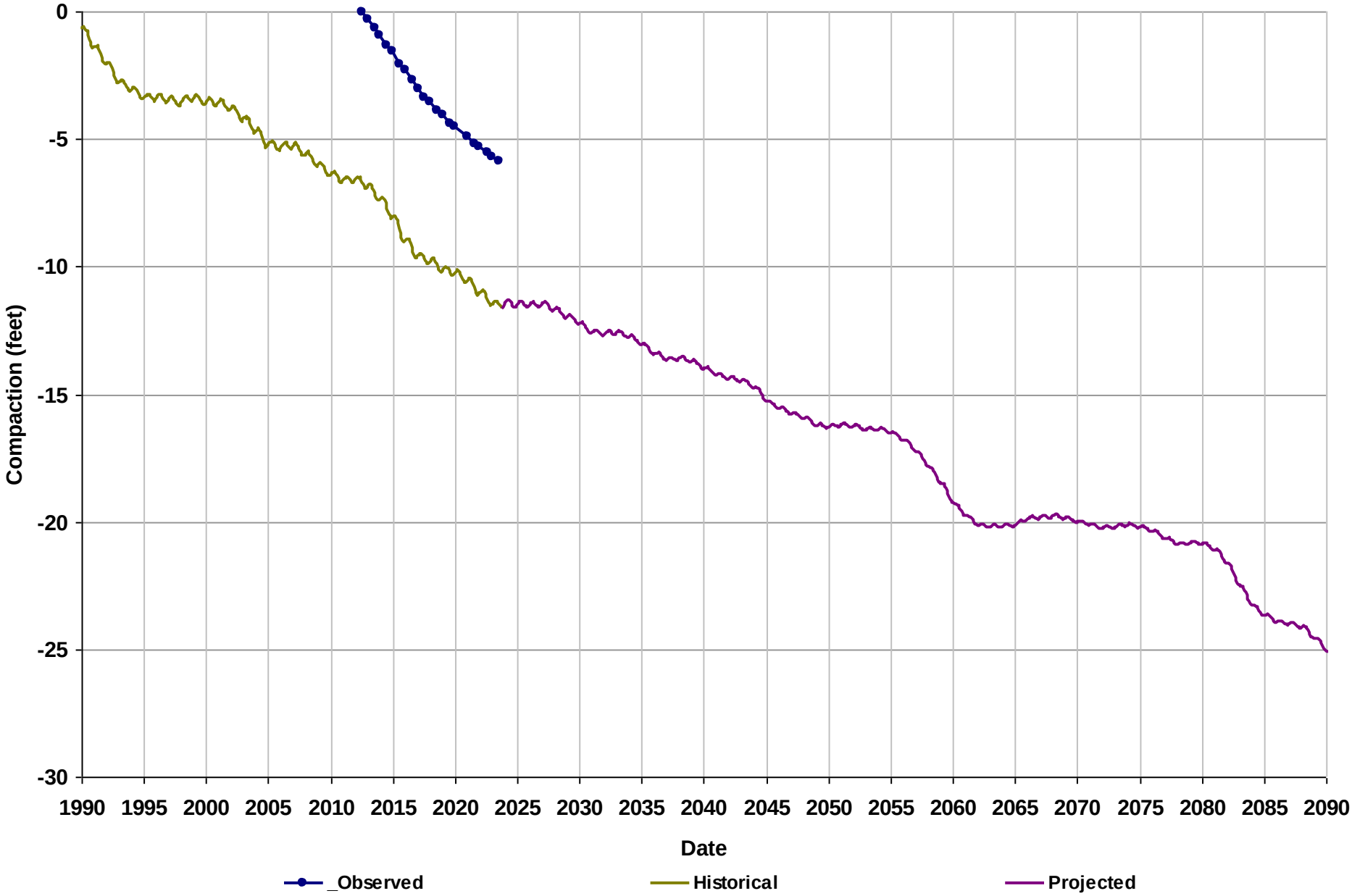
Chowchilla Subbasin Subsidence Hydrographs for RMS Stations - Projected (No Action) Scenario

LSCE

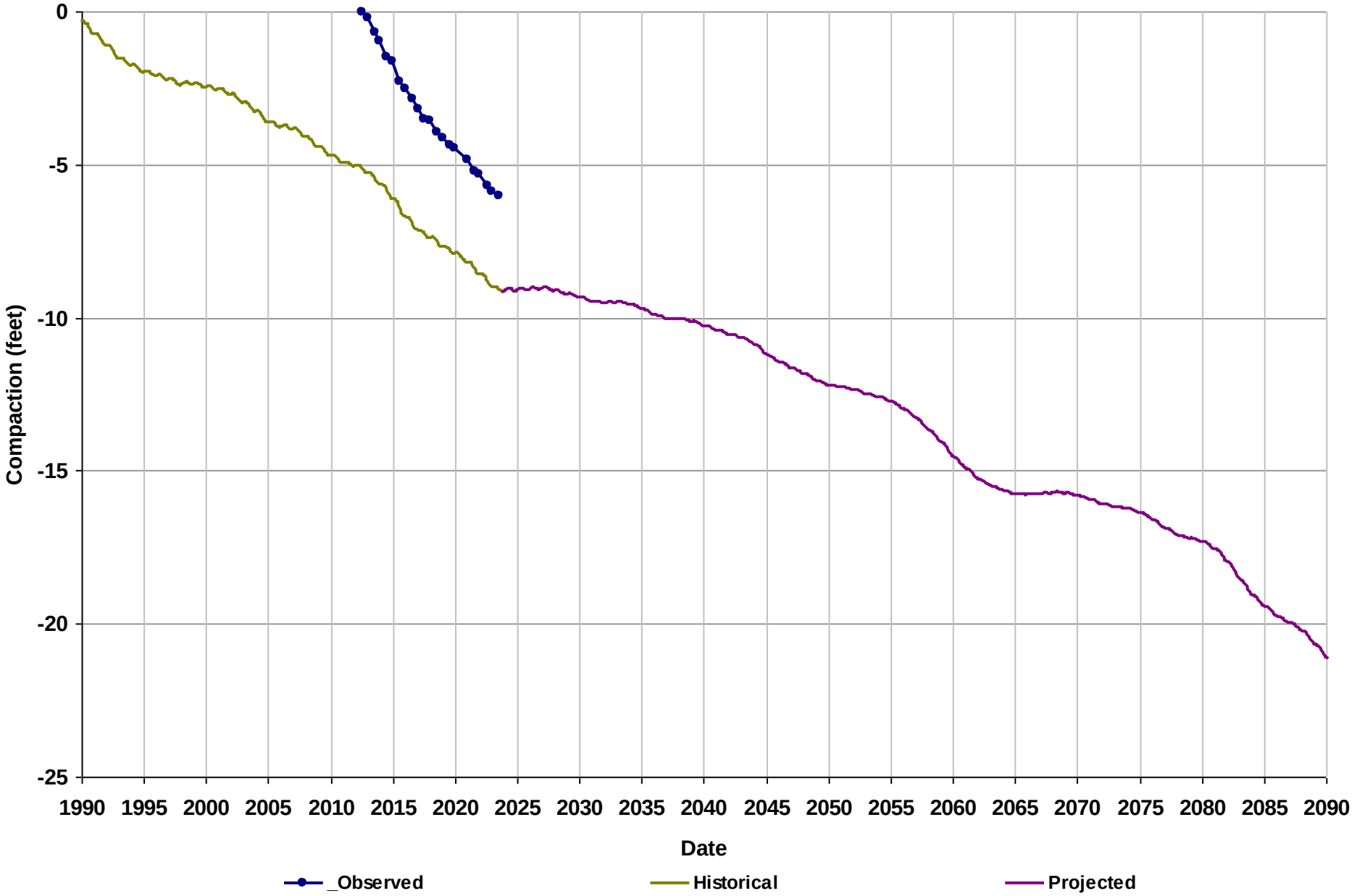
Station Name: InSAR at Bypass Curve
Data Source: USGS
Subbasin: Chowchilla
Data Type: InSAR



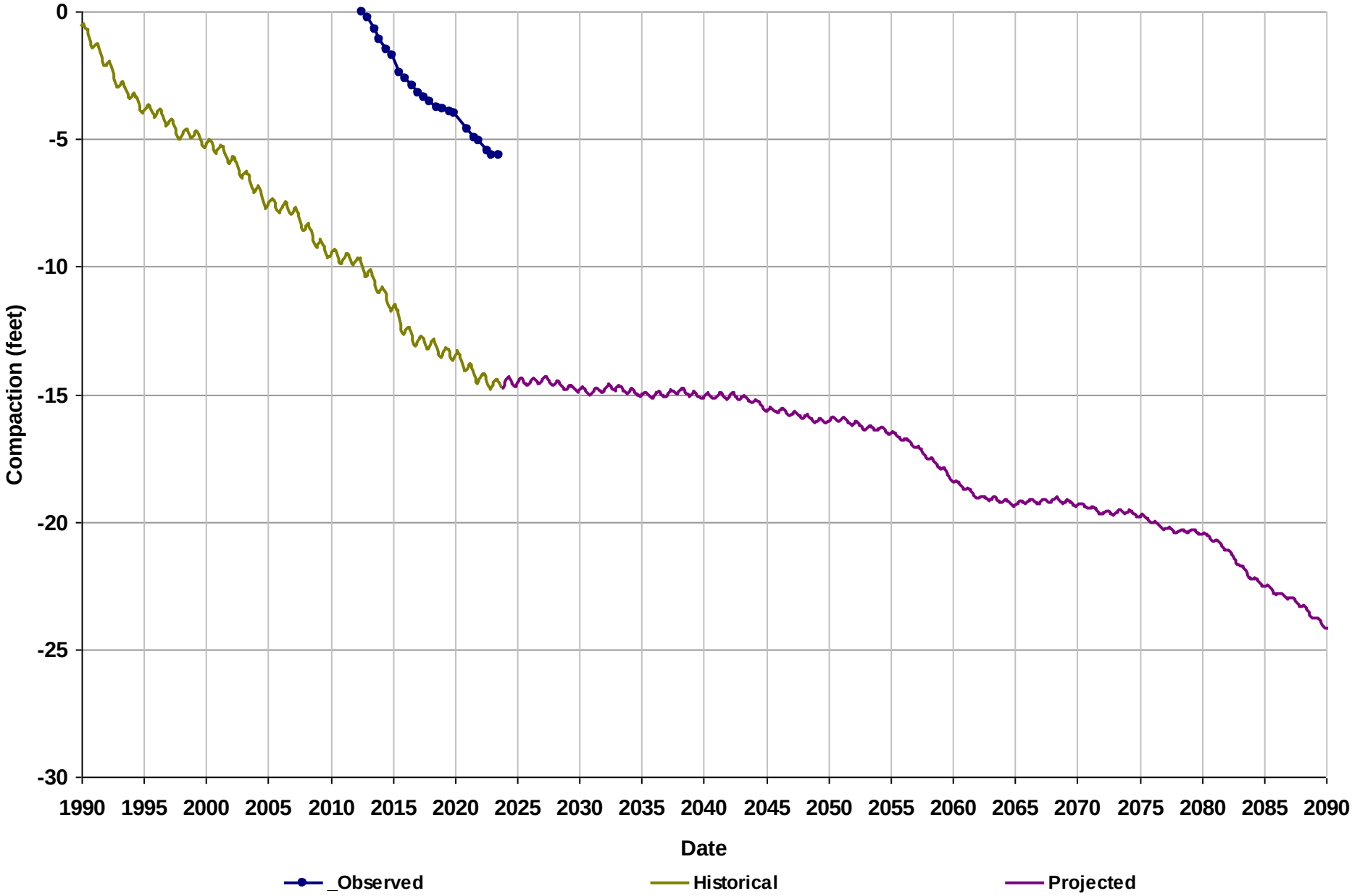
Station Name: SJRRP_1053R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



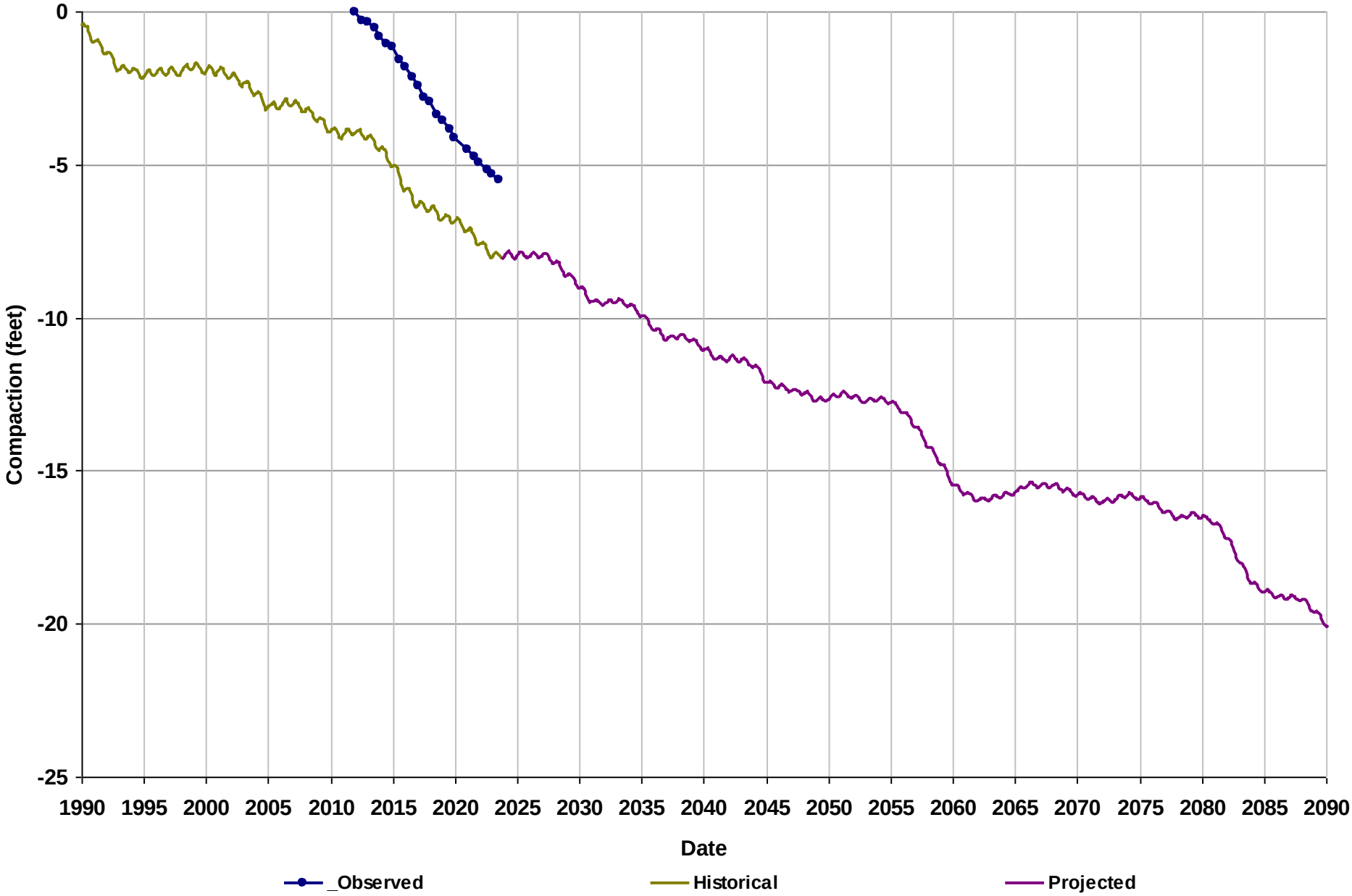
Station Name: SJRRP_1054R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



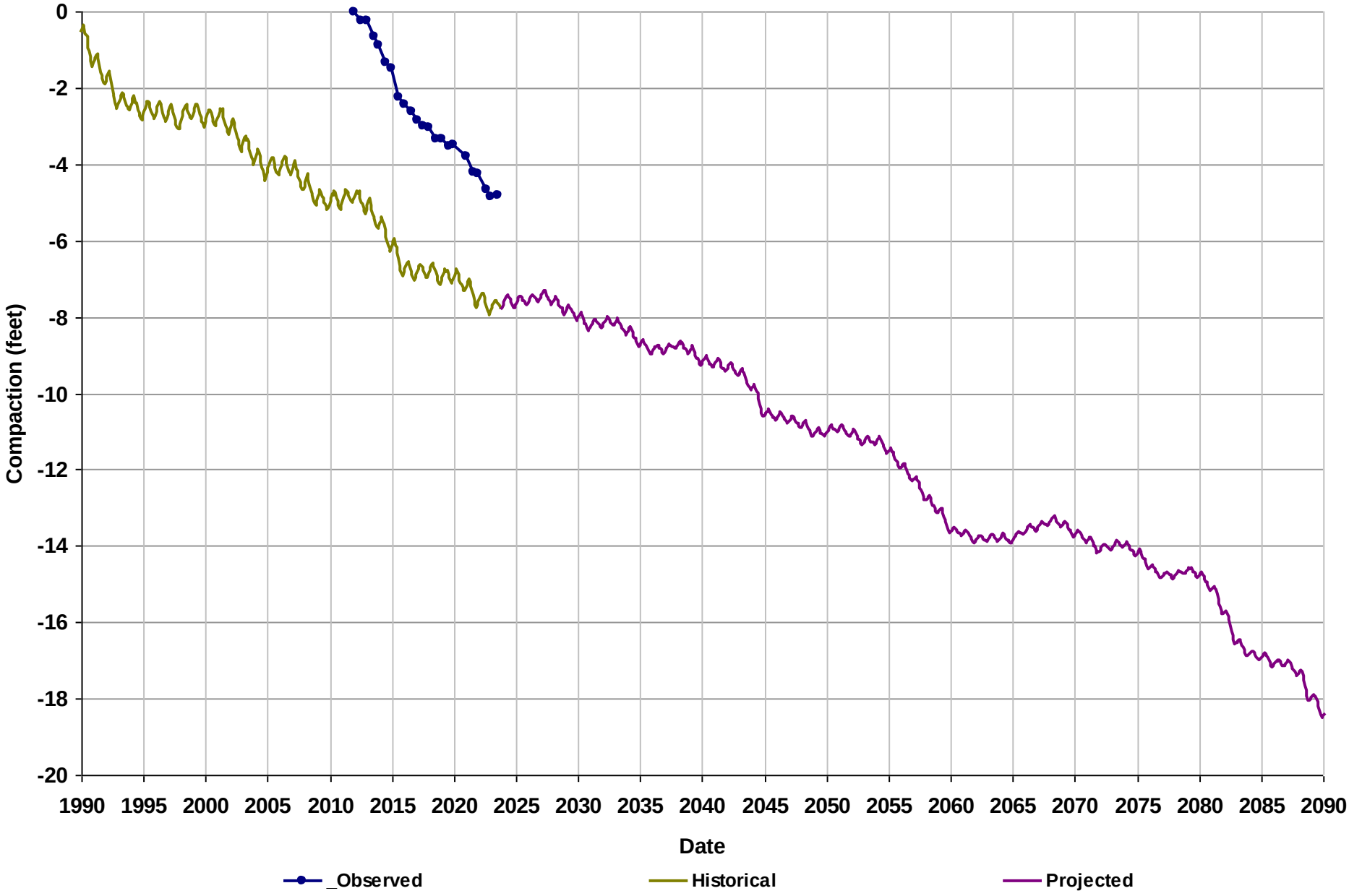
Station Name: SJRRP_1055R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



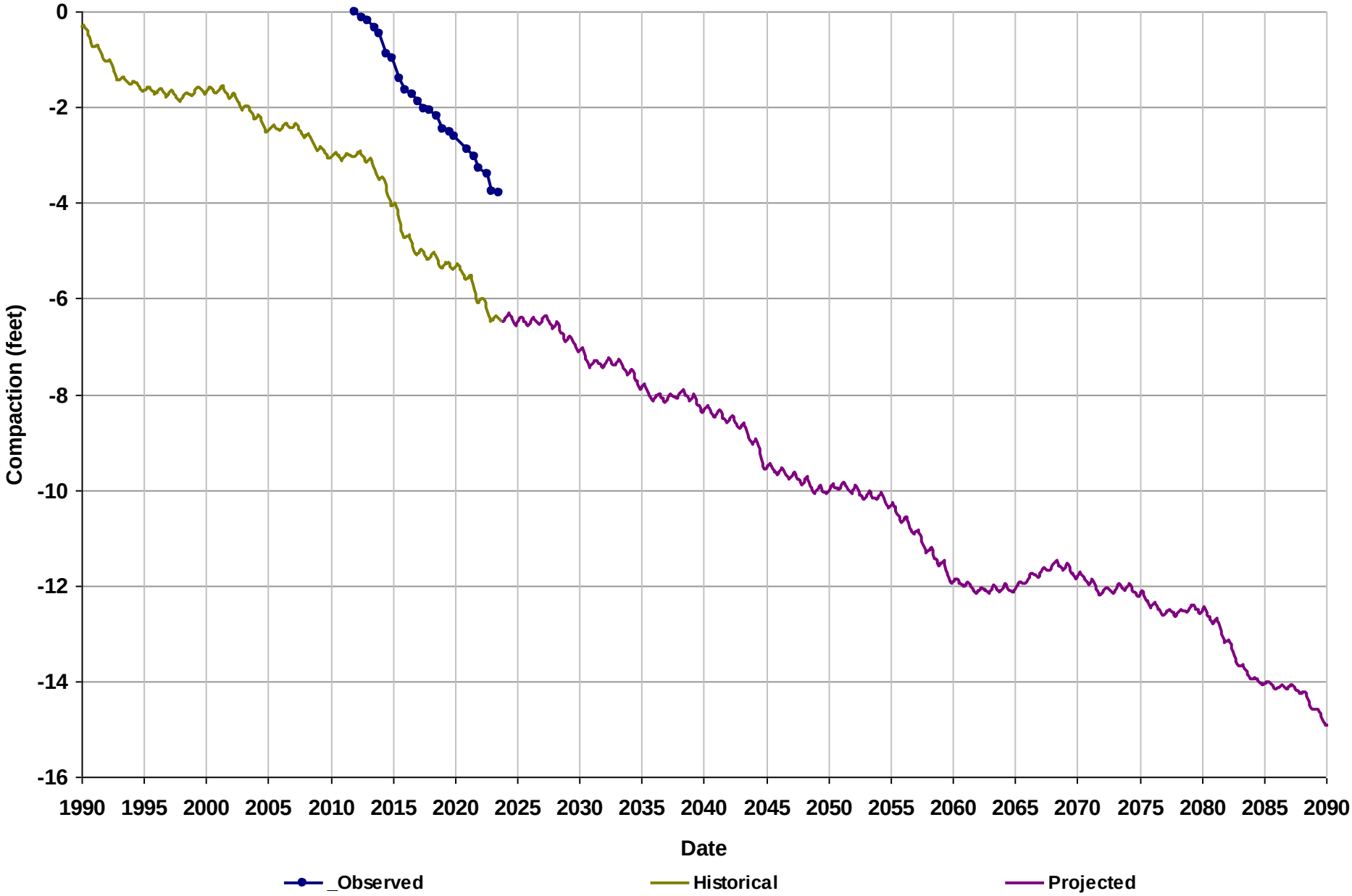
Station Name: SJRRP_123
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



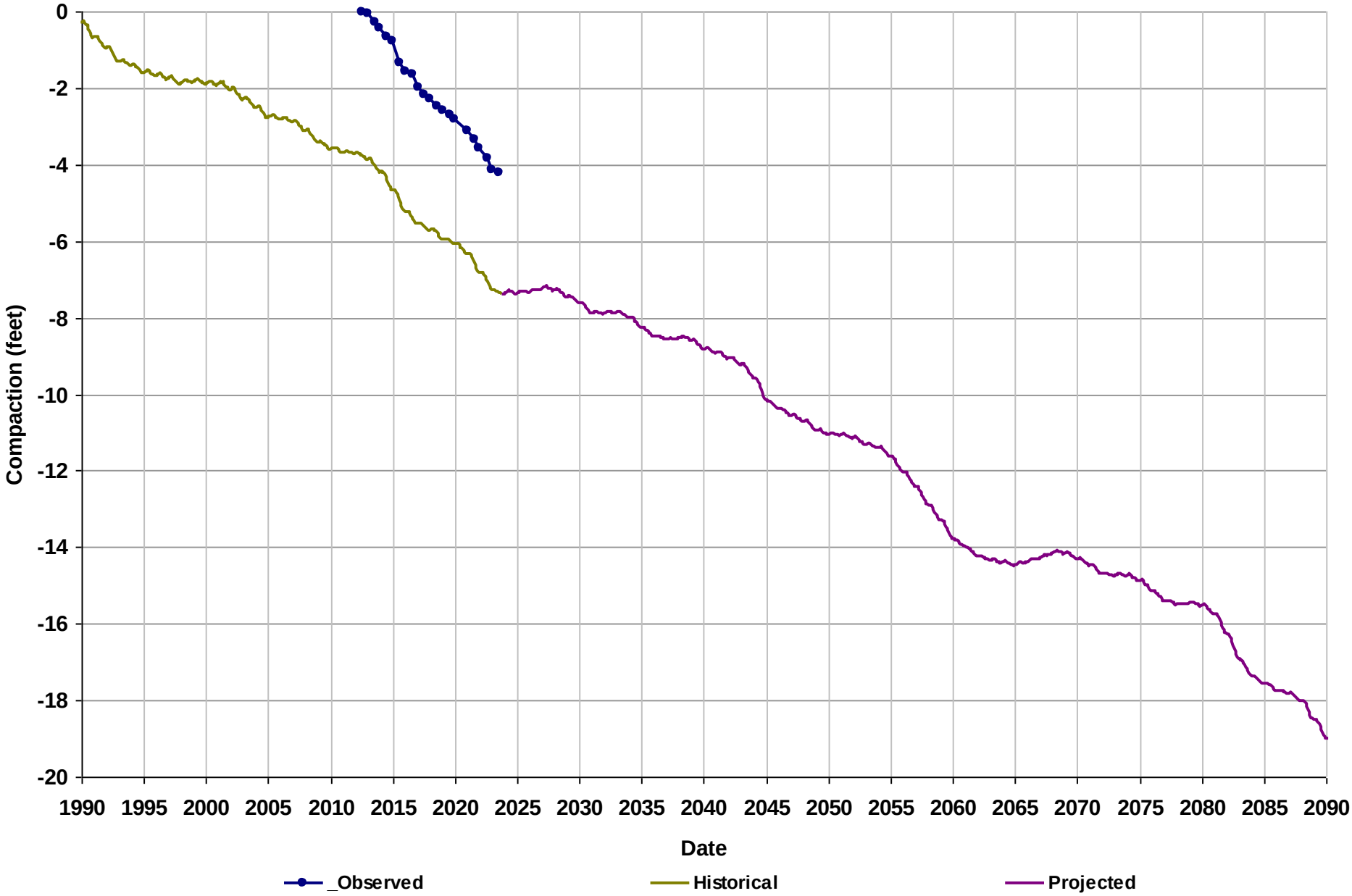
Station Name: SJRRP_124
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



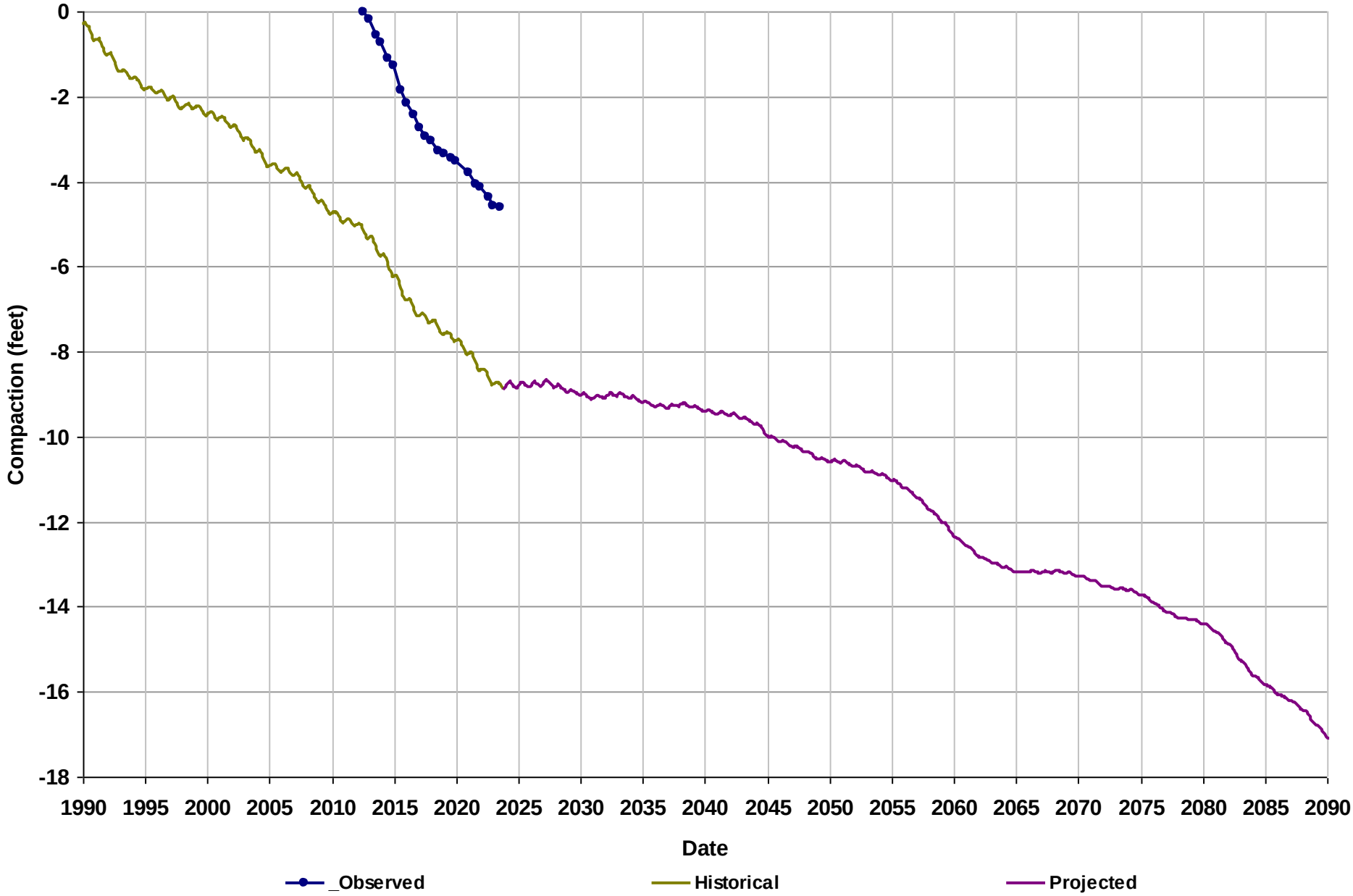
Station Name: SJRRP_135
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



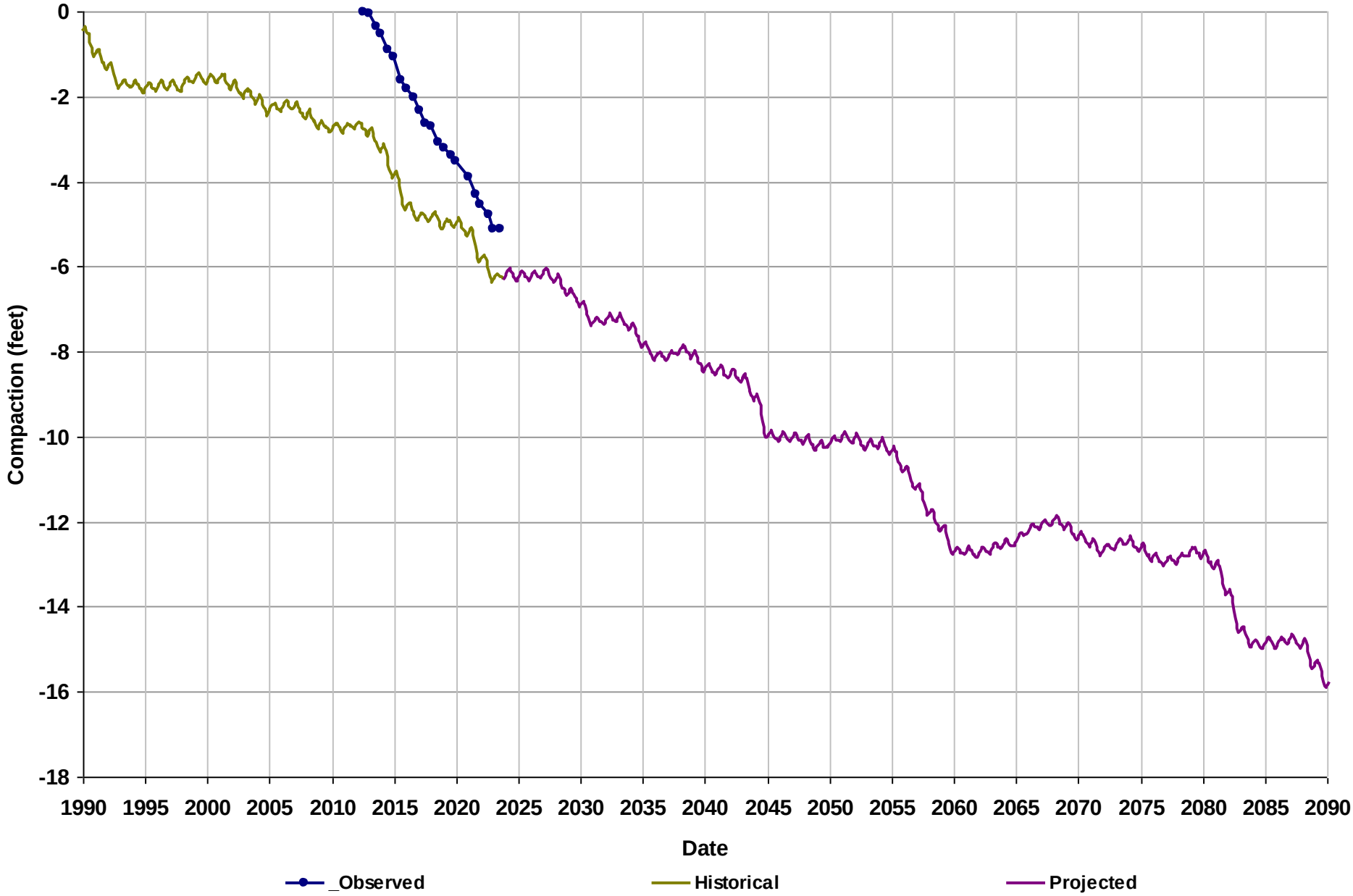
Station Name: SJRRP_2076
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_2362
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_2378
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS

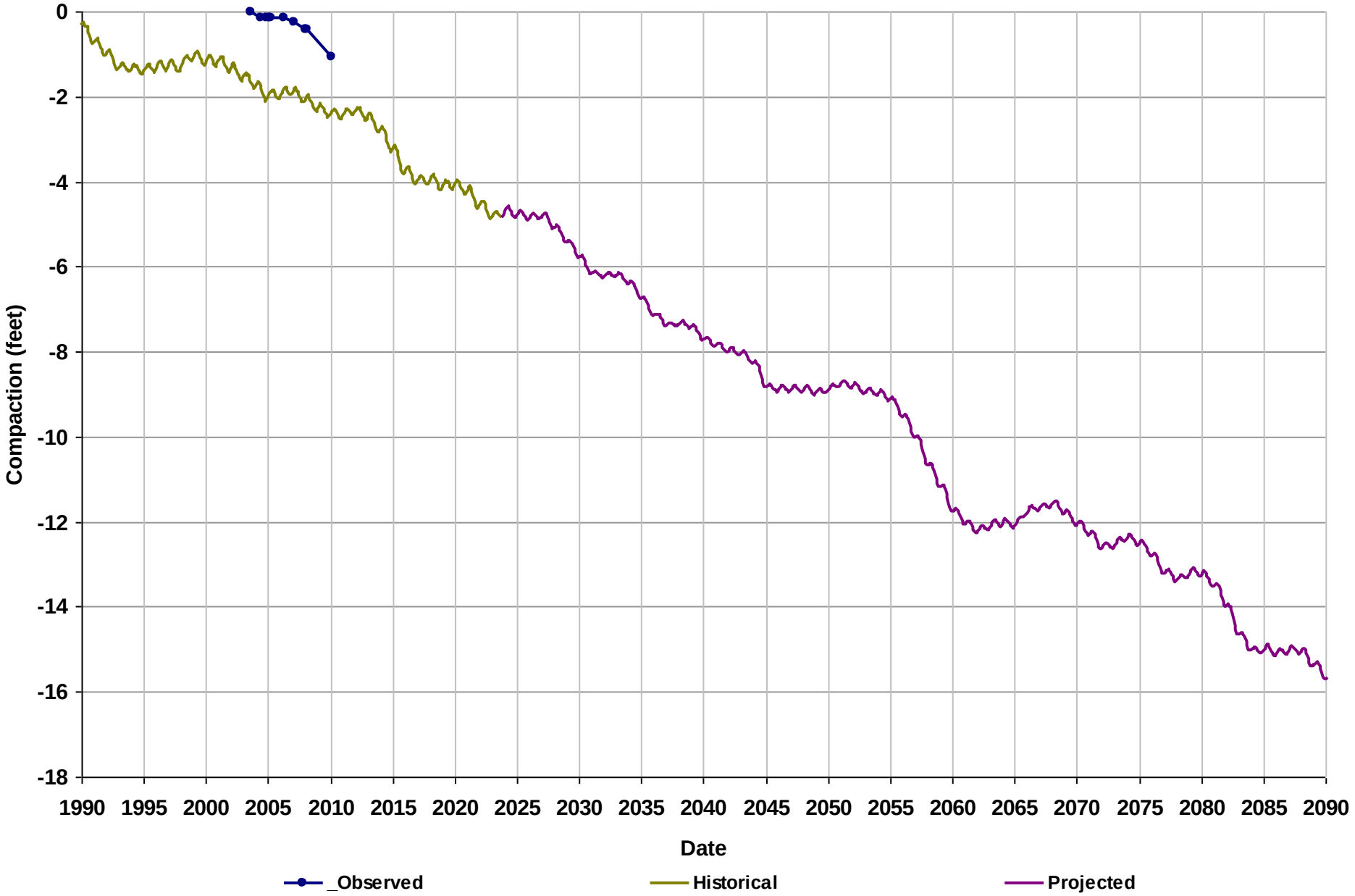


APPENDIX F.1.e

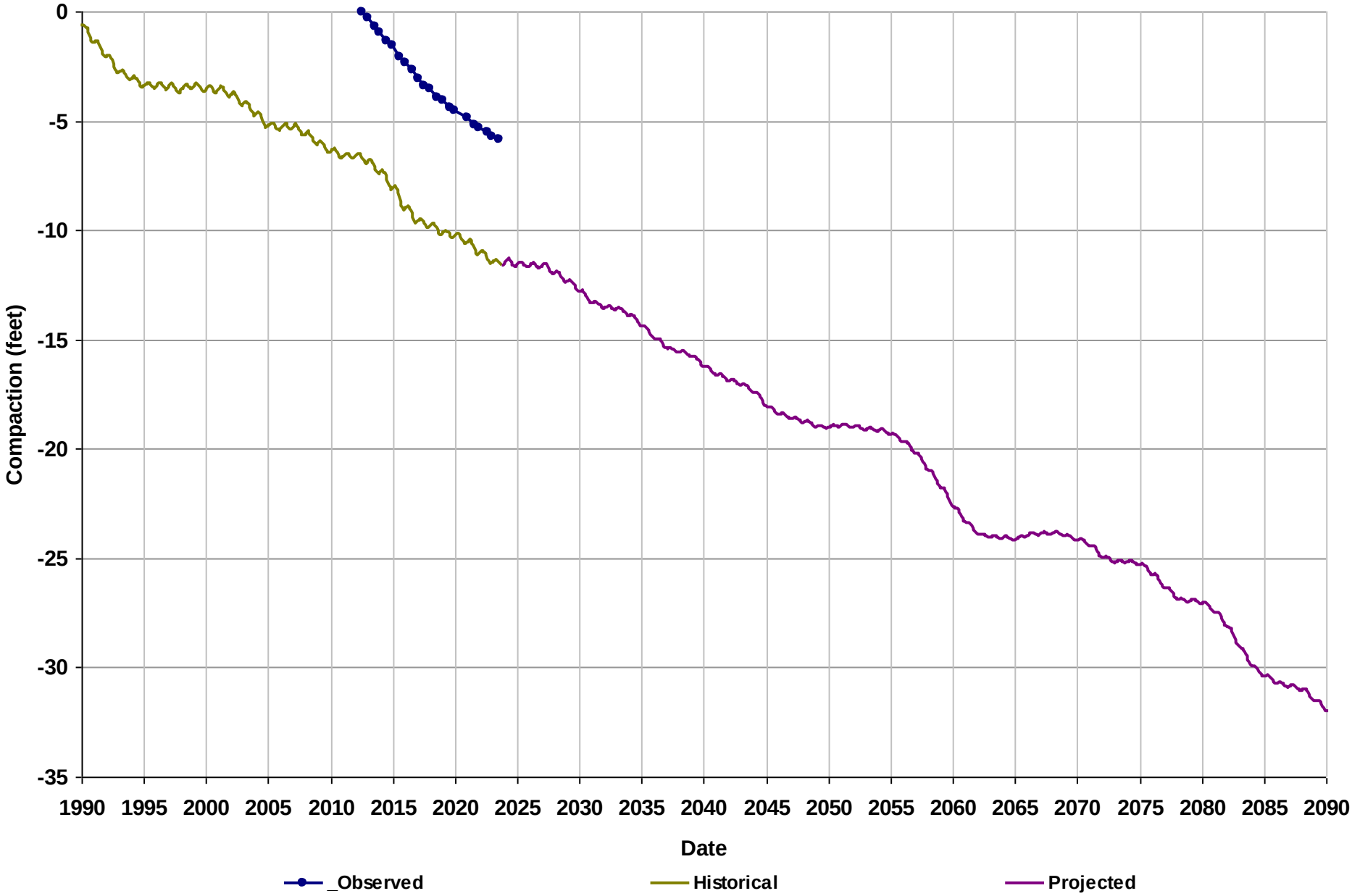
Chowchilla Subbasin Subsidence Hydrographs for RMS Stations - Projected (No Action) with Climate Change Scenario

LSCE

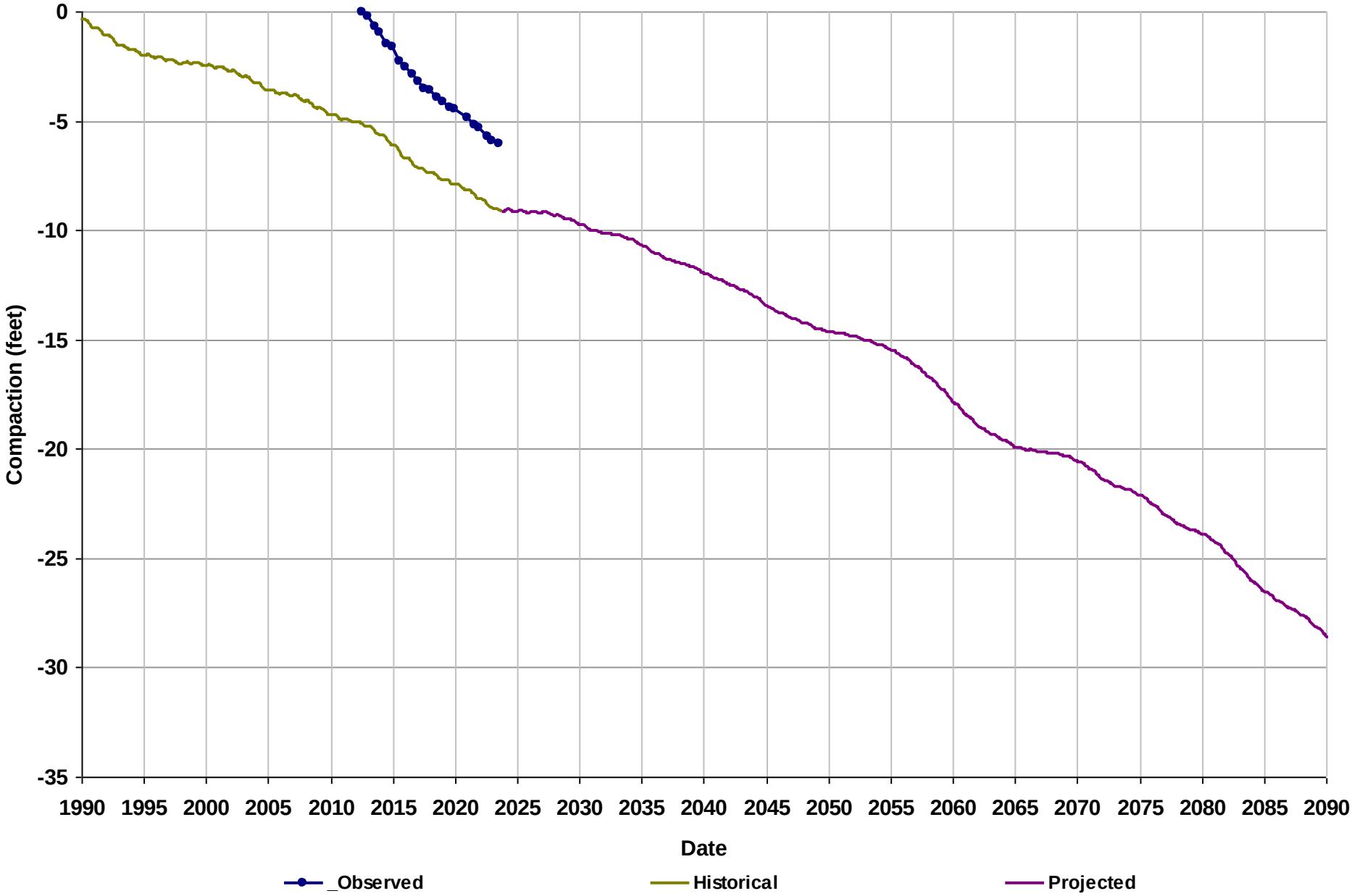
Station Name: InSAR at Bypass Curve
Data Source: USGS
Subbasin: Chowchilla
Data Type: InSAR



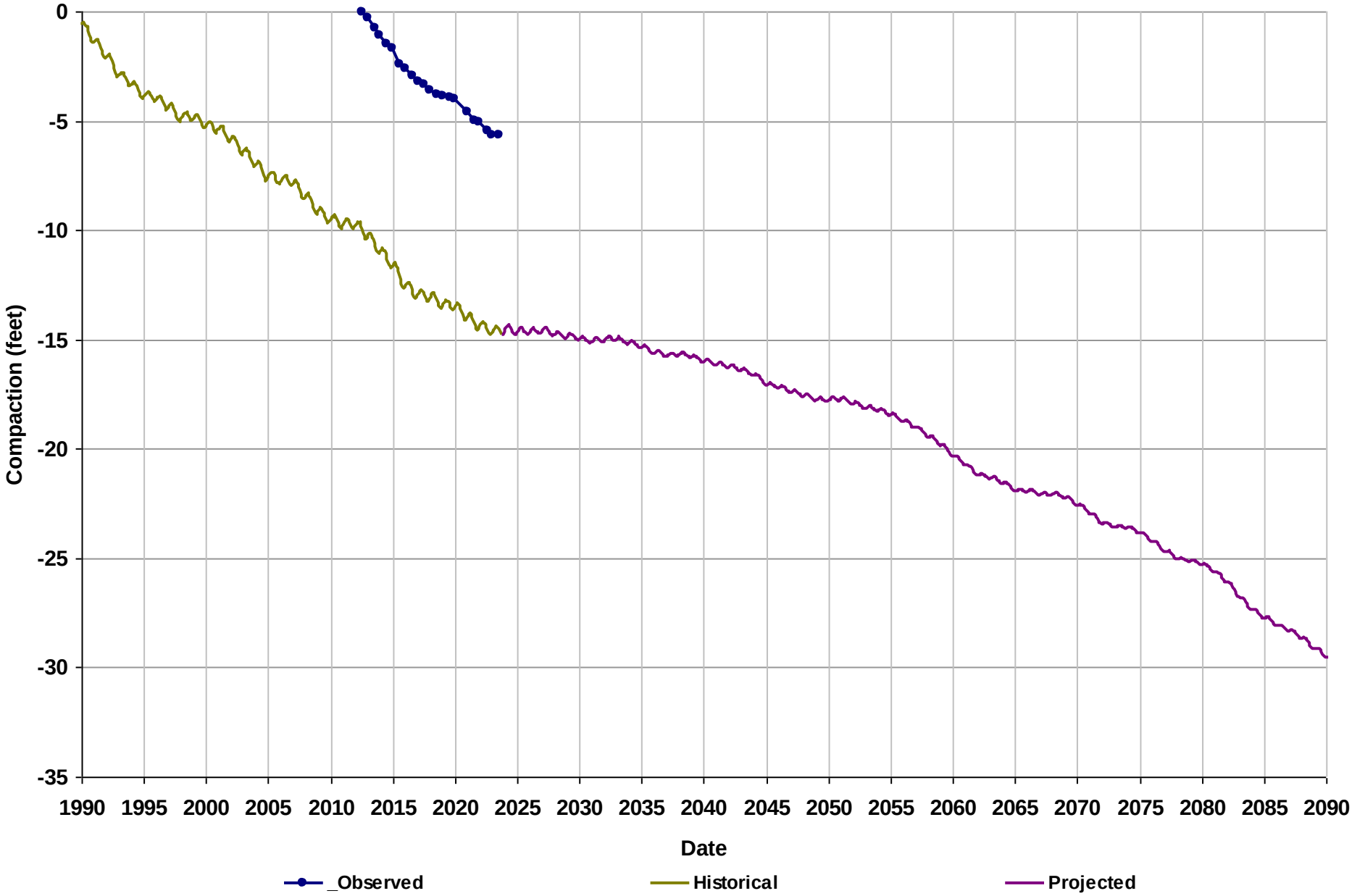
Station Name: SJRRP_1053R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



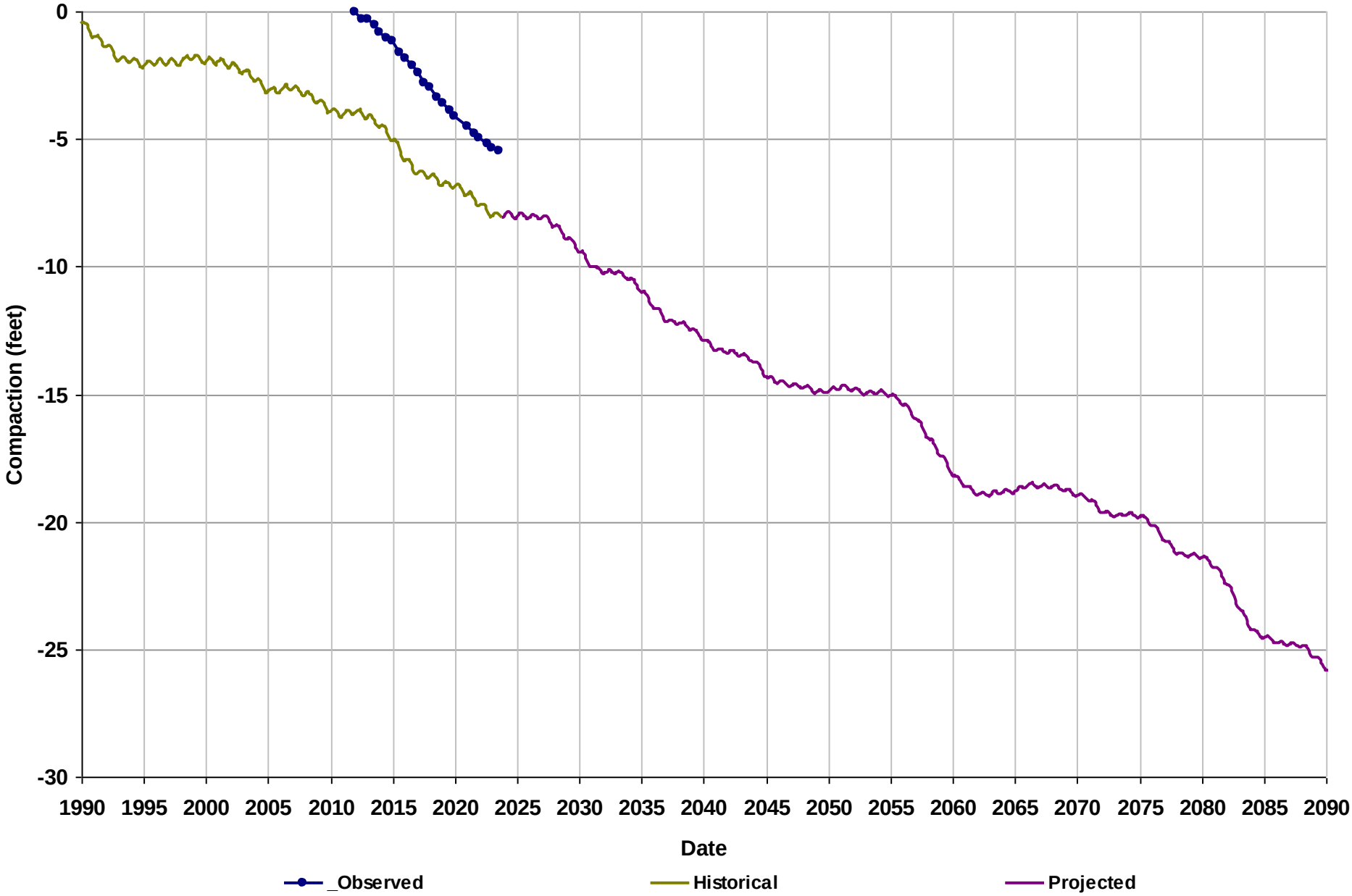
Station Name: SJRRP_1054R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



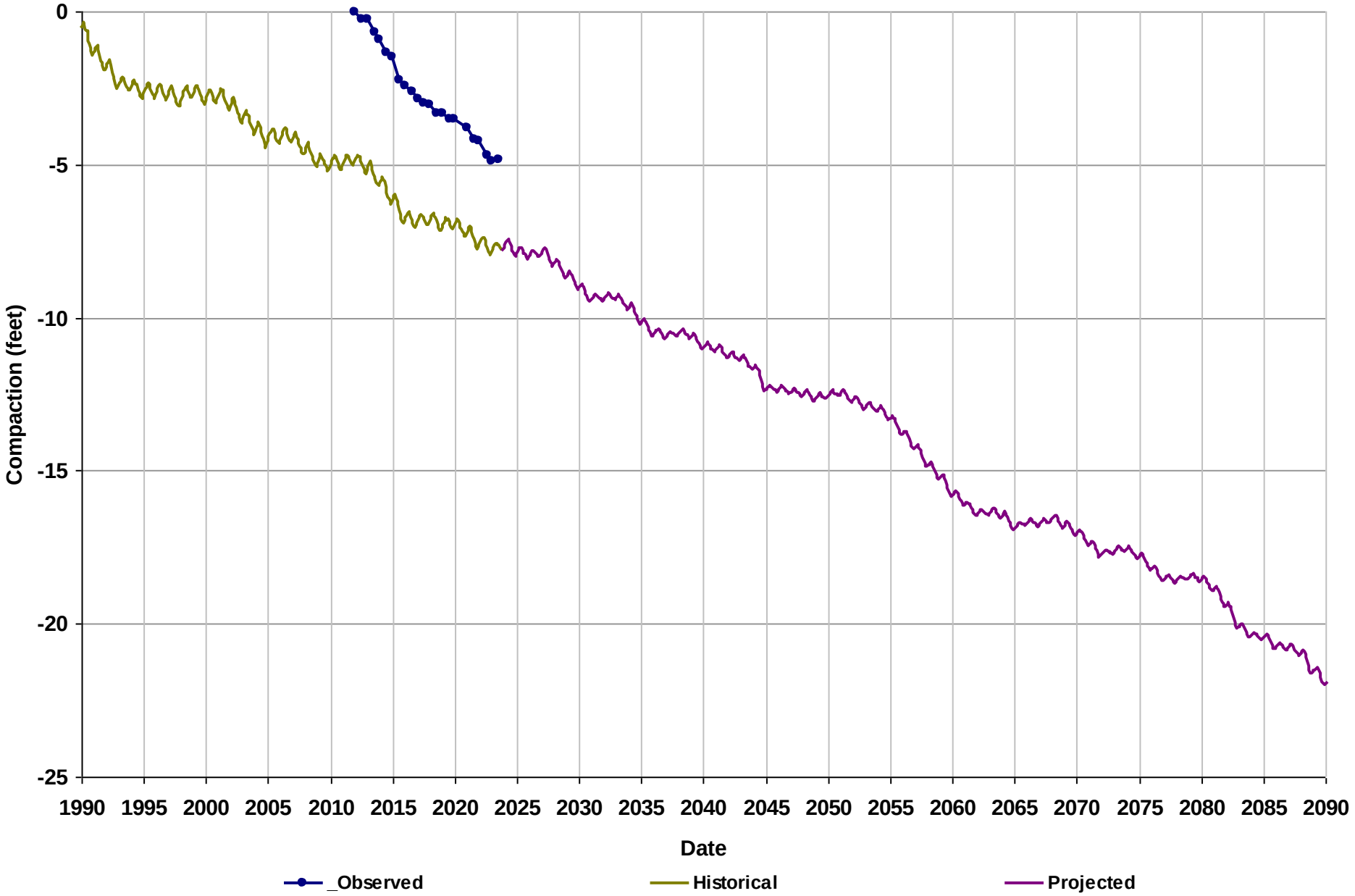
Station Name: SJRRP_1055R
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



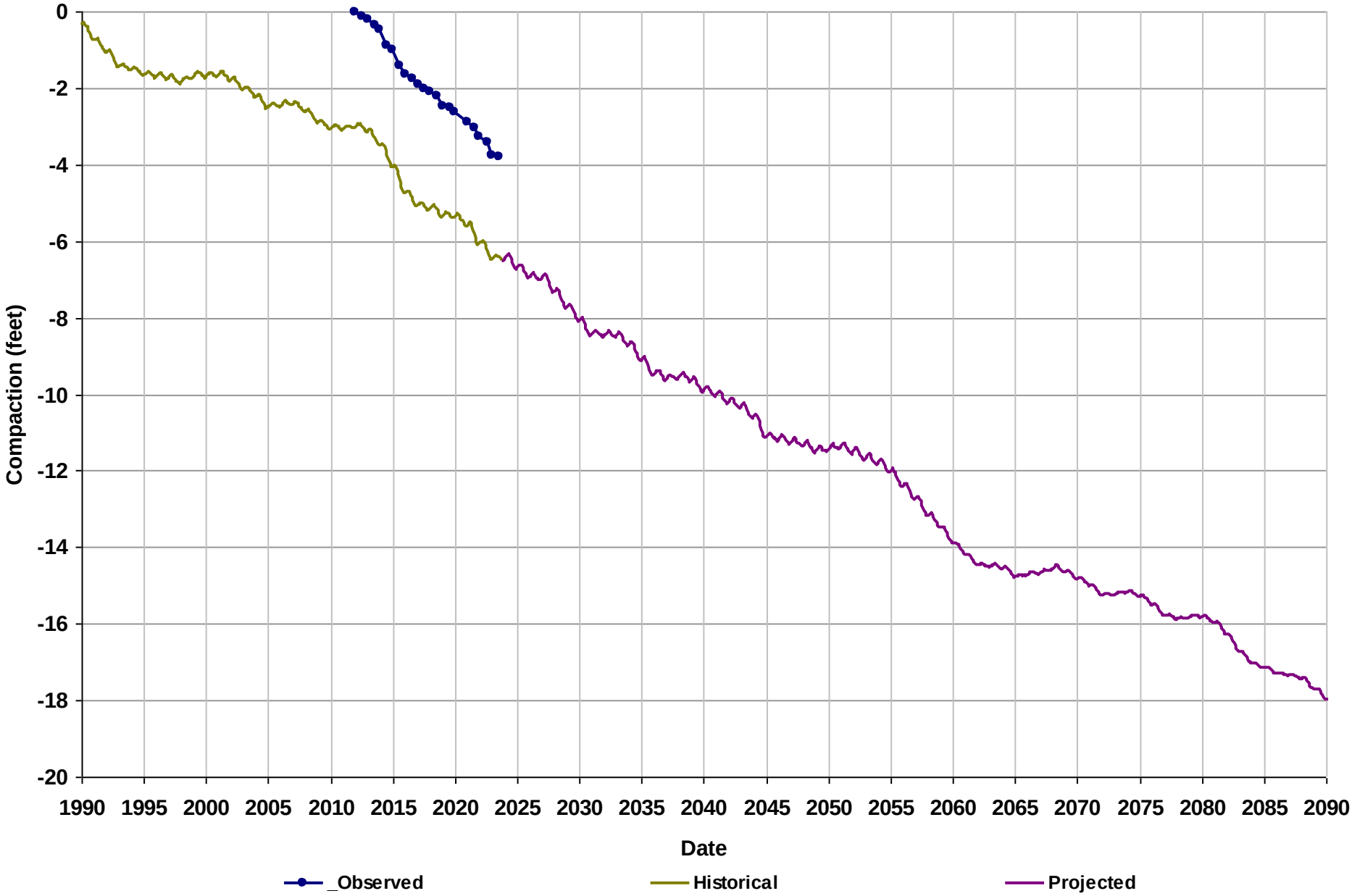
Station Name: SJRRP_123
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



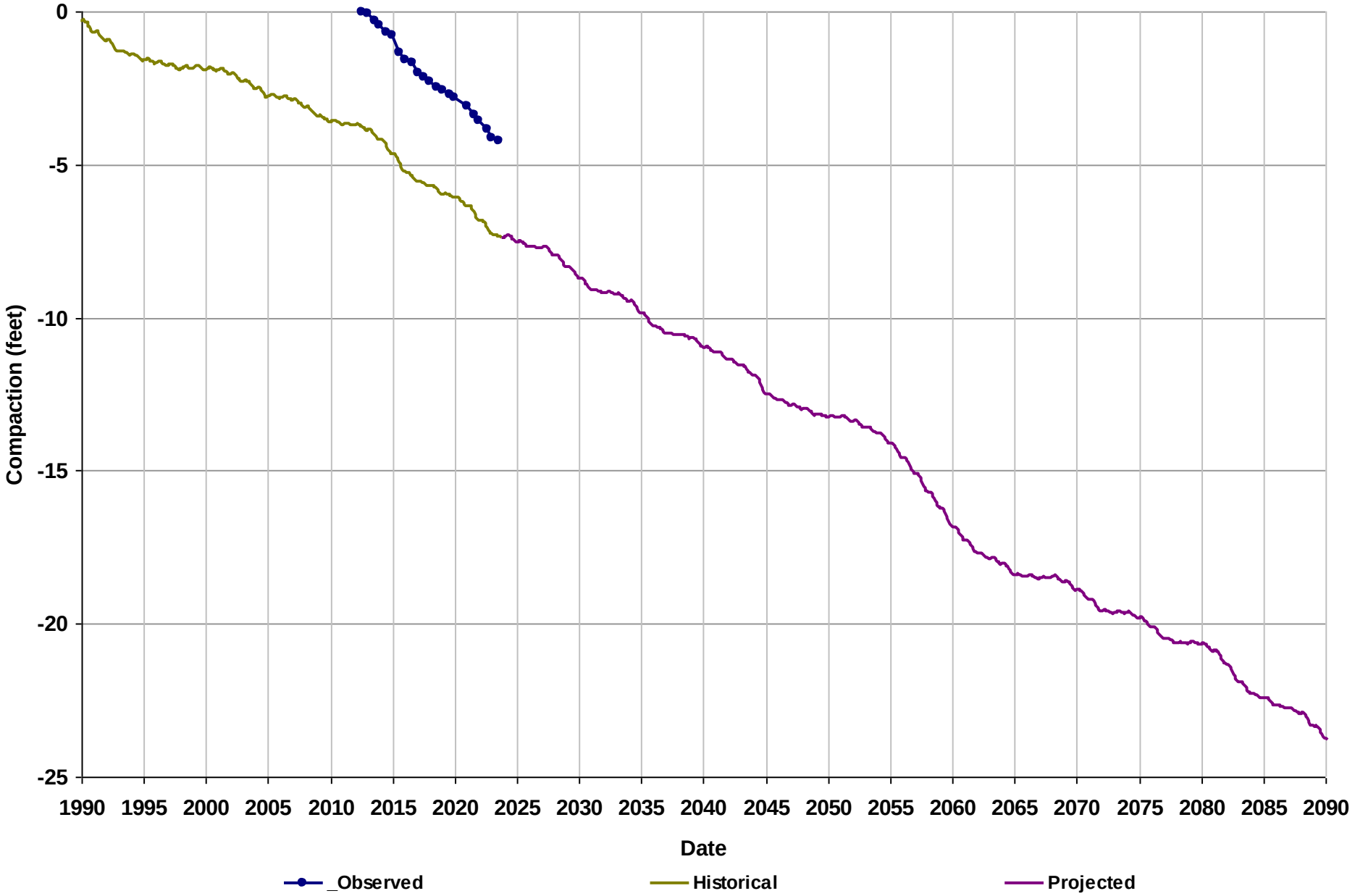
Station Name: SJRRP_124
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



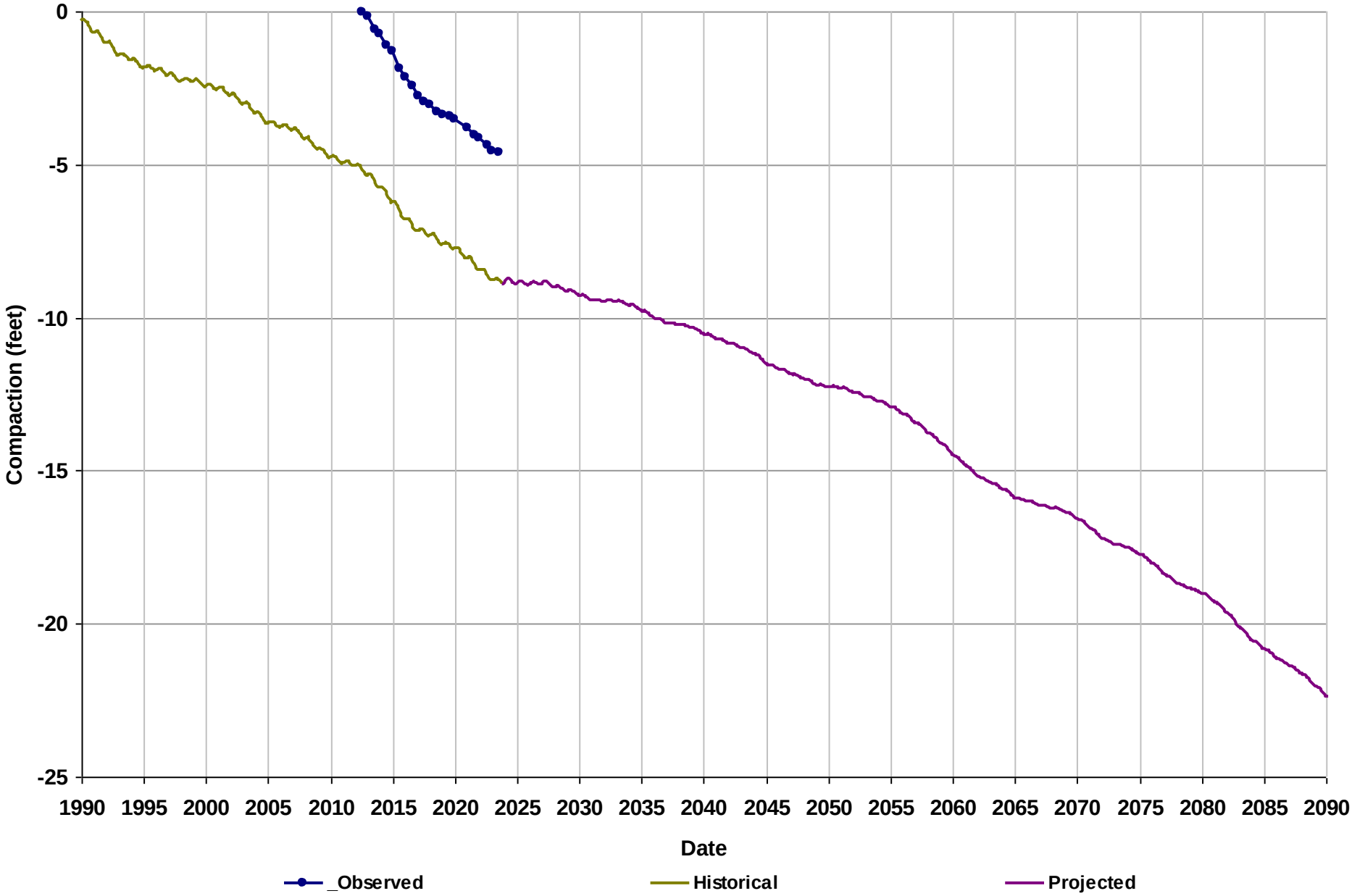
Station Name: SJRRP_135
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



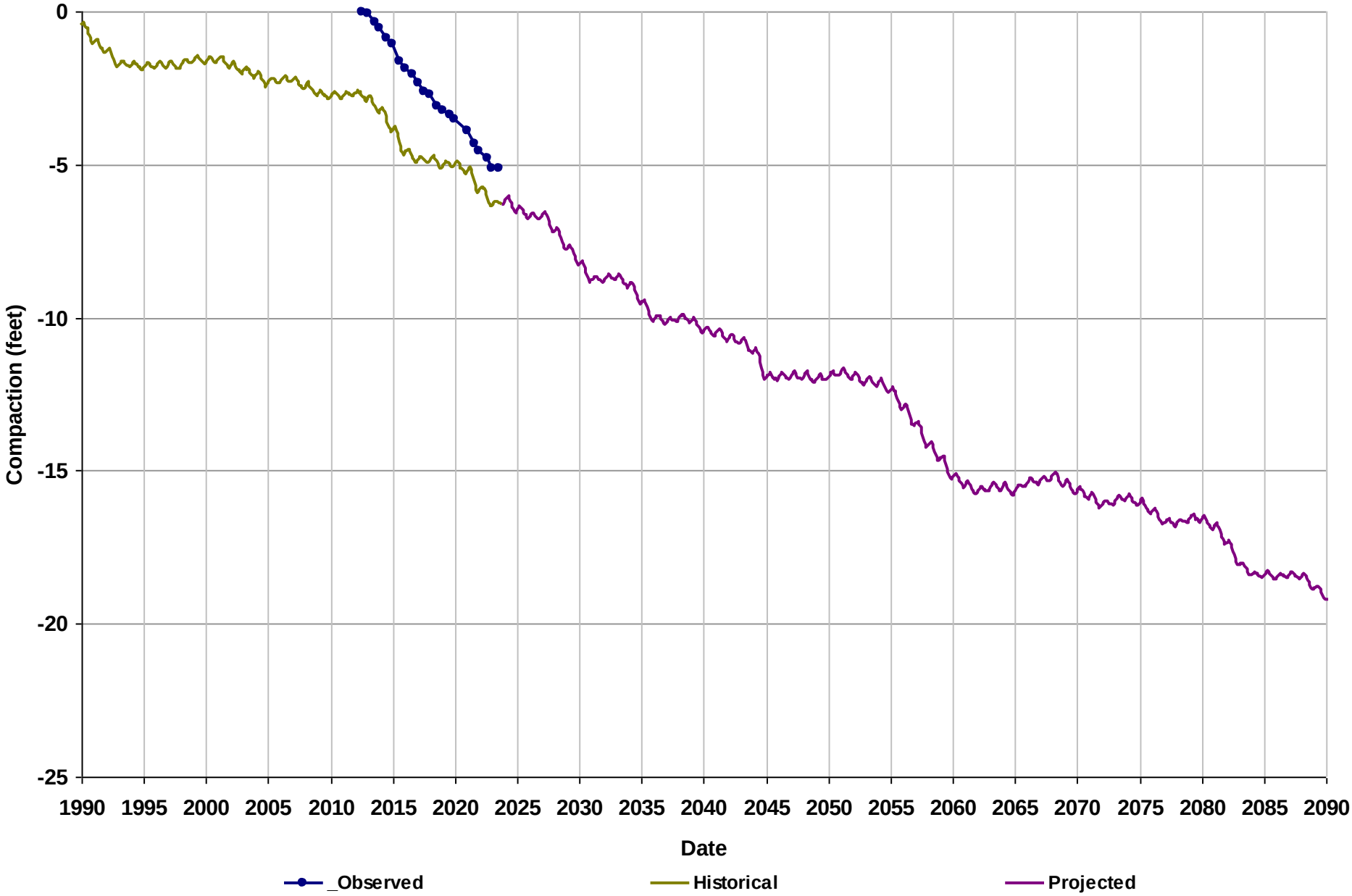
Station Name: SJRRP_2076
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_2362
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



Station Name: SJRRP_2378
Data Source: UBSR SJRRP
Subbasin: Chowchilla
Data Type: GPS



APPENDIX F.2

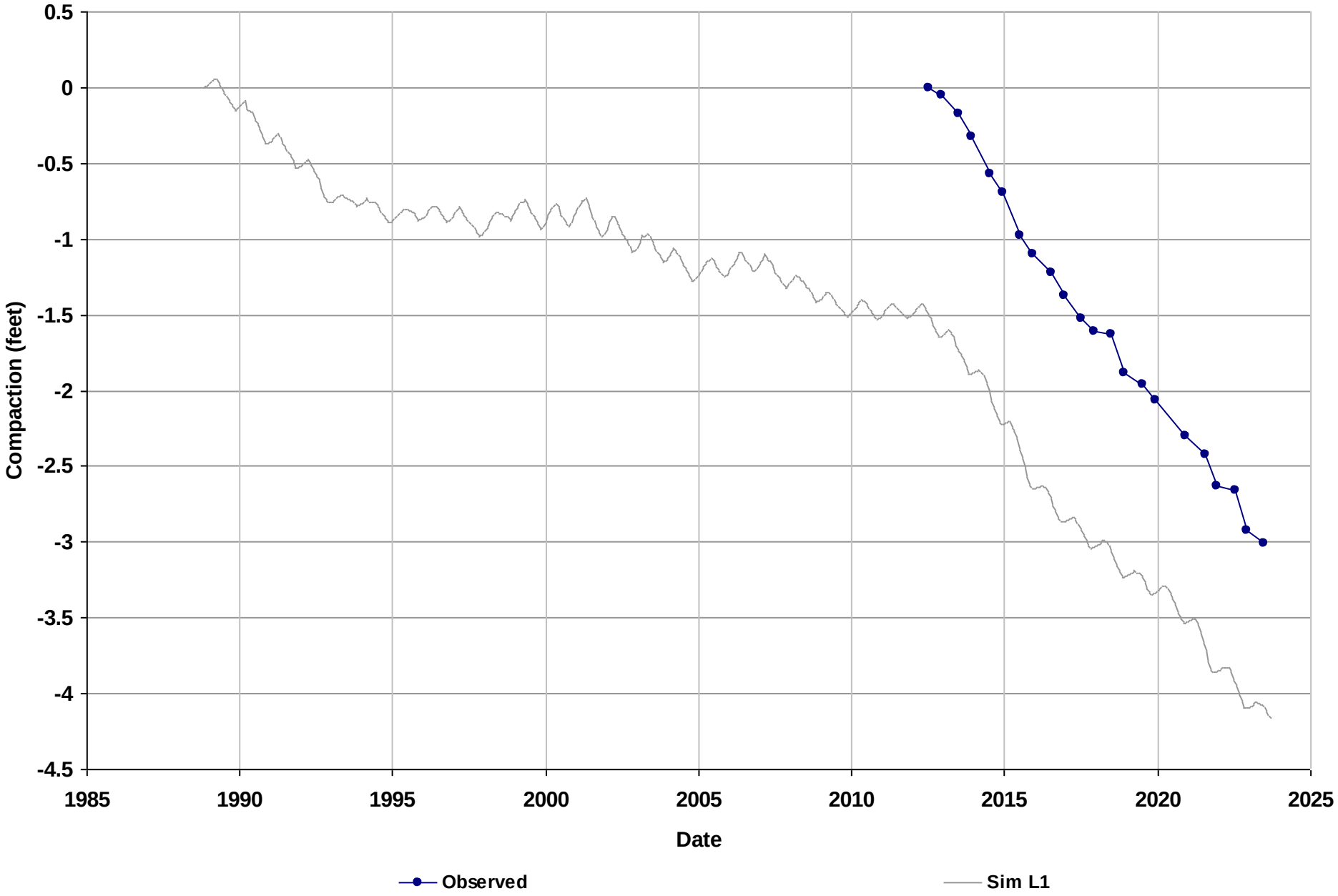
Madera Subbasin Subsidence Hydrographs for RMS Stations

LSCE

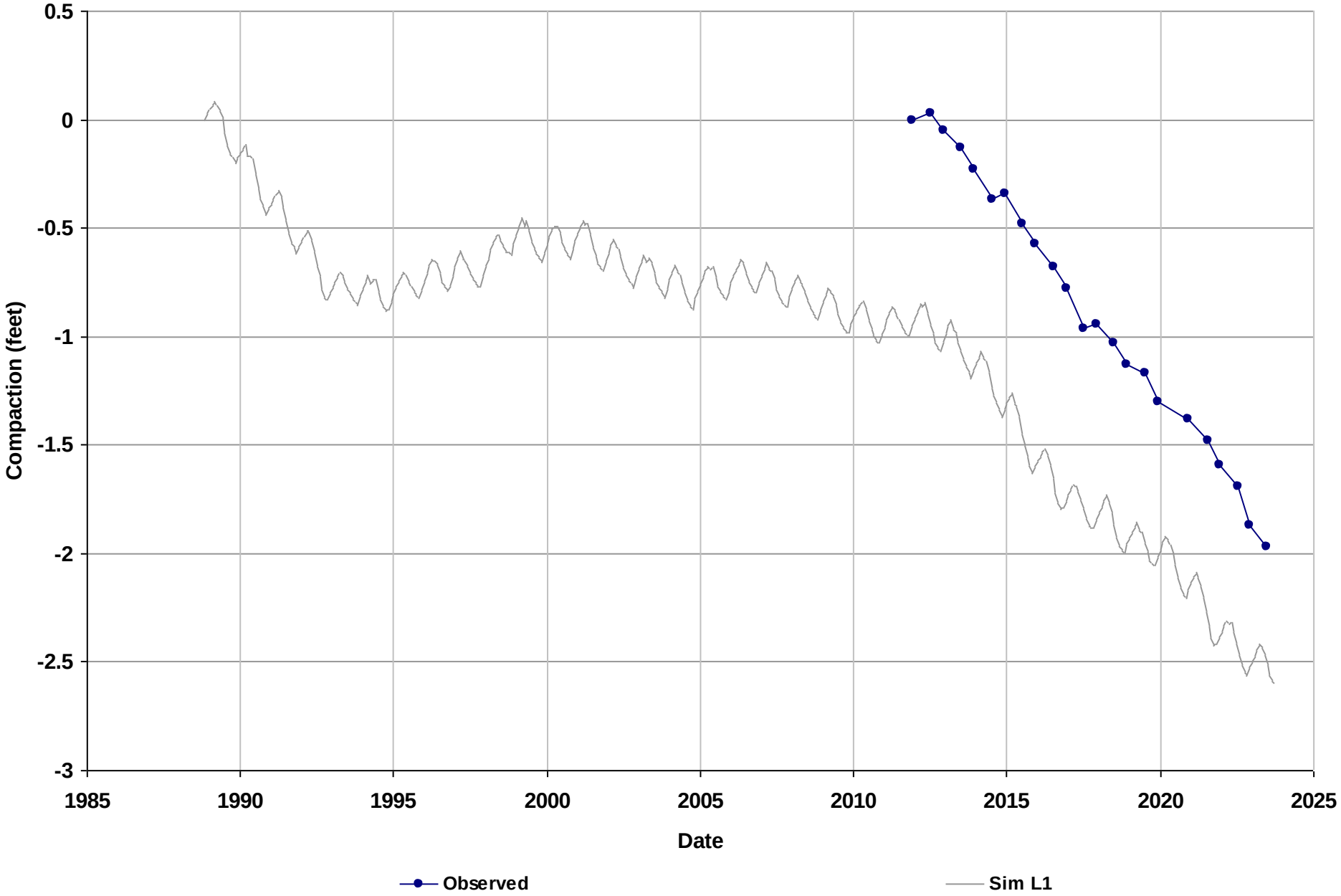
APPENDIX F.2.a

Madera Subbasin Subsidence Hydrographs for RMS Stations - Historical Scenario

Station Name: SJRRP_29
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

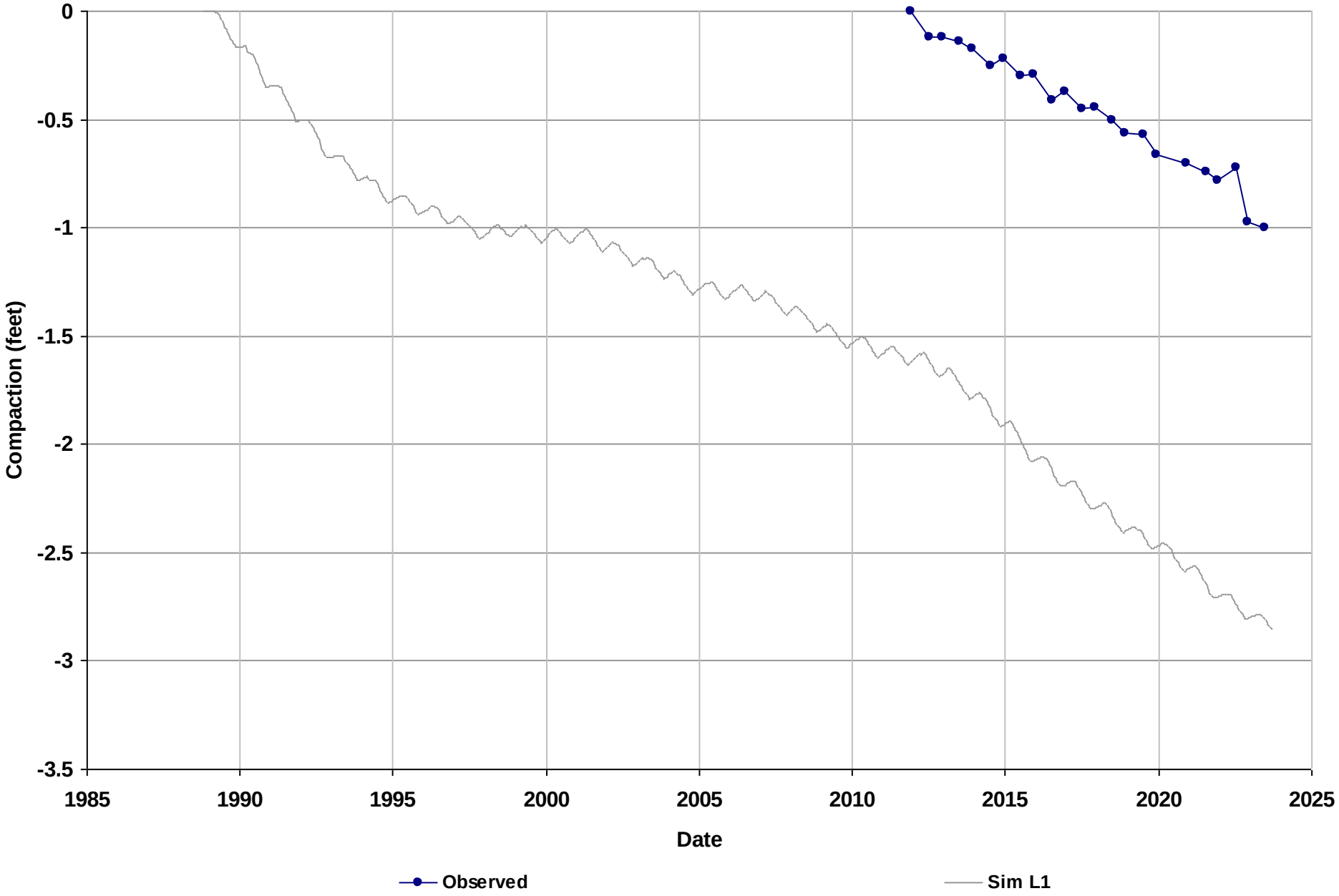


Station Name: SJRRP_127
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



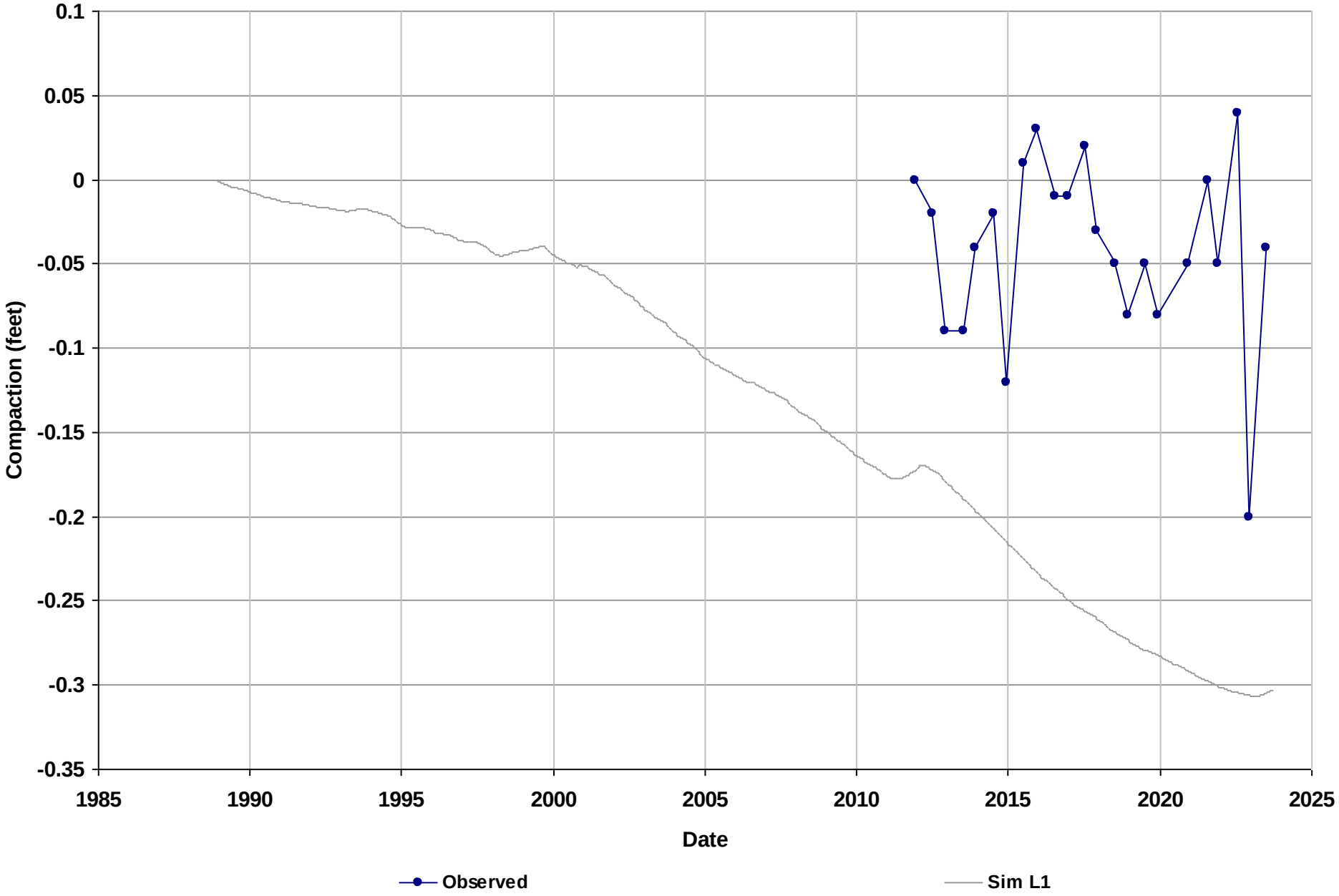
F.2.a-3

Station Name: SJRRP_141
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

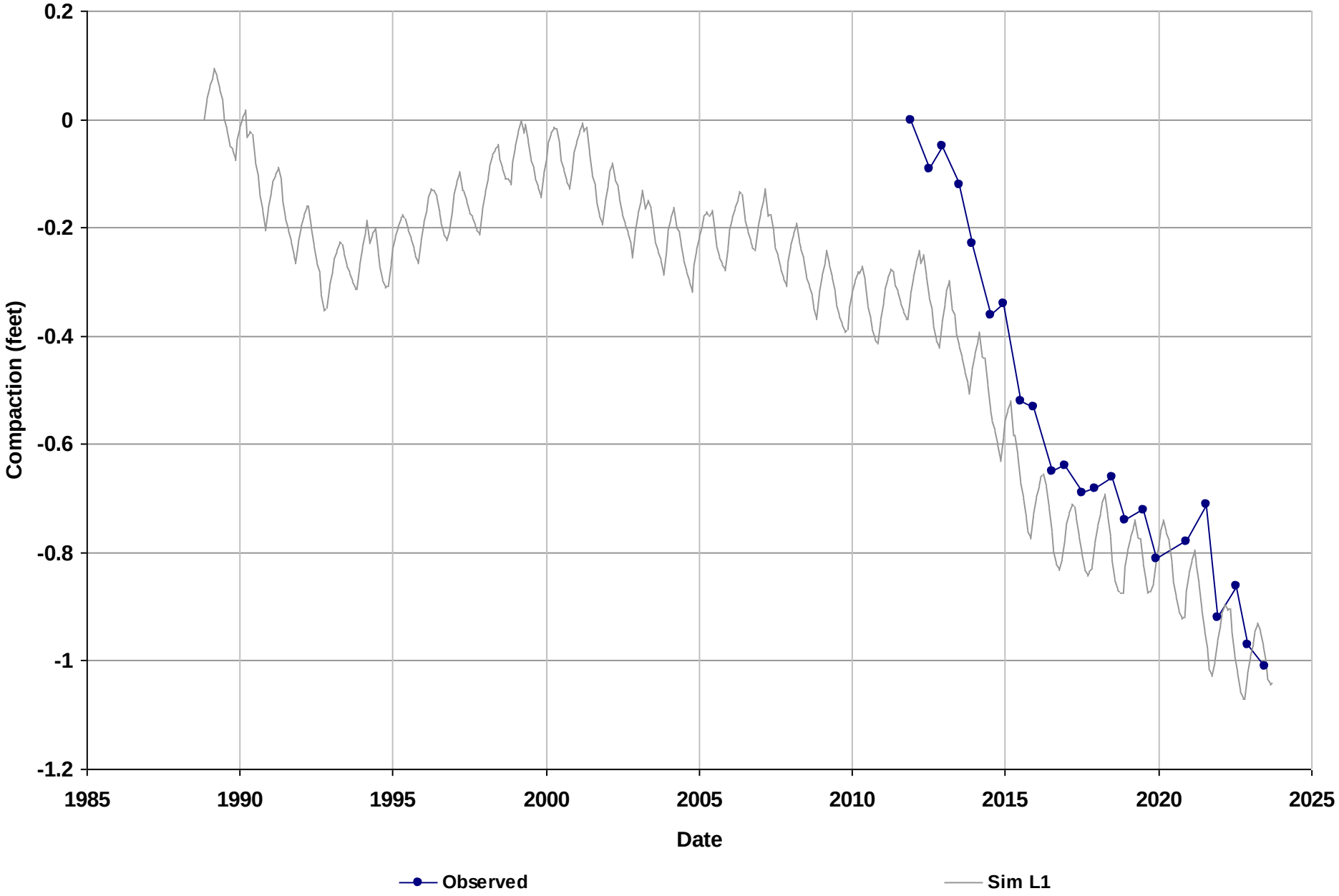


F.2.a-4

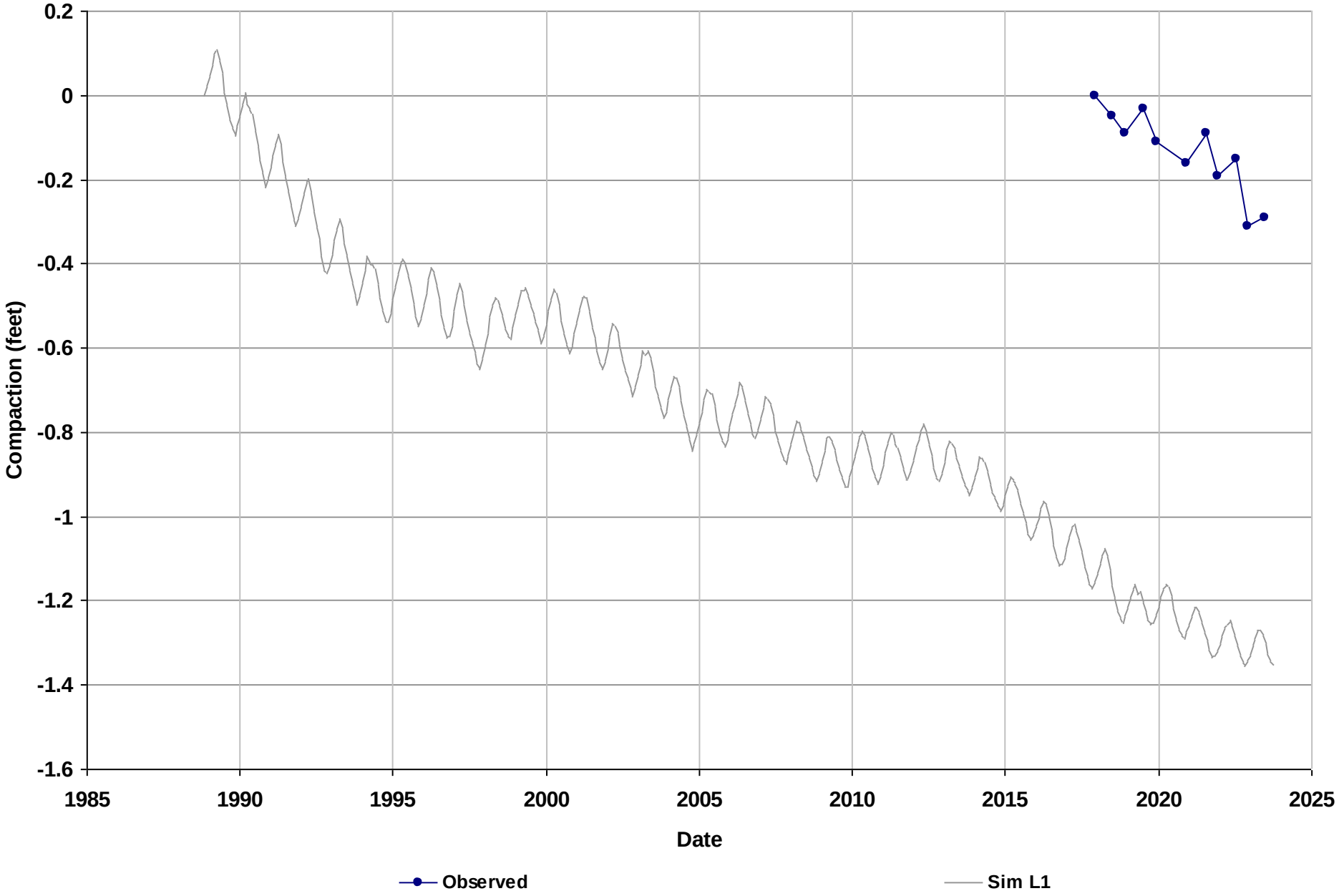
Station Name: SJRRP_142
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



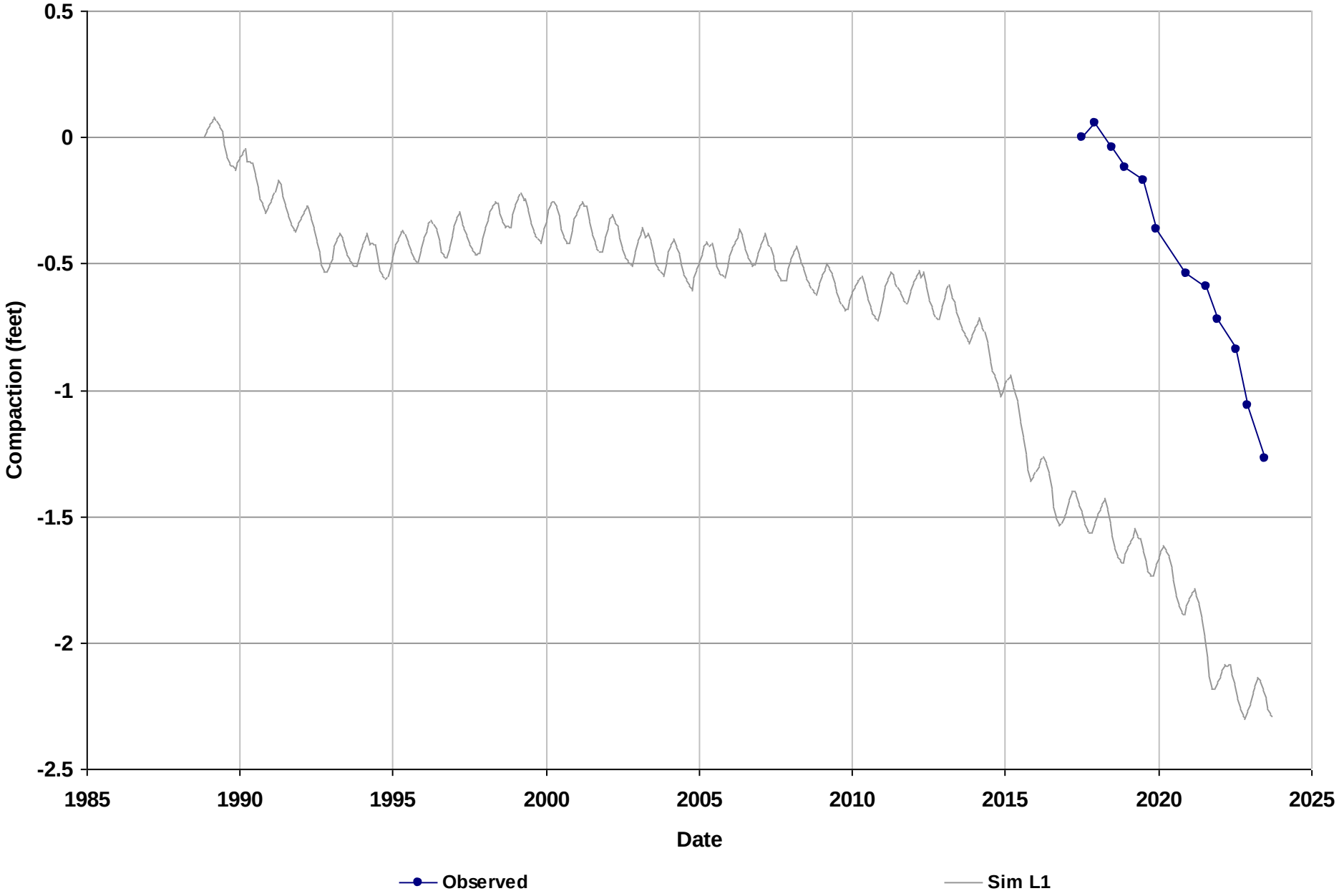
Station Name: SJRRP_160R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



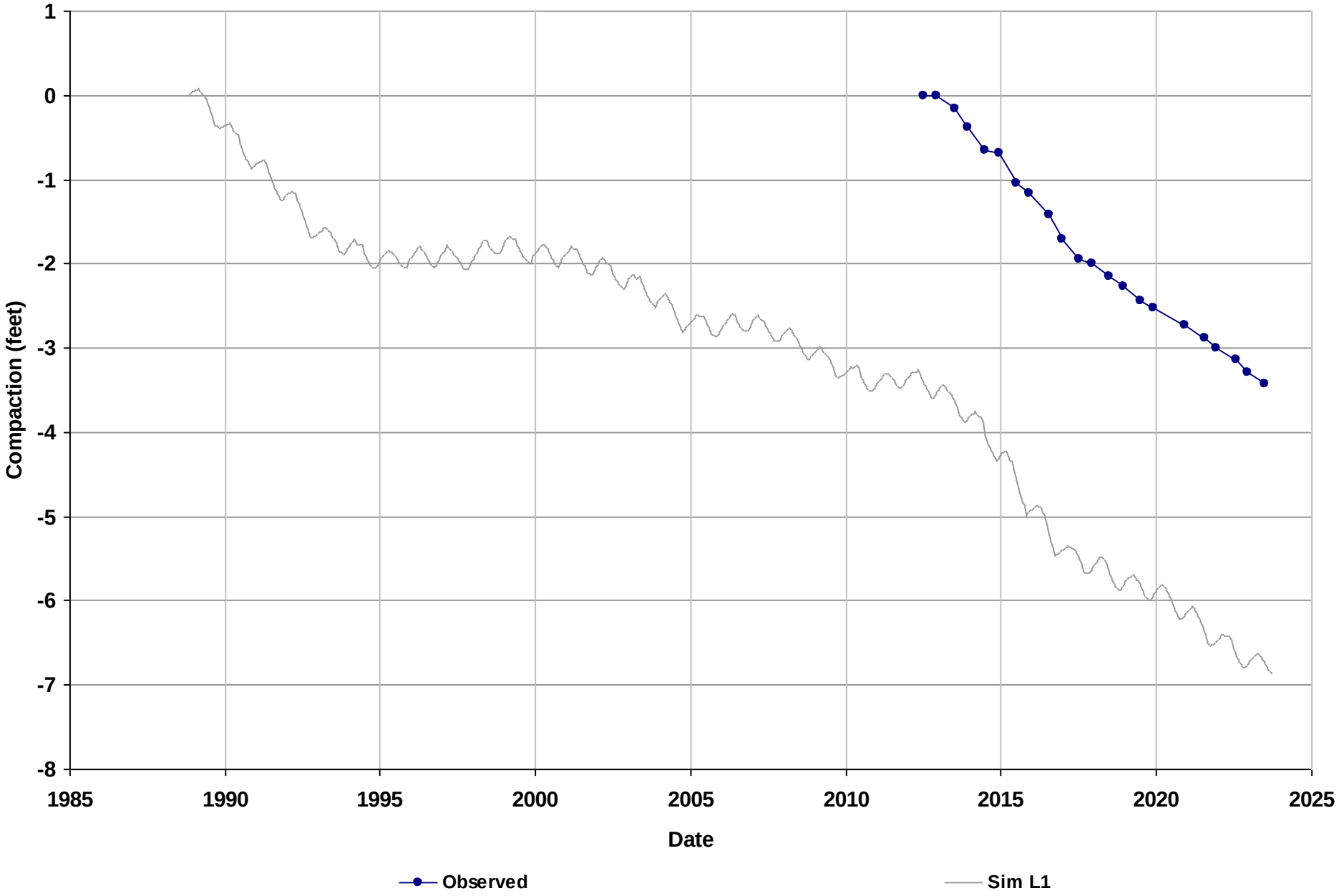
Station Name: SJRRP_165
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



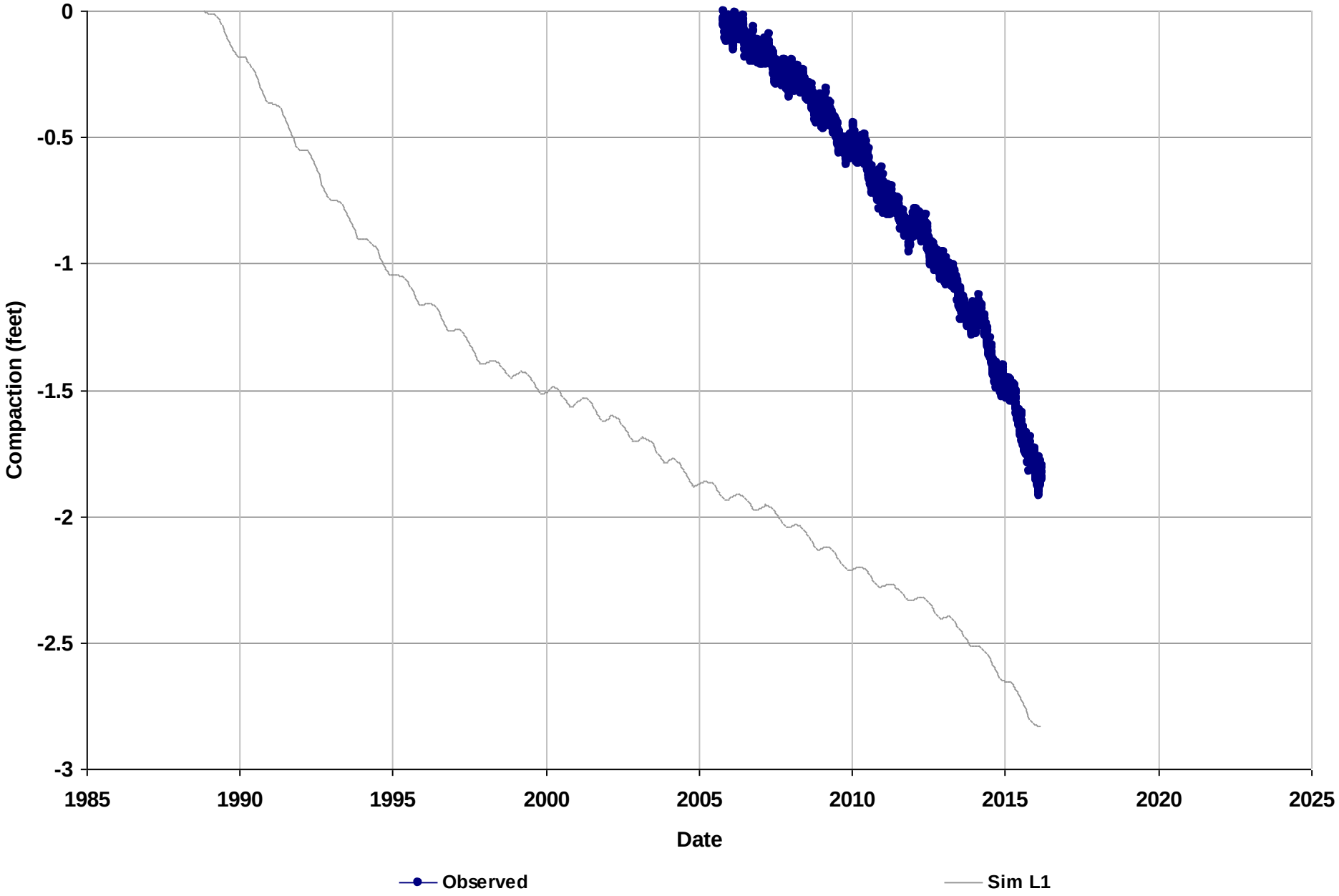
Station Name: SJRRP_201R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_1007R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



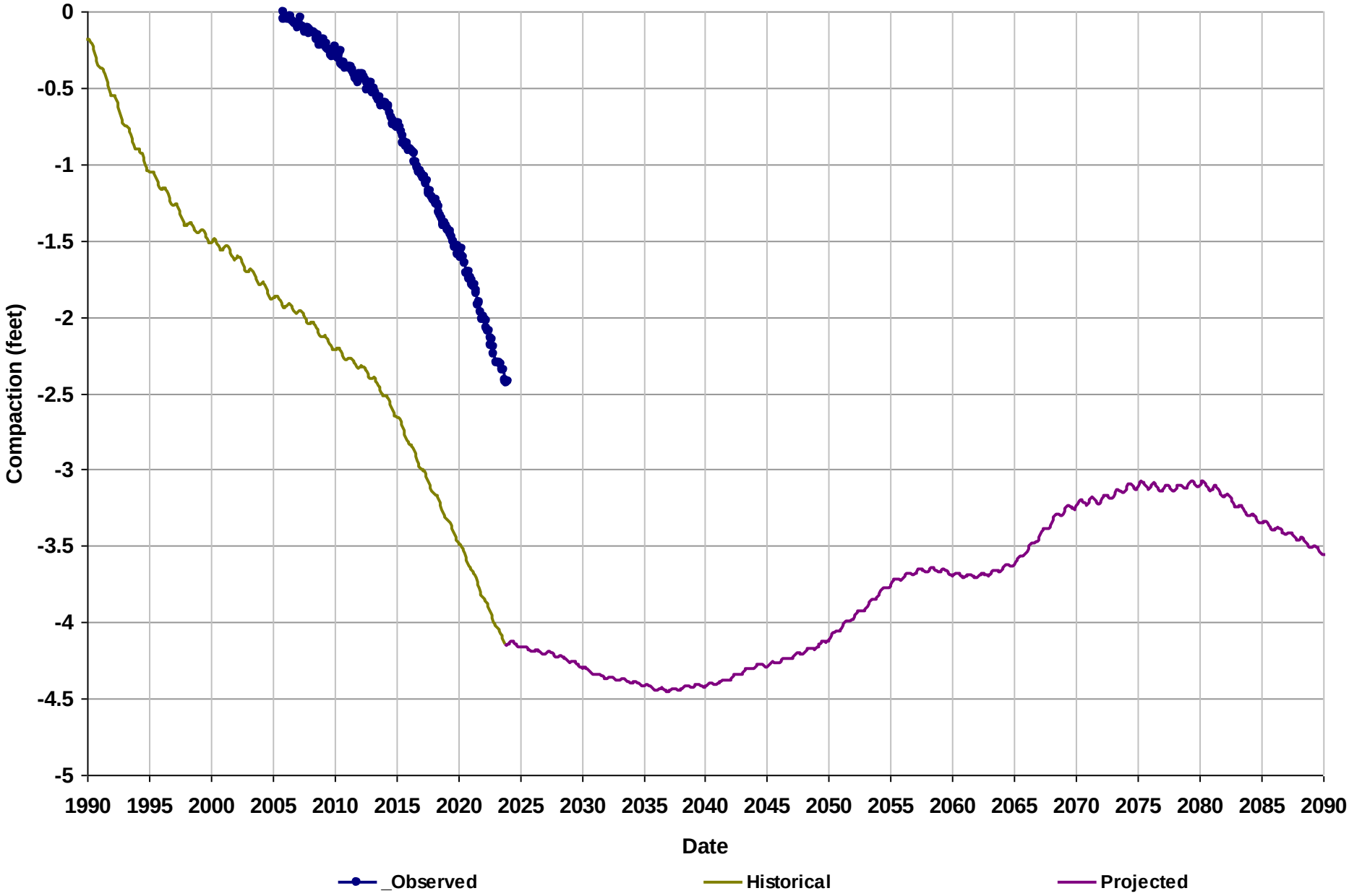
Station Name: P307
Data Source: UNAVCO PBO
Subbasin: Madera
Data Type: CGPS



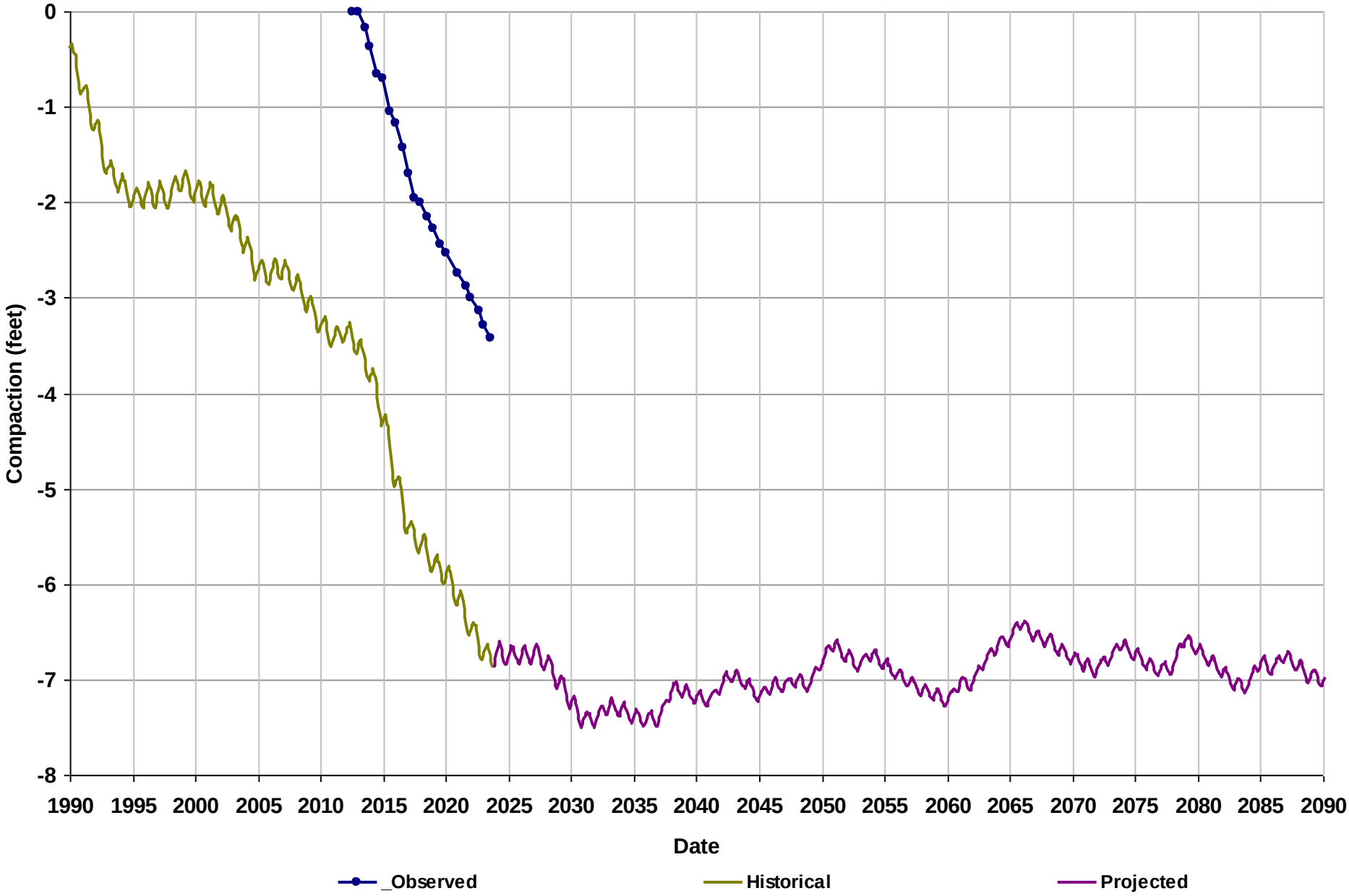
APPENDIX F.2.b

Madera Subbasin Subsidence Hydrographs for RMS Stations - Projected with Projects Scenario

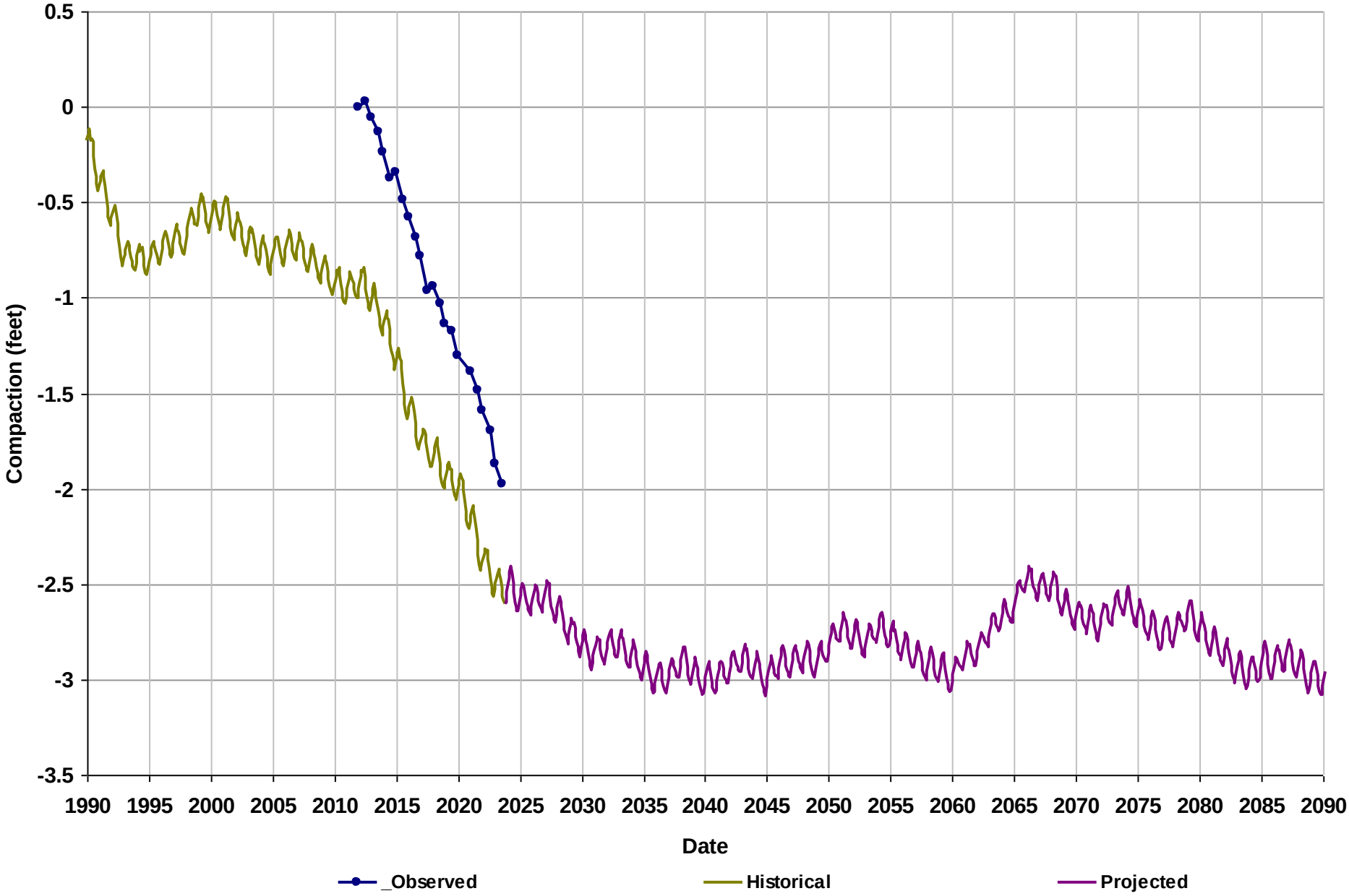
Station Name: P307
Data Source: UNAVCO PBO
Subbasin: Madera
Data Type: CGPS



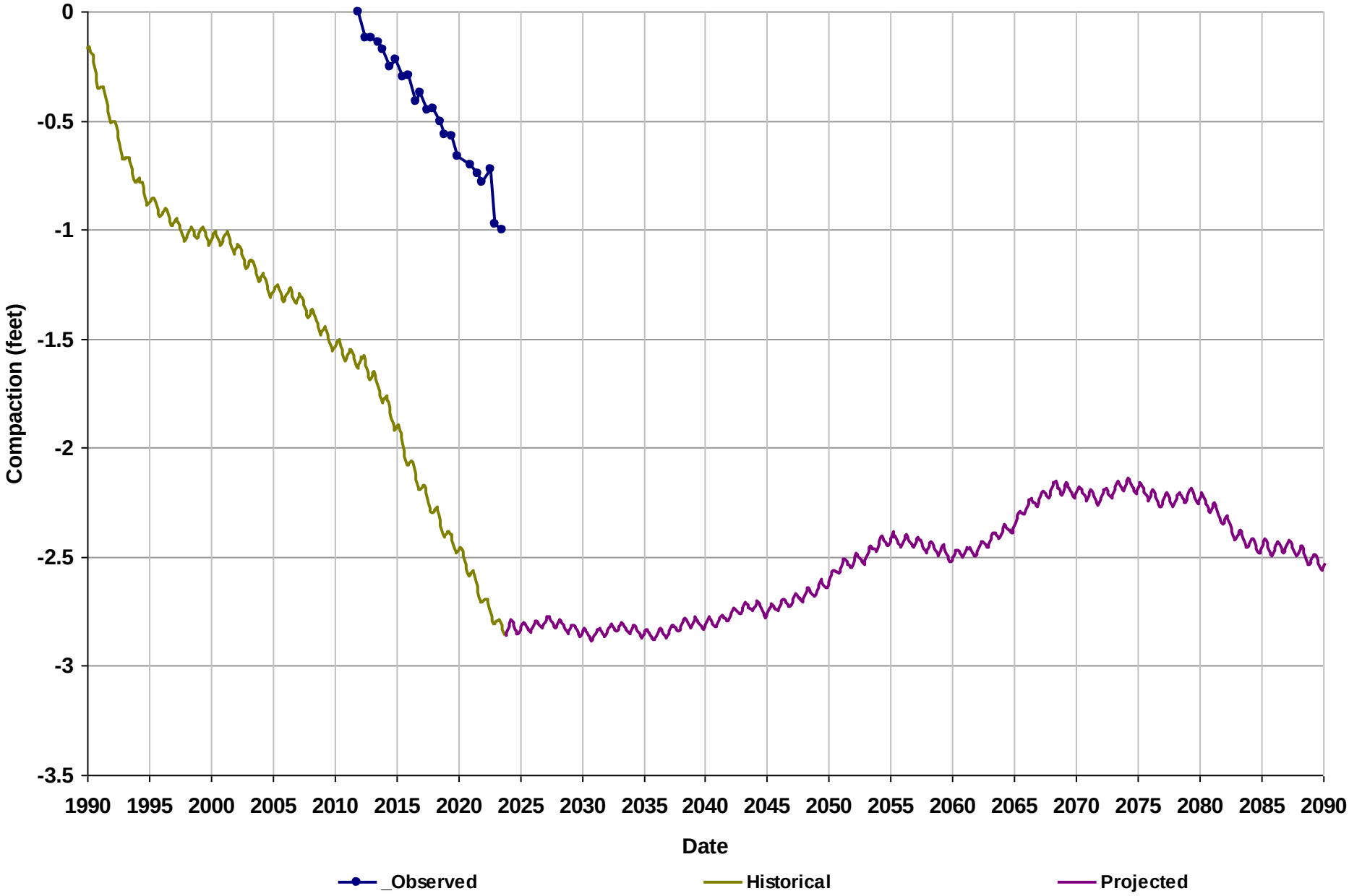
Station Name: SJRRP_1007R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



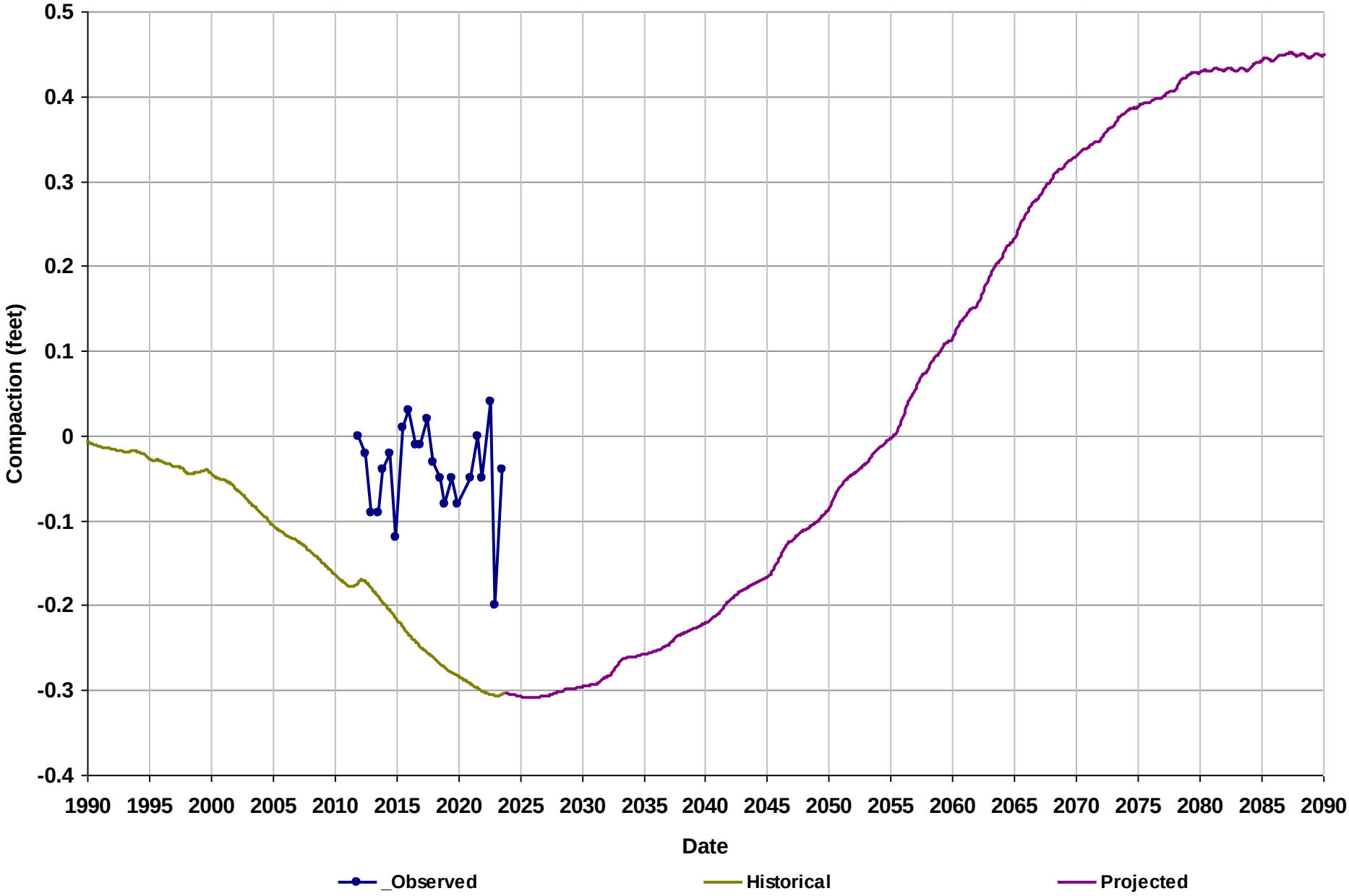
Station Name: SJRRP_127
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



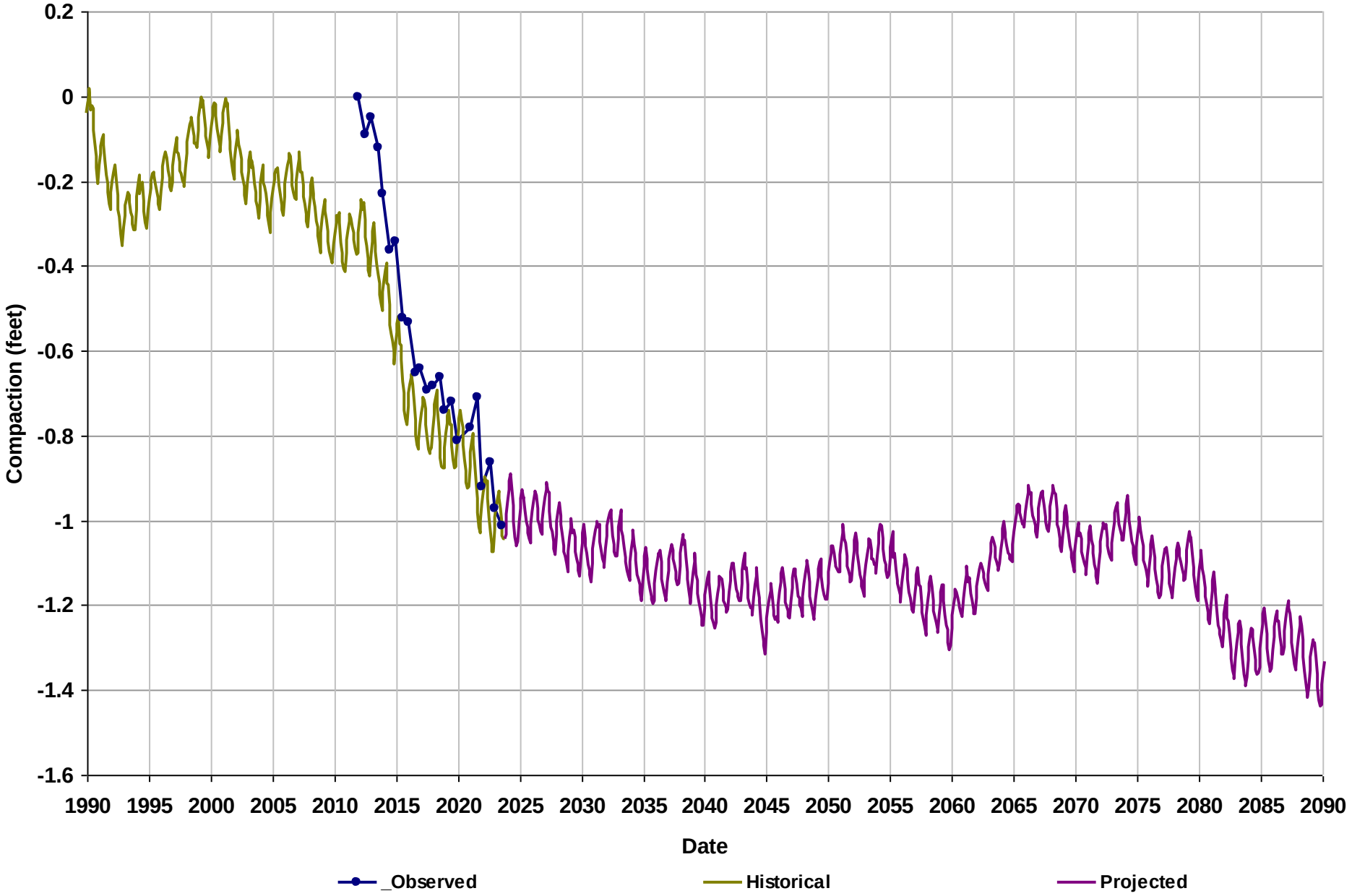
Station Name: SJRRP_141
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



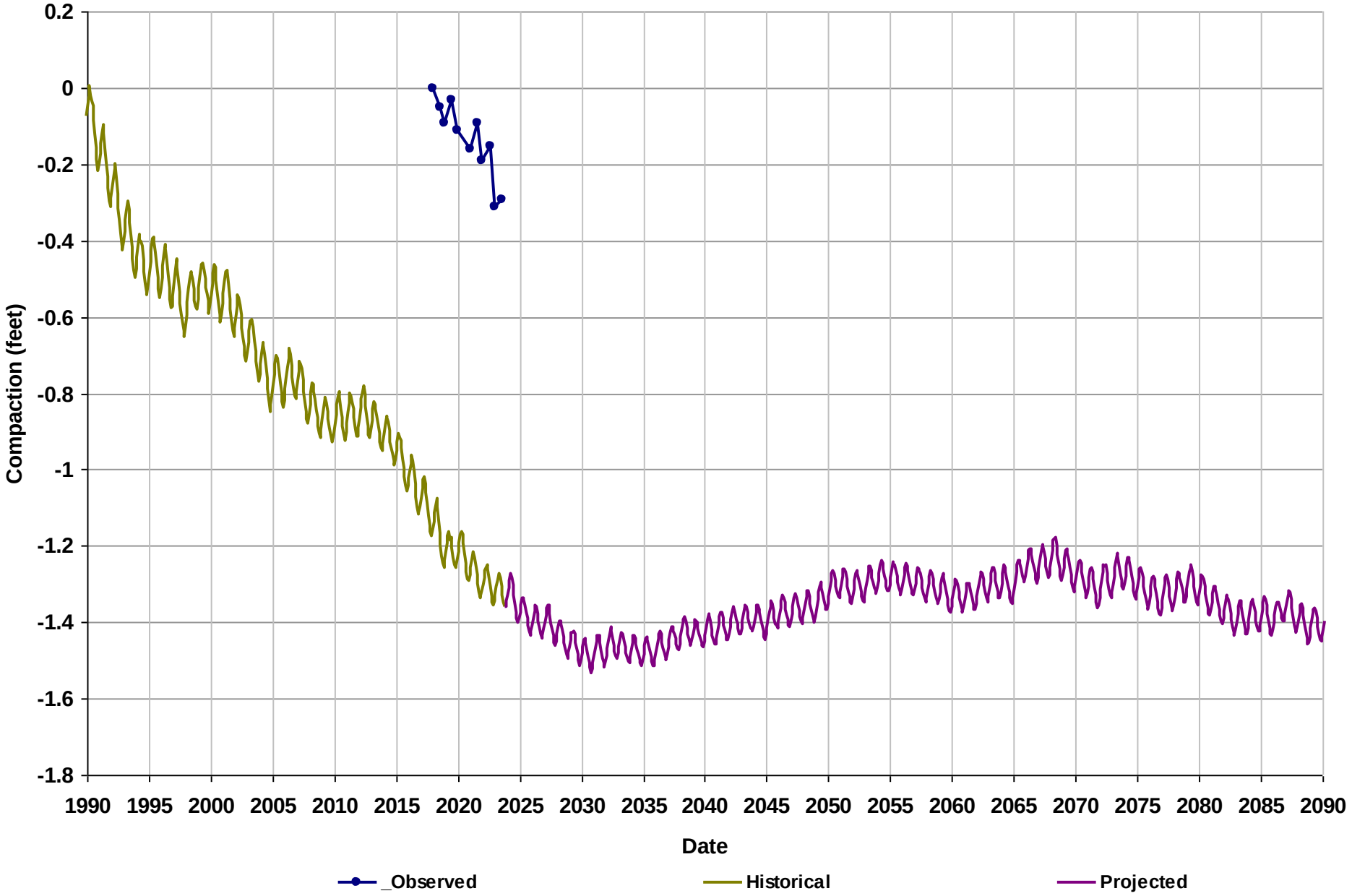
Station Name: SJRRP_142
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



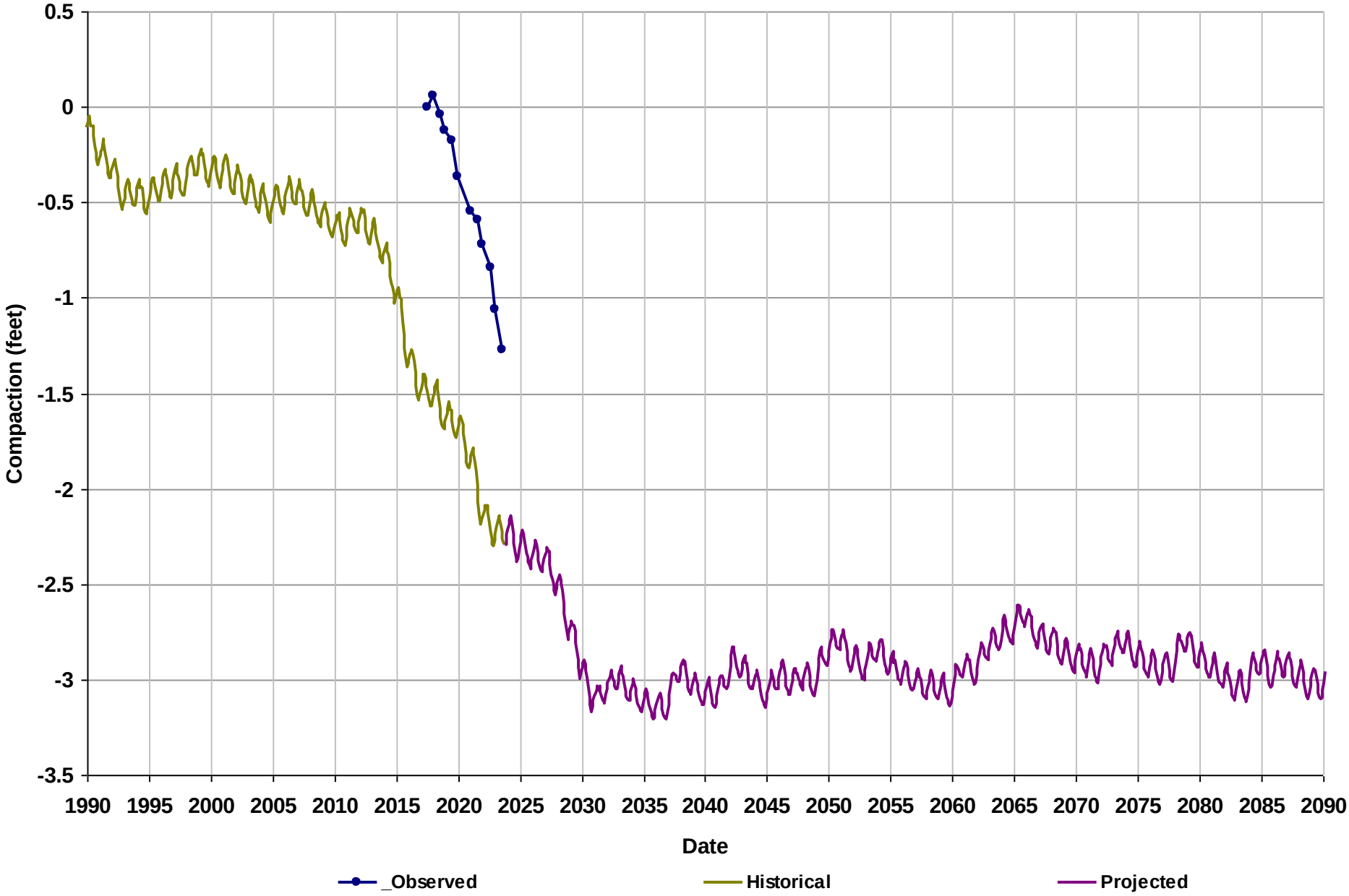
Station Name: SJRRP_160R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



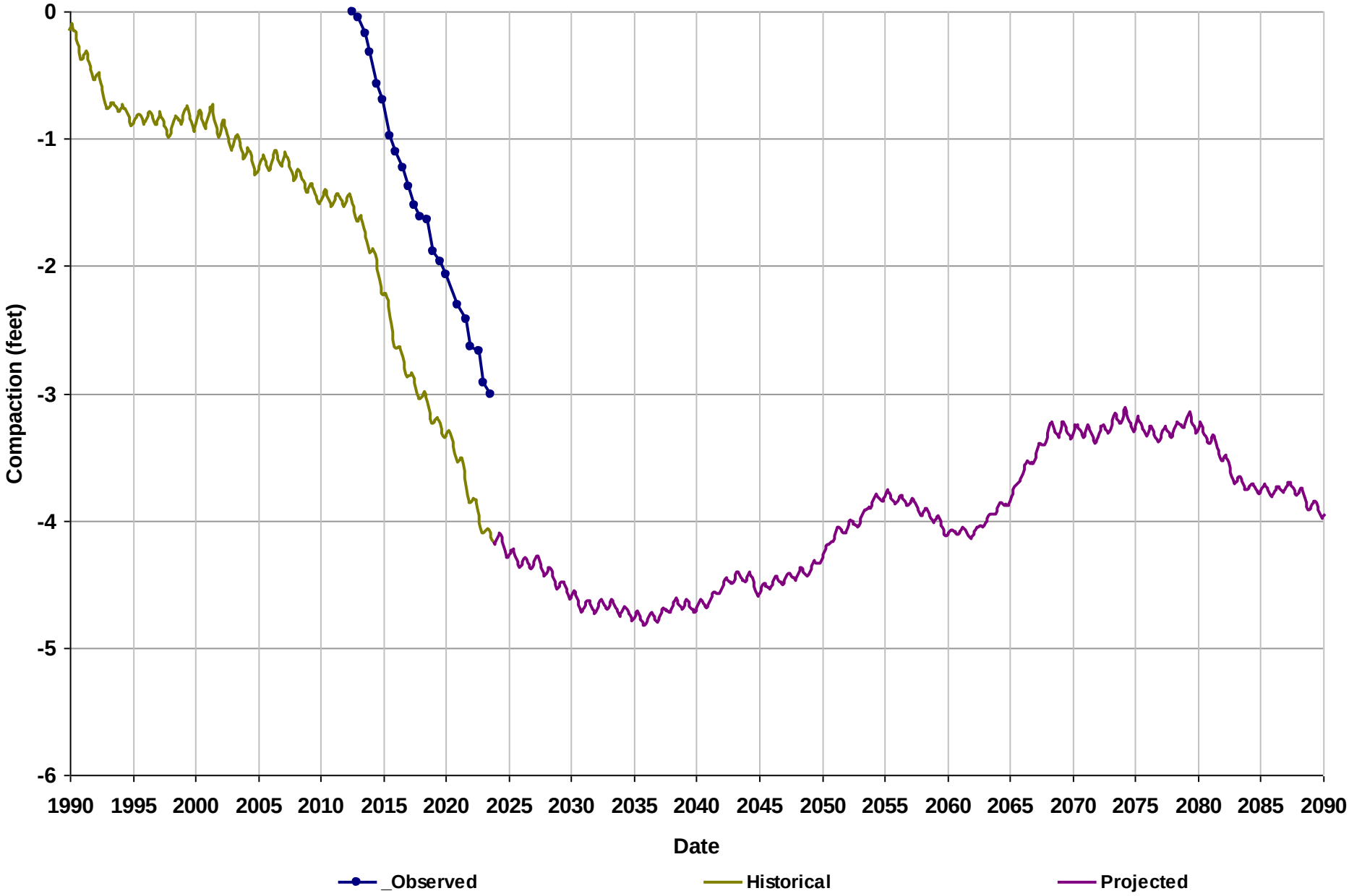
Station Name: SJRRP_165
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_201R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_29
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

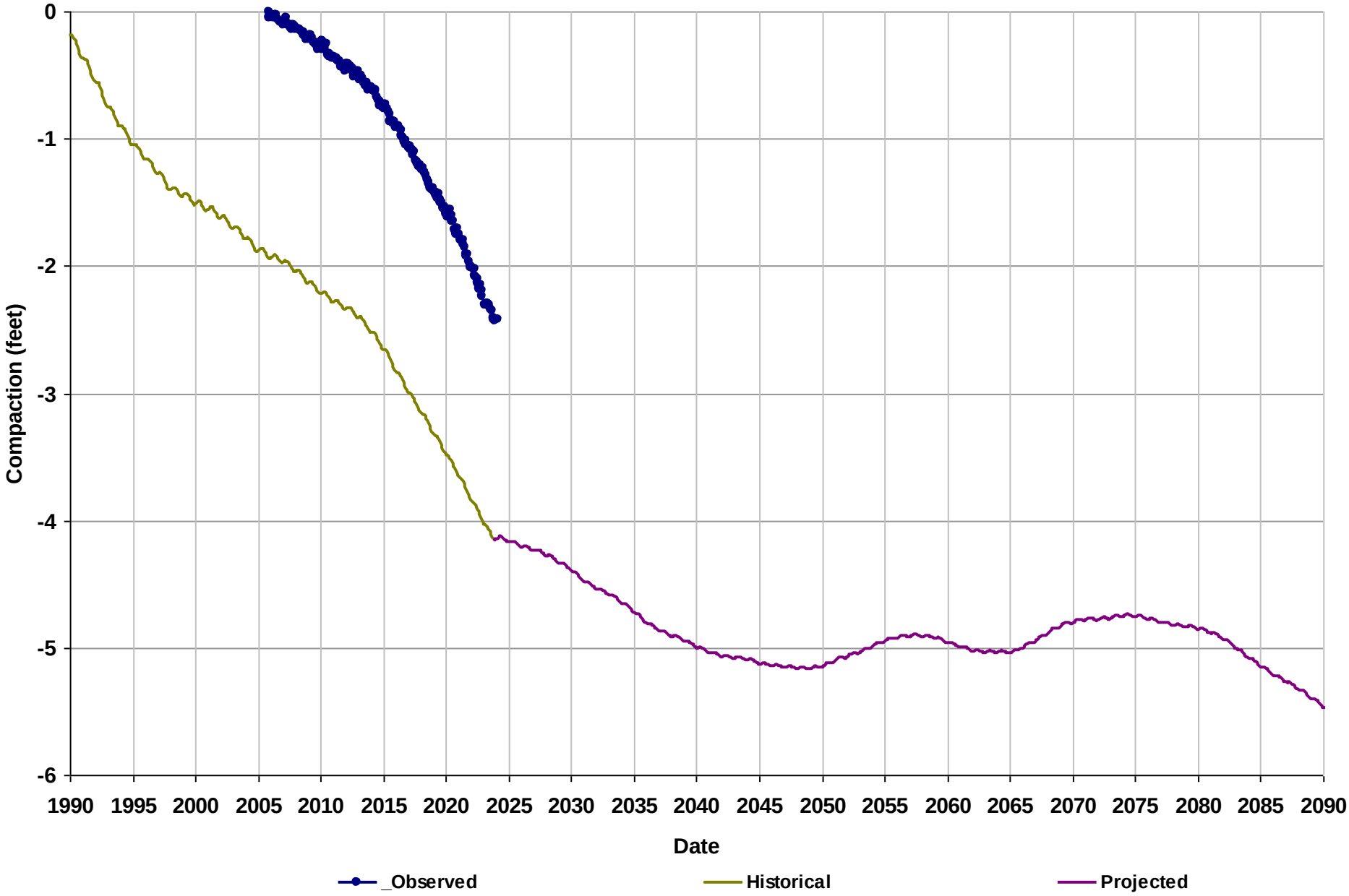


APPENDIX F.2.c

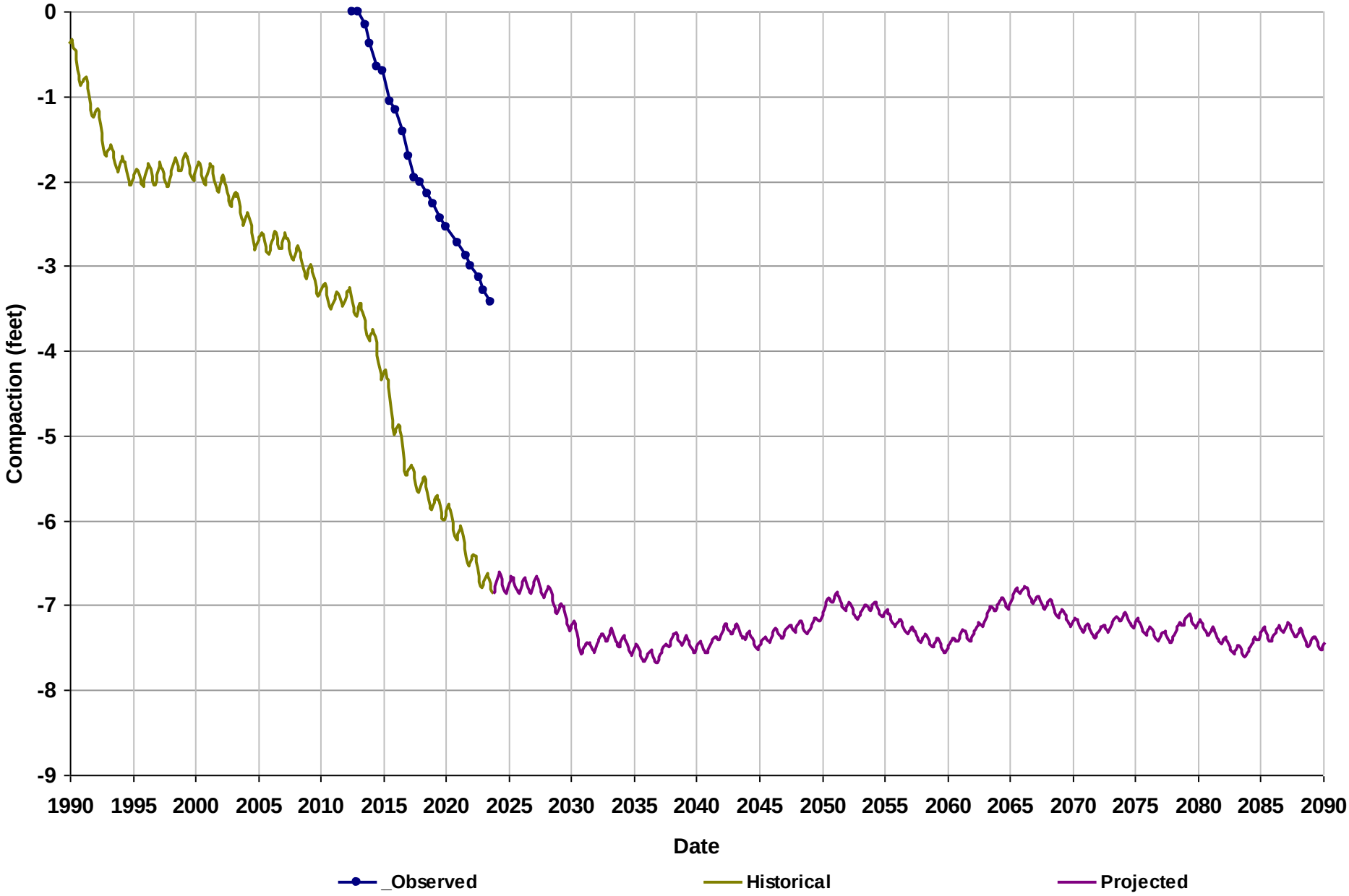
Madera Subbasin Subsidence Hydrographs for RMS Stations - Projected with Projects with Climate Change Scenario

LSCE

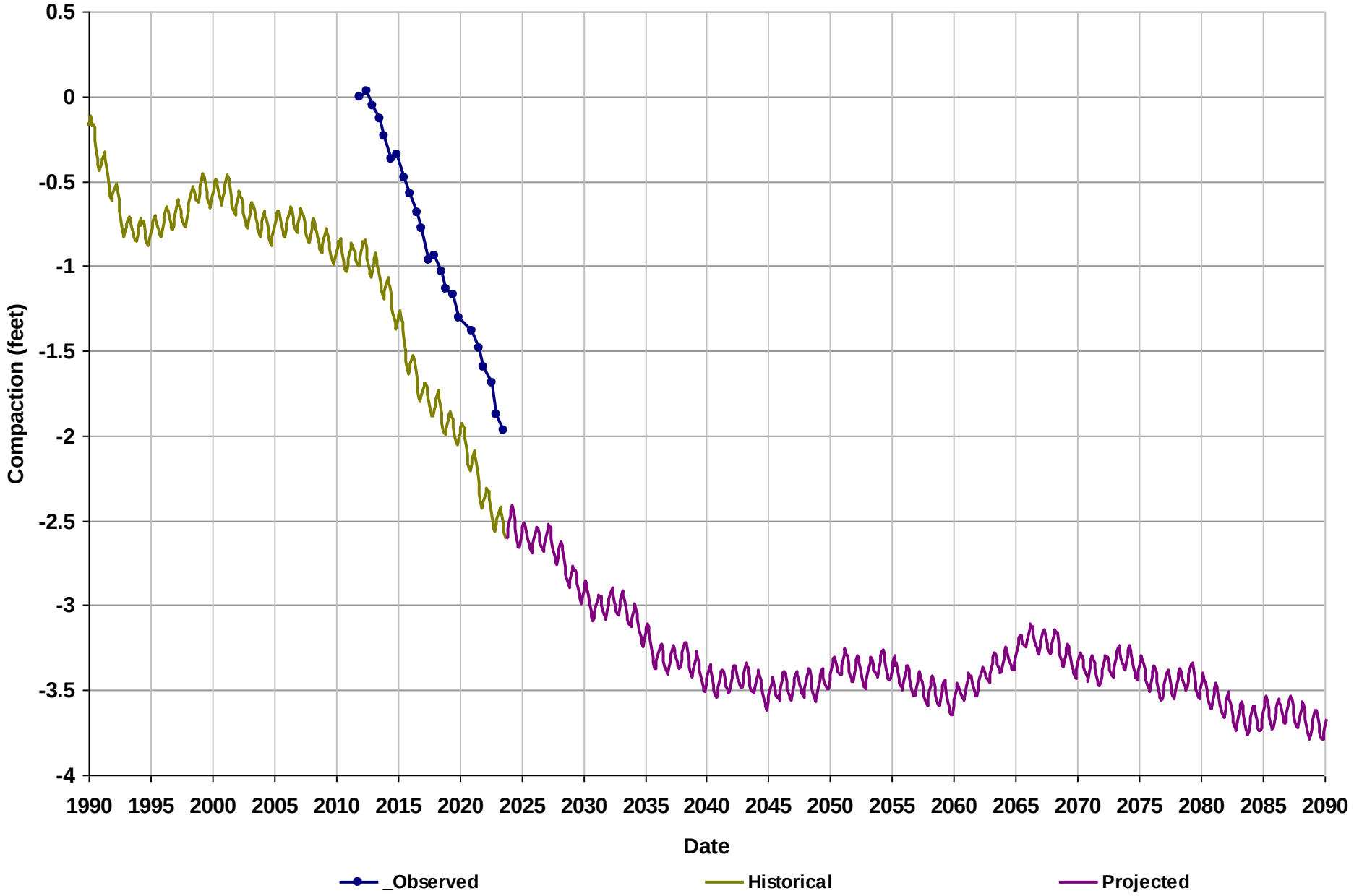
Station Name: P307
Data Source: UNAVCO PBO
Subbasin: Madera
Data Type: CGPS



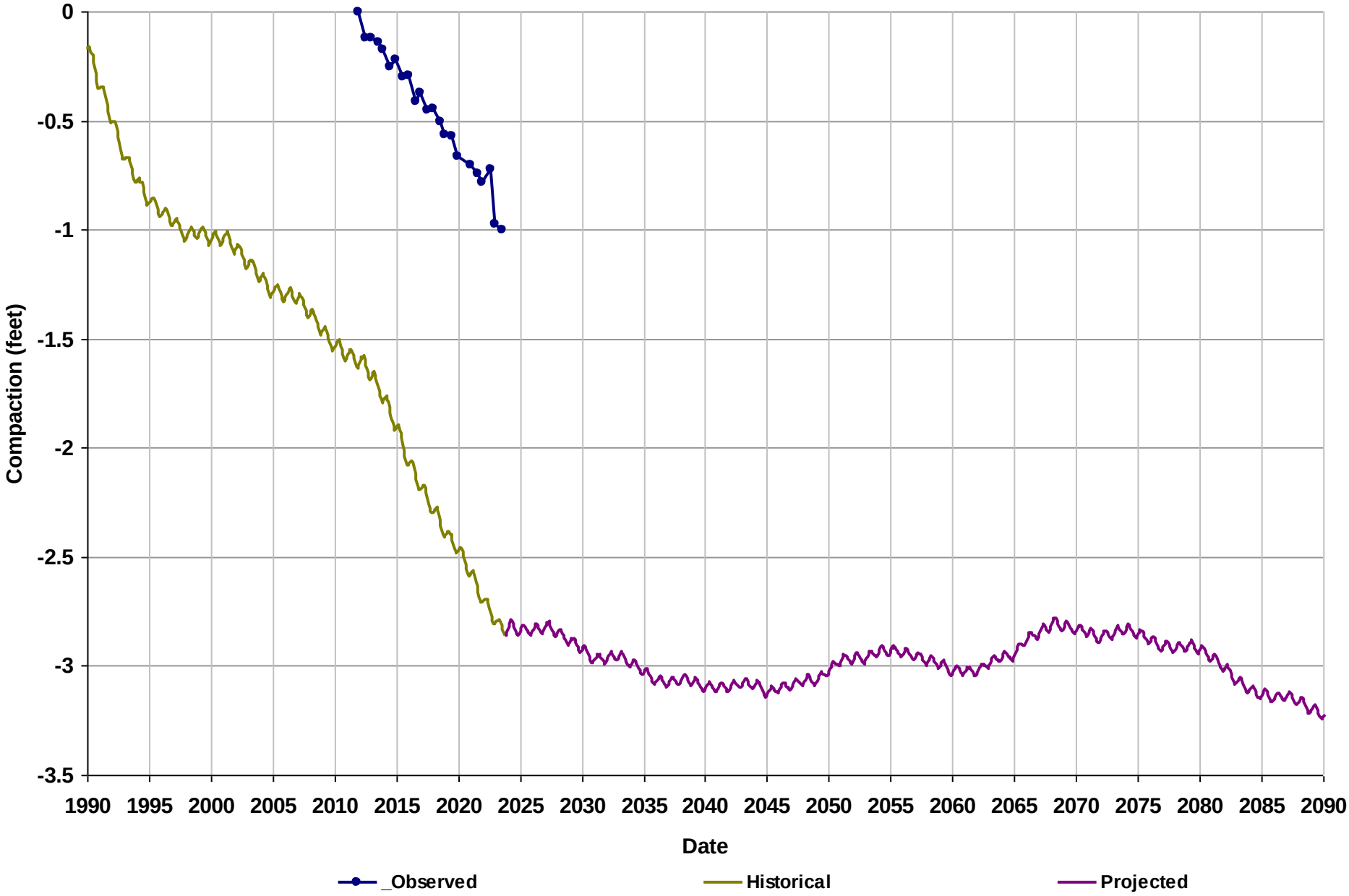
Station Name: SJRRP_1007R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



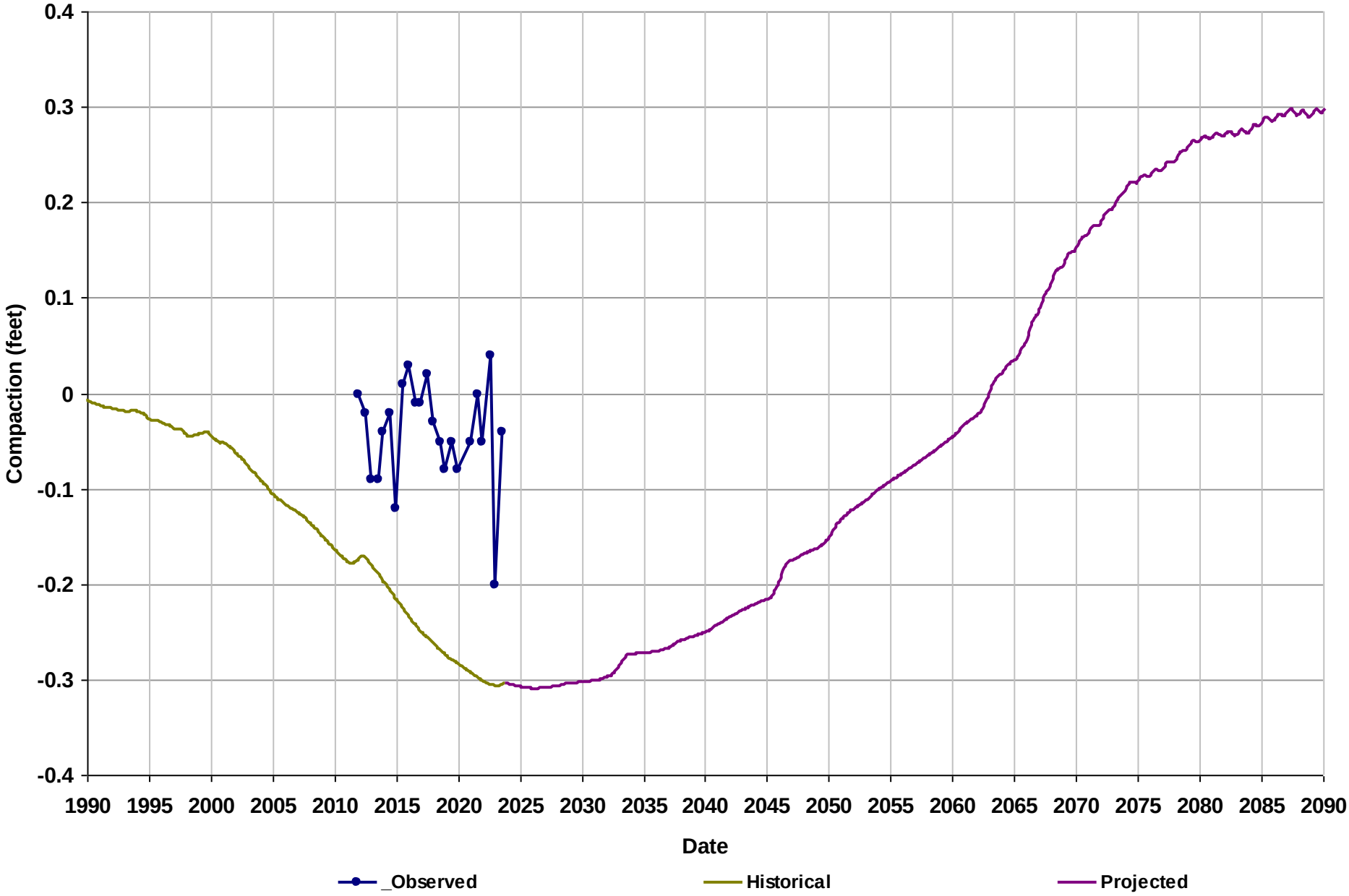
Station Name: SJRRP_127
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



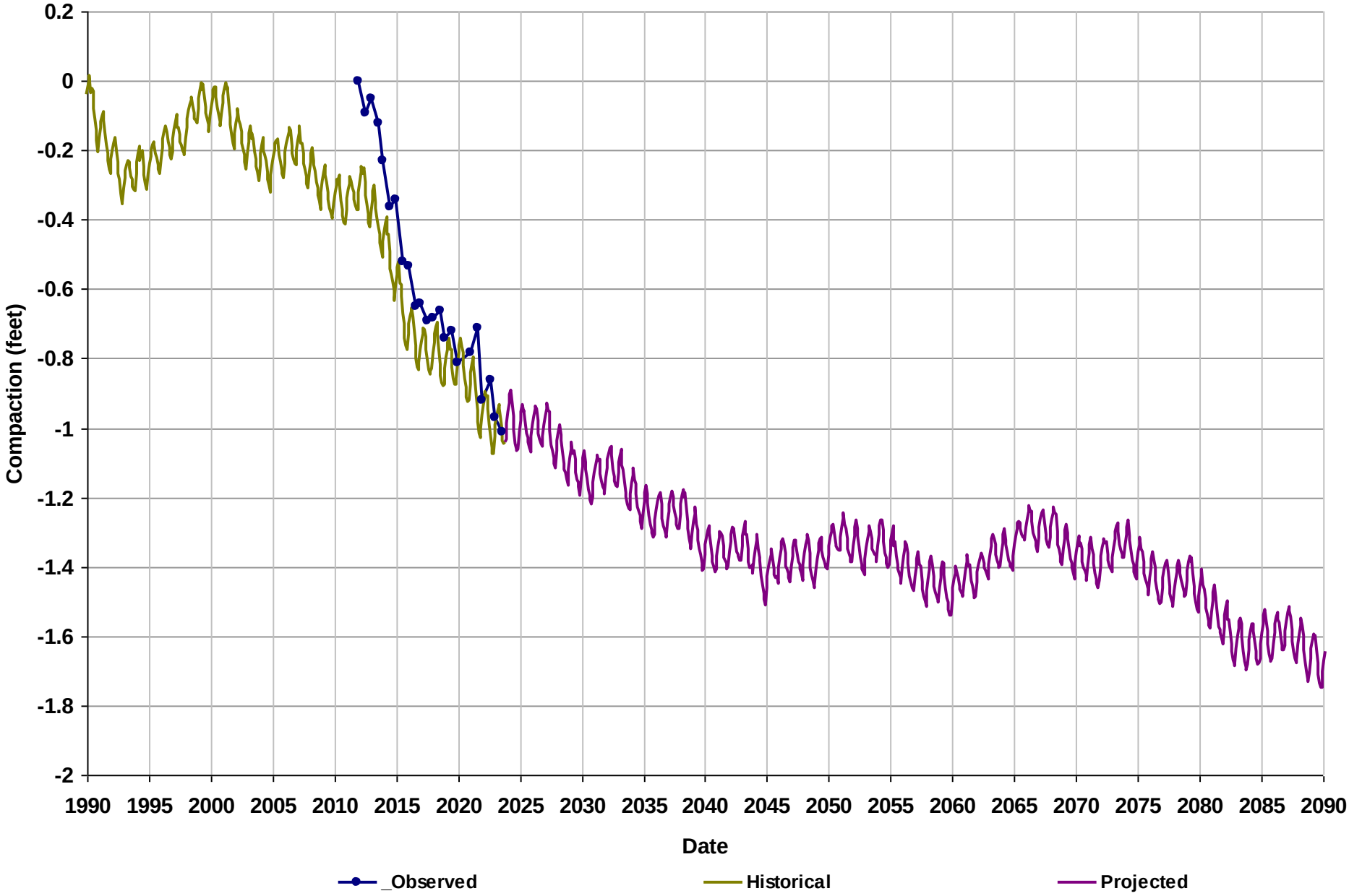
Station Name: SJRRP_141
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



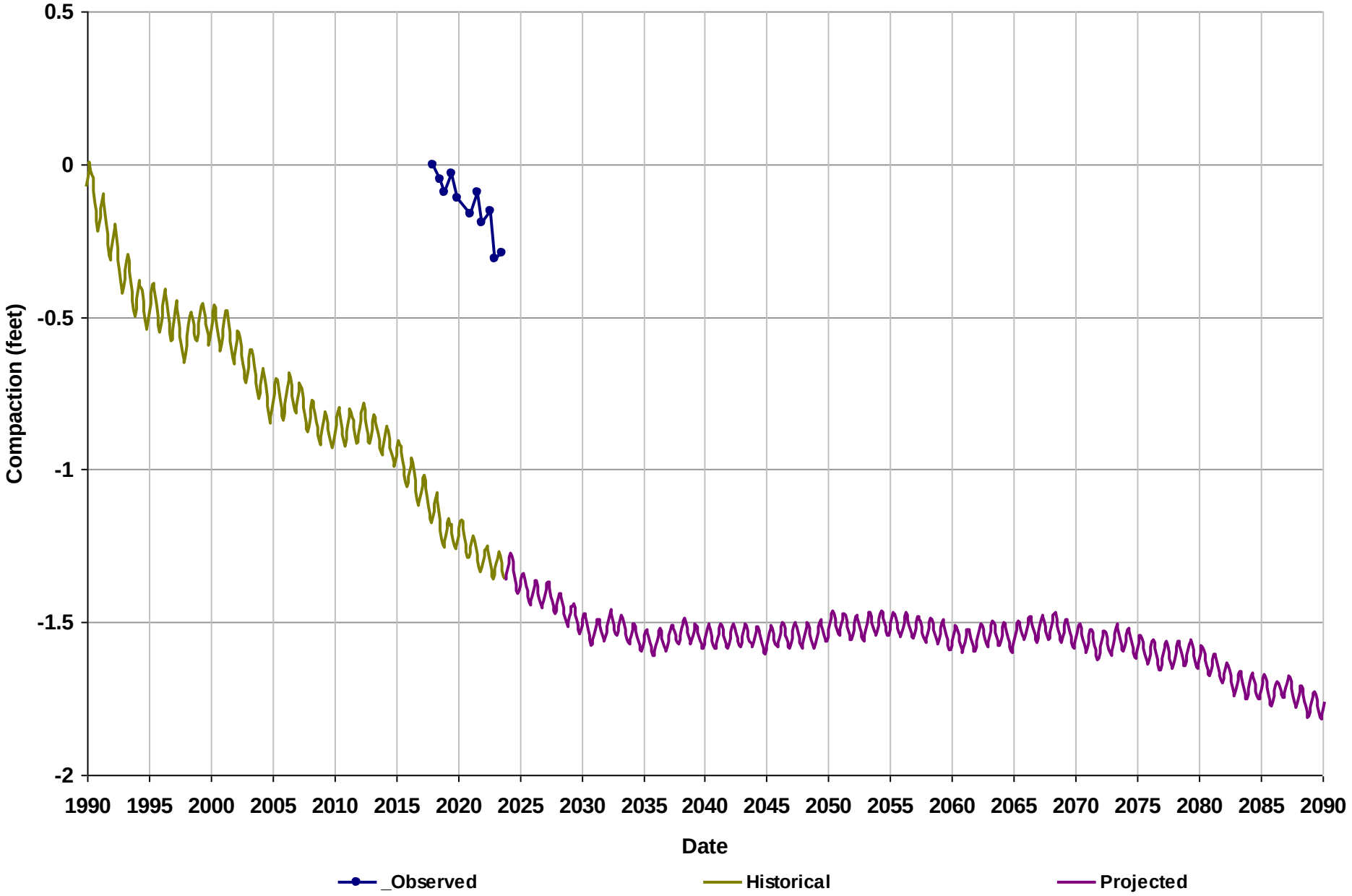
Station Name: SJRRP_142
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



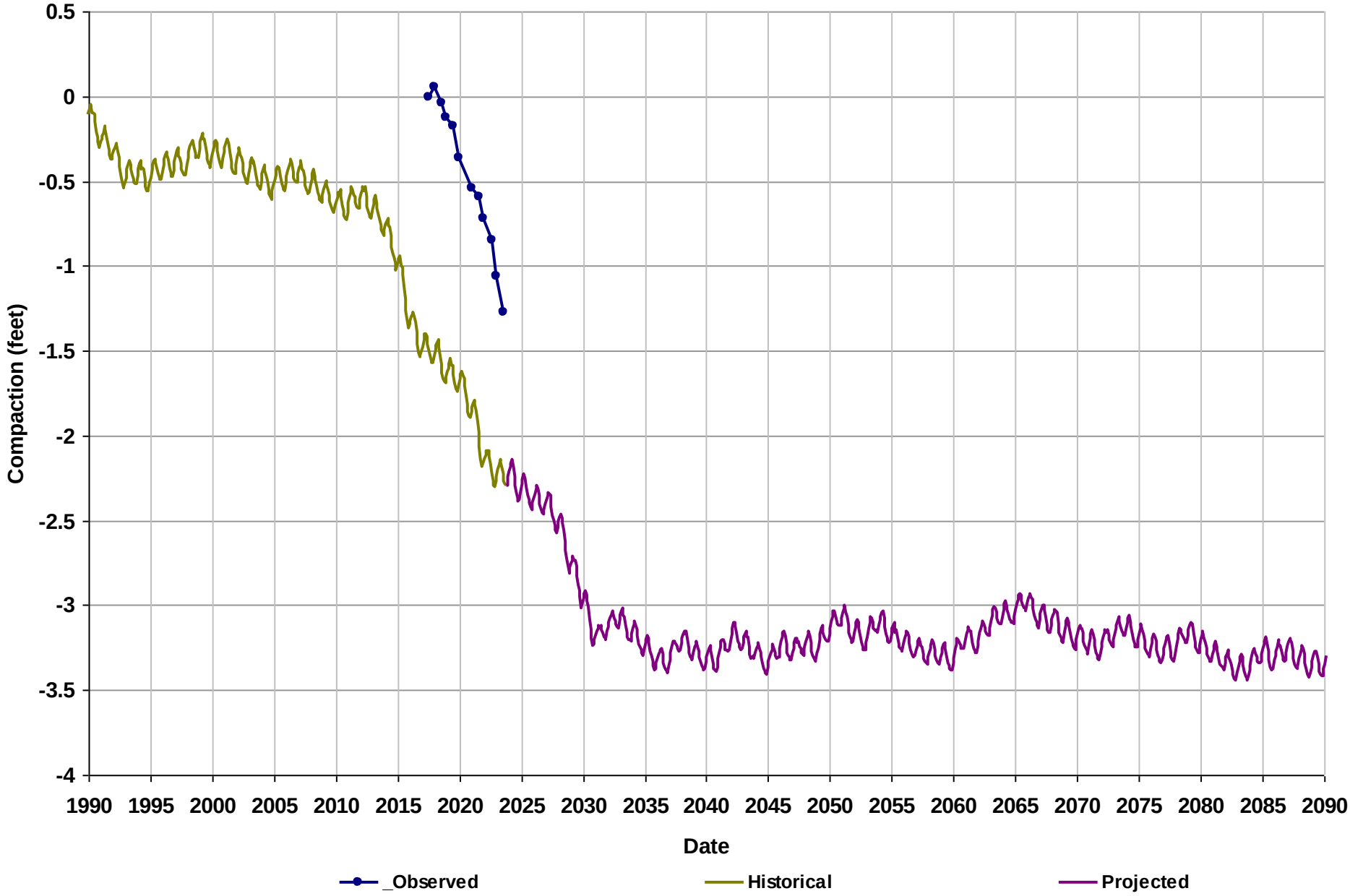
Station Name: SJRRP_160R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



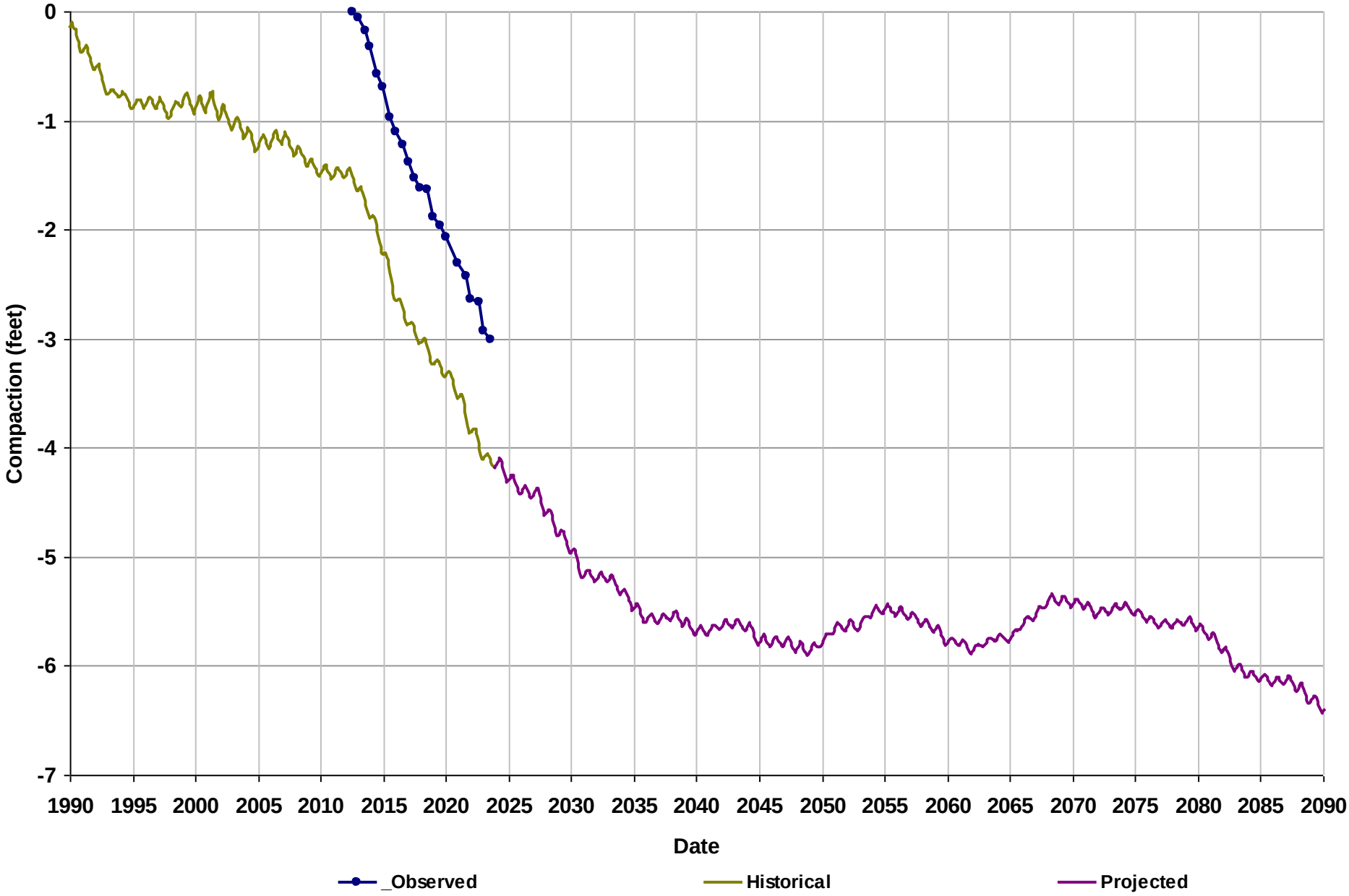
Station Name: SJRRP_165
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_201R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_29
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

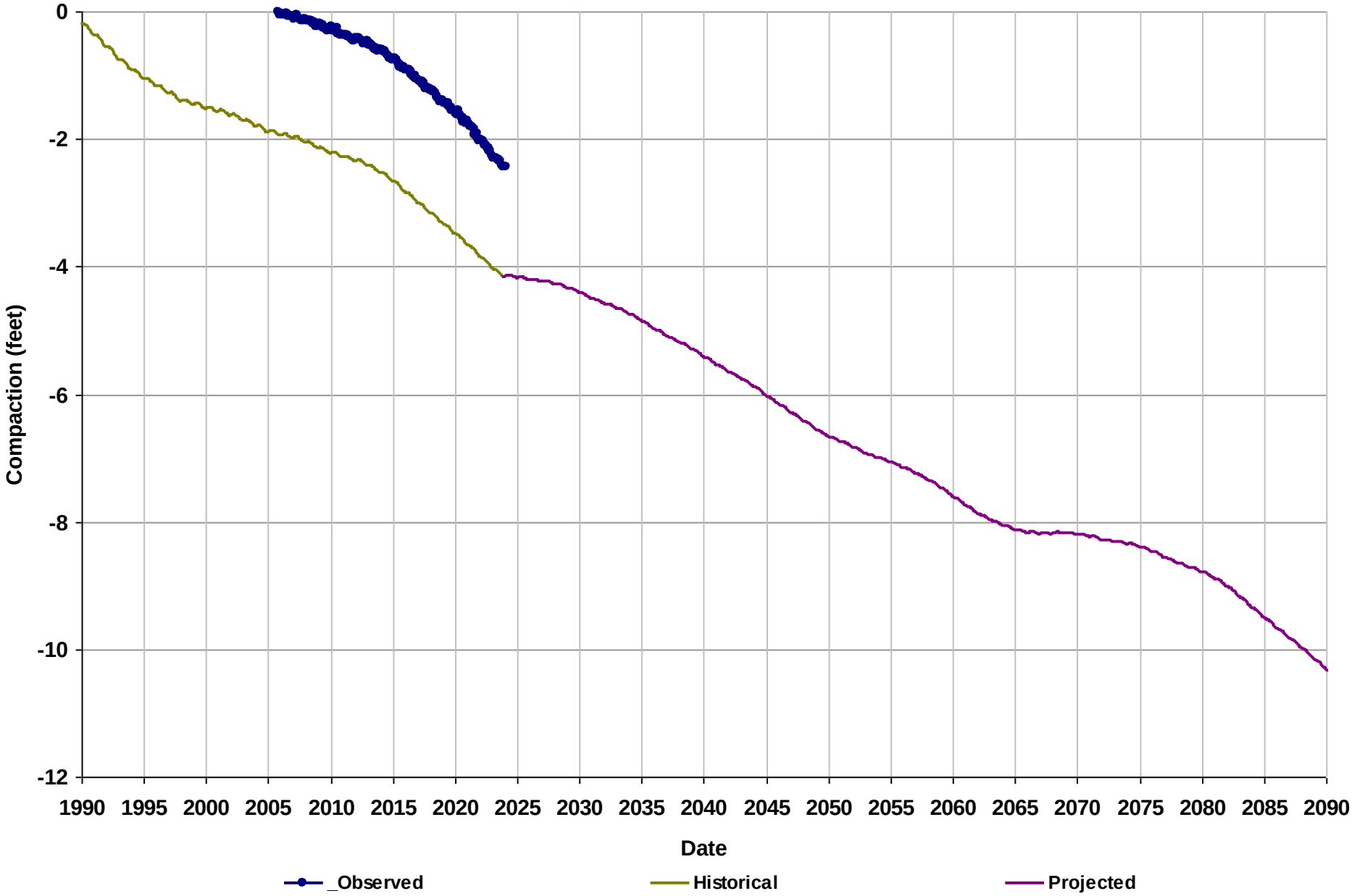


APPENDIX F.2.d

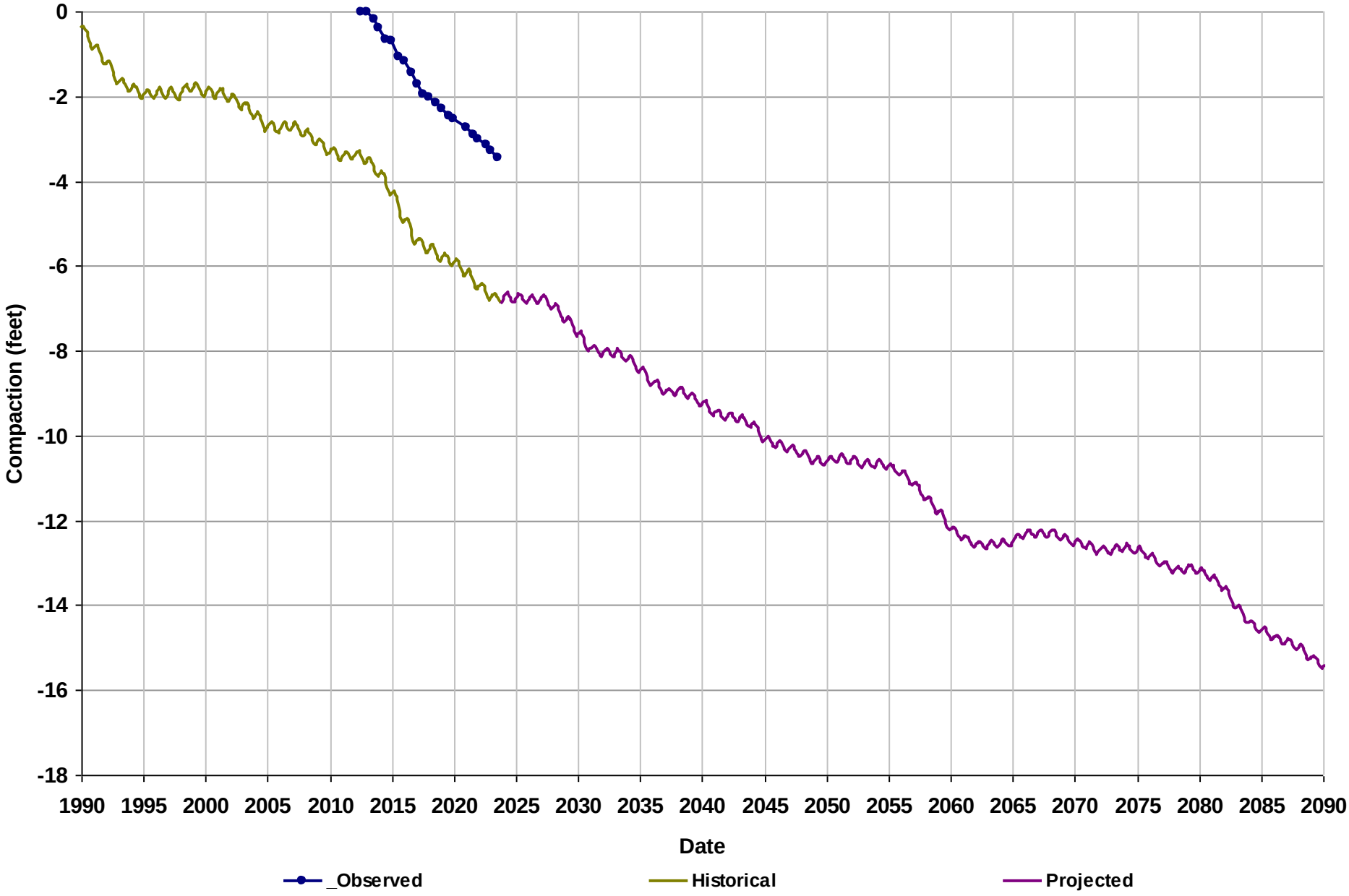
Madera Subbasin Subsidence Hydrographs for RMS Stations - Projected (No Action) Scenario

LSCE

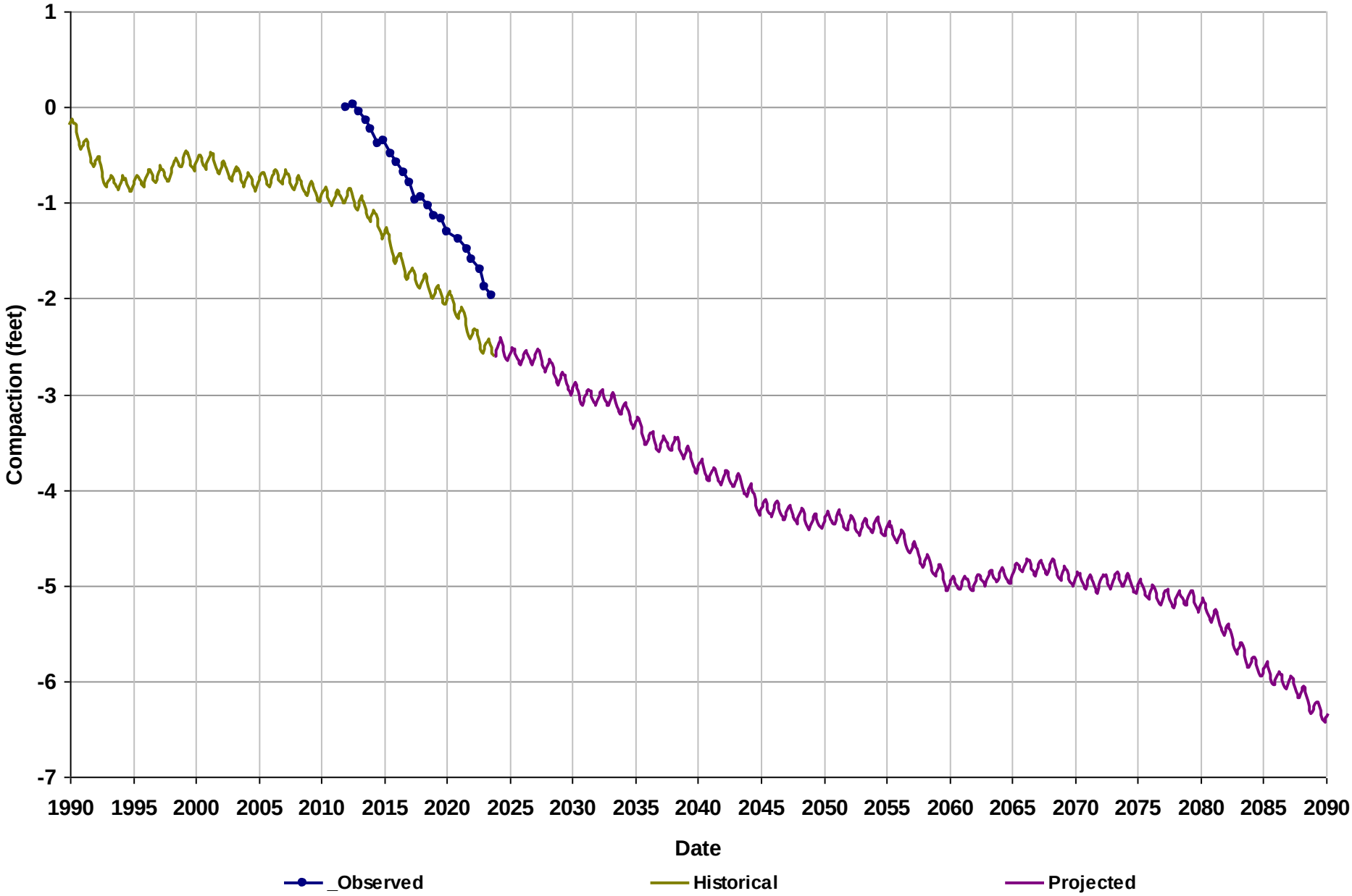
Station Name: P307
Data Source: UNAVCO PBO
Subbasin: Madera
Data Type: CGPS



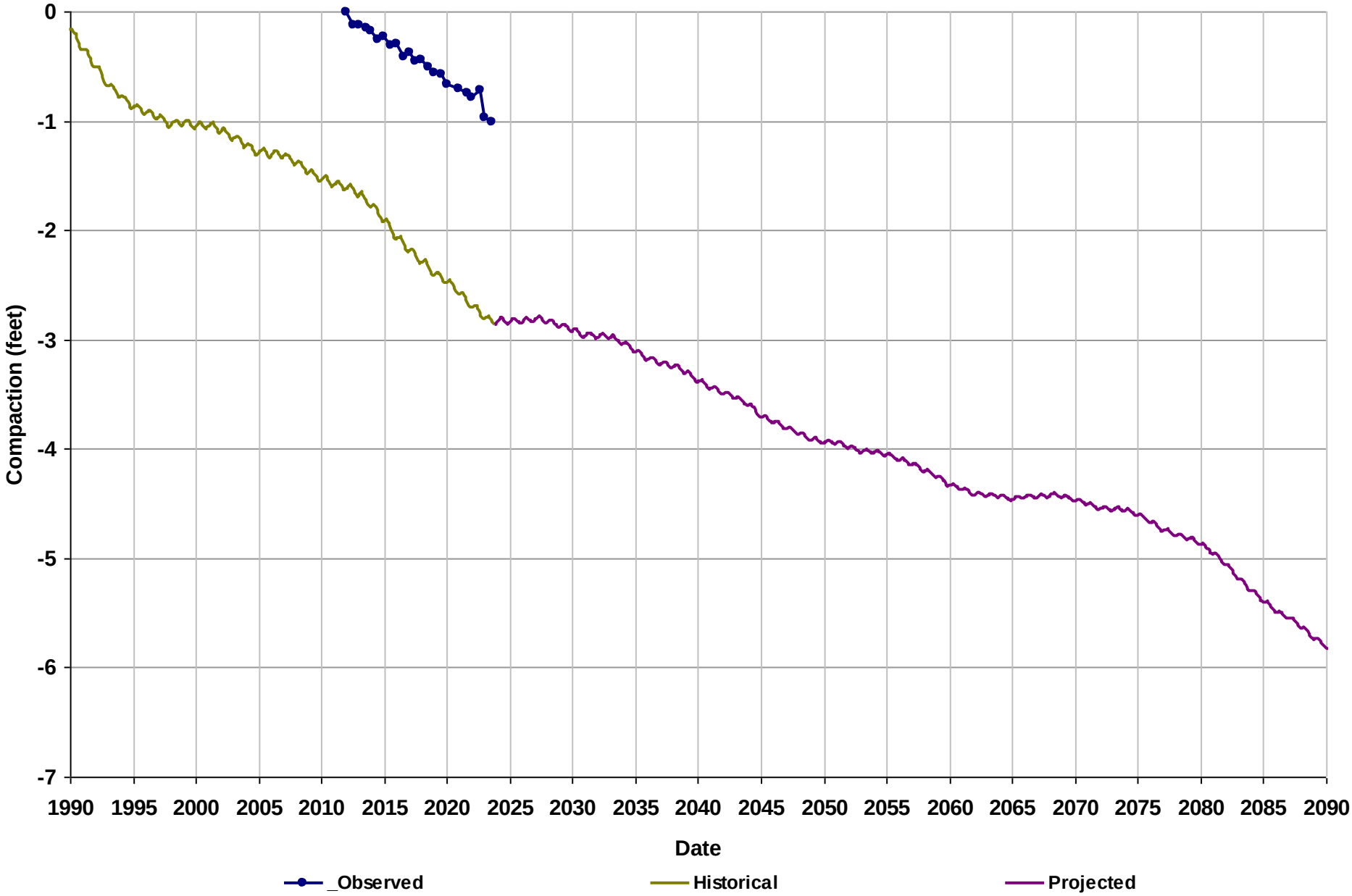
Station Name: SJRRP_1007R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



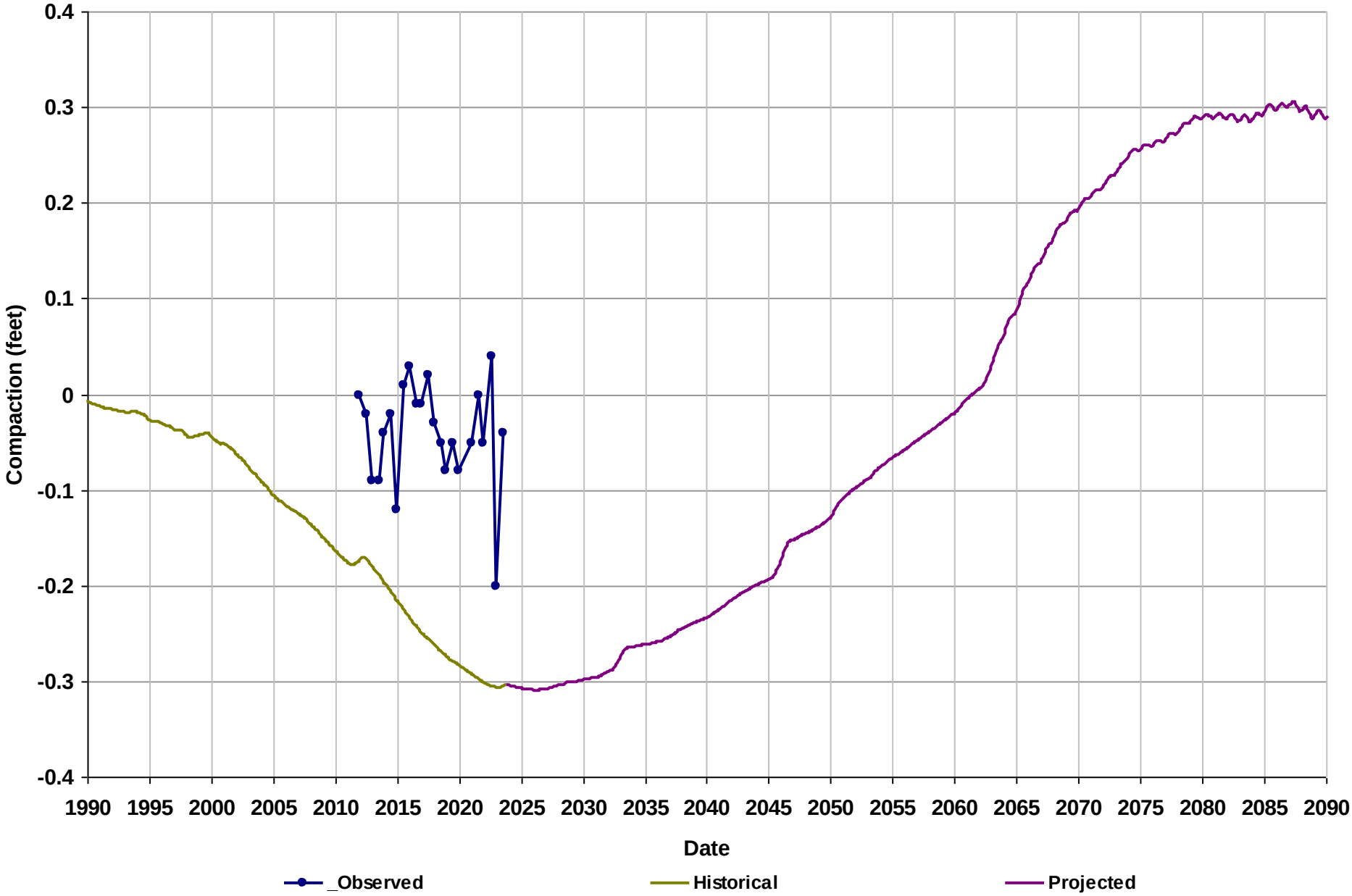
Station Name: SJRRP_127
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



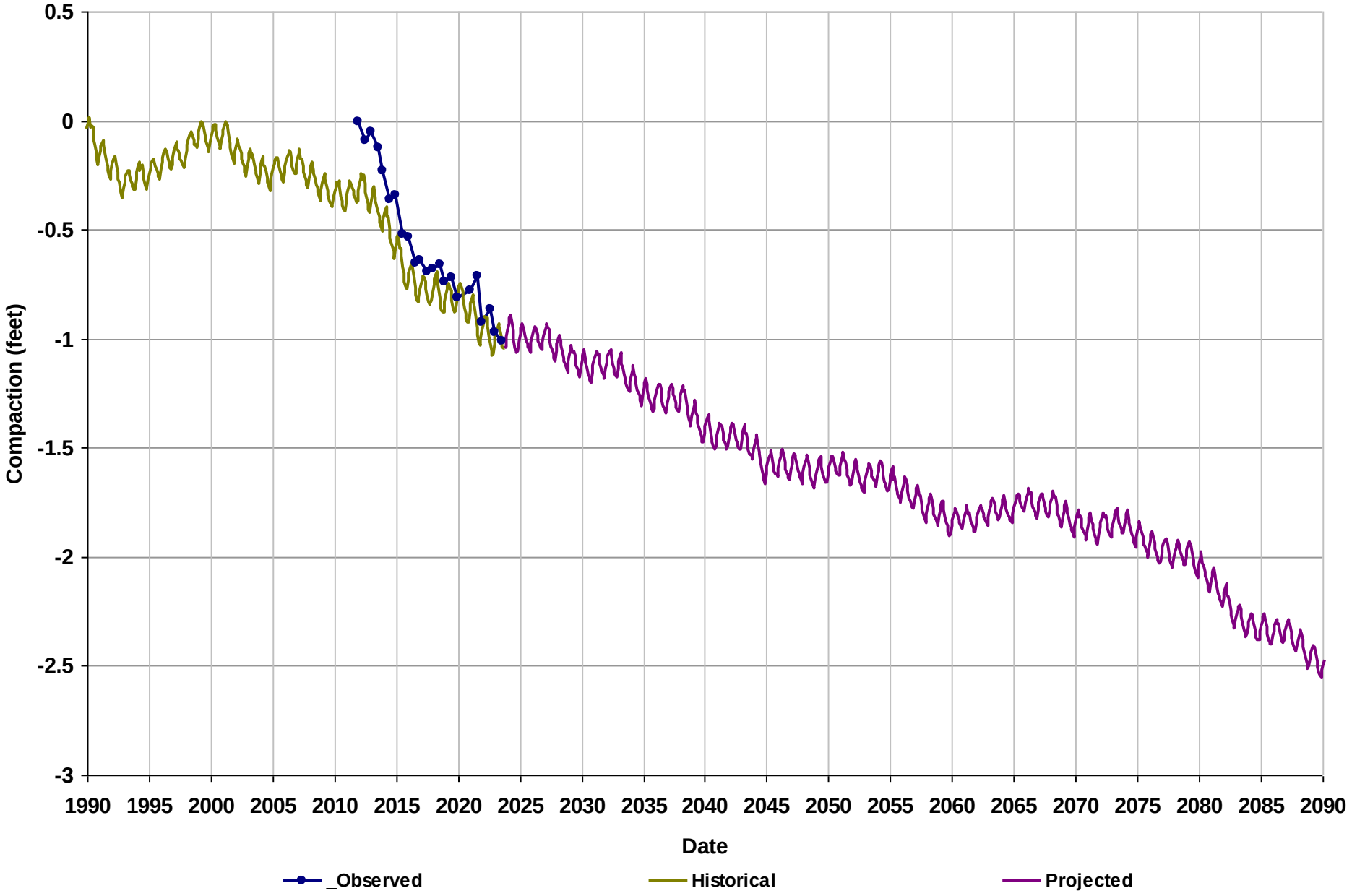
Station Name: SJRRP_141
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



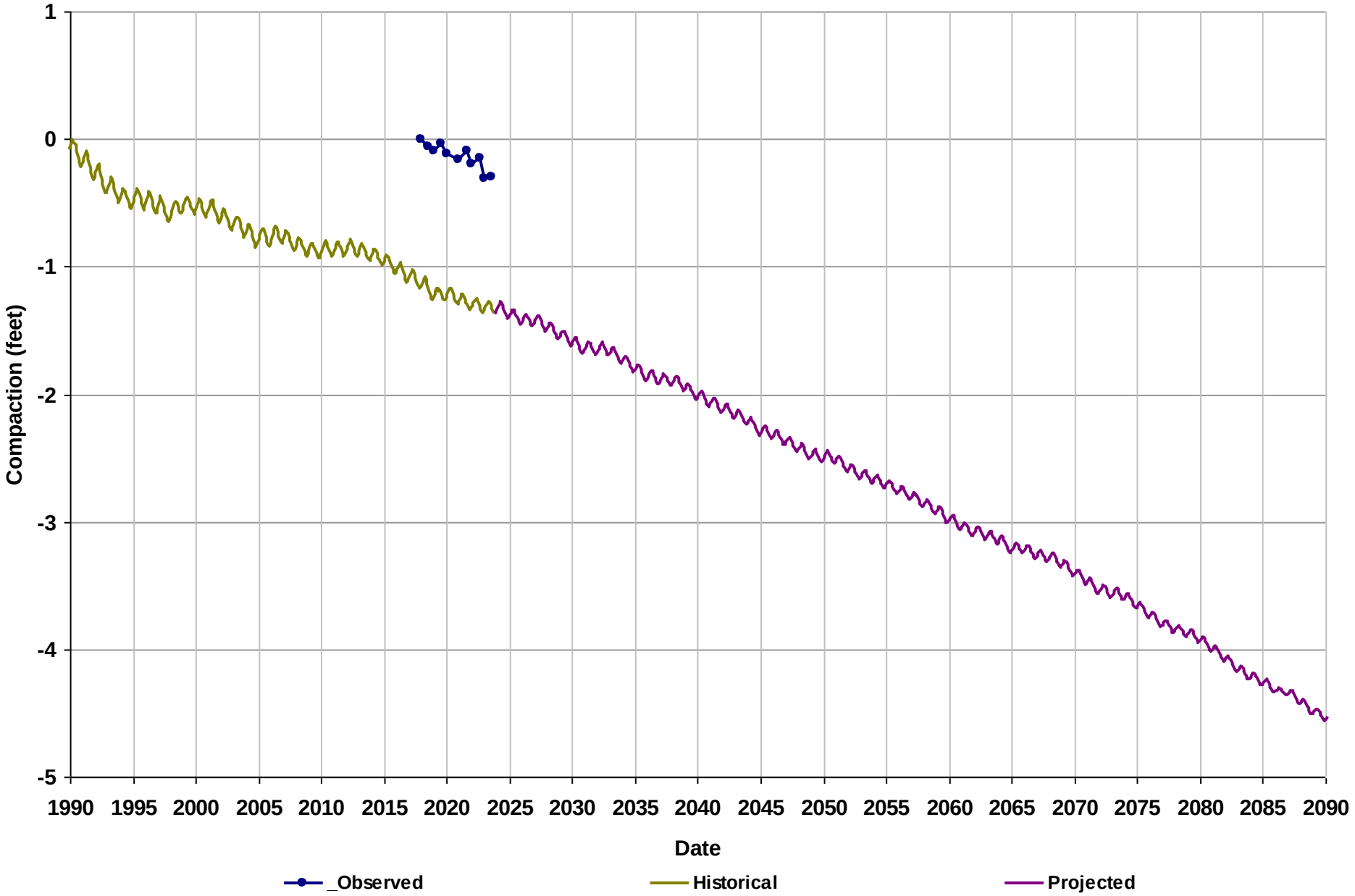
Station Name: SJRRP_142
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



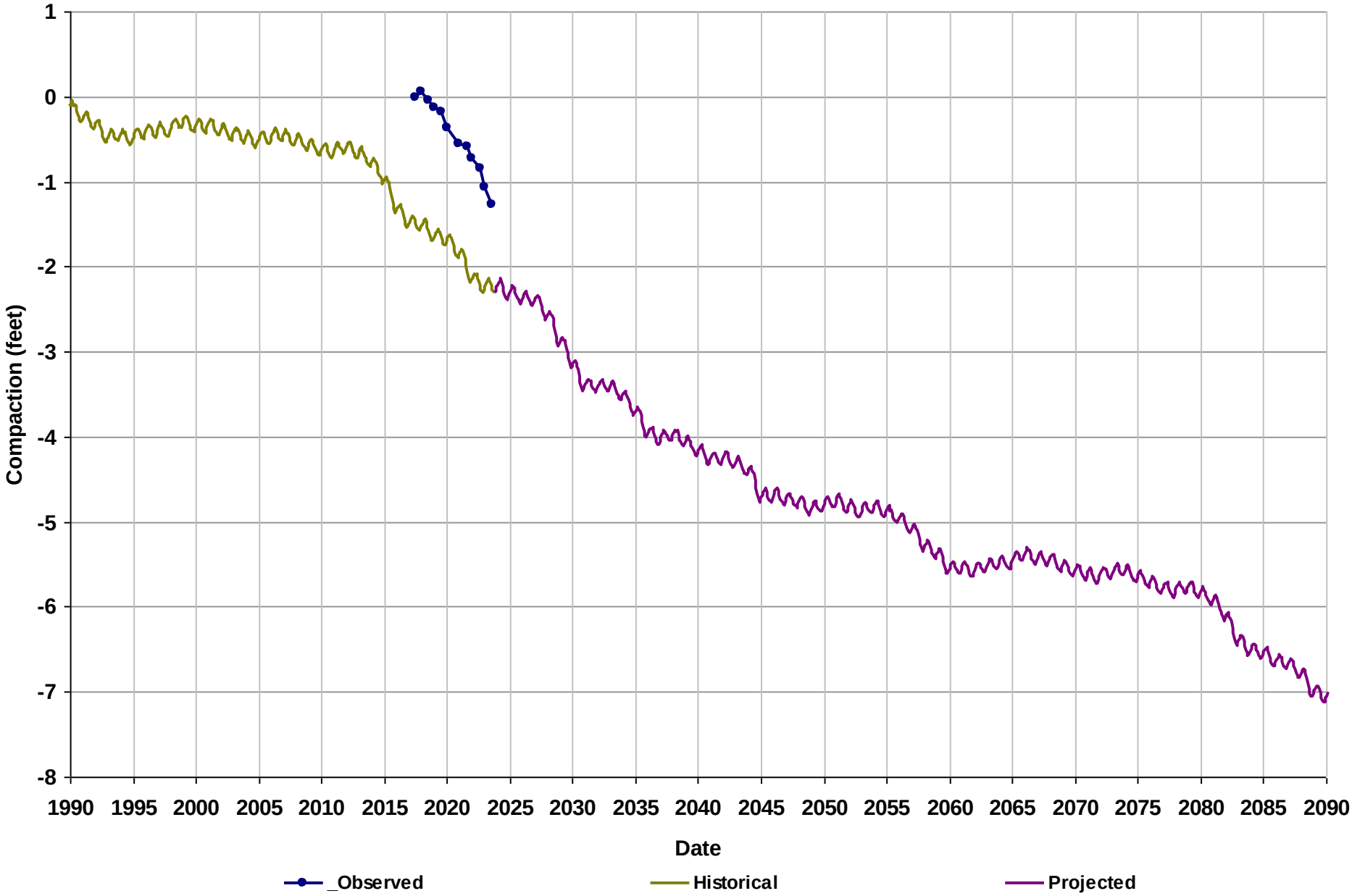
Station Name: SJRRP_160R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



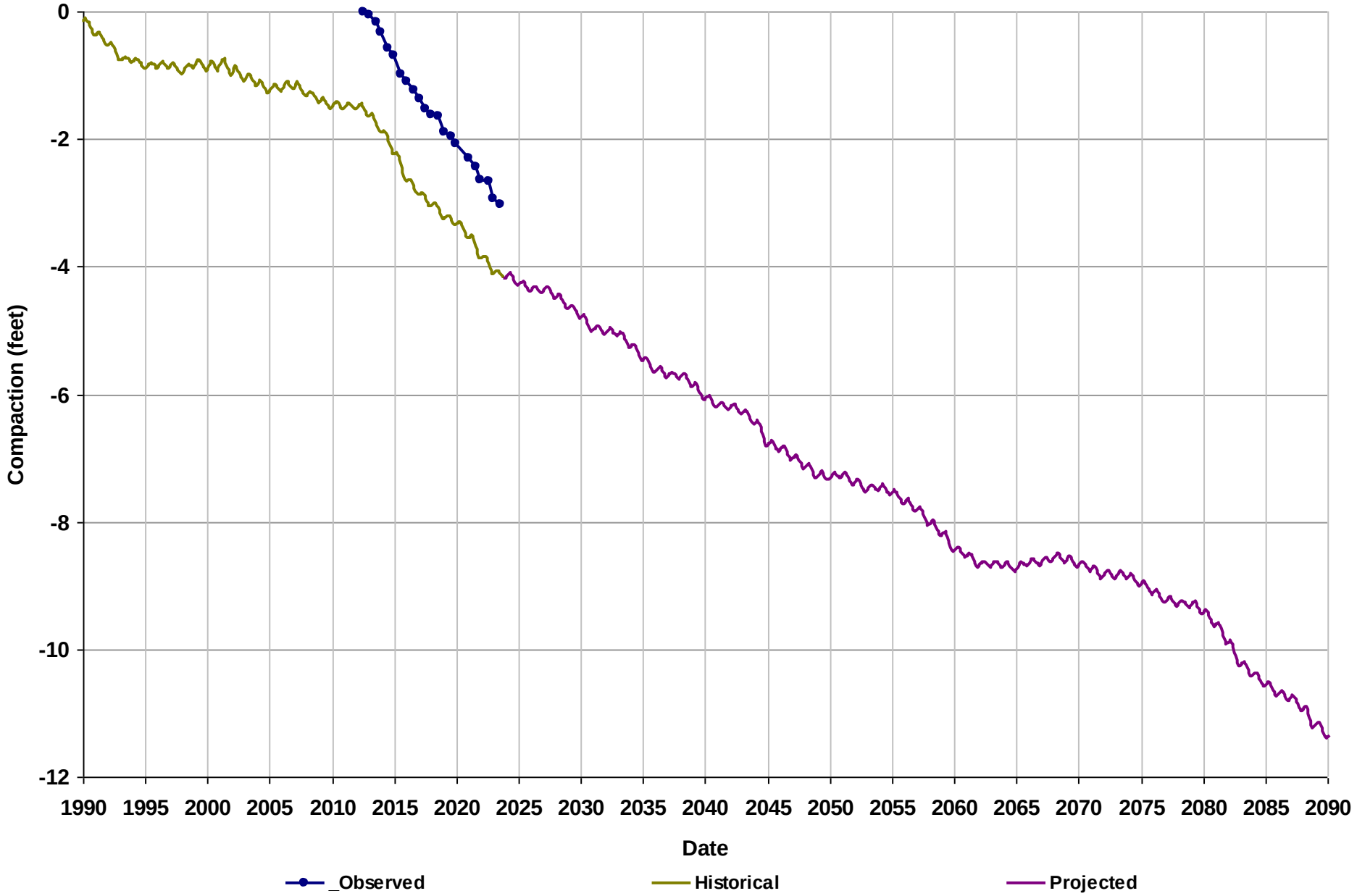
Station Name: SJRRP_165
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_201R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_29
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

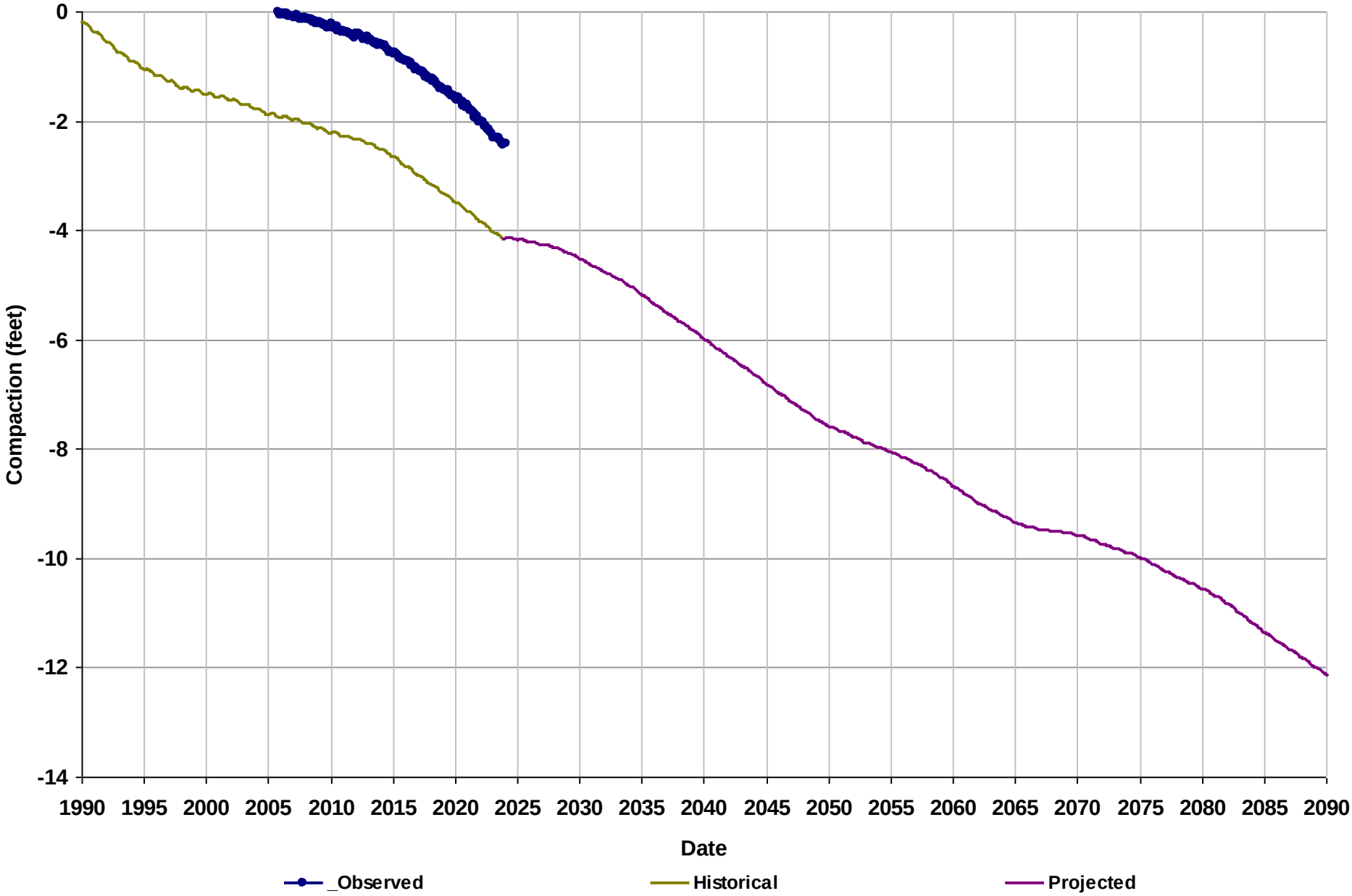


APPENDIX F.2.e

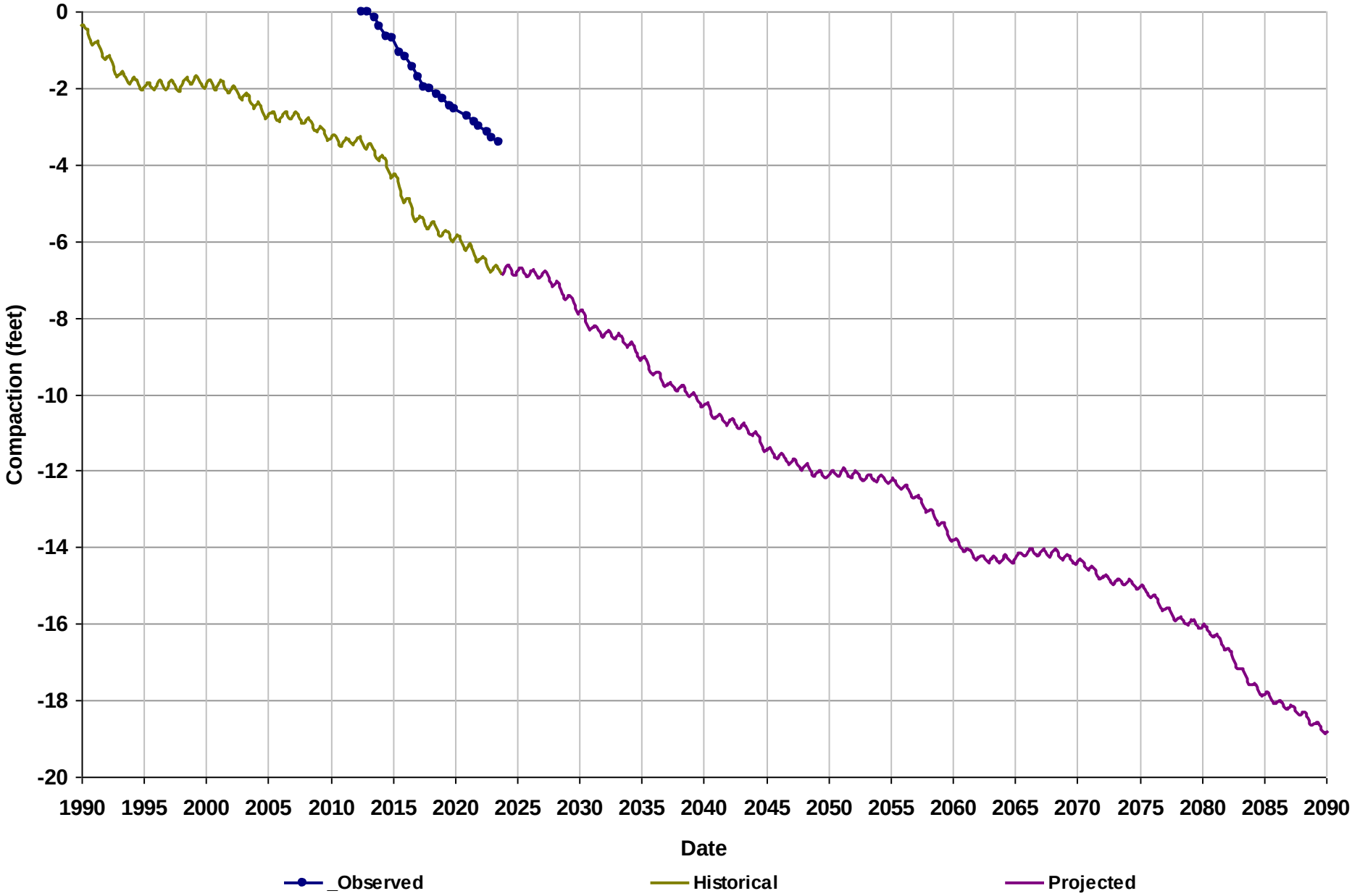
Madera Subbasin Subsidence Hydrographs for RMS Stations - Projected (No Action) with Climate Change Scenario

LSCE

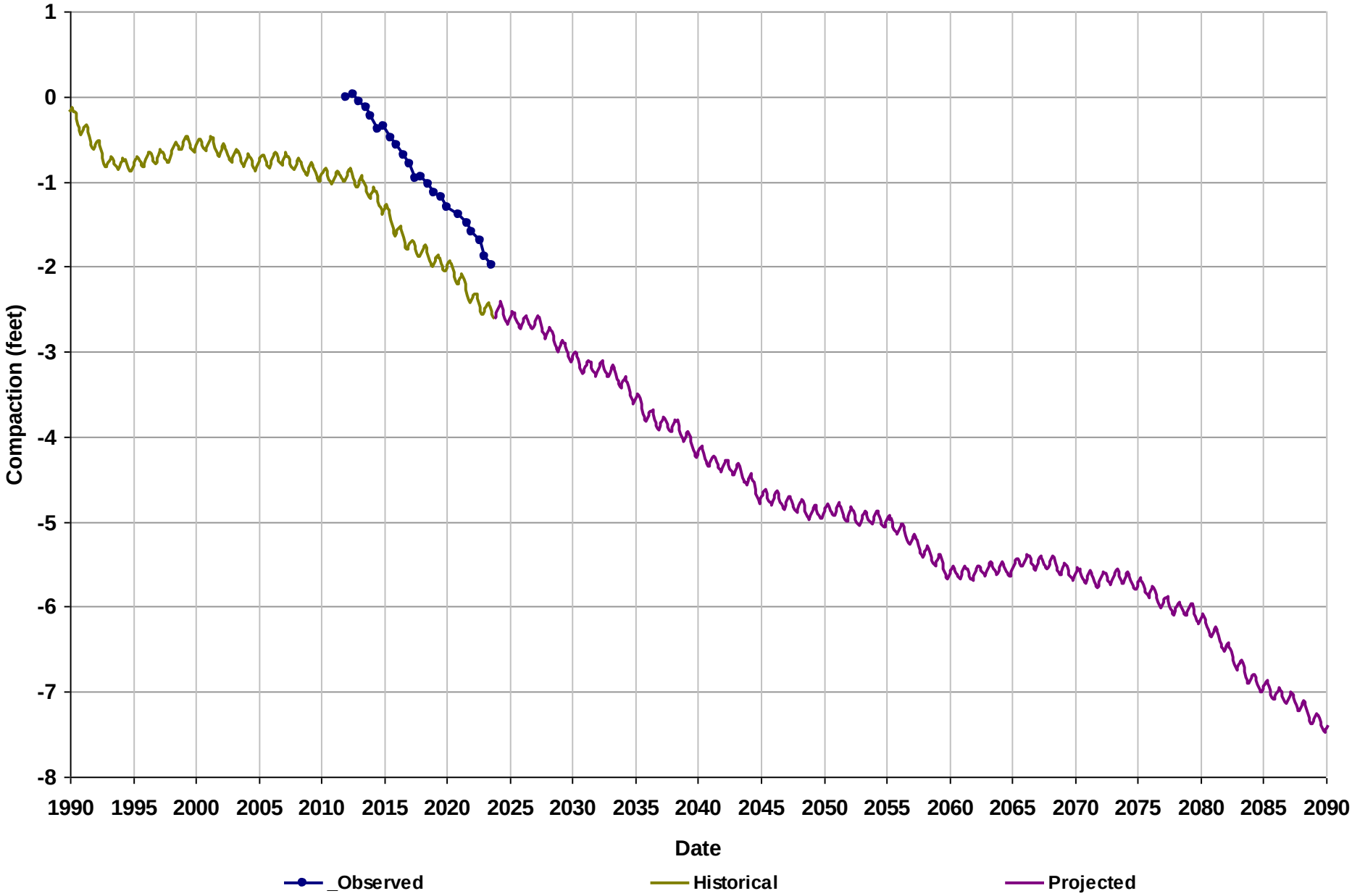
Station Name: P307
Data Source: UNAVCO PBO
Subbasin: Madera
Data Type: CGPS



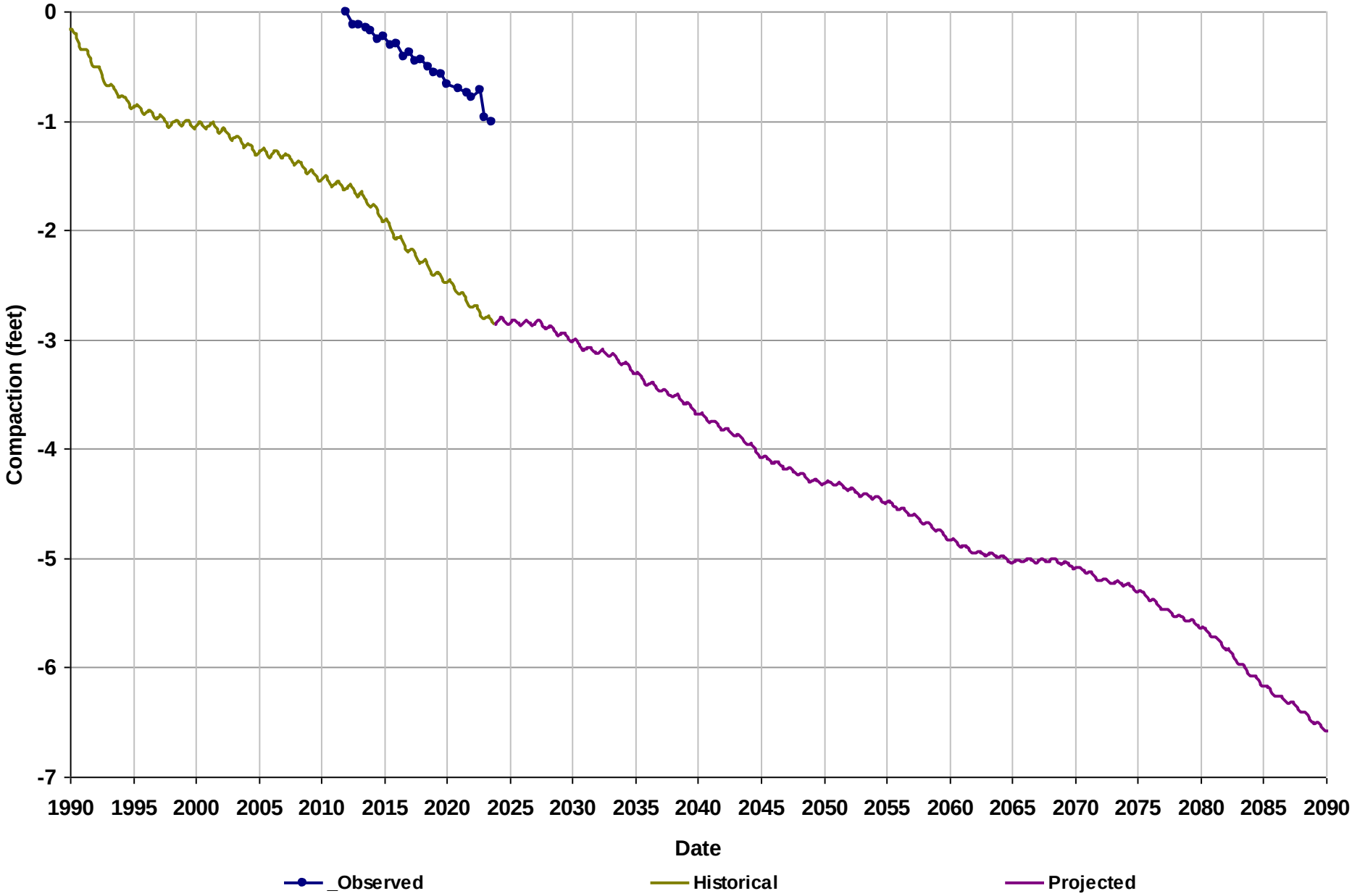
Station Name: SJRRP_1007R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



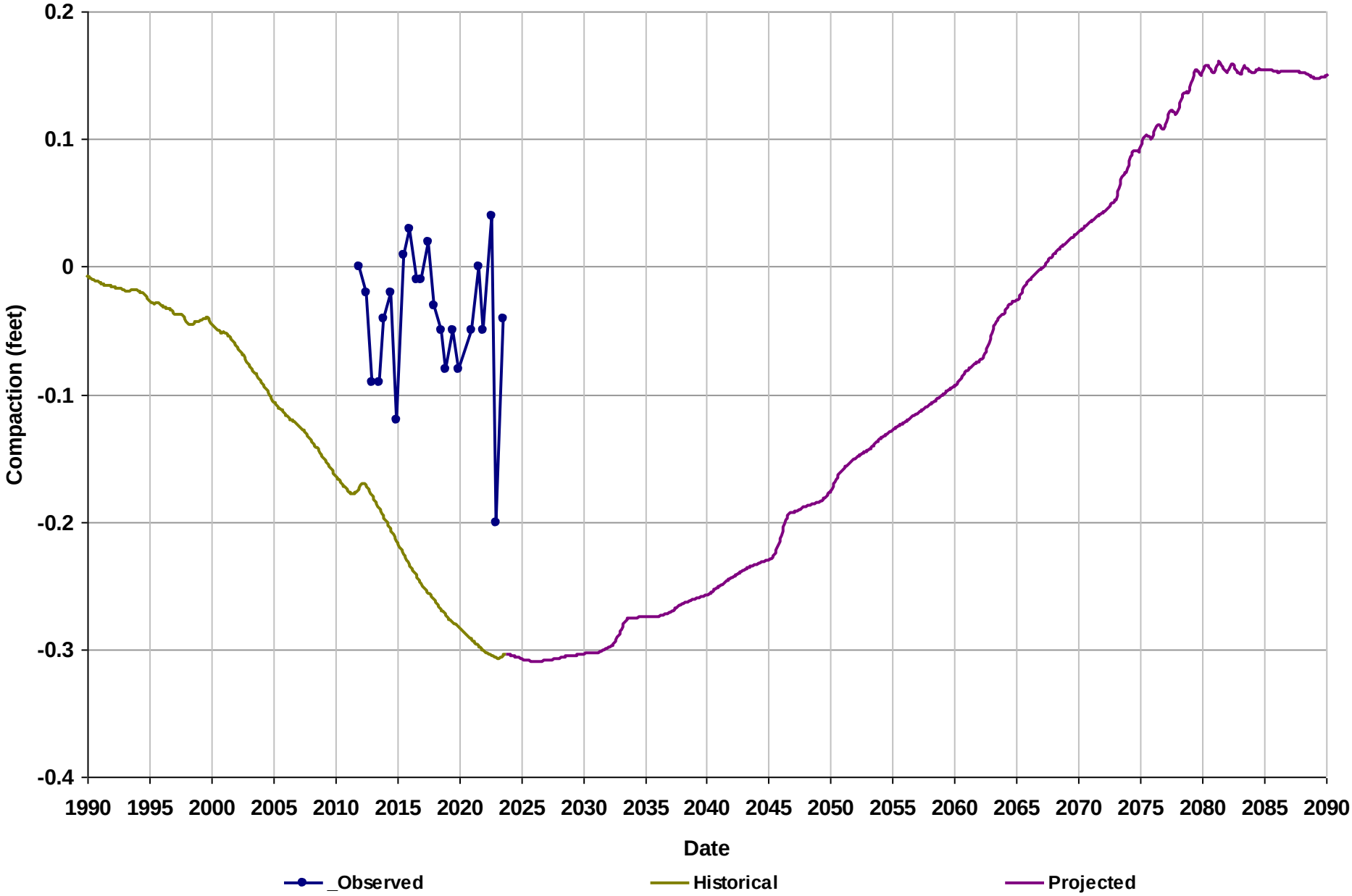
Station Name: SJRRP_127
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



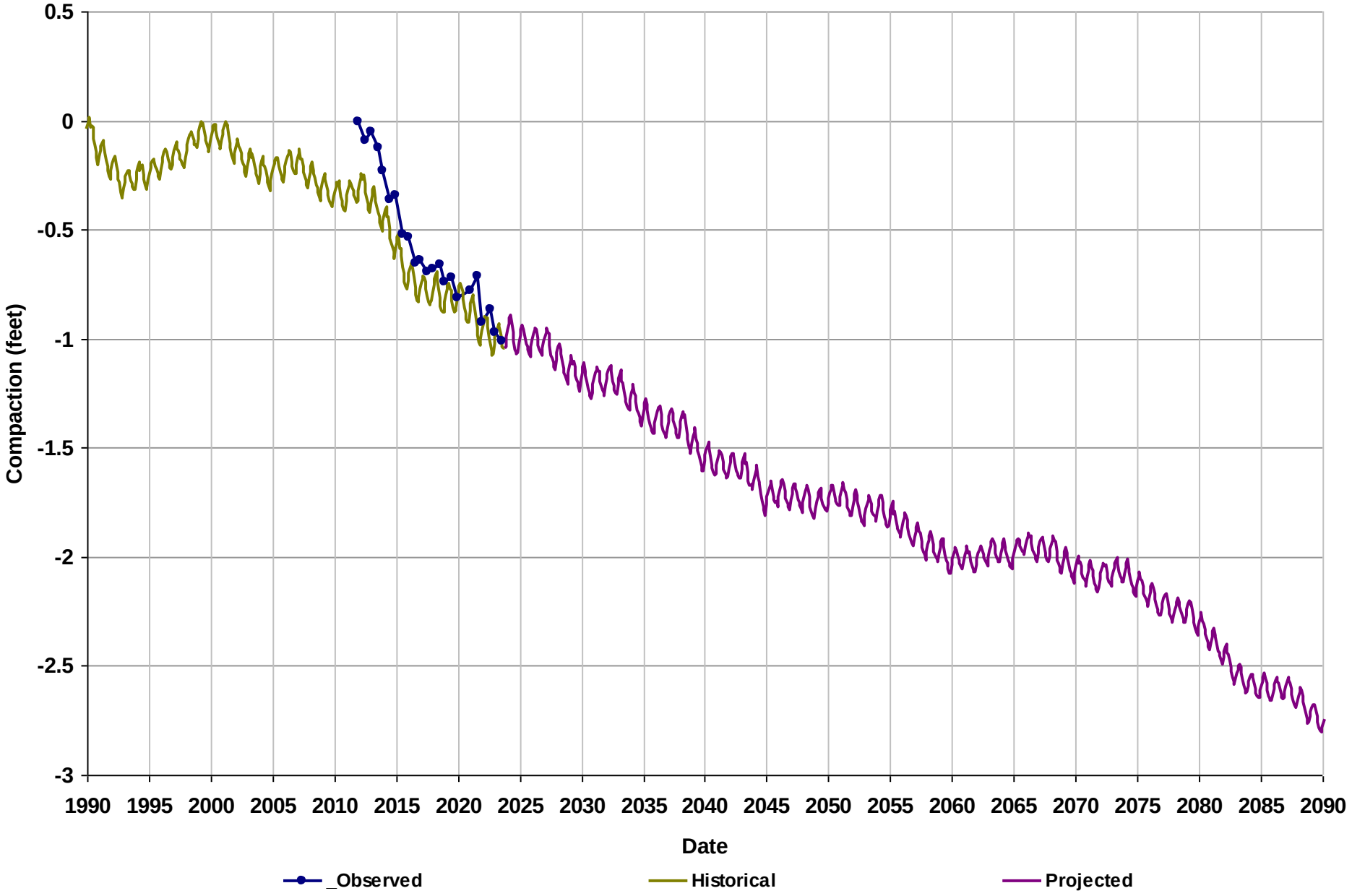
Station Name: SJRRP_141
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



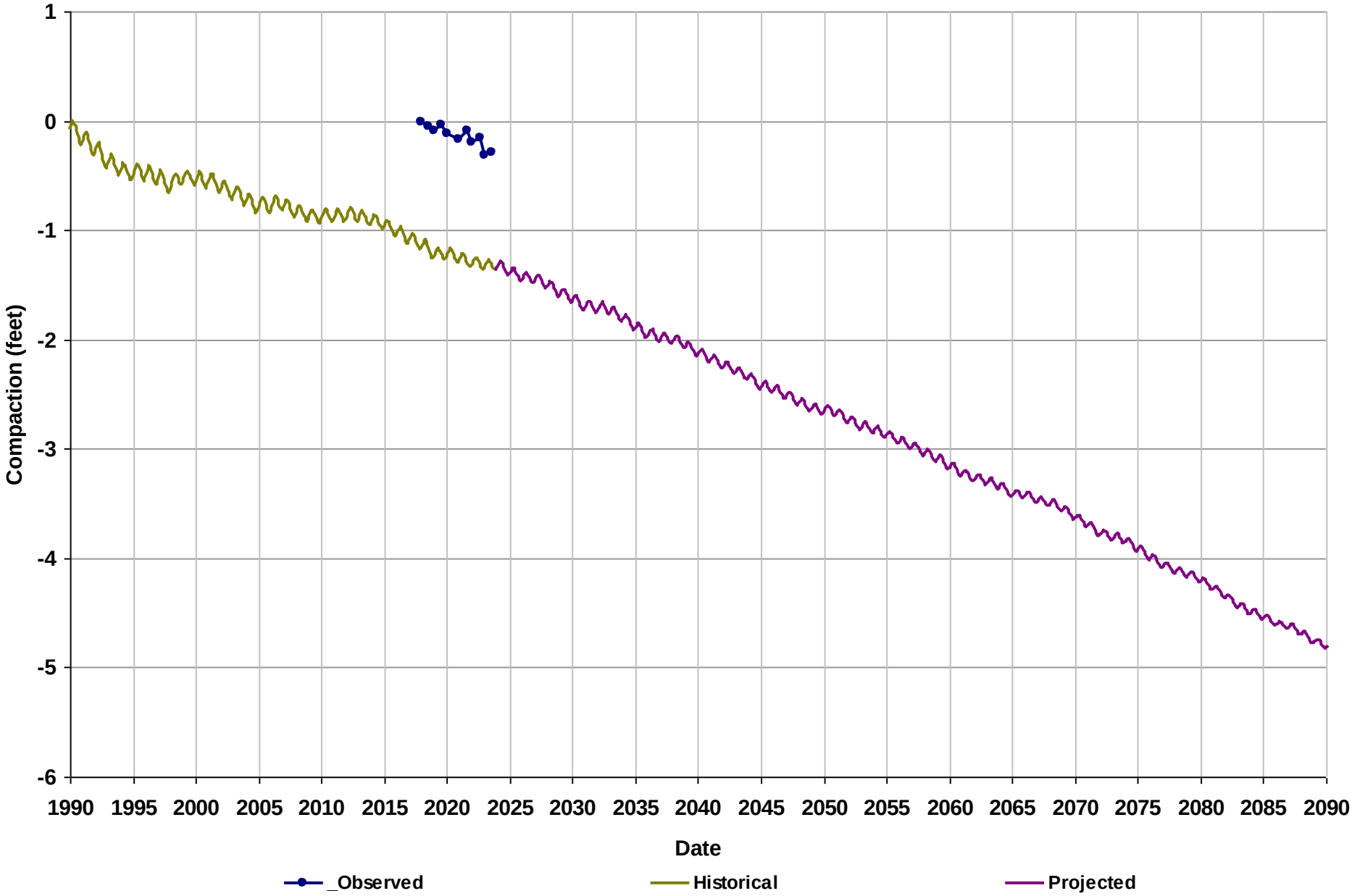
Station Name: SJRRP_142
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



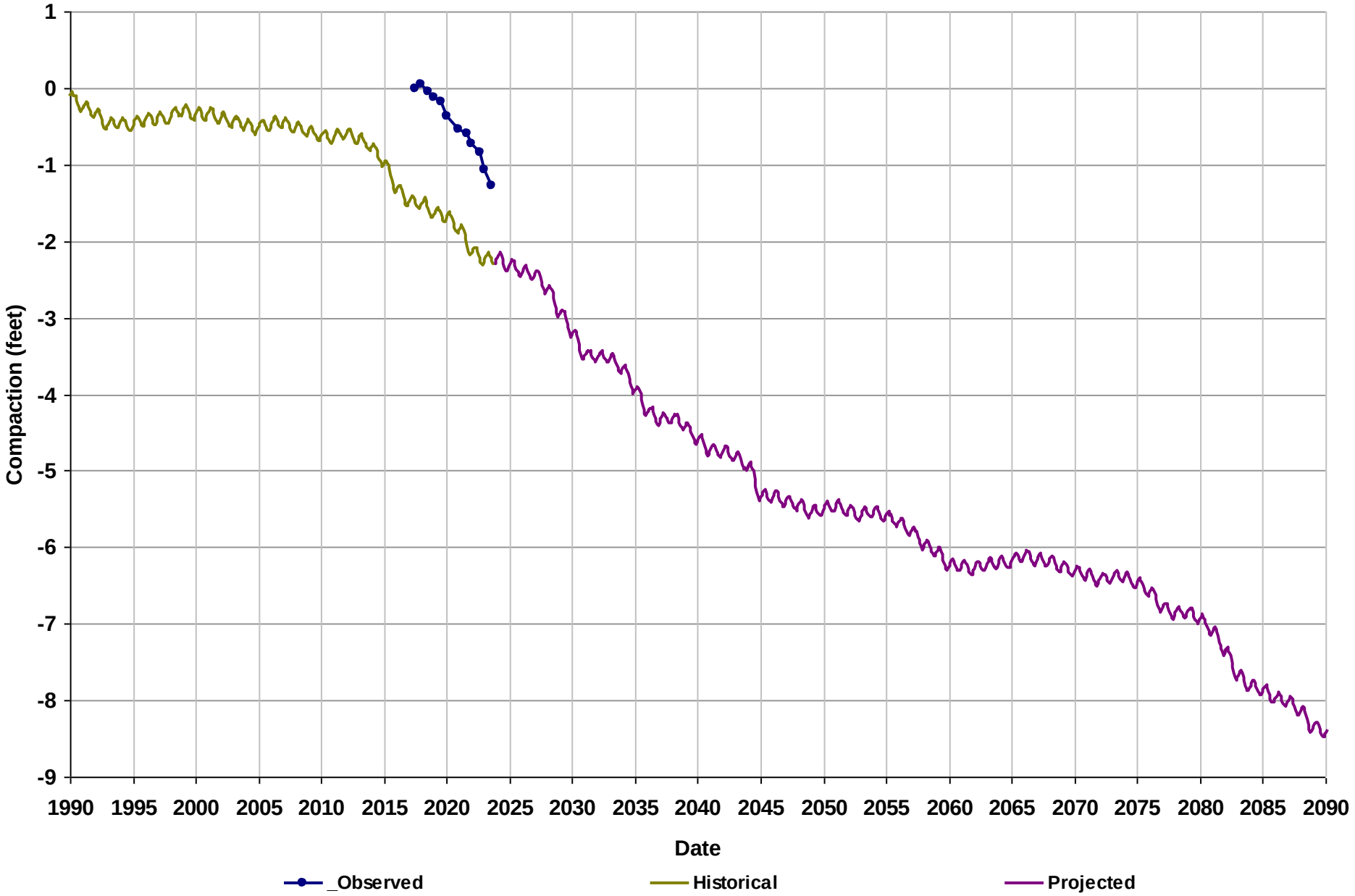
Station Name: SJRRP_160R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



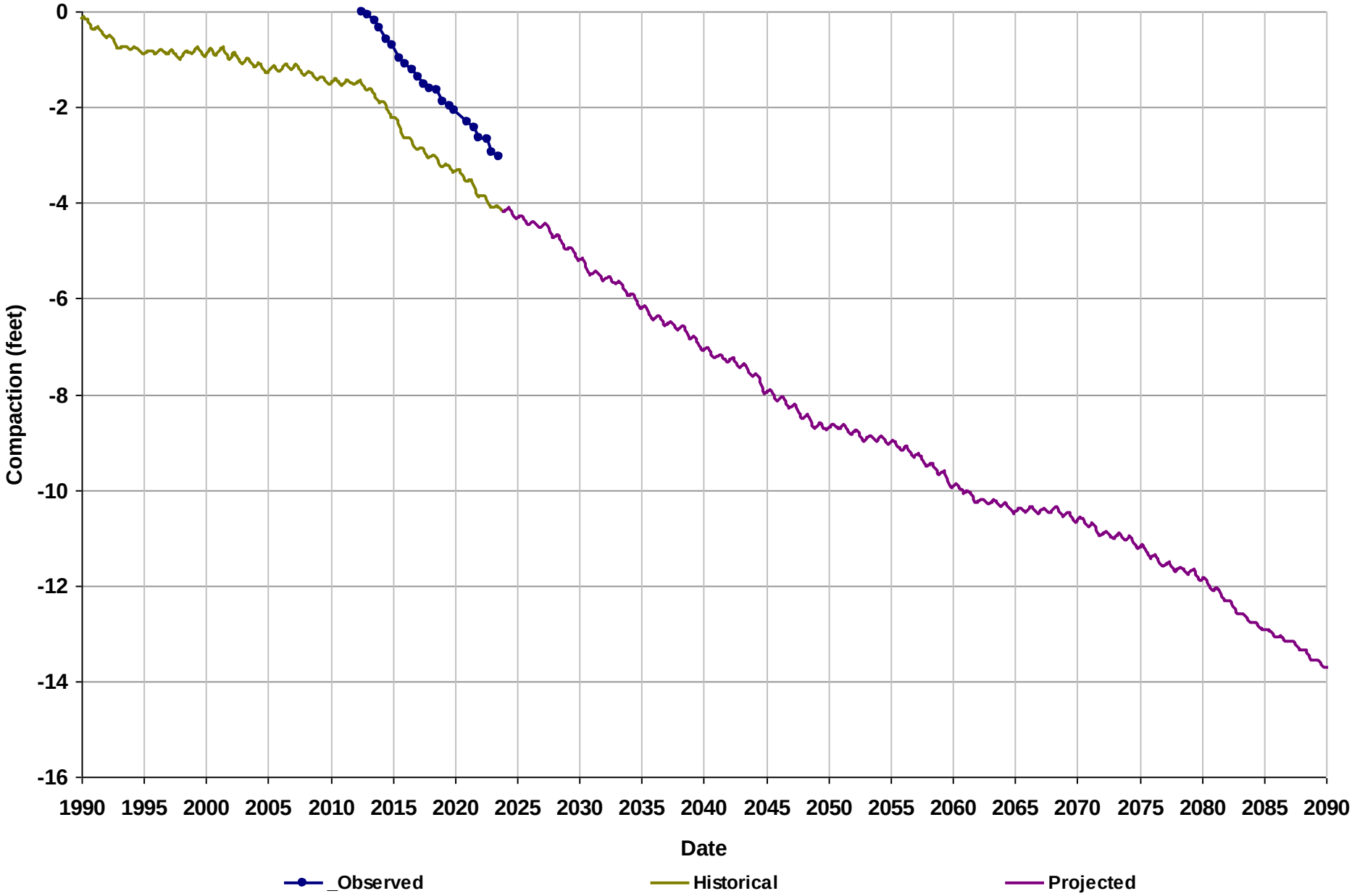
Station Name: SJRRP_165
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_201R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_29
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS

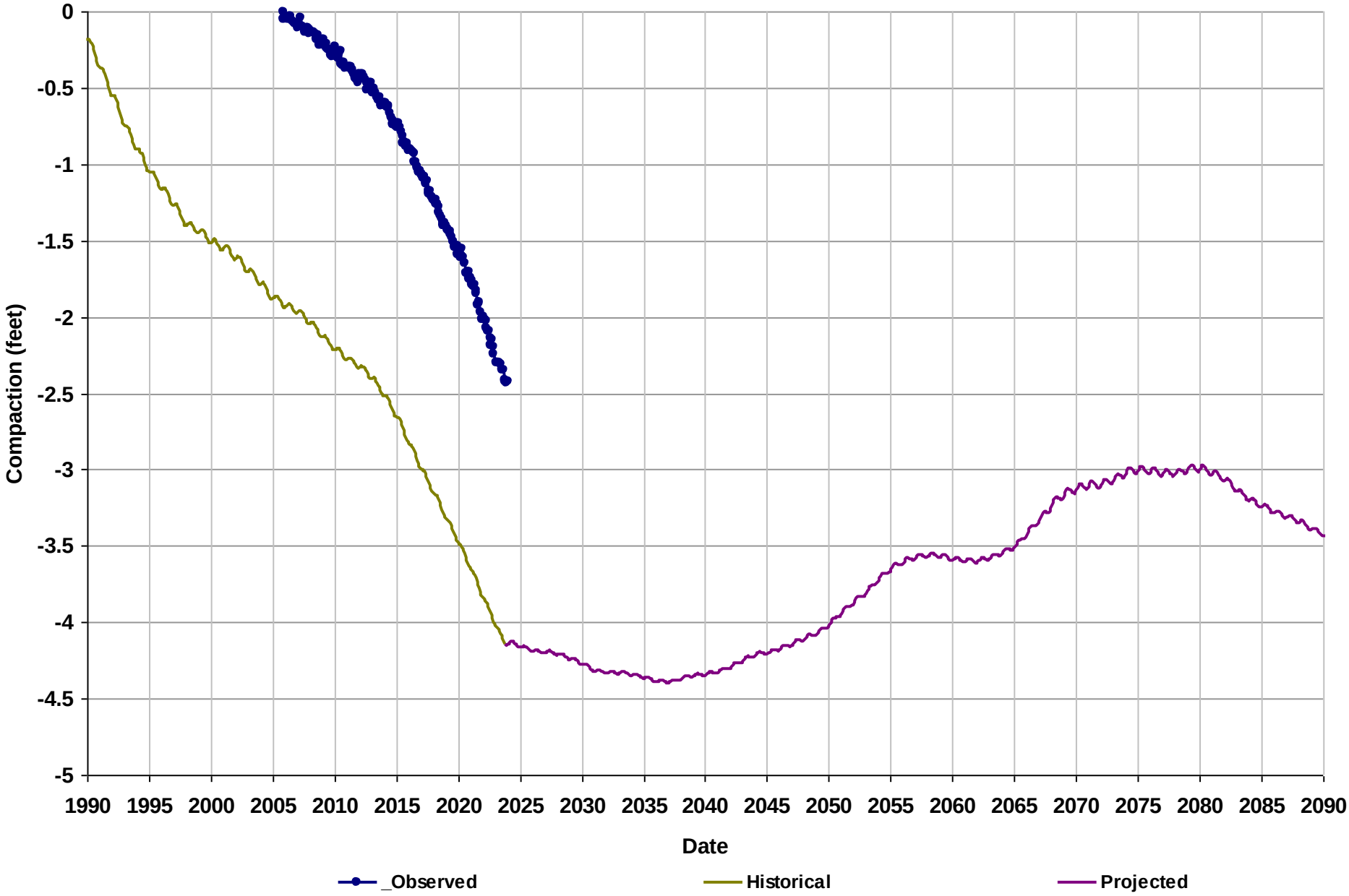


APPENDIX F.2.f

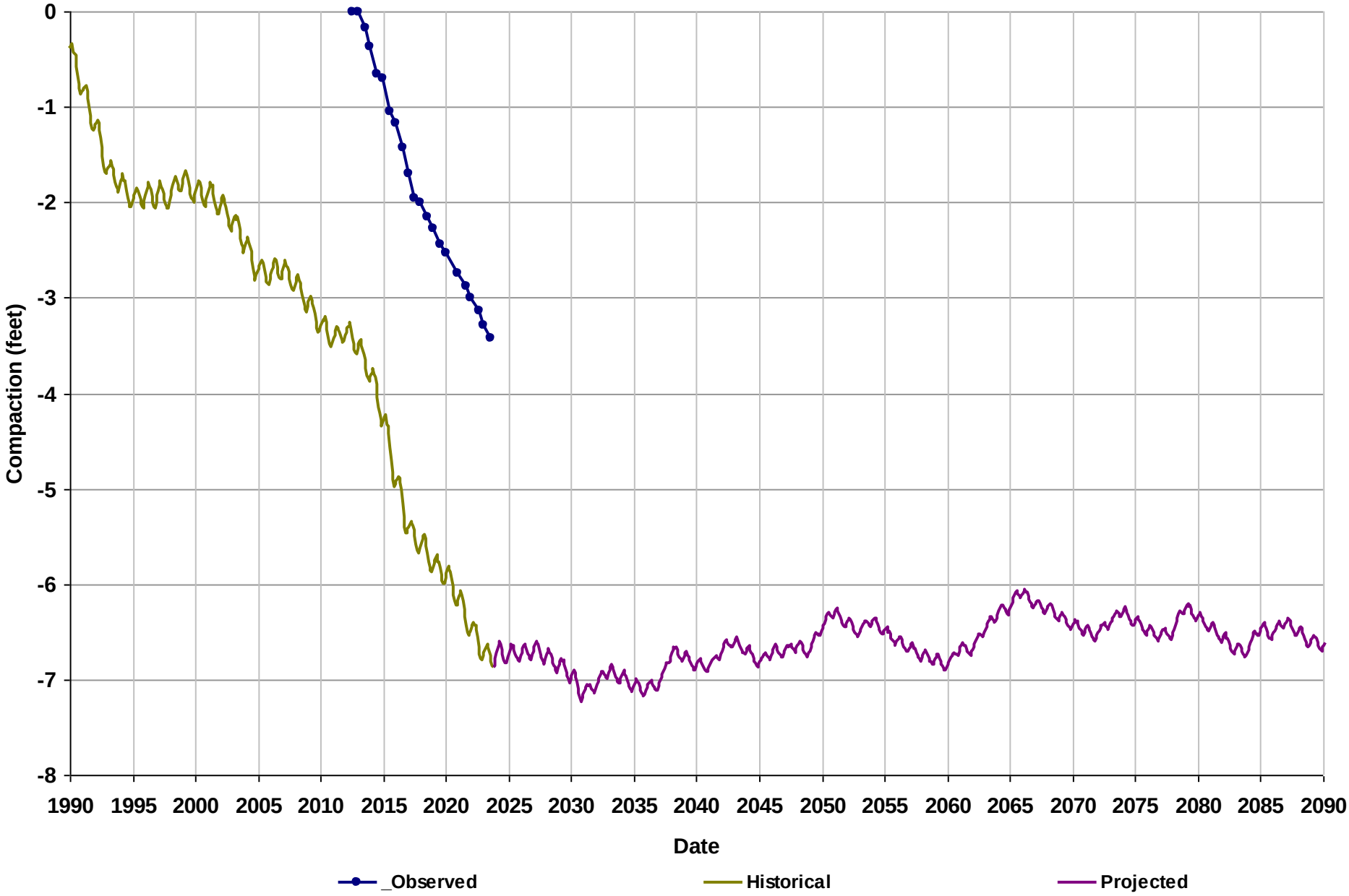
Madera Subbasin Subsidence Hydrographs for RMS Stations - Sensitivity - Projected with Projects Scenario

LSCE

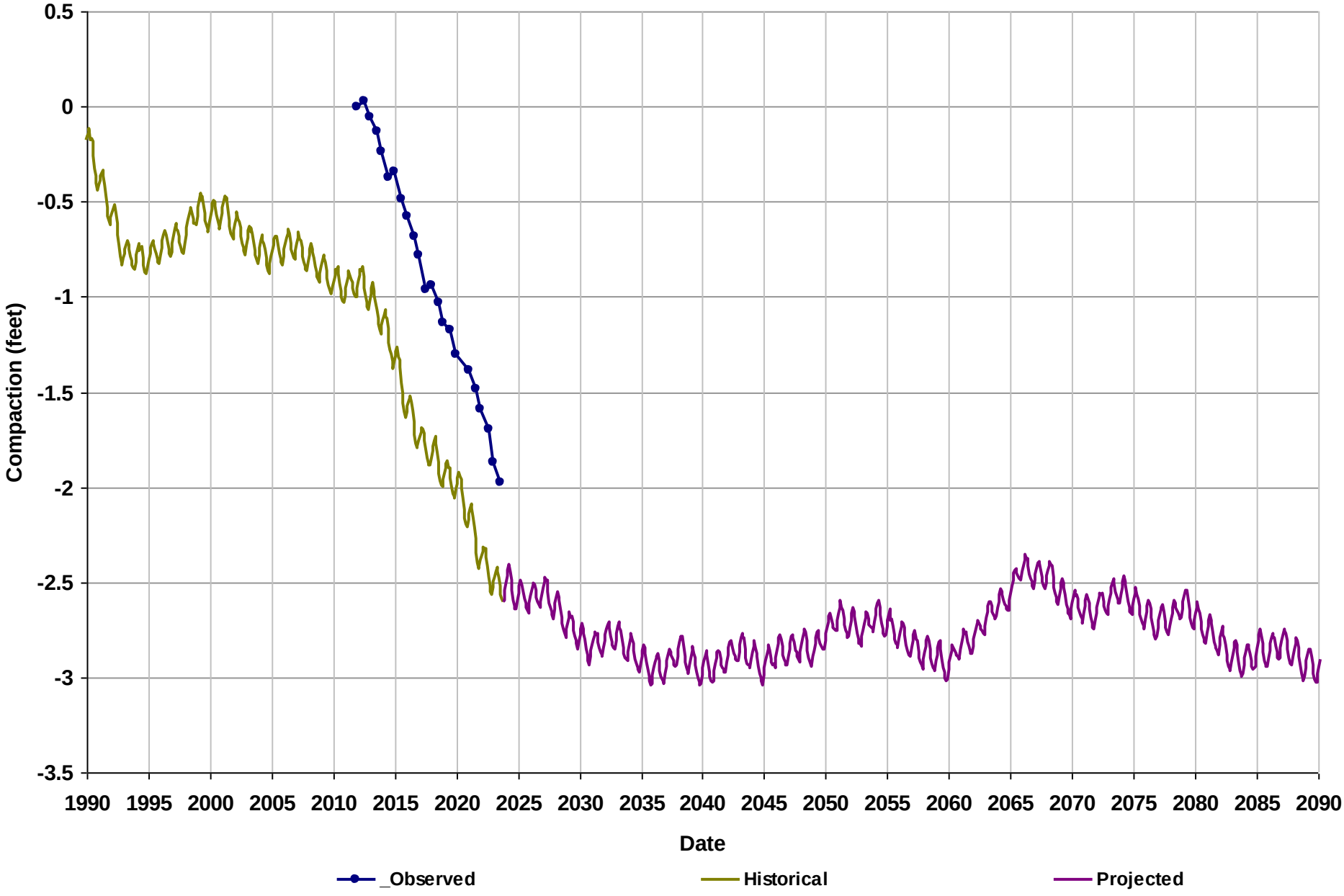
Station Name: P307
Data Source: UNAVCO PBO
Subbasin: Madera
Data Type: CGPS



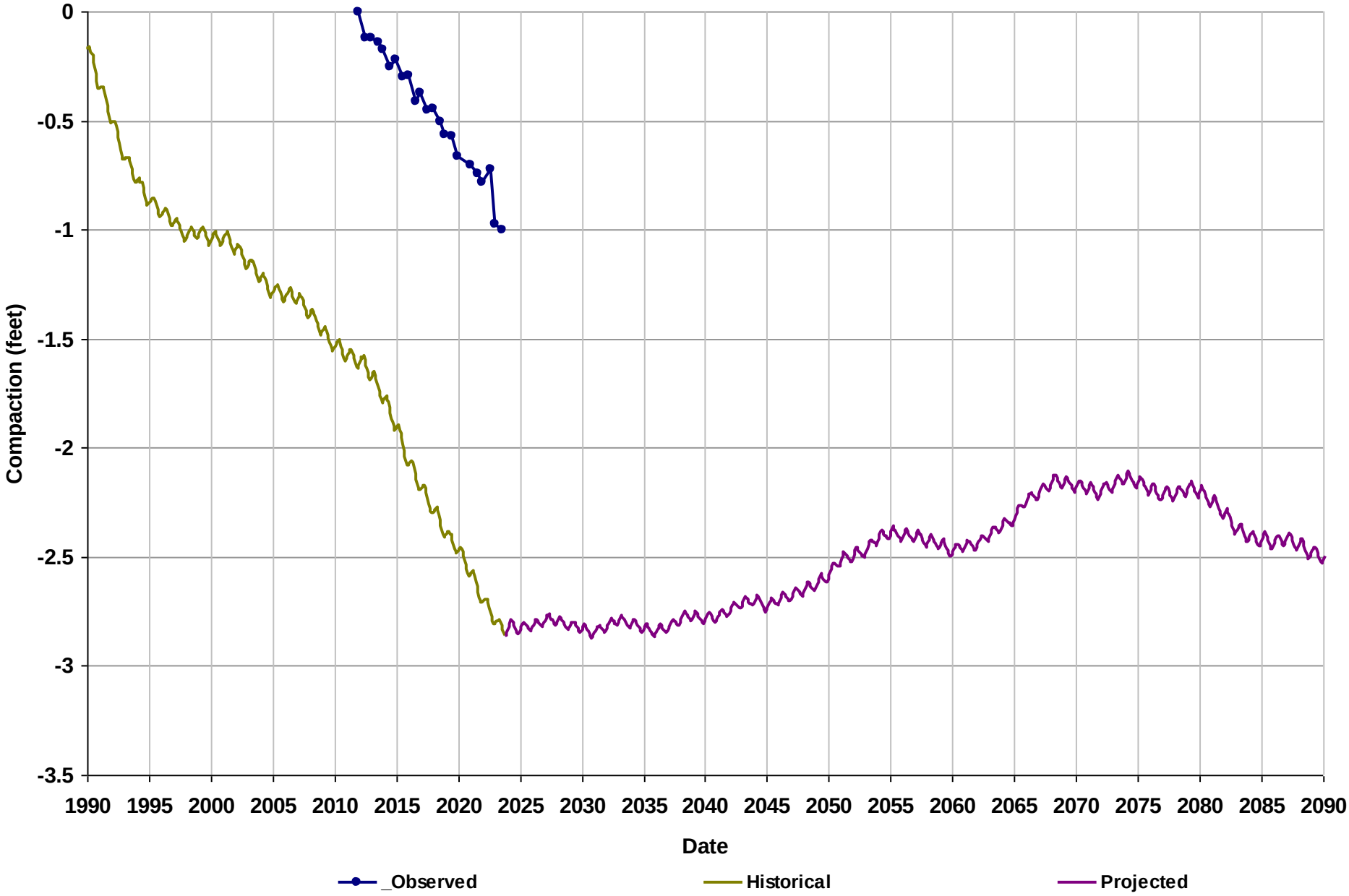
Station Name: SJRRP_1007R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



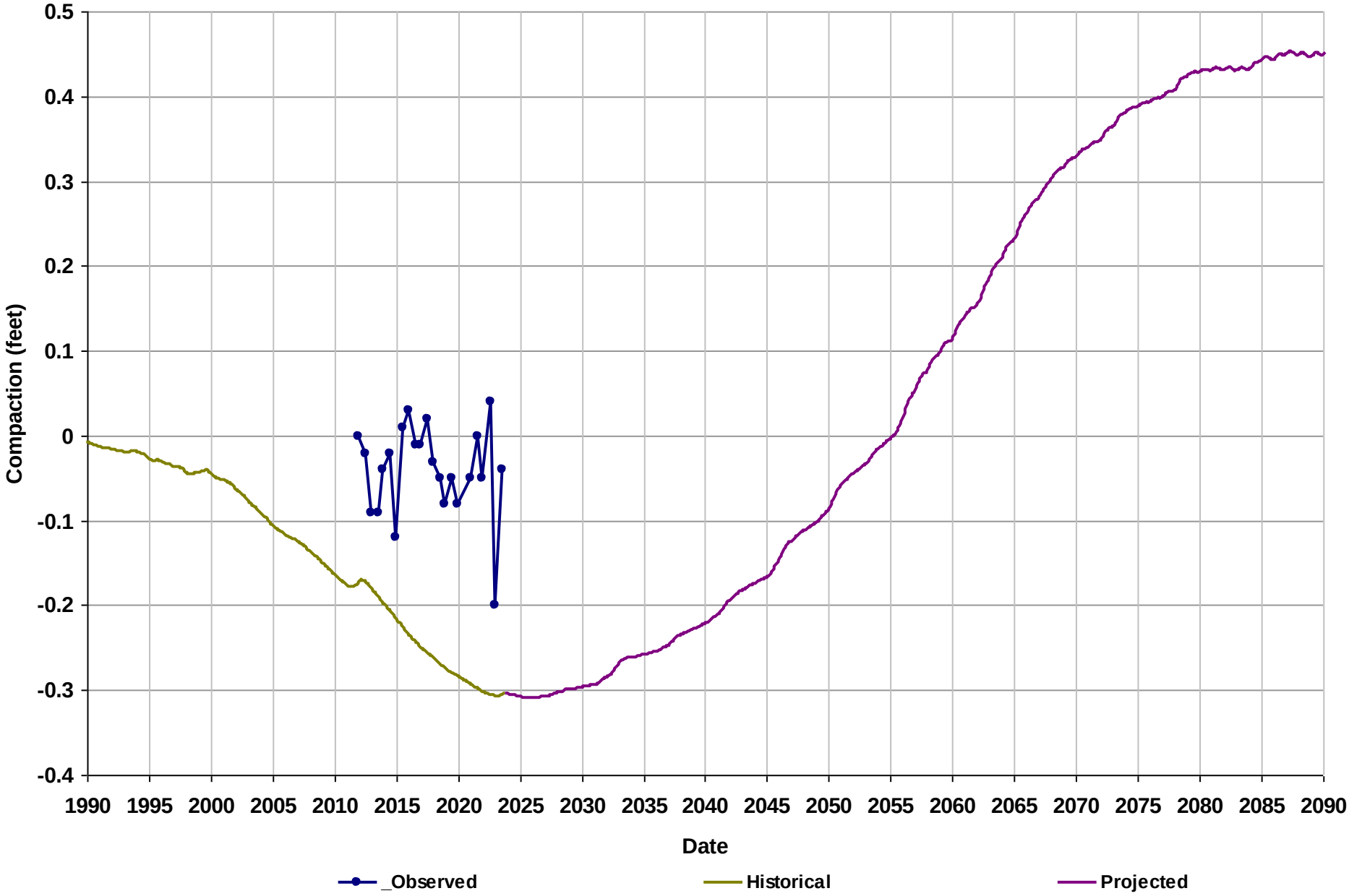
Station Name: SJRRP_127
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



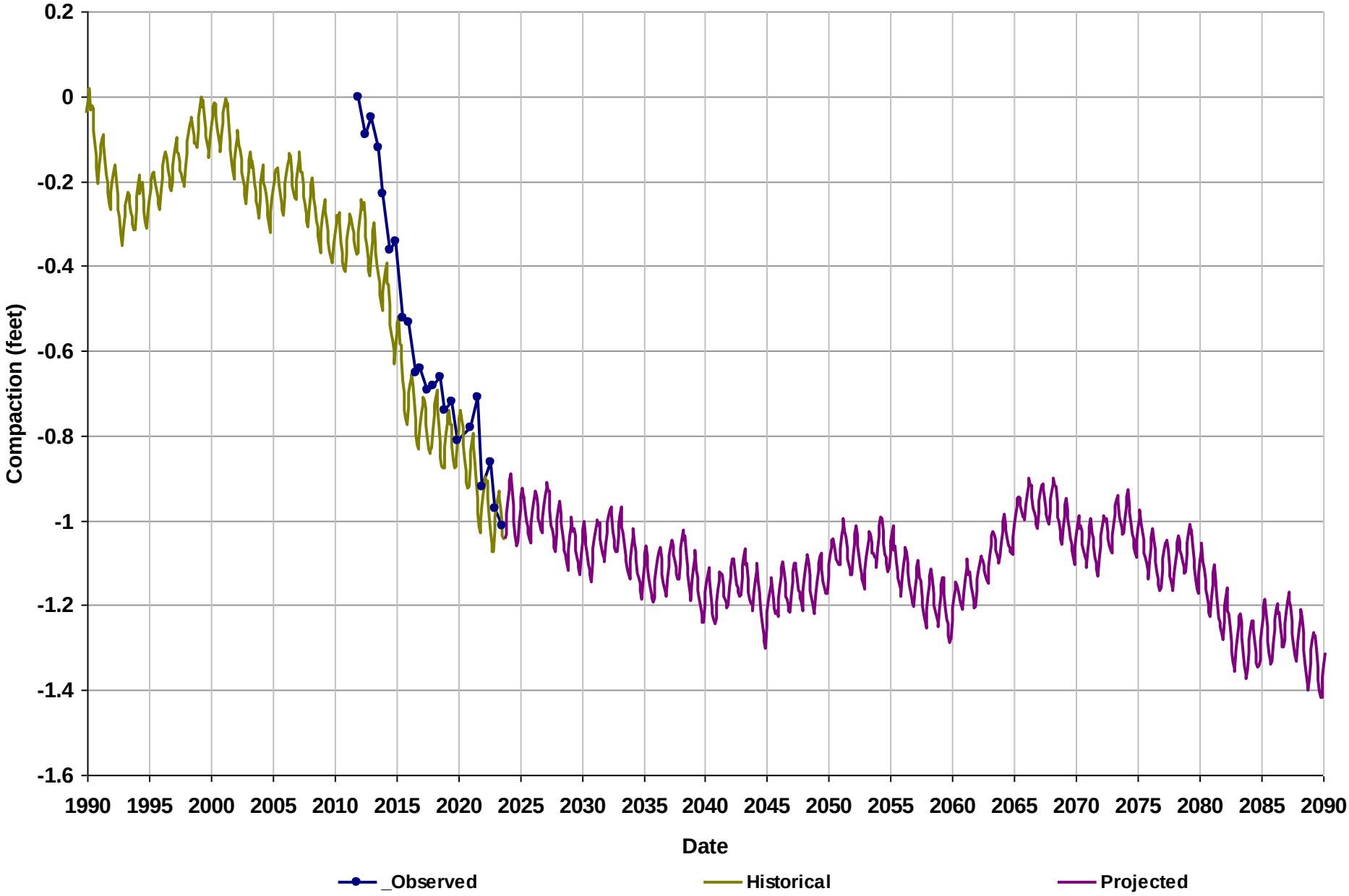
Station Name: SJRRP_141
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



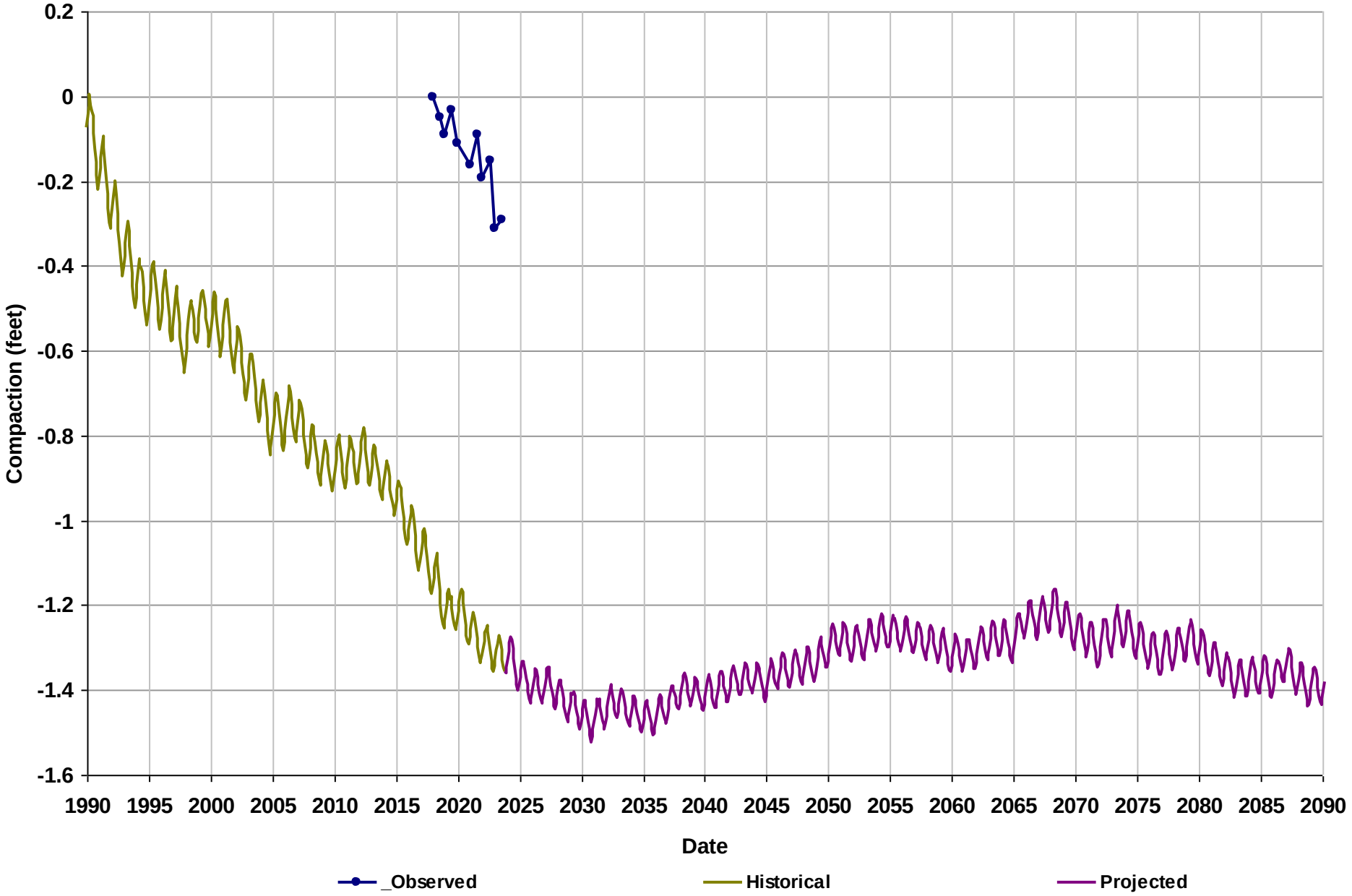
Station Name: SJRRP_142
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



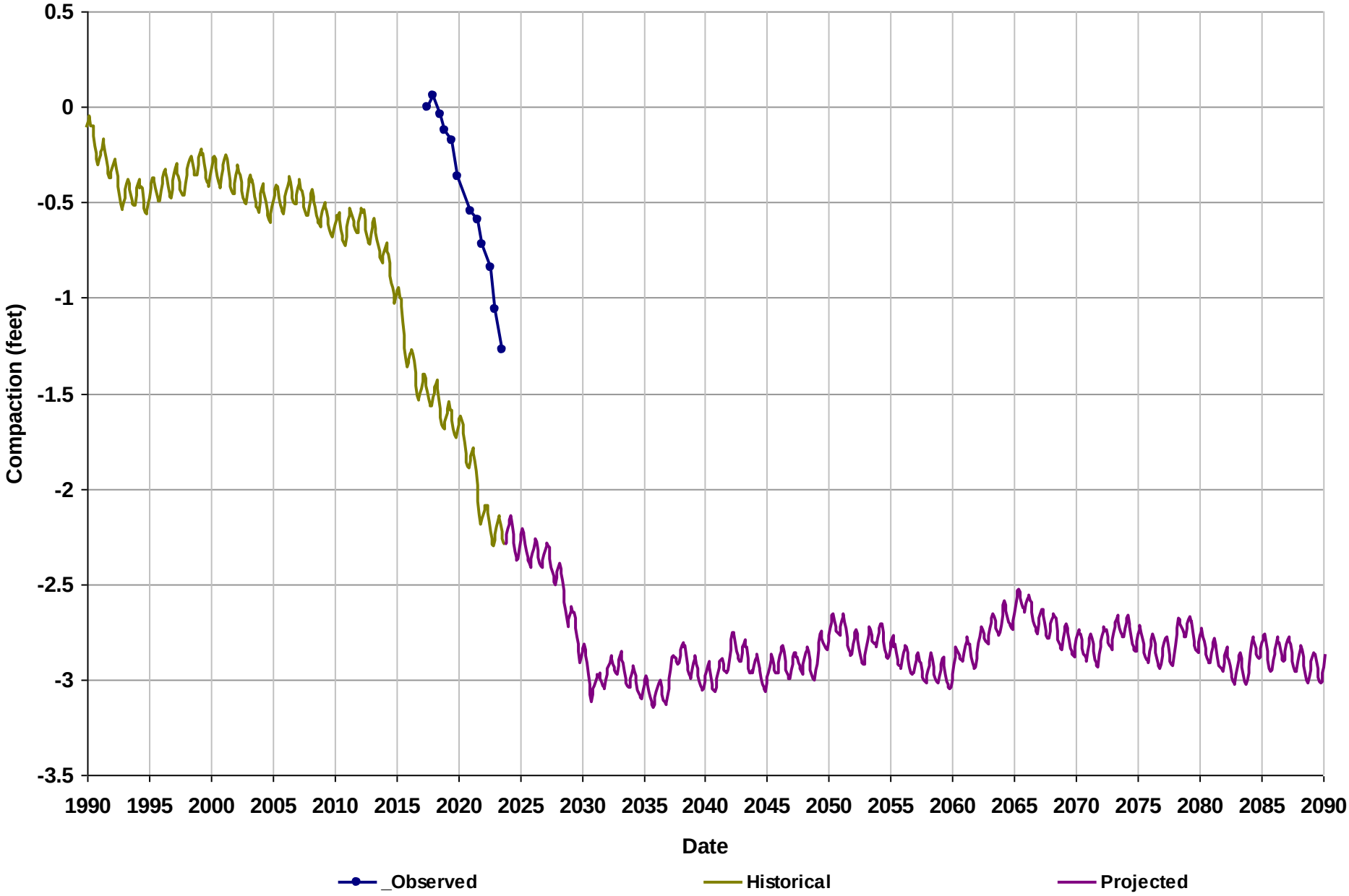
Station Name: SJRRP_160R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_165
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_201R
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS



Station Name: SJRRP_29
Data Source: UBSR SJRRP
Subbasin: Madera
Data Type: GPS