CHOWCHILLA SUBBASIN

Sustainable Groundwater Management Act (SGMA)

Groundwater Sustainability Plan

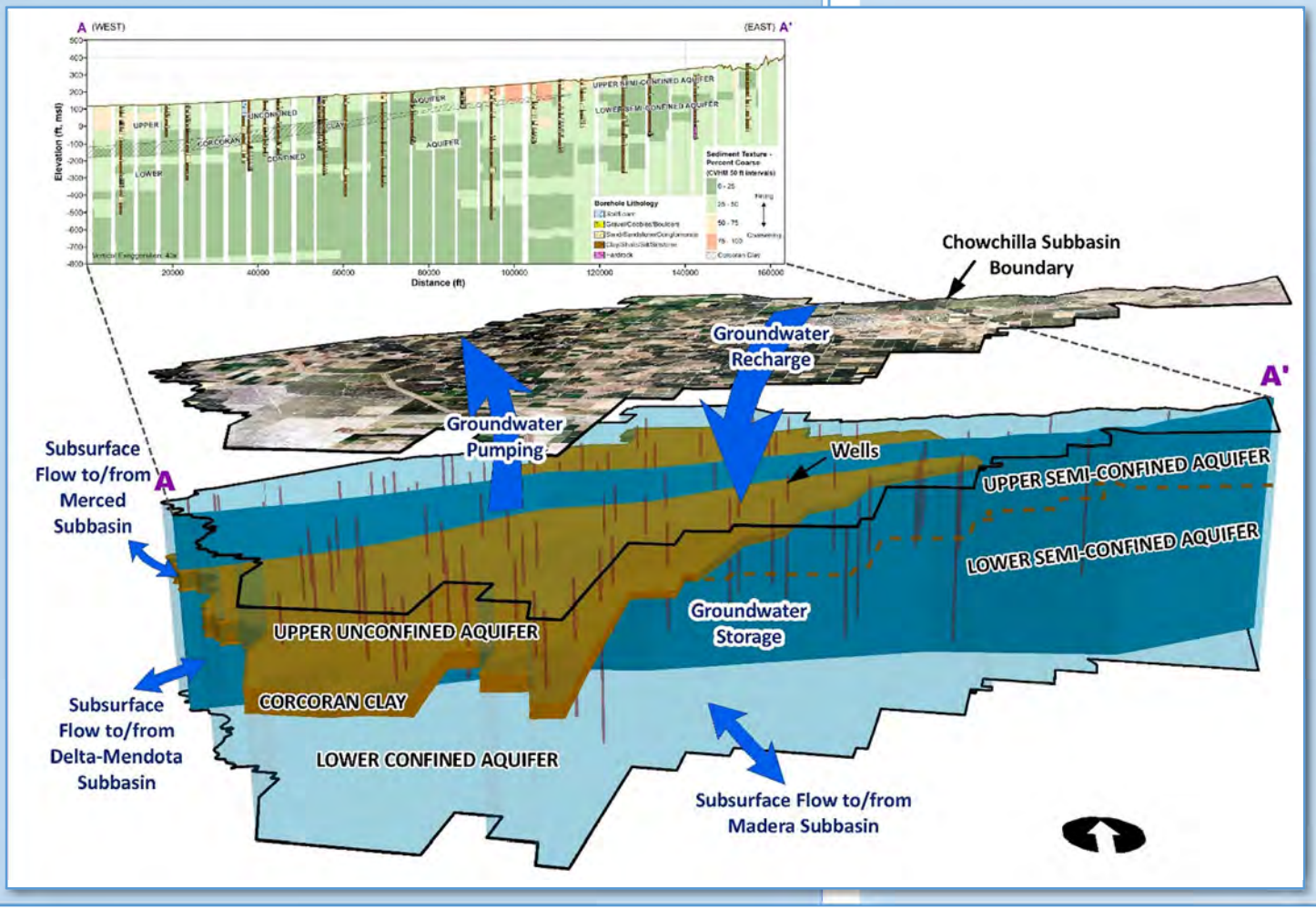
APPENDIX 6. REFERENCES AND TECHNICAL STUDIES

Technical Appendices 6.A. through 6.D.

January 2020

Prepared by

Davids Engineering, Inc
Luhdorff & Scalmanini
ERA Economics
Stillwater Science and
California State University, Sacramento



FINAL

Chowchilla Subbasin

Sustainable Groundwater Management Act

Groundwater Sustainability Plan

Technical Appendices 6.A. through 6.D.

January 2020

Prepared For

Chowchilla Subbasin GSP Advisory Committee

Prepared By

Davids Engineering, Inc
Luhdorff & Scalmanini
ERA Economics
Stillwater Science and
California State University, Sacramento

APPENDIX 6. REFERENCES AND TECHNICAL STUDIES

6.A. Interbasin and Coordination Agreements (as applicable) (Reg. § 357)

6.B. Contact Information for Plan Manager and GSA Mailing Address (Reg. § 354.6)

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APPENDIX 6.A. INTERBASIN AND COORDINATION AGREEMENTS (AS APPLICABLE) (REG. § 357)

Prepared as part of the

Groundwater Sustainability Plan
Chowchilla Subbasin

January 2020

GSP Team:

Davids Engineering, Inc
Luhdorff & Scalmanini
ERA Economics
Stillwater Sciences and
California State University, Sacramento

INTERBASIN AGREEMENT

MERCED-CHOWCHILLA GROUNDWATER SUBBASINS

This Interbasin Agreement for the Merced-Chowchilla Groundwater Subbasins (this "Agreement") is made and effective as of July 31, 2018 ("Effective Date") by and among **Chowchilla Water District Groundwater Sustainability Agency, Merced Irrigation-Urban Groundwater Sustainability Agency, County of Madera Chowchilla Subbasin Groundwater Sustainability Agency, Merced Subbasin Groundwater Sustainability Agency, Triangle T Water District GSA** and **County of Merced Chowchilla Subbasin Groundwater Sustainability Agency**.

This Agreement is made with reference to the following facts and understandings:

A. On August 29, 2014, the California Legislature passed comprehensive groundwater legislation contained in SB 1168, SB 1319, and AB 1739, collectively known as the "Sustainable Groundwater Management Act" ("SGMA"). SGMA was signed into law on September 16, 2014 and it became effective on January 1, 2015. In adopting SGMA, the Legislature intended to provide local groundwater agencies with the authority and technical and financial assistance necessary to sustainably manage groundwater.

B. Under SGMA, each affected groundwater basin or subbasin will be regulated separately by one or more Groundwater Sustainability Agencies (each, a "GSA"). A local agency or combination of local agencies may elect to be the GSA for a basin or subbasin. Each of the parties to this Agreement ("Party(ies)") is a Groundwater Sustainability Agency (each, as "GSA") established by a local government entity with either water supply, water management, or land use responsibilities within the critically overdrafted Merced and Chowchilla groundwater subbasins of the San Joaquin Valley groundwater basin (the "Subbasins").

C. Groundwater sustainability under SGMA is to be achieved through Groundwater Sustainability Plans (each, a "GSP"). A GSP can be a single plan developed by one or more GSAs, or multiple coordinated plans within a basin or subbasin by multiple GSAs. SGMA requires that the GSPs for critically overdrafted subbasins be adopted by January 31, 2020. The regulations interpreting SGMA allow for GSAs with adjoining jurisdictions to enter into interbasin agreements to establish compatible sustainability goals and understanding regarding fundamental elements of the GSPs of each agency, and thereby promote the compatibility of GSPs where the actions in one subbasin may affect the groundwater of an adjoining subbasin.

D. In March of 2016 the Chowchilla Water District submitted a Basin Boundary Modification request to the California Department of Water Resources ("DWR") proposing that the Chowchilla groundwater subbasin boundary be modified under the Jurisdictional Modification criteria in the DWR Basin Boundary Modification Emergency Regulation, which requested changes do not alter the interactive hydrologic nature of the Subbasins. This Basin Boundary Modification resulted in moving a portion of the Chowchilla Subbasin (as defined by Bulletin 118- 2003) that is within the jurisdiction of Merced Irrigation District and Merced County into the Merced Subbasin. This area

in Merced County, mainly around the community of El Nido, has experienced significant land subsidence over the recent years.

E. Merced Irrigation District initially submitted to DWR a letter opposing the Basin Boundary Modification due to concerns regarding inter-basin coordination. Merced County submitted a letter of support for the Basin Boundary Modification contingent upon the adoption of an interbasin agreement. Merced Irrigation District subsequently withdrew its opposition to the Basin Boundary Modification request based on agreement from the Chowchilla Subbasin GSAs to enter into this inter-basin agreement as defined in Section 357.2 of the Groundwater Sustainability Plan Emergency Regulations.

F. The Parties are entering into this Agreement to establish compatible sustainability goals and understandings for the Subbasins, with a focus on the areas where the activities occurring within one Party's jurisdiction may affect groundwater within another Party's jurisdiction, to resolve the comments and concerns of Merced Irrigation District and Merced County regarding the boundary modification request of the Chowchilla Water District, and to coordinate preparation of each agency's respective GSP in order to promote the compatibility thereof. The Parties intend that the GSPs will address the level of cooperation and coordination between the Parties.

G. The intent of the Parties under this Agreement is to provide each Party with the sole right and responsibility to implement SGMA within its respective boundaries, as defined herein, in a manner determined by the Party as a GSA. The Parties expressly intend that neither SGMA, nor this Agreement, nor any GSP shall be construed as authorizing another Party, or the other Parties acting together, or any dispute resolution process contained herein, to:

(i) Determine or alter surface water rights or groundwater rights (California Water Code Section 10720.5 (b));

(ii) Make binding determinations of the water rights of any person or entity (California Water Code Section 10726.8 (b)); or

(iii) Supersede the existing land use authority of cities or counties, including the city or county general plan, within the overlying basin (California Water Code Section 10726.8 (f)).

THEREFORE, in consideration of the mutual promises, covenants and provisions herein set forth, it is agreed by and among the Parties as follows:

1. Recitals Incorporated. The recitals set forth above are hereby incorporated into this Agreement as a statement of the intent and purposes of this Agreement.

2. General Information. Within 120 days from execution of this Agreement, each Party shall develop and share with the other Parties general information regarding the portion of the Subbasins in its jurisdiction, including:

a. Description and general information pertaining to groundwater resources;

b. List of public agencies and other entities with groundwater management responsibilities; and

c. List of groundwater management plans and other water resource management plans.

3. Exchange of Information. The Parties shall exchange relevant available technical information and groundwater data to quantify the level of interconnection between the Subbasins and the areas where the activities occurring within one Party's jurisdiction may affect groundwater within another Party's jurisdiction. The Parties will coordinate shared information and work on adjusting values to the same basis for all data and parameters to the best of their abilities, and within reasonable range of acceptable scientific practices to help all Parties reach sustainability within their respective GSA areas. The information exchanged shall include if feasible:

a. Model aquifer parameter values and other model inputs relevant to calculation of inter-basin groundwater flow (e.g. model layering, grid size vertical pumping distribution, etc.);

b. Model outputs including simulated heads (groundwater elevations) by model layer and model water budget components (including model-estimated flows across the Subbasin boundary);

c. Values for groundwater quality (primarily TDS and nitrate), quantity and land subsidence;

d. An estimate of groundwater flow across basin and jurisdictional boundaries, including consistent and coordinated data, methods and assumptions;

e. An estimate of stream-aquifer interactions at boundaries;

f. A common understanding of the hydrogeology and hydrology as it applies to the determination of groundwater flow across basin and jurisdictional boundaries;

g. Sustainable management criteria, including management goals and thresholds, and a monitoring network that would support confirmation that no adverse impacts result from the implementation of the GSPs;

h. Existing and proposed monitoring locations;

i. Plans, programs, and projects anticipated as options and/or alternatives for sustainable management of respective Subbasins;

j. The following parameters:

i. Groundwater elevation data;
ii. Groundwater extraction data or estimates;
iii. Groundwater quality information;
iv. Surface water supply;
v. Reports of cropping patters on parcels adjacent to the subbasin boundaries, with approximately a 5-mile buffer on both sides of the boundary;
vi. Total water use;
vii. Change in groundwater storage;
viii. Water budget for land surface, stream, and groundwater systems;
ix. Sustainable yield; and
x. Agricultural water demands (consumptive use and extraction).

g. The Parties will work in good faith to complete a preliminary exchange of available information set forth above in Section 3(a)-(j) by August 31, 2018, and a complete exchange of information by June 30, 2019. The Parties shall analyze hydrologic and hydrogeologic conditions, based on the detail and local information available within the Merced Water Resources Model and the model to be developed and used for the Chowchilla Subbasin GSP analyses. The Parties will exchange information for the area of model overlap and analyze hydrologic and hydrogeologic conditions in the area of overlap to the extent relevant to interbasin groundwater flow. Information from items "a" through "j" above will be utilized in the analyses. Field verification and results from GSP monitoring programs will generally be used to validate model results during GSP implementation.

4. Planning for the GSPs. The Parties shall develop compatible sustainability goals, minimum thresholds and measurable objectives for their respective GSPs. Compatible sustainability goals would include, but are not limited to, the following:

a. Targeted 2040 groundwater levels;
b. Measurable objectives and interim milestones; and
c. Volumes of groundwater extraction and managed recharge to ensure coordination of any GSP-established or State-recommended/mandated levels.

"Compatible" in the context of this section means that the sustainability goals developed would not impede the other Party's efforts to achieve sustainability

5. Development of the GSPs. Each Party shall be responsible for development of its own GSP for the lands within its GSA jurisdiction, or for joint development of a GSP for the lands within its GSA jurisdiction and the lands of one or more additional GSA. The contents and adoption of each GSP shall be the decision and responsibility of each Party, subject to the criteria set forth in SGMA and its implementing regulations. However, in developing its GSP, each Party shall utilize the information exchanged under this Agreement, and shall incorporate any agreed sustainability goals, minimum thresholds and measurable objectives into each GSP.

6. Implementation. Each Party, in implementing its GSP and managing its affairs, shall avoid actions that materially and adversely impact or impede the ability to achieve the

sustainability goals of each other Party. Disagreements regarding a Party's implementation of its GSP shall be subject to the dispute resolution process outlined in paragraph 9.

7. Meetings. Commencing within 30 days of execution of this Agreement, the Parties shall meet quarterly while the planning activities described in Paragraph 4 are being performed and while the Parties are developing their GSPs. After all GSPs are approved, the Parties shall meet as agreed to discuss implementation and ongoing issues.

8. Costs. Each Party shall bear its own costs for its direct participation in the activities contemplated by this Agreement, including staff time, administrative and overhead costs, office expenses, legal fees, and consultants that report directly and exclusively to that Party. Contracts for any additional studies, reports, and data development for the matters identified in Paragraphs 3 and 4 must be approved by the unanimous vote of the Parties. The Parties shall select one of their members to be the fiscal agent for implementation of this Agreement, which shall calculate the costs being incurred therefor, assess the Parties for contributions to common costs in a timely manner, and pay invoices for such services. No Party shall be bound, financially or otherwise, by any obligation, contract, or activity undertaken by the other Parties unless and except to the extent agreed upon by the Party.

9. Dispute Resolution. The Parties fully intend to comply with this Agreement in good faith. Should, however, any controversy arise among or between the Parties concerning this Agreement, or the rights and duties of any Party under this Agreement, such a controversy shall be addressed as follows:

a. Any Party may trigger the dispute resolution process by delivering, in writing to all Parties, a notification of a dispute or controversy that contains a specific description of the actions alleged to be contrary to this Agreement and a proposed solution. A dispute resolution group, consisting of one member of the elected or appointed governance of each Party, shall be established by the Parties to resolve disputes and/or controversies relating to this Agreement (the "Dispute Resolution Group"). The Dispute Resolution Group shall meet no later than 30 days following notification of the dispute or controversy. The Party alleged to be in violation shall prepare a written response delivered to all Parties prior to the meeting of the Dispute Resolution Group. Thereafter, the Dispute Resolution Group will have 90 days to issue a written, non-binding opinion on the matter in dispute, including a proposed resolution. Any Party, at its sole expense, may retain outside experts to assist in data development or discussion of the dispute. Upon unanimous approval by the Parties, the Dispute Resolution Group may retain independent experts to assist in mediating the dispute. The Parties shall equally share the cost to retain the experts the Dispute Resolution Group selects. The Dispute Resolution Group may also consult with the Department of Water Resources as necessary. Participation in the process established by the Dispute Resolution Group is mandatory and a condition precedent to resorting to litigation, or referring the dispute to the State Water Resources Control Board or Department of Water Resources for formal action.

b. Should the dispute resolution process described above not provide a final resolution to the controversy raised, any Party may pursue any judicial or administrative

remedies otherwise available. However, notwithstanding this Paragraph 9, a Party may seek a preliminary injunction or other interlocutory judicial relief if necessary to avoid irreparable damage or to preserve the status quo.

10. General Provisions.

a. Term of Agreement. This Agreement shall expire on December 31, 2030 unless extended by all of the Parties.

b. Amendment. This Agreement may be amended only by a writing executed by all of the Parties.

c. Withdrawal. Any Party may withdraw from this Agreement starting six (6) months after approval of the GSP for all Parties by the DWR, and upon thirty (30) days prior written notice to all other Parties, provided that the withdrawing Party is cooperating through an approved GSP with other Parties and interests in the Basin, where the approved GSP fully meets and incorporates mutual promises, covenants and provisions 2, 3, 4, 5, and 6 of this agreement; and the written notice provided by the withdrawing party documents the basis for withdrawal and the way(s) in which the mutual promises, covenants and provisions 2, 3, 4, 5 have been addressed in the GSP to which it is a party. A withdrawing Party shall not be obligated for any financial obligations incurred after delivery of notice of its withdrawal, but shall remain liable for and shall pay upon demand all obligations of the Parties approved as provided herein prior to written notice of its withdrawal.

d. Severability. Should the participation of any Party to this Agreement, or any part, term or provision of this Agreement, be decided by any court to be illegal, in excess of that Party's authority, in conflict with any law of the State of California, or otherwise rendered unenforceable or ineffectual, the participation of the other Parties or the validity of the remaining portions, terms or provisions of this Agreement shall not be affected thereby and each Party hereby agrees it would have entered into this Agreement upon the remaining terms and provisions.

e. Counterparts and Facsimile. This Agreement may be executed in counterparts, each counterpart being an exact duplicate of all other counterparts, and all counterparts shall be considered as constituting one complete original and may be attached together when executed by the Parties hereto. Facsimile or electronic signatures shall be binding.

f. Notices. Notices authorized or required to be given pursuant to this Agreement shall be in writing and shall be deemed to have been given when mailed, postage prepaid, or delivered during working hours to the principal offices of the other Parties at the address indicated below, attention to the responsible person at each Party as identified, or to such other changed addresses communicated to the other Parties in writing.

Chowchilla Water District GSA
327 S. Chowchilla Blvd.
Chowchilla, CA 93610

County of Madera Chowchilla Subbasin GSA
Department of Water and Natural Resources
200 W. Fourth Street
Madera, CA 93637

Merced Subbasin Groundwater Sustainability Agency
Community and Economic Development Department
County of Merced
2222 M Street
Merced, CA 95340

County of Merced Chowchilla Subbasin GSA
Community and Economic Development Department
County of Merced
2222 M Street
Merced, CA 95340

Merced Irrigation-Urban Groundwater Sustainability Agency
744 West 20th Street
Merced, CA 95340

Triangle T Water District GSA
4400 Hays Drive
Chowchilla, CA 93610

IN WITNESS WHEREOF, the Parties hereto, pursuant to resolutions duly and regularly adopted by their respective Board of Directors or Board of Supervisors, have caused their names to be affixed by their proper and respective officers as of the day and year first above-written.

CHOWCHILLA WATER DISTRICT GSA,
a California water district

By: _____

Name: Kole Upton

Title: Board President

Merced Subbasin Groundwater Sustainability Agency
Community and Economic Development Department
County of Merced
2222 M Street
Merced, CA 95340

County of Merced Chowchilla Subbasin GSA
Community and Economic Development Department
County of Merced
2222 M Street
Merced, CA 95340

Merced Irrigation-Urban Groundwater Sustainability Agency
744 West 20th Street
Merced, CA 95340

Triangle T Water District GSA
4400 Hays Drive
Chowchilla, CA 93610

IN WITNESS WHEREOF, the Parties hereto, pursuant to resolutions duly and regularly adopted by their respective Board of Directors or Board of Supervisors, have caused their names to be affixed by their proper and respective officers as of the day and year first above-written.

CHOWCHILLA WATER DISTRICT GSA,
a California water district

By:_____

Name:_____

Title:_____

COUNTY OF MADERA CHOWCHILLA SUBBASIN GSA

By: 7-13-18
Michael R. Linden, Deputy County Counsel

COUNTY OF MADERA

Chairman, Board of Supervisors

COUNTY OF MADERA CHOWCHILLA SUBBASIN GSA,

By: _____

Name: _____

Title: _____

COUNTY OF MERCED CHOWCHILLA SUBBASIN GSA,

By: _____ JUL 3 1 2018

Name: Gerald R. O'Banion

Title: Chairman, Board of Supervisors

MERCED SUBBASIN GSA

By: _____

Name: _____

Title: _____

APPROVED AS TO LEGAL FORM

JAMES N. FINCHER
MERCED COUNTY COUNSEL

BY: _____
Jeffrey B. Grant

MERCED IRRIGATION-URBAN GSA

By: _____

Name: _____

Title: _____

COUNTY OF MADERA CHOWCHILLA SUBBASIN GSA,

By: _____

Name: _____

Title: _____

COUNTY OF MERCED CHOWCHILLA SUBBASIN GSA,

By: _____

Name: _____

Title: _____

MERCED SUBBASIN GSA

By: Robert D Kelley

Name: Robert D Kelley

Title: chairman

MERCED IRRIGATION-URBAN GSA

By: _____

Name: _____

Title: _____

COUNTY OF MADERA CHOWCHILLA SUBBASIN GSA,

By: _____

Name: _____

Title: _____

COUNTY OF MERCED CHOWCHILLA SUBBASIN GSA,

By: _____

Name: _____

Title: _____

MERCED SUBBASIN GSA

By: _____

Name: _____

Title: _____

MERCED IRRIGATION-URBAN GSA

By: _____

Name: HICHAM ELTAL

Title: CHAIR

TRIANGLE T WATER DISTRICT GSA

By: _____

Name: _____

Title: _____

APPENDIX 6.B. CONTACT INFORMATION FOR PLAN MANAGER AND GSA MAILING ADDRESS (REG. § 354.6)

Prepared as part of the

Groundwater Sustainability Plan
Chowchilla Subbasin

January 2020

GSP Team:

Davids Engineering, Inc
Luhdorff & Scalmanini
ERA Economics
Stillwater Sciences and
California State University, Sacramento

Plan Manager

Manager Name: Doug Welch
Manager Title: General Resources Manager, Chowchilla Water District
Mailing Address: 327 S. Chowchilla Blvd., Chowchilla, CA 93610
Phone Number: (559) 665-3747
Email Address: dwelch@cwdwater.com

GSA Contact Information

Groundwater Sustainability Agency	Contact Person	Contact Title	Mailing Address	Phone Number	Email Address
Chowchilla Water District	Doug Welch	General Resources Manager, Chowchilla Water District	327 S. Chowchilla Blvd., Chowchilla, CA 93610	(559) 665-3747	dwelch@cwdwater.com
Madera County	Stephanie Anagnoson	Director of Water and Natural Resources, County of Madera	200 W. Fourth Street, Madera, CA 93637	(559) 675-7703 x 2265	stephanie.anagnoson@maderacounty.com
Merced County	Lacey Kiriakou	Water Resources Coordinator, County of Merced	2222 M Street, Merced, CA 95340	(209) 385-7654	lkiriakou@countyofmerced.com
Triangle T Water District	Brad Samuelson	Water & Land Solutions, LLC GSA Manager	2941 Hwy 59 Merced, CA 95341	(559) 658-8487	bsamuelson@waterandlandsolutions.com

APPENDIX 6.C. LIST OF PUBLIC MEETINGS (REG. § 354.10)

Prepared as part of the

Groundwater Sustainability Plan
Chowchilla Subbasin

January 2020

GSP Team:

Davids Engineering, Inc
Luhdorff & Scalmanini
ERA Economics
Stillwater Sciences and
California State University, Sacramento

List of Public Meetings (Reg. § 354.10)

The following tables present the schedule of past and future meetings related to development of the Chowchilla Subbasin Groundwater Sustainability Plan, including Chowchilla Subbasin public/technical workshops, public roundtable/coordination committee meetings, community meetings, and meetings of the Groundwater Sustainability Agencies (GSAs) within the Chowchilla Subbasin.

Table A6.C-1 provides a summary of the typical GSA meeting schedules and locations for each GSA. All GSA meetings are open to the public. Additionally, Madera County GSA records all meetings and provides them for public viewing on the Madera County website (maderacounty.com).

Table A6.C-2 provides a chronological list of meetings related to development of the Chowchilla Subbasin GSP. GSA meetings are italicized. Available meeting agendas are provided in Attachment A6.C-1 to this Appendix.

The meetings listed in the table are based on publicized meetings and/or GSAs' standing schedules and are subject to change. Please contact individual GSAs directly to confirm (see GSA contact information in **Appendix 6.B**).

Notably, the County of Merced Chowchilla GSA meets on an as-needed basis directly before the County Board of Supervisors meetings and does not have a standing meeting scheduled. The Board's 2019 schedule can be found at: http://web2.co.merced.ca.us/pdfs/bos/calendar/2019_board_calendar.pdf.

Table A6.C-1. GSA Meeting Schedules

GSA	GSA Meeting Schedule	GSA Meeting Location
Chowchilla Water District GSA	GSA meetings held concurrently with regular CWD Board of Directors meetings; normally held on second Wednesday of each month at 1:30 p.m.	CWD offices (327 South Chowchilla Boulevard, Chowchilla, CA, 93610)
County of Merced Chowchilla GSA	GSA meetings held as needed before regular Merced County Board of Supervisors meetings; normally held twice per month; schedule is not regular but meetings have often been held on the first and third Tuesday of each month at 10 a.m. (2019 schedule available at: http://web2.co.merced.ca.us/pdfs/bos/calendar/2019_board_calendar.pdf)	Merced County Administration Building (2222 M Street, 3rd Floor, Merced, CA 95340)
Madera County Chowchilla GSA	GSA meetings held concurrently with regular Madera County Board of Supervisors meetings; normally held on first Tuesday of each month at 10 a.m.	Location rotates every other month, all odd months held at Madera County Board of Supervisors Chambers (200 West Fourth Street, Madera, CA, 93637)
Triangle T Water District GSA	GSA meetings held concurrently with regular TTWD Board of Directors meetings; normally held on second Tuesday of each month at 1 p.m.	Triangle T Ranch (4400 Hays Drive, Chowchilla, CA 93610)

Table A6.C-2. Chronological List of GSA Meetings (2019)

Date	Meeting Type	Time and Location	Meeting Purpose/Topics
3/6/2018	Public Technical Workshop	2:00 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93610	First technical meeting; GSP development kick-off; present objectives and scope of GSP development; present preliminary basin boundary water budget
5/16/2018	Chowchilla Subbasin Advisory Committee meeting	6:00 p.m. Government Center Room 3005, 200 W. 4th Street Madera, CA 93637 United States	Overview of groundwater basins, SGMA; roles of GSAs and advisory committee; upcoming meetings and events
4/25/2018	Public Round Table/Coordination Committee	2:00 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93610	Discuss Basin Boundary Water Budget
5/8/2018	*GSA meeting - Madera County*	*10:00 a.m.* *Madera County Board of Supervisors Chambers,* *200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
5/30/2018	Public Technical Workshop	2:00 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93610	Overview of GSA water budgets and management areas
6/27/2019	Public Round Table/Coordination Committee	2:00 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93610	Discuss GSA water budgets, approve management areas, base period and projects and management actions for detailed evaluation
7/18/2018	Public Technical Workshop	2:00 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93610	Basin Setting, HCM, GW Conditions, Sustainability Goals, Undesirable Results, Minimum Thresholds, GDEs
8/15/2018	Chowchilla Subbasin Advisory Committee meeting	6:00 p.m. Government Center Room 3005, 200 W. 4th Street Madera, CA 93637 United States	Presentation regarding GSP requirements, water budget updates, basin boundary modifications
8/22/2018	Public Round Table/Coordination Committee	2:00 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93610	Discuss Sustainability Goals, Undesirable Results, Minimum Thresholds, GDEs Define Coordination elements for Chowchilla Subbasin Coordination Committee
9/26/2018	Public Round Table/Coordination Committee	2:00 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93610	Approve Sustainability Goals, Undesirable Results, Minimum Thresholds, GDEs definition
10/2/2018	*GSA meeting - Madera County*	*10:00 a.m.* *Madera County Board of Supervisors Chambers,* *200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
10/31/2018	Public Technical Workshop	2:00 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93610	GW Model--Selection and Refinement, interbasin technical framework, projects and management actions Chowchilla Coordination Committee Agreement provisions approved (without data components)

Date	Meeting Type	Time and Location	Meeting Purpose/Topics
11/08/2018	GSA meeting - Triangle T Water District	1:00 p.m. Triangle T Water District, 4400 Hays Drive Chowchilla, CA 93610	Standing meeting of the Triangle T Water District GSA
11/14/2018	Chowchilla Subbasin Advisory Committee meeting	6:00 p.m. Government Center Room 3005, 200 W. 4th Street Madera, CA 93637 United States	Updates on subbasin projects and management actions; presentation on water meters for groundwater management
12/4/2018	*GSA meeting - Madera County*	*10:00 a.m.* *Madera County Board of Supervisors Chambers,* *200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
12/05/2018	Public Round Table/Coordination Committee	2:00 pm TBD	Present water budgets and draft example of implementation plan with projects and water use reduction examples.
12/11/2018	*GSA meeting - Chowchilla Water District*	*12:30 p.m.* *Chowchilla Water District Offices,* *327 S Chowchilla Blvd.* *Chowchilla, CA 93611*	*Standing meeting of the Chowchilla Water District GSA*
12/13/2018	*GSA meeting - Triangle T Water District*	*1:00 p.m.* *Triangle T Water District,* *4400 Hays Drive* *Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*
01/03/2019	*GSA meeting - Madera County*	*2:00 p.m.* *Madera County Headquarters* *4th Floor, Fishbowl Room,* *2020 West Fourth Street* *Madera, CA*	*Meeting of the Advisory Committee for the Madera County GSAs*
01/08/2019	*GSA meeting - Madera County*	*10:00 a.m.* *Madera County Board of Supervisors Chambers,* *200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
01/08/2019	*GSA meeting - Triangle T Water District*	*1:00 p.m.* *Triangle T Water District,* *4400 Hays Drive* *Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*
01/09/2019	*GSA meeting - Chowchilla Water District*	*1:30 p.m.* *Chowchilla Water District Offices,* *327 S Chowchilla Blvd.* *Chowchilla, CA 93610*	*Standing meeting of the Chowchilla Water District GSA*
1/30/2019	GSA Technical Experts meeting	2:00 p.m. Chowchilla Water District Board Room, 327 S Chowchilla Blvd. Chowchilla, CA 93610	Discuss GW model scenario results including potential minimum thresholds and measurable objectives, consider revising/adding scenarios
2/1/2019	*GSA meeting - Triangle T Water District*	*1:00 p.m.* *Triangle T Water District,* *4400 Hays Drive* *Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*
02/05/2019	*GSA meeting - Madera County*	*10:00 a.m.* *TBD, Chowchilla, CA*	*Standing meeting of the Madera County GSA*
02/07/2019	Chowchilla Subbasin Conceptual	5:30 p.m. Frank Bergon Senior Center, 238 S	Introduction to “undesirable results” under SGMA with Self-Help Enterprises and Leadership Council; attendance of

Date	Meeting Type	Time and Location	Meeting Purpose/Topics
	Undesirable Results Workshop	D St 238 S D St, Madera, CA 93638	disadvantaged community members and small domestic well owners encouraged.
02/12/2019	*GSA meeting - Madera County*	*5:00 p.m. Madera County Board of Supervisors Chambers, 200 W. 4th Street, Madera, CA*	*Evening meeting of the Madera County GSA*
02/12/2019	*GSA meeting - Madera County*	*6:00 p.m. Government Center Room 3005 200 West Fourth Street Madera, CA 93637*	*Meeting of the Advisory Committee for the Madera County GSAs*
02/20/2019	*GSA meeting - Chowchilla Water District*	*1:30 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93611*	*Standing meeting of the Chowchilla Water District GSA*
2/27/2019	GSA Technical Experts	2:00 p.m. Chowchilla Water District Board Room, 327 S Chowchilla Blvd., Chowchilla, CA 93610	Discuss GW model scenario results including undesirable results/minimum thresholds, relationship to GW allotments and GW trading rules, monitoring, and Data Management System (DMS)
03/01/2019	*GSA meeting - Madera County*	*11:00 a.m. Tour*	*Meeting of the Advisory Committee for the Madera County GSAs, special tour beginning at Agriland*
03/05/2019	*GSA meeting - Madera County*	*10:00 a.m. Madera County Board of Supervisors Chambers, 200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
03/07/2019	*GSA meeting - Madera County*	*2:00 p.m. Madera County Headquarters, 4th Floor, Fishbowl Room 2020 West Fourth Street Madera, CA*	*Meeting of the Advisory Committee for the Madera County GSAs*
03/13/2019	*GSA meeting - Chowchilla Water District*	*1:30 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93612*	*Standing meeting of the Chowchilla Water District GSA*
03/14/2019	*GSA meeting - Triangle T Water District*	*1:00 p.m. Triangle T Water District, 4400 Hays Drive Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*
03/27/2019	Public Round Table/Coordination Committee	2:00 p.m. TBD	Discuss GW model scenario results including GW pumping allotments, GW trading rules, costs, undesirable results/minimum thresholds and interbasin flows
04/02/2019	*GSA meeting - Madera County*	*10:00 a.m. TBD, Oakhurst, CA*	*Standing meeting of the Madera County GSA*
04/10/2019	*GSA meeting - Chowchilla Water District*	*1:30 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93613*	*Standing meeting of the Chowchilla Water District GSA*
04/11/2019	*GSA meeting - Triangle T Water District*	*1:00 p.m. Triangle T Water District, 4400 Hays Drive Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*

Date	Meeting Type	Time and Location	Meeting Purpose/Topics
04/12/2019	*GSA meeting - Madera County*	*2:00 p.m. Madera County Board of Supervisors Chambers, 200 W. 4th Street, Madera, CA*	*Meeting of the Advisory Committee for the Madera County GSAs*
04/25/2019	GSA Technical Experts	3:30 p.m. Frank Bergon Senior Center, 238 S D Street, Madera, CA	GW model calibration and results; projected future hydrology (2019-2090); projects; minimum thresholds and measureable objectives
05/02/2019	*GSA meeting - Madera County*	*2:00 p.m. Madera County Headquarters, 4th Floor, Fishbowl Room 2020 West Fourth Street Madera, CA*	*Meeting of the Advisory Committee for the Madera County GSAs*
05/07/2019	*GSA meeting - Madera County*	*10:00 a.m. Madera County Board of Supervisors Chambers, 200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
05/08/2019	*GSA meeting - Chowchilla Water District*	*1:30 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93614*	*Standing meeting of the Chowchilla Water District GSA*
05/14/2019	*GSA meeting - Triangle T Water District*	*1:00 p.m. Triangle T Water District, 4400 Hays Drive Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*
05/17/2019	*GSA meeting - Madera County*	*2:00 p.m. Madera County Board of Supervisors Chambers, 200 W. 4th Street, Madera, CA*	*Meeting of the Advisory Committee for the Madera County GSAs*
05/23/2019	*GSA meeting - Madera County*	*1:30 p.m. Madera County Government Headquarters, 200 W. 4th Street, Madera, CA*	*Special meeting of the Advisory Committee for the Madera County GSAs*
05/29/2019	Public Round Table/Coordination Committee	10:00 a.m. Portuguese Hall, 800 South Third Street Chowchilla, CA 93610	Present Implementation Plan including GW pumping allotments, GW trading rules and undesirable results/minimum thresholds and receive feedback
06/04/2019	*GSA meeting - Madera County*	*10:00 a.m. TBD, Ranchos, CA*	*Standing meeting of the Madera County GSA*
06/12/2019	*GSA meeting - Chowchilla Water District*	*1:30 p.m. Chowchilla Water District Offices, 327 S Chowchilla Blvd. Chowchilla, CA 93615*	*Standing meeting of the Chowchilla Water District GSA*
06/13/2019	*GSA meeting - Triangle T Water District*	*10:00 a.m. Triangle T Water District, 4400 Hays Drive Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*
06/20/2019	*GSA meeting - Madera County*	*2:30 p.m. Madera County Board of Supervisors Chambers, 200 W. 4th Street, Madera, CA*	*Special Meeting of the Advisory Committee for the Madera County GSAs*

Date	Meeting Type	Time and Location	Meeting Purpose/Topics
6/26/2019	GSA Technical Experts	2:00 p.m. Chowchilla Water District Board Room, 327 S Chowchilla Blvd., Chowchilla, CA 93610	Discuss Implementation Plan (undesirable results/minimum thresholds) and feedback received
07/02/2019	*GSA meeting - Madera County*	*10:00 a.m.* *Madera County Board of Supervisors Chambers,* *200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
07/10/2019	*GSA meeting - Chowchilla Water District*	*1:30 p.m.* *Chowchilla Water District Offices,* *327 S Chowchilla Blvd.* *Chowchilla, CA 93616*	*Standing meeting of the Chowchilla Water District GSA*
07/11/2019	*GSA meeting - Triangle T Water District*	*10:00 a.m.* *Triangle T Water District,* *4400 Hays Drive* *Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*
07/11/2019	*GSA meeting - Madera County*	*2:00 p.m.* *Madera County Headquarters* *4th Floor, Fishbowl Room,* *2020 West Fourth Street* *Madera, CA*	*Meeting of the Advisory Committee for the Madera County GSAs*
07/31/2019	Public Round Table/Coordination Committee	10:00 a.m. Portuguese Hall, 800 South Third Street, Chowchilla, CA 93610	Present Complete GSP (including GW pumping allotments, GW trading rules and undesirable results/minimum thresholds) and receive feedback
08/06/2019	*GSA meeting - Madera County*	*10:00 a.m.* *TBD, Chowchilla, CA*	*Standing meeting of the Madera County GSA*
08/13/2019	*GSA meeting - Triangle T Water District*	*1:00 p.m.* *Triangle T Water District,* *4400 Hays Drive* *Chowchilla, CA 93610*	*Standing meeting of the Triangle T Water District GSA*
09/03/2019	*GSA meeting - Madera County*	*10:00 a.m.* *Madera County Board of Supervisors Chambers,* *200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
09/05/2019	*GSA meeting - Madera County*	*2:00 p.m.* *Madera County Headquarters* *4th Floor, Fishbowl Room,* *2020 West Fourth Street* *Madera, CA*	*Meeting of the Advisory Committee for the Madera County GSAs*
10/01/2019	*GSA meeting - Madera County*	*10:00 a.m.* *Madera County Board of Supervisors Chambers,* *200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
11/05/2019	*GSA meeting - Madera County*	*10:00 a.m.* *TBD, Ranchos, CA*	*Standing meeting of the Madera County GSA*
11/7/2019	*GSA meeting - Madera County*	*2:00 p.m.* *Madera County Headquarters* *4th Floor, Fishbowl Room,* *2020 West Fourth Street* *Madera, CA*	*Meeting of the Advisory Committee for the Madera County GSAs*

Date	Meeting Type	Time and Location	Meeting Purpose/Topics
11/19/2019	*GSA meeting - Madera County*	*10:00 a.m.* *Madera County Board of Supervisors Chambers,* *200 W. 4th Street, Madera, CA*	*Standing meeting of the Madera County GSA*
TBD	Public Hearing (Water Code §10728.4)	TBD	Present Complete GSP (including GW pumping allotments and undesirable results/minimum thresholds) and receive feedback

Attachment A6.C-1. Meeting Agendas

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, November 8, 2017
at 9:00 a.m.
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introductions – the Advisory Committee members and their alternates will introduce themselves

5. Election of Chairperson – discuss and may take action to elect a Chairperson

6. Election of Vice-Chairperson – discuss and may take action to elect a Vice-Chairperson

7. Designation of Administrative Agent – discuss and may designate an Administrative Agent

8. Designation of Fiscal Agent – discuss and may designate a Fiscal Agent

9. General Update from Staff – staff will provide a general update on SGMA activities

10. Stakeholder Outreach – discuss plans for stakeholder outreach

11. Prop 1 Grant Application – discuss Prop 1 grant application for Groundwater Monitoring Well Installation and GSP Development

12. GSP Budget – discuss and may take action to recommend budget for GSP to be approved by MOU member agencies

13. Meeting Schedule – discuss and may take action to schedule meetings of the Advisory Committee

14. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, January 31, 2018
at 2:00 p.m.
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introductions – the Advisory Committee members and their alternates will introduce themselves

5. Approval of Minutes – November 8, 2017

6. Prop 1 Grant Application - discuss Prop 1 grant application for Groundwater Monitoring Well Installation and GSP Development

7. GSP Preparation – discuss preparation of GSP by Davids Engineering

8. General Update from Staff – staff will provide a general update on SGMA activities

9. Stakeholder Outreach – discuss plans for stakeholder outreach

10. Meeting Schedule – discuss and may take action to schedule meetings of the Advisory Committee

11. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, March 7, 2018
at 2:00 p.m.
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

Call in number 877-594-8353
Pass Code 94255647#

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introductions – the Advisory Committee members and their alternates will introduce themselves

5. Approval of Minutes – January 31, 2018

6. GSP Update – presentation by Davids Engineering - Luhdorff & Scalmanini

    a) Meeting Objectives – General Updates and Status
    b) Surface System Water Budget Overview
    c) Groundwater System Water Budget Overview
    d) Combined Subbasin Water Budget
    e) Preliminary Cost of Projects and Management Actions
    f) Preliminary Delineation of Management Areas
    g) Additional Questions/Discussion

7. Stakeholder Outreach – discuss plans for stakeholder outreach

8. Meeting Schedule – discuss and may take action to schedule meetings of the Advisory Committee

9. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, April 25, 2018
at 2:00 p.m.
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

Call in number 877-594-8353
Pass Code 94255647#

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introductions – the Advisory Committee members and their alternates will introduce themselves

5. Approval of Minutes – March 7, 2018

6. GSA Activities – receive update reports from each of the GSA's on recent activities

7. Management Areas – discuss delineation of Management Areas

8. Stakeholder Outreach – discuss plans for stakeholder outreach

9. Meeting Schedule – discuss and may take action to schedule meetings of the Advisory Committee

10. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

MAIN GOVERNMENT CENTER
200 W. 4TH STREET
MADERA, CA 93637
PHONE: (559) 675-7703
www.MaderaCounty.com

MADERA COUNTY

ANY INDIVIDUAL WITH A DISABILITY MAY REQUEST SPECIAL ASSISTANCE BY CONTACTING THE RECORDING SECRETARY

AGENDA
for Regular Meeting of the
COUNTY OF MADERA
CHOWCHILLA SUB-BASIN GROUNDWATER SUSTAINABILITY AGENCY ADVISORY COMMITTEE
May 16, 2018
6:00 P.M.

Meetings of the County of Madera Chowchilla Sub-Basin Groundwater Sustainability Agency Advisory Committee shall convene in Room 3005, Madera County Government Center, 200 West 4th Street, Madera, California.

Supporting documents relating to the items on this agenda are available through the County of Madera website at www.maderacounty.com. These documents are also available at the office of the Madera County Water and Natural Resources Department, 200 West 4th Street, Madera, CA 93637. Please contact the Department of Water and Natural Resources for updates.

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **ROLL CALL OF COMMITTEE MEMBERS**

4. **PUBLIC COMMENT:** The first 15 minutes of each regular session is set aside for members of the public to comment on any item within the jurisdiction of the Committee, but not appearing on the agenda. For items appearing on the agenda, the public is invited to comment at the time the item is called for consideration by the Committee. Any person addressing the Committee under public comment will be limited to a 3 minute presentation to ensure that all interested parties have an opportunity to speak. Please submit any handouts to the Recording Secretary.

REGULAR SESSION:

5. **GROUNDWATER SUSTAINABILITY EDUCATION**
   Presentation on the Sustainable Groundwater Management Act by Chris Olvera, California Department of Water Resources.

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, July 18, 2018
at 2:00 p.m.
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

Call in number 877-594-8353
Pass Code 94255647#

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introductions – the Advisory Committee members and their alternates will introduce themselves

5. Approval of Minutes – June 27, 2018

6. Interbasin Agreement - discuss status of approvals of the Chowchilla-Merced Interbasin Agreement

7. Boundary Modification – discuss status of Chowchilla Subbasin jurisdictional boundary modification
8. the GSAs

9. Management Areas – discuss and recommend management areas to be included in GSP

10. Technical Presentation by Davids Engineering

    a) SGMA Overview
    b) Review of Basin Setting
    c) Sustainability Goals
    d) Conceptual Undesirable Results
    e) Minimum Thresholds
    f) Measurable Objectives
    g) Projects and Management Actions Status
    h) Discussion/Questions
    i) Next Steps

11. Stakeholder Outreach – discuss plans for stakeholder outreach

12. Meeting Schedule – discuss and may take action to schedule meetings of the Advisory Committee

13. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

MINUTES

OF THE CHOWCHILLA SUBBASIN GSP ADVISORY COMMITTEE

A special meeting of the Chowchilla Subbasin GSP Advisory Committee was held on Wednesday, June 27, 2018 at 2 p.m. at the CWD District Office at 327 S. Chowchilla Blvd.

Attendance:
Committee Members:
Chowchilla Water District: Kole Upton, Michael Mandala (alt)
Madera County: David Rogers,
Merced County:
Triangle T Water District: Mark Hutson,
Sierra Vista Mutual Water Company: Edgar DeJager,

Committee Staff:
Doug Welch, Brandon Tomlinson, Lacey Kiriukou

Others Present: see attached attendance sheet

Kole Upton called the meeting to order at 2:00 p.m.

PUBLIC COMMENT: none

ADDITIONS TO THE AGENDA: none

INTRODUCTIONS: Those present introduced themselves.

MINUTES: M/S Rogers/Hutson to approve the minutes of May 30, 2018. Chairperson Upton called for the vote and then announced that the vote was unanimous.

INTERBASIN AGREEMENT: Mr. Welch stated that all of the parties had reached agreement and they were presenting to their agencies for approval.

BOUNDARY MODIFICATION: Mr. Welch stated that the Madera County Board of Supervisors had approved applying to DWR for the jurisdictional boundary modification in order to "clean up" the boundary discrepancies.

BASE PERIOD: The GSP consultants have proposed using the period from 1998 to 2014 as the base period for the GSP. It was the consensus of the committee to use the period from 1989 to 2014 as the baseline for the GSP.

SEEPAGE ALLOCATION: The committee discussed various methodologies for determining how seepage in the natural streams should be allocated.

GSA Water Budgets: The committee reviewed the surface water system deficits for each of the GSA areas.

MANAGEMENT AREAS: Mr. Welch stated that the CWD board is in favor of having two Management Areas (MA). One of the Management Areas would be on the west side of the Subbasin where there is subsidence and the other would be on the east side of the subbasin. Mark Hutson asked what level of monitoring would be required in the subsidence Management Area. Mr. Welch said that the GSP would address the level of monitoring that would be required. M/S Hutson/Rogers for each of the GSA's to discuss with their boards whether to have two management areas. Chairperson Upton called for the vote and then announced that the vote was unanimous.

STAKEHOLDER OUTREACH: Staff is currently reviewing the draft stakeholder plan that was just received.

MEETING SCHEDULE: The next meeting will be held on July 18, 2018 at 2:00 p.m.

ADJOURNMENT: Kole Upton adjourned the meeting at 3:05 p.m.

Approved:_____
Kole Upton, Chairperson

Date Approved:_____

Attest:_____
Douglas Welch, Administrative Agent

MAIN GOVERNMENT CENTER
200 W. 4TH STREET
MADERA, CA 93637
www.MaderaCounty.com

MADERA COUNTY

ANY INDIVIDUAL WITH A DISABILITY MAY REQUEST SPECIAL ASSISTANCE BY CONTACTING THE RECORDING SECRETARY

AGENDA

for County of Madera, Chowchilla Subbasin Groundwater Sustainability Agency Advisory Committee August 15, 2018 6:00 P.M.

Meetings of the Chowchilla Subbasin Advisory Committee shall convene in room 3005, Madera County Government Center, 200 West 4th Street, Madera, California.

Supporting documents relating to the items on this agenda are available through the County of Madera website at www.maderacounty.com. These documents are also available at the office of the Madera County Water and Natural Resources Department, 200 West 4th Street, Madera, CA 93637. Please contact the Department of Water and Natural Resources for updates.

1. **CALL TO ORDER**
2. **PLEDGE OF ALLEGIANCE**
3. **ROLL CALL OF MEMBERS**
4. **PUBLIC COMMENT:** The first 15 minutes of each regular session is set aside for members of the public to comment on any item within the jurisdiction of the Committee, but not appearing on the agenda. For items appearing on the agenda, the public is invited to comment at the time the item is called for consideration by the Committee. Any person addressing the Committee under public comment will be limited to a 3 minute presentation to ensure that all interested parties have an opportunity to speak. Please submit any handouts to the Recording Secretary**.**
5. **ADVISORY RULES & CONDUCT**
6. **PRESENTATION ON STATE WATER BOARD'S ROLE IN SGMA**
7. **CHOWCHILLA SUBBASIN UPDATE, PROJECTS AND MANAGEMENT ACTIONS & CALENDAR**
8. **COMMITTEE MEMBER COMMENTS**
9. **ADJOURNMENT**

   Next Meeting Date: November 14, 2018 at 6 p.m.

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, August 22, 2018
at 2:00 p.m.
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

Call in number 877-594-8353
Pass Code 94255647#

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introductions – the Advisory Committee members and their alternates will introduce themselves

5. GSA Updates – this item allows for each of the GSAs to provide an update on their GSAs activities

6. Approval of Minutes – July 18, 2018

7. Boundary Modification – discuss status of Chowchilla Subbasin jurisdictional boundary modification

8. Management Areas – discuss and recommend management areas to be included in GSP

9. Technical Presentation by Davids Engineering

    a) Water Available for Replenishment Analysis
    b) Projects
    c) Projects and Management Actions
    d) Groundwater Allotment Policies
    e) Discussion/Questions
    f) Next Steps

10. Meeting Schedule – discuss and may take action to schedule meetings of the Advisory Committee

11. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

MINUTES

OF THE CHOWCHILLA SUBBASIN GSP ADVISORY COMMITTEE

A special meeting of the Chowchilla Subbasin GSP Advisory Committee was held on Wednesday, July 18, 2018 at 2 p.m. at the CWD District Office at 327 S. Chowchilla Blvd.

Attendance:
Committee Members:
Chowchilla Water District: Kole Upton, Michael Mandala (alt)
Madera County: Tom Wheeler
Merced County: Lloyd Pareira
Triangle T Water District: Mark Hutson,
Sierra Vista Mutual Water Company:

Committee Staff:
Doug Welch, Brandon Tomlinson, Lacey Kiriukou

Others Present: see attached attendance sheet

Kole Upton called the meeting to order at 2:00 p.m.

PUBLIC COMMENT: none

ADDITIONS TO THE AGENDA: none

INTRODUCTIONS: Those present introduced themselves.

MINUTES: M/S Wheeler/Hutson to approve the minutes of June 27, 2018. Chairperson Upton called for the vote and then announced that the vote was unanimous.

INTERBASIN AGREEMENT: Mr. Welch stated that all of the parties had taken action to approve the Interbasin Agreement.

BOUNDARY MODIFICATION: Mr. Welch stated that Madera County submitted the application to DWR for the jurisdictional boundary modification in order to "clean up" the boundary discrepancies.

MANAGEMENT AREAS: Chairperson Upton stated most of the GSAs were in favor of having two Management Areas. Triangle T has requested a briefing by the consultants to their board so that they can completely understand before voting on the issue. Mr. Hutson said it would be better for his board to hear directly from the consultants. It was the consensus of the Advisory Committee to request that the consultants make a presentation to the Triangle T Water District Board of Directors. M/S Wheeler/Pareira to request that the consultants consider two or less Management Areas in the GSP at this time. And that

the Advisory Committee may take action at a later time to revise this. Chairperson Upton called for the vote and then announced that the vote was unanimous.

TECHNICAL PRESENTATION: Nick Watterson and Pete Leffler gave a technical presentation on the work being conducted in preparation of the GSP. The subject matter of the presentation included.

a) SGMA Overview
b) Review of Basin Setting
c) Sustainability Goals
d) Conceptual Undesirable Results
e) Minimum Thresholds
f) Measurable Objectives

STAKEHOLDER OUTREACH: Staff will be working with the consultant to implement the Communication and Engagement Plan.

MEETING SCHEDULE: The next meeting will be held on August 22, 2018 at 2:00 p.m.

ADJOURNMENT: Kole Upton adjourned the meeting at 3:52 p.m.

Approved:_____
Kole Upton, Chairperson

Date Approved:_____

Attest:_____
Douglas Welch, Administrative Agent

TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

4400 Hays Drive
Chowchilla, CA 93610
TEL: (209) 658-8487

MEETING NOTICE AND AGENDA FOR THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

Alternate formats of this agenda will be made available upon request by qualified individuals with disabilities. Appropriate interpretive services for this meeting will be provided if feasible upon advance request by qualified individuals with disabilities. Please contact the Interim Agency Secretary at (209) 883-8374 for assistance and allow sufficient time to process and respond to your request.

PLEASE TAKE NOTICE that the regular meeting of the Board of Directors of the Triangle T Water District Groundwater Sustainability Agency will be held on November 8, 2018 at 1:00 P.M. 4400 Hays Drive, Chowchilla, CA 93610.

1. **ROLL CALL**

2. **PUBLIC COMMENT**
   Interested persons in the audience are welcome to introduce any topic within the Agency's jurisdiction. No action may be undertaken on any item not appearing on the posted agenda, except that the Board may briefly respond to the comments, refer the matter to staff, or request it be placed on a future agenda.

3. **BOARD MEETING MINUTES** – Sarah Woolf
   a. **Action Item -** Approve the October 11, 2018 Minutes

4. **SUBBASIN REPORT**
   a. Subbasin Meeting
   b. GSA Water Balance
   c. Management Area Projects

5. **OTHER BUSINESS**

6. **COMMENTS FROM THE BOARD**
   Board Members may provide a brief report on notable topics of interest. The Brown Act does not allow discussion or action by the Legislative Body.

7. **ADJOURNMENT**

MINUTES OF THE REGULAR SCHEDULED MEETING
TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABLITY AGENCY
BOARD OF DIRECTORS
October 11, 2018

Those present at the meeting included

Directors:	Lucas Avila	Triangle T Ranch
	Mark Hutson	Triangle T Ranch
	Emmanuel Benjamin	Triangle T Ranch
Others:	Sarah Woolf	Water Wise
	Chase Hurley	Water & Land Solutions (by phone)
	Stephanie Anagnoson	Madera County
	Samantha Lopes	FMS
	Phil Jansen	Agriland Farming
	Scott Maxwell	Agriland Farming
	Luis Hinojosa	Triangle T Ranch

Roll Call: President Hutson called the meeting to order at 1:00pm and asked for self-introductions.

Public Comment: Stephanie Anagnoson announced that the Red Top Landowners are having their first "Gaming" exercise meeting on October 19, 2018 at the Madera County Farm Bureau from 9:00 – 10:30.

Minutes
Director Avila moved to approve the minutes of the September 13, 2018 Board Meeting. Director Benjamin seconded and they were approved.

Subbasin Report
Chase Hurley gave an update on the last subbasin meeting. They have a target date of mid-July 2019 for a DRAFT GSP to be available. There will most likely have to be some form of groundwater allocation. The benefit to our area is that we are already working on projects and possible groundwater credit programs being implemented through various grants. There are also new water sourcing locations being discussed and planned. Triangle T Water District GSA is currently revisiting their corn silage purchase program to see if there are some dairymen and farmers interested in participating. All of these activities are going to help lessen the shortfall of surface water supply deficit.

Other Business
No other business was reported

Adjournment
Meeting was adjourned at 1:11 pm.

_____
Secretary: Sarah Woolf

Chowchilla Water District

Special Meeting of the Board of Directors
Tuesday, December 11th, 2018
12:30 P.M. – District Office
327 South Chowchilla Boulevard
Chowchilla, CA 93610

CHOWCHILLA WATER DISTRICT
SPECIAL MEETING OF THE BOARD OF DIRECTORS
TUESDAY, December, 11th, 2018
AT 12:30 P.M. AT THE DISTRICT OFFICE
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Board's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code § 54954.2(g)(2))

4. Financial Reports:
   A. Treasurer's Report
   B. Payment of Bills

5. Operation & Maintenance Report

6. Recirculated Water – The Board will discuss and may take action to approve the sale of additional recirculated water

7. Merced-Chowchilla Water Transfer/Intertie – Staff will provide an update on the progress of the Merced-Chowchilla Intertie

8. General Resources Manager's Report

RECESS AS CWD BOARD OF DIRECTORS & CONVENE AS CWD GROUNDWATER SUSTAINABILITY AGENCY

a. Update on CWD Groundwater Sustainability Agency

ADJOURN AS CWD GROUNDWATER SUSTAINABILITY AGENCY AND RECONVENE AS CWD BOARD OF DIRECTORS

9. Approval of Minutes – November 14th, 2018

10. 2018 Budget vs. Actual Income & Expense Comparison

11. Road 13 Pond Project – Staff will provide an update on the status of Road 13 Pond

12. Temperance Flat Reservoir – The Board will discuss and may take action regarding Temperance Flat Reservoir

13. Collector's Deeds – The Board will discuss and may take action regarding the process for taking and enforcing collector's deeds and disposing of properties subject to collector's deeds.

14. Conference with Labor Negotiator (Govt. Code, § 54957.6.) One Item

15. Conference with Legal Counsel, Anticipated Litigation (Govt. Code, § 54956.9(d)(4): Personnel Issue One Item.

16. Conference with Legal Counsel, Existing Litigation (Govt. Code, § 54956.9(d)(1):

    A. Natural Resources Defense Council et al. v. David Murillo et al., United States District Court Case No. Case No. CIV 2-88-cv-01658-(E.D. CA)
    B. City of Fresno et al. v. United States, United States Court of Federal Court of Claims Case No. 1:55-cv-01000-UNJ

17. Director's Reports - This item provides an opportunity for the Directors to share information on meetings attended on the District's behalf and discuss any concerns in the operation of the District.

18. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

A person with a qualifying disability under the Americans with Disabilities Act of 1990 may request the District to provide a disability-related modification or accommodation in order to participate in any public meeting of the District. Such assistance includes appropriate alternative formats for the agendas and agenda packets used for any public meetings of the District. Requests for such assistance and for agendas and agenda packets shall be made in person, by telephone, facsimile, or written correspondence to Brandon Tomlinson (559) 665-3747 at the District office, at least 48 hours before a public District meeting.

Staff reports and other disclosable records related to open session agenda items are available at the District office located at 327 S. Chowchilla Blvd., Chowchilla, CA during business hours, Monday through Friday, 8 AM to 5 PM.

TREASURER'S REPORT

CHOWCHILLA WATER DISTRICT
TREASURER'S REPORT
December 1, 2018

	Beginning Balance November 1, 2018	Receipts	Disbursements	Ending Balance December 1, 2018
Bank of America - General Fund	$ 9,480,525.01	$ 485,513.23	(1,514,130.84)	$ 8,451,907.40
Tri Counties Bank - General Fund	19,175.34	1,780.28	-	$ 20,955.62
Bank of America - Maximizer	$ 2,918,978.56	$ 95.96	-	$ 2,919,074.52
Bank of America - 1 Year CD				
Unrestricted Reserves	$ 208,223.39	-		$ 208,223.39
System Improvements	736,121.64	-		$ 736,121.64
Bank of America				
Installment Purchase Reserve	$ 1,705,900.16	-		$ 1,705,900.16
LAIF - Unrestricted Reserves	$ 33,040.17	-		$ 33,040.17
LAIF - System Improvements	5,747.93	-		$ 5,747.93
Cash Funds	$ 450.00		-	$ 450.00
	$ 15,108,162.20	**$ 487,389.47**	**$(1,514,130.84)**	**$ 14,081,420.83**
Unrestricted Funds	$ 12,660,392.47			$ 11,633,651.10
Restricted Funds	$ 2,447,769.73			$ 2,447,769.73
	$ 15,108,162.20			$ 14,081,420.83

Chowchilla Water District

TREASURER'S REPORT

December 1, 2018

Beginning Balance:	November 1, 2018		$15,108,162.20
INCOME			
2018 Crop Water Receivable		189,708.95	
Interest - Crop Water		1,278.10	
2013-14 Assessments Receivable		67.54	
2014-15 Assessments Receivable		417.11	
2015-16 Assessments Receivable		440.10	
2016-17 Assessments Receivable		553.10	
2017-18 Assessments Receivable		937.91	
2018-19 Assessments Receivable		99,710.98	
Penalties-Assessments		104.44	
Recording Fees		156.00	
Interest - Assessments		423.02	
Legal Advertising Fees		366.00	
Interest & Dividend Revenue		95.96	
2017-18 Supplemental Assessment		4,997.51	
2018-19 Supplemental Assessment		58,933.00	
2018-19 Capital Repayment Assessment		81,254.80	
Accounts Receivable		75.00	
Prepaid Assessment		47.57	
Friant Power Authority Generation Revenue		46,725.84	
MCWPA Generation Revenue		115.33	
Refunds		981.21	
		487,389.47	
TOTAL INCOME			487,389.47
EXPENDITURES			
General Fund		(1,514,130.84)	
TOTAL EXPENDITURES			(1,514,130.84)
TOTAL CASH			$14,081,420.83

Chowchilla Water District

TREASURER'S REPORT

December 1, 2018

Bank Balance:	November 1, 2018			
Bank of America - General Fund				
Beginning Balance			$ 9,480,525.01	
Deposits:				
Income		485,513.23		
Transfers in		-		
Total Deposits:			485,513.23	
Expenditures:				
Disbursements		(1,468,773.35)		
EFTPS - Payroll Taxes; Pension; Child Support		(45,357.49)		
Transfers out		-		
Total Expenditures:			(1,514,130.84)	
Ending Balance	December 1, 2018			$ 8,451,907.40
Tri Counties Bank - General Fund				
Beginning Balance			$ 19,175.34	
Deposits:				
Income		1,780.28		
Transfers out				
Total Deposits:			1,780.28	
Ending Balance				$ 20,955.62
Bank of America - Maximizer				
Beginning Balance			$ 2,918,978.56	
Interest Earned	0.03%		95.96	
Transfers in				
Ending Balance				$ 2,919,074.52
Bank of America - 1 Year CD				
Unrestricted Reserves		208,223.39		
Interest Earned	0.07%	-		
Ending Balance			208,223.39	
System Improvements		736,121.64		
Interest Earned	0.07%	-		
Ending Balance			736,121.64	
Ending Balance				944,345.03
Bank of America - Installment Purchase Reserve				
Beginning Balance			1,705,900.16	
Interest Earned	0.03%		-	
Ending Balance				1,705,900.16
		$14,042,182.73	*Bank Totals*	

Chowchilla Water District

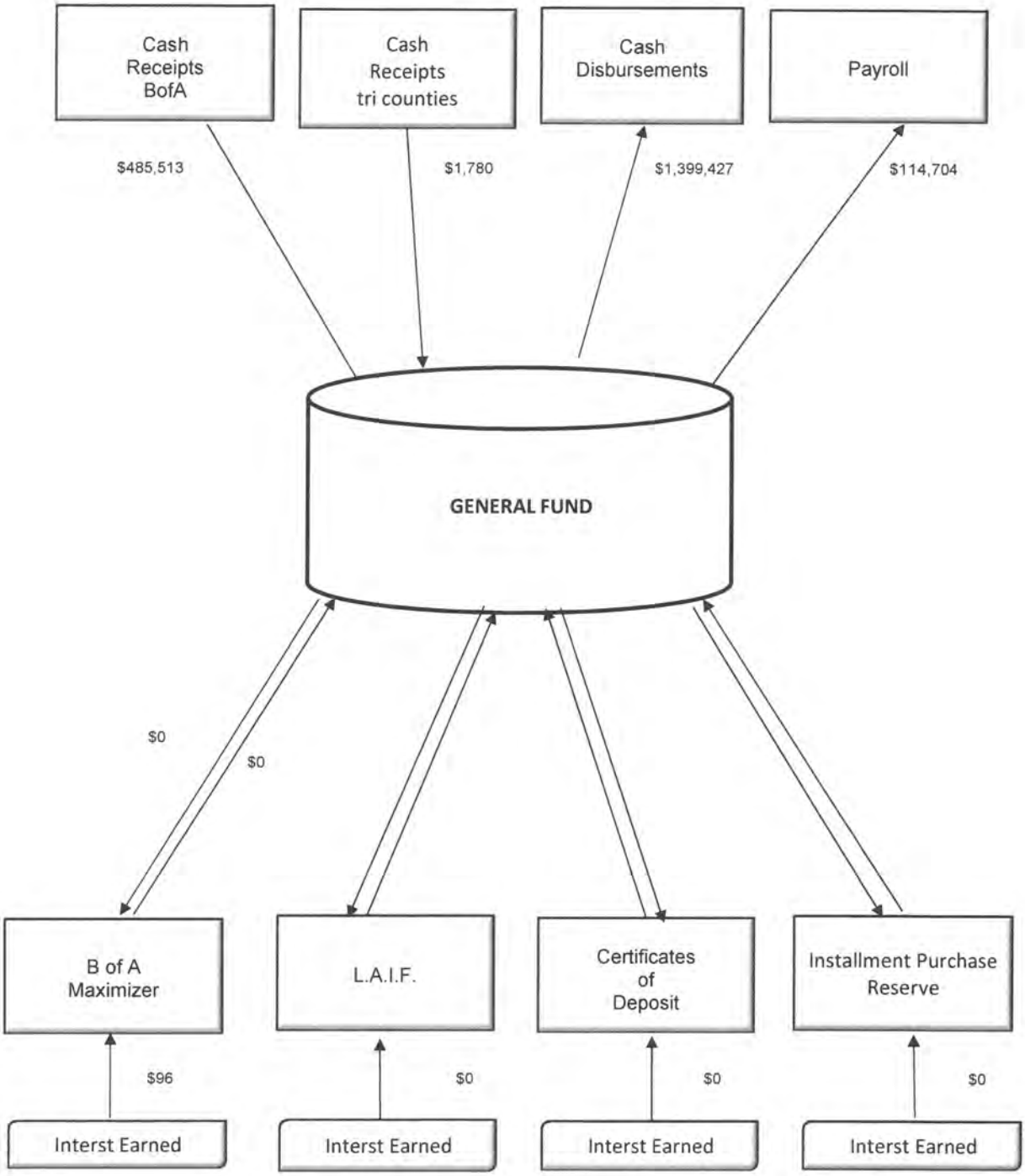
TREASURER'S REPORT

December 1, 2018

LAIF - Unrestricted Reserves			
Beginning Balance		33,040.17	
Allocated Interest	2.16%		
Ending Balance			33,040.17
LAIF - System Improvements			
Beginning Balance		5,747.93	
Allocated Interest	2.16%		
Ending Balance			5,747.93
		$38,788.10 *LAIF Total*	
Cash Funds			450.00
TOTAL CASH			14,081,420.83

Lela Beatty, Treasurer

CHOWCHILLA WATER DISTRICT
CASH DIAGRAM
December 1, 2018



CHOWCHILLA WATER DISTRICT

CASH SUMMARY

2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
January	7,932,535	6,921,905	6,369,803	8,833,169	12,606,792	14,341,188	12,970,611	11,253,822	10,303,598	15,098,280	Jan
February	7,211,744	6,542,739	5,390,020	8,364,859	12,024,992	13,780,643	12,254,336	10,249,568	9,703,310	14,421,083	Feb
March	6,083,484	6,265,263	4,914,538	8,178,173	11,726,340	13,584,204	11,935,106	9,447,541	9,689,325	14,147,377	Mar
April	5,090,554	4,776,293	4,650,199	7,600,819	10,852,828	13,383,111	11,405,995	9,462,301	9,512,383	13,684,385	Apr
May	3,835,783	4,035,615	4,104,534	6,120,385	10,235,624	11,999,670	9,457,529	7,163,495	7,599,486	10,966,469	May
June	3,341,600	3,230,653	3,420,253	5,689,466	8,997,132	10,865,247	10,485,436	5,945,609	7,848,796	11,083,680	Jun
July	3,596,129	3,297,932	4,451,239	6,776,939	9,428,375	10,990,714	10,844,774	7,300,874	9,754,037	12,889,434	Jul
August	4,617,314	3,394,544	5,742,036	8,579,379	10,811,794	10,936,340	11,041,186	9,783,821	11,754,822	14,658,793	Aug
September	5,122,829	4,352,812	6,819,215	9,441,996	12,001,275	11,348,754	9,777,147	8,603,485	12,132,805	15,452,212	Sep
October	5,108,941	4,427,432	7,279,286	9,784,669	12,041,380	11,329,994	9,745,641	8,545,325	13,168,831	15,108,162	Oct
November	4,901,743	4,793,759	7,369,445	9,634,465	12,440,802	11,514,318	9,696,995	7,562,164	12,427,279	14,081,421	Nov
December	5,791,490	24,043,610	8,058,269	11,040,031	12,950,451	11,738,464	10,187,677	8,766,289	13,209,000		Dec

PAYMENT OF BILLS REPORT

Chowchilla Water District

Post Office Box 905 ♦ 327 S. Chowchilla Blvd. ♦ Chowchilla, CA 93610
Phone (559) 665-3747
Fax (559) 665-3740

—

December 11th, 2018

General Account

- *Warrant No. 027799 thru 027862 – 11/15/2018 thru 12/11/2018 Total $1,309,443.16*

Total Amount Disbursed $1,309,443.16

Approved for payment by the Board of Directors
~December 11th, 2018~

Check History Report
Sorted By Check Number
Activity From: 11/15/2018 to 12/11/2018

Chowchilla Water District (CWD)

Bank Code: A B of A - CHECKING ACCOUNT

Check Number	Check Date	Vendor Number	Name	Check Amount	Check Type
027799	11/27/2018	00-B3650	Blue Shield of California	2,244.26	Auto
027800	11/27/2018	00-B9923	Bob's Community Pest Control	105.00	Auto
027801	11/27/2018	00-C1331	Chowchilla Union High School	1,406.18	Auto
027802	11/27/2018	00-C2666	CNA Surety	875.00	Auto
027802	11/27/2018	00-C2666	CNA Surety	875.00-	Reversal
027803	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	5,868.10	Auto
027804	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	145,243.91	Auto
027805	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	49,927.59	Auto
027806	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	676.56	Auto
027807	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	21,786.59	Auto
027808	11/27/2018	00-D7770	Divine Logic, Inc.	404.40	Auto
027809	11/27/2018	00-F6305	Friant Water Authority	39,400.00	Auto
027810	11/27/2018	00-K1501	Kellogg's Supply	335.47	Auto
027811	11/27/2018	00-M9800	Matson Alarm Co., Inc.	118.00	Auto
027812	11/27/2018	00-MC3514	Madera Chowchilla Water & Powe	46,098.20	Auto
027813	11/27/2018	00-P5000P	Pacific Gas & Electric Company	1,374.68	Auto
027814	11/27/2018	00-P5000S	Pacific Gas & Electric Company	1,066.03	Auto
027815	11/27/2018	00-P5000U	Pacific Gas & Electric Company	1,083.19	Auto
027816	11/27/2018	00-PLA2135	Players Smoked BBQ	3,554.82	Auto
027817	11/27/2018	00-Q4040	Quinn Company	8,084.44	Auto
027818	11/27/2018	00-S2303	Shred-it Fresno	166.32	Auto
027819	11/27/2018	00-S2405	Sage Software Inc.	4,329.19	Auto
027820	11/27/2018	00-S7787	Contec Hoist & Rigging	774.06	Auto
027821	11/27/2018	00-T3597	Tesei Petroleum - Cardlock	2,762.59	Auto
027822	11/27/2018	00-T4414	Terra Bella Irrigation District	2,756.57	Auto
027823	11/27/2018	00-U2712	Unum Life Insurance Company	2,056.00	Auto
027824	11/27/2018	00-W5600	Wienhoff Drug Testing	910.00	Auto
027825	11/27/2018	00-Z6511	Zee Medical Service Company	90.19	Auto
027826	12/7/2018	00-A0110	Loyd Alvis	250.00	Manual
027827	12/11/2018	00-C7453	CitiBusiness Card	3,694.66	Auto
027828	12/11/2018	00-A1460	Auto Zone, Inc. 3709	111.61	Auto
027829	12/11/2018	00-A2292	ACWA-JPIA (HBA)	44,896.12	Auto
027830	12/11/2018	00-A2879	Asbury Environmental Services	35.00	Auto
027831	12/11/2018	00-A4261	Aanonson Sprinkler Co., Inc.	188.18	Auto
027832	12/11/2018	00-A8377	Alhambra & Sierra Springs	55.17	Auto
027833	12/11/2018	00-A9875	ALLIED CONCRETE PUMPING	1,470.43	Auto
027834	12/11/2018	00-B0457	Battery Systems Inc.	311.31	Auto
027835	12/11/2018	00-B2360	Barsamian & Moody	3,967.50	Auto
027836	12/11/2018	00-B8665	Blue Line Rental	12,067.29	Auto
027837	12/11/2018	00-C0513	California Surveying & Drafting Supply	1,853.99	Auto
027838	12/11/2018	00-C2666	CNA Surety	875.00	Auto
027839	12/11/2018	00-C3000	Comcast	558.44	Auto
027840	12/11/2018	00-C3723	Central Irrigation	230.51	Auto
027841	12/11/2018	00-D6820	DeJager, Arthur L.	1.00	Auto
027842	12/11/2018	00-D7770	Divine Logic, Inc.	85.00	Auto
027843	12/11/2018	00-F6684	Fresno Oxygen	80.67	Auto
027844	12/11/2018	00-F7980	Fastenal Company	160.54	Auto
027845	12/11/2018	00-K1000	Klein, Denatale, Glodner, Cooper, Rosenlieb &	7,106.50	Auto
027846	12/11/2018	00-L1408	Lowe's Business Account	160.44	Auto
027847	12/11/2018	00-M7521	Mid-Valley Pipe & Steel, Inc.	219.55	Auto
027848	12/11/2018	00-M7724	MADERA COUNTY RECORDER OFFICE	50.00	Auto
027849	12/11/2018	00-M7724	MADERA COUNTY RECORDER OFFICE	200.00	Auto
027850	12/11/2018	00-M7823	Madera County Environmental	944.00	Auto
027851	12/11/2018	00-NUT2444	Nutrien Ag Solutions	4,310.00	Auto

Bank Code: A B of A - CHECKING ACCOUNT

Check Number	Check Date	Vendor Number	Name	Check Amount	Check Type
027852	12/11/2018	00-O3633	The Office City	159.17	Auto
027853	12/11/2018	00-P2357	Pitney Bowes Global Financial	456.90	Auto
027854	12/11/2018	00-P6332	PRAXAIR DISTRIBUTION, INC, 215	935.73	Auto
027855	12/11/2018	00-P8777	Postmaster-Chowchilla	144.00	Auto
027856	12/11/2018	00-S4446	S & W Parts Inc.	811.76	Auto
027857	12/11/2018	00-T1207	Technoflo Systems	8,389.22	Auto
027858	12/11/2018	00-T3597	Tesei Petroleum - Cardlock	1,194.90	Auto
027859	12/11/2018	00-T3598	Tesei Petroleum, Inc.	2,677.61	Auto
027860	12/11/2018	00-U2984	United Rentals	730.70	Auto
027861	12/11/2018	00-VER0204	Verizon Wireless	1,193.54	Auto
027862	12/11/2018	00-WG450	Franchise Tax Board	300.00	Auto
041315	11/16/2018	00-I3201	Internal Revenue Service	10,114.10	Manual
159095	11/30/2018	00-B8070	BANC OF AMERICA LEASING	833,896.23	Manual
401218	11/30/2018	00-N4224	Nationwide Trust Co. FSB	7,926.63	Manual
456315	11/16/2018	00-E5616	Employment Development Dept.	1,423.69	Manual
456329	11/30/2018	00-E5616	Employment Development Dept.	1,416.01	Manual
457329	11/28/2018	00-N4224	Nationwide Trust Co. FSB	1,205.00	Manual
895329	11/28/2018	00-C1010	California State Disbursement	23.07	Manual
941329	11/30/2018	00-I3201	Internal Revenue Service	9,939.65	Manual
			Bank A Total:	1,309,443.16	
			Report Total:	1,309,443.16	

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 11/15/2018 through 12/11/2018
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
027799	11/27/2018	00-B3650	Blue Shield of California	2,244.26

Invoice #	Date	Invoice Comment	Inv. Amt.
183160317766	11/12/2018	Directors Benefits-Taylor / 2018 - DEC	2,244.26

Check #	Date	Vendor Number	Vendor Name	Check Amount
027800	11/27/2018	00-B9923	Bob's Community Pest Control	105.00

Invoice #	Date	Invoice Comment	Inv. Amt.
1114184980	11/14/2018	B&G / Pest Control - NOV	105.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027801	11/27/2018	00-C1331	Chowchilla Union High School	1,406.18

Invoice #	Date	Invoice Comment	Inv. Amt.
190027	11/2/2018	Directors Benefits-Maddalena/2018 - DEC	1,406.18

Check #	Date	Vendor Number	Vendor Name	Check Amount
027802	11/27/2018	00-C2666	CNA Surety	875.00

Invoice #	Date	Invoice Comment	Inv. Amt.
20190121	1/21/2019	2019 Pension Bond	875.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027802	11/27/2018	00-C2666	CNA Surety	-875.00

Invoice #	Date	Invoice Comment	Inv. Amt.
20190121	1/21/2019	2019 Pension Bond	-875.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027803	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	5,868.10

Invoice #	Date	Invoice Comment	Inv. Amt.
00028238681	11/15/2018	Water Rights Fees - 7/1/18 - 06/30/19	5,868.10

Check #	Date	Vendor Number	Vendor Name	Check Amount
027804	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	145,243.91

Invoice #	Date	Invoice Comment	Inv. Amt.
00028329899	11/15/2018	Water Rights Fees - 7/1/18 - 06/30/19	145,243.91

Check #	Date	Vendor Number	Vendor Name	Check Amount
027805	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	49,927.59

Invoice #	Date	Invoice Comment	Inv. Amt.
00028516572	11/15/2018	Water Rights Fees - 7/1/18 - 06/30/19	49,927.59

Check #	Date	Vendor Number	Vendor Name	Check Amount
027806	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	676.56

Invoice #	Date	Invoice Comment	Inv. Amt.
00028563757	11/15/2018	Water Rights Fees - 7/1/18 - 06/30/19	676.56

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 11/15/2018 through 12/11/2018
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
027807	11/27/2018	00-C7185	CA Department of Tax & Fee Administration	21,786.59

Invoice #	Date	Invoice Comment	Inv. Amt.
00028581965	11/15/2018	Water Rights Fees - 7/1/18 - 06/30/19	21,786.59

Check #	Date	Vendor Number	Vendor Name	Check Amount
027808	11/27/2018	00-D7770	Divine Logic, Inc.	404.40

Invoice #	Date	Invoice Comment	Inv. Amt.
161539	11/13/2018	Office / IT Support - Monthly Backup	85.00
161675	11/20/2018	Office / IT-Support-Email Archive-DW	319.40

Check #	Date	Vendor Number	Vendor Name	Check Amount
027809	11/27/2018	00-F6305	Friant Water Authority	39,400.00

Invoice #	Date	Invoice Comment	Inv. Amt.
111978	11/14/2018	Recapture Restoration Flows 394 af	39,400.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027810	11/27/2018	00-K1501	Kellogg's Supply	335.47

Invoice #	Date	Invoice Comment	Inv. Amt.
1279871	10/4/2018	eq: 30 pto shaft	113.65
1284632	11/2/2018	EQ/Spray truck fittings	221.82

Check #	Date	Vendor Number	Vendor Name	Check Amount
027811	11/27/2018	00-M9800	Matson Alarm Co., Inc.	118.00

Invoice #	Date	Invoice Comment	Inv. Amt.
1822790	11/25/2018	B&G / Alarm System - DEC	118.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027812	11/27/2018	00-MC3514	Madera Chowchilla Water & Powe	46,098.20

Invoice #	Date	Invoice Comment	Inv. Amt.
376	11/14/2018	CFF #376/ O&M for 4-Sites & MC - OCT	46,098.20

Check #	Date	Vendor Number	Vendor Name	Check Amount
027813	11/27/2018	00-P5000P	Pacific Gas & Electric Company	1,374.68

Invoice #	Date	Invoice Comment	Inv. Amt.
20181102	11/2/2018	Pump Electrical Expense / OCT	1,311.78
20181117	11/17/2018	Pump Electrical Expense / NOV	62.90

Check #	Date	Vendor Number	Vendor Name	Check Amount
027814	11/27/2018	00-P5000S	Pacific Gas & Electric Company	1,066.03

Invoice #	Date	Invoice Comment	Inv. Amt.
20181108	11/8/2018	Pump-SCADA-Electrical - OCT	1,066.03

Check #	Date	Vendor Number	Vendor Name	Check Amount
027815	11/27/2018	00-P5000U	Pacific Gas & Electric Company	1,083.19

Invoice #	Date	Invoice Comment	Inv. Amt.

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 11/15/2018 through 12/11/2018
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
20181106	11/6/2018	Shop & Office Utilities - OCT	1,083.19	
027816	11/27/2018	00-PLA2135	Players Smoked BBQ	3,554.82
Invoice #	Date	Invoice Comment	Inv. Amt.	
20181205	12/5/2018	MCWPA/Catering for SGMA Mtg	3,554.82	
027817	11/27/2018	00-Q4040	Quinn Company	8,084.44
Invoice #	Date	Invoice Comment	Inv. Amt.	
WO210028457	9/10/2018	eq: 29 repairs to valve assemb	8,084.44	
027818	11/27/2018	00-S2303	Shred-it Fresno	166.32
Invoice #	Date	Invoice Comment	Inv. Amt.	
9424080782	8/14/2018	Office/Disposal Service on 08/14/2018	84.16	
9425426743	10/16/2018	Office/Disposal Service on 10/16/2018	82.16	
027819	11/27/2018	00-S2405	Sage Software Inc.	4,329.19
Invoice #	Date	Invoice Comment	Inv. Amt.	
2001931403	9/15/2018	Sage100 ERP Business Care Renewal	4,329.19	
027820	11/27/2018	00-S7787	Contec Hoist & Rigging	774.06
Invoice #	Date	Invoice Comment	Inv. Amt.	
083396	10/18/2018	54222: winch straps	163.01	
083472	10/18/2018	eq: tow straps	611.05	
027821	11/27/2018	00-T3597	Tesei Petroleum - Cardlock	2,762.59
Invoice #	Date	Invoice Comment	Inv. Amt.	
102994	11/15/2018	DSL 257.87g / GAS 417.65g / CNG 215.45g	2,762.59	
027822	11/27/2018	00-T4414	Terra Bella Irrigation District	2,756.57
Invoice #	Date	Invoice Comment	Inv. Amt.	
1554	11/19/2018	Joint Defense Expenses	2,756.57	
027823	11/27/2018	00-U2712	Unum Life Insurance Company	2,056.00
Invoice #	Date	Invoice Comment	Inv. Amt.	
20181109	11/9/2018	Employee Benefits/Life Ins. - DEC	2,056.00	
027824	11/27/2018	00-W5600	Wienhoff Drug Testing	910.00

Chowchilla Water District
Check Report

Report Parameters:
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Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount

Invoice #	Date	Invoice Comment	Inv. Amt.
79925	11/15/2018	Annual Consortium Fee	910.00

027825 11/27/2018 00-Z6511 Zee Medical Service Company 90.19

Invoice #	Date	Invoice Comment	Inv. Amt.
66262129	11/14/2018	Safety / First Aid Kit Restock	90.19

027826 12/7/2018 00-A0110 Loyd Alvis 250.00

Invoice #	Date	Invoice Comment	Inv. Amt.
2018-12-07	12/7/2018	2018 Employee of the Year	250.00

027827 12/11/2018 00-C7453 CitiBusiness Card 3,694.66

Invoice #	Date	Invoice Comment	Inv. Amt.
20181019COM-I	10/19/2018	Phone-Internet Service thru 11/23/2018	500.01
20181022AMA-L	10/22/2018	54276: THICKSTER GLOVES	253.84
20181024AME-E	10/24/2018	Travel / American Stormwater - Training	700.00
20181024CON-(	10/23/2018	Office / Constant Contact Email Servcie	20.00
20181025AMA-(	10/25/2018	Phone / Screen Protectors	15.06
20181025AMA-L	10/25/2018	Office / Keyboard & Mouse - CO	64.64
20181026BEEN	10/26/2018	Office / Deed Research	8.00
20181026GOT-[	10/26/2018	Office / Go To My PC - DW	23.95
20181026HOT-[	10/26/2018	Travel / Hotel - Conference	7.99
20181029SAN-L	10/29/2018	eq: 63 sand blast hose	325.92
20181030AMA-L	10/30/2018	Office / Screen Cleaner	9.69
20181030AMA-L	10/30/2018	Office / Screen Cleaner	19.43
20181030VIS-CI	10/30/2018	Office / Business Cards for BT & KM	51.71
20181101AMA-L	11/1/2018	Hospitality / Tablecovers SGMA Luncheon	35.60
20181101PAR-L	11/1/2018	Office / Deed Research	35.00
20181102GOT-E	11/2/2018	Office / Go To My PC - BT	95.80
20181102PHE-B	11/2/2018	Hospitality / Lunch - BT, LB, KM	76.59
20181102SEI-D\	11/2/2018	Fuel for Eq#1	58.57
20181105AMA-[	11/5/2018	Office / Amazon Prime	14.00
20181106IRR-KI	11/6/2018	Training/CalPoly ITRC	180.00
20181107AMA-K	11/7/2018	Safety / Class 2 High Visibility Vest	14.99
20181107LEGAL	11/7/2018	Office / Legal Zoom - BT	7.99
20181108AMA-K	11/8/2018	EQ/Sand Blasting Tip	54.99
20181108SAV-C	11/8/2018	Hospitality / Creamer	15.37
20181109DROP	11/9/2018	Office / Dropbox - DW	9.99
20181112FRE-D	11/12/2018	Publication / Fresno Bee Subscription	99.84
20181113AMA-C	11/13/2018	Hospitality / Coffee	106.14
20181113ROC-L	11/13/2018	eq: sandblast trailer, oil hub	53.88
20181114SAV-C	11/14/2018	Hospitality / Refreshments	33.45

Report Parameters:
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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
20181116ADOBI	11/16/2018		Office Software / Acrobat Pro DC (5)	74.95
20181116GOO-H	11/16/2018		Hospitality / Donuts for Safety Meeting	27.80
20181116PED-C	11/16/2018		Hospitality / Pizza for Safety Meeting	119.69
20181116SAV-C	11/16/2018		Hospitality/Thanksgiving Gift Cards $25	550.00
20181117TRU-L	11/17/2018		Office / Deed Research	29.78
027828	12/11/2018	00-A1460	Auto Zone, Inc. 3709	111.61

Invoice #	Date	Invoice Comment	Inv. Amt.
3709894700	11/6/2018	Canal / Electrical Connecter	3.22
3709901712	11/14/2018	Eq#30 / Switches	37.80
3709914627	11/28/2018	eq: bug wash, wiper blades	70.59

027829	12/11/2018	00-A2292	ACWA-JPIA (HBA)	44,896.12

Invoice #	Date	Invoice Comment	Inv. Amt.
0587720	12/3/2018	Employee Benefits / 2019 JAN	44,896.12

027830	12/11/2018	00-A2879	Asbury Environmental Services	35.00

Invoice #	Date	Invoice Comment	Inv. Amt.
I500-00382555	10/30/2018	oil waste pickup	35.00

027831	12/11/2018	00-A4261	Aanonson Sprinkler Co., Inc.	188.18

Invoice #	Date	Invoice Comment	Inv. Amt.
176694	11/9/2018	H2o Measure/6" Blind Flang Metal	23.17
176814	11/13/2018	PL/Pvc Fittings	51.24
176828	11/16/2018	Pipeline/Pvc Fittings	79.79
176830	11/16/2018	PL / 6" Ring Adapt.	33.98

027832	12/11/2018	00-A8377	Alhambra & Sierra Springs	55.17

Invoice #	Date	Invoice Comment	Inv. Amt.
7117807110318	11/3/2018	Office / Bottled Water	30.55
7117807120118	12/1/2018	Office / Bottled Water	24.62

027833	12/11/2018	00-A9875	ALLIED CONCRETE PUMPING	1,470.43

Invoice #	Date	Invoice Comment	Inv. Amt.
65940	10/19/2018	Custom NonOp/Concrete pump MCW	1,470.43

027834	12/11/2018	00-B0457	Battery Systems Inc.	311.31

Invoice #	Date	Invoice Comment	Inv. Amt.
4669006	11/6/2018	eq: battery stock	311.31

Report Parameters:
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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
027835	12/11/2018	00-B2360	Barsamian & Moody	3,967.50

Invoice #	Date	Invoice Comment	Inv. Amt.
20412	7/31/2018	Legal Servcie Through JUL	3,967.50

Check #	Date	Vendor Number	Vendor Name	Check Amount
027836	12/11/2018	00-B8665	Blue Line Rental	12,067.29

Invoice #	Date	Invoice Comment	Inv. Amt.
163313599-001	11/14/2018	PL/Reach Fork Rental	742.78
163378831-001	11/15/2018	Canal/Compactor Rental	99.08
55444790002	11/6/2018	CustomNonOp/Dozer Rent MCWPA	3,685.05
55698150002	11/6/2018	CustomNonOp/Compactor MCWPA	734.54
55981320001	11/6/2018	CustomNonOp/Excavator MCWPA	6,805.84

Check #	Date	Vendor Number	Vendor Name	Check Amount
027837	12/11/2018	00-C0513	California Surveying & Drafting Supply	1,853.99

Invoice #	Date	Invoice Comment	Inv. Amt.
312073-3	10/31/2018	Pipeline/Tripod and Survey Lev	1,721.88
312103-3	11/2/2018	Pipeline/Level Rod	132.11

Check #	Date	Vendor Number	Vendor Name	Check Amount
027838	12/11/2018	00-C2666	CNA Surety	875.00

Invoice #	Date	Invoice Comment	Inv. Amt.
20190121	1/21/2019	2019 Pension Bond	875.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027839	12/11/2018	00-C3000	Comcast	558.44

Invoice #	Date	Invoice Comment	Inv. Amt.
20181119	11/19/2018	Phone-Internet Service thru 12/23/2018	558.44

Check #	Date	Vendor Number	Vendor Name	Check Amount
027840	12/11/2018	00-C3723	Central Irrigation	230.51

Invoice #	Date	Invoice Comment	Inv. Amt.
13908	11/26/2018	eq: 50 hydraulic hose	230.51

Check #	Date	Vendor Number	Vendor Name	Check Amount
027841	12/11/2018	00-D6820	DeJager, Arthur L.	1.00

Invoice #	Date	Invoice Comment	Inv. Amt.
2018-RENT	11/28/2018	Ground Lease - Lateral 3 Pond	1.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027842	12/11/2018	00-D7770	Divine Logic, Inc.	85.00

Invoice #	Date	Invoice Comment	Inv. Amt.
161874	12/4/2018	Office / Monthly Server Backup	85.00

Chowchilla Water District
Check Report

Report Parameters:
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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
027843	12/11/2018	00-F6684	Fresno Oxygen	80.67

Invoice #	Date	Invoice Comment	Inv. Amt.
62287588	11/15/2018	Canal / Welding Gas	80.67

Check #	Date	Vendor Number	Vendor Name	Check Amount
027844	12/11/2018	00-F7980	Fastenal Company	160.54

Invoice #	Date	Invoice Comment	Inv. Amt.
CACHO27424	11/8/2018	Canal/Nuts and Bolts	142.23
CACHO27447	11/9/2018	Canal / Fasteners	18.31

Check #	Date	Vendor Number	Vendor Name	Check Amount
027845	12/11/2018	00-K1000	Klein, Denatale, Glodner, Cooper, Rosenlieb &	7,106.50

Invoice #	Date	Invoice Comment	Inv. Amt.
22129-001-138411	11/30/2018	Legal Service Through 11/19/2018	7,106.50

Check #	Date	Vendor Number	Vendor Name	Check Amount
027846	12/11/2018	00-L1408	Lowe's Business Account	160.44

Invoice #	Date	Invoice Comment	Inv. Amt.
02141	11/2/2018	Canal/Lumber	160.44

Check #	Date	Vendor Number	Vendor Name	Check Amount
027847	12/11/2018	00-M7521	Mid-Valley Pipe & Steel, Inc.	219.55

Invoice #	Date	Invoice Comment	Inv. Amt.
34363	11/15/2018	Canal/Fence Post	219.55

Check #	Date	Vendor Number	Vendor Name	Check Amount
027848	12/11/2018	00-M7724	MADERA COUNTY RECORDER OFFICE	50.00

Invoice #	Date	Invoice Comment	Inv. Amt.
2018-12-CD	12/4/2018	Office / Deeds on 2 CD's for DEC 2018	50.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027849	12/11/2018	00-M7724	MADERA COUNTY RECORDER OFFICE	200.00

Invoice #	Date	Invoice Comment	Inv. Amt.
20181127-RC	11/27/2018	25 Redemption Certificates	200.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027850	12/11/2018	00-M7823	Madera County Environmental	944.00

Invoice #	Date	Invoice Comment	Inv. Amt.
IN0074695	11/20/2018	Safety/MC-EHD Cert 2019	944.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027851	12/11/2018	00-NUT2444	Nutrien Ag Solutions	4,310.00

Invoice #	Date	Invoice Comment	Inv. Amt.
37742407	11/6/2018	WeedCont/Vastlan	4,310.00

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 11/15/2018 through 12/11/2018
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
027852	12/11/2018	00-O3633	The Office City	159.17

Invoice #	Date	Invoice Comment	Inv. Amt.
IN-1543158	11/28/2018	Office / Paper Towels & Cleaners	159.17

Check #	Date	Vendor Number	Vendor Name	Check Amount
027853	12/11/2018	00-P2357	Pitney Bowes Global Financial	456.90

Invoice #	Date	Invoice Comment	Inv. Amt.
3102654415	11/30/2018	Postage Meter Rental - 2018 OCT - DEC	456.90

Check #	Date	Vendor Number	Vendor Name	Check Amount
027854	12/11/2018	00-P6332	PRAXAIR DISTRIBUTION, INC, 215	935.73

Invoice #	Date	Invoice Comment	Inv. Amt.
32865917-C	4/20/2009	Canal / Parts Returned	-60.88
70015932	1/19/2010	Canal / Parts Retruned	-39.91
84559506	8/16/2018	Canal/Hinges	60.62
86006148	11/3/2018	Canal/Welding supplies	55.42
86342827	11/28/2018	Canal/Welding Supplies	920.48

Check #	Date	Vendor Number	Vendor Name	Check Amount
027855	12/11/2018	00-P8777	Postmaster-Chowchilla	144.00

Invoice #	Date	Invoice Comment	Inv. Amt.
2019	12/7/2018	Office / Post Office Box Rental	144.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
027856	12/11/2018	00-S4446	S & W Parts Inc.	811.76

Invoice #	Date	Invoice Comment	Inv. Amt.
082691	11/27/2018	Eq#30 / Adapter & Oil Filter	47.09
082722	11/28/2018	eq: coolant, socket	211.65
082723	11/28/2018	eq: 45 booster cables	263.71
082801	11/30/2018	eq: air filters	289.31

Check #	Date	Vendor Number	Vendor Name	Check Amount
027857	12/11/2018	00-T1207	Technoflo Systems	8,389.22

Invoice #	Date	Invoice Comment	Inv. Amt.
20180	11/5/2018	WaterMeas/Meter BerSlou 3	2,264.88
20182	11/5/2018	WaterMeas/Meter Califa 47	2,264.88
20183	11/5/2018	WaterMeas/Meter Califa 35	1,929.73
20184	11/5/2018	WaterMeas/Meter AshSlough 1	1,929.73

Check #	Date	Vendor Number	Vendor Name	Check Amount
027858	12/11/2018	00-T3597	Tesei Petroleum - Cardlock	1,194.90

Invoice #	Date	Invoice Comment	Inv. Amt.
103674	11/30/2018	DSL 94.57g / GAS 306.49g	1,194.90

Check #	Date	Vendor Number	Vendor Name	Check Amount
027859	12/11/2018	00-T3598	Tesei Petroleum, Inc.	2,677.61

Report Parameters:
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Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount

Invoice #	Date	Invoice Comment	Inv. Amt.
10430273	10/30/2018	Canal/Propane	1,495.03
11433555	11/28/2018	54268: grease tube case	153.11
11433672	11/30/2018	54268: oil stock	307.16
11433673	11/30/2018	canal: burner wand parts	722.31

027860 12/11/2018 00-U2984 United Rentals 730.70

Invoice #	Date	Invoice Comment	Inv. Amt.
163329768-001	11/14/2018	Canal/Boom Truck Rental	730.70

027861 12/11/2018 00-VER0204 Verizon Wireless 1,193.54

Invoice #	Date	Invoice Comment	Inv. Amt.
9818677286	11/19/2018	Mobile Phone Service through 11/19/2018	1,193.54

027862 12/11/2018 00-WG450 Franchise Tax Board 300.00

Invoice #	Date	Invoice Comment	Inv. Amt.
20181111WG	11/11/2018	Wage Garnishment WG 450 PE: 11/11/2018	150.00
20181125WG	11/26/2018	Wage Garnishment WG 450 PE: 11/25/2018	150.00

041315 11/16/2018 00-I3201 Internal Revenue Service 10,114.10

Invoice #	Date	Invoice Comment	Inv. Amt.
2650223	11/16/2018	Fed Tax w/Hold PE: 11/11/2018	10,114.10

159095 11/30/2018 00-B8070 BANC OF AMERICA LEASING 833,896.23

Invoice #	Date	Invoice Comment	Inv. Amt.
R03416	11/30/2018	BofA Capital Obligation Loan Payment #16	833,896.23

401218 11/30/2018 00-N4224 Nationwide Trust Co. FSB 7,926.63

Invoice #	Date	Invoice Comment	Inv. Amt.
20181130	11/30/2018	Nov 2018 ER Pension Contrib	7,926.63

456315 11/16/2018 00-E5616 Employment Development Dept. 1,423.69

Invoice #	Date	Invoice Comment	Inv. Amt.
1705448256	11/16/2018	State Income Tax PE: 11/11/2018	1,423.69

456329 11/30/2018 00-E5616 Employment Development Dept. 1,416.01

Invoice #	Date	Invoice Comment	Inv. Amt.

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Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
2031440704	11/28/2018	State Income Tax PE: 11/25/2018	1,416.01	
457329	11/28/2018	00-N4224	Nationwide Trust Co. FSB	1,205.00

Invoice #	Date	Invoice Comment	Inv. Amt.
20181125	11/28/2018	457 EE Contrib PE: 11/25/2018	1,205.00

895329	11/28/2018	00-C1010	California State Disbursement	23.07

Invoice #	Date	Invoice Comment	Inv. Amt.
9W1O5T6657	11/28/2018	Child Support PE: 11/25/2018	23.07

941329	11/30/2018	00-I3201	Internal Revenue Service	9,939.65

Invoice #	Date	Invoice Comment	Inv. Amt.
90452673	11/28/2018	Fed Tax w/Hold PE: 11/25/2016	9,939.65

Total For Bank Code A: **1,309,443.16**

OPERATION & MAINTENANCE REPORT

Operations and Maintenance Report

November 2018

Operations

Reservoir	10/31/18 Storage	11/30/18 Storage	Difference
Eastman (Buchanan)	60,313 AF	60,780 AF	467 AF
Recorded Rainfall – 4.08”			
Total – 4.16”			
Millerton (Friant)	10/31/18 Storage	11/30/18 Storage	Difference
	281,800 AF	293,800 AF	12,000 AF

Maintenance

Continued mowing of District canals
Completed canal bank repair mile 2.9 for MCWPA
Completed sixaflex project for MCWPA
Completed burning of District Canals
Replaced canal bank lining at Lateral 4 pond
Began annual pipeline repair

Equipment

Eq:	Description	Work performed:
1-13	2013 Chevy 1500	Performed tune up
3	2010 F150	Repaired coolant leak
7	2010 F150	Replaced ignition coil and spark plugs
8	2010 F150	5,000-Mile service
9	2007 F150	Replaced battery
12-18	2018 Chevy 1500	5,000-Mile service
31	2006 International Dump	Performed 90-day inspection
34-18	2018 CAT 914M	Put new loader in service
43	2006 Peterbilt Dump	Performed 90-day inspection
50	2005 Cat Backhoe	Replaced hydraulic hose
57	2007 Cement Trailer	Replaced battery
56	2007 Trailer	Repaired lights

GENERAL RESOURCES MANAGER'S REPORT

Madera Chowchilla Water & Power Authority
Activities Report – November 2018

Madera Canal

- Staff exercised the generator at Madera Canal MP 21.7 on its monthly schedule.
- Staff performed weekly inspection of facilities on the Madera Canal.
- No water deliveries were made to CWD during October, 2018.
- No water deliveries were made to MID during October, 2018.
- MCWPA made Riparian Water Deliveries to Adobe Ranch during November, 2018.
- MCWPA sprayed terrestrial weeds at its River Yard and facilities on the Madera Canal.
- CWD performed canal O&M Road reconstruction at Madera Canal MP 3.0.
- CWD and MID applied Sikaflex epoxy to cracks and seams in the concrete canal panels from Madera Canal MP 2.1 to MP 2.9.
- MID performed canal embankment earthwork reconstruction at Madera Canal MP 2.2.
- MCWPA built and installed a remote canal level monitoring site at Madera Canal MP 5.9 for its SCADA system.
- MCWPA mud jacked voids behind the canal panels at Madera Canal MP 5.5.

Hydro Plants

General

- Staff completed weekly inspection of all plants.

980

- Staff cleaned the interior of the plant.
- Jorgensen Co. serviced the plant fire extinguishers.

1174

- Staff cleaned the interior of the plant.
- Jorgensen Co. serviced the plant fire extinguishers.
- Staff repaired oil leaks in the plant hydraulic governor.

1302

- Staff cleaned the interior of the plant.
- Jorgensen Co. serviced the plant fire extinguishers.
- Divine Logic successfully developed and installed a virtual PC for plant MMI service.

1923

- Staff cleaned the interior of the plant.
- Jorgensen Co. serviced the plant fire extinguishers.

Miscellaneous

- MCWPA submitted generation and availability scheduling for 980, 1174, 1302, and 1923 on PG&E's ODMS System in accordance with the new REMAT Contracts.

Ongoing

- Nothing to report.

San Joaquin River Restoration Program
Settling Parties Meeting
Tuesday, August 21, 2018

Jessica Andrieux, Reclamation	Adam Nickels, Reclamation
Kimberly Clements, USFWS	Steve Ottemoeller, Friant Water Authority
Hilary Glen NMFS	Don Portz, Reclamation
Gerald Hatler, CDFW	Patti Ransdell, Circlepoint (facilitator)
Tom Johnson, Restoration Administrator	Paul Romero, DWR
Erika Kegel, Reclamation	Emily Thomas, Reclamation
Nicole Leatherman, Reclamation	Doug Welch, Chowchilla Water District
Bill Luce, Bill Luce Consulting	Liz Vasquez, Reclamation
Chad Moore, Reclamation	Rebecca Victorine, Reclamation
Rocky Montgomery, USFWS	Peter Vorster, The Bay Institute
Josh Newcom, Reclamation	Gina Weil, Reclamation
Marissa Novoa, Reclamation	

Introduction and Agenda Review

Don started the meeting with introductions. He mentioned the Science meeting being held this week and asked Josh Newcom to provide a quick overview. Josh handed out a copy of the full program and mentioned the evening events. Adam provided additional information about the evening events.

There were no other additions to the agenda.

Flow Updates

Restoration Flows

Chad provided an update on Restoration Flows. The goals for Restoration Flows this year include maintaining continuity of the river, keeping flows at 195 cubic feet per second (cfs) and maintaining the cold pool at Millerton. The Program has met these objectives.

There have been a few challenges trying to obtain accurate gauge readings. Chad mentioned that the Program is still working to improve the accuracy of the flow gauges. The gauges show a variability of plus or minus 30 cfs at Sack Dam. The program has carried extra water to account for the variability. Another challenge being dealt with is the releases at Sack Dam, where subsidence is a problem, along with a few other issues. The Program is working to improve this situation, but the construction of the new Sack Dam structure is the true solution.

An attendee asked if the Eastside Bypass gauge has been added to the CDEC (California Data Exchange Center). The Program is still working with DWR to address these issues. DWR has responsibility for maintenance of these gauges and has been working to add them to the CDEC.

An attendee asked about the distinction between calibration for the gate itself and the monitoring of the data; i.e., how often are they monitored? Monitoring occurs continuously- the issue is how accurate the

data is, based on the slope of the river bed (Flow Shift). Annual recalibration is done to update the Rating table because the subsidence issue is changing the slope of the river.

The Program has accumulated a year of flood data, and nearly a year of non-flood flow data. Peter will be discussing this topic at the Science Meeting.

URFs (Unreleased Restoration Flows)

Chad reported that the SJRRP had several URF sales and some URF exchanges. The Program sold 51 TAF of Class 1 water at $50AF and 11 TAF at $256 AF. The Program also sold 38 TAF of Class 2 water at $20AF. Altogether, between sales and exchanges with Friant and Exchange Contractors, $6.6M of URFs were sold.

The Settlement calls for a Water Supply test and some of the water did not pass the water supply test; this water was sold to class one contractors and the funds benefited the SJRRP.

The period of uncontrolled flows in Millerton (flood flows, basically) added uncertainty because the water that came early was rain and didn't add to the snowpack.

NASA ASO Funding and Plan

Chad provided an update on the ASO. The Program has been looking for a long term strategy for NASA ASO and some short term funding solutions.

The majority of funding has been provided by DWR and South Valley Water District. Chad noted that it's important to increase awareness of the value of the data collected by the program.

Chad stated that the SJRRP needs some additional funding for the ASO flight surveys and modeling work. An $800K grant request is in development, and SJRRP is cooperating with some other watersheds to present a unified plan and funding proposal. If this grant is approved, it would provide the applicants with the ability to gather uninterrupted snow pack data across the high Sierra. The grant application will be finished in the next few weeks.

Chad mentioned a second proposal underway with the South Valley Office to do "hind" casting (looking back at previous years). He discussed how dependent we are on the relatively sparse stations in the San Joaquin River headwater; the stations aren't bad, but if there is a breakdown of the equipment we are running blind. Bill noted that we are starting to lobby some of the members of the state Legislature to help fund this.

Chad noted that the benefits of improved forecasting are useful for a variety of concerns; groundwater, floods, planning, tree health and fire prevention, to name a few. Peter reiterated the importance of the data collected.

Seepage Project Updates

Liz provided an update on Seepage Projects. The Program has been fairly busy working on Seepage Projects. Reclamation has had an offer accepted and is about to close on the right bank side, on the very

bottom of Reach 4A- (across from Nickels). Once this project is in place, Reclamation will then address the next constraint.

An attendee asked what the current flow restrictions are; the flows below Sack Dam are limited to an estimated 157 cfs.

Reclamation also had an offer in on some land that's part of the Firebaugh multi-benefit project. This offer will continue to be reviewed to ensure that it provide seepage benefits for the Program.

The acquisition of the right bank and left bank properties directly below Mendota Dam is the next constraint to be dealt with. The first option was not financially feasible so the Program is evaluating other options.

There will be upcoming requests from the team for Settling Parties to provide input into what to do with the water potentially created by the physical project.

An attendee asked what the constraint is at this location. Liz provided information related to irrigation flows from HMRD that increased water in the river.

Some of the older monitoring wells may have suffered some effects of subsidence and may need to be replaced. A survey effort to assess the need for replacements is in the planning stages.

Restoration Goal Activities

Mendota Pool Bypass

Liz reported that the Program is in the process of planning a physical modeling review. Settling Party members are invited to attend the review in Denver. The model is basically a rebuild of the physical model that was built last year. Improvements related to fish passage were added. Paul mentioned that Jeremy would be discussing this on Thursday at the Science Meeting.

An attendee asked if the FWS/CDFW have had any input into this update. Yes they have had some input into the Project.

There was a discussion about the Mendota Pool Group Project. The dialogue focused on the collaboration for this project with regard to moving wells for the Mendota Pool Bypass levee setback. We've added a designed constraint to allow for Restoration Flows, so any losses in the system are constrained to the agreement in the Settlement. There was further discussion about Mendota Pool Pumping and a 5% loss between the pumping and the Mendota Pool Bypass. Steve Ottemoeller mentioned that a study was done which shows it doesn't induce seepage. There was a discussion about section 13F of the Settlement and Peter feels these needs to be further discussed. He asked Don Portz if the Settling Parties can have a future discussion about Section 13F and Mendota Pool losses and suggested that the South Valley Water Association should be included in this discussion.

Liz discussed the potential benefits of the Reach 2B project regarding moving the wells much further from the river and adding a slurry wall between the wells and the river. Also, we are making progress on getting the properties needed for this project.

Liz noted that the team is working to make sure that the landowners will be made whole when we move the pumps and that they will have access to the Mendota Pool Water.

Liz reported that property negotiations are underway for the Reach 2b/MPB properties.

Liz also introduced Jessica Andrieux, a new Project Manager on the Program who is working on financial assistance agreements.

Action item

- Don was asked to schedule a discussion related to the 13F section of the Settlement and Mendota Pool Losses. South Valley Water Association should be included in this discussion.

Arroyo Canal and Sack Dam

Emily reported that Reclamation has been working for a while to get a financial assistance agreement with HMRD for the design of the project. Recently, they were able to get the funding agreement in place and HMRD has hired Jacobs to do the design for the canal and fish screen improvements.

An attendee asked about the project that was agreed on; the project will consist of raising the dam and moving it slightly upstream.

Liz reported that there will likely be a meeting regarding trying to find some cost efficiencies for the Arroyo Canal project.

Reach 4B

Gina provided an update. The Reach 4B project is on track for the Permit applications. The 404 permit application has been submitted. The 401 permit application is close to being ready for submission. The Team is working with the Refuge on adding a solar offset for the cost of the pump usage. The program is expecting construction on the solar project to begin as early as next summer.

Conversations with the Refuge will continue.

Eastside Bypass Project

Paul reported on the Eastside Bypass Project. The levee improvement project is expected to be implemented in 2019. There are about 6 months left on that project but there is still a delay on receiving the Flood Board Permit.

There have been numerous meetings with the Levee District. At the last meeting they agreed to send a letter of no objection to the Flood Board but it will have conditions added. The Levee District Board has approved the letter, with a few revisions. Paul noted that the other two fish passage projects will follow and hopefully DWR will be able to phase these three projects in over the next three years.

Adam asked how Prop. 3 funding for the SJRRP will be allocated. Paul noted that it will probably come through the Resource Agency.

An attendee asked if there is any update on the communication between the Refuge and the agencies. There are quarterly coordination meetings and we are always looking to improve the collaboration.

Conservation Facility

Gerald provided an update on the Conservation Facility. Construction continues to move along. The contractor submitted an updated schedule to extend the project through November. According to General Services the contractor is barely half way done. The contractor is supposed to be providing another updated schedule that will likely extend it through February. This will likely cause an increase in the cost by likely $2M in soft costs.

Fisheries Framework Plan

Kimberly provided an update on this. The goal is to have this finished by the end of the fiscal year.

10a1A

Hilary reported that this has been through review and will likely be moved forward to completion soon.

TM

Hilary reported that the team hopes to have this finished by the end of September.

Fish Monitoring

Gerald provided an update. This has been the third year of Adult Releases - June, late July/August. These releases will help us evaluate survival and fish movement.

There were 180 releases and all the females are acoustically tagged. Staff is out monitoring them. The rotary screw traps were removed in late June.

Interim facility will begin spawning, probably in mid-September. They are continuing to have issues with the Feather River Hatchery with regard to funding for the fish tagging and Gerald indicated uncertainty about broodstock population will look like this year.

Don put in a plug for the topics covered at the Science meeting on Thursday.

Water Management Goal

WIIN Funding

Recapture and Recirculation-EIS/R

Adam reported about Recapture and Recirculation on behalf of Kellye. The comment period ended on Friday. Adam thanked the agencies that provided comments. The Secretary's office has issued a new

protocol on how quickly the RODs are to be issued (within one year of Notice of Intent) for all DOI projects. The Program is working to address this faster time frame.

ACTION ITEM

- Adam to provide information on the plan to address the direction from the Secretary's office on speeding up the NEPA process for recapture recirculation (as well as other projects in the NEPA process)

Canal Capacity

Friant Kern Canal

Adam reviewed the requirement for these projects. He referred to the Middle Reach (subsidence correction area of the FKC) and is working on financial assistance agreement for corrections and to "stop the bleeding" in the FKC. The Program has $2.2 M in WIIN Funding for this, plus additional funds totaling $7.2 M for a short-term feasibility study for the quick fix and a longer-term feasibility study for the ultimate corrections. An attendee asked if Prop 3 passes, how it will affect the funding for the long-term fix. The best case is that Prop. 3 passes and there is enough money to fix this and do the Pump Back project to help fix the water supply issues in the San Joaquin valley.

There was a discussion about federal legislation that may improve some of the funding issues.

There was no update on the Madera Canal Project (Doug asked about this, and asked when we will get the money). Reclamation is working on the financial assistance agreement and Adam is hoping to see some funding next year. Reclamation is still committed to that funding split.

Pump Back Project

Steve Ottemoeller reported that the project is continuing to make steady progress. They received a draft of the 30% design and are looking at specific configurations of pumping. The first admin draft of the environmental documentation is in process. Currently, Friant is spending time working on addressing potential water quality issues and are working to finish this process, so they can begin construction by spring 2020.

Part III Groundwater Projects

There was no update on these projects.

Staffing Updates

Reclamation - There were no staffing updates.

CDFW- There were no staffing updates.

USFWS- There were no staffing updates.

DWR- There were no staffing updates.

NMFS- There were no staffing updates.

NRDC- Anna Wearn is leaving for Graduate School. Her replacement has been hired. (Melanie Stearn). Peter will be working on this Program a little less in 2019.

Science Meeting

Josh gave an update on the Science Meeting and encouraged attendance.

Action Items and Next Meeting

Action Item:

- Don was asked to schedule a discussion related to the 13F section of the Settlement and Mendota Pool Losses. South Valley Water Association should be included in this discussion.
- Adam to provide information on the plan to address the direction from the Secretary's office on speeding up the NEPA process for recapture recirculation (as well as other projects in the NEPA process)

Next Meeting

Next meeting will be in mid-November (second week of November). Reclamation will send a Doodle Poll.

Regional Water Management Group
Tuesday, November 13, 2018 1:30 pm
Location: Chowchilla City Hall (Civic Center)

MINUTES

. Open – Flag Salute
- Introductions – 1:34

Jeannie Habben – Admin Assistant
Tom Wheeler – Madera County BOS
Carl Janzen – Madera Irrigation District
Al Solis – S.E.M.C.U.
Igal Treibatch – S.E.M.C.U.
Stephanie Anagnoson – MC, Water & NR
Zaira Lopez – CA RWQCB
Don Roberts – Gravelly Ford WD
Ken Bonesteel – QK
Jason Rogers– City of Chowchilla
Dave Merchen – City of Madera
Ilse Lopez-Narvaez– Self Help Enterprises
Samantha Lopes – Farm Management Svcs
Maria Salazar – Self Help Enterprises
Garth Pecchenino - QK
Doug Welch – Chowchilla Water District
Johnnie Siliznoff – Madera NRCS
Christina Beckstead – Madera Farm Bureau

2. Review & Approval - Agenda & Minutes
   - October 8, 2018 – Minutes
   - November 13, 2018 – Agenda

   Carl J made a motion to approve the agenda as presented; Dave M second the motion; all voted; motion is carried unanimously.
   Al S made a motion to approve the minutes with no changes; Carl J second the motion; all voted; motion is passed unanimously

3. Public Comment –
   - Nearly 2 Billion Now Available for Eligible Producers Affected by 2017 Wildfires and Hurricanes - Agricultural producers affected by wildfires in 2017 now may apply for assistance to help recover and rebuild their farming operations. Signup began July 16, 2018 and continues through Nov. 16, 2018. They are making immediate, initial payments of up to 50 percent of the calculated assistance, so producers can pay their bills.

   - The Department of Conservation (DOC) has posted the draft Forest Health Watershed Coordinator Guidelines for public comment. They will be accepting comments through Friday, November 23rd with the intention of posting final guidelines and the RFP on November 30th. This program funds watershed coordinator positions to develop and implement watershed improvement plans consistent with the Forest Carbon Plan and Executive Order B-52-18. Watershed coordinators will facilitate watershed-scale collaborations, promote integrated watershed management efforts, and support local implementation activities to restore resilience to forestlands.

- CDFW has released their 2019 Proposition 1 & Proposition 68 Grant Opportunities Proposal Solicitation Notice. Additional information about the grant programs and the application process can be found on the grant program website. Deadline for proposals is December 18. CDFW will host two application workshops to provide technical assistance on the application process on November 14 and November 28. Funding will be allocated according to a diverse set of priorities for projects statewide, including:
  - $24 million for the Proposition 1 Watershed Restoration Grant Program;
  - $7 million for the Proposition 1 Delta Water Quality and Ecosystem Restoration Grant Program;
  - $4.4 million for Proposition 68 Rivers and Streams Restoration Grants;
  - $8.8 million for Proposition 68 Southern California Steelhead Grants; and
  - $8.8 million for Proposition 68 Habitat Improvement Grants.

- Priorities for the Prop 1 Watershed Restoration Grant Program will include large-scale wildfire recovery response and prevention, managing headwaters for multiple benefits, and protecting and restoring mountain meadow ecosystems. Applicants for projects within the Sierra Nevada Conservancy region may schedule a consultation with the Funding Team to provide assistance on these grants. Please contact your SNC Area Representative to set up an appointment.

- MPA Long-Term Monitoring Program 2019 Solicitation **-** This MPA Monitoring Program 2019 Solicitation is administered by Sea Grant in partnership with the California Department of Fish and Wildlife and Ocean Protection Council. This announcement invites the submission of proposals of one of two types, Qualification Request or Full Proposal Request. A Qualification Request is focused on data collection in combination with an analysis of existing historical data for priority habitat types and human use types, sites, and species of interest. A Full Proposal Request is focused on developing a broadly supported and inclusive process to advance the collection and use of Traditional Ecological Knowledge (TEK) to help inform the adaptive management of California's MPA Network. Attend the optional webinar on November 15, from 1 - 2:30pm. All applications must be submitted by December 20.

- Brittany D is leaving her County position; she has accepted the Director position and will be working with the American Forest Foundation. Jeannie H has accepted the Deputy Director of Water and Natural Resources position with Madera County. They are in negotiations to decide where her position will fall in respect with continued work with the RWMG. Both of these changes mentioned will be officially full-time on January 2.

- **New Business:**

4. Discussion and Action - Financial Report/Warrant Approvals
   - Approval of Additional Hours
     After discussion of the financials; with all debits and credits explained, Don R made a motion to approve the Financial Report with no changes; Al S second the motion; all voted; motion is passed unanimously.

     Carl J distributed the proposed budget for 2019 that assumed each member now pays $3,000 for dues. This is to build up a balance for future needs and also cover all needs. This could be reevaluated in 6 months to decide if this is a sufficient amount. There will be further discussion at the December meeting.

     Jeannie H submitted her invoice to the group with charges for the additional Plan Update work and additional DAC work for both the MCFA and the SJRFA that was completed during October and November. After discussion the additional charges explained, Al S

made a motion to approve Jeannie Hs additional charges; Doug W second the motion; all voted; motion is passed unanimously. Tom W signed the invoice for processing.

5. Discussion and Action - IRWM Plan Update
   - Review Version 3 draft
     Ken B for QK distributed the Third Draft of the Prop 1 Plan Update. He stated that all requested changes and additions have been made to the Update to bring all 8 categories up to the State's standard. The new project list was also distributed and there are now 109 projects in the plan update. Ken shared the changes made to the Plan Update with the group.

     Igal T would like to add the project/study regarding Dry Wells that is currently being tested in Madera Ranchos. They already have four wells drilled that they will be testing to show the benefit of the amount of water recovered in these wells vs the amount of money spent. He would like to make this project/study available for everyone to use when the results are proven. Ken is going to change this project to be listed for Madera County instead of just SEMCU.

   - Discuss DAC & DACTI Appendix
     The Sierra Institute report will not be received in time to be submitted with this Plan Update. When the three reports are received for the Mountain County Funding Area, it will be added as an addendum to the plan. This section is not one of the eight sections that is required for the Plan Update. The San Joaquin River Funding Area has not yet begun their studies which will be a 24-month process/project.

   - Discuss DWR Submittal
     This Update will be submitted as a stand-alone document to be added to the original 2008 Plan and following the 2014 Plan Update. The draft will go out to the group and comments are requested by November 30th to vote on December 10 to be submitted before the end of 2018.

6. Discussion – Proposition 1 Disadvantaged Community Involvement Funding
   - Mountain Counties
     Jeannie H received the Sierra Institute sent the draft report for Madera IRWM Community Capacity Workshop report. This first draft describes the basic process that was used to conduct these workshops; but did not give the results. There will be another report release, probably in January, to give the Socio-Economic information that was gathered at the workshop. This will be followed by two additional reports: The Water/Wastewater needs assessment and the Tribal Advisory Committee information. This will be added as an appendix to the Plan when it is completed.

   - San Joaquin Valley
     Carl J and Jeannie H attended the SJRFA meeting in Modesto. The discussion at the meeting was with DWR on the contract for the DAC funding; this should be signed and executed before the end of the year. There were also conversations on the grant administration of the individual funds for each region. The Madera region will receive $148,000 for the three projects listed in the contract for the DAC needs assessments. This is a 24 month needs assessment process.

7. Proposition 1 – Implementation Funding - PSP
   Jeannie H attended the MCFA meeting and shared the discussion regarding the implementation funding. The MCFA is leaning toward one application for the whole funding area, possibly by the overall need of the mountain area.

The SJRFA is leaning toward splitting the funds between the participating regions so that each region has an amount that they know they could apply for. The first round the group is discussing that the amount for each region will be based on population. The second round may be divided evenly; this is still in discussion.

Old Business:

8. Report – Sustainable Groundwater Management – SGMA
   Madera and Chowchilla Subbasin have been having joint meetings. In January at the meeting there will be discussions about modeling followed by discussions of the modeling results in February. There was a Groundwater Dependent Ecosystem meeting last week, and it was found that there are not many groundwater dependent ecosystems in the area.

   The next Chowchilla Subbasin GSP Advisory Committee meeting will be held on December 5th at 12 noon. The meeting will be held at the Portuguese Hall, 800 South Third Street, Chowchilla CA. Lunch will be served followed by a presentation on the Sustainable Groundwater Management Act.

9. Report – Implementation Grant Project Updates
   - Round I – Arundo/Silt Removal Project
     There is 9 million dollars at risk if the sediment is not removed. There is progress being made with the sediment removal; landowners need to be assured that there are no fees involved, only a permit is required; and this could be requested from Dario at the Madera County office. An extension may be filed for this project as well as negotiations for a better cost for sand.

10. Discussion - New or Suggested Memberships to RWMG
    No other discussions or suggestions for membership.

11. Next Meeting Location and Time – Monday, December 10, 2018 - 1:30 pm
    Madera County Government Center, 200 W. 4th Street, Madera, CA, 559-675-7703

12. Future Agenda Items:
13. Action Items/Adjourn:
    - Send the Sierra Institute study to Ken B
    - Members, Christina, Zaira send compressed Pdf of draft plan update

APPROVAL OF MINUTES

MINUTES
OF THE BOARD OF DIRECTORS MEETING
OF THE CHOWCHILLA WATER DISTRICT

A regular meeting of the Board of Directors of the Chowchilla Water District was held on Wednesday, November 14, 2018 at 1:30 p.m. at the District Office at 327 S. Chowchilla Blvd.

Attendance:

Directors: Upton, Mandala, Harris, Taylor and Maddalena
CWD Staff: Welch, Tomlinson, Beatty and Mitchell
Others present: *Pat Moody via telephone*

President Upton called the meeting to order at 1:30 p.m.

PUBLIC COMMENT: None

ADDITIONS TO THE AGENDA: None

FINANCIAL REPORT: Lela Beatty reviewed the Treasurer's Report for the month ending October 31, 2018. **M/S** Maddalena/Harris to approve the Treasurer's Report as presented. President Upton called for the vote and then publicly announced that the Treasurer's Report for the month ending October 31, 2018 was unanimously approved by the Board.

Absent: Director Taylor

Director Taylor joined the meeting @ 1:34 p.m.

M/S Mandala/Harris to approve payment of the bills listed on the disbursement journal dated November 14, 2018. President Upton called for the vote and then publicly announced that the payment journal dated November 14, 2018 was unanimously approved by the Board.

OPERATION & MAINTENANCE REPORT: Keith Mitchell reported on the operations and maintenance activities; updates on the Boom Truck Repairs; expecting delivery of Loader today; CNG tanks are due for replacement, a detailed list of activities was included in the Board Packet.

PROVOST & PRITCHARD CONSULTING SERVICE AGREEMENT: M/S Maddalena/Taylor to approve the Consultant Services Agreement with Provost & Pritchard Consulting Group. President Upton called for the vote and then publicly announced that the motion was unanimously approved by the Board.

RECIRCULATED WATER SALE: Consensus of the Board to have Staff negotiate the sale of Recirculated Water.

RESOLUTION 2018-08: M/S Mandala/Taylor to approve Resolution 2018-08, A Resolution approving contracts between the Chowchilla Water District (CWD) and the United States Bureau of Reclamation pertaining to Unreleased Restoration Flows

(URF'S). President Upton called for the vote and then publicly announced that the motion was approved by the Board with the following vote:

Ayes: Directors Taylor, Mandala, Upton, Maddalena, and Harris
Nays: None

RESOLUTION 2018-09: M/S Maddalena/Mandala to approve Resolution 2018-09, A Resolution of the Board of Directors of the Chowchilla Water District Withdrawing from and Terminating the Joint Exercise of Power Agreement – Friant North Authority. President Upton called for the vote and then publicly announced that the motion was approved by the Board with the following vote:

Ayes: Directors Taylor, Mandala, Upton, Maddalena, and Harris
Nays: None

MERCED-CHOWCHILLA WATER TRANSFER/INTERTIE: M/S Maddalena/Harris authorizing Staff to pursue feasibility study and construction of intertie canal and facilities to exchange/transfer water between Merced ID and Chowchilla WD. President Upton called for the vote and then publicly announced that the motion was unanimously approved by the Board.

GENERAL RESOURCE MANAGER'S REPORT: GRM Welch reported Eastman Lake storage at 60,138 AF; current Friant release = 410 cfs, flows past Gravelly Ford = 233 cfs, below bifurcation = 138 cfs, below Sack Dam = 96 cfs; 48 cfs recapture at Patterson and Banta Carbona; SJRRP Normal to Dry Year Classification; Restoration Flow Release – 272,855 AF; NOAA 30 and 90-day forecast is for equal chance above/below average precipitation; Fall pulse flow moved to Jan and Feb; Fish Hatchery is seriously behind schedule; 200,000 juveniles will be released next spring; MCWPA updates of routine maintenance, CWD staff completed canal embankment reconstruction at MP 3.0; all Plants a shut down for the winter; GRM Welch provided pictures of the reconstruction repairs on Madera Canal; Madera Canal Capacity Increase Study; Madera RWMG – QK Engineering submitted a second draft to IRWMP update for review.

At 2:37 p.m. the CWD Board of Directors went into recess and convened as CWD Groundwater Sustainability Agency at 2:37 p.m.

CWD GROUNDWATER SUSTAINABILITY AGENCY: GRM Welch provided updates on activities; Invitations were sent for the luncheon, December 5, 2018 @ 12:00 noon, to discuss the Sustainable Groundwater Management Act (SGMA) and how it will impact waterusers in the Chowchilla Groundwater Subbasin. Each of the GSA's will be making presentations.

At 3:13 p.m. the CWD Groundwater Sustainability Agency adjourned and reconvened as the CWD Board of Directors at 3:13 p.m.

MINUTES: M/S Maddalena/Harris to approve the minutes of October 10, 2018 as presented. President Upton called for the vote and then publicly announced that the minutes of October 10, 2018 were unanimously approved by the Board.

2018 BUDGET VS ACTUAL: No action taken.

ROAD 13 RECHARGE BASIN: Keith Mitchell reported bids were sent for pumps, Shannon pumps was the lowest.

REMOVAL OF SURPLUS SOIL PERMIT: M/S Mandala/Maddalena to approve the Chowchilla Water District's Removal of Surplus Soil Permit. President Upton called for the vote and then publicly announced that the motion was unanimously approved by the Board.

TEMPERANCE FLAT RESERVOIR: Director Upton provided updates.

COLLECTORS DEEDS: Tomlinson reported upcoming online Auction December 5 – 7, 2018 though Bids for Assets.

CLOSED SESSION: President Upton called the meeting into closed session at 3:30 p.m. to conference with legal counsel about anticipated litigation: *(Govt. Code, § 54956.9(d)(4*). President Upton called the meeting out of closed session at 3:55 p.m. and reported that no reportable action was taken.

DIRECTORS REPORTS: None.

ADJOURNMENT: President Upton adjourned the meeting at 3:55 p.m.

Approved:_____
President Kole Upton

Date Approved:_____

Attest:_____
Brandon Tomlinson, Secretary

2018

BUDGETED

VS.

ACTUAL INCOME AND EXPENSE

Chowchilla Water District
Income Statement for Period Ending: November 30, 2018

	Current Period		Year to Date		ANNUAL	
	ACTUAL	BUDGET	ACTUAL	BUDGET	BUDGET	Variance
REVENUE						
Water Sales						
Irrigation	308	0	6,489,263	4,676,000	4,676,000	1,813,263
Water for Resale	167,957	0	401,674	65,760	65,760	335,914
Total Water Sales	168,265	0	6,890,937	4,741,760	4,741,760	2,149,177
Assessments						
Assessment Revenue	0	0	2,192,114	2,188,334	2,188,334	3,780
Capital Repayment Assessment	0	0	1,709,436	1,709,000	1,709,000	436
Supplemental Assessm	0	0	1,243,226	1,243,026	1,243,026	200
Total Assessments:	0	0	5,144,777	5,140,360	5,140,360	4,417
Taxes						
Merced County	0	0	82,612	67,000	150,000	(67,388)
Total Taxes:	0	0	82,612	67,000	150,000	(67,388)
Custom Work						
Custom Non-Meter	0	417	6,949	4,583	5,000	1,949
Custom Work-Meter	0	1,000	13,573	11,000	12,000	1,573
Total Custom Work:	0	1,417	20,522	15,583	17,000	3,522
Penalties						
Assessment Penalties	0	0	15,292	14,000	14,000	1,292
Total Penalties:	0	0	15,292	14,000	14,000	1,292
Total Revenue:	**168,265**	**1,417**	**12,154,141**	**9,978,703**	**10,063,120**	**2,091,021**
Gross Profit	**168,265**	**1,417**	**12,154,141**	**9,978,703**	**10,063,120**	**2,091,021**
EXPENSES						
Source of Supply						
Water Purchase - Friant Water Cls 1	0	0	1,601,544	861,184	861,184	740,360
Water Purchase Friant Water Cls 2	0	0	165,539	0	0	165,539
Recovered /Recap/Recirc Water	144,800	0	304,926	22,764	22,764	282,162
Unreleased Restoration Flows: URF	0	0	456,366	0	0	456,366
O & M Buchanan Dam	0	0	991,718	951,120	951,120	40,598
Restoration - Friant	0	0	742,815	379,286	379,286	363,529
Surcharge - Friant	0	0	496,629	253,582	253,582	243,047
O & M San Luis/Mendota	0	59,833	873,706	705,167	765,000	108,706
O & M Madera Canal	22,330	13,463	198,761	156,537	170,000	28,761
B of A Capital Obligation Loan	833,896	833,896	1,667,792	1,667,792	1,667,792	0
Water Purchases-Le Grand Athlone	0	0	81,354	0	0	81,354
Water Purchase - Other	0	0	27,450	27,115	27,115	335
Water Rights Fees	93,126	17,630	198,806	192,370	210,000	(11,194)
Trinity PUD Assessme	0	0	28,484	18,068	18,068	10,416
Total Source of Supply:	1,094,153	924,823	7,835,890	5,234,984	5,325,911	2,509,979
Capital Expenditures						
Capital Exp-Vehicles	130,385	0	179,394	260,000	260,000	(80,606)
Capital Exp-Tools/Safety	0	0	1,061	22,500	22,500	(21,439)
Capital Exp-Office	0	0	0	6,000	6,000	(6,000)
Cap Exp - Road 13 Pond	0	0	72,707	25,000	25,000	47,707
Cap Exp-SCADA-2017	0	0	14,711	0	0	14,711
Capital Expense- Pipeline	0	0	64,308	100,000	100,000	(35,692)
Total Capital Expenditures:	130,385	0	332,182	413,500	413,500	(81,318)
Transmission and Distribution						
Maintenance Salaries	39,242	48,619	597,656	583,424	632,043	(34,387)
Maintenance P/R Taxes	2,884	5,392	42,950	45,742	49,299	(6,349)

Chowchilla Water District
Income Statement for Period Ending: November 30, 2018

	Current Period		Year to Date		ANNUAL	
	ACTUAL	BUDGET	ACTUAL	BUDGET	BUDGET	Variance
Maintenance W/C Insurance	1,340	1,902	19,890	20,927	22,829	(2,939)
Maintenance Employee Benefits	24,967	25,127	286,079	276,400	301,527	(15,448)
Reservoir Expense	0	0	4,601	3,500	3,500	1,101
Canal Expense	3,163	12,500	141,253	137,500	150,000	(8,747)
Canal Expense:SCADA	0	19,798	11,794	30,000	30,000	(18,206)
Pipeline Expense	2,195	4,167	29,820	45,833	50,000	(20,180)
Pipeline Cost Sharing	0	583	0	6,417	7,000	(7,000)
Equipment Expense	11,984	7,083	115,486	77,917	85,000	30,486
Tool Purchases	0	208	2,473	2,292	2,500	(27)
Weed Control Expense	4,360	12,500	128,088	137,500	150,000	(21,912)
Water Measurement Expense	8,412	12,500	47,409	137,500	150,000	(102,591)
Custom Work Exp - METERS	0	292	5,013	3,208	3,500	1,513
Custom Work Exp - NON Meter	0	1,417	0	13,583	15,000	(15,000)
Property Damage - Claims	0	166	0	1,830	2,000	(2,000)
Rent	1	0	1	0	1	0
Engineering Expense	0	12,083	10,543	132,917	145,000	(134,457)
Groundwater Management Consulting	0	1,500	20,000	28,500	30,000	(10,000)
Fuel & Lubrication Expense	4,511	6,500	109,554	95,000	100,000	9,554
Pump Expense	1,375	2,917	28,707	32,083	35,000	(6,293)
Pump Expense (SCADA)	1,066	1,350	13,195	18,310	20,000	(6,805)
Safety Expense	1,049	833	6,167	9,167	10,000	(3,833)
Shop Supplies and Expense	27	250	3,469	2,750	3,000	469
Uniform Expense	0	1,250	6,991	13,750	15,000	(8,009)
Shop Utilities	334	500	4,137	5,500	6,000	(1,863)
Other - Distribution	0	250	2,071	2,750	3,000	(929)
Maintenance Profit Sharing Contributions	3,650	5,022	49,199	55,243	60,265	(11,066)
Total Transmission and Distribution:	110,561	184,710	1,686,545	1,919,542	2,081,464	(394,919)
Customer Accounts						
Ditchtender Salaries	24,065	29,567	310,780	350,433	380,000	(69,220)
Ditchtender P/R Taxes	1,874	2,332	21,766	27,668	30,000	(8,234)
Ditchtender W/C Insurance	1,105	1,542	12,834	16,959	18,500	(5,666)
Ditchtender Employee Benefits	15,309	17,084	148,678	187,925	205,000	(56,322)
Ditchtender Profit Sharing Contributions	1,758	2,292	19,392	25,208	27,500	(8,108)
Total Customer Accounts:	44,111	52,816	513,449	608,193	661,000	(147,551)
Administrative and General						
Administration Salaries	28,850	27,055	356,803	343,542	393,856	(37,053)
Administration P/R Taxes	1,315	2,325	24,307	25,578	27,903	(3,596)
Administration W/C Insurance	157	189	1,884	2,072	2,260	(376)
Admin Employee Benefits	7,555	8,795	83,072	96,745	105,540	(22,468)
Mileage Expense	0	84	0	920	1,000	(1,000)
Travel Expense	0	83	743	917	1,000	(257)
Travel - Training & Education	0	0	800	5,000	5,000	(4,200)
Travel - Training & Education (Out of Town)	180	833	6,634	9,167	10,000	(3,366)
Travel - Conferences	8	810	2,735	7,930	10,000	(7,266)
Travel - Events	0	500	35	1,500	1,500	(1,465)
Reports & Publications Expense	100	83	378	917	1,000	(622)
Membership Fees and Dues	1,179	2,083	13,931	22,917	25,000	(11,069)
Membership Fees Madera-Chowchilla Basir	0	100	0	1,100	1,200	(1,200)
Membership Fees and Dues :FWA	(105,400)	0	287,324	225,000	300,000	(12,676)
Office Supplies and Expense	0	292	3,190	3,208	3,500	(310)
Office Supplies -Supplies	414	1,250	14,784	13,750	15,000	(216)
Office Supplies -Copier	0	333	2,715	3,667	4,000	(1,285)
Office Supplies - Postage	457	958	6,543	8,000	8,000	(1,457)
Office Supplies -IT Support	1,333	2,083	19,131	22,917	25,000	(5,869)
Office Supplies -Computer EQ/Software	340	833	8,837	9,167	10,000	(1,163)
Office Supplies-Deeds & Collection	123	450	1,008	4,550	5,000	(3,992)
Office Supplies-Education	0	83	0	917	1,000	(1,000)
Buildings & Grounds	122	542	11,998	5,958	6,500	5,498
Legal Expense	11,074	4,000	33,382	46,000	50,000	(16,618)
Legal Expense-Joint Defense Agreement	8,188	5,833	62,306	64,167	70,000	(7,694)
Auditing Expense	0	0	9,700	10,000	10,000	(300)

Chowchilla Water District
Income Statement for Period Ending: November 30, 2018

	Current Period		Year to Date		ANNUAL	
	ACTUAL	BUDGET	ACTUAL	BUDGET	BUDGET	Variance
Advertising - General	0	0	0	1,000	1,000	(1,000)
Legal Advertising Expense	0	0	6,112	15,000	15,000	(8,888)
Miscellaneous Exp - Admin	0	83	14	917	1,000	(986)
Insurance Expense	3,849	4,167	40,774	45,833	50,000	(9,226)
Profit Sharing Administrative Costs	0	1,500	1,484	1,500	1,500	(16)
Administration Profit Sharing Contributions	2,519	4,812	29,661	32,187	37,500	(7,839)
Directors' Per Diem	0	0	780	1,125	1,500	(720)
Directors' P/R Taxes	0	0	60	150	200	(140)
Directors' W/C Insurance	0	0	4	8	10	(6)
Directors' Benefits	4,447	5,500	54,769	69,500	75,000	(20,231)
Hospitality Expense	0	83	107	917	1,000	(893)
Hospitality - Lunch (BT)	77	83	122	917	1,000	(878)
Hospitality - Lunch (DW)	0	83	294	917	1,000	(706)
Hospitality - Refreshments (Directors)	0	42	108	458	500	(392)
Hospitality - Refreshments (Employees)	302	167	1,921	1,833	2,000	(79)
Hospitality - Luncheon	36	0	36	7,000	7,000	(6,964)
Hospitality - Holidays	550	1,000	550	1,000	6,000	(5,450)
Telephone Expense	1,752	1,850	24,228	21,700	25,000	(772)
Office Utilities	749	1,417	12,331	10,583	12,000	331
Total Administrative and General:	(29,726)	80,386	1,125,594	1,148,147	1,331,469	(205,875)
Total Expenses	**1,349,483**	**1,242,735**	**11,493,661**	**9,324,366**	**9,813,345**	**1,680,316**
NET INCOME FROM OPERATIONS	**(1,181,218)**	**(1,241,318)**	**660,480**	**654,337**	**249,775**	**410,705**
Investment Interest	99	0	4,387	3,000	4,000	387
Crop Water Interest	3,277	2,300	24,063	13,500	15,000	9,063
Assessment Interest	829	1,250	19,038	13,750	15,000	4,038
Annexation Revenue	0	0	2,968	3,000	3,000	(32)
Annexation Penalties	0	0	60	0	0	60
Annexation Interest	0	0	57	0	0	57
Miscellaneous Revenue	45	833	7,180	9,167	10,000	(2,820)
MCWPA Revenue - 3 Sites	0	0	162,687	76,620	76,620	86,067
MCWPA Revenue - Site 980	115	0	174,050	82,598	82,598	91,452
FPA Revenue	46,726	0	1,027,502	200,000	200,000	827,502
MCWPA Custom Work	0	2,333	89,673	27,667	30,000	59,673
MCWPA Salary Reimbursement	0	0	9,624	9,623	12,832	(3,208)
Custom Work-CA HSR	0	0	0	0	50,000	(50,000)
Cash Over/Short (Loss)	(0)	(8)	14	(92)	(100)	114
Refunds	980	0	85,218	0	0	85,218
Total Non-Operating Revenue:	52,070	6,708	1,606,521	438,832	498,950	1,107,571
Non-Operating Expenses						
MCWPA Three Sites	17,147	12,522	126,217	187,478	200,000	(73,783)
MCWPA Site 980	6,621	8,333	63,027	91,667	100,000	(36,973)
Friant Power Authority Capital Contribut	0	20,833	74,218	229,167	250,000	(175,782)
Temperance Flat Project	0	0	0	100,000	100,000	(100,000)
Custom Work Expense - Non Operating	13,263	0	81,710	0	5,000	76,710
Legal Expense-CA-HSR	0	2,750	376	30,250	33,000	(32,625)
Engineering Expense-CA HSR	0	4,167	0	45,833	50,000	(50,000)
Miscellaneous Exp - CA HSR	0	0	83	0	0	83
Total Non-Operating Expenses:	37,031	48,606	345,630	684,394	738,000	(392,370)
Total Other Revenue and Expense:	**15,039**	**(41,897)**	**1,260,891**	**(245,562)**	**(239,050)**	**1,499,941**
Earnings Before Income Taxes	**(1,166,179)**	**(1,283,216)**	**1,921,370**	**408,775**	**10,725**	**1,910,645**
Net Income (Loss):	**(1,166,179)**	**(1,283,216)**	**1,921,370**	**408,775**	**10,725**	**1,910,645**

TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

4400 Hays Drive
Chowchilla, CA 93610
TEL: (209) 658-8487

MEETING NOTICE AND AGENDA FOR THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

Alternate formats of this agenda will be made available upon request by qualified individuals with disabilities. Appropriate interpretive services for this meeting will be provided if feasible upon advance request by qualified individuals with disabilities. Please contact the Interim Agency Secretary at (209) 883-8374 for assistance and allow sufficient time to process and respond to your request.

PLEASE TAKE NOTICE that the regular meeting of the Board of Directors of the Triangle T Water District Groundwater Sustainability Agency will be held on December 13, 2018 at 1:00 P.M. 4400 Hays Drive, Chowchilla, CA 93610.

1. **ROLL CALL**

2. **PUBLIC COMMENT**
   Interested persons in the audience are welcome to introduce any topic within the Agency's jurisdiction. No action may be undertaken on any item not appearing on the posted agenda, except that the Board may briefly respond to the comments, refer the matter to staff, or request it be placed on a future agenda.

3. **BOARD MEETING MINUTES –** Sarah Woolf
   a. **Action Item -** Approve the November 8, 2018 Minutes

4. **SUBBASIN REPORT**
   a. Subbasin Meeting
   b. GSA Water Balance
   c. Management Area Projects

5. **OTHER BUSINESS**

6. **COMMENTS FROM THE BOARD**
   Board Members may provide a brief report on notable topics of interest. The Brown Act does not allow discussion or action by the Legislative Body.

7. **ADJOURNMENT**

TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

4400 Hays Drive
Chowchilla, CA 93610
TEL: (209) 658-8487

MEETING NOTICE AND AGENDA FOR THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

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PLEASE TAKE NOTICE that the regular meeting of the Board of Directors of the Triangle T Water District Groundwater Sustainability Agency will be held on February 1, 2019 at 1:00 P.M. 4400 Hays Drive, Chowchilla, CA 93610.

1. **ROLL CALL**

2. **PUBLIC COMMENT**
   Interested persons in the audience are welcome to introduce any topic within the Agency's jurisdiction. No action may be undertaken on any item not appearing on the posted agenda, except that the Board may briefly respond to the comments, refer the matter to staff, or request it be placed on a future agenda.

3. **BOARD MEETING MINUTES –** Sarah Woolf
   a. **Action Item -** Approve the December 13, 2018 Minutes

4. **SUBBASIN REPORT**
   a. Subbasin Meeting
   b. GSA Water Balance
   c. Management Area Projects

5. **OTHER BUSINESS**

6. **COMMENTS FROM THE BOARD**
   Board Members may provide a brief report on notable topics of interest. The Brown Act does not allow discussion or action by the Legislative Body.

7. **ADJOURNMENT**

AGENDA

SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)
GROUNDWATER SUSTAINABILITY PLAN (GSP) TECHNICAL WORKSHOP
MADERA AND CHOWCHILLA SUBBASINS

Date:	Thursday, February 7, 2019
Time:	5:30 pm-7:30 pm
Location:	Frank Bergon Senior Center Multi-Purpose Room 238 S D Street Madera, CA

MEETING OBJECTIVES:

- To help participants learn more about the Sustainable Groundwater Management Act's (SGMA's) concept of "undesirable results"
- To encourage and prepare participants to engage in the GSP process – particularly with decision-making bodies (GSAs)
- To allow participants to reflect on and share their own thoughts about undesirable results, talk with others, and get questions answered

5:30 – 6:00 PM

1. **LIGHT DINNER**

6:00 – 7:30 PM

2. **WELCOME AND INTRODUCTIONS– Malka Kopell, California State University**
   Review of meeting objectives and agenda, introduction of presenters

3. **UNDESIRABLE RESULTS PRESENTATION– Maria Herrera, Self-Help Enterprises**
   Presentation on the SGMA concept of "undesirable results" and Q&A

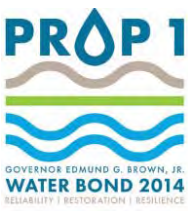
4. **GROUP EXERCISE: WHAT IS IMPORTANT TO YOU? – Amanda Monaco, Leadership Counsel for Justice and Accountability and All**
   Table discussions

5. **HOW YOU CAN ENGAGE IN THE SGMA PROCESS – Stephanie Anagnoson, County of Madera**
   Presentation of upcoming SGMA meeting schedule and Q&A

6. **FINAL THOUGHTS AND HOW TO LEARN MORE – Amanda Monaco and Maria Herrera**
   February 9 workshop

7. **ADJOURN**

For additional information about Madera and Chowchilla Subbasin GSAs, visit http://www.maderacountywater.com/subbasins/



As a courtesy to those in attendance, please turn off or place in alert mode all cell phones and pagers.

MAIN GOVERNMENT
200 W. 4TH STREET
MADERA, CA
www.MaderaCounty.com

CENTER
93637

ANY INDIVIDUAL WITH A DISABILITY MAY REQUEST SPECIAL ASSISTANCE BY CONTACTING THE RECORDING SECRETARY

AGENDA
for County of Madera
Groundwater Sustainability Agencies' Advisory Committee
Special Meeting
February 12, 2019
6:00 P.M.

Meetings of the County of Madera Groundwater Sustainability Agencies' Advisory Committee shall convene in room 3005, Madera County Government Center, 200 West 4th Street, Madera, California.

Supporting documents relating to the items on this agenda are available through the County of Madera website at www.maderacounty.com. These documents are also available at the office of the Madera County Water and Natural Resources Department, 200 West 4th Street, Madera, CA 93637. Please contact the Department of Water and Natural Resources for updates.

1. **CALL TO ORDER**
2. **PLEDGE OF ALLEGIANCE**
3. **ROLL CALL**
4. **PUBLIC COMMENT:** The first 15 minutes of each regular session is set aside for members of the public to comment on any item within the jurisdiction of the Committee, but not appearing on the agenda. For items appearing on the agenda, the public is invited to comment at the time the item is called for consideration by the Committee. Any person addressing the Committee under public comment will be limited to a 3 minute presentation to ensure that all interested parties have an opportunity to speak. Please submit any handouts to the Recording Secretary.
5. **UPDATE ON SUBBASINS & CALENDAR – Stephanie Anagnoson**
6. **PROJECTS REPORT – Stephanie Anagnoson**
7. **ALLOCATION DISCUSSION & RECOMMENDATION – Greg Young and Stephanie Anagnoson**

8. **INCREMENTAL ALLOCATION DISCUSSION – Greg Young and Stephanie Anagnoson**

9. **CREDITING DISCUSSION – Greg Young and Stephanie Anagnoson**

10. **DIRECTOR'S REPORT – Stephanie Anagnoson**

11. **COMMITTEE MEMBER COMMENTS**

12. **ADJOURNMENT**

Next Meeting Date: March 7, 2019 at 2 p.m.

CHOWCHILLA WATER DISTRICT
SPECIAL MEETING OF THE BOARD OF DIRECTORS
WEDNESDAY, FEBRUARY, 20th, 2019
AT 1:30 P.M. AT THE DISTRICT OFFICE
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Board's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code § 54954.2(g)(2))

4. Financial Reports:
   A. Treasurer's Report
   B. Payment of Bills

5. Operation & Maintenance Report

6. Surplus Equipment – The Board will discuss and may take action to approve the sale of CWD surplus equipment

7. Recirculated Water – The Board will discuss and may take action to approve the sale of additional recirculated water

8. Merced-Chowchilla Water Transfer/Intertie – Staff will provide an update on the progress of the Merced-Chowchilla Intertie

9. General Resources Manager's Report

RECESS AS CWD BOARD OF DIRECTORS & CONVENE AS CWD GROUNDWATER SUSTAINABILITY AGENCY

a. Update on CWD Groundwater Sustainability Agency

b. Water Transfer to White Areas – discuss and may take action to approve having Provost and Pritchard Engineering prepare a project description for the transfer of water to white areas within the Chowchilla Subbasin and requesting USBR to prepare NEPA documents.

ADJOURN AS CWD GROUNDWATER SUSTAINABILITY AGENCY AND RECONVENE AS CWD BOARD OF DIRECTORS

10. CWD Sphere of Influence (SOI) – The Board will discuss and may take action in regards to removal of property from CWD SOI

11. Approval of Minutes – January 9th, 2019

12. 2019 Budget – The Board will discuss and may take action to approve the 2019 Budget

13. Provost & Pritchard (P&P) Task Order 19-01 – The Board will discuss and may take action to approve P&P Task Order 19-01 which authorizes P&P to develop new boundaries of representation for the board members of CWD

14. Bank of America (B of A) Loan – The Board will discuss and may take action to pay off one of CWD's loans through B of A

15. Road 13 Pond Project – Staff will provide an update on the status of Road 13 Pond

16. Water Supply and Water Rate – The Board will discuss and may take action to set the water rate(s) for the 2019 water season

17. Temperance Flat Reservoir – The Board will discuss and may take action regarding Temperance Flat Reservoir

18. Conference with Labor Negotiator (Govt. Code, § 54957.6.)
    Agency Negotiators: Directors Upton and Mandala
    Unrepresented Employee: All employees

19. Conference with Legal Counsel, Anticipated Litigation (Govt. Code, § 54956.9(d)(2) and (4): One Item.

20. Conference with Legal Counsel, Existing Litigation (Govt. Code, § 54956.9(d)(1):

    A. Natural Resources Defense Council et al. v. David Murillo et al., United States District Court Case No. Case No. CIV 2-88-cv-01658-(E.D. CA)
    B. City of Fresno et al. v. United States, United States Court of Federal Court of Claims Case No. 1:55-cv-01000-UNJ

21. Director's Reports - This item provides an opportunity for the Directors to share information on meetings attended on the District's behalf and discuss any concerns in the operation of the District.

22. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

A person with a qualifying disability under the Americans with Disabilities Act of 1990 may request the District to provide a disability-related modification or accommodation in order to participate in any public meeting of the District. Such assistance includes appropriate alternative formats for the agendas and agenda packets used for any public meetings of the District. Requests for such assistance and for agendas and agenda packets shall be made in person, by telephone, facsimile, or written correspondence to Brandon Tomlinson (559) 665-3747 at the District office, at least 48 hours before a public District meeting.

Staff reports and other disclosable records related to open session agenda items are available at the District office located at 327 S. Chowchilla Blvd., Chowchilla, CA during business hours, Monday through Friday, 8 AM to 5 PM.

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AGENDA
for County of Madera
Groundwater Sustainability Agencies'
Advisory Committee
Special Meeting
March 1, 2019
11 a.m., 12:30 p.m. and 1:45 p.m.

Supporting documents relating to the items on this agenda are available through the County of Madera website at www.maderacounty.com. These documents are also available at the office of the Madera County Water and Natural Resources Department, 200 West 4th Street, Madera, CA 93637. Please contact the Department of Water and Natural Resources for updates.

This is a special meeting of the County of Madera Groundwater Sustainability Agencies' to explore different beneficial uses and users of water in the Madera and Chowchilla Subbasin.
The tour begins at Agriland, 23500 Road 24, Chowchilla, CA 93610

11:00 a.m. –11:45 a.m.	AgriLand, hosted by Phil Janzen, Farm Manager, AgriLand Farming Company, Inc. 23500 Road 24 Chowchilla, CA 93610
11:45 a.m. – 12:15 p.m.	Lunch at AgriLand
12:15 p.m. – 12:30 p.m.	Travel to Fairmead Galilee Missionary Baptist Church 22491 Fairmead Blvd. in Fairmead, Chowchilla, CA 93610
12:30 p.m. – 1:30 p.m.	Fairmead hosted by Barbara Nelson and Elaine Moore Galilee Missionary Baptist Church 22491 Fairmead Blvd. in Fairmead, Chowchilla, CA 93610
1:30 p.m. – 1:45 p.m.	Travel to Ellis Recharge Basin Ellis Street and Road 26 intersection, NE corner, Madera, CA 93638
1:45 p.m. – 2:00 p.m.	Ellis Recharge Basin hosted by Dario Dominguez/Stephanie Anagnoson, Madera County Ellis Street and Road 26 intersection, NE corner, Madera, CA 93638

Next Meeting Date: March 7, 2019 at 2 p.m.

MAIN GOVERNMENT
200 W. 4TH STREET
MADERA, CA
www.MaderaCounty.com

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ANY INDIVIDUAL WITH A DISABILITY MAY REQUEST SPECIAL ASSISTANCE BY CONTACTING THE RECORDING SECRETARY

AGENDA
for County of Madera
Groundwater Sustainability Agencies' Advisory Committee Meeting
March 7, 2019
2:00 P.M.

Meetings of the County of Madera Groundwater Sustainability Agencies' Advisory Committee shall convene in room 3005, Madera County Government Center, 200 West 4th Street, Madera, California.

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5. **RESIDENTIAL WELL LOANS AND GRANTS – Tami McVay, Self-Help Enterprises**
6. **UPDATE ON SUBBASINS & CALENDAR – Stephanie Anagnoson**
7. **INCREMENTAL ALLOCATION DISCUSSION & RECOMMENDATION – Greg Young and Stephanie Anagnoson**

8. **CREDITING DISCUSSION & RECOMMENDATION – Greg Young and Stephanie Anagnoson**
9. **DIRECTOR'S REPORT – Stephanie Anagnoson**
10. **COMMITTEE MEMBER COMMENTS**
11. **ADJOURNMENT**

Next Meeting Date: May 2, 2019 at 2 p.m.

Chowchilla Water District

Regular Meeting of the Board of Directors
Wednesday, March 13th, 2019
1:30 P.M. – District Office
327 South Chowchilla Boulevard
Chowchilla, CA 93610

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CHOWCHILLA WATER DISTRICT
REGULAR MEETING OF THE BOARD OF DIRECTORS
WEDNESDAY, MARCH, 13th, 2019
AT 1:30 P.M. AT THE DISTRICT OFFICE
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Board's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code § 54954.2(g)(2))

4. Financial Reports:
   A. Payment of Bills

5. Operation & Maintenance Report

6. Surplus Equipment – The Board will discuss and may take action to approve the sale of CWD surplus equipment

7. Recirculated Water – The Board will discuss and may take action to approve the sale of additional recirculated water

8. Merced-Chowchilla Water Transfer/Intertie – Staff will provide an update on the progress of the Merced-Chowchilla Intertie

9. General Resources Manager's Report

RECESS AS CWD BOARD OF DIRECTORS & CONVENE AS CWD GROUNDWATER SUSTAINABILITY AGENCY

a. Update on CWD Groundwater Sustainability Agency

ADJOURN AS CWD GROUNDWATER SUSTAINABILITY AGENCY AND RECONVENE AS CWD BOARD OF DIRECTORS

10. Approval of Minutes – February 20th, 2019

11. Road 13 Pond Project – Staff will provide an update on the status of Road 13 Pond

12. Water Supply and Water Rate – The Board will discuss and may take action to set the water rate(s) for the 2019 water season

13. **Resolution 2019-01** – The Board will discuss and may take action to approve Resolution 2019-01, A RESOLUTION OBJECTING TO THE SALE OF PARCELS BY THE COUNTY OF MADERA SO AS TO PRESERVE CHOWCHILLA WATER DISTRICT'S LIENS FOR ASSESSMENTS AGAINST SAID PARCELS.

14. **Resolution 2019-02** – The Board will discuss and may take action to approve Resolution 2019-02 A RESOLUTION APPROVING CONTRACTS BETWEEN THE CHOWCHILLA WATER DISTRICT (CWD) AND THE UNITED STATES BUREAU OF RECLAMATION PERTAINING TO 215 WATER

15. Gunner Ranch Project – The Board will discuss and may take action regarding the Gunner Ranch Project

16. Temperance Flat Reservoir – The Board will discuss and may take action regarding Temperance Flat Reservoir

17. Conference with Legal Counsel, Anticipated Litigation (Govt. Code, § 54956.9(d)(2) and (4): One Item.

18. Conference with Legal Counsel, Existing Litigation (Govt. Code, § 54956.9(d)(1):

    A. Natural Resources Defense Council et al. v. David Murillo et al., United States District Court Case No. Case No. CIV 2-88-cv-01658-(E.D. CA)
    B. City of Fresno et al. v. United States, United States Court of Federal Court of Claims Case No. 1:55-cv-01000-UNJ

19. Director's Reports - This item provides an opportunity for the Directors to share information on meetings attended on the District's behalf and discuss any concerns in the operation of the District.

20. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

A person with a qualifying disability under the Americans with Disabilities Act of 1990 may request the District to provide a disability-related modification or accommodation in order to participate in any public meeting of the District. Such assistance includes appropriate alternative formats for the agendas and agenda packets used for any public meetings of the District. Requests for such assistance and for agendas and agenda packets shall be made in person, by telephone, facsimile, or written correspondence to Brandon Tomlinson (559) 665-3747 at the District office, at least 48 hours before a public District meeting.

Staff reports and other disclosable records related to open session agenda items are available at the District office located at 327 S. Chowchilla Blvd., Chowchilla, CA during business hours, Monday through Friday, 8 AM to 5 PM.

PAYMENT OF BILLS REPORT

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Chowchilla Water District

Post Office Box 905 ♦ 327 S. Chowchilla Blvd. ♦ Chowchilla, CA 93610
Phone (559) 665-3747
Fax (559) 665-3740

March 13th, 2019

General Account

➢ *Warrant No. 028085 thru 028151 – 02/14/2019 thru 03/13/2019 Total $652,144.36*

Total Amount Disbursed $652,144.36

Approved for payment by the Board of Directors
~March 13th, 2019~

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Check History Report
Sorted By Check Number
Activity From: 2/14/2019 to 3/13/2019

Chowchilla Water District (CWD)

Bank Code: A B of A - CHECKING ACCOUNT

Check Number	Check Date	Vendor Number	Name	Check Amount	Check Type
028085	2/26/2019	00-B3650	Blue Shield of California	2,318.59	Auto
028086	2/26/2019	00-D7770	Divine Logic, Inc.	670.60	Auto
028087	2/26/2019	00-FW6305	Friant Water Authority-SLDMWA	38,278.20	Auto
028088	2/26/2019	00-M2660	MID-VALLEY DISTRIBUTORS, INC.	2,188.64	Auto
028089	2/26/2019	00-M7724	MADERA COUNTY RECORDER OFFICE	50.00	Auto
028090	2/26/2019	00-M9800	Matson Alarm Co., Inc.	118.00	Auto
028091	2/26/2019	00-MC3514	Madera Chowchilla Water & Powe	81,981.74	Auto
028092	2/26/2019	00-O3633	The Office City	231.16	Auto
028093	2/26/2019	00-P5000P	Pacific Gas & Electric Company	31.44	Auto
028094	2/26/2019	00-P5000S	Pacific Gas & Electric Company	650.63	Auto
028095	2/26/2019	00-P6332	PRAXAIR DISTRIBUTION, INC, 215	578.81	Auto
028096	2/26/2019	00-S2303	Shred-it Fresno	87.14	Auto
028097	2/26/2019	00-T3597	Tesei Petroleum - Cardlock	2,852.73	Auto
028098	2/26/2019	00-T4414	Terra Bella Irrigation District	1,668.72	Auto
028099	2/26/2019	00-U1648	UPS - United Parcel Service	38.40	Auto
028100	2/26/2019	00-USA2444	USA North 811	543.53	Auto
028101	2/26/2019	00-W5600	Wienhoff Drug Testing	70.00	Auto
028102	2/26/2019	00-WG450	Franchise Tax Board	468.44	Auto
028103	2/26/2019	50-P3748S	Petty Cash - Safety Awards	125.00	Auto
028103	2/26/2019	50-P3748S	Petty Cash - Safety Awards	125.00-	Reversal
028104	3/1/2019	00-FRE4310	Fresno Truck Center	308,383.18	Auto
028105	3/13/2019	00-A1460	Auto Zone, Inc. 3709	595.13	Auto
028106	3/13/2019	00-A2394	Alview-Dairyland Union	1,539.00	Auto
028107	3/13/2019	00-A4261	Aanonson Sprinkler Co., Inc.	1,186.09	Auto
028108	3/13/2019	00-A8377	Alhambra & Sierra Springs	27.35	Auto
028109	3/13/2019	00-B2360	Barsamian & Moody	9,852.50	Auto
028110	3/13/2019	00-B4891	Blacks Irrigation Systems, Inc	19.40	Auto
028111	3/13/2019	00-C1323	Chowchilla Do It Best Hardware	9.87	Auto
028112	3/13/2019	00-C1331	Chowchilla Union High School	1,406.18	Auto
028113	3/13/2019	00-C3000	Comcast	523.48	Auto
028114	3/13/2019	00-C4961	Chowchilla S.F.A.	900.00	Auto
028115	3/13/2019	00-C7453	CitiBusiness Card	7,644.74	Auto
028116	3/13/2019	00-CIN0183	Cintas Corporation #621	609.62	Auto
028117	3/13/2019	00-D1800	DPF Filters INC.	375.00	Auto
028118	3/13/2019	00-F6305	Friant Water Authority	25,700.00	Auto
028119	3/13/2019	00-F6684	Fresno Oxygen	84.45	Auto
028120	3/13/2019	00-F7980	Fastenal Company	104.59	Auto
028121	3/13/2019	00-F9000	Farmers Hardware & Supply	156.94	Auto
028122	3/13/2019	00-G1863	Golden State Peterbilt	8.48	Auto
028123	3/13/2019	00-G9690	Gibbs Truck Center - Fresno	724.47	Auto
028124	3/13/2019	00-K1000	Klein, Denatale, Glodner, Cooper, Rosenlieb &	1,762.00	Auto
028125	3/13/2019	00-K1501	Kellogg's Supply	1,925.41	Auto
028126	3/13/2019	00-L1615	L&L Electrical	3,059.35	Auto
028127	3/13/2019	00-L9189	Lee's Concrete Materials, Inc.	774.53	Auto
028128	3/13/2019	00-M2660	MID-VALLEY DISTRIBUTORS, INC.	6,142.44	Auto
028129	3/13/2019	00-M2963	Merced Truck & Trailer, Inc.	14.99	Auto
028130	3/13/2019	00-M7431	Merced County Department of Ag	920.00	Auto
028131	3/13/2019	00-MOU3202	Mountain Valley Fire Protection	655.72	Auto
028132	3/13/2019	00-P2357	Pitney Bowes Global Financial	456.90	Auto
028133	3/13/2019	00-P6121	Platt	393.88	Auto
028134	3/13/2019	00-P6332	PRAXAIR DISTRIBUTION, INC, 215	157.80	Auto
028135	3/13/2019	00-Q4040	Quinn Company	39,831.81	Auto
028136	3/13/2019	00-R3673	Razzari Ford Mazda	555.12	Auto
028137	3/13/2019	00-S4446	S & W Parts Inc.	577.60	Auto

Bank Code: A B of A - CHECKING ACCOUNT

Check Number	Check Date	Vendor Number	Name	Check Amount	Check Type
028138	3/13/2019	00-S4658	Schoettler Tire, Inc.	1,579.16	Auto
028139	3/13/2019	00-S5311	S & J Lumber, Inc.	5,880.06	Auto
028140	3/13/2019	00-S7505	Spriggs Inc.	246.46	Auto
028141	3/13/2019	00-T1207	Technoflo Systems	3,592.71	Auto
028142	3/13/2019	00-T3597	Tesei Petroleum - Cardlock	2,704.36	Auto
028143	3/13/2019	00-T3598	Tesei Petroleum, Inc.	1,981.52	Auto
028144	3/13/2019	00-T4414	Terra Bella Irrigation District	337.36	Auto
028145	3/13/2019	00-T4952	TF Tire & Service	856.25	Auto
028146	3/13/2019	00-U2438	Upton, Kole M.	705.33	Auto
028147	3/13/2019	00-V3900	Valley Iron, Inc.	1,147.86	Auto
028148	3/13/2019	00-VER0204	Verizon Wireless	1,285.54	Auto
028149	3/13/2019	00-W9269	Western Ag & Turf	49,391.10	Auto
028150	3/13/2019	00-W9646	Water Connection, The	65.00	Auto
028151	3/13/2019	00-WG450	Franchise Tax Board	397.22	Auto
456576	2/17/2019	00-E5616	Employment Development Dept.	1,684.50	Manual
457N60	2/17/2019	00-N4224	Nationwide Trust Co. FSB	1,205.00	Manual
895657	2/17/2019	00-C1010	California State Disbursement	23.07	Manual
941923	2/17/2019	00-I3201	Internal Revenue Service	13,584.91	Manual
C1910	3/3/2019	00-C1010	California State Disbursement	23.07	Manual
E1910	3/3/2019	00-E5616	Employment Development Dept.	1,540.10	Manual
I1910	3/3/2019	00-I3201	Internal Revenue Service	12,678.99	Manual
N1910	3/3/2019	00-N4224	Nationwide Trust Co. FSB	1,205.00	Manual
			Bank A Total:	652,019.36	

Bank Code: D Tri Counties Bank

Check Number	Check Date	Vendor Number	Name		Check Amount	Check Type
000107	2/26/2019	50-P3748S	Petty Cash - Safety Awards		125.00	Auto
				Bank D Total:	125.00	
				Report Total:	652,144.36	

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Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
028085	2/26/2019	00-B3650	Blue Shield of California	2,318.59

Invoice #	Date	Invoice Comment	Inv. Amt.
190420321405	2/11/2019	Directors Benefits-Taylor/2019-MAR	2,318.59

028086	2/26/2019	00-D7770	Divine Logic, Inc.	670.60

Invoice #	Date	Invoice Comment	Inv. Amt.
163189	2/11/2019	Office / Monthly Backup	85.00
163228	2/12/2019	Office / IT Suppor Calendar Share - LB	85.00
163248	2/13/2019	Office / IT Support-Server Power Issue	415.60
163355	2/21/2019	Office/Scan to Folder -Remote IT Support	85.00

028087	2/26/2019	00-FW6305	Friant Water Authority-SLDMWA	38,278.20

Invoice #	Date	Invoice Comment	Inv. Amt.
112206	2/15/2019	SLDMWA - O&M / FEB	38,278.20

028088	2/26/2019	00-M2660	MID-VALLEY DISTRIBUTORS, INC.	2,188.64

Invoice #	Date	Invoice Comment	Inv. Amt.
1092467	2/1/2019	Canal/Stock nuts and bolts	2,188.64

028089	2/26/2019	00-M7724	MADERA COUNTY RECORDER OFFICE	50.00

Invoice #	Date	Invoice Comment	Inv. Amt.
2019-03-CD	2/22/2019	Office / Deeds on 2 CD's for MAR 2019	50.00

028090	2/26/2019	00-M9800	Matson Alarm Co., Inc.	118.00

Invoice #	Date	Invoice Comment	Inv. Amt.
1861076	2/25/2019	B&G / Alarm System - 03/01/19 - 03/31/19	118.00

028091	2/26/2019	00-MC3514	Madera Chowchilla Water & Powe	81,981.74

Invoice #	Date	Invoice Comment	Inv. Amt.
378-A	2/19/2019	CFF #378-A/ O&M for 4-Sites & MC - DEC	50,520.07
379	2/19/2019	CFF #379/ O&M for 4-Sites & MC - JAN	31,461.67

028092	2/26/2019	00-O3633	The Office City	231.16

Invoice #	Date	Invoice Comment	Inv. Amt.
1559099	2/15/2019	Office / File Folders	45.21
1559631	2/20/2019	Office / File Drawers	185.95

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
028093	2/26/2019	00-P5000P	Pacific Gas & Electric Company	31.44

Invoice #	Date	Invoice Comment	Inv. Amt.
20190219	2/19/2019	Pump Electrical Expense / FEB	31.44

Check #	Date	Vendor Number	Vendor Name	Check Amount
028094	2/26/2019	00-P5000S	Pacific Gas & Electric Company	650.63

Invoice #	Date	Invoice Comment	Inv. Amt.
20190208	2/8/2019	Pump-SCADA-Electrical - JAN	650.63

Check #	Date	Vendor Number	Vendor Name	Check Amount
028095	2/26/2019	00-P6332	PRAXAIR DISTRIBUTION, INC, 215	578.81

Invoice #	Date	Invoice Comment	Inv. Amt.
87560402	2/6/2019	54276: welding head gear, filt	60.90
87576915	2/7/2019	54276: WELDING ROD, WIRE	129.29
87592215	2/8/2019	54276: welding rod	388.62

Check #	Date	Vendor Number	Vendor Name	Check Amount
028096	2/26/2019	00-S2303	Shred-it Fresno	87.14

Invoice #	Date	Invoice Comment	Inv. Amt.
9427766980	2/4/2019	Office/Disposal Service on 02/04/2019	87.14

Check #	Date	Vendor Number	Vendor Name	Check Amount
028097	2/26/2019	00-T3597	Tesei Petroleum - Cardlock	2,852.73

Invoice #	Date	Invoice Comment	Inv. Amt.
20820	2/15/2019	DSL 155.05g / GAS 678.18g / CNG 178.49g	2,852.73

Check #	Date	Vendor Number	Vendor Name	Check Amount
028098	2/26/2019	00-T4414	Terra Bella Irrigation District	1,668.72

Invoice #	Date	Invoice Comment	Inv. Amt.
1668	2/11/2019	Joint Defense Expenses	268.24
1687	2/11/2019	Joint Defense Expenses	1,400.48

Check #	Date	Vendor Number	Vendor Name	Check Amount
028099	2/26/2019	00-U1648	UPS - United Parcel Service	38.40

Invoice #	Date	Invoice Comment	Inv. Amt.
000099Y3R3065	2/9/2019	Water Measure / Shipping Meter	38.40

Check #	Date	Vendor Number	Vendor Name	Check Amount
028100	2/26/2019	00-USA2444	USA North 811	543.53

Invoice #	Date	Invoice Comment	Inv. Amt.
1083342019DIG	2/13/2019	PL / Benefit of Dig Safe Board	543.53

Check #	Date	Vendor Number	Vendor Name	Check Amount
028101	2/26/2019	00-W5600	Wienhoff Drug Testing	70.00

Invoice #	Date	Invoice Comment	Inv. Amt.

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
81853	2/25/2019	New Employee added to Consortium - SG	70.00	
028102	2/26/2019	00-WG450	Franchise Tax Board	468.44
Invoice #	Date	Invoice Comment	Inv. Amt.	
20190217WG	2/17/2019	Wage Garnishment WG 450 PE: 02/17/2019	468.44	
028103	2/26/2019	50-P3748S	Petty Cash - Safety Awards	125.00
Invoice #	Date	Invoice Comment	Inv. Amt.	
20190222	2/22/2019	1st Quarter Safety Incentive Rewards	125.00	
028103	2/26/2019	50-P3748S	Petty Cash - Safety Awards	-125.00
Invoice #	Date	Invoice Comment	Inv. Amt.	
20190222	2/22/2019	1st Quarter Safety Incentive Rewards	-125.00	
028104	3/1/2019	00-FRE4310	Fresno Truck Center	308,383.18
Invoice #	Date	Invoice Comment	Inv. Amt.	
M001001461	3/1/2019	Cap O / 2 New Dump Trucks 2018	308,383.18	
028105	3/13/2019	00-A1460	Auto Zone, Inc. 3709	595.13
Invoice #	Date	Invoice Comment	Inv. Amt.	
3709973028	2/5/2019	eq: 19 purge valve	242.40	
3709974183	2/6/2019	eq: 9 wiper motor, combo switc	276.89	
3709985077	2/19/2019	Eq# - 11-18 / Fasteners	3.67	
3709985305	2/19/2019	Eq / Trash Pump	7.53	
3709987060	2/21/2019	eq:17 carrier bearing	64.64	
028106	3/13/2019	00-A2394	Alview-Dairyland Union	1,539.00
Invoice #	Date	Invoice Comment	Inv. Amt.	
2019-04	3/15/2019	Directors Benefits-Mandala / 2019 - APR	1,539.00	
028107	3/13/2019	00-A4261	Aanonson Sprinkler Co., Inc.	1,186.09
Invoice #	Date	Invoice Comment	Inv. Amt.	
178074	2/14/2019	PL/Pvc Fittings	414.36	
178077	2/14/2019	PL/PVC Fitting	164.25	
178094	2/18/2019	PL/Pvc fittings	424.30	
178325	2/28/2019	PL/PVC Pipe	183.18	
028108	3/13/2019	00-A8377	Alhambra & Sierra Springs	27.35

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount

Invoice #	Date	Invoice Comment	Inv. Amt.
7117807 022319	2/23/2019	Office / Bottled Water	27.35

028109 3/13/2019 00-B2360 Barsamian & Moody 9,852.50

Invoice #	Date	Invoice Comment	Inv. Amt.
20729	2/15/2019	Legal Fees Through OCT 2018	9,852.50

028110 3/13/2019 00-B4891 Blacks Irrigation Systems, Inc 19.40

Invoice #	Date	Invoice Comment	Inv. Amt.
73269	2/26/2019	PL / 12" Plug	19.40

028111 3/13/2019 00-C1323 Chowchilla Do It Best Hardware 9.87

Invoice #	Date	Invoice Comment	Inv. Amt.
A227909	2/19/2019	Canal / Wood Shims	9.87

028112 3/13/2019 00-C1331 Chowchilla Union High School 1,406.18

Invoice #	Date	Invoice Comment	Inv. Amt.
190051	3/10/2019	Directors Benefits-Maddalena / 2019-APR	1,406.18

028113 3/13/2019 00-C3000 Comcast 523.48

Invoice #	Date	Invoice Comment	Inv. Amt.
20190219	2/19/2019	Phone-Internet Service thru 02/19/2019	523.48

028114 3/13/2019 00-C4961 Chowchilla S.F.A. 900.00

Invoice #	Date	Invoice Comment	Inv. Amt.
20190327	3/8/2019	Hospitality / Hall Rental for SGMA	900.00

028115 3/13/2019 00-C7453 CitiBusiness Card 7,644.74

Invoice #	Date	Invoice Comment	Inv. Amt.
201090212SHE-	2/12/2019	Fuel for Eq #1	56.07
20150131LOW-I	1/31/2019	Canal / Rope	16.22
20180204AMA-I	2/4/2019	Safety/Gloves	202.50
20190119COM-I	1/19/2019	Phone-Internet Service thru 01/19/2019	523.48
20190122BRE-E	1/22/2019	Travel / MPR Conference - Lunch - BT	14.00
20190123BUF-E	1/23/2019	Travel / MPR Conference - Lunch - BT	16.00
20190123EXT-B	1/23/2019	Fuel for Eq # 10-17	59.76
20190124AMA-I	1/28/2019	PL/Knee pads	80.18
20190124AMA-I	1/24/2019	Eq / Lift Kit	26.45

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
20190124CON-C	1/24/2019		Office / Constant Contact Email Software	20.00
20190124HAS-E	1/24/2019		Travel / MPR Conference - Lunch - BT	35.00
20190124SUM-H	1/24/2019		Safety/Reflective Clothing	132.96
20190125AMA-L	1/25/2019		eq: 21a choke cable	128.97
20190125TEX-B	1/25/2019		Travel / MPR Conference - Lunch - BT	35.00
20190126BEEN	1/26/2019		Office / Deed Research	8.00
20190126GOT-E	1/26/2019		Office / Go To My PC - DW	44.00
20190128AMA-C	1/28/2019		Canal / Hand Level	17.96
20190128BOB-L	1/28/2019		Canal/Spray paint	198.10
20190128RBT-B	1/28/2019		Travel / Rebate	-1.40
20190129AMA-L	1/29/2019		eq: 11-18 level kit	50.09
20190129AMA-L	1/29/2019		54276: toilet paper	88.80
20190129AMA-L	1/29/2019		eq: 10-17 shim kit	141.23
20190129AMA-L	1/29/2019		eq: 21a generator fuel filter	69.15
20190130ALA-B	1/30/2019		Travel / MPR Conference - Airline - BT	262.00
20190130AMA-C	1/30/2019		Canal / Staffgage	15.74
20190130FRO-E	1/31/2019		Travel / USBR Workshop - Airline - BT	123.30
20190131AMA-C	1/31/2019		Office / Magnetic Clips & Staple Remover	15.85
20190131AMA-L	1/31/2019		Safety / Trash Bags	36.56
20190201AMA-L	2/1/2019		Office / Filament Tape	18.10
20190201SAV-C	2/1/2019		Hospitality / Creamer	11.96
20190202GOT-E	2/2/2019		Office / Go To My PC Software - BT	176.00
20190204AMA-H	2/7/2019		Safety/Gloves	90.94
20190204AMA-H	2/7/2019		Shop Supplies/Heat gun	178.50
20190205AMA-C	2/5/2019		Office / Folders	49.63
20190205AMA-C	2/5/2019		Office / Amazon Prime	14.00
20190205AMA-L	2/5/2019		Office / Folder Tabs & Labels	51.48
20190205GOO-C	2/5/2019		HSR / Refreshments for HSR Meeting	29.00
20190206MCA-L	2/6/2019		Eq#3 / Lever	1.26
20190206NAT-L	2/6/2019		Travel / Notary Training for Lela	752.50
20190206RIT-CI	2/6/2019		Hospitality / Refreshments	40.37
20190207HAR-L	2/7/2019		eq: suction pump	169.20
20190207LEGAL	2/7/2019		Office / Legal Zoom Software - BT	7.99
20190208AMA-L	2/8/2019		eq: 45 seat coushin	174.75
20190208BEST-	2/8/2019		Office / Laptop Backpack, Charger	188.59
20190208DWL-C	2/8/2019		Hospitality / Lunch - DW	16.50
20190208ELD-B	2/8/2019		Travel / MPR Conference - Hotel - BT	379.17
20190209DROP	2/9/2019		Office / Dropbox Software - DW	9.99
20190209GOG-E	2/9/2019		Travel / USBR Workshop - WiFi - BT	19.95
20190209HMS-E	2/9/2019		Travel / USBR Workshop - Lunch - BT	32.00
20190210HIL-BT	2/10/2019		Travel / USBR Workshop - Hotel - BT	125.27
20190210PAR-L	2/1/2019		Office / Deed Research	5.00
20190210UBER	2/10/2019		Travel / USBR Workshop - UBER - BT	10.84
20190210UNI-B	2/10/2019		Travel / USBR Workshop - Taxi - BT	30.50
20190211AMA-C	2/11/2019		Office / Charger Cables & Adapters	271.74

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
20190211BEA-B	2/11/2019		Travel / USBR Workshop - Lunch - BT	38.33
20190211SCO-E	2/11/2019		Travel / USBR Workshop - Lunch - BT	9.74
20190212CAR-D	2/12/2019		Hospitality / Lunch - DW	14.66
20190212JOS-B	2/12/2019		Travel / USBR Workshop - Dinner - BT	25.00
20190212SCO-E	2/12/2019		Travel / USBR Workshop - Lunch - BT	6.40
20190214ALA-B	2/14/2019		Travel / USBR Workshop - Car Rental - BT	442.66
20190214DEN-E	2/14/2019		Travel / USBR Workshop - Dinner - BT	45.00
20190214FRE-E	2/14/2019		Travel / USBR Workshop - Parking- BT	49.10
20190214FUZ-L	2/14/2019		Travel / Notary Training - Lunch - LB	24.81
20190215AMA-H	2/18/2019		EQ/LED lights for 31	213.52
20190215AMA-H	2/15/2019		EQ/Flood lights 44	64.64
20190215SHE-E	2/15/2019		Travel / USBR Workshop - Hotel - BT	807.02
20190216ADOB	2/16/2019		Office / Acrobat Pro Software 5 Users	74.95
20190219AMA-L	2/19/2019		Office / Foam Coffee Cups	29.43
20190220AMA-L	2/20/2019		54212: chipping guns	204.33
20190220FTD-C	2/20/2019		Hospitality / Flowers for Lela	78.65
20190220SAV-C	2/20/2019		Hospitality / Refreshments	85.10
20190221AMA-L	2/21/2019		Office / Bankers Box Drawers	107.74
20190223CON-C	2/23/2019		Office / Constant Contact Email Software	20.00
20190226AMA-C	2/6/2019		Office / Vacuum Bags	32.46
028116	3/13/2019	00-CIN0183	Cintas Corporation #621	609.62

Invoice #	Date	Invoice Comment	Inv. Amt.
621526743	2/7/2019	Uniform Service Through 02/07/2019	172.61
621528599	2/14/2019	Uniform Servcie Through 02/14/2019	145.67
621530448	2/21/2019	Uniform Service Through 02/21/2019	145.67
621532297	2/28/2019	Uniform Service Through 02/28/2019	145.67

028117	3/13/2019	00-D1800	DPF Filters INC.	375.00

Invoice #	Date	Invoice Comment	Inv. Amt.
18972	3/1/2019	EQ: 31 DPF FILTER CLEANING	375.00

028118	3/13/2019	00-F6305	Friant Water Authority	25,700.00

Invoice #	Date	Invoice Comment	Inv. Amt.
112217	2/21/2019	Recapture Restoration Flows 257 af	25,700.00

028119	3/13/2019	00-F6684	Fresno Oxygen	84.45

Invoice #	Date	Invoice Comment	Inv. Amt.
62339868	2/28/2019	Canal/Welding gases	84.45

028120	3/13/2019	00-F7980	Fastenal Company	104.59

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount

Invoice #	Date	Invoice Comment	Inv. Amt.
CACHO28377	2/11/2019	Canal / Fasteners	5.82
CACHO28466	2/19/2019	Canal/Cement anchor bolts	71.93
CACHO28581	2/27/2019	Eq# 47 / Fasteners	26.84

028121 3/13/2019 00-F9000 Farmers Hardware & Supply 156.94

Invoice #	Date	Invoice Comment	Inv. Amt.
134392	2/25/2019	Canal / Conduit	22.80
162962	2/4/2019	Canal / Wire Rope Clips	17.56
163109	2/7/2019	Eq / Air Fittings	43.36
163518	2/19/2019	Eq#44 / Pipe Fittings	7.72
163631	2/21/2019	Canal / Wood Shims	8.58
163800	2/25/2019	Eq / Air Fittings	40.76
163801	2/25/2019	Eq / Air Fittings	16.16

028122 3/13/2019 00-G1863 Golden State Peterbilt 8.48

Invoice #	Date	Invoice Comment	Inv. Amt.
F805109	2/25/2019	Eq#43 / Knob	8.48

028123 3/13/2019 00-G9690 Gibbs Truck Center - Fresno 724.47

Invoice #	Date	Invoice Comment	Inv. Amt.
482007F	2/28/2019	eq: 31 breather, hoses, valve	380.09
482078F	3/1/2019	EQ: 31 HOSE	244.78
482173F	3/4/2019	EQ: 31 CAB MOUNT	99.60

028124 3/13/2019 00-K1000 Klein, Denatale, Glodner, Cooper, Rosenlieb & 1,762.00

Invoice #	Date	Invoice Comment	Inv. Amt.
22129-001-14152	2/28/2019	Legal Fees Through 02/19/2019	1,762.00

028125 3/13/2019 00-K1501 Kellogg's Supply 1,925.41

Invoice #	Date	Invoice Comment	Inv. Amt.
1296673	1/28/2019	EQ/Spray Truck parts	152.31
1300339	2/19/2019	54212: new trash pump	1,773.10

028126 3/13/2019 00-L1615 L&L Electrical 3,059.35

Invoice #	Date	Invoice Comment	Inv. Amt.
2018-420	2/22/2019	CanalScada/Site repair	3,059.35

028127 3/13/2019 00-L9189 Lee's Concrete Materials, Inc. 774.53

Report Parameters:
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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount

Invoice #	Date	Invoice Comment	Inv. Amt.
169808	2/28/2019	Canal/Concrete	774.53

028128 3/13/2019 00-M2660 MID-VALLEY DISTRIBUTORS, INC. 6,142.44

Invoice #	Date	Invoice Comment	Inv. Amt.
1092483	2/8/2019	Canal/Misc Nut and Bolts	4,974.67
1092493	2/8/2019	Canal/Nuts and Bolts SS	1,167.77

028129 3/13/2019 00-M2963 Merced Truck & Trailer, Inc. 14.99

Invoice #	Date	Invoice Comment	Inv. Amt.
745716	2/12/2019	Eq / EGR Kit	608.60
CM74516	2/19/2019	Eq / Parts Returned	-483.93
CM745716A	2/20/2019	Eq / Credit Memo	-109.68

028130 3/13/2019 00-M7431 Merced County Department of Ag 920.00

Invoice #	Date	Invoice Comment	Inv. Amt.
12743	2/21/2019	Canal/Squirrel Bait	920.00

028131 3/13/2019 00-MOU3202 Mountain Valley Fire Protection 655.72

Invoice #	Date	Invoice Comment	Inv. Amt.
1481	1/10/2019	safe fire extinguisher service	655.72

028132 3/13/2019 00-P2357 Pitney Bowes Global Financial 456.90

Invoice #	Date	Invoice Comment	Inv. Amt.
3102948292	2/27/2019	Postage Meter Rental - 2019 MAR	456.90

028133 3/13/2019 00-P6121 Platt 393.88

Invoice #	Date	Invoice Comment	Inv. Amt.
U515057	2/25/2019	B&G/LED Flood Light	352.08
U540228	2/25/2019	B&G / Light bulb	41.80

028134 3/13/2019 00-P6332 PRAXAIR DISTRIBUTION, INC, 215 157.80

Invoice #	Date	Invoice Comment	Inv. Amt.
88019093	2/28/2019	Canal/Welding supplies	157.80

028135 3/13/2019 00-Q4040 Quinn Company 39,831.81

Invoice #	Date	Invoice Comment	Inv. Amt.

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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
WO210028750	12/31/2018	EQ/Boom truck repair	39,831.81	
028136	3/13/2019	00-R3673	Razzari Ford Mazda	555.12

Invoice #	Date	Invoice Comment	Inv. Amt.
5107745-1W	1/30/2019	eq: 3,7,8 door latches, lock d	470.22
5107837-1W	2/6/2019	Eq / Parts Returned	-69.47
5107880-1W	2/8/2019	EQ: 3,7,8 LOCK CYLINDERS	130.55
5108086-1W	2/19/2019	Eq#45 / Armrest	23.82

028137	3/13/2019	00-S4446	S & W Parts Inc.	577.60

Invoice #	Date	Invoice Comment	Inv. Amt.
084562	2/22/2019	Shop Tools / Clips	4.19
084599	2/25/2019	eq: 59 light bulbs, wiring	171.80
084672	2/27/2019	eq: filter stock	401.61

028138	3/13/2019	00-S4658	Schoettler Tire, Inc.	1,579.16

Invoice #	Date	Invoice Comment	Inv. Amt.
133645	2/22/2019	Eq#44 / Tire Repair	48.00
133726	2/26/2019	eq: 31 new rear tires	1,531.16

028139	3/13/2019	00-S5311	S & J Lumber, Inc.	5,880.06

Invoice #	Date	Invoice Comment	Inv. Amt.
00158163-002	2/13/2019	Canal/Weir Board Lumber	1,750.83
00158294-001	2/20/2019	Canal/4x6 Treated Boards	4,129.23

028140	3/13/2019	00-S7505	Spriggs Inc.	246.46

Invoice #	Date	Invoice Comment	Inv. Amt.
INV132612	3/1/2019	Office/Copier Services - FEB	246.46

028141	3/13/2019	00-T1207	Technoflo Systems	3,592.71

Invoice #	Date	Invoice Comment	Inv. Amt.
20850	1/31/2019	WaterMeas/Meter Califa D 7	1,771.67
20986	2/14/2019	WaterMeas/Digital Conv Chow 1B	24.16
20988	2/14/2019	WaterMeas/Digital Conv Ber 52	12.08
20989	2/14/2019	WaterMeas/Digital Conv Chow 1C	12.08
21034	2/20/2019	WaterMeas/Meter Califa lat C5	1,772.72

028142	3/13/2019	00-T3597	Tesei Petroleum - Cardlock	2,704.36

Invoice #	Date	Invoice Comment	Inv. Amt.

Report Parameters:
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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
21458		2/28/2019	DSL 83.76g / GAS 706.25g / CNG 137.58g	2,704.36
028143	3/13/2019	00-T3598	Tesei Petroleum, Inc.	1,981.52
Invoice #		Date	Invoice Comment	Inv. Amt.
244491		2/26/2019	54268: hyd oil, engine oil	1,981.52
028144	3/13/2019	00-T4414	Terra Bella Irrigation District	337.36
Invoice #		Date	Invoice Comment	Inv. Amt.
1706		2/14/2019	Joint Defense Expenses	337.36
028145	3/13/2019	00-T4952	TF Tire & Service	856.25
Invoice #		Date	Invoice Comment	Inv. Amt.
338546		2/8/2019	EQ: 11-17-8 NEW TIRES	856.25
028146	3/13/2019	00-U2438	Upton, Kole M.	705.33
Invoice #		Date	Invoice Comment	Inv. Amt.
2019-03		3/1/2019	Directors Benefits - Upton / 2019 MAR	705.33
028147	3/13/2019	00-V3900	Valley Iron, Inc.	1,147.86
Invoice #		Date	Invoice Comment	Inv. Amt.
907866		2/26/2019	Canal/Steel	328.96
907867		2/26/2019	Canal/Metal	818.90
028148	3/13/2019	00-VER0204	Verizon Wireless	1,285.54
Invoice #		Date	Invoice Comment	Inv. Amt.
9824488731		2/19/2019	Mobile Phone Service through 02/19/2019	1,285.54
028149	3/13/2019	00-W9269	Western Ag & Turf	49,391.10
Invoice #		Date	Invoice Comment	Inv. Amt.
104421		2/1/2019	WaterMeas/ADS Pipe	4,185.90
104426		2/1/2019	CapOutlay/Pipeline	45,205.20
028150	3/13/2019	00-W9646	Water Connection, The	65.00
Invoice #		Date	Invoice Comment	Inv. Amt.
022619-1		2/26/2019	B&G/Backflow test	65.00
028151	3/13/2019	00-WG450	Franchise Tax Board	397.22

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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
Invoice #	Date	Invoice Comment		Inv. Amt.
20190303WG	3/3/2019	Wage Garnishment WG 450 PE: 03/03/2019		397.22
456576	2/17/2019	00-E5616	Employment Development Dept.	1,684.50
Invoice #	Date	Invoice Comment		Inv. Amt.
1964064576	2/17/2019	State Income Tax PE: 02/17/2019		1,684.50
457N60	2/17/2019	00-N4224	Nationwide Trust Co. FSB	1,205.00
Invoice #	Date	Invoice Comment		Inv. Amt.
20190217	2/17/2019	457 EE Contrib PE: 02/17/2019		1,205.00
895657	2/17/2019	00-C1010	California State Disbursement	23.07
Invoice #	Date	Invoice Comment		Inv. Amt.
36J1KW06657	2/17/2019	Child Support PE: 02/17/2019		23.07
941923	2/17/2019	00-I3201	Internal Revenue Service	13,584.91
Invoice #	Date	Invoice Comment		Inv. Amt.
74701923	2/17/2019	Fed TAx w/Hold PE: 02/17/2019		13,584.91
C1910	3/3/2019	00-C1010	California State Disbursement	23.07
Invoice #	Date	Invoice Comment		Inv. Amt.
P388NKQ6657	3/3/2019	Child Support PE: 03/03/2019		23.07
E1910	3/3/2019	00-E5616	Employment Development Dept.	1,540.10
Invoice #	Date	Invoice Comment		Inv. Amt.
1864130368	3/3/2019	State Income Tax PE: 03/03/2019		1,540.10
I1910	3/3/2019	00-I3201	Internal Revenue Service	12,678.99
Invoice #	Date	Invoice Comment		Inv. Amt.
112987	3/3/2019	Fed TAx w/Hold PE: 03/03/2019		12,678.99
N1910	3/3/2019	00-N4224	Nationwide Trust Co. FSB	1,205.00
Invoice #	Date	Invoice Comment		Inv. Amt.
20190303	3/3/2019	457 EE Contrib PE: 03/03/2019		1,205.00

Total For Bank Code A: **652,019.36**

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: D

Check #	Date	Vendor Number	Vendor Name	Check Amount
000107	2/26/2019	50-P3748S	Petty Cash - Safety Awards	125.00

Invoice #	Date	Invoice Comment	Inv. Amt.
20190222	2/22/2019	1st Quarter Safety Incentive Rewards	125.00

Total For Bank Code D: **125.00**

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 2/14/2019 through 3/13/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: D

Check #	Date	Vendor Number	Vendor Name	Check Amount
			Report Total:	652,144.36

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Legal Fees

Barsamian & Moody	September – October	$ 9,852.50
K. D. G.	February 28th	$1,762.00

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OPERATION

&

MAINTENANCE

REPORT

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Operations and Maintenance Report

February 2019

Operations

Reservoir	1/31/19 Storage	2/28/19 Storage	Difference
Eastman (Buchanan)	72,401 AF	108,635 AF	36,234 AF
Recorded Rainfall – 14.26"			
Total – 20.25"			
Millerton (Friant)	1/31/19 Storage	2/28/19 Storage	Difference
	318,200 AF	366,200 AF	48,000 AF

Maintenance

Began receiving encroachment water from Eastman Lake
Completed sand removal in Ash Slough for Madera County
Completed spraying District canals
Continued annual pipeline repair
Continued annual gate repair
Assisted MCWPA with canal extension replacement
Assisted MCWPA with debris removal at Dry Creek road crossing

Equipment

Eq:	Description	Work performed:
9	2007 F150	Replaced wiper motor
11-17	2017 Chevy 1500	5000-Mile service, replaced tires
17	2008 F350	Repaired trailer light plug, replaced carrier bearing
19	2008 Chevy 3500	90-Day inspection
29	1995 International Boom	Repaired exhaust
31	2006 International Dump	90-Day inspection, 5000-Mile service, serviced DPF filter, repaired seat, replaced cab mount and crankcase breather/hoses
44	2006 Peterbilt Dump Truck	Replaced glad hand
47	1960 Cat Dozer	Replaced left front idler wheel assembly
45	2003 F250	Repaired seat and door panel

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GENERAL RESOURCES MANAGER'S REPORT

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Madera Chowchilla Water & Power Authority
Activities Report – February 2019

Madera Canal

- Staff exercised the generator at Madera Canal MP 21.7on its monthly schedule.
- Staff performed daily inspection of facilities on the Madera Canal.
- Staff made water deliveries to CWD at Madera Canal MP 33.6 during February, 2019.
- Staff made water deliveries to MID at Madera Canal MP 6.2, subordinate deliveries and MP 32.2 during February, 2019.
- Staff did not make Riparian Water Deliveries to Adobe Ranch at Madera Canal MP 20.57 during February, 2019.
- CWD repaired canal panel extensions at Madera Canal MP 5.58.
- On February 19 Staff ordered 180 cfs out of Friant to charge facilities for water deliveries to MID.

Hydro Plants

General

- Staff completed daily inspection of all plants.

980

- Staff painted the plant by pass gate.
- Staff repaired the plant lights.
- CWD installed a hasp, chain, and lock on the plant trash rake man way.
- Staff replaced O rings on the plant hydraulic governor.

1174

- Staff cleaned the interior of the plant.

1302

- Staff cleaned the interior of the plant.
- Staff pumped the plant sump with a generator and submersible pump during a power outage and flooding on dry creek. This kept the plant itself from flooding.
- Staff replaced the plant alarm dialer.
- AT&T repaired the telephone line into the plant.
- Staff replaced the Chelsea Clock on the plant chart recorder.
- Staff replaced the plant by pass gate position transducer.

1923

- Staff repaired the plant lights.

Miscellaneous

- MCWPA submitted generation and availability scheduling for 980, 1174, 1302, and 1923 on PG&E's ODMS System in accordance with the new REMAT Contracts.

Ongoing

- Nothing to report.

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Regional Water Management Group

Location: Chowchilla City Hall (aka Civic Center)
130 Second Street, Chowchilla – in the Training Room.
Directions: Highway 99 to Robertson Blvd. – Go West to 2nd Street and make a left - the City Hall is on the right. Access the Training Room through doors located on alley side of the building closest to Third Street (not Second Street). Parking is along Third Street or along Trinity Avenue or in Second Street parking lot. Please enter through doors in alleyway closest to Third Street.

MINUTES

Monday, February 11, 2019 1:30 pm

1. Call to Order – 1:30pm

Flag Salute

Introductions
Tom Wheeler – Madera County BOS
Dario Dominguez – Madera County
Carl Janzen – Madera Irrigation District
Al Solis – S.E.M.C.U.
Zaira Lopez – CA RWQCB
Don Roberts – Gravelly Ford WD
Jeannie Habben, Madera County
Stephanie Anagnon, Madera County
Christina Beckstead, Madera CFB
Doug Welch – Chowchilla Water District
Christi Hansard, Note Taker

2. Review & Approval - Agenda & Minutes
   - January 14, 2019 – Minutes
   - February 11, 2019 – Agenda

   Carl J made a motion to approve the agenda with the addition of: 3.5 Election of Officers; Stephanie A second the motion; all voted; motion is carried unanimously.
   Carl J made a motion to approve the minutes with changes: Item 6 – change "Ilse L" to "Maria H"; Item 7, bullet 2 - add "Ilse L and" before "Maria H reported"; Item 7.2, last sentence – change "Kern" to "Curran". Stephanie A second the motion; all voted; motion is carried unanimously

3. Public Comment
   - Jeannie H presented a Letter of Support for the Forest Health Watershed Coordinator funding application. Carl J asked for a thumbs up indication of support. All responded with thumbs up. Tom W signed the letter.

New Business:

3.5 Election of Officers

Carl J made a motion to re-nominate the existing slate of officers. Don R second the motion. All voted. The motion carried unanimously. Tom W will continue to serve as President; Carl J will continue to serve as Vice President.

4. Discussion and Action - Financial Report/Warrant Approvals

   After discussion of the financials, including identification of the $450 SEMCU item as having come from 2018; with all debits and credits explained, Carl J made a motion to

approve the Financial Report with no changes; Don R second the motion; all voted; motion is passed unanimously.

5. Discussion and Action – New Administrative Assistant
   Christi H presented her contract to the group for approval and signature.
   Al S made a motion to approve; Doug W second; all voted; motion is passed unanimously. Tom W signed the contract.

6. Discussion IRWM Plan Update and DWR Submittal
   We are presently in the 60-day Comment Period, and as such, have not heard from the State. After approval by the State, Each board will be asked to approve the Plan and prepare resolutions. Two rounds of funding are expected, one this year and the second in two years. Collaborative projects benefitting the region as a whole are expected to be evaluated more favorably.

7. Discussion – Proposition 1 Disadvantaged Community Involvement Funding
   - Mountain Counties
     Jeannie H has been monitoring this. There is $1.3M for implementation in the 12 regions. The report prepared following the North Fork meeting was submitted. Corrections made included "Yosemite National Park is not the same as Yosemite Lakes Park"; and the "nice homes" representation for the communities of North Fork and Raymond was seen as inaccurate. Work continues on the final report.

   - San Joaquin Valley
     There is $31M for implementation in the Valley. Carl J reported that Woodward and Curran requested payment for time spent on the water need assessment. Shawn has left MID, so Carl J will look into this. He feels that the best distribution of funds may be by population. He will work with Dario D on this.

8. Proposition 1 – Implementation Funding – PSP
   As funding becomes available we need to find out who has shovel-ready projects and determine how to divide the funds. The Fiscal Agent has yet to be determined. Carl J suggested that by working together we can limit the "ask" to the amount available.

Old Business:

9. Report – Sustainable Groundwater Management – SGMA
   Stephanie A reported that we are less than a year from turning in the plan.

   The Madera and Chowchilla Sub-basin Workshop, and the CSUF meeting were reported to have been good informationally, but had little DAC involvement. There was agreement on the need to listen to the facts and to balance and compromise in order to move forward.

   Stephanie A and Jeannie H will tour with Self-Help on March 1st to promote groundwater issues and demonstrate on-the-ground needs.

10. Report – Implementation Grant Project Updates
    - Round I – Arundo/Silt Removal Project
      Dario D reported that the project is winding down. They are now hauling about 60,000 tons of sand from stockpiles, and will use the cost of hauling it away as a match on the grant. Arrundo regrowth remains apparent in some areas.

11. Discussion - New or Suggested Memberships to RWMG

No other discussions or suggestions for membership.

12. Next Meeting Location and Time – Monday, March 11, 2019 - 1:30 pm
    Madera Government Center, 200 West 4th Street, Madera, California 93647. Directions: Located on Gateway Drive and 4th Street. The meeting is held in the 4th floor conference room.

13. Future Agenda Items

14. Action Items/Adjourn
    The meeting adjourned at 2:20pm.

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APPROVAL OF MINUTES

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MINUTES
OF THE BOARD OF DIRECTORS MEETING
OF THE CHOWCHILLA WATER DISTRICT

A special meeting of the Board of Directors of the Chowchilla Water District was held on Wednesday, February 20, 2019 at 1:30 p.m. at the District Office at 327 S. Chowchilla Blvd.

Attendance:

Directors: Upton, Mandala, Taylor, Maddalena and Harris arrived at 1:45 p.m.
CWD Staff: Welch, Tomlinson, Beatty and Mitchell
Others: Ralph Pistoresi, Jeannie Habben, Christina Beckstead, Bill Janzen and Mark Hutson

President Upton called the meeting to order at 1:29 p.m.

PUBLIC COMMENT: Christina Beckstead provided a brief description of Food Safety Modernization Act (FSMA)

ADDITIONS TO THE AGENDA: None

FINANCIAL REPORT: Brandon Tomlinson reviewed the Treasurer's Report for the month ending January 31, 2019. **M/S** Maddalena/Mandala to approve the Treasurer's Report as presented. President Upton called for the vote and then publicly announced that the Treasurer's Report for the month ending January 31, 2019 was unanimously approved by the Board.

Absent Director: Harris

M/S Mandala/Taylor to approve payment of the bills listed on the disbursement journal dated February 13, 2019. President Upton called for the vote and then publicly announced that the payment journal dated Feb 13, 2019 was unanimously approved by the Board.

Absent: Director Harris

OPERATION & MAINTENANCE REPORT: Keith Mitchell reported on the operations and maintenance activities, a detailed list of activities was included in the Board Packet.

SURPLUS EQUIPMENT: Keith Mitchell presented the Board with a list of 6 trucks and requested that they be deemed as surplus equipment which would allow them to be auctioned in March. **M/S** Mandala/Maddalena to deem the trucks as surplus. President Upton called for the vote and then publicly announced that the request to deem the trucks as surplus was unanimously approved by the Board.

RECIRCULATED WATER SALE: GRM Welch reported that the previous agreement with WRMWSD fallen through because the wet weather made it possible for WRMWSD to find cheaper water elsewhere. He then reported that he's working on an agreement with Triangle T Water District to sell between 3,000 to 4,000 AF at a price of $50 above CWD's cost.

MERCED-CHOWCHILLA WATER TRANSFER/INTERTIE: Brandon Tomlinson reported that he and Provost & Pritchard were keeping an eye out for grants that may be available to fund further advances of this project.

GENERAL RESOURCE MANAGER'S REPORT: GRM Welch reported Eastman Lake storage at 112,509 AF; YTD inflow = 64,635 CFS; current Friant release = 588 cfs, flows past Gravelly Ford = 767 cfs, below bifurcation = 741 cfs, below Sack Dam = 535 cfs; 0 cfs recapture at Patterson and Banta Carbona; NOAA 30-day forecast is for above average precipitation and 90-day forecast is for equal chances of above or below average precipitation; SJRRP Normal Wet Year Classification; Restoration Flow Release – 321,741 AF; 323 wild have been caught in screw traps to date; MCWPA updates of routine maintenance; Madera Canal Capacity Increase Study is about 1/3 done; Madera RWMG – approved IRWMP Plan update and submitted to DWR..

At 2:08 p.m. the CWD Board of Directors went into recess and convened as CWD Groundwater Sustainability Agency.

CWD GROUNDWATER SUSTAINABILITY AGENCY: GRM Welch provided updates on activities; Completing calibration of groundwater model; Running base period GW model simulations; Running future years projection GW model simulations; Identifying wells to use as sustainability indicators of groundwater conditions; and Identifying minimum thresholds. He also stated the next ground water coordination meeting would be March 27th at 2:00 p.m.

WATER TRANSFER TO WHITE AREAS: GRM Welch presented a task order from Provost and Pritchard to prepare NEPA documents which would allow CWD to deliver to property outside the CWD's boundaries but within the Chowchilla Subbasin (White Areas). **M/S** Maddalena/Mandala to approve the task order with the stipulation that CWD gets reimbursed for the cost of the task order as well as GRM Welch's time. President Upton called for the vote and then publicly announced the request to allow P&P proceed was unanimously approved with the aforementioned stipulation.

At 2:23 p.m. the CWD Groundwater Sustainability Agency adjourned and reconvened as the CWD Board of Directors

CWD SPHERE OF INFLUENCE (SOI): Madera Local Agency Formation Commission (LAFCO) has received a request from Merced LAFCO to permit Merced LAFCO to process a Sphere of Influence (SOI) Amendment and Annexation Application involving property within the SOI of the Chowchilla Water District. The application proposes to remove property from within the SOI of the Chowchilla Water District. **M/S** Mandala/Taylor to allow the property to be removed from CWD's SOI. President Upton called for the vote and then publicly announced that the request to remove property from CWD's SOI was unanimously approved by the board.

MINUTES: M/S Mandala/Taylor to approve the minutes of January 9th, 2019 as presented. President Upton called for the vote and then publicly announced that the minutes of January 9, 2019 were unanimously approved by the Board.

2019 BUDGET: Brandon Tomlinson presented the proposed 2019 Budget for CWD. **M/S** Maddalena/Taylor to approve the 2019 budget as presented. President Upton called for the vote and then publicly announced that the 2019 budget was unanimously approved by the present board members.

Director Harris stepped out of the room before the budget vote and returned after.

PROVOST & PRITCHARD (P&P) TASK ORDER 19-01: Brandon Tomlinson presented P&P's Task Order 19-01 which allows property previously annexed into Chowchilla Water District to be assigned to a specific director's district. **M/S** Mandala/Harris to approve P&P's Task Order with the stipulation that the cost does not exceed $3500. President Upton called for the vote and then publicly announced that the task order was unanimously approved by the Board with the aforementioned stipulation.

BANK OF AMERICA (B of A): The Board discussed the possibility of paying off the smaller of the two loans that CWD has with B of A. This item was tabled in order to explore other options such as purchasing property for ground water recharge basins.

ROAD 13 RECHARGE BASIN: Brandon Tomlinson reported they have been utilizing CWD's recharge basin since the beginning of the flood releases.

WATER SUPPLY AND WATER RATE: The Board discussed setting a rate for water in anticipation of flood releases from Buchanan being reduced. AGM Tomlinson provided the District's cost for Class 2 water and stated the delivery efficiency would be approximately 65%. **M/S** Mandala/Maddalena to approve setting the water rate effective March 1st, 2019 at $50.00/AF. President Upton called for the vote and then publicly announced that the motion to set the water rate at $50/AF had passed unanimously.

TEMPERANCE FLAT RESERVOIR: President Upton reported that the San Joaquin Valley Water Infrastructure was no longer the lead agency and the Temperance Flat Reservoir Authority would serve as the lead agency.

CLOSED SESSION: President Upton called the meeting into closed session at 2:31 p.m. to conference with legal counsel about anticipated litigation: *(Govt. Code, § 54957.6*. President Upton called the meeting out of closed session at 2:44 p.m. and reported that no reportable action was taken.

DIRECTORS REPORTS: None

ADJOURNMENT: President Upton adjourned the meeting at 2:48 p.m.

Approved:_____
President Kole Upton

Date Approved:_____

Attest:_____
Brandon Tomlinson, Secretary

RESOLUTION

2019-01

TAX SALE OBJECTION

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CHOWCHILLA WATER DISTRICT
RESOLUTION 2019– 01

WHEREAS, the County of Madera has informed the Chowchilla Water District of its intention to sell the property hereinafter described for delinquent taxes, and

WHEREAS, the Chowchilla Water District, pursuant to Revenue & Taxation Code Section 3695, desires to object to said sale so as to preserve its liens for assessments against said parcels,

NOW THEREFORE BE IT RESOLVED:

1. The Chowchilla Water District, pursuant to Revenue & Taxation Code Section 3695, does hereby object to said sale by the County of Madera of the following tax parcels:

APN: 001-104-001 assessed to DILLARD, LOSS K & BETTY

APN: 001-014-006 assessed to BULLARD WALTER & DORIS E TRS

2. The Secretary of the District, or his designee, is directed to file certified copies of this resolution with the Tax Collector and the Board of Supervisors of the County of Madera prior to the date of said sale.

The foregoing Resolution was adopted at a special meeting of the Board of Directors of the Chowchilla Water District held on the 13th day of March, 2019 upon the motion of Director _____, seconded by Director_____, on the following vote:

Ayes:

Noes:

Abstain:

Absent:

CERTIFICATE OF SECRETARY

The undersigned hereby certifies that he is the Secretary of the Chowchilla Water District and that the foregoing resolution was duly adopted by the Board of Directors at a special meeting thereof, duly and regularly held on March 13, 2019.

IN WITNESS, WHEREOF, I have set my hand this 13th day of March, 2019.

(seal)

_____
Brandon Tomlinson, Secretary

Chowchilla Water District

P.O. Box 905 • 327 S. Chowchilla Blvd.
Chowchilla, California 93610
Telephone (559) 665-3747 • Facsimile (559) 665-3740

Board of Directors
Dan Maddalena ♦ Michael Mandala ♦ Vince Taylor ♦ Kole M. Upton ♦ Russell Harris

March 13, 2019

County of Madera
Office of Treasurer/Tax Collector
Tracy Kennedy
200 West 4th Street
Madera, CA 93637

RE: TAX SALE

Dear Ms. Kennedy:

By Resolution 2019–01, Chowchilla Water District Board of Directors does object to sale of Assessment Number(s):

001-104-001-000	—	DILLARD, LOSS K & BETTY
001-014-006-000		BULLARD WALTER & DORIS E TRS

by County of Madera so as to preserve its liens for assessments against said parcel.

Sincerely,

Brandon Tomlinson
General Manager

Enclosures
cc: County of Madera, Board of Supervisors

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RESOLUTION

2019-02

USBR

215 WATER CONTRACT

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CHOWCHILLA WATER DISTRICT

RESOLUTION NO. 2019-02

A RESOLUTION APPROVING CONTRACT FOR TEMPORARY WATER SERVICE BETWEEN THE UNITED STATES AND CHOWCHILLA WATER DISTRICT

WHEREAS, the United States has constructed and is operating the Central Valley Project for the purpose, among others, of furnishing water for irrigation, municipal, domestic, mitigation, protection, and restoration of fish and wildlife, and other beneficial uses; and

WHEREAS, the Chowchilla Water District is in need of a temporary supply of water and is willing to contract to obtain such a supply from the facilities of the Project; and

WHEREAS, the United States has declared that a temporary supply of surplus water may exist from Friant Dam that is not storable for Project purposes, and pursuant to Section 215 of the Reclamation Reform Act of 1982 (Public Law 97-293), this temporary supply of water is exempt from the ownership limitations of Federal Reclamation law;

WHEREAS, the United States has tendered to the District a "CONTRACT FOR TEMPORARY WATER SERVICE BETWEEN THE UNITED STATES AND CHOWCHILLA WATER DISTRICT" attached here to as Exhibit A.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Chowchilla Water District does hereby approve the "CONTRACT FOR TEMPORARY WATER SERVICE BETWEEN THE UNITED STATES AND CHOWCHILLA WATER DISTRICT" attached hereto as Exhibit A and authorizes the President and Secretary of the Chowchilla Water District to execute the same on behalf of the District.

PASSED, ADOPTED AND APPROVED at a regular Board meeting of the Board of Directors of the Chowchilla Water District held on March 13, 2019, by the following vote:

AYES: Directors:
NOES:
ABSTAINING:
ABSENT:

I HEREBY CERTIFY that the foregoing resolution is the resolution of the Chowchilla Water District as duly passed and adopted by said board of directors at a meeting thereof, duly and regularly held on March 13, 2019 at which meeting a quorum of the board of directors was at all times present and acting.

IN WITNESS WHEREOF, I have set my hand this 13th day of March, 2019.

_____

Brandon Tomlinson, Secretary

United States Department of the Interior

BUREAU OF RECLAMATION
Mid-Pacific Region
South-Central California Area Office
1243 N Street
Fresno, CA 93721-1813

IN REPLY REFER TO:
SCC-444
2.2.4.23

FEB 25 2019

Mr. Brandon Tomlinson
General Manager
Chowchilla Water District
P.O. Box 905
Chowchilla, CA 93610

Subject: 2019 Contract Year Temporary 215 Water Service Contract No. 19-WC-20-5368 (Contract) – Friant Division, Central Valley Project (CVP), California

Dear Mr. Tomlinson:

Enclosed are three bluebound originals of the subject temporary 215 water service Contract providing for temporary 215 project water service. The temporary water will be delivered under this Contract pursuant to Section 215 of the Reclamation Reform Act of 1982. If the enclosed Contract is acceptable to Chowchilla Water District (District), please have the authorized official of the District sign each of the bluebound originals and return all originals to this office, Attention: Mr. Moses Prieto, as expeditiously as possible.

Please note that for the 2019 Contract Year, the maximum quantity of 215 water that can be delivered to the District is 10,000 acre-feet.

Please note that the Contract will be dated after execution by the Area Manager. In addition, an original Board of Directors resolution approving this Contract as to form and authorizing the designated official to sign the Contract is to be submitted along with the signed originals of the Contract.

Execution of this Contract by the Bureau of Reclamation is contingent upon the District being in compliance with all terms and conditions of its existing CVP Contract No. I75r-2358D. Upon completion of final processing, an executed original of this Contract will be mailed to the District for its records.

If you have any questions, please contact Mr. Moses Prieto, Repayment Specialist, at 559-262-0349, 800-877-8339 for the hearing impaired or by e-mail at mprieto@usbr.gov.

Sincerely,

Michael LeBarre
Chief, Contracts Administration Branch

Enclosures - 3

cc: Mr. Ken McCoy
Superintendent
Madera-Chowchilla Water & Power Authority
21801 Road 400
Madera, CA 93638 (w/o enclosures)

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TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

4400 Hays Drive
Chowchilla, CA 93610
TEL: (209) 658-8487

MEETING NOTICE AND AGENDA FOR THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

Alternate formats of this agenda will be made available upon request by qualified individuals with disabilities. Appropriate interpretive services for this meeting will be provided if feasible upon advance request by qualified individuals with disabilities. Please contact the Interim Agency Secretary at (209) 883-8374 for assistance and allow sufficient time to process and respond to your request.

PLEASE TAKE NOTICE that the regular meeting of the Board of Directors of the Triangle T Water District Groundwater Sustainability Agency will be held on March 14, 2019 at 1:00 P.M. 4400 Hays Drive, Chowchilla, CA 93610.

1. **ROLL CALL**

2. **PUBLIC COMMENT**
   Interested persons in the audience are welcome to introduce any topic within the Agency's jurisdiction. No action may be undertaken on any item not appearing on the posted agenda, except that the Board may briefly respond to the comments, refer the matter to staff, or request it be placed on a future agenda.

3. **BOARD MEETING MINUTES** – Sarah Woolf
   a. **Action Item -** Approve the February 1, 2019 Minutes

4. **SUBBASIN REPORT**
   a. Subbasin Meeting
   b. GSA Water Balance
   c. Management Area Projects

5. **OTHER BUSINESS**

6. **COMMENTS FROM THE BOARD**
   Board Members may provide a brief report on notable topics of interest. The Brown Act does not allow discussion or action by the Legislative Body.

7. **ADJOURNMENT**

MINUTES OF THE REGULAR SCHEDULED MEETING
TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABLITY AGENCY
BOARD OF DIRECTORS
February 1, 2019

Those present at the meeting included

Directors:	Lucas Avila	Triangle T Ranch
	Mark Hutson	Triangle T Ranch
	Emmanuel Benjamin	Triangle T Ranch
	Dirk Vlot	Vlot Family Farms
	Cole Vlot	Vlot Family Farms
Others:	Sarah Woolf	Water Wise
	Chase Hurley	Water & Land Solutions
	Jeannie Habben	Madera County
	George Park	Lone Tree MWC
	Brad Samuelson	WLS
	Karen Samran	Bapu Farming
	Taj Samran	Samran & Sons Farming

Roll Call: President Hutson called the meeting to order at 1:00pm and asked for self-introductions.

Public Comment: Christina Beckstead announced various meetings occurring at the Madera County Farm Bureau in February. Jeannie Habben announced Madera County SGMA meetings occurring in February.

Minutes
Minutes from the December 13, 2018 meeting were reviewed. Director Avila made a motion to approve and Director Dirk Vlot seconded and the motion carried.

Subbasin Report
Brad Samuelson reported on the last Chowchilla Subbasin Technical meeting. To ensure the modeling is correct, Brad is having the Corcoran Clay layer verified to make sure the model reflects correctly. GSP chapters 1 & 2 will start coming out in the next few weeks to the joint technical committee.

Other Business
No other business was reported

Adjournment
Meeting was adjourned at 1:20pm.

_____
Secretary: Sarah Woolf

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, March 27, 2019
at 2:00 p.m.
Portuguese Hall
800 S. Third Street., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introduction of GSP Advisory Committee Representatives

5. Approval of Minutes – December 5, 2018

6. Opening Comments – Kole Upton, Chairman

7. Groundwater Model Calibration

8. Projected Future Hydrology and Projects (2019 – 2090)

    a. Without Climate Change
    b. With Climate Change
    c. Without Projects
    d. With Projects

9. Groundwater Model Results – Without Climate Change
    a. Projected Future, Without Projects
    b. Projected Future, With Projects

10. Minimum Thresholds
    a. East Management Area
    b. West Management Area

11. Measurable Objectives
    a. East Management Area
    b. West Management Area

12. Discussion and Public Input – Members of the public have an opportunity to provide comments on the presentation.

13. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

Chowchilla Water District

Regular Meeting of the Board of Directors
Wednesday, April 10th, 2019
1:30 P.M. – District Office
327 South Chowchilla Boulevard
Chowchilla, CA 93610

CHOWCHILLA WATER DISTRICT
REGULAR MEETING OF THE BOARD OF DIRECTORS
WEDNESDAY, APRIL, 10th, 2019
AT 1:30 P.M. AT THE DISTRICT OFFICE
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Board's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code § 54954.2(g)(2))

4. Financial Reports:
   A. Payment of Bills

5. Operation & Maintenance Report

6. Recirculated Water – The Board will discuss and may take action to approve the sale of additional recirculated water

7. Merced-Chowchilla Water Transfer/Intertie – Staff will provide an update on the progress of the Merced-Chowchilla Intertie

8. General Resources Manager's Report

RECESS AS CWD BOARD OF DIRECTORS & CONVENE AS CWD GROUNDWATER SUSTAINABILITY AGENCY

a. Update on CWD Groundwater Sustainability Agency

ADJOURN AS CWD GROUNDWATER SUSTAINABILITY AGENCY AND RECONVENE AS CWD BOARD OF DIRECTORS

9. Approval of Minutes – March 13th, 2019

10. Conflict of Interest Code: Discussion and appropriate action regarding proposed amendments to the District's conflict of interest code.

11. Road 13 Pond Project – Staff will provide an update on the status of Road 13 Pond

12. Temperance Flat Reservoir – The Board will discuss and may take action regarding Temperance Flat Reservoir

13. Conference with Legal Counsel, Anticipated Litigation (Govt. Code, § 54956.9(d)(2) and (4): One Item.

14. Conference with Legal Counsel, Existing Litigation (Govt. Code, § 54956.9(d)(1):

    A. Natural Resources Defense Council et al. v. David Murillo et al., United States District Court Case No. Case No. CIV 2-88-cv-01658-(E.D. CA)
    B. City of Fresno et al. v. United States, United States Court of Federal Court of Claims Case No. 1:55-cv-01000-UNJ

PAYMENT OF BILLS REPORT

Chowchilla Water District

Post Office Box 905 ♦ 327 S. Chowchilla Blvd. ♦ Chowchilla, CA 93610
Phone (559) 665-3747
Fax (559) 665-3740

April 10th, 2019

General Account

- *Warrant No. 028152 thru 028229 – 03/14/2019 thru 04/10/2019 Total $1,995,648.31*

Total Amount Disbursed $1,995,648.31

Approved for payment by the Board of Directors
~April 10th, 2019~

_____

_____

_____

_____

_____

Check History Report
Sorted By Check Number
Activity From: 3/14/2019 to 4/10/2019

Chowchilla Water District (CWD)

Bank Code: A B of A - CHECKING ACCOUNT

Check Number	Check Date	Vendor Number	Name	Check Amount	Check Type
028152	3/14/2019	00-F0610	Friant Power Authority	10,789.03	Auto
028153	3/14/2019	00-F0610	Friant Power Authority	196,875.00	Auto
028154	3/18/2019	00-B5128	Bureau of Reclamation	24,875.91	Auto
028155	3/18/2019	00-B5128	Bureau of Reclamation	106,380.54	Auto
028156	3/18/2019	00-B5128	Bureau of Reclamation	84,480.00	Auto
028157	3/18/2019	00-B5128	Bureau of Reclamation	216,920.00	Auto
028158	3/18/2019	00-B9923	Bob's Community Pest Control	105.00	Auto
028159	3/26/2019	00-A2292	ACWA-JPIA (HBA)	43,404.36	Auto
028160	3/26/2019	00-B3650	Blue Shield of California	2,318.59	Auto
028161	3/26/2019	00-B9923	Bob's Community Pest Control	105.00	Auto
028162	3/26/2019	00-C6630	CALOLYMPIC SAFETY	396.74	Auto
028163	3/26/2019	00-C8615	City of Chowchilla	348.03	Auto
028164	3/26/2019	00-D7770	Divine Logic, Inc.	679.35	Auto
028165	3/26/2019	00-FW6305	Friant Water Authority-SLDMWA	92,053.80	Auto
028166	3/26/2019	00-L5761	LeGrand-Athlone Water District	557.26	Auto
028167	3/26/2019	00-M1101	Municipal Maintenance Equip	3,647.84	Auto
028168	3/26/2019	00-M1511	Merced Sun-Star	8,965.08	Auto
028169	3/26/2019	00-M7724	MADERA COUNTY RECORDER OFFICE	50.00	Auto
028170	3/26/2019	00-M7724	MADERA COUNTY RECORDER OFFICE	32.00	Auto
028171	3/26/2019	00-MC3514	Madera Chowchilla Water & Powe	25,865.51	Auto
028172	3/26/2019	00-O3633	The Office City	267.69	Auto
028173	3/26/2019	00-O6794	OCCUPATIONAL HEALTH CENTERS	180.00	Auto
028174	3/26/2019	00-P5000P	Pacific Gas & Electric Company	3,106.11	Auto
028175	3/26/2019	00-P5000S	Pacific Gas & Electric Company	798.15	Auto
028176	3/26/2019	00-P5000U	Pacific Gas & Electric Company	1,204.84	Auto
028177	3/26/2019	00-S4658	Schoettler Tire, Inc.	444.50	Auto
028178	3/26/2019	00-T3597	Tesei Petroleum - Cardlock	4,268.01	Auto
028179	3/26/2019	00-T3598	Tesei Petroleum, Inc.	13.86	Auto
028180	3/26/2019	00-T4414	Terra Bella Irrigation District	385.84	Auto
028181	3/26/2019	00-U2712	Unum Life Insurance Company	2,057.62	Auto
028182	3/26/2019	00-WG450	Franchise Tax Board	403.66	Auto
028183	3/26/2019	00-Z6511	Zee Medical Service Company	135.39	Auto
028184	4/3/2019	00-C3000	Comcast	523.48	Auto
028185	4/3/2019	00-VER0204	Verizon Wireless	1,261.45	Auto
028186	4/3/2019	00-B5128	Bureau of Reclamation	28,992.81	Auto
028187	4/3/2019	00-B5128	Bureau of Reclamation	801.36	Auto
028188	4/3/2019	00-B5128	Bureau of Reclamation	12,800.00	Auto
028189	4/3/2019	00-P5000P	Pacific Gas & Electric Company	41.36	Auto
028190	4/10/2019	00-C7453	CitiBusiness Card	7,170.53	Auto
028191	4/10/2019	00-A1460	Auto Zone, Inc. 3709	544.88	Auto
028192	4/10/2019	00-A2394	Alview-Dairyland Union	1,539.00	Auto
028193	4/10/2019	00-A2879	Asbury Environmental Services	65.00	Auto
028194	4/10/2019	00-A4261	Aanonson Sprinkler Co., Inc.	1,939.50	Auto
028195	4/10/2019	00-A4477	Anderson Pump Company, Inc.	174.38	Auto
028196	4/10/2019	00-A4570	Alert-O-Lite, Inc.	591.16	Auto
028197	4/10/2019	00-A8377	Alhambra & Sierra Springs	38.35	Auto
028198	4/10/2019	00-B0457	Battery Systems Inc.	211.41	Auto
028199	4/10/2019	00-B4891	Blacks Irrigation Systems, Inc	275.51	Auto
028200	4/10/2019	00-B5128	Bureau of Reclamation	533,600.00	Auto
028201	4/10/2019	00-B5128	Bureau of Reclamation	272,595.00	Auto
028202	4/10/2019	00-B5128	Bureau of Reclamation	112,245.00	Auto
028203	4/10/2019	00-CIN0183	Cintas Corporation #621	610.24	Auto
028204	4/10/2019	00-D7770	Divine Logic, Inc.	195.00	Auto
028205	4/10/2019	00-D8700	DM Figley Co. Inc.,	1,452.30	Auto

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 3/14/2019 through 4/10/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
028161	3/26/2019	00-B9923	Bob's Community Pest Control	105.00

Invoice #	Date	Invoice Comment	Inv. Amt.
0315194980	3/15/2019	B&G / Pest Control - MAR	105.00

Check #	Date	Vendor Number	Vendor Name	Check Amount
028162	3/26/2019	00-C6630	CALOLYMPIC SAFETY	396.74

Invoice #	Date	Invoice Comment	Inv. Amt.
376619	3/8/2019	Safety / O2 Sensor for QRae 3	236.60
376620	3/12/2019	Safety / Calibration Gas	160.14

Check #	Date	Vendor Number	Vendor Name	Check Amount
028163	3/26/2019	00-C8615	City of Chowchilla	348.03

Invoice #	Date	Invoice Comment	Inv. Amt.
20190301	3/1/2019	Office Utilities/Water & Sewage	348.03

Check #	Date	Vendor Number	Vendor Name	Check Amount
028164	3/26/2019	00-D7770	Divine Logic, Inc.	679.35

Invoice #	Date	Invoice Comment	Inv. Amt.
163708	3/13/2019	Office / Monthly Backup	85.00
163765	3/15/2019	Office / Monthly Backup	85.00
163778	3/18/2019	Office / IT Support Server Update ...	509.35

Check #	Date	Vendor Number	Vendor Name	Check Amount
028165	3/26/2019	00-FW6305	Friant Water Authority-SLDMWA	92,053.80

Invoice #	Date	Invoice Comment	Inv. Amt.
112280	3/15/2019	SLDMWA - O&M / MAR	92,053.80

Check #	Date	Vendor Number	Vendor Name	Check Amount
028166	3/26/2019	00-L5761	LeGrand-Athlone Water District	557.26

Invoice #	Date	Invoice Comment	Inv. Amt.
462	3/18/2019	Water Purchase/Late Fee - Inv# 319 / 328	557.26

Check #	Date	Vendor Number	Vendor Name	Check Amount
028167	3/26/2019	00-M1101	Municipal Maintenance Equip	3,647.84

Invoice #	Date	Invoice Comment	Inv. Amt.
0136014	3/14/2019	EQ: 30 MOWER BEARINGS	3,647.84

Check #	Date	Vendor Number	Vendor Name	Check Amount
028168	3/26/2019	00-M1511	Merced Sun-Star	8,965.08

Invoice #	Date	Invoice Comment	Inv. Amt.
1666630-03042	3/3/2019	Legal Ad/Notice of Delinquent Assessment	8,965.08

Check #	Date	Vendor Number	Vendor Name	Check Amount
028169	3/26/2019	00-M7724	MADERA COUNTY RECORDER OFFICE	50.00

Invoice #	Date	Invoice Comment	Inv. Amt.

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 3/14/2019 through 4/10/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
Invoice #	Date	Invoice Comment		Inv. Amt.
22370	3/15/2019	DSL 429.56g / GAS 899.67g / CNG 64.66g		4,268.01
028179	3/26/2019	00-T3598	Tesei Petroleum, Inc.	13.86
Invoice #	Date	Invoice Comment		Inv. Amt.
3445642	3/5/2019	Canal / Hydro Static Relife Valve		13.86
028180	3/26/2019	00-T4414	Terra Bella Irrigation District	385.84
Invoice #	Date	Invoice Comment		Inv. Amt.
1725	3/11/2019	Joint Defense Expenses		212.15
1744	3/19/2019	Joint Defense Expenses		173.69
028181	3/26/2019	00-U2712	Unum Life Insurance Company	2,057.62
Invoice #	Date	Invoice Comment		Inv. Amt.
20190311	3/11/2019	Employee Benefits/Life Ins. - APR		2,057.62
8182	3/26/2019	00-WG450	Franchise Tax Board	403.66
Invoice #	Date	Invoice Comment		Inv. Amt.
20190317WG	3/17/2019	Wage Garnishment WG 450 PE: 03/17/2019		403.66
028183	3/26/2019	00-Z6511	Zee Medical Service Company	135.39
Invoice #	Date	Invoice Comment		Inv. Amt.
66263234	3/11/2019	Safety / First Aid Kits Restock		135.39
028184	4/3/2019	00-C3000	Comcast	523.48
Invoice #	Date	Invoice Comment		Inv. Amt.
20190319	3/19/2019	Phone-Internet Service thru 04/23/2019		523.48
028185	4/3/2019	00-VER0204	Verizon Wireless	1,261.45
Invoice #	Date	Invoice Comment		Inv. Amt.
20190319	3/19/2019	Mobile Phone Service through 03/19/2019		1,261.45
028186	4/3/2019	00-B5128	Bureau of Reclamation	28,992.81
Invoice #	Date	Invoice Comment		Inv. Amt.
20190401-C1-C	4/1/2019	Friant CLass 1 Irrigation MAR 1,617af		28,992.81
028187	4/3/2019	00-B5128	Bureau of Reclamation	801.36

Report Parameters:
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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
20190315AMA-I	3/15/2019		shop tool: smok machine for em	210.59
20190315SXM-I	3/15/2019		Eq #1 / SIRIUS Annual Renewal	232.94
20190316ADOB	3/16/2019		Office / Adobe Software (5 Users)	74.95
20190318AMA-I	3/18/2019		Eq / Seal	24.28
20190320ACWA	3/20/2019		Travel / ACWA Conference	580.00
20190320AMA-I	3/20/2019		Office / (2) APC UPS & Fan	382.55
20190320AMA-I	3/20/2019		Office / Cables for Music on Hold Radio	13.99
20190320AMA-I	3/20/2019		Office / Printer	85.12
20190320BOLT-	3/20/2019		Phone/ Music On Hold Radio	299.00
20190321EQU-I	3/21/2019		eq: honda engines for pumps	729.94
20190322AMA-C	3/22/2019		Phone Cases and Screen Protectors	124.88
20190324CON-C	3/24/2019		Office / Constant Contact Email Software	20.00
028191	4/10/2019	00-A1460	Auto Zone, Inc. 3709	544.88

Invoice #	Date	Invoice Comment	Inv. Amt.
3709004132	3/11/2019	eq: stock, wipers,fuses, wire	259.80
3709005307	3/12/2019	54268: oil	115.98
3709007216	3/14/2019	eq: 45,19 pressure sensor, ven	133.59
3709010980	3/18/2019	Eq#45 / Fuel Cap, Suction Cup	24.76
3709020849	3/28/2019	Eq / Window Squeegee	10.75

028192 4/10/2019 00-A2394 Alview-Dairyland Union 1,539.00

Invoice #	Date	Invoice Comment	Inv. Amt.
2019-05	4/15/2019	Directors Benefits-Mandala/2019-MAY	1,539.00

028193 4/10/2019 00-A2879 Asbury Environmental Services 65.00

Invoice #	Date	Invoice Comment	Inv. Amt.
I500-00423244	3/15/2019	54268: WASTE OIL PICK UP	65.00

028194 4/10/2019 00-A4261 Aanonson Sprinkler Co., Inc. 1,939.50

Invoice #	Date	Invoice Comment	Inv. Amt.
178170	3/12/2019	Canal/Bait Stations	1,939.50

028195 4/10/2019 00-A4477 Anderson Pump Company, Inc. 174.38

Invoice #	Date	Invoice Comment	Inv. Amt.
17590	3/19/2019	Canal/Pump sensor probes	174.38

028196 4/10/2019 00-A4570 Alert-O-Lite, Inc. 591.16

Invoice #	Date	Invoice Comment	Inv. Amt.
0039689	3/14/2019	Pipeline/Lath Marking Stakes	591.16

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 3/14/2019 through 4/10/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
028205	4/10/2019	00-D8700	DM Figley Co. Inc.,	1,452.30

Invoice #	Date	Invoice Comment	Inv. Amt.
4455056	3/5/2019	Pipeline/Sikaflex 1A	1,452.30

028206	4/10/2019	00-EC3491	Eclipse Mapping and GIS	9,166.43

Invoice #	Date	Invoice Comment	Inv. Amt.
20328	3/11/2019	CapOutlay Tools/GIS Mapping De	9,166.43

028207	4/10/2019	00-F6305	Friant Water Authority	80,314.25

Invoice #	Date	Invoice Comment	Inv. Amt.
112342	4/1/2019	Member Dues / Call For Funds	80,314.25

028208	4/10/2019	00-F7980	Fastenal Company	60.21

Invoice #	Date	Invoice Comment	Inv. Amt.
CACHO28399	2/12/2019	Canal/Nuts and Bolts	60.21

028209	4/10/2019	00-F9000	Farmers Hardware & Supply	216.69

Invoice #	Date	Invoice Comment	Inv. Amt.
134532	3/4/2019	Canal / TeeJets	15.50
134551	3/5/2019	Eq / Pipe Fittings	19.87
134864	3/20/2019	Canal / Shims	8.58
164374	3/11/2019	Canal / Caster Plates	38.75
164506	3/14/2019	Canal / Staple Hammer & Staples	47.59
164797	3/20/2019	Canal/Diamond grinding wheel	86.40

028210	4/10/2019	00-G5707	Grainger Parts	276.49

Invoice #	Date	Invoice Comment	Inv. Amt.
9097835640	2/25/2019	EQ/Shackles	133.85
9099644404	2/26/2019	EQ/Lifting Straps	142.64

028211	4/10/2019	00-H1946	Home Depot Credit Services	6,795.60

Invoice #	Date	Invoice Comment	Inv. Amt.
1011602	2/11/2019	Canal/Pressure Treated Lumber	537.75
2021093	2/20/2019	Tools/Pliers/screw driver #21	410.50
3010366	1/30/2019	PL/Cement	383.58
4011251	2/8/2019	Canal/Concrete	191.85
4013227	2/28/2019	Canal/Redimix	221.35
4210556	2/8/2019	PL / Pallet Return	-16.25

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For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount

Invoice #	Date	Invoice Comment	Inv. Amt.
63908182	3/15/2019	Other / DOT Recert Exam for KM	90.00

028219 4/10/2019 00-P6332 PRAXAIR DISTRIBUTION, INC, 215 3,501.28

Invoice #	Date	Invoice Comment	Inv. Amt.
88126620	3/7/2019	CapOutlay Tools/Stick Welder	3,153.32
88206525	3/15/2019	Canal/Welding Supplies	206.55
88405431	3/23/2019	Canal/Steel hinges	141.41

028220 4/10/2019 00-P8999 ParcelQuest 1,799.00

Invoice #	Date	Invoice Comment	Inv. Amt.
7808-4-2019	3/25/2019	Deed Copy Service through MAY 2020	1,799.00

028221 4/10/2019 00-S2303 Shred-it Fresno 87.14

Invoice #	Date	Invoice Comment	Inv. Amt.
9428979478	4/1/2019	Office/Disposal Service on 04/01/2019	87.14

028222 4/10/2019 00-S3904 Shannon Pump Co. 15,898.99

Invoice #	Date	Invoice Comment	Inv. Amt.
181951	3/4/2019	CapOutlayRd13/Pump	15,898.99

028223 4/10/2019 00-S4446 S & W Parts Inc. 340.42

Invoice #	Date	Invoice Comment	Inv. Amt.
084841	3/5/2019	Eq / Air Gun	24.77
084903	3/7/2019	Eq #9 / Air Filter & Cleaner	25.68
085037	3/13/2019	54222: filter stock	228.49
085387	3/27/2019	Eq#45 / Parts for Fuel Tank Repair	61.48

028224 4/10/2019 00-S7505 Spriggs Inc. 250.23

Invoice #	Date	Invoice Comment	Inv. Amt.
S7505	4/1/2019	Office/Copier Services - MAR	250.23

028225 4/10/2019 00-STA6603 Star Building Products 1,344.10

Invoice #	Date	Invoice Comment	Inv. Amt.
55770	3/22/2019	Pipeline/Quickset	1,344.10

028226 4/10/2019 00-T1207 Technoflo Systems 13,619.62

Chowchilla Water District
Check Report

Report Parameters:
Report Format: Invoice Level Detail
For Check Dates 3/14/2019 through 4/10/2019
For Vendors 00-0000000 through 99-ZZZZZZZ

Bank Code: A

Check #	Date	Vendor Number	Vendor Name	Check Amount
Invoice #	Date		Invoice Comment	Inv. Amt.
0-402-775-872	4/1/2019		State Income Tax PE: 03/31/2019	1,581.20
I1912	3/18/2019	00-I3201	Internal Revenue Service	13,533.89
Invoice #	Date		Invoice Comment	Inv. Amt.
270948180171	23/18/2019		Fed Tax w/Hold PE: 03/17/2019	13,533.89
I1913	3/27/2019	00-I3201	Internal Revenue Service	1,631.43
Invoice #	Date		Invoice Comment	Inv. Amt.
270948674517	63/27/2019		Fed Tax w/Hold PE: 03/27/2019	1,631.43
I1914	4/1/2019	00-I3201	Internal Revenue Service	12,887.37
Invoice #	Date		Invoice Comment	Inv. Amt.
30549022	4/1/2019		Fed Tax w/Hold PE: 03/31/2019	12,887.37
N1912	3/18/2019	00-N4224	Nationwide Trust Co. FSB	1,205.00
Invoice #	Date		Invoice Comment	Inv. Amt.
20190317	3/18/2019		457 Emp Contrib PE 03/17/2019	1,205.00
N1914	4/1/2019	00-N4224	Nationwide Trust Co. FSB	9,619.05
Invoice #	Date		Invoice Comment	Inv. Amt.
2019-MAR	4/1/2019		457 Employer Contrib - MAR 2019	9,619.05
N1914E	4/1/2019	00-N4224	Nationwide Trust Co. FSB	1,205.00
Invoice #	Date		Invoice Comment	Inv. Amt.
20190331	4/1/2019		457 Emp Contrib PE: 03/31/2019	1,205.00

Total For Bank Code A: **1,995,648.31**

OPERATION

&

MAINTENANCE

REPORT

Operations and Maintenance Report
March 2019

Operations

Reservoir	2/28/19 Storage	3/31/19 Storage	Difference
Eastman (Buchanan)	108,635 AF	123,552 AF	14,917 AF
Recorded Rainfall – 4.10"			
Total – 24.35"			
Millerton (Friant)	2/28/19 Storage	3/31/19 Storage	Difference
	366,200 AF	340,000 AF	-26,200 AF

Maintenance

Continued receiving encroachment water from Eastman Lake
Continued annual pipeline repair
Completed annual gate repair
Assisted MCWPA with a communication problem
Assisted MCWPA with debris removal at Power Plant 1174
Repaired minor ditch breaks
Installed new meter for growers
Began SCADA improvement program

Equipment

Eq:	Description	Work performed:
6-17	2017 Chevy 1500	5,000-Mile service
9	2007 F150	Cleaned throttle body and replaced air filter
10-17	2017 Chevy 1500	5,000-Mile service, replaced tires
22	1976 Gradall	Replaced pins on bucket and replaced battery
23	2011 F-350	90-Day inspection, replaced oxygen sensor
29	1995 International Boom	90-Day inspection, annual crane certification
31	2006 International Dump	Replaced four rear tires
43-18	2018 Western Star Dump	Placed in service
44-18	2018 Western Star Dump	Placed in service
44	2006 Peterbilt Dump Truck	90-Day Inspection
45	2003 F250	Repaired fuel tank and fuel vapor vent valve
48	2001 Cat Backhoe	Repaired wiring issue
56	2007 Concrete Trailer	Replaced battery
59	2003 Backhoe Trailer	Repaired wiring on tail lights
60	1980 Concrete Trailer	Replaced chain and sprocket on mixer

GENERAL RESOURCES MANAGER'S REPORT

Madera Chowchilla Water & Power Authority
Activities Report – March 2019

Madera Canal

- Staff exercised the generator at Madera Canal MP 21.7on its monthly schedule.
- Staff performed daily inspection of facilities on the Madera Canal.
- Staff made water deliveries to CWD at Madera Canal MP 33.6 during March, 2019.
- Staff made water deliveries to MID at Madera Canal MP 6.2, MP 18.8, MP 24.1, subordinate deliveries, and MP 32.2 during March, 2019.
- Staff did not make Riparian Water Deliveries to Adobe Ranch at Madera Canal MP 20.57 during March, 2019.
- Staff sprayed terrestrial weeds along the Madera Canal O&M road sides from MP 15.04 to MP 18.80 and from Avenue 26 to MP 33.6.

Hydro Plants

General

- Staff completed daily inspections of all plants.

980

- Staff cleaned the interior of the plant.
- Staff repaired oil leaks on the plant hydraulic governor.
- On March 22 the plant went on line without any problems.
- Staff cleaned the plant cooling water sand filter by hand.

1174

- Staff cleaned the interior of the plant.
- Staff installed temporary plant sump pump to solve a plant flooding problem due to a sump pump failure.
- On March 18 the plant went on line without any problems.

1302

- Staff cleaned the interior of the plant.
- Divine Logic Inc. replaced a failed network router and Staff remounted the point to point communications antenna to the pole at the MP 24.1 block house. CWD provided crane service for this work.
- Staff repaired the plant alarm annunciator.

1923

- Staff cleaned the interior of the plant.
- Staff replaced a leaking cooling water hose on the plant cooling water system.
- On March 21 the plant went on line without any problems.
- Staff cleaned the plant cooling water sand filter by hand.
- Staff reworked the trashrake raking switch and raking flags.

Miscellaneous

- MCWPA submitted generation and availability scheduling for 980, 1174, 1302, and 1923 on PG&E's ODMS System in accordance with the new REMAT Contracts.

Ongoing

- Nothing to report.

Regional Water Management Group

Location: **Madera Government Center**
200 West 4th Street, Madera, California 93647
Directions: Located on Gateway Drive and 4th Street.
The meeting is held in the 4th floor conference room.

MINUTES

Monday, March 11, 2019 1:30 pm

1. Call to Order – 1:30pm

Flag Salute

Introductions

Tom Wheeler – Madera County BOS
Dario Dominguez – Madera County
Carl Janzen – Madera Irrigation District
Al Solis – S.E.M.C.U.
Zaira Lopez – CA RWQCB
Don Roberts – Gravelly Ford WD
Ilse Lopez-Navarez, SHE
Jeannie Habben, Madera County
Stephanie Anagnoson, Madera County
Julia Berry, RCWD
Doug Welch – Chowchilla Water District
Scott Silva, Greystone Equities
Jason Rogers, Chowchilla
Igal Treibatch, SEMCU
Dave Merchen
Samantha Lopes, FMS
Garth Pecchenino, QK
Christi Hansard, Note Taker

2. Review & Approval - Agenda & Minutes
   - February 11, 2019 – Minutes
   - March 11, 2019 – Agenda

   Al S made a motion to approve the agenda Carl J second the motion; all voted; motion is carried unanimously.
   Carl J made a motion to approve the minutes; Igal T second the motion; all voted; motion is carried unanimously

3. Public Comment
   - Tom W reported that he has recorded 33" of rainfall at his North Fork property. Jeannie H reported that she has recorded 23" on her Coarsegold property. Carl J reported that irrigation water is available for the next 12 days at no cost.

New Business:

4. Discussion and Action - Financial Report/Warrant Approvals
   After discussion of the financials, including identification of City of Chowchilla, Gravelly Ford, and City of Madera as having paid dues; with all debits and credits explained, Carl J made a motion to approve the Financial Report with no changes; Jason R second the motion; all voted; motion is passed unanimously.

5. Discussion and Action – New Administrative Assistant
   Christi H presented her corrected contract to Tom W for signature. No action was needed, as approval was given at the February meeting. Tom W signed the contract.

11. Discussion - New or Suggested Memberships to RWMG
    Carl J suggested Triangle T for membership. Samantha L will follow up.

*3. In a return to Public Comment, Igal T spoke of the need for a grant to fund a project to install 260 drywells throughout the county for groundwater recharge. He reported on the success of a test well and responded to questions from the group.

12. Next Meeting Location and Time – Monday, April 8, 2019 - 1:30 pm
    Raley's Supermarket Community Room. 40041 CA-49, Oakhurst, California. The shopping center is located at the intersection of Highway 41 and Highway 49. The community room is in the back of the store next to the Pharmacy.

13. Future Agenda Items

14. Action Items/Adjourn
    The meeting adjourned at 2:40pm.

APPROVAL OF MINUTES

MINUTES
OF THE BOARD OF DIRECTORS MEETING
OF THE CHOWCHILLA WATER DISTRICT

A regular meeting of the Board of Directors of the Chowchilla Water District was held on Wednesday, March 13, 2019 at 1:30 p.m. at the District Office at 327 S. Chowchilla Blvd.

Attendance:

Directors: Upton, Mandala, Taylor, and Maddalena.
Absent: Director Harris
CWD Staff: Welch, Tomlinson, and Mitchell
Others: None

President Upton called the meeting to order at 1:30 p.m.

PUBLIC COMMENT: None

ADDITIONS TO THE AGENDA: None

Payment of the Bills: **M/S** Mandala/Taylor to approve payment of the bills listed on the disbursement journal dated March 13, 2019. President Upton called for the vote and then publicly announced that the payment journal dated March 13, 2019 was unanimously approved by the Board.

Absent: Director Harris

OPERATION & MAINTENANCE REPORT: Keith Mitchell reported on the operations and maintenance activities, a detailed list of activities was included in the Board Packet. Keith then presented the bid results for two new 2019 Chevrolet ditch trucks as follows

Merced Chevrolet - $24,855/ea. plus tax and fees

Steve's Chevrolet - $25,005.20/ea. plus tax and fees

Madera Chevrolet - $25,317.55/ea. plus tax and fees

M/S Mandala/Maddalena to approve accepting the lowest bid and purchasing the trucks from Merced Chevrolet. President Upton called for the vote and then publicly announced the following results:

Ayes: Upton, Mandala and Maddalena

Nays: Taylor

Absent: Harris

SURPLUS EQUIPMENT: Keith Mitchell presented the Board with a list of 2 CNG dump trucks and a 1976 JD loader and requested that they be deemed as surplus equipment which would allow the dump trucks to be auctioned in April and the loader to be sold as scrap metal. **M/S** Taylor/Mandala to deem the trucks and loader as surplus. President

called for the vote and then publicly announced that the motion to set the water rate at $50/AF as of March 18th and $75/AF as of April 1st 2019 had passed unanimously.

Absent: Harris

Resolution 2019-01: The Board discussed Resolution 2019-01 A RESOLUTION OBJECTING TO THE SALE OF PARCELS BY THE COUNTY OF MADERA SO AS TO PRESERVE CWD'S LIENS FOR ASSESSMENTS AGAINST SAID PARCELS **M/S** Mandala/Taylor to approve Resolution 2019-01 President Upton called for the vote and then the roll call of board members then publicly announced Resolution 2019-01 had passed unanimously.

Ayes: Taylor, Mandala, Maddalena and Upton

Nays: None

Absent: Harris

Resolution 2019-02: The Board discussed Resolution 2019-02 A RESOLUTION APPROVING CONTRACTS BETWEEN THE CHOWCHILLA WATER DISTRICT AND THE UNITED STATES BUREAU OF RECLAMATION PERTAINING TO 215 WATER. **M/S** Mandala/Maddalena to approve Resolution 2019-02 President Upton called for the vote and then the roll call of the board members then publicly announced Resolution 2019-02 had passed unanimously.

Ayes: Taylor, Mandala, Maddalena and Upton

Nays: None

Absent: Harris

TEMPERANCE FLAT RESERVOIR: None

CLOSED SESSION: None

DIRECTORS REPORTS: Director Maddalena instructed that CWD staff begin looking for more property to purchase for groundwater recharge basins.

ADJOURNMENT: President Upton adjourned the meeting at 2:47 p.m.

Approved:_____
President Kole Upton

Date Approved:_____

Attest:_____
Brandon Tomlinson, Secretary

CONFLICT OF INTEREST CODE

Klein · DeNatale · Goldner
ATTORNEYS AT LAW

MEMORANDUM

TO: BOARD OF DIRECTORS

FROM: LEGAL COUNSEL

RE: ADOPTION OF CONFLICT OF INTEREST CODE

Summary

Legal counsel, with input from the Fair Political Practices Commission, has prepared a revised Conflict of Interest Code for adoption by the **CHOWCHILLA WATER DISTRICT**.

Staff seeks approval of the proposed Code.

Background

All local public agencies are required to adopt a "Conflict of Interest Code" that identifies the agency's decision-making officers and staff and requires those persons to disclose any personal financial interests that may be affected by the Agency's actions in their annual Form 700. (Gov. Code, § 87300.)

Agencies with jurisdiction in more than one county must have their Codes approved by the state Fair Political Practices Commission (**FPPC**). (Gov. Code, § 82011, subd. (a).)

Every local public agency is required to review its conflict of interest code every two years and identify any required amendments. (Gov. Code, § 87306.5.)

Legal Counsel has reviewed the **District's** current conflict of interest code and proposes the following amendments:

- **Removal of Government Code 87200 Designations**: Previously, some directors and/or staff were designated as officials subject to Government Code section 87200 as "public officials who manage public investments." Officials subject to Government Code section 87200 are not required to be listed in the Conflict of Interest Code, but are required to file Form 700s according to the broadest possible disclosure categories. The current Code designates directors as officials subject to Government Code section 87200. Upon review, we have concluded that no current directors or staff qualify as "public officials who manage public investments," as that term is defined by FPPC regulations. (2 CCR 18700.3.) In particular, directors and staff are not regularly asked to make investment decisions for the purpose of generating returns.

CHOWCHILLA WATER DISTRICT
CONFLICT-OF-INTEREST CODE

The Political Reform Act (Government Code Section 81000, et seq.) requires state and local government agencies to adopt and promulgate conflict-of-interest codes. The Fair Political Practices Commission has adopted a regulation (2 California Code of Regulations Section 18730) that contains the terms of a standard conflict-of-interest code, which can be incorporated by reference in an agency's code. After public notice and hearing, the standard code may be amended by the Fair Political Practices Commission to conform to amendments in the Political Reform Act. Therefore, the terms of 2 California Code of Regulations Section 18730 and any amendments to it duly adopted by the Fair Political Practices Commission are hereby incorporated by reference. This regulation and the attached Appendices, designating positions and establishing disclosure categories, shall constitute the conflict-of-interest code of the CHOWCHILLA WATER DISTRICT (**District**).

Individuals holding designated positions shall file their statements of economic interests with the **District**, which will make the statements available for public inspection and reproduction. (Gov. Code Sec. 81008.) All original statements will be retained by the **District**.

CONFLICT OF INTEREST CODE FOR

CHOWCHILLA WATER DISTRICT

Appendix B
DISCLOSURE CATEGORIES

Category 1

A designated employee in this category must report all investments and business positions in business entities and sources of income, including receipt of gifts, loans, and travel payments, from any source that provides leased facilities, services, supplies, materials or equipment of the type utilized by the Agency.

Category 2

A designated employee in this category must report all interests in real property located in whole or in part within the boundaries of the Agency or within two miles of the Agency, including any leasehold, beneficial or ownership interest or option to acquire such interest in real property.

Category 3

A designated employee in this category must report all investments and business positions in business entities, and sources of income, including receipt of gifts, loans, and travel payments, from entities and sources that are subject to the regulatory, permit, or licensing authority of the Agency, or that have filed a claim or have a claim pending against the Agency.

CHOWCHILLA WATER DISTRICT
CONFLICT-OF-INTEREST CODE

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CONFLICT OF INTEREST CODE FOR

CHOWCHILLA WATER DISTRICT

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A designated employee in this category must report all interests in real property located in whole or in part within the boundaries of the Agency or within two miles of the Agency, including any leasehold, beneficial or ownership interest or option to acquire such interest in real property.

Category 3

A designated employee in this category must report all investments and business positions in business entities, and sources of income, including receipt of gifts, loans, and travel payments, from entities and sources that are subject to the regulatory, permit, or licensing authority of the Agency, or that have filed a claim or have a claim pending against the Agency.

TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

4400 Hays Drive
Chowchilla, CA 93610
TEL: (209) 658-8487

MEETING NOTICE AND AGENDA FOR THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

Alternate formats of this agenda will be made available upon request by qualified individuals with disabilities. Appropriate interpretive services for this meeting will be provided if feasible upon advance request by qualified individuals with disabilities. Please contact the Interim Agency Secretary at (209) 883-8374 for assistance and allow sufficient time to process and respond to your request.

PLEASE TAKE NOTICE that the regular meeting of the Board of Directors of the Triangle T Water District Groundwater Sustainability Agency will be held on April 11, 2019 at 1:00 P.M. 4400 Hays Drive, Chowchilla, CA 93610.

1. **ROLL CALL**

2. **PUBLIC COMMENT**
   Interested persons in the audience are welcome to introduce any topic within the Agency's jurisdiction. No action may be undertaken on any item not appearing on the posted agenda, except that the Board may briefly respond to the comments, refer the matter to staff, or request it be placed on a future agenda.

3. **BOARD MEETING MINUTES** – Sarah Woolf
   a. **Action Item -** Approve the March 14, 2019 Minutes

4. **SUBBASIN REPORT**
   a. Subbasin Meeting
   b. GSA Water Balance
   c. Management Area Projects

5. **OTHER BUSINESS**

6. **COMMENTS FROM THE BOARD**
   Board Members may provide a brief report on notable topics of interest. The Brown Act does not allow discussion or action by the Legislative Body.

7. **ADJOURNMENT**

MINUTES OF THE REGULAR SCHEDULED MEETING
TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABLITY AGENCY
BOARD OF DIRECTORS
March 14, 2019

Those present at the meeting included

Directors:	Lucas Avila	Triangle T Ranch
	Mark Hutson	Triangle T Ranch
	Emmanuel Benjamin	Triangle T Ranch
	Dirk Vlot	Vlot Family Farms
Others:	Sarah Woolf	Water Wise
	Jeannie Habben	Madera County
	George Park	Lone Tree MWC
	Brad Samuelson	WLS
	Karan Samran	Bapu Farming
	Taj Samran	Samran & Sons Farming
	Allan Clark	Clark Bros.
	Carl Evers Jr.	HFS
	Kim Witten	Madera County

Roll Call: President Hutson called the meeting to order at 1:00pm and asked for self-introductions.

Public Comment
Karan Samran mentioned they are exploring with Provost & Pritchard various ways they can access water from the Eastside Bypass flood flows long term. This year they are pulling out of the Bypass via gravity flow.

Minutes
A motion to pass the Minutes of February 1, 2019 was made by Director Avila and seconded by Director Dirk Vlot. The motion passed unanimously.

Subbasin Report
Brad Samuelson reported on the activities of the Technical Committee meeting of the Chowchilla Subbasin. The Engineering firm has been working on modeling for the 40 year plan with the identified projects being proposed. The numbers are currently showing that March 27, 2019 will be the next public meeting of the Committee at the Chowchilla Portugues Hall at 12PM.
Jeanne Habben mentioned there will be a meeting with the State Water Board Representative at the Frank Bergon Senior Center in Madera on March 21, 2019 at 3PM.

Other Business
No other business was reported.

Adjournment
Meeting was adjourned at 1:27pm.

_____
Secretary: Sarah Woolf

ANY INDIVIDUAL WITH A DISABILITY MAY REQUEST SPECIAL ASSISTANCE BY CONTACTING THE RECORDING SECRETARY

AGENDA
for County of Madera
Groundwater Sustainability Agencies'
Advisory Committee
April 12, 2019
2:00 P.M.

Meetings of the County of Madera Groundwater Sustainability Agencies' Advisory Committee shall convene in the Board Chambers at Madera County Government Center, 200 West 4th Street, Madera, California.

Supporting documents relating to the items on this agenda are available through the County of Madera website at www.maderacounty.com. These documents are also available at the office of the Madera County Water and Natural Resources Department, 200 West 4th Street, Madera, CA 93637. Please contact the Department of Water and Natural Resources for updates.

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **ROLL CALL**

4. **PUBLIC COMMENT:** The first 15 minutes of each regular session is set aside for members of the public to comment on any item within the jurisdiction of the Committee, but not appearing on the agenda. For items appearing on the agenda, the public is invited to comment at the time the item is called for consideration by the Committee. Any person addressing the Committee under public comment will be limited to a 3 minute presentation to ensure that all interested parties have an opportunity to speak. Please submit any handouts to the Recording Secretary.

5. **UPDATE ON SUBBASINS & CALENDAR – Stephanie Anagnoson**

6. **ALLOCATION OF EXISTING STORED GROUNDWATER DISCUSSION AND RECOMMENDATION– Greg Young and Stephanie Anagnoson**

7. **PROJECT CREDITING DISCUSSION AND RECOMMENDATION – Greg Young and Stephanie Anagnoson**

8. DIRECTOR'S REPORT – Stephanie Anagnoson

9. COMMITTEE MEMBER COMMENTS

10. ADJOURNMENT

Next Meeting Date: May 9, 2019 at 2 p.m.

AGENDA

SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)
GROUNDWATER SUSTAINABILITY PLAN (GSP) TECHNICAL WORKSHOP
MADERA SUBBASIN

Date:	Thursday, April 25, 2019
Time:	3:30 - 6:00 pm
Location:	Frank Bergon Senior Center Multi-Purpose Room 238 S D Street Madera, CA

MEETING OBJECTIVES:

- Discuss example minimum thresholds and measurable objectives

(NOTE: at each agenda item there will be an opportunity for members of the public to ask questions.)

1. **WELCOME, MEETING OBJECTIVES, INTRODUCTIONS, GENERAL UPDATES – Stephanie Anagnoson, County of Madera, and Julia Van Horn, California State University, Sacramento**

2. **GROUNDWATER MODEL CALIBRATION – Pete Leffler and Nick Watterson, Luhdorff & Scalmanini**

3. **PROJECTED FUTURE HYDROLOGY (2019 – 2090) – Bryan Thoreson, Davids Engineering**

4. **PROJECTS – Bryan Thoreson, Davids Engineering**

5. **GROUNDWATER MODEL RESULTS – Pete Leffler and Nick Watterson, Luhdorff & Scalmanini**

6. **MINIMUM THRESHOLDS AND MEASURABLE OBJECTIVES – Pete Leffler and Nick Watterson, Luhdorff & Scalmanini**

7. **NEXT STEPS, ADDITIONAL QUESTIONS AND DISCUSSION – All**

For additional information about Madera and Chowchilla Subbasin GSAs, visit http://www.maderacountywater.com/subbasins/

As a courtesy to those in attendance, please turn off or place in alert mode all cell phones and pagers.

ANY INDIVIDUAL WITH A DISABILITY MAY REQUEST SPECIAL ASSISTANCE BY CONTACTING THE RECORDING SECRETARY

AGENDA
for County of Madera
Groundwater Sustainability Agencies' Advisory Committee Special Meeting
May 23, 2019
1:30 P.M.

Meetings of the County of Madera Groundwater Sustainability Agencies' Advisory Committee shall convene in the Board Chambers at the Madera County Government Center, 200 West 4th Street, Madera, California. The meeting may be available at maderacounty.com to stream.

Supporting documents relating to the items on this agenda are available through the County of Madera website at www.maderacounty.com. These documents are also available at the office of the Madera County Water and Natural Resources Department, 200 West 4th Street, Madera, CA 93637. Please contact the Department of Water and Natural Resources for updates.

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **ROLL CALL**

4. **PUBLIC COMMENT:** The first 15 minutes of each regular session is set aside for members of the public to comment on any item within the jurisdiction of the Committee, but not appearing on the agenda. For items appearing on the agenda, the public is invited to comment at the time the item is called for consideration by the Committee. Any person addressing the Committee under public comment will be limited to a 3 minute presentation to ensure that all interested parties have an opportunity to speak. Please submit any handouts to the Recording Secretary.

5. **ALLOCATION DISCUSSION & RECOMMENDATION – Greg Young and Stephanie Anagnoson**
   a. Allocation of Existing Stored Groundwater
   b. Allocation of Native Groundwater

6. **DIRECTOR'S REPORT – Stephanie Anagnoson**

7. **COMMITTEE MEMBER COMMENTS**

8. **ADJOURNMENT**

Next Meeting Date: July 11, 2019 at 2 p.m.

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, May 29, 2019
at 10:00 a.m.
Portuguese Hall
800 S. Third Street., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introduction of GSP Advisory Committee Representatives

5. Approval of Minutes – March 27, 2019

6. Opening Comments – Kole Upton, Chairman

7. Sustainability Goal

8. Monitoring Network

9. Minimum Thresholds

10. Measurable Objectives

11. Five Year Interim Milestones

12. Discussion and Public Input – Members of the public have an opportunity to provide comments on the presentation.

13. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

CHOWCHILLA WATER DISTRICT
REGULAR MEETING OF THE BOARD OF DIRECTORS
WEDNESDAY, JUNE, 12th, 2019
AT 1:30 P.M. AT THE DISTRICT OFFICE
327 S. Chowchilla Blvd., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Board's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code § 54954.2(g)(2))

4. Financial Reports:
   A. Treasurer's Report
   B. Payment of Bills

5. Operation & Maintenance Report

6. 2018 Audit – Discuss and may approve the 2018 Audit of Financial Statements

7. Recirculated Water – The Board will discuss and may take action to approve the Recirculated Water Agreement with Friant Water Authority to recirculate water

8. General Resources Manager's Report

RECESS AS CWD BOARD OF DIRECTORS & CONVENE AS CWD GROUNDWATER SUSTAINABILITY AGENCY

a. Update on CWD Groundwater Sustainability Agency

ADJOURN AS CWD GROUNDWATER SUSTAINABILITY AGENCY AND RECONVENE AS CWD BOARD OF DIRECTORS

9. Approval of Minutes – May 15th and 24th,2019

10. 2019 Budget vs. Actual Income & Expense Comparison

11. RESOLUTION 2019-04 – The Board will discuss and may approve RESOLUTION 2019-04 A RESULUTION AMENDING AND RESTATING THE DISTRICT'S CONFLICT OF INTEREST CODE

12. RESOLUTION 2019-05 – The Board will discuss and may approve RESOLUTION 2019-05 A RESOLUTION APPROVING MODIFIED ELECTION DIVISIONS

13. CWD Personnel – The Board will discuss and may take action to approve the creation of a new office position

14. Road 19 Pond Project – Staff will provide an update on the status of Road 19 Pond

15. Road 13 Pond Project – Staff will provide an update on the status of Road 13 Pond

16. Temperance Flat Reservoir – The Board will discuss and may take action regarding Temperance Flat Reservoir

17. California High Speed Rail Authority (CHSRA) – Staff will provide The Board with an update on CHSRA

18. Closed Session Item – Personnel 1 Item

19. Conference with Legal Counsel, Anticipated Litigation (Govt. Code, § 54956.9(d)(2) and (4): One Item.

20. Conference with Legal Counsel, Existing Litigation (Govt. Code, § 54956.9(d)(1):

    A. Natural Resources Defense Council et al. v. David Murillo et al., United States District Court Case No. Case No. CIV 2-88-cv-01658-(E.D. CA)
    B. City of Fresno et al. v. United States, United States Court of Federal Court of Claims Case No. 1:55-cv-01000-UNJ

21. Director's Reports - This item provides an opportunity for the Directors to share information on meetings attended on the District's behalf and discuss any concerns in the operation of the District.

22. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

A person with a qualifying disability under the Americans with Disabilities Act of 1990 may request the District to provide a disability-related modification or accommodation in order to participate in any public meeting of the District. Such assistance includes appropriate alternative formats for the agendas and agenda packets used for any public meetings of the District. Requests for such assistance and for agendas and agenda packets shall be made in person, by telephone, facsimile, or written correspondence to Brandon Tomlinson (559) 665-3747 at the District office, at least 48 hours before a public District meeting.

Staff reports and other disclosable records related to open session agenda items are available at the District office located at 327 S. Chowchilla Blvd., Chowchilla, CA during business hours, Monday through Friday, 8 AM to 5 PM.

TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

4400 Hays Drive
Chowchilla, CA 93610
TEL: (209) 658-8487

MEETING NOTICE AND AGENDA FOR THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

Alternate formats of this agenda will be made available upon request by qualified individuals with disabilities. Appropriate interpretive services for this meeting will be provided if feasible upon advance request by qualified individuals with disabilities. Please contact the Interim Agency Secretary at (209) 883-8374 for assistance and allow sufficient time to process and respond to your request.

PLEASE TAKE NOTICE that the regular meeting of the Board of Directors of the Triangle T Water District Groundwater Sustainability Agency will be held on June 13, 2019 at 10:00 A.M. 4400 Hays Drive, Chowchilla, CA 93610.

1. **ROLL CALL**

2. **PUBLIC COMMENT**
   Interested persons in the audience are welcome to introduce any topic within the Agency's jurisdiction. No action may be undertaken on any item not appearing on the posted agenda, except that the Board may briefly respond to the comments, refer the matter to staff, or request it be placed on a future agenda.

3. **BOARD MEETING MINUTES** – Sarah Woolf
   a. **Action Item -** Approve the May 9, 2019 Minutes

4. **SUBBASIN REPORT**
   a. Subbasin Meeting
   b. GSA Water Balance
   c. Management Area Projects

5. **OTHER BUSINESS**

6. **COMMENTS FROM THE BOARD**
   Board Members may provide a brief report on notable topics of interest. The Brown Act does not allow discussion or action by the Legislative Body.

7. **ADJOURNMENT**

TTWDGSA

Board Meeting – June 13, 2019

Agenda Item #:	3
Item:	Minutes
Type:	Action
Staff Recommendation:	**Approval**

The draft May 2019 board minutes are attached for your review.

ADMINISTRATION

Motion:

2nd:

Unanimous Yes

Avila	Yes	No
Benjamin	Yes	No
Vlot, C	Yes	No
Vlot, D	Yes	No

MINUTES OF THE REGULAR SCHEDULED MEETING
TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABLITY AGENCY
BOARD OF DIRECTORS
May 9, 2019

Those present at the meeting included

Directors:	Lucas Avila	Triangle T Ranch
	Mark Hutson	Triangle T Ranch
	Emmanuel Benjamin	Triangle T Ranch
	Dirk Vlot	Vlot Family Farms
Others:	Sarah Woolf	Water Wise
	Chase Hurley	WLS
	Phil Janzen	Agriland
	Clay Haynes	Haynes Farm
	Karun Samran	Bapu Farming
	Molly Saso	Triangle T Ranch (via Phone)
	George Parks	Lone Tree
	Carl Evers Jr.	Triangle T Ranch
	Jeff Hillberg	AGIS

Roll Call: President Hutson called the meeting to order at 10:00 AM and asked for self-introductions.

Public Comment: No public comment.

Minutes
A motion to pass the Minutes of April 11, 2019 was made by Director Avila and seconded by Director Benjamin. The motion passed unanimously.

Subbasin Report
Brad Samuelson briefed the board on the GSA meetings. Improvements to the Chowchilla GSA public meeting structure was discussed. The Technical Committee met the week prior to discuss the location of monitoring wells that have been selected for the Western Management Area. Some participants were asking that the minimum thresholds should be set at the 2006 groundwater levels for the GSP.

Other Business
No other business was reported.

Adjournment
Meeting was adjourned at 10:25 AM.

_____
Secretary: Sarah Woolf

ANY INDIVIDUAL WITH A DISABILITY MAY REQUEST SPECIAL ASSISTANCE BY CONTACTING THE RECORDING SECRETARY

AGENDA
for County of Madera
Groundwater Sustainability Agencies'
Advisory Committee
Special Meeting
June 20, 2019
2:30 P.M.

Meetings of the County of Madera Groundwater Sustainability Agencies' Advisory Committee shall convene in the Board Chambers at Madera County Government Center, 200 West 4th Street, Madera, California.

Supporting documents relating to the items on this agenda are available through the County of Madera website at www.maderacounty.com. These documents are also available at the office of the Madera County Water and Natural Resources Department, 200 West 4th Street, Madera, CA 93637. Please contact the Department of Water and Natural Resources for updates.

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **ROLL CALL**

4. **PUBLIC COMMENT:** The first 15 minutes of each regular session is set aside for members of the public to comment on any item within the jurisdiction of the Committee, but not appearing on the agenda. For items appearing on the agenda, the public is invited to comment at the time the item is called for consideration by the Committee. Any person addressing the Committee under public comment will be limited to a 3 minute presentation to ensure that all interested parties have an opportunity to speak. Please submit any handouts to the Recording Secretary.

5. **DEMAND MANAGEMENT OPTIONS AND RECOMMENDATION – Greg Young and Stephanie Anagnoson**

6. **DIRECTOR'S REPORT – Stephanie Anagnoson**

7. **COMMITTEE MEMBER COMMENTS**

8. ADJOURNMENT

Next Regular Meeting Date: July 11, 2019 at 2 p.m.

TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

4400 Hays Drive
Chowchilla, CA 93610
TEL: (209) 658-8487

MEETING NOTICE AND AGENDA FOR THE REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE TRIANGLE T WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY

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PLEASE TAKE NOTICE that the regular meeting of the Board of Directors of the Triangle T Water District Groundwater Sustainability Agency will be held on July 11, 2019 at 10:00 A.M. 4400 Hays Drive, Chowchilla, CA 93610.

1. **ROLL CALL**

2. **PUBLIC COMMENT**
   Interested persons in the audience are welcome to introduce any topic within the Agency's jurisdiction. No action may be undertaken on any item not appearing on the posted agenda, except that the Board may briefly respond to the comments, refer the matter to staff, or request it be placed on a future agenda.

3. **BOARD MEETING MINUTES –** Sarah Woolf
   a. **Action Item -** Approve the June 13, 2019 Minutes

4. **SUBBASIN REPORT**
   a. Subbasin Meeting
   b. GSA Water Balance
   c. Management Area Projects

5. **OTHER BUSINESS**

6. **COMMENTS FROM THE BOARD**
   Board Members may provide a brief report on notable topics of interest. The Brown Act does not allow discussion or action by the Legislative Body.

7. **ADJOURNMENT**

ANY INDIVIDUAL WITH A DISABILITY MAY REQUEST SPECIAL ASSISTANCE BY CONTACTING THE RECORDING SECRETARY

AGENDA
for County of Madera
Groundwater Sustainability Agencies'
Advisory Committee
May 17, 2019
2:00 P.M.

Meetings of the County of Madera Groundwater Sustainability Agencies' Advisory Committee shall convene in the Board Chambers at Madera County Government Center, 200 West 4th Street, Madera, California.

Supporting documents relating to the items on this agenda are available through the County of Madera website at www.maderacounty.com. These documents are also available at the office of the Madera County Water and Natural Resources Department, 200 West 4th Street, Madera, CA 93637. Please contact the Department of Water and Natural Resources for updates.

1. **CALL TO ORDER**

2. **PLEDGE OF ALLEGIANCE**

3. **ROLL CALL**

4. **PUBLIC COMMENT:** The first 15 minutes of each regular session is set aside for members of the public to comment on any item within the jurisdiction of the Committee, but not appearing on the agenda. For items appearing on the agenda, the public is invited to comment at the time the item is called for consideration by the Committee. Any person addressing the Committee under public comment will be limited to a 3 minute presentation to ensure that all interested parties have an opportunity to speak. Please submit any handouts to the Recording Secretary.

5. **IMPLEMENTATION OF SB 252 – Dexter Marr**

6. **WEB SITE UPDATE – Stephanie Anagnoson and Kim Witten**

7. **UPDATE ON SUBBASINS & CALENDAR – Stephanie Anagnoson**

8. **ALLOCATION OF EXISTING STORED GROUNDWATER DISCUSSION AND RECOMMENDATION – Stephanie Anagnoson and Greg Young**

9. **DIRECTOR'S REPORT – Stephanie Anagnoson**

10. **COMMITTEE MEMBER COMMENTS**

11. **ADJOURNMENT**

Next Meeting Date: July 11, 2019 at 2 p.m.

MAIN GOVERNMENT CENTER
200 W. 4TH STREET
MADERA, CA 93637
PHONE: (559) 675-7703
www.MaderaCounty.com

MADERA COUNTY

6. **GROUNDWATER SUSTAINABILITY, CHOWCHILLA SUB-BASIN UPDATE**
   Presentation by Stephanie Anagnoson, Director, Department of Water and Natural Resources, County of Madera.

7. **GROUNDWATER SUSTAINABILITY CALENDAR**
   Presentation by Stephanie Anagnoson, Director, Department of Water and Natural Resources, County of Madera.

8. **COMMITTEE MEMBER AND STAFF REPORTS**

9. **ADJOURNMENT**

Next Meeting Date: August 15, 2018 at 6:00 p.m.

Chowchilla Subbasin GSP Advisory Committee
Special Meeting of the Advisory Committee
Wednesday, July 31, 2019
at 10:00 a.m.
Portuguese Hall
800 S. Third Street., Chowchilla, CA

AGENDA

1. Call to order

2. Public Comment – The first 15 minutes is made available for comments from the public on matters within the Committee's jurisdiction that are not on this Agenda. Each speaker will be limited to three minutes. It is requested that no comments be made during this period on items that are on today's Agenda. Members of the public may comment on any item that is on today's Agenda when the item is called.

3. Additions to the Agenda – Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code {54954.2(g)(2)

4. Introduction of GSP Advisory Committee Representatives

5. Approval of Minutes – May 29, 2019

6. Opening Comments – Kole Upton, Chairman

7. GSP Purpose

8. Plan Area and Basin Setting

9. Sustainable Management Criteria

10. Projects and Management Actions

11. Implementation Plan

12. Discussion and Public Input – Members of the public have an opportunity to provide comments on the presentation.

13. Adjournment

ACCOMMODATIONS FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at 559-665-3747. Notification in advance of the meeting will enable the Committee to make reasonable arrangements to ensure accessibility to this meeting.

APPENDIX 6.D. GROUNDWATER MODEL DOCUMENTATION

Prepared as part of the

Groundwater Sustainability Plan
Chowchilla Subbasin

January 2020

GSP Team:

Davids Engineering, Inc
Luhdorff & Scalmanini
ERA Economics
Stillwater Sciences and
California State University, Sacramento

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(Figure titles that are bolded can be found at the end of the document)

1 INTRODUCTION

This report documents the development and calibration of the Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim), a numerical groundwater flow model developed for the Madera and Chowchilla Subbasin areas to support preparation of Groundwater Sustainability Plans (GSPs) for both subbasins along with other future potential groundwater management and planning needs. This report includes a summary of the model platform, data sources, model development and calibration, and calibration results.

1.1 Background

To support preparation of GSPs for the Madera and Chowchilla Subbasins, four Groundwater Sustainability Agencies (GSAs) in the Madera Subbasin (Madera County, Madera Irrigation District, Madera Water District and City of Madera) and all GSAs in the Chowchilla Subbasin (Chowchilla Water District, Madera County, Triangle T Water District, and Sierra Vista Mutual Water Company) elected to pursue development of a numerical groundwater flow model to be able to satisfy GSP regulations requiring use of a numerical groundwater model, or equally effective approach, to evaluate projected water budget conditions and potential impacts to groundwater conditions and users from the GSP implementation. The development of MCSim is intended to support groundwater resources management activities associated with GSP development and implementation. MCSim utilizes data and the hydrogeologic conceptualization that are presented and described in the GSPs for the Madera and Chowchilla Subbasins and also incorporates data assembled as part of Data Collection and Analysis Reports prepared for both subbasins (DE & LSCE, 2017a; and DE & LSCE, 2017b) to improve the understanding of hydrologic processes and their relationship to key sustainability metrics within the Chowchilla and Madera Subbasins. MCSim provides a platform to evaluate potential outcomes and impacts from future management actions, projects, and adaptive management strategies through predictive modeling scenarios.

1.2 Objectives and Approach

Numerical groundwater models are structured tools developed to represent the physical basin setting and simulate groundwater flow processes by integrating a multitude of data (e.g. lithology, groundwater levels, surface water features, groundwater pumping, etc.) that compose the conceptualization of the natural geologic and hydrogeologic environment. MCSim was developed in a manner consistent with the Modeling Best Management Practices (BMP) guidance document prepared by the California Department of Water Resources (DWR) (DWR, 2016). The objective of MCSim is to simulate hydrologic processes and effectively estimate historical and projected future hydrologic conditions in the Chowchilla and Madera Subbasins related to groundwater dependent ecosystems (GDEs) and SGMA sustainability indicators relevant to the Chowchilla and Madera Subbasins including:

1. Lowering of Groundwater Levels
2. Reduction of Groundwater Storage
3. Depletion of Interconnected Surface Water

The development of MCSim involved starting with and evaluating the beta version (released 5/1/2018) of DWR's fine-grid version of the California Central Valley Groundwater-Surface Water Flow Model (C2VSim-FG Beta2) and eventually carving out a local model domain and conducting local refinements to the model structure (e.g., nodes, elements) and modifying or replacing inputs as needed to sufficiently and accurately simulate local conditions in the Chowchilla Subbasin areas within the model domain. C2VSim-

FG Beta2 utilizes the most current version of the Integrated Water Flow Model (IWFM) code available at the time of the MCSim development. IWFM and C2VSim-FG Beta2 were selected as the modeling platform due to the versatility in simulating crop-water demands in the predominantly agricultural setting of the subbasins, groundwater surface-water interaction, the existing hydrologic inputs existing in the model for the time period through the end of water year 2015, and the ability to customize the existing C2VSim-FG Beta2 model to be more representative of local conditions in the area of the Madera and Chowchilla Subbasins. MCSim was refined from C2VSim-FG Beta2 and calibrated to a diverse set of available historical data using industry standard techniques. The version of the IWFM model code available at the time of MCSim development does not have the capability of directly simulating land subsidence or solute transport (groundwater quality), which are two additional sustainability indicators relevant to the Madera and Chowchilla Subbasins.

1.3 Report Organization

This report is organized into the following sections:

- Section 2: Model Code and Platform
- Section 3: Groundwater Flow Model Development
- Section 4: Groundwater Flow Model Results
- Section 5: Model Uncertainty and Limitations
- Section 6: Conclusions and Recommendations
- Section 7: References

2 MODEL CODE AND PLATFORM

The modeling code and platform utilized for MCSim are described below. As required by GSP regulations, the selected model code is in the public domain. The decision to select the model codes for the MCSim was based on providing Madera County with a modeling tool that can be used for GSP development with sufficient representation of local conditions, while utilizing to the extent possible, previous modeling tools available, including regional models. With this objective in mind, the model tools and platforms described below were determined to be most suitable for adaptation for use in GSP analyses.

2.1 Integrated Water Flow Model

IWFM is a quasi three-dimensional finite element modeling software that simulates groundwater, surface water, groundwater-surface water interaction, as well as other components of the hydrologic system (Dogrul et al., 2017). MCSim is developed using the IWFM Version 2015 (IWFM-2015) code, which couples a three-dimensional finite element groundwater simulation process with one-dimensional land surface, river, lake, unsaturated zone and small-stream watershed processes (Brush et al., 2016). A key feature of IWFM-2015 is its capability to simulate the water demand as a function of different land use and crop types, and compare it to the historical or projected amount of water supply (Dogrul et al., 2017). IWFM uses a model layering structure in which model layers represent aquifer zones that are assigned aquifer properties relating to both horizontal and vertical groundwater movement (e.g., horizontal and vertical hydraulic conductivity) and storage characteristics (e.g., specific yield, specific storage) with the option to associate an aquitard to each layer, although represented aquitards are assigned a more limited set of properties relating primarily to their role in vertical flow (e.g., vertical hydraulic conductivity).

The IWFM-2015 source code and additional information and documentation relating to the IWFM-2015 code is available from DWR at the link below:

http://baydeltaoffice.water.ca.gov/modeling/hydrology/IWFM/IWFM-2015/v2015_0_630/index_v2015_0_630.cfm

2.1.1 IWFM Demand Calculator

IWFM includes a stand-alone Integrated Water Flow Model Demand Calculator (IDC) that calculates water demands. Agricultural water demands are calculated in IDC based on climate, land use, soil properties, and irrigation method whereas urban demands are calculated based on population and per-capita water use. MCSim utilizes IDC to simulate root zone processes and water demands. The physically based IDC version 2015.0.0036 (DWR, 2015) is developed and maintained by DWR.

2.2 C2VSim-Fine Grid

The C2VSim-FG Beta2 model utilizes the IWFM-2015 code and represents a refinement of the previous C2VSim-Coarse Grid (C2VSim-CG) model. Refinements made in the development of C2VSim-FG Beta2 include a finer horizontal discretization, an updated aquifer layering scheme, updated precipitation data, and an extended simulation period through water year 2015 (DWR, 2018). C2VSim-CG had an average element size of approximately 15 square miles and the average element size for C2VSimFG Beta2 is about 0.6 square miles. The C2VSimFG Beta2 version available from DWR at the time of the initiation of modeling efforts to support GSP preparation in the Madera and Chowchilla, was not a calibrated model version. As of the date of this report (August 2019), a calibrated version of C2VSim-FG was not available.

3 GROUNDWATER FLOW MODEL DEVELOPMENT

This section describes the spatial and temporal (time-series) structure of the model and the input data that was utilized for model development. The model development process utilized data and information that was available at the time of model development and is described in greater detail in the GSP and previous Data Collection and Analysis reports (DE & LSCE, 2017a for Chowchilla, and DE & LSCE, 2017b for Madera).

3.1 MCSim – Historical Model

The MCSim historical model simulates the period from October 1985 through September 2015 at a monthly time step, with a calibration period of October 1988 through September 2015. Annual model time periods are based on water years defined as October 1 through September 30. The historical calibration model period extends from water years 1989 through 2015. Water years 1986 through 1988 are not included as part of the historical calibration period, but are simulated to allow the model some time to adjust to the specified initial conditions and spin-up prior to the calibration period starting in October 1988.

3.1.1 Model Grid

The MCSim grid was carved out of the regional C2VSim-FG Beta2 model domain. While MCSim focuses on the Chowchilla and Madera Subbasins, the model domain was extended outside the two subbasins to incorporate a buffer zone including area within the Merced, Delta-Mendota, and Kings Subbasins. The extent of the buffer zone was determined, using the C2VSimFG Beta2 regional model, by simulating pumping wells along the boundary of the Chowchilla and Madera Subbasins to determine the distance to a one-foot drawdown of groundwater levels. This MCSim domain was delineated with consideration of these drawdown distances (typically 5-10 miles from Chowchilla and Madera Subbasin boundaries). The MCSim domain, shown in **Figure 3-1**[1], encompasses a total of 847,624 acres. All C2VSim-FG Beta2 model features (e.g., nodes, elements, streams, layers) within this domain were initially included in MCSim with subsequent modifications and refinements made within MCSim to these model components, as described in this report.

3.1.1.1 Nodes and Elements

The MCSim grid contains 2,458 nodes and 2,632 elements (**Figure 3-1**). The X-Y coordinates for node locations are presented in the UTM Zone 10N, NAD83 (meters) projected coordinate system. While the number of nodes and elements within the MCSim domain were not altered from C2VSim-FG Beta2, the locations of some nodes and elements were modified to more accurately align with subbasin boundaries and streams. **Figure 3-2** highlights the modified nodes and elements in MCSim. Table A6.D-3-1 presents MCSim grid characteristics.

3.1.1.2 Subregions

Model elements are grouped into subregions to assist in the summarization of model results and development of water budgets. MCSim includes 16 subregions (listed in Table A6.D-3-2). Subregions were delineated by subbasin, and also by GSA within the Chowchilla and Madera Subbasins. While subregions are used as the basis for summarizing model results, the model simulates hydrologic processes and

[1] Figure titles that are bolded can be found at the end of the document

conditions at the resolution of elements or nodes. **Figure 3-3** shows the delineation of subregions included within MCSim.

Table A6.D-3-1. MCSim grid characteristics.

Nodes	2,458
Elements	2,632
Average Element Size (acres)	322
Minimum Element Size (acres)	10
Maximum Element Size (acres)	1,486
Subregions	16
Aquifer Layers	7
Aquitard Layers	3

Table A6.D-3-2. Model Subregions within MCSim.

Subregion	Subbasin	GSA
1	Chowchilla	Chowchilla Water District
2	Chowchilla	Madera County - East
3	Chowchilla	Madera County - West
4	Chowchilla	Sierra Vista MWC - Madera County
5	Chowchilla	Sierra Vista MWC - Merced County
6	Chowchilla	Triangle T Water District
7	Madera	City of Madera
8	Madera	Madera County
9	Madera	Gravelly Ford Water District
10	Madera	Madera Irrigation District
11	Madera	Madera Water District
12	Madera	New Stone Water District
13	Madera	Root Creek Water District
14	Merced	
15	Delta-Mendota	
16	Kings	

3.1.1.3 Streams

MCSim includes 35 stream reaches composed of 657 stream nodes. Streams that were adapted from existing streams simulated in C2VSimFG Beta2 include Chowchilla River, Deadman's Creek, East Side Bypass/Chowchilla Bypass, Fresno River, Fresno Slough, and San Joaquin River. Some of the stream nodes were shifted to better align with the actual stream configuration. Streams added to MCSim that were not included in C2VSimFG Beta2 include Ash Slough, Berenda Creek, Berenda Slough, Cottonwood Creek, Dry Creek, Dutchman Creek, and Madera Canal. The stream network included in MCSim is shown in **Figure 3-4**.

3.1.1.4 Model Layers

A major modification in the adaptation of the C2VSim-FG Beta2 model for MCSim purposes was the refinement of the representation of the aquifer system through model layering. Within the MCSim domain, C2VSim-FG Beta2 delineates three aquifer layers and one aquitard layer; MCSim was refined to include seven aquifer layers and three aquitard layers corresponding with key hydrogeologic features identified in the Hydrogeologic Conceptual Model (HCM) for the subbasins. The aquifer system within MCSim is broken down into the Upper Aquifer (layer 1 through 3), the Lower Aquifer (layers 4 through 6), and a buffer layer (layer 7). The E-Clay unit (Corcoran Clay) of the Tulare Formation separates the Upper and Lower Aquifers, where present. Other less extensive clay units (e.g., A-Clay, C-Clay) of the Tulare Formation also exist in the area and were explicitly incorporated into the model as discrete model features (aquitard layers) or implicitly through assignment of hydraulic properties based on sediment texture as described below in section 3.1.4.1.

The Upper Aquifer is generally unconfined, except where the A-Clay and/or C-Clay are present. The top of the aquifer system is defined by the land surface. In general, Layer 1 extends approximately 50 feet below ground surface, or to the top of the A-Clay, where present. The A-Clay is included as the Layer 2 aquitard overlying the Layer 2 aquifer. The Layer 2 aquifer extends from the base of the A-Clay, where present, to the top of the C-Clay (or other comparable shallow clays), where present. The C-Clay is included as the Layer 3 aquitard overlying the Layer 3 aquifer. The Layer 3 aquifer extends from the base of the C-Clay, where present, to the top of the E-Clay (Corcoran Clay), where present. Where aquitard(s) are not present in the Upper Aquifer, the remaining Upper Aquifer thickness below Layer 1 is divided evenly between Layers 2 and 3.

The Corcoran Clay is modeled as the Layer 4 aquitard. This aquitard layer separates the Upper Aquifer from the Lower Aquifer. The depth, thickness, and extent of the Corcoran Clay is consistent with C2VSim-FG Beta2, and is based on mapping of the Corcoran Clay by Page (1986). Where the Corcoran Clay is not present, the below ground surface to the nearest occurrence of the Corcoran Clay was used to delineate the Upper and Lower aquifers.

The Lower Aquifer is confined where the Corcoran Clay is present, and is considered semi-confined outside of the Corcoran Clay extent. The thicknesses of the Layer 4 aquifer and Layers 5, and 6 are delineated as equal percentages (approximately 33 percent) of the total Lower Aquifer thickness to the base of freshwater. The base of the Lower Aquifer was generally kept consistent with the base of the Lower Aquifer in C2VSim-FG Beta2 model, but some modifications were made in MCSim to better align the base of the Lower Aquifer with the base of freshwater (Page, 1973).

Layer 7 extends from the base of freshwater to the base of continental deposits (Williamson et al., 1989) and is considered a buffer layer. Though included in MCSim, Layer 7, although simulated in the model, is treated as a low-conductivity zone below the base of freshwater and below the zone of any groundwater pumping. Layer 7 was preserved in MCSim, with an overall model thickness equal to that of C2VSim-FG Beta2.

Elevations and thicknesses of MCSim aquifer and aquitard layers are shown in **Figures 3-5** through **3-25**.

3.1.2 Land Surface System

The IWFM Land Surface Process, which includes the IDC, calculates a water budget for four land use categories: non-ponded agricultural crops, ponded agricultural crops (i.e., rice), native and riparian vegetation, and urban areas. The Land Surface Process calculates water demand at the surface, allocates

water to meet demands, and routes excess water through the root zone (Brush et al., 2016). The development of land surface system input files is explained in this section.

3.1.2.1 Precipitation

Monthly precipitation time series data for water years 1922 through 2015 was extracted from C2VSim-FG Beta2. Precipitation rates were extracted for all elements and small watersheds included within MCSim. Precipitation data within both C2VSim-FG Beta2 and MCSim is based on Parameter Elevation Regression on Independent Slopes Model (PRISM) by the PRISM Climate Group at Oregon State University.

3.1.2.2 Evapotranspiration

Monthly evapotranspiration (ET) time series data was refined for water years 1973 through 2015. ET rates were developed for individual crop types and were refined based on observed data, as described in this section.

Weather Data

Weather data were obtained from the California Irrigation Management Information System (CIMIS) and National Oceanic and Atmospheric Administration National Centers for Environmental Information (NOAA NCEI). **Table A6.D-3-3** lists the stations and periods of record used for each station.

Table A6.D-3-3. Weather Data Time Series Summary.

Weather Station	Station Type	Start Date	End Date	Comment
Fresno State	CIMIS	Oct. 2, 1988	May 12, 1998	Used before Madera CIMIS station was installed.
Madera	CIMIS	May 13, 1998	Apr. 2, 2013	Moved eastward 2 miles in 2013 and renamed "Madera II."
Madera II	CIMIS	Apr. 3, 2013	Dec. 31, 2015	
Madera	NOAA NCEI	Jan. 1, 1928	Dec. 31, 2017	Used for developing ET_{ref} timeseries for projected water budget period before CIMIS station data was available.

Daily time series data were evaluated following the quality control procedures described in the Chowchilla Subbasin GSP Appendix 2.F.f. to develop daily reference crop evapotranspiration (ET_{ref}) and precipitation records for both the Chowchilla and Madera Subbasins during the historical and projected water budget periods.

Reference Evapotranspiration Development

Daily reference crop evapotranspiration (ET_{ref}) was determined following the widely accepted standardized Penman-Monteith (PM) method, as described by the ASCE Task Committee Report on the Standardized Reference Evapotranspiration Equation (ASCE-EWRI, 2005). The Task Committee Report standardizes the ASCE PM method for application to a full-cover alfalfa reference (ET_r) and to a clipped cool season grass reference (ET_o). The clipped cool season grass reference is widely used throughout California and was selected for this application. Daily ET_o values were calculated and provided as inputs to the IDC root zone model for simulating crop consumptive use requirements.

3.1.2.3 Land Use

To support water budget development for each Land Surface System water use sector, the IDC daily root zone water budget model was used to develop an accurate and consistent calculation of historical crop ET (ET_c) and other water budget components in the root zone. A daily root zone water budget is a generally accepted and widely used method to estimate effective rainfall (ASCE, 2016 and ASABE, 2007).

For developing the integrated Surface Water System (SWS) and Groundwater System (GWS) water budgets in the MCSim model, this daily IDC application was converted to a monthly application, recalibrated to equal monthly flows by each component in the SWS water budgets, and then integrated with MCSim. The IDC application thus served as the foundation for coupling the SWS water budget to the groundwater model used in GSP development.

IDC was used to develop time series estimates for the following water budget components:

- ET of applied water
- ET of precipitation
- Infiltration of applied water
- Infiltration of precipitation
- Uncollected surface runoff of applied water (estimated as negligible in the Chowchilla and Madera Subbasins)
- Uncollected surface runoff of precipitation
- Change in root zone storage

Details regarding the improved crop coefficients used by IDC for estimating ET are described in the Crop Water Use section below. Additional details regarding development of the full IDC root zone water budget, including major inputs, are provided in Chowchilla Subbasin GSP Appendix 2.F.g and Madera Subbasin GSP Appendix 2.H.h.

Crop Water Use (description of ET_c calculation by ET_o and crop coefficients; crop coefficient development using SEBAL)

The daily IDC root zone water budget application described above was used to develop an accurate and consistent calculation of historical ET_c using the widely accepted reference ET-crop coefficient method (ASCE, 2016). In this method, ET_o is adjusted to estimate ET_c of other crops using a crop coefficient unique to the individual crop type, growth characteristics, health, and other local conditions. Crop coefficients were derived from actual ET (ET_a) estimated by the Surface Energy Balance Algorithm for Land (SEBAL) for 2009. Remotely sensed energy balance ET results account for soil salinity, deficit irrigation, disease, poor plant stands, and other stress factors that affect crop ET. Studies by Bastiaanssen et al. (2005), Allen et al. (2007 and 2011), Thoreson et al. (2009) and others have found that when performed by an expert analyst, seasonal ET_a estimates produced by SEBAL are within plus or minus five percent of actual crop ET. For crops grown in the Chowchilla and Madera Subbasins, annual historical ET_c was computed for the IDC application using the quality controlled CIMIS ET_o and these local, remote sensing derived crop coefficients. The aforementioned IDC root zone model parsed these ET_c estimates into the ET of applied water and ET of precipitation estimates used in the Chowchilla Subbasin and Madera Subbasin water budgets.

3.1.3 Surface Water System

The IWFM Surface Water Process calculates a water budget along each stream reach between inflows and outflows, including stream-groundwater interactions (Brush et al., 2016). A steady-state period was used during the early years of the MCSim simulation period. Data from water year 2000 was used as a proxy

for an average hydrology and was used for water years 1985-1988 surface water inflows and diversions. The development of surface water system input files is explained in this section.

3.1.3.1 Stream Characteristics

Stream bed parameters were taken from C2VSim-FG Beta2 for those stream nodes extracted from the C2VSim-FG Beta2 regional model. For additional stream nodes in MCSim, stream bed parameters were developed through review of soil properties and stream characteristics. Stream bed parameters, particularly stream bed conductivity and wetted perimeter, were further refined during the calibration process.

3.1.3.2 Inflows

Surface water inflows into the model domain are specified in MCSim for 10 stream reaches. Stream inflow locations are shown in **Figure 3-26**. Deadman's Creek inflows were adapted from C2VSim-FG Beta2 inflow data. Fresno Slough inflows were generated in C2VSim-FG Beta2 by placing a stream flow hydrograph at the MCSim inflow node and using the resulting time series data for inflows to MCSim. Berenda Creek, Cottonwood Creek, and Dry Creek inflows were based off Madera Irrigation District (MID) Recorder data. Chowchilla River and Dutchman Creek inflows were developed from Chowchilla Water District (CWD) records. Fresno River, Madera Canal, and San Joaquin River inflows were based off of United States Geological Survey (USGS) gage data. More information regarding the development of surface inflow volumes is presented in Table A6.D-3-4.

3.1.3.3 Surface Water Diversions and Deliveries

Surface water diversions and deliveries are simulated in the model as diversions from a stream node with an assigned delivery destination (element group). A total of 65 surface water diversions are included in MCSim, with 18 adapted from C2VSim-FG Beta2 and 47 added to MCSim. Of the 47 additional MCSim diversions, 24 are agricultural diversions to CWD, Gravelly Ford Water District (GFWD), MID, Madera Water District (MWD), and Root Creek Water District (RCWD), and 23 are riparian diversions that are applied in Madera County (MC), MC-East, MC-West, MID, RCWD, Sierra Vista Mutual Water Company (SVMWC), and Triangle T Water District (TTWD). Diversion locations are shown in **Figure 3-27**. Diversion volumes adapted from C2VSim-FG Beta2 were adjusted fractionally based on the percentage of the original C2VSim-FG Beta2 delivery location included within the MCSim domain. These diversions occur primarily outside of the Chowchilla and Madera subbasins, but within the MCSim domain. Diversion volumes for the additional MCSim diversions were based on data reported by the United States Bureau of Reclamation (USBR), the State Water Resources Control Board (SWRCB), and local GSAs. More information regarding the development of diversion volumes is presented in Table A6.D-3-5.

Losses associated with surface water deliveries are defined as fractions of each surface water diversion within MCSim and remain constant throughout the simulation period. Recoverable losses occur as seepage of water from the delivery system prior to arrival at the delivery destination. Accordingly, the fraction of recoverable loss represents water that recharges from conveyance losses associated with surface water deliveries. Non-recoverable losses occur from evapotranspiration associated with surface water deliveries. The fraction of non-recoverable loss represents water that does not recharge and occurs as an output from the SWS. The remaining percentage of surface water diversions (after subtraction of recoverable and non-recoverable losses) is considered the delivery fraction. The initial recoverable loss fractions used in the model were determined based on the average conveyance losses for each GSA, as calculated in the SWS water budgets (Chowchilla Subbasin GSP Appendices 2.F and Madera Subbasin GSP Appendices 2.H) performed outside the groundwater model. The initial non-recoverable loss fractions were determined based on the average evapotranspiration losses for each GSA, as calculated in the SWS

water budgets developed outside the groundwater model. Fractional losses and deliveries were further refined during the calibration process.

Table A6.D-3-4. Summary of Historical Surface Water Inflows Development.

Waterway	Calculation/Estimation Technique	Information Sources
Berenda Creek	Calculated from MID recorder measurements adjusted upstream to the subbasin boundary for estimated seepage and evaporation	MID Recorder 13, USDA Natural Resources Conservation Service (NRCS) soil survey, Fresno State/Madera/Madera II CIMIS Stations
Chowchilla River	Reported Buchanan Dam irrigation and flood releases	United States Army Corps of Engineers (USACE) records, CWD records
Cottonwood Creek	Calculated from MID recorder measurements adjusted upstream to the subbasin boundary for estimated seepage and evaporation	MID Recorder 14, NRCS soil survey, Fresno State/Madera/Madera II CIMIS Stations
Deadman's Creek	n/a	From C2VSim-FG Beta2
Dry Creek	Estimated as equal to Berenda Creek recorder measurements adjusted upstream to the subbasin boundary for estimated seepage and evaporation	MID Recorder 13, NRCS soil survey, Fresno State/Madera/Madera II CIMIS Stations
Dutchman Creek	Estimated as equal to Received Legrand water reported by CWD	CWD monthly water supply reports
Fresno River	Estimated as equal to USGS measurement site along Fresno River below Hidden Dam	USGS Site 11258000 (FRESNO R BL HIDDEN DAM NR DAULTON CA)
Fresno Slough	Extracted streamflow hydrograph at inflow point from C2VSim-FG Beta2 regional model	From C2VSim-FG Beta2
Madera Canal	Estimated as equal to USGS measurement site along Madera Canal near Friant	USGS Site 11249500 (MADERA CN A FRIANT CA)
San Joaquin River	Estimated as equal to USGS measurement site along San Joaquin River below Friant Dam	USGS Site 11251000 (SAN JOAQUIN R BL FRIANT CA)

In MCSim surface water diversions are assigned to groups of elements for water delivery and recharge. A total of 54 unique surface water delivery groups and 56 recharge groups were utilized in MCSim. The surface water delivery and recharge groups included 19 groups adapted from C2VSim-FG Beta2 and 46 additional groups added to refine surface water deliveries within the Madera and Chowchilla Subbasin. The configuration and inputs associated with delivery and recharge groups adapted from C2VSim-FG Beta2 were not altered in MCSim; for refined surface water diversions and deliveries added into MCSim, delivery and recharge volumes were assigned to the entirety of the GSA receiving water, unless more specific data was available. Delivery groups for additional MCSim diversions were refined in CWD and MID based on delivery zone data provided for each GSA. Recharge groups were refined in CWD, GFWD, and MID based on locations of delivery conveyance systems. If a canal was present in a given element, recharge water was assigned to that element. Delivery locations for surface water deliveries are shown in **Appendix A,** Figures A1 through A65 of this model report.

Table A6.D-3-5. Summary of Historical Surface Water Diversions Development.

Diversion Number	Detailed Component	Calculation/Estimation Technique	Information Sources
DIV_1 - DIV_19	C2VSim-FG Beta2 diversions data file	n/a	From C2VSim-FG Beta2
DIV_20 - DIV_23	Chowchilla River and Berenda Slough Diversions to CWD	Sum of Buchanan Dam and Madera Canal irrigation releases diverted by CWD, plus additional flood releases diverted to meet reported CWD deliveries; apportioned to each waterway based on CWD STORM delivery records, GIS analysis, and historical operations (18% from Chowchilla River, 82% from Berenda Slough)	USBR Central Valley Project (CVP) delivery records, USACE records, CWD STORM delivery database, CWD monthly water supply reports
DIV_24	Flood Diversions to CWD for managed recharge	Reported deliveries during flood releases prior to the start of the irrigation season	CWD STORM delivery database
DIV_25 - DIV_28	Diversions to GFWD	Reported by GFWD	Gravelly Ford WD reports
DIV_29, DIV_65	Dry Creek Diversions to MWD	Measured by MID, MWD	MID STORM delivery database, MWD delivery records
DIV_30	Fresno River Diversions to MID	Closure of Fresno River Balance	USGS Site 11258000 (FRESNO R BL HIDDEN DAM NR DAULTON CA), USBR CVP delivery records, IDC root zone water budget, NRCS soils characteristics, CIMIS precipitation data, MID recorders, riparian deliveries.
DIV_31 - DIV_42	Madera Canal Diversions to MID	Reported in USBR CVP delivery records at Madera Canal Miles 6.1, 13.06, 22.95, 24.1, 26.8, 27.5, 28.38, 28.39, 28.64, 30.4, 30.5, 32.2	USBR CVP delivery records
DIV_43 - DIV_58	Riparian Deliveries to MID, MC, and RCWD	Reported by historical water rights and statements of diversion, estimated from streamflow and crop ET when records not available	SWRCB Electronic Water Rights Information Management System (eWRIMS), Holding Contracts
DIV_59 - DIV_64	Water Rights Deliveries[1]	Reported riparian/appropriative/prescriptive water rights deliveries during flood releases and/or natural flood flows; estimated from streamflow and crop ET when records not available	CWD delivery records, eWRIMS, Fresno State/Madera/Madera II CIMIS Stations, land use data

[1] Includes riparian, appropriative, and prescriptive water rights deliveries during flood releases and/or natural flood flows along subbasin waterways.

3.1.3.4 Surface Water Bypasses

Surface water bypasses defined in the model simulate the movement of surface water between different waterways based on specified volumes or fractions. These bypasses can be used to simulate flood bypasses or water system operations. A total of eight surface water bypasses were included in MCSim. Two bypasses associated with moving surface water flows from the San Joaquin River into the Chowchilla Bypass and moving flows from the Chowchilla River into the East Side Bypass were initially adapted from C2VSim-FG Beta2. Six additional bypasses were added to MCSim as a means to simulate the operations of

MID and CWD surface water distribution systems. More information regarding the development of bypass volumes is presented in Table A6.D-3-6. Bypass locations are shown in **Figure 3-28**.

Table A6.D-3-6. Summary of Historical Surface Water Bypasses Development.

Bypass Number	Detailed Component	Calculation/Estimation Technique	Information Sources
BYP_1	Chowchilla Bypass	Calculated from San Luis & Delta-Mendota Water Authority (SLDMWA) CBP station measurements adjusted downstream to the subbasin boundary for estimated seepage and evaporation	SLDMWA CBP station, NRCS soil survey, Fresno State/Madera/Madera II CIMIS Stations
BYP_2	C2VSim-FG Beta2 diversions data file	N/A	From C2VSim-FG Beta2
BYP_3 - BYP_4	Madera Canal Diversions to CWD	Reported in USBR CVP delivery records at Madera Canal Miles 33.6 and 35.6	USBR CVP delivery records
BYP_5	MID Deliveries to CWD	Measured by MID, CWD	MID STORM delivery database
BYP_6 - BYP_7	Chowchilla River and Berenda Slough Diversions to CWD	Sum of Buchanan Dam and Madera Canal irrigation releases diverted by CWD, plus additional flood releases diverted to meet reported CWD deliveries; apportioned to each waterway based on CWD STORM delivery records, GIS analysis, and historical operations (18% from Chowchilla River, 82% from Berenda Slough)	USBR CVP delivery records, USACE records, CWD STORM delivery database, CWD monthly water supply reports
BYP_8	Madera Canal Mile 18.8 Diversions to MID, Fresno River	Reported in USBR CVP delivery records at Madera Canal Mile 18.8	USBR CVP delivery records

[1] Includes riparian, appropriative, and prescriptive water rights deliveries during flood releases and/or natural flood flows along subbasin waterways.

3.1.4 Groundwater System

The IFWM Groundwater Flow Process balances subsurface inflows and outflows and manages groundwater storage within each element and layer (Brush et al., 2016). The development of groundwater system input files is explained in this section.

3.1.4.1 Aquifer Parameters

Because C2VSim-FG Beta2 was not a calibrated model and the basis for determining aquifer parameters in previous versions of C2VSim-CG were not characterized, aquifer parameters were defined in MCSim through subsurface lithologic textural analysis in conjunction with calibration of parameters based on texture. Aquifer parameters in MCSim are assigned to each node for each model layer, and were developed to represent subsurface hydrogeologic characteristics.

Lithologic Texture

Geostatistical modeling was developed using Transition Probability Geostatistical Software (T-ProGS) (Carle and Fogg, 1996; Carle and Fogg, 1997). TProGS is used to develop a conditional simulation of subsurface heterogeneity based on 3-D Markov chain models. Markov chain models are used to calculate

the facies type at a given point given the occurrence of a facies type at another point and the specified probability of transitioning from one facies to another over a given distance.

Subsurface lithologic data were compiled from the existing texture database of lithologic log information developed by the USGS for the Central Valley Hydrologic Model (CVHM2) and supplemented with additional lithologic log information in areas of MCSim with missing or sparse data coverage in the CVHM2 database. Texture data were subdivided into 4 texture classes: clay, silt, sand or gravel. The borehole data were then discretized onto a 5-foot interval for analysis and incorporation into TProGS.

Each model domain was discretized into rectilinear cells with a 500-foot spacing in the horizontal direction and a 5-foot vertical spacing to conduct the sequential indicator simulation. The simulations were sequentially merged to develop a composite model (**Figure 3-29**). While TProGS can produce any number of equally probable simulations, one was selected to represent the subsurface geostatistical model used to develop the numerical groundwater model.

Assigning Aquifer Parameters

For setting of initial aquifer parameter values, results from the texture kriging were upscaled and mapped onto the model grid. The centroid of each texture cell was determined, and these points were assigned to MCSim model nodes using Thiessen polygons. Thiessen polygons were drawn around MCSim model nodes to define the area closest to each model node relative to other model nodes. All texture cell centroids within a given Thiessen polygon were assigned to the corresponding MCSim model node. Aquifer parameters for each MCSim model node and model layer were determined from analysis of the texture cell centroids within a given Thiessen polygon. Each vertical 5-ft interval for texture cells was assigned to a model layer. Initial aquifer parameter values (horizontal hydraulic conductivity (Kh), vertical hydraulic conductivity (Kv), specific yield (Sy), and specific storage (SS)) were set for each of the four texture categories (clay, silt, sand, gravel) assigned to each texture cell and five-foot vertical interval. Through an upscaling routine, aquifer parameters for individual texture cells and five-foot vertical interval were assigned to model nodes and layers. For upscaling of Kv, a harmonic mean of the specified values of Kv assigned for each texture class at 5-ft intervals was first calculated for each texture cell within each model layer. An arithmetic average of these resulting values by texture cell within each model node Thiessen polygon was calculated to represent the Kv value at each model node for each model layer. For upscaling of other aquifer parameters (Kh, Sy, SS) an arithmetic average of the vertical five-foot intervals within each model layer was calculated for each texture cell and then an arithmetic average of these resulting values was calculated for each model node Thiessen polygon for each model layer.

A fifth lithologic category was used to represent the occurrence of low-permeability materials associated with the basement complex within the MCSim model domain. Although the base of Layer 7 in the model was delineated to align with the base of continental deposits in many parts of the basin, because the contact between continental deposits and basement becomes steep along the eastern edge of the mode domain, in such areas MCSim simulated this contact through assignment of different aquifer parameters instead of through explicitly delineating this contact in the configuration of model layering. To achieve this, if a model layer was more than 50 percent below the mapped top of basement at a given model node, the node in that layer was designated as a basement complex node. Nodes designated as basement complex were assigned aquifer parameters associated with basement materials.

Calibration of Aquifer Parameters

Multipliers were selectively applied to aquifer parameters after the upscaling of lithology data to the model grid in an effort to improve representation of conceptual hydrogeologic elements in the model including the presence of different sedimentary geologic units in eastern parts of the model domain and also potential for greater consolidation and induration of materials with increasing depth and age. Two

principal types of aquifer multiplier were applied: an eastern area multiplier and also depth decay factors. Both types of multipliers were applied by individual layer and parameter.

Existing geologic mapping in the model area indicates the presence of different geologic units in the eastern parts of the subbasin, including some more lithified formations consisting of sandstone, siltstone, and conglomerate. The eastern area multiplier was applied to nodes in the area of the model domain generally east of Highway 99, roughly aligned with the mapped contact between deposits of alluvium and the more consolidated formations to the east.

The depth decay factor was applied to layers in the lower aquifer to represent the increased consolidation and induration that is believed to exist in older geologic units that are at greater depth and have undergone compression and compaction because of the geostatic load at greater depth.

A very low depth decay factor was applied to Layer 7 consistent with the greater depth of the layer and because the layer is below the depth at which groundwater pumping occurs in the area. Few or no wells penetrate to depths below the top of Layer 7 because it is below the base of freshwater. As a result, no groundwater pumping occurs at such great depths and little lithologic information is available so Layer 7 was represented with low aquifer properties to reduce any effect the layer may have on simulated conditions within the upper model layers where groundwater is actively used. Layer 7 was not considered in water budget estimates developed using the model.

3.1.4.2 Boundary Conditions

MCSim utilizes General Head boundary conditions. Conductance was determined at each boundary node by layer. Conductance was calculated in each layer based on Kh, distance between boundary nodes, aquifer layer thickness, and the distance from the model boundary (set as 1,000-ft). Transient historical water level boundary conditions were developed by using the interpreted initial head conditions in 1985 and applying relative changes based on simulated water levels derived from the USGS CVHM model for each model time step for the period 1985 to 2015. Because CVHM only simulates conditions through 2002, substitute years based on similar water year conditions were used to extent the historical boundary condition data through 2015. A similar approach to developing boundary head conditions was evaluated using C2VSim-CG simulated water levels, but this approach was not as successful in achieving sufficient calibration, likely in part because of the coarser vertical and lateral resolution of the model. A calibrated version of C2VSimFG was not available at the time of this modeling effort.

3.1.4.3 Groundwater Pumping

Pumping within MCSim is determined by element and is calculated internally by the IDC to meet both agricultural and urban demands after available surface water deliveries have been accounted for. The vertical distribution of pumping by layer in MCSim was modified based on review of well construction information in DWR's database of Well Completion Reports (WCR) for wells within the model domain. Agricultural and urban pumping were distributed vertically based on well construction information data in DWR's WCR database for respective well types. The vertical distribution of pumping does not change over the historical simulation period and was adjusted to accommodate model layers going dry over the simulation period because of lowering water levels. In such cases, pumping was moved to deeper layers to simulate pumping from greater depths. Maps of the vertical distribution of agricultural pumping by layer are presented in **Figures 3-30 through 3-36** and for urban pumping by layer in **Figures 3-37 through 3-43**.

3.1.5 Small Watersheds

A total of 44 small watersheds were included in MCSim from C2VSim-FG Beta2 (**Figure 3-44**). **Table A6.D-3-7** summarizes the contributions of small watersheds to modeled streams. Modifications were made to C2VSim-FG Beta2 small watersheds to properly route water through the additional streams modeled in MCSim. Additionally, minor edits to the contributing acreage of small watersheds were made to adjust to modifications of elements along model boundary.

Table A6.D-3-7. Summary of Small Watersheds.

Stream fed by Small Watersheds	Count of Contributing Watersheds	Total Contributing Watershed Acreage
Berenda Creek	3	4,694
Cottonwood Creek	3	12,710
Deadman's Creek	4	17,131
Dry Creek	3	15,820
Dutchman Creek	2	3,335
Fresno River	3	2,174
Madera Canal	16	31,814
San Joaquin River	10	42,899
TOTAL	44	130,577

3.1.6 Initial Conditions

Initial conditions for MCSim were generated from simulated output from C2VSimCG and the C2VSim-FGC2VSim-FG Beta2 regional models for October 1985 in conjunction with mapped groundwater conditions based on observed groundwater levels and contour interpretation.C2VSim-FG. MCSim initial Conditions for the unsaturated zone and small watersheds were defined from simulated C2VSim-FGC2VSim-FG Beta2 conditions. Available historical groundwater level data were used to interpret groundwater elevations across the domain in Fall 1985 for use in representation of initial model water level (head) conditions. Initial groundwater level conditions were interpreted separately for the Upper and Lower Aquifers, in areas within the extent of the Corcoran Clay. Layers 1 through 3 were assigned initial head conditions representative of the Upper Aquifer and Layers 4 through 7 were assigned initial head conditions representative of the Lower Aquifer. Outside the extent of the Corcoran Clay, all layers were assigned the same initial head conditions from the interpreted unconfined groundwater surface. Initial water level conditions used in the historical MCSim runs are shown in **Figures 3-45** through **3-51**.

3.2 Model Calibration

As described above, MCSim was calibrated through trial and error. The calibration process focused on adjusting key model parameter values to improve the fit of simulated data to observed data. The key model parameters included in calibration were aquifer properties and streambed properties. Aquifer parameters adjusted during calibration included Kh, Kv, Ss, and Sy, which were specified for individual texture categories in the textural model and then upscaled to model nodes, and associated spatial adjustment factors to represent varying degrees of consolidation of aquifer materials at depth and by area. Streambed properties adjusted during the calibration included streambed conductivity and wetted perimeter. Model results were compared to observed groundwater levels and measured stream flows and SWS water budget estimates developed outside the model (Chowchilla Subbasin GSP Appendices 2.F

and Madera Subbasin GSP Appendices 2.H). Observations used to constrain aquifer parameter values included approximately 9,000 groundwater level observations from 177 wells (**Figure 3-52**). Observations used to constrain stream bed parameters included approximately 1,800 stream flow measurements from 14 gage stations.

3.3 MCSim – Projected Model

MCSim was used to simulate projected future scenarios including under varying projects, management actions, and hydrology. The projected simulation period runs from WY 2016 through 2090 beginning on October 1, 2015 and ending September 30, 2090, at a monthly time step. Two distinct time periods exist in the future projected modeling: the implementation period (2020-2039), during which projects and management actions are enacted to bring the basin into sustainability, and the sustainability period (2040-2090), after which projects and management actions have been fully implemented. The development of the projected future scenarios in MCSim is described in this section.

3.3.1 Projected Hydrology

Future hydrology model inputs were projected into the future based on projected water year type and historical hydrology to achieve a future hydrologic period of 70 years that are representative and consistent with hydrology occurring over a historical 50-year period from 1965-2015. During the implementation period, an average climatic period was simulated by repeating the observed 10-year average climatic period from 2001-2010 twice for the 2020 to 2039 period. During the sustainability period, the 50-year climatic period from 1965-2015 is repeated. The projected water year type and assigned water years for use in future projections are shown in Table A6.D-3-8.

Table A6.D-3-8. Summary of Projected Water Years.

Water Year	Assigned Water Year	Water Year Type	Water Year	Assigned Water Year	Water Year Type	Water Year	Assigned Water Year	Water Year Type
1989	-	C	2023	2004	D	2057	1982	W
1990	-	C	2024	2005	W	2058	1983	W
1991	-	C	2025	2006	W	2059	1984	AN
1992	-	C	2026	2007	C	2060	1985	D
1993	-	W	2027	2008	C	2061	1986	W
1994	-	C	2028	2009	BN	2062	1987	C
1995	-	W	2029	2010	AN	2063	1988	C
1996	-	W	2030	2001	D	2064	1989	C
1997	-	W	2031	2002	D	2065	1990	C
1998	-	W	2032	2003	BN	2066	1991	C
1999	-	AN	2033	2004	D	2067	1992	C
2000	-	AN	2034	2005	W	2068	1993	W
2001	-	D	2035	2006	W	2069	1994	C
2002	-	D	2036	2007	C	2070	1995	W
2003	-	BN	2037	2008	C	2071	1996	W
2004	-	D	2038	2009	BN	2072	1997	W
2005	-	W	2039	2010	AN	2073	1998	W
2006	-	W	2040	1965	W	2074	1999	AN

Water Year	Assigned Water Year	Water Year Type	Water Year	Assigned Water Year	Water Year Type	Water Year	Assigned Water Year	Water Year Type
2007	-	C	2041	1966	BN	2075	2000	AN
2008	-	C	2042	1967	W	2076	2001	D
2009	-	BN	2043	1968	D	2077	2002	D
2010	-	AN	2044	1969	W	2078	2003	BN
2011	-	W	2045	1970	AN	2079	2004	D
2012	-	D	2046	1971	BN	2080	2005	W
2013	-	C	2047	1972	D	2081	2006	W
2014	-	C	2048	1973	AN	2082	2007	C
2015	-	C	2049	1974	W	2083	2008	C
2016	2016	D	2050	1975	W	2084	2009	BN
2017	2017	W	2051	1976	C	2085	2010	AN
2018	2018	AN	2052	1977	C	2086	2011	W
2019	1995	W	2053	1978	W	2087	2012	D
2020	2001	D	2054	1979	AN	2088	2013	C
2021	2002	D	2055	1980	W	2089	2014	C
2022	2003	BN	2056	1981	D	2090	2015	C

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

Climate change adjustments were also included in selected projected future scenarios to evaluate the potential influence of climate change on future conditions. The climate change factors applied are from the DWR CalSim II simulated volume projections based on State Water Project (SWP) and Central Valley Project (CVP) operations under the 2030 mean climate change scenario (SGMA Data Viewer). For precipitation, evapotranspiration, and surface inflows for unimpaired waterways, historical data was adjusted by the CalSim II 2030 monthly streamflow change factors by water year type. For surface inflows for impaired waterways, the CalSim II projected reservoir outflows (assuming 2030 climate change) was used when available (1965-2003), or inflows were estimated as the average monthly CalSim II projected volume by water year type in other years (2004-2015). For inflows to the San Joaquin River and other waterways stemming from it (i.e., Madera Canal), the projected flows from a report on future supplies by the Friant Water Authority (Friant Water Authority, 2018) were used, considering San Joaquin River Restoration Program (SJRRP) implementation and the CalSim II 2030 climate change projections (1965-2003), or inflows were estimated based on the average monthly projected volume by water year type (2004-2015) included in the Friant Water Authority Report (Friant Water Authority, 2018). Additional information about climate change adjustments used in projected future scenarios is included in Table A6.D-3-10 and Table A6.D-3-12.

3.3.2 Projected Future Scenarios

Four projected future scenarios were simulated to compare possible outcomes. These scenarios include: a Projected No Action scenario, a Projected No Action with Climate Change scenario, a Projected with Projects scenario, and a Projected with Projects and with Climate Change scenario. All four scenarios are simulated using historical climate data from an average period during the implementation period (2020-

2039). The Projected No Action and Projected No Action with Climate Change scenarios use no flow boundary conditions, under which no subsurface flow is assumed to enter or exit the model domain along the model boundary. The Projected with Projects and Projected with Projects with Climate Change scenarios use boundary conditions that assume adjacent basins are also implementing projects. The Projected with Climate Change and Projected with Projects with Climate Change scenarios incorporate the 2030 mean climate change scenario adjustment for precipitation, ET, stream inflows, and surface water diversion volumes. All other model inputs are held constant across projected future scenarios.

The Projected with Projects scenario was chosen as the baseline future projected scenario. The Projected with Projects with Climate Change, Projected No Action, and Projected No Action with Climate Change model runs were chosen as sensitivity analysis scenarios. Table A6.D-3-9 summarizes the differences between each projected future scenario.

Table A6.D-3-9. Summary of Projected Future Scenarios.

Scenario Conditions	Projected No Action	Projected No Action with Climate Change	Projected with Projects	Projected with Projects with Climate Change
Average Implementation Period	x	x	x	x
Climate Change Adjustment		x		x
Boundary Conditions - No Flow	x	x		
Boundary Conditions - Adjacent Basins Implementing Projects			x	x

3.3.3 Land Surface System

The development of land surface system datasets for projected future scenarios is described below.

3.3.3.1 Precipitation

Precipitation was updated for each element through September 2018 from PRISM. The precipitation amount in each future year was assumed to be equal to the amount in the historical water year assigned to that future year (Table A6.D-3-8). For scenarios with climate change adjustments, the historical precipitation amount was adjusted by using the CalSim II 2030 mean climate change scenario monthly water year type multiplier. Additional information about the development of projected precipitation rates is included in Table A6.D-3-10.

3.3.3.2 Evapotranspiration

Evapotranspiration rates were also projected into the future based on historical data from the assigned water year corresponding to the projected water year (Table A6.D-3-8) and projected changes in land use (described in Section 3.3.3.3). Additional information about the development of projected ET rates is included in Table A6.D-3-10.

Table A6.D-3-10. Development of Projected Future Land Surface Process Components.

Water Budget Component	Without Climate Change Adjustments		With Climate Change Adjustments	
	Implementation Period	Sustainability Period	Implementation Period	Sustainability Period
	(2020-2039)	(2040-2090)	(2020-2039)	(2040-2090)
Precipitation	2001-2010 historical data (2020-2029 and 2030-2039)	1965-2015 historical data (2040-2090)	2001-2010 historical data (2020-2029 and 2030-2039) adjusted by CalSim II 2030 monthly change factors by water year type	1965-2015 historical data (2040-2090) adjusted by CalSim II 2030 monthly change factors by water year type
Evapotranspiration	2001-2010 historical data (2020-2029 and 2030-2039), assuming 2017 land use adjusted for projected urban area growth from 2017-2039	1965-2015 historical data, assuming 2017 land use adjusted for projected urban area growth from 2017-2070 (urban area constant from 2071-2090)	2001-2010 historical data (2020-2029 and 2030-2039) adjusted by CalSim II 2030 monthly change factors by water year type, assuming 2017 land use adjusted for projected urban area growth from 2017-2039	1965-2015 historical data (2040-2090) adjusted by CalSim II 2030 monthly change factors by water year type, assuming 2017 land use adjusted for projected urban area growth from 2017-2070 (urban area constant from 2071-2090)

3.3.3.3 Land Use

No Action (Without Projects) Scenarios

Except in areas with urban growth, projected land use acreage in the Projected No Action scenarios was based on 2017 land use from DWR Land Use surveys and Land IQ results adjusted and interpolated through 2017 (GSP Appendix 2.A.). In areas with urban growth, agricultural acreage decreases over time with urban expansion. Urban growth trends from 1989 through 2017 were first analyzed and urban growth percentages were developed to project urban expansion into the future. Starting from 2017, urban area was increased through 2070 using these urban growth percentages when non-urban land was available for conversion in a model element. Any remaining non-urban land was distributed among the other land uses in the element based on each non-urban land use's percentage of total non-urban area in the element in 2017. After 2070, urban acreage was held constant through 2090.

Projected urban population in the Projected No Action scenarios was developed based on review of observed population growth during water years 1989-2017. Projected urban population growth in the City of Chowchilla was estimated based on average 10-year population growth and projections for 2000-2040 from the City of Chowchilla Sphere of Influence Expansion & Municipal Service Review (Land Use Associates, 2011). Projected urban population growth in the City of Madera was estimated based on average 5-year population growth and review of the Madera Area Municipal Service Review and Sphere of Influence Update (Quad Knopf, 2018). An average annual percent change in total population of 0.8 percent per year was used to project urban population in City of Madera, City of Chowchilla, Firebaugh, and Mendota between water years 2016-2070. Projected urban population growth in the Root Creek Water District area was based on district-provided growth through 2040 and the same 0.8% average growth rate estimated for Chowchilla and Madera in other years. Estimated urban population in water years 2071-2090 was held constant at the estimated population in 2070. The monthly projected urban

per capita water use between water years 2016 and 2090 was estimated to be the same as water year 2012.

With Projects Scenarios

Land use in the Projected with Projects scenarios is based on land use in the Projected No Action scenarios that is modified to incorporate reductions in non-ponded land use estimated to occur in response to demand management.

Demand management was simulated in MCSim by idling specified acreages of selected land uses each water year as estimated by the Madera County GSA Demand Management Simulation (Chowchilla Subbasin GSP Appendix 4.E.). Only the Madera County GSAs are planning demand management, so reduced land use only occurred in the Madera County GSAs. Water year 2020 land use was extracted from the Projected No Action land use dataset, and water years 2021-2070 land use was calculated by a percent change from the previous water year, starting in 2020 (see **Equation A6.D-1**). Idle acreage was used as a closure for each element in each water year.

water year n land use for each element	=	water year n-1 land use	*	(1 + percent change from water year n-1 to water year n)	**Equation A6.D-1**

CWD, Madera County – East, Madera County – West, and Triangle T Water District in the Chowchilla subbasin and the Madera Irrigation District, and Madera County in the Madera Subbasin also had small reductions in land use as cropped area will be converted to recharge basins. Additional crop acreage was idled following the same percent change method described above. The water year in which additional demand management is implemented and the selection of crops to be idled varies by GSA and is described in Table A6.D-3-11.

Table A6.D-3-11. Additional Land Use Changes by GSA.

Subbasin	GSA	Change Year	Acres Idled	Crop Idled	Notes
Chowchilla	Chowchilla WD	2025	1,200	All crops in GSA	
Chowchilla	Madera County - East	2025	340	Largest crop by acreage in GSA	No elements with almonds idled
Chowchilla	Madera County - West	2025	880	Largest crop by acreage in GSA	
Chowchilla	Triangle T WD	2020	685	All crops in GSA	
Madera	Madera ID	2025	90	Grapes	Idled 90 ac grapes
Madera	Madera County	2025	3,200	Largest crop by acreage in GSA	

3.3.4 Surface Water System

The development of surface water system datasets for projected future scenarios is described below.

3.3.4.1 Stream Inflows

Stream inflow volumes were projected into the future based on historical data from the assigned water year corresponding to the projected water year (Table A6.D-3-8), with the exception of inflows to the San Joaquin River which were estimated from a report on future supplies by the Friant Water Authority (Friant Water Authority, 2018). For scenarios with climate change, a climate change adjustment was incorporated into the projections. Additional information about the development of projected stream inflows is included in Table A6.D-3-12.

Table A6.D-3-12. Development of Projected Future Surface Water System Components.

Water Budget Component	Without Climate Change Adjustments		With Climate Change Adjustments	
	Implementation Period	Sustainability Period	Implementation Period	Sustainability Period
	(2020-2039)	(2040-2090)	(2020-2039)	(2040-2090)
Surface Water Inflow - Unimpaired Streams	2001-2010 historical data (2020-2029 and 2030-2039)	1965-2015 historical data (2040-2090)	2001-2010 historical data (2020-2029 and 2030-2039) adjusted by CalSim II 2030 monthly streamflow change factors by water year type	1965-2015 historical data (2040-2090) adjusted by CalSim II 2030 monthly streamflow change factors by water year type
Surface Water Inflow - Chowchilla River (Buchanan Dam Releases)	2001-2010 historical data (2020-2029 and 2030-2039)	1965-2015 historical data (2040-2090)	2001-2010 data (2020-2029 and 2030-2039): 2001-2003 historical data adjusted by CalSim II 2030 climate change projections for Eastman Lake; 2004-2010 data estimated as the historical volume adjusted by the average monthly climate-adjusted volume by water year type	1965-2003 historical data (2040-2078) adjusted by CalSim II 2030 climate change projections for Eastman Lake; 2004-2015 data (2079-2090) estimated as the historical volume adjusted by the average monthly climate-adjusted volume by water year type
Surface Water Inflow - Fresno River (Hidden Dam Releases)	2001-2010 historical data (2020-2029 and 2030-2039)	1965-2015 historical data (2040-2090)	2001-2010 data (2020-2029 and 2030-2039): 2001-2003 historical data adjusted by CalSim II 2030 climate change projections for Hensley Lake; 2004-2010 data estimated as the historical volume adjusted by the average monthly climate-adjusted volume by water year type	1965-2003 historical data (2040-2078) adjusted by CalSim II 2030 climate change projections for Hensley Lake; 2004-2015 data (2079-2090) estimated as the historical volume adjusted by the average monthly climate-adjusted volume by water year type

Water Budget Component	Without Climate Change Adjustments		With Climate Change Adjustments	
	Implementation Period	Sustainability Period	Implementation Period	Sustainability Period
	(2020-2039)	(2040-2090)	(2020-2039)	(2040-2090)
Surface Water Inflow - San Joaquin River (Friant Dam Releases)	Estimated based on the Friant Water Authority Report* (same as the implementation period with climate change adjustments**, see right)	Estimated based on the Friant Water Authority Report* (same as the implementation period with climate change adjustments**, see right)	2001-2010 data (2020-2029 and 2030-2039): 2001-2003 data provided by Friant Water Authority Report*, considering the CalSim II 2030 climate change projections and implementation of the SJRRP; 2004-2010 data estimated as the historical volume adjusted by the average Friant Report volume by month and water year type	1965-2003 data (2040-2078) provided by Friant Water Authority Report*, considering the CalSim II 2030 climate change projections and implementation of the SJRRP; 2004-2015 data (2079-2090) estimated as the historical volume adjusted by the average Friant Report volume by month and water year type
Surface Water Inflow - Chowchilla Bypass	Estimated based on the historical monthly ratio of Chowchilla Bypass (CBP) and San Joaquin River (SJR) flows, with projected SJR inflow data provided by the Friant Water Authority Report* (same as the implementation period with climate change adjustments**, see right)	Estimated based on the historical monthly ratio of CBP and SJR flows, with projected SJR inflow data provided by the Friant Water Authority Report* (same as the implementation period with climate change adjustments**, see right)	2001-2010 data (2020-2029 and 2030-2039): 2001-2003: estimated based on the historical monthly ratio of CBP and SJR flows by water year type, with projected SJR inflow data provided by the Friant Water Authority Report*, considering the CalSim II 2030 climate change projections and implementation of the SJRRP; 2004-2010: estimated based on the historical monthly ratio of CBP to SJR flows by water year type, with average projected SJR inflows calculated from 1921-2003 by month and water year type	1965-2003 (2040-2078): estimated based on the historical monthly ratio of CBP to SJR flows by water year type, with projected SJR inflow data provided by the Friant Water Authority Report*, considering the CalSim II 2030 climate change projections and implementation of the SJRRP; 2004-2015 (2079-2090): estimated based on the historical monthly ratio of CBP to SJR flows by water year type, with average projected SJR inflows calculated by month and water year type
Diversions from Madera Canal	Estimated based on the Friant Water Authority Report* (same as the implementation period with climate change adjustments**, see right)	Estimated based on the Friant Water Authority Report* (same as the implementation period with climate change adjustments**, see right)	2001-2010 data (2020-2029 and 2030-2039): 2001-2003 data provided by Friant Water Authority Report*, considering the CalSim II 2030 climate change projections and implementation of the SJRRP; 2004-2010 data estimated as the historical volume adjusted by the average Friant Report climate change volume by month and water year type	1965-2003 data (2040-2078) provided by Friant Water Authority Report*, considering the CalSim II 2030 climate change projections and implementation of the SJRRP; 2004-2015 data (2079-2090) estimated as the historical volume adjusted by the average Friant Report climate change volume by month and water year type

Water Budget Component	Without Climate Change Adjustments		With Climate Change Adjustments	
	Implementation Period	Sustainability Period	Implementation Period	Sustainability Period
	(2020-2039)	(2040-2090)	(2020-2039)	(2040-2090)
Other Diversions/ Bypasses	2001-2010 historical data (2020-2029 and 2030-2039)	1965-2015 historical data (2040-2090)	2001-2010 historical data (2020-2029 and 2030-2039)***	1965-2015 historical data (2040-2090)***

* "Estimate of Future Friant Division Supplies for use in Groundwater Sustainability Plans, California," Friant Water Authority, 2018.

** Although the Friant Water Authority Report (or Friant Report) accounts for climate change, it is considered the best available estimate of projected Madera Canal deliveries under SJRRP. For comparison, projected Madera Canal deliveries under SJRRP were also estimated without account for climate change from the Steiner Report Kondolf Hydrograph (Steiner, 2005). These estimates were approximately equal to the Friant Report 2030 climate change adjusted deliveries. Thus, the Friant Report projections were used instead to maintain consistent assumptions in estimating Madera Canal deliveries across all projected simulations.

*** Historical volumes specified in the model to ensure that GSAs can use as much surface water as is available in a given time step up to the maximum historical surface water used.

3.3.4.2 Diversions

Surface water diversion volumes were projected into the future based on assigned water year corresponding to projected water year type, with the exception of diversions from the Madera Canal which were estimated from a report on future supplies by the Friant Water Authority (Friant Water Authority, 2018). For scenarios with climate change, a climate change adjustment was incorporated into the projections. Additional information the development of projected surface water diversions is included in Table A6.D-3-13.

3.3.4.3 Projects

Two main types of projects were simulated in MCSim. The first type of project delivers flood water or uncontrolled releases from the Madera Canal to recharge basins or farmer's fields to increase groundwater recharge. The second type of project reduces groundwater pumping either by encouraging growers to use surface water rather than groundwater or by purchasing and importing additional surface water. Estimates of project configuration, cost and recharge were developed in close collaboration with each GSA. The objective of the projects (and demand management in the case of the Madera County GSA) is to increase recharge or reduce groundwater pumping a sufficient volume so groundwater pumping does not exceed the sustainable yield.

For recharge basins and flood managed aquifer recharge (flood-MAR) projects, diversion volumes were developed based on estimated recharge rates (four inches per day), the area flooded, and the water volumes available by water year type and month. For projects in which water is purchased and additional surface water is used by growers in lieu of groundwater, estimated diversion volumes were provided by the GSAs.

For projects using flood water, diversions were specified in the model as the maximum volumes that could be diverted and used by the projects. This ensured that projects could take as much water as was available in a given time step up to the maximum capacity of each project. Because maximum volumes were specified for each project, no climate change adjustment was applied to projects in the Projected with Projects with Climate Change scenario. Elements where recharge would occur were specified for each project. Additional surface water purchased, and additional surface water used by growers was assumed to be available to all elements in the GSA implementing the projects.

Project diversion locations are provided in **Figure 3-53.**

Diversion points were located downstream of historical diversions in order to prioritize historical diversions over project diversions. Project diversions were delivered to the entirety of the appropriate GSA, unless more detailed delivery information was provided for the project. Delivery locations for projects are shown in Figures A-66 through A-111 of **Appendix A**.

Table A6.D-3-13. Summary of Projected Projects by GSA.

Subbasin	GSA	Project Name	Project Mechanism and Source of Information
Chowchilla	Chowchilla WD	CWD Recharge Basin	Estimated Average Annual Groundwater Basin Recharge Volume (AF, based on D. Welch analysis in Groundwater Basin Spreading Analysis 80 acres Scenario 4 2018 09 11 - dm)
Chowchilla	Chowchilla WD	CWD Additional Recharge Basin	Estimated Average Annual Groundwater Basin Recharge Volume (AF, based on 1989-2014 Historical Flood Releases and Assumptions Above)
Chowchilla	Chowchilla WD	CWD Flood-MAR	Estimated Average Annual On-Farm Recharge Volume (AF, based on 1989-2014 Historical Flood Releases and Assumptions Above)
Chowchilla	Chowchilla WD	Merced-Chowchilla Intertie	Estimated Average Annual Surface Water sold from Merced ID to Chowchilla WD (AF, based on San Joaquin River Restoration Program, Working Administrative Draft, Water Management Goal - Investment Strategy, Project 101 Chowchilla-Merced Intertie)
Chowchilla	Chowchilla WD	Madera Canal Capacity Increase	Estimated Average Annual Short duration flood waters delivered through increased capacity (AF, based on San Joaquin River Restoration Program, Working Administrative Draft, Water Management Goal - Investment Strategy, Project 114 Madera Canal Capacity Exp
Chowchilla	Chowchilla WD	Eastman Lake Enlargement	Estimated Average Annual Increased Buchanan Dam deliveries through increased capacity (AF, based on San Joaquin River Restoration Program, Working Administrative Draft, Water Management Goal - Investment Strategy, Project 105 Eastman Lake Enlargement)
Chowchilla	Madera Co.-East	Madera County Purchase, Chowchilla	Import of "other water" (high cost) into Eastern portion of Madera County GSA using Madera Canal (use for irrigation in lieu of pumping GW)
Chowchilla	Madera Co.-East	Madera County Flood Import, Chowchilla	Import of CVP "flood" water (215 or other) into Eastern portion of Madera GSA using Madera Canal (use recharge ponds, deep dry wells and Flood-MAR on crop land)
Chowchilla	Madera Co.-East	MC-East Flood-MAR	Estimated Average Annual On-Farm Recharge Volume (AF, based on 1989-2014 Historical Flood Releases and Assumptions Above)

Subbasin	GSA	Project Name	Project Mechanism and Source of Information
Chowchilla	Madera Co.-West	Madera County Recharge Basin, Chowchilla	Estimated Average Annual Frequency Summary Table--Recharge Basins off Eastside Bypass--Flood Flows in W and AN
Chowchilla	Madera Co.-West	Red Top Joint Banking Project (Madera County)	Estimated Average Annual Frequency Summary Table--MARPO Red Top Joint Banking Project--7 new 20-CFS slant pump turnouts to flood recharge basins and fields
Chowchilla	Madera Co.-West	Red Top Joint Banking Project (Ash) (Madera County)	Estimated Average Annual Frequency Summary Table--MARPO Red Top Joint Banking Project--CWD turnout replacement on Ash Slough--assume 20 CFS for 90 days in W years to flood recharge basins and fields
Chowchilla	Sierra Vista MWC	SVMWC Recharge Basin	Estimated Average Annual Frequency Summary Table--100 CFS per day to flood recharge basins
Chowchilla	Triangle T WD	Settlement Agreement	Estimated Average Annual Frequency Summary Table—TTWD Purchased contract water, based on settlement agreement with Exchange contractors
Chowchilla	Triangle T WD	Eastside Bypass Flood WR Application	Estimated Average Annual Frequency Summary Table--Eastside Bypass Flood WR Application--flood recharge basins and fields
Chowchilla	Triangle T WD	Red Top Joint Banking Project (TTWD)	Estimated Average Annual Frequency Summary Table--MARPO Red Top Joint Banking Project--5 new 20-CFS slant pump turnouts to flood recharge basins and fields
Chowchilla	Triangle T WD	Red Top Joint Banking Project (TTWD)	Estimated Average Annual Frequency Summary Table--MARPO Red Top Joint Banking Project--new 48-inch RCBC (60 to 150 CFS) off Eastside Bypass to Fresno River with capacity improvements to Grover Junction to flood recharge basins and fields
Madera	City of Madera	Berry Basin (City of Madera)	Berry Basin Project--Completed--Flood Flows and 215 water in W, AN and BN years
Madera	Gravelly Ford WD	GFWD Recharge Basin	Recharge Basin Project--Flood Flows and 215 water in W, AN and BN years
Madera	Madera County	Madera County Purchase, Madera	Import of "other water" (high cost) into Eastern portion of Madera County GSA using Madera Canal (use for irrigation in lieu of pumping GW)
Madera	Madera County	Madera County Flood Import, Madera	Import of CVP "flood" water (215 or other) into Eastern portion of Madera GSA using Madera Canal (use recharge ponds, deep dry wells and Flood-MAR on crop land)
Madera	Madera County	Madera County Recharge Basins, Madera	Recharge Basins off Chowchilla Bypass--Flood Flows in W and AN
Madera	Madera County	Madera County Additional Recharge	Additional Recharge of Chowchilla Bypass--Flood Flows in W and AN Water Years

Subbasin	GSA	Project Name	Project Mechanism and Source of Information
Madera	Madera ID	MID Recharge Basin Rehabilitation	Estimated Average Annual Frequency Summary Table--MID Recharge Basin Rehabilitation Project--Existing Rehabilitated--Flood Flows and 215 water in W, AN and BN years, reduced volume in critical years is Hensley Lake water put in basins to reduce evaporation from Hensley Lake
Madera	Madera ID	MID Pipeline Project	Estimated Average Annual Frequency Summary Table--MID Pipeline Project, Main I-Road 23 Project - 5900'--reduces evaporation and provides additional water to fields by lengthening the season
Madera	Madera ID	Ellis Basin	Estimated Average Annual Frequency Summary Table--Ellis Basin Project--Completed--Flood Flows and 215 water in W, AN and BN years
Madera	Madera ID	On-Farm Recharge Pilot Project	Estimated Average Annual Frequency Summary Table--On-Farm Recharge Project (Flood-MAR) Pilot Project
Madera	Madera ID	Berry Basin	Estimated Average Annual Frequency Summary Table--Berry Basin Project--Completed--Flood Flows and 215 water in W, AN and BN years
Madera	Madera ID	WaterSMART Pipeline Project	Estimated Average Annual Frequency Summary Table--WaterSMART Pipeline Project--reduces evaporation and provides additional water to fields by lengthening the season
Madera	Madera ID	WaterSMART SCADA Project	Estimated Average Annual Frequency Summary Table--WaterSMART SCADA Project--reduces evaporation and provides additional water to fields by lengthening the season
Madera	Madera ID	MID Recharge Basin Acquisition	Estimated Average Annual Frequency Summary Table--MID Recharge Basin Acquisition--22-acre Basin (Allende Basin) --Flood Flows and 215 water in W, AN and BN years, reduced volume in critical years is Hensley Lake water put in basins to reduce evaporation from Hensley Lake
Madera	Madera ID	MID Water Supply Development-Partnerships	Estimated Average Annual Frequency Summary Table--Water Supply Development-Partnerships
Madera	Madera ID	MID Recharge Basin Acquisition	Estimated Average Annual Frequency Summary Table--Recharge Basin Acquisition--locate, acquire and develop property for recharge--Flood Flows and 215 water in W, AN and BN years,
Madera	Madera ID	MID Water Supply Development-Partnerships Additional	Estimated Average Annual Frequency Summary Table--Water Supply Development-Partnerships Additional
Madera	Madera ID	MID Flood-MAR Enhanced Project	Estimated Average Annual Frequency Summary Table--Flood-MAR Enhanced Project

Subbasin	GSA	Project Name	Project Mechanism and Source of Information
Madera	Madera ID	MID Incentive Programs	Estimated Average Annual Frequency Summary Table--Explore new fee structures and incentive-based programs Incentives to use surface water
Madera	Madera ID	MID Additional Recharge	Additional Recharge
Madera	Madera WD	MWD Water Purchase	Madera Water District plans to purchase surface water in wet and above normal years to offset groundwater pumping during below normal, dry and critical years.
Madera	New Stone WD	Exercise of Appropriative Right	NSWD GSA has an appropriative water right along the Chowchilla Bypass (referred to as Eastside Bypass/Chowchilla Canal in permit) of 15,700 acre-feet/year (permit number 19615).
Madera	Root Creek WD	RCWD pipeline	Root Creek Water District--Surface Water delivered and applied through distribution system off MID Lateral 6.2
Madera	Root Creek WD	RCWD Surface Water Delivery Increase	Surface Water Delivery Increase from USBR Holding Contracts on San Joaquin River

3.3.4.4 Bypasses

Bypass volumes were projected into the future based on the water year type of the assigned historical year. The inflows to the Chowchilla Bypass from the San Joaquin River were estimated based on the historical monthly ratio of Chowchilla Bypass USGS stream gage (CBP) and projected San Joaquin River flows provided by a report on future supplies by the Friant Water Authority (Friant Water Authority, 2018). For scenarios with climate change, a climate change adjustment was incorporated into the projections. Additional information about the development of projected bypass volumes is included in Table A6.D-3-12.

3.3.5 Groundwater System

The development of groundwater system datasets for projected future scenarios is described below.

3.3.5.1 Boundary Conditions

Several different boundary head conditions were developed for use in evaluating potential future conditions in the projected future scenarios. Future boundary head conditions scenarios were developed for: 1) no subsurface flow boundary conditions, 2) continuation of the average historical trend in groundwater levels over the period 1989 to 2015, and 3) gradual ramping down of the average historical groundwater level trend over the implementation period (2020-2040) with long-term stable trends in groundwater levels from 2040 to 2070 and 2090. In developing the future groundwater head conditions, head conditions developed over the historical model base period from 1989 to 2015 were substituted based on similar water year types for the projected period. The relative changes in boundary head conditions from the base period were used to represent the appropriate trend in boundary head conditions to be represented at each boundary node. In scenarios in which the historical trend in boundary heads was ramped down over the implementation period and then set as stable for the sustainability period past 2040, adjustments were applied to achieve reductions in trend slopes in intervals of five years

from 2020 to 2040 and then an adjustment to represent a zero long-term trend was applied for both the periods 2040 to 2070 and also 2070 to 2090.

In the future simulations, both the Projected No Action and Projected No Action with Climate Change scenarios assume no flow boundary conditions, under which no subsurface flow enters or exits the model domain along the model boundary. In the No Action scenarios, it is assumed that no subbasin is subject to SGMA, so levels continue to fall in neighboring subbasins also. In this situation, inflows probably remain about the same. To model this, a boundary condition of no subsurface inflow or outflow at the model boundary is assumed (approximately 5-10 miles outside Chowchilla and Madera Subbasin boundaries. The Projected with Projects and Projected with Projects with Climate Change scenarios utilize general head boundary conditions with the assumption that adjacent basins are also implementing projects and experience ramping down of historical groundwater level trends with generally stable water level conditions after 2040. The same conductance values from the Historical simulation period are also used for the projected future general head boundary conditions.

3.3.5.2 Groundwater Pumping

The pumping specifications used for the historical simulation period were retained for the duration of all projected simulations (2015-2090) except in the Western Management Area (MA) of Chowchilla Subbasin. Due to the general need to reduce pumping from the Lower Aquifer in many parts of the Western MA to mitigate for potential subsidence impacts, in projected scenarios much of the pumping that occurred from the Lower Aquifer in the Western MA under the historical simulations was shifted into the Upper Aquifer model layers for the projected simulations. As a result, in the Western MA approximately 90 percent of projected pumping occurs in the Upper Aquifer and 10 percent is in the Lower Aquifer. Maps of the vertical distribution of projected agricultural pumping by layer are presented in **Figures 3-54 through 3-60** and for projected urban pumping by layer in **Figures 3-61 through 3-67**.

3.3.6 Initial Conditions

Initial conditions for projected future simulation in MCSim were generated from the historical simulation in MCSim. Initial Conditions for the unsaturated zone, root zone, small watersheds, and groundwater levels were defined as the final conditions of the historical simulation in MCSim. Initial water levels are shown in **Figures 3-68 through 3-74**.

4 GROUNDWATER FLOW MODEL RESULTS

Calibrated parameter values for the historical model simulation as well as water budgets for both the historical and projected future scenarios in MCSim are presented in this section. Model calibration involves the adjustment of model parameters to achieve a model that simulates the observed hydrologic system as best possible. Model parameters adjusted during calibration include aquifer parameters, streambed parameters, and fractional conveyance losses. The final parameters for the calibrated model are presented in this section. Previous discussion of the calibration process and values was also presented in sections 3.1 and 3.2.

4.1 Aquifer Parameters

Initial aquifer parameter values assigned to each lithology texture categories (clay, silt, sand, gravel) were based on reported literature values. These values were further refined and adjusted during the calibration process. Final calibrated values for each of the texture categories are presented in **Table A6.D-4-1.** These parameter values were used in the upscaling routine to generate aquifer parameter values for each model node. The upscaling process was previously described in Section 3.1.4.1.

4.1.1 Hydraulic Conductivity

The calibrated horizontal hydraulic conductivity (Kh) values range from 0.49 feet per day (ft/d) for clay to 500 ft/d for gravel (Table A6.D-4-1). Calibrated Kh in clays and silts are higher than values reported in the literature because the lithologic categories in the model represent the dominant material type although, they often include a mixture of some coarser and more permeable deposits such as sand. The final Kh values in the calibrated model area shown by model layer in **Figures 4-1 through 4-7**. Calibrated vertical hydraulic conductivity (Kv) values range from 0.028 ft/d for clay to 268 ft/d for gravel (Table A6.D-4-1). Kv values for the aquitard layers were derived based on C2VSim-FG Beta2 values used for the Corcoran Clay (E-Clay) with some adjustments. Aquitard Kv values for the Corcoran Clay, E-Clay (Layer 4 aquitard) were assigned as the C2VSim-FG Beta2 value for E-Clay at that model node. Because of the interpreted reduced lateral and vertical continuity of the A-Clay and C-Clay units, aquitard Kv values representative of the A-Clay (Layer 2 aquitard) were assigned as 1.5 times C2VSim-FG Beta2 value for E-Clay at that model node and aquitard Kv values for the C-Clay (Layer 3 aquitard) were assigned as 2 times C2VSim-FG Beta2 value for E-Clay at that model node. The Kv values in the calibrated model are shown by model layer in **Figures 4-8 through 4-17**.

4.1.2 Storage Coefficients

Final specific yield (Sy) values used in the calibrated model range from 0.03 for clay to 0.2 for both sand and gravel (Table A6.D-4-1). Final Sy values in the calibrated model by layer are shown in **Figures 4-18 through 4-24**. Specific storage (Ss) values used in the calibrated model range from 1.64×10^{-6} ft^{-1} for gravel to 1.39×10^{-5} ft^{-1} for clay (Table A6.D-4-1). Final calibrated Ss values by model layer are shown in **Figures 4-25 through 4-31**. The calibrated Ss term incorporates elastic storage, inelastic storage, and the compressibility of water. The C2VSim-FG Beta2 model available for use in development of the MCSim model and at the time of this model report, does not currently include the capability to simulate land subsidence. With the inclusion of a subsidence component in future versions of IWFM, which will account for the inelastic storage component, the Ss term can be refined in future versions of MCSim to include only elastic storage.

Table A6.D-4-1. Summary of Calibrated Aquifer Parameter Values.

		Aquifer Parameters			
		Horizontal Conductivity (Kh)	Specific Storage (Ss)	Specific Yield (Sy)	Vertical Conductivity (Kv)
Lithology Type	Gravel	500	1.64E-06	0.2	268
	Sand	300	2.44E-06	0.2	35
	Silt	5	3.68E-06	0.1	0.06
	Clay	0.49	1.39E-05	0.03	0.028
	Basement	0.005	2.40E-06	0.025	5.00E-03
Units		ft/d	ft^{-1}	-	ft/d
Eastern Area Consolidation Factor	Layer 1	0.5	1	1	0.5
	Layer 2	0.5	1	1	0.5
	Layer 3	0.5	1	1	0.5
	Layer 4	0.5	1	0.5	0.5
	Layer 5	0.5	1	0.5	0.5
	Layer 6	0.5	1	0.5	0.5
Depth Decay Factor	Layer 1	1	1	1	1
	Layer 2	1	1	1	1
	Layer 3	1	1	1	1
	Layer 4	0.4	0.6	0.6	0.4
	Layer 5	0.2	0.4	0.6	0.2
	Layer 6	0.2	0.2	0.6	0.2
	Layer 7	0.00001	0.00001	0.00001	0.00001

4.1.3 Groundwater Levels

A subset of the 2,377 wells that have observed groundwater levels in the study area was selected for model calibration. Wells were selected to provide a broad representation of the model domain based on the spatial distribution, availability of associated well construction information, depth zone of well completion (e.g., Upper Aquifer, Lower Aquifer), and period of record of available water level data. A total of 177 wells were selected to be used in calibration of MCSim with a total of 8,928 water level observations during the calibration period. Simulated and observed groundwater elevations were compared over the 1988 through 2015 calibration period. Well hydrographs of simulated and observed groundwater elevations used for model calibration are included in **Appendix B**.

To quantify model fit between the simulated and observed groundwater levels, residual (simulated minus observed) groundwater levels were calculated for each well. To summarize calibration results, a single model layer was selected to compare to observed water levels. In some cases, a well is constructed across multiple model layers, or no construction details were available to determine where the well was screened. In these cases, a single model layer was chosen for each well based on a qualitative review of the hydrograph.

A histogram of residual groundwater elevations for all observations is shown in **Figure 4-32**. Residual groundwater levels range from -184 feet to 171 feet, with 41 percent of simulated groundwater elevations within 10 feet of observed and 73 percent of simulated groundwater elevations within 20 feet of observed. A review of average residual groundwater elevations by well (**Figure 4-33**) shows that 92 wells, or 52 percent of total, have an average residual groundwater elevation within 10 feet of observed, while 131 wells, or 74 percent of total, have an average residual groundwater elevation within 20 feet of observed. Average residual groundwater elevations by well range from -97 feet to 46 feet.

The relation between observed and simulated groundwater elevations is shown by layer in **Figure 4-34**. Points plotting above 1-to-1 correlation line represent observations where MCSim is simulating higher than observed groundwater elevations, while points plotting below the 1-to-1 correlation line represent observations where MCSim simulating lower than observed groundwater elevations. In general, points are plotting close to the 1-to-1 correlation line, indicating a good model fit.

The relationship between residual and observed groundwater elevations is shown by layer in **Figure 4-35**. This figure shows that the model generally predicts water levels close to observed in the Upper Aquifer. The model tends to predict higher than observed levels at lower observed groundwater elevations, while the model tends to predict lower than observed levels at higher observed groundwater elevations in the Lower Aquifer, particularly in Layer 4.

The spatial distribution of residual errors in the simulated levels are presented in **Figure 4-36**. Chowchilla Subbasin is generally well calibrated. Madera Subbasin is also generally well calibrated; however, residuals tend to increase in the eastern portion of the subbasin and along subbasin boundaries. The spatial distribution of residual errors in the simulated levels by layer are presented in **Figure 4-37**. The greatest residuals are generally observed in the Lower Aquifer. Layer 4 is generally well calibrated in the western portions of Chowchilla and Madera Subbasins, but residuals tend to increase in the eastern portions of the Subbasins. Layer 5 is generally well calibrated in both Chowchilla and Madera Subbasins, with the exception of the southwestern border of Madera Subbasin and along the Chowchilla Bypass in Chowchilla Subbasin.

4.1.4 Stream Flow

Observed stream flow was compared to simulated stream flow at 12 locations (**Figure 4-38**). Observed stream flow data were available from 16 stations for these 12 locations from the USGS and California Data Exchange Center (CDEC). Hydrographs of observed versus simulated stream flows are available in **Appendix C**. In general, simulated stream flows closely match observed stream flows, where data are available.

Because observed stream flow data were only available along the San Joaquin River, stream seepage estimates developed outside the model for ungaged waterways were also used to inform the calibration of stream flow along modeled stream reaches where observed data are not available. Table A6.D-4-2 presents a comparison of the average annual residual (simulated minus estimated values) for stream seepage values for all simulated streams in the model domain.

Table A6.D-4-2. Summary of Residual Average Annual Stream Seepage.

	Water Year Type						
	W	AN	BN	D	C	Total	
Madera Subbasin	-5,555	-3,970	-6,034	-5,321	-6,312	-5,660	AF/month
Chowchilla Subbasin	9,220	3,177	-57	908	1,235	3,673	AF/month
MCSim	1,161	-721	-3,317	-2,489	-2,882	-1,418	AF/month

4.1.5 Groundwater Pumping

Over the historical model period, on average 20 percent of pumping occurred in the Upper Aquifer and 80 percent occurred in the Lower Aquifer within the Chowchilla Subbasin. Pumping shifts toward greater Upper Aquifer pumping during the projected model period, with an average of 35 percent in the Upper Aquifer and 65 percent in the Lower Aquifer during the Implementation Period (2020-2039), and an average of 34 percent in the Upper Aquifer and 66 percent in the Lower Aquifer during the Sustainability Period (2040-2090).

In accordance with the need to reduce pumping from the Lower Aquifer in many parts of the Western MA of the Chowchilla Subbasin to mitigate for potential subsidence impacts, much of the pumping that occurred from the Lower Aquifer in the Western MA under the historical simulations was shifted into the Upper Aquifer model layers for the projected simulations. Over the historical model period, on average 48 percent of pumping occurred in the Upper Aquifer and 52 percent occurred in the Lower Aquifer within the Western MA. During the projected model period, there was an average of 86 percent of total pumping in the Upper Aquifer and 14 percent in the Lower Aquifer during the Implementation Period (2020-2039), and an average of 87 percent of total pumping in the Upper Aquifer and 13 percent in the Lower Aquifer during the Sustainability Period (2040-2090). This shift results in an average of about 0.25 AF/ac per year of pumping from the Lower Aquifer within the Western MA in the projected simulation.

Over the historical model period, on average 30 percent of pumping occurred in the Upper Aquifer and 70 percent occurred in the Lower Aquifer within the Madera Subbasin. Pumping remains essentially constant during the projected model period, with an average of 27 percent in the Upper Aquifer and 73 percent in the Lower Aquifer during the Implementation Period (2020-2039), and an average of 28 percent in the Upper Aquifer and 72 percent in the Lower Aquifer during the Sustainability Period (2040-2090).

4.2 Water Budget

Separate groundwater budgets were generated for both the Chowchilla and Madera Subbasins for each of the model simulations. Water budget results are presented in the following sections.

4.2.1 Historical Period, 1989-2015

The water budget during the historical calibration period simulation was calculated for the 1989-2015 water years from October 1, 1988 through September 30, 2015.

Table A6.D-4-3. Summary of Historical and Projected Groundwater Pumping in MCSim.

		Madera Subbasin	Chowchilla Subbasin	Western MA (Chowchilla)	
		348,953	145,684	45,079	ac
Historical Period (1989-2015)	Upper	143,632	51,414	46,338	AF/yr
	Lower	336,667	209,813	50,651	AF/yr
	Upper	0.41	0.35	1.03	AF/ac/yr
	Lower	0.96	1.44	1.12	AF/ac/yr
	Upper	30%	20%	48%	%
	Lower	70%	80%	52%	%
Implementation Period (2020-2039)	Upper	133,197	96,471	91,994	AF/yr
	Lower	358,569	180,187	15,016	AF/yr
	Upper	0.38	0.66	2.04	AF/ac/yr
	Lower	1.03	1.24	0.33	AF/ac/yr
	Upper	27%	35%	86%	%
	Lower	73%	65%	14%	%
Sustainability Period (2040-2090)	Upper	124,775	84,773	79,721	AF/yr
	Lower	322,587	163,701	11,665	AF/yr
	Upper	0.36	0.58	1.77	AF/ac/yr
	Lower	0.92	1.12	0.26	AF/ac/yr
	Upper	28%	34%	87%	%
	Lower	72%	66%	13%	%

4.2.1.1 Chowchilla Subbasin

Change in groundwater storage shows an overall decrease of approximately 976,000 acre-feet (AF) over the 28-year period or an average decrease of about 36,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 57,000 AF per year. Deep percolation accounts for an average recharge of about 120,000 AF per year. Groundwater pumping accounts for an average discharge of about 261,000 AF per year. Net subsurface inflow accounts for an average of about 49,000 AF per year with approximately 17,000 AF per year of net inflow from Madera Subbasin, 5,000 AF per year of net inflow from Merced Subbasin, and 27,000 AF per year of net inflow from Delta-Mendota Subbasin. There is significant uncertainty in subsurface inflow/outflow estimates because these calculations depend on a variety of factors inside and outside the subbasin.

Detailed historical water budget results for Chowchilla Subbasin are presented in **Appendix D.1.a.** and **Appendix D.1.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix B**.

4.2.1.2 Madera Subbasin

Change in groundwater storage shows an overall decrease of approximately 1,250,000 AF over the 28-year period or an average decrease of about 46,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 140,000 AF per year. Deep percolation accounts for an average recharge of about 223,000 AF per year. Groundwater pumping accounts for an average discharge of about 480,000 AF per year. Net subsurface inflow accounts for an average of about 70,000 AF per year with approximately 17,000 AF per year of net outflow to Chowchilla Subbasin, 60 AF per year of net inflow from Merced Subbasin, 22,000 AF per year of net inflow from Delta-Mendota Subbasin, and 65,000 AF per year of net inflow from Kings Subbasin. There is significant

uncertainty in subsurface inflow/outflow estimates because these calculations depend on a variety of factors inside and outside the subbasin.

Detailed historical water budget results for Chowchilla Subbasin are presented in **Appendix D.1.b.** and **Appendix D.1.d.**, and groundwater elevation hydrographs at select wells are included in **Appendix B**.

4.2.2 Implementation Period, 2020-2039

The water budget during the implementation period simulation was calculated for the 2020-2039 water years from October 1, 2019 through September 30, 2039.

4.2.2.1 Chowchilla Subbasin

Projected with Projects

Change in groundwater storage shows an overall decrease of approximately 347,000 AF over the 20-year period or an average decrease of about 17,000 AF per year. Net stream seepage, which includes in-channel seepage, conveyance losses and project recharge, accounts for an average recharge of about 81,000 AF per year. Deep percolation accounts for an average recharge of about 112,000 AF per year. Groundwater pumping accounts for an average discharge of about 277,000 AF per year. Net subsurface inflow accounts for an average of about 66,000 AF per year with approximately 25,000 AF per year of net inflow from Madera Subbasin, 2,000 AF per year of net outflow to Merced Subbasin, and 43,000 AF per year of net inflow from Delta-Mendota Subbasin.

Detailed projected with projects water budget results for Chowchilla Subbasin are presented in **Appendix D.2.a.** and **Appendix D.2.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.1**.

Projected with Projects, with Climate Change

Change in groundwater storage shows an overall decrease of approximately 730,000 AF over the 20-year period or an average decrease of about 36,000 AF per year. Net stream seepage, which includes in-channel seepage, conveyance losses and project recharge, accounts for an average recharge of about 90,000 AF per year. Deep percolation accounts for an average recharge of about 114,000 AF per year. Groundwater pumping accounts for an average discharge of about 318,000 AF per year. Net subsurface inflow accounts for an average of about 77,000 AF per year with approximately 25,000 AF per year of net inflow from Madera Subbasin, 14,000 AF per year of net inflow from Merced Subbasin, and 39,000 AF per year of net inflow from Delta-Mendota Subbasin.

Detailed projected with projects with climate change water budget results for Chowchilla Subbasin are presented in **Appendix D.3.a.** and **Appendix D.3.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.2**.

Projected No Action

Change in groundwater storage shows an overall decrease of approximately 1,150,000 AF over the 20-year period or an average decrease of about 57,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 61,000 AF per year. Deep percolation accounts for an average recharge of about 111,000 AF per year. Groundwater pumping accounts for an average discharge of about 303,000 AF per year. Net subsurface inflow accounts for an average of about 73,000 AF per year with approximately 36,000 AF per year of net inflow from Madera Subbasin, 13,000 AF per year of net outflow to Merced Subbasin, and 50,000 AF per year of net inflow from Delta-Mendota Subbasin.

Detailed projected water budget results for Chowchilla Subbasin are presented in **Appendix D.4.a.** and **Appendix D.4.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.3**.

Projected No Action, with Climate Change

Change in groundwater storage shows an overall decrease of approximately 1,730,000 AF over the 20-year period or an average decrease of about 87,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 54,000 AF per year. Deep percolation accounts for an average recharge of about 110,000 AF per year. Groundwater pumping accounts for an average discharge of about 344,000 AF per year. Net subsurface inflow accounts for an average of about 93,000 AF per year with approximately 37,000 AF per year of net inflow from Madera Subbasin, 1,400 AF per year of net inflow from Merced Subbasin, and 55,000 AF per year of net inflow from Delta-Mendota Subbasin.

Detailed projected with climate change water budget results for Chowchilla Subbasin are presented in **Appendix D.5.a.** and **Appendix D.5.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.4**.

4.2.2.2 Madera Subbasin

Projected with Projects

Change in groundwater storage shows an overall decrease of approximately 634,000 AF over the 20-year period or an average decrease of about 32,000 AF per year. Net stream seepage, which includes in-channel seepage, conveyance losses, and project recharge, accounts for an average recharge of about 166,000 AF per year. Deep percolation accounts for an average recharge of about 199,000 AF per year. Groundwater pumping accounts for an average discharge of about 492,000 AF per year. Net subsurface inflow accounts for an average of about 95,000 AF per year with approximately 25,000 AF per year of net outflow to Chowchilla Subbasin, 60 AF per year of net inflow from Merced Subbasin, 41,000 AF per year of net inflow from Delta-Mendota Subbasin, and 80,000 AF per year of net inflow from Kings Subbasin.

Detailed projected with projects water budget results for Madera Subbasin are presented in **Appendix D.2.b.** and **Appendix D.2.d.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.1**.

Projected with Projects, with Climate Change

Change in groundwater storage shows an overall decrease of approximately 1,200,000 AF over the 20-year period or an average decrease of about 61,000 AF per year. Net stream seepage, which includes in-channel seepage, conveyance losses, and project recharge, accounts for an average recharge of about 162,000 AF per year. Deep percolation accounts for an average recharge of about 199,000 AF per year. Groundwater pumping accounts for an average discharge of about 530,000 AF per year. Net subsurface inflow accounts for an average of about 109,000 AF per year with approximately 25,000 AF per year of net outflow to Chowchilla Subbasin, 60 AF per year of net inflow from Merced Subbasin, 46,000 AF per year of net inflow from Delta-Mendota Subbasin, and 88,000 AF per year of net inflow from Kings Subbasin.

Detailed projected with projects with climate change water budget results for Madera Subbasin are presented in **Appendix D.3.b.** and **Appendix D.3.d.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.2**.

Projected No Action

Change in groundwater storage shows an overall decrease of approximately 2,040,000 AF over the 20-year period or an average decrease of about 102,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 144,000 AF per year. Deep percolation accounts for an average recharge of about 192,000 AF per year. Groundwater pumping accounts for an average discharge of about 546,000 AF per year. Net subsurface inflow accounts for an average of about 107,000 AF per year with approximately 36,000 AF per year of net outflow to Chowchilla Subbasin, 60 AF per year of net inflow from Merced Subbasin, 63,000 AF per year of net inflow from Delta-Mendota Subbasin, and 81,000 AF per year of net inflow from Kings Subbasin.

Detailed projected water budget results for Madera Subbasin are presented in **Appendix D.4.b.** and **Appendix D.4.d.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.3**.

Projected No Action, with Climate Change

Change in groundwater storage shows an overall decrease of approximately 2,810,000 AF over the 20-year period or an average decrease of about 140,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 130,000 AF per year. Deep percolation accounts for an average recharge of about 193,000 AF per year. Groundwater pumping accounts for an average discharge of about 585,000 AF per year. Net subsurface inflow accounts for an average of about 122,000 AF per year with approximately 37,000 AF per year of net outflow to Chowchilla Subbasin, 60 AF per year of net inflow from Merced Subbasin, 74,000 AF per year of net inflow from Delta-Mendota Subbasin, and 85,000 AF per year of net inflow from Kings Subbasin.

Detailed projected with climate change water budget results for Madera Subbasin are presented in **Appendix D.5.b.** and **Appendix D.5.d.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.4**.

4.2.3 Sustainability Period, 2040-2090

The water budget during the sustainability period simulation was calculated for the 2040-2090 water years from October 1, 2039 through September 30, 2090.

4.2.3.1 Chowchilla Subbasin

Projected with Projects

Change in groundwater storage shows an overall increase of approximately 124,000 AF over the 50-year period or an average increase of about 2,400 AF per year. Net stream seepage, which includes in-channel seepage, conveyance losses and project recharge, accounts for an average recharge of about 120,000 AF per year. Deep percolation accounts for an average recharge of about 121,000 AF per year. Groundwater pumping accounts for an average discharge of about 121,000 AF per year. Net subsurface inflow accounts for an average of about 9,700 AF per year with approximately 30,000 AF per year of net inflow from Madera Subbasin, 41,000 AF per year of net outflow to Merced Subbasin, and 21,000 AF per year of net inflow from Delta-Mendota Subbasin.

Detailed projected with projects water budget results for Chowchilla Subbasin are presented in **Appendix D.2.a.** and **Appendix D.2.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.1**.

Projected with Projects, with Climate Change

Change in groundwater storage shows an overall increase of approximately 115,000 AF over the 50-year period or an average increase of about 2,200 AF per year. Net stream seepage, which includes in-channel seepage, conveyance losses and project recharge, accounts for an average recharge of about 134,000 AF per year. Deep percolation accounts for an average recharge of about 123,000 AF per year. Groundwater pumping accounts for an average discharge of about 276,000 AF per year. Net subsurface inflow accounts for an average of about 21,000 AF per year with approximately 28,000 AF per year of net inflow from Madera Subbasin, 27,000 AF per year of net outflow to Merced Subbasin, and 20,000 AF per year of net inflow from Delta-Mendota Subbasin.

Detailed projected with projects with climate change water budget results for Chowchilla Subbasin are presented in **Appendix D.3.a.** and **Appendix D.3.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.2**.

Projected No Action

Change in groundwater storage shows an overall decrease of approximately 2,125,000 AF over the 50-year period or an average decrease of about 42,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 67,000 AF per year. Deep percolation accounts for an average recharge of about 117,000 AF per year. Groundwater pumping accounts for an average discharge of about 298,000 AF per year. Net subsurface inflow accounts for an average of about 71,000 AF per year with approximately 46,000 AF per year of net inflow from Madera Subbasin, 18,000 AF per year of net outflow to Merced Subbasin, and 44,000 AF per year of net inflow from Delta-Mendota Subbasin.

Detailed projected water budget results for Chowchilla Subbasin are presented in **Appendix D.4.a.** and **Appendix D.4.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.3**.

Projected No Action, with Climate Change

Change in groundwater storage shows an overall decrease of approximately 1,970,000 AF over the 50-year period or an average decrease of about 39,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 69,000 AF per year. Deep percolation accounts for an average recharge of about 115,000 AF per year. Groundwater pumping accounts for an average discharge of about 314,000 AF per year. Net subsurface inflow accounts for an average of about 91,000 AF per year with approximately 44,000 AF per year of net inflow from Madera Subbasin, 7,000 AF per year of net outflow to Merced Subbasin, and 54,000 AF per year of net inflow from Delta-Mendota Subbasin.

Detailed projected with climate change water budget results for Chowchilla Subbasin are presented in **Appendix D.5.a.** and **Appendix D.5.c.**, and groundwater elevation hydrographs at select wells are included in **Appendix E.4**.

4.2.3.2 Madera Subbasin

Projected with Projects

Change in groundwater storage shows an overall increase of approximately 523,000 AF over the 50-year period or an average increase of about 10,000 AF per year. Net stream seepage, which includes in-channel seepage conveyance losses, and project recharge, accounts for an average recharge of about 217,000 AF per year. Deep percolation accounts for an average recharge of about 219,000 AF per year. Groundwater pumping accounts for an average discharge of about 447,000 AF per year. Net subsurface inflow accounts for an average of about 21,000 AF per year with approximately 30,000 AF per year of net outflow to

Chowchilla Subbasin, 20 AF per year of net inflow from Merced Subbasin, 6,000 AF per year of net inflow from Delta-Mendota Subbasin, and 45,000 AF per year of net inflow from Kings Subbasin.

Detailed projected with projects water budget results for Madera Subbasin are presented in **Appendix D.2.b.** and **Appendix D.2.d.**, and groundwater elevation hydrographs for select wells are included in **Appendix E.1**.

Projected with Projects, with Climate Change

Change in groundwater storage shows an overall increase of approximately 493,000 AF over the 50-year period or an average increase of about 10,000 AF per year. Net stream seepage, which includes in-channel seepage conveyance losses, and project recharge, accounts for an average recharge of about 228,000 AF per year. Deep percolation accounts for an average recharge of about 219,000 AF per year. Groundwater pumping accounts for an average discharge of about 479,000 AF per year. Net subsurface inflow accounts for an average of about 41,000 AF per year with approximately 28,000 AF per year of net outflow to Chowchilla Subbasin, 20 AF per year of net inflow from Merced Subbasin, 12,000 AF per year of net inflow from Delta-Mendota Subbasin, and 57,000 AF per year of net inflow from Kings Subbasin.

Detailed projected with projects with climate change water budget results for Madera Subbasin are presented in **Appendix D.3.b.** and **Appendix D.3.d.**, and groundwater elevation hydrographs are included in **Appendix E.2**.

Projected No Action

Change in groundwater storage shows an overall decrease of approximately 3,095,000 AF over the 50-year period or an average decrease of about 61,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 162,000 AF per year. Deep percolation accounts for an average recharge of about 217,000 AF per year. Groundwater pumping accounts for an average discharge of about 548,000 AF per year. Net subsurface inflow accounts for an average of about 108,000 AF per year with approximately 46,000 AF per year of net outflow to Chowchilla Subbasin, 40 AF per year of net inflow from Merced Subbasin, 82,000 AF per year of net inflow from Delta-Mendota Subbasin, and 72,000 AF per year of net inflow from Kings Subbasin.

Detailed projected water budget results for Madera Subbasin are presented in **Appendix D.4.b.** and **Appendix D.4.d.**, and groundwater elevation hydrographs are included in **Appendix E.3**.

Projected No Action, with Climate Change

Change in groundwater storage shows an overall decrease of approximately 3,080,000 AF over the 50-year period or an average decrease of about 60,000 AF per year. Net stream seepage, which includes in-channel seepage and conveyance losses, accounts for an average recharge of about 158,000 AF per year. Deep percolation accounts for an average recharge of about 214,000 AF per year. Groundwater pumping accounts for an average discharge of about 565,000 AF per year. Net subsurface inflow accounts for an average of about 131,000 AF per year with approximately 44,000 AF per year of net outflow to Chowchilla Subbasin, 40 AF per year of net inflow from Merced Subbasin, 98,000 AF per year of net inflow from Delta-Mendota Subbasin, and 77,000 AF per year of net inflow from Kings Subbasin.

Detailed projected with climate change water budget results for Madera Subbasin are presented in **Appendix D.5.b.** and **Appendix D.5.d.**, and groundwater elevation hydrographs are included in **Appendix E.4**.

5 MODEL UNCERTAINTY AND LIMITATIONS

Any groundwater flow model is a simplification of the natural environment, and therefore has recognized limitations. For this reason, uncertainty exists in the ability of any numerical model to completely represent groundwater flow. Some of the uncertainty is associated with limitations in available data. Considerable effort was made to reduce model uncertainty by using measured values as model inputs whenever available, and by conducting quality assurance and quality control assessments of data that were obtained. Where limited data exist to develop input values for parameters or other inputs with high uncertainty, a conservative approach to assigning input values was followed.

The finding and conclusions of this study are focused on a Subbasin scale and use of the model for site-specific analysis should be conducted with an understanding that representation of local site-specific conditions may be approximate and should be verified with local site-specific investigations. The flow model was developed in a manner consistent with the level of care and skill normally exercised by professionals practicing under similar conditions in the area. There is no warranty, expressed or implied, that this modeling study has considered or addresses all hydrogeological, hydrological, environmental, geotechnical or other characteristics and properties associated with the subject model domain and the simulated system.

6 CONCLUSIONS AND RECOMMENDATIONS

Based on the calibration of MCSim to historical conditions for the calibration period from water year 1989 to 2015 and accompanying assessment of model sensitivity, the MCSim groundwater flow model is suitable for use as a tool to support management of water resources within the Madera and Chowchilla Subbasins.

6.1 Conclusions

MCSim provides a useful tool for evaluating a wide variety of future scenarios and inform the decision-making process to achieve and maintain sustainable groundwater management in both the Madera and Chowchilla Subbasins. A numerical model can be a convenient and cost-efficient tool for providing insights into groundwater responses to various perturbations including natural variability and change, and also changes associated with management decisions or other humanmade conditions. However, as with any other modeling tool, information obtained from a numerical model also has a level of uncertainty, especially for long-term predictions or forecasts. The level of uncertainty associated with model simulations are likely to increase the more the scenarios extend beyond the range of historical conditions and processes over which the model was calibrated, such as for long-term predictive scenarios or predictive scenarios with extreme alterations to the hydrologic conditions.

6.2 Recommendations

Future and ongoing updates to MCSim will be valuable for improving the model performance and verifying the accuracy of the model predictions. Using data from the ongoing monitoring efforts and forthcoming GSP monitoring, MCSim should be updated periodically, including through extending of the model period and associated inputs. Although the frequency of conducting model updates may depend on a variety of factors, including evaluation of the model performance in predicting future conditions, such an update could initially be considered every five years. This frequency of model update should be adequate and cost effective to test and improve MCSim periodically with new site-specific and monitoring information. Groundwater elevations, groundwater pumping, rainfall, and stream discharge should be collected on an ongoing basis, to the extent possible, at intervals of at least monthly for pumpage, rainfall, and streamflow, and less frequently (semi-annually at least) for groundwater levels. The new groundwater data should be compared with the respective model simulation results so that the flow model can be verified into the future. If the differences between the measured groundwater data and MCSim's predicted results are significant, adjustment and modification may be applied to the model input parameters.

MCSim has been calibrated and verified. It adheres closely to site-specific observed data so that model input parameters are reasonable and appropriate especially within the Chowchilla and Madera Subbasins. Additional model revisions should be conducted in areas outside the Chowchilla and Madera Subbasins as that data is obtained from adjacent GSAs.

Further refinement to MCSim should be made by addressing key data gaps. Upon release of a calibrated C2VSimFG model, an evaluation should be done to incorporate any relevant aspects of the model into MCSim, as appropriate and necessary. In particular, a calibrated land subsidence simulation package should be incorporated into MCSim. This capability is anticipated with the future release of the calibrated C2VSimFG model. Updates to aquifer parameters (and model layering if needed) can be made through refinement of the depth of basement materials in the eastern model area and incorporation of lithologic information developed from new monitoring well construction efforts anticipated for completion by 2020.

Through upcoming GSP-related monitoring, additional groundwater level data can be used to refine boundary condition water levels and improve model calibration. Additional improvements to model calibration can be made by the potential linking of additional well construction information to calibration wells, incorporation of additional stream flow data on ungaged streams, and refinements to the simulation of surface water distribution systems. Further refinements to MCSim can be made by extending the historical base period and ongoing updating of model calibration in preparation for 5-year GSP status/update report.

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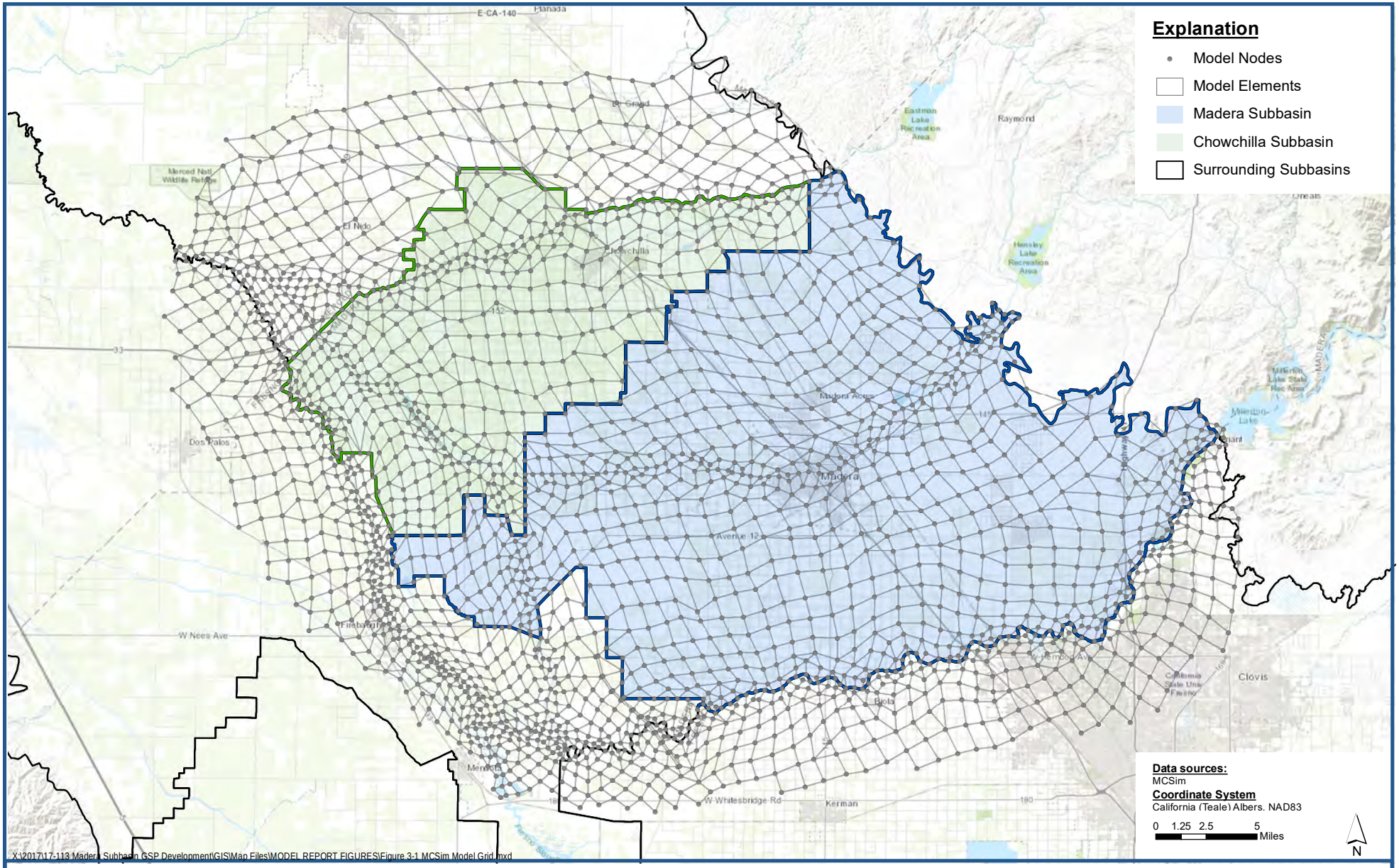
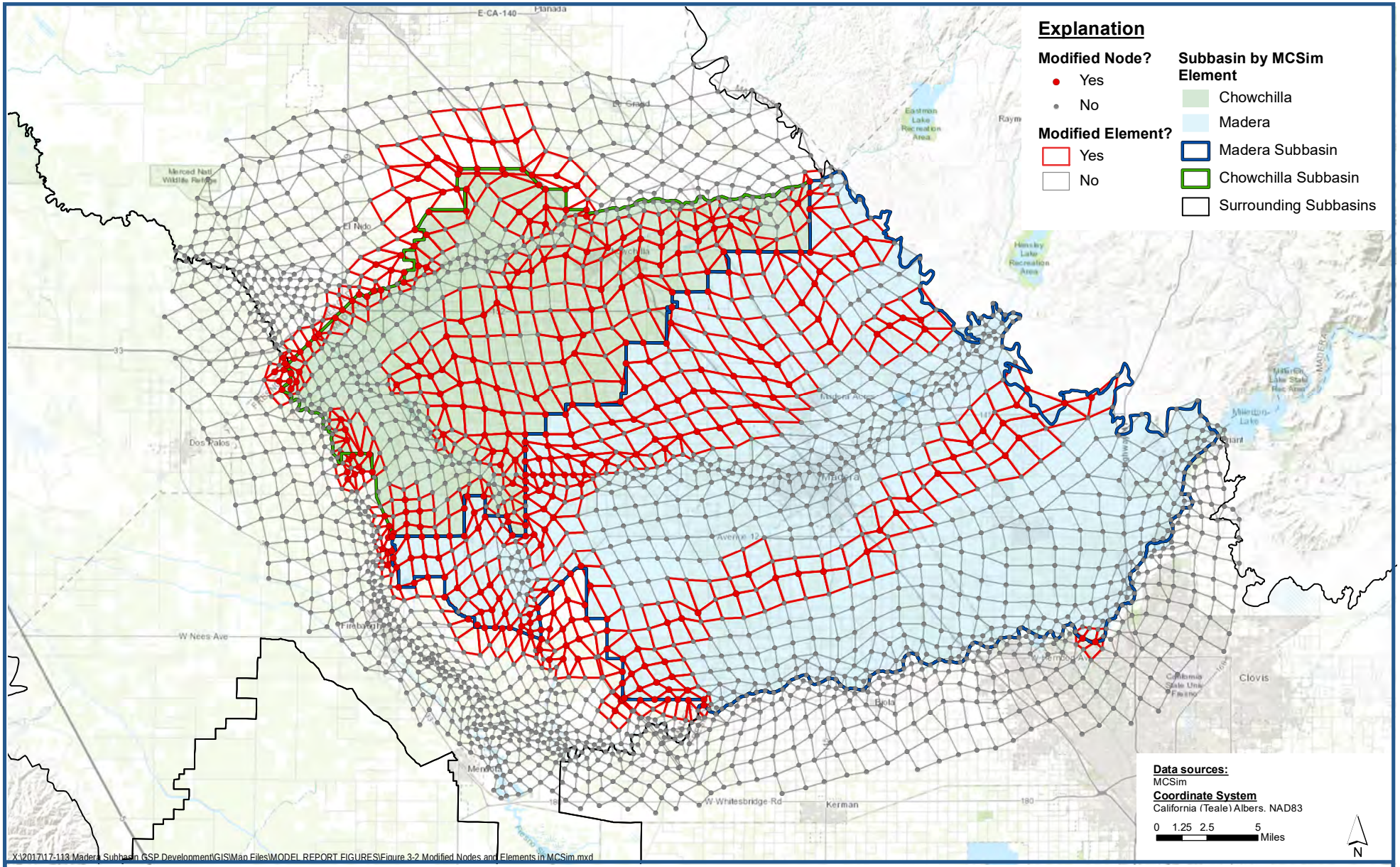


MCSim Model Grid

Figure 3-1

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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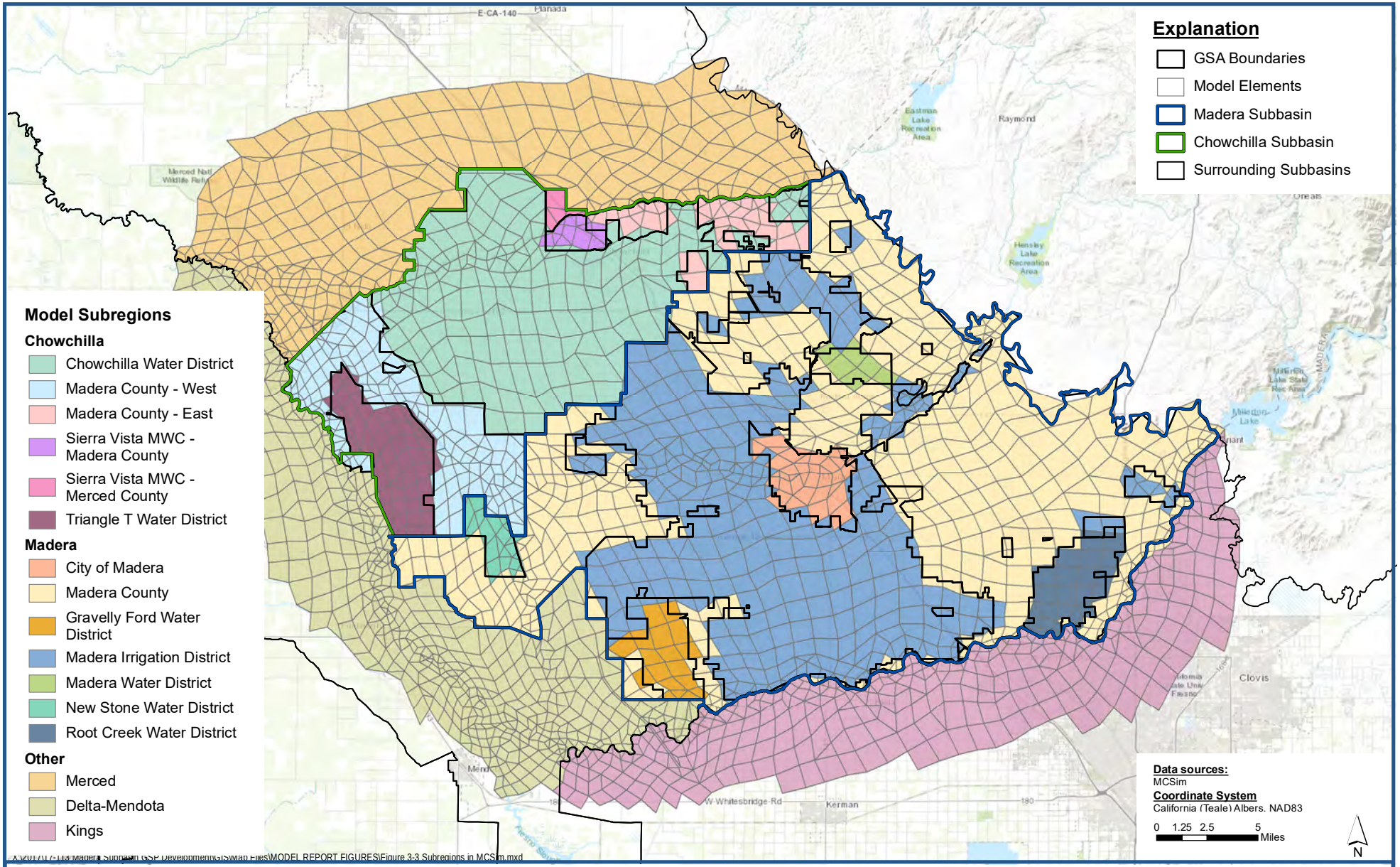
Modified Nodes and Elements in MCSim

Figure 3-2

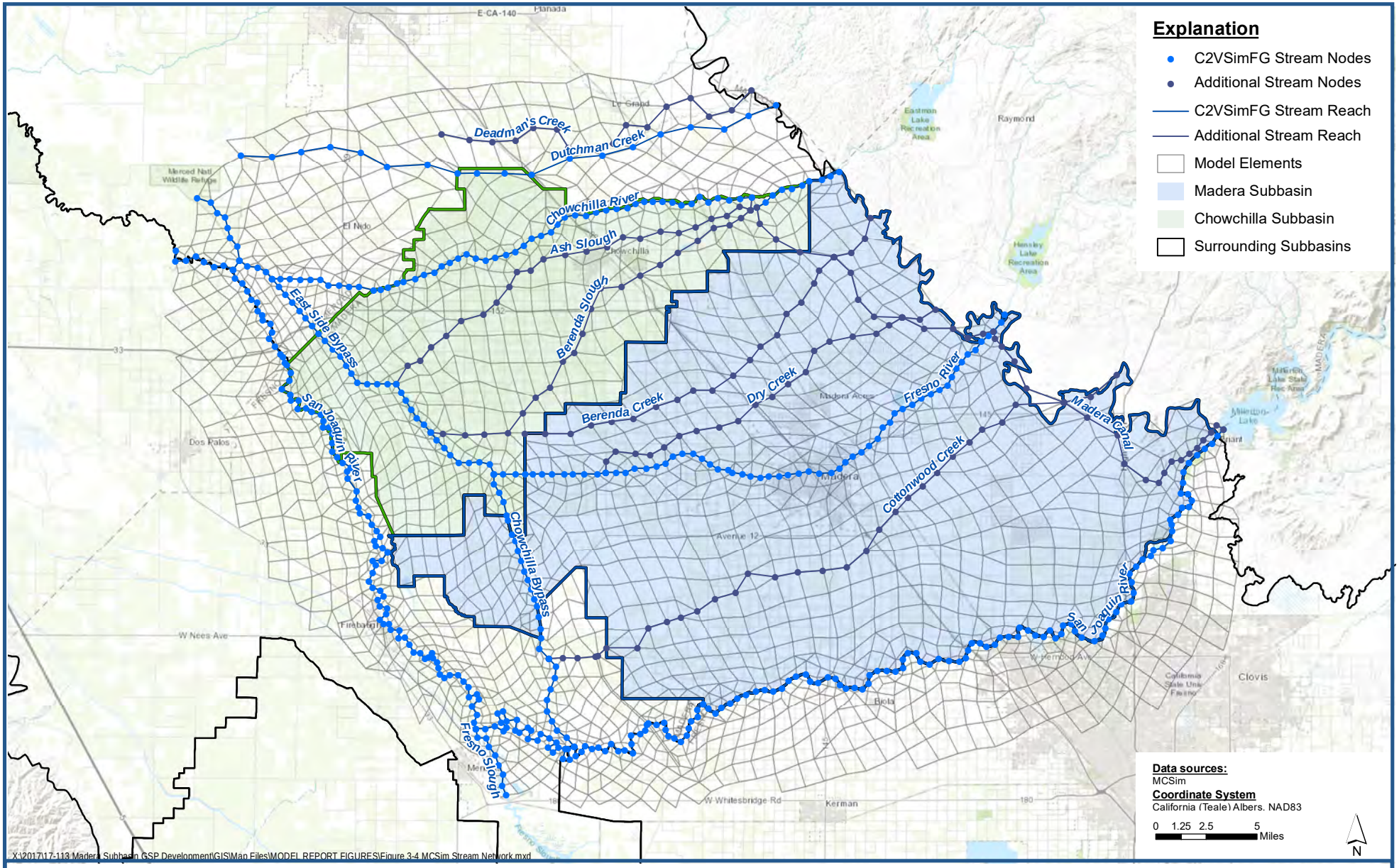
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Subregions in MCSim

Figure 3-3

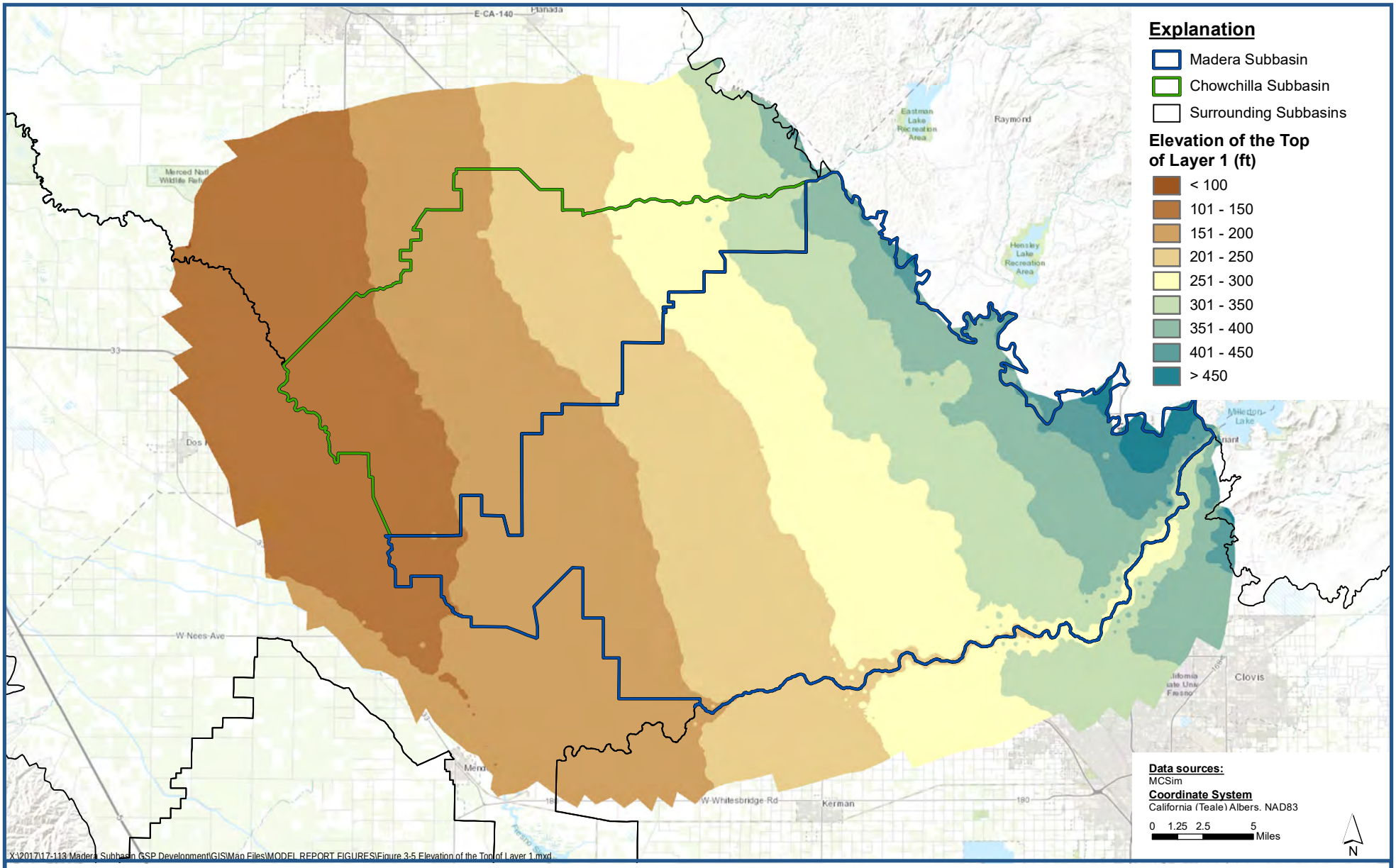
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



MCSim Stream Network

Figure 3-4

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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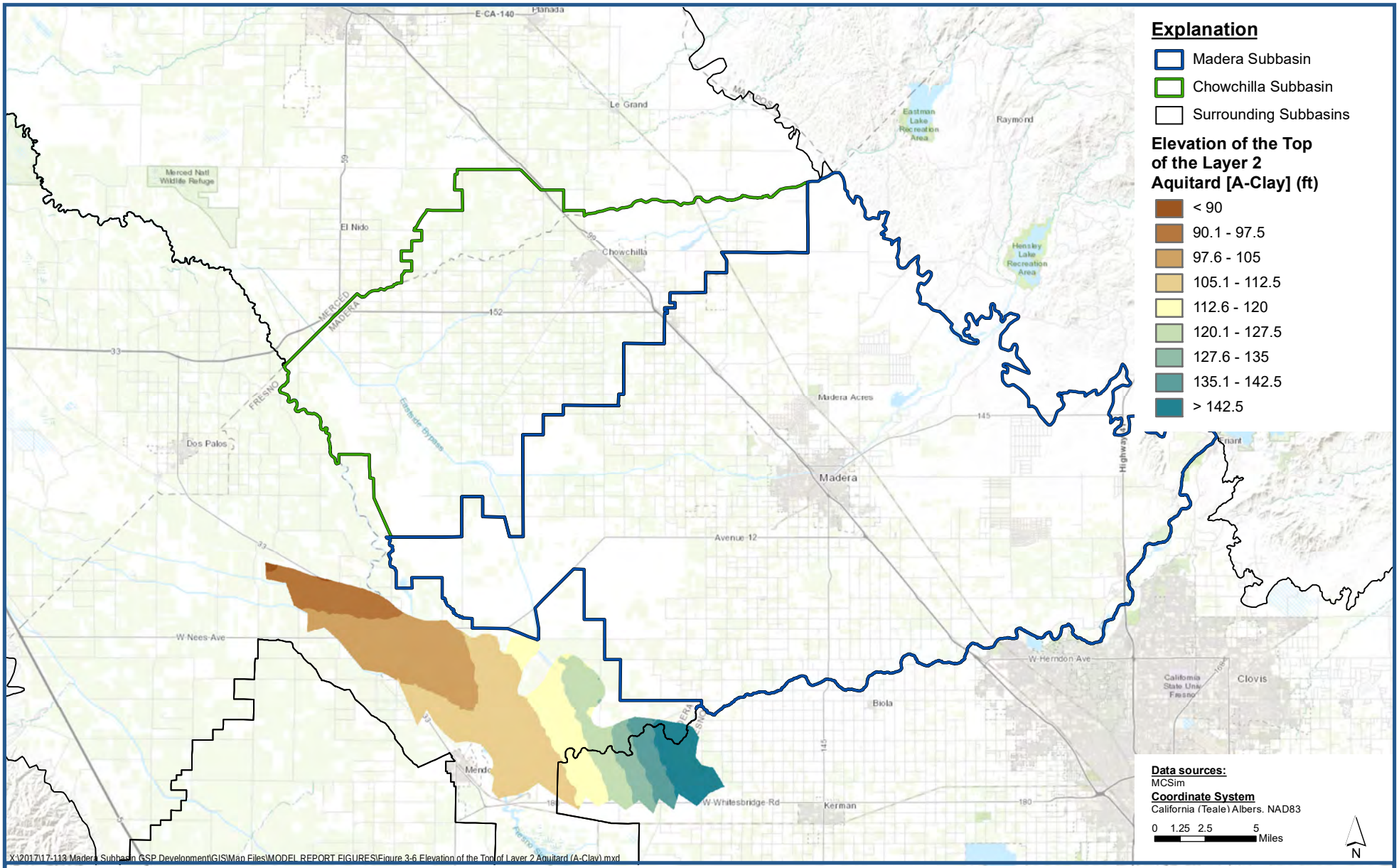
Elevation of the Top of Layer 1

Figure 3-5

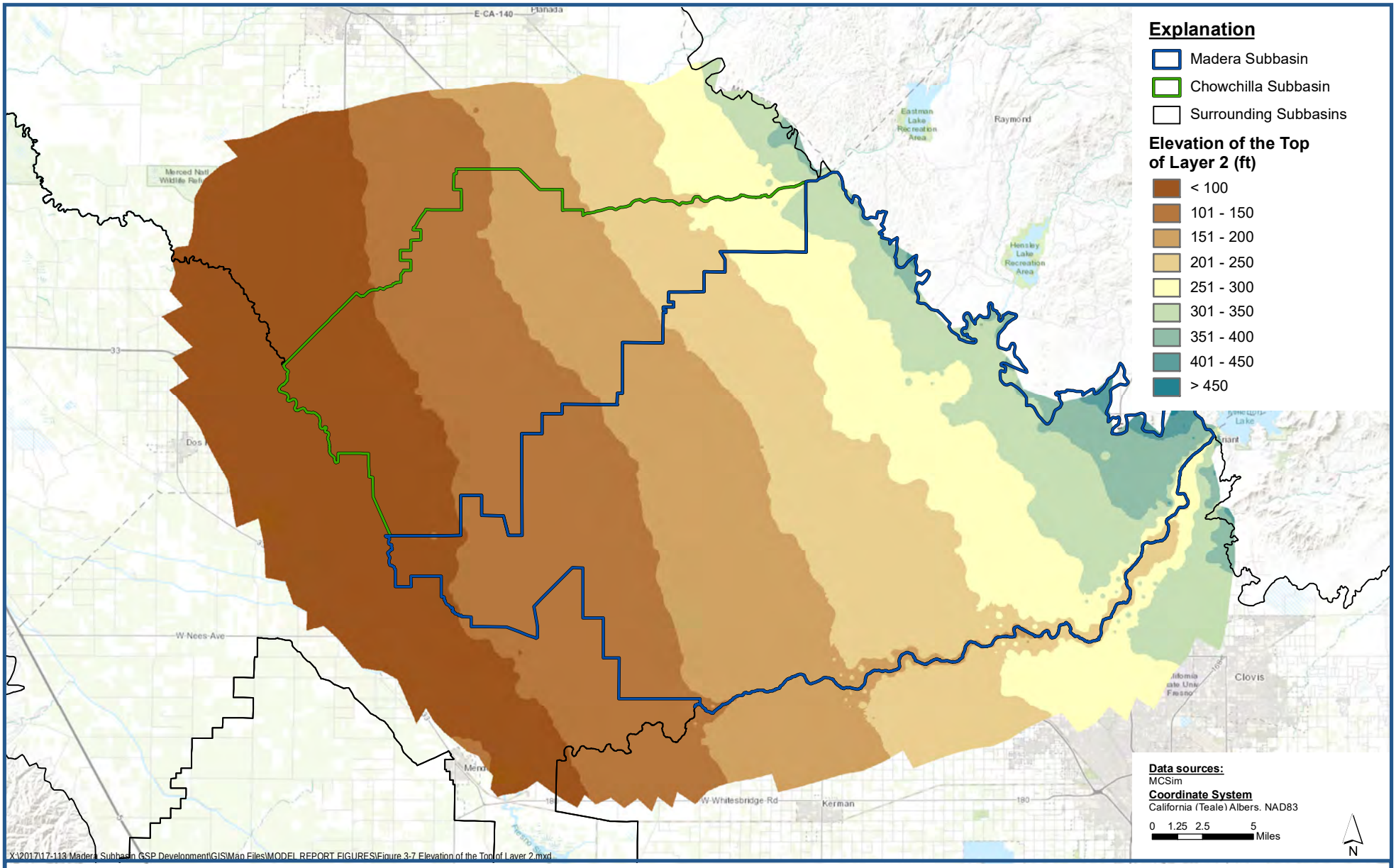
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Elevation of the Top of the Layer 2 Aquitard (A-Clay)

Figure 3-6

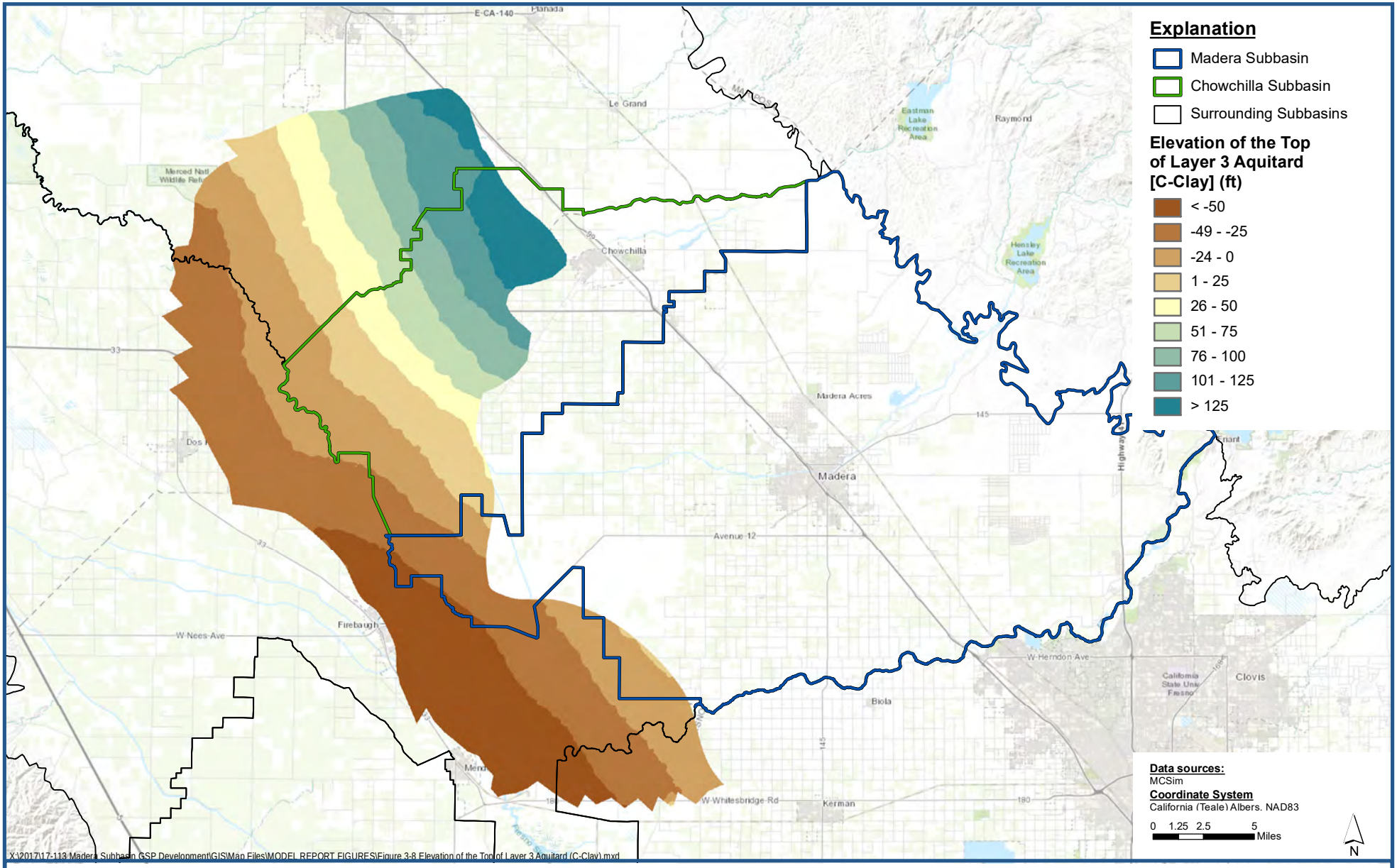
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Elevation of the Top of Layer 2

Figure 3-7

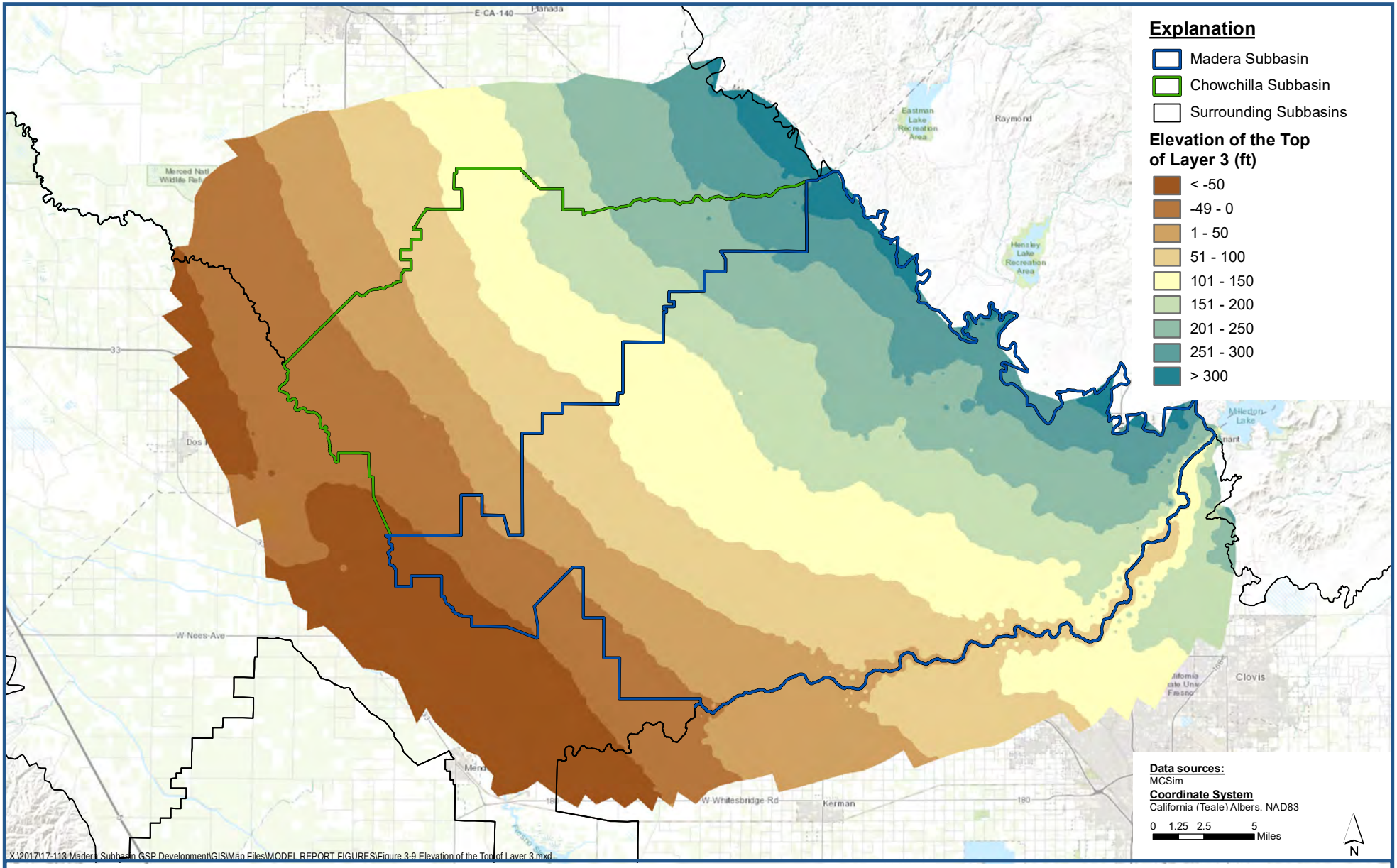
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Elevation of the Top of the Layer 3 Aquitard (C-Clay)

Figure 3-8

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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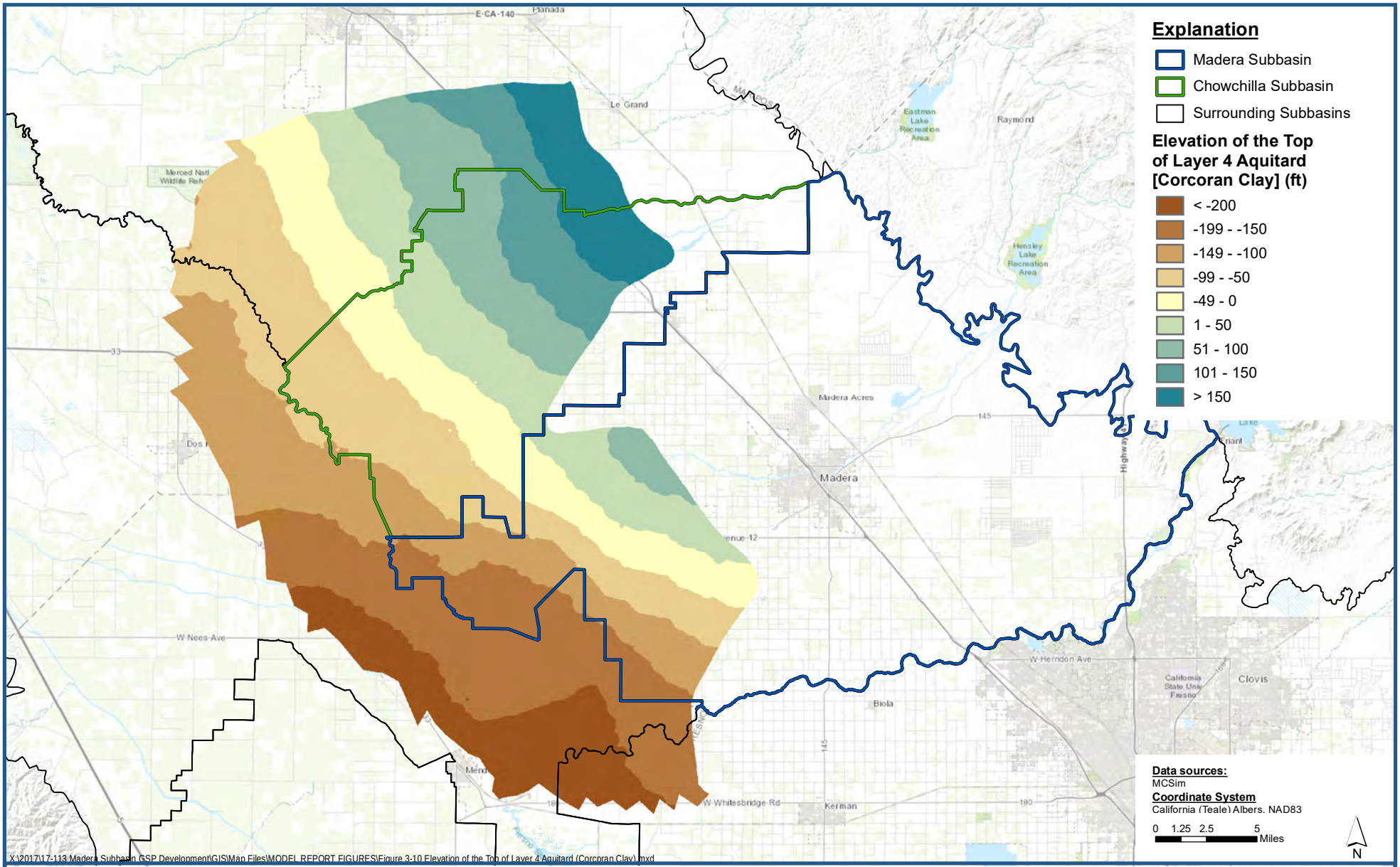
Elevation of the Top of Layer 3

Figure 3-9

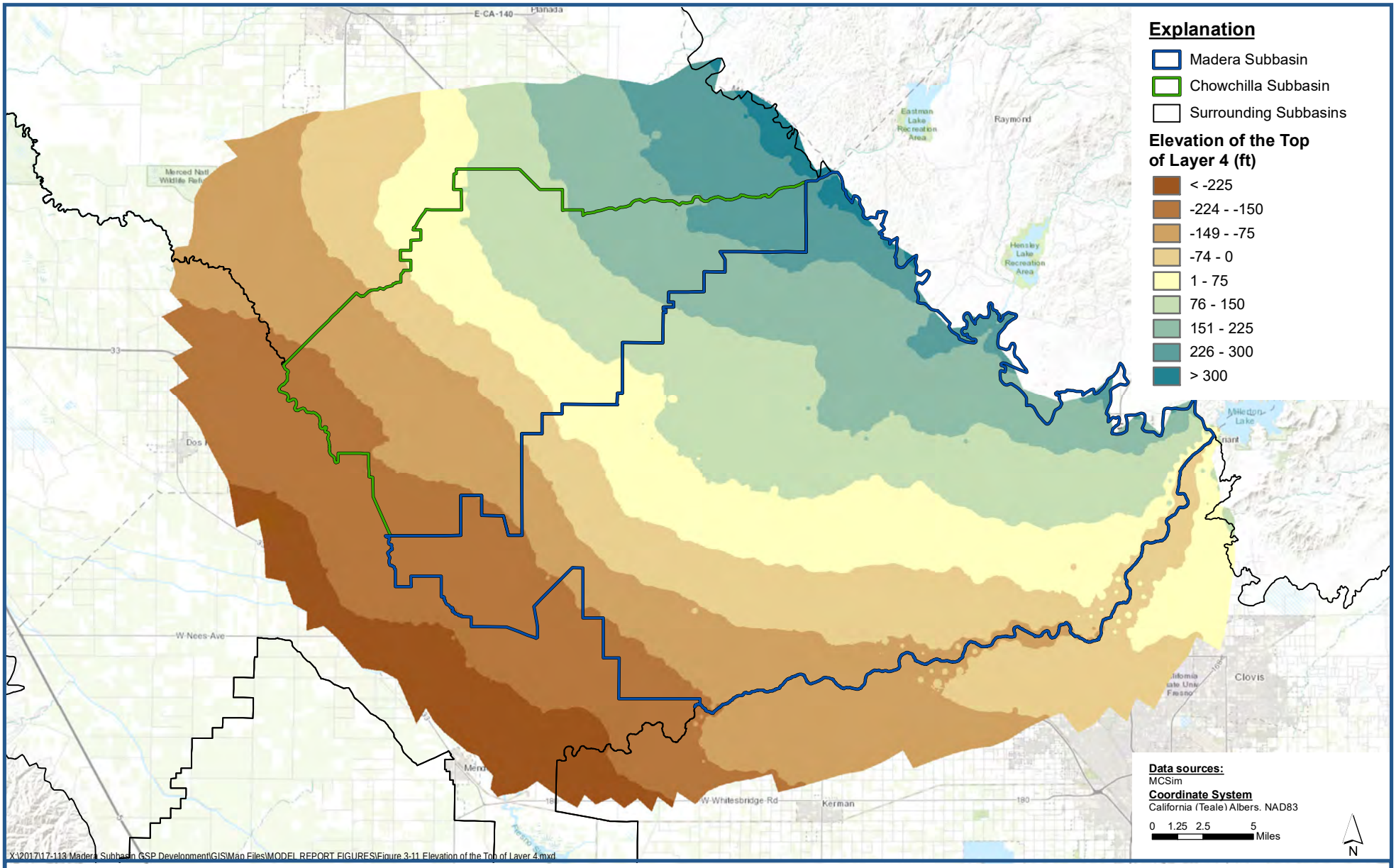
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Elevation of the Top of the Layer 4 Aquitard (Corcoran Clay)

Figure 3-10

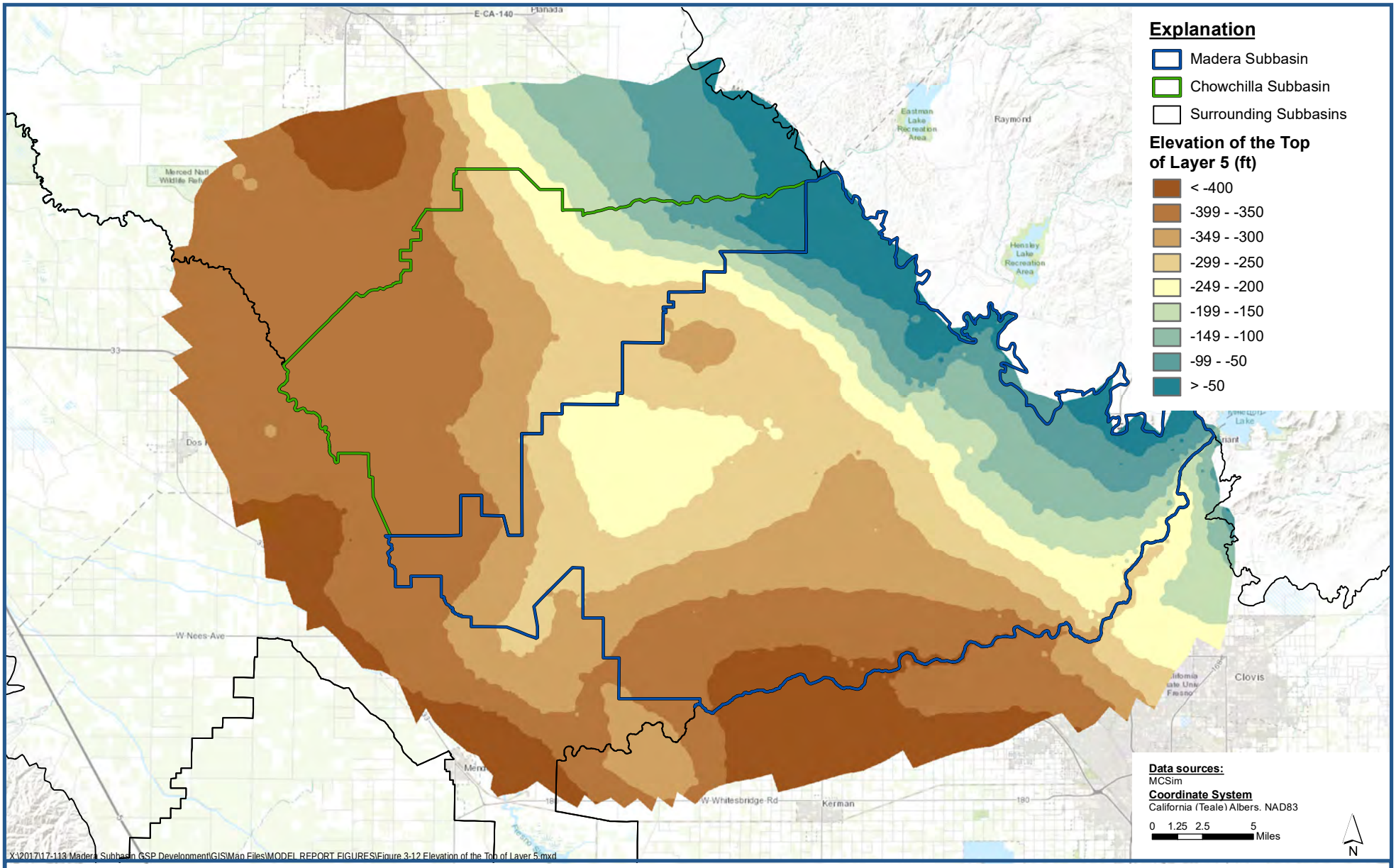
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Elevation of the Top of Layer 4

Figure 3-11

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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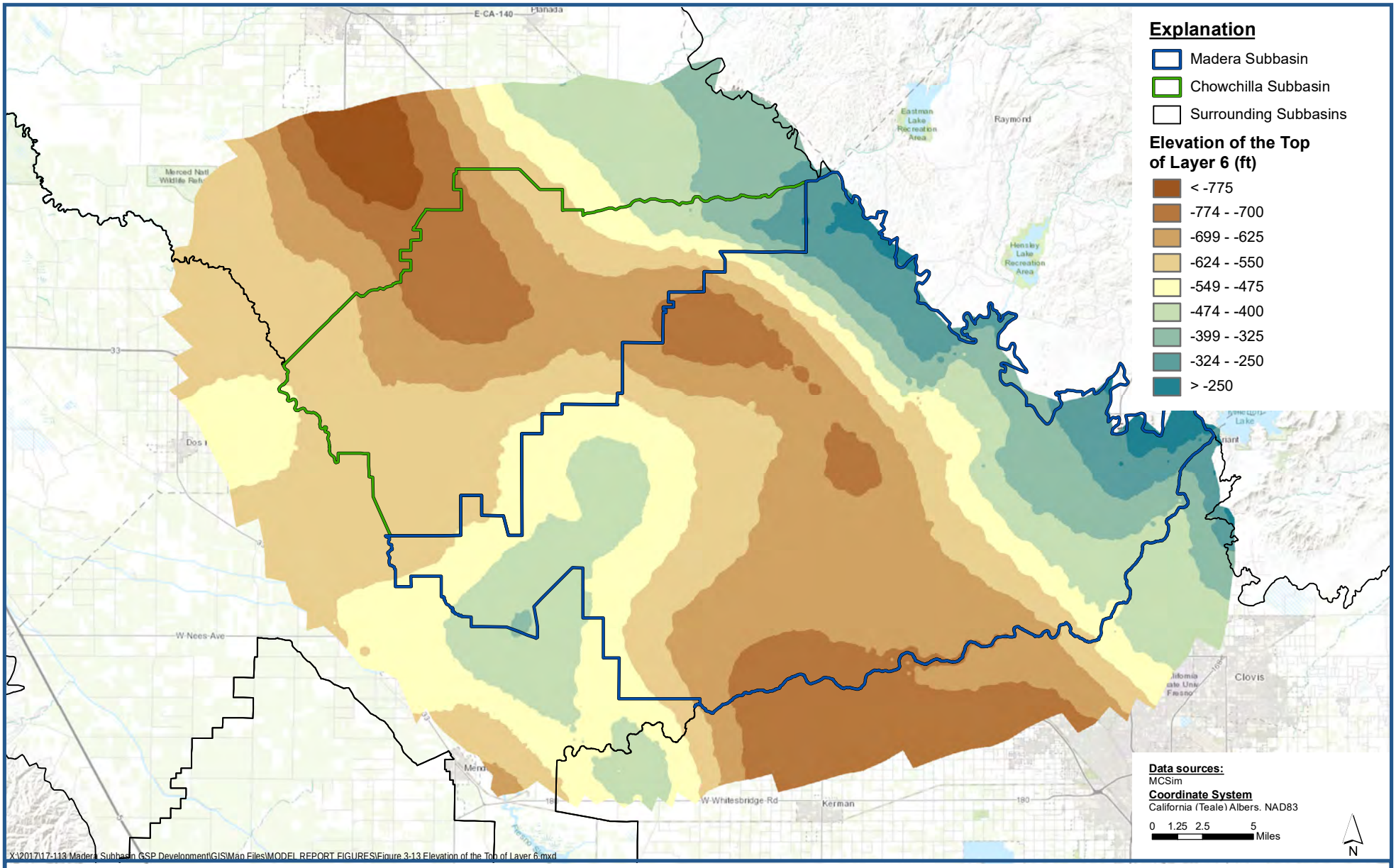
Elevation of the Top of Layer 5

Figure 3-12

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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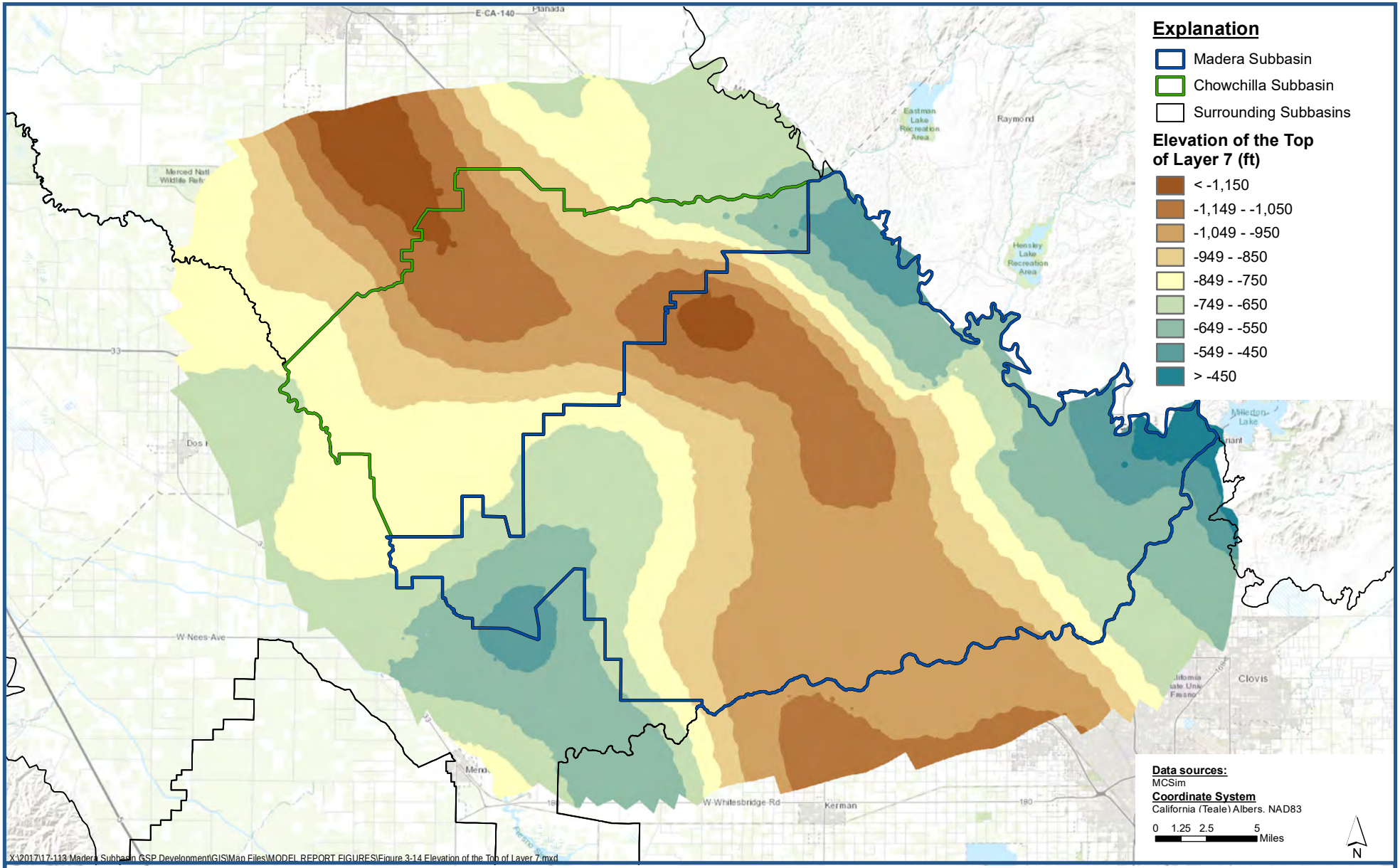
Elevation of the Top of Layer 6

Figure 3-13

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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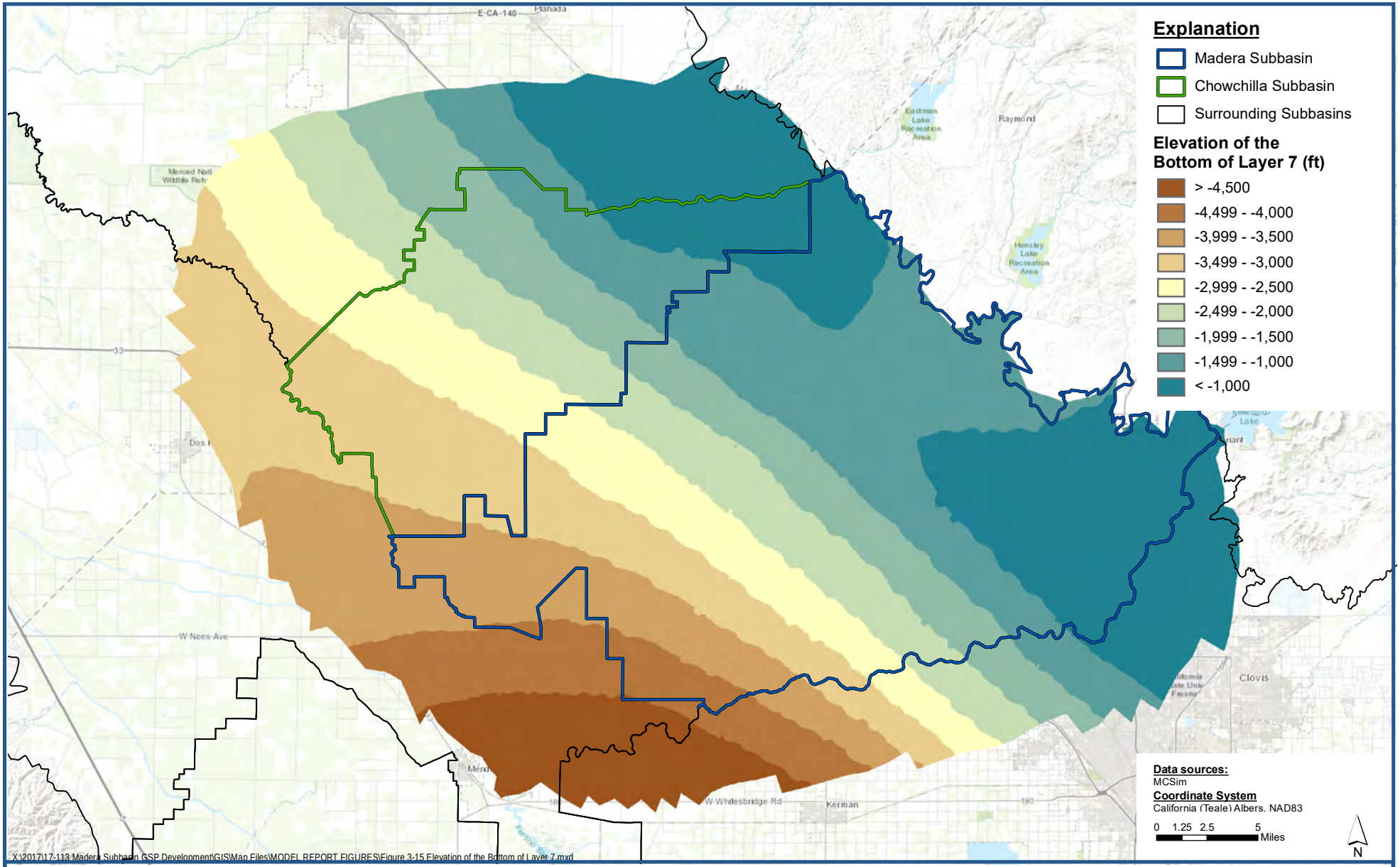
Elevation of the Top of Layer 7

Figure 3-14

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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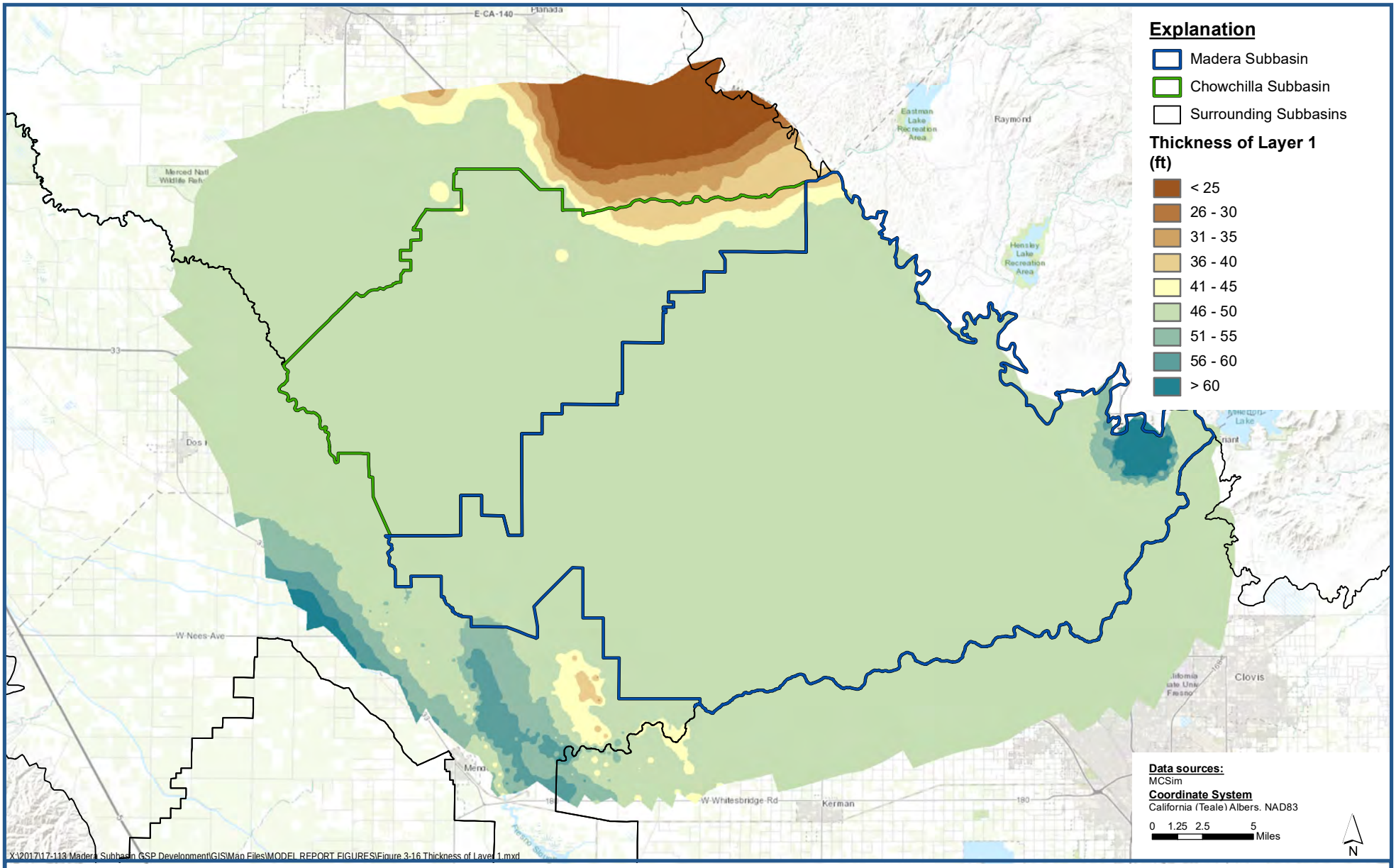
Elevation of the Bottom of Layer 7

Figure 3-15

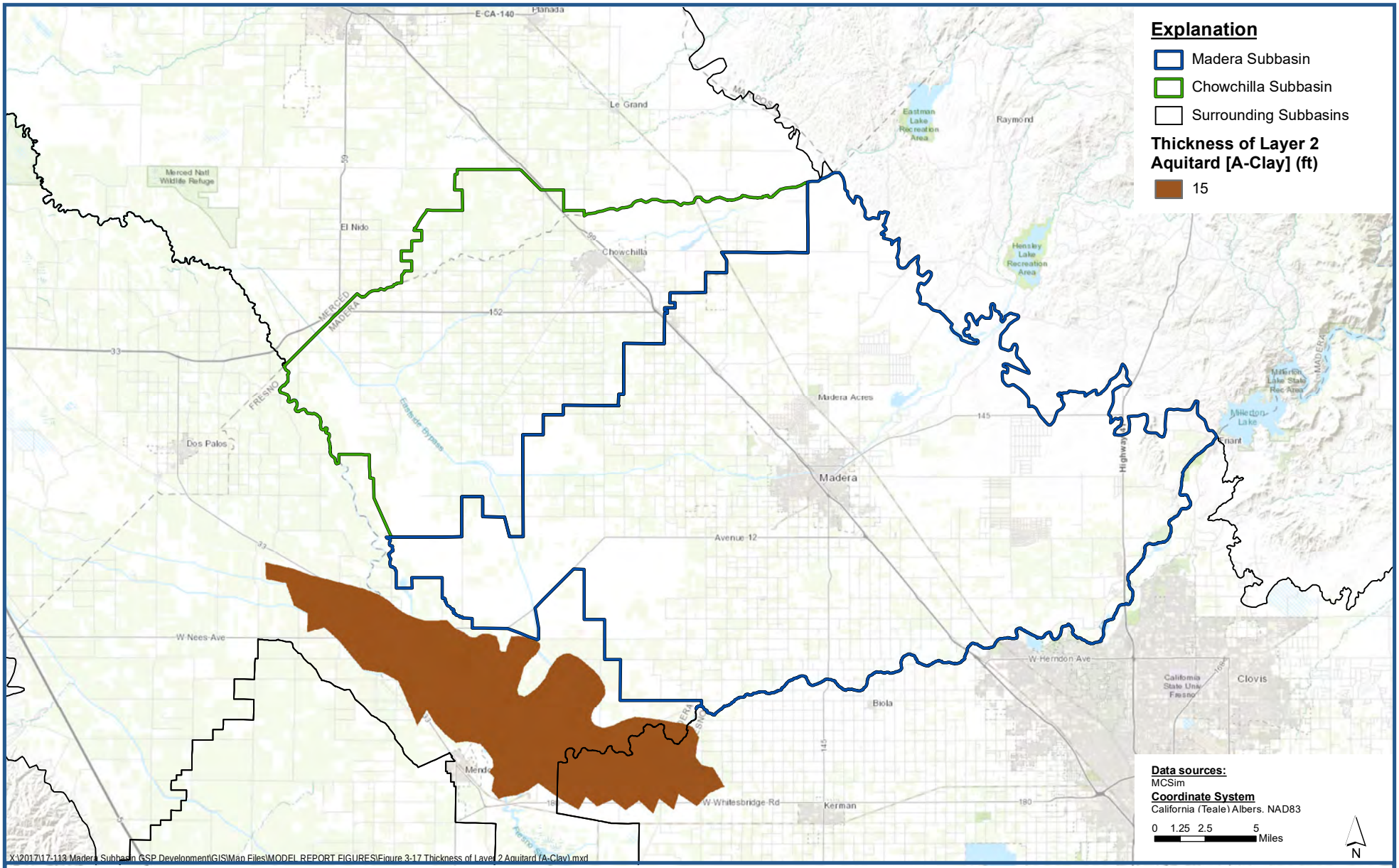
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Thickness of Layer 1

Figure 3-16

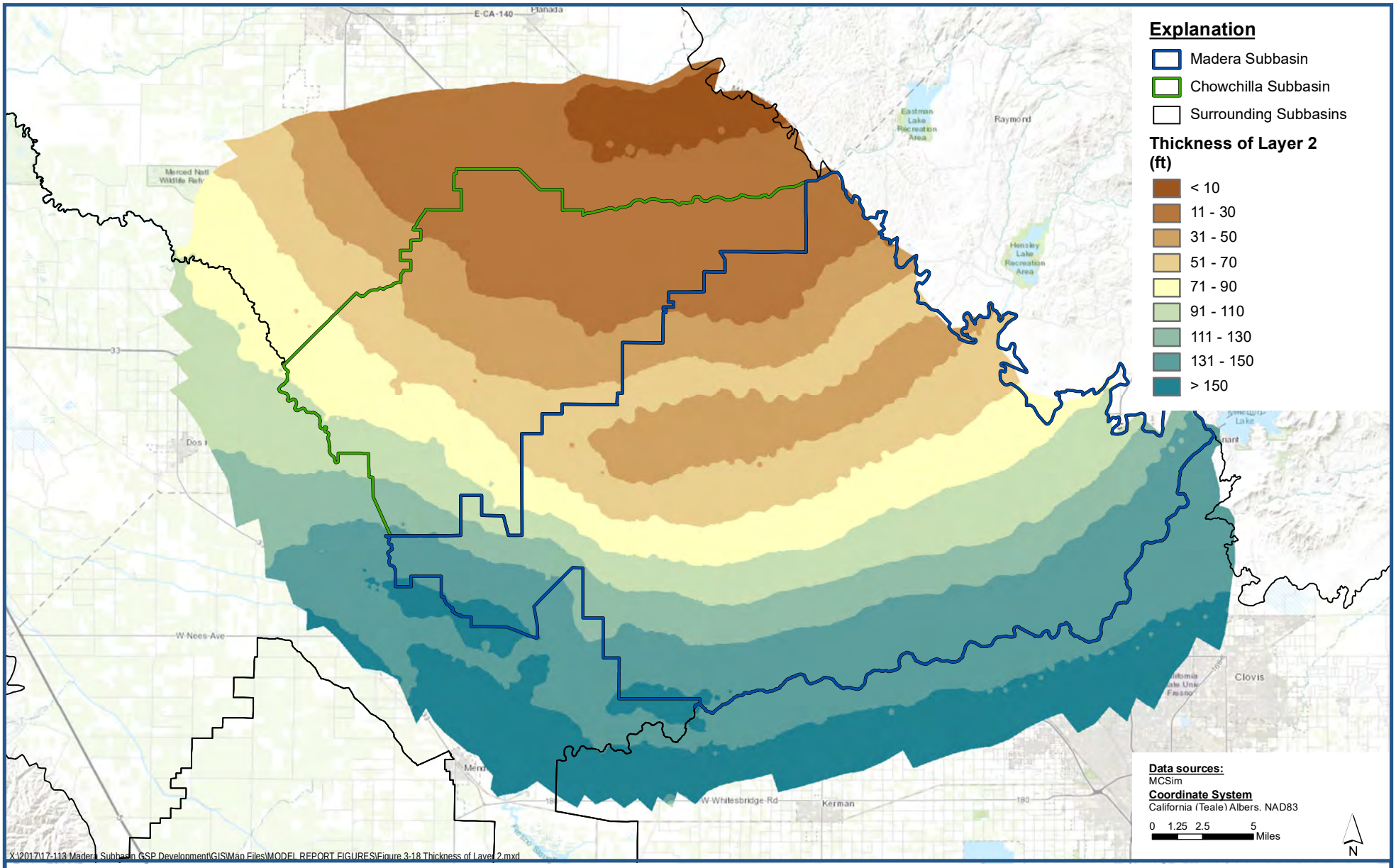
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Thickness of the Layer 2 Aquitard (A-Clay)

Figure 3-17

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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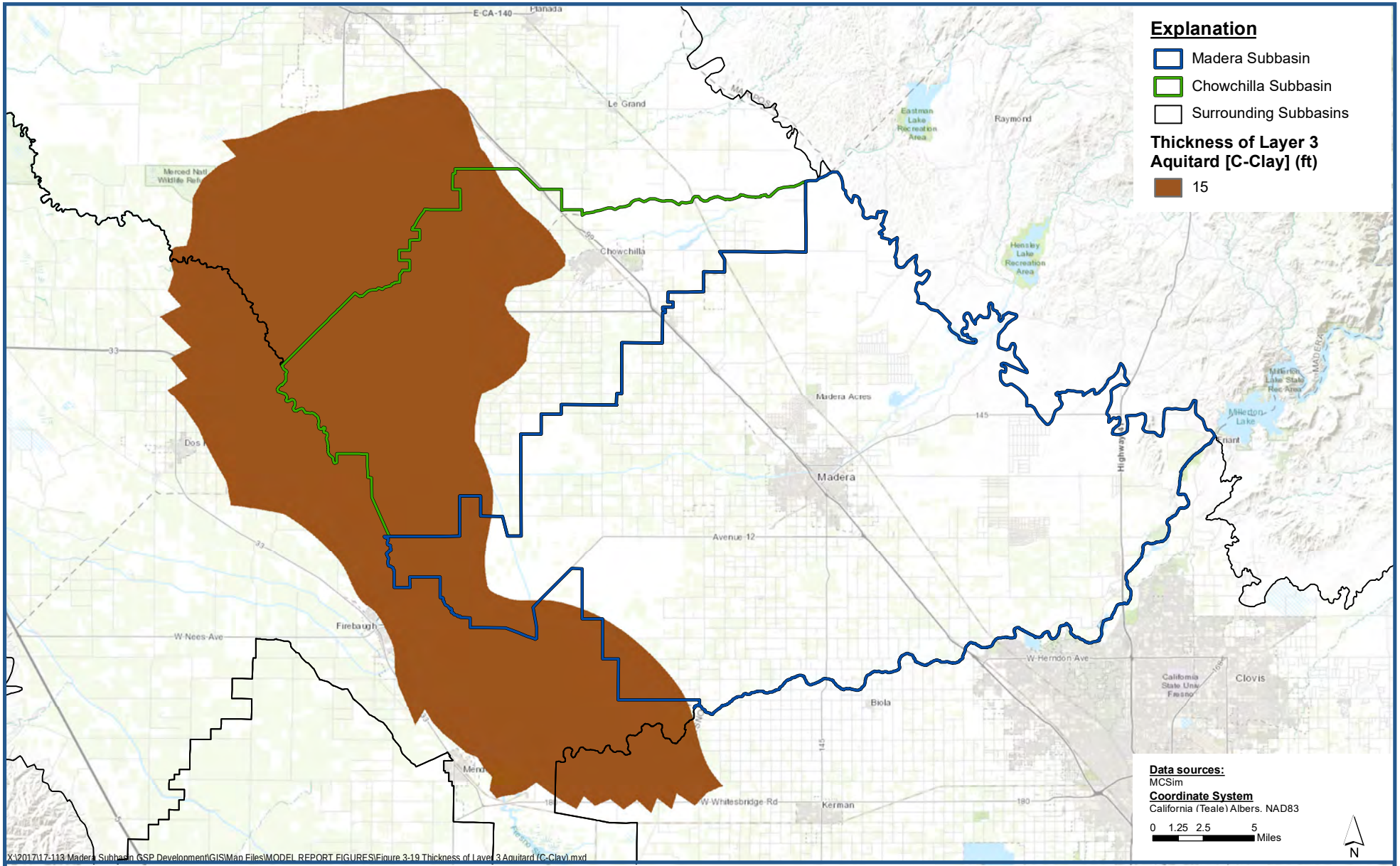
Thickness of Layer 2

Figure 3-18

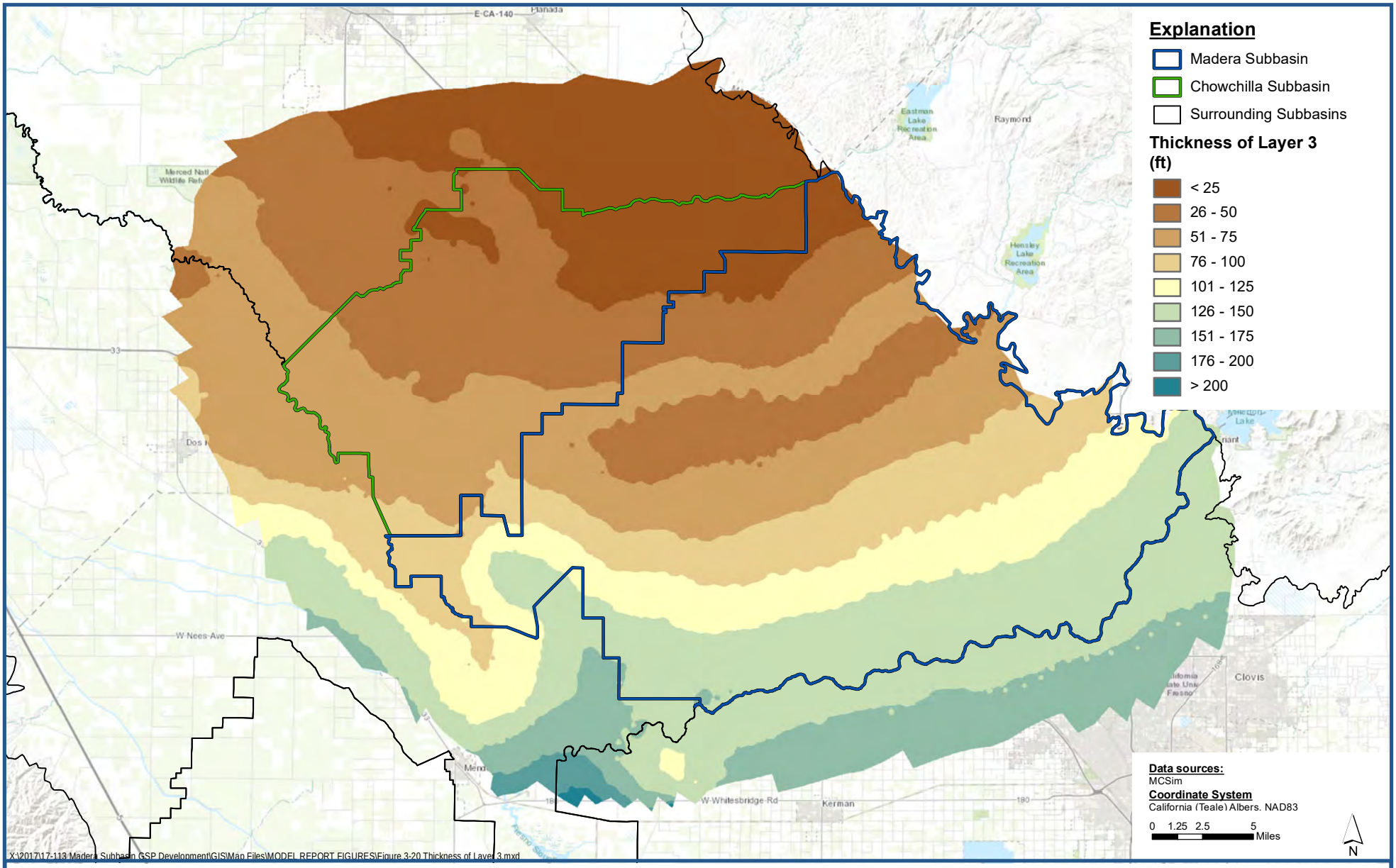
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Thickness of the Layer 3 Aquitard (C-Clay)

Figure 3-19

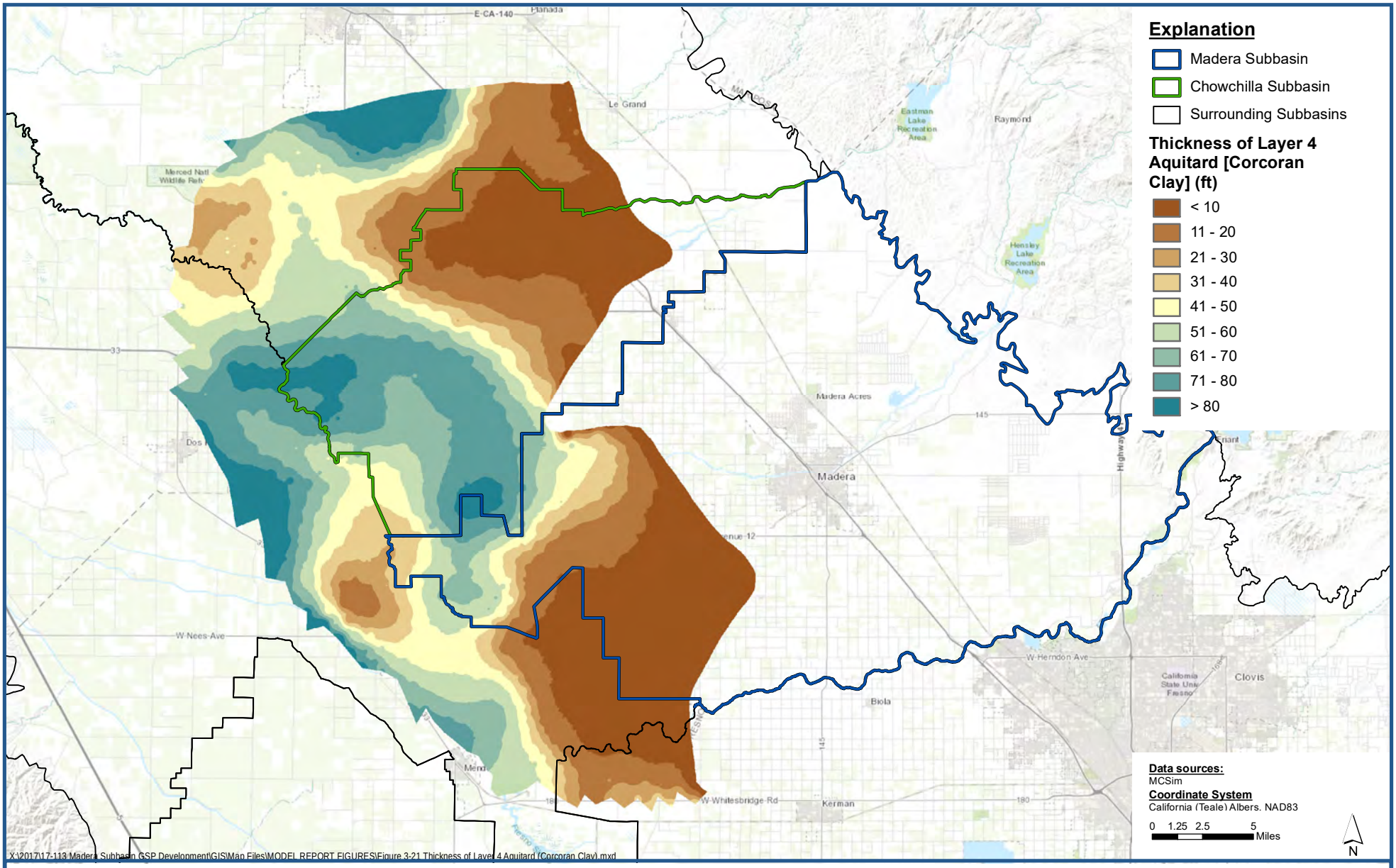
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Thickness of Layer 3

Figure 3-20

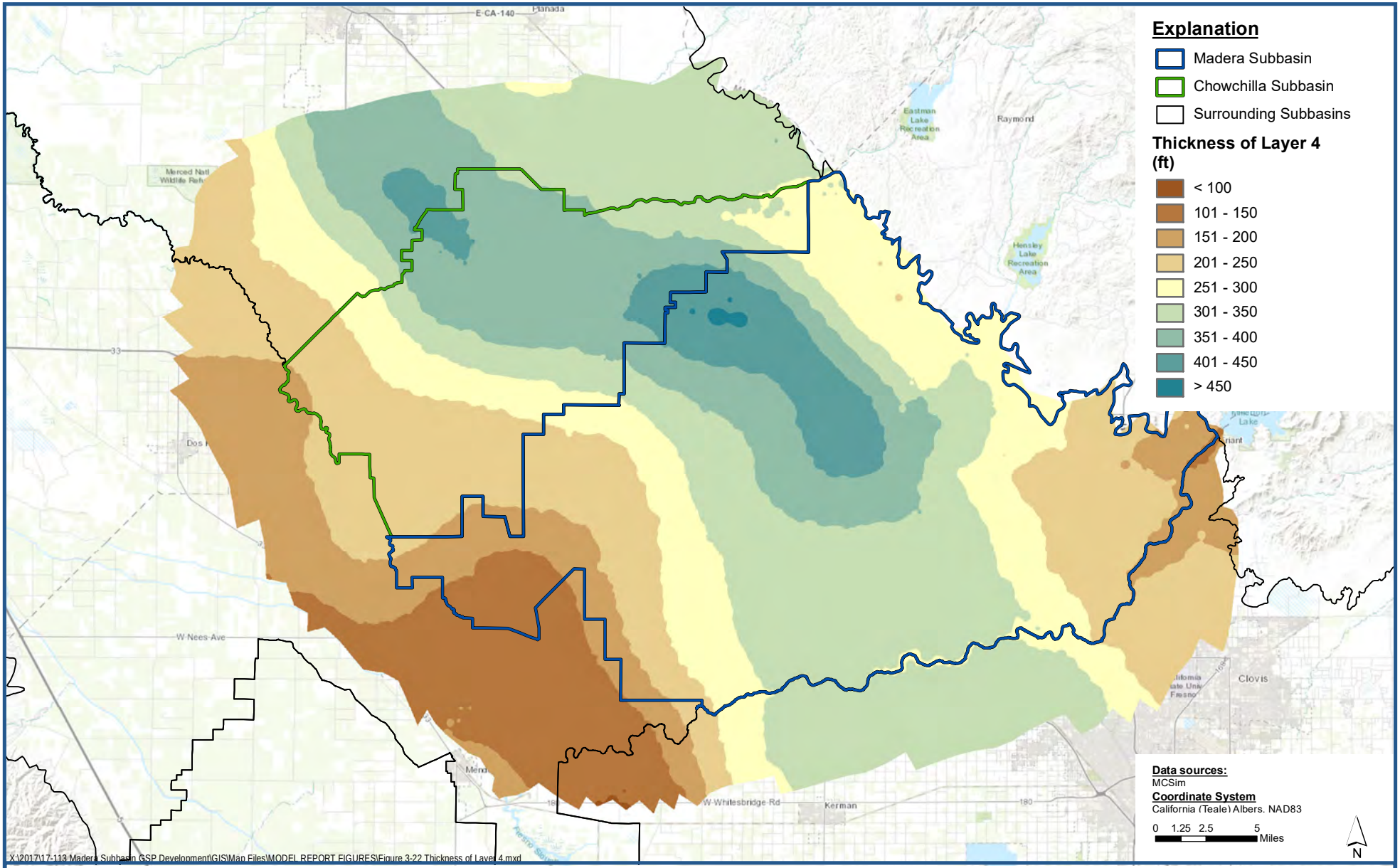
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Thickness of the Layer 4 Aquitard (Corcoran Clay)

Figure 3-21

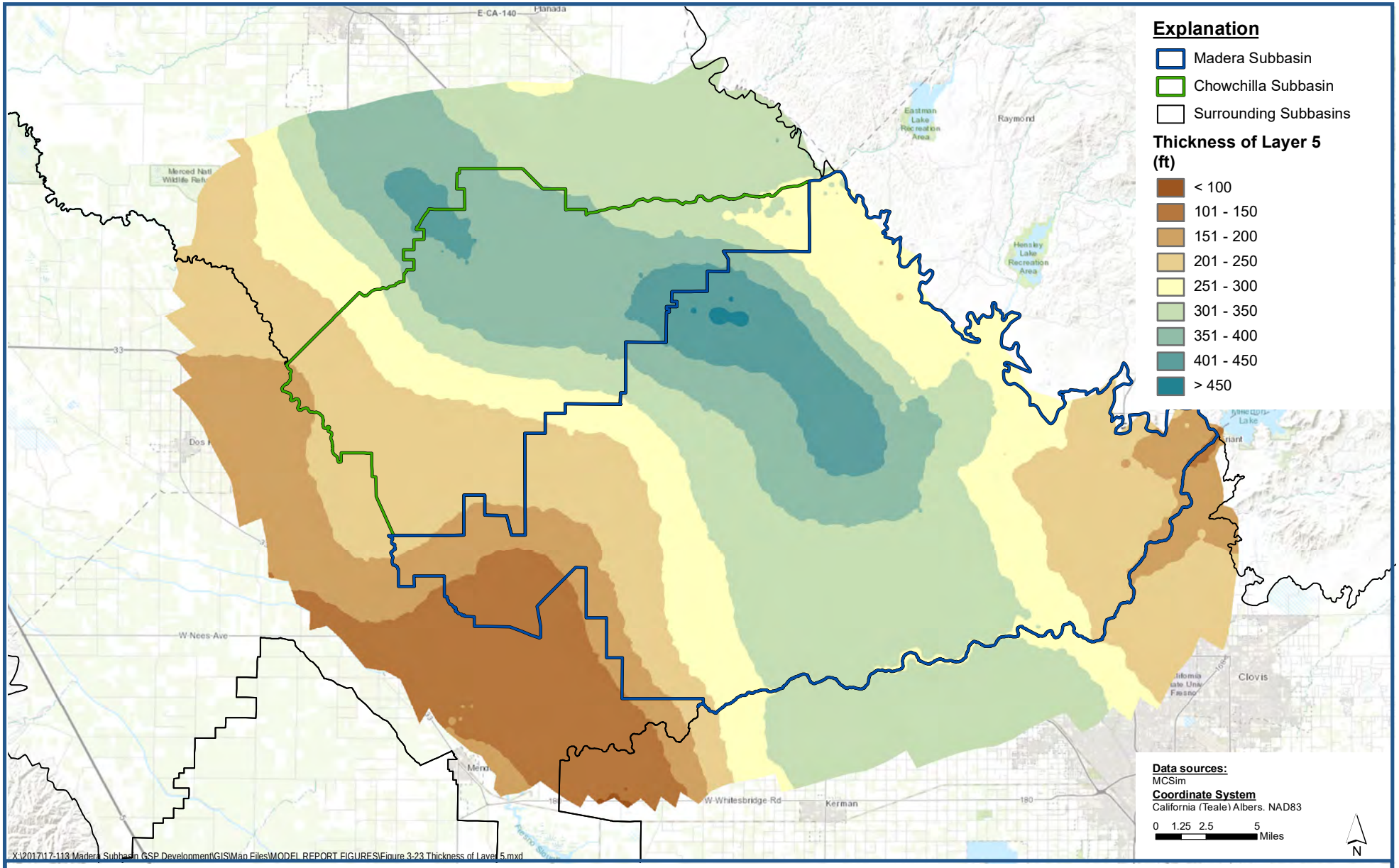
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Thickness of Layer 4

Figure 3-22

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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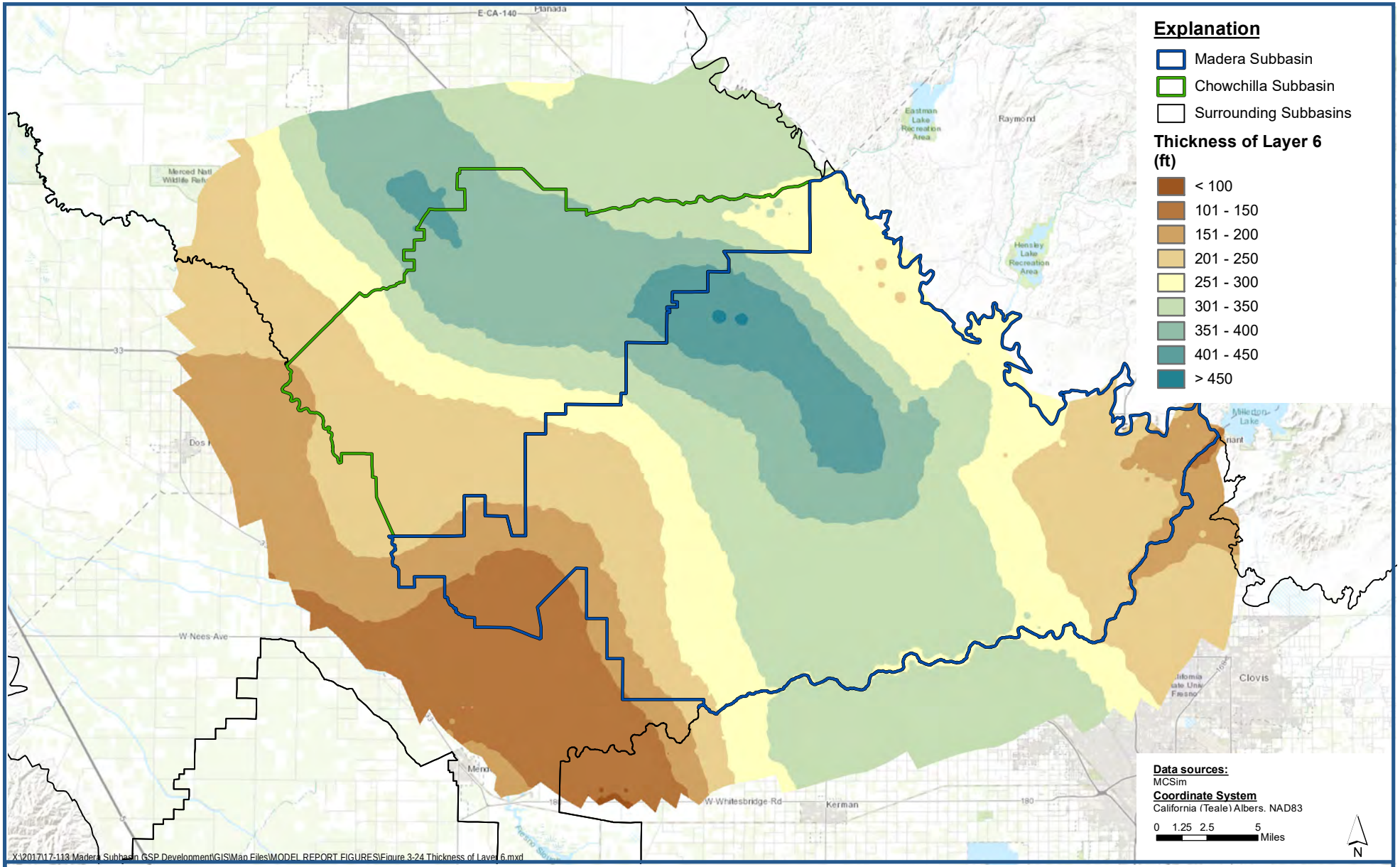
Thickness of Layer 5

Figure 3-23

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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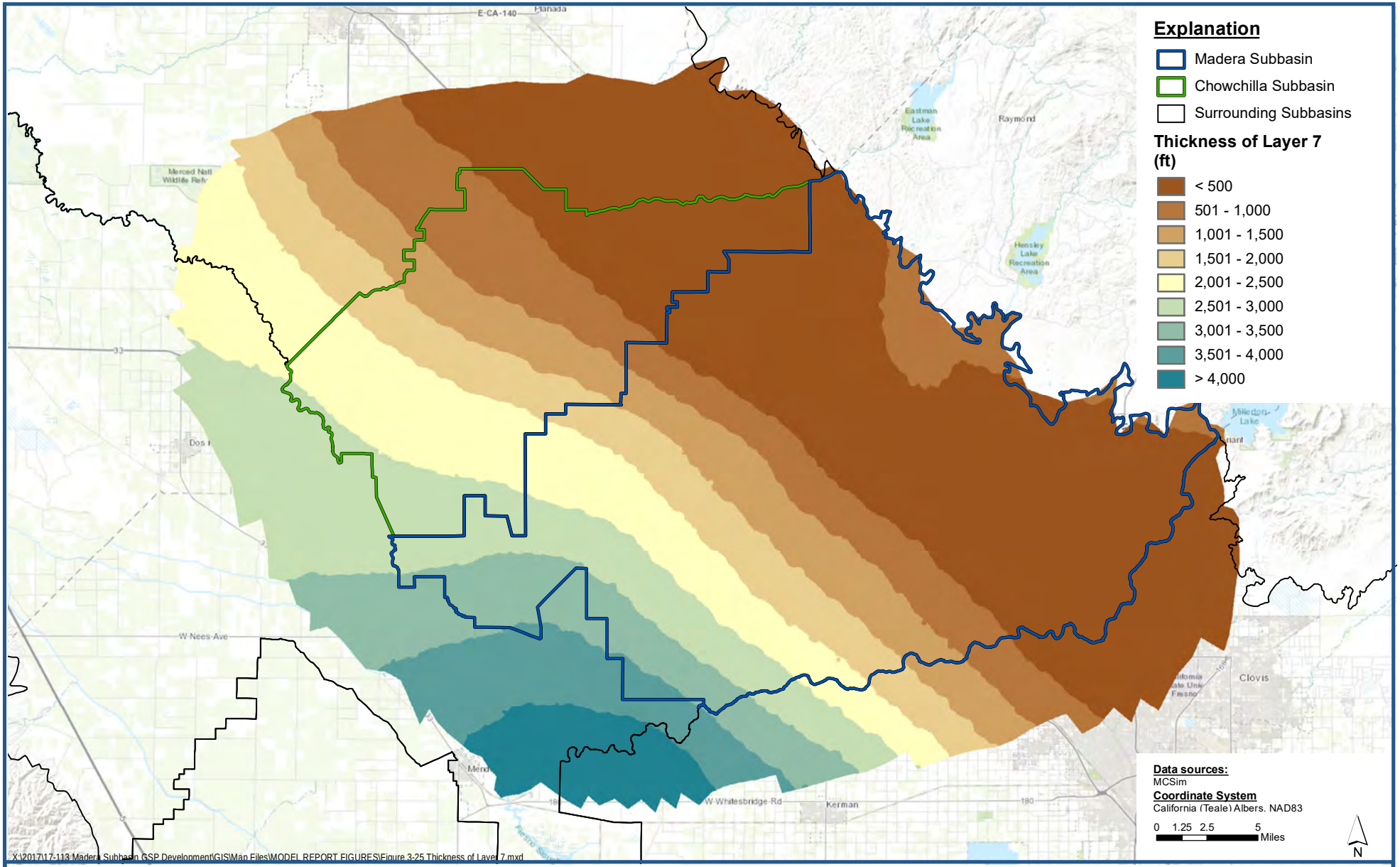
Thickness of Layer 6

Figure 3-24

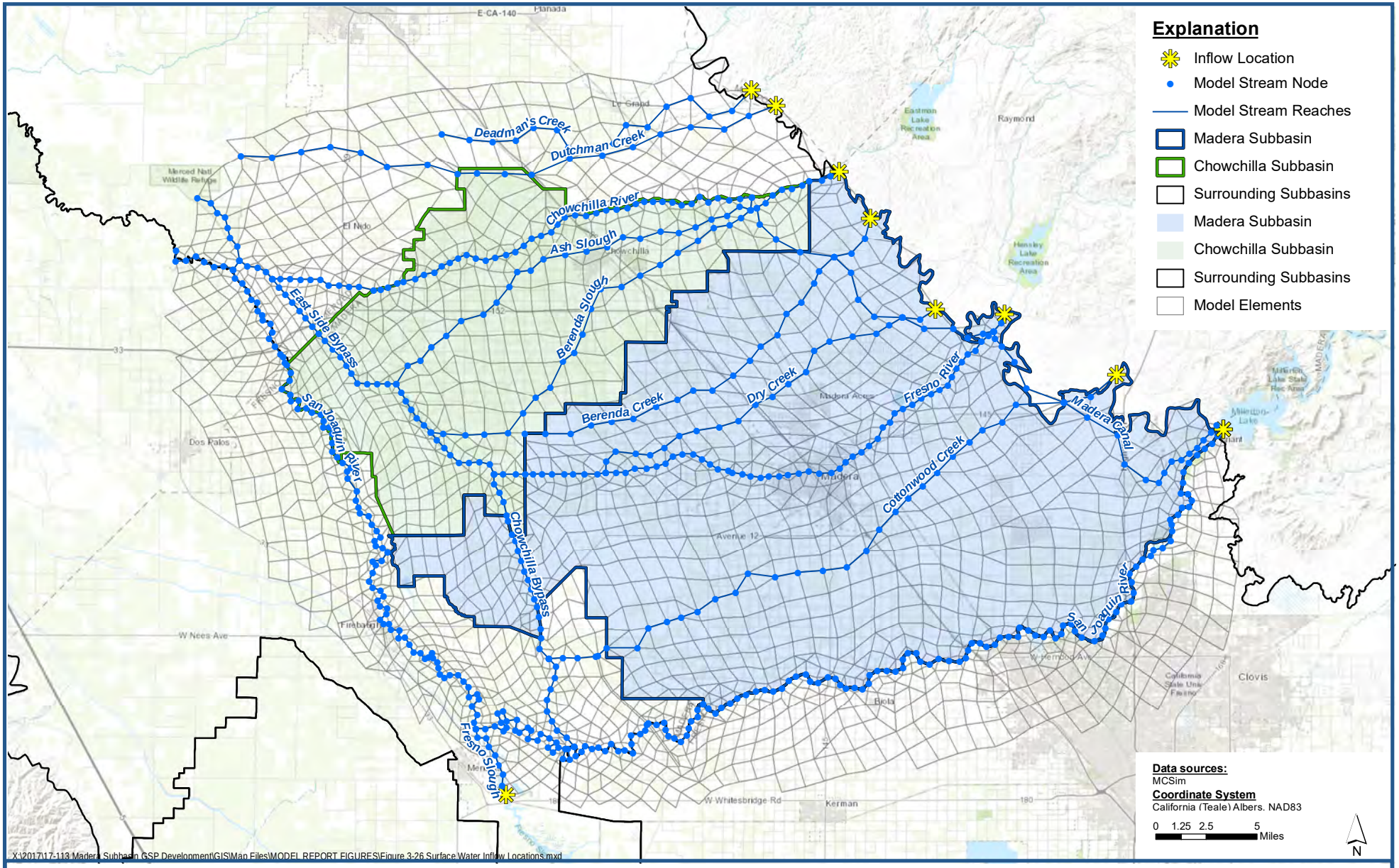
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Thickness of Layer 7

Figure 3-25

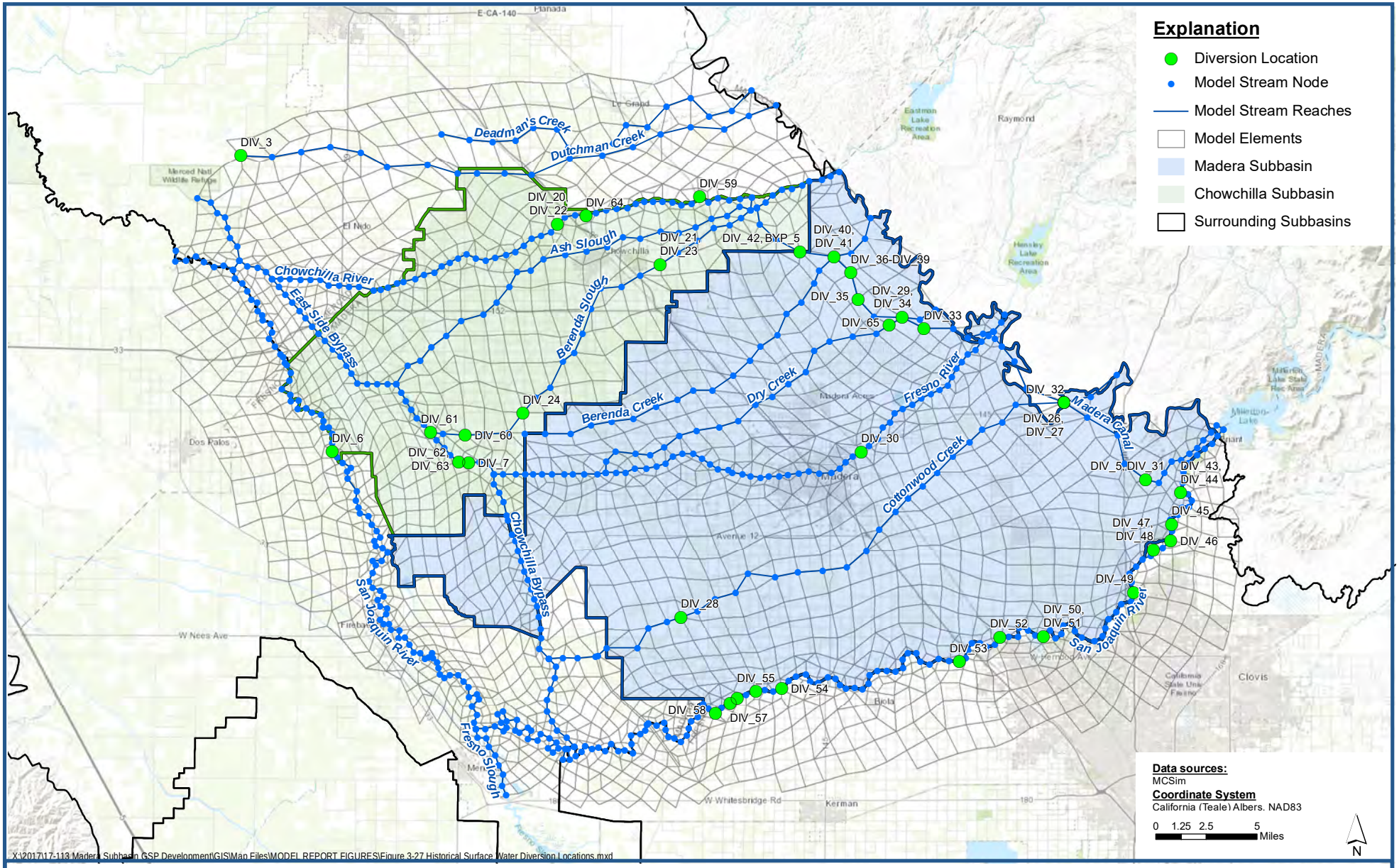
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Surface Water Inflow Locations

Figure 3-26

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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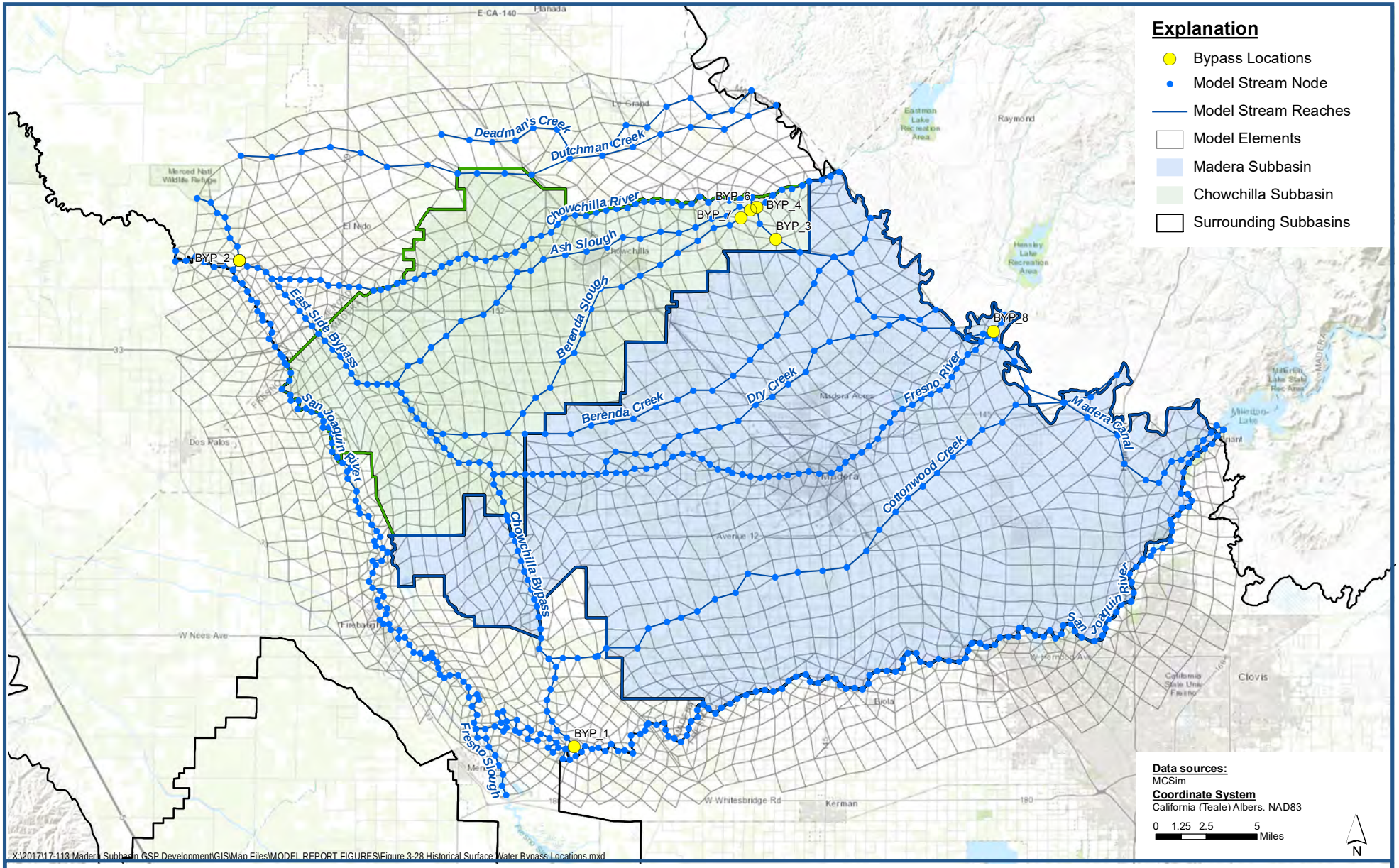
Historical Surface Water Diversion Locations

Figure 3-27

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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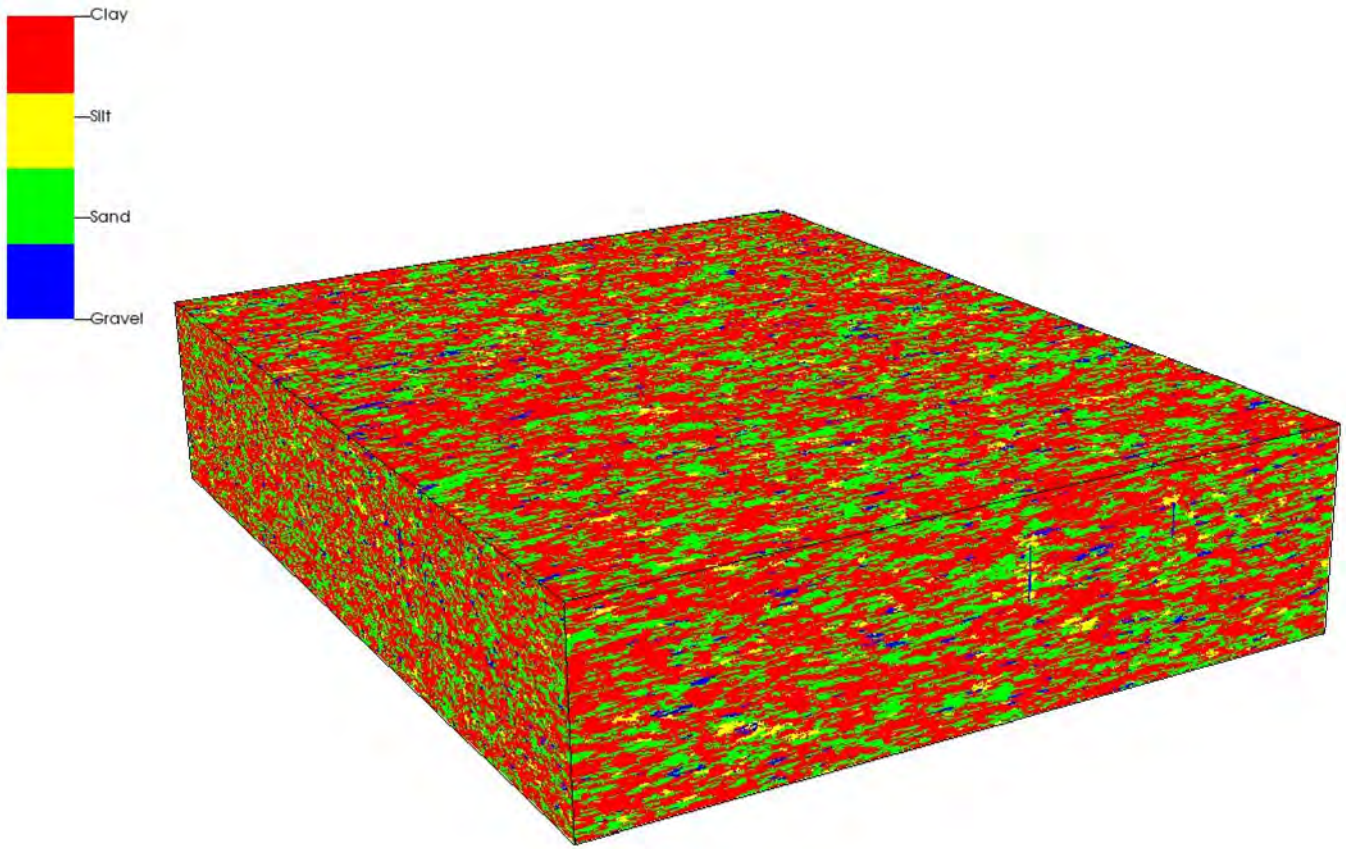
Historical Surface Water Bypass Locations

Figure 3-28

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

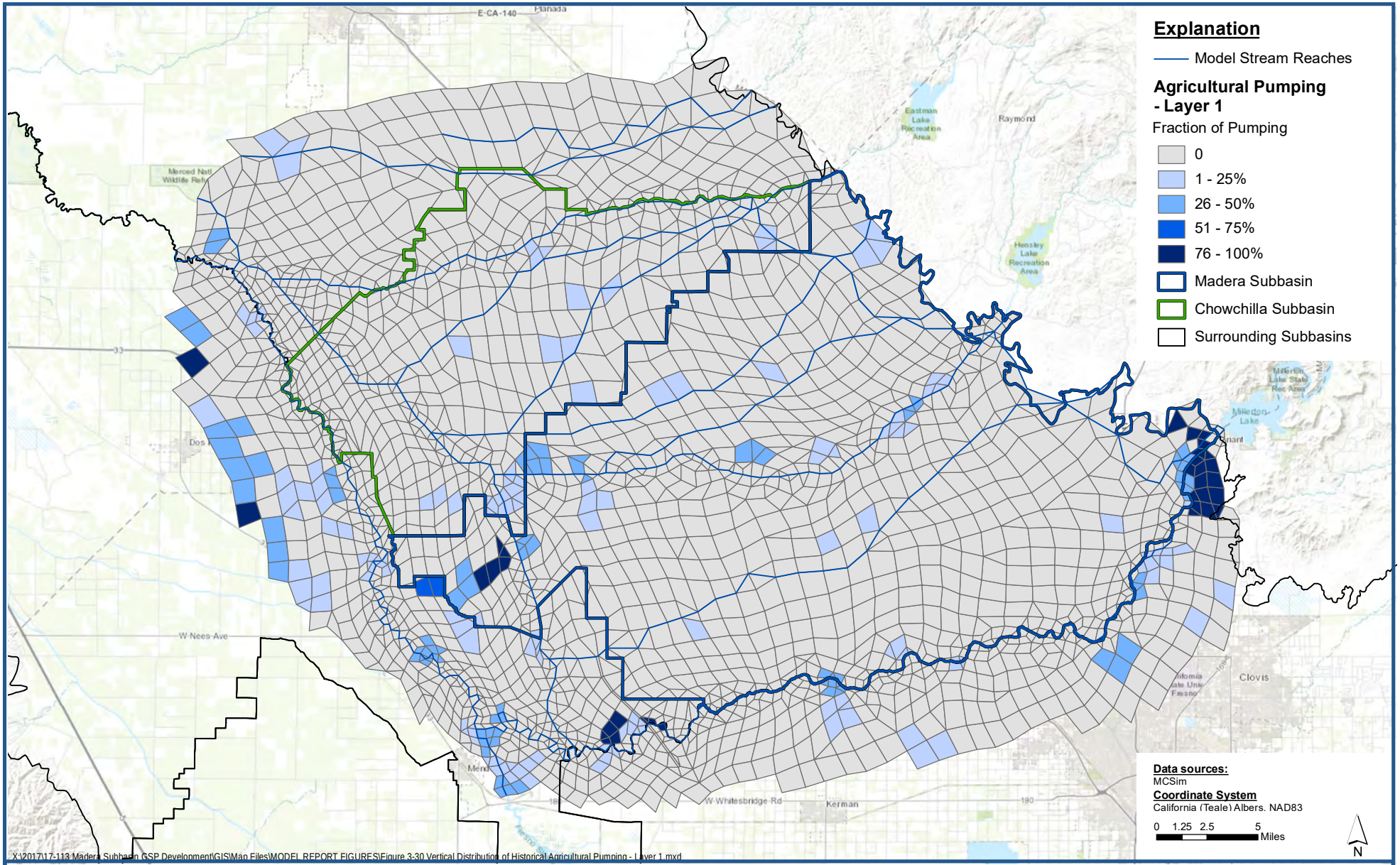


X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 3-29 Results from the 500 by 500 foot Indicator Kriging Model.mxd

Results from the 500-by-500-foot Indicator Kriging Model

Figure 3-29

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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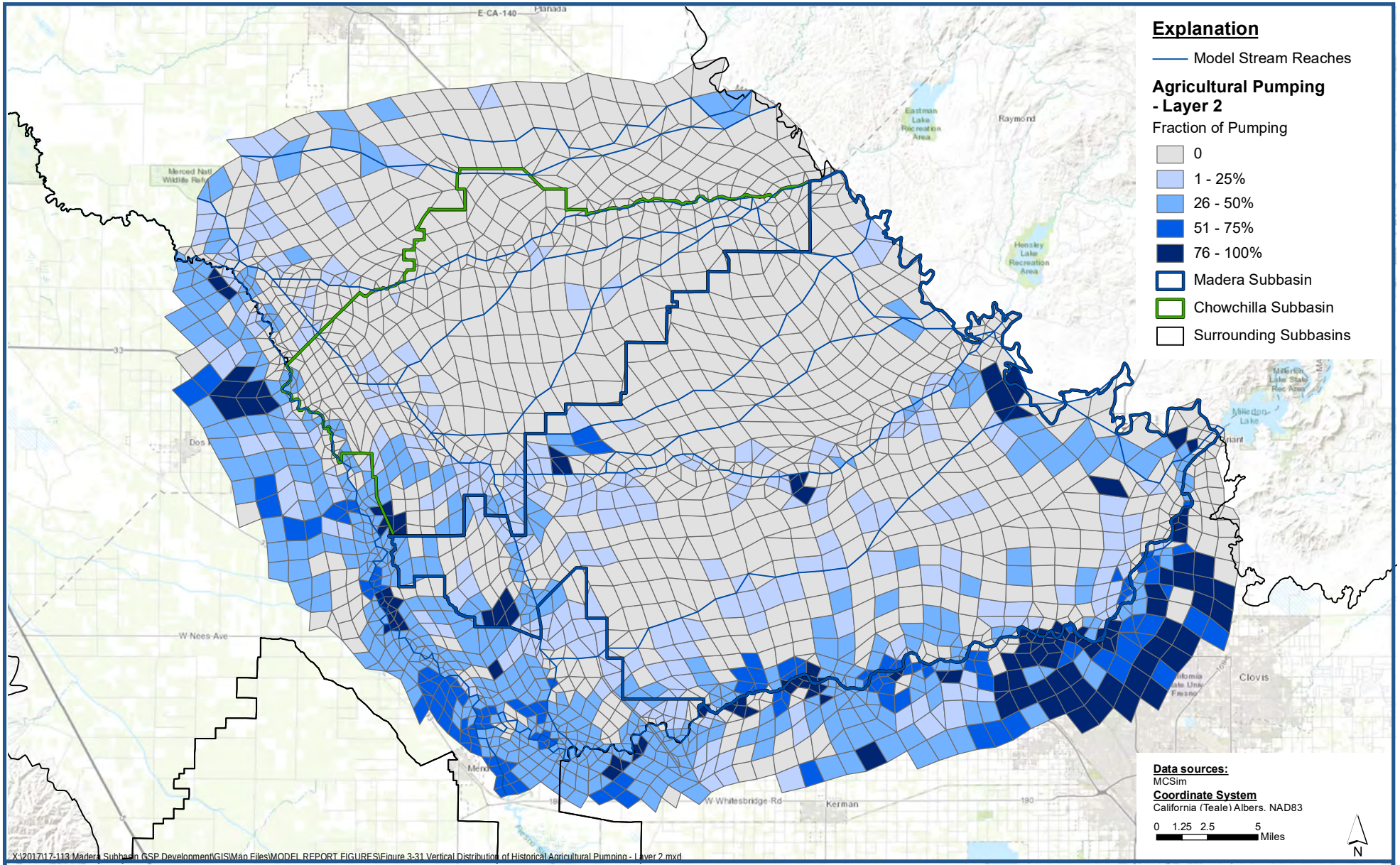
Vertical Distribution of Historical Agricultural Pumping - Layer 1

Figure 3-30

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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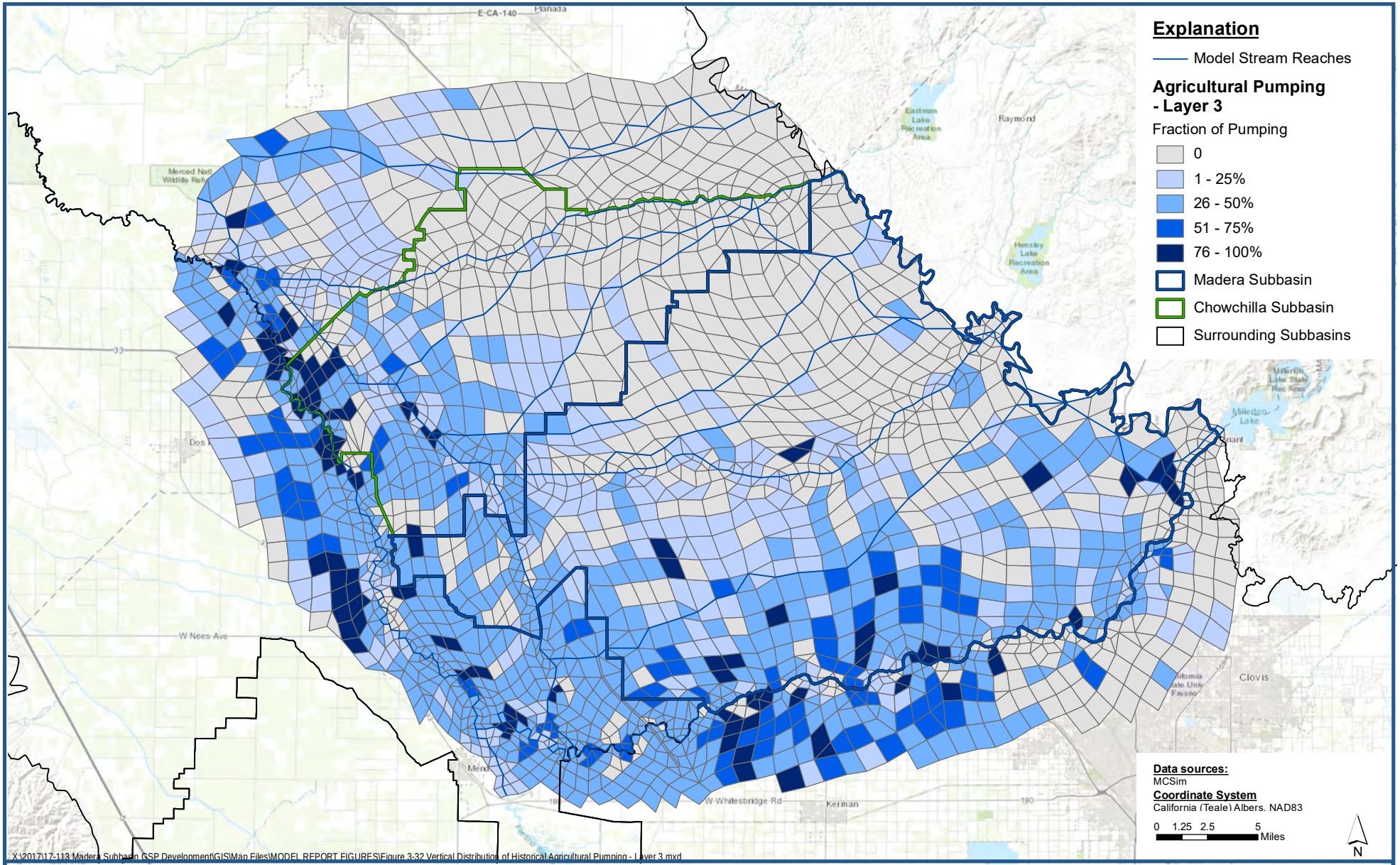
Vertical Distribution of Historical Agricultural Pumping - Layer 2

Figure 3-31

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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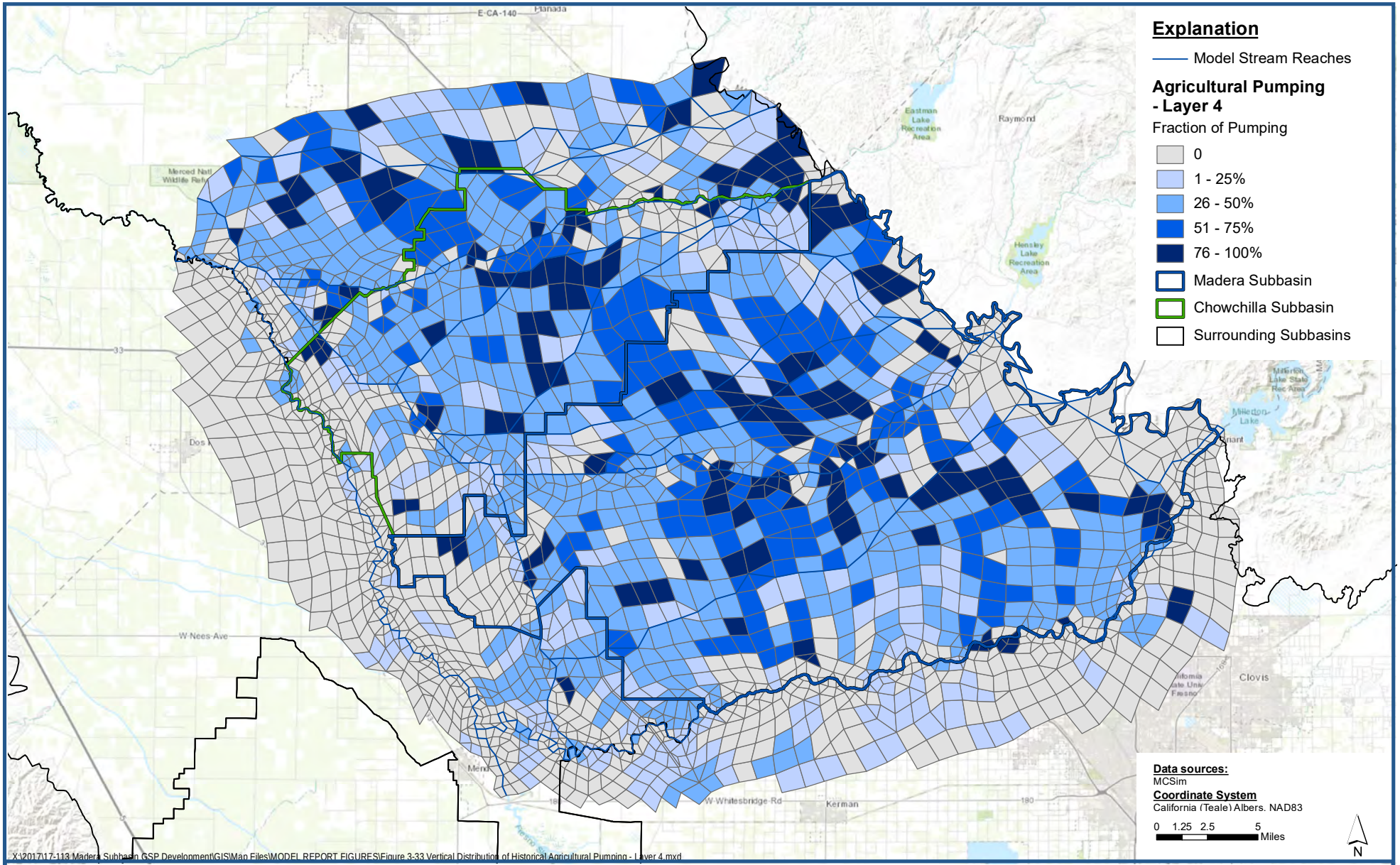
Vertical Distribution of Historical Agricultural Pumping - Layer 3

Figure 3-32

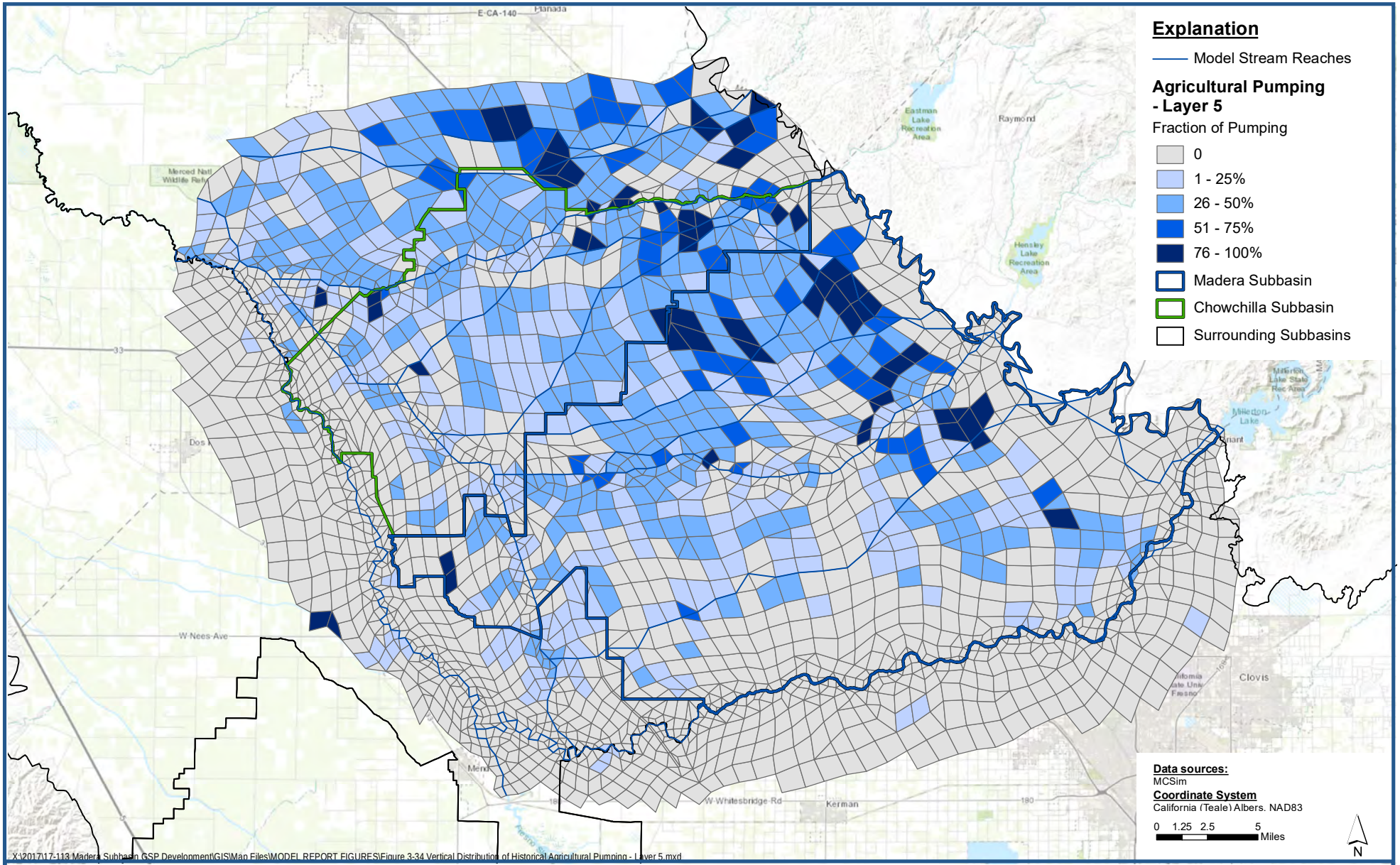
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Historical Agricultural Pumping - Layer 4

Figure 3-33

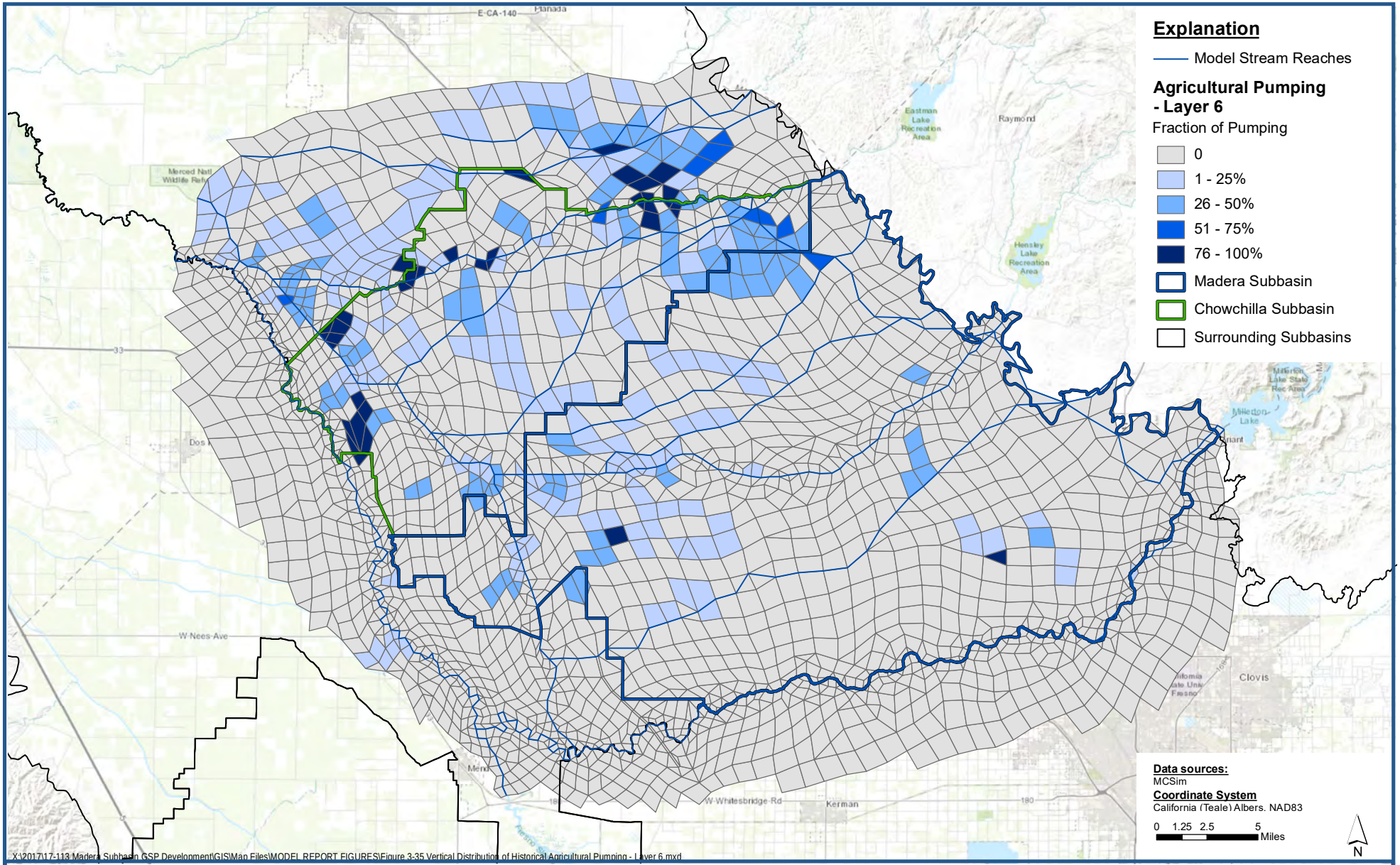
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Historical Agricultural Pumping - Layer 5

Figure 3-34

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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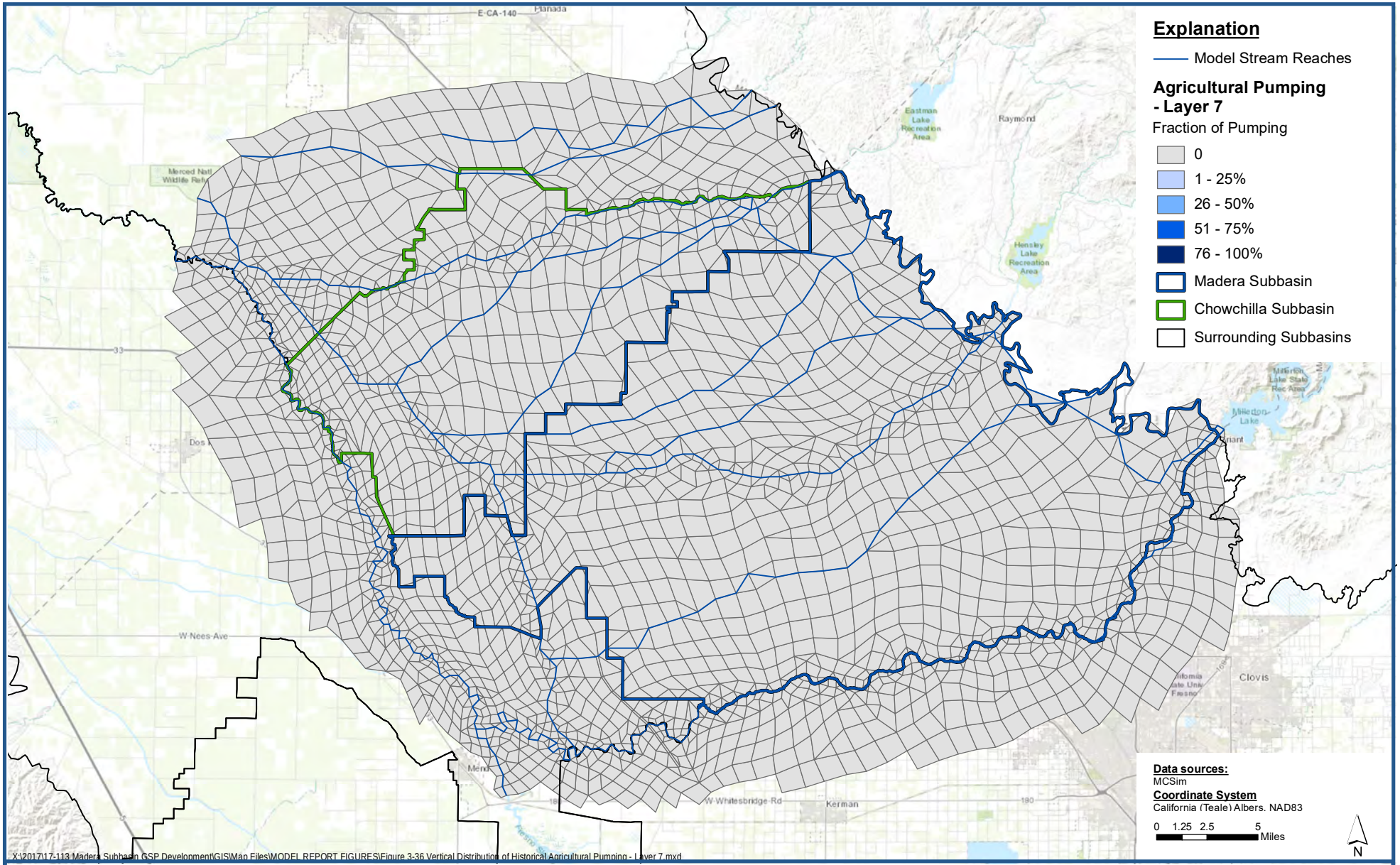
Vertical Distribution of Historical Agricultural Pumping - Layer 6

Figure 3-35

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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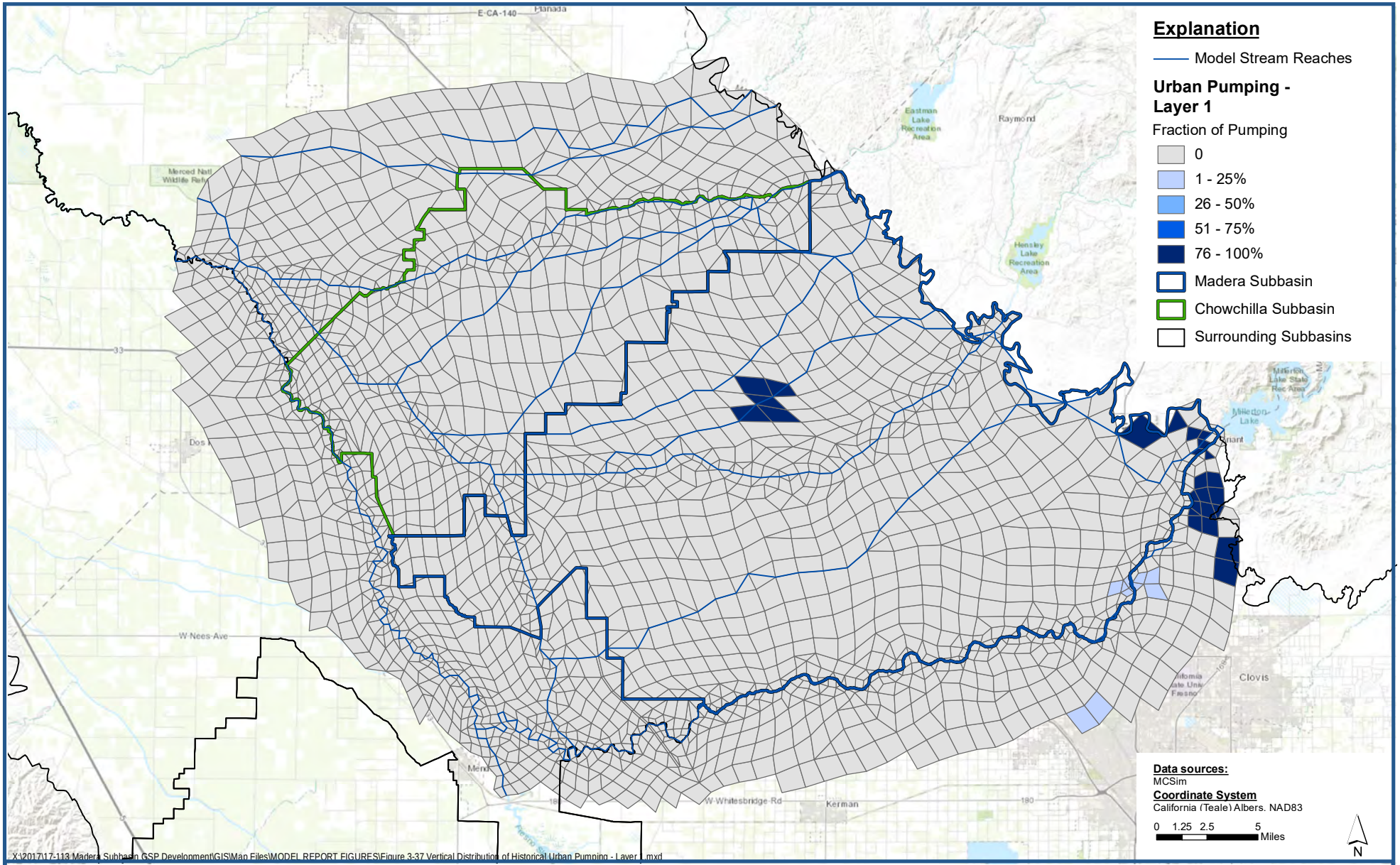
Vertical Distribution of Historical Agricultural Pumping - Layer 7

Figure 3-36

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 3-37 Vertical Distribution of Historical Urban Pumping - Layer 1.mxd

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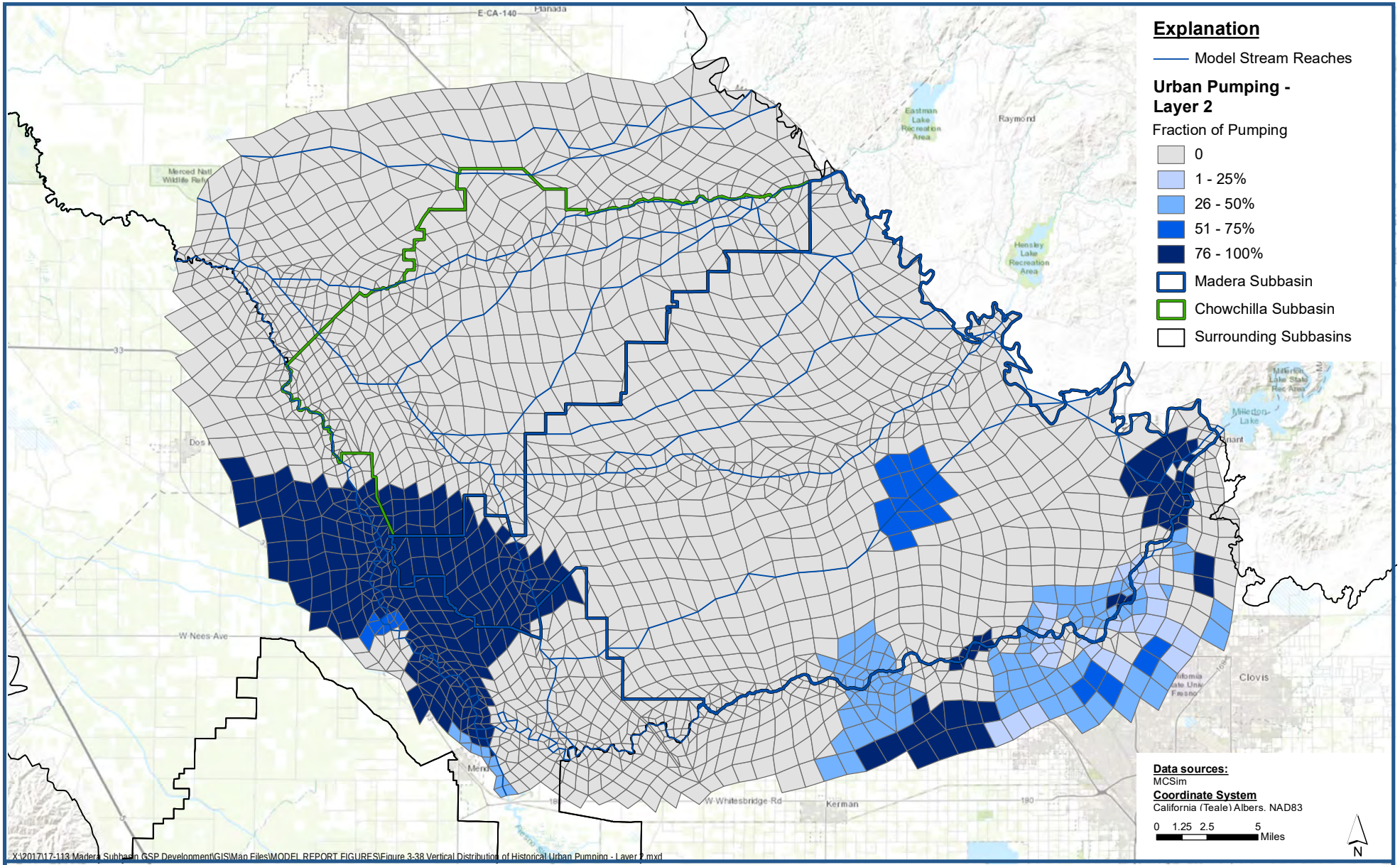
Vertical Distribution of Historical Urban Pumping - Layer 1

Figure 3-37

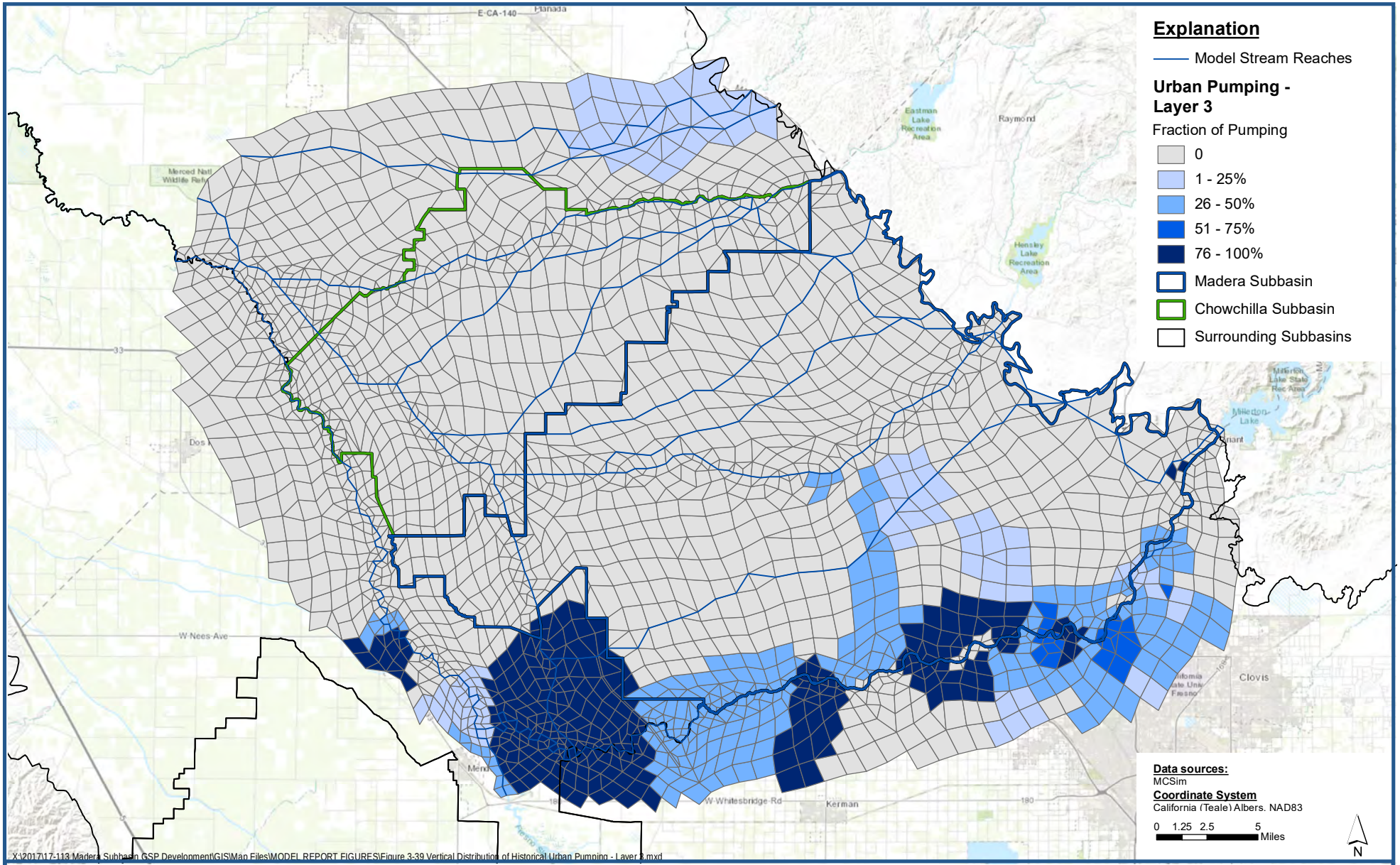
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Historical Urban Pumping - Layer 2

Figure 3-38

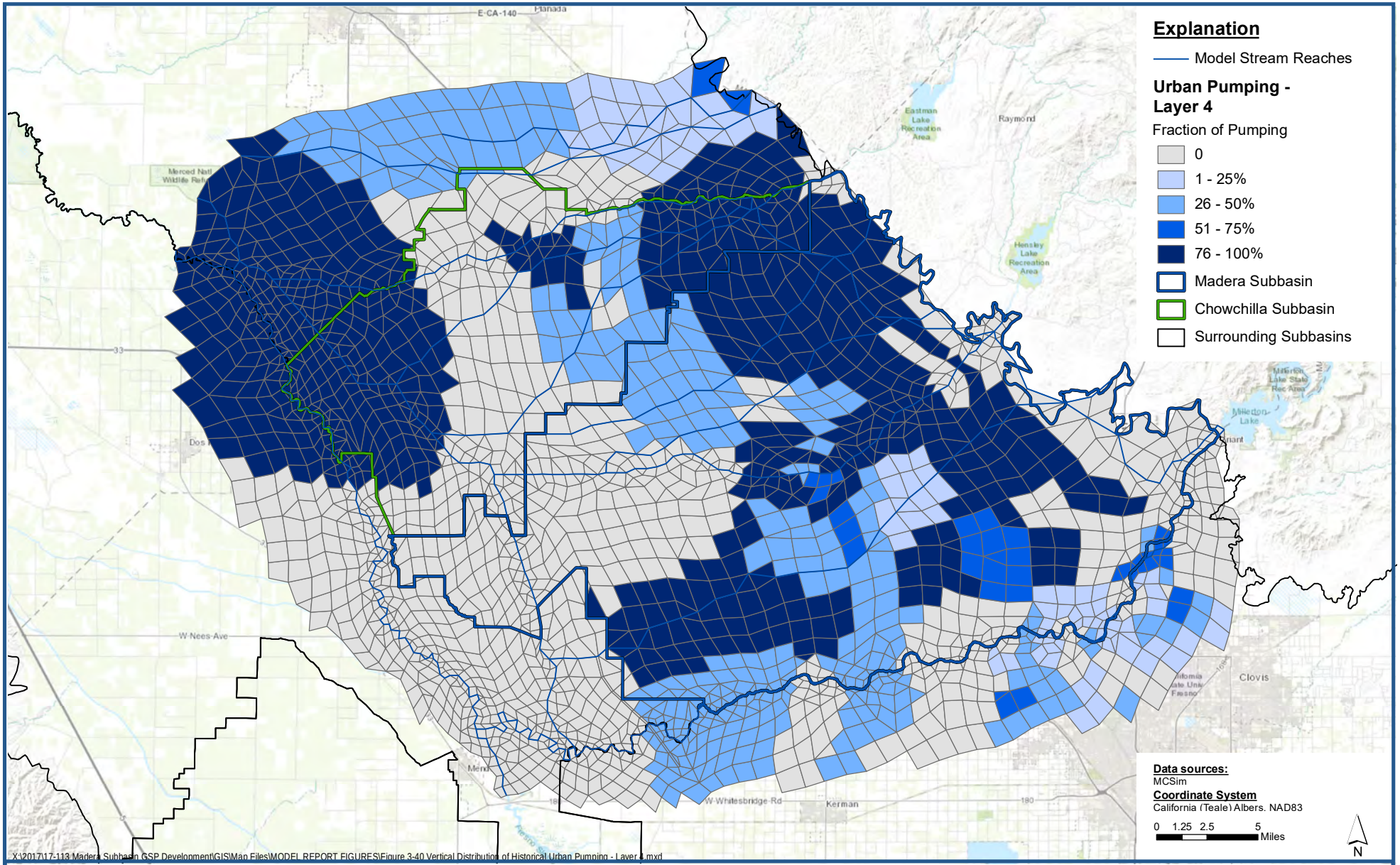
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Historical Urban Pumping - Layer 3

Figure 3-39

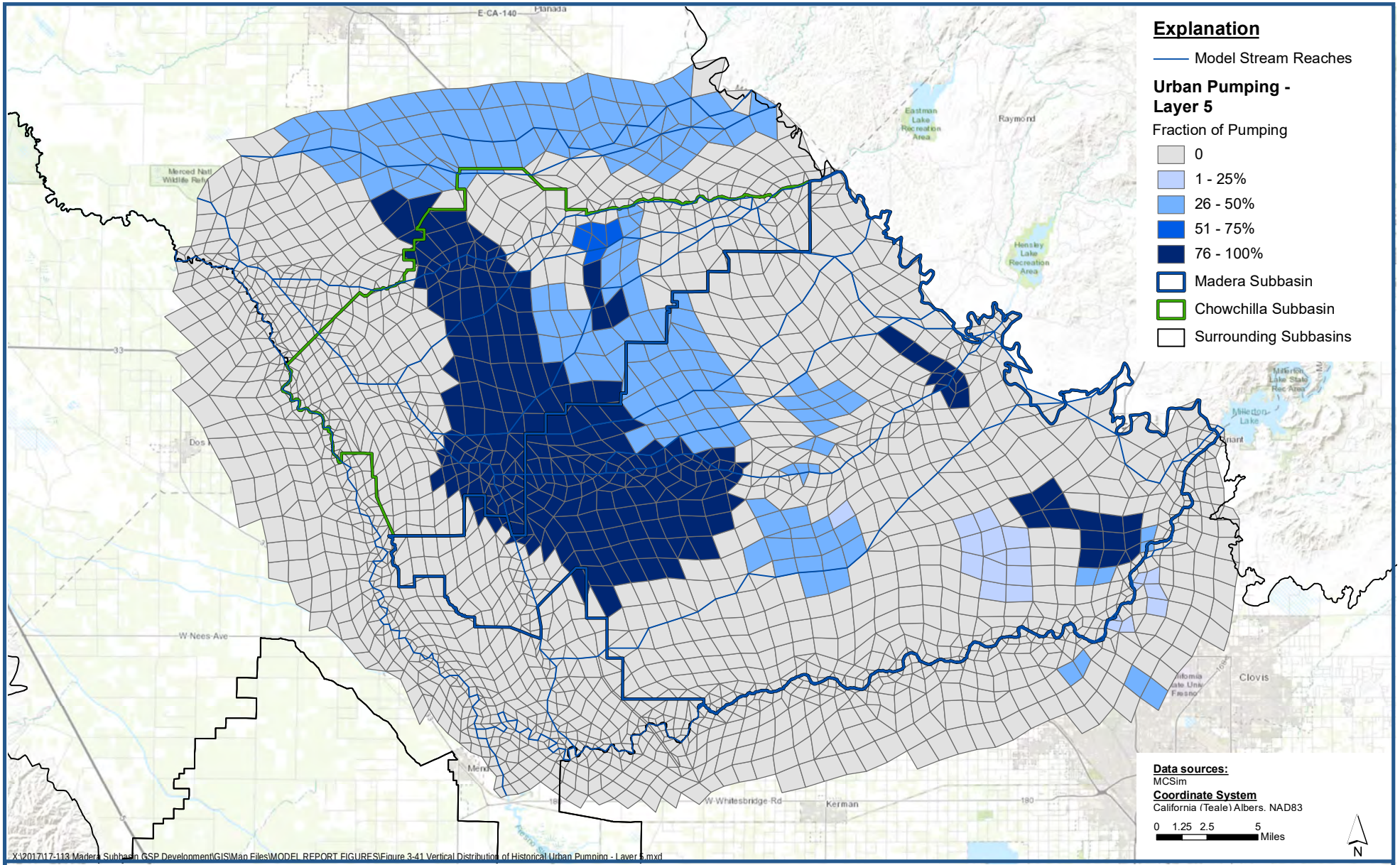
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Historical Urban Pumping - Layer 4

Figure 3-40

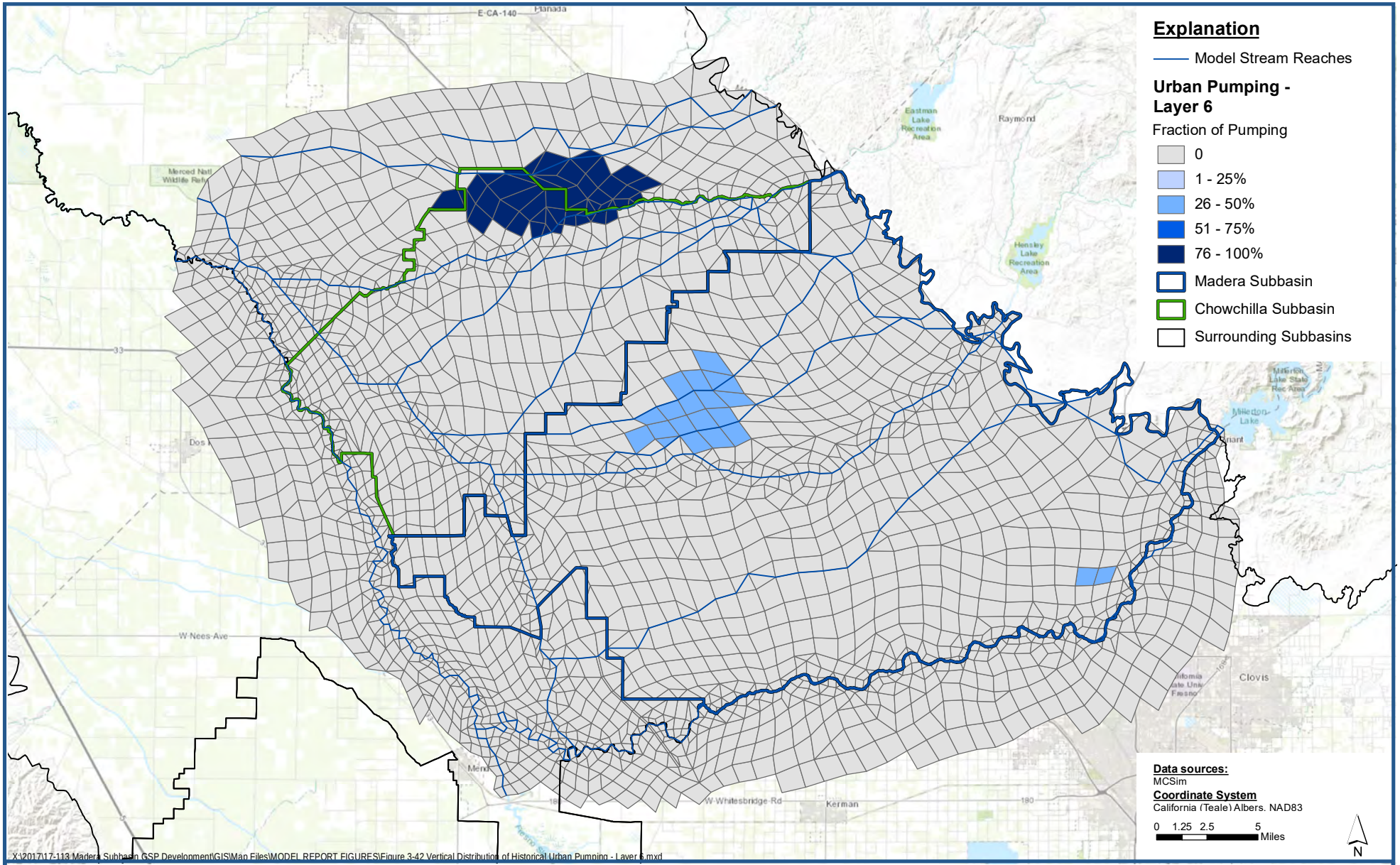
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Historical Urban Pumping - Layer 5

Figure 3-41

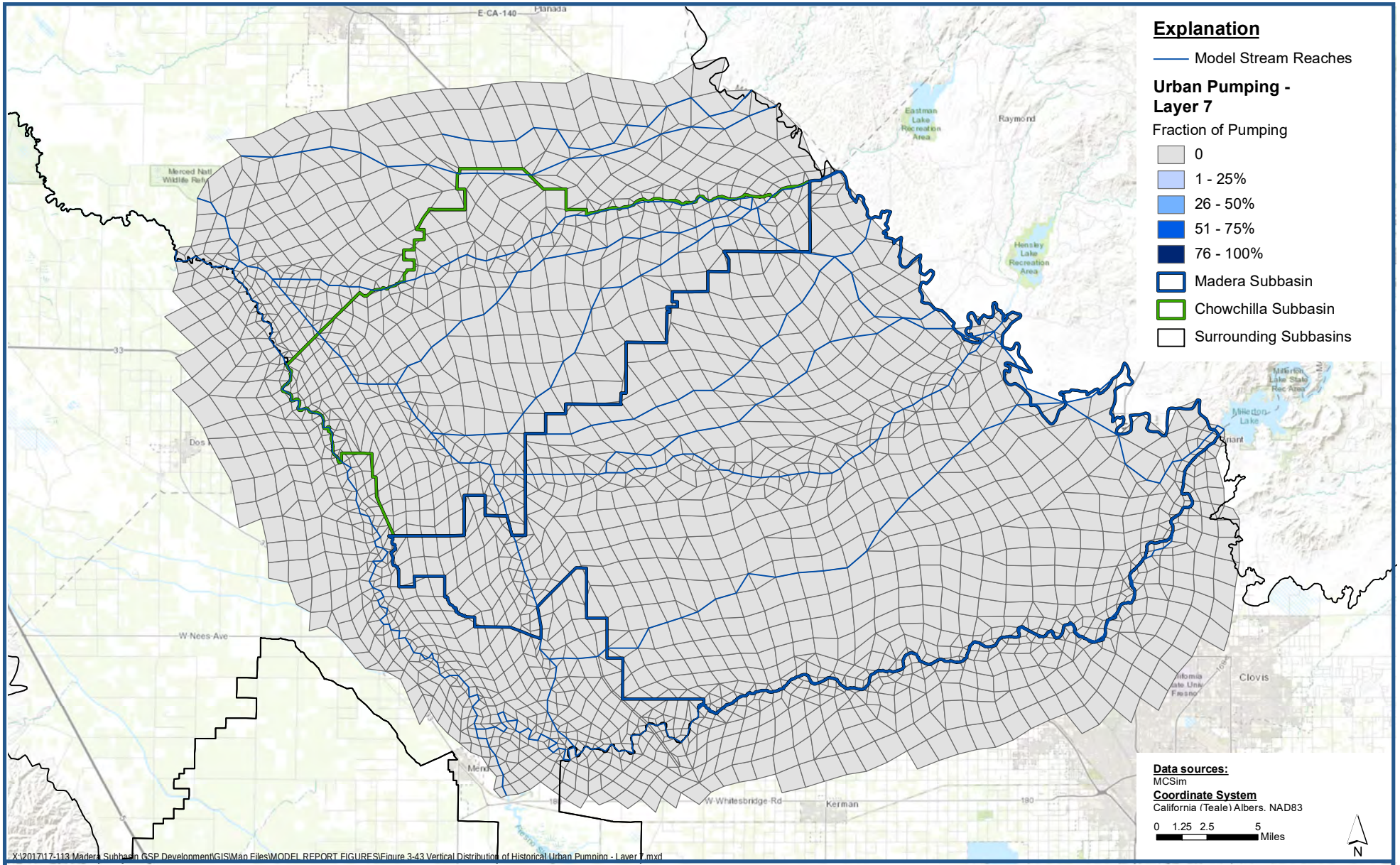
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Historical Urban Pumping - Layer 6

Figure 3-42

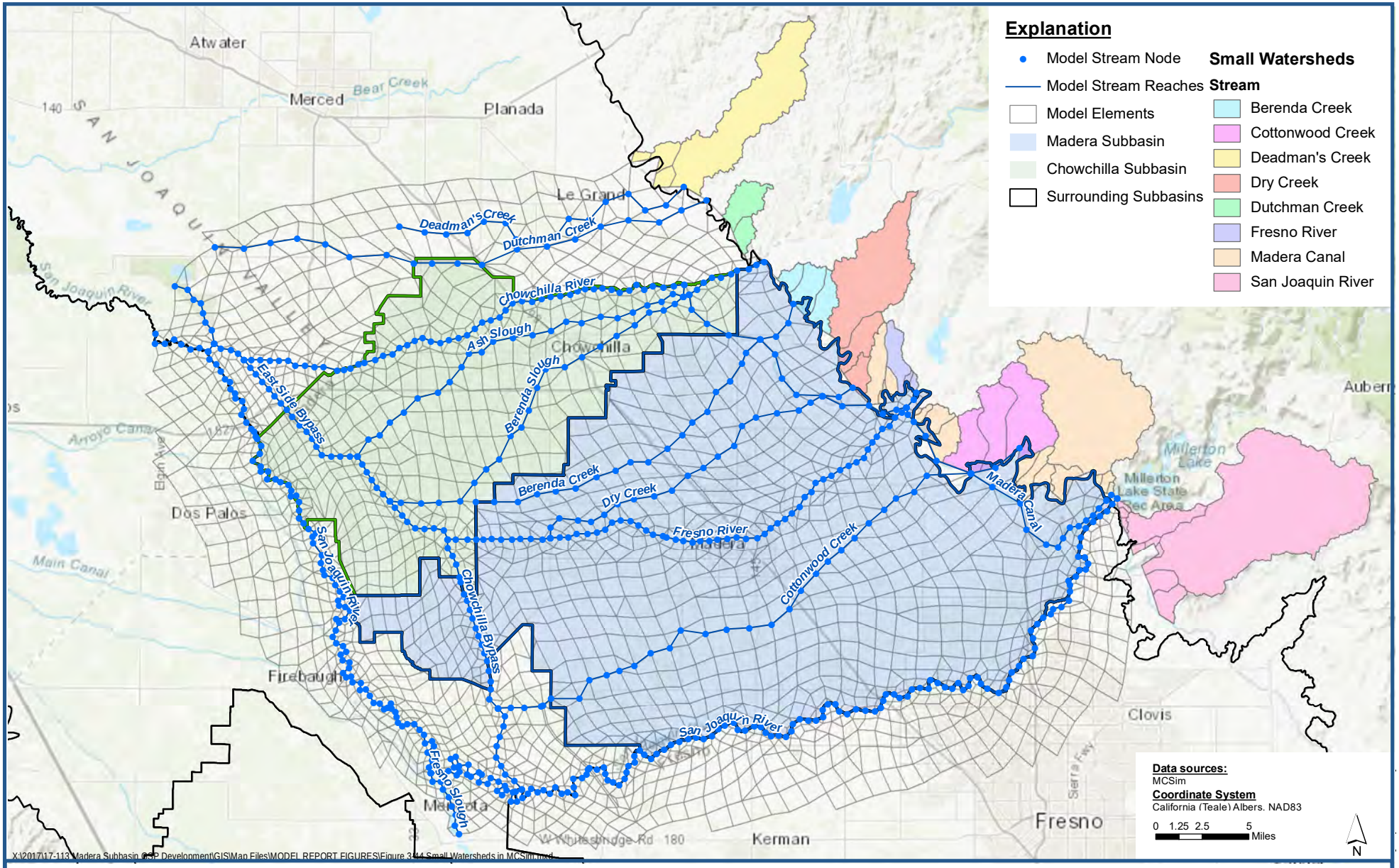
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Historical Urban Pumping - Layer 7

Figure 3-43

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 3-44 Small Watersheds in MCSim.mxd

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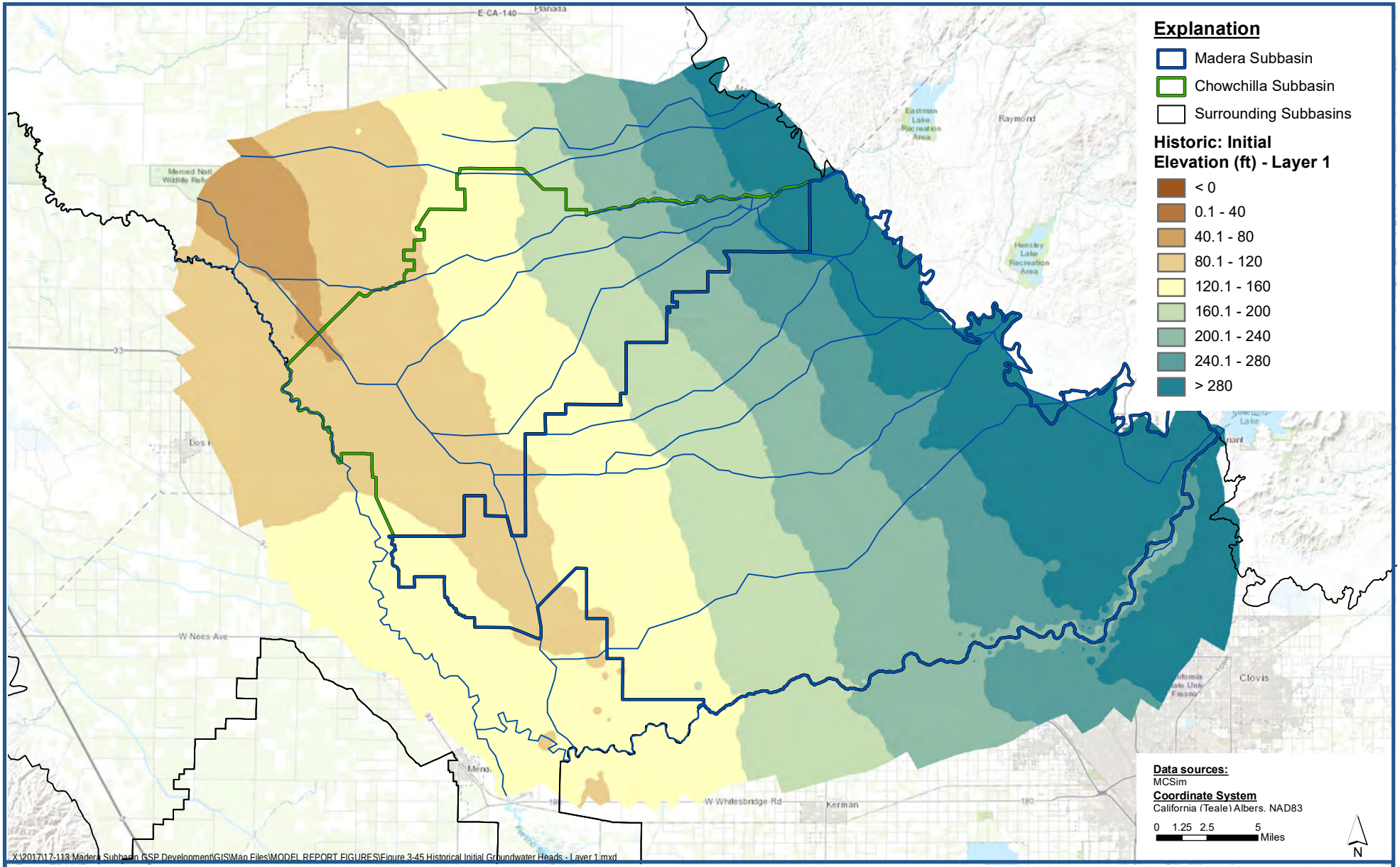
Small Watersheds in MCSim

Figure 3-44

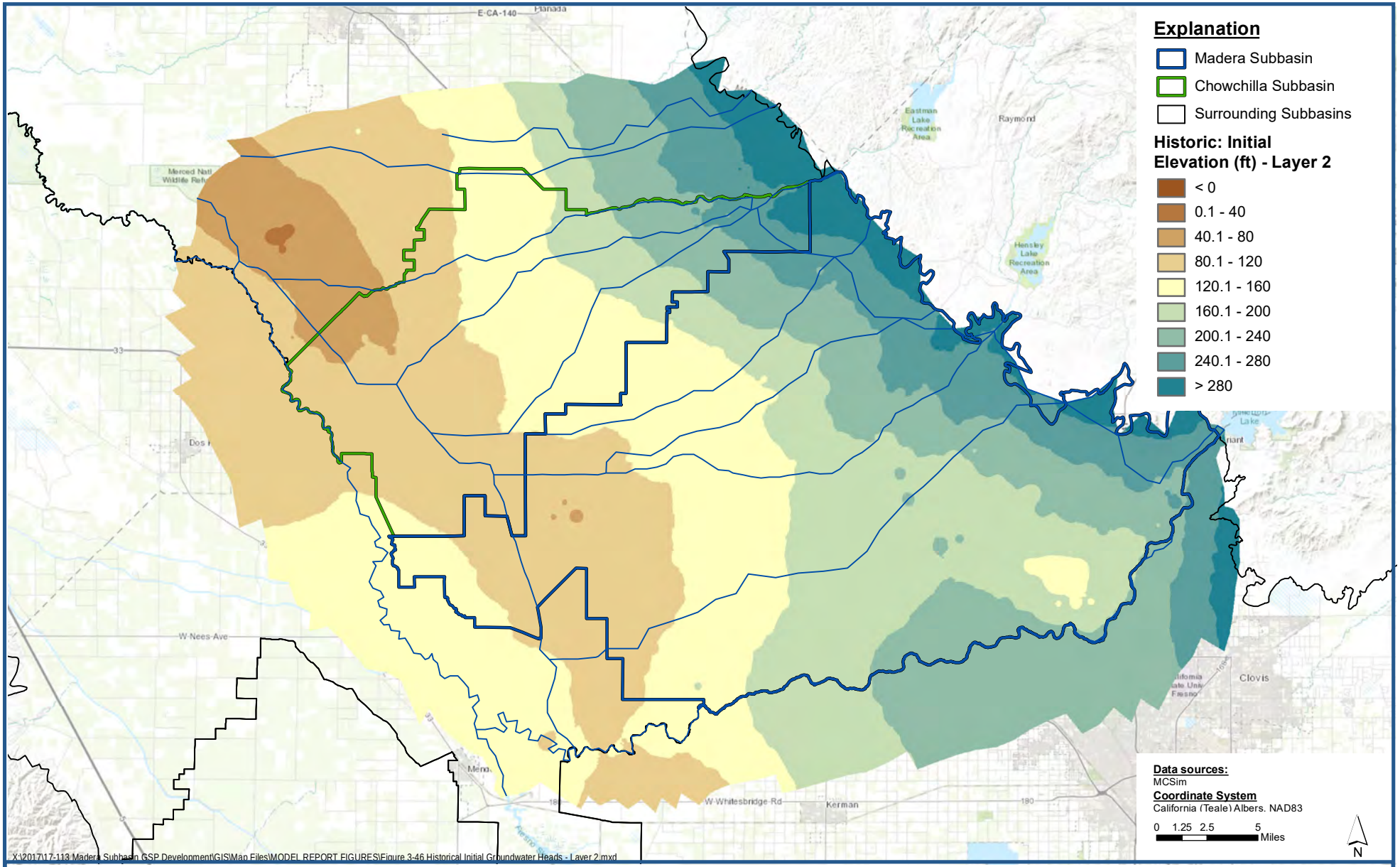
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Historical Initial Groundwater Heads - Layer 1

Figure 3-45

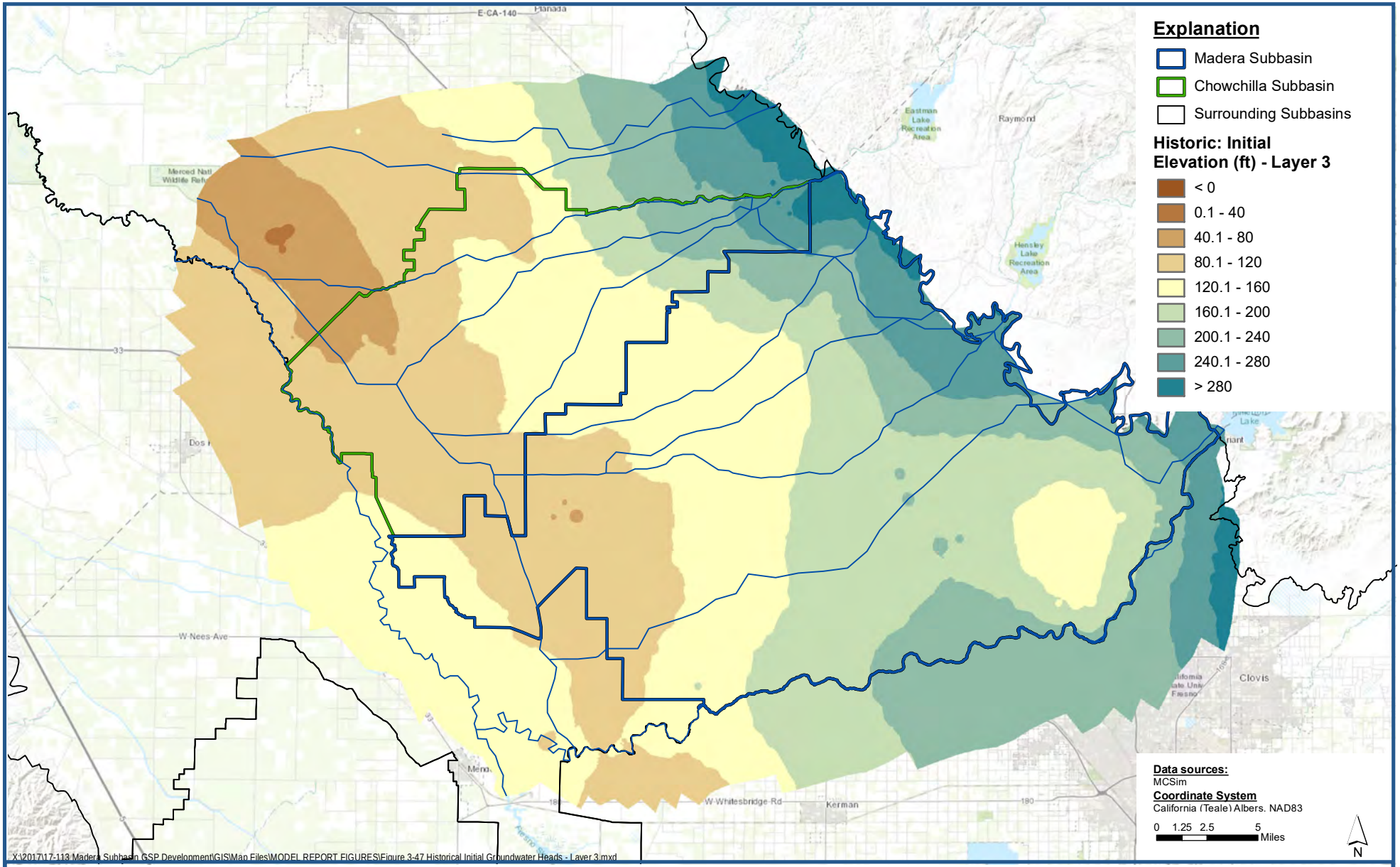
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Historical Initial Groundwater Heads - Layer 2

Figure 3-46

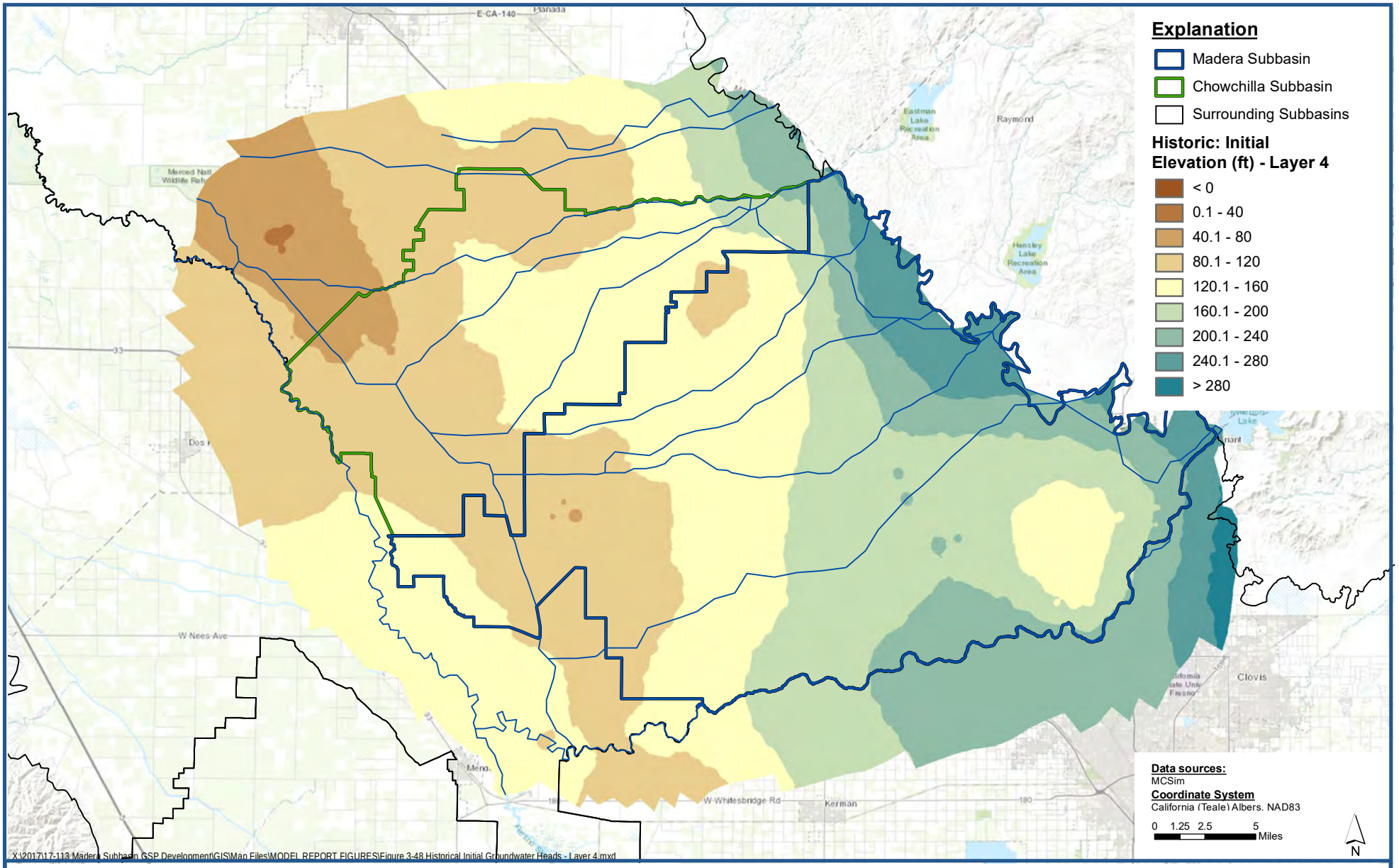
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Historical Initial Groundwater Heads - Layer 3

Figure 3-47

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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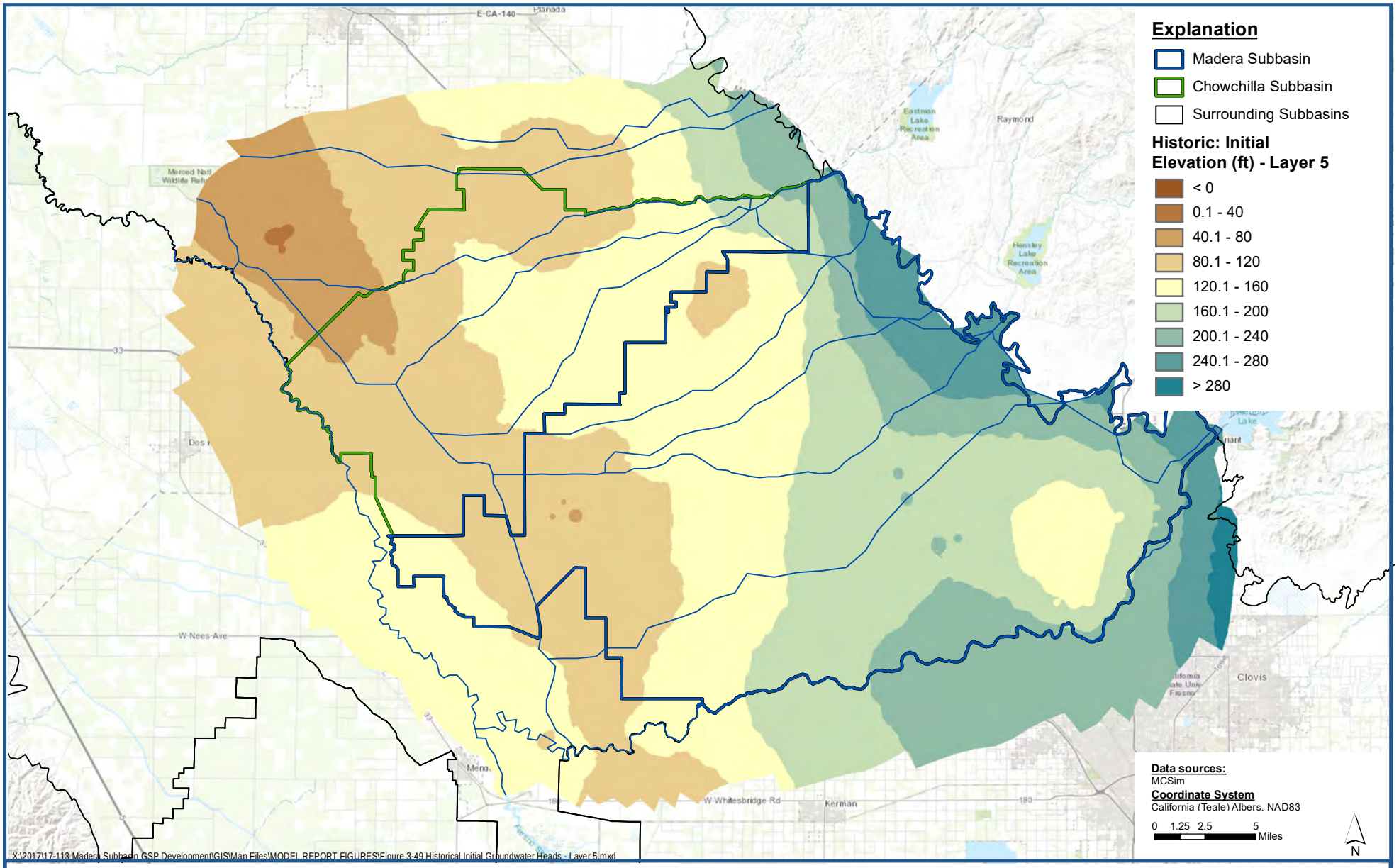
Historical Initial Groundwater Heads - Layer 4

Figure 3-48

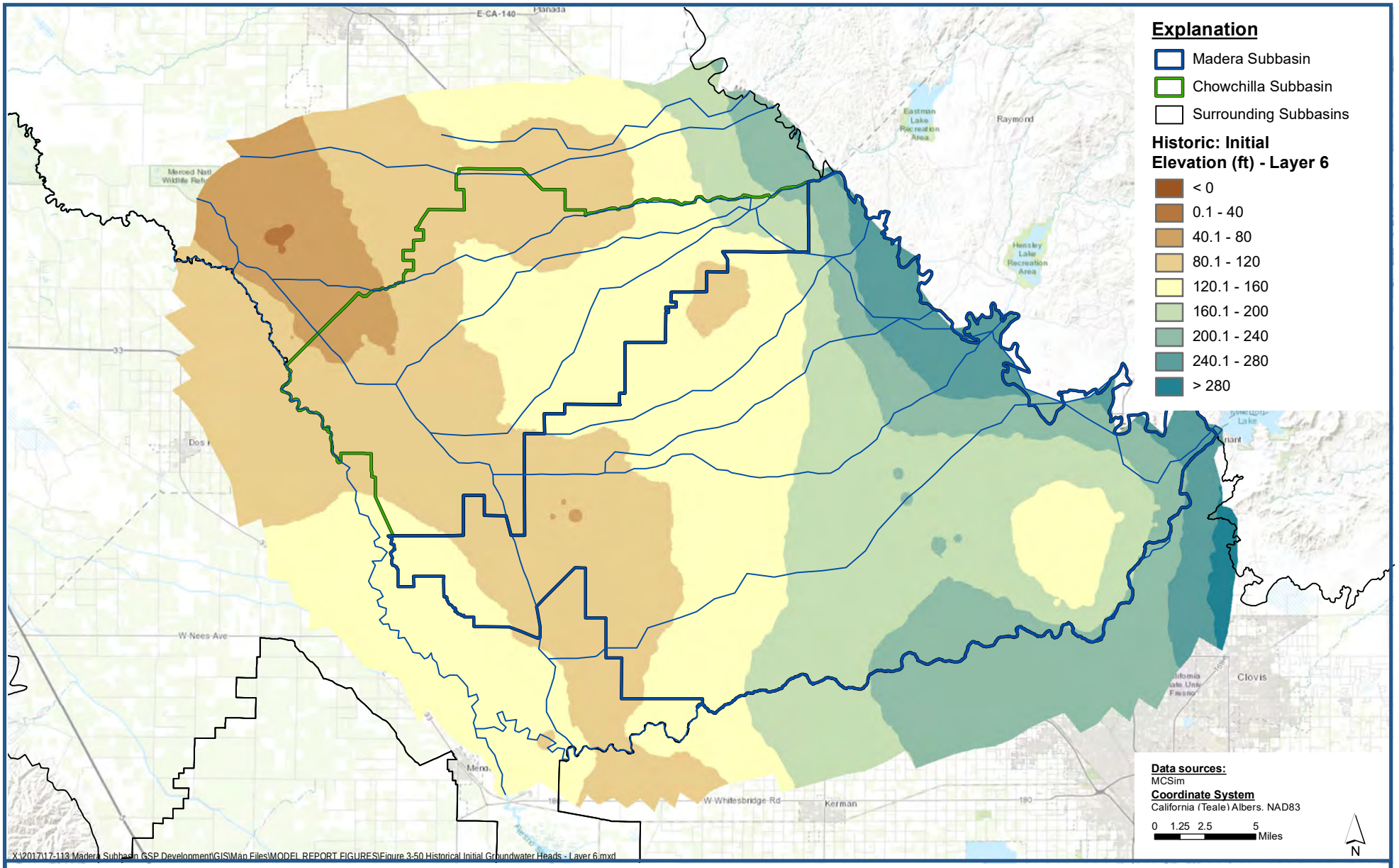
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Historical Initial Groundwater Heads - Layer 5

Figure 3-49

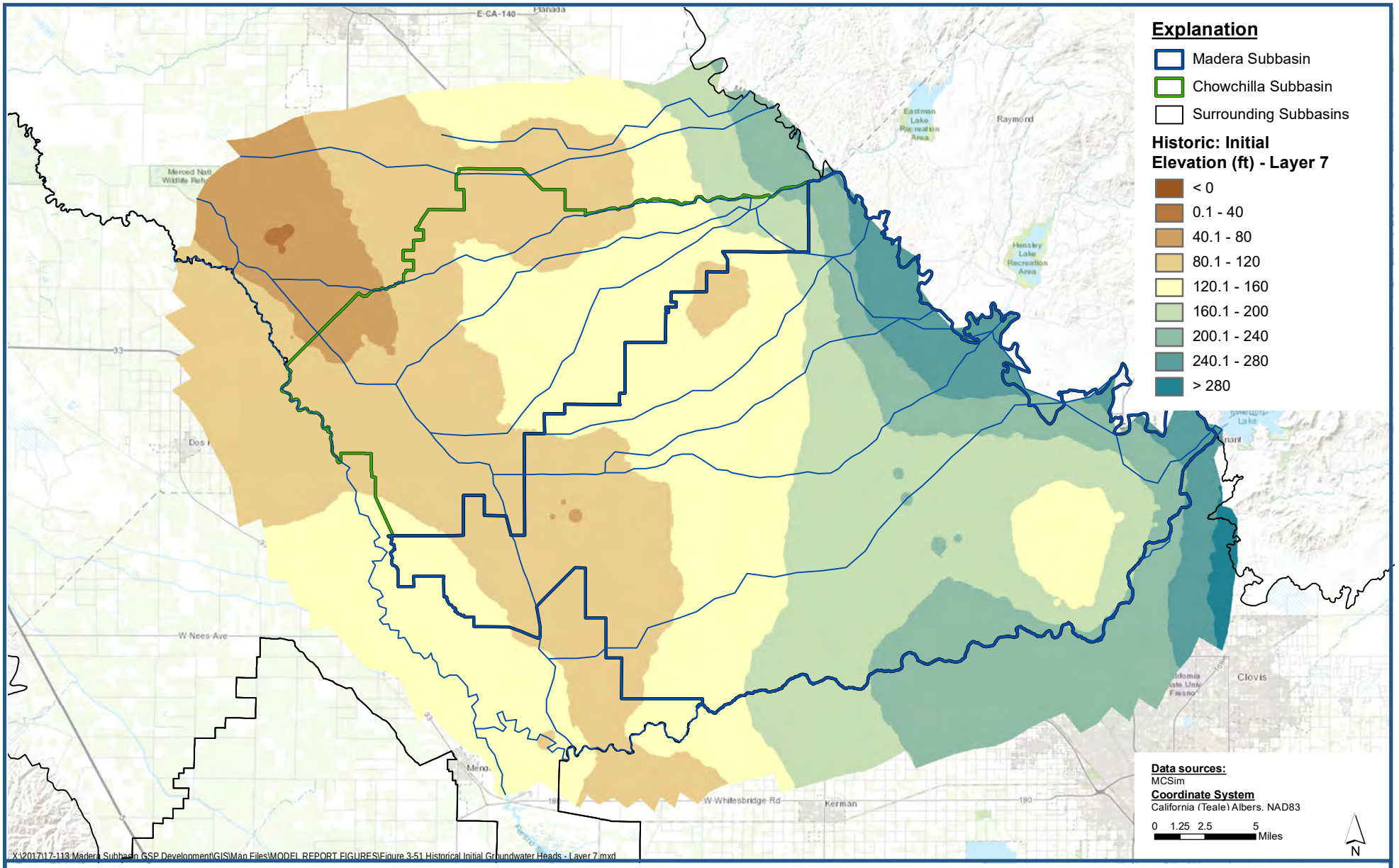
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Historical Initial Groundwater Heads - Layer 6

Figure 3-50

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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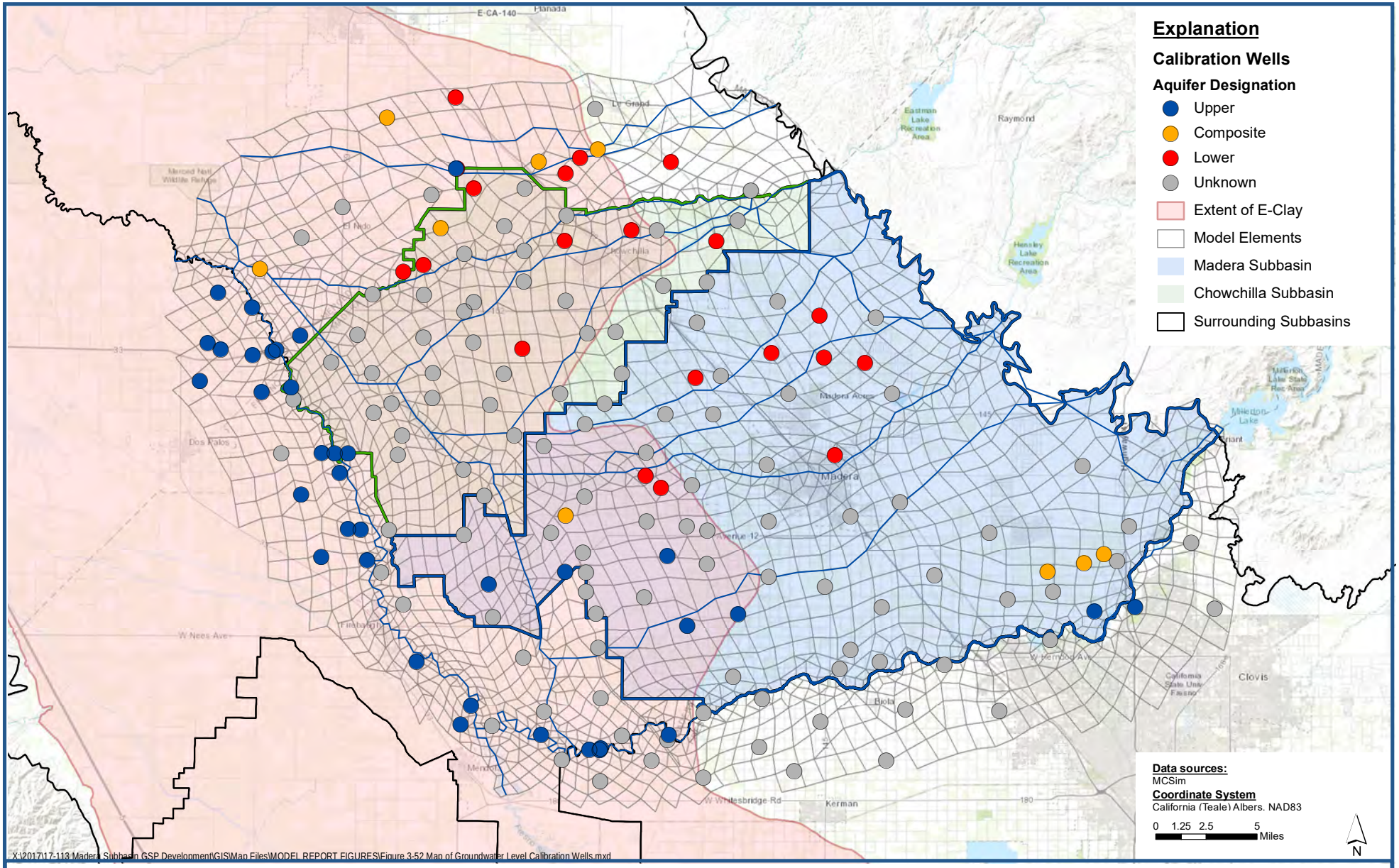
Historical Initial Groundwater Heads - Layer 7

Figure 3-51

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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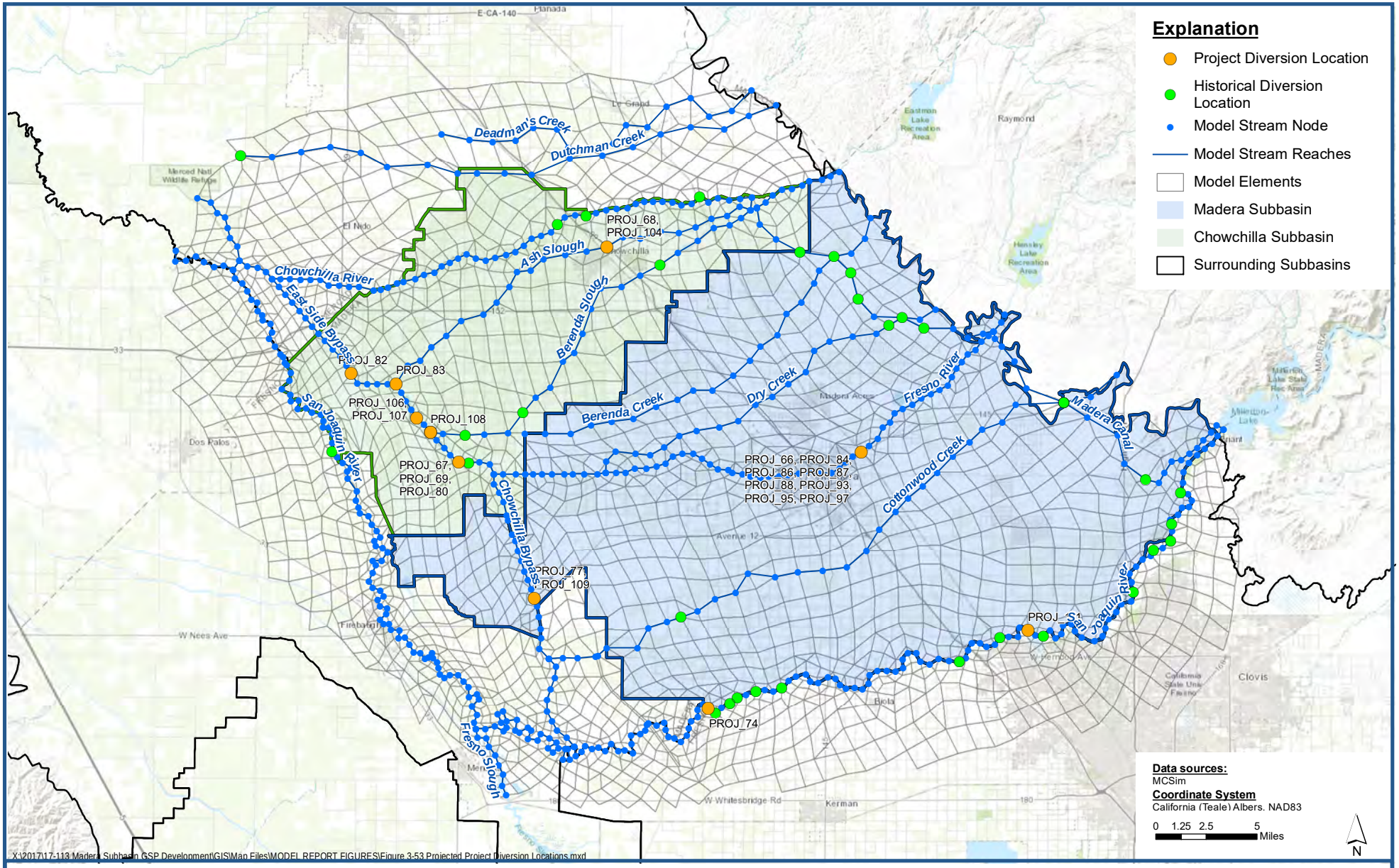
Map of Groundwater Level Calibration Wells

Figure 3-52

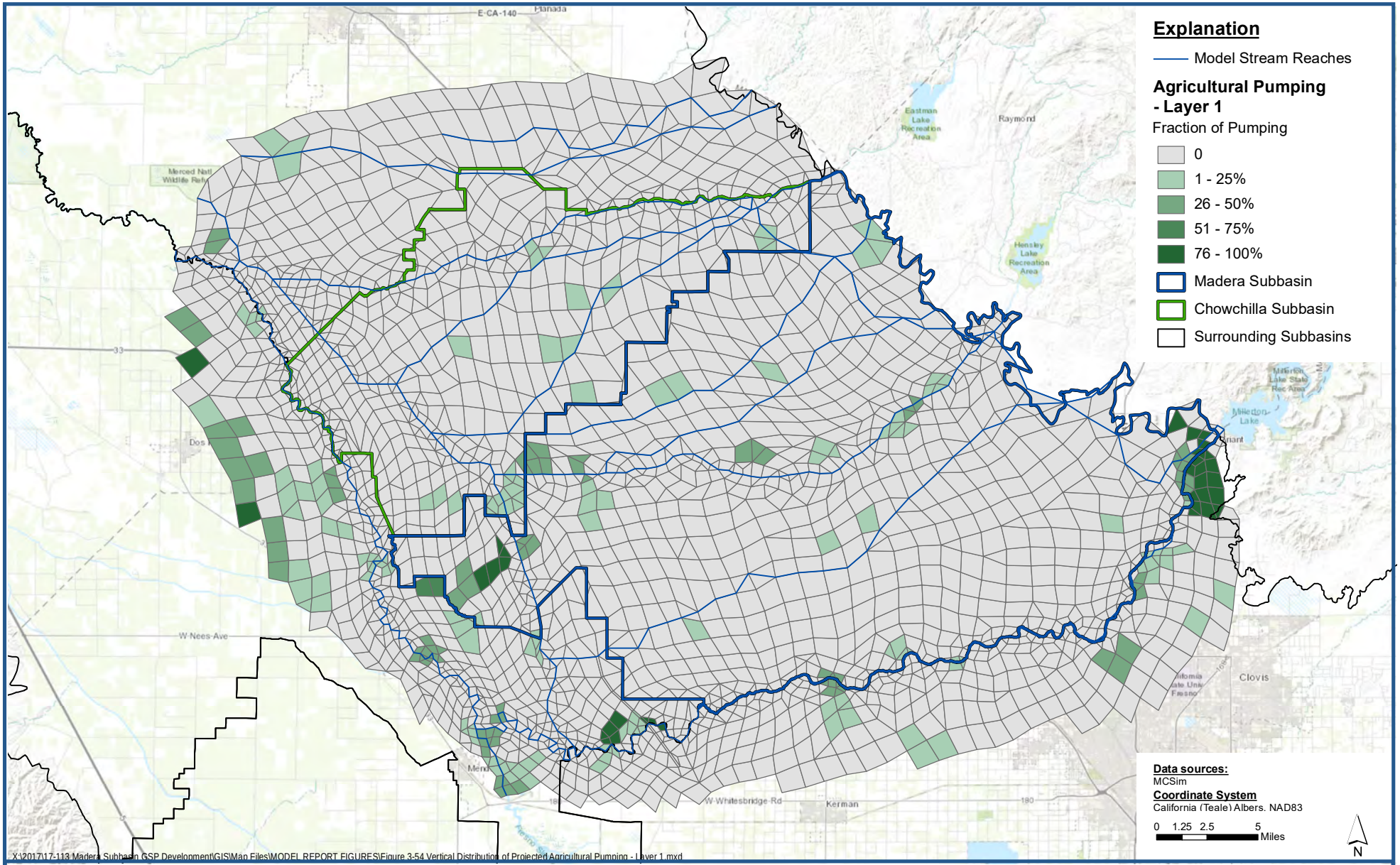
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Projected Project Diversion Locations

Figure 3-53

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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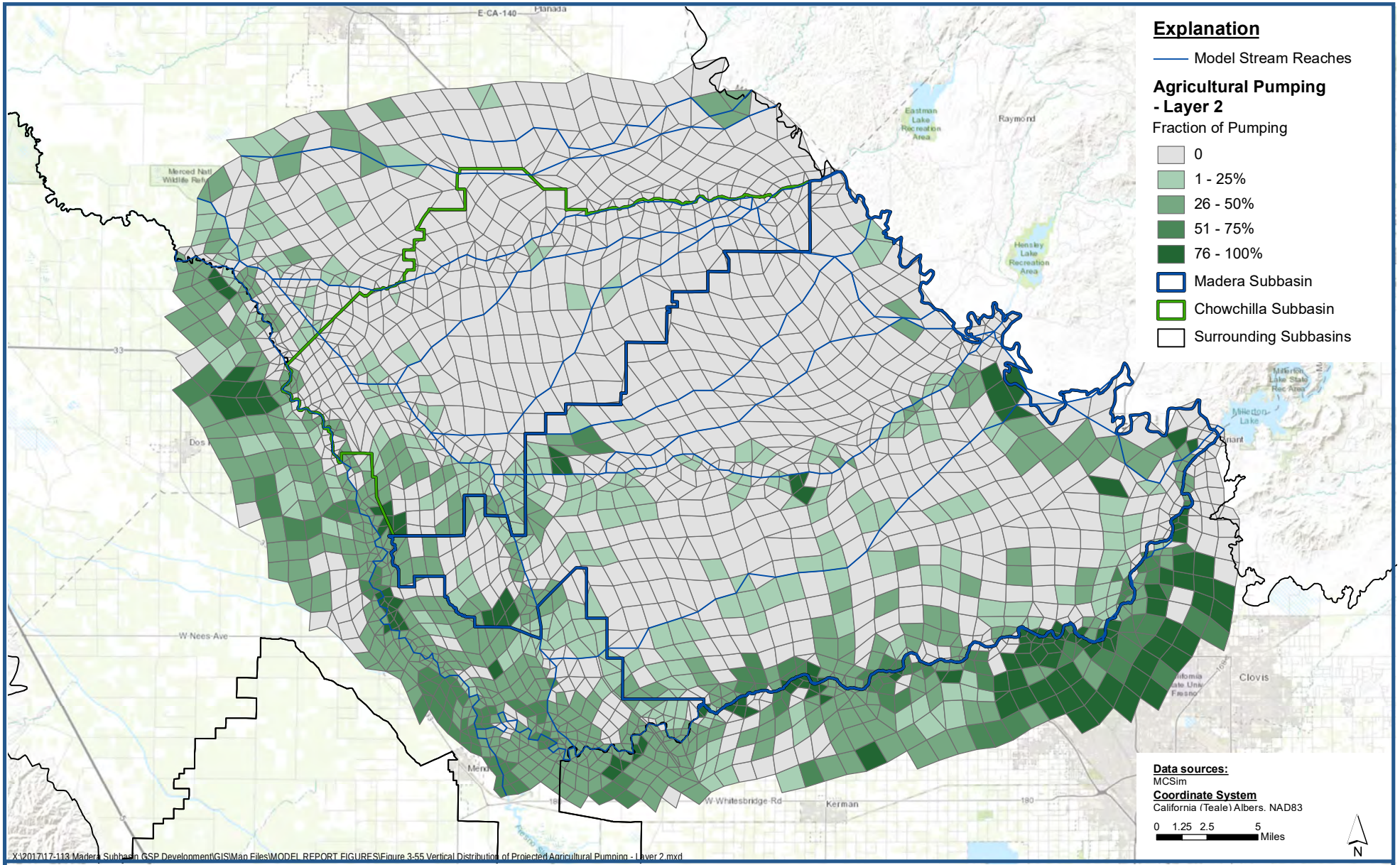
Vertical Distribution of Projected Agricultural Pumping - Layer 1

Figure 3-54

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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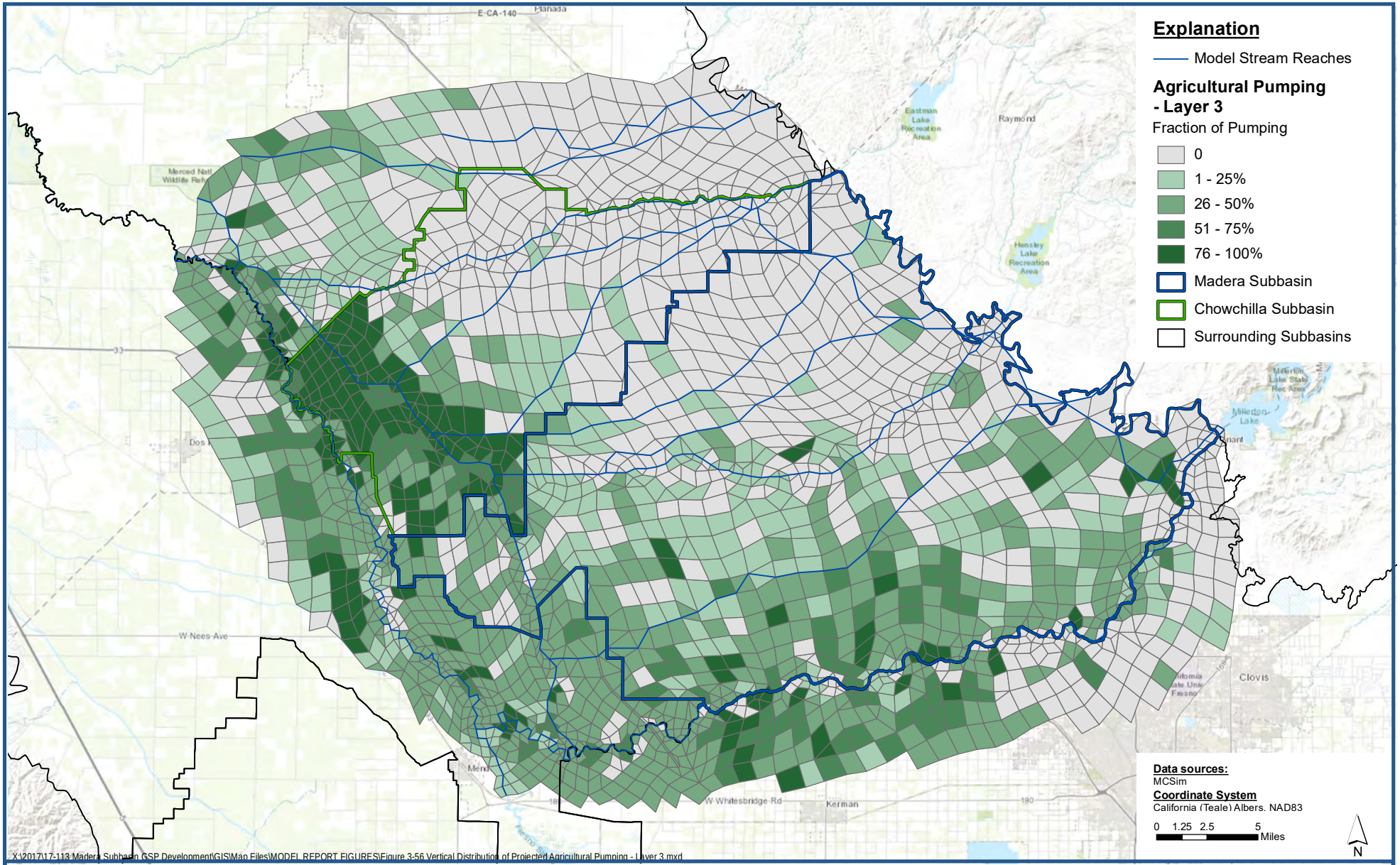
Vertical Distribution of Projected Agricultural Pumping - Layer 2

Figure 3-55

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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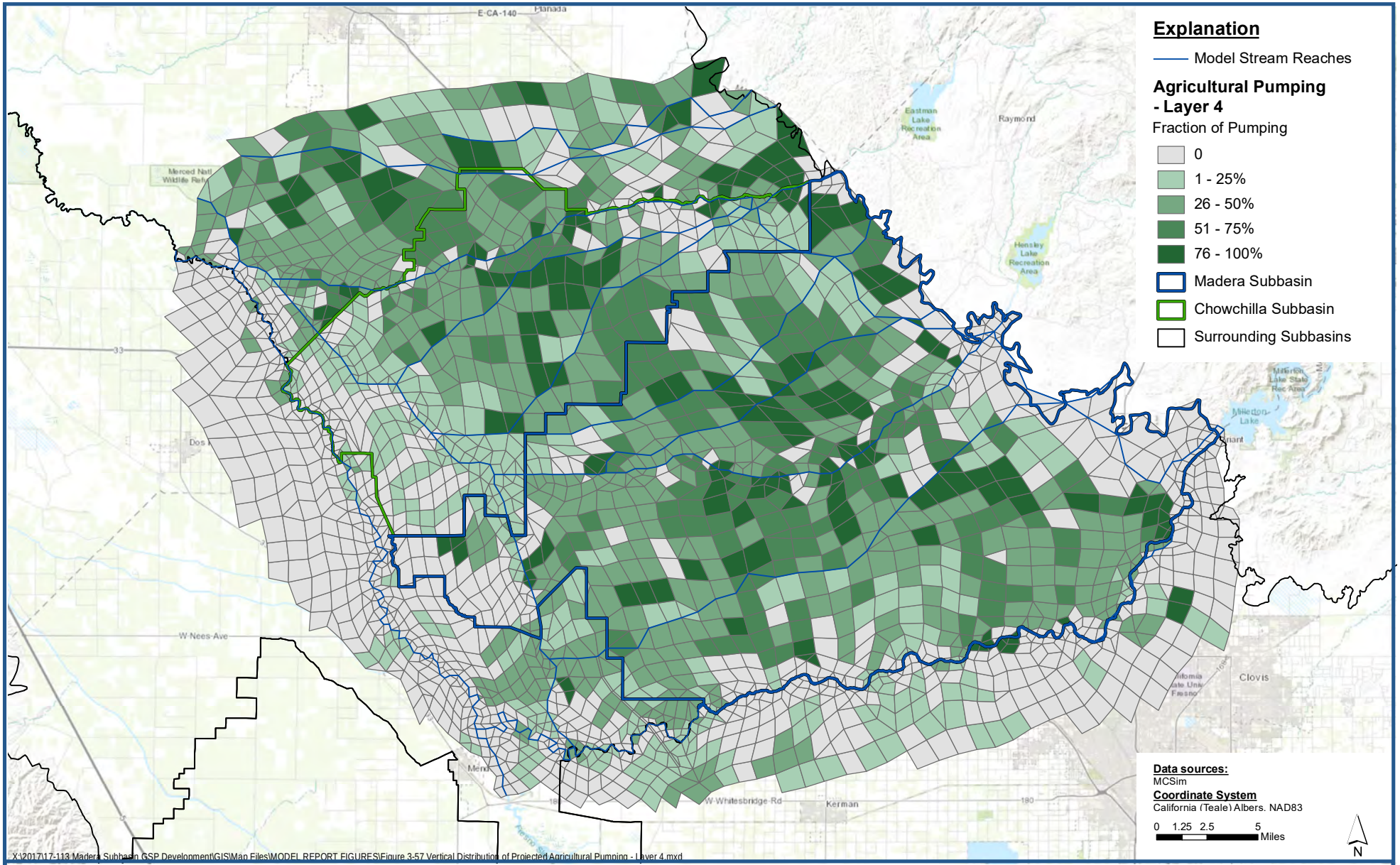
Vertical Distribution of Projected Agricultural Pumping - Layer 3

Figure 3-56

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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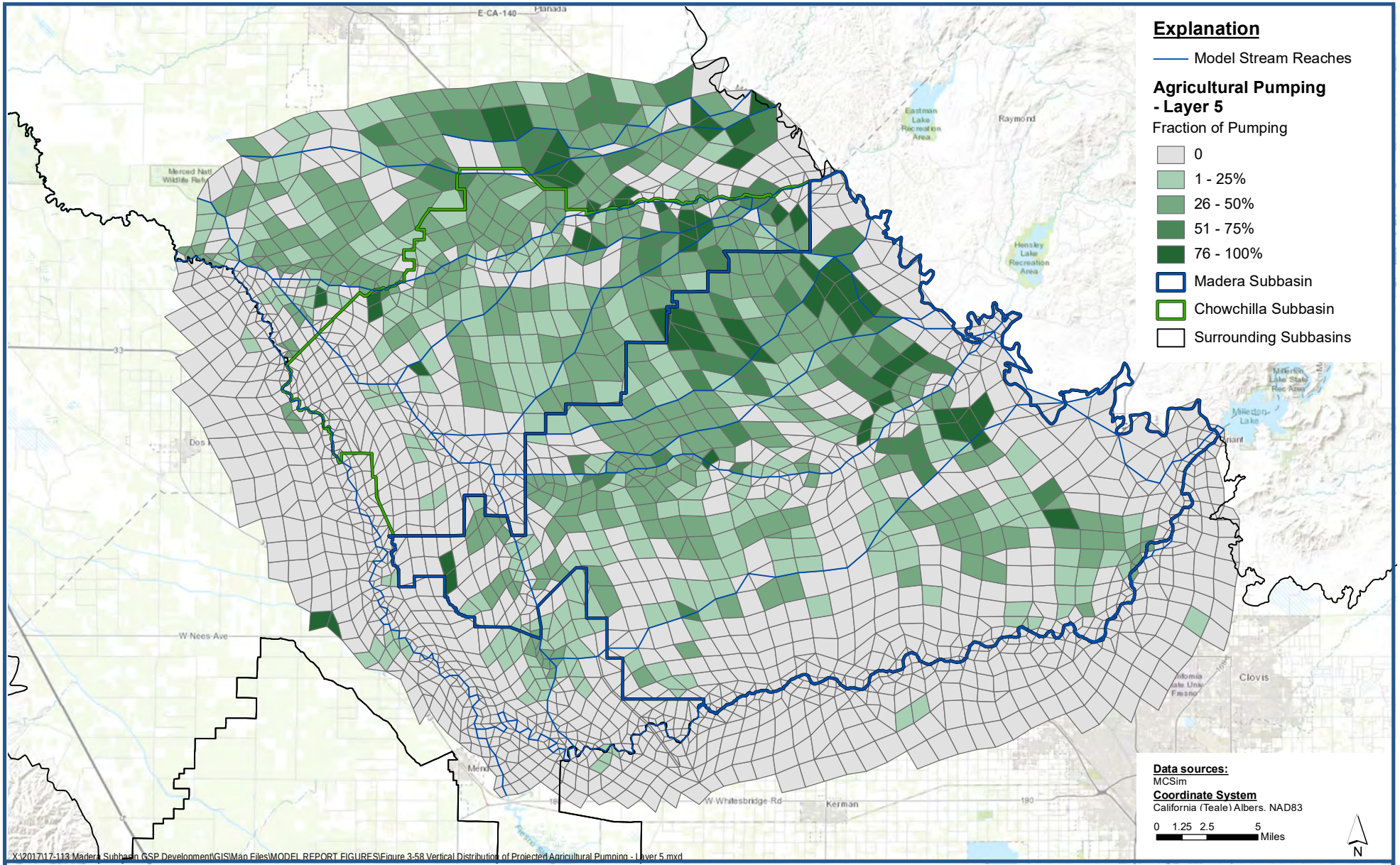
Vertical Distribution of Projected Agricultural Pumping - Layer 4

Figure 3-57

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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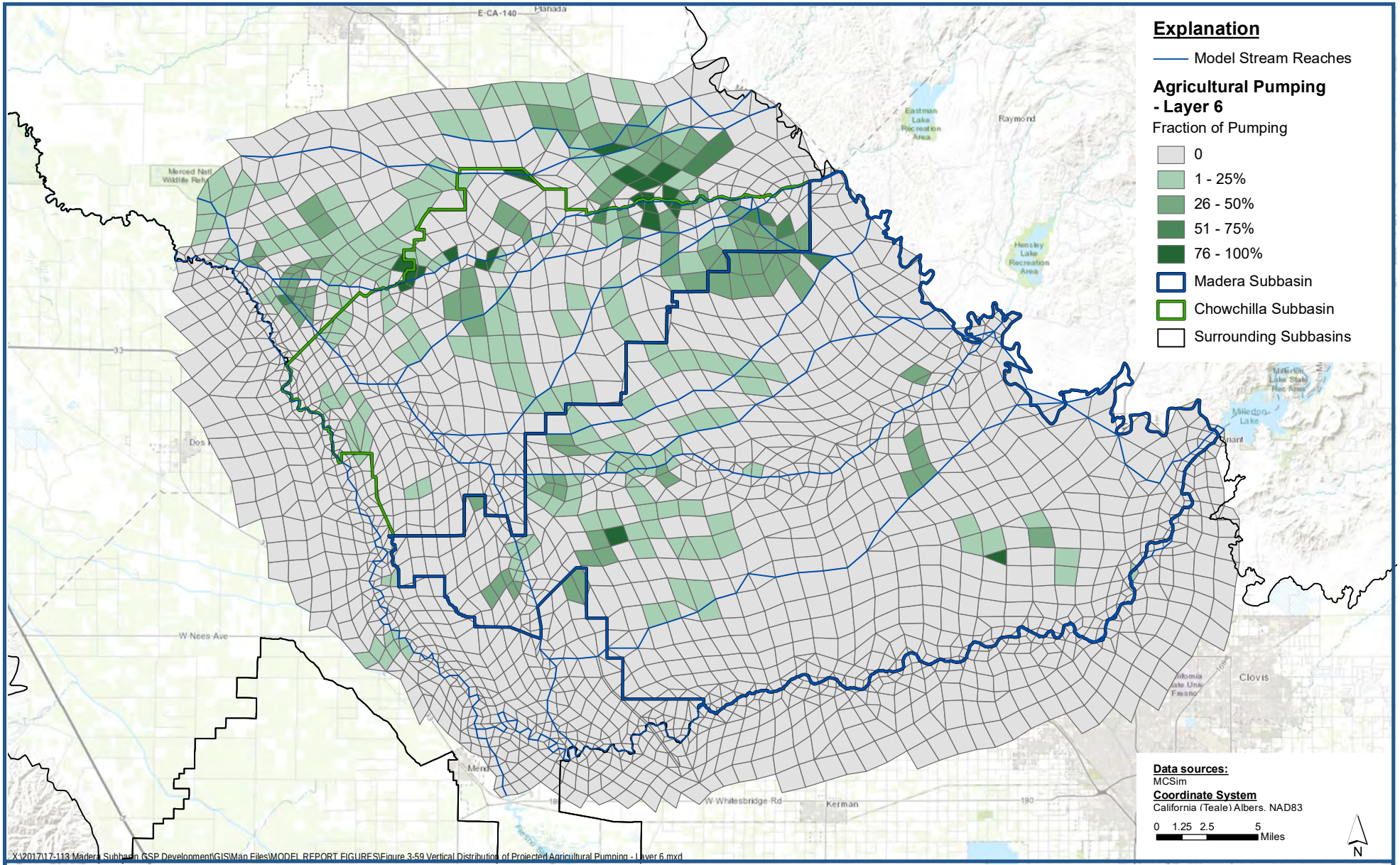
Vertical Distribution of Projected Agricultural Pumping - Layer 5

Figure 3-58

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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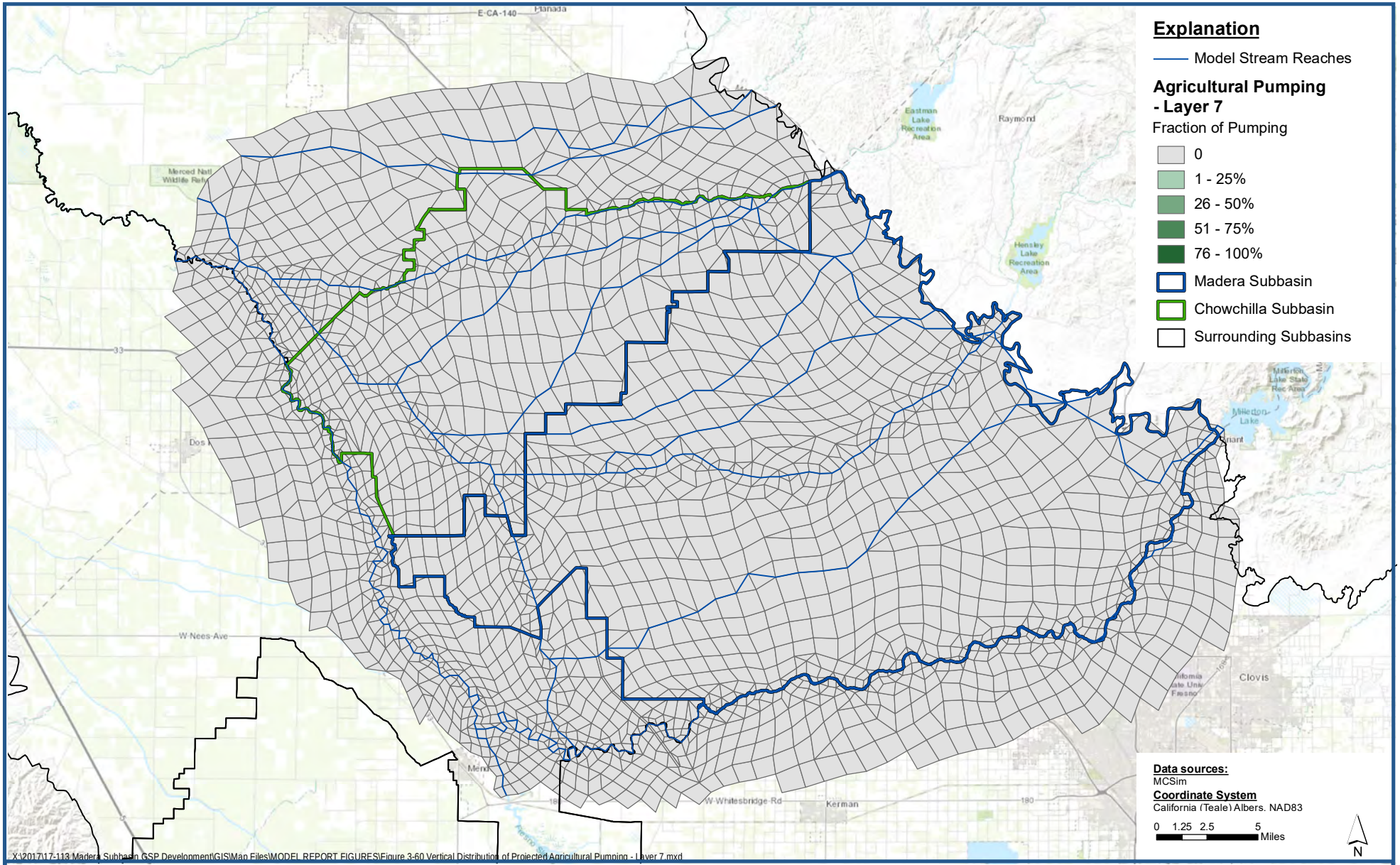
Vertical Distribution of Projected Agricultural Pumping - Layer 6

Figure 3-59

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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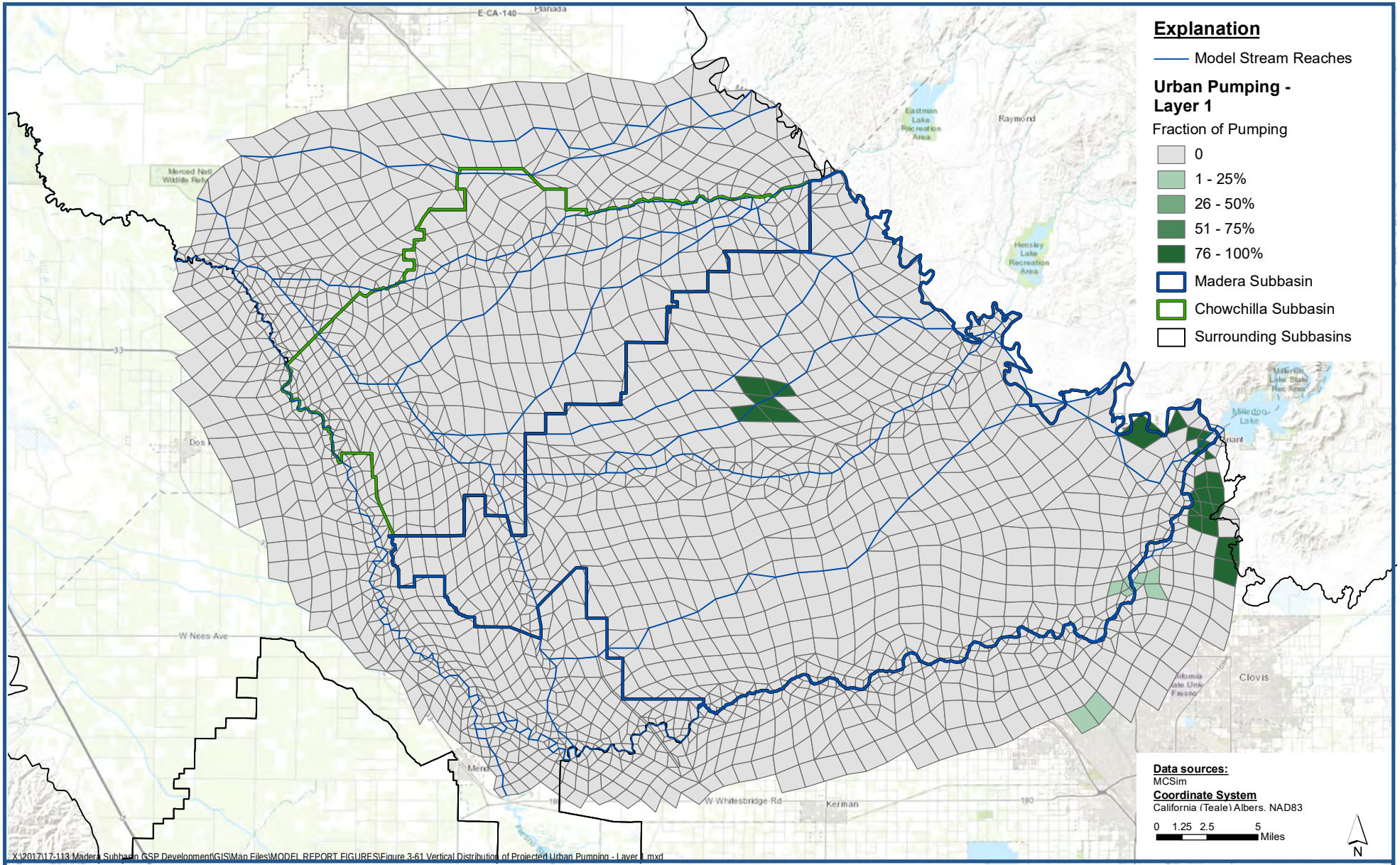
Vertical Distribution of Projected Agricultural Pumping - Layer 7

Figure 3-60

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 3-61 Vertical Distribution of Projected Urban Pumping - Layer 1.mxd

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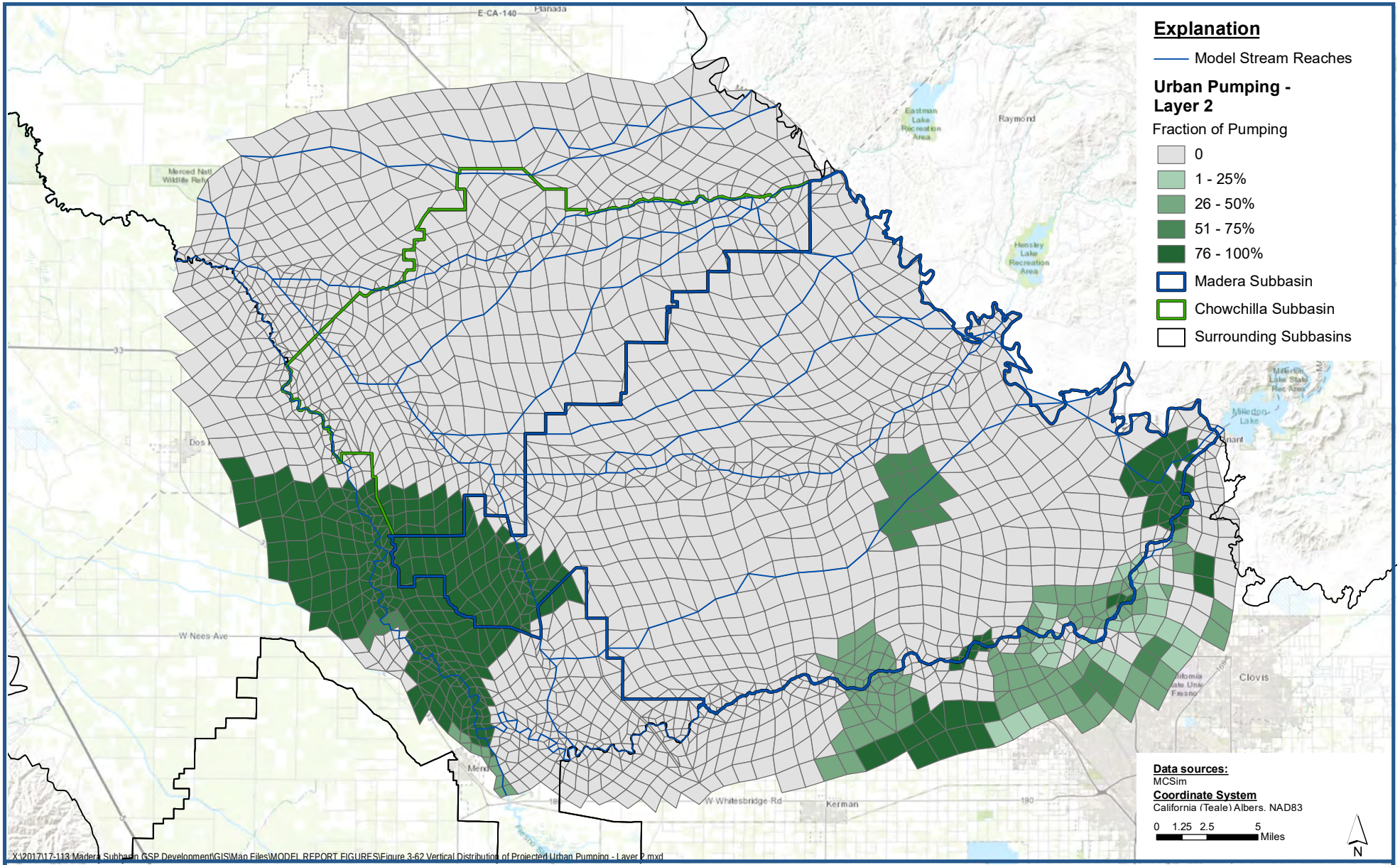
Vertical Distribution of Projected Urban Pumping - Layer 1

Figure 3-61

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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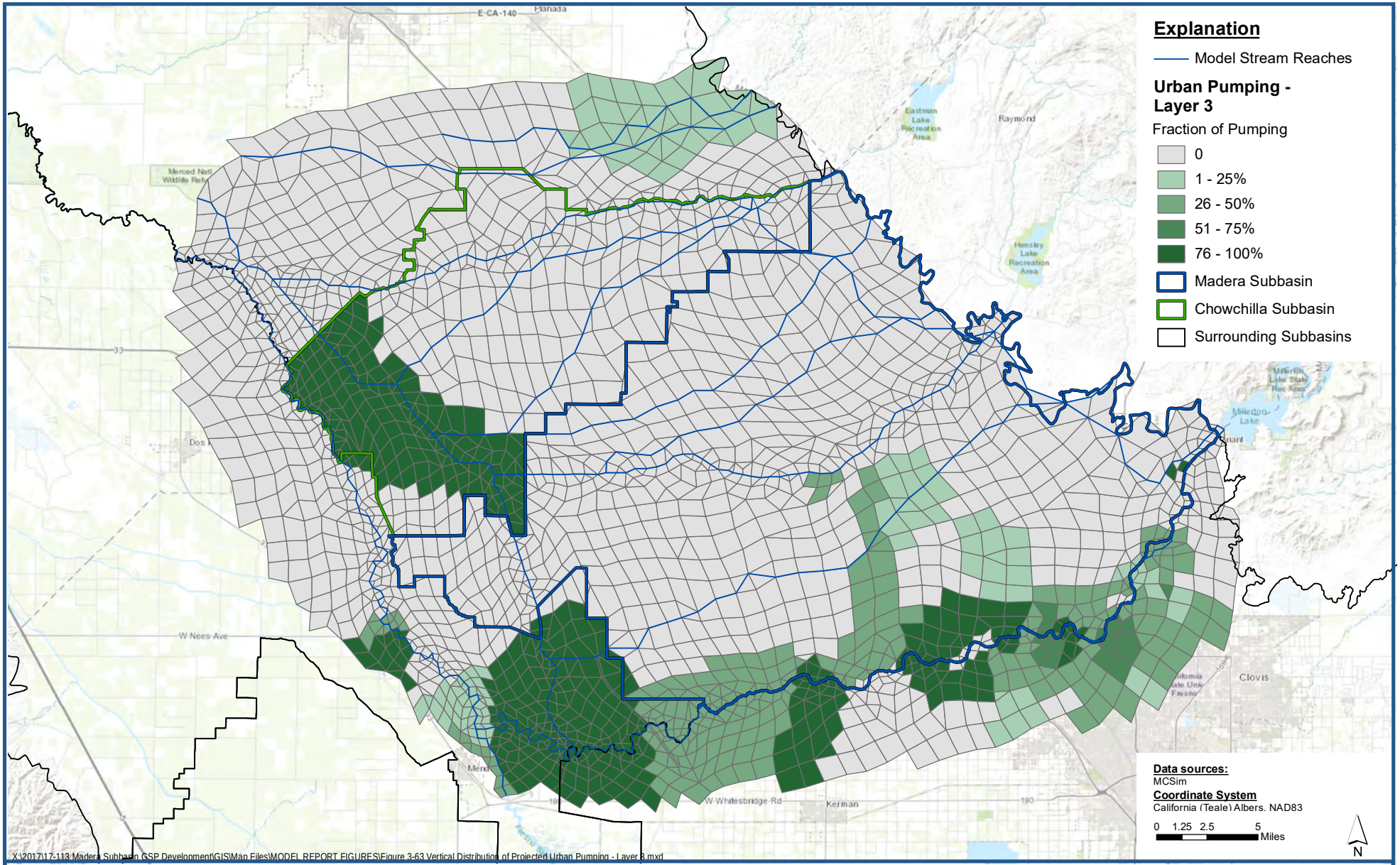
Vertical Distribution of Projected Urban Pumping - Layer 2

Figure 3-62

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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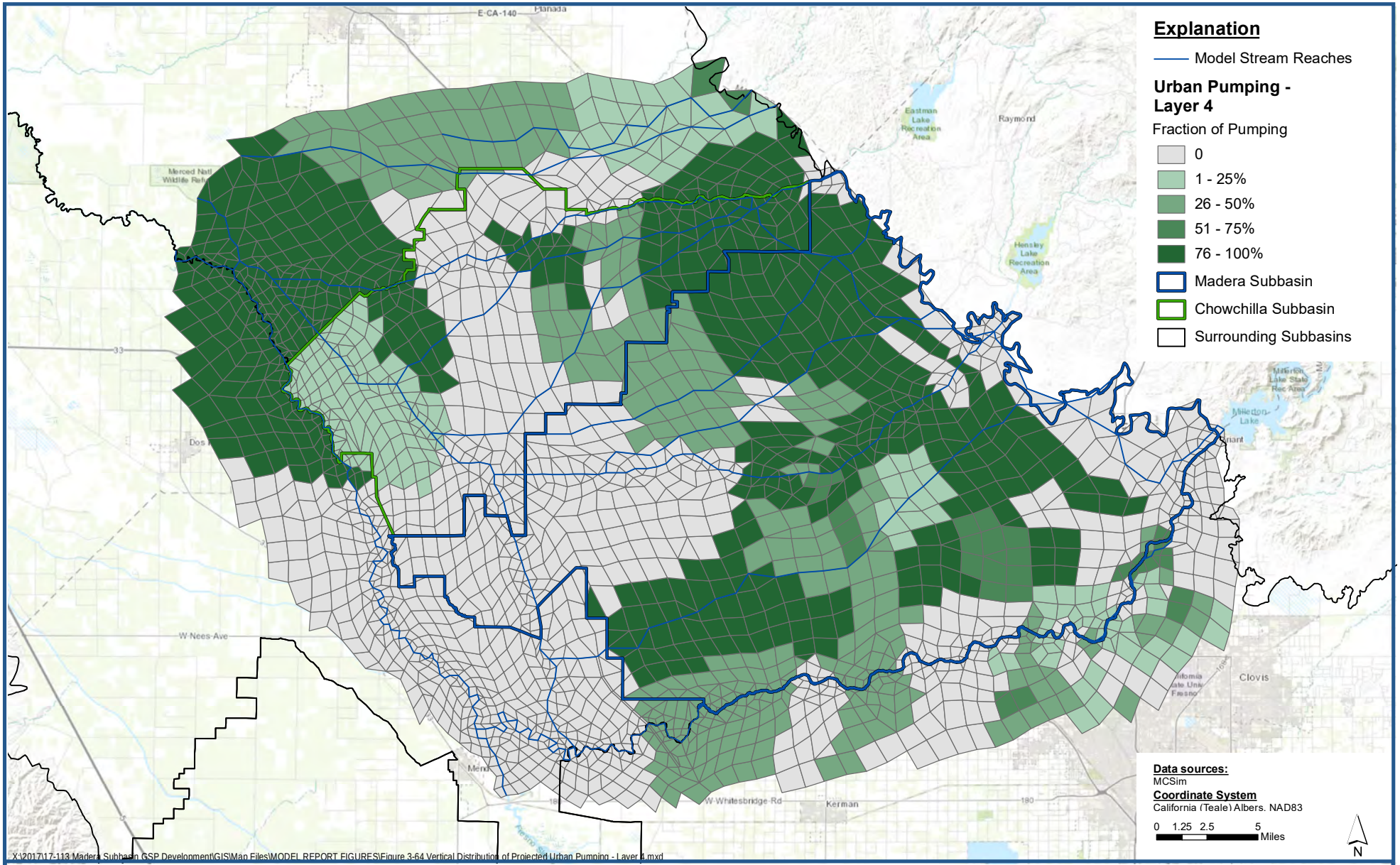
Vertical Distribution of Projected Urban Pumping - Layer 3

Figure 3-63

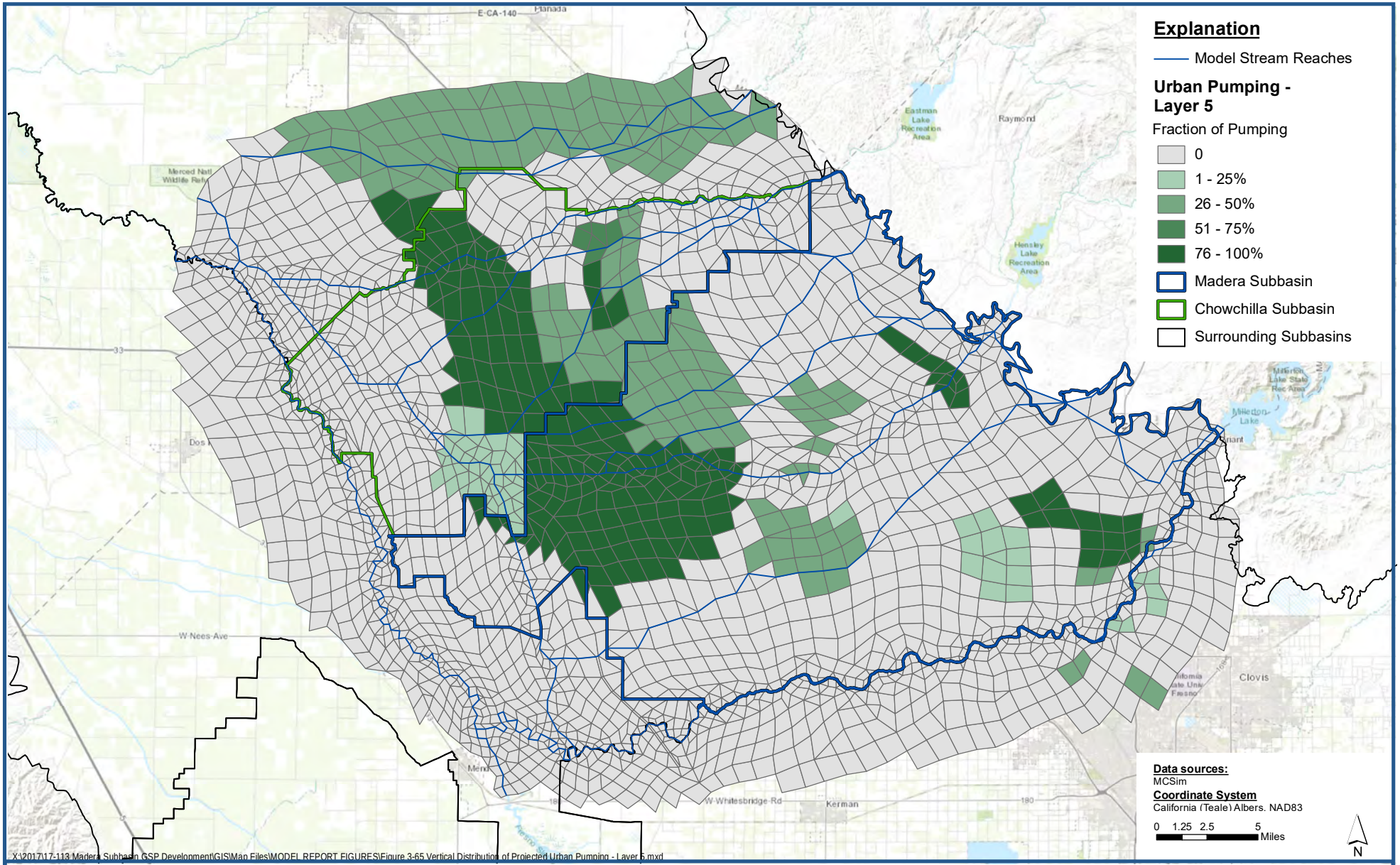
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Vertical Distribution of Projected Urban Pumping - Layer 4

Figure 3-64

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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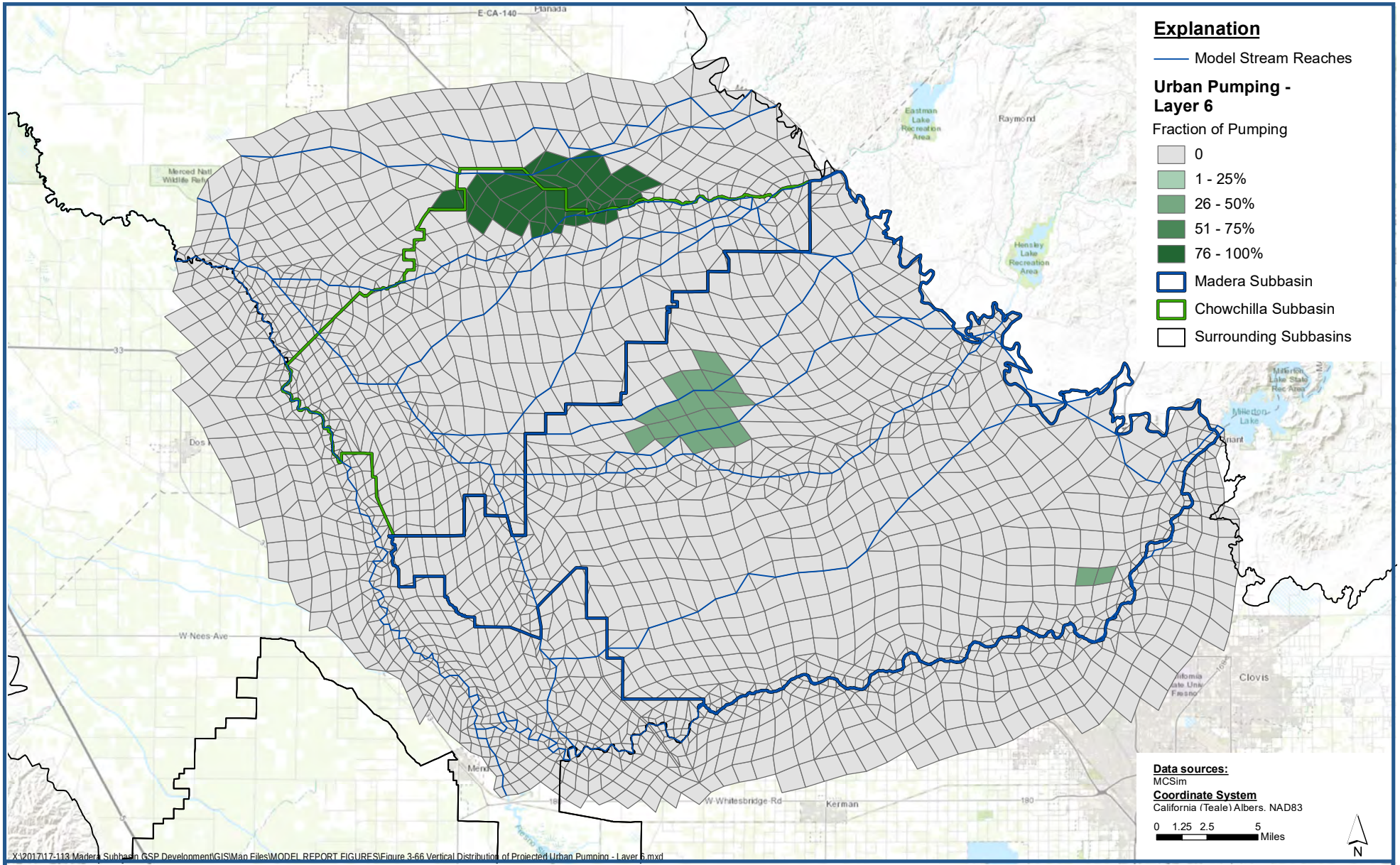
Vertical Distribution of Projected Urban Pumping - Layer 5

Figure 3-65

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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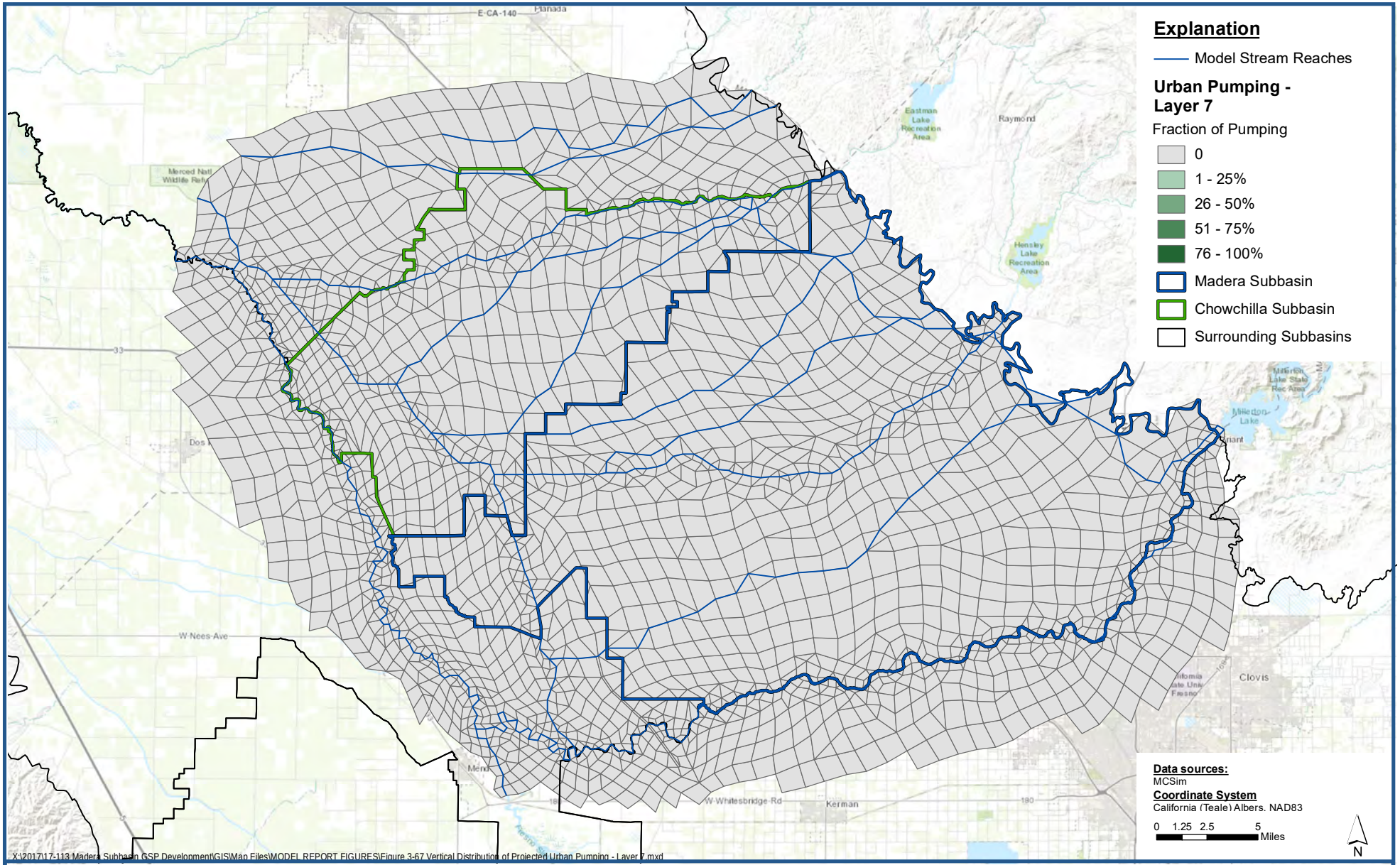
Vertical Distribution of Projected Urban Pumping - Layer 6

Figure 3-66

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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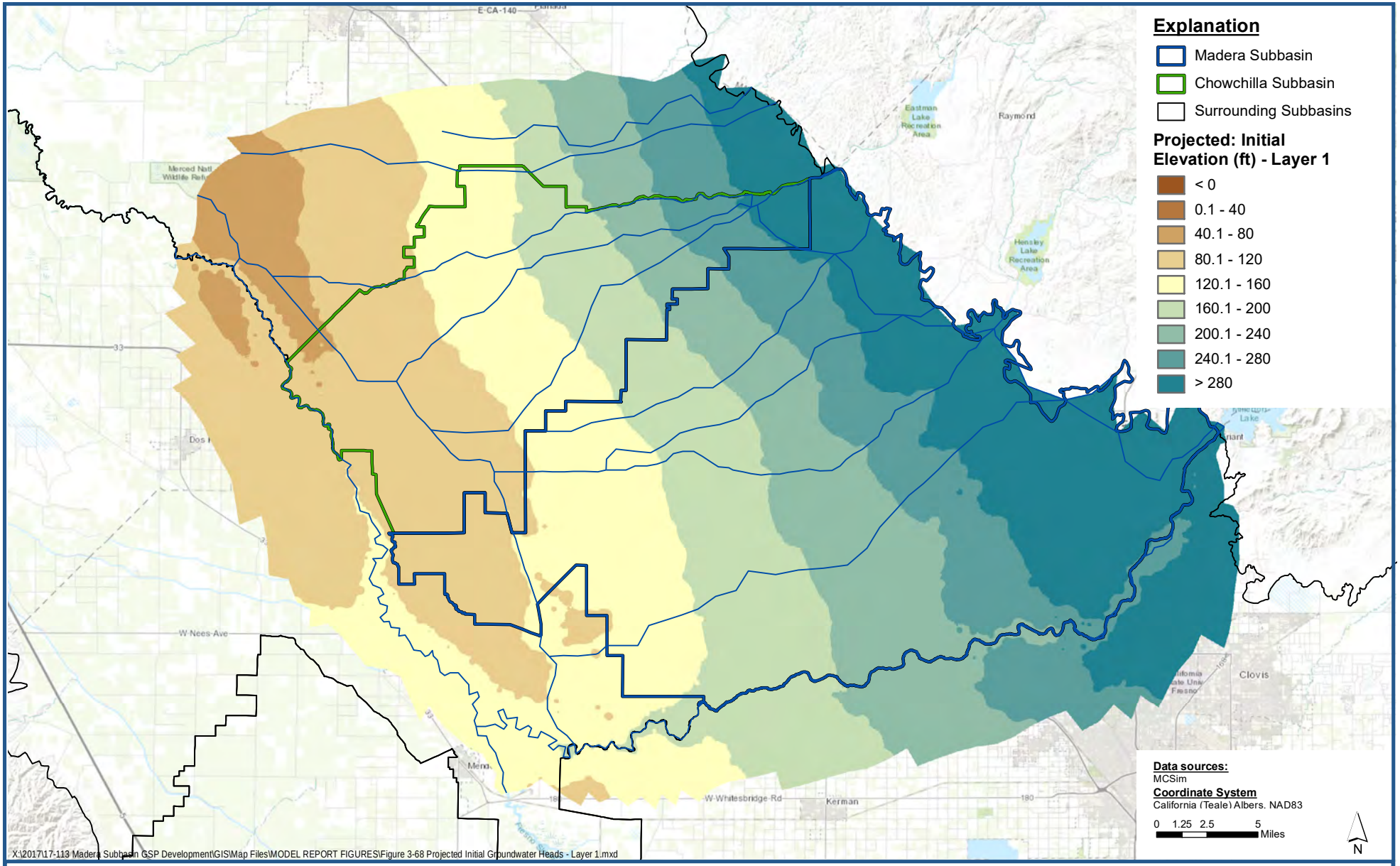
Vertical Distribution of Projected Urban Pumping - Layer 7

Figure 3-67

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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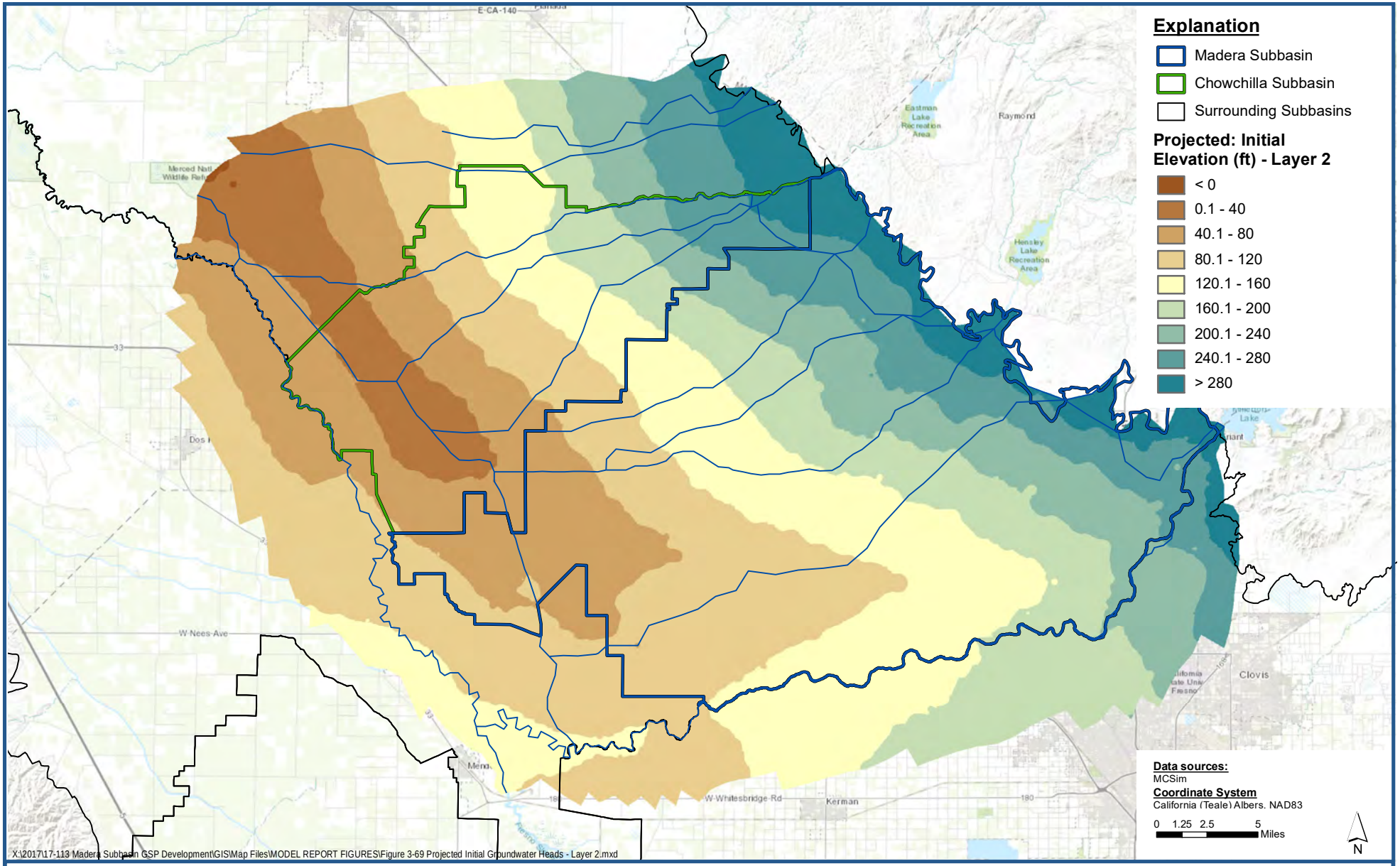
Projected Initial Groundwater Heads - Layer 1

Figure 3-68

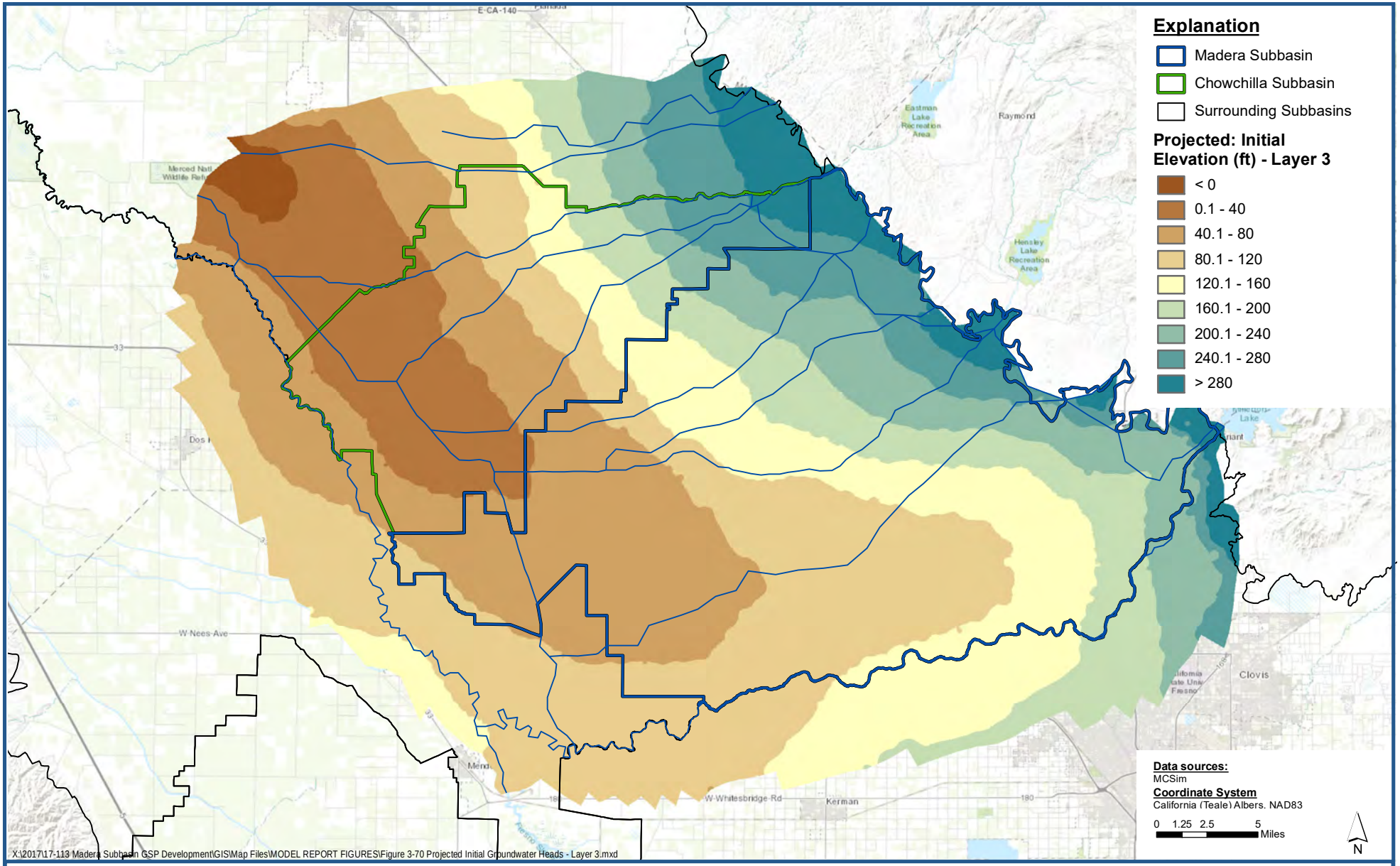
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Projected Initial Groundwater Heads - Layer 2

Figure 3-69

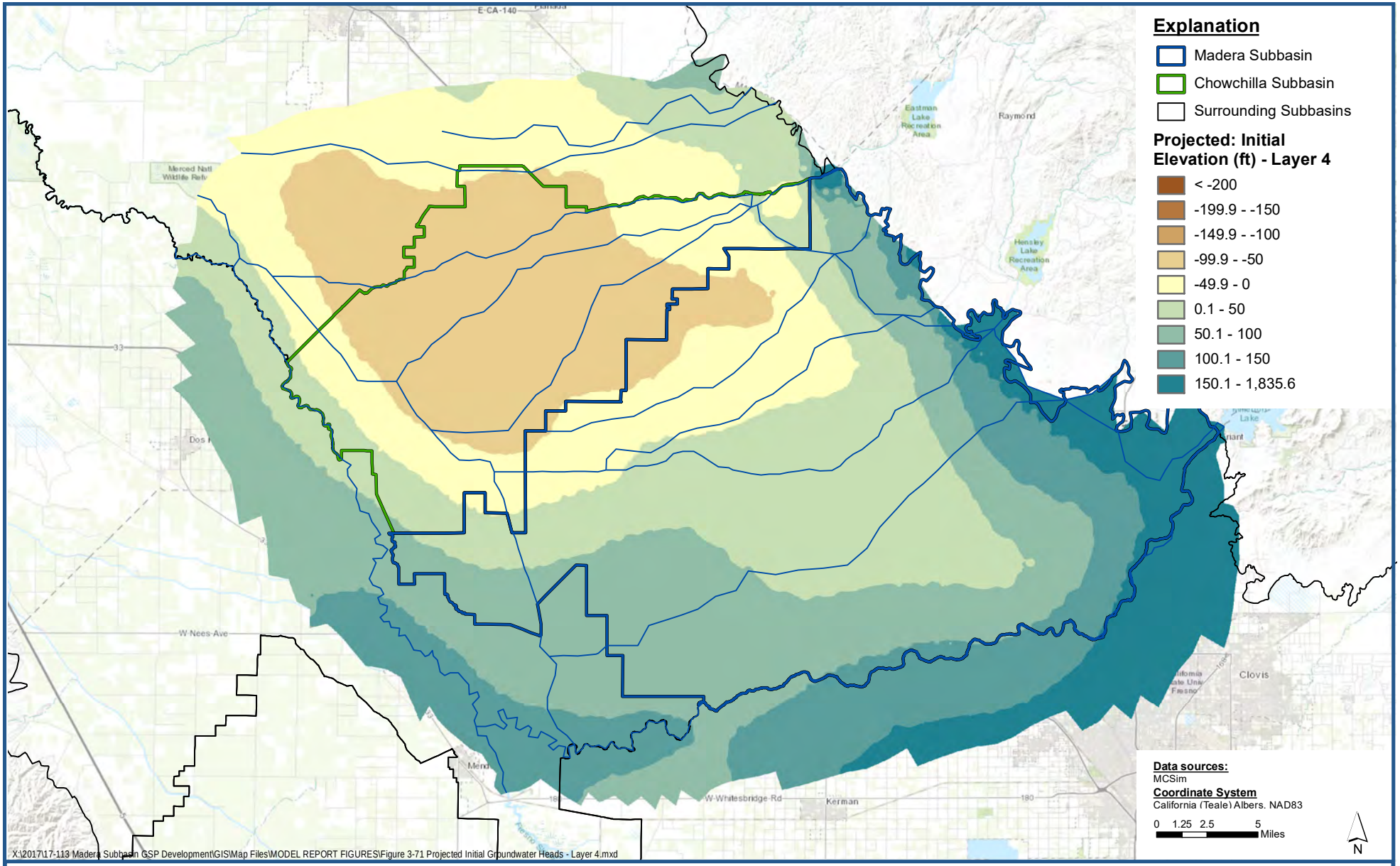
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Projected Initial Groundwater Heads - Layer 3

Figure 3-70

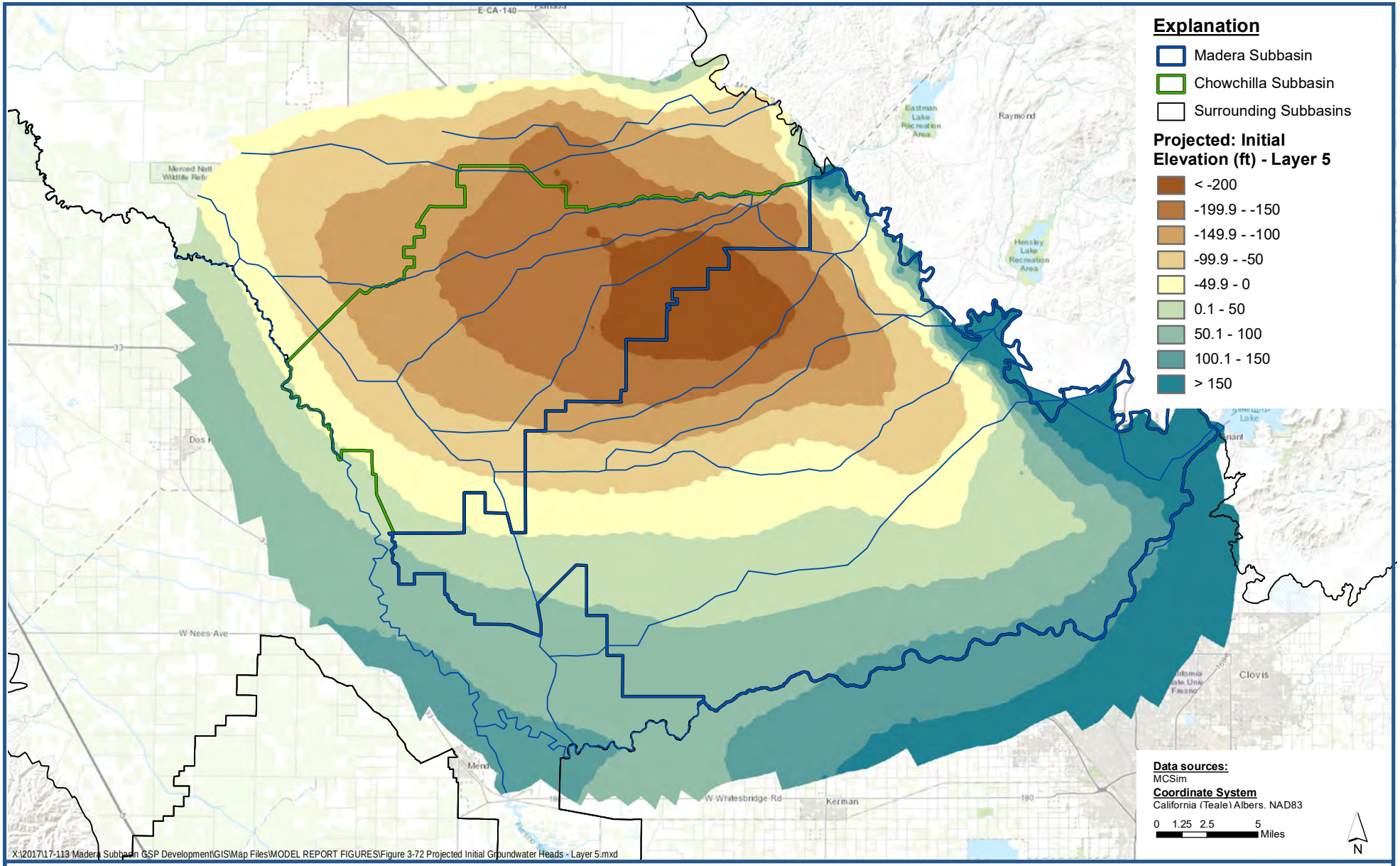
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Projected Initial Groundwater Heads - Layer 4

Figure 3-71

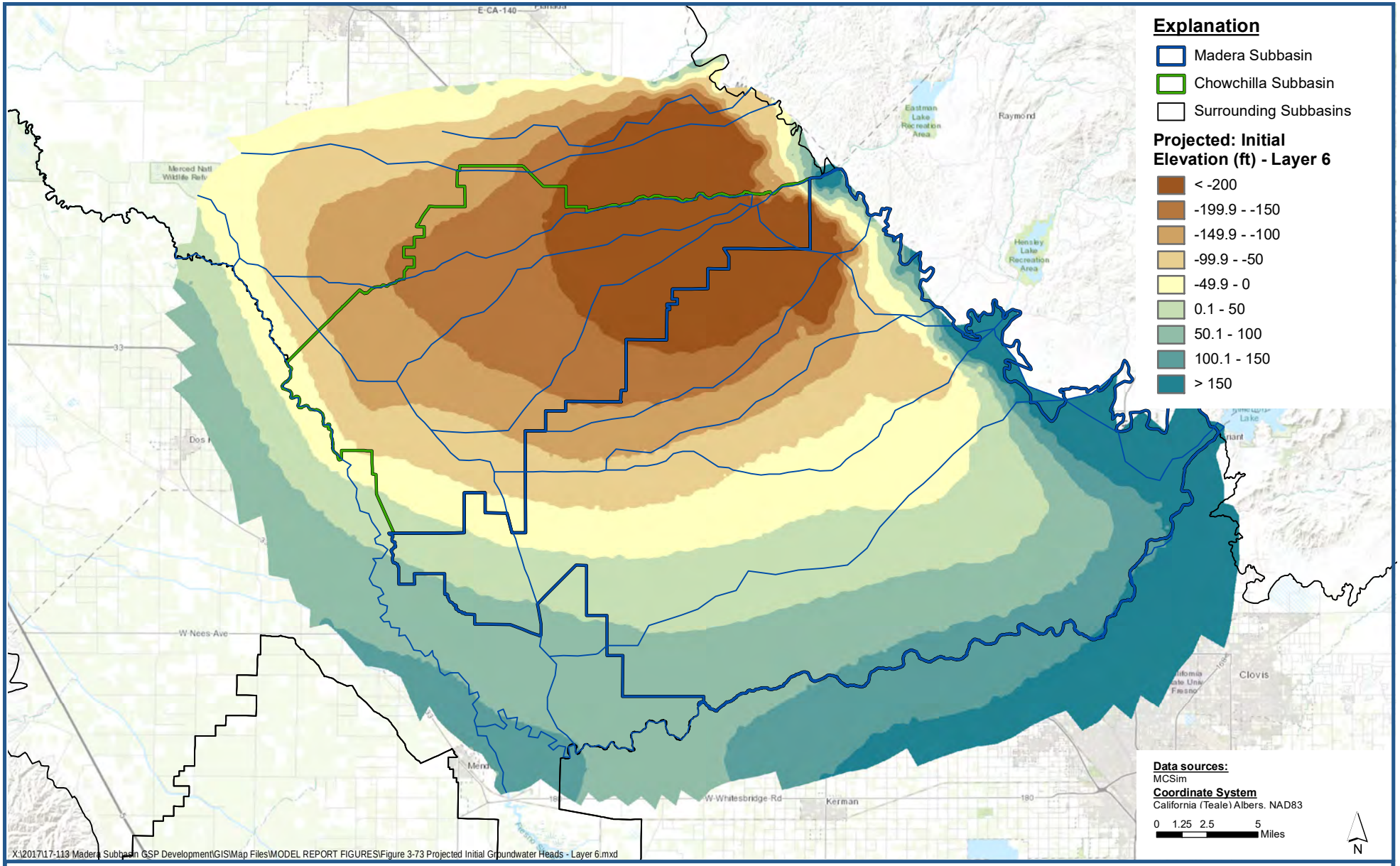
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Projected Initial Groundwater Heads - Layer 5

Figure 3-72

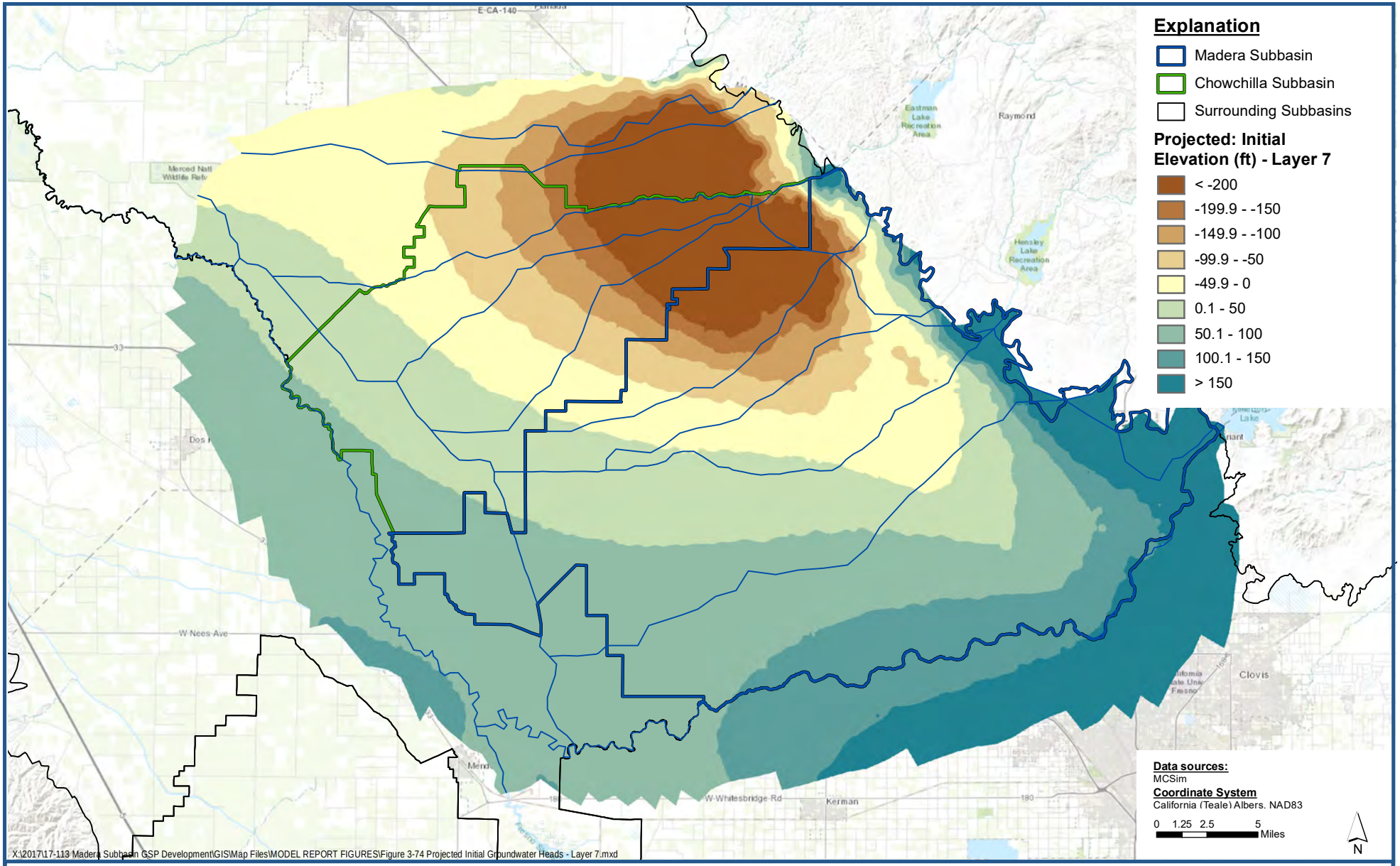
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Projected Initial Groundwater Heads - Layer 6

Figure 3-73

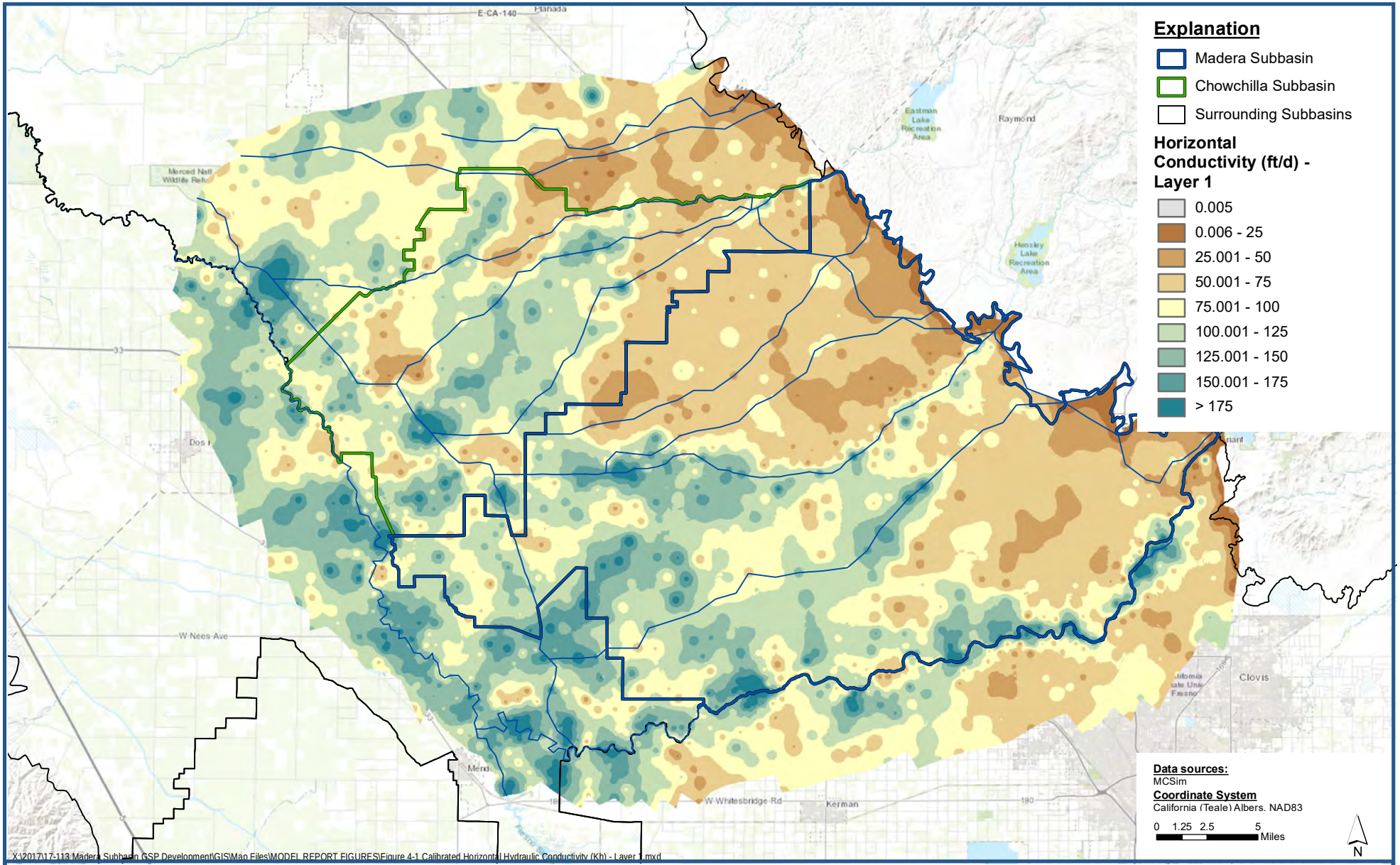
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Projected Initial Groundwater Heads - Layer 7

Figure 3-74

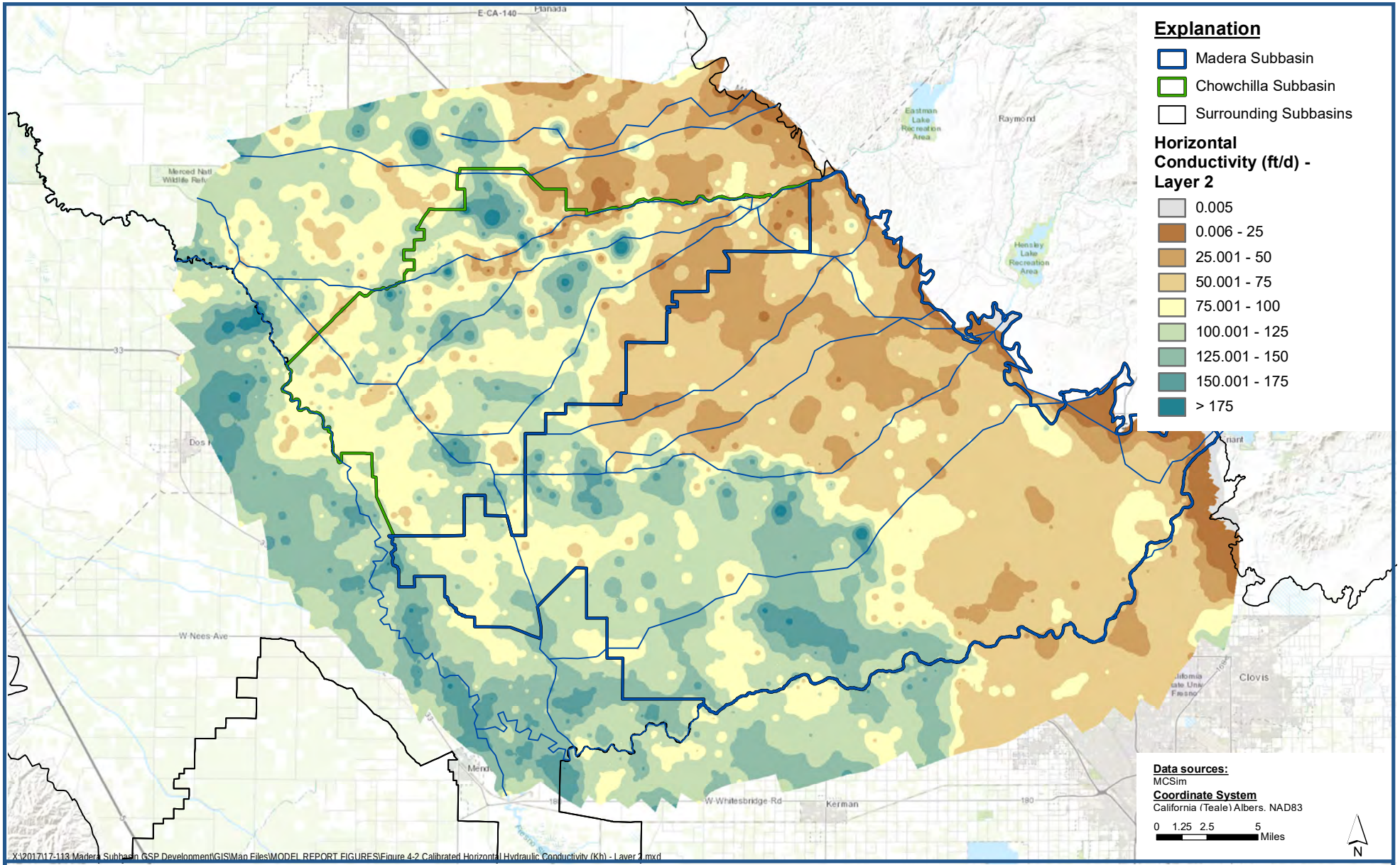
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Horizontal Hydraulic Conductivity (Kh) - Layer 1

Figure 4-1

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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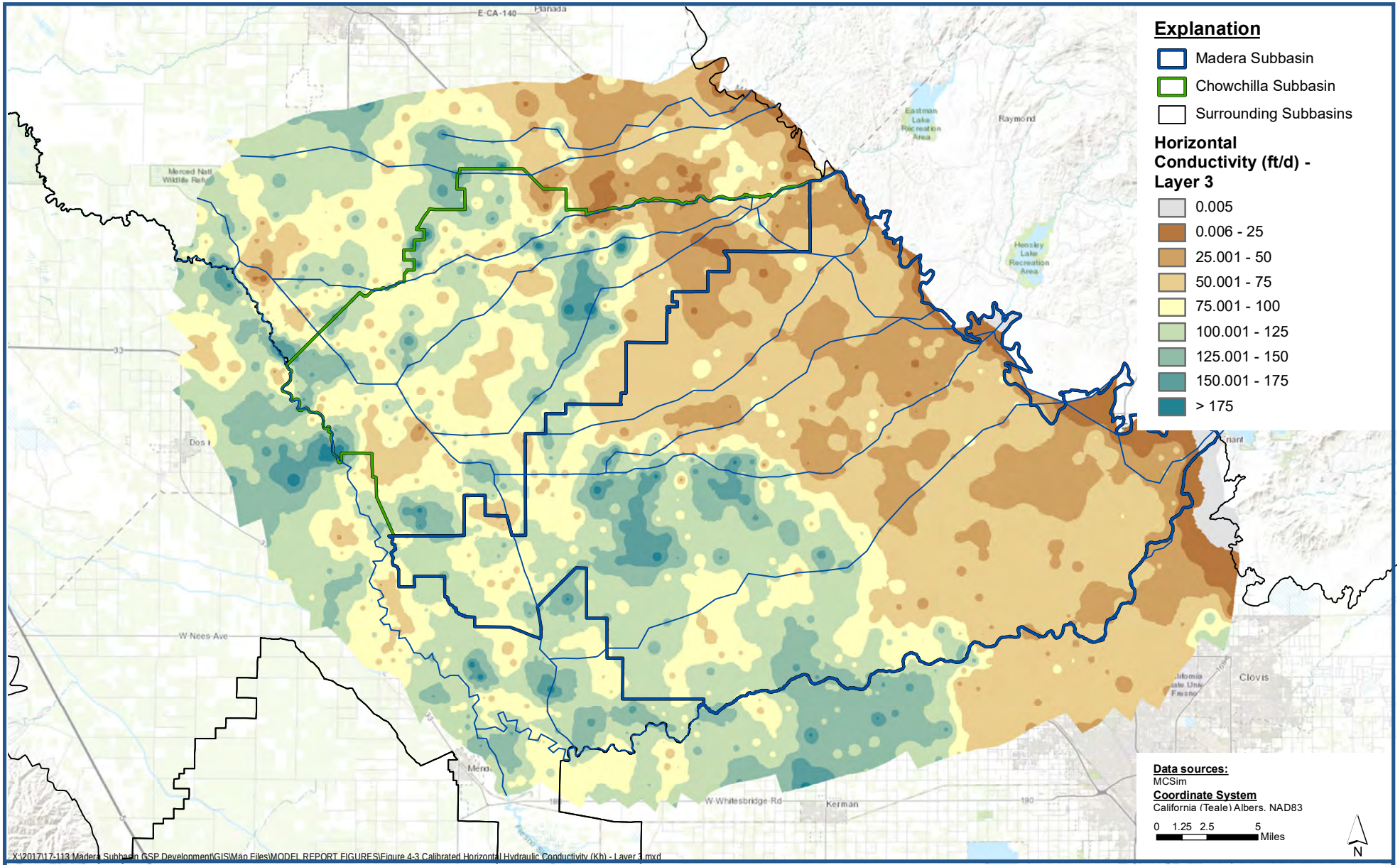
Calibrated Horizontal Hydraulic Conductivity (Kh) - Layer 2

Figure 4-2

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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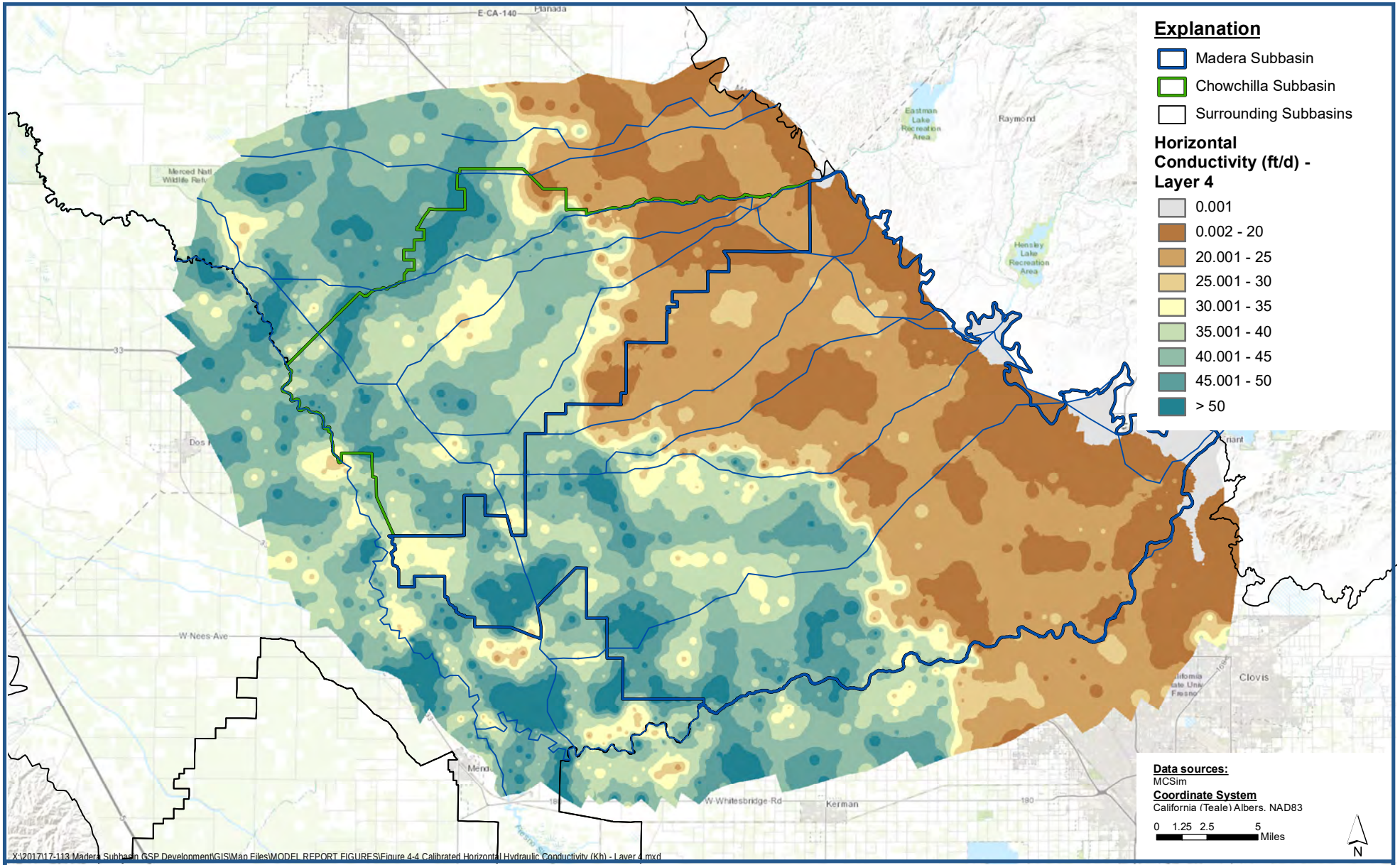
Calibrated Horizontal Hydraulic Conductivity (Kh) - Layer 3

Figure 4-3

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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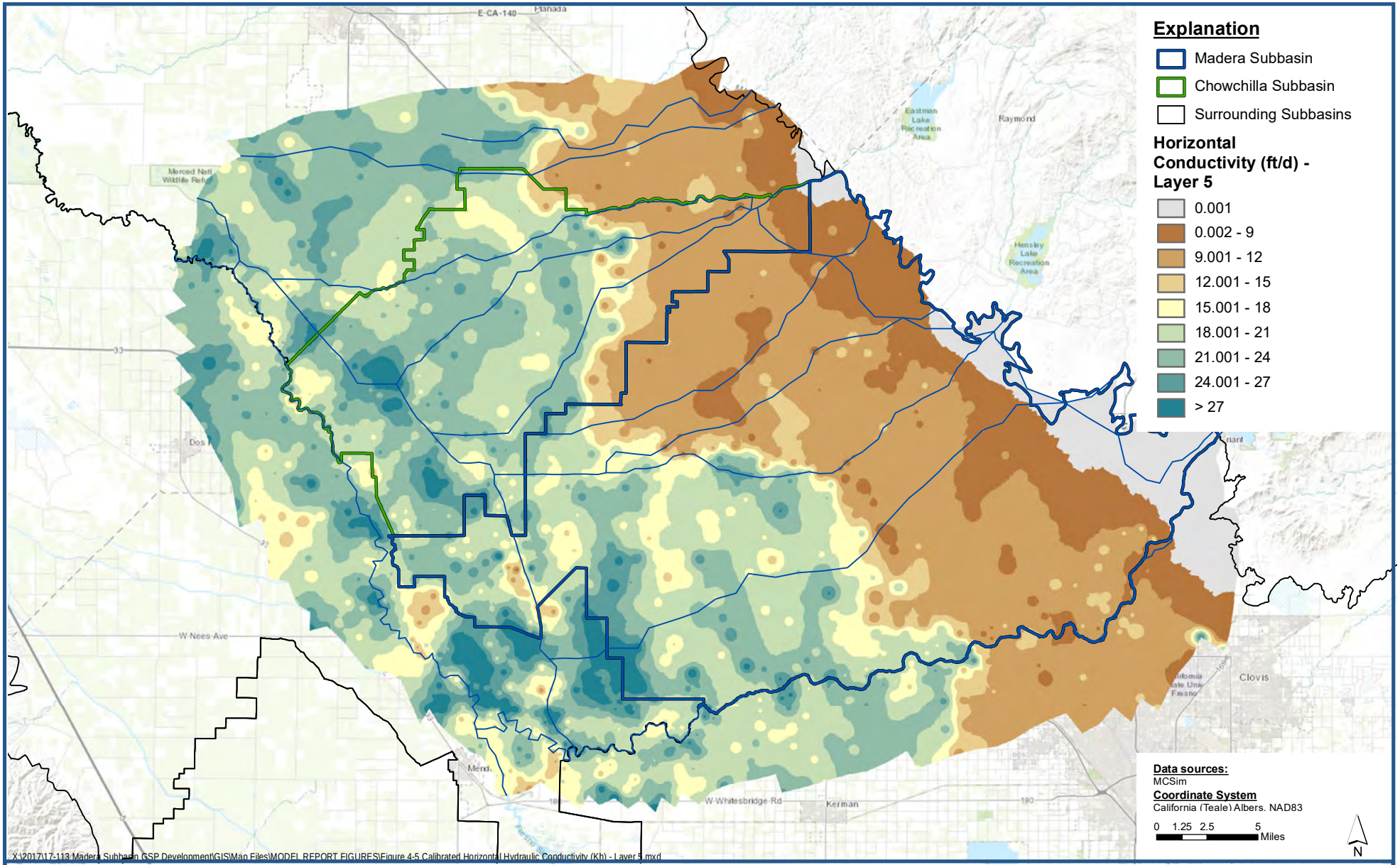
Calibrated Horizontal Hydraulic Conductivity (Kh) - Layer 4

Figure 4-4

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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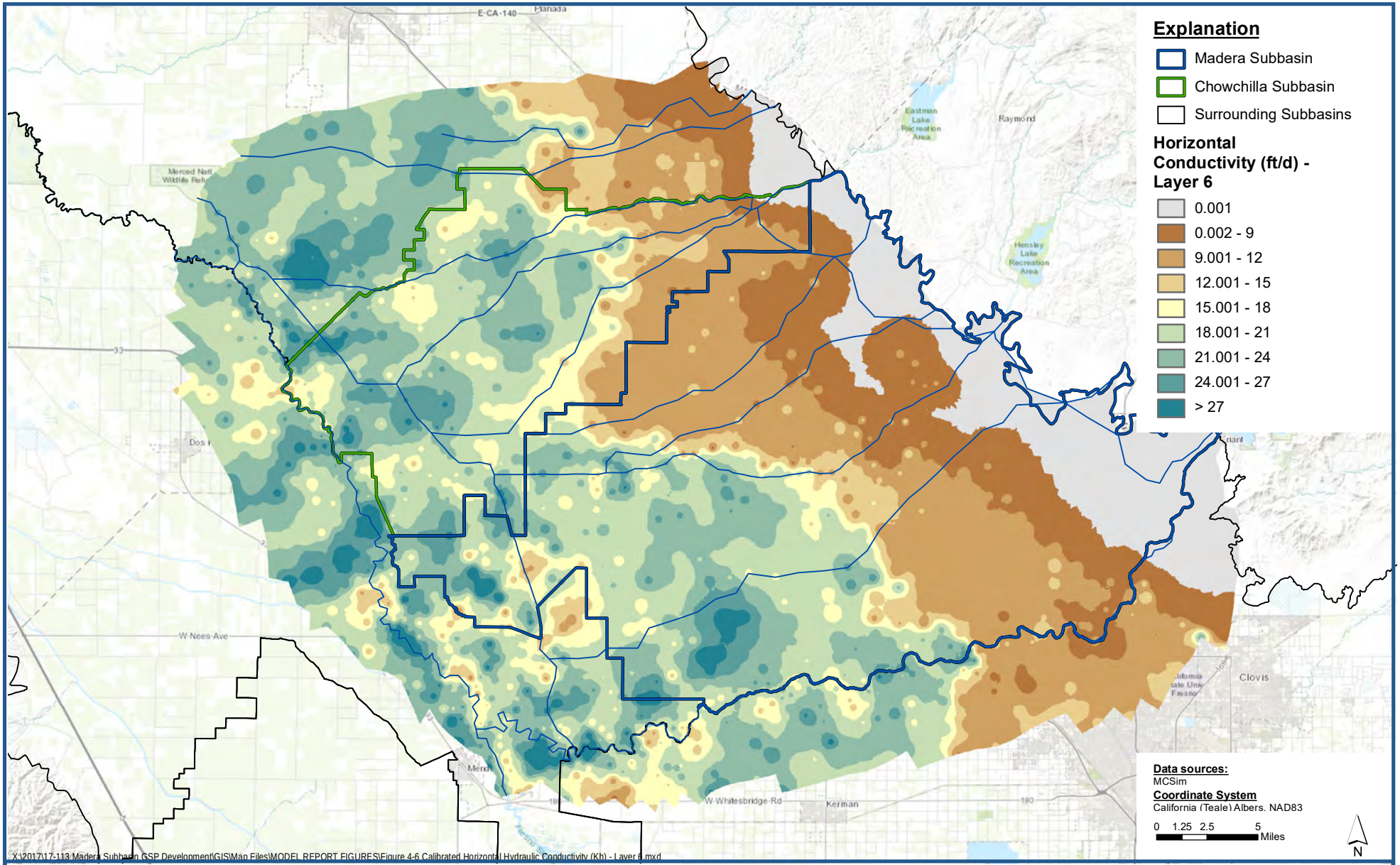
Calibrated Horizontal Hydraulic Conductivity (Kh) - Layer 5

Figure 4-5

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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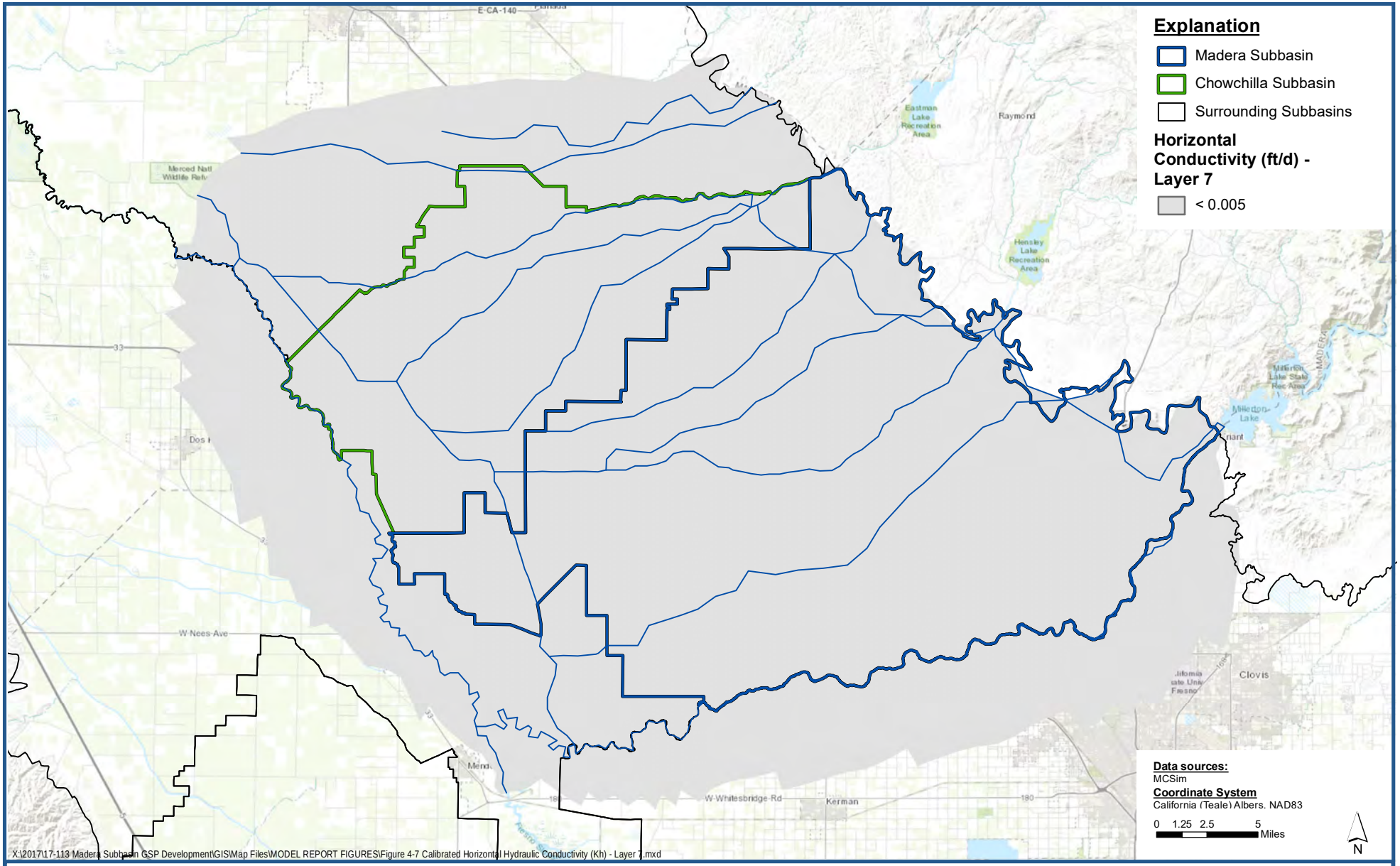
Calibrated Horizontal Hydraulic Conductivity (Kh) - Layer 6

Figure 4-6

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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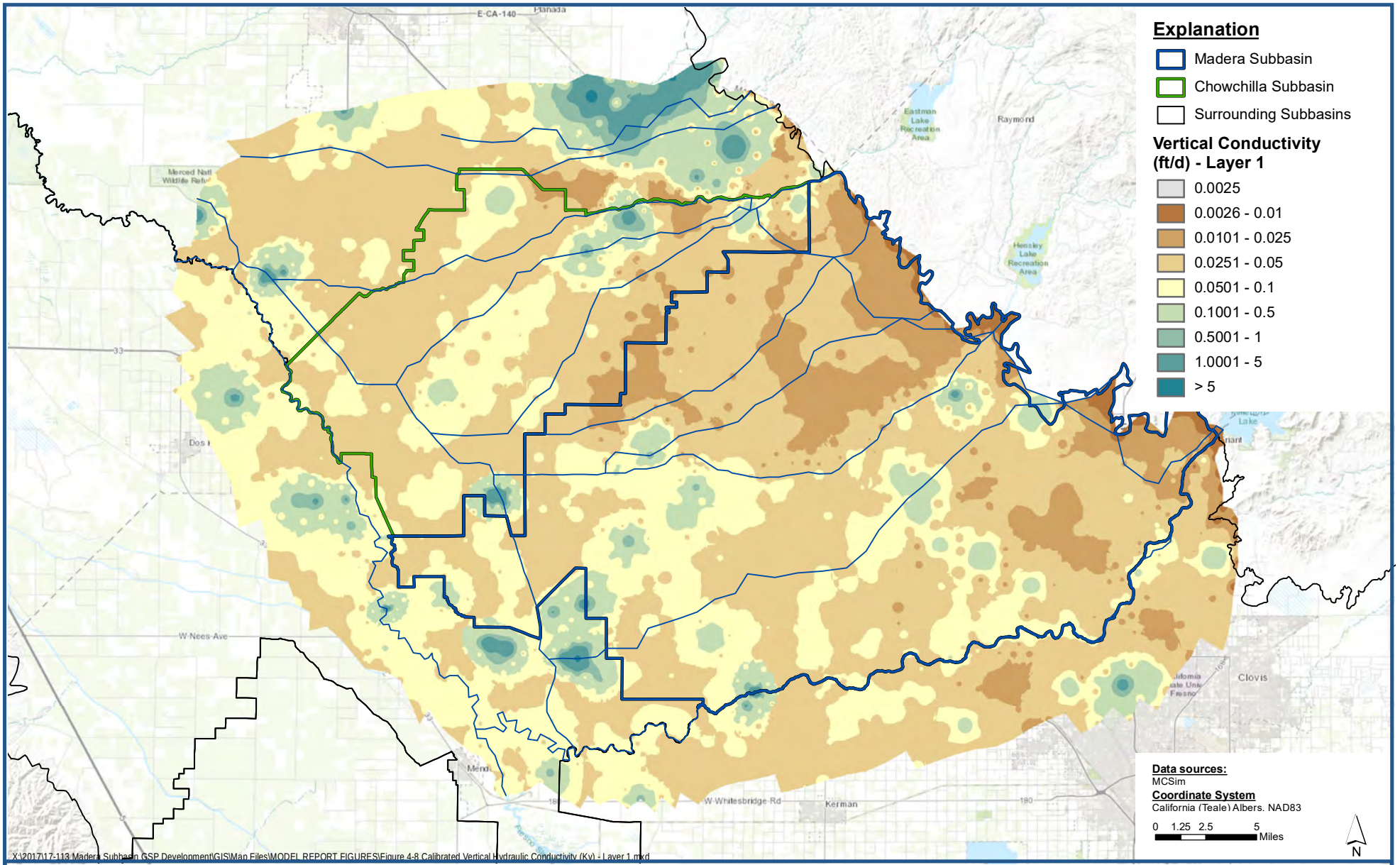
Calibrated Horizontal Hydraulic Conductivity (Kh) - Layer 7

Figure 4-7

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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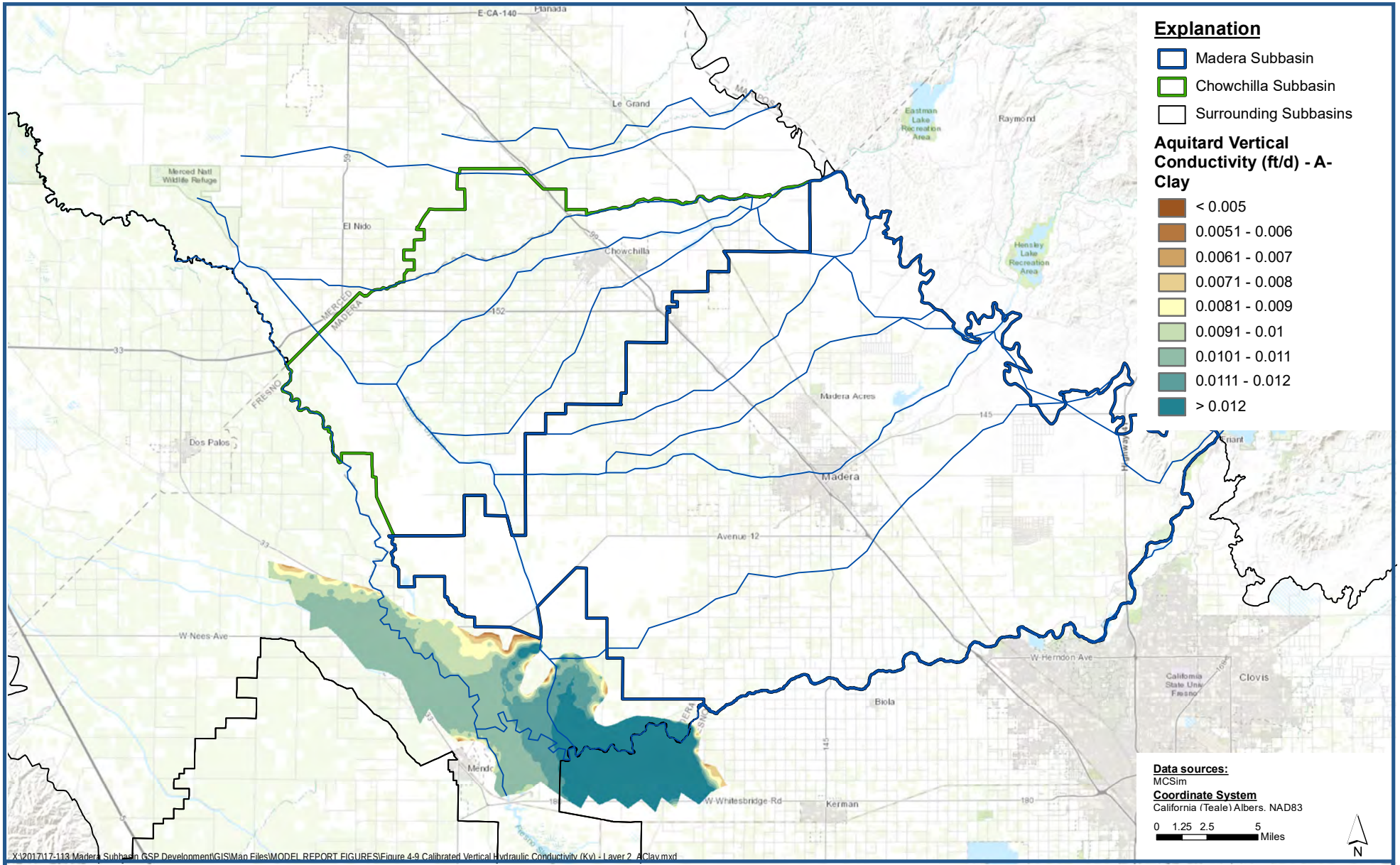
Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 1

Figure 4-8

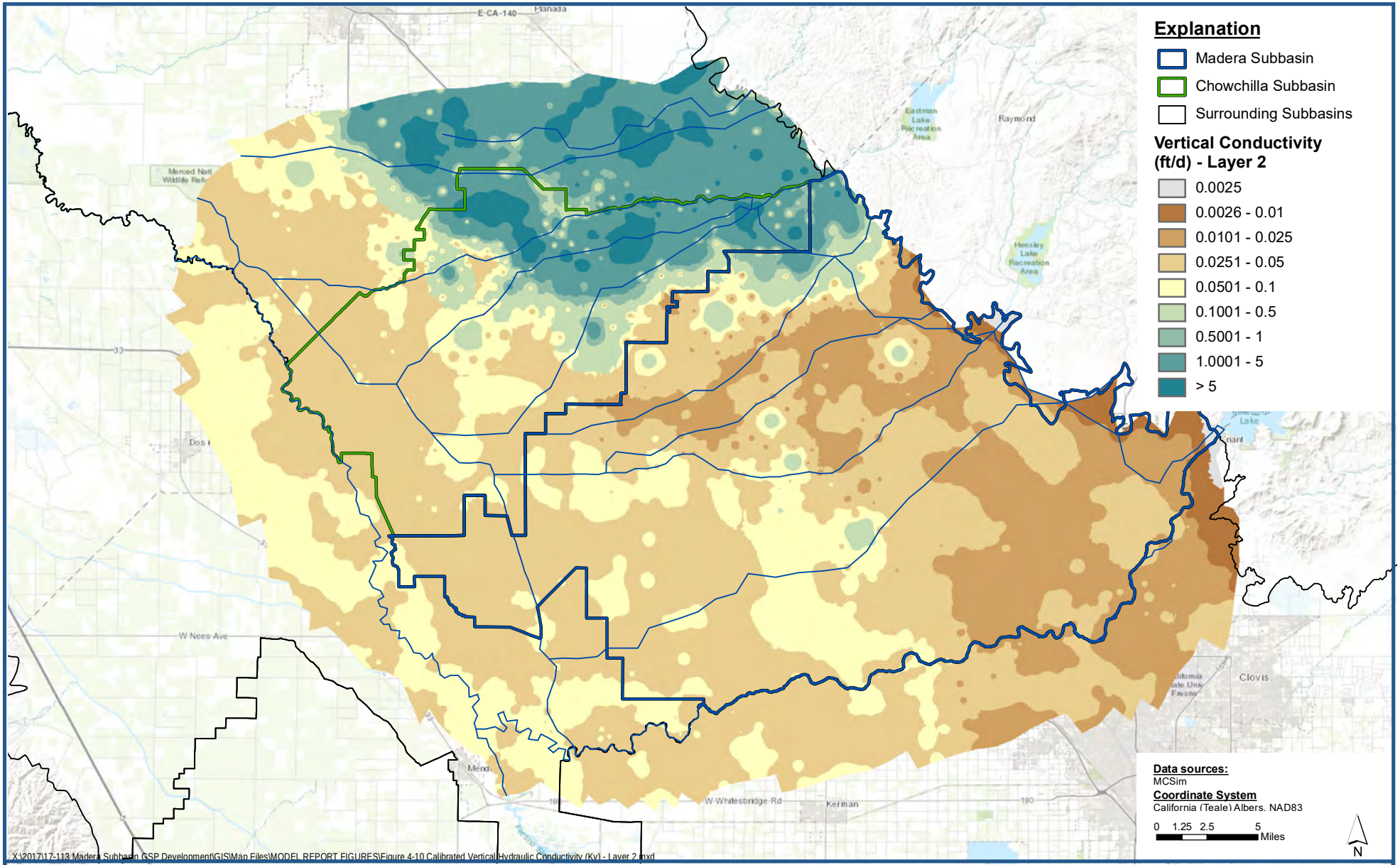
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 2 Aquitard (A-Clay)

Figure 4-9

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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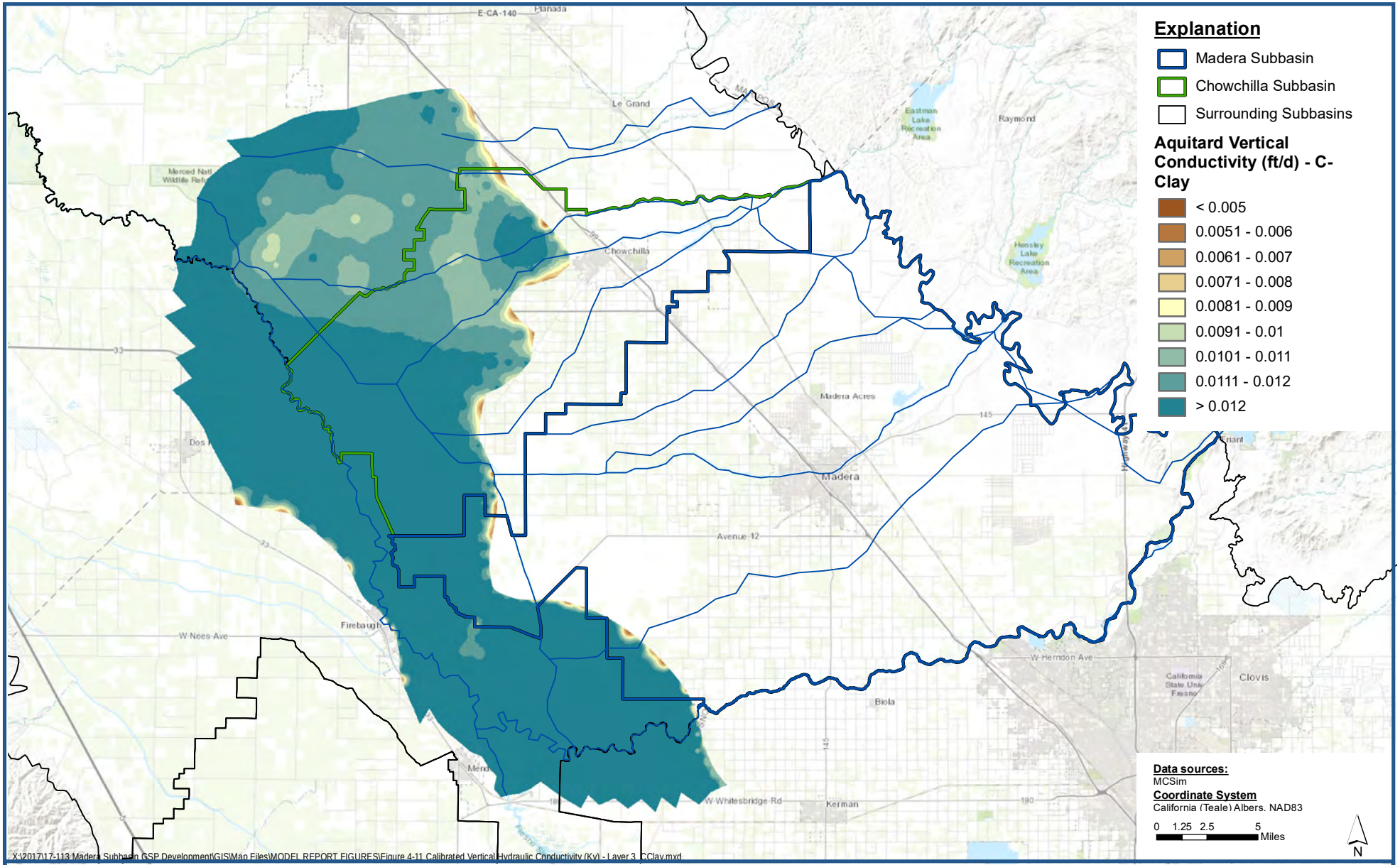
Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 2

Figure 4-10

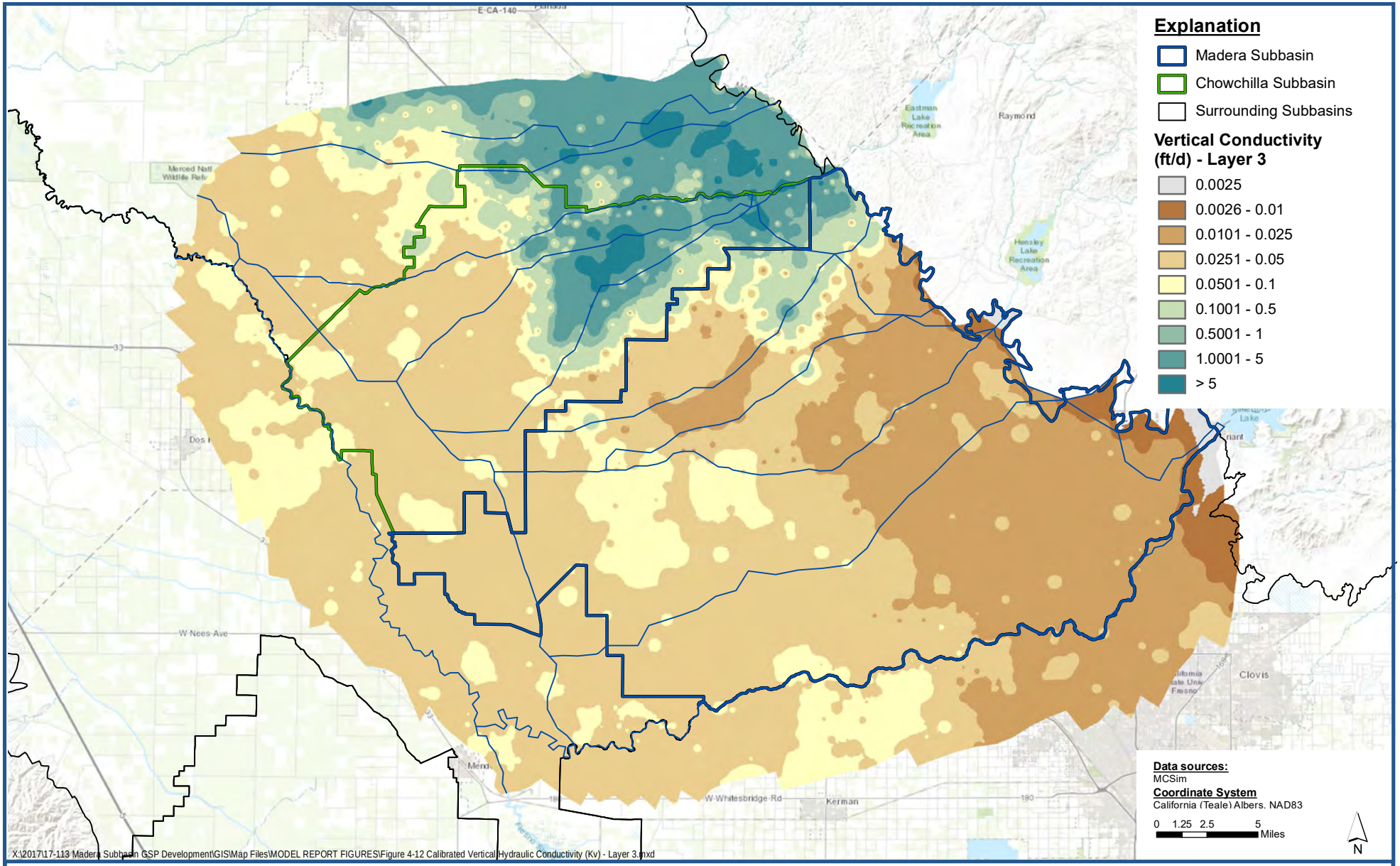
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 3 Aquitard (C-Clay)

Figure 4-11

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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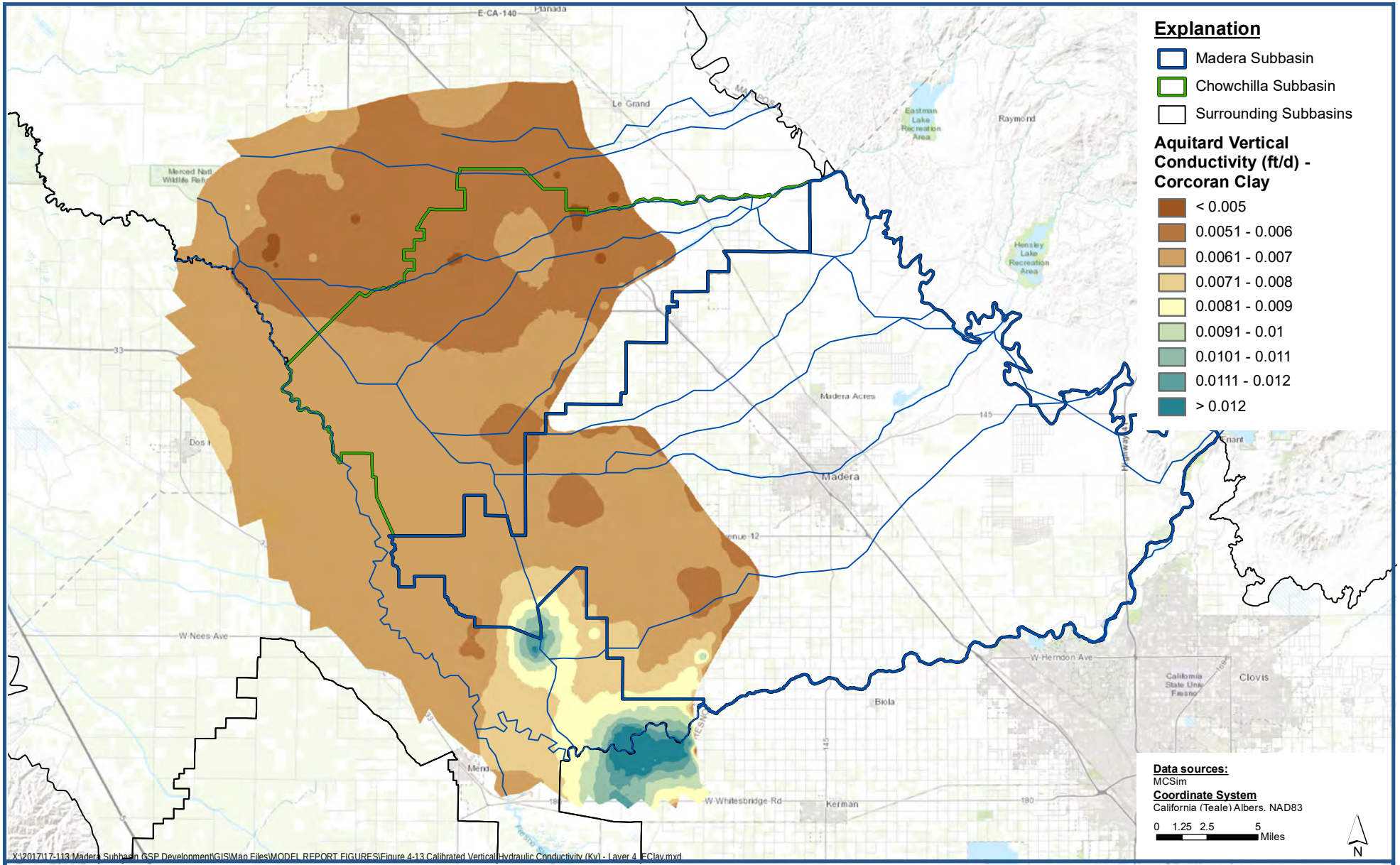
Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 3

Figure 4-12

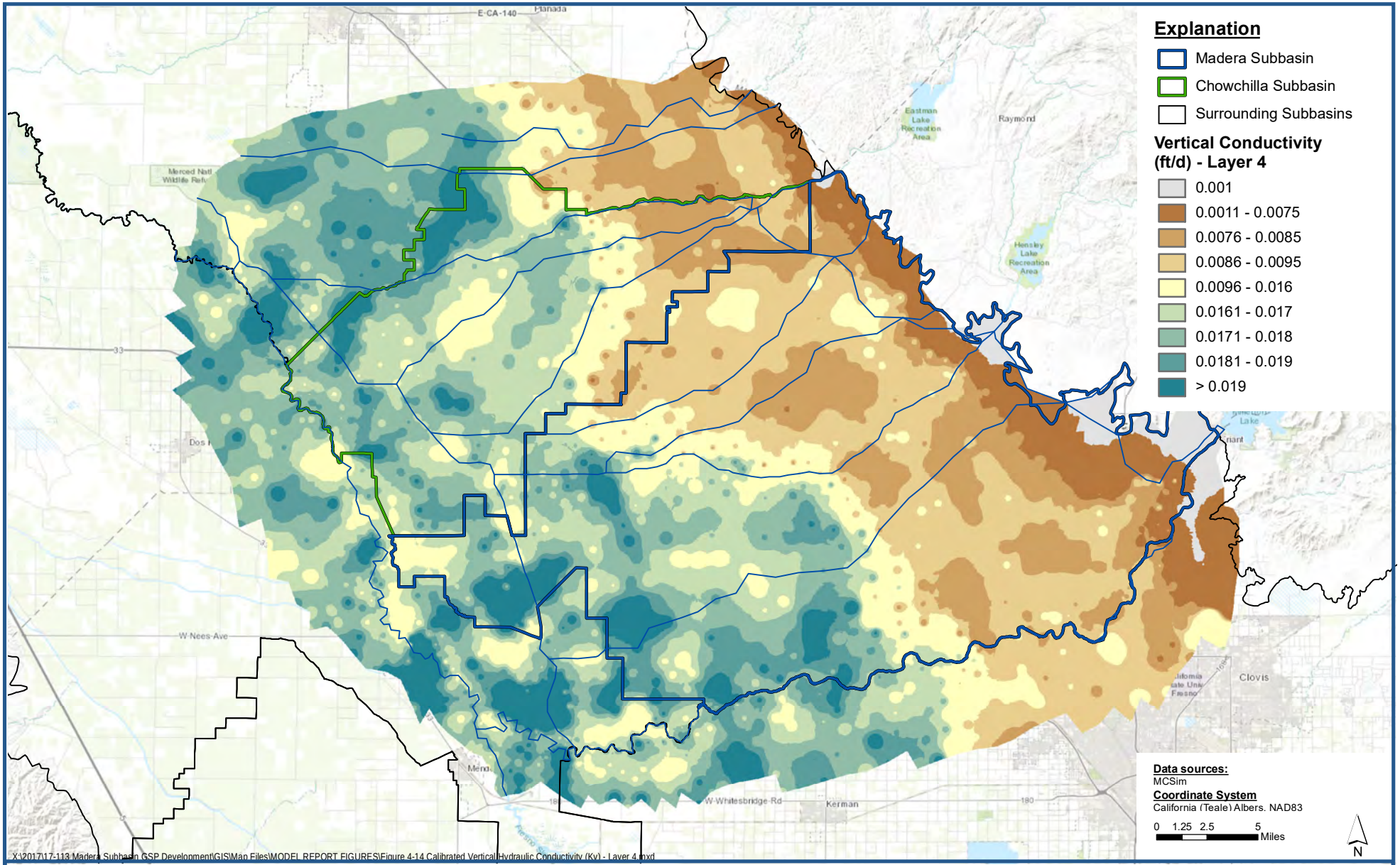
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 4 Aquitard (Corcoran Clay)

Figure 4-13

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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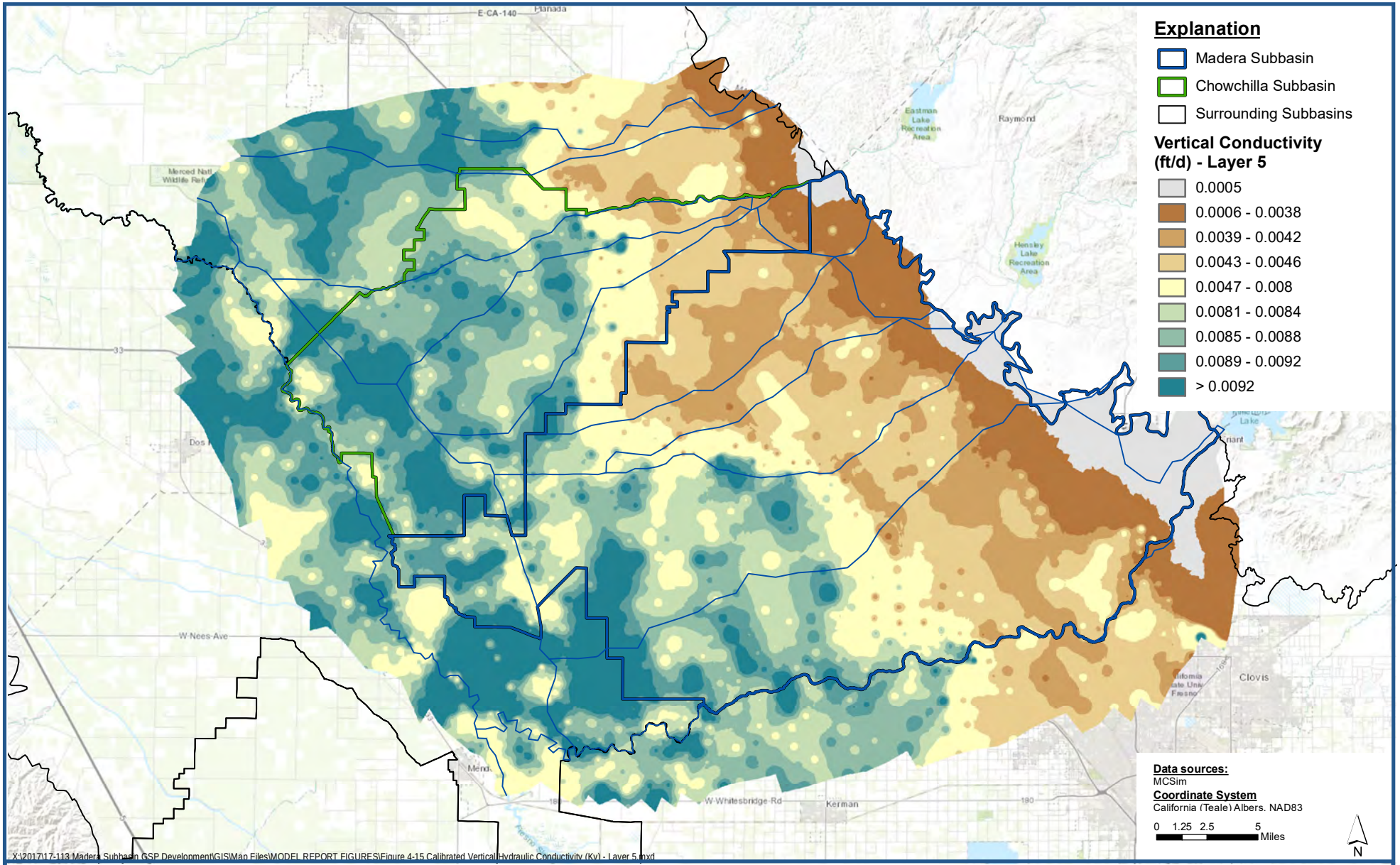
Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 4

Figure 4-14

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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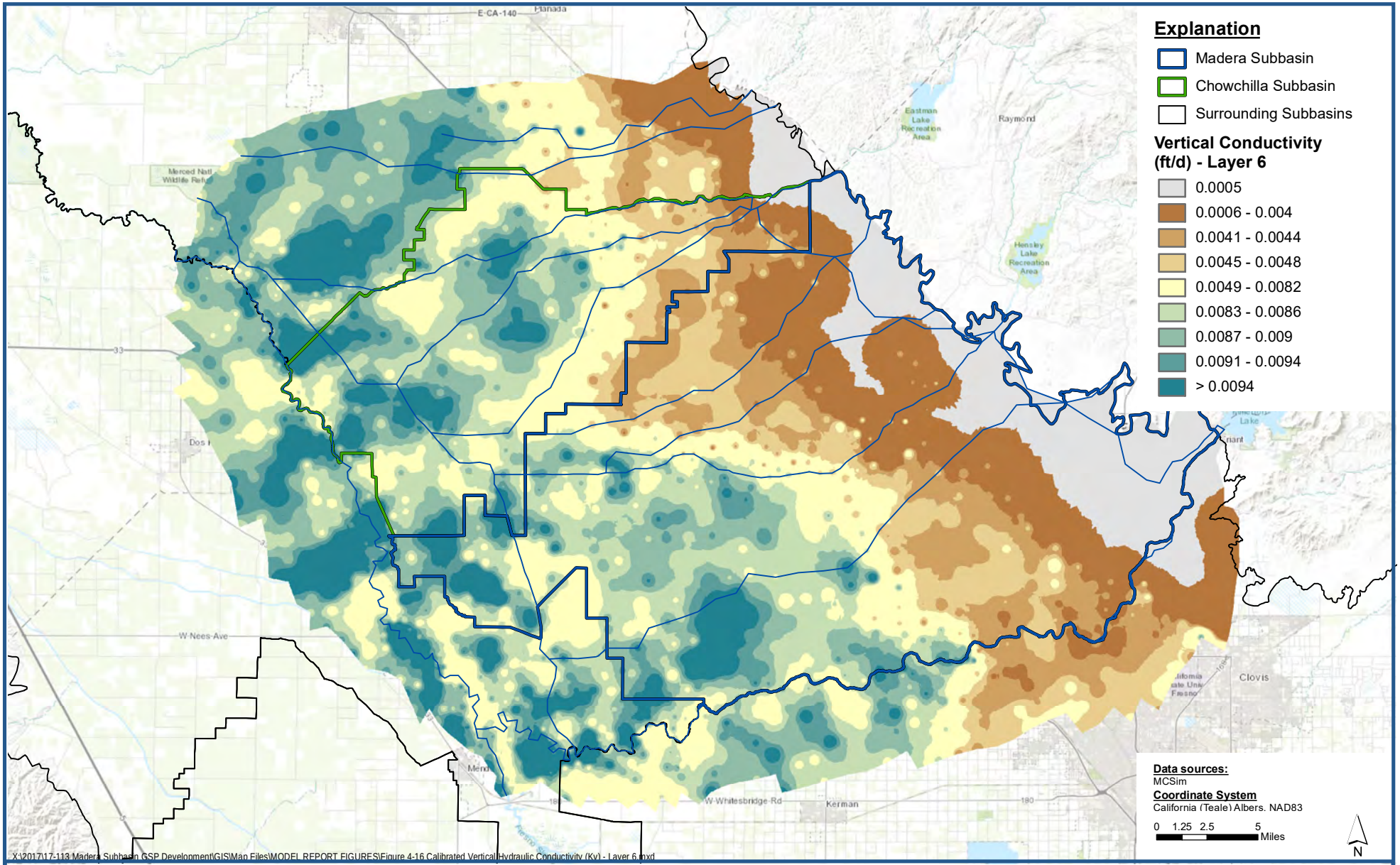
Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 5

Figure 4-15

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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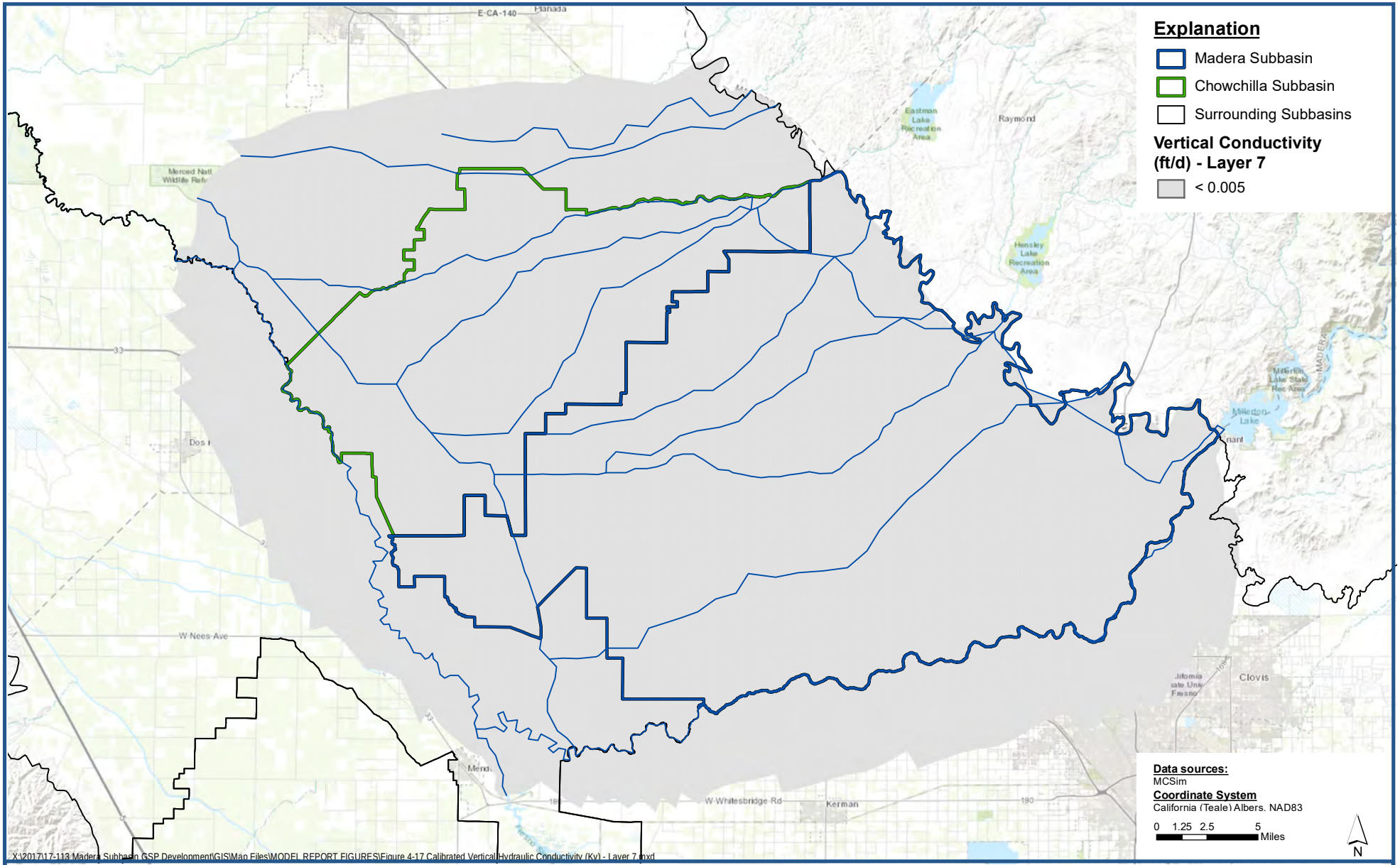
Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 6

Figure 4-16

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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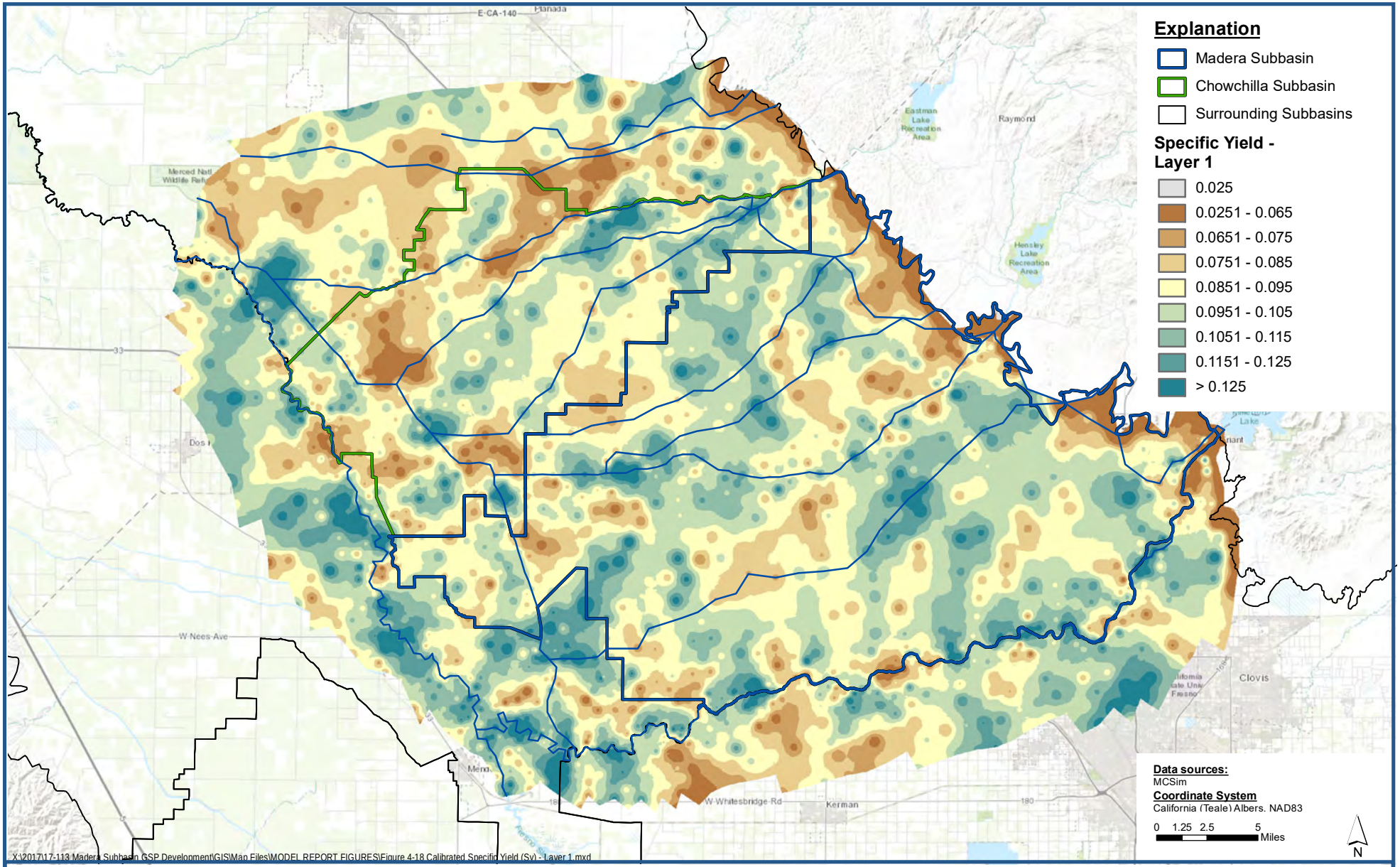
Calibrated Vertical Hydraulic Conductivity (Kv) - Layer 7

Figure 4-17

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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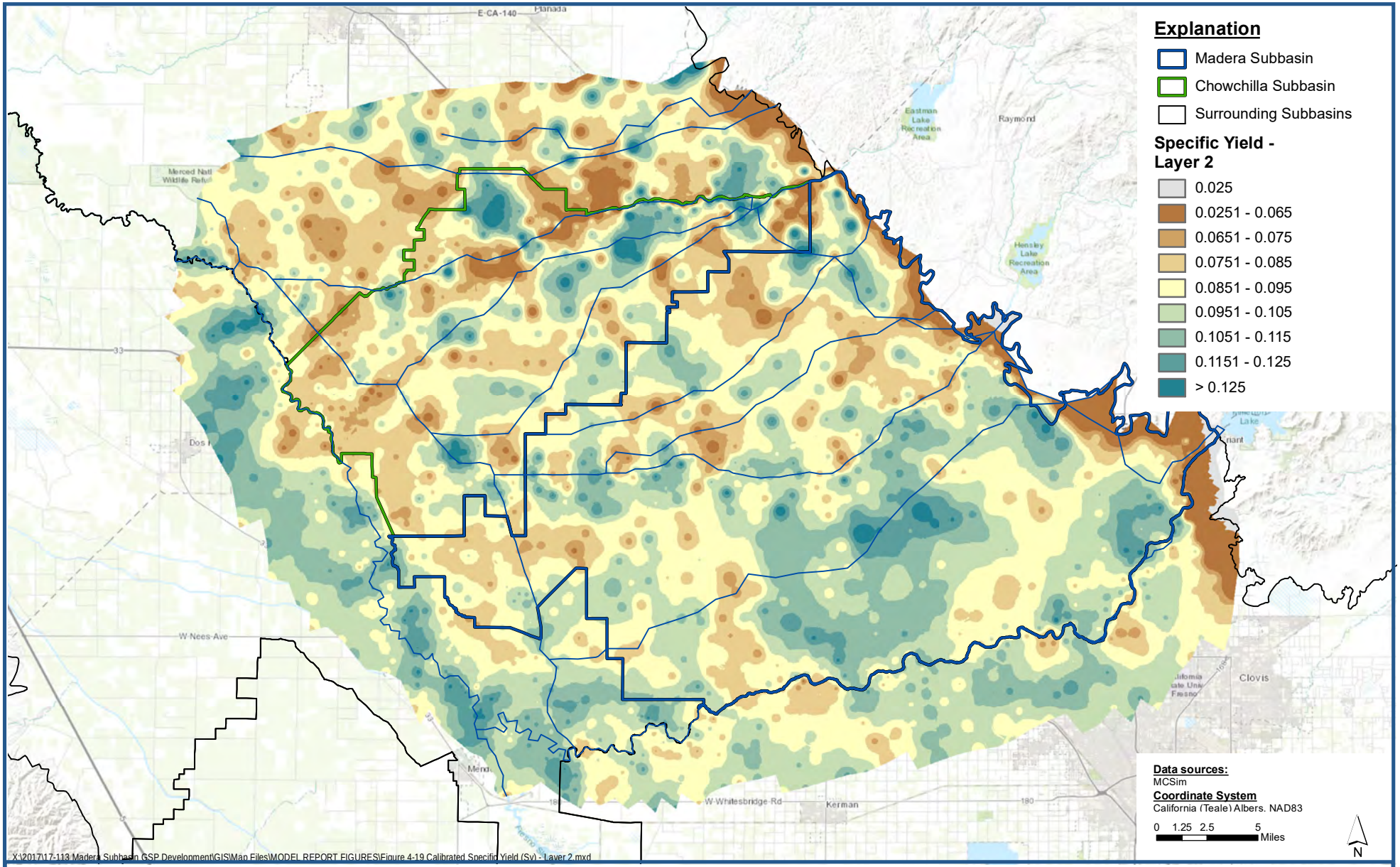
Calibrated Specific Yield (Sy) - Layer 1

Figure 4-18

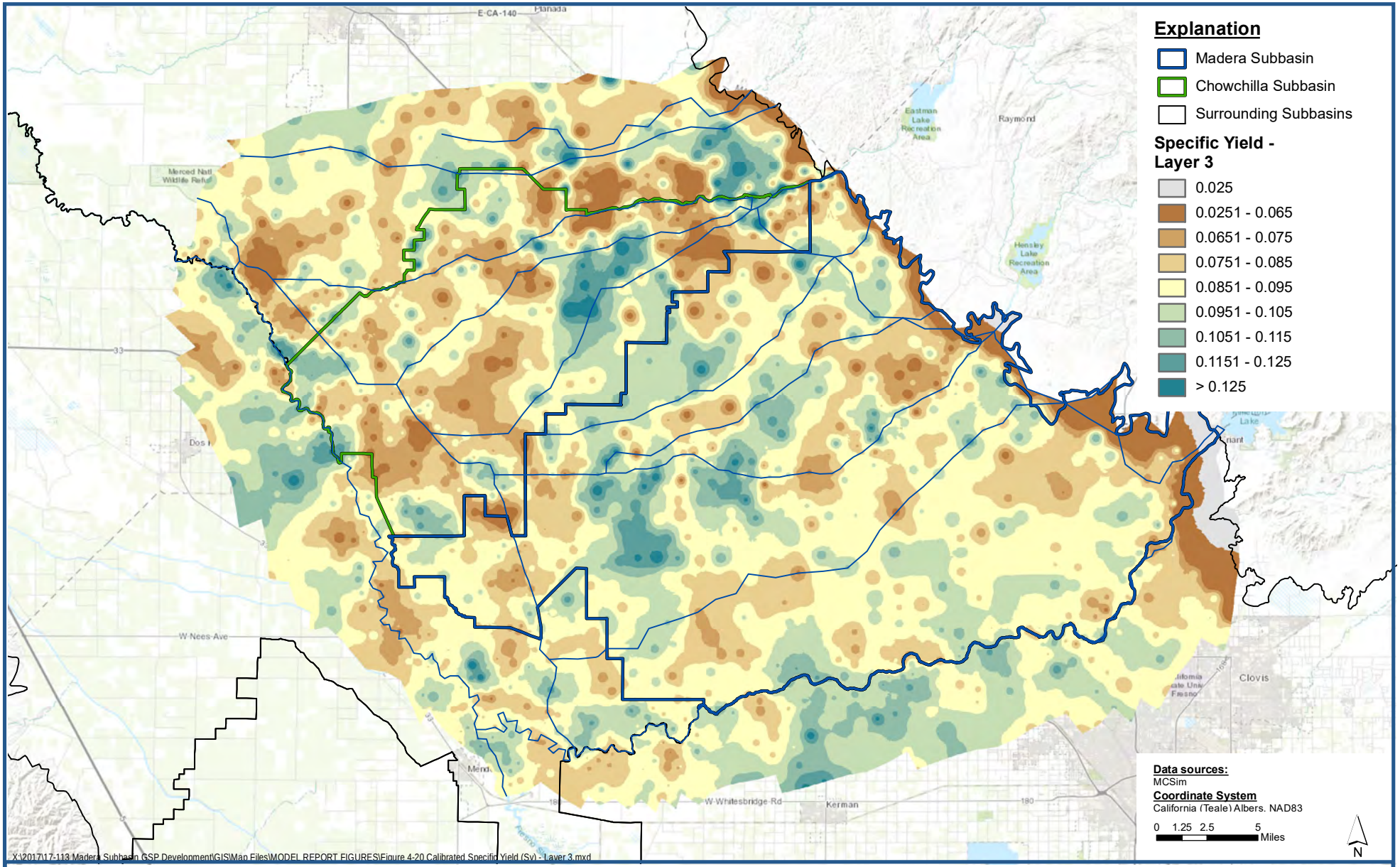
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Specific Yield (Sy) - Layer 2

Figure 4-19

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 4-20 Calibrated Specific Yield (Sy) - Layer 3.mxd

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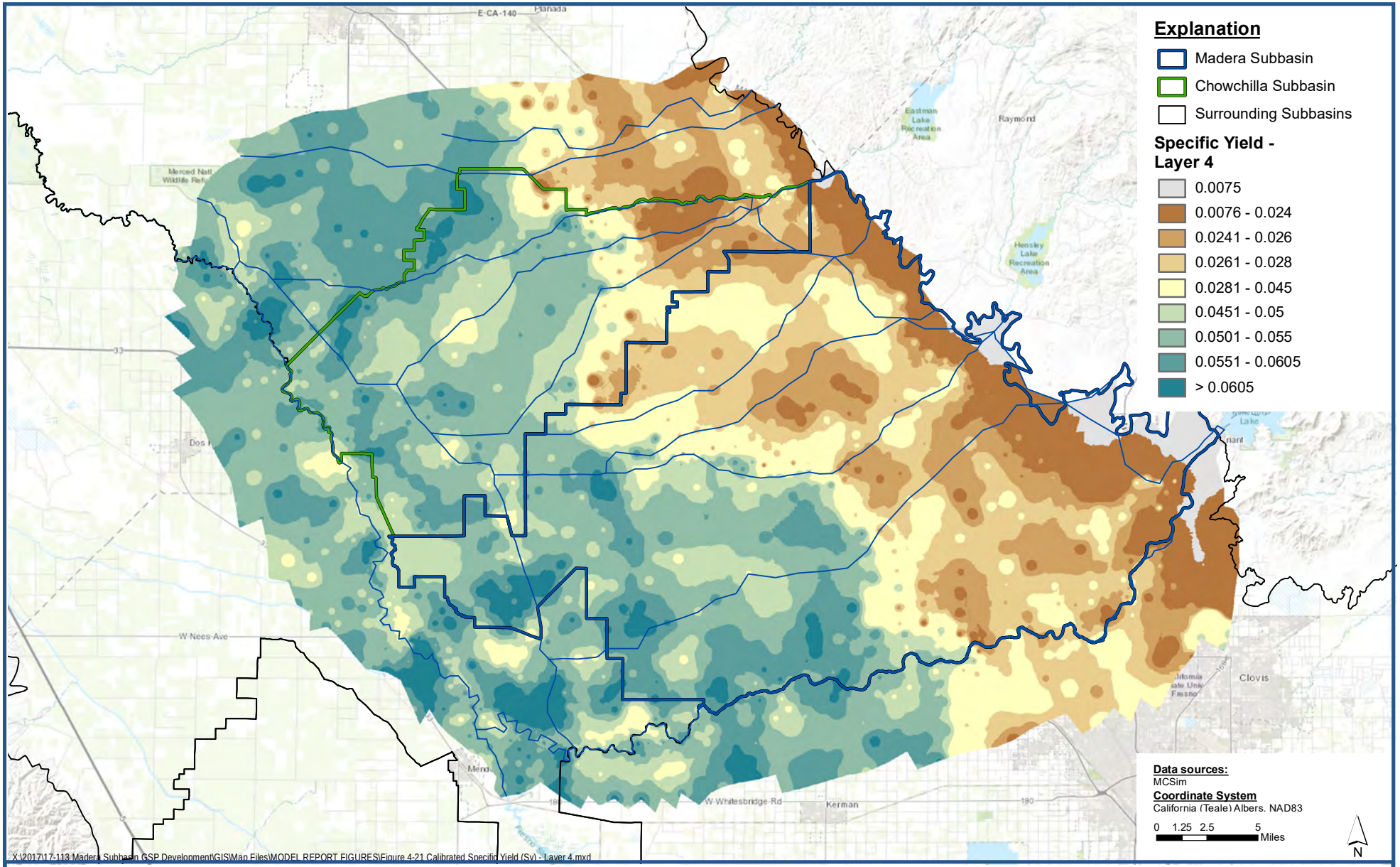
Calibrated Specific Yield (Sy) - Layer 3

Figure 4-20

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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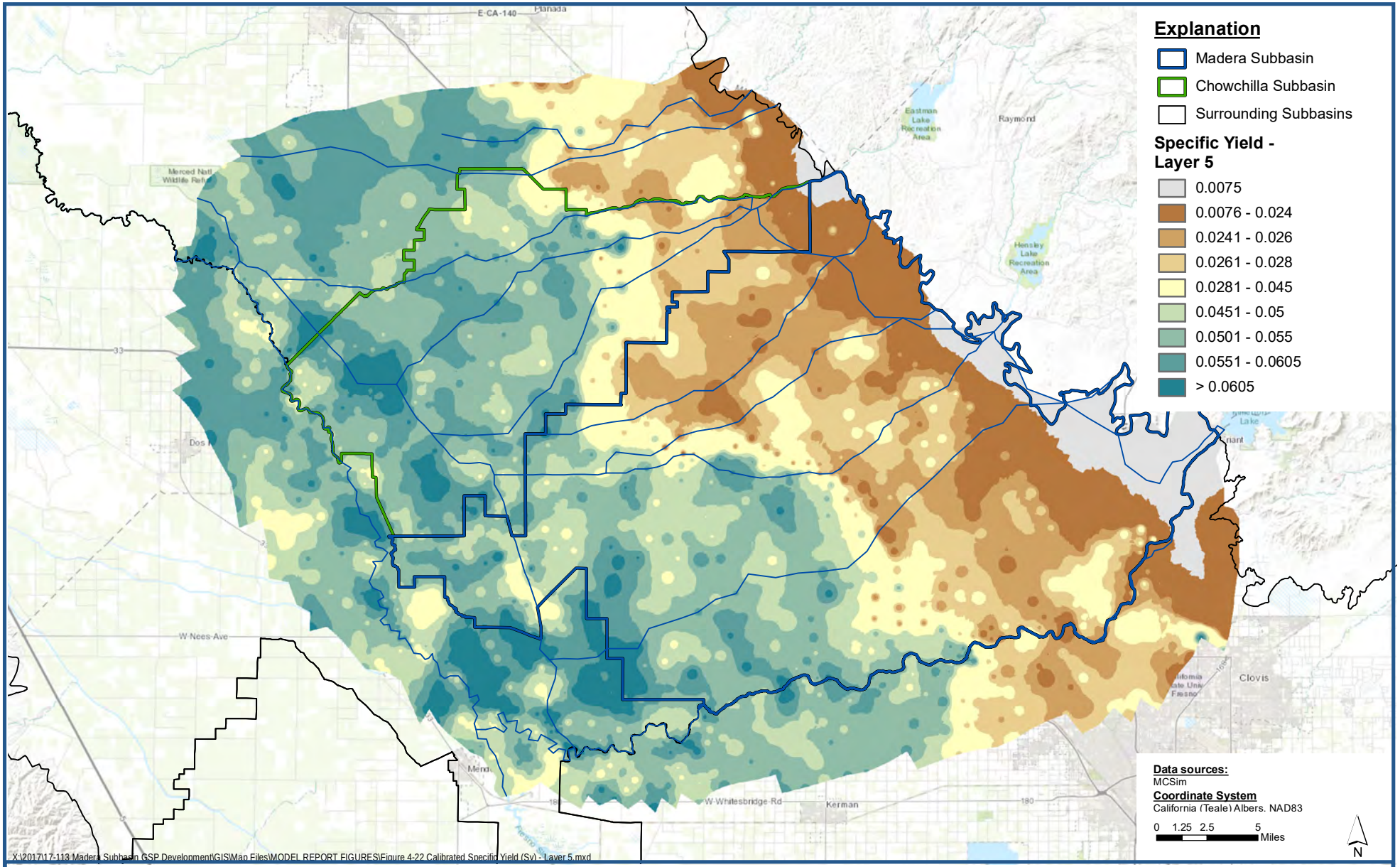
Calibrated Specific Yield (Sy) - Layer 4

Figure 4-21

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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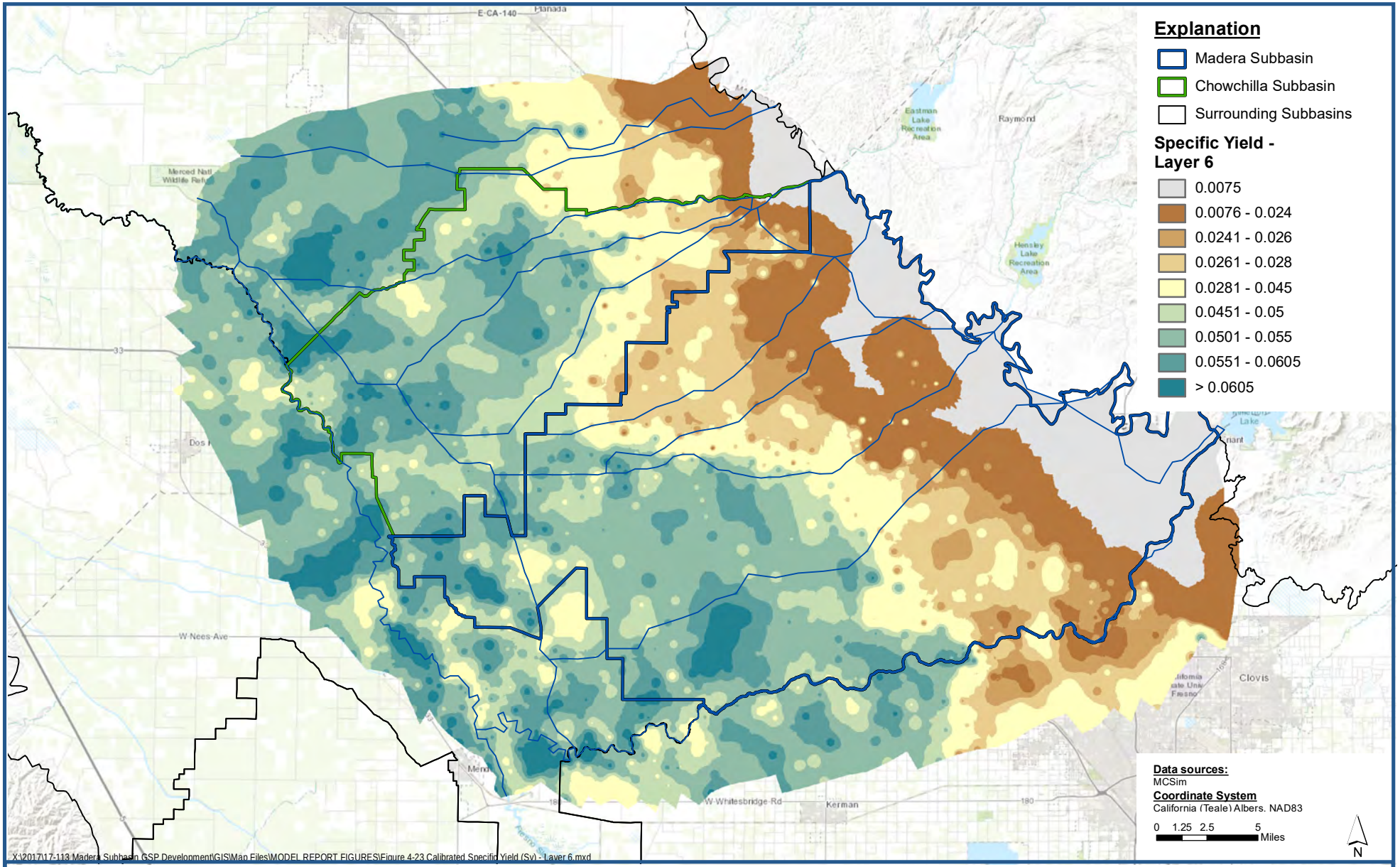
Calibrated Specific Yield (Sy) - Layer 5

Figure 4-22

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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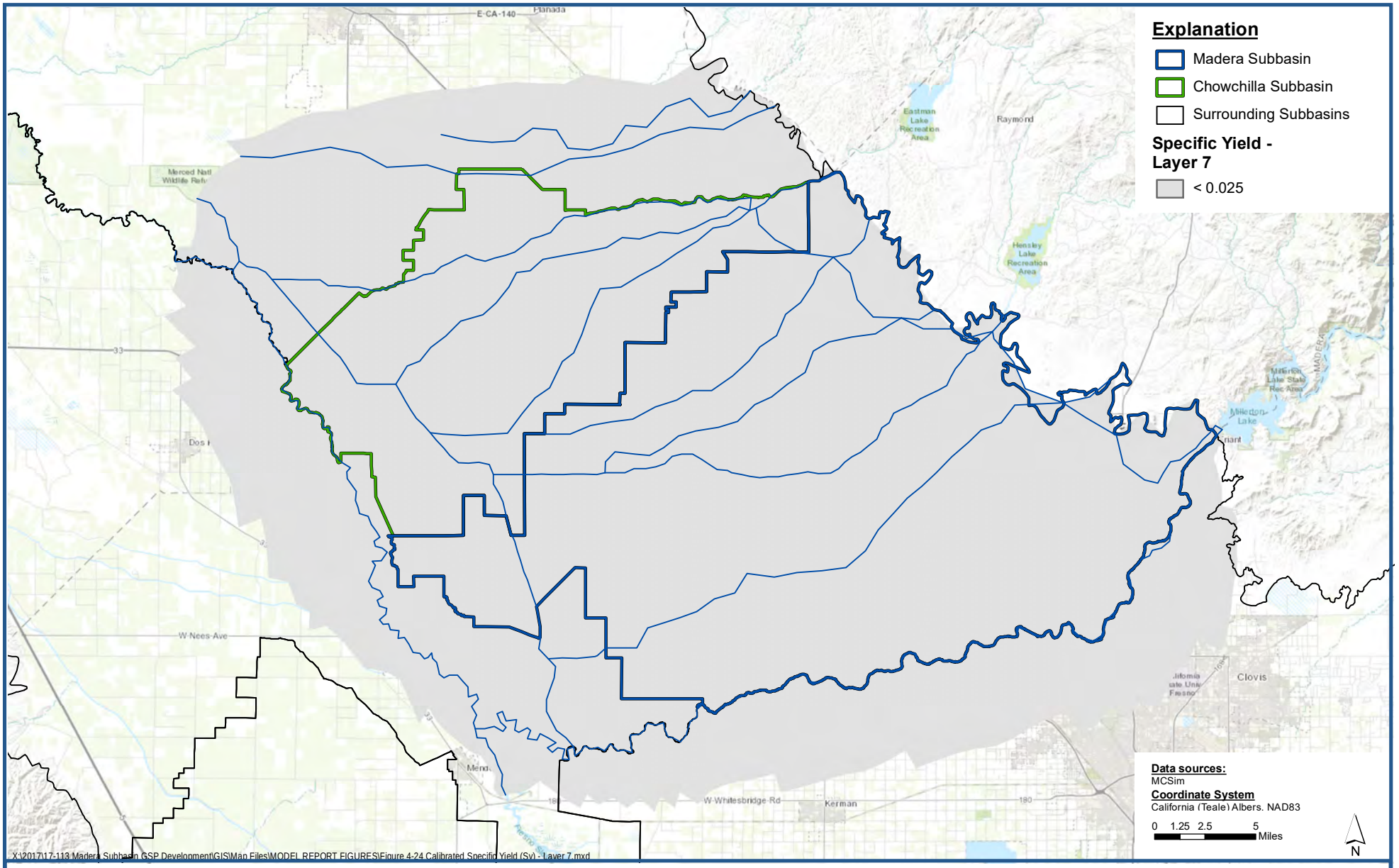
Calibrated Specific Yield (Sy) - Layer 6

Figure 4-23

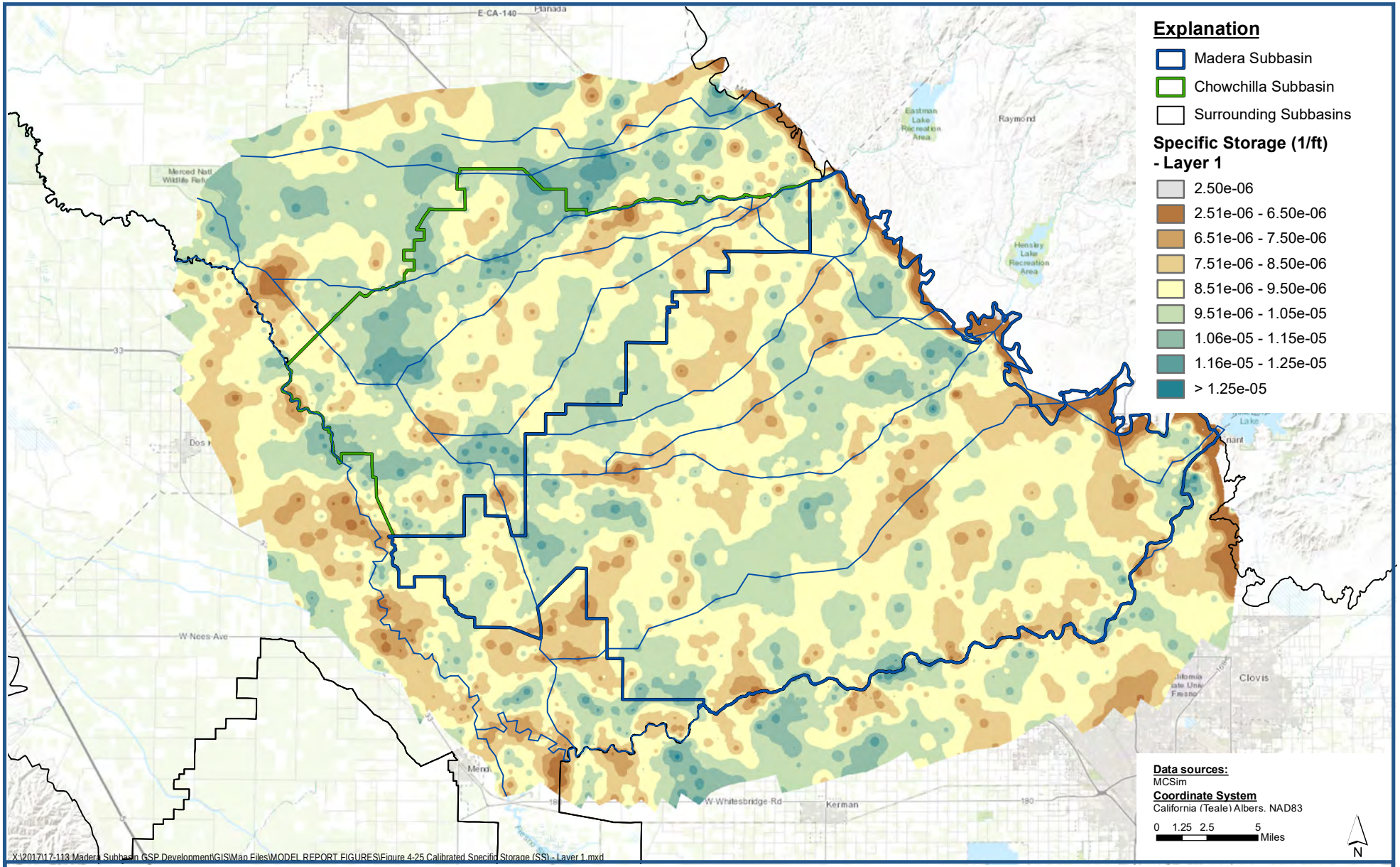
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Specific Yield (Sy) - Layer 7

Figure 4-24

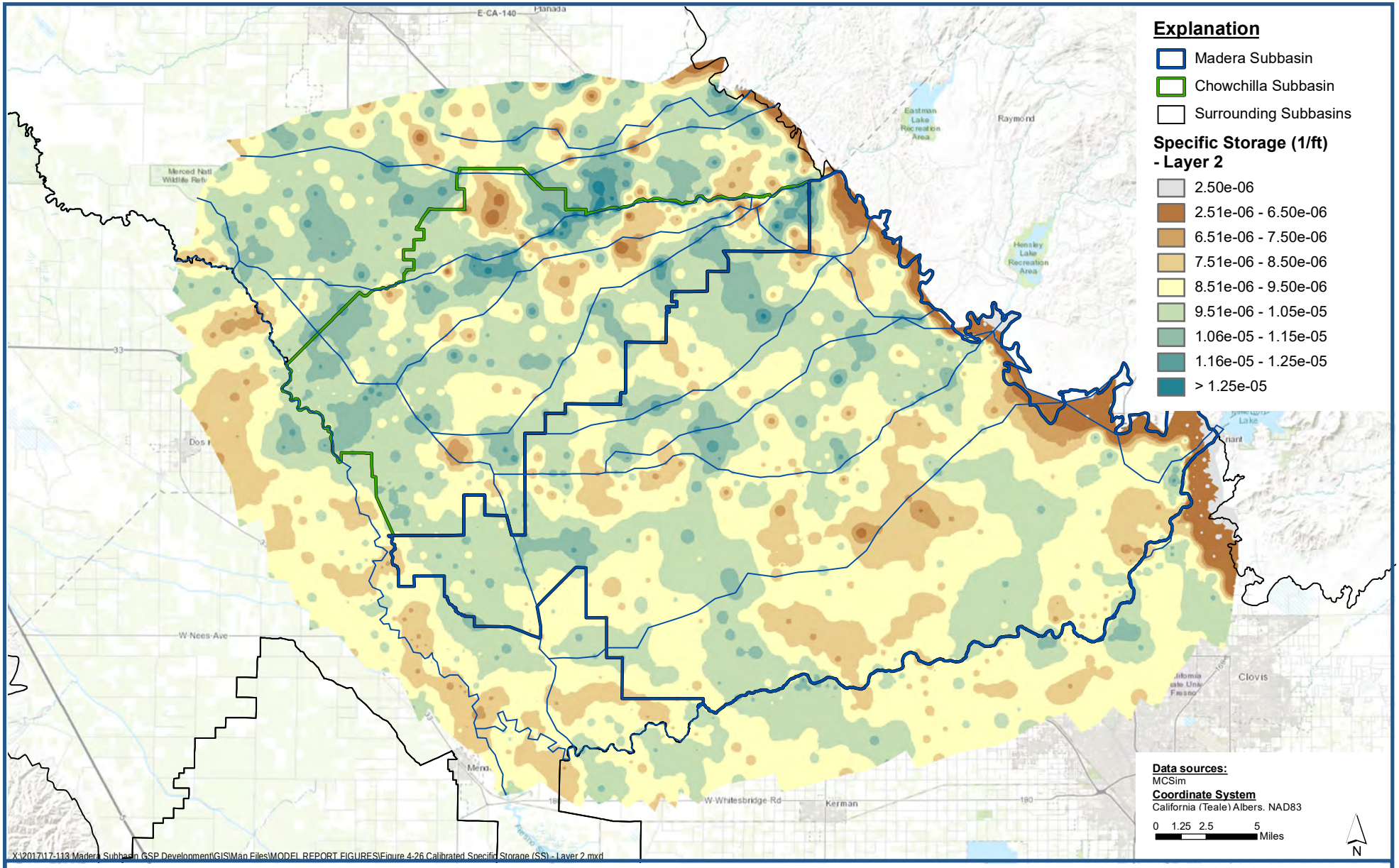
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Specific Storage (SS) - Layer 1

Figure 4-25

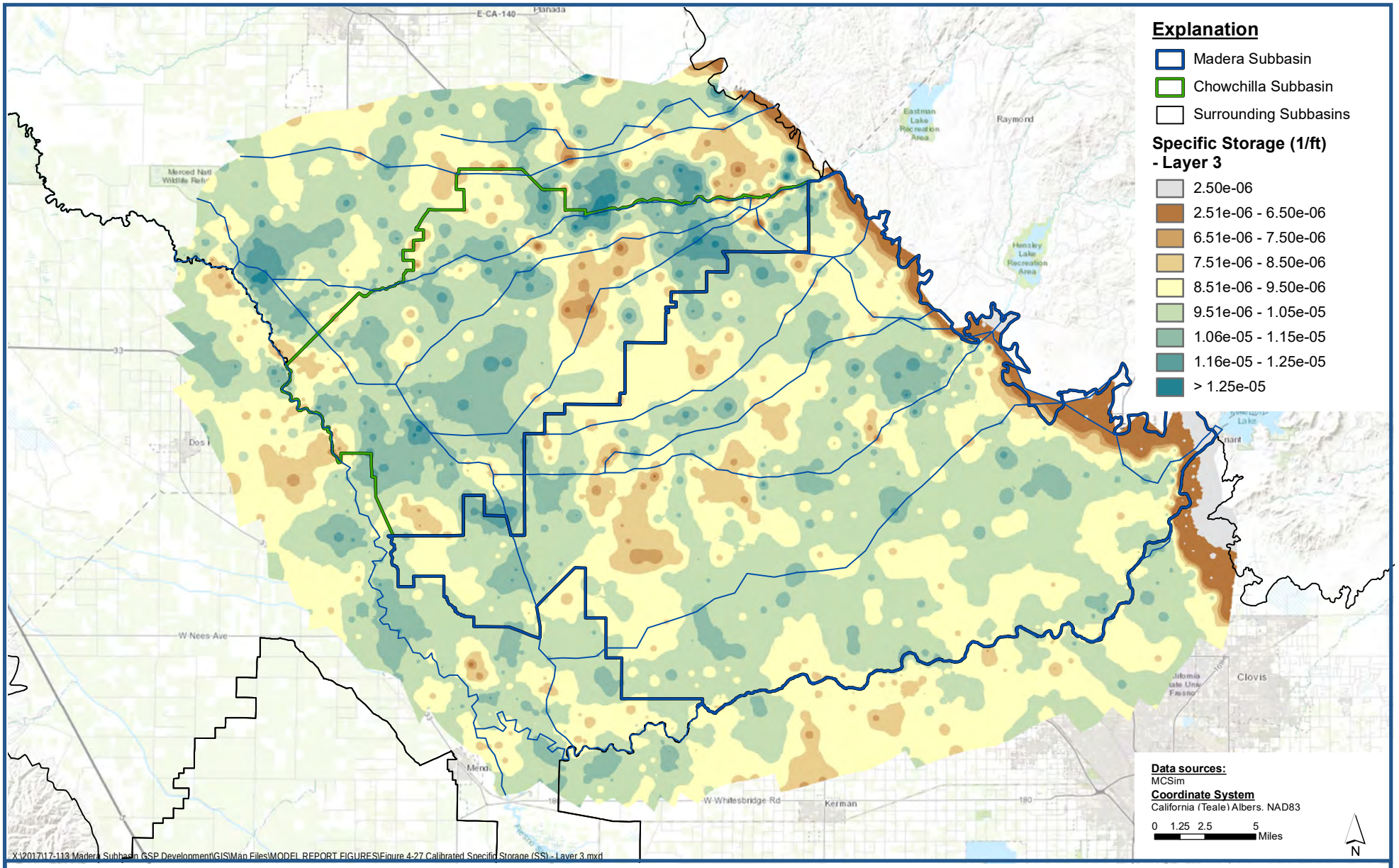
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Specific Storage (SS) - Layer 2

Figure 4-26

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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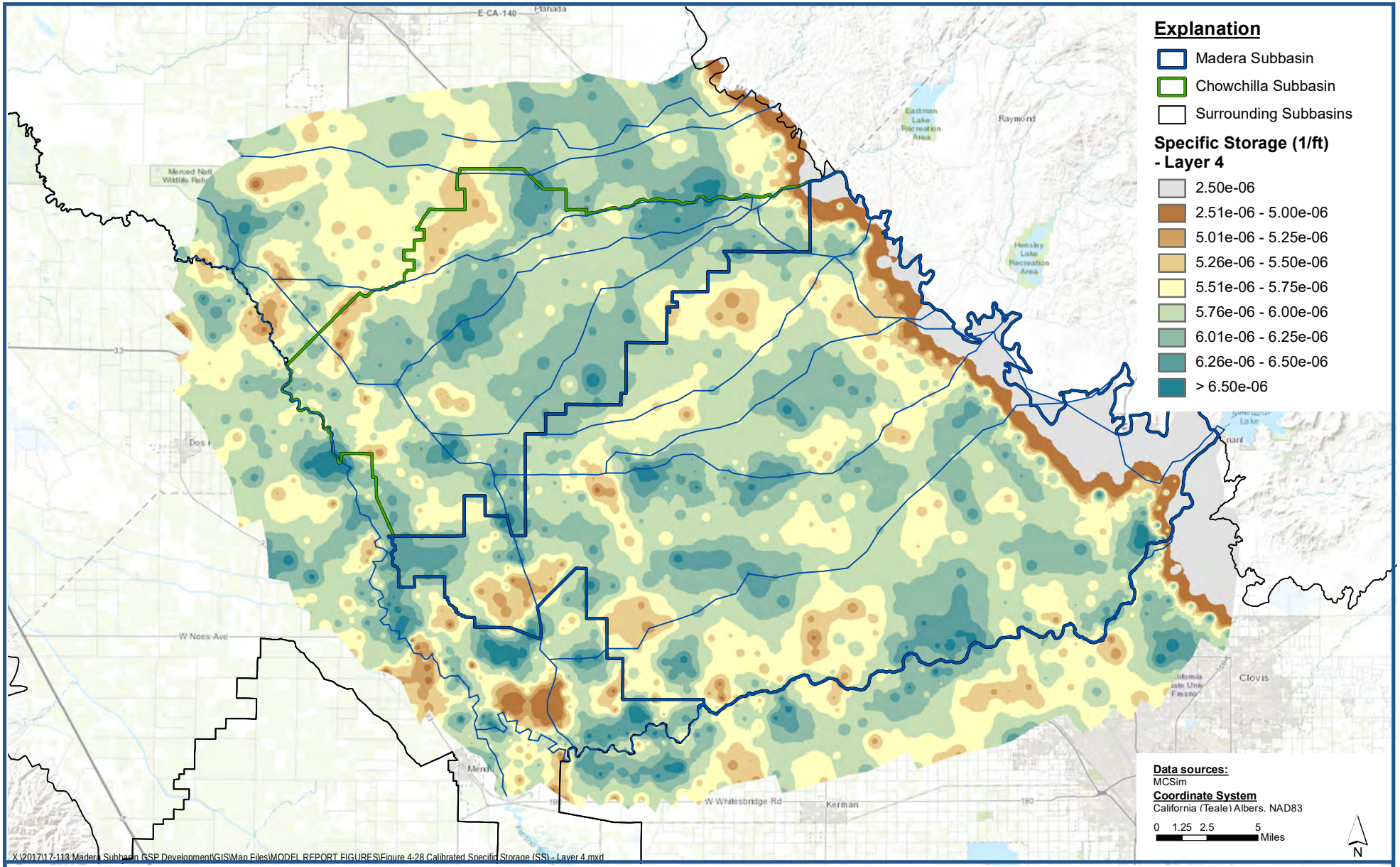
Calibrated Specific Storage (SS) - Layer 3

Figure 4-27

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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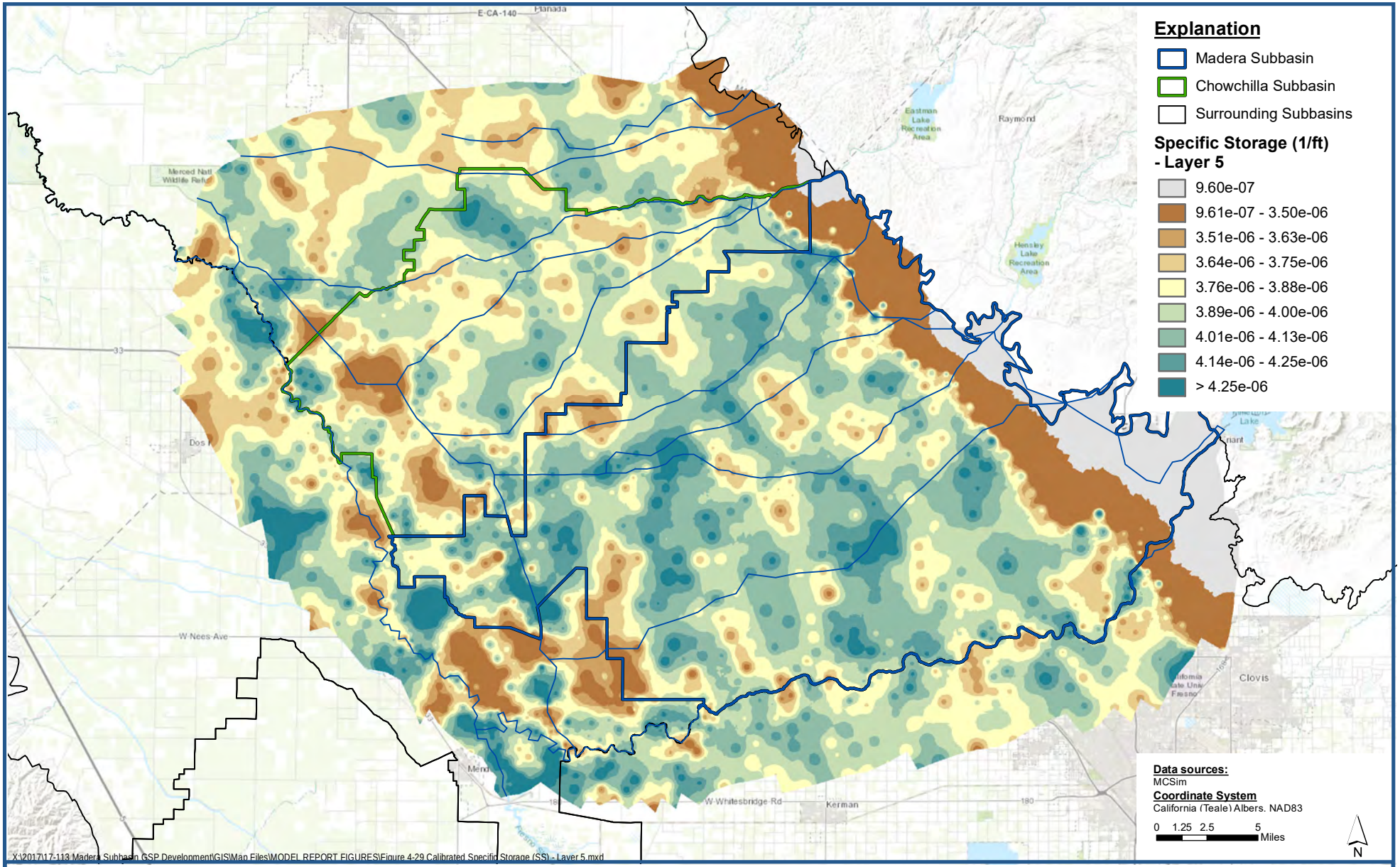
Calibrated Specific Storage (SS) - Layer 4

Figure 4-28

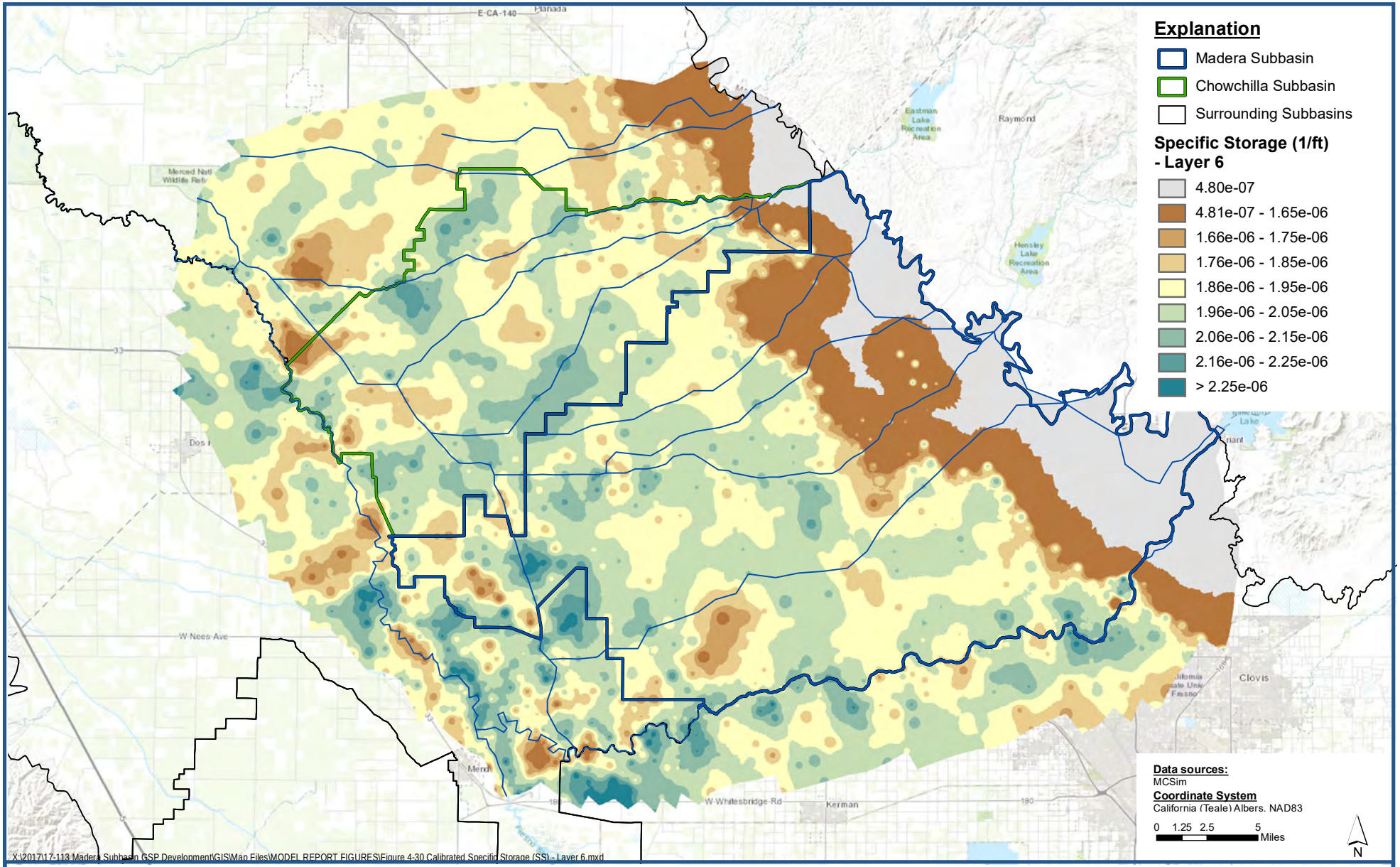
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Specific Storage (SS) - Layer 5

Figure 4-29

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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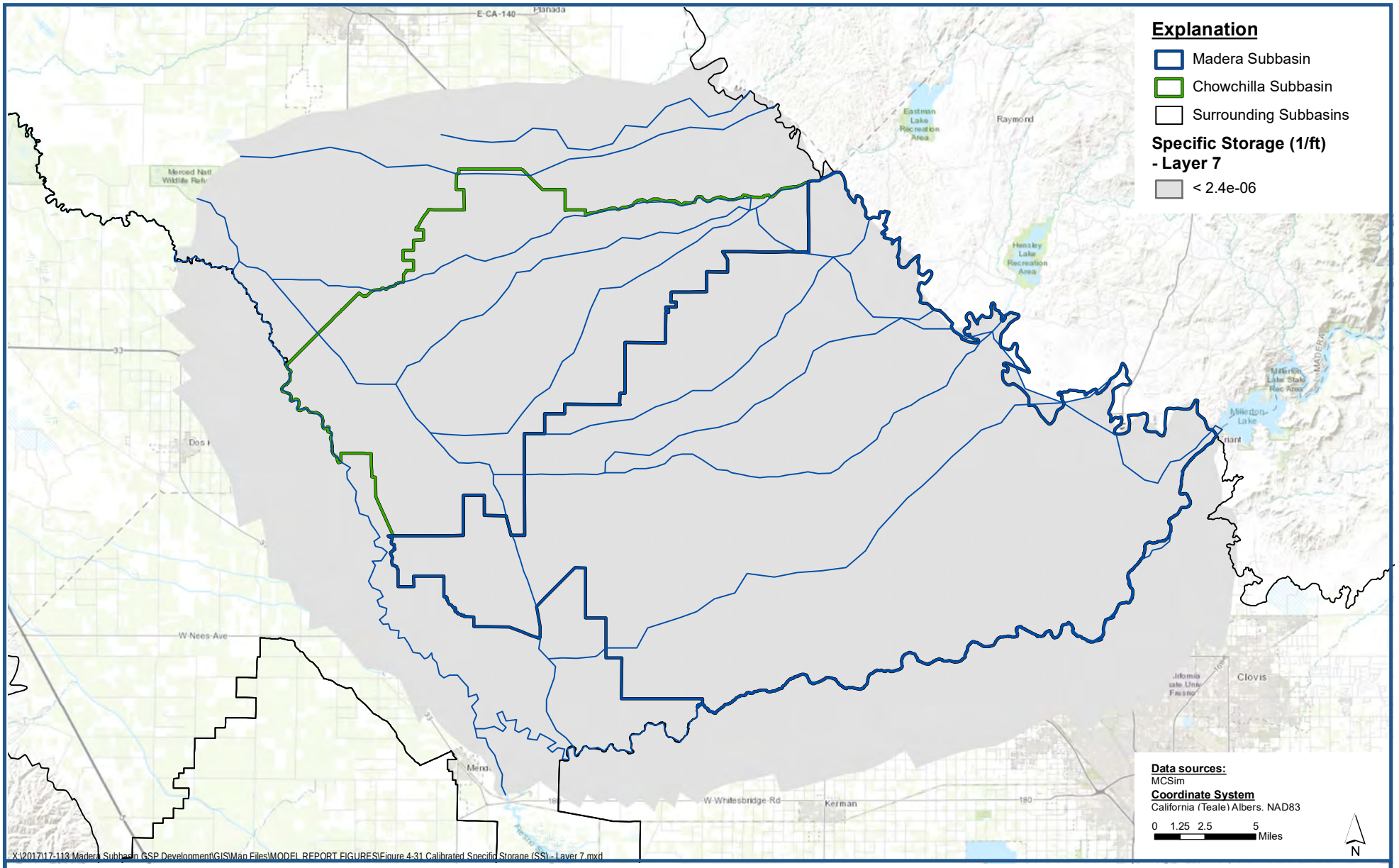
Calibrated Specific Storage (SS) - Layer 6

Figure 4-30

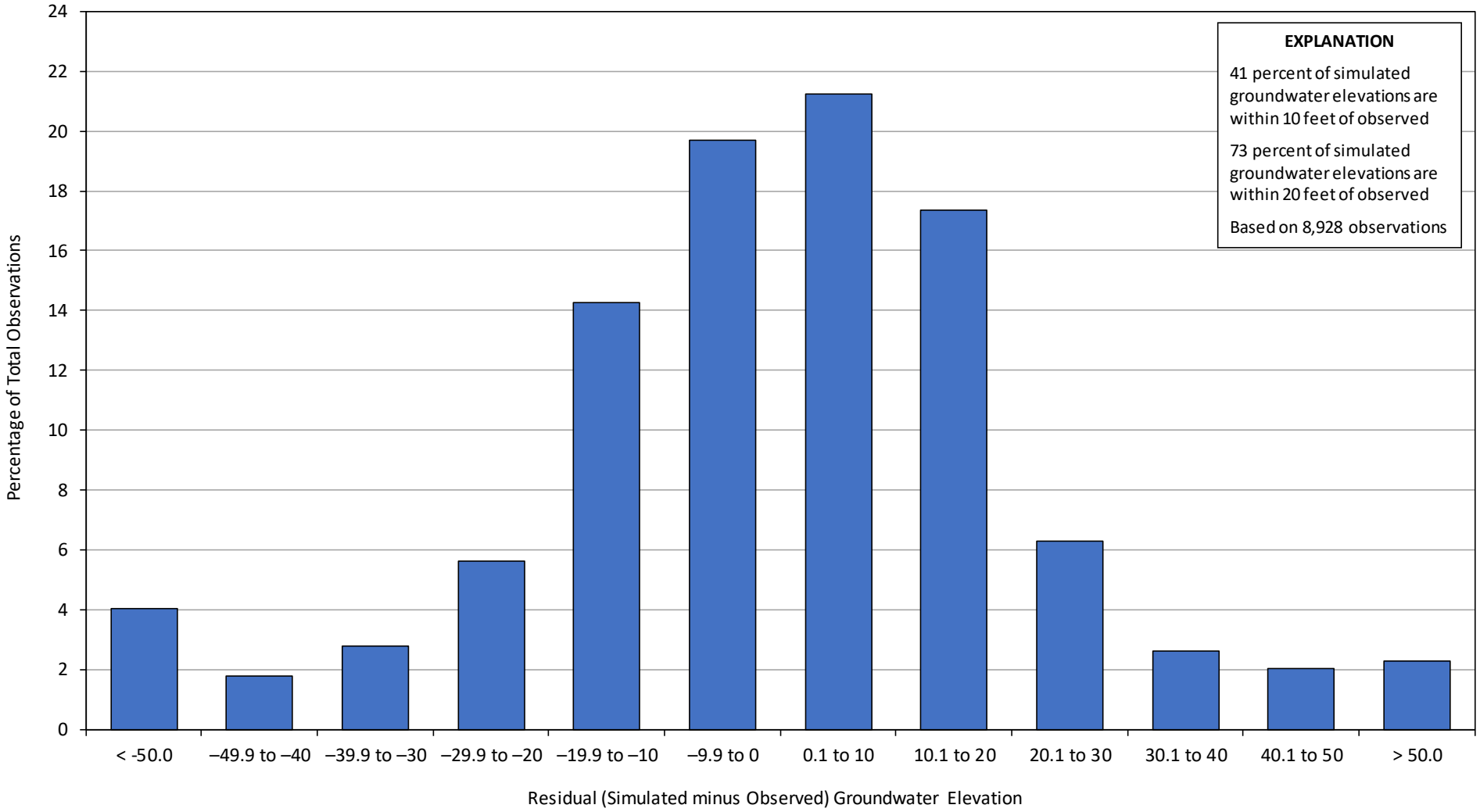
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Calibrated Specific Storage (SS) - Layer 7

Figure 4-31

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

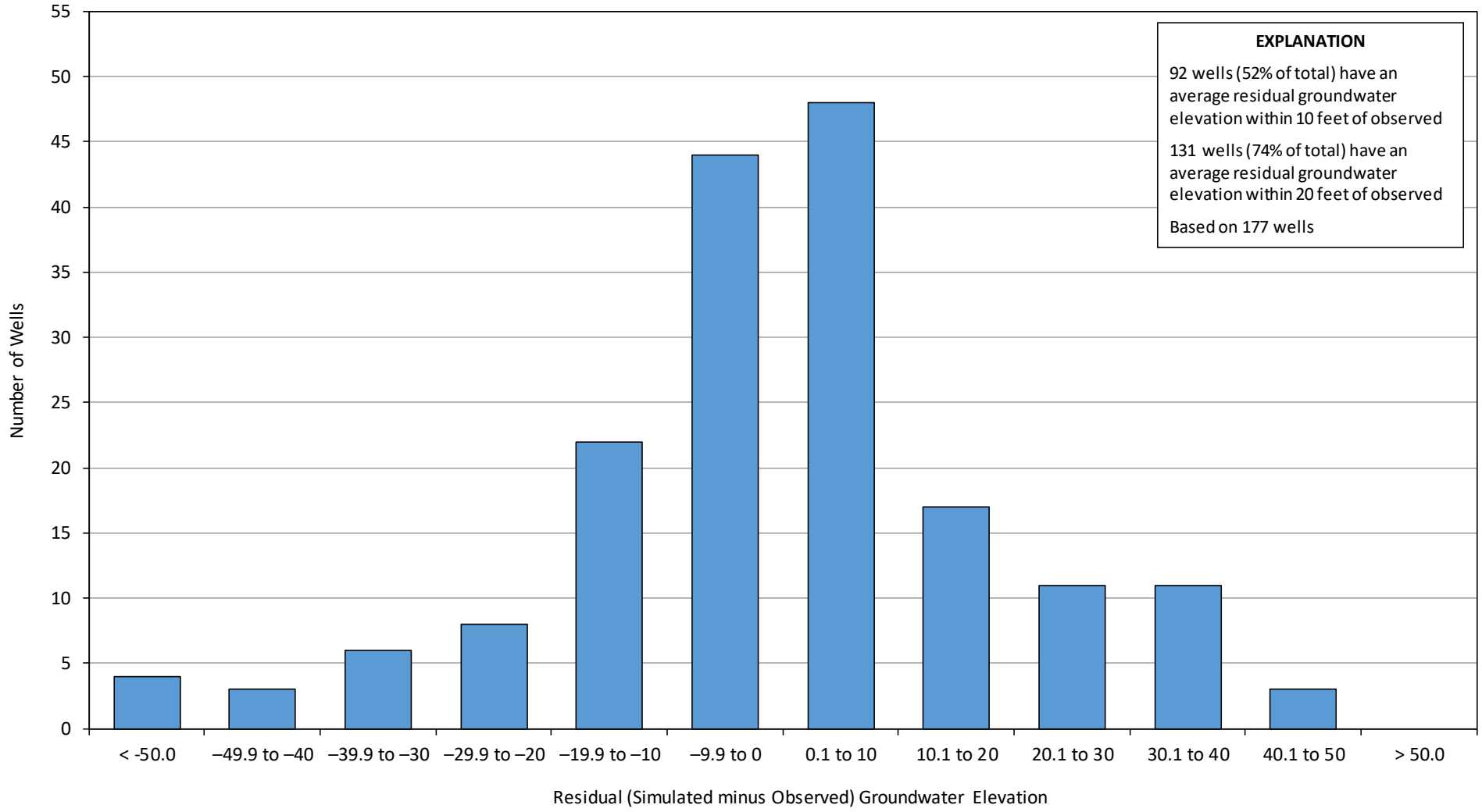


X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 4-32 Histogram of Residual (Simulated minus Observed) Groundwater Elevations for All Observations.mxd

Histogram of Residual (Simulated minus Observed) Groundwater Elevations for All Observations

Figure 4-32

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 4-33 Histogram of Average Residual (Simulated minus Observed) Groundwater Elevation by Well.mxd

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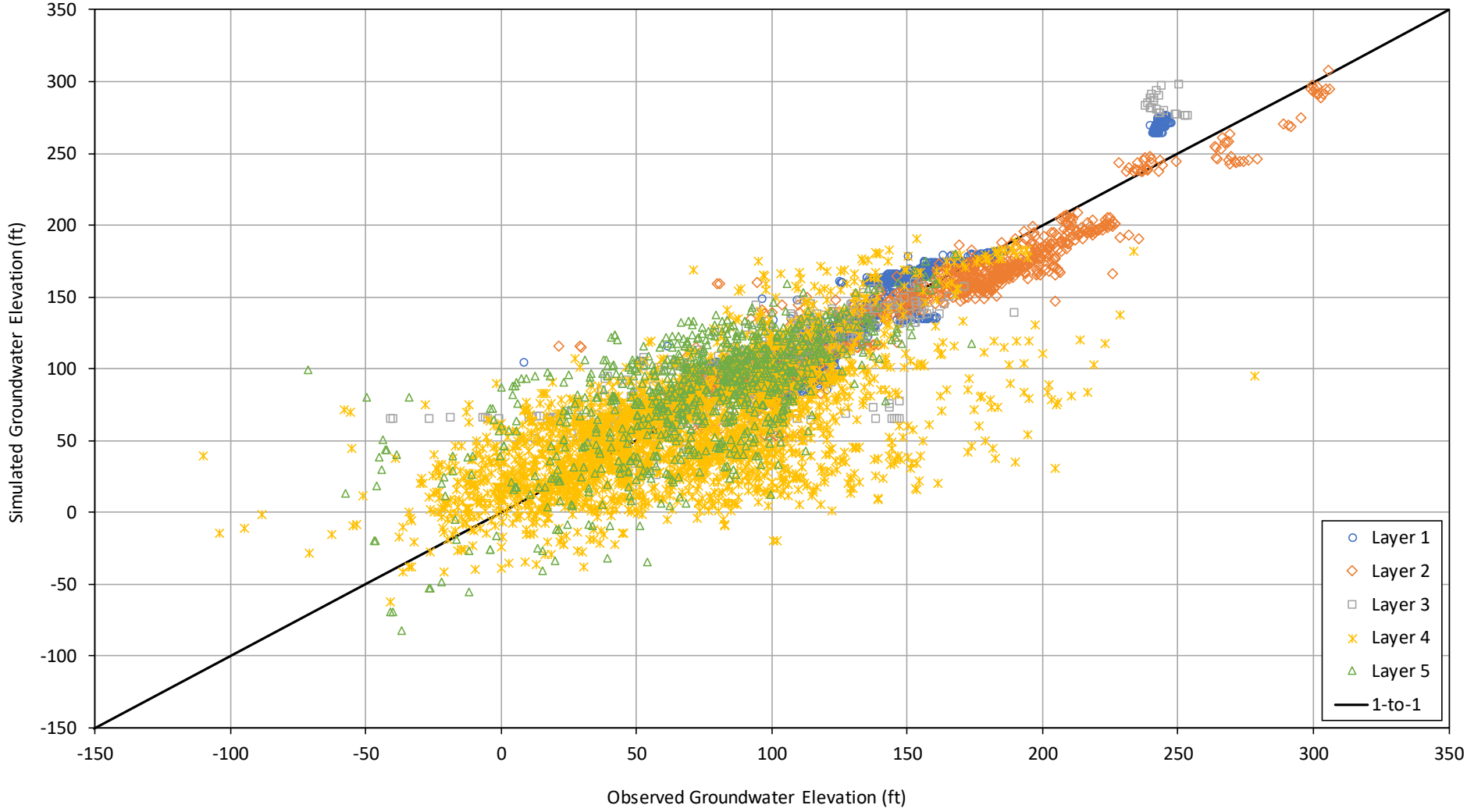
Histogram of Average Residual (Simulated minus Observed) Groundwater Elevation by Well

Figure 4-33

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

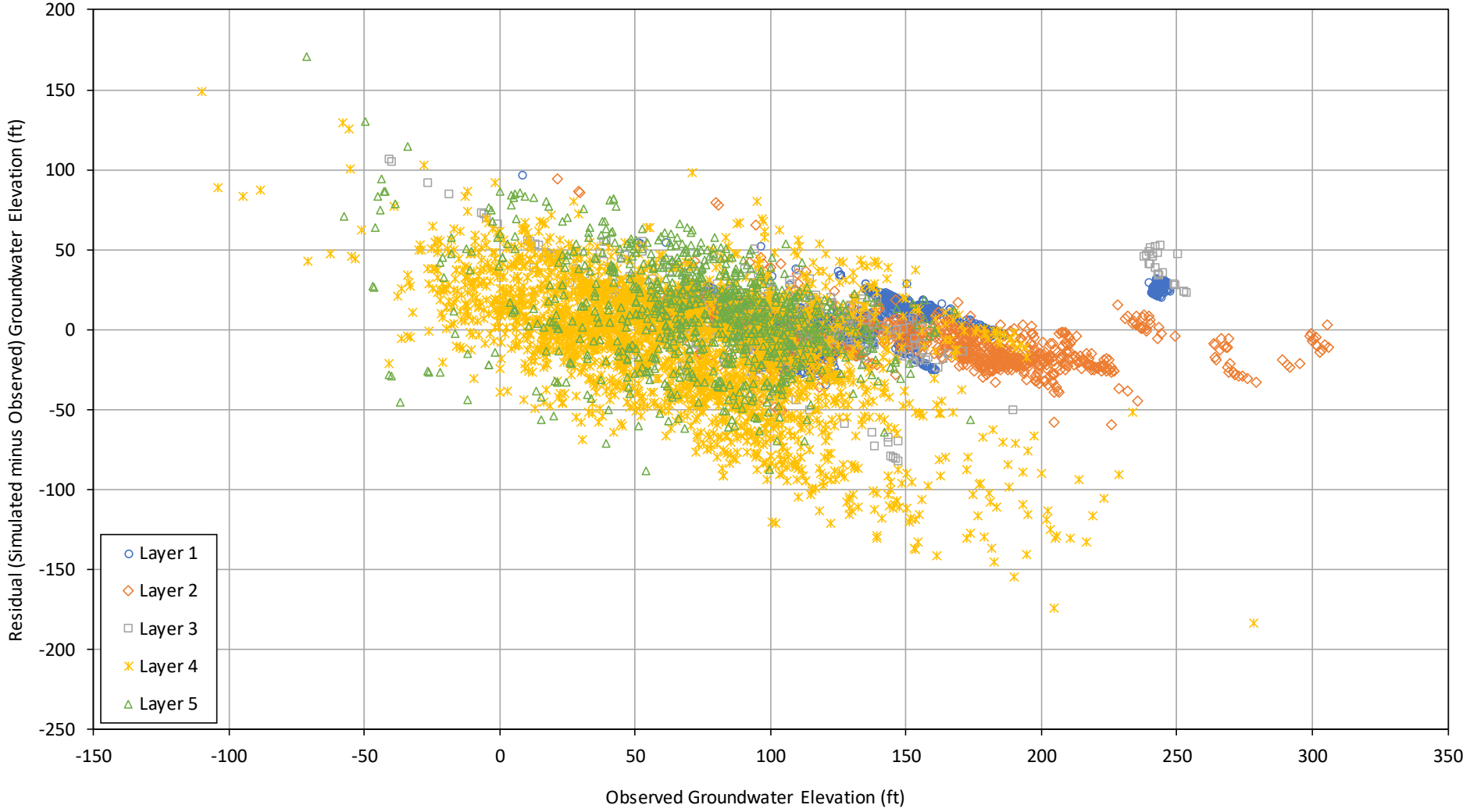


X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 4-34 Simulated vs. Observed Groundwater Elevations, By Layer.mxd

Simulated vs. Observed Groundwater Elevations, By Layer

Figure 4-34

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

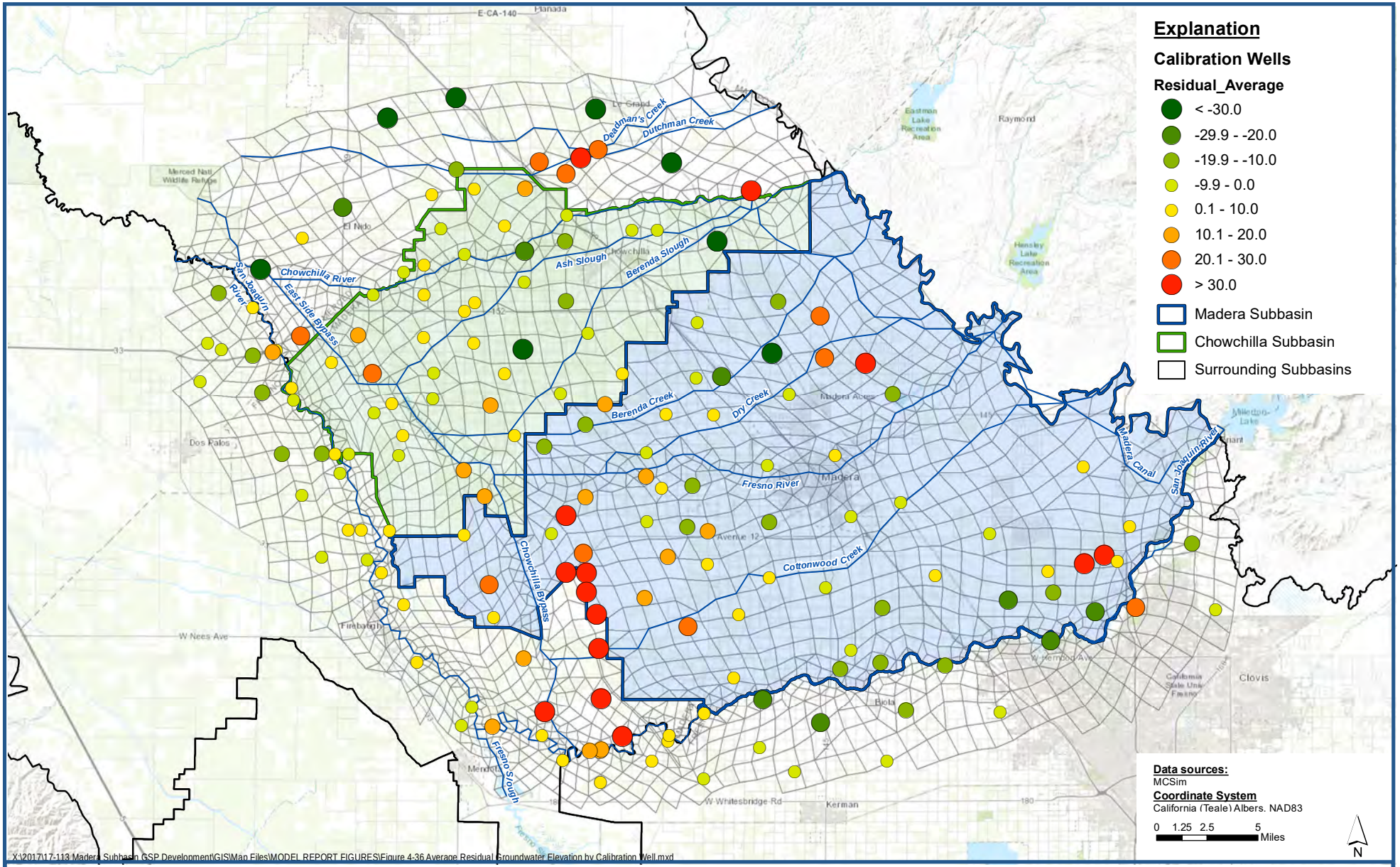


X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Figure 4-35 Residual (Simulated minus Observed) vs. Observed Groundwater Elevations, By Layer.mxd

Residual (Simulated minus Observed) vs. Observed Groundwater Elevations, By Layer

Figure 4-35

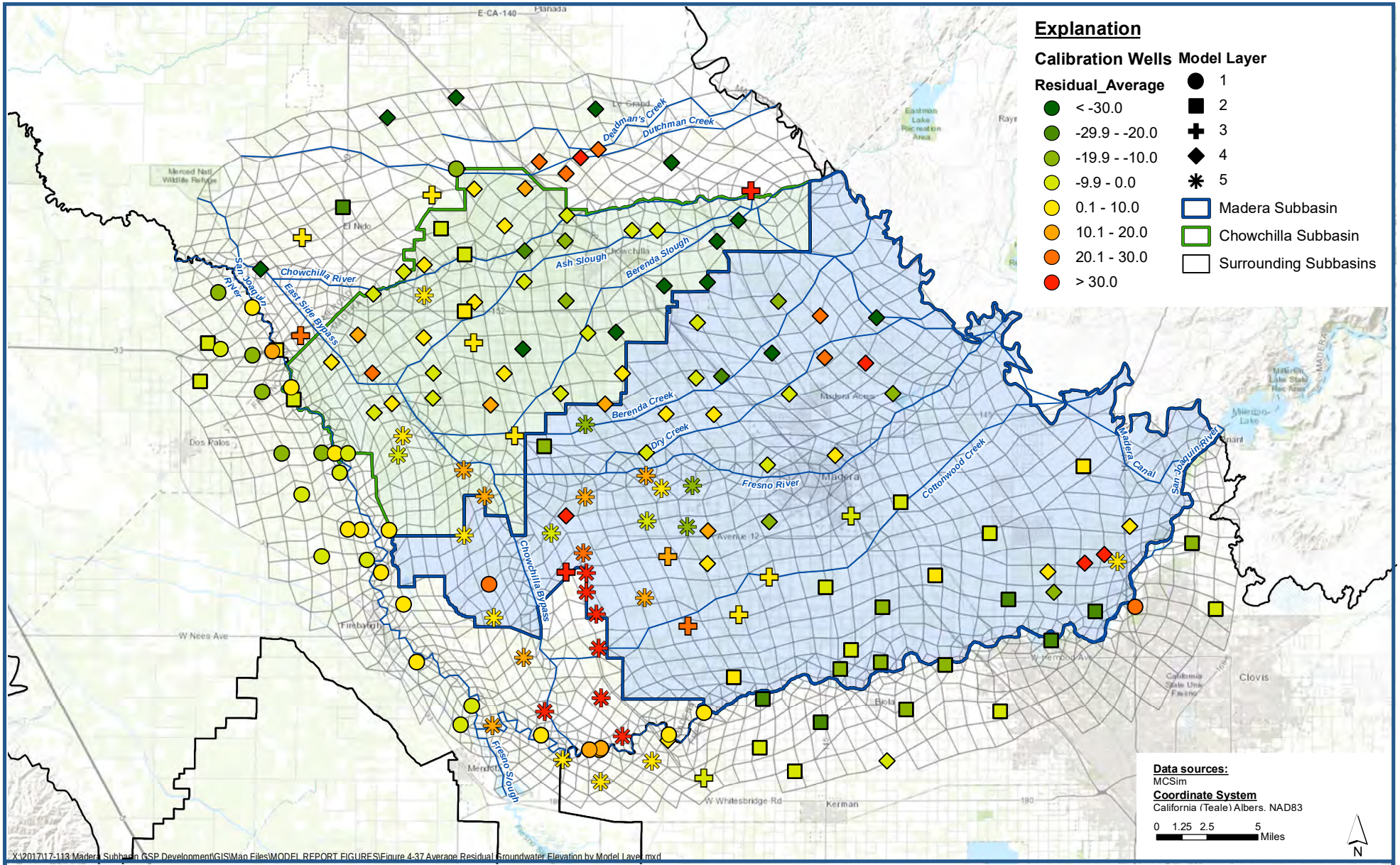
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Average Residual Groundwater Elevation by Calibration Well

Figure 4-36

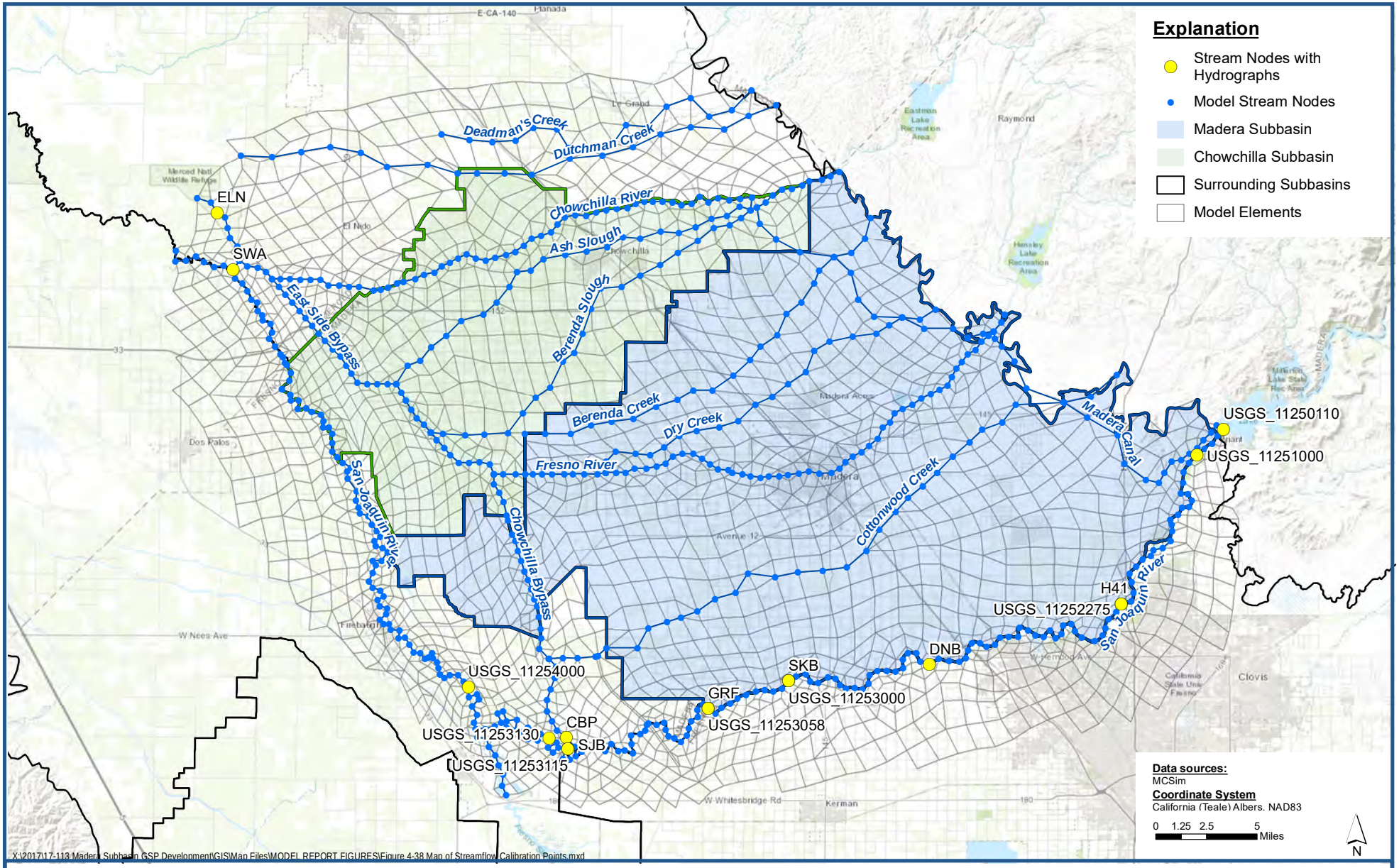
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



Average Residual Groundwater Elevation by Model Layer

Figure 4-37

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



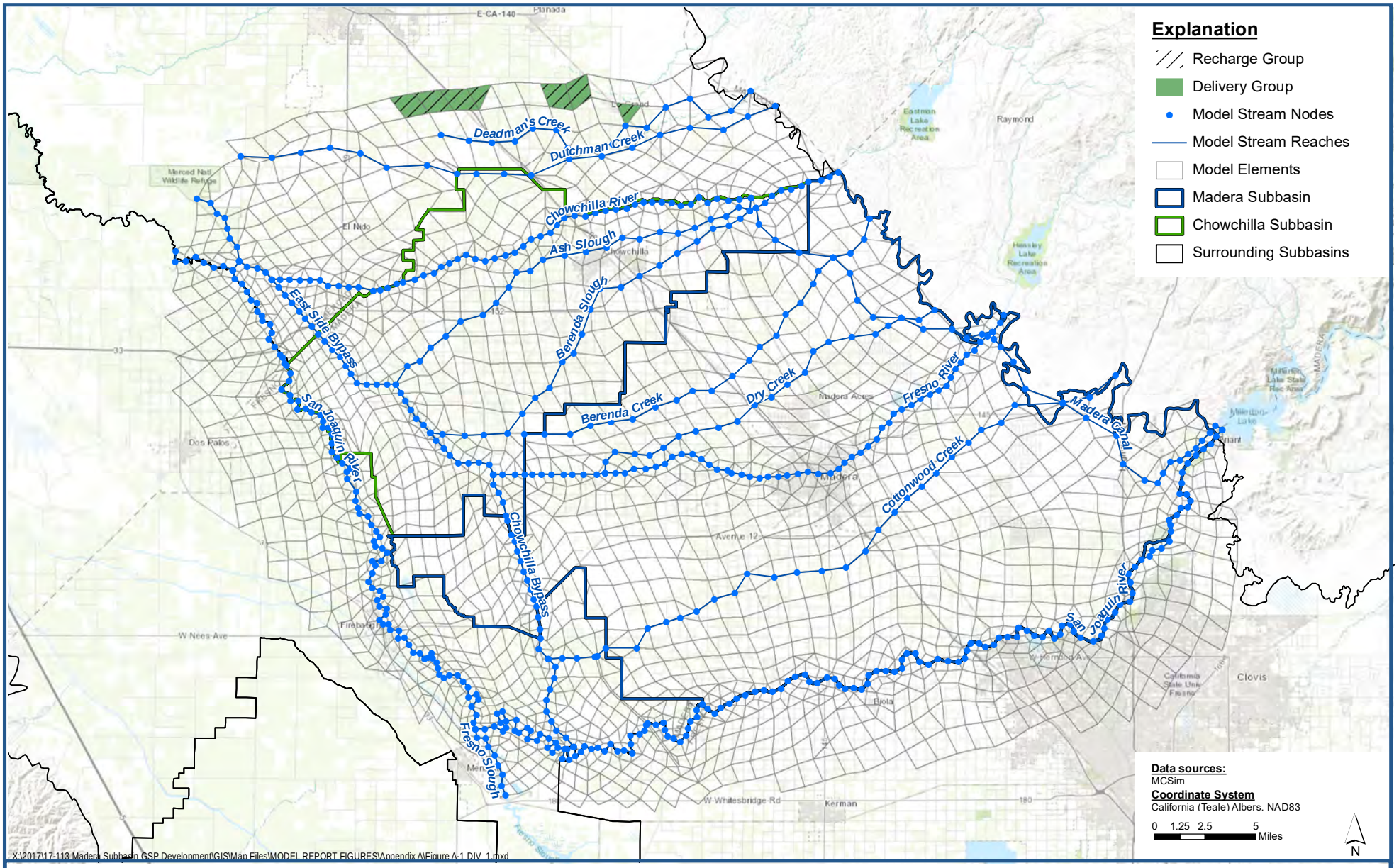
Map of Streamflow Calibration Points

Figure 4-38

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

APPENDIX A

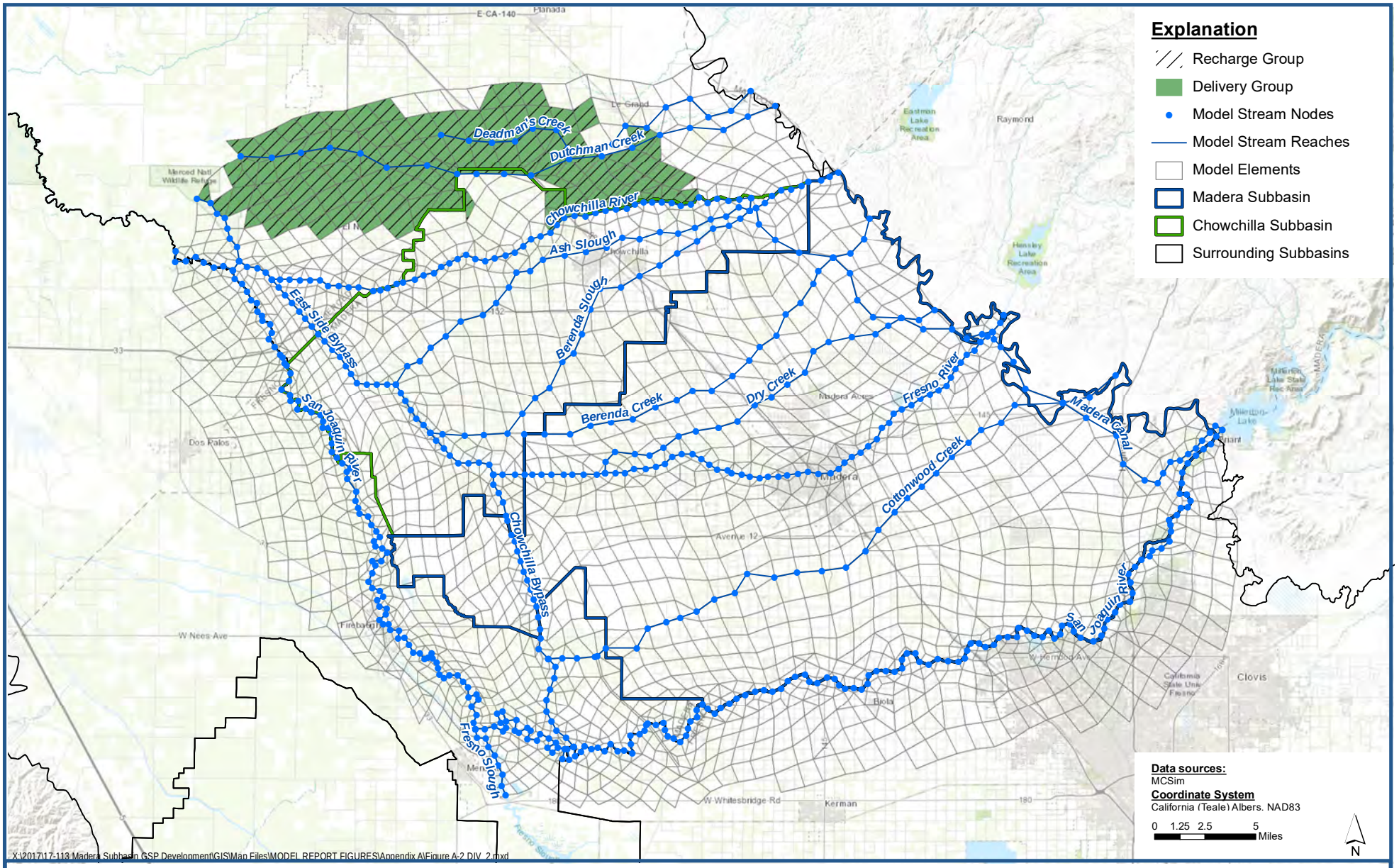
Delivery Locations for Surface Water Diversions and Project Diversions



DIV_1 - Merced River to Merced ID
Historical Surface Water Diversions

Figure A-1

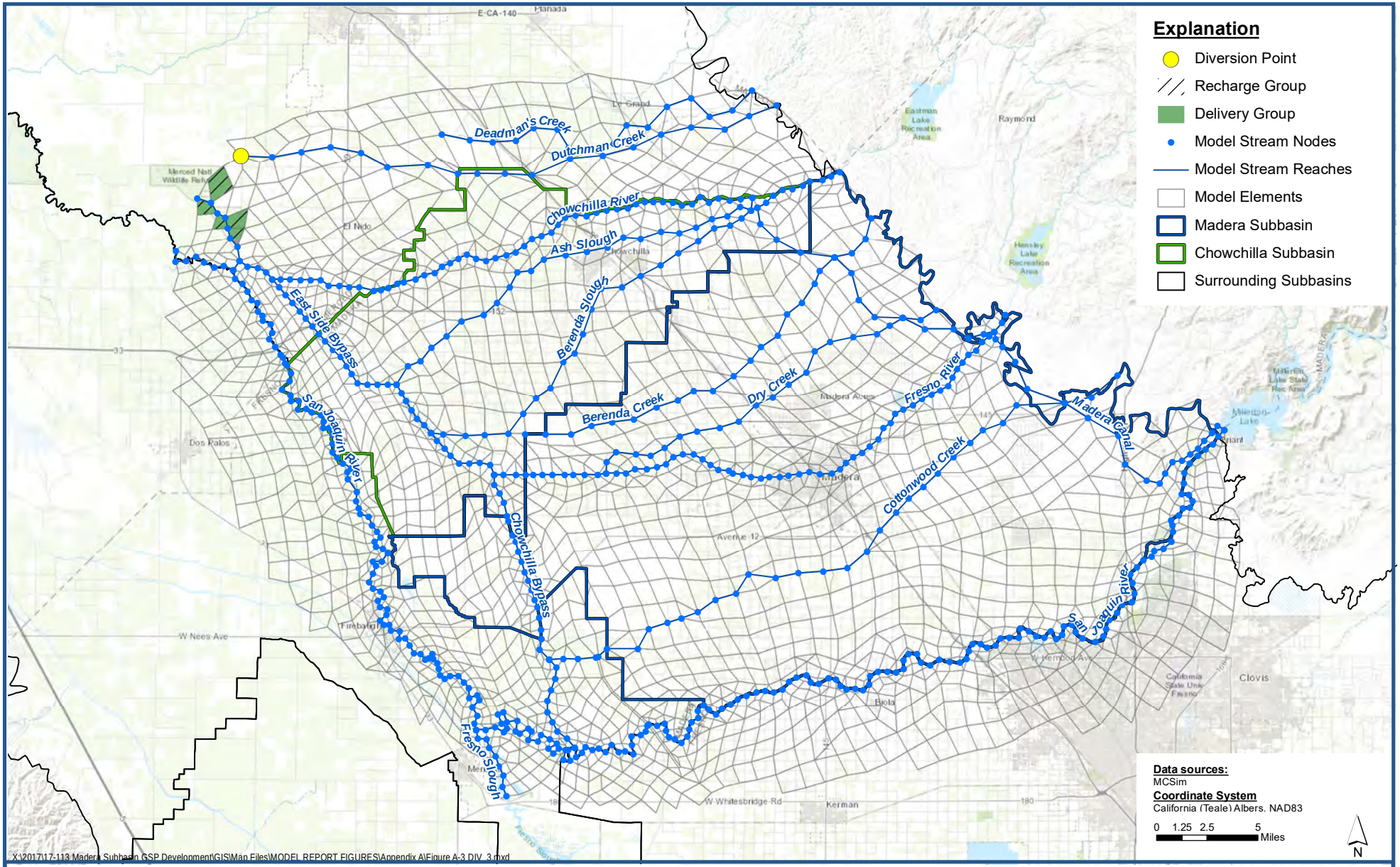
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_2 - Merced River to Merced ID
Historical Surface Water Diversions

Figure A-2

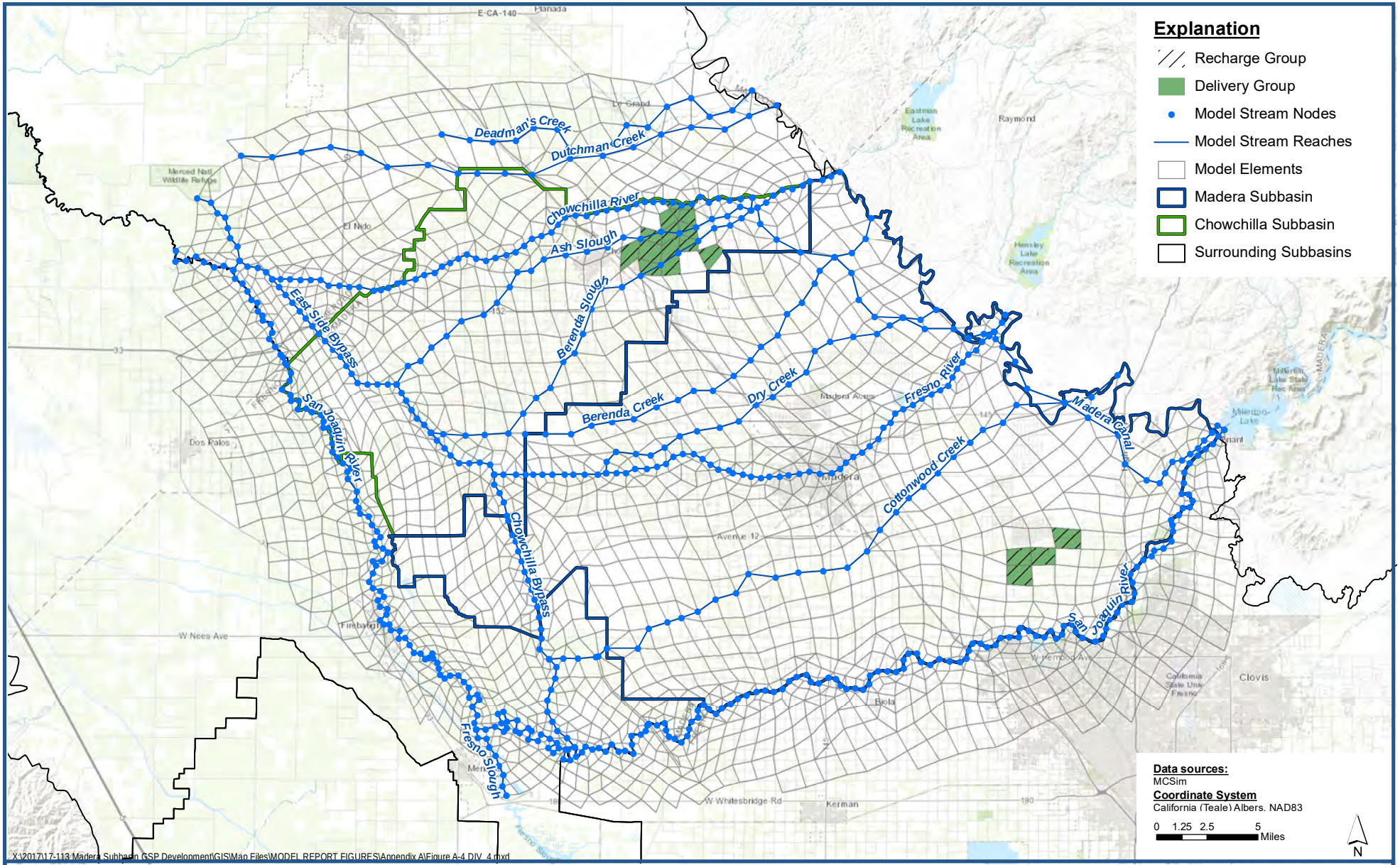
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_3 - Deadman's Creek to Merced NWR
Historical Surface Water Diversions

Figure A-3

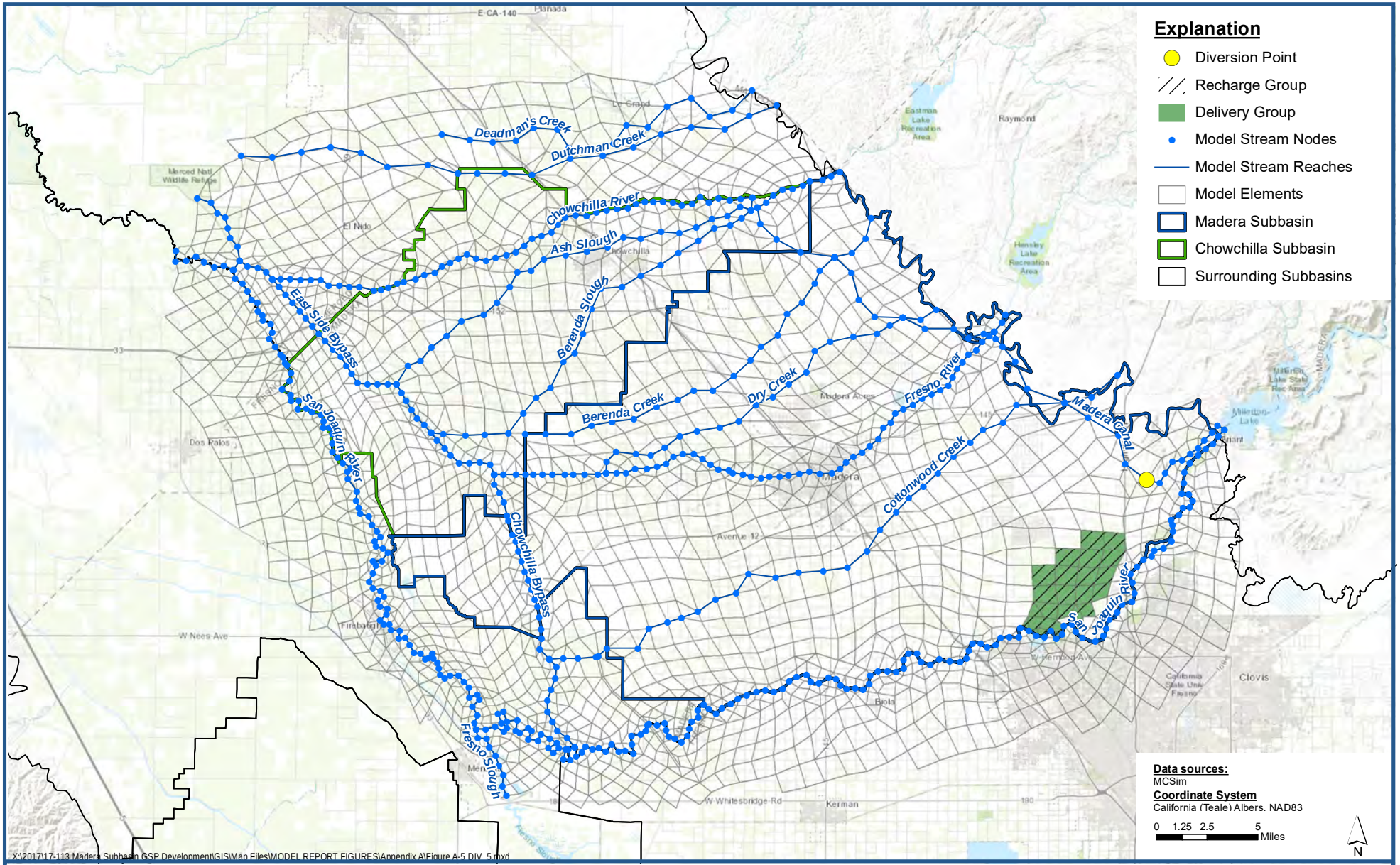
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_4 - Madera Canal to Adobe WD and LaBranza WD
Historical Surface Water Diversions

Figure A-4

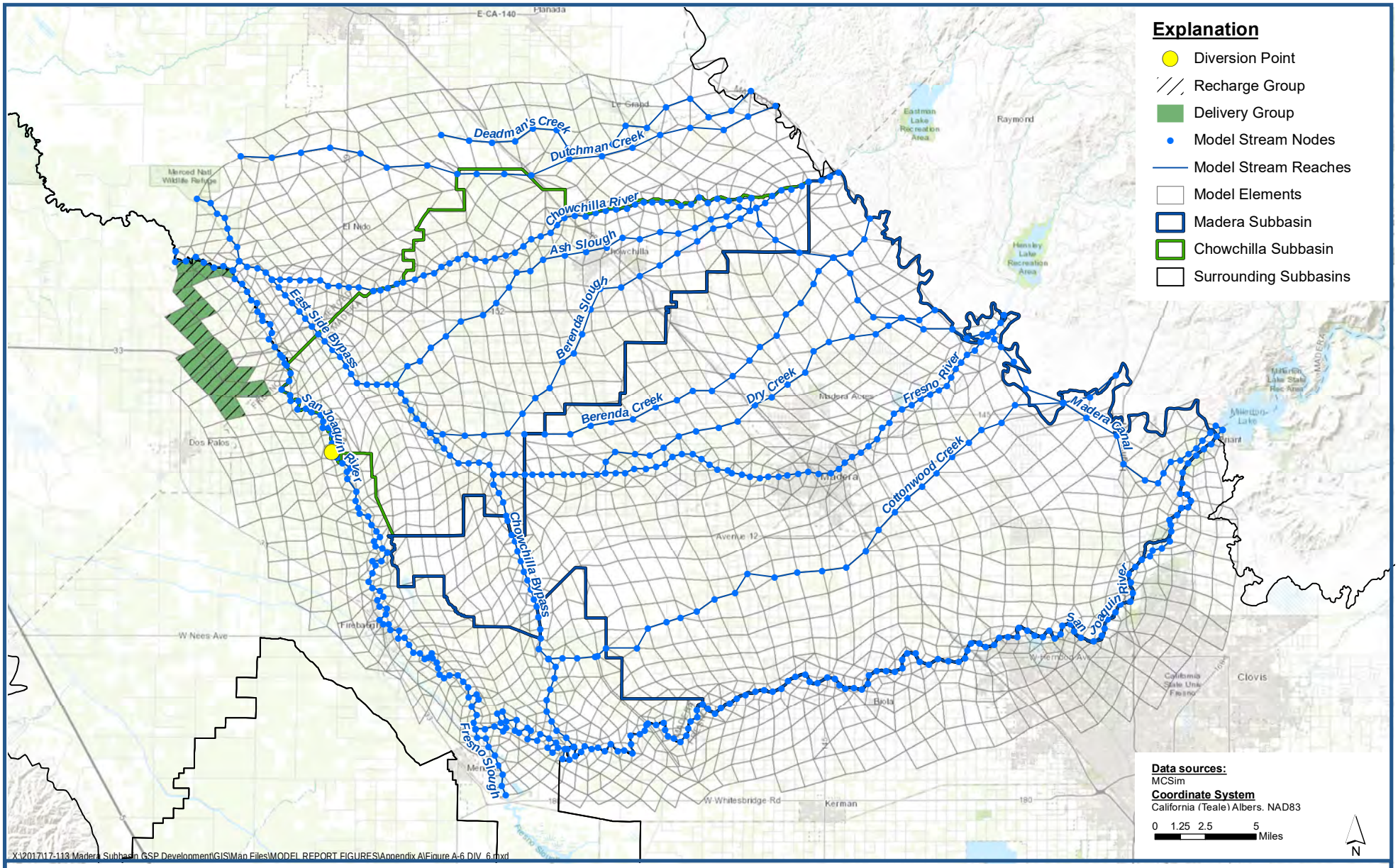
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_5 - Madera Canal (MID) to Root Creek WD
Historical Surface Water Diversions

Figure A-5

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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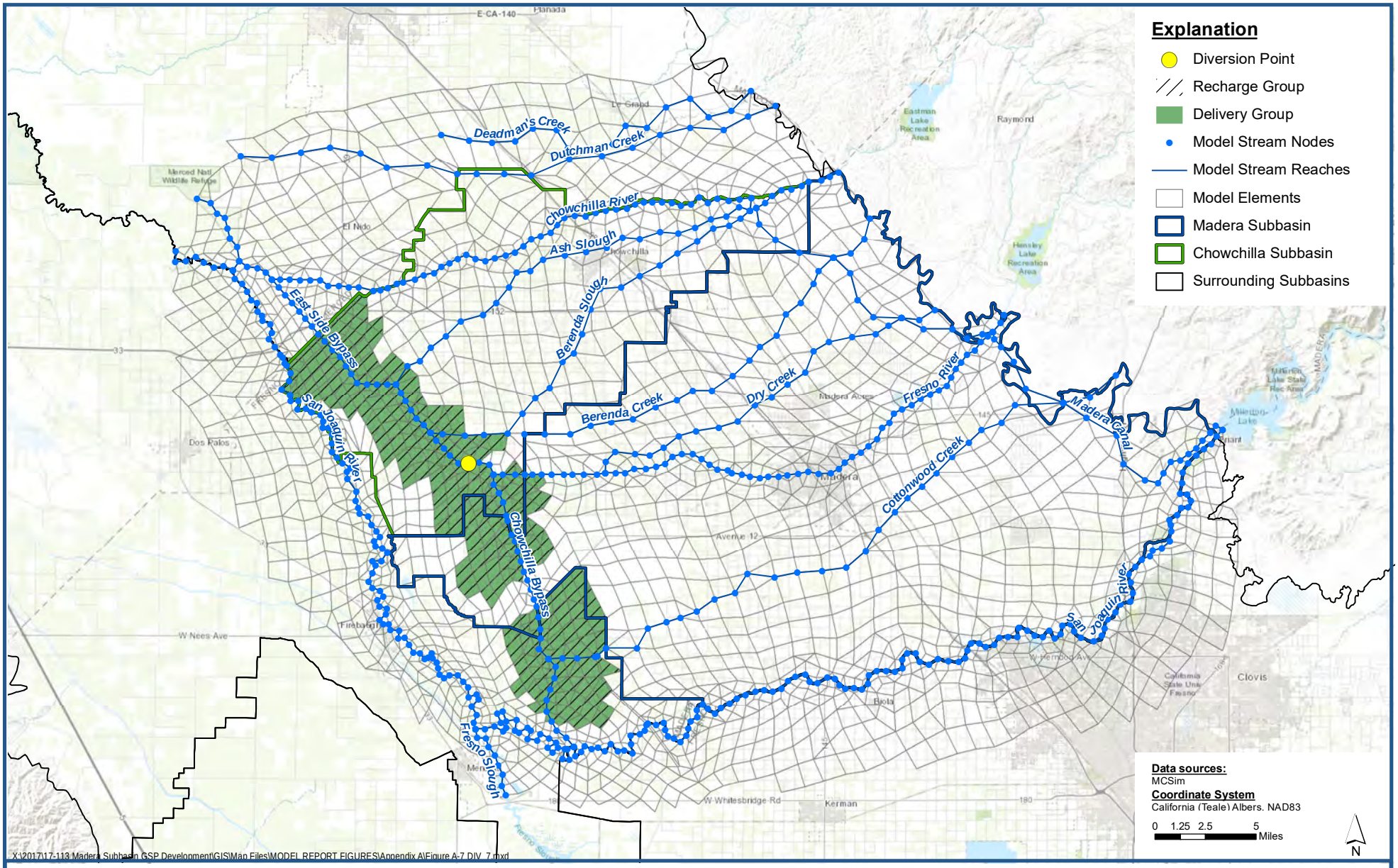
DIV_6 - Arroyo Canal to San Luis Canal Co
Historical Surface Water Diversions

Figure A-6

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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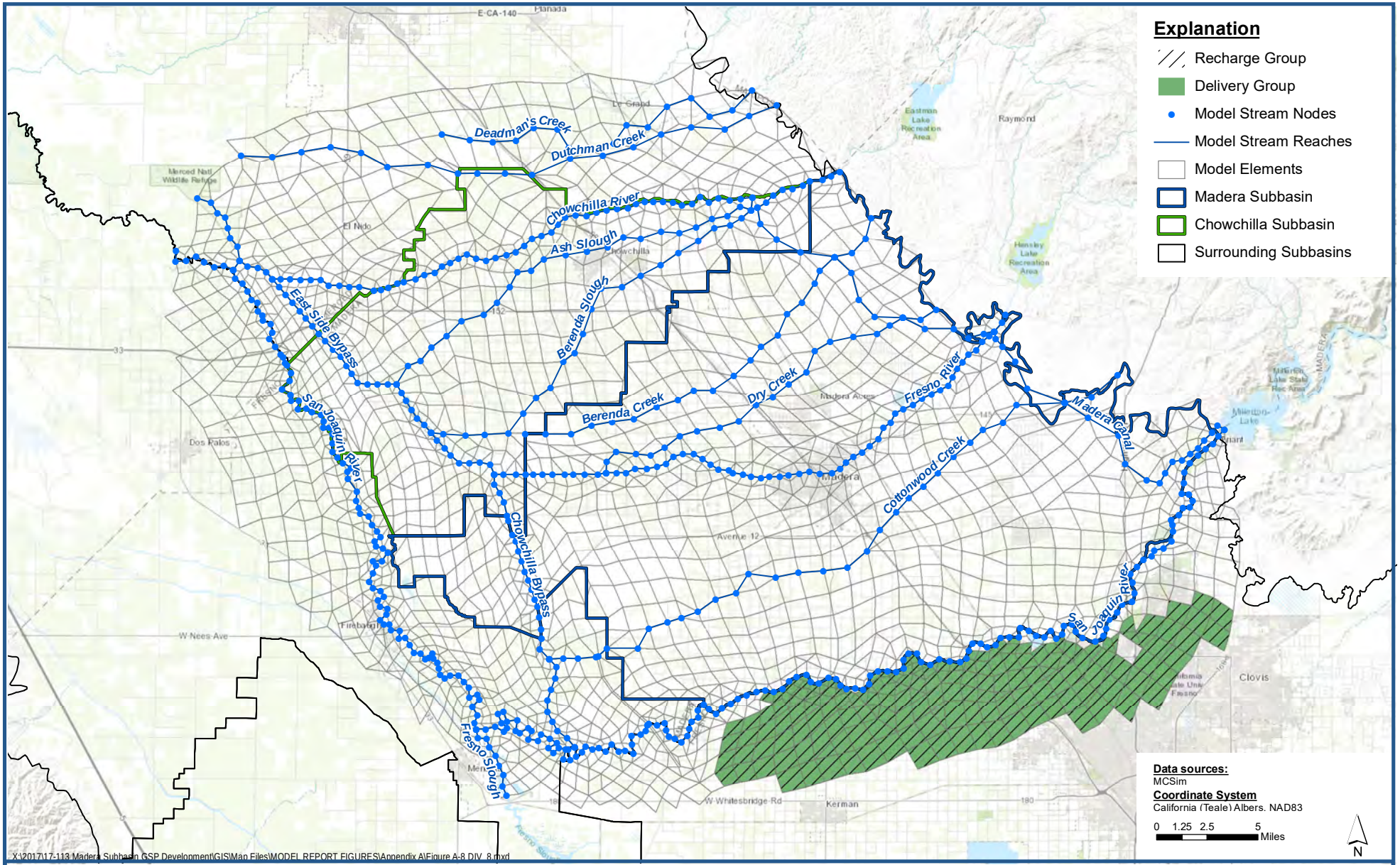
DIV_7 - Eastside Bypass to non-district Ag.
Historical Surface Water Diversions

Figure A-7

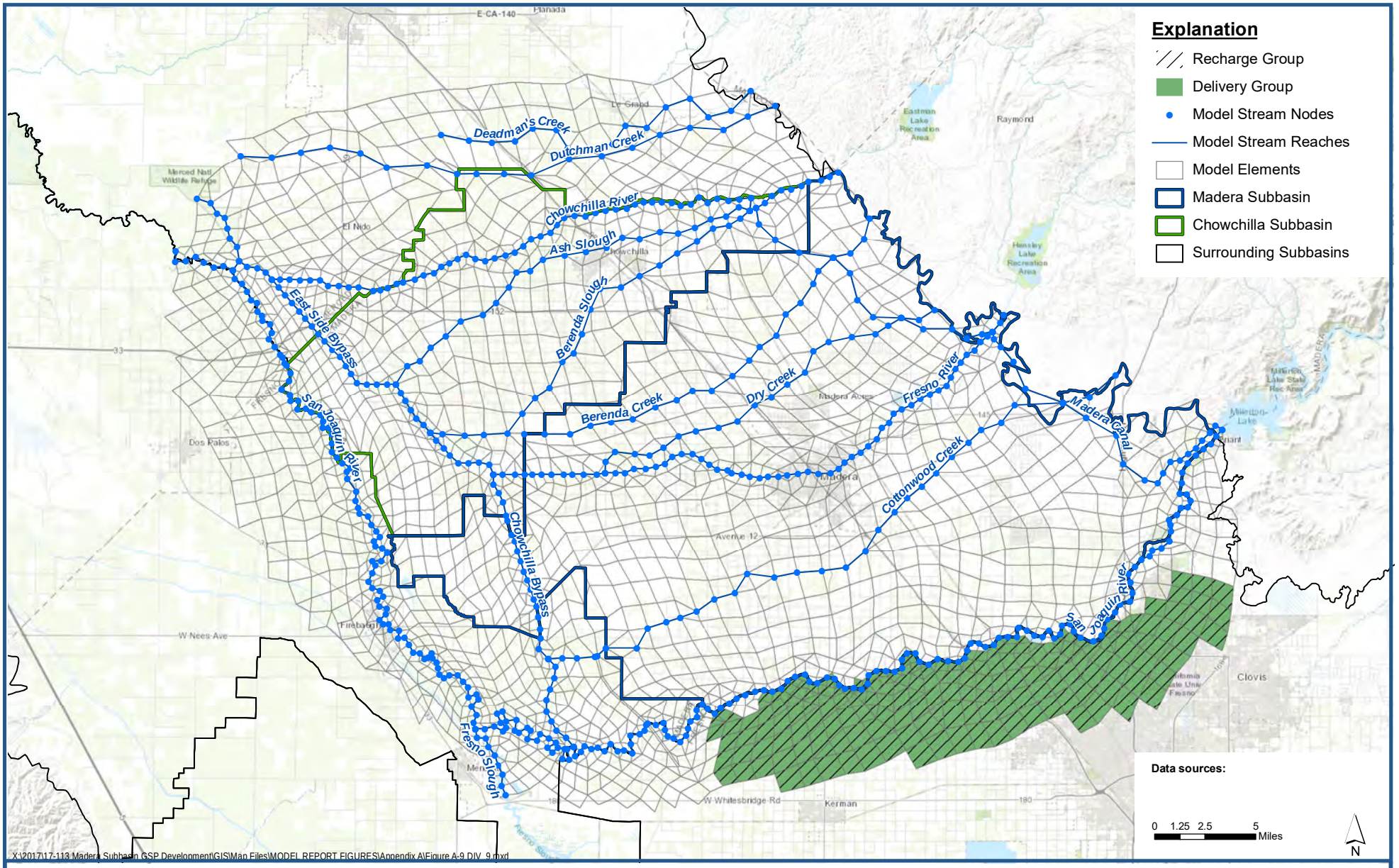
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_8 - Kings River to Fresno ID for Ag.
Historical Surface Water Diversions

Figure A-8

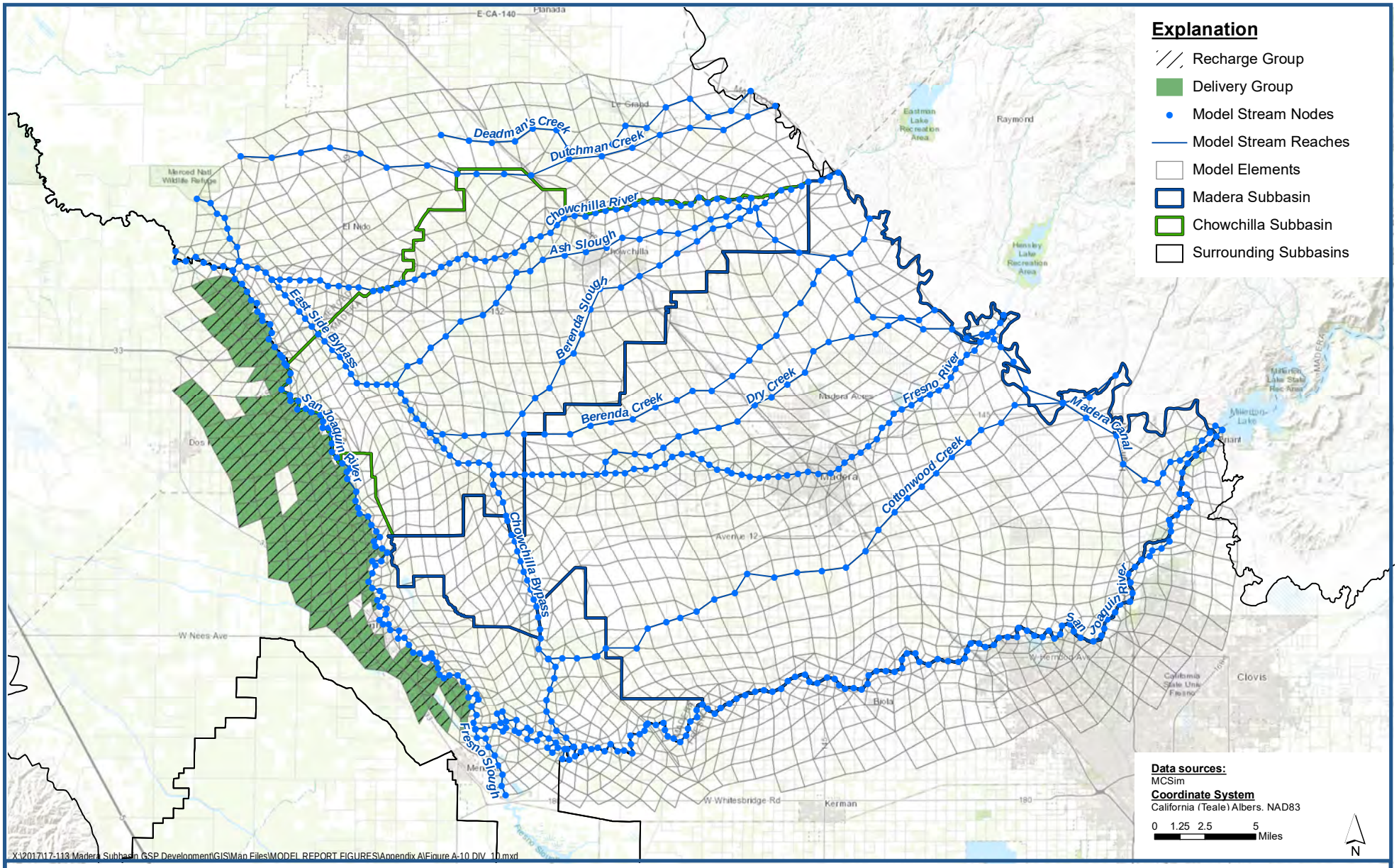
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_9 - Kings River to Fresno ID for Spreading Historical Surface Water Diversions

Figure A-9

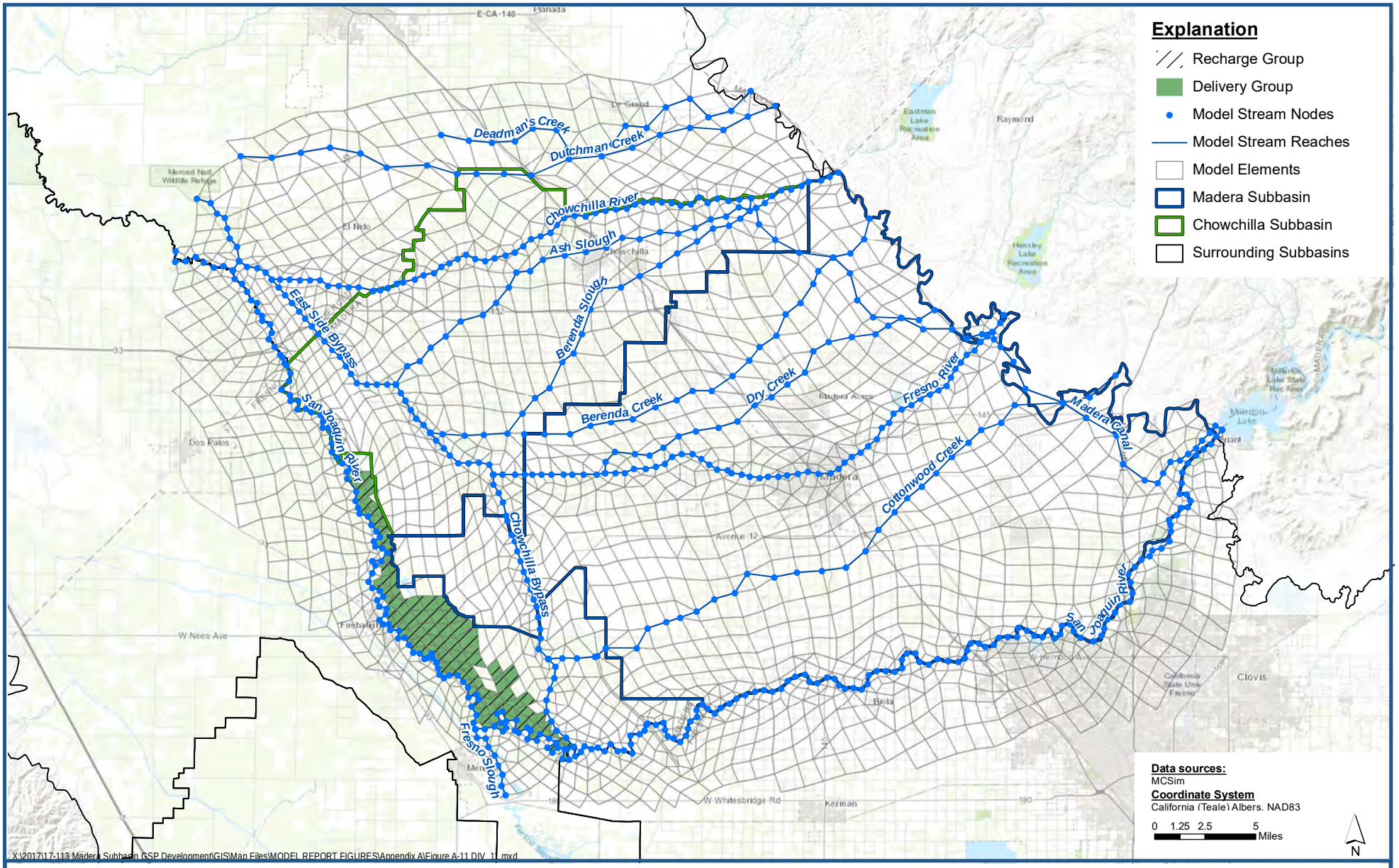
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_10 - Delta-Mendota Canal to Firebaugh Canal WD for Ag. Historical Surface Water Diversions

Figure A-10

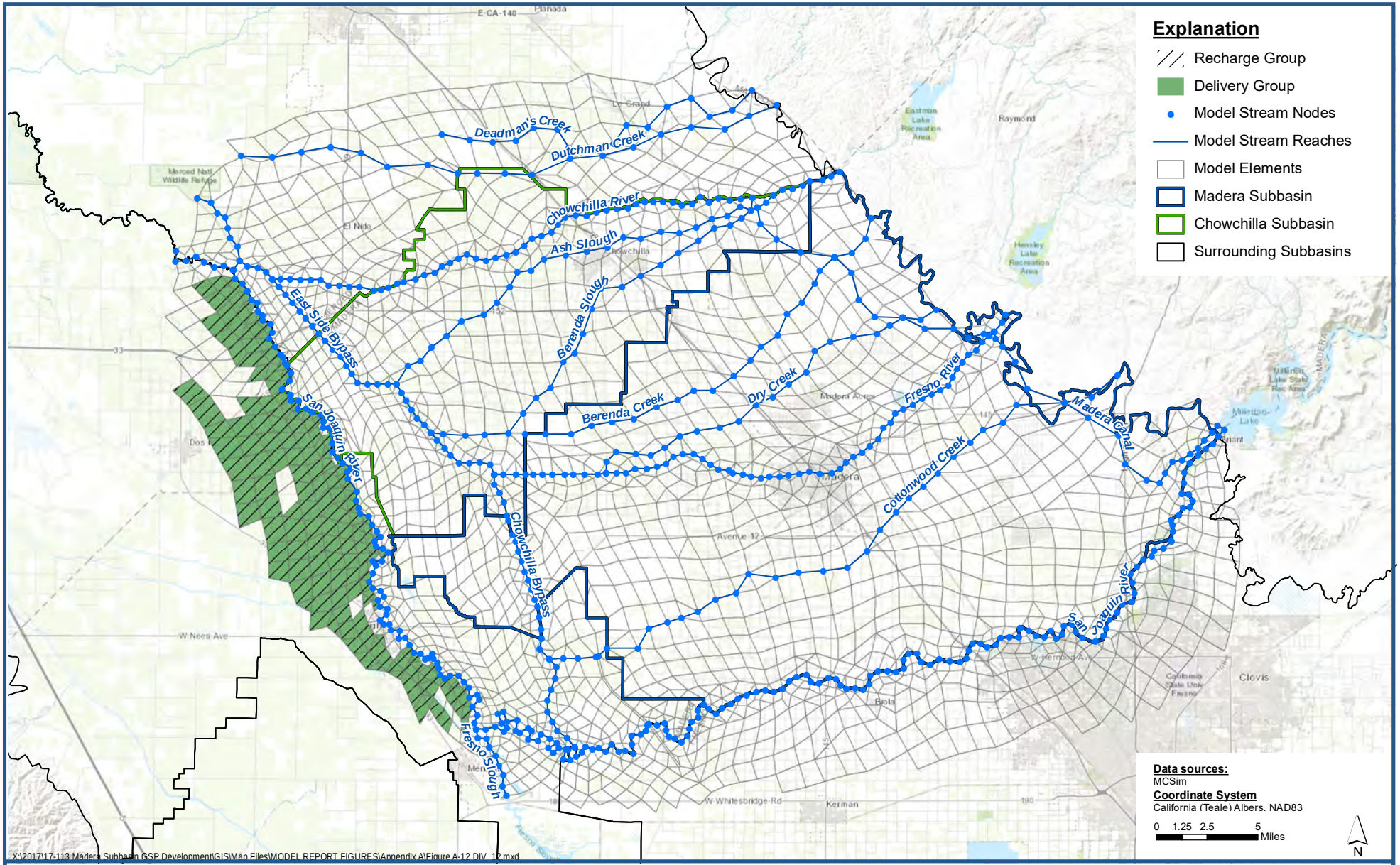
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_11 - DMC to Mendota Pool to Columbia Canal Co for Ag. Historical Surface Water Diversions

Figure A-11

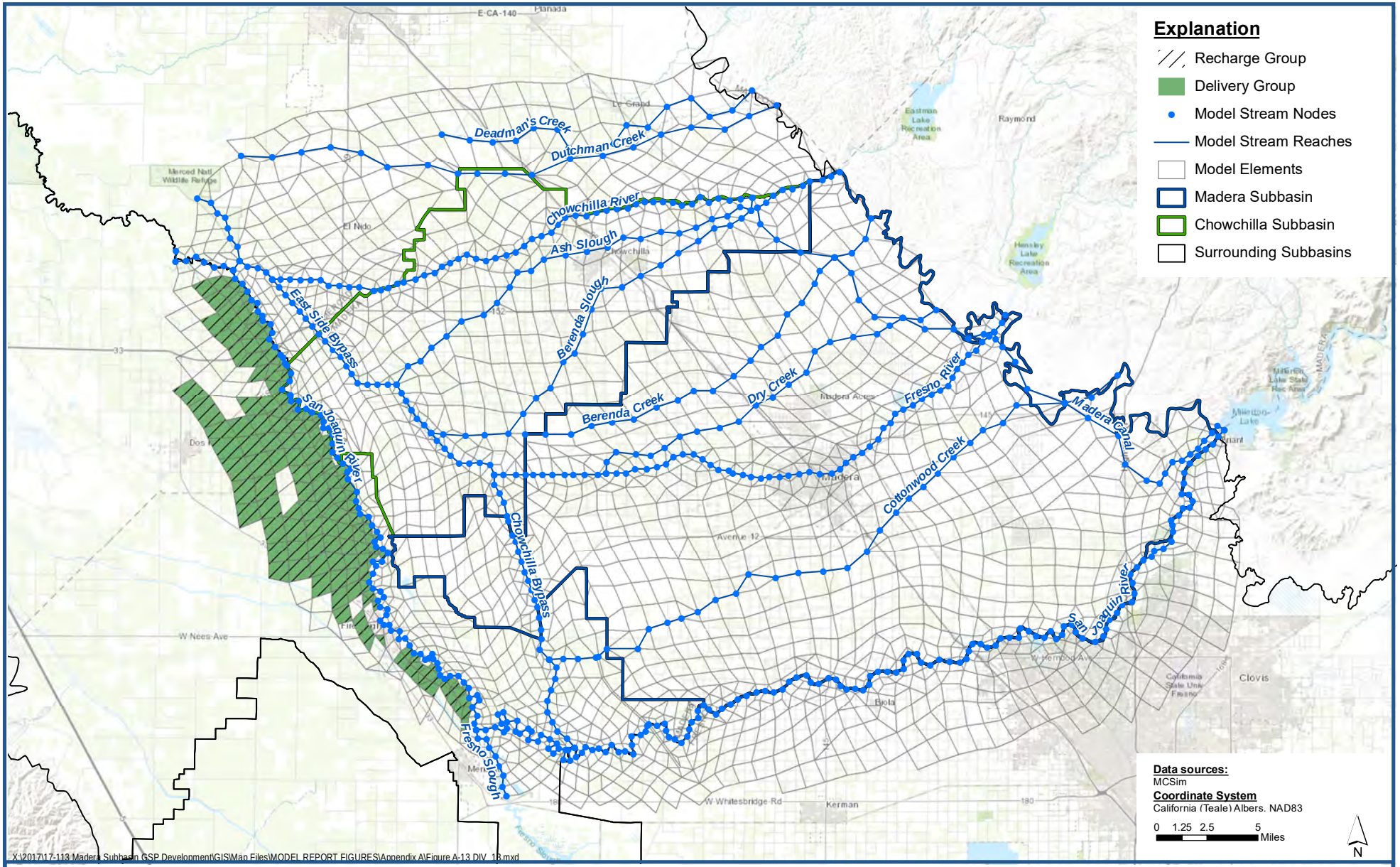
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_12 - DMC to Mendota Pool to Firebaugh Canal Co Historical Surface Water Diversions

Figure A-12

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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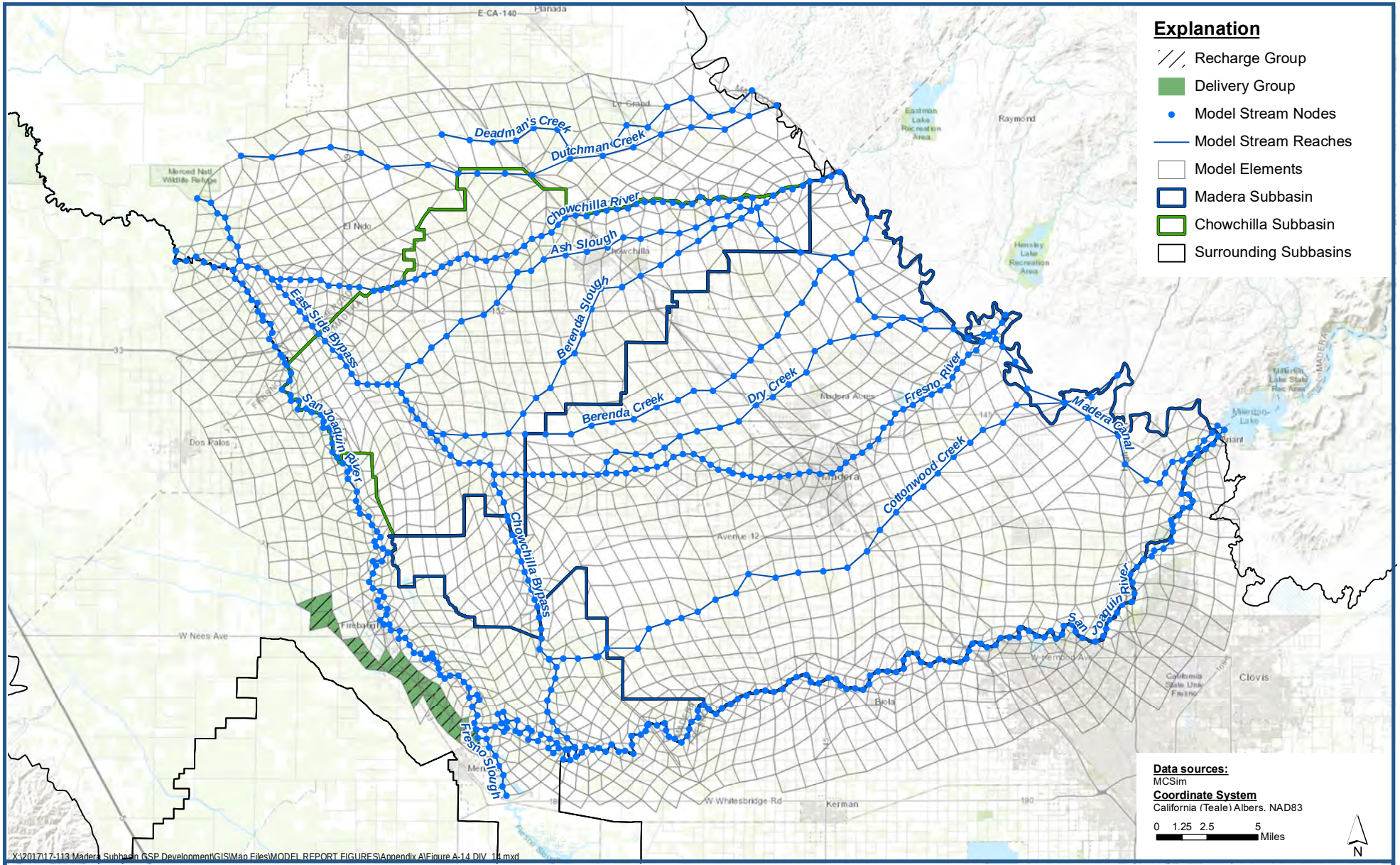
DIV_13 - DMC to Mendota Pool via Main Canal to CCID for Ag. Historical Surface Water Diversions

Figure A-13

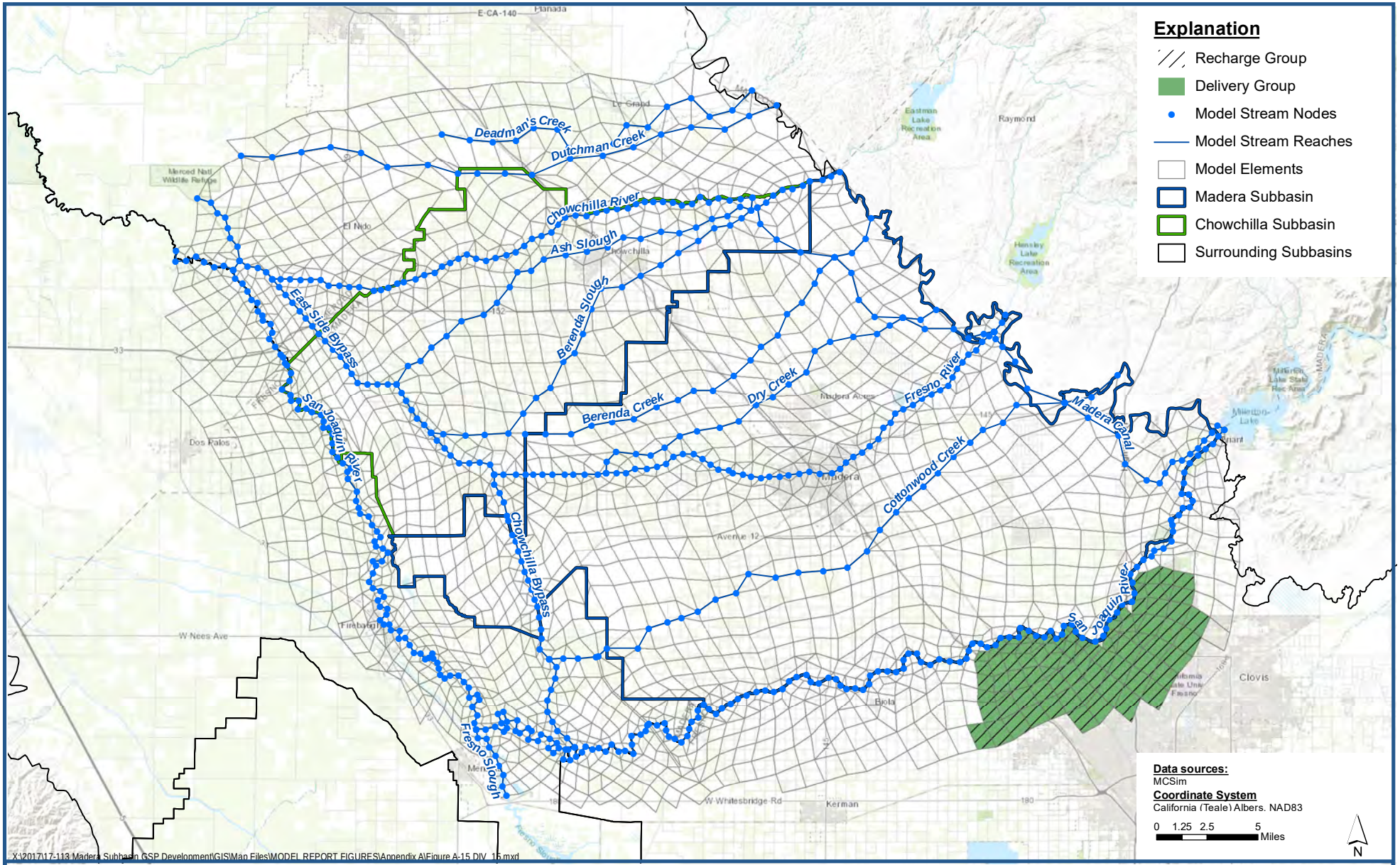
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_14 - Delta Mendota Canal seepage
Historical Surface Water Diversions

Figure A-14

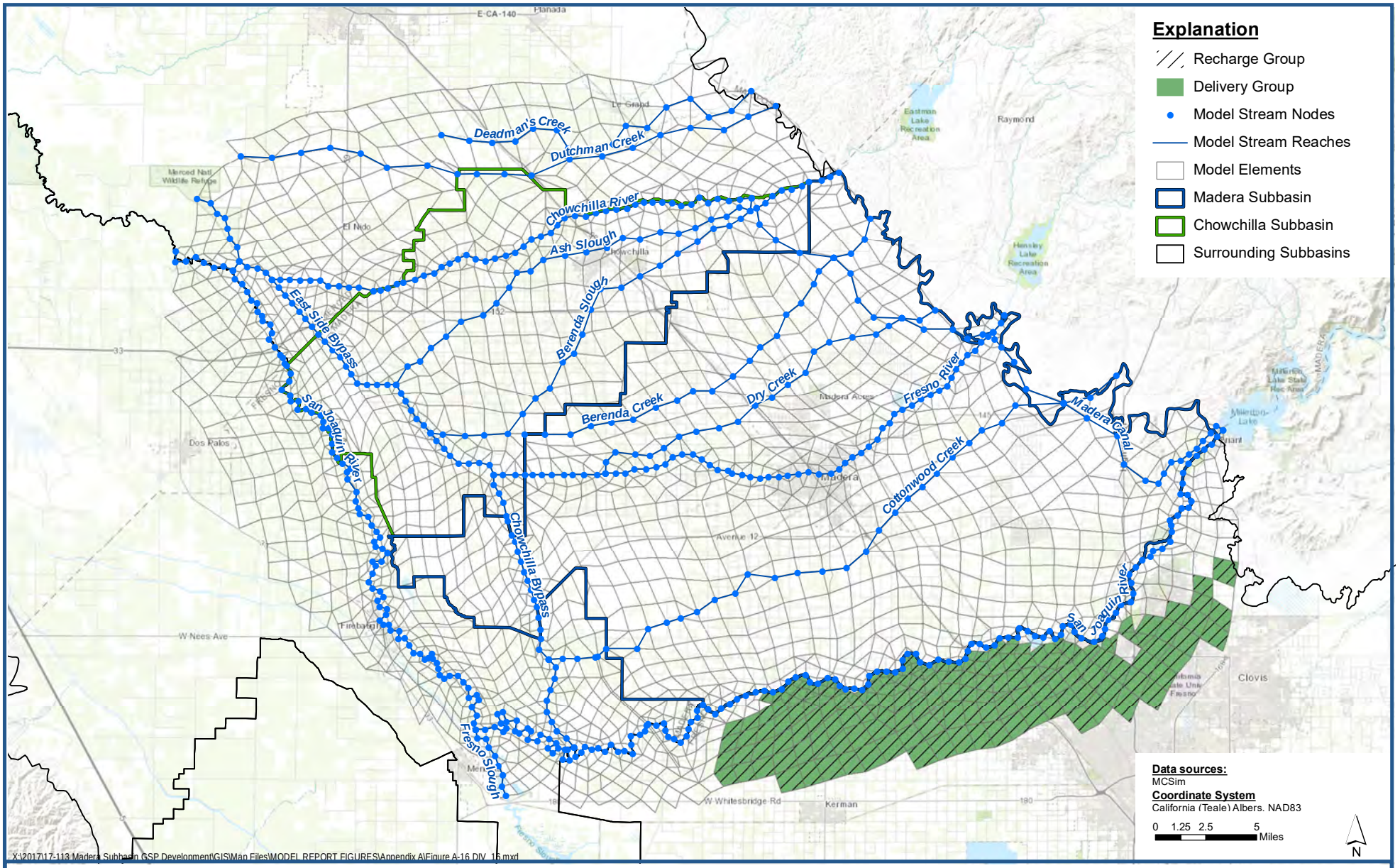
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_15 - California Aqueduct (Mi 238) to Fresno Co.
Historical Surface Water Diversions

Figure A-15

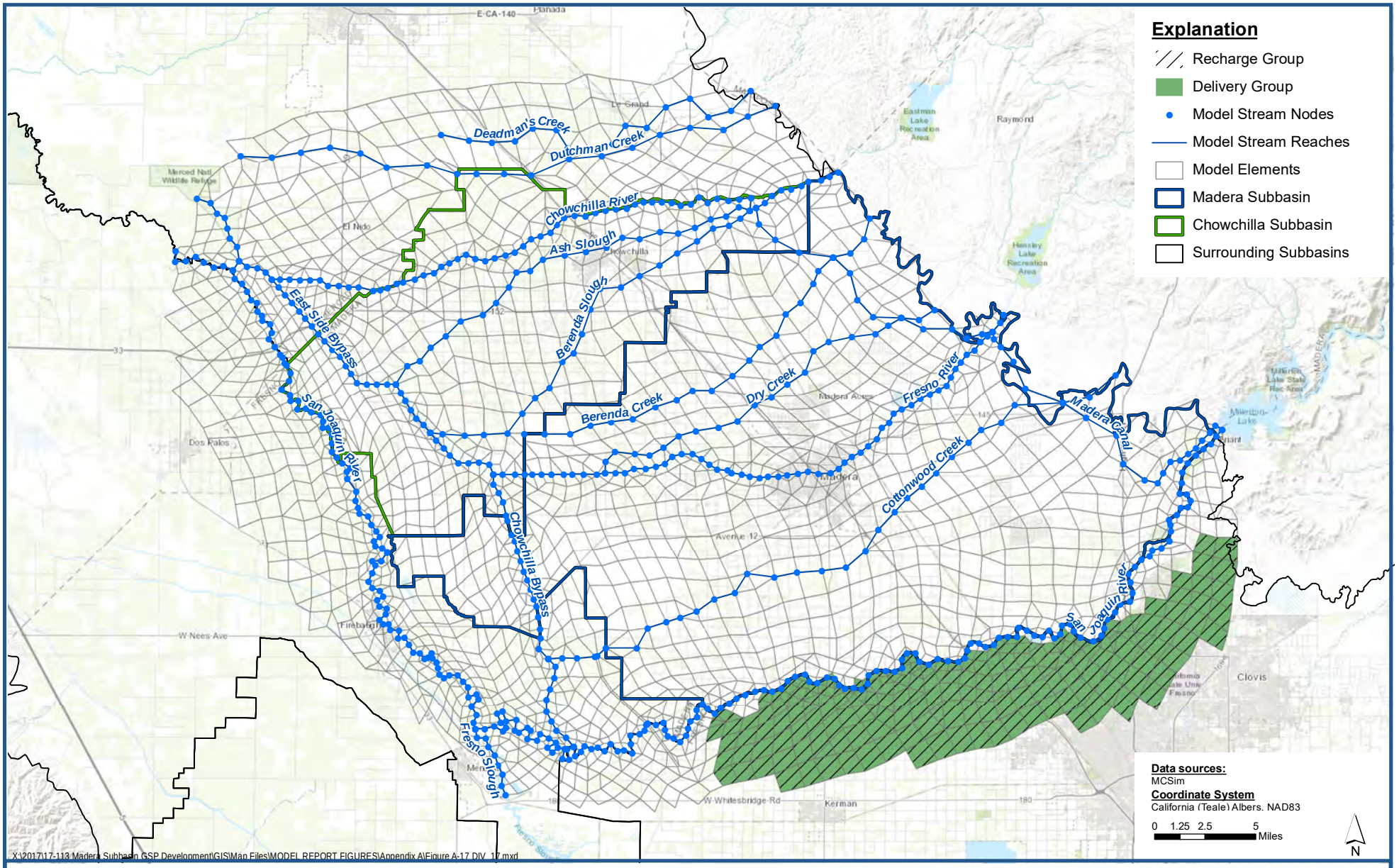
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_16 - Friant-Kern Canal Reach 1 for Ag.
Historical Surface Water Diversions

Figure A-16

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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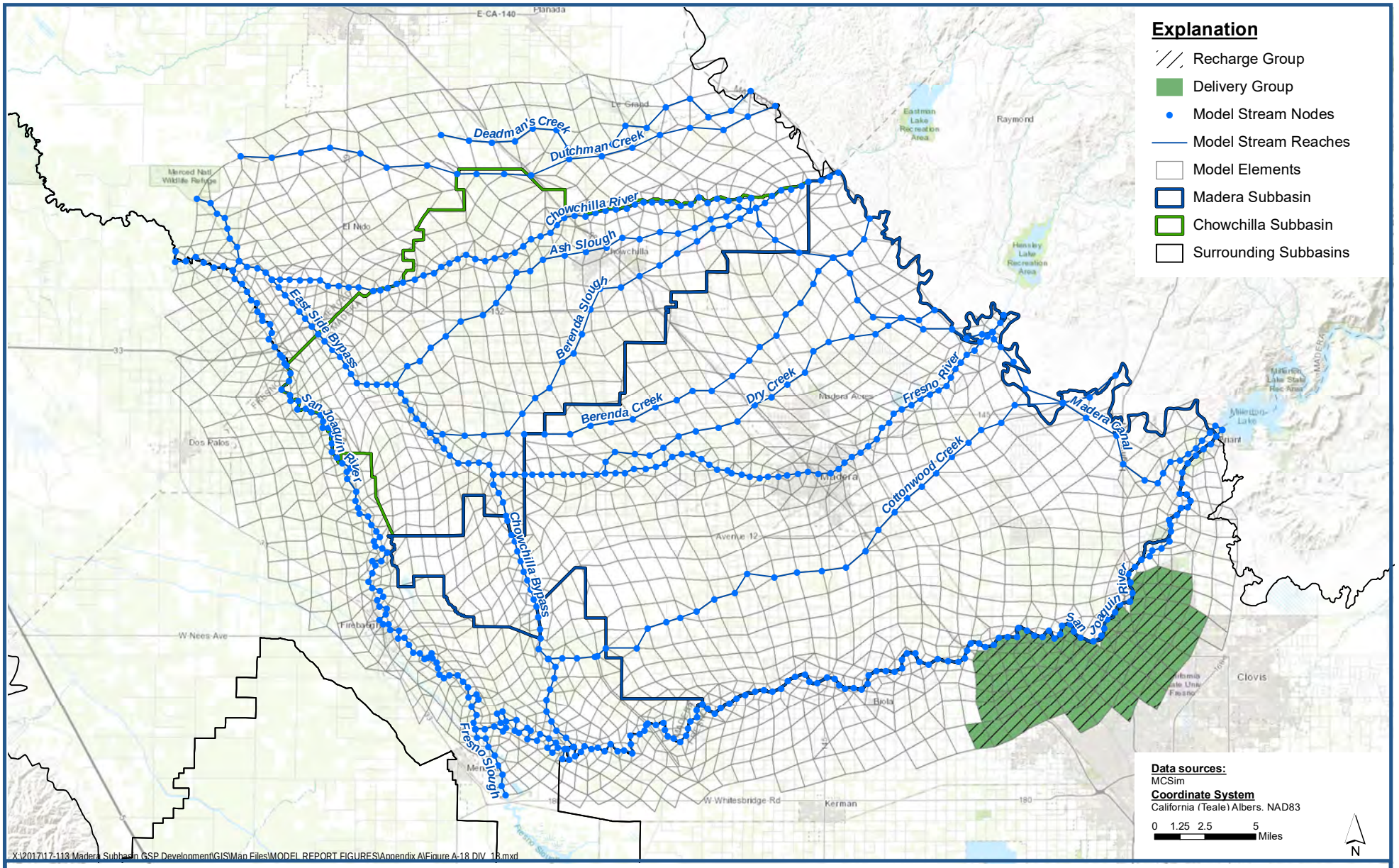
DIV_17 - Friant-Kern Canal Reach 1 for Spreading Historical Surface Water Diversions

Figure A-17

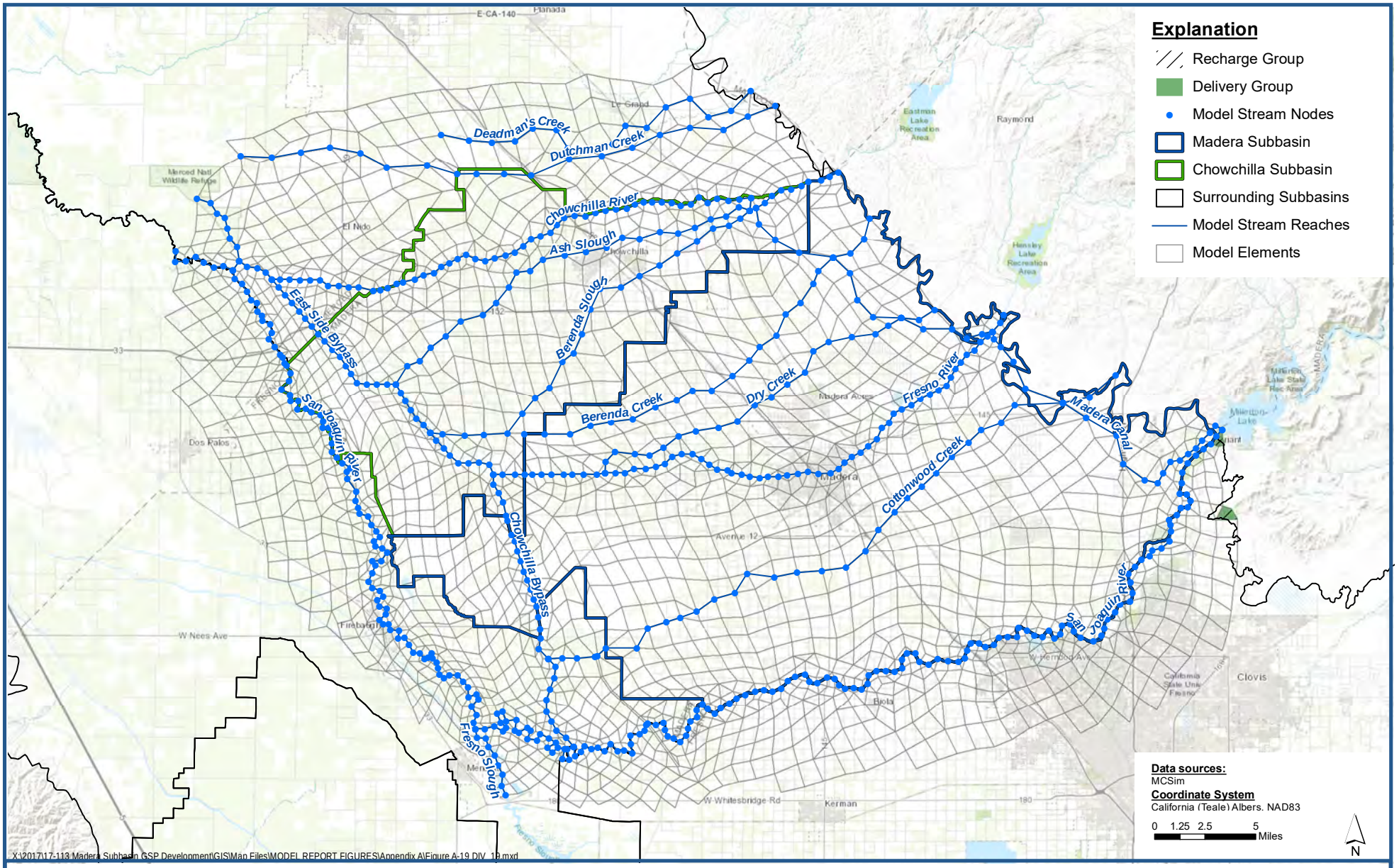
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_18 - Friant-Kern Canal Reach 1 for M&I
Historical Surface Water Diversions

Figure A-18

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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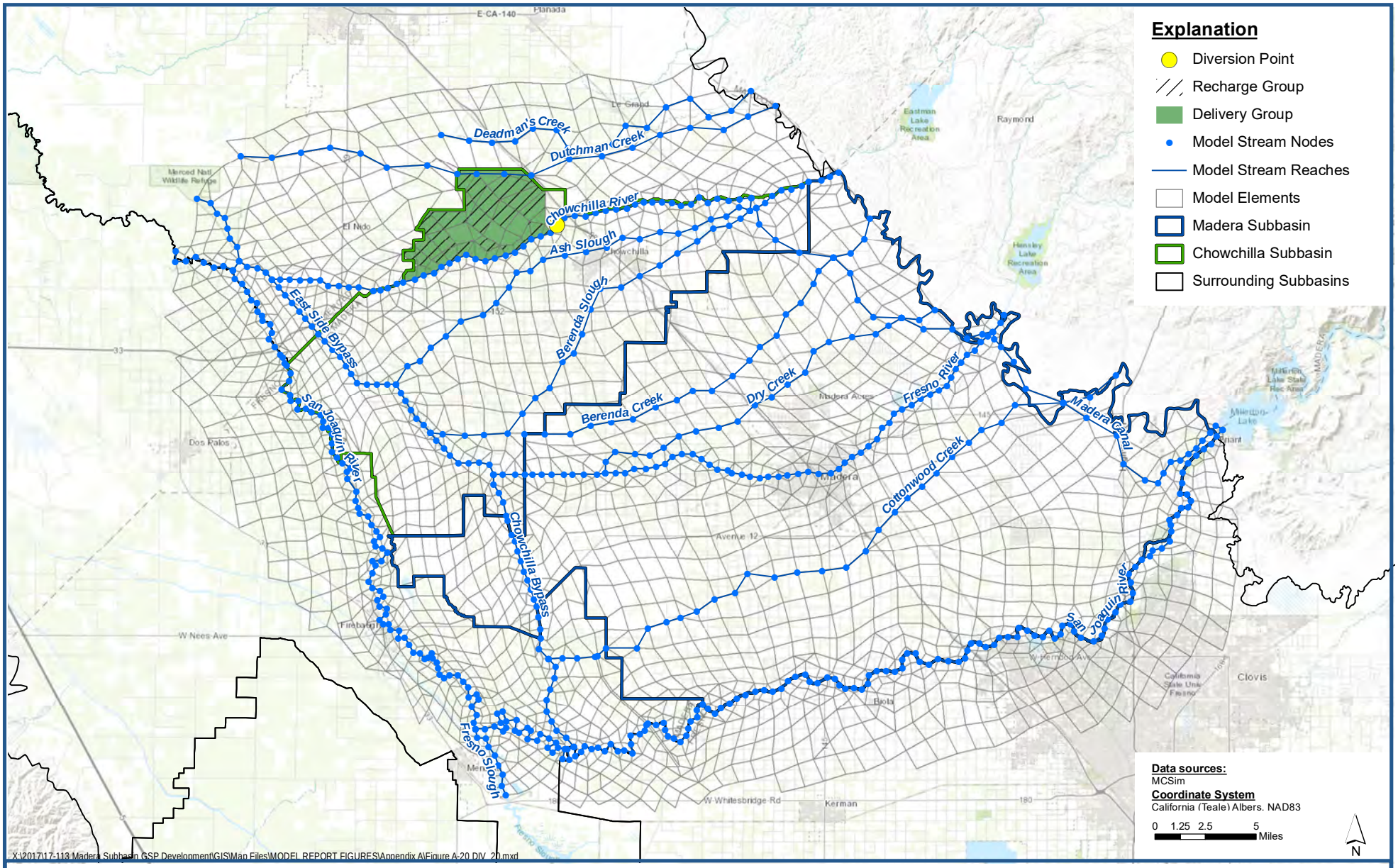
DIV_19 - Friant-Kern Canal Reach 1 Seepage Losses
Historical Surface Water Diversions

Figure A-19

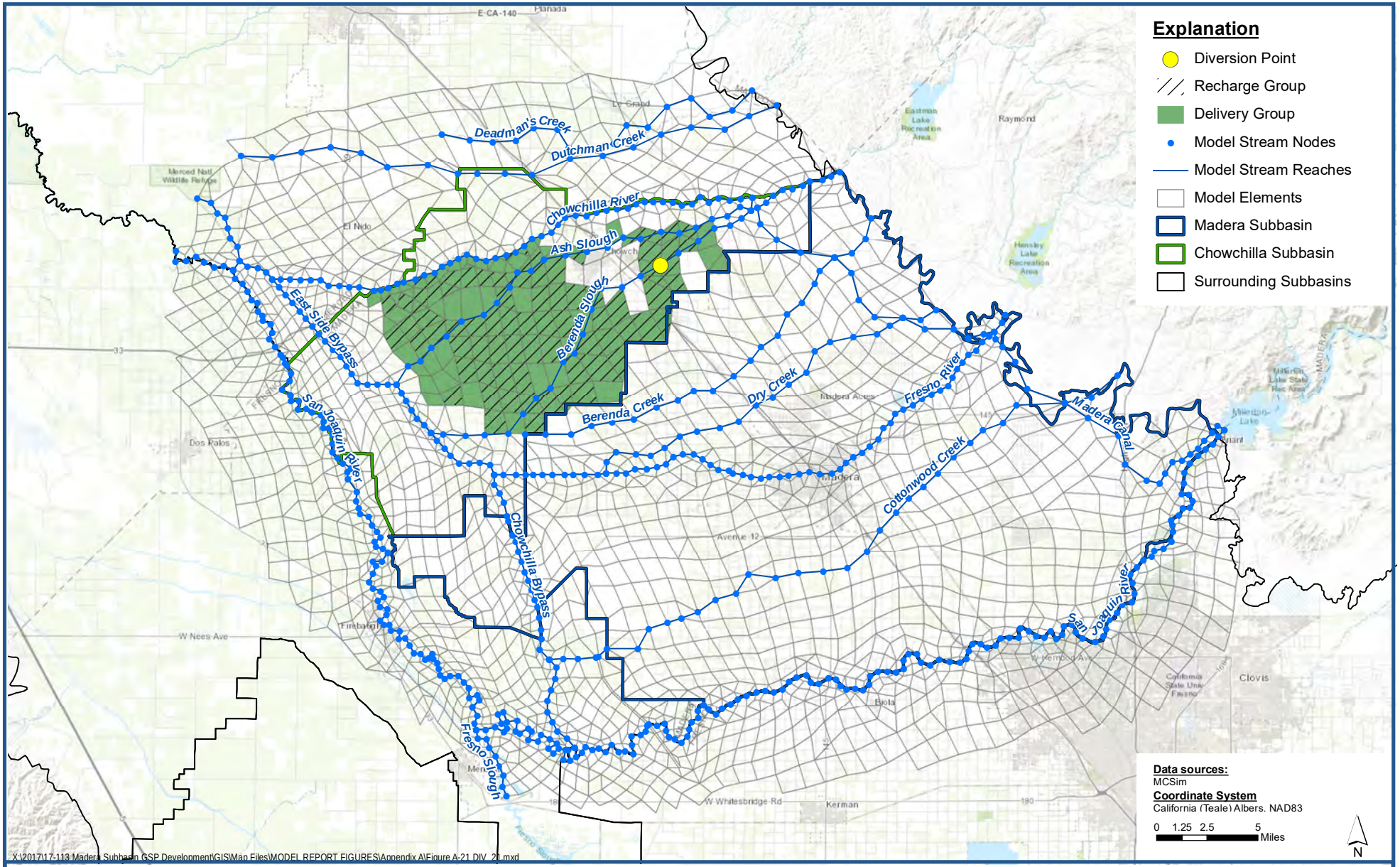
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_20 - SW Diversions to Chowchilla WD for Ag.
Historical Surface Water Diversions

Figure A-20

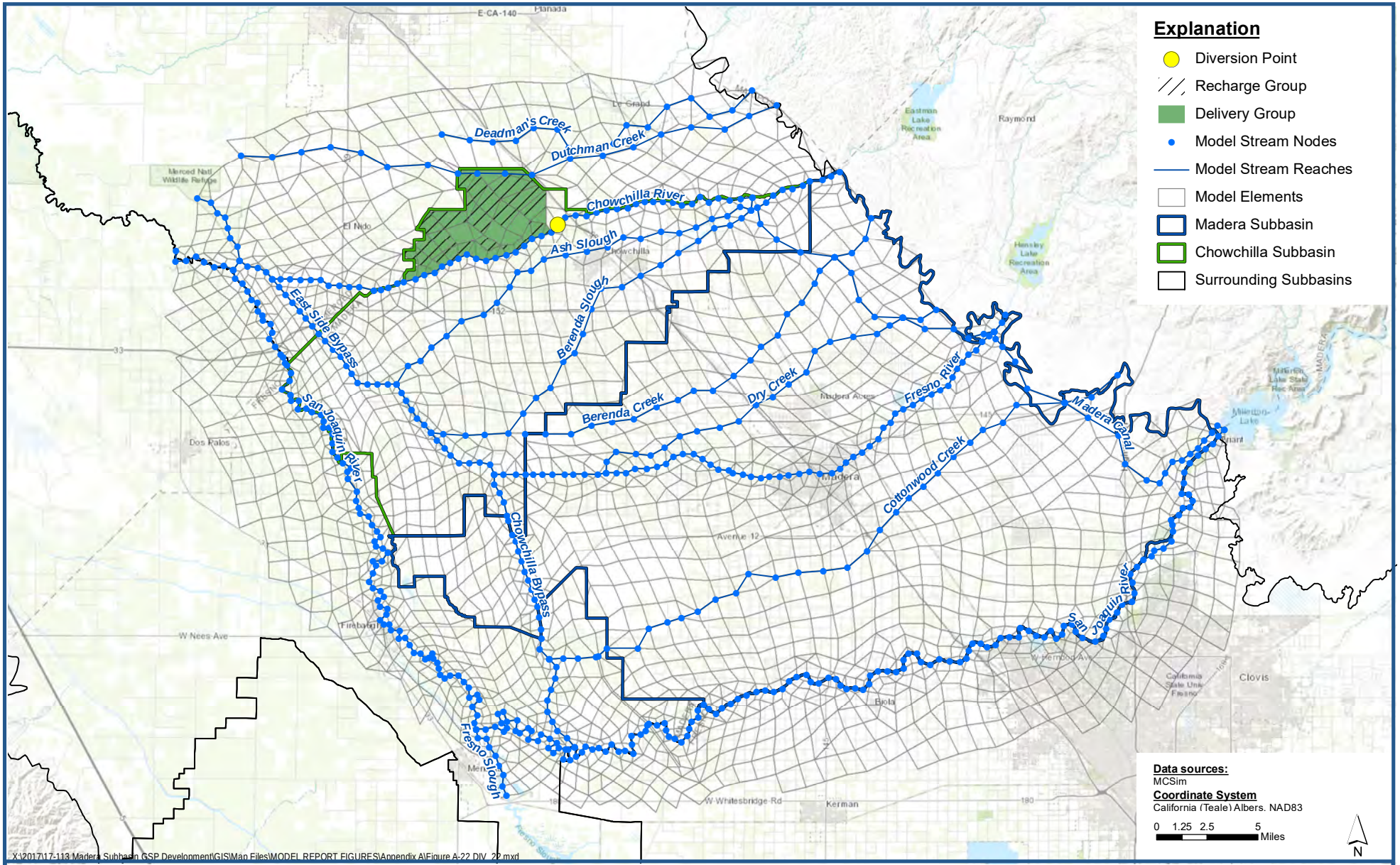
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_21 - SW Diversions to Chowchilla WD for Ag.
Historical Surface Water Diversions

Figure A-21

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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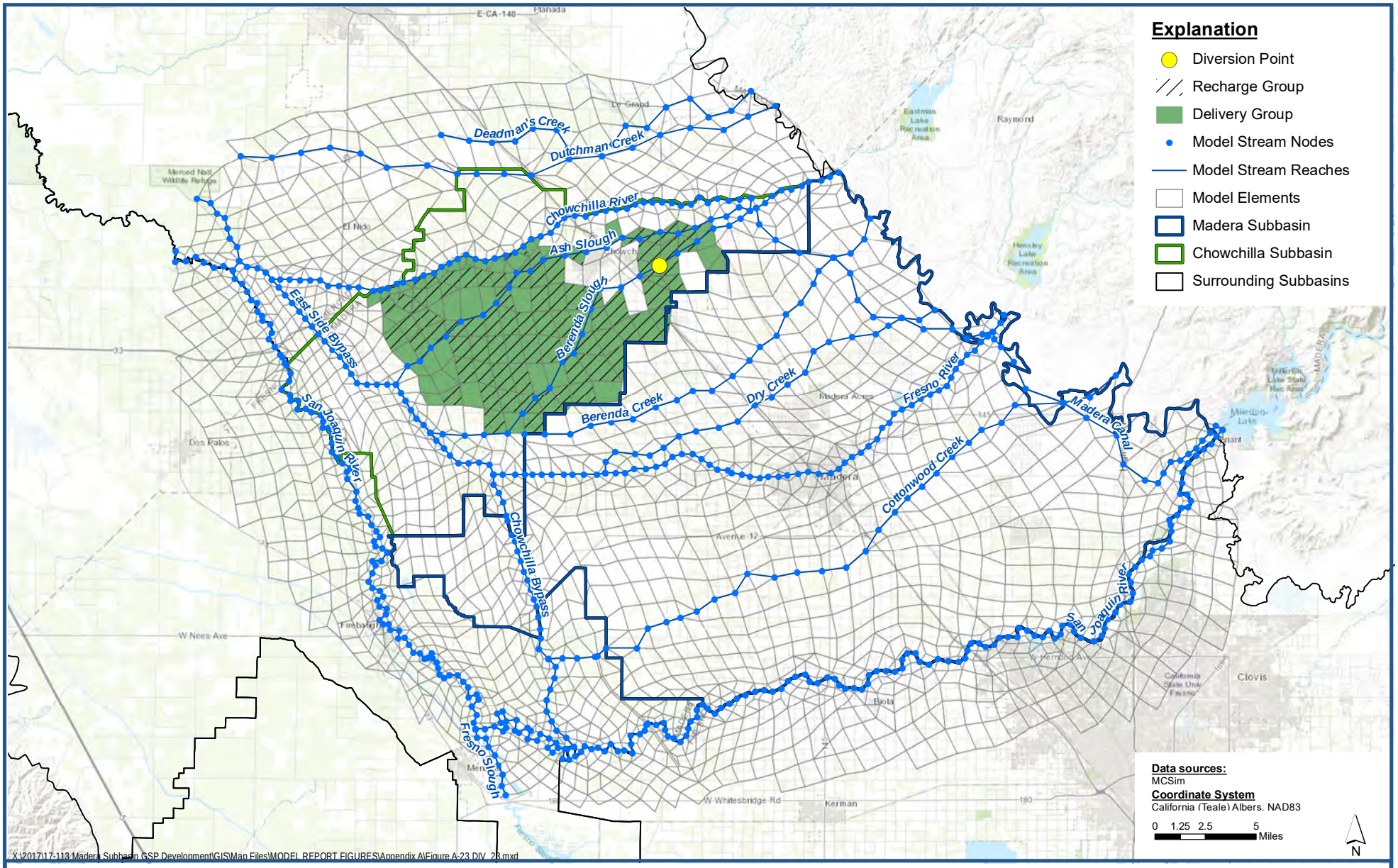
DIV_22 - Flood Diversions to Chowchilla WD as supplement for Ag. Historical Surface Water Diversions

Figure A-22

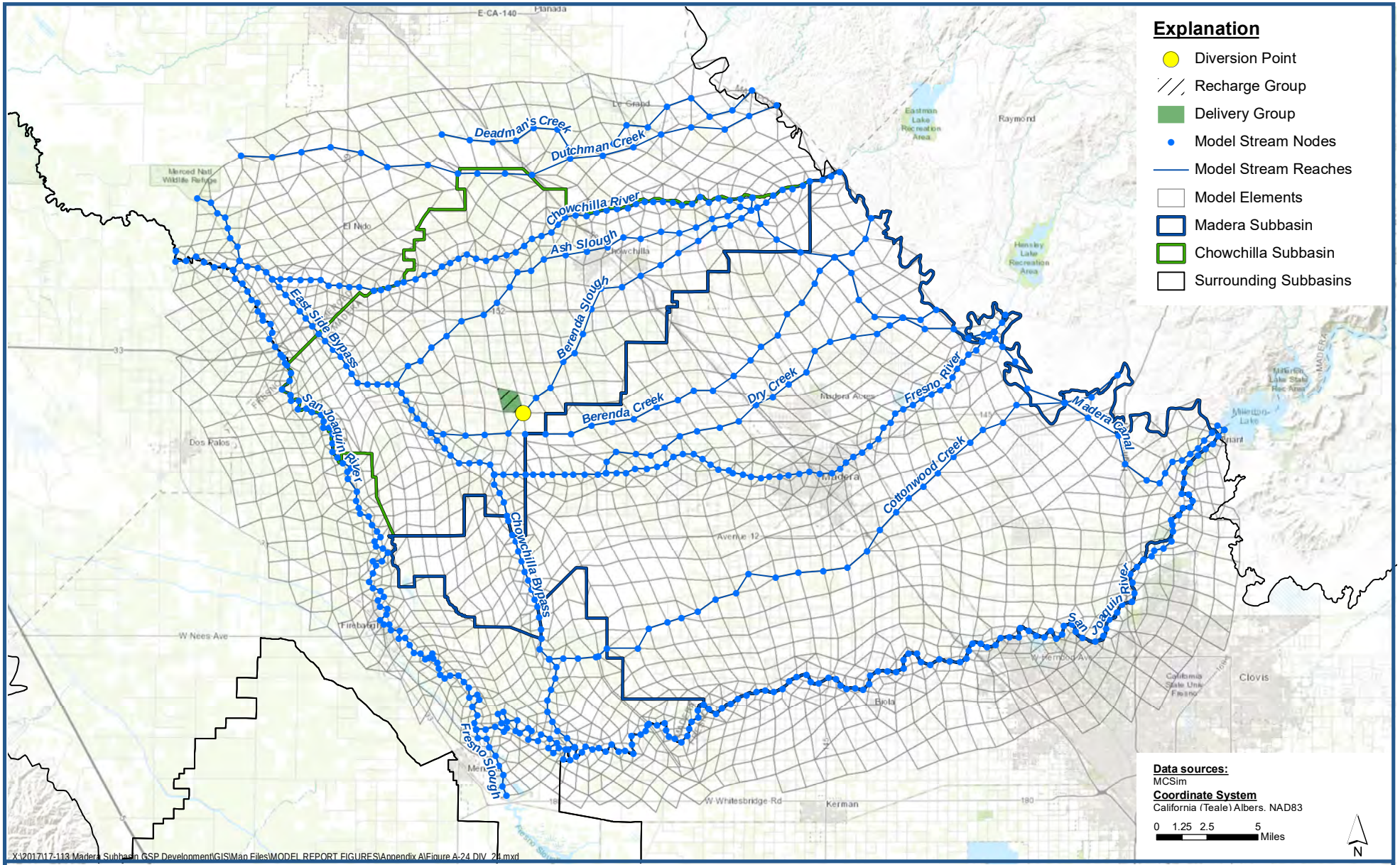
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_23 - Flood Diversions to Chowchilla WD as supplement for Ag. Historical Surface Water Diversions

Figure A-23

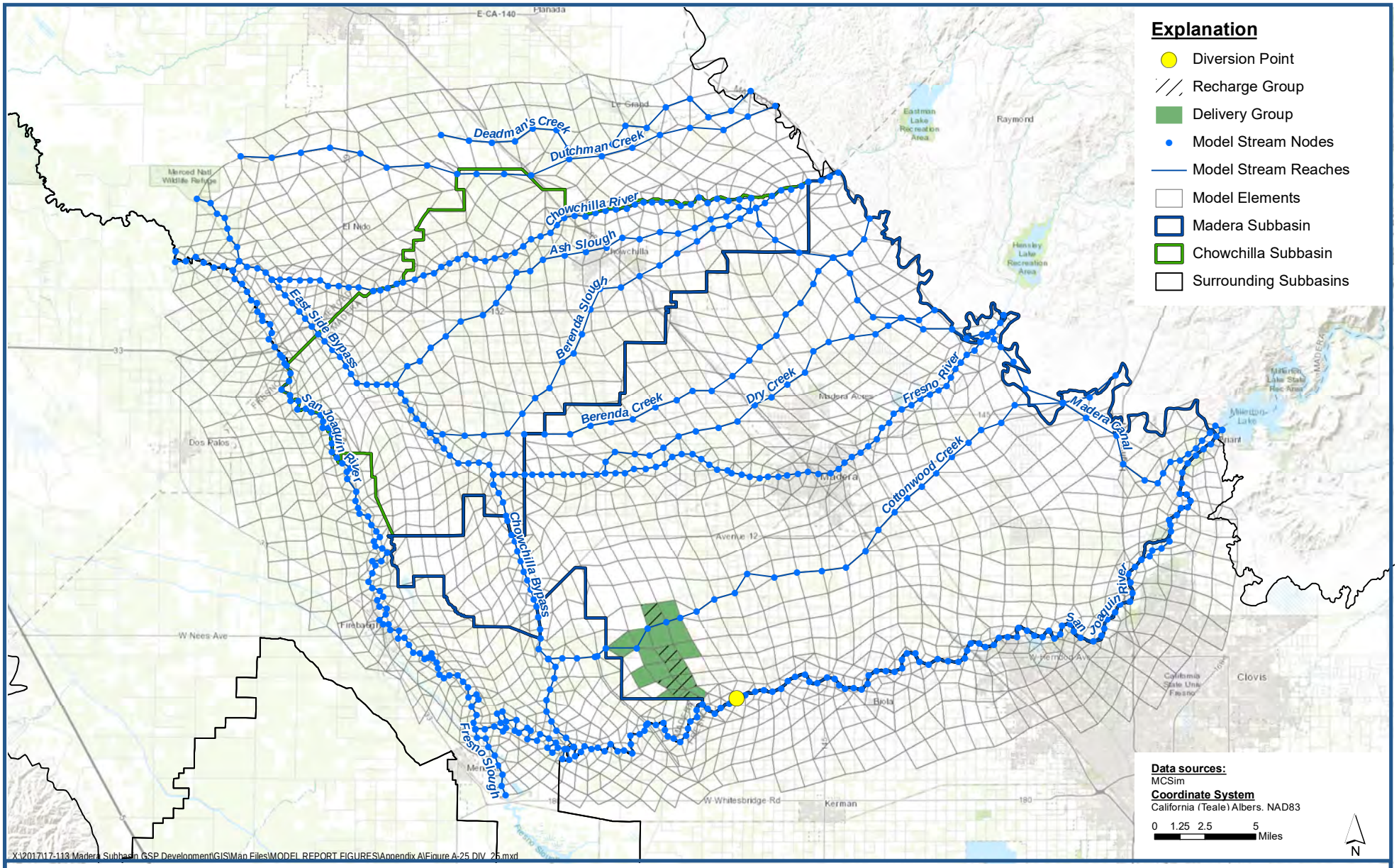
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_24 - Flood Diversions to Chowchilla WD for Managed Recharge Historical Surface Water Diversions

Figure A-24

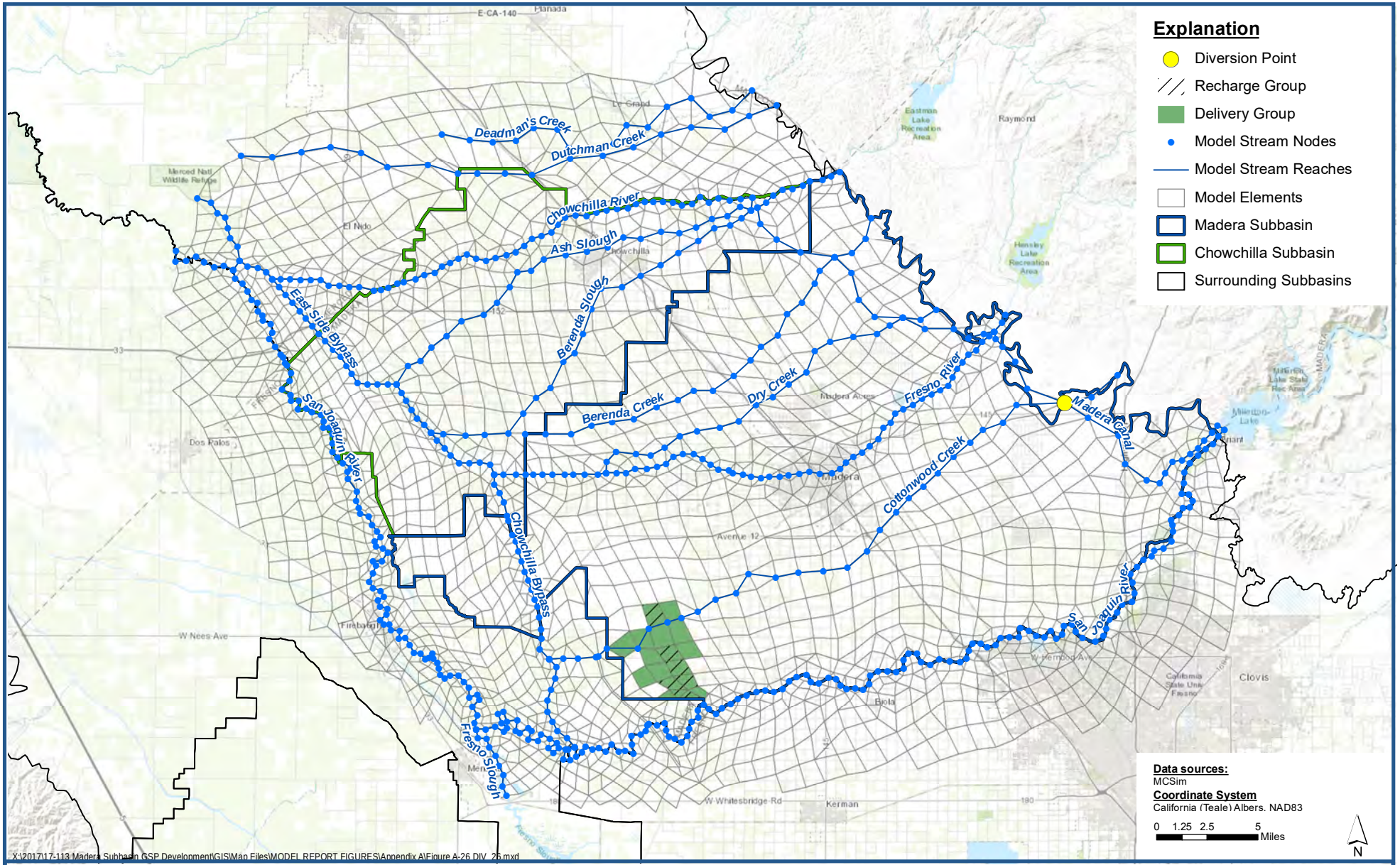
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_25 - San Joaquin River SW Diversions to Gravelly Ford WD Historical Surface Water Diversions

Figure A-25

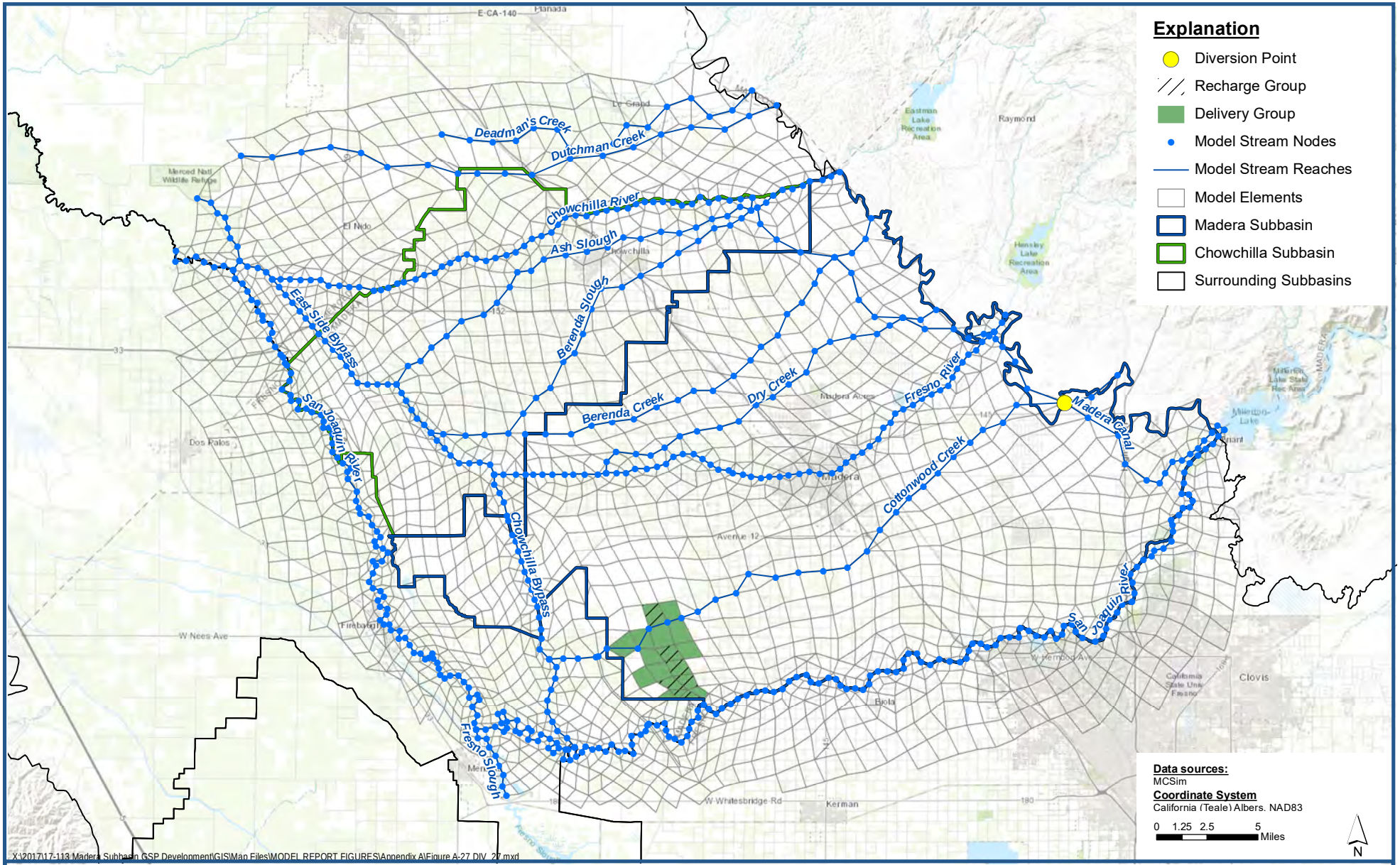
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_26 - Madera ID Conveyance System SW Diversions to Gravelly Ford WD Historical Surface Water Diversions

Figure A-26

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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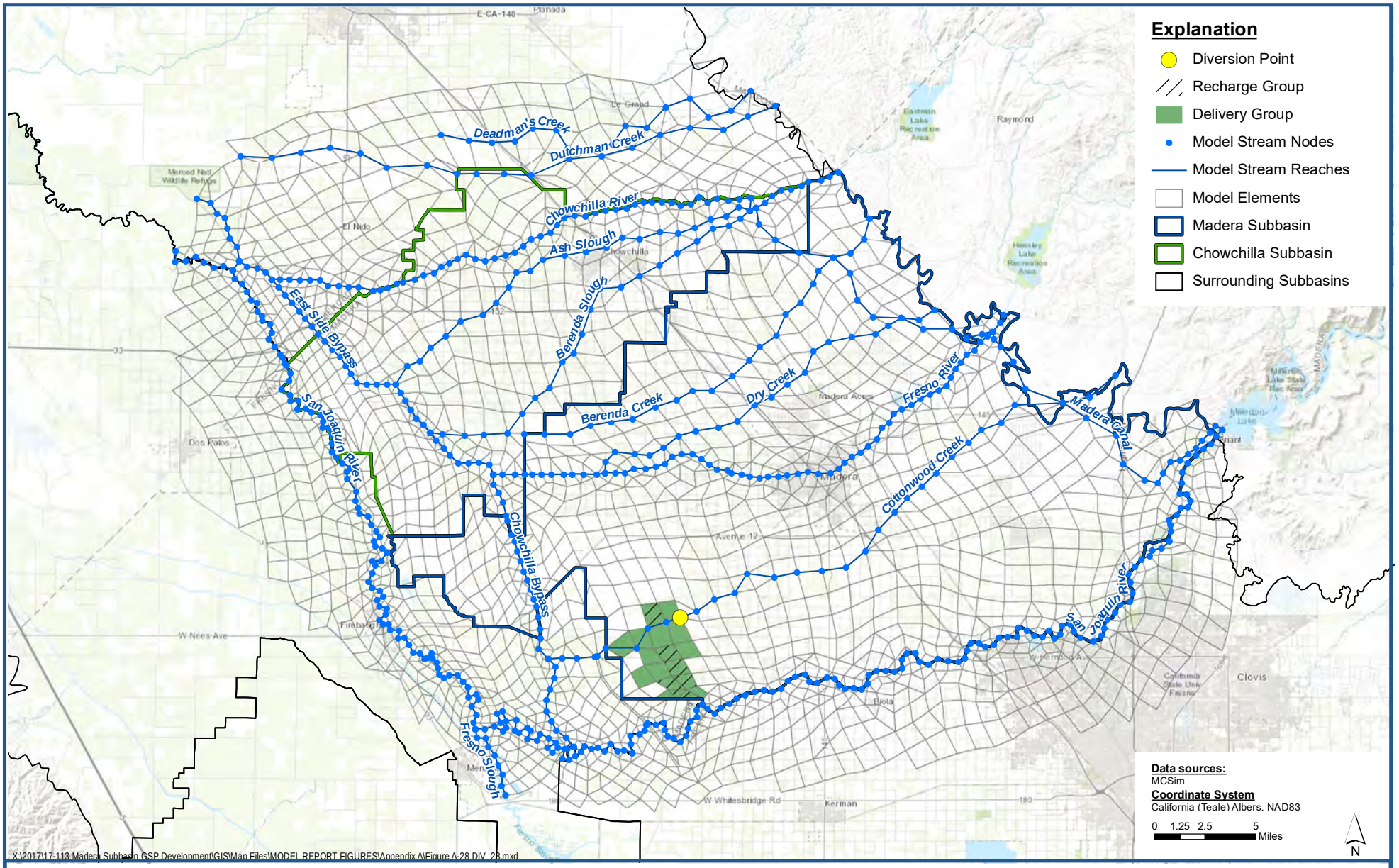
DIV_27 - Cottonwood Creek SW Diversions to Gravelly Ford WD Historical Surface Water Diversions

Figure A-27

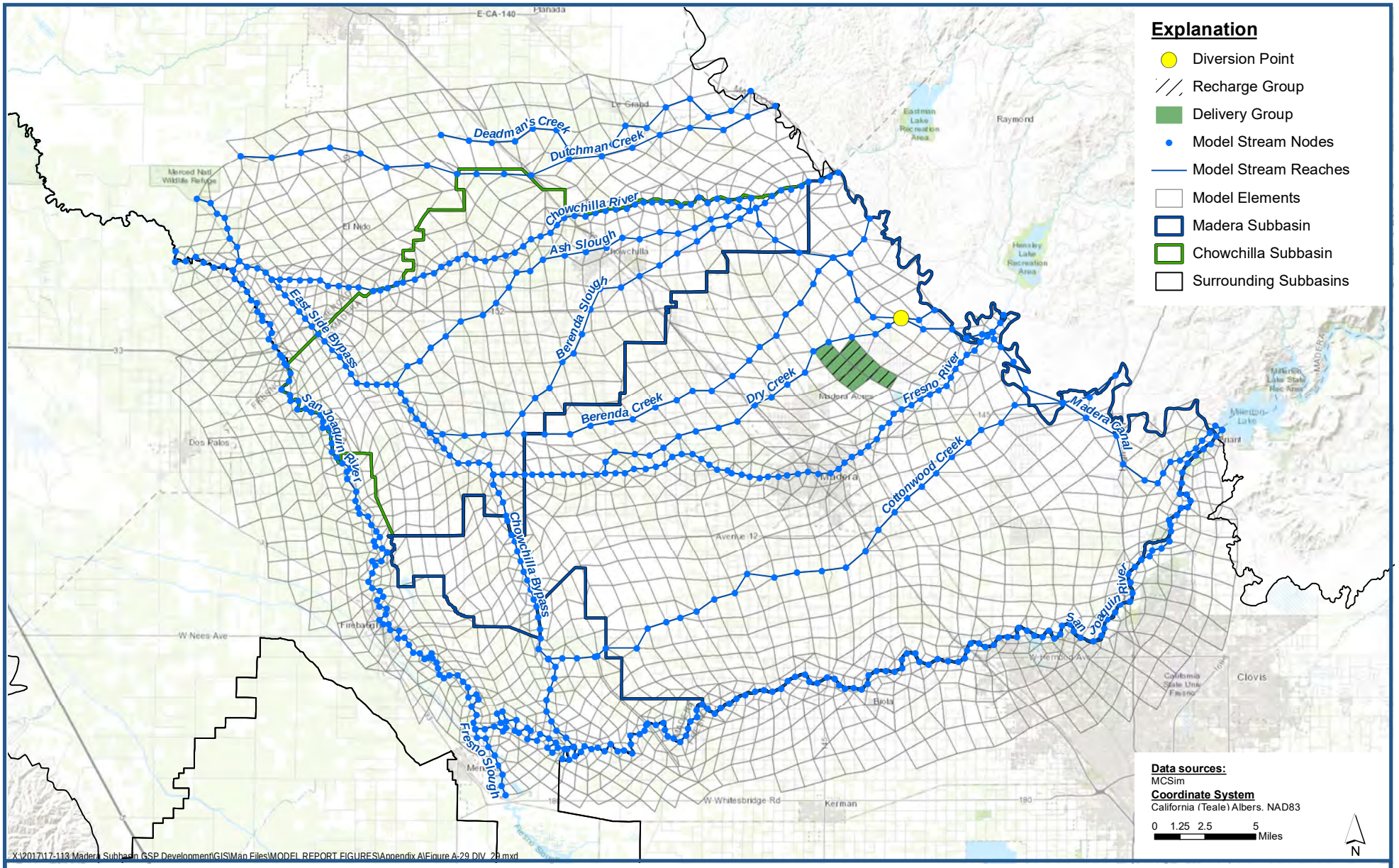
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_28 - Cottonwood Creek SW Diversions to Gravelly Ford WD
Historical Surface Water Diversions

Figure A-28

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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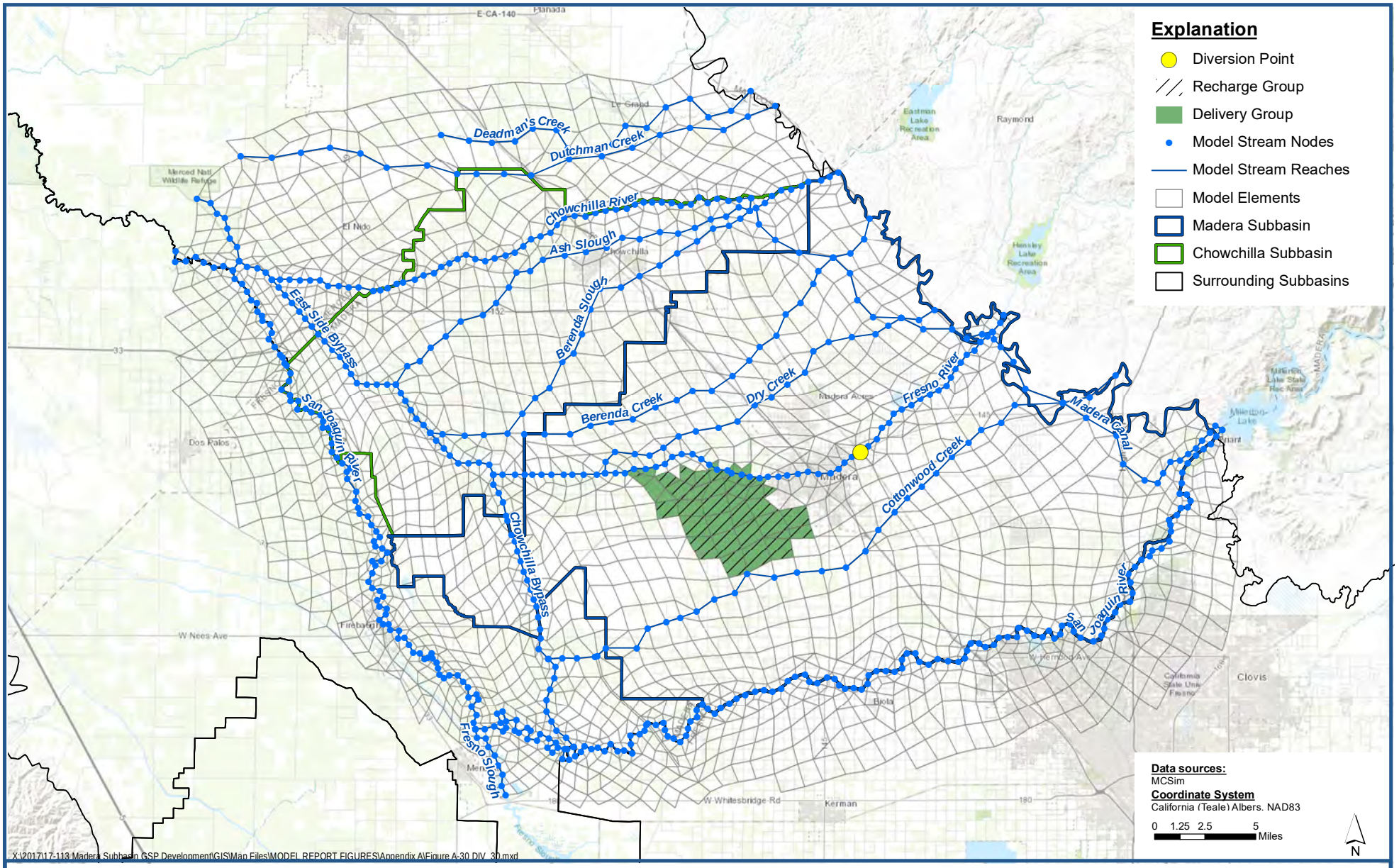
DIV_29 - Dry Creek SW Diversions to Madera WD
Historical Surface Water Diversions

Figure A-29

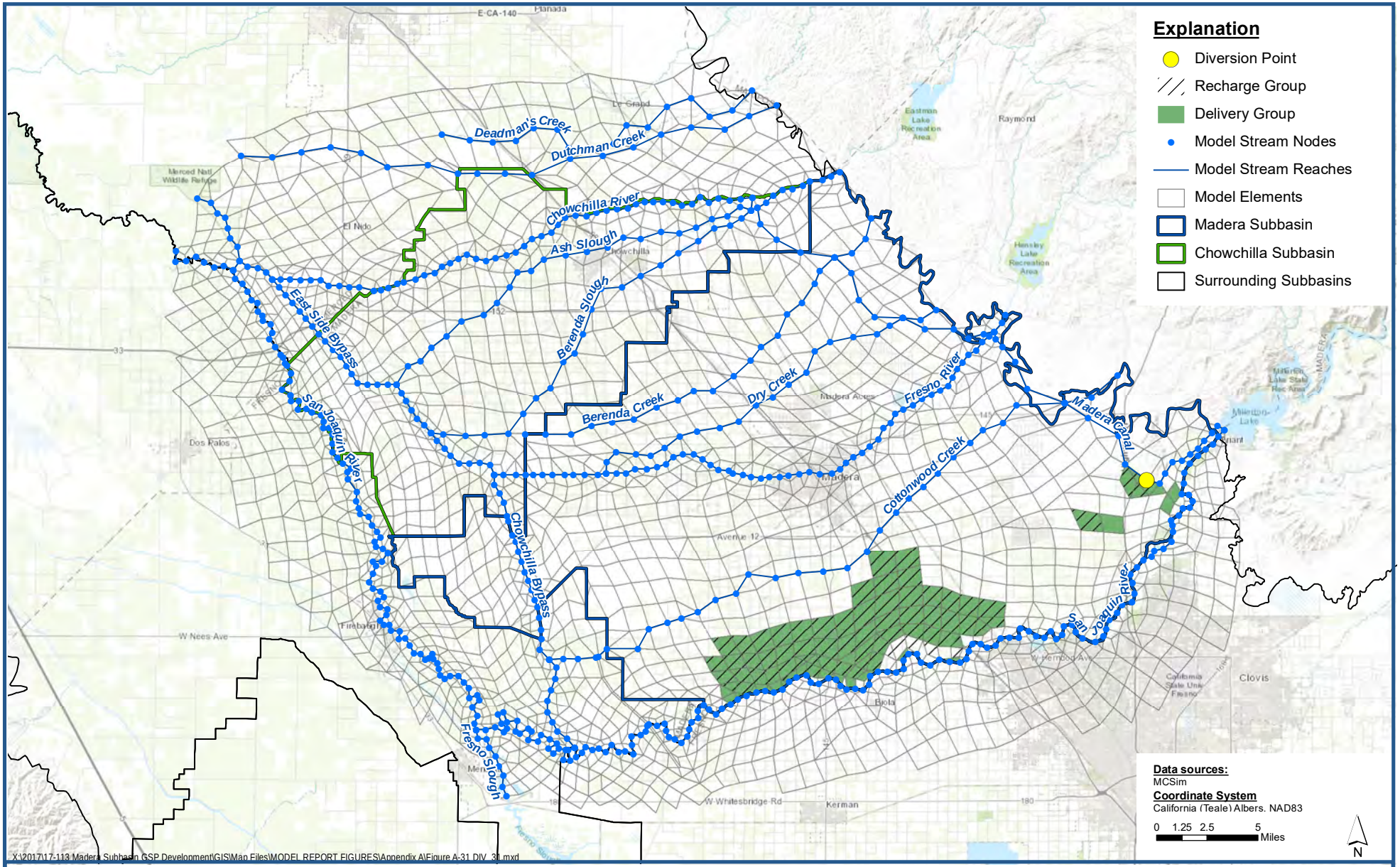
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_30 - Fresno River SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-30

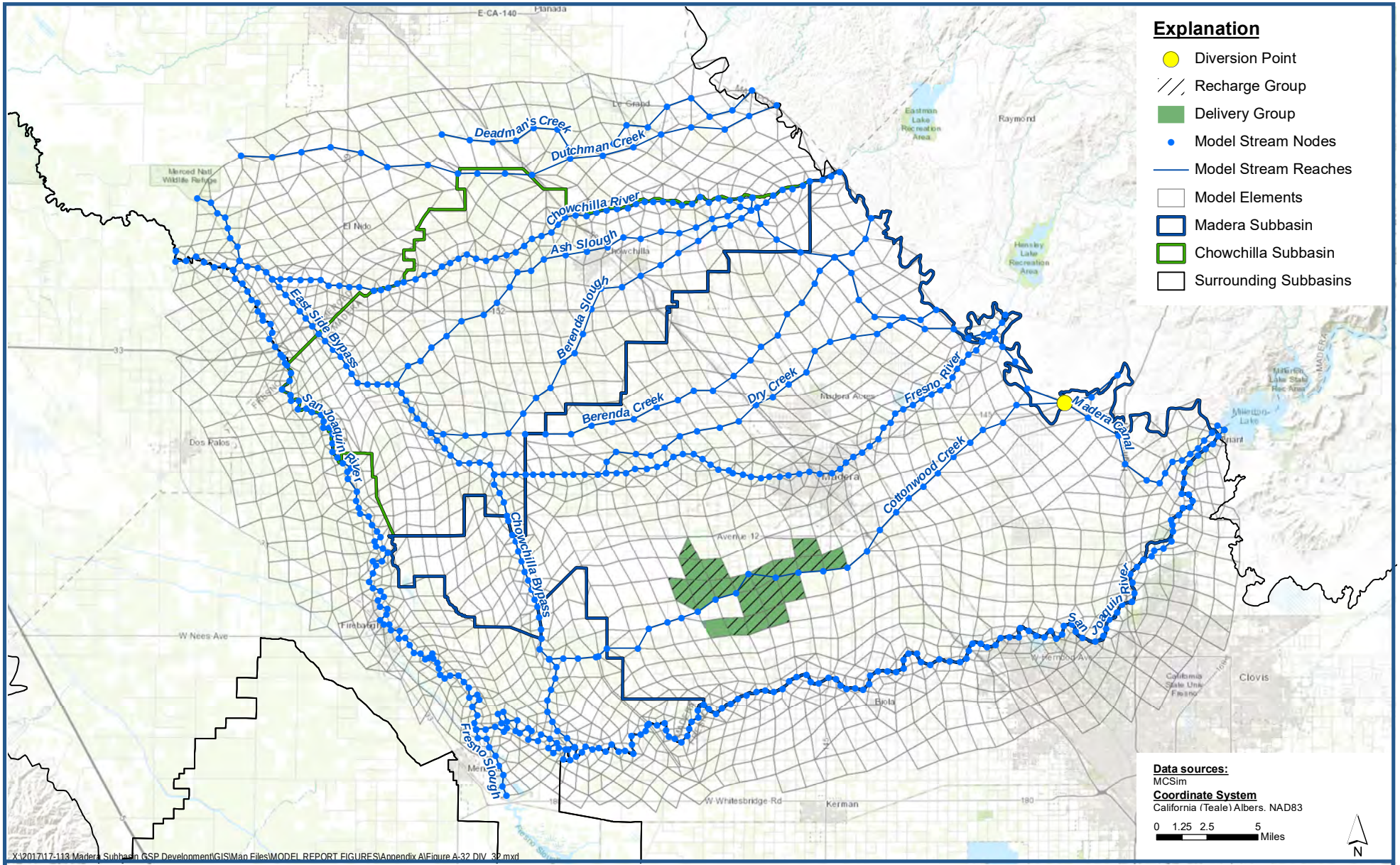
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_31 - Madera Canal (Mile 6.1) SW Diversions to Madera ID Historical Surface Water Diversions

Figure A-31

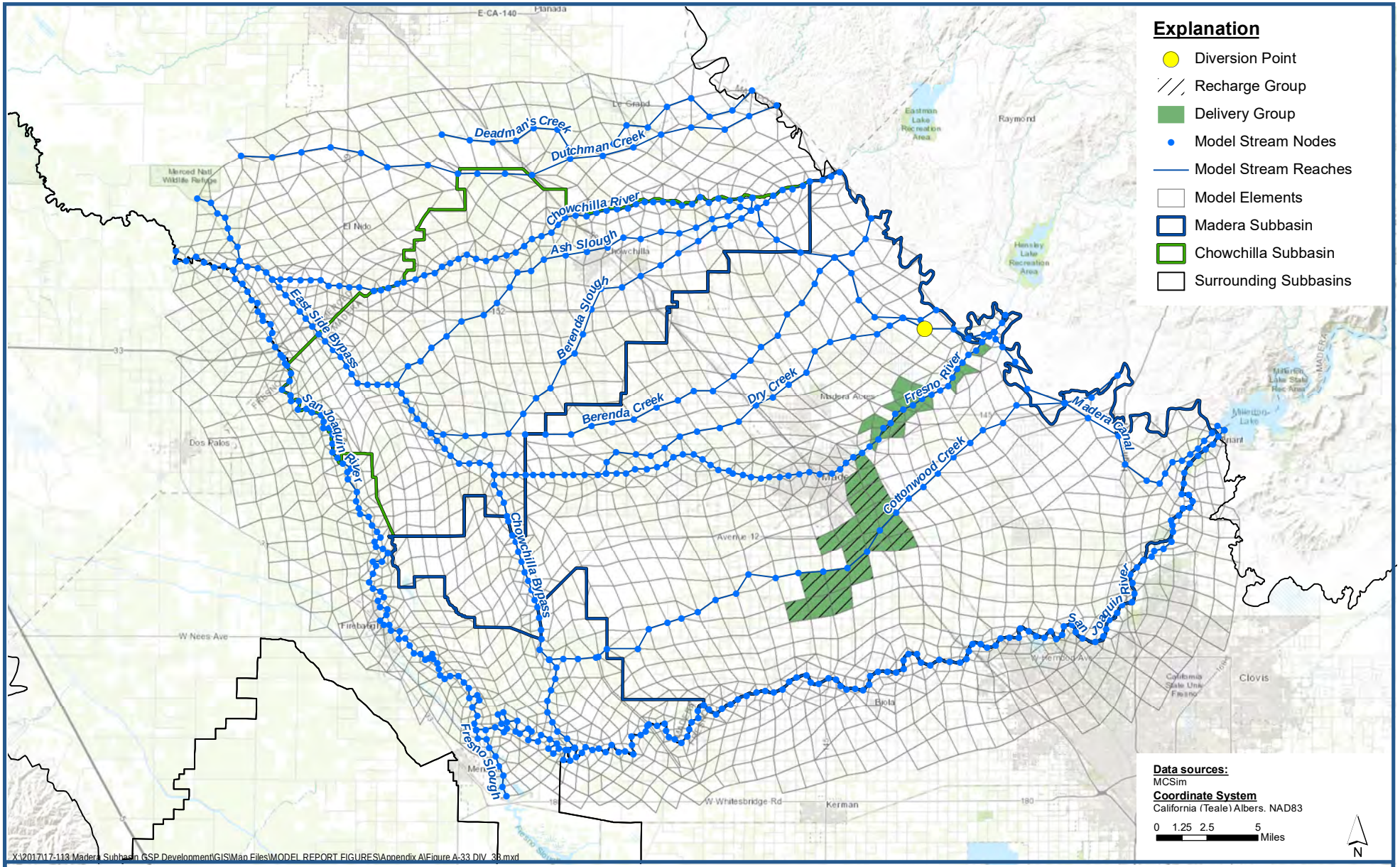
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_32 - Madera Canal (Mile 13.06) SW Diversions to Madera ID Historical Surface Water Diversions

Figure A-32

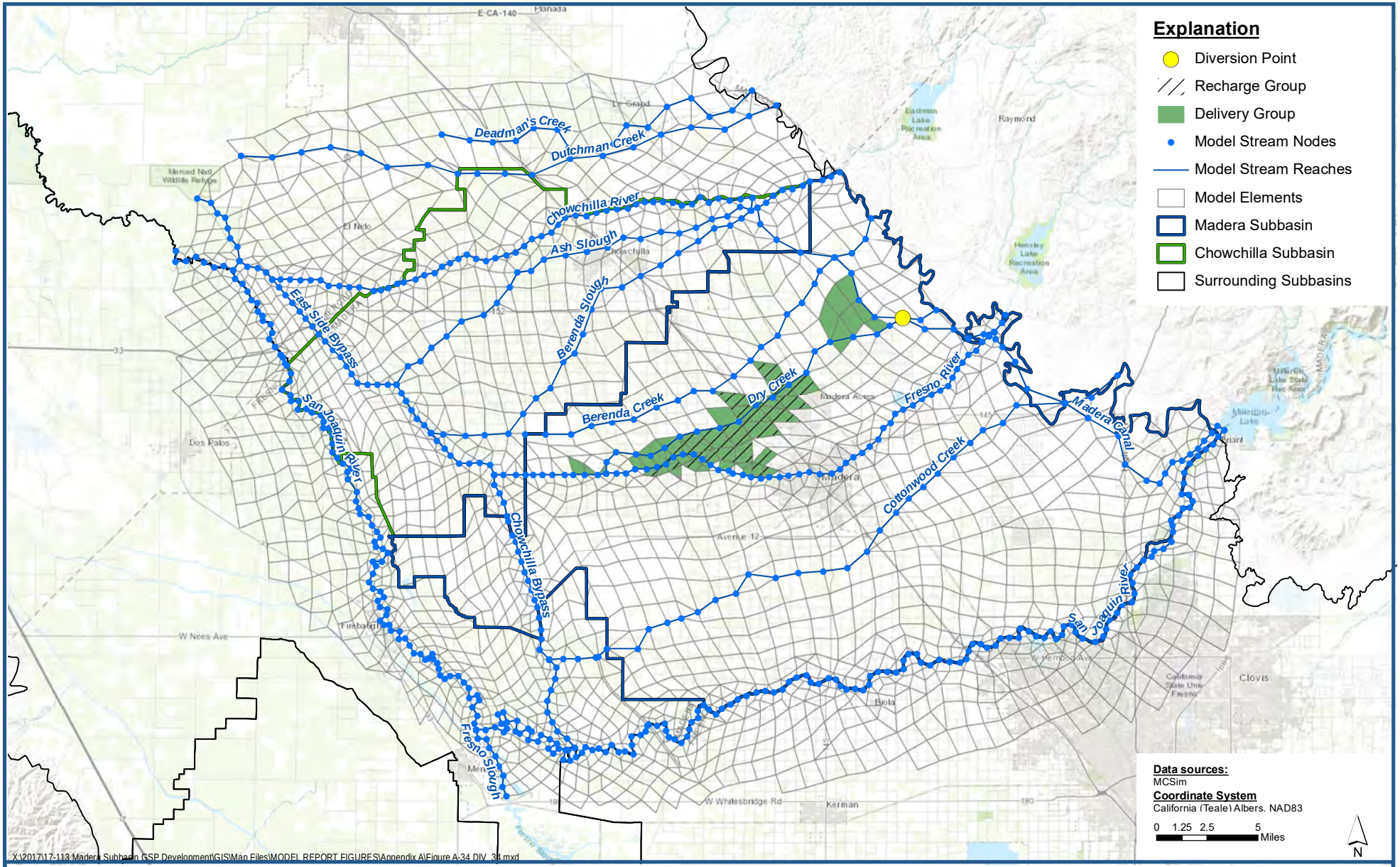
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_33 - Madera Canal (Mile 22.95) SW Diversions to Madera ID Historical Surface Water Diversions

Figure A-33

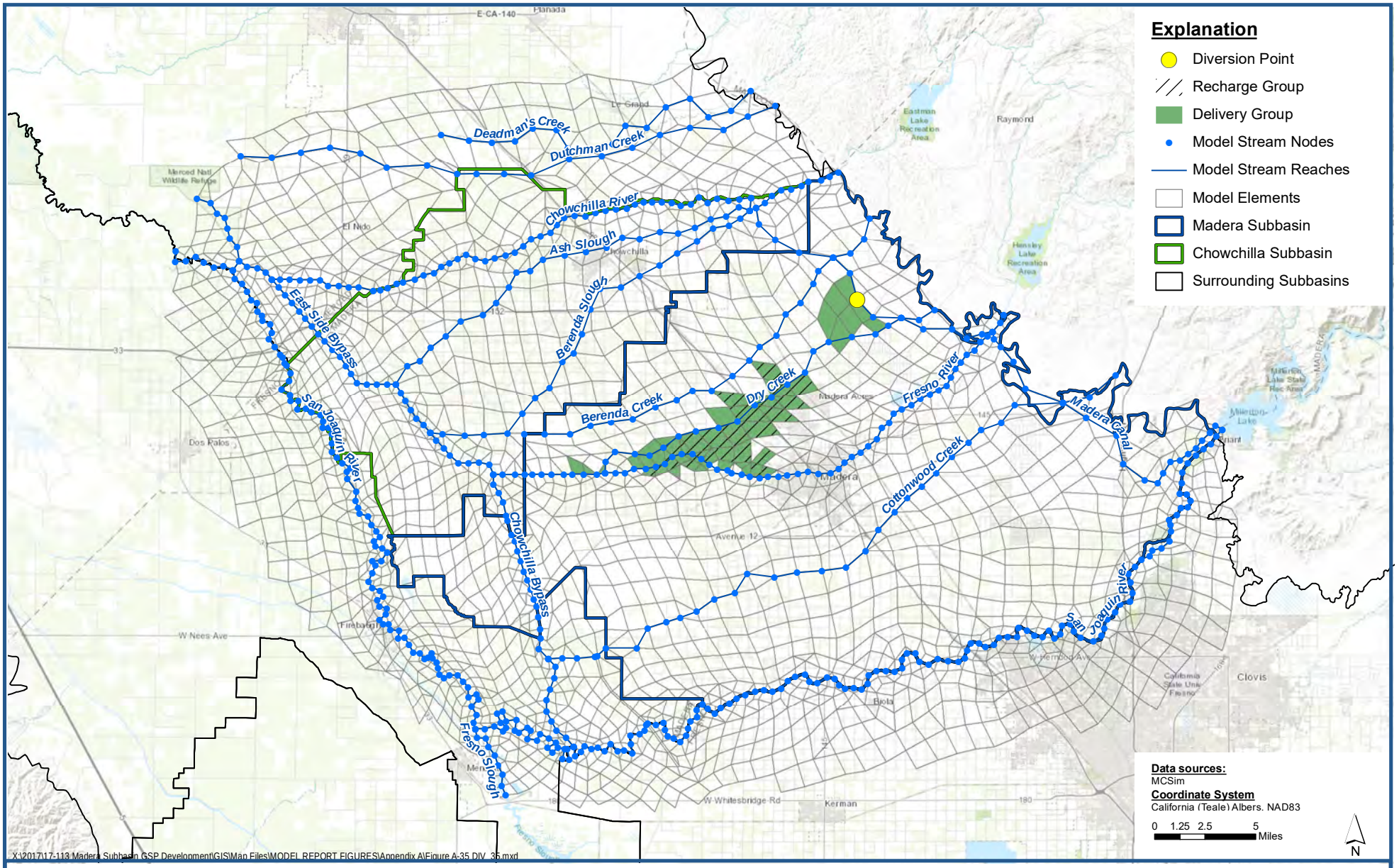
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_34 - Madera Canal (Mile 24.1) SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-34

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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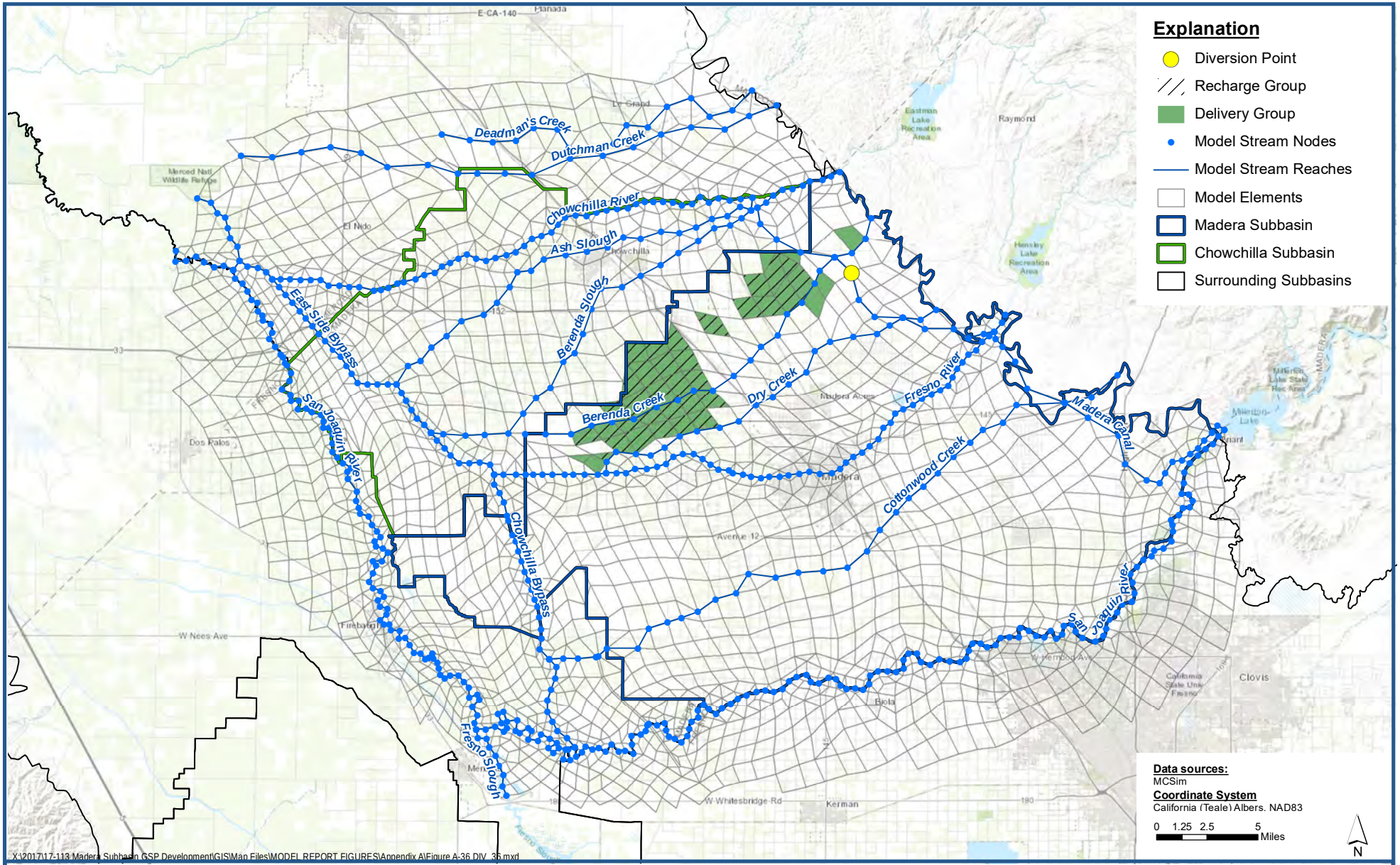
DIV_35 - Madera Canal (Mile 36.8) SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-35

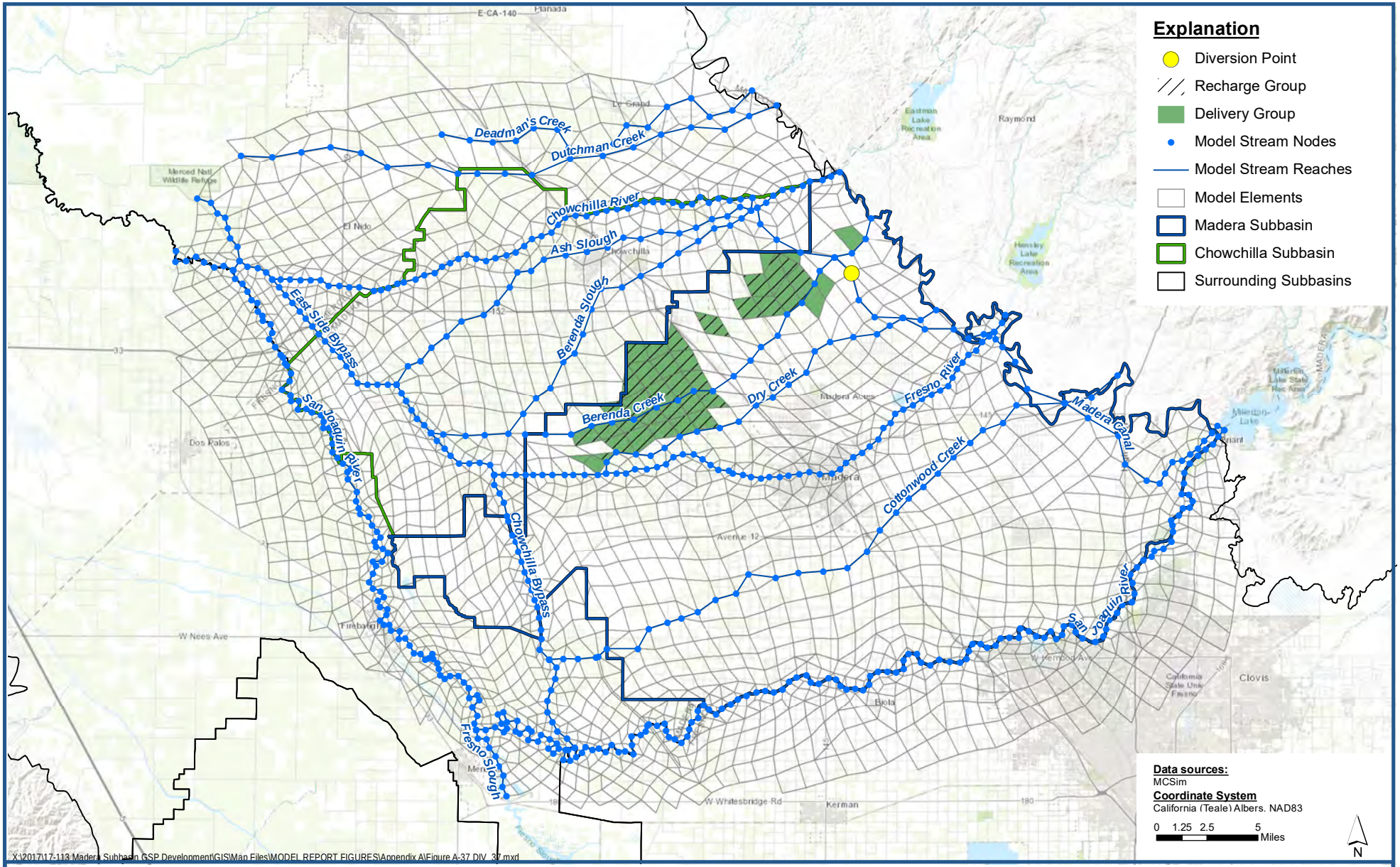
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_36 - Madera Canal (Mile 27.5) SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-36

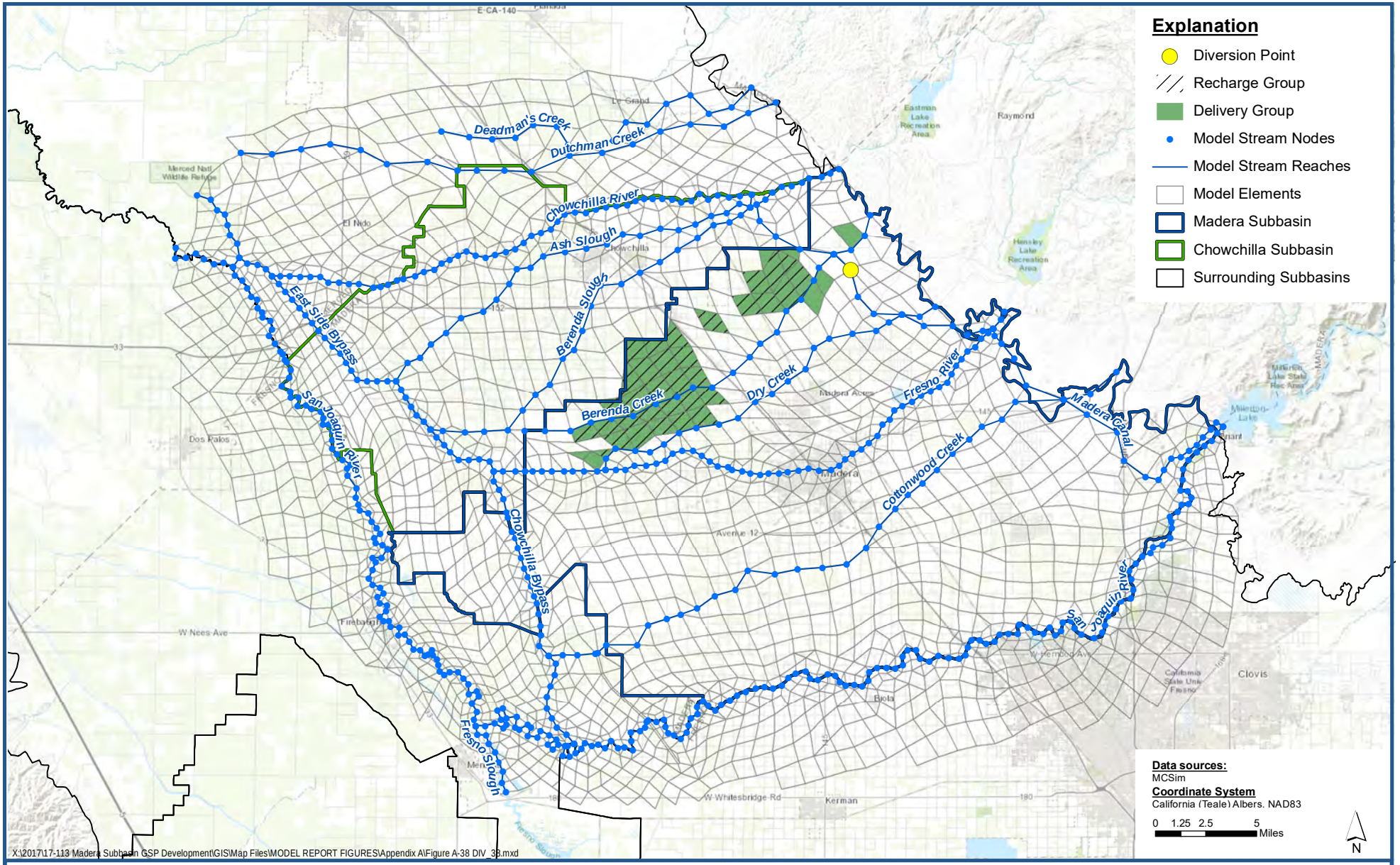
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_37 - Madera Canal (Mile 28.38) SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-37

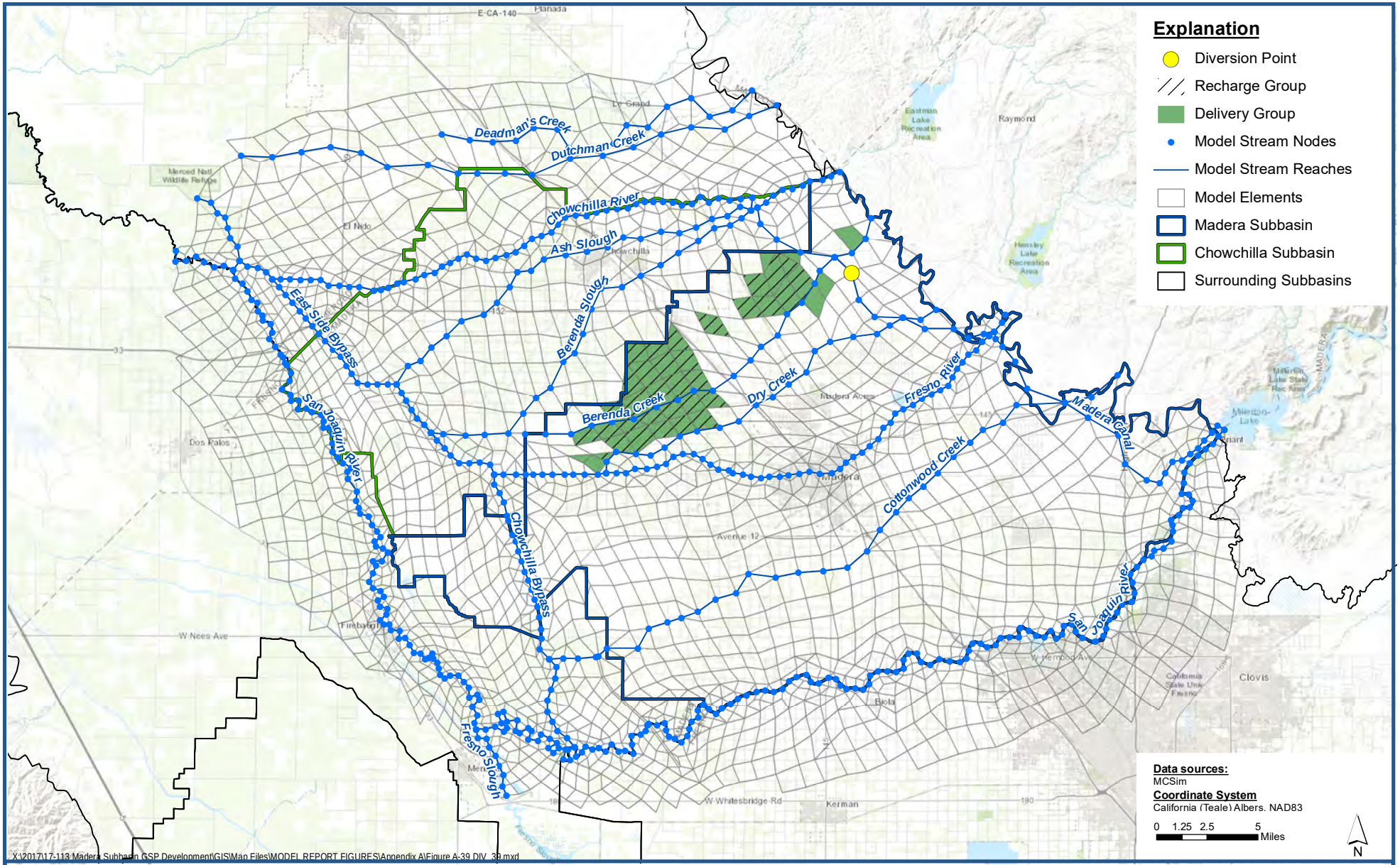
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_38 - Madera Canal (Mile 28.39) SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-38

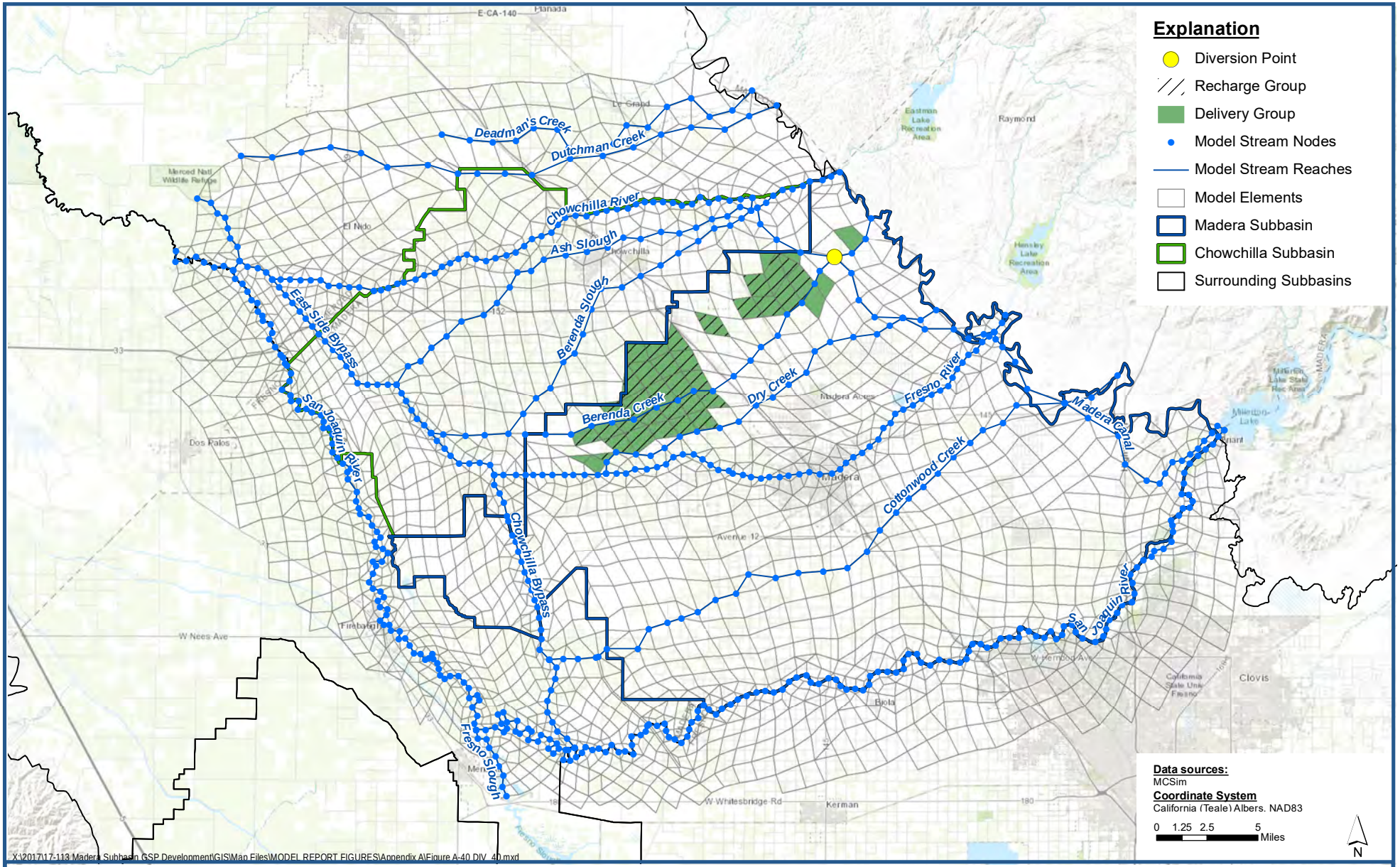
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_39 - Madera Canal (Mile 28.64) SW Diversions to Madera ID Historical Surface Water Diversions

Figure A-39

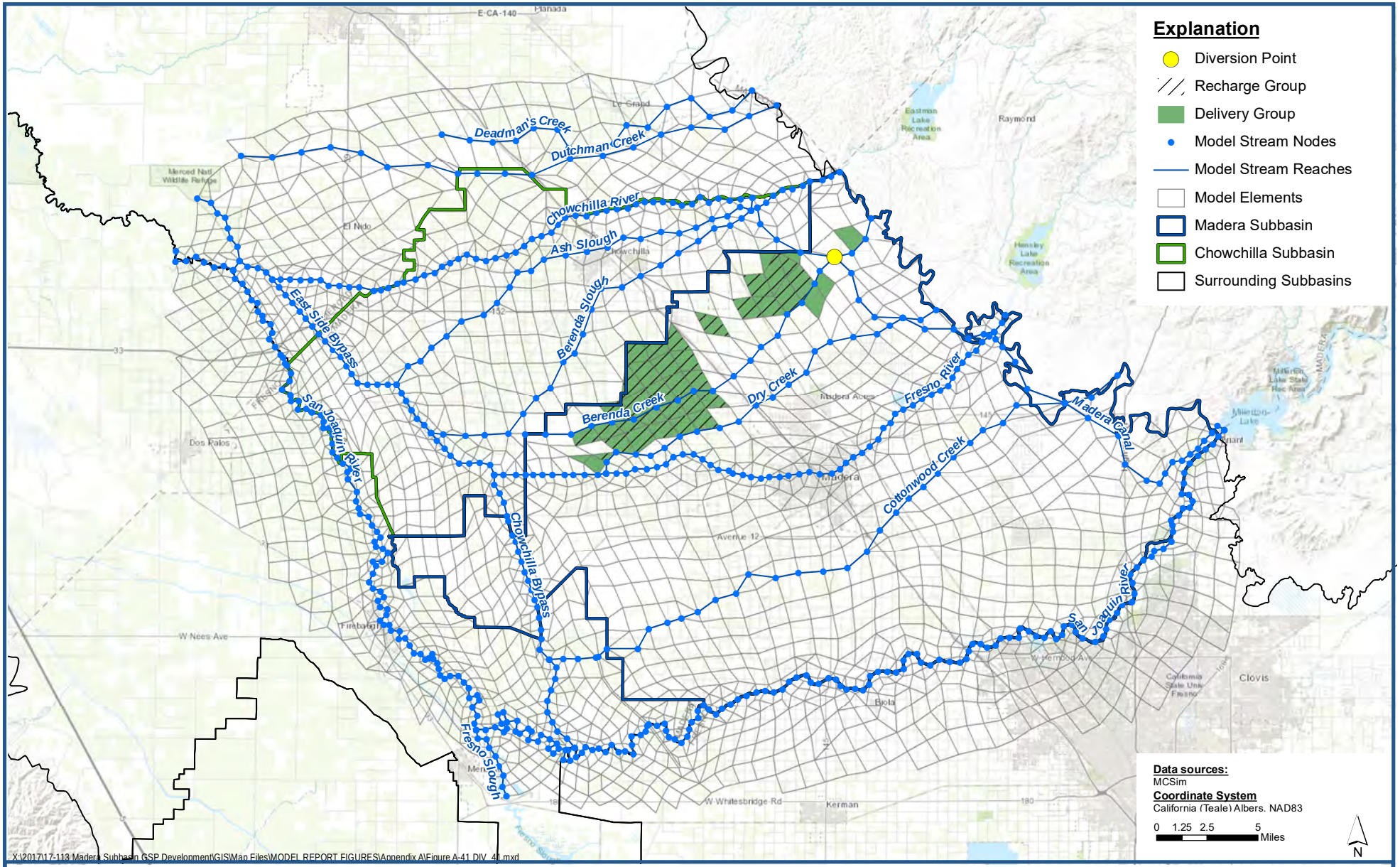
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_40 - Madera Canal (Mile 30.4) SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-40

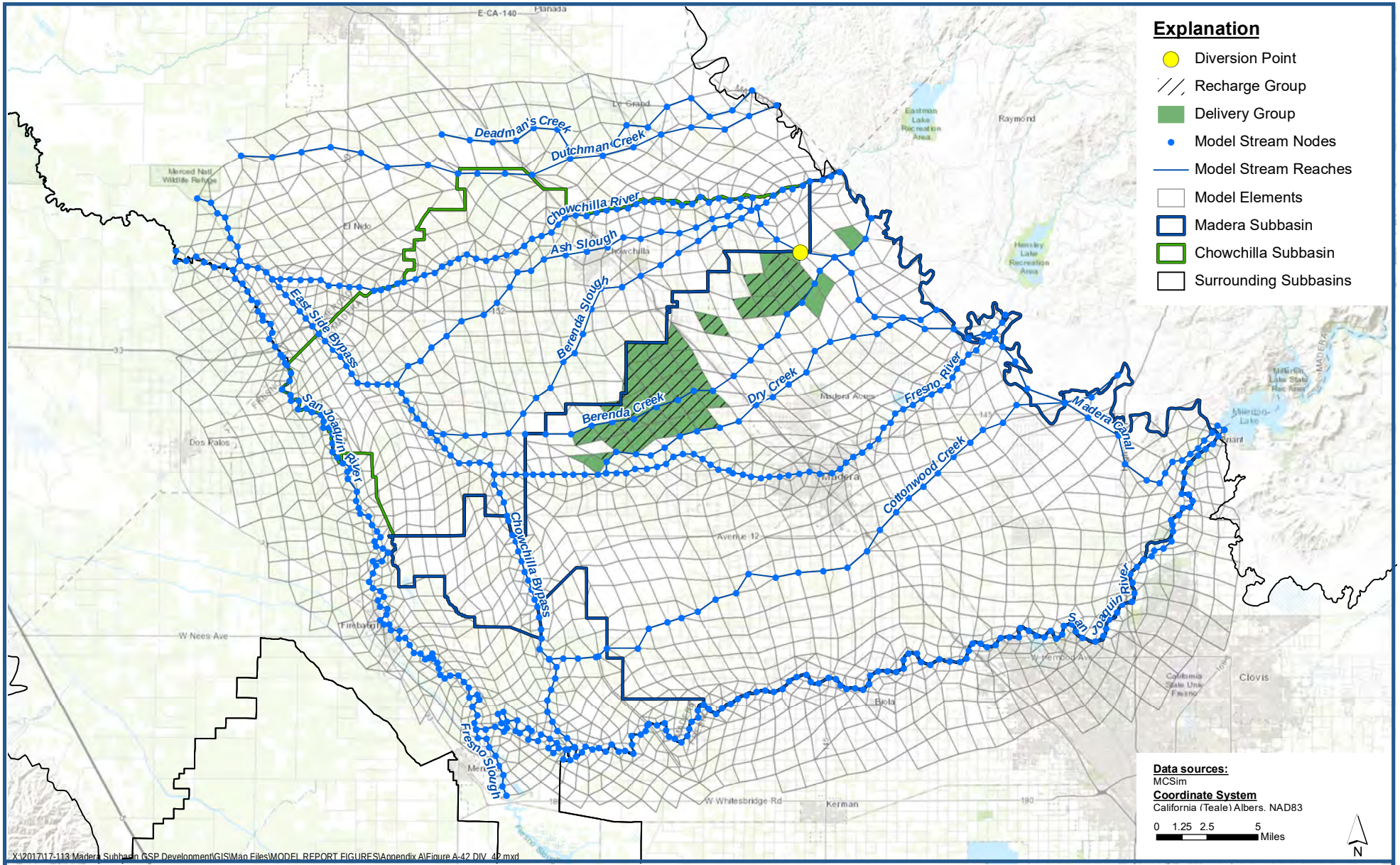
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_41 - Madera Canal (Mile 30.5) SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-41

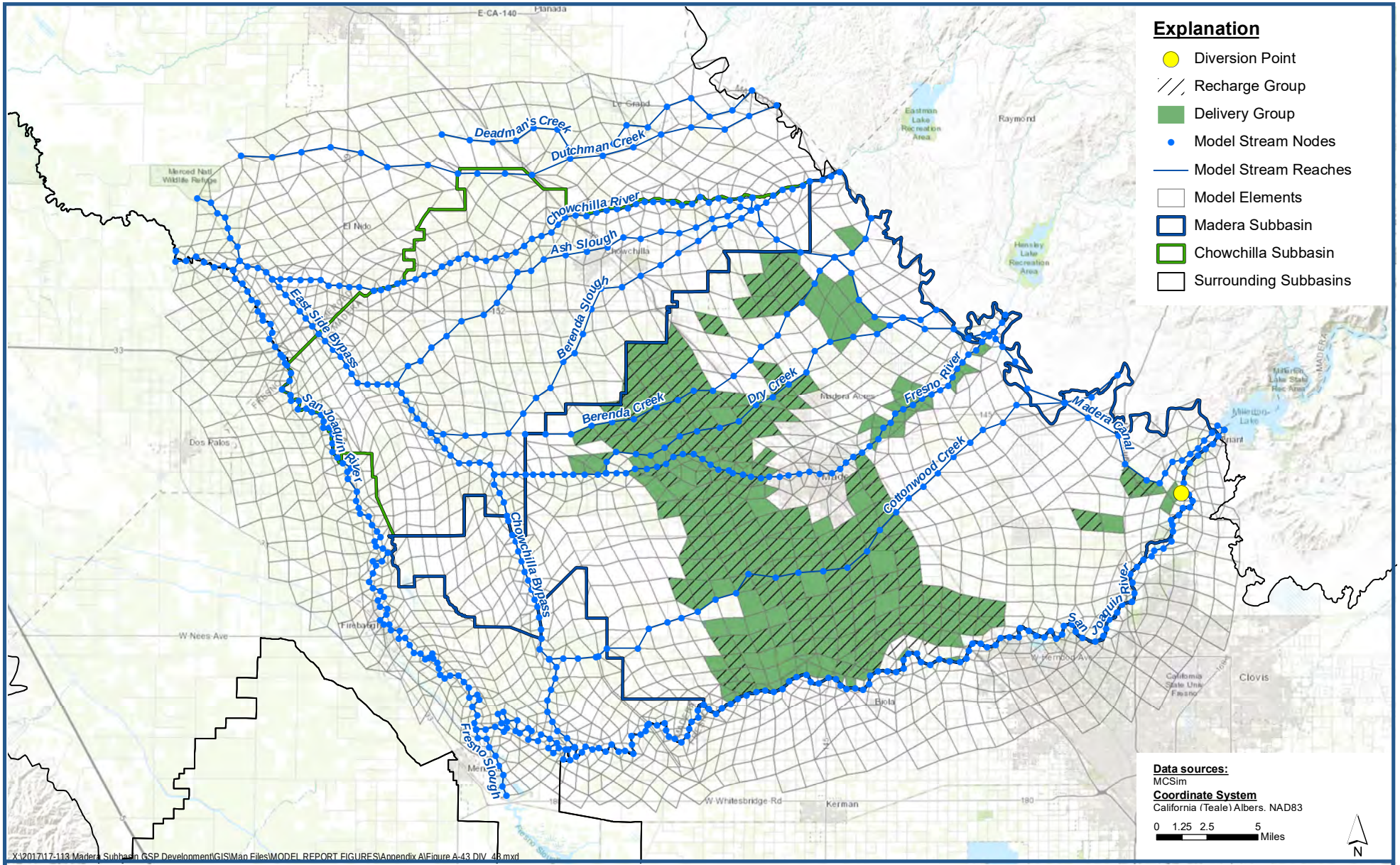
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_42 - Madera Canal (Mile 32.2) SW Diversions to Madera ID
Historical Surface Water Diversions

Figure A-42

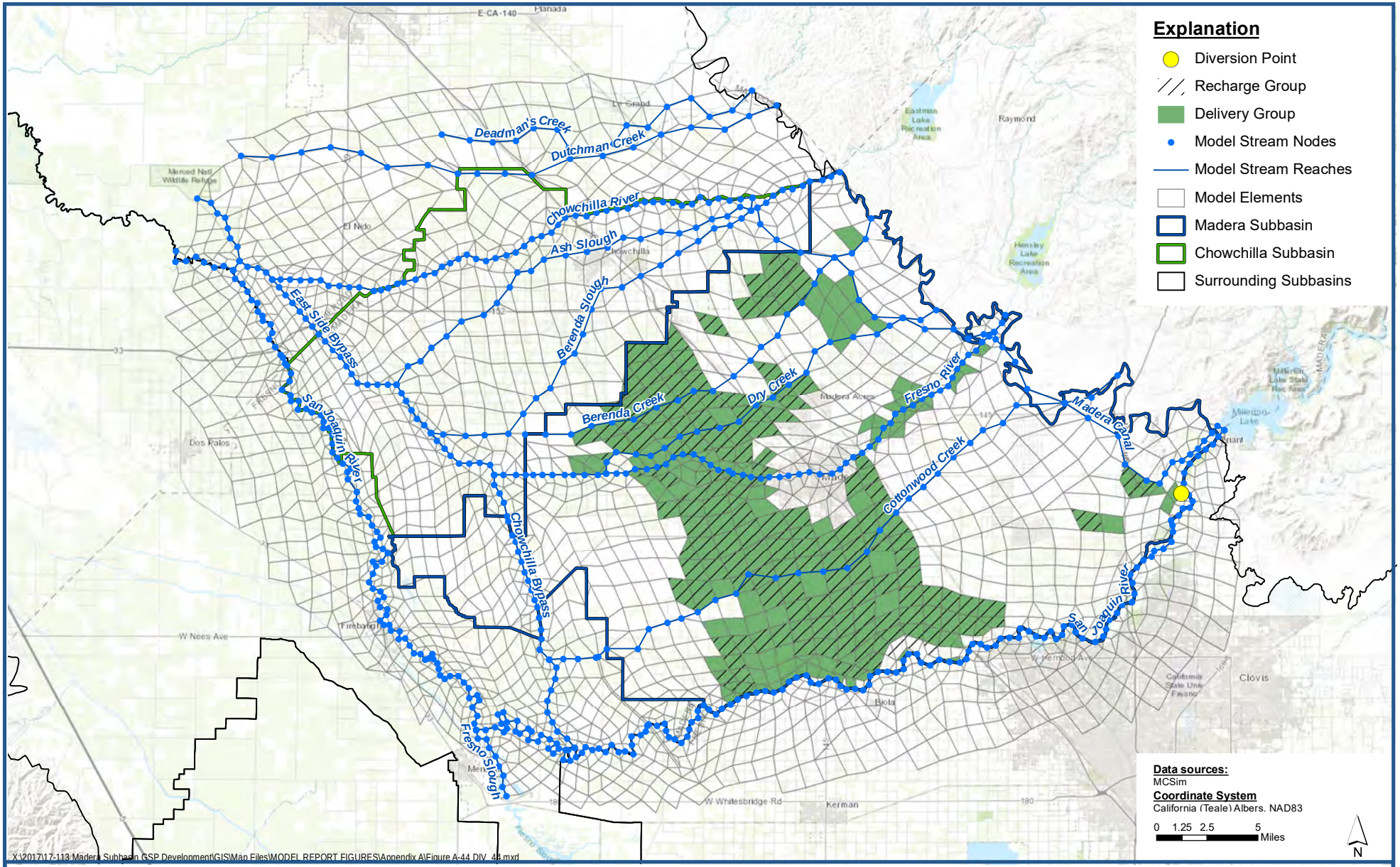
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_43 - Riparian Deliveries to Madera ID agricultural land
Historical Surface Water Diversions

Figure A-43

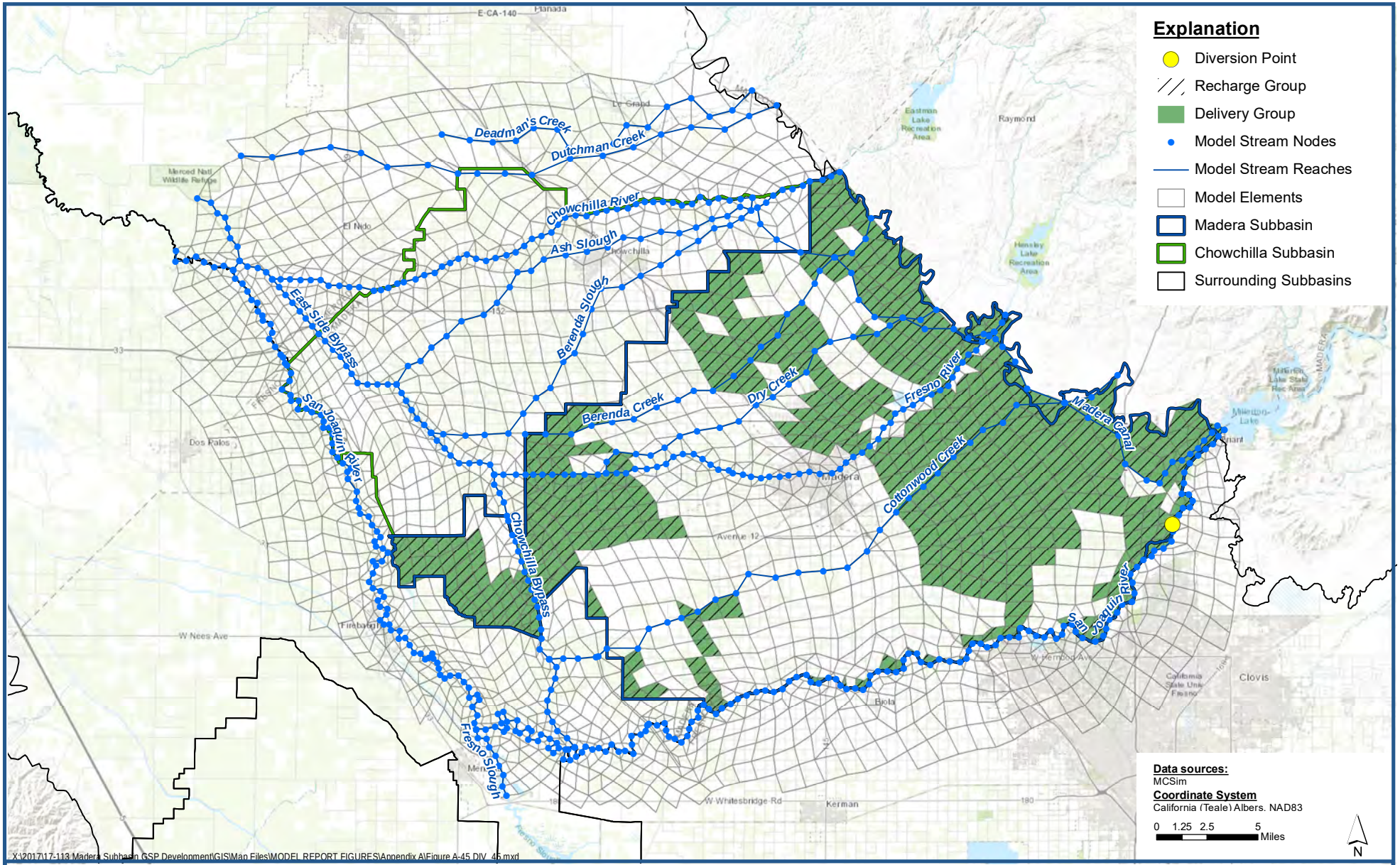
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_44 - Riparian Deliveries to Madera ID agricultural land
Historical Surface Water Diversions

Figure A-44

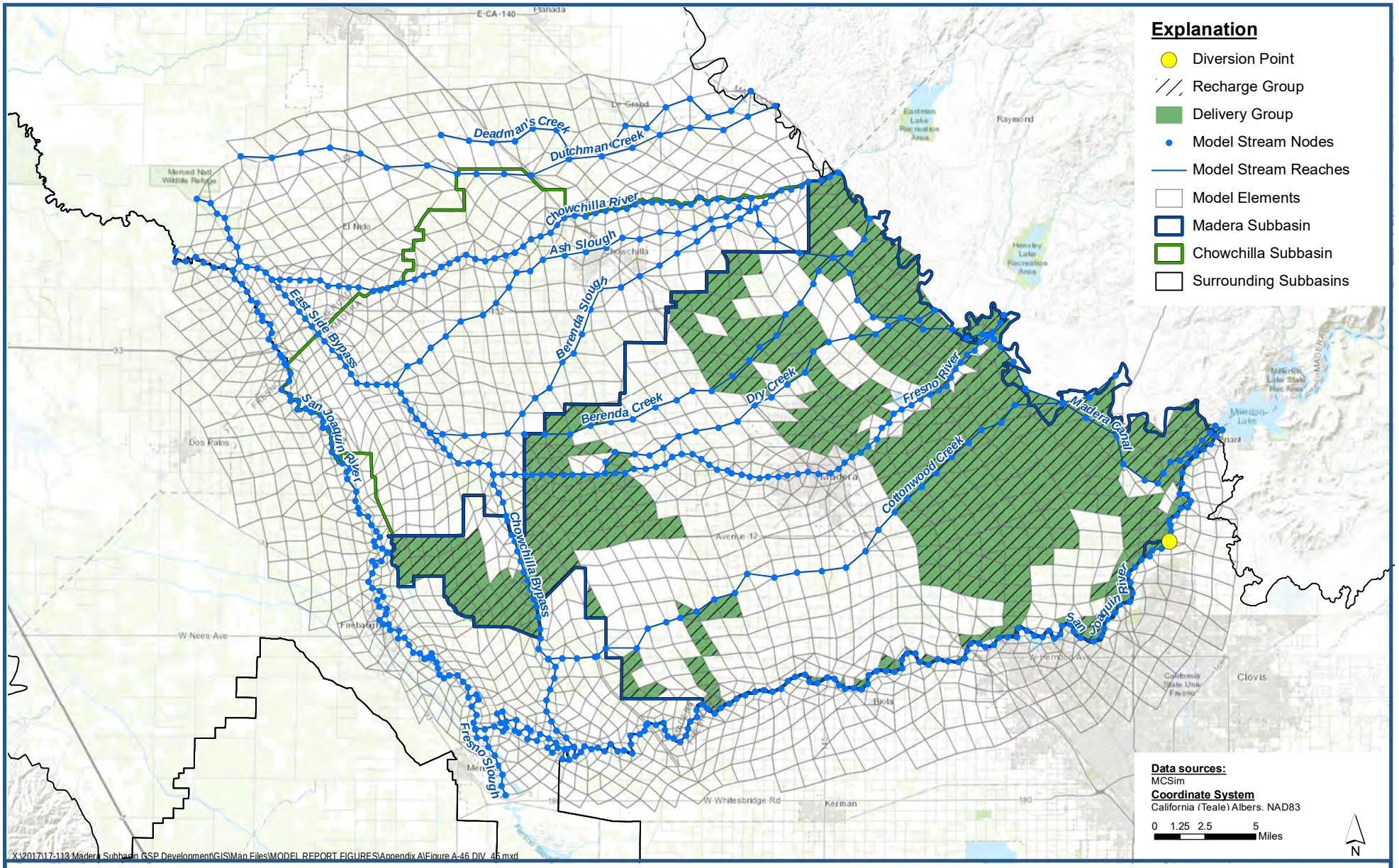
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_45 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-45

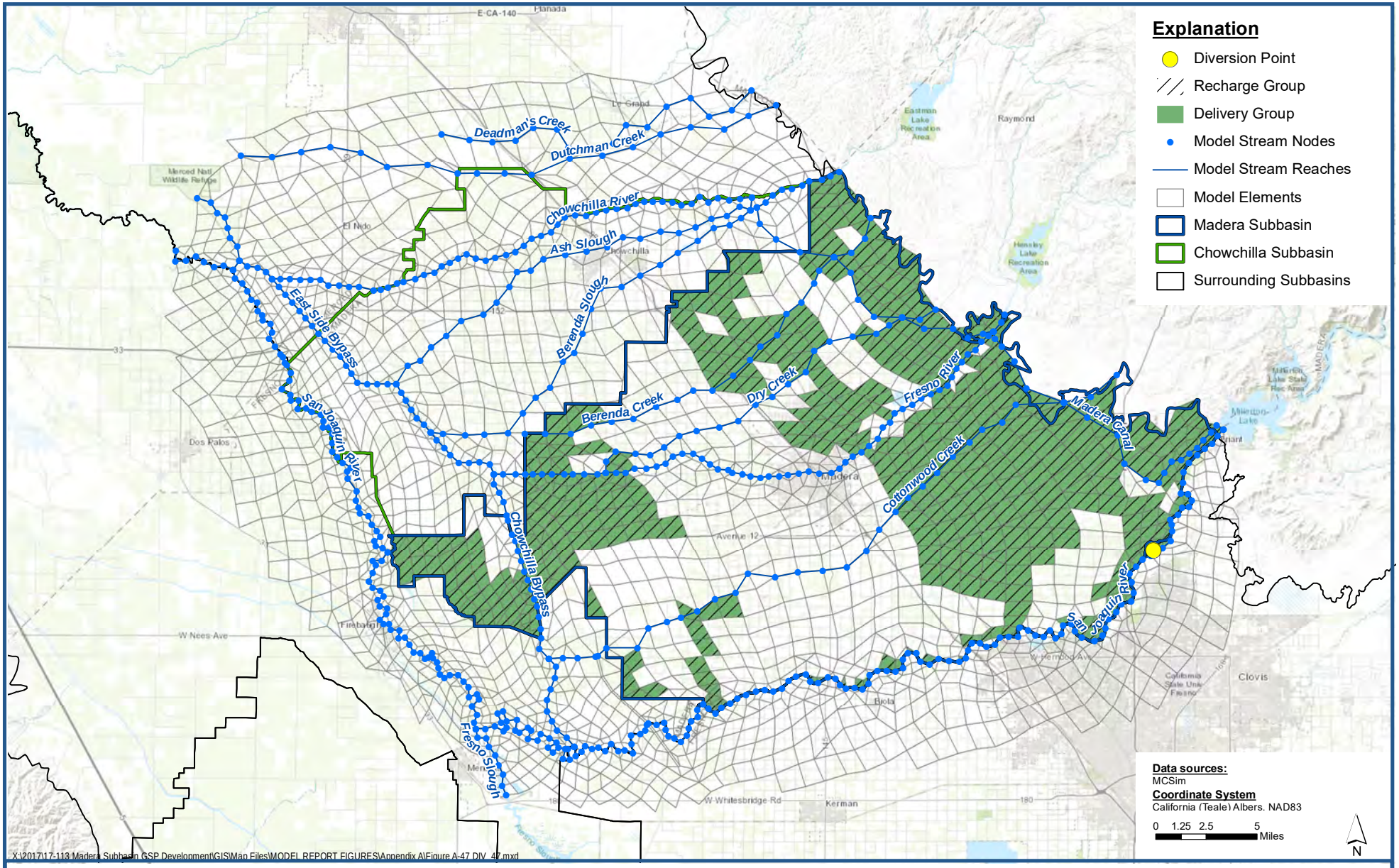
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_46 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-46

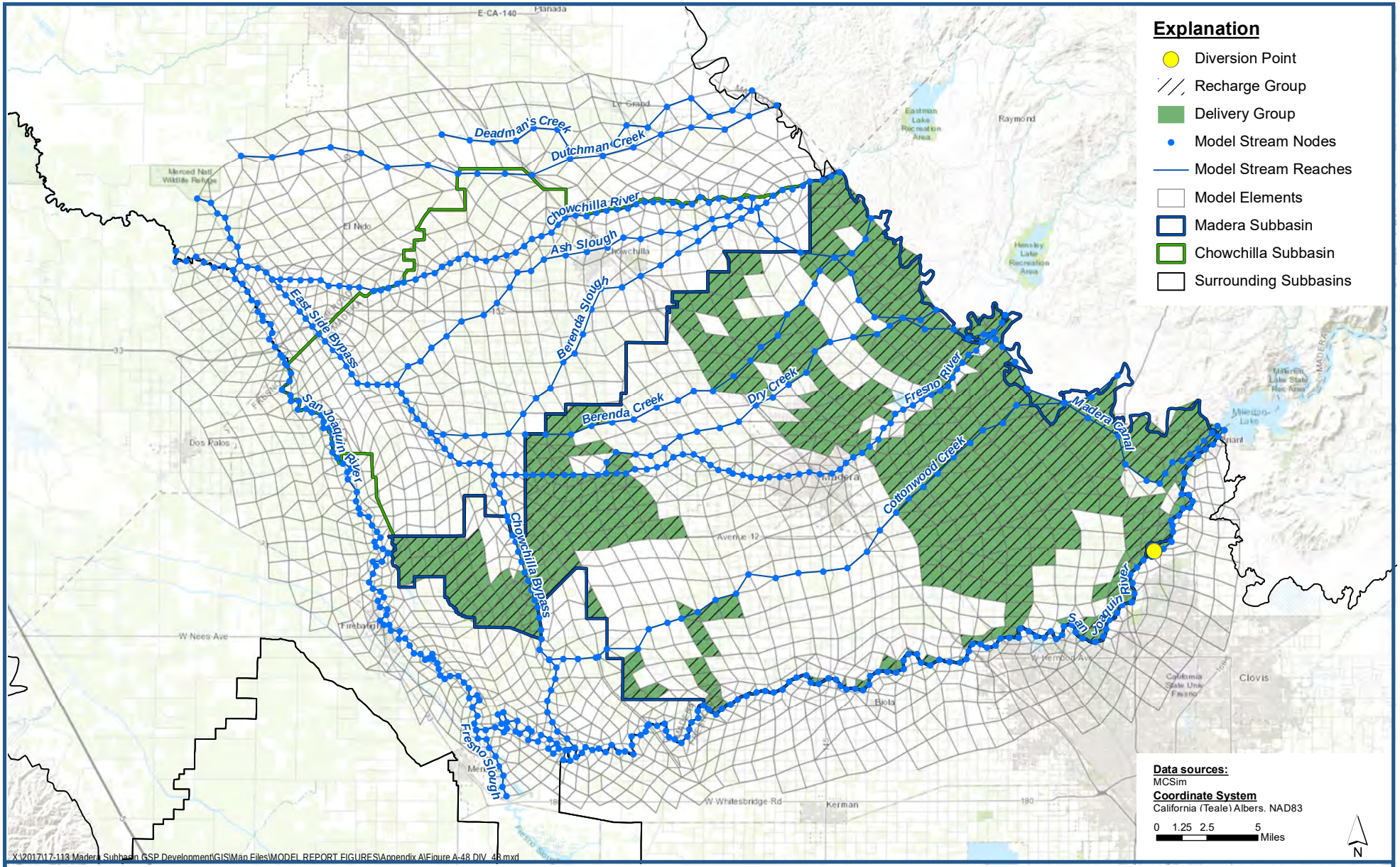
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_47 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-47

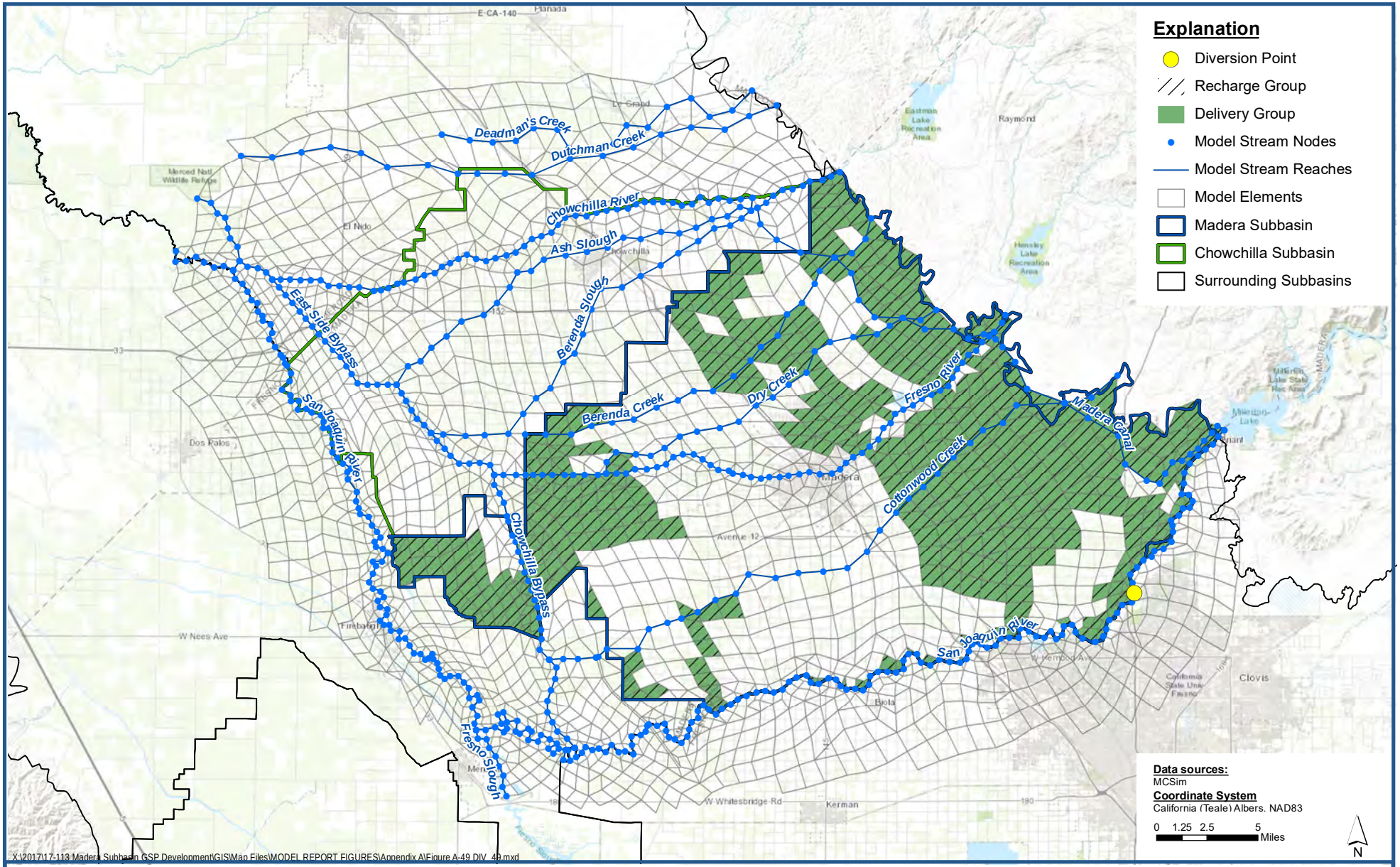
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_48 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-48

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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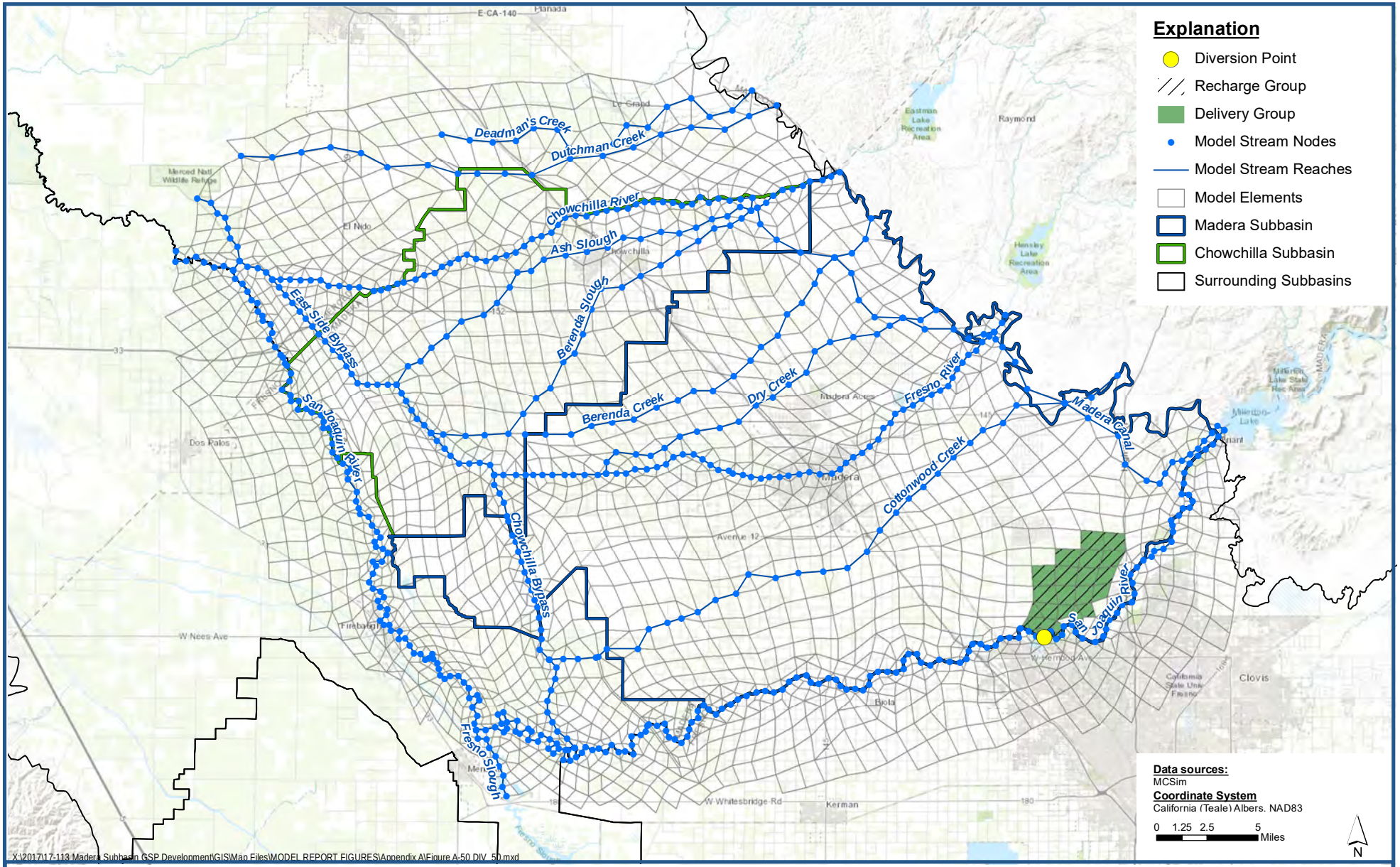
DIV_49 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-49

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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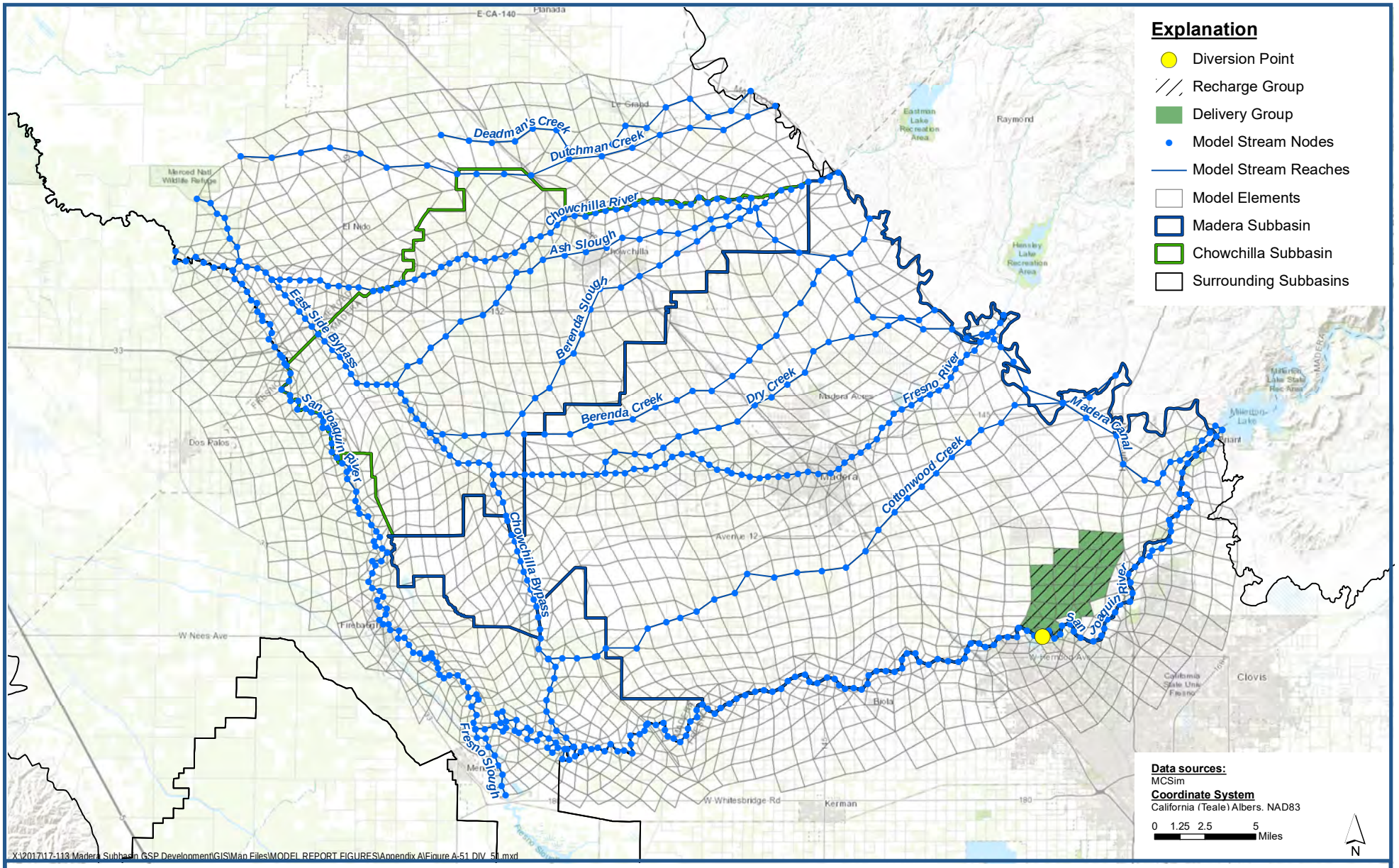
DIV_50 - Riparian Deliveries to Root Creek WD agricultural land Historical Surface Water Diversions

Figure A-50

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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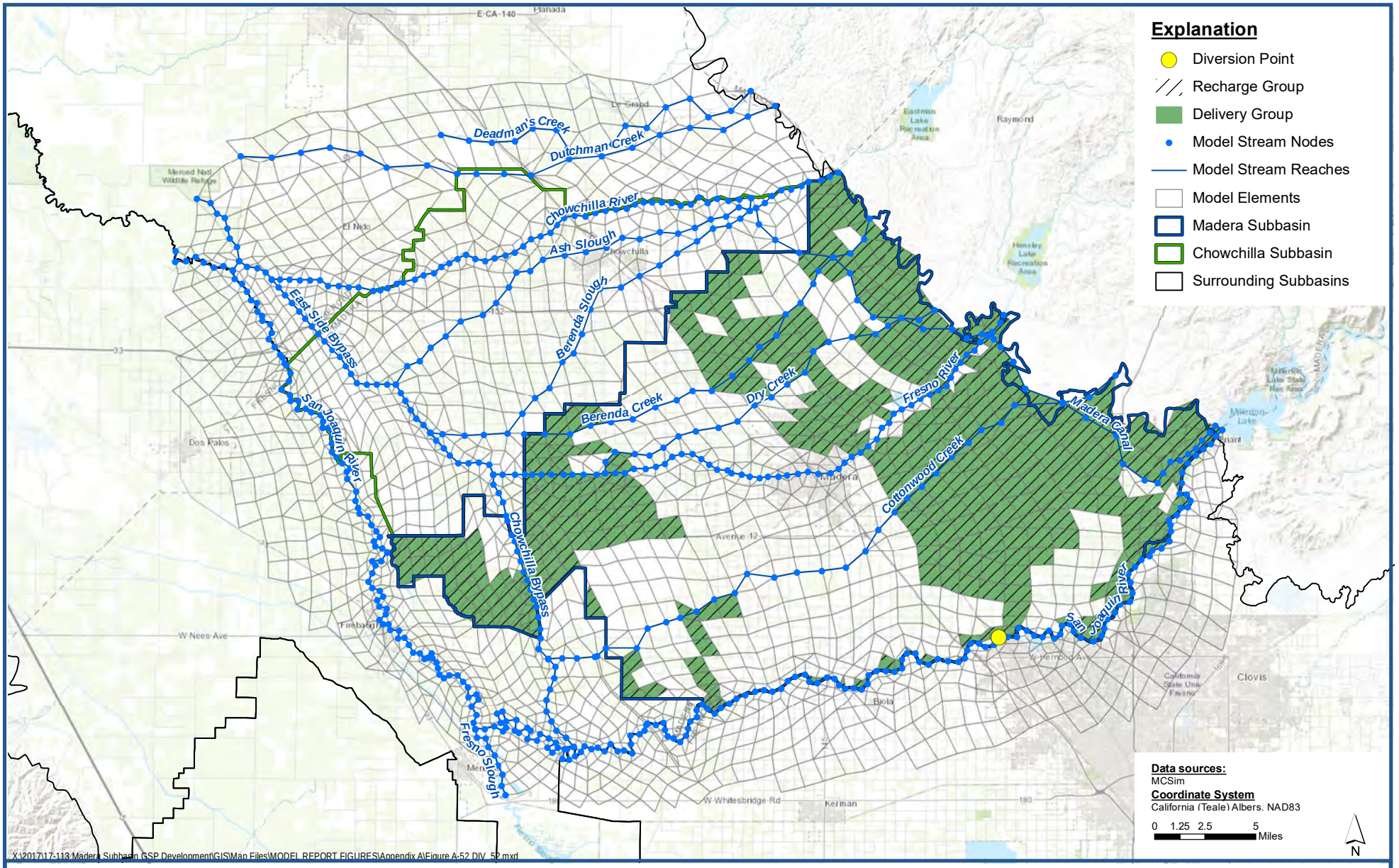
DIV_51 - Riparian Deliveries to Root Creek WD agricultural land Historical Surface Water Diversions

Figure A-51

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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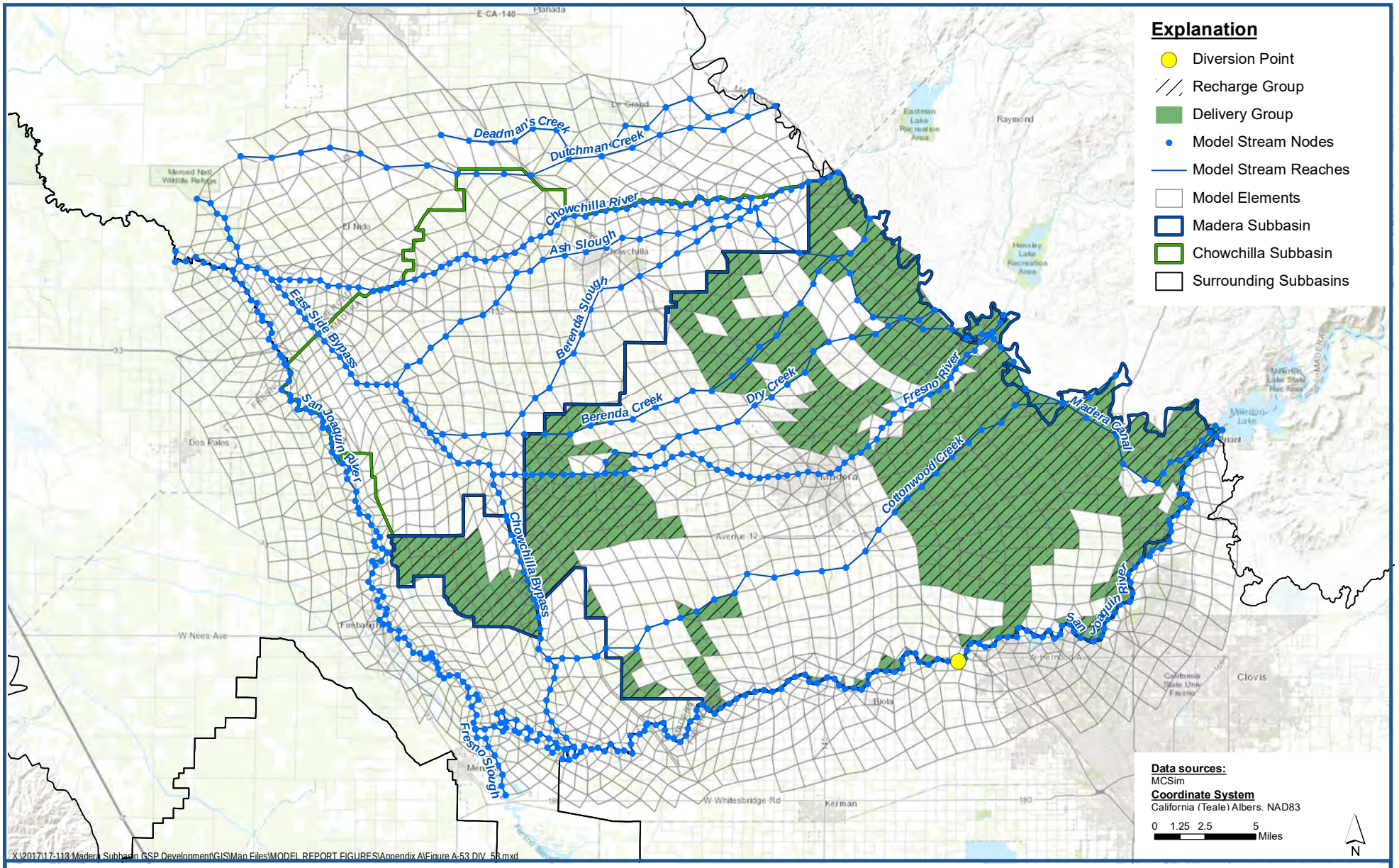
DIV_52 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-52

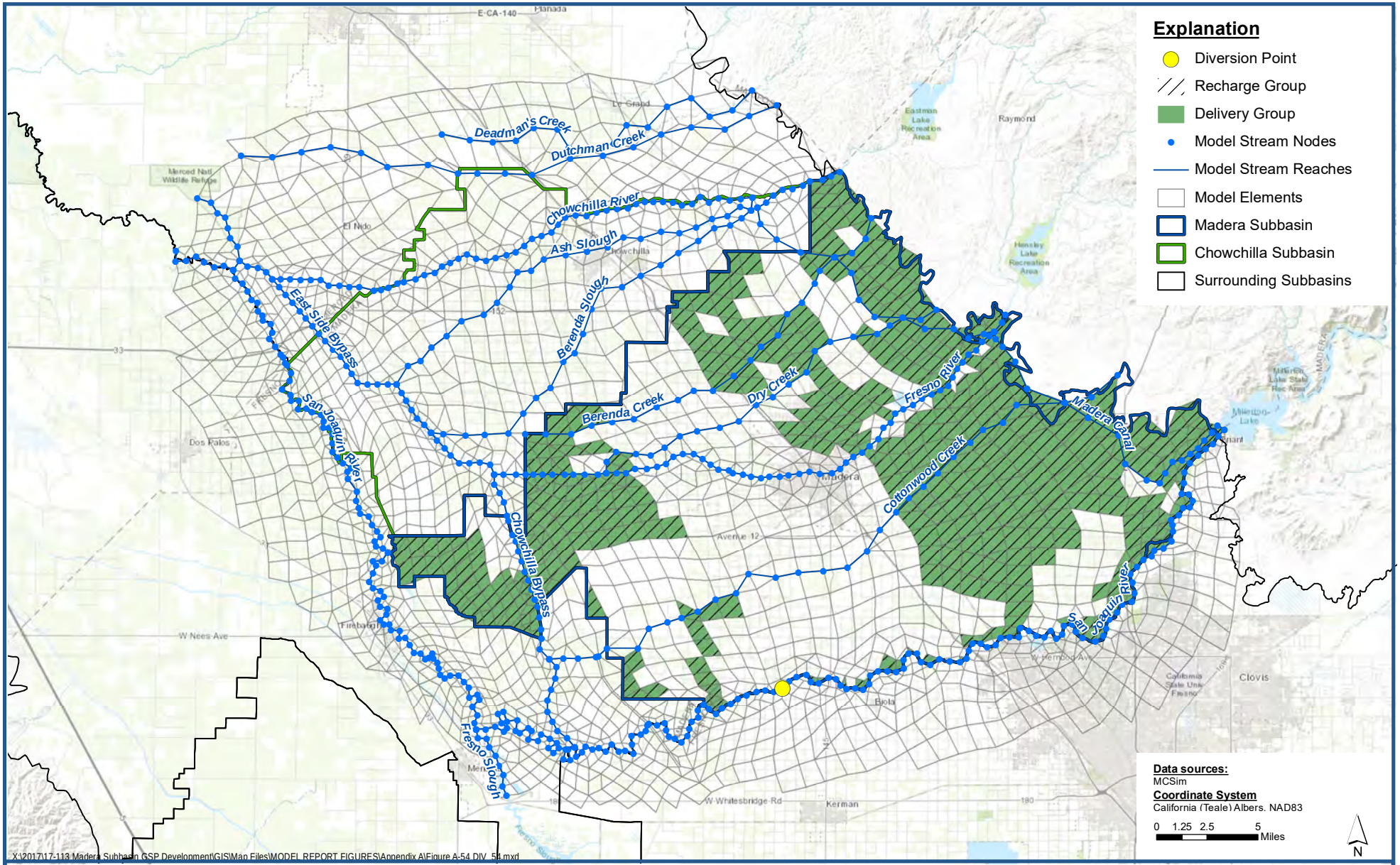
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_53 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-53

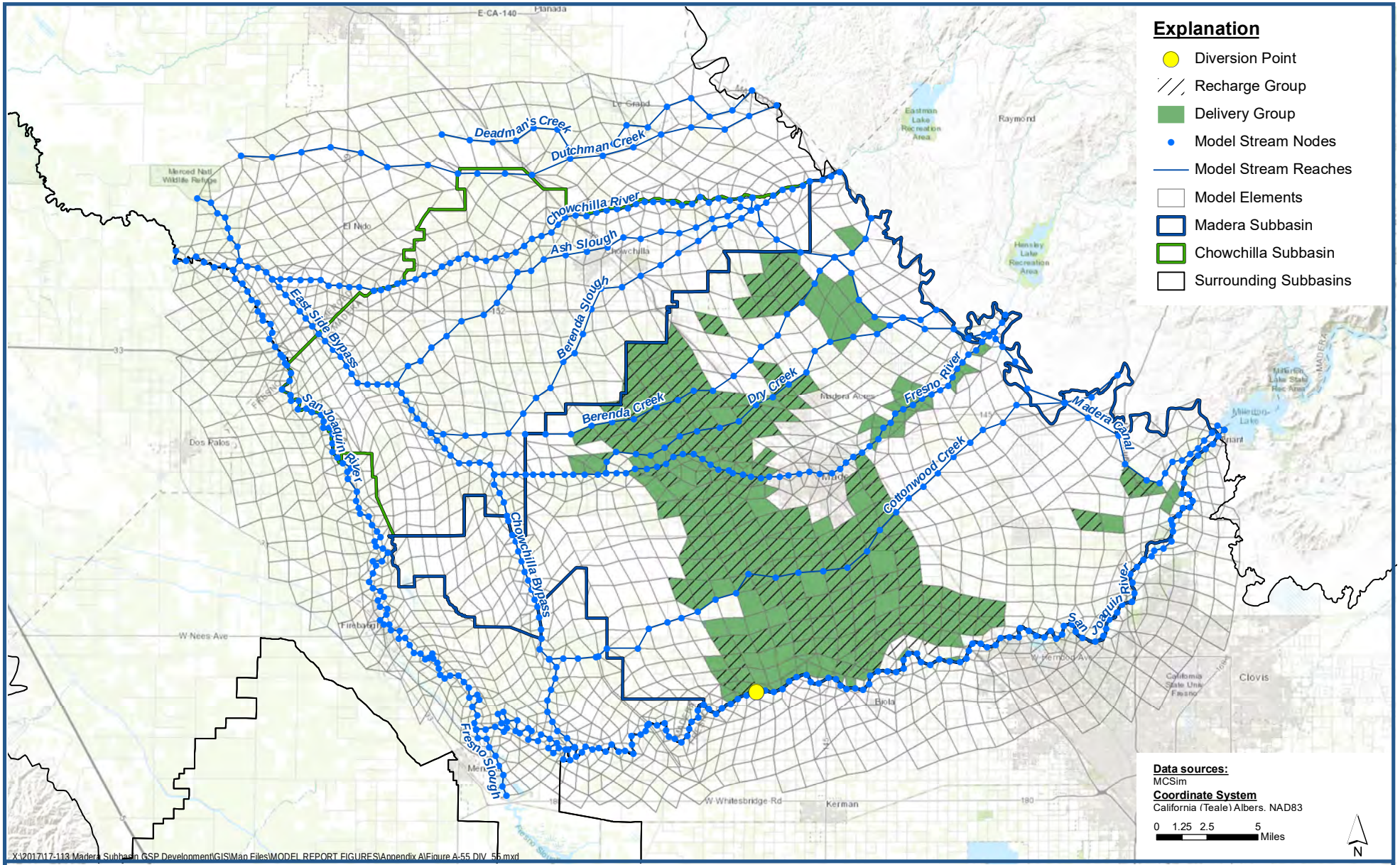
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_54 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-54

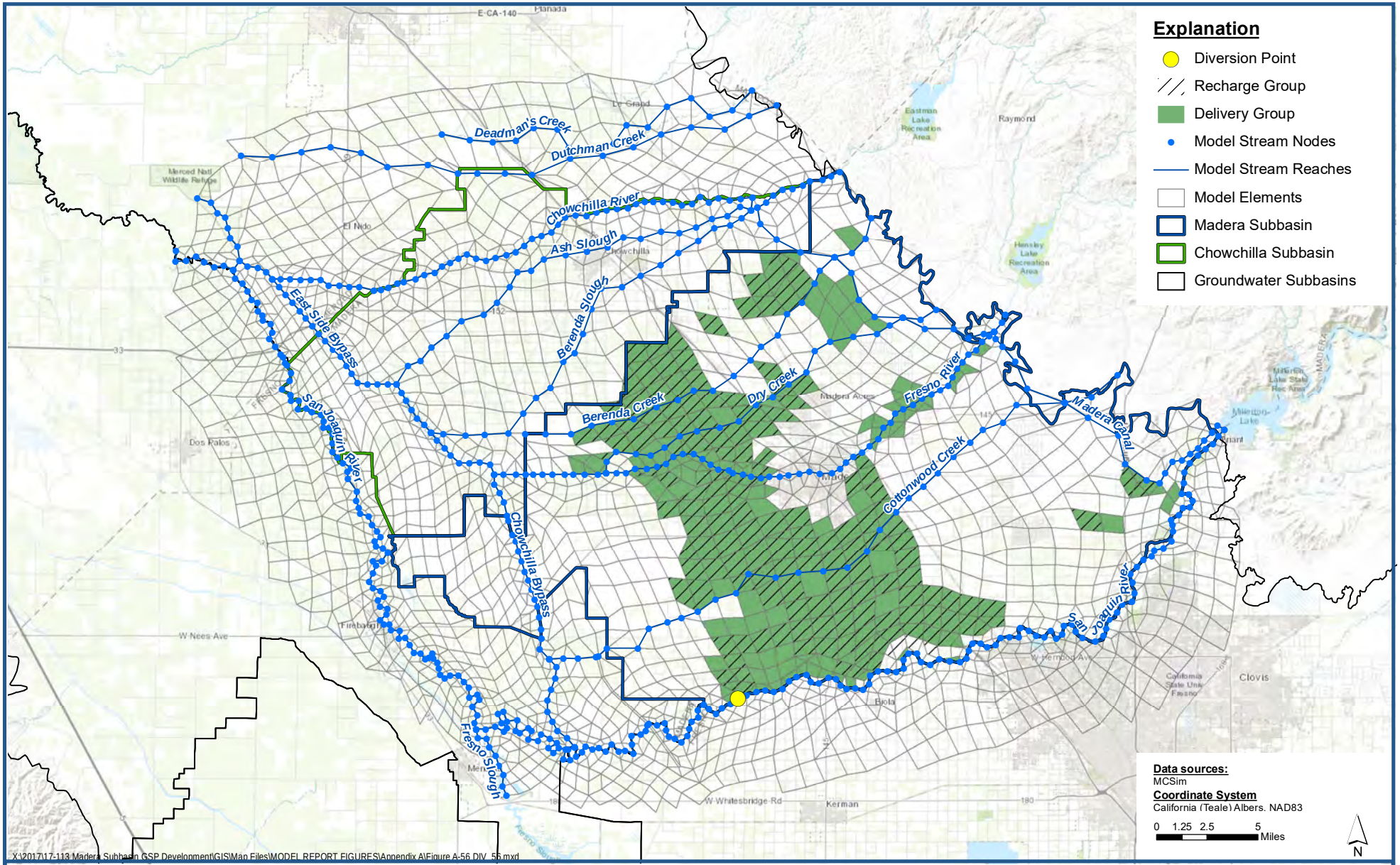
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_55 - Riparian Deliveries to Madera ID agricultural land
Historical Surface Water Diversions

Figure A-55

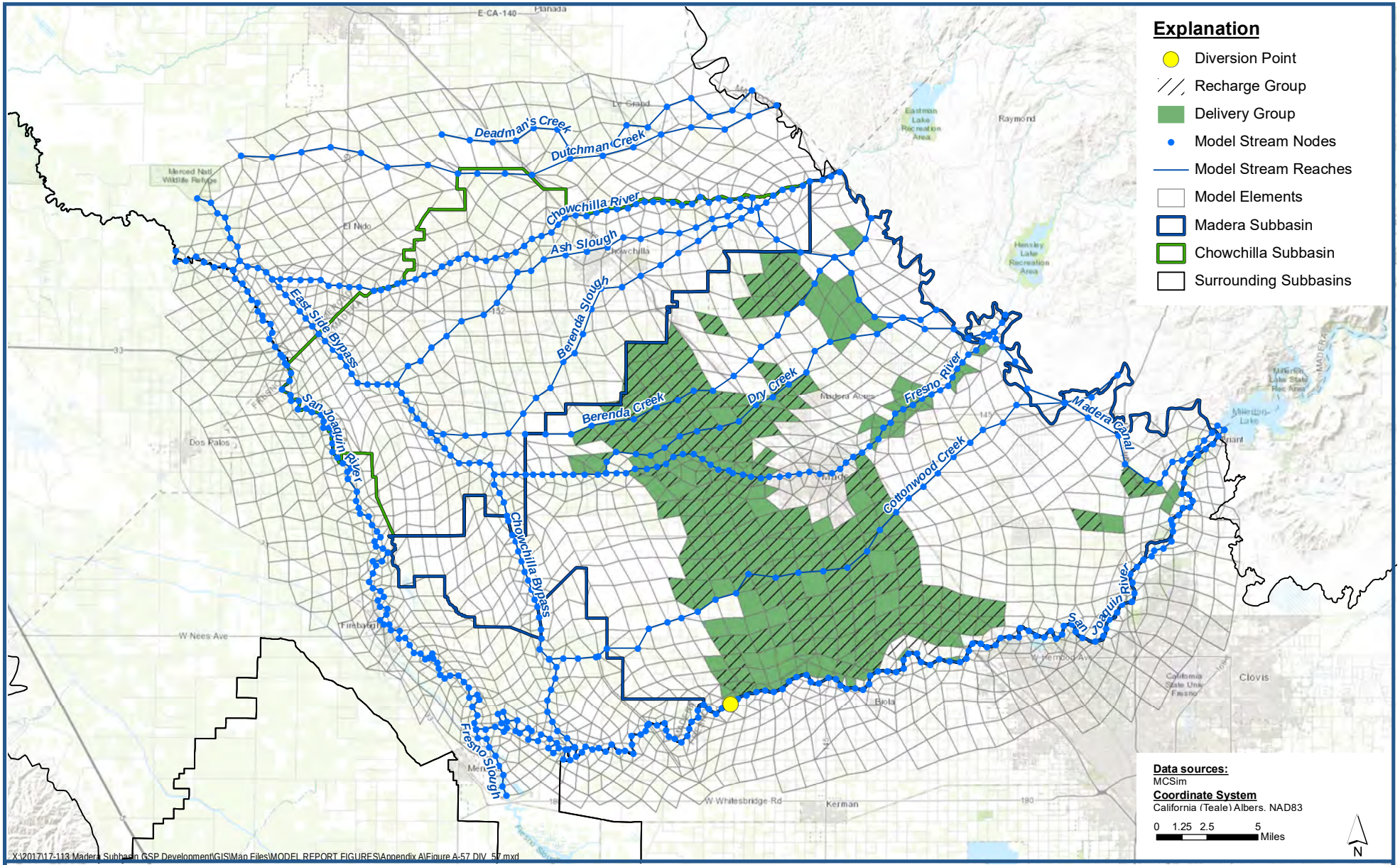
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_56 - Riparian Deliveries to Madera ID agricultural land
Historical Surface Water Diversions

Figure A-56

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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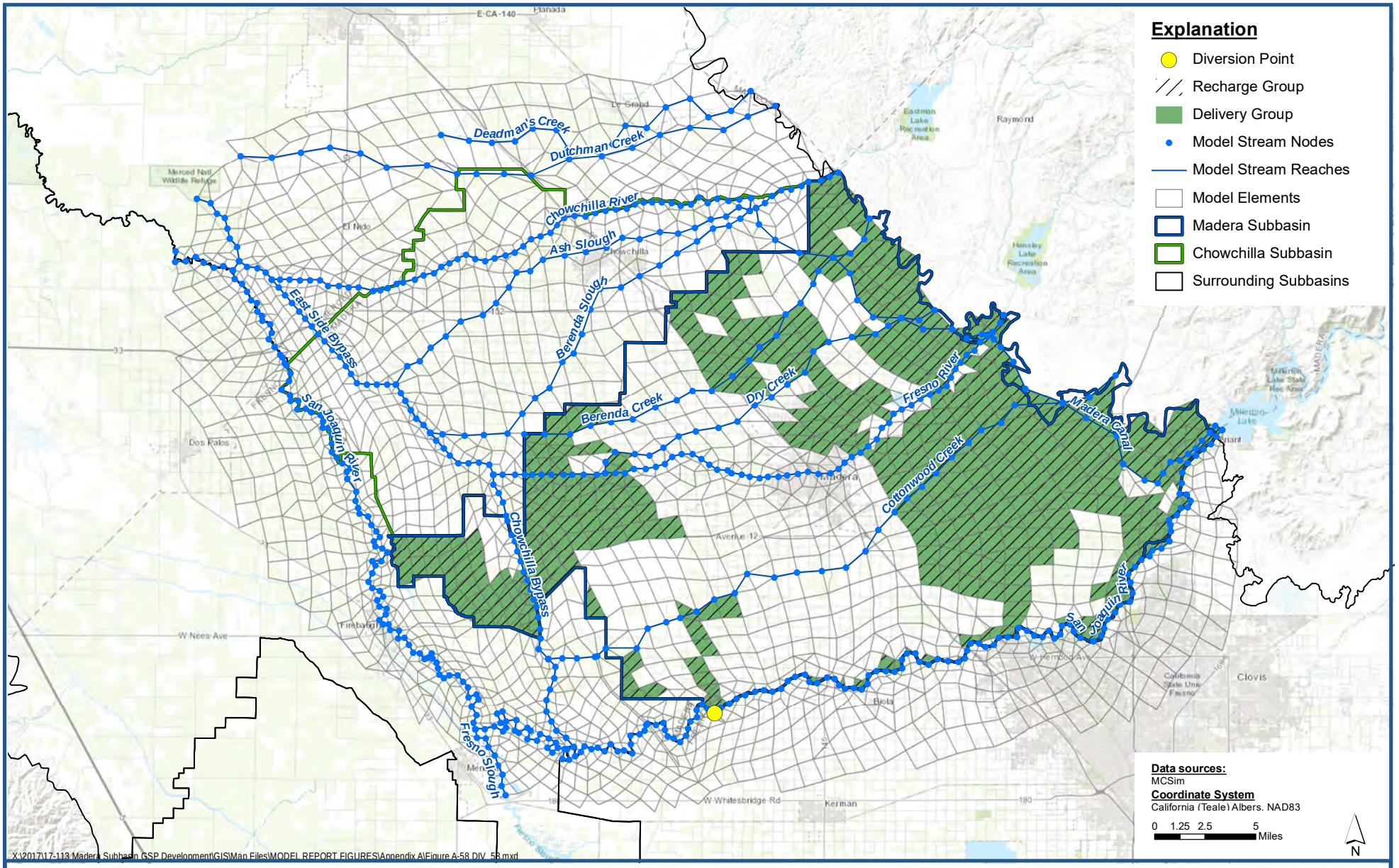
DIV_57 - Riparian Deliveries to Madera ID agricultural land
Historical Surface Water Diversions

Figure A-57

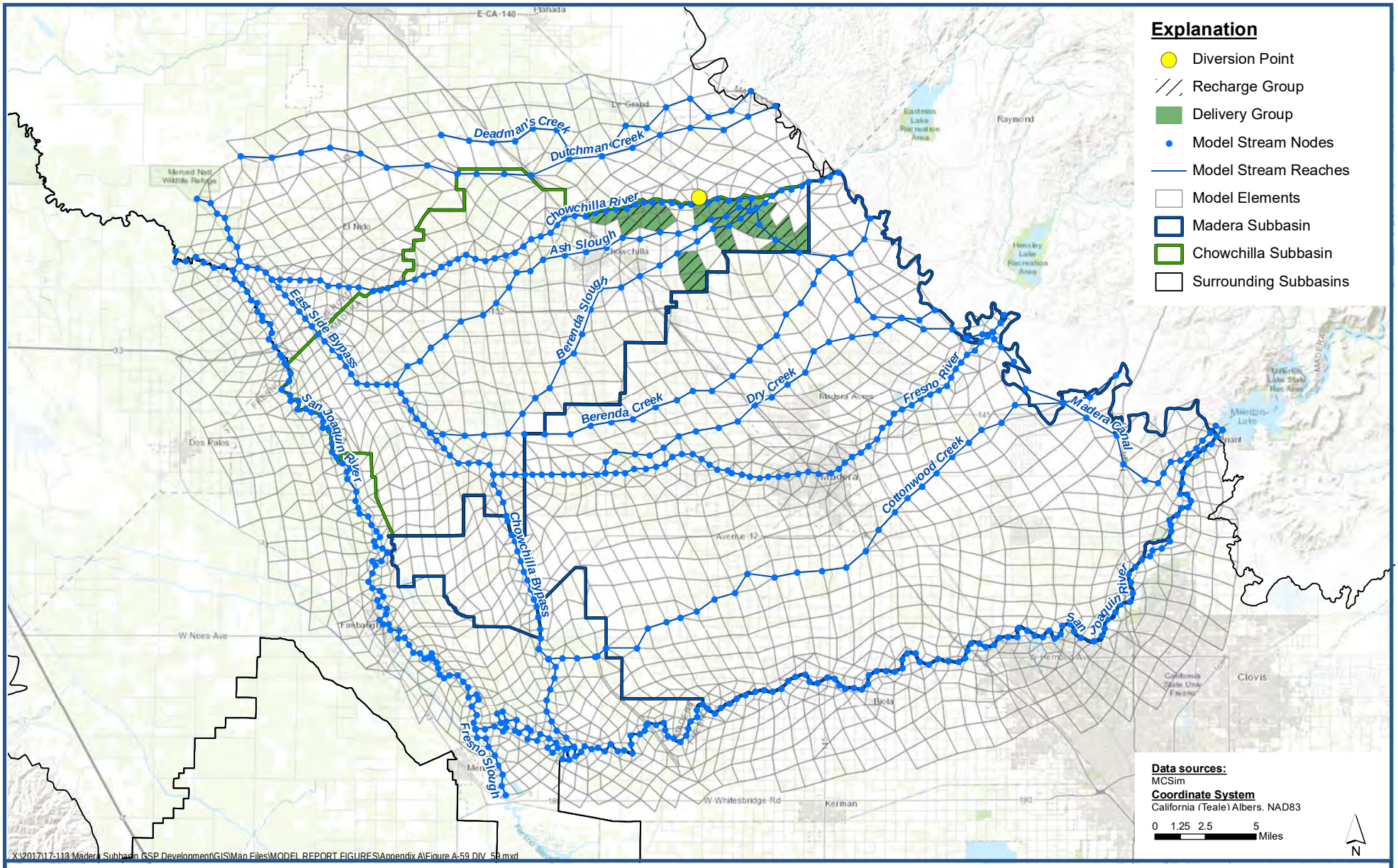
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_58 - Riparian Deliveries to Madera County agricultural land Historical Surface Water Diversions

Figure A-58

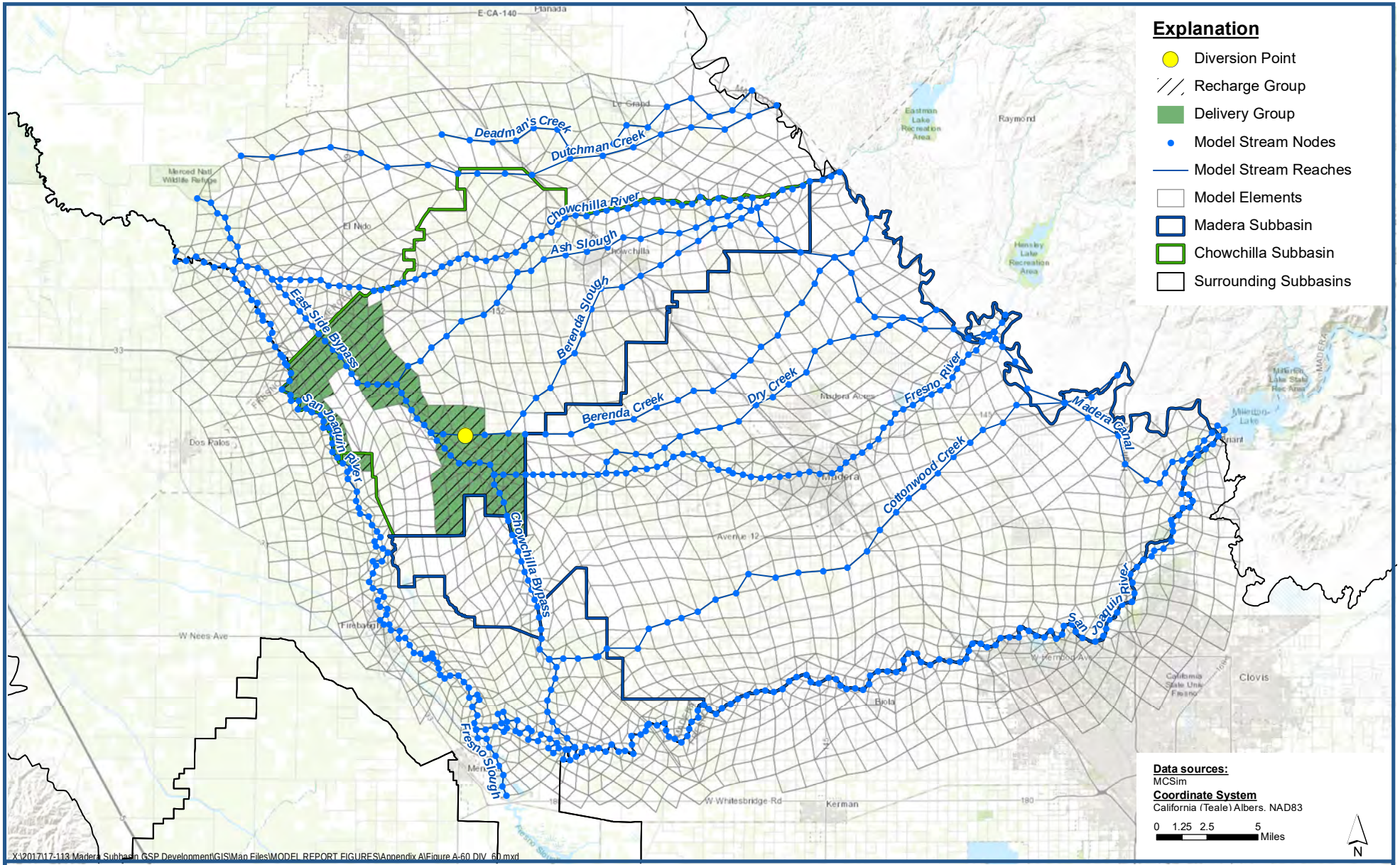
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_59 - Riparian Deliveries to Madera County East agricultural land Historical Surface Water Diversions

Figure A-59

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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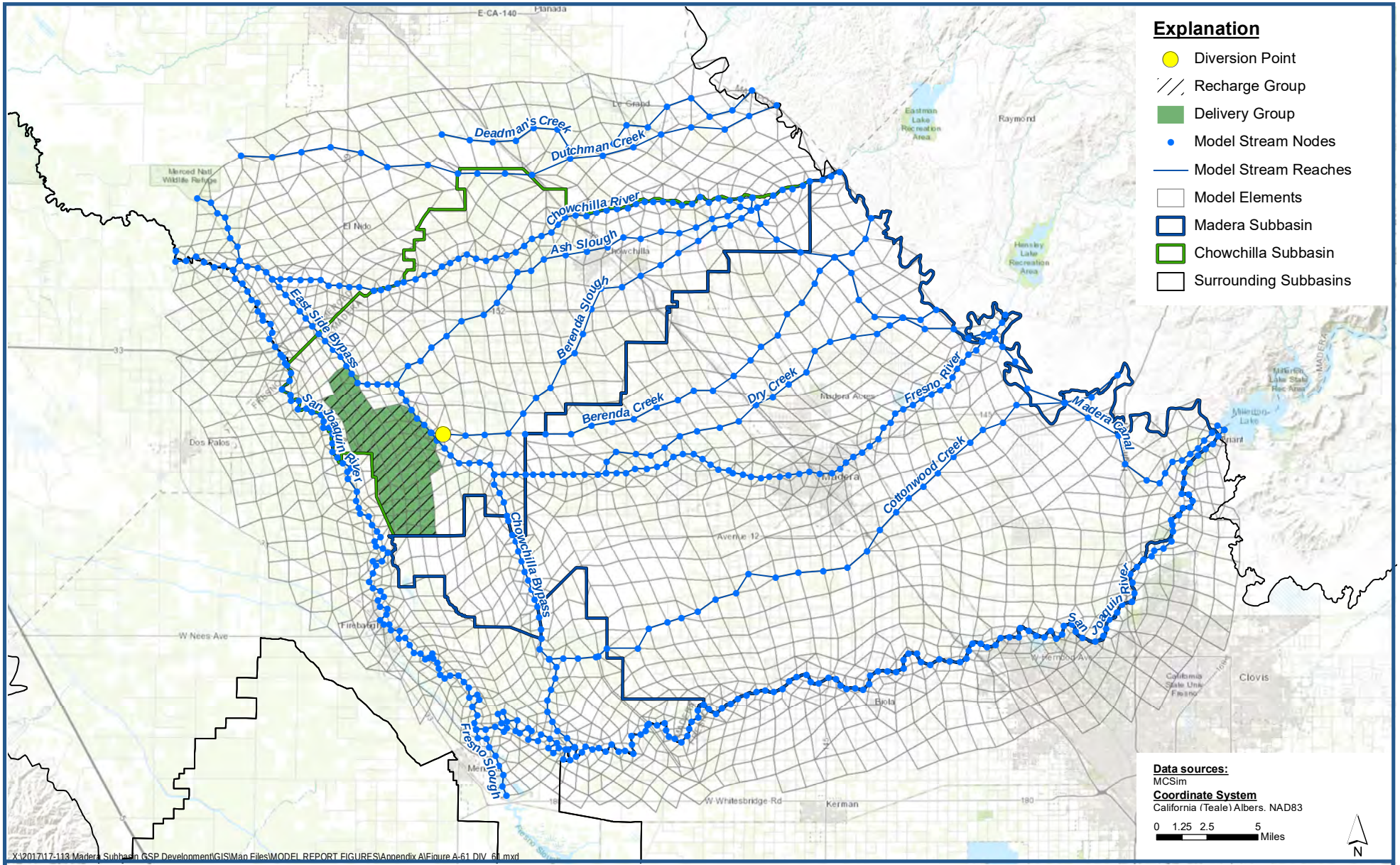
DIV_60 - Riparian Deliveries to Madera County West agricultural land Historical Surface Water Diversions

Figure A-60

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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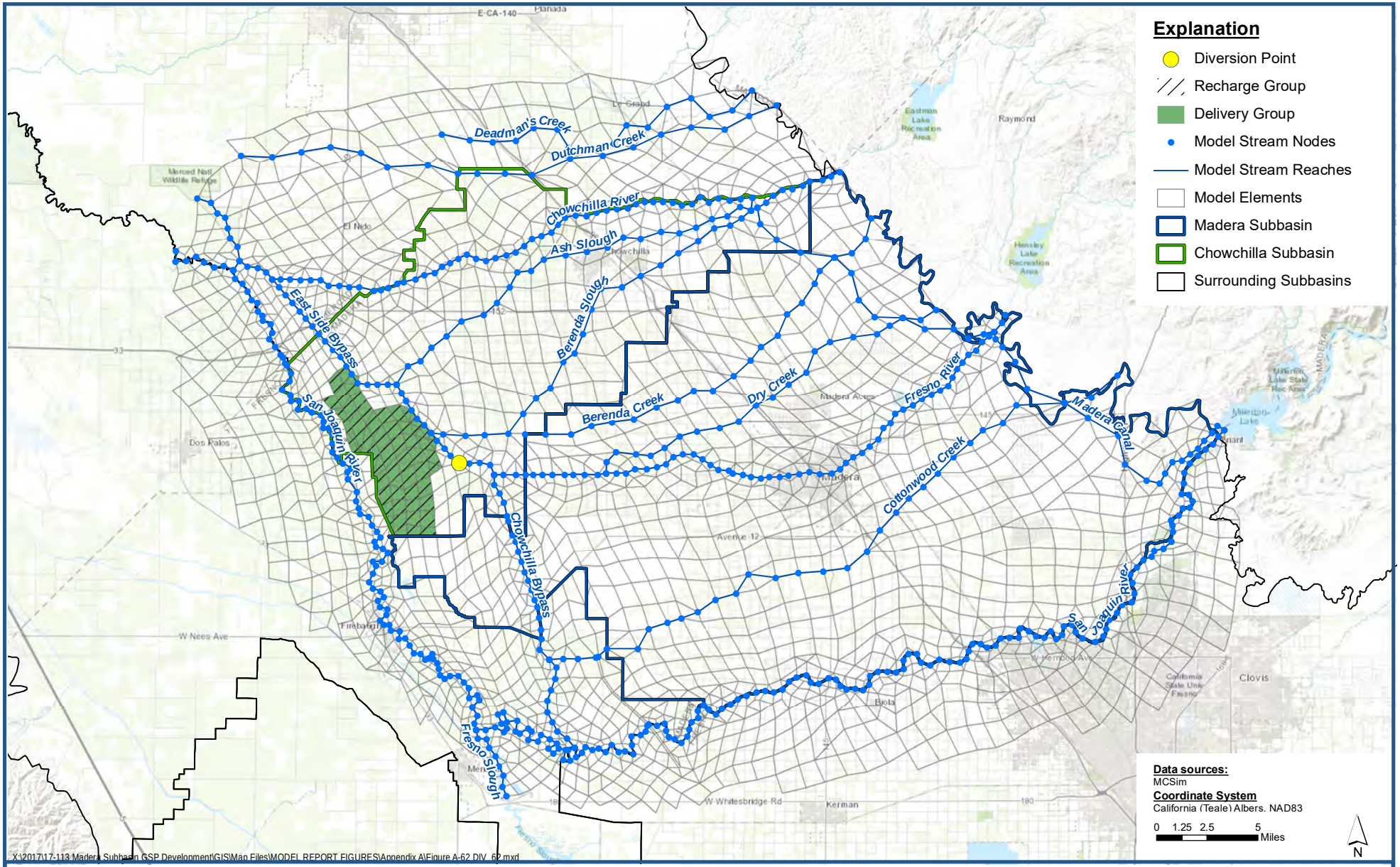
DIV_61 - Riparian Deliveries to Triangle T WD agricultural land
Historical Surface Water Diversions

Figure A-61

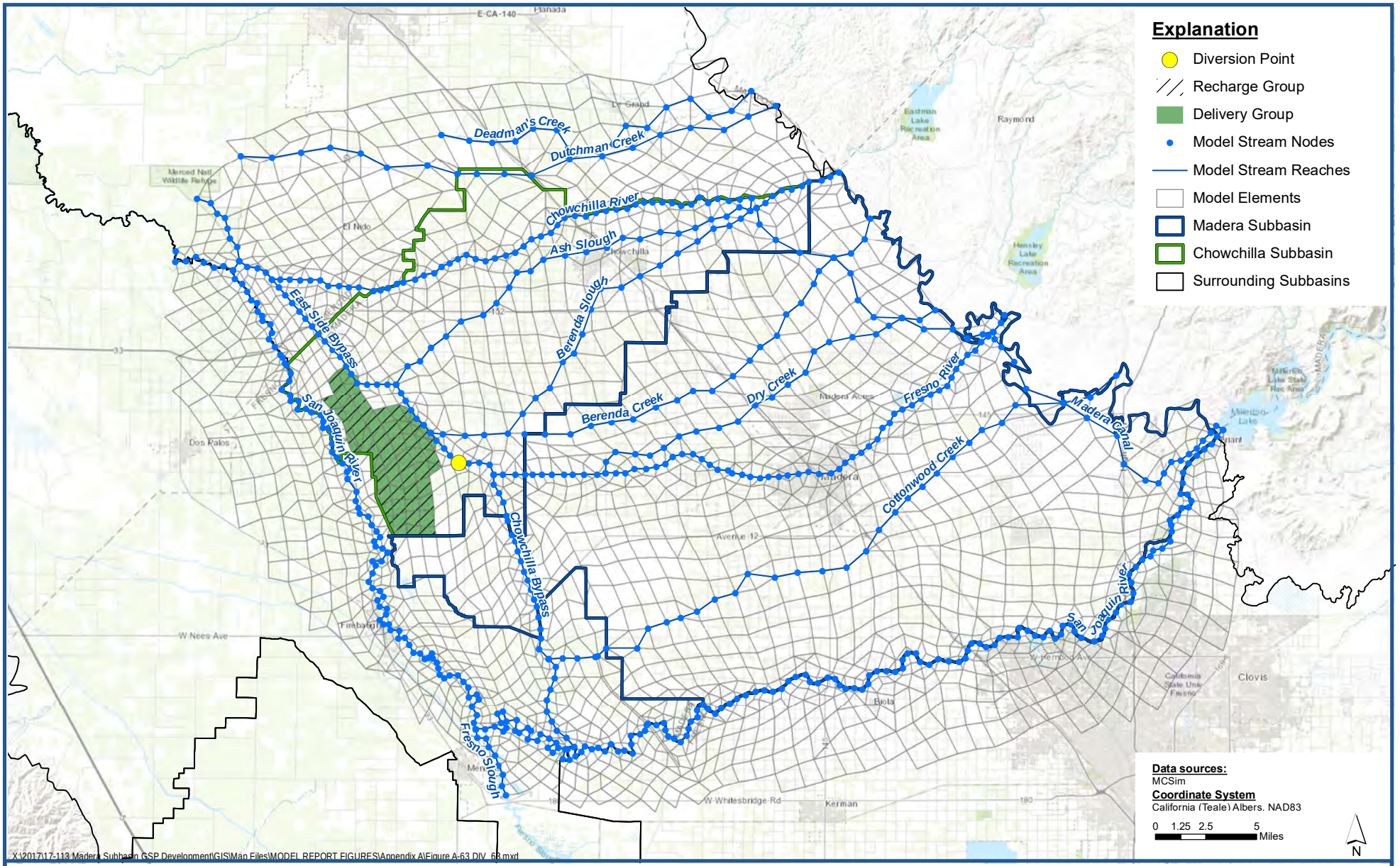
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_62 - Riparian Deliveries to Triangle T WD agricultural land
Historical Surface Water Diversions

Figure A-62

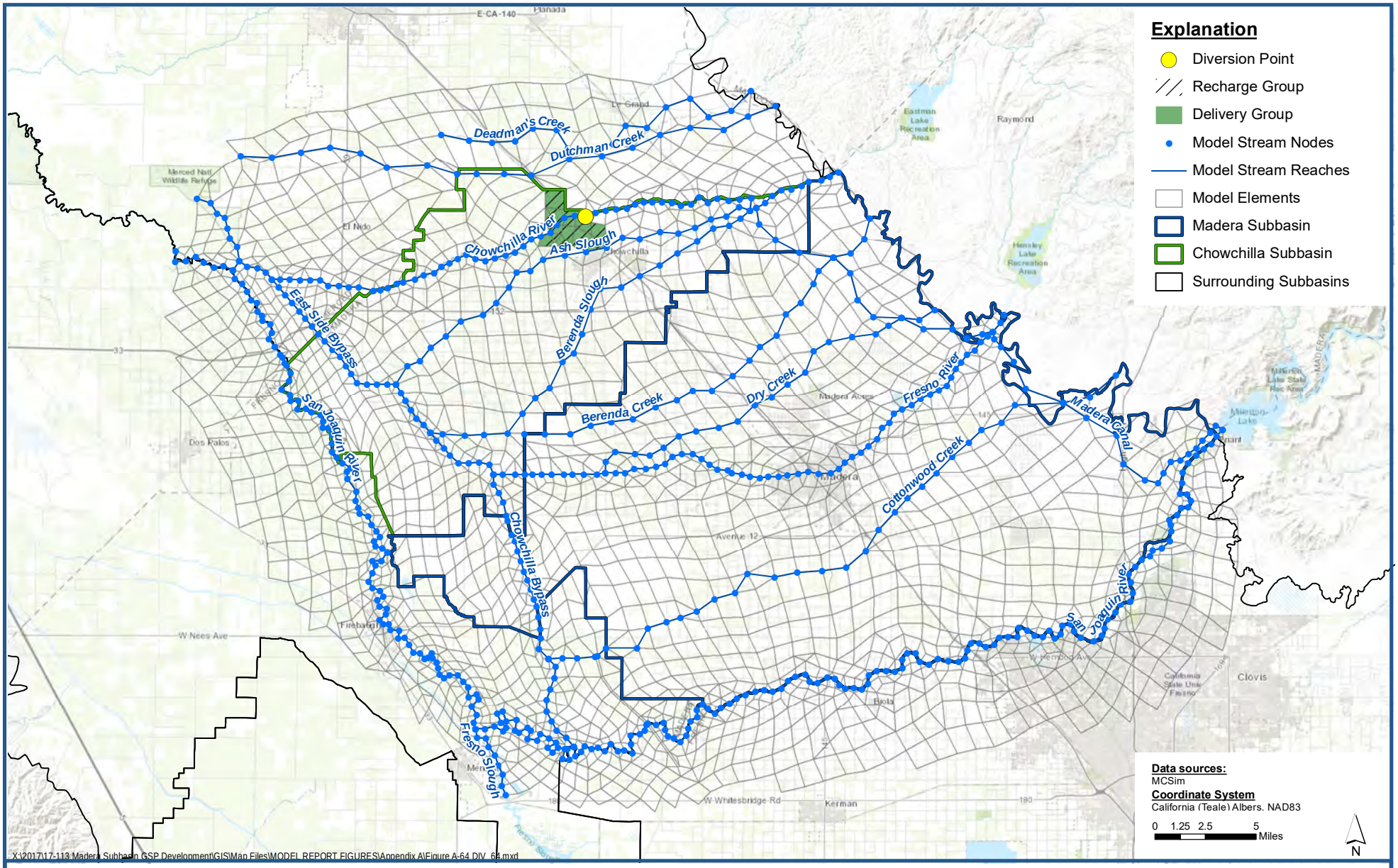
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



DIV_63 - Riparian Deliveries to Triangle T WD agricultural land
Historical Surface Water Diversions

Figure A-63

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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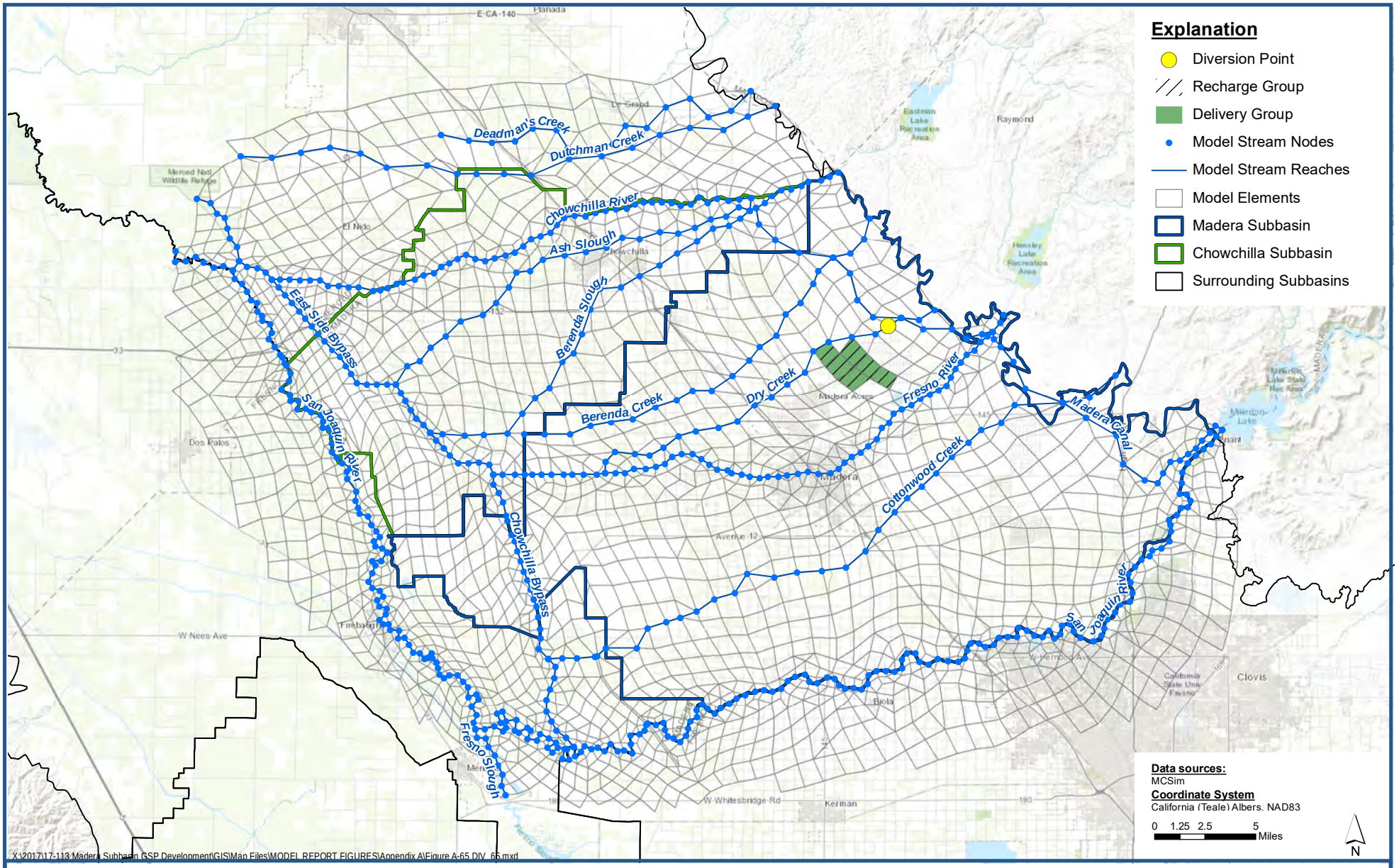
DIV_64 - Prescriptive water rights deliveries to Sierra Vista MWC agricultural land Historical Surface Water Diversions

Figure A-64

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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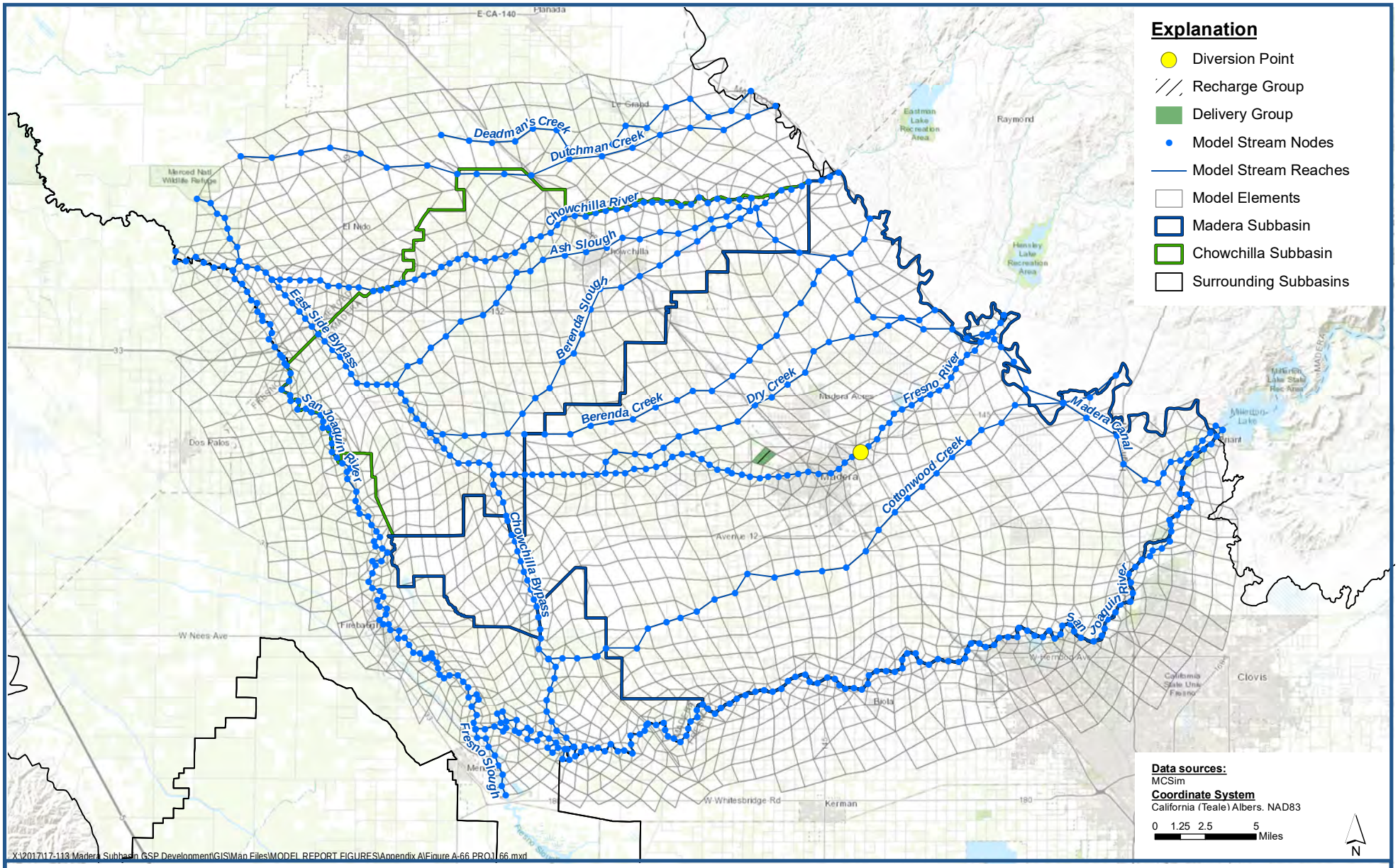
DIV_65 - Riparian Deliveries to Madera WD lands by Sector
Historical Surface Water Diversions

Figure A-65

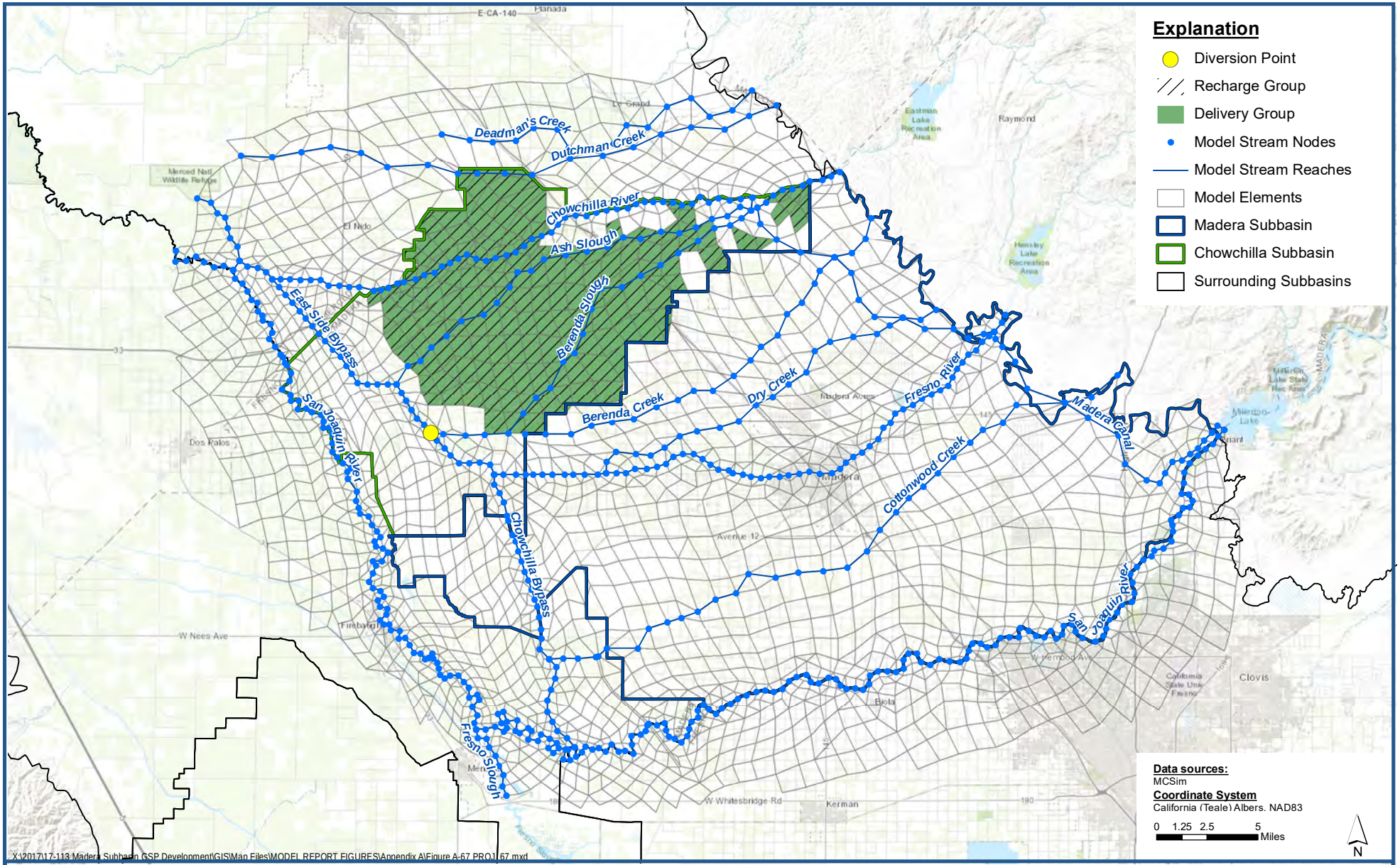
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_66 (City of Madera-01) - Berry Basin (City of Madera)
Projected Project Diversions

Figure A-66

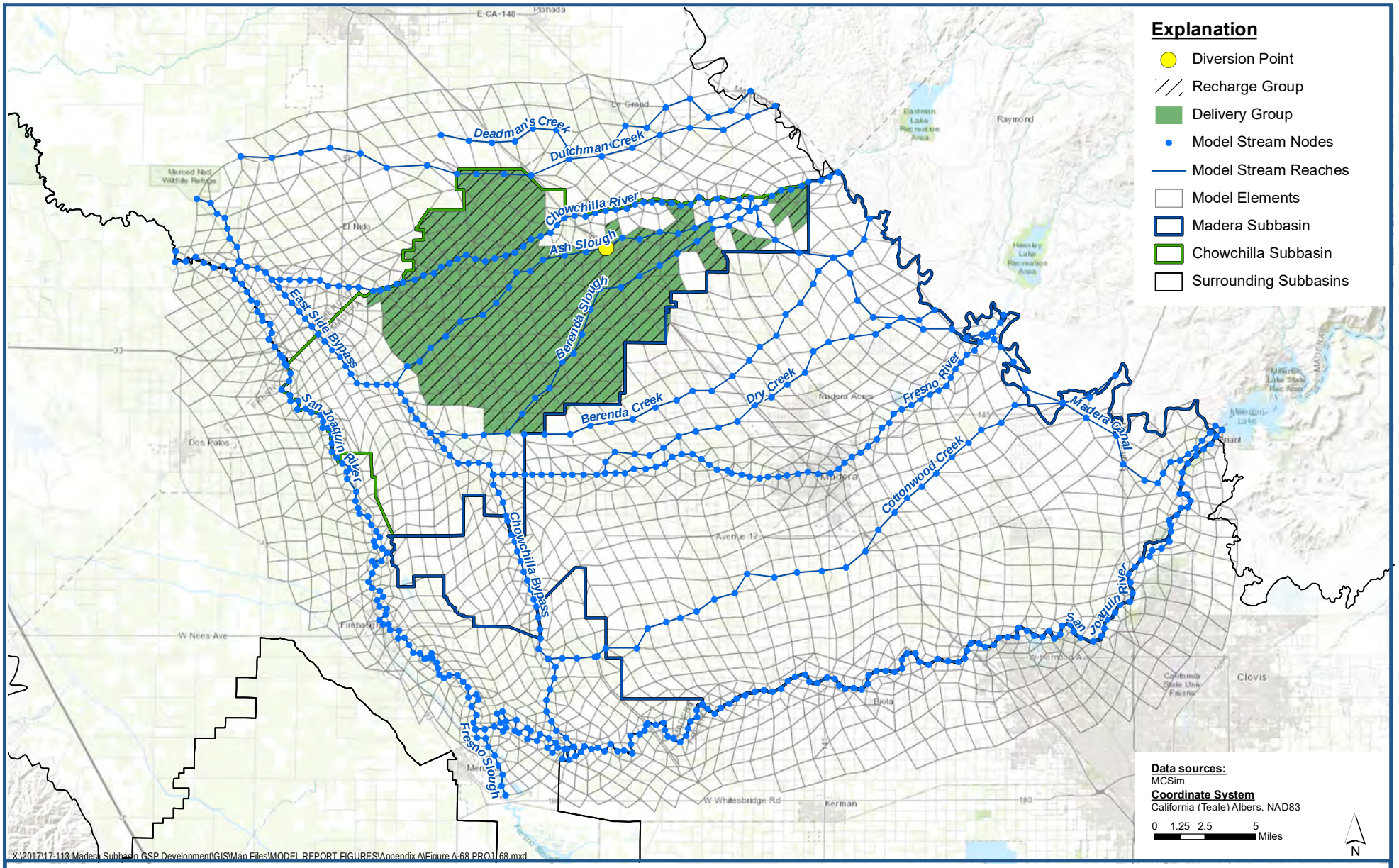
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_67 (CWD-01) - CWD Recharge Basin
Projected Project Diversions

Figure A-67

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



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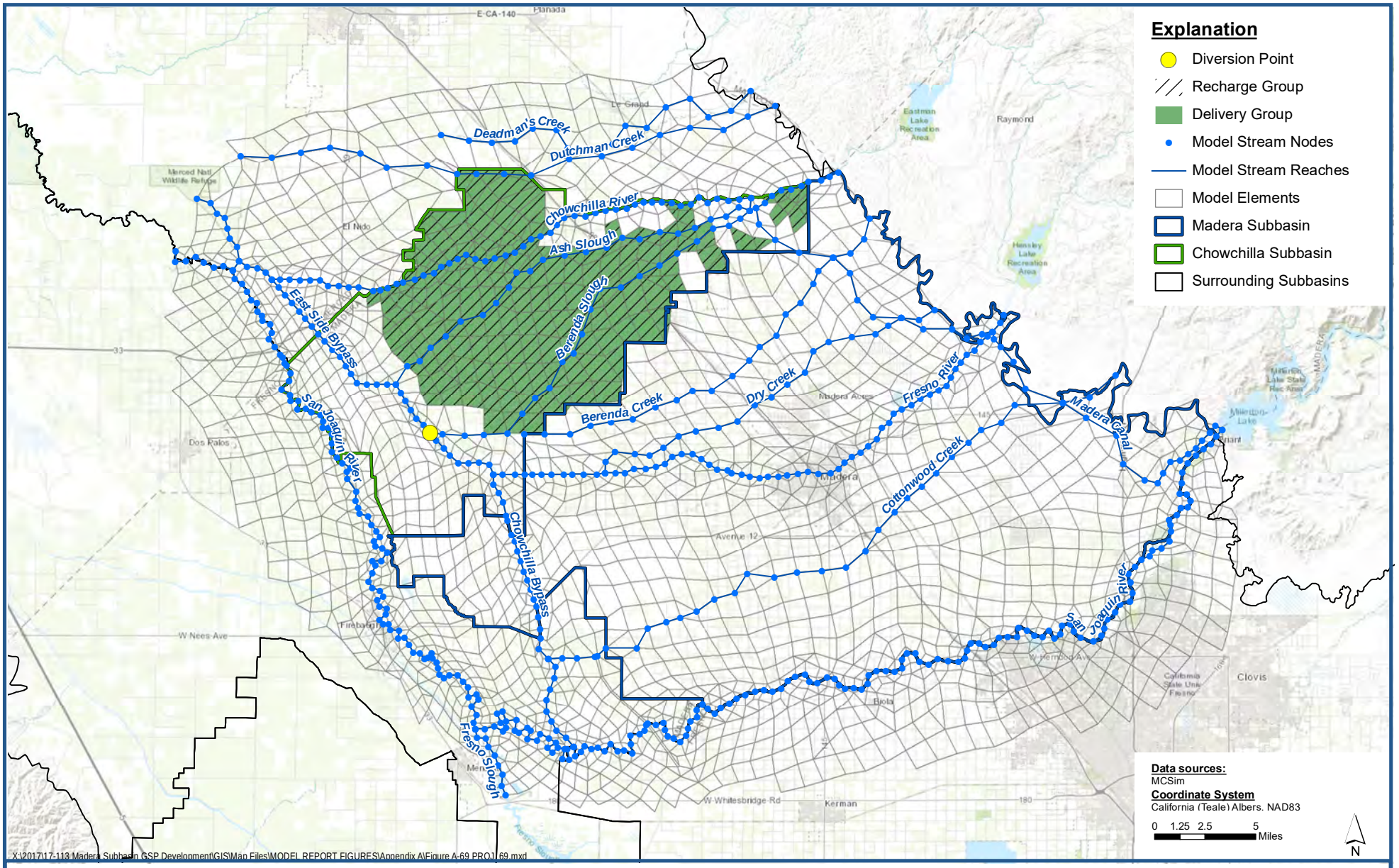
PROJ_68 (CWD-02) - CWD Additional Recharge Basin
Projected Project Diversions

Figure A-68

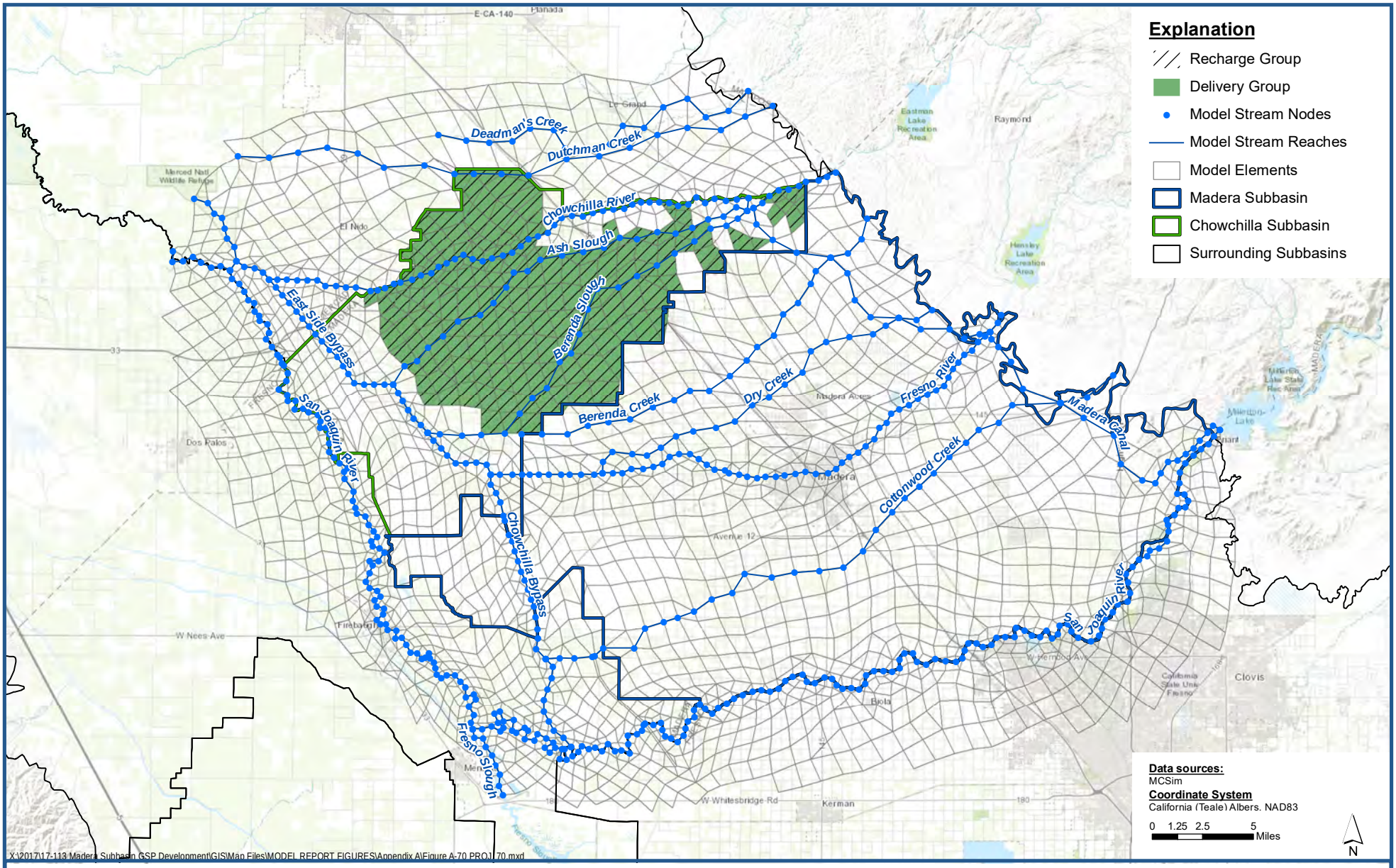
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_69 (CWD-03) - CWD Flood-MAR
Projected Project Diversions

Figure A-69

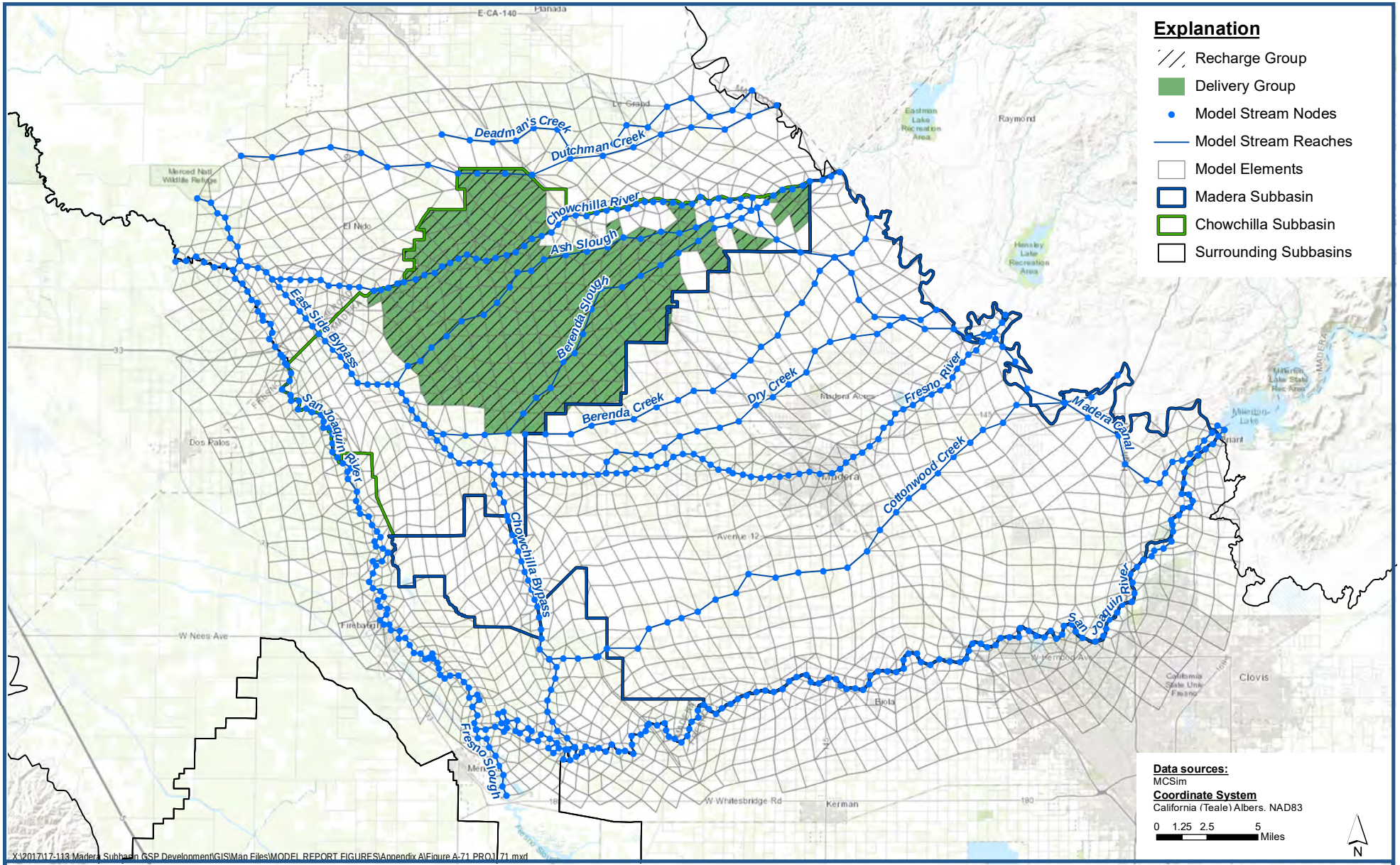
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_70 (CWD-04) - Merced-Chowchilla Intertie
Projected Project Diversions

Figure A-70

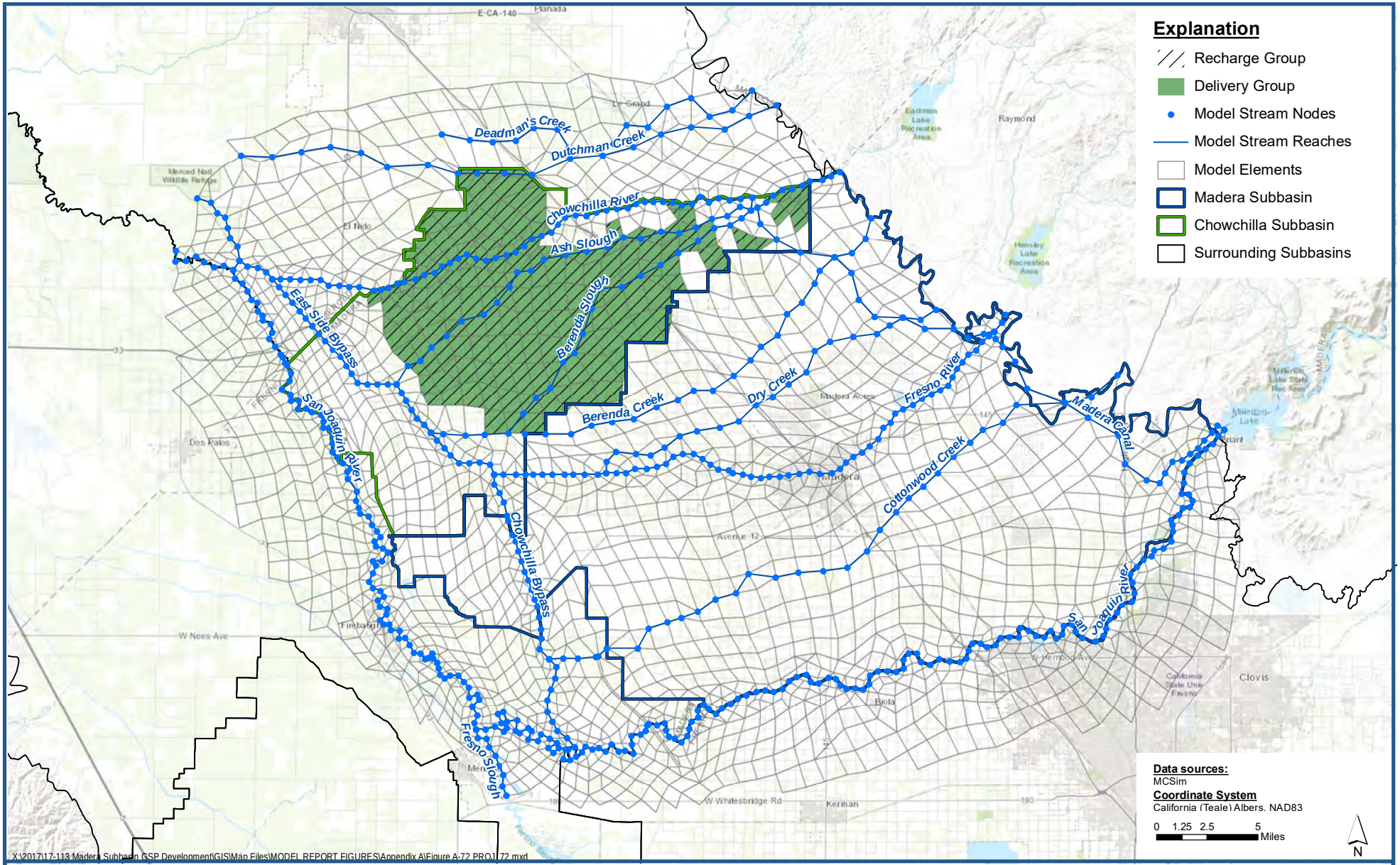
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_71 (CWD-05) - Madera Canal Capacity Increase
Projected Project Diversions

Figure A-71

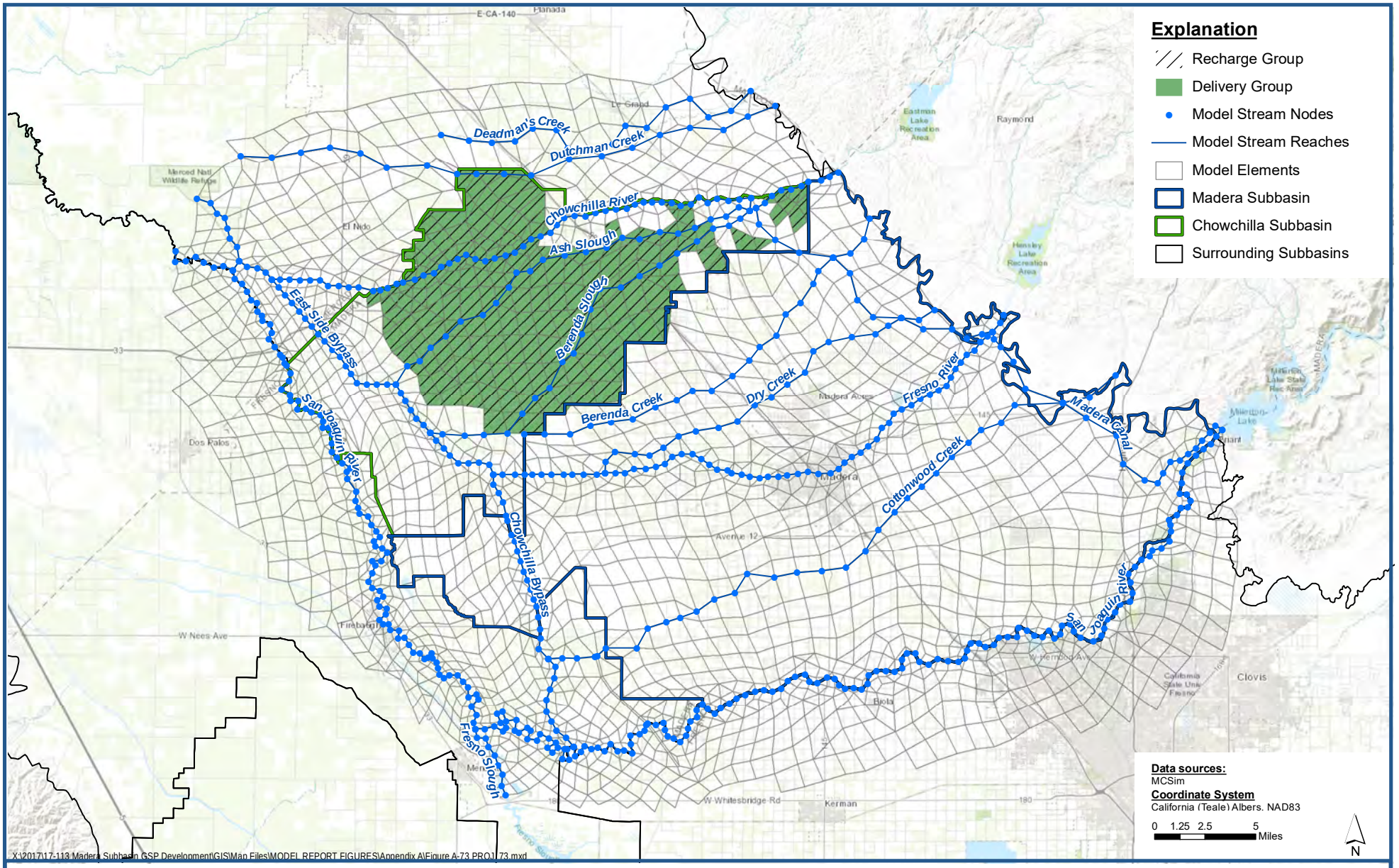
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_72 (CWD-06) - Eastman Lake Enlargement
Projected Project Diversions

Figure A-72

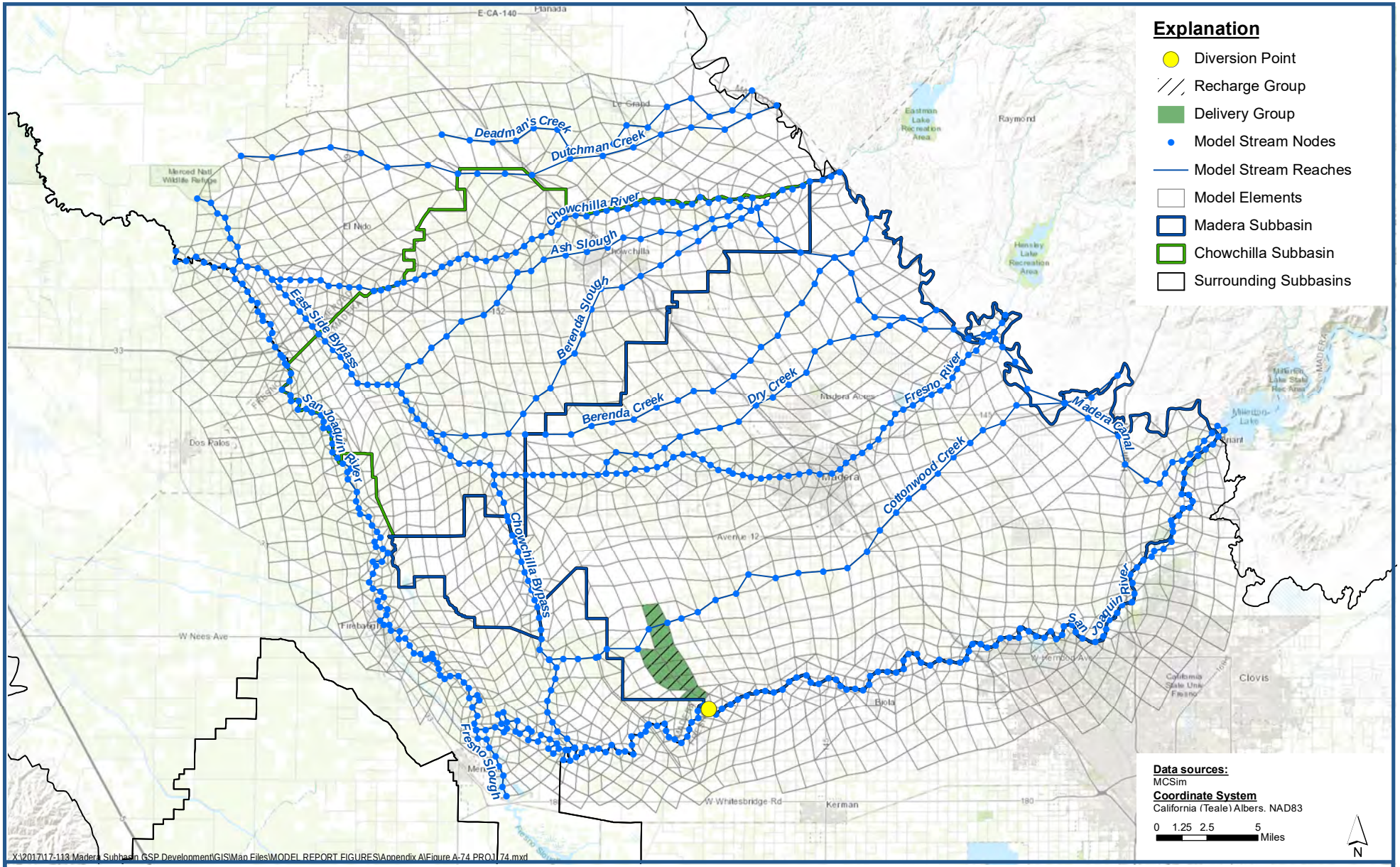
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_73 (CWD-06) - Eastman Lake Enlargement
Projected Project Diversions

Figure A-73

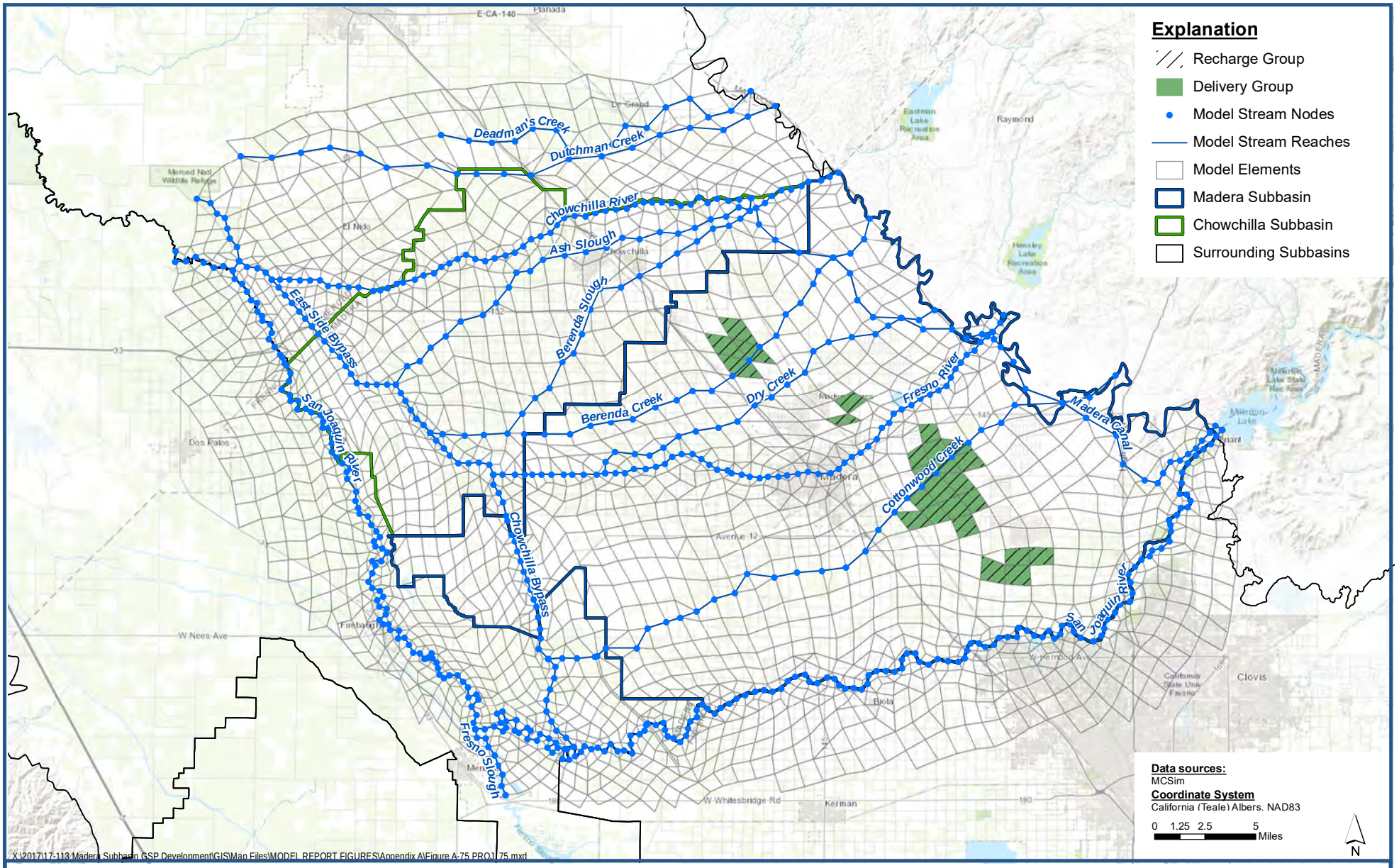
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_74 (GFWD-01) - GFWD Recharge Basin
Projected Project Diversions

Figure A-74

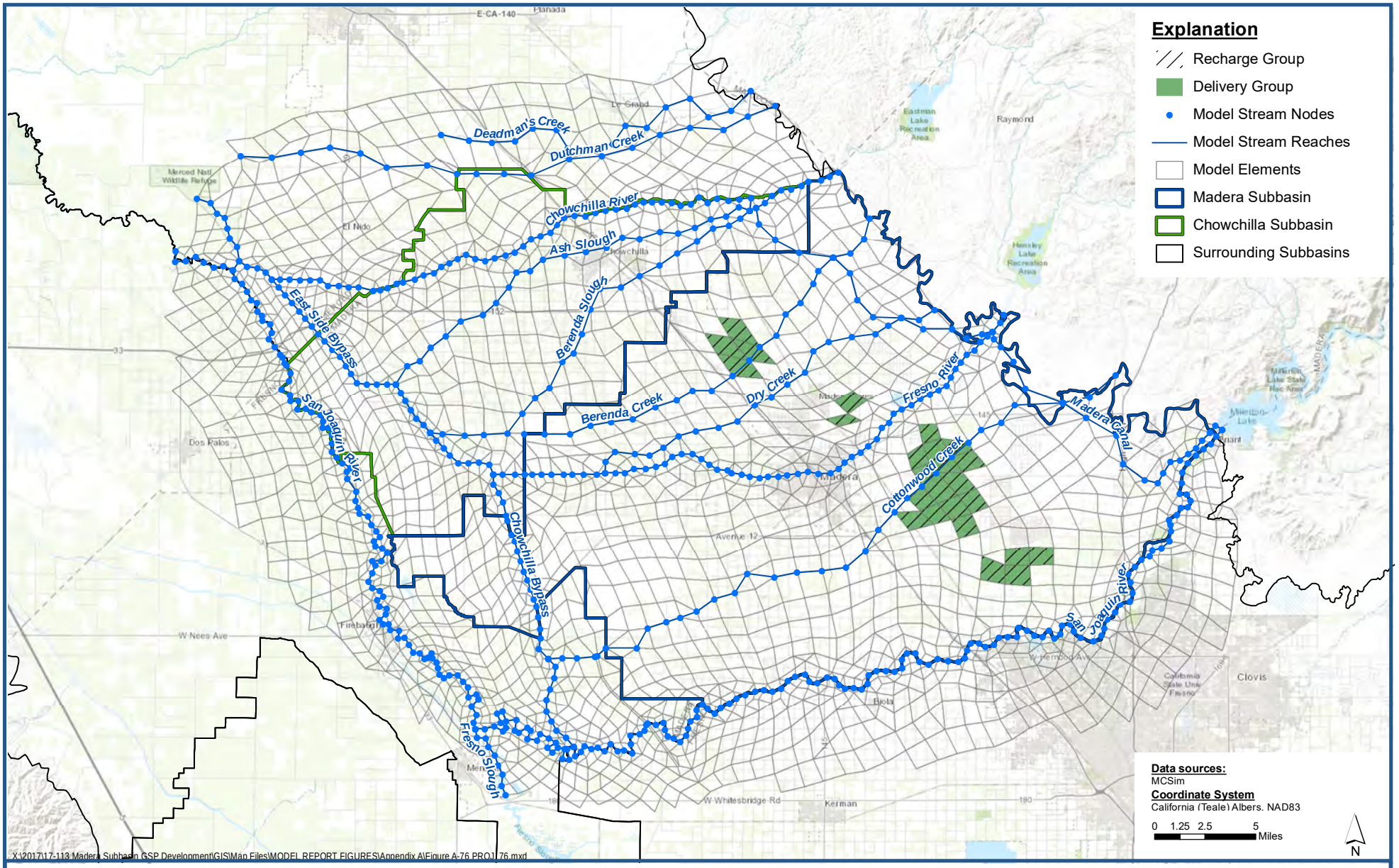
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_75 (MC-01) - Madera County Purchase, Madera Projected Project Diversions

Figure A-75

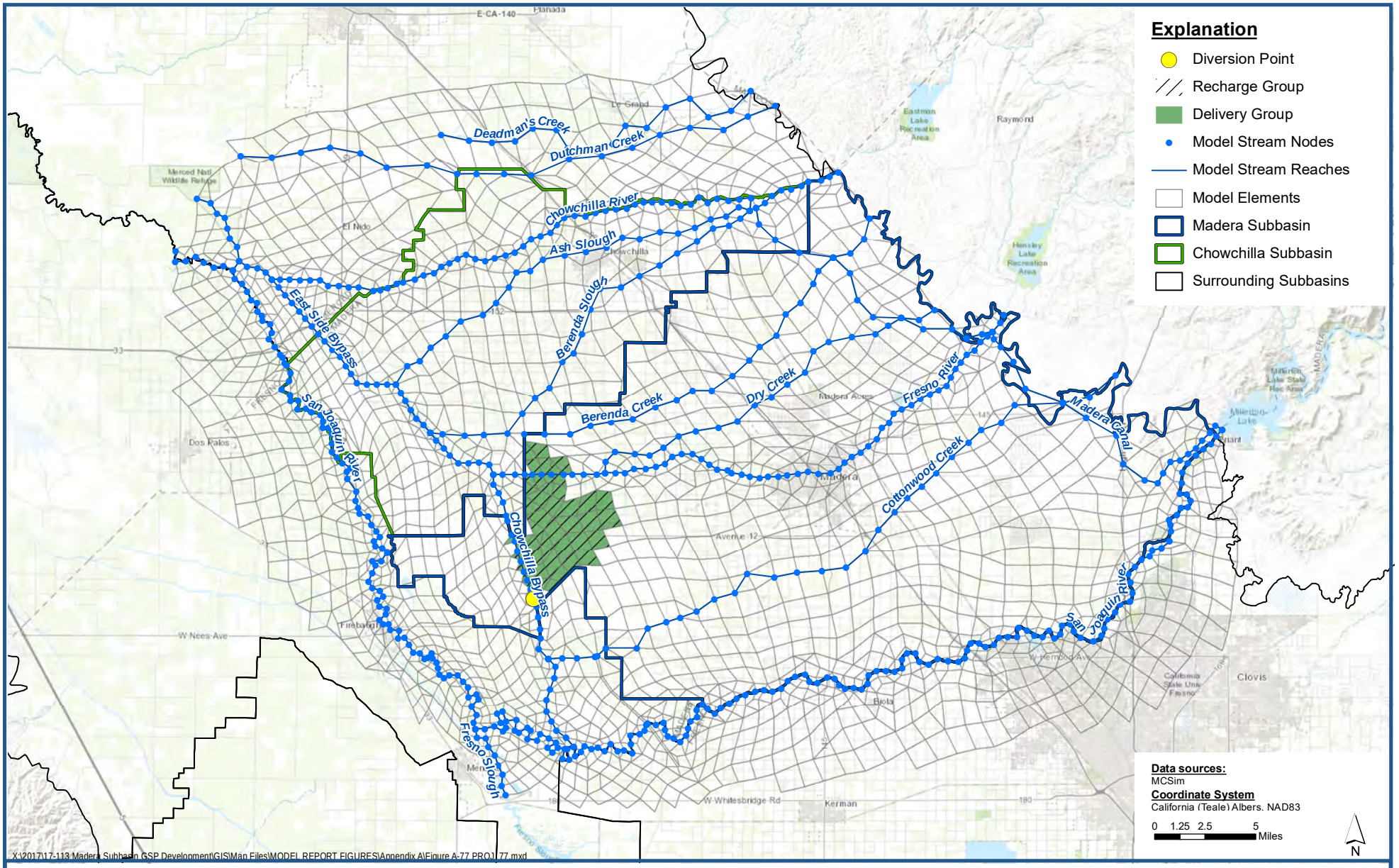
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_76 (MC-02) - Madera County Flood Import, Madera Projected Project Diversions

Figure A-76

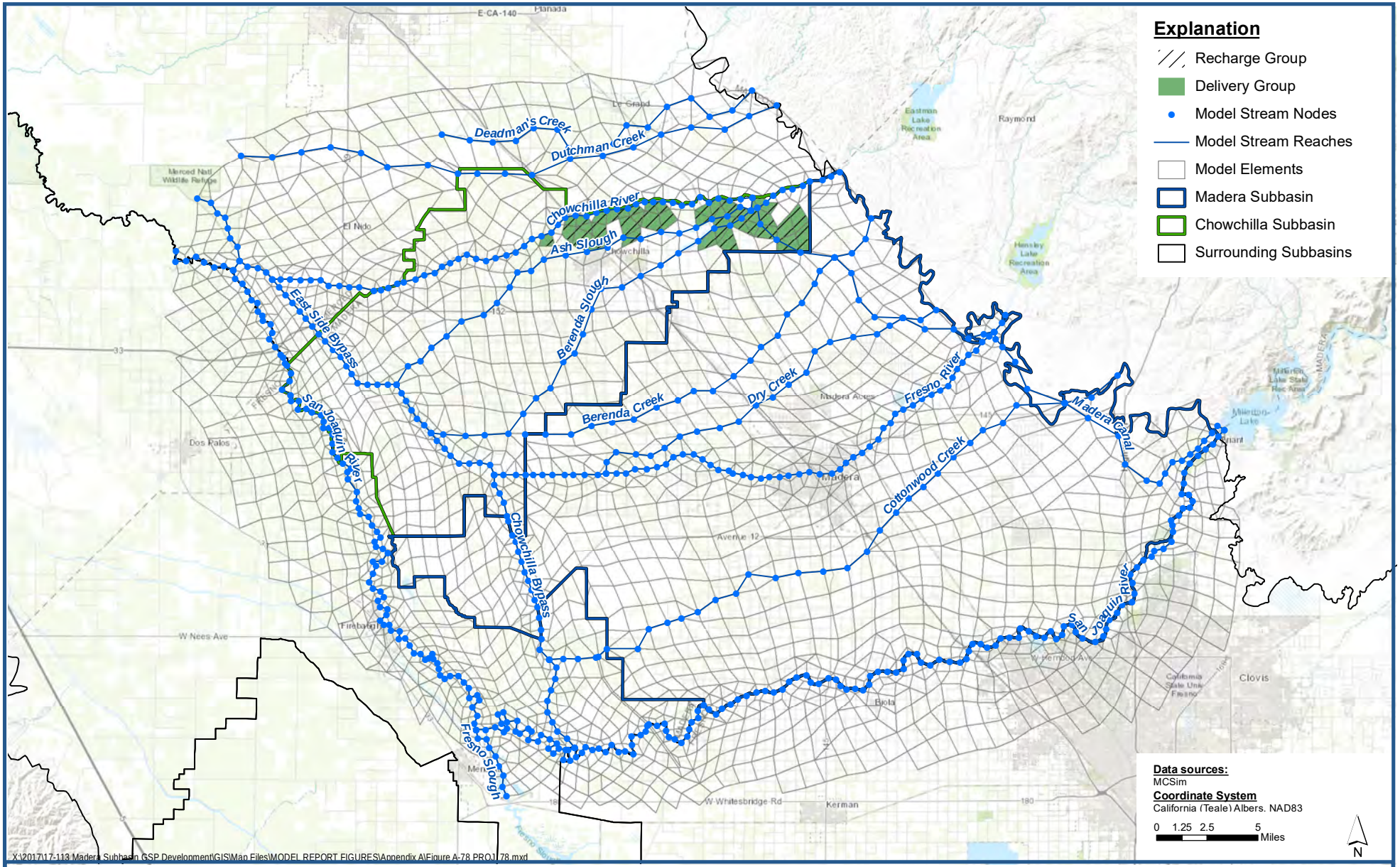
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_77 (MC-03) - Madera County Recharge Basins, Madera Projected Project Diversions

Figure A-77

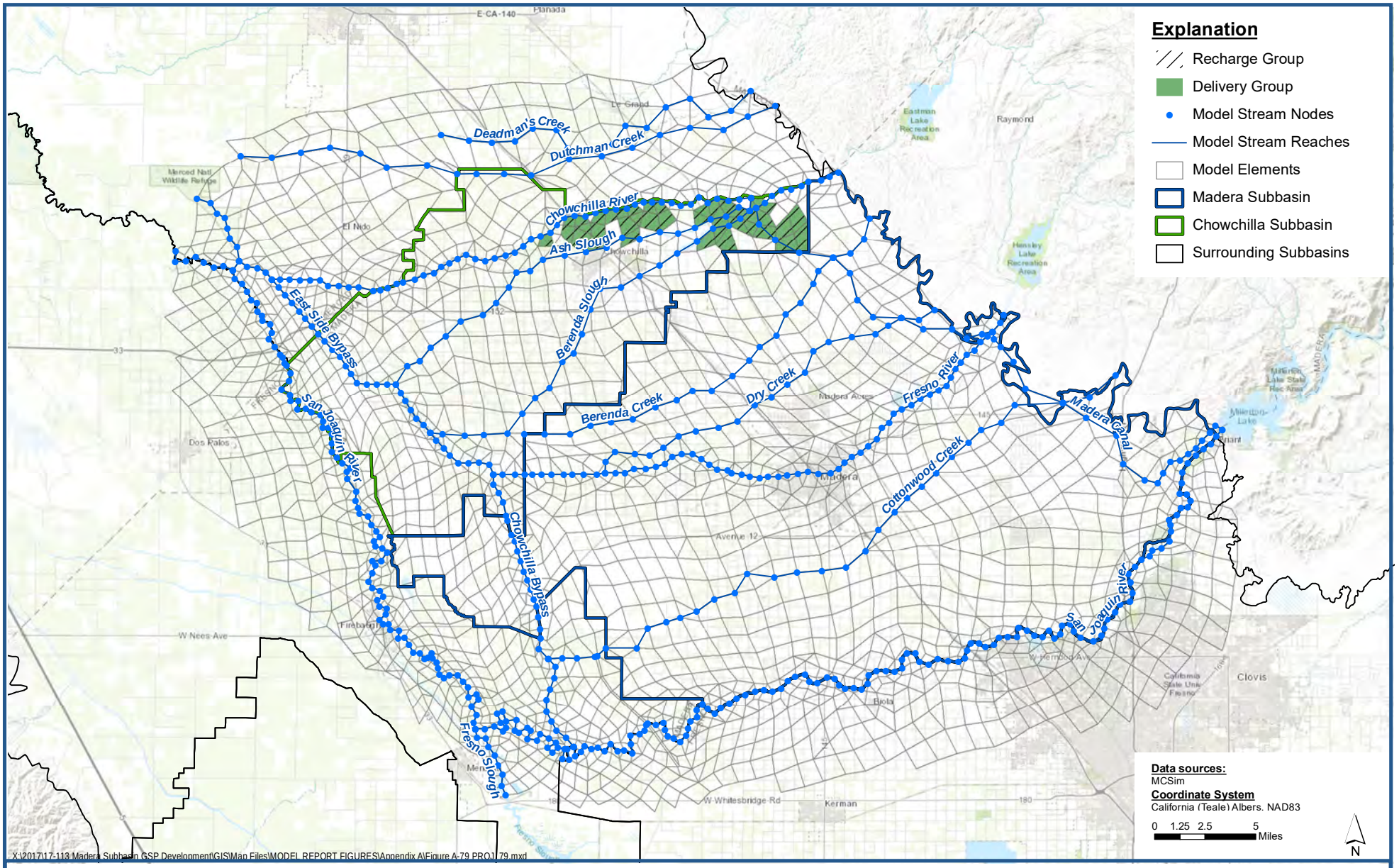
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_78 (MCeast-01) - Madera County Purchase, Chowchilla Projected Project Diversions

Figure A-78

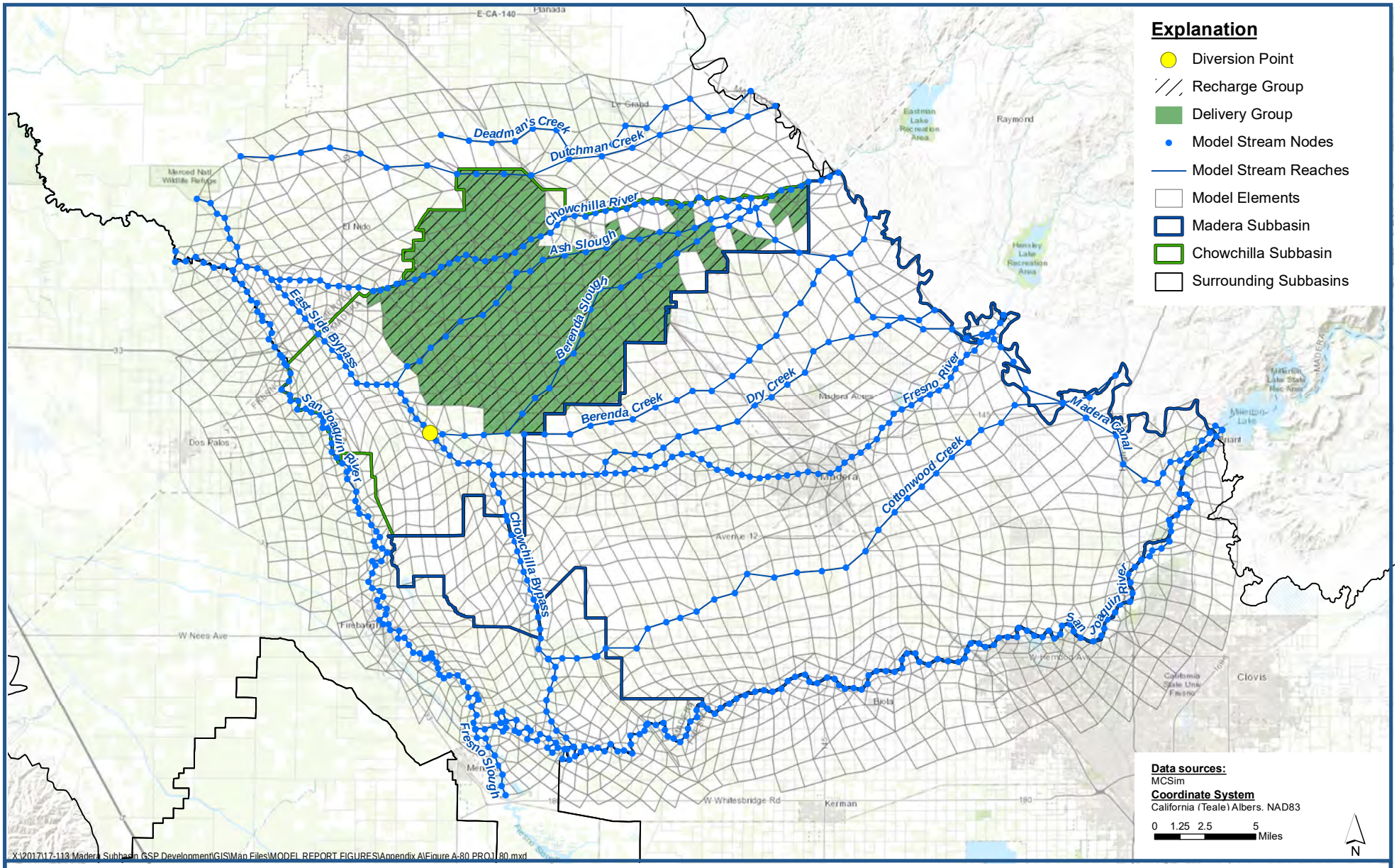
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_79 (MCeast-02) - Madera County Flood Import, Chowchilla Projected Project Diversions

Figure A-79

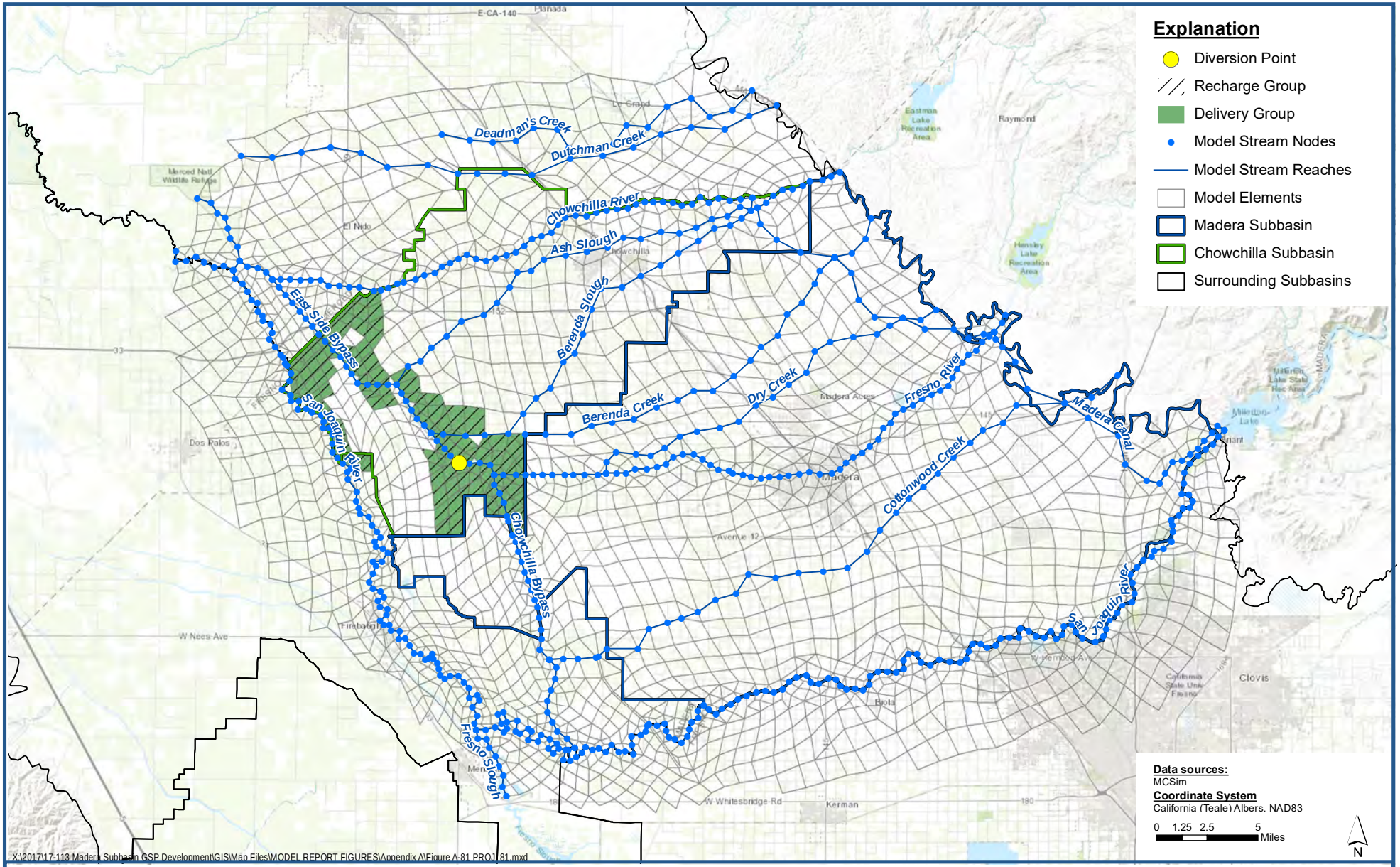
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_80 (MCeast-03) - MC East Flood-MAR
Projected Project Diversions

Figure A-80

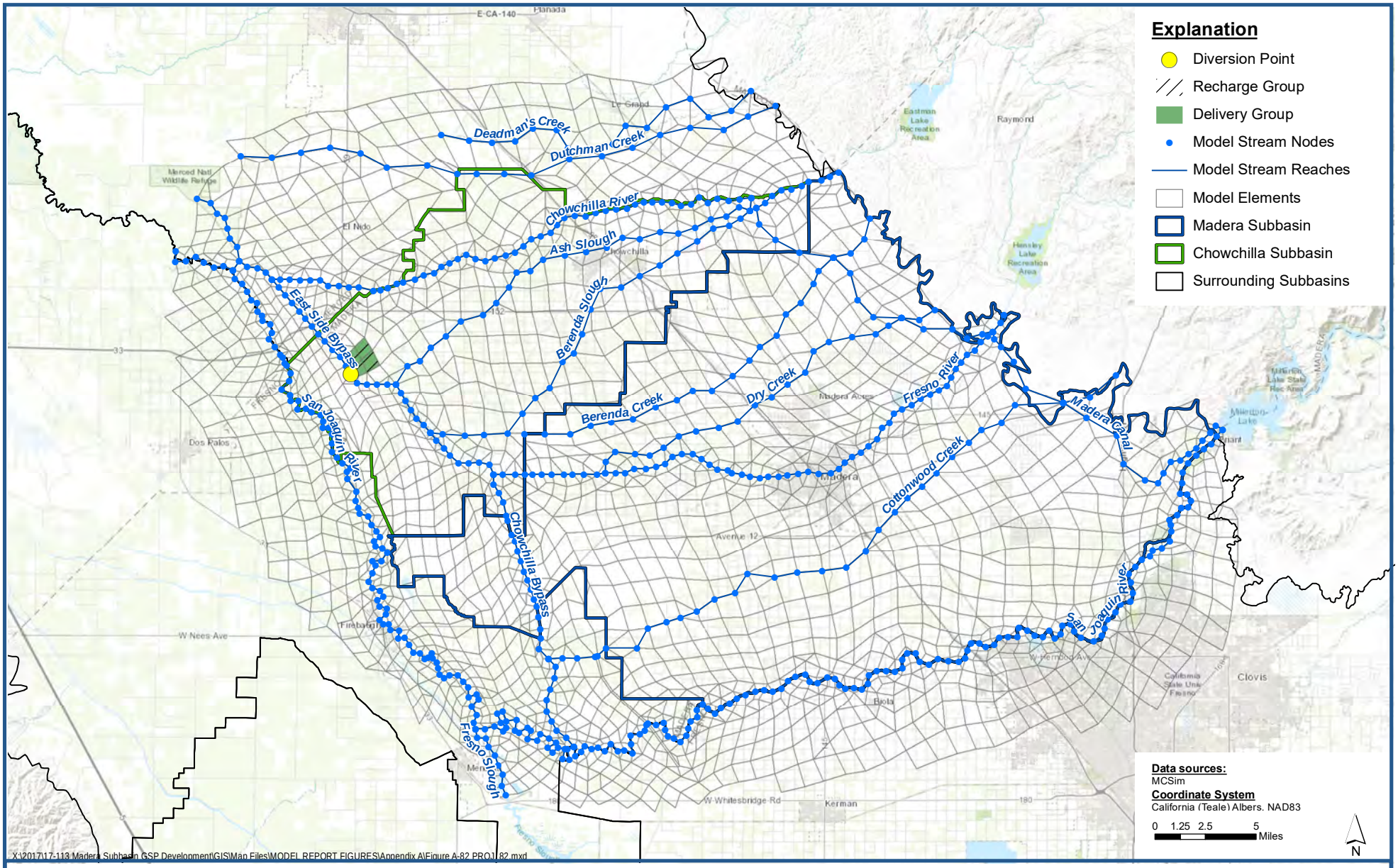
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_81 (MCwest-01) - Madera County Recharge Basin, Chowchilla Projected Project Diversions

Figure A-81

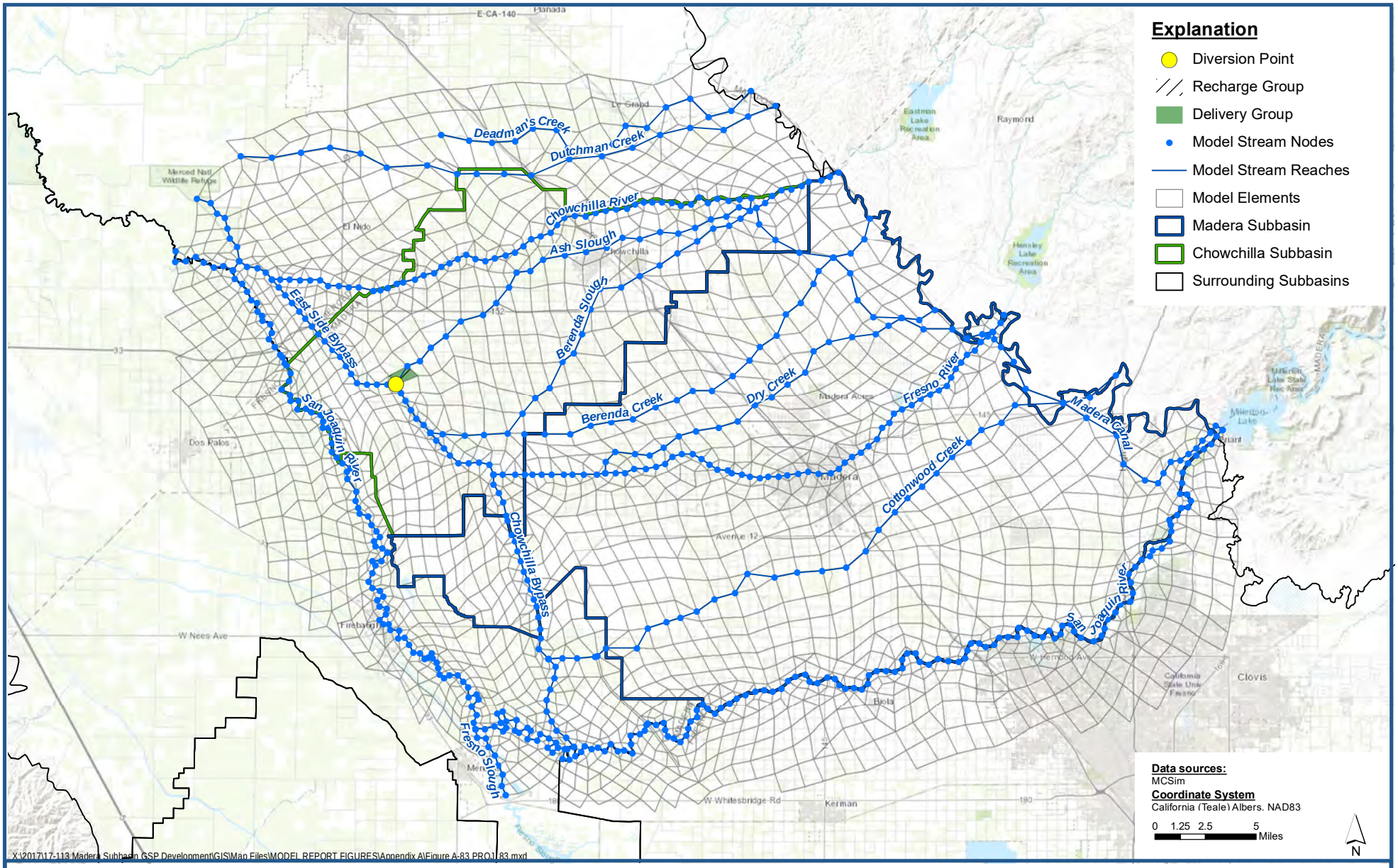
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_82 (MCwest-02) - Red Top Joint Banking Project (Madera County)
Projected Project Diversions

Figure A-82

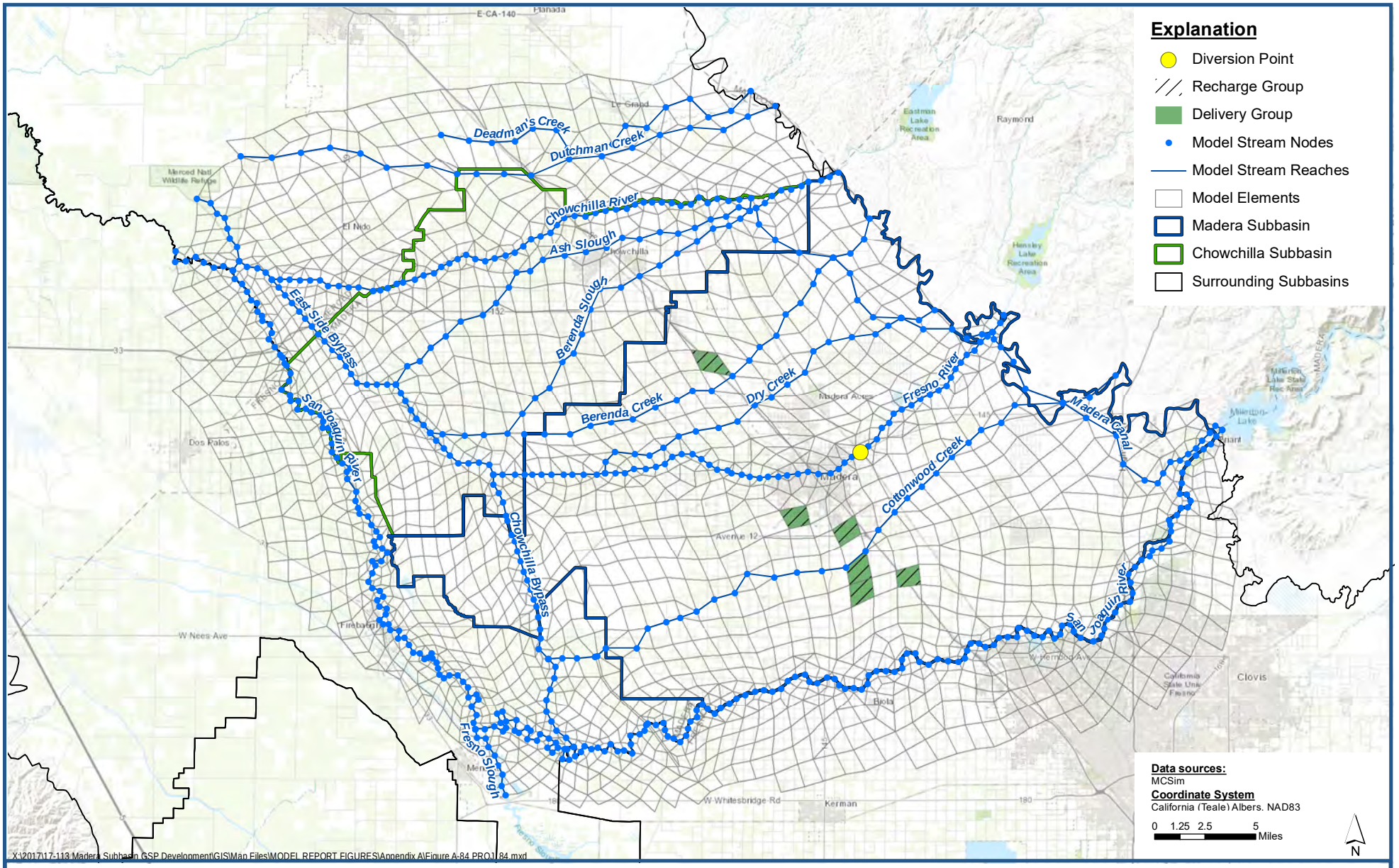
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_83 (MCwest-03) - Red Top Joint Banking Project (Ash) (Madera County)
Projected Project Diversions

Figure A-83

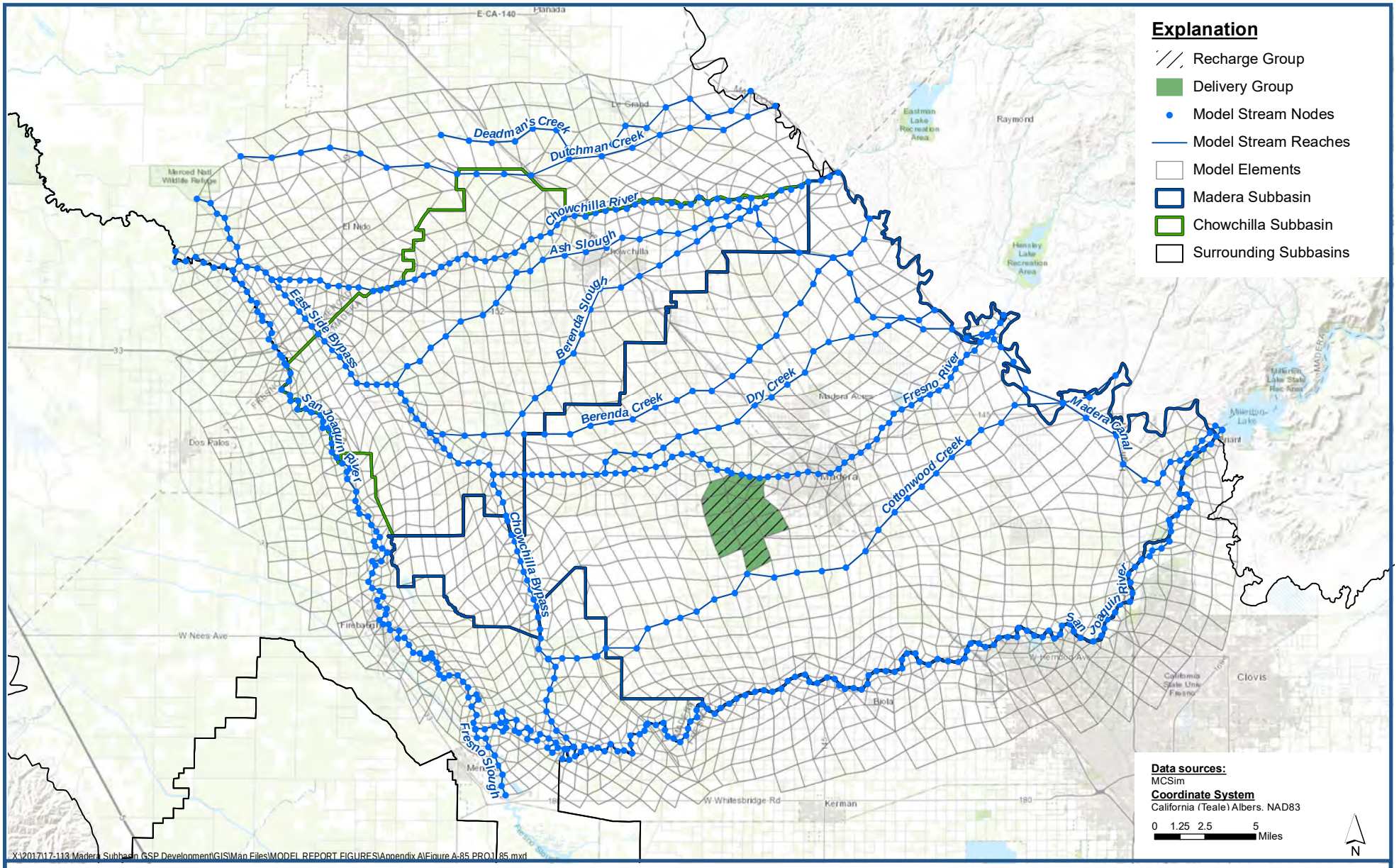
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_84 (MID-01) - MID Recharge Basin Rehabilitation
Projected Project Diversions

Figure A-84

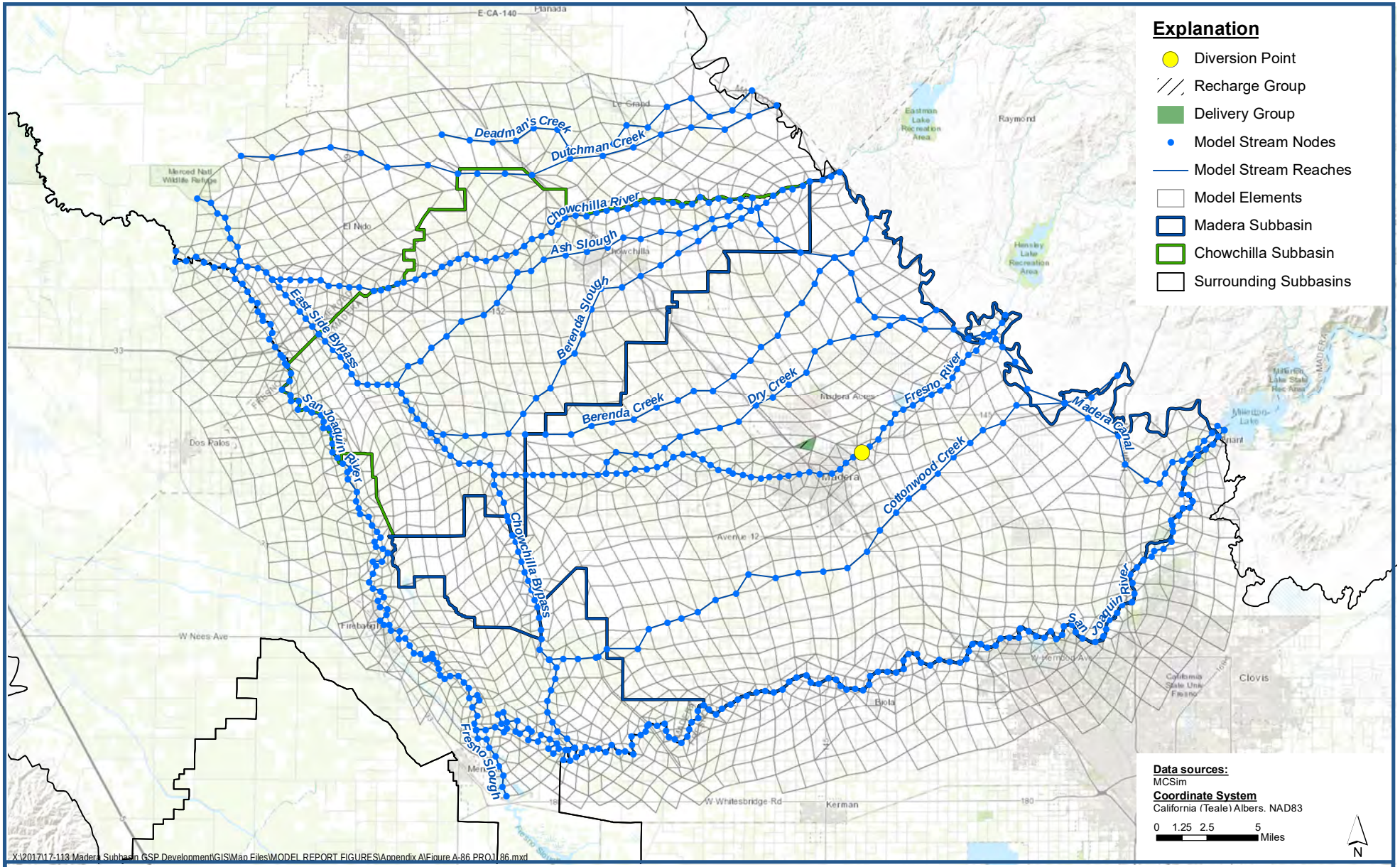
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_85 (MID-02) - MID Pipeline Project
Projected Project Diversions

Figure A-85

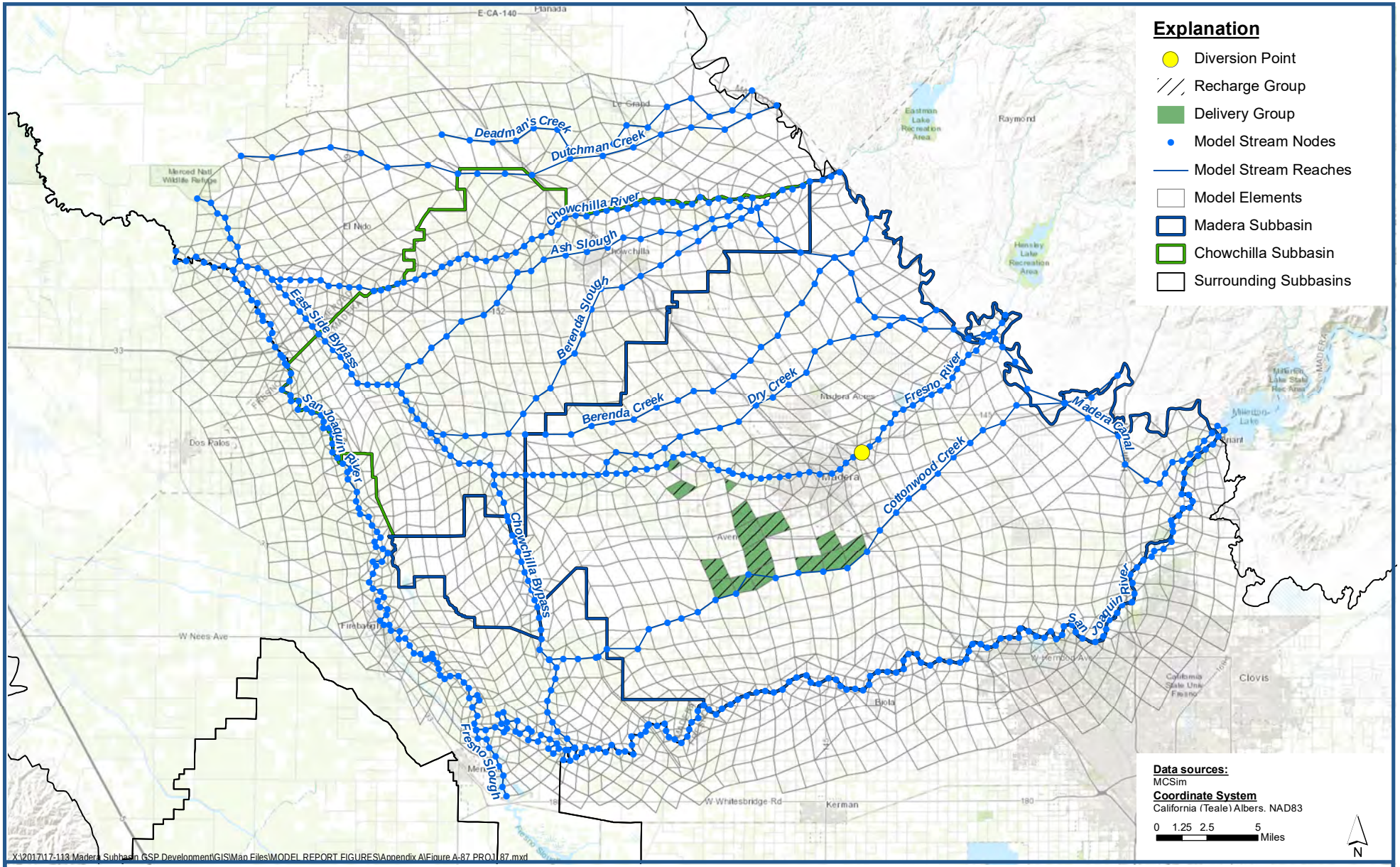
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_86 (MID-03) - Ellis Basin
Projected Project Diversions

Figure A-86

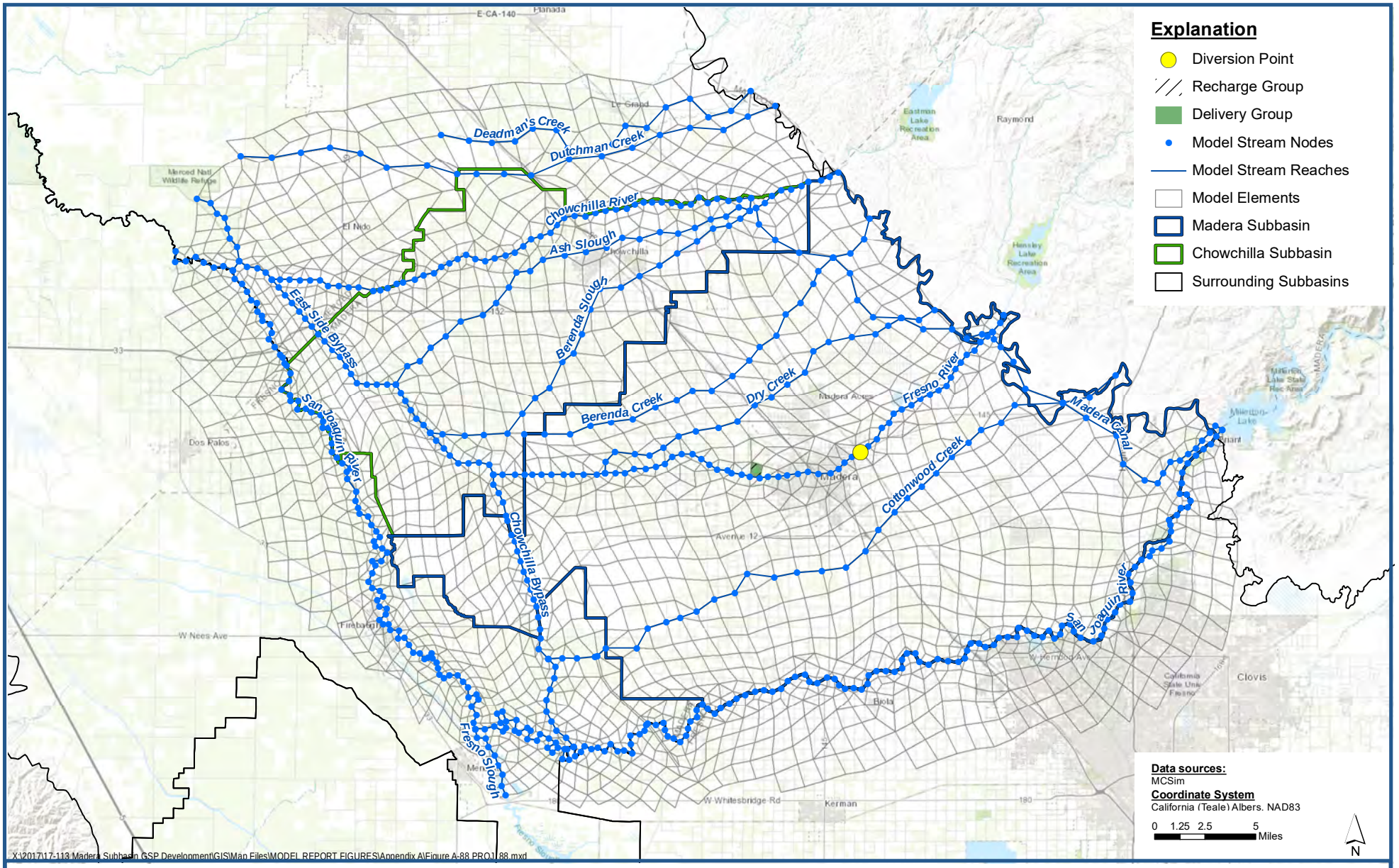
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_87 (MID-04) - On-Farm Recharge Pilot Project
Projected Project Diversions

Figure A-87

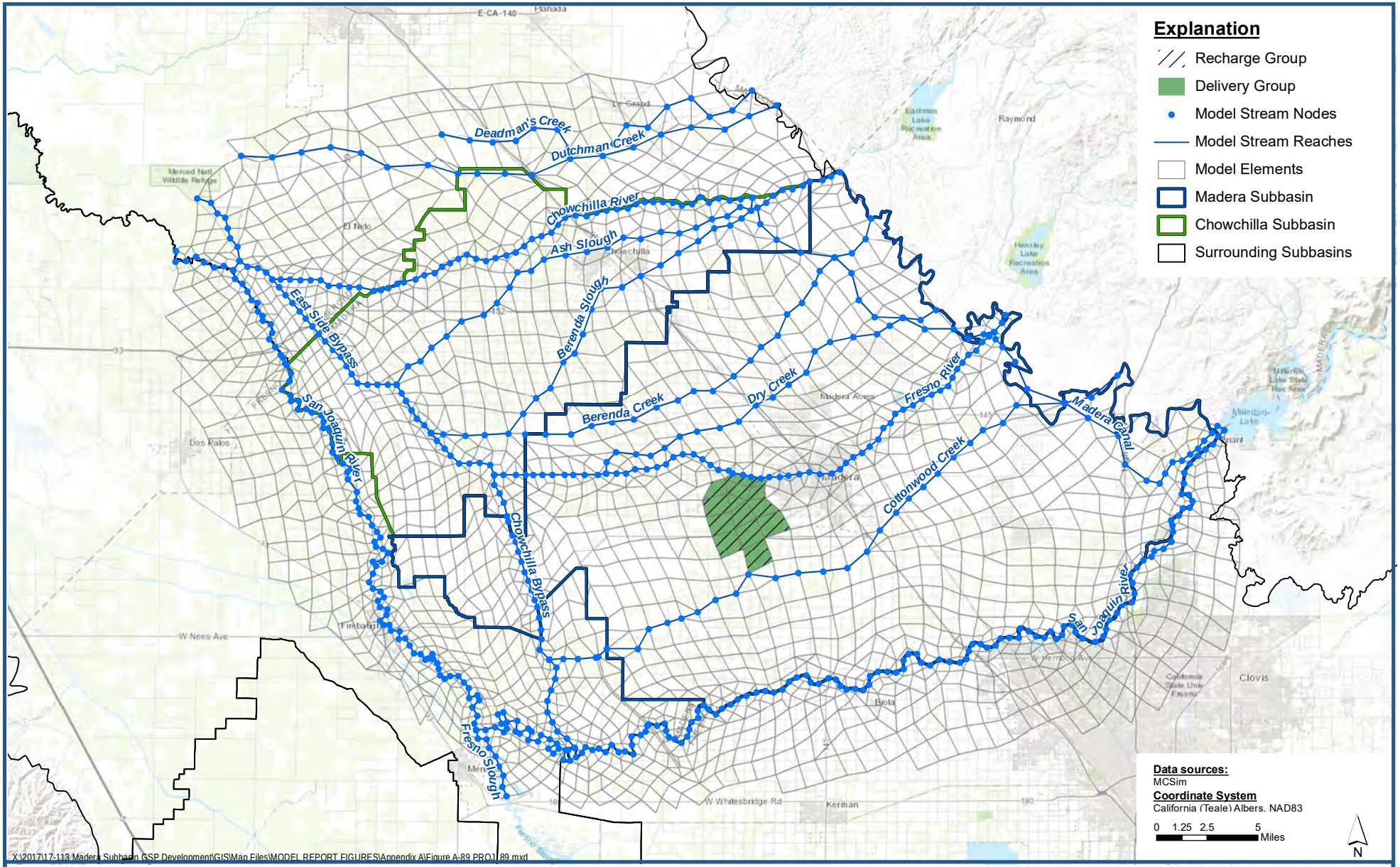
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_88 (MID-05) - Berry Basin
Projected Project Diversions

Figure A-88

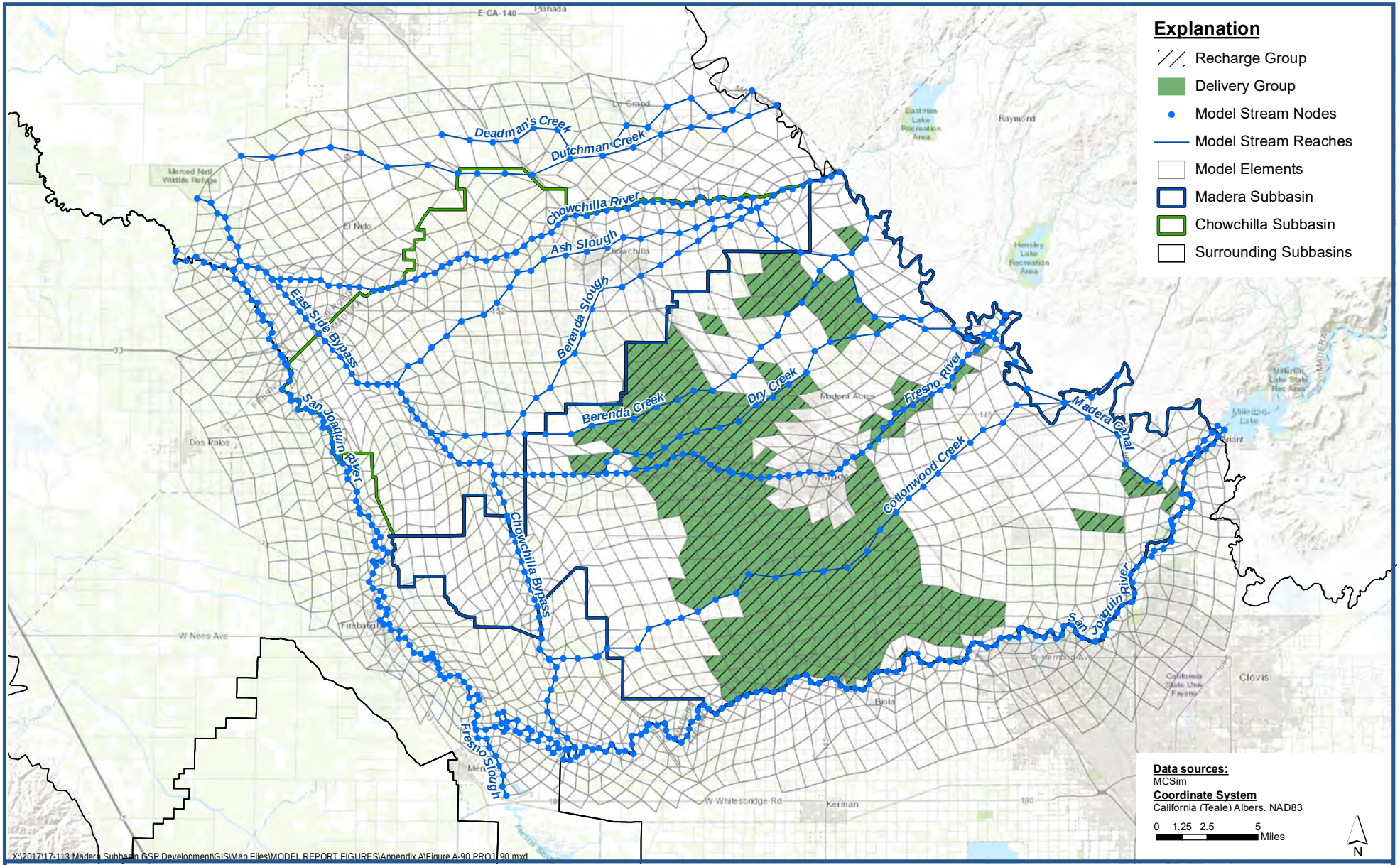
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_89 (MID-06) - WaterSMART Pipeline Project
Projected Project Diversions

Figure A-89

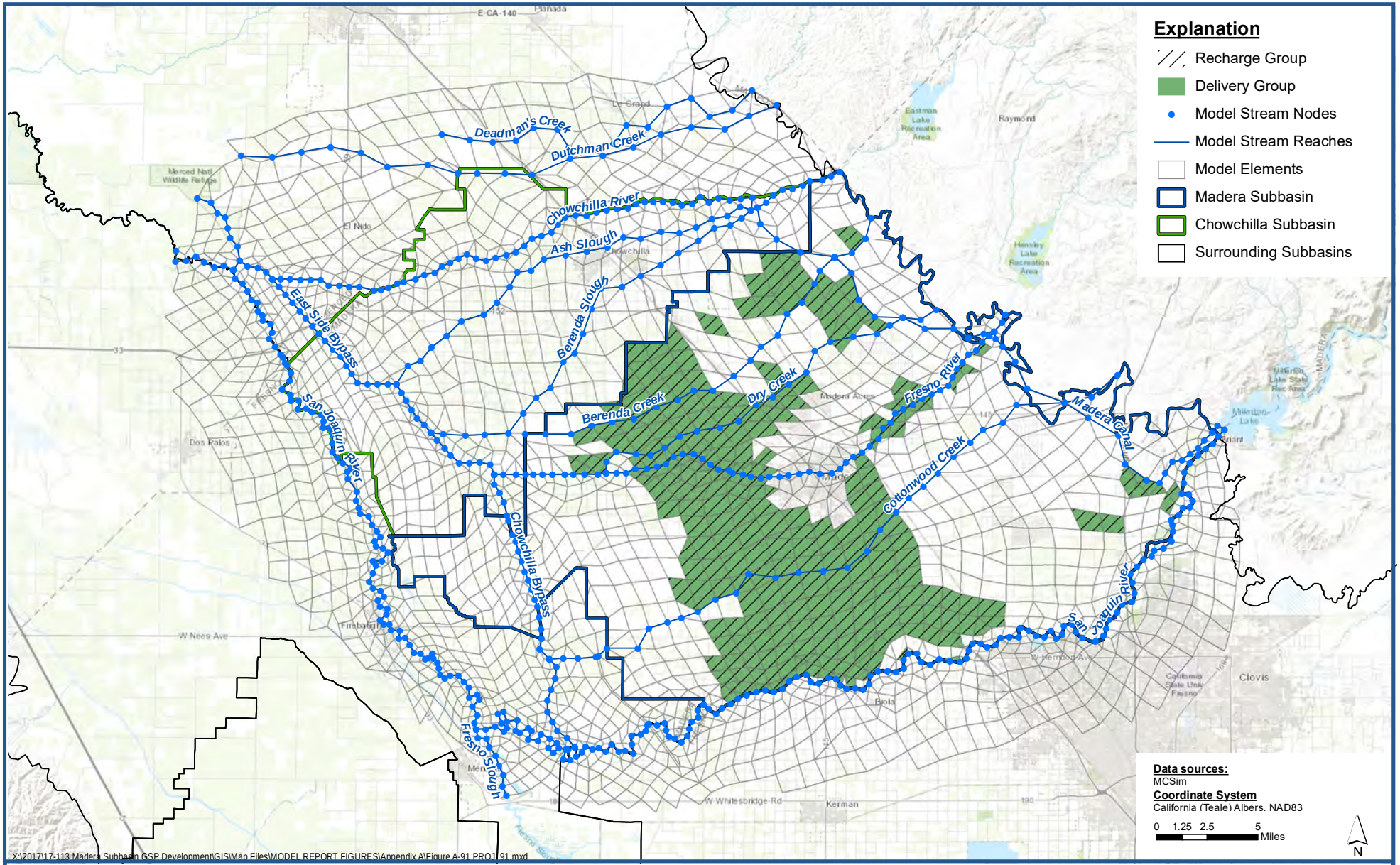
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_90 (MID-07) - WaterSMART SCADA Project
Projected Project Diversions

Figure A-90

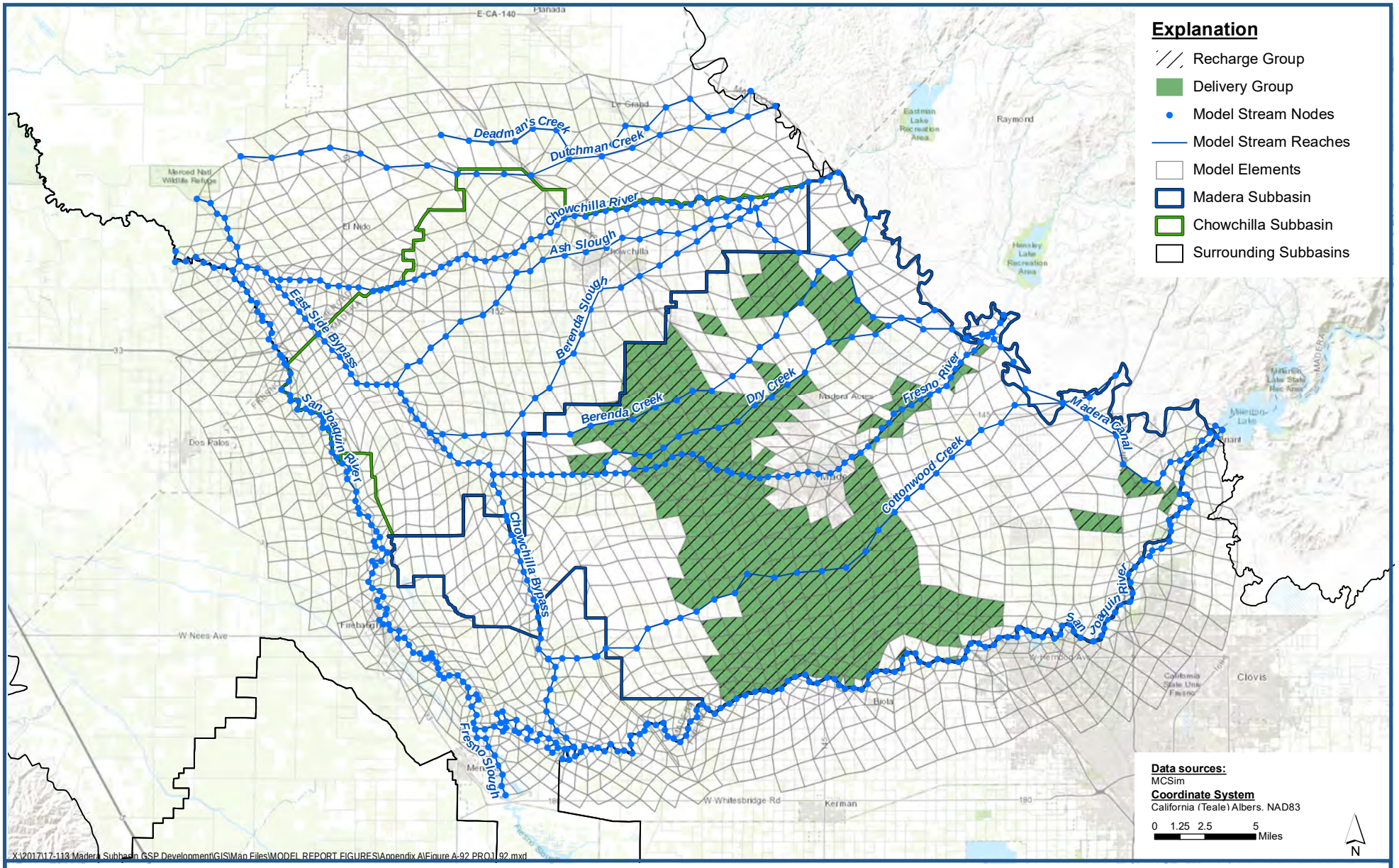
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_91 (MID-07) - WaterSMART SCADA Project
Projected Project Diversions

Figure A-91

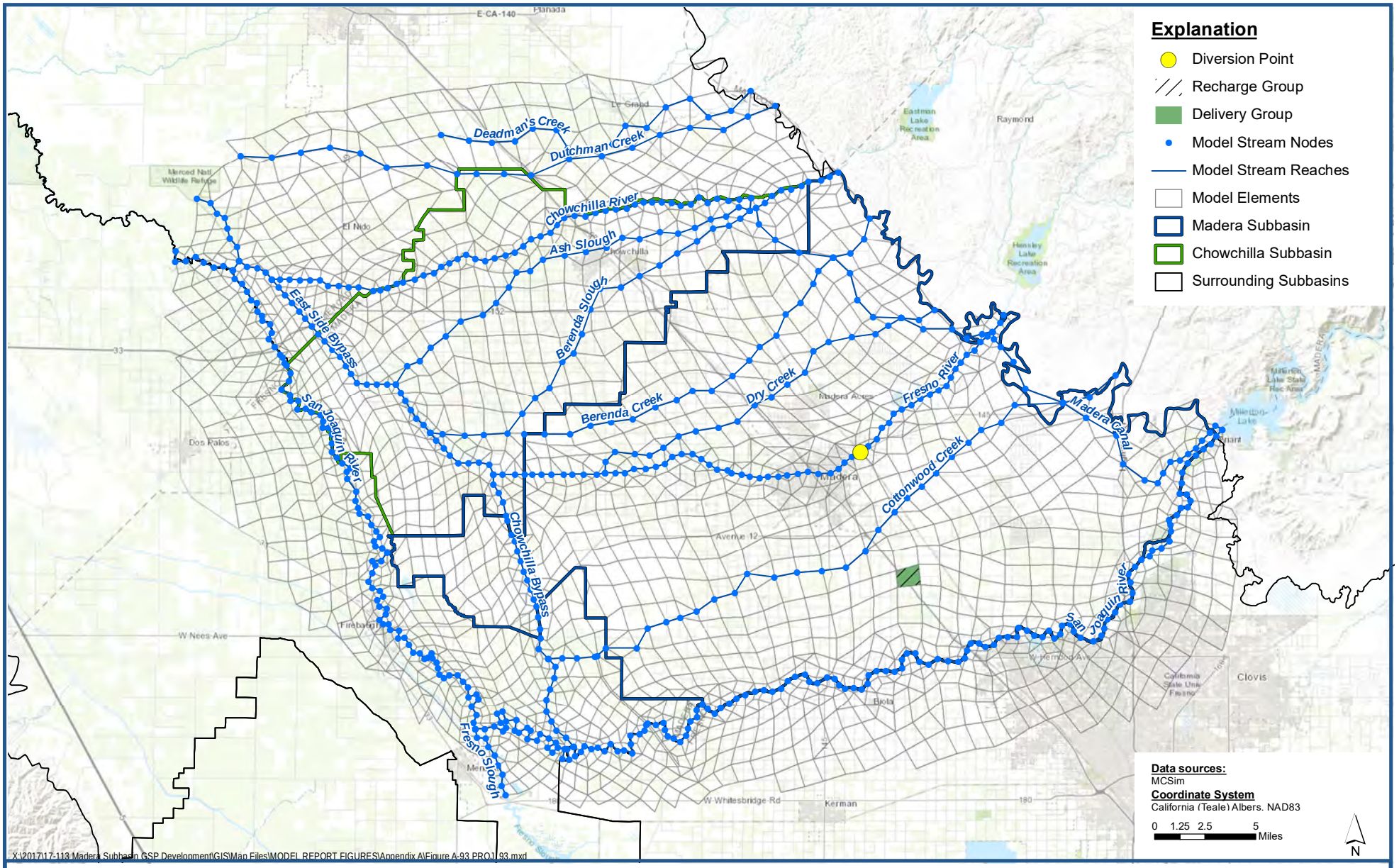
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_92 (MID-07) - WaterSMART SCADA Project
Projected Project Diversions

Figure A-92

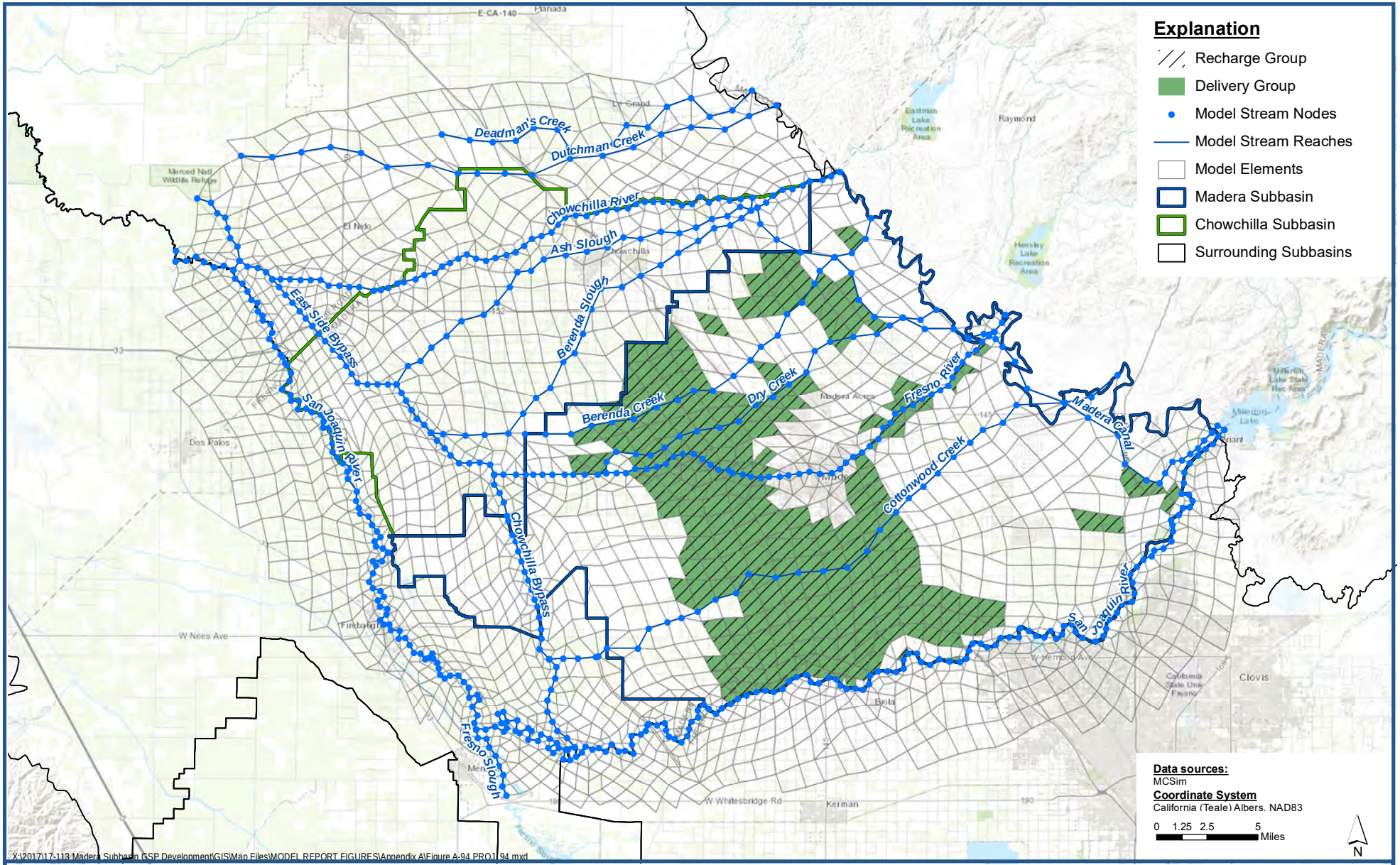
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_93 (MID-08) - MID Recharge Basin Acquisition
Projected Project Diversions

Figure A-93

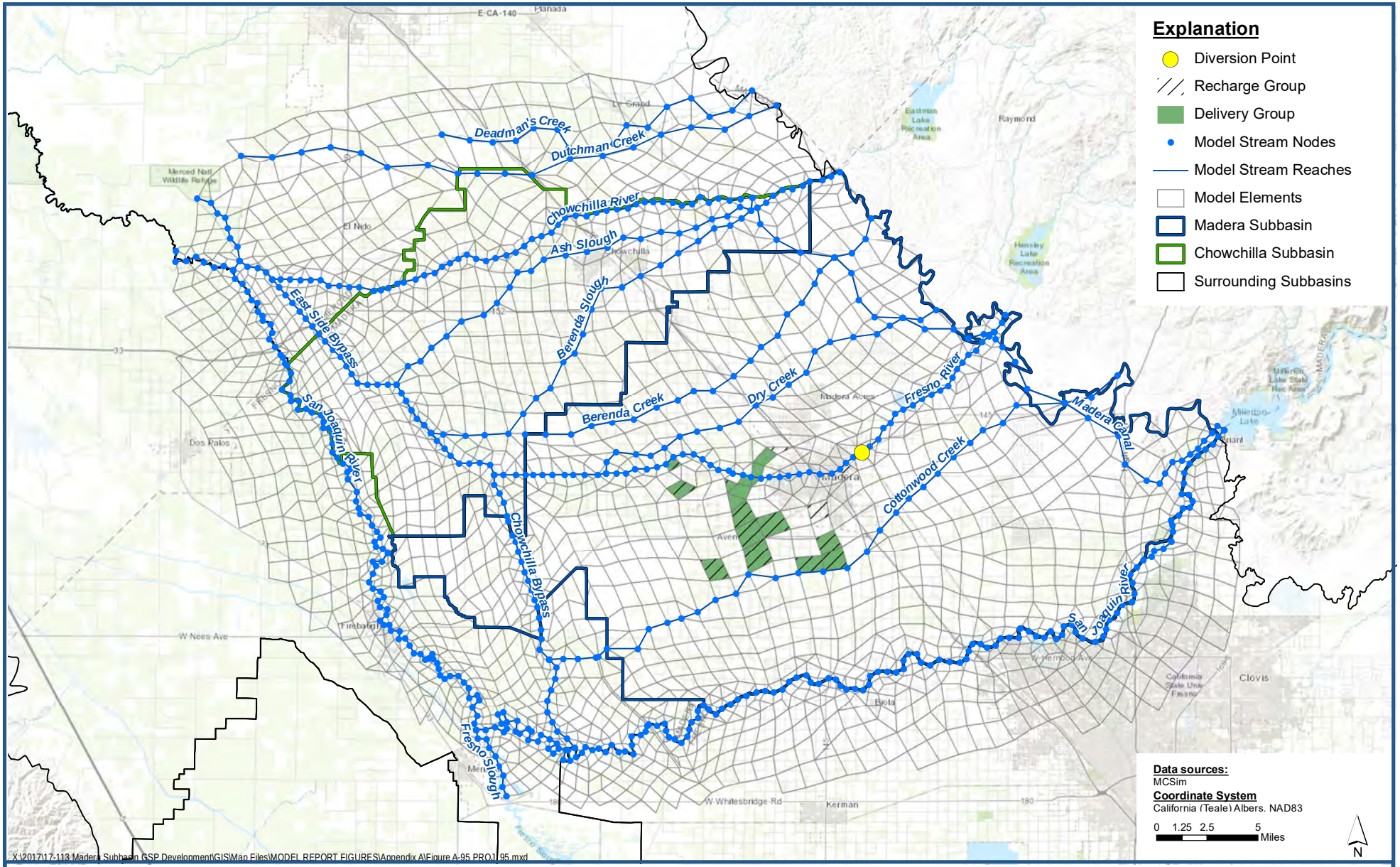
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_94 (MID-09) - MID Water Supply Development-Partnerships Projected Project Diversions

Figure A-94

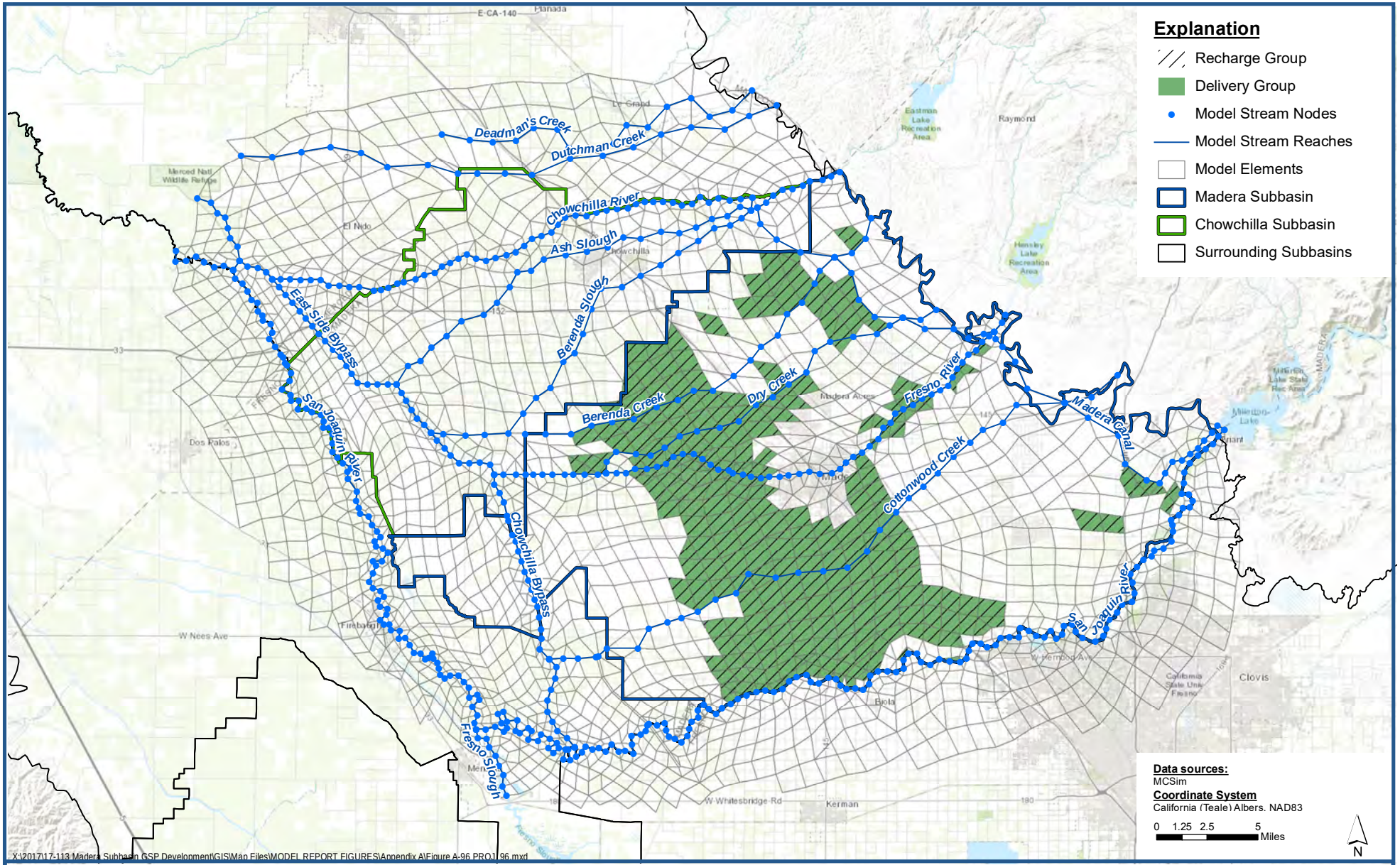
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_95 (MID-10) - MID Recharge Basin Acquisition
Projected Project Diversions

Figure A-95

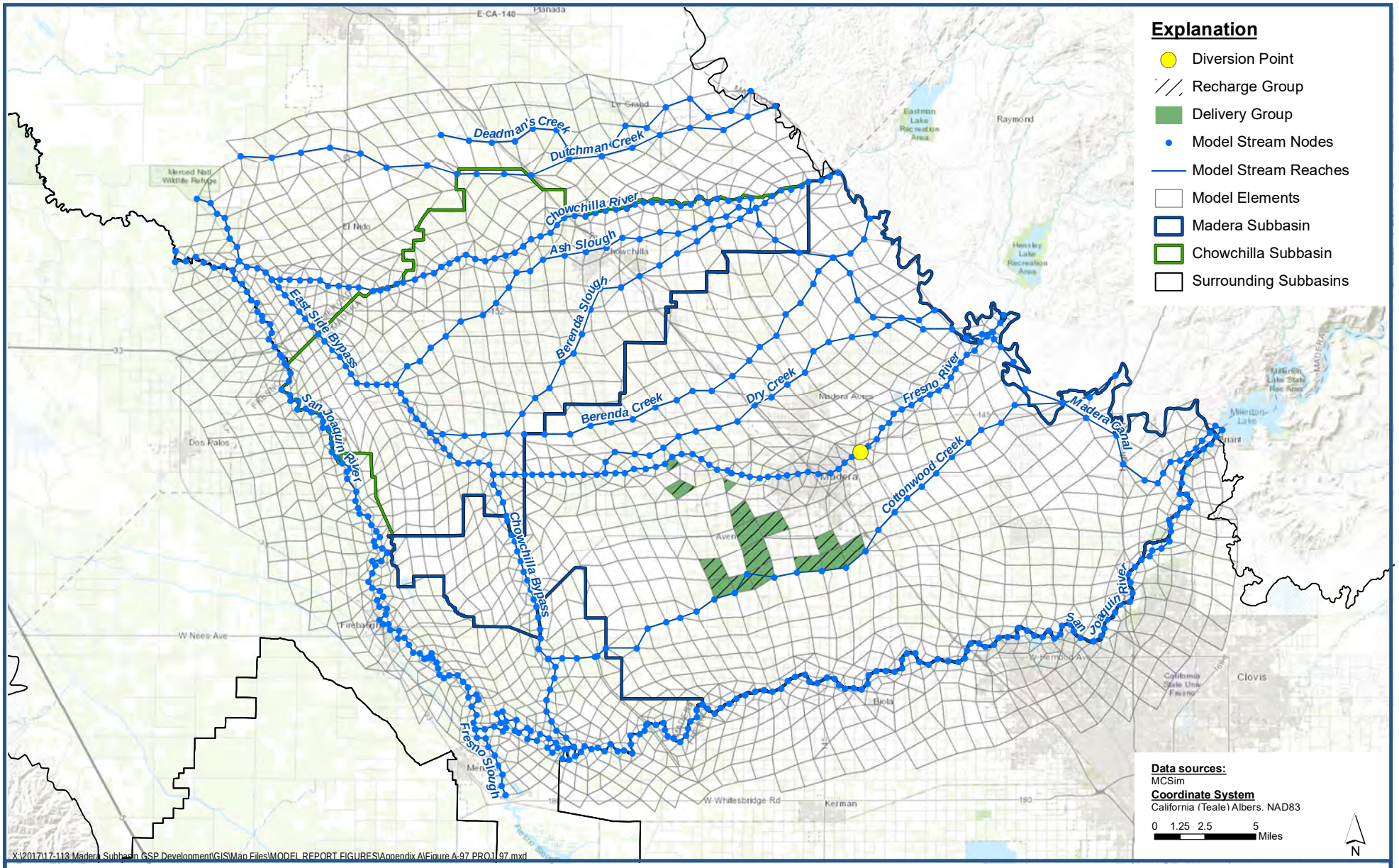
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_96 (MID-11) - MID Water Supply Development-Partnerships Addtl Projected Project Diversions

Figure A-96

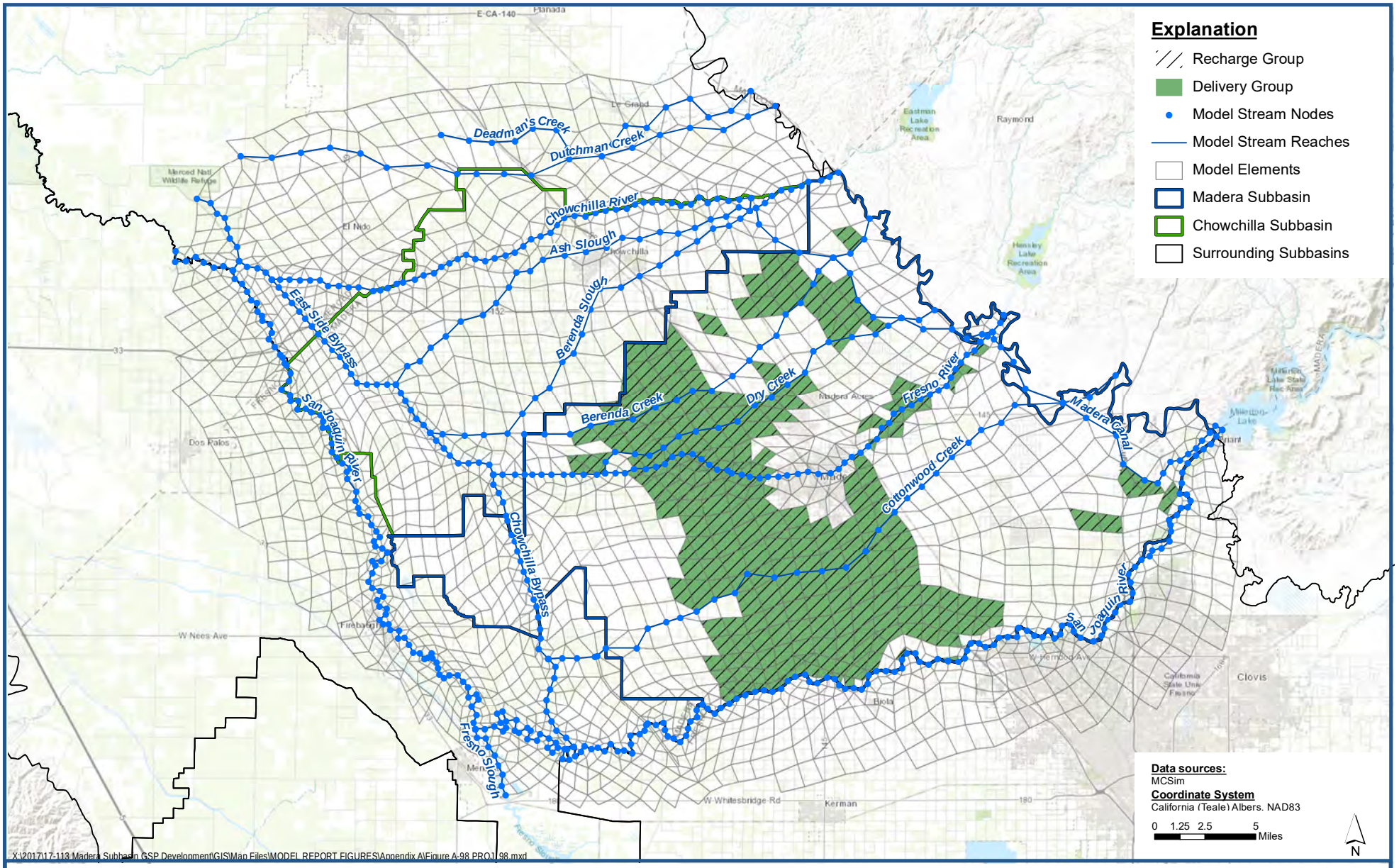
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_97 (MID-12) - MID Flood-MAR Enhanced Project
Projected Project Diversions

Figure A-97

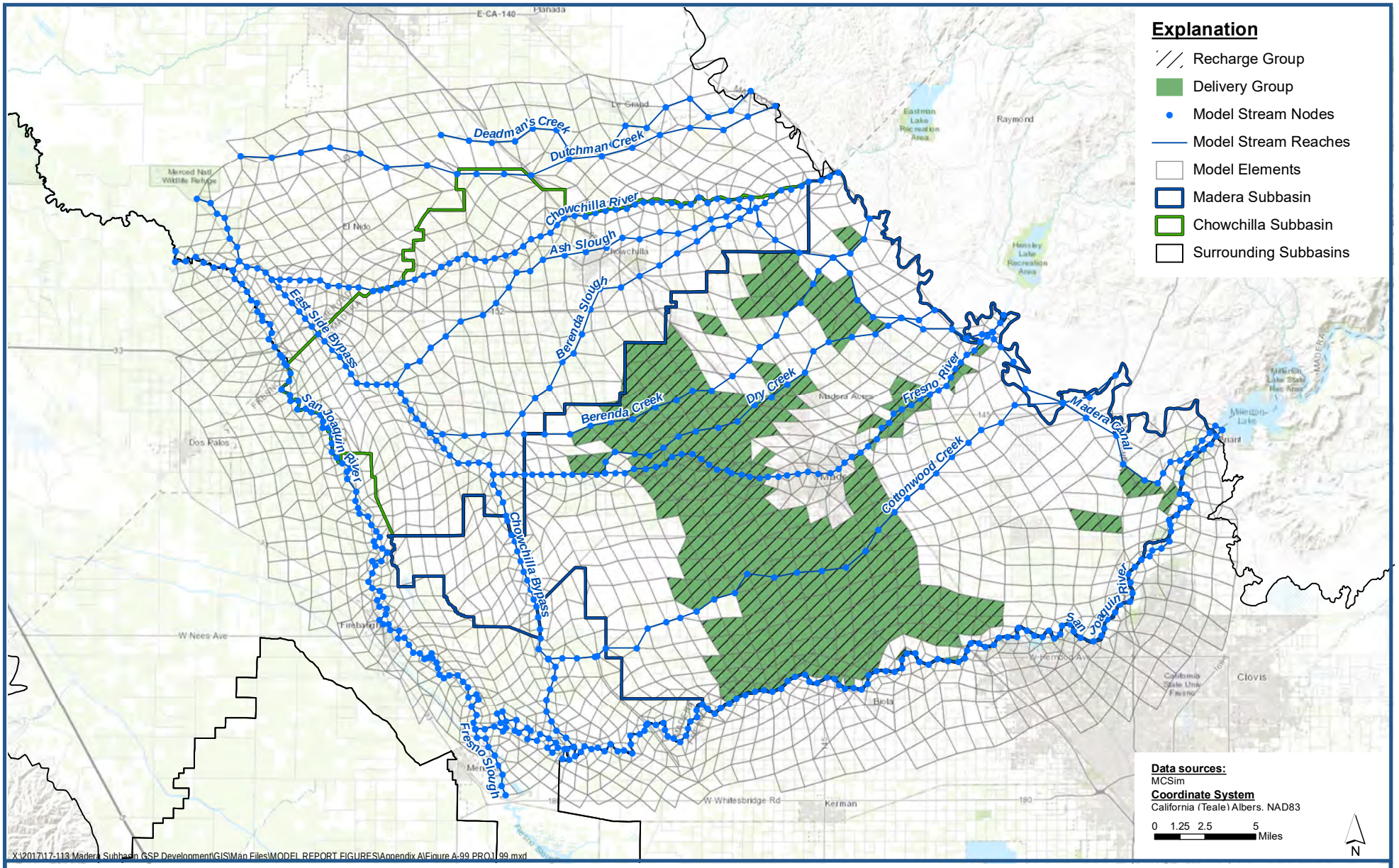
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_98 (MID-13) - MID Incentive Programs
Projected Project Diversions

Figure A-98

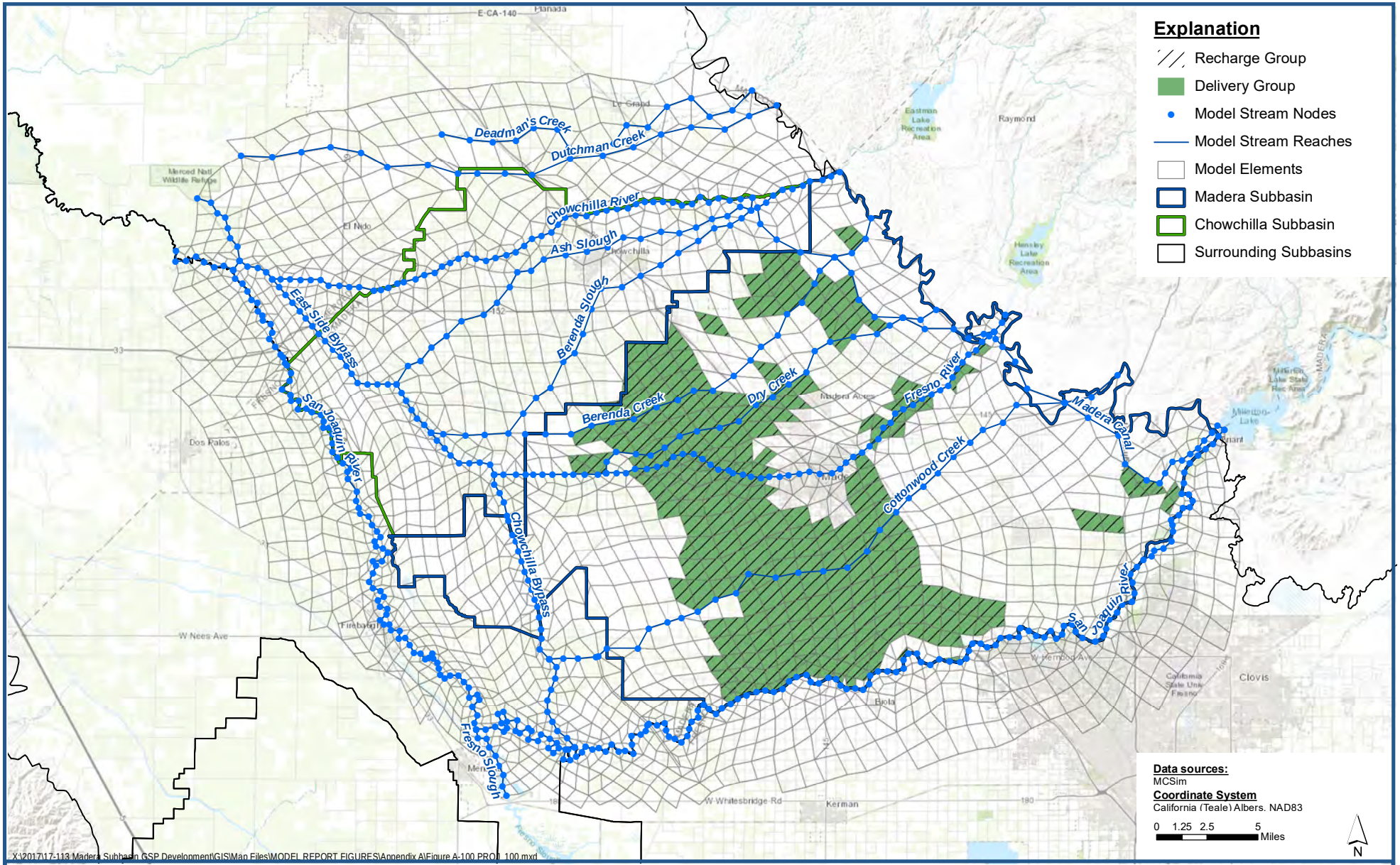
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_99 (MID-13) - MID Incentive Programs
Projected Project Diversions

Figure A-99

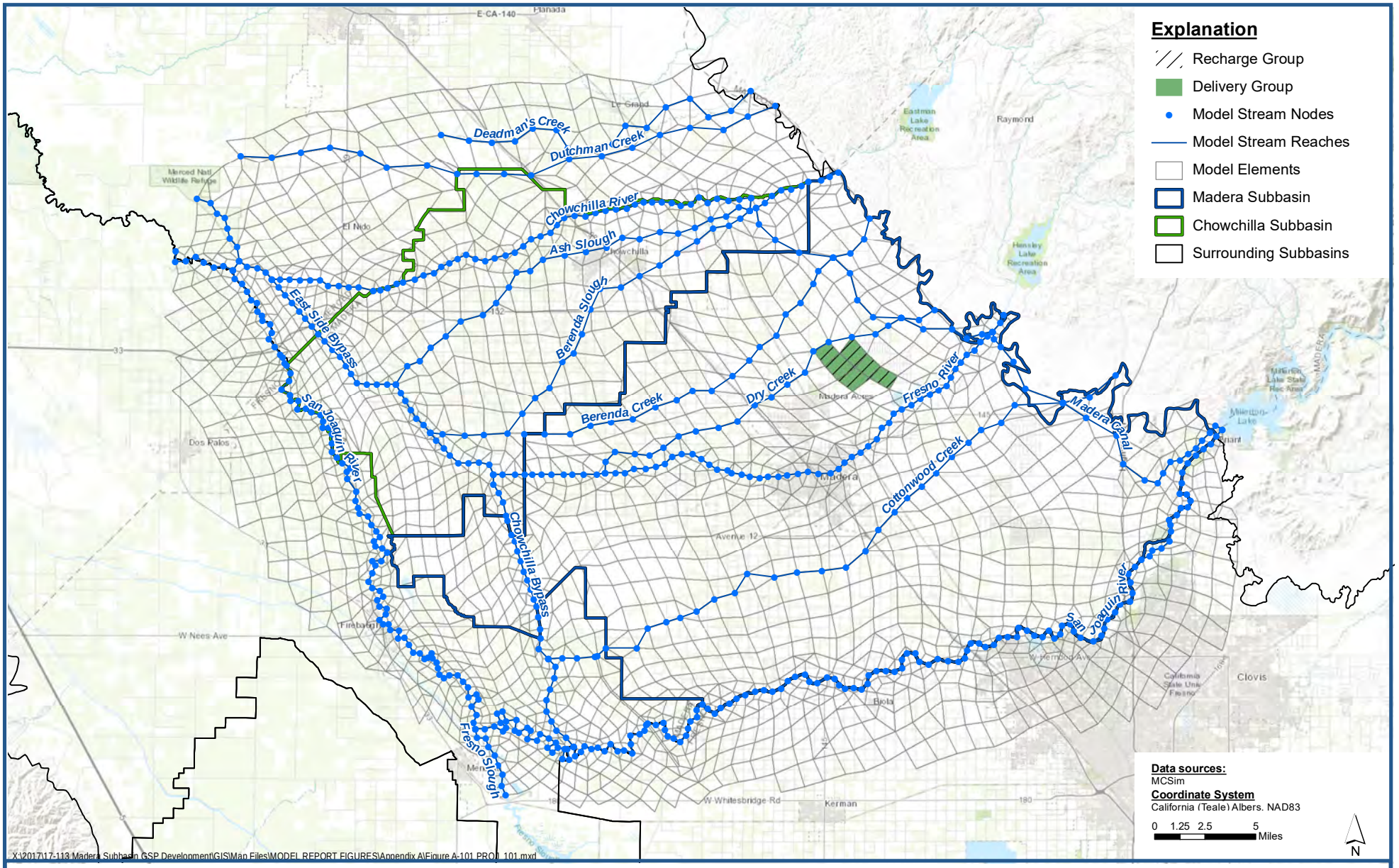
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_100 (MID-13) - MID Incentive Programs
Projected Project Diversions

Figure A-100

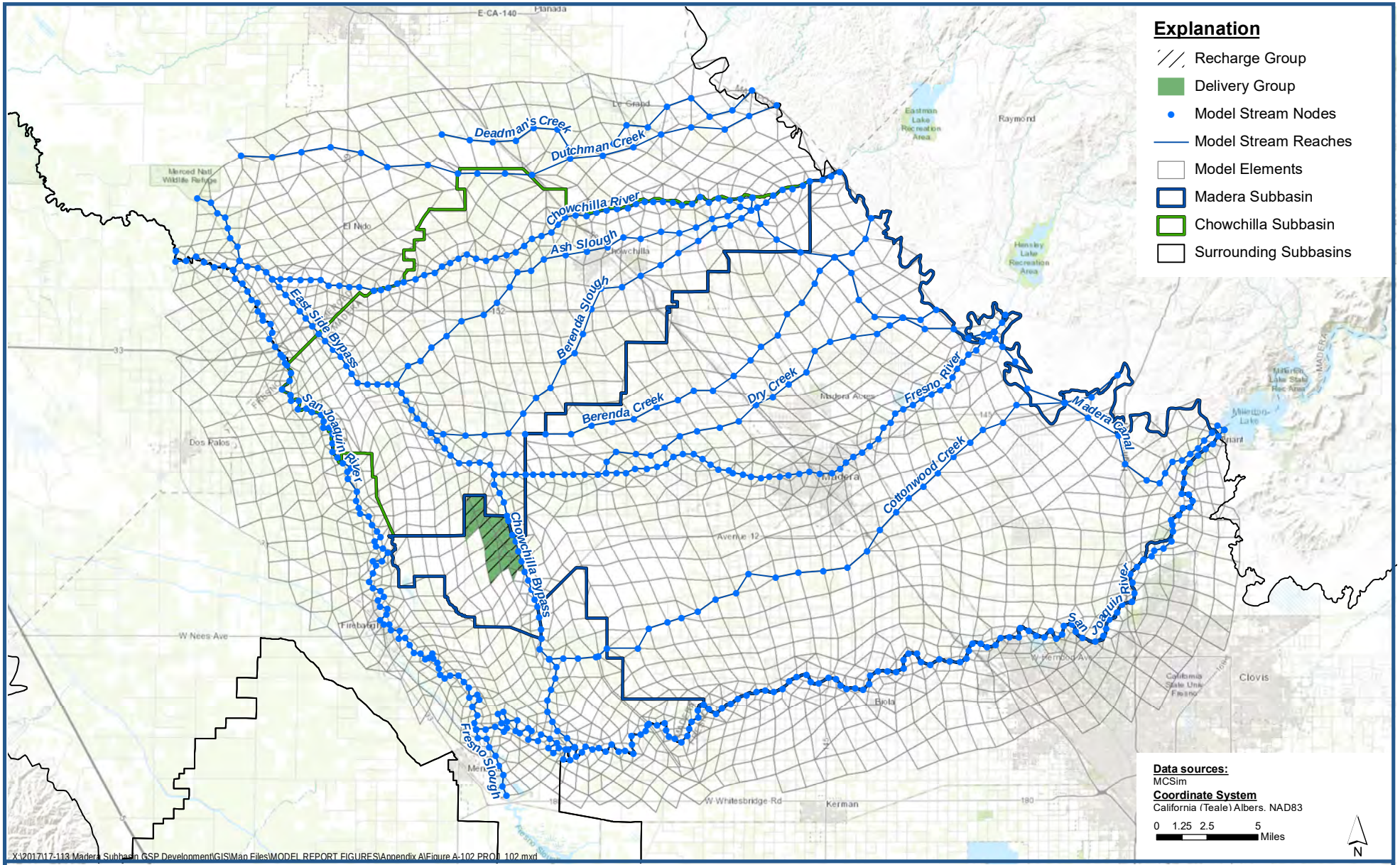
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_101 (MWD-01) - MWD Water Purchase
Projected Project Diversions

Figure A-101

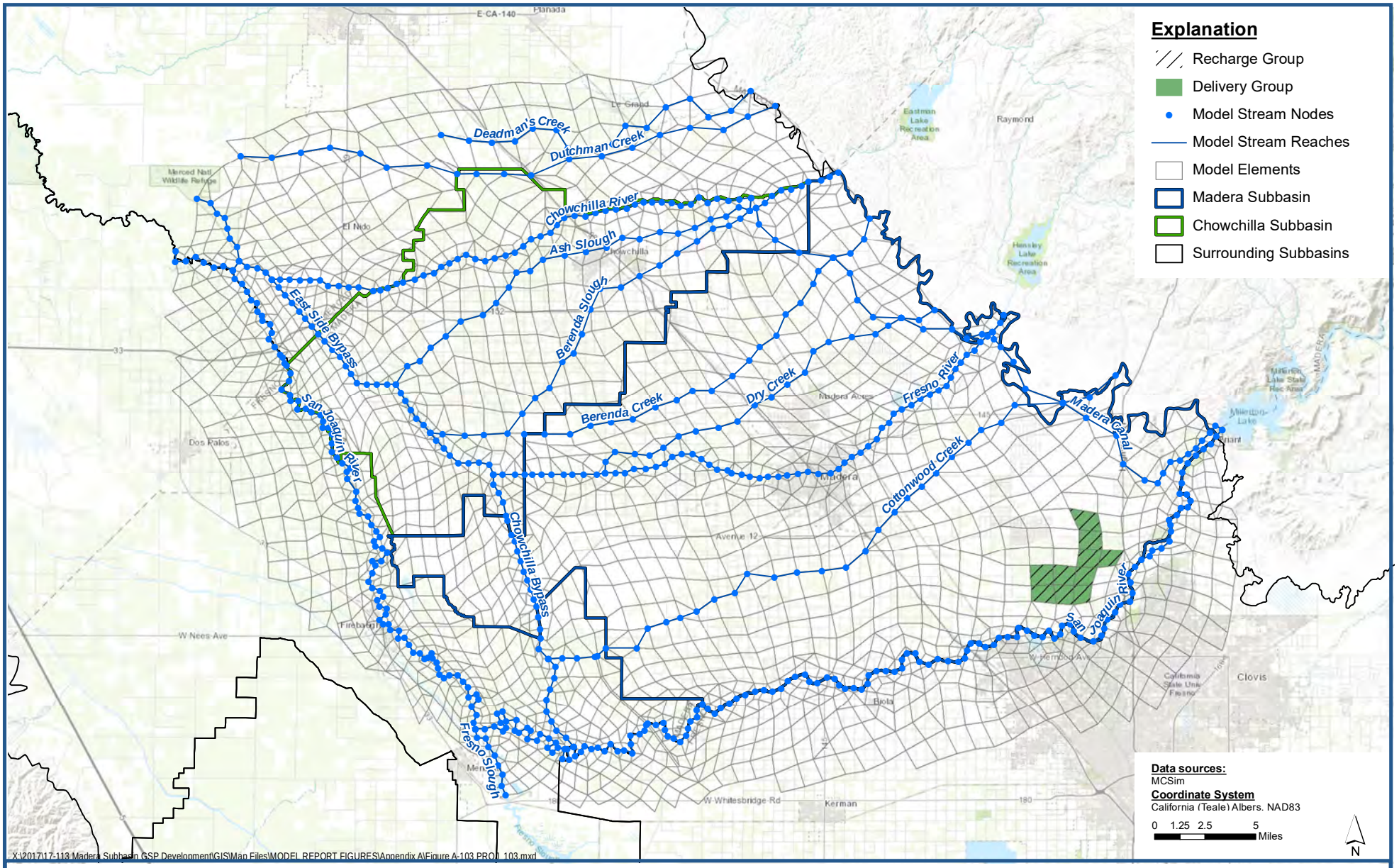
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_102 (NSWD-01) - Exercise of Appropriative Right
Projected Project Diversions

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

Figure A-102



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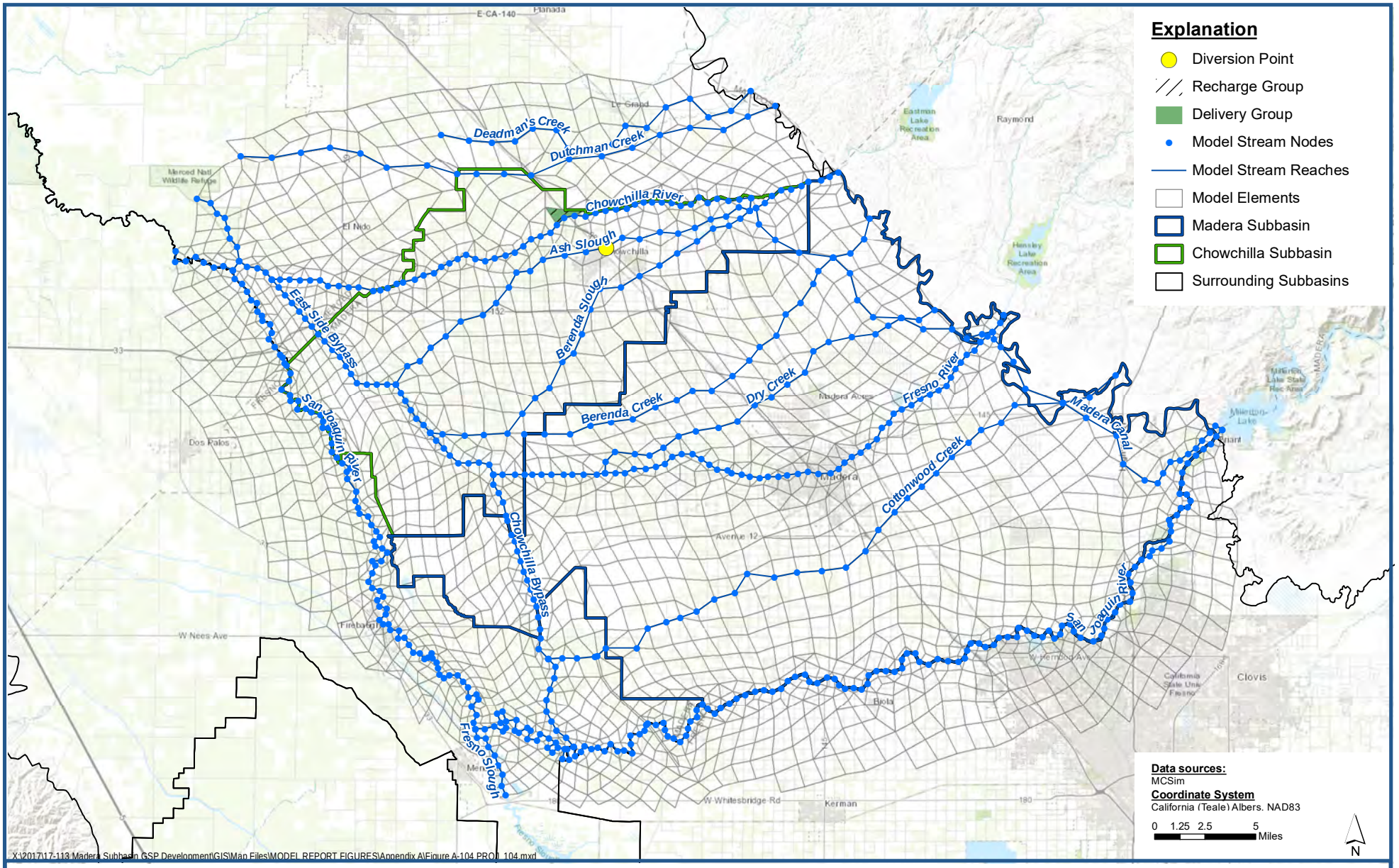
PROJ_103 (RCWD-01) - RCWD pipeline
Projected Project Diversions

Figure A-103

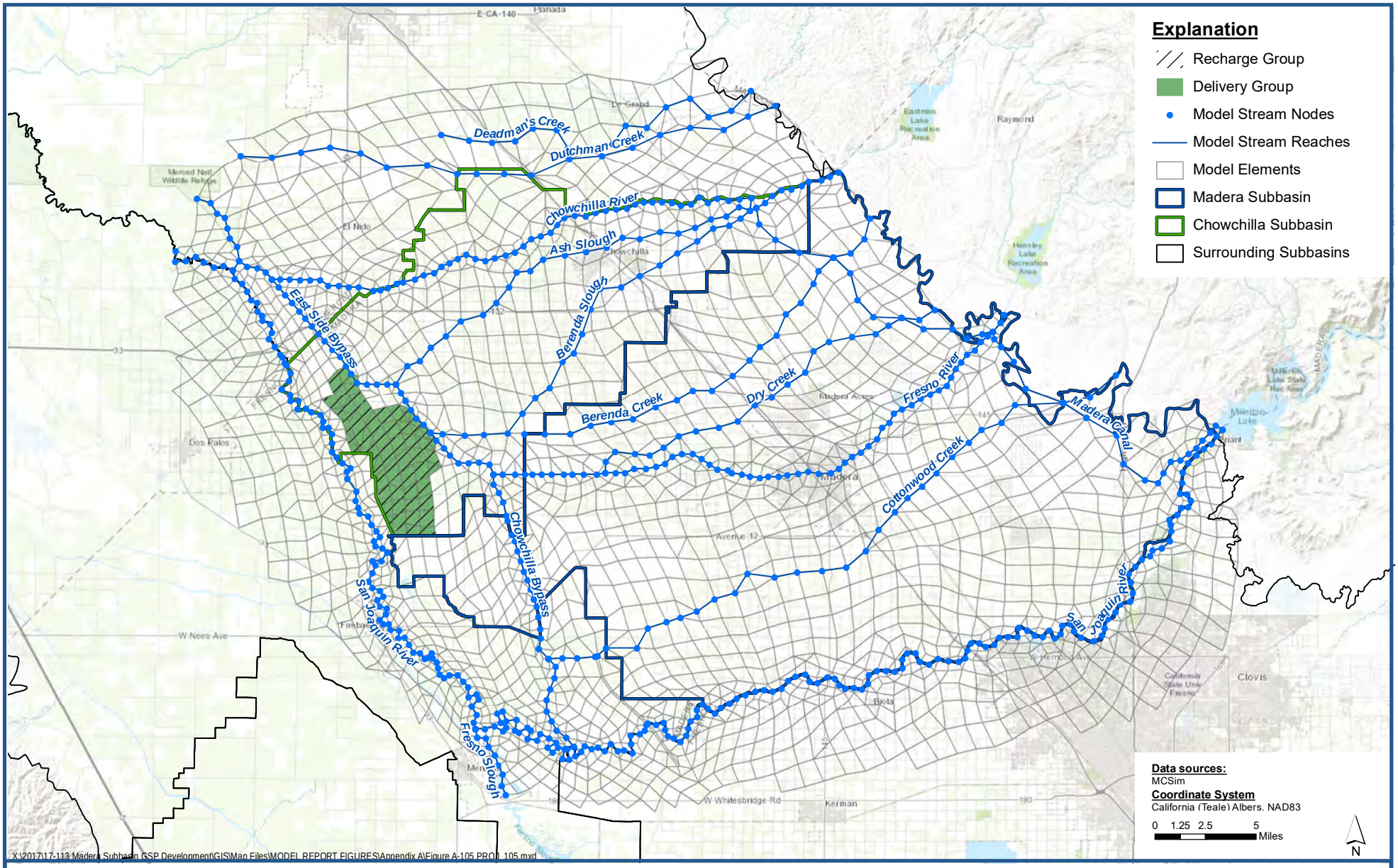
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_104 (SVMWC-01) - SVMWC Recharge Basin
Projected Project Diversions

Figure A-104

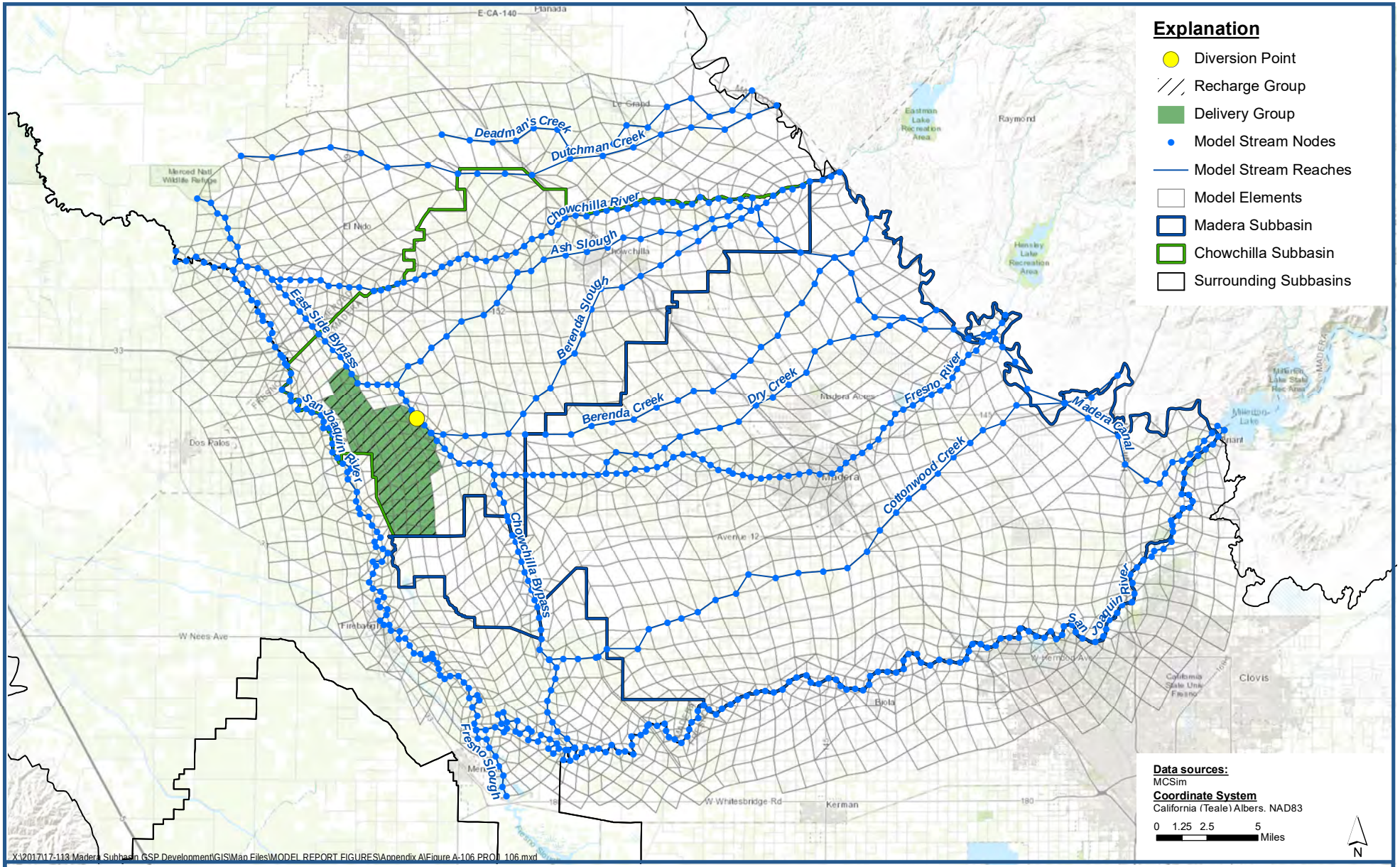
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_105 (TTWD-01) - TTWD - Settlement Agreement
Projected Project Diversions

Figure A-105

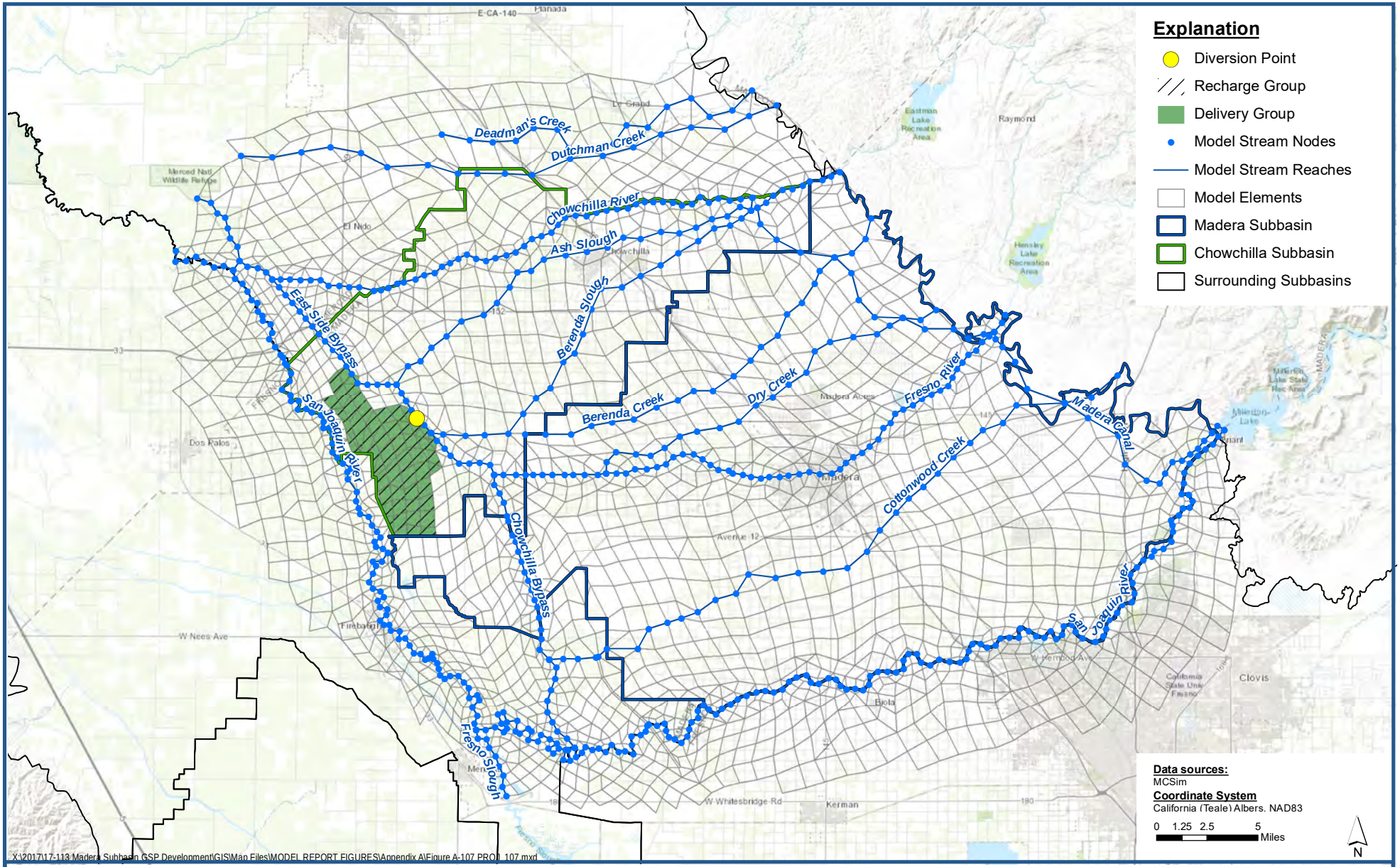
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_106 (TTWD-02) - Eastside Bypass Flood WR Application
Projected Project Diversions

Figure A-106

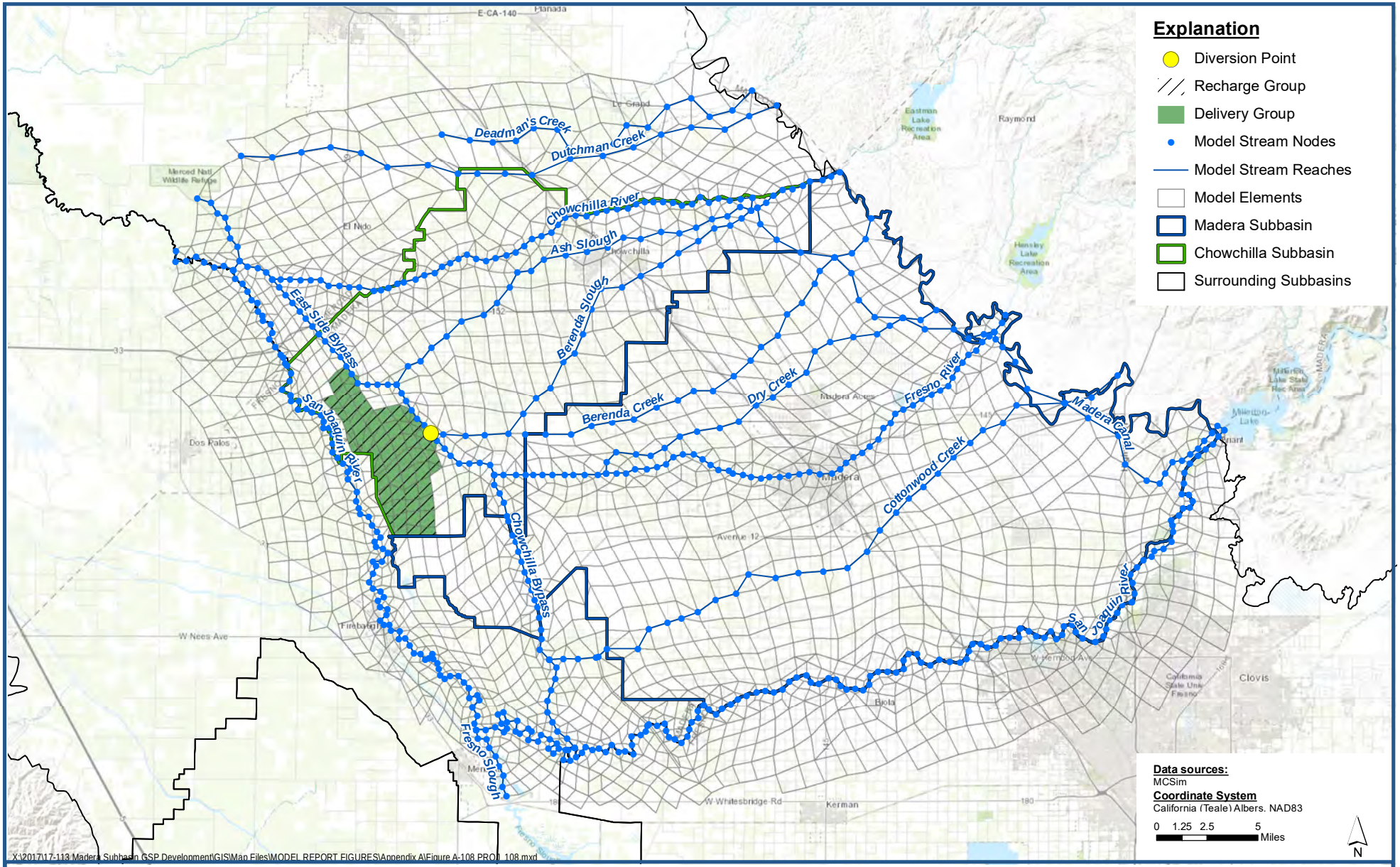
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_107 (TTWD-03) - Red Top Joint Banking Project (TTWD)
Projected Project Diversions

Figure A-107

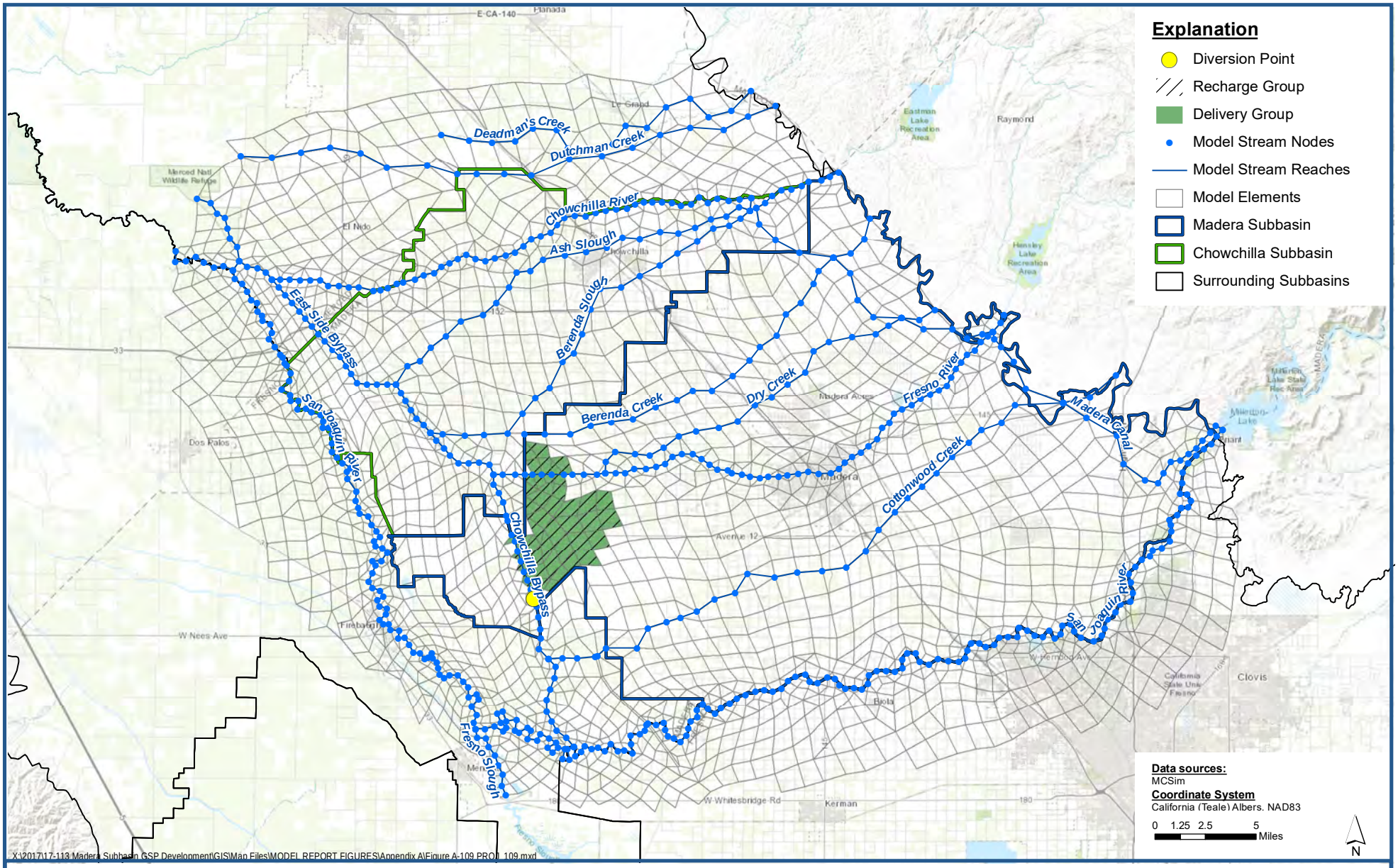
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_108 (TTWD-04) - Red Top Joint Banking Project (TTWD)
Projected Project Diversions

Figure A-108

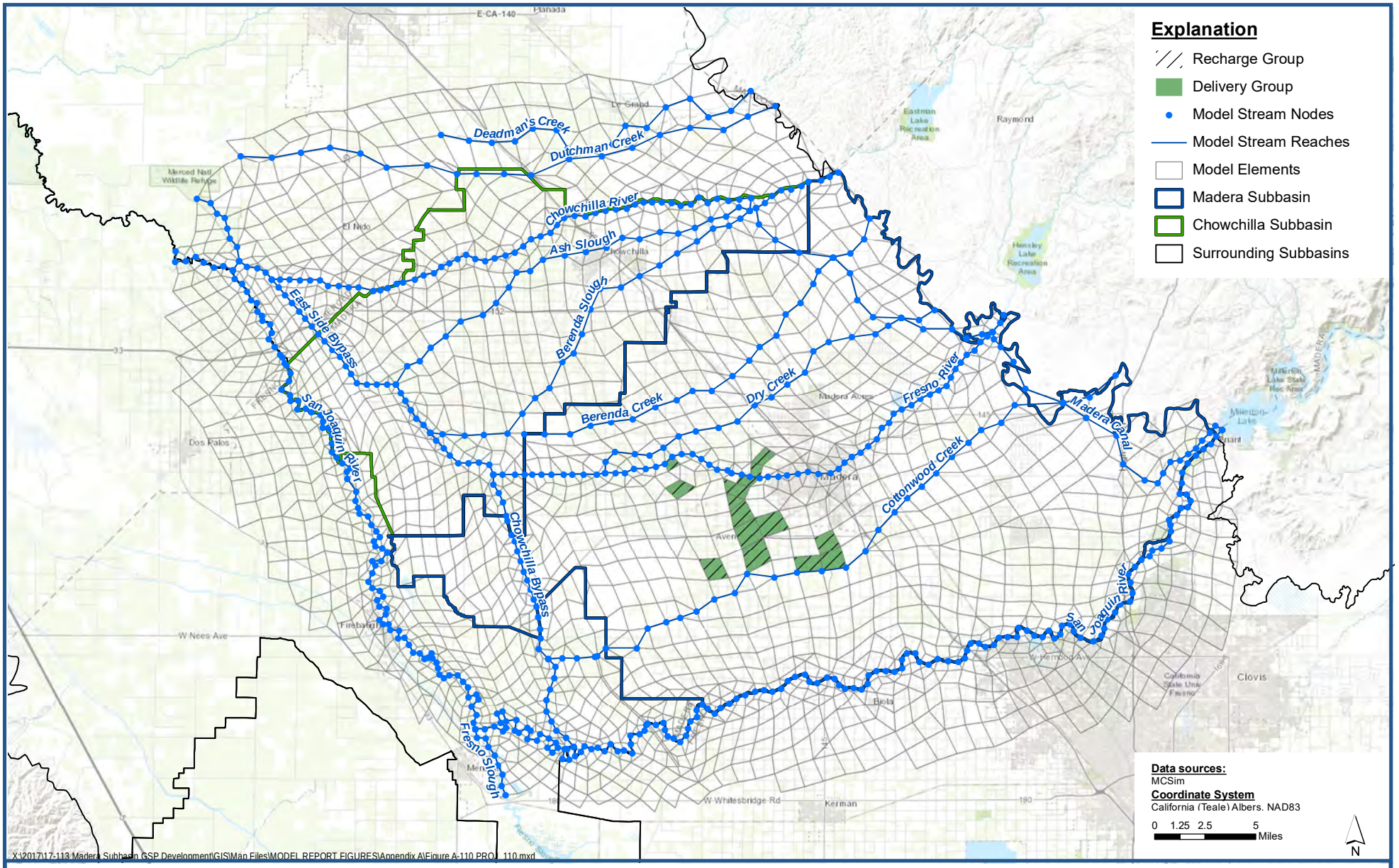
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_109 (MC-04) - Madera County Additional Recharge
Projected Project Diversions

Figure A-109

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

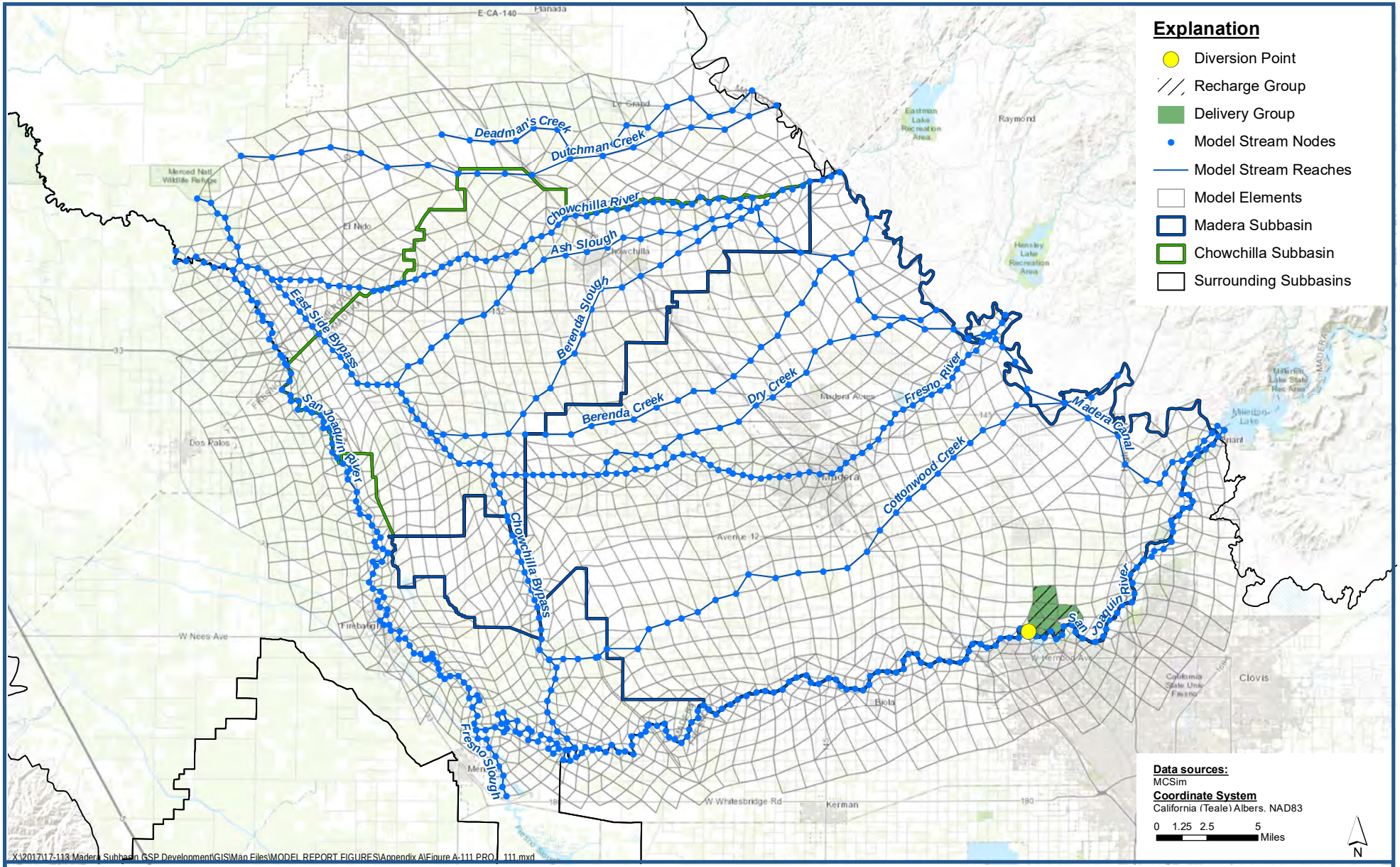


X:\2017\17-113 Madera Subbasin GSP Development\GIS\Map Files\MODEL REPORT FIGURES\Appendix A\Figure A-110 PROJ_110.mxd

PROJ_110 (MID-14) - MID Additional Recharge
Projected Project Diversions

Figure A-110

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County



PROJ_111 (RCWD-02) - RCWD Surface Water Delivery Increase
Projected Project Diversions

Figure A-111

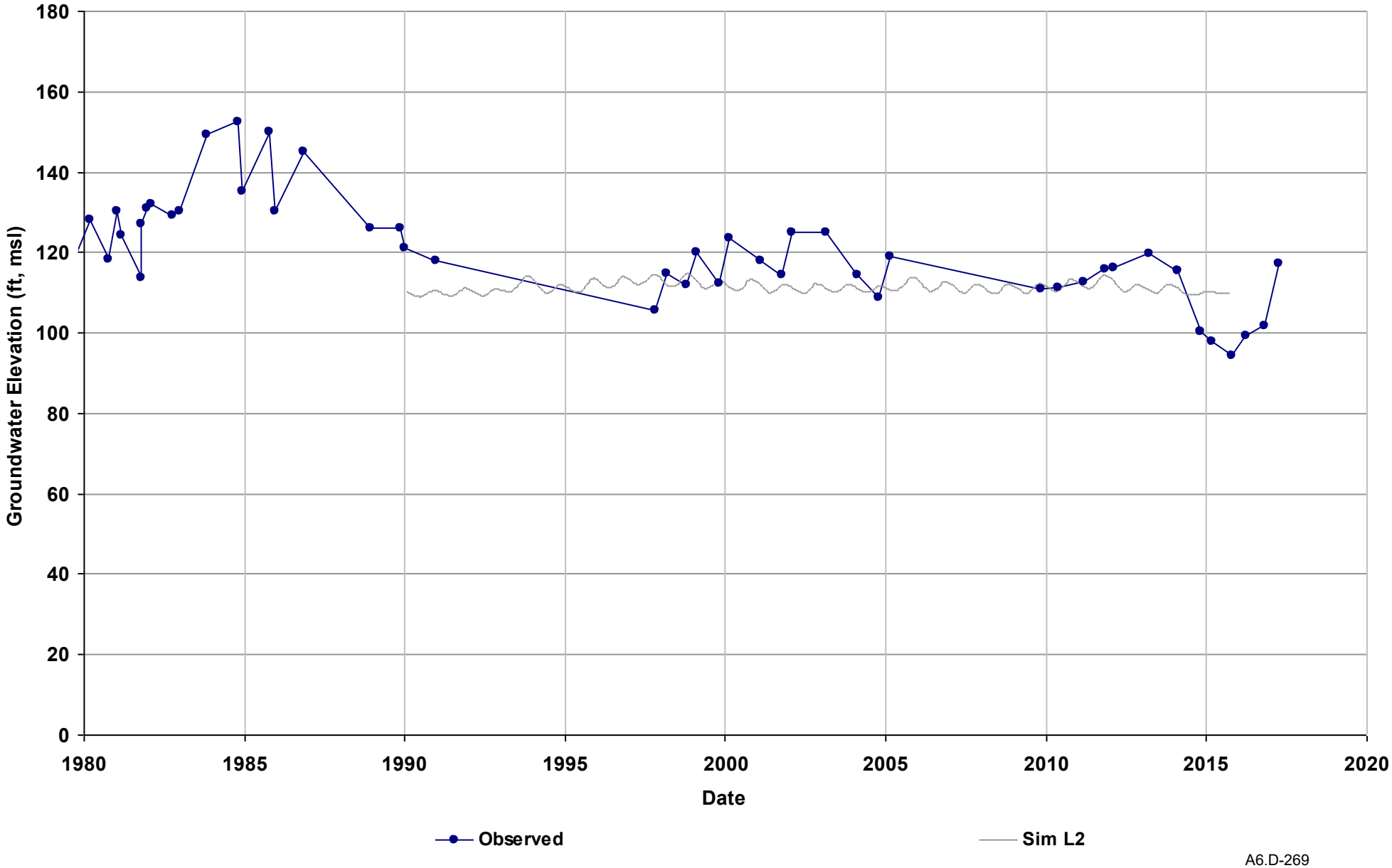
Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

APPENDIX B

Groundwater Elevation Calibration Hydrographs

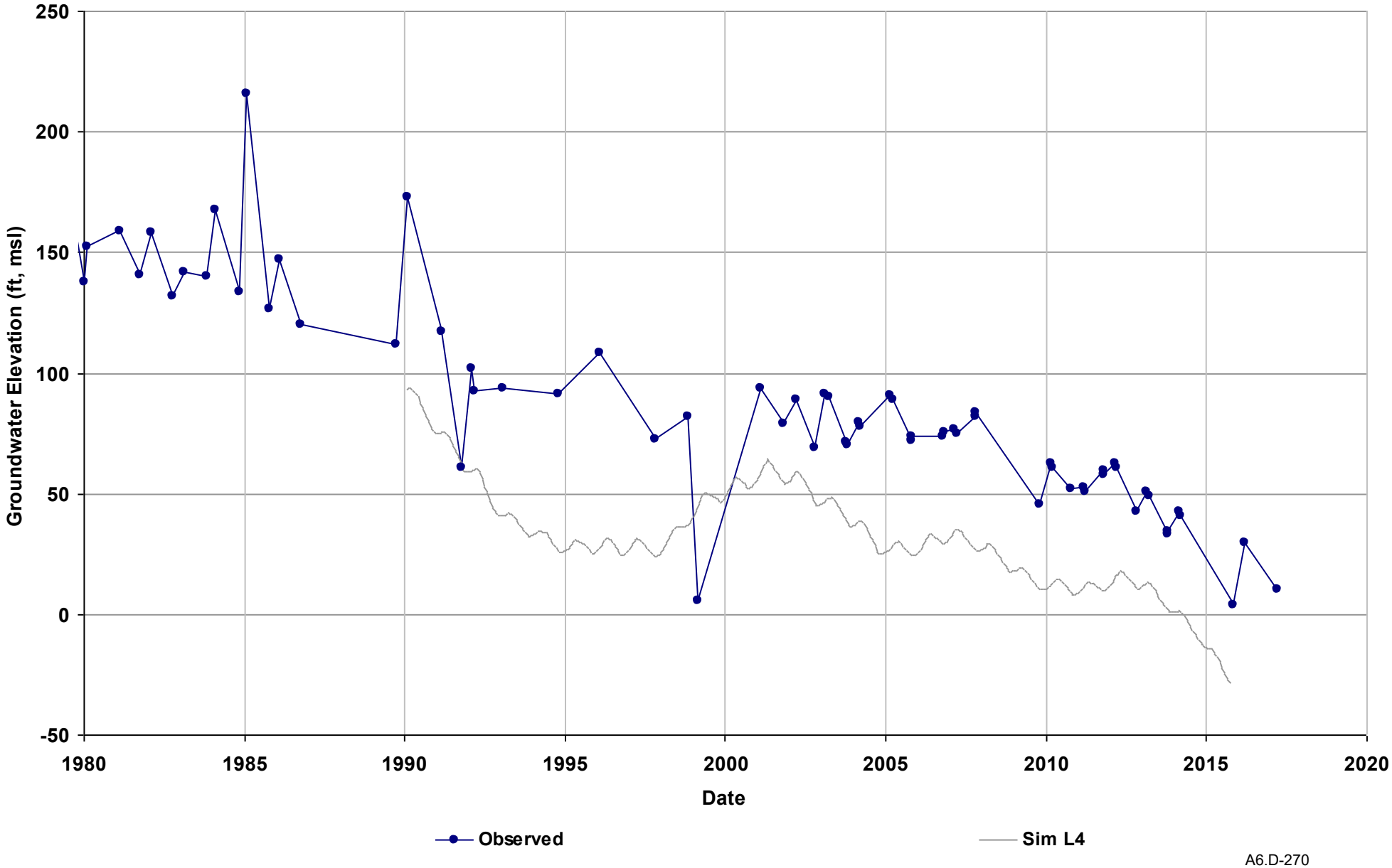
Well Name: 09S14E14R001M
Depth Zone: Composite or Lower; W
Subbasin: Chowchilla
GSE (ft, msl): 179

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



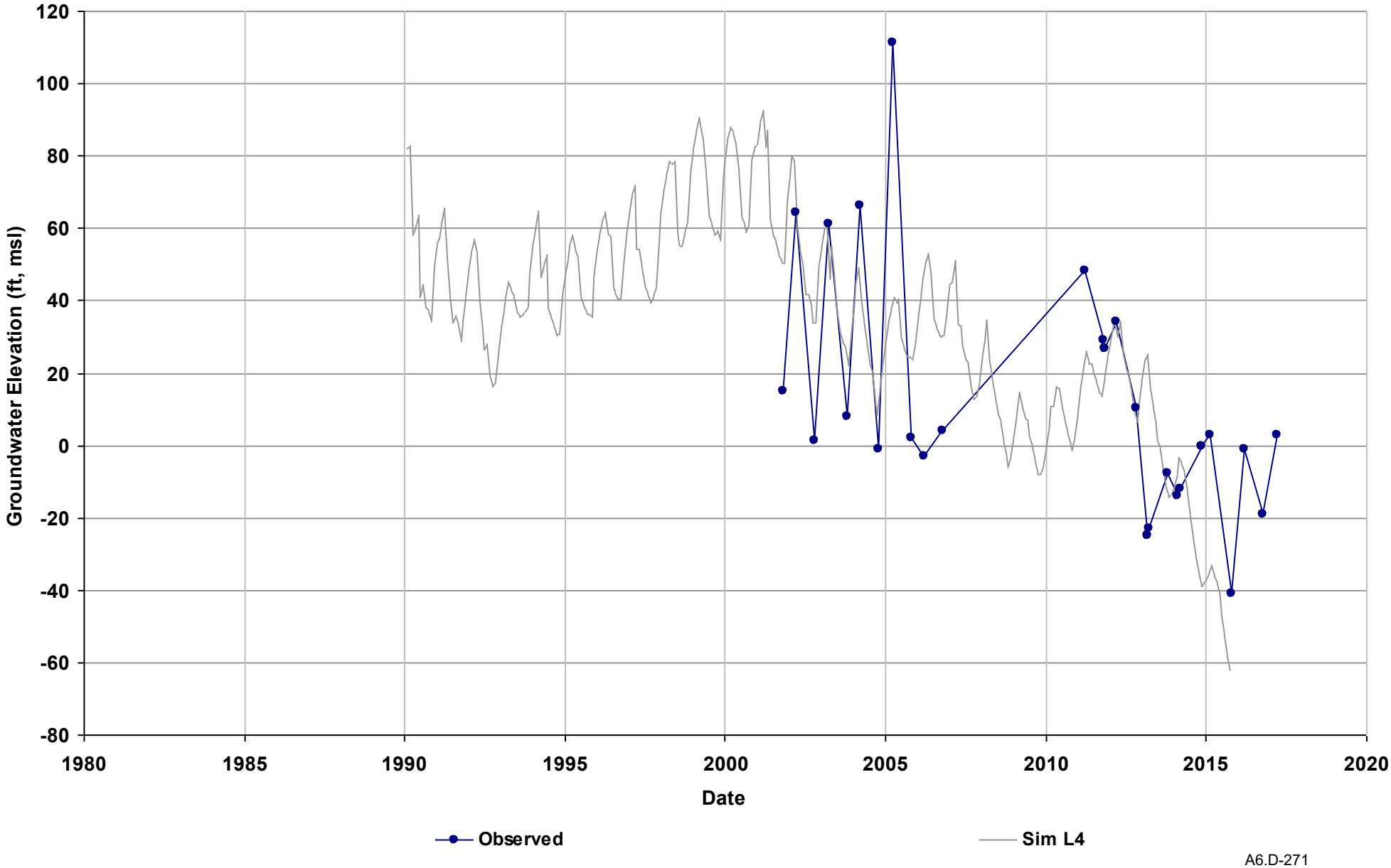
Well Name: 09S17E19L001M
Depth Zone: Lower; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 299

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



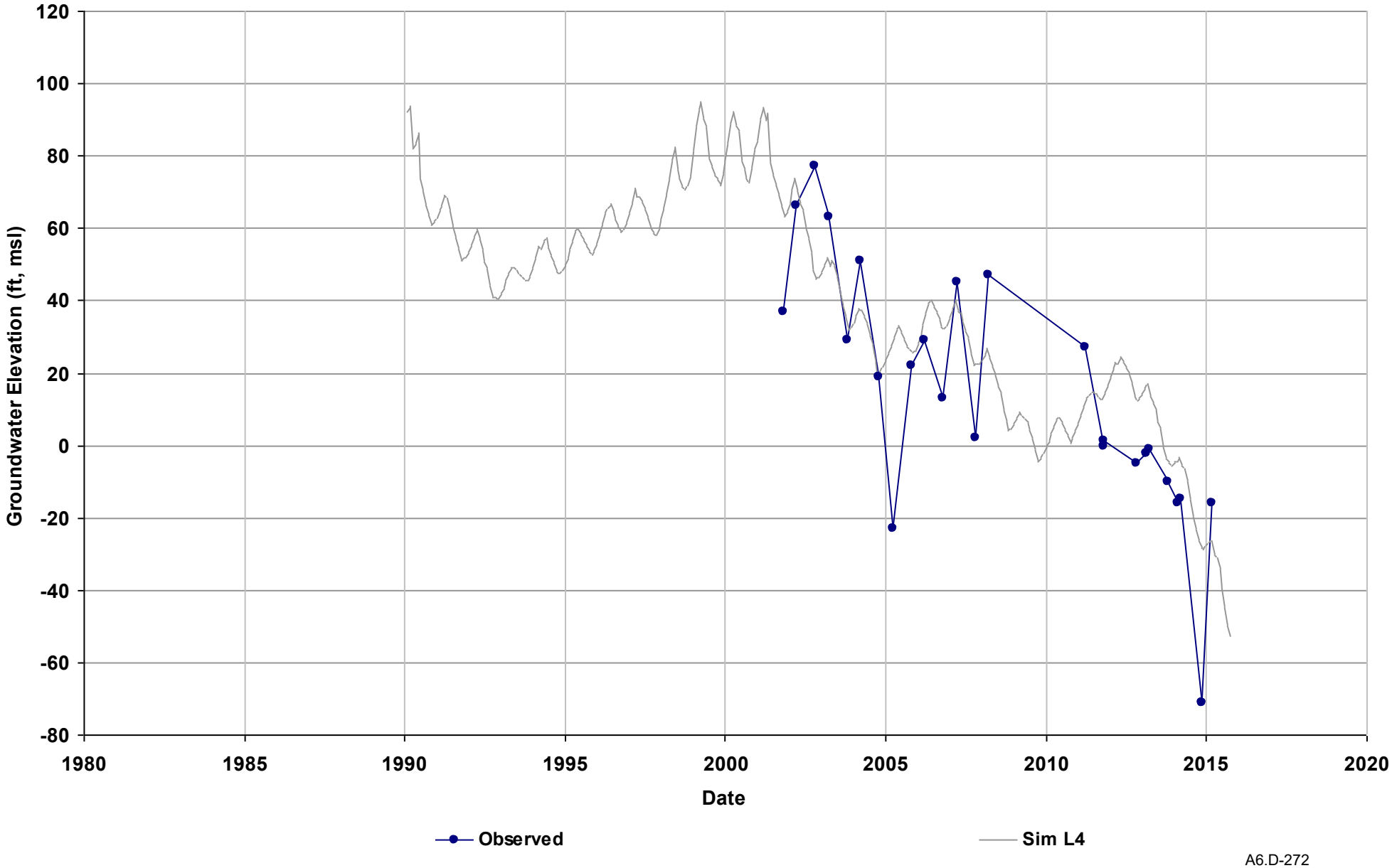
Well Name: 09S14E27R001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 171

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



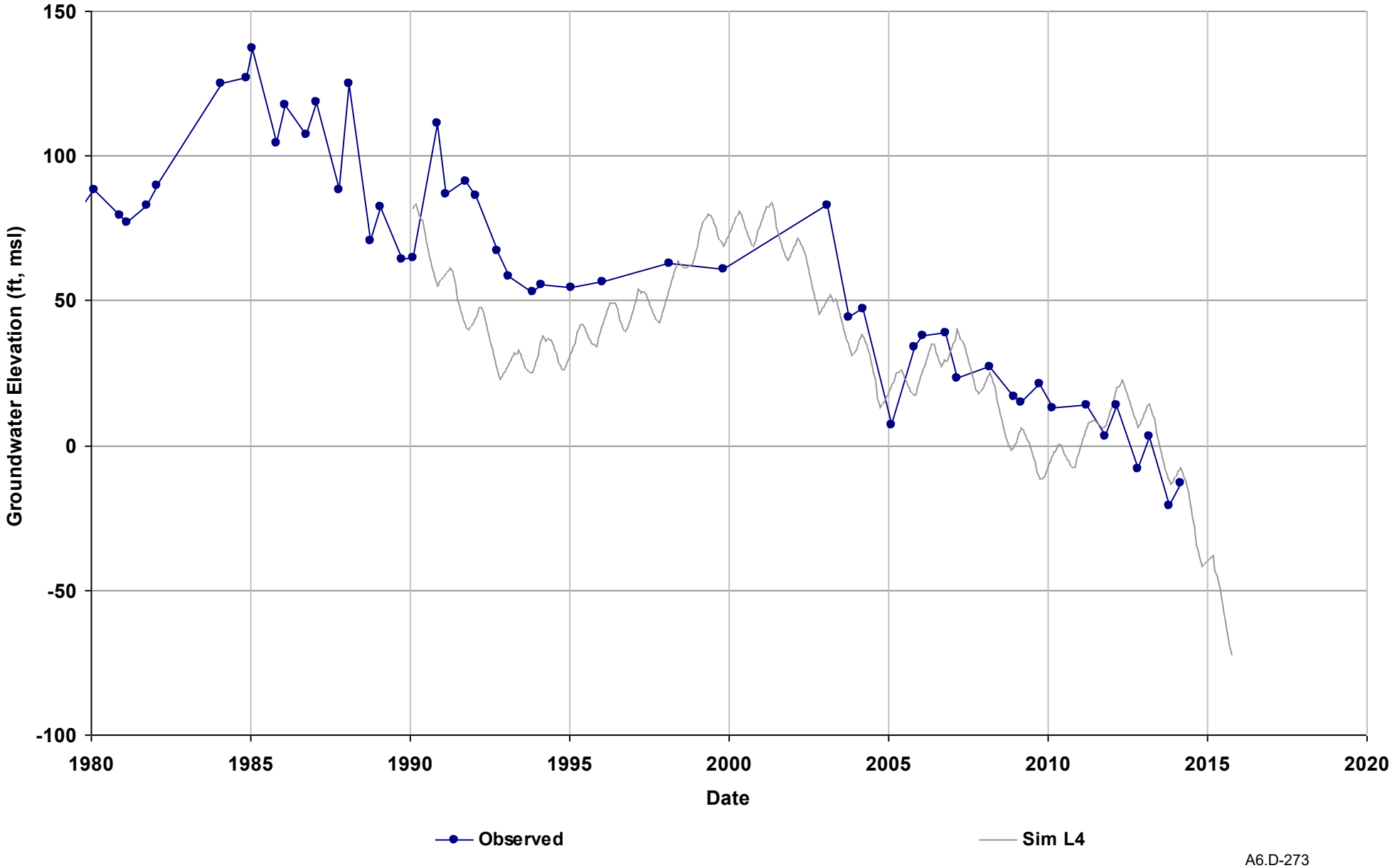
Well Name: 09S15E06P001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 193

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 4
Bottom Model Layer: 4



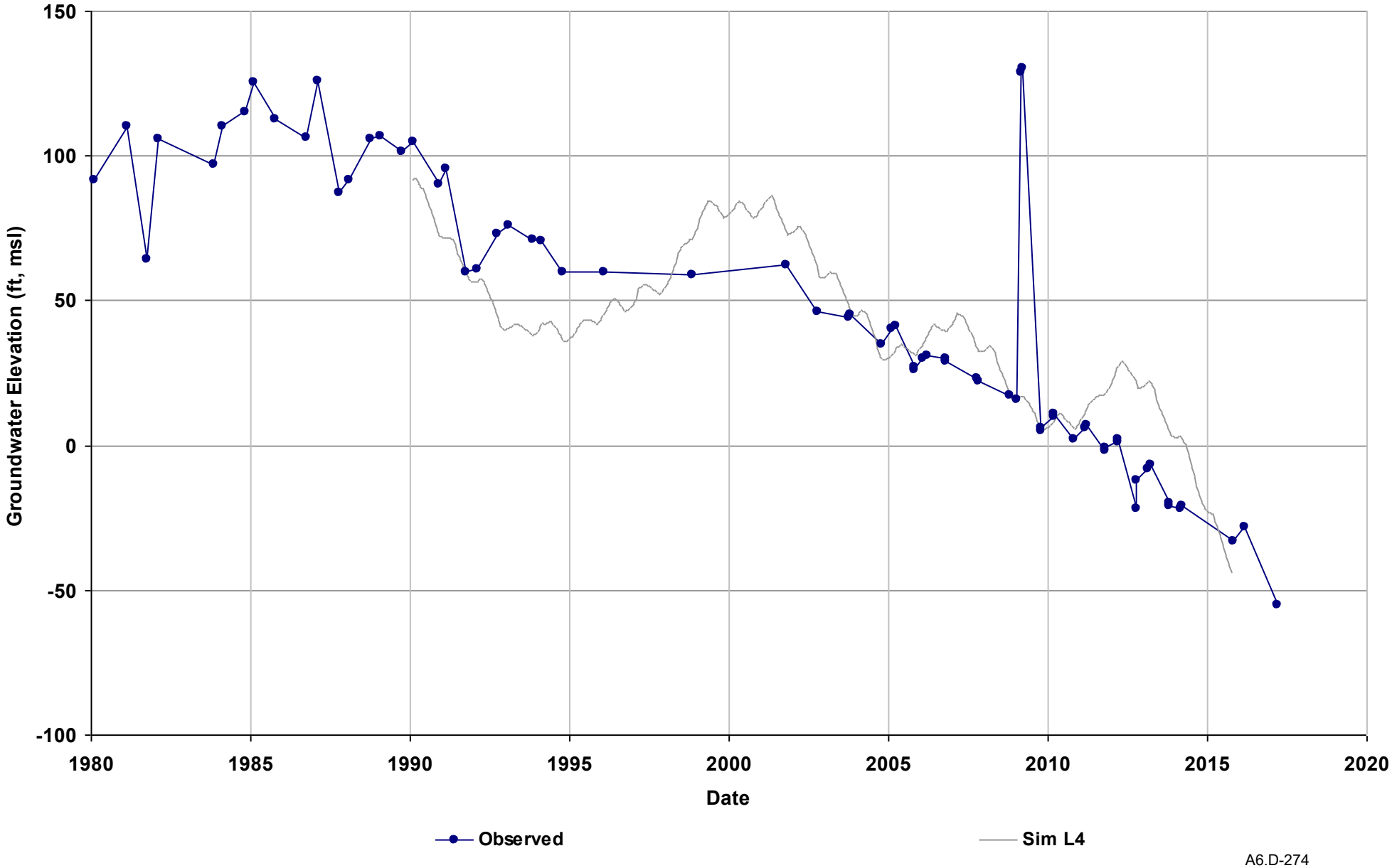
Well Name: 09S15E23J2
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 228

Total Depth (ft): 291
Perf Top (ft): 290.5
Perf Bottom (ft): 291
Top Model Layer: 4
Bottom Model Layer: 4



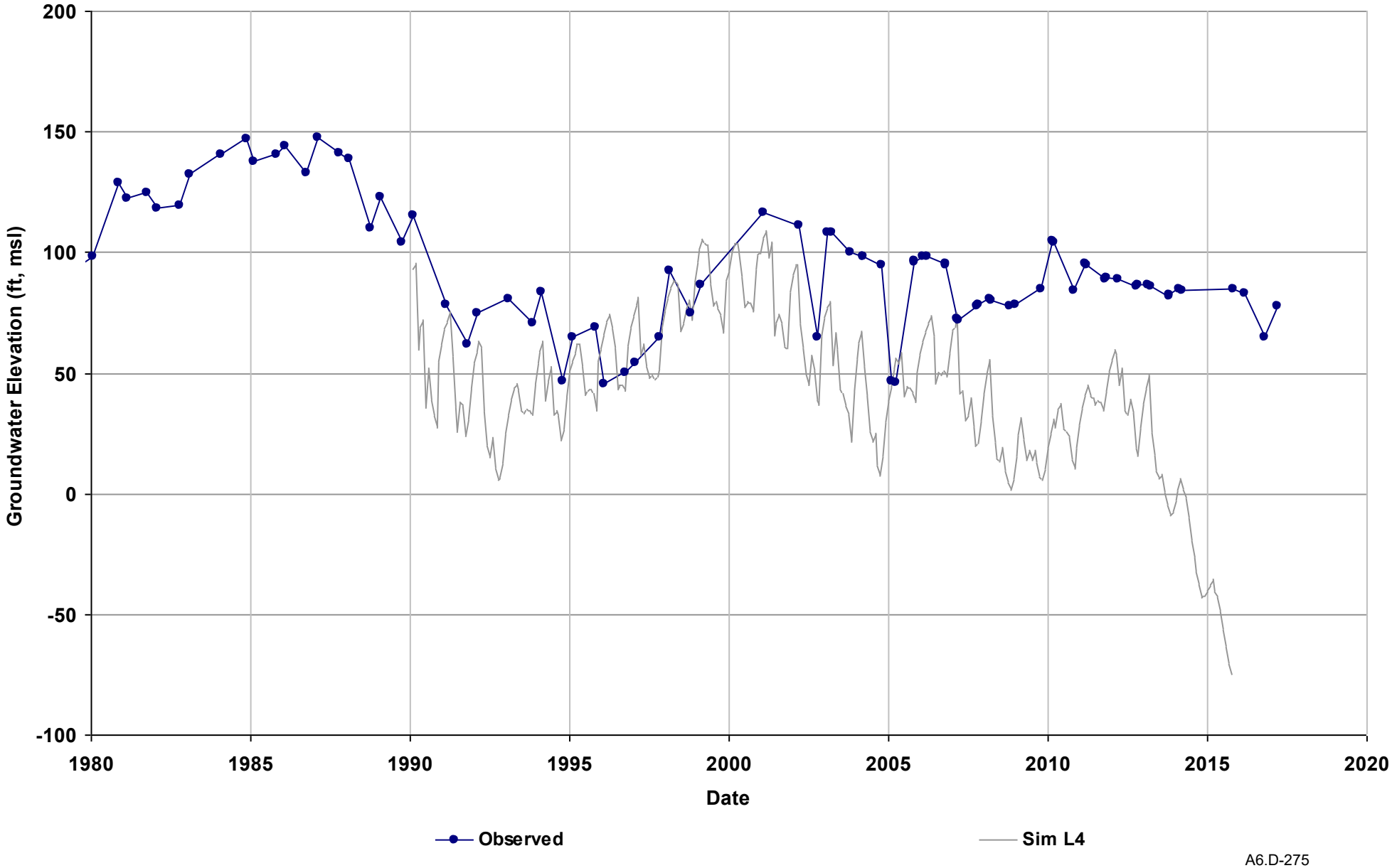
Well Name: 09S16E16N001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 272

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 4
Bottom Model Layer: 4



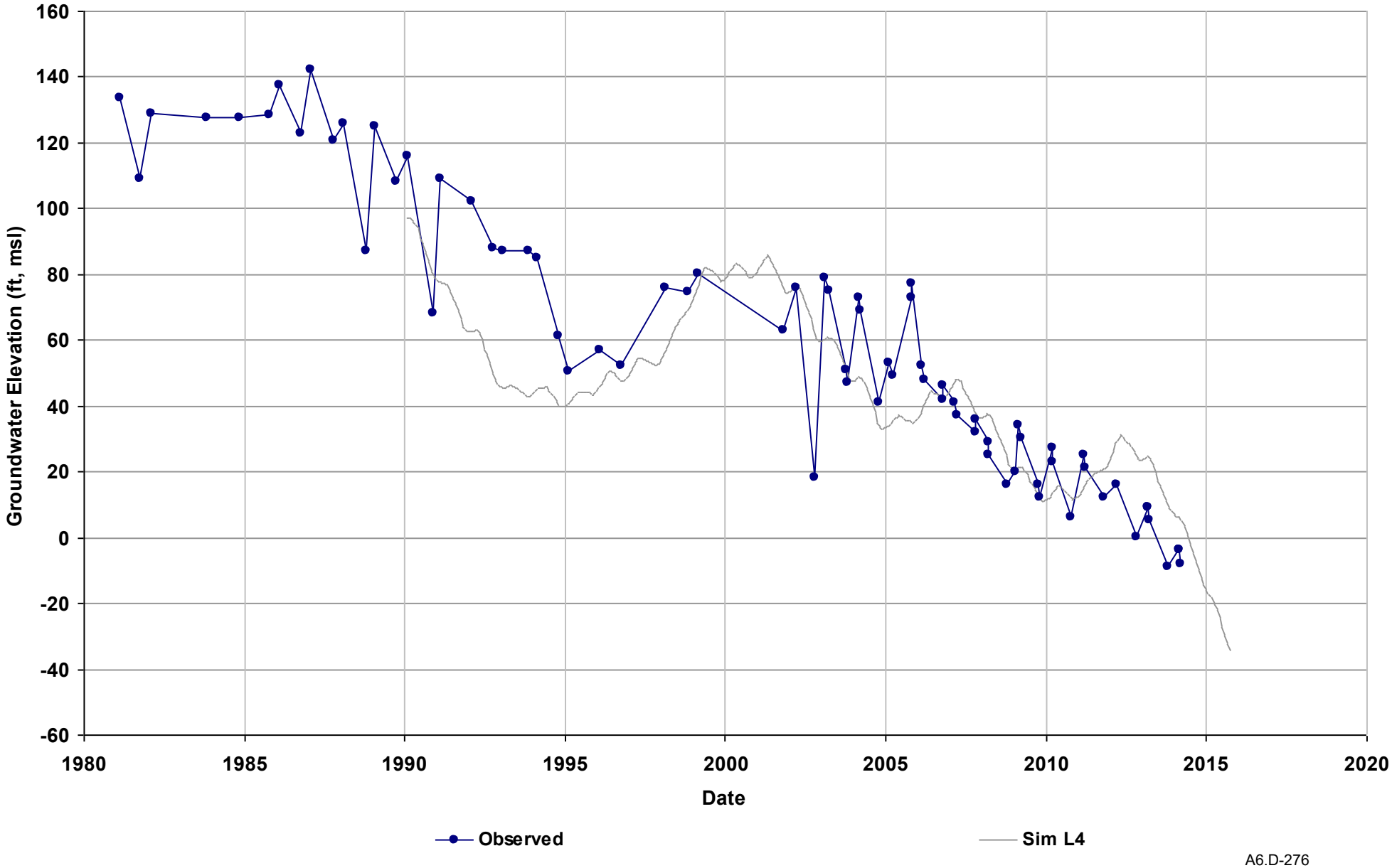
Well Name: 10S15E16R002M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 199

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



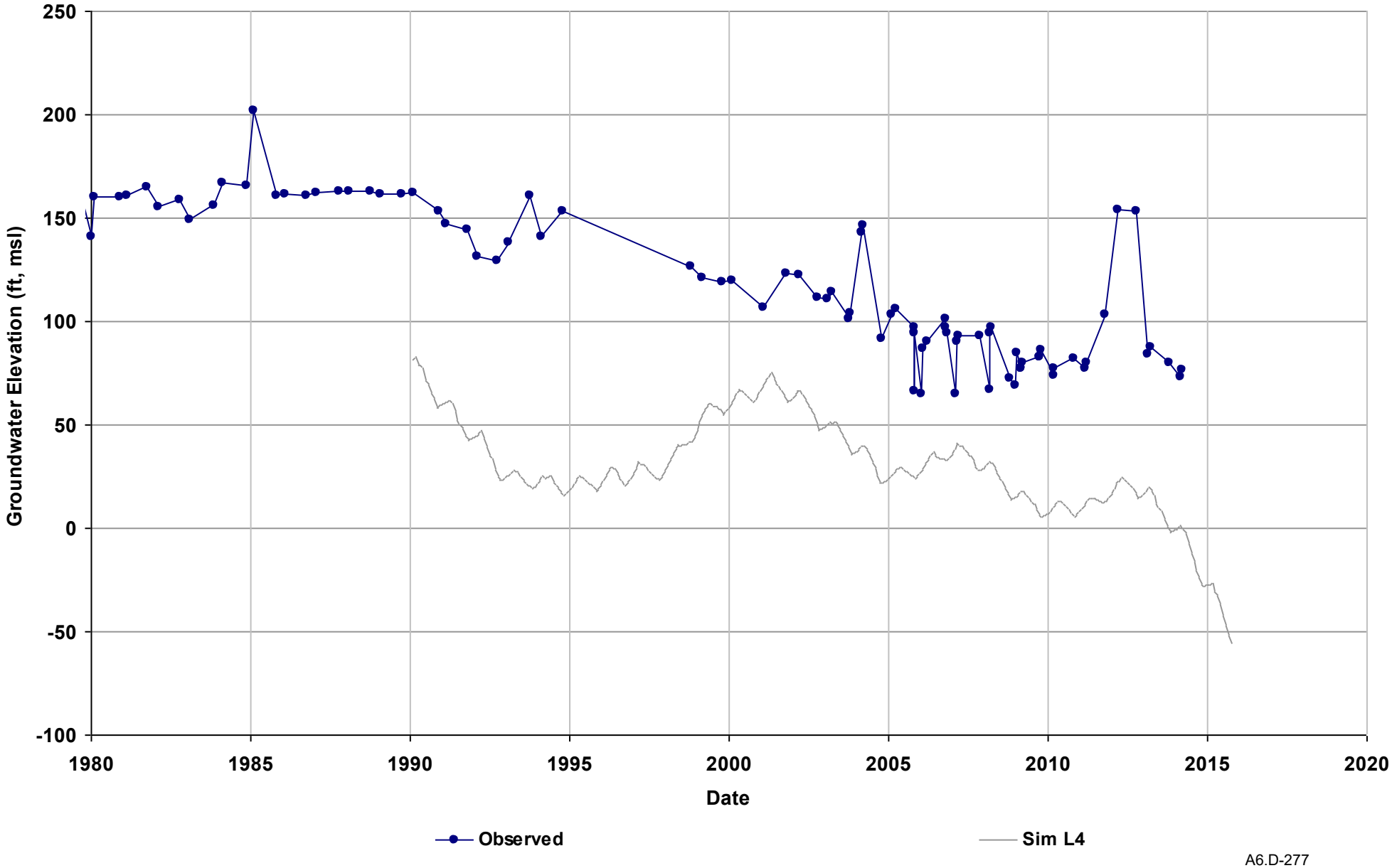
Well Name: 09S16E15Q001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 271

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



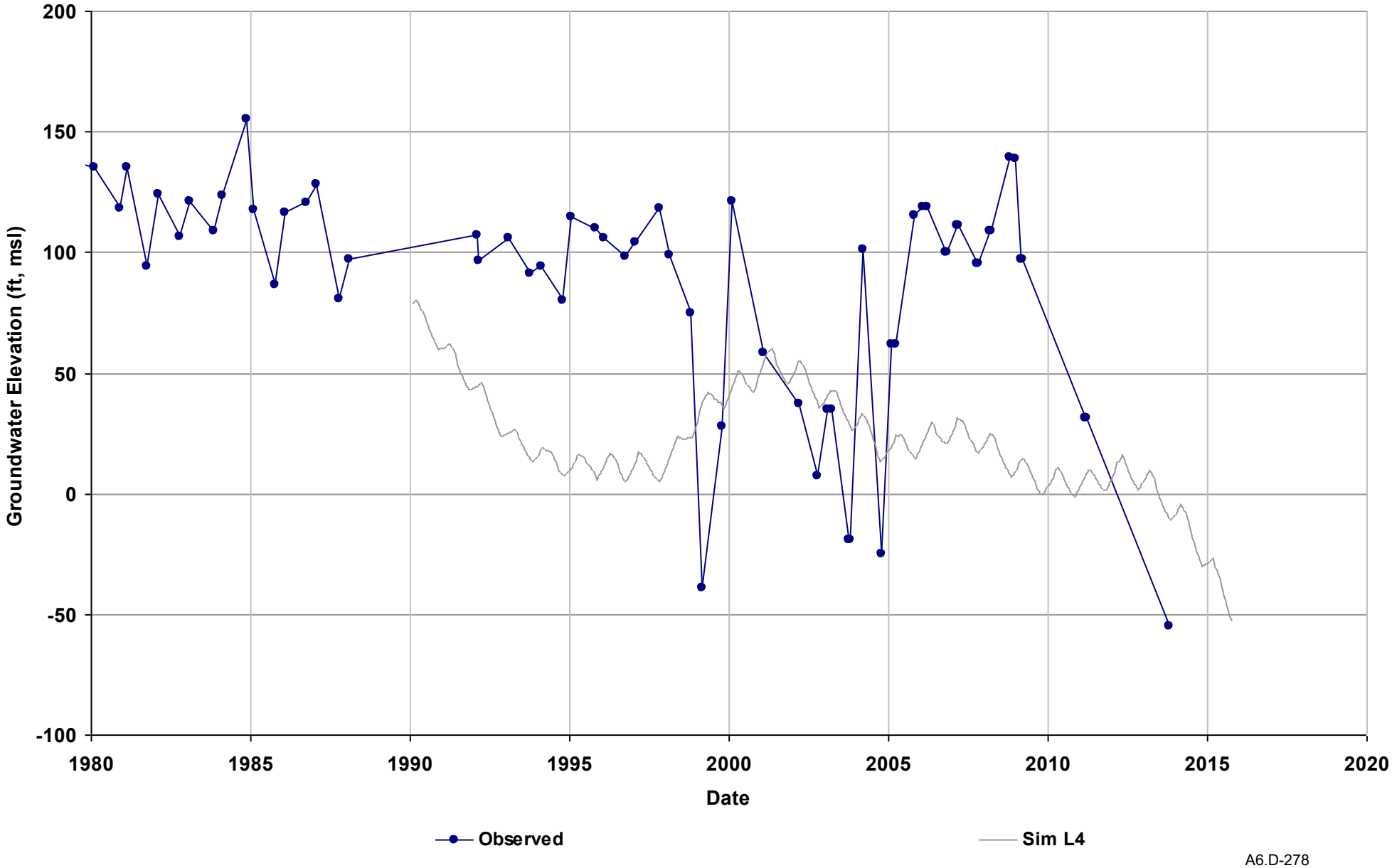
Well Name: 09S16E34J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 266

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



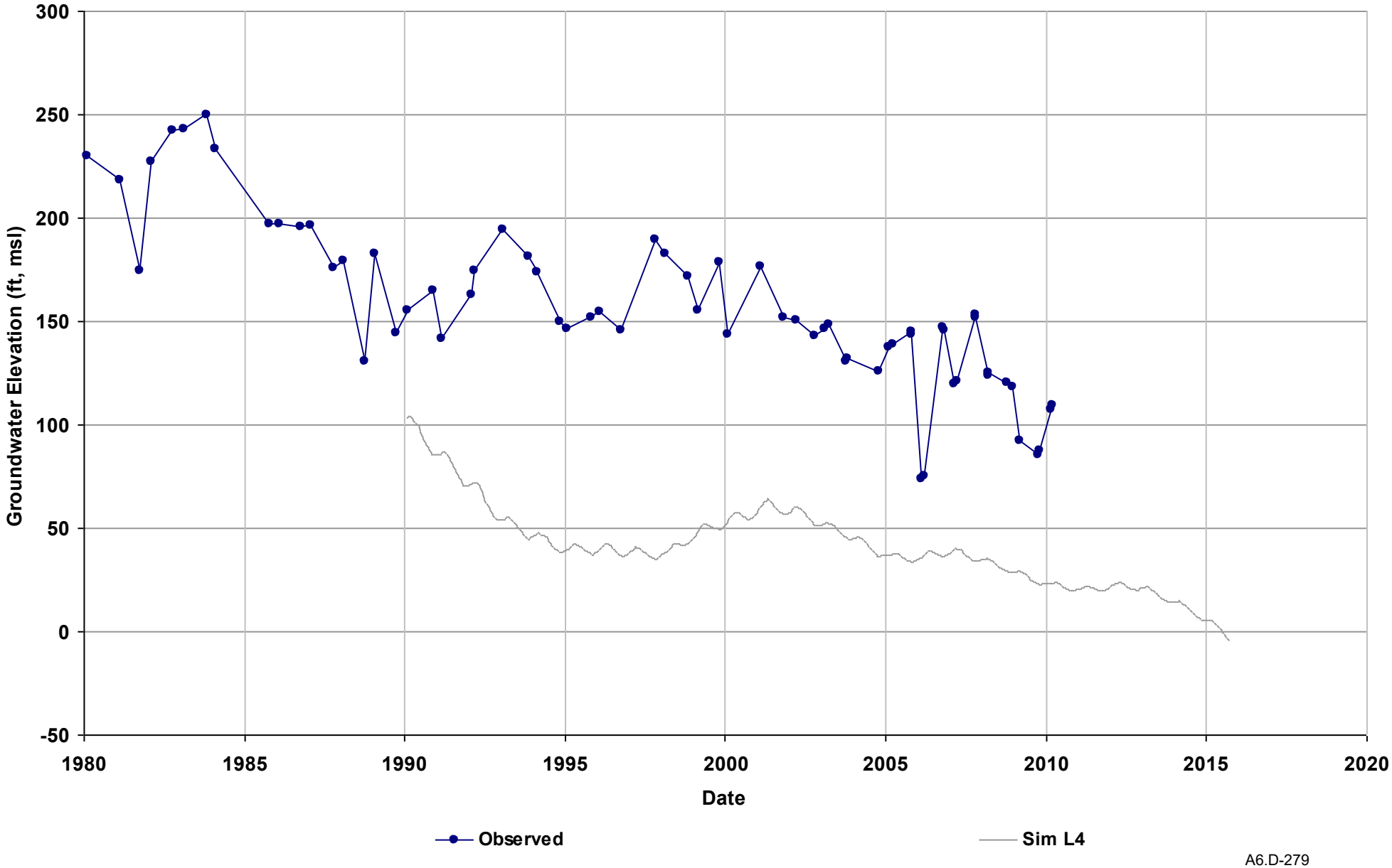
Well Name: 09S16E36J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 281

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



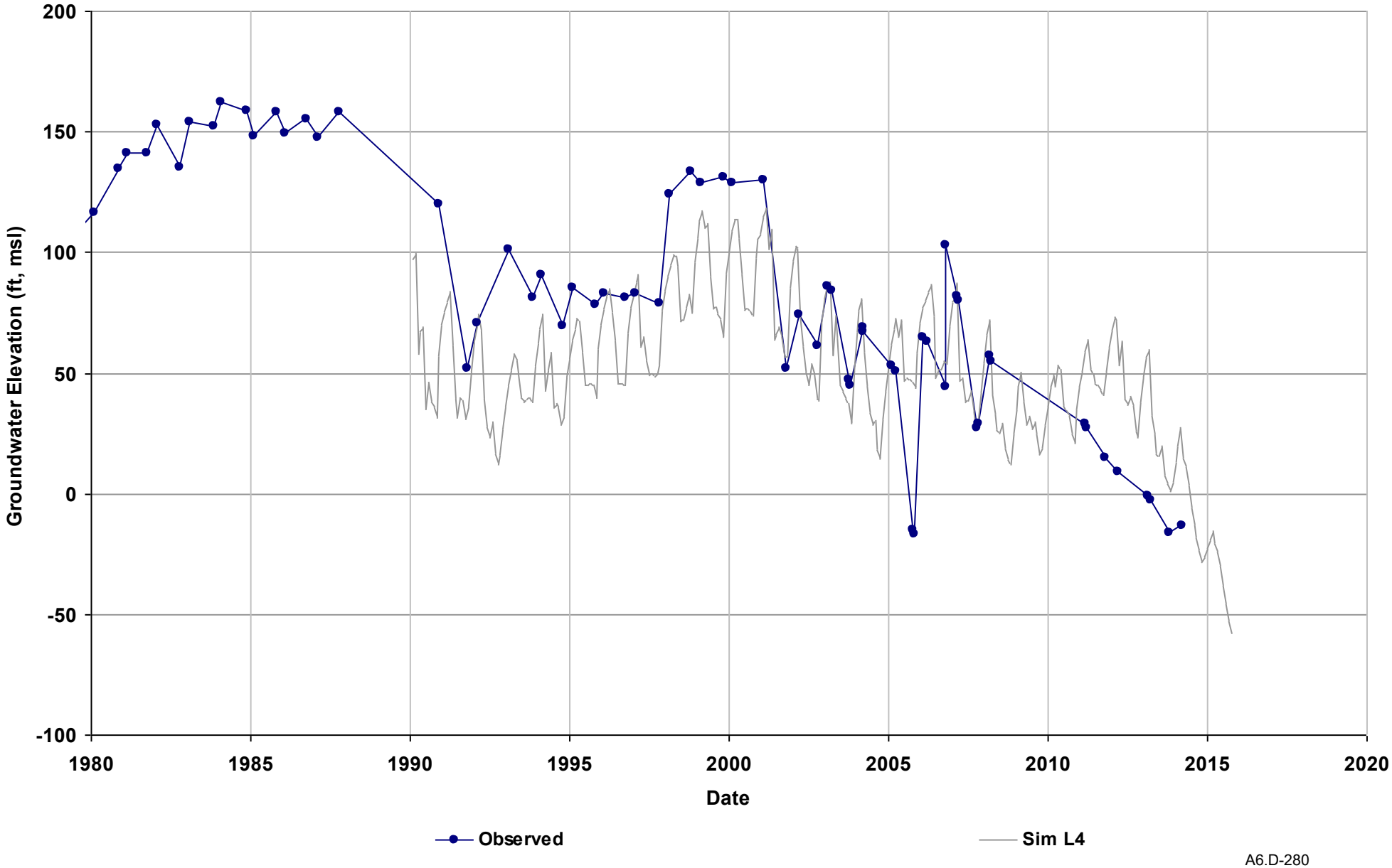
Well Name: 09S17E17F001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 294

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



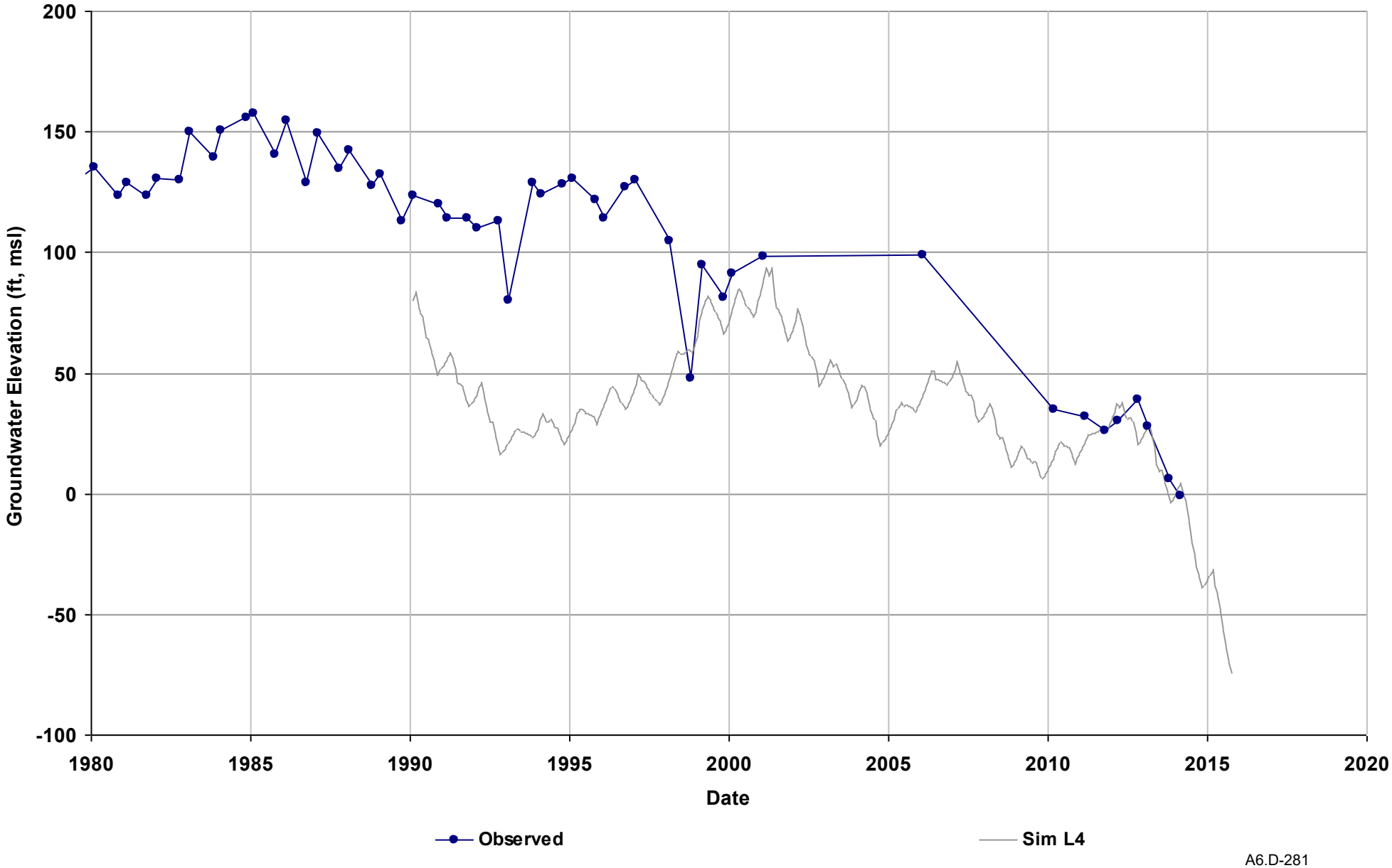
Well Name: 10S15E35A002M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 188

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



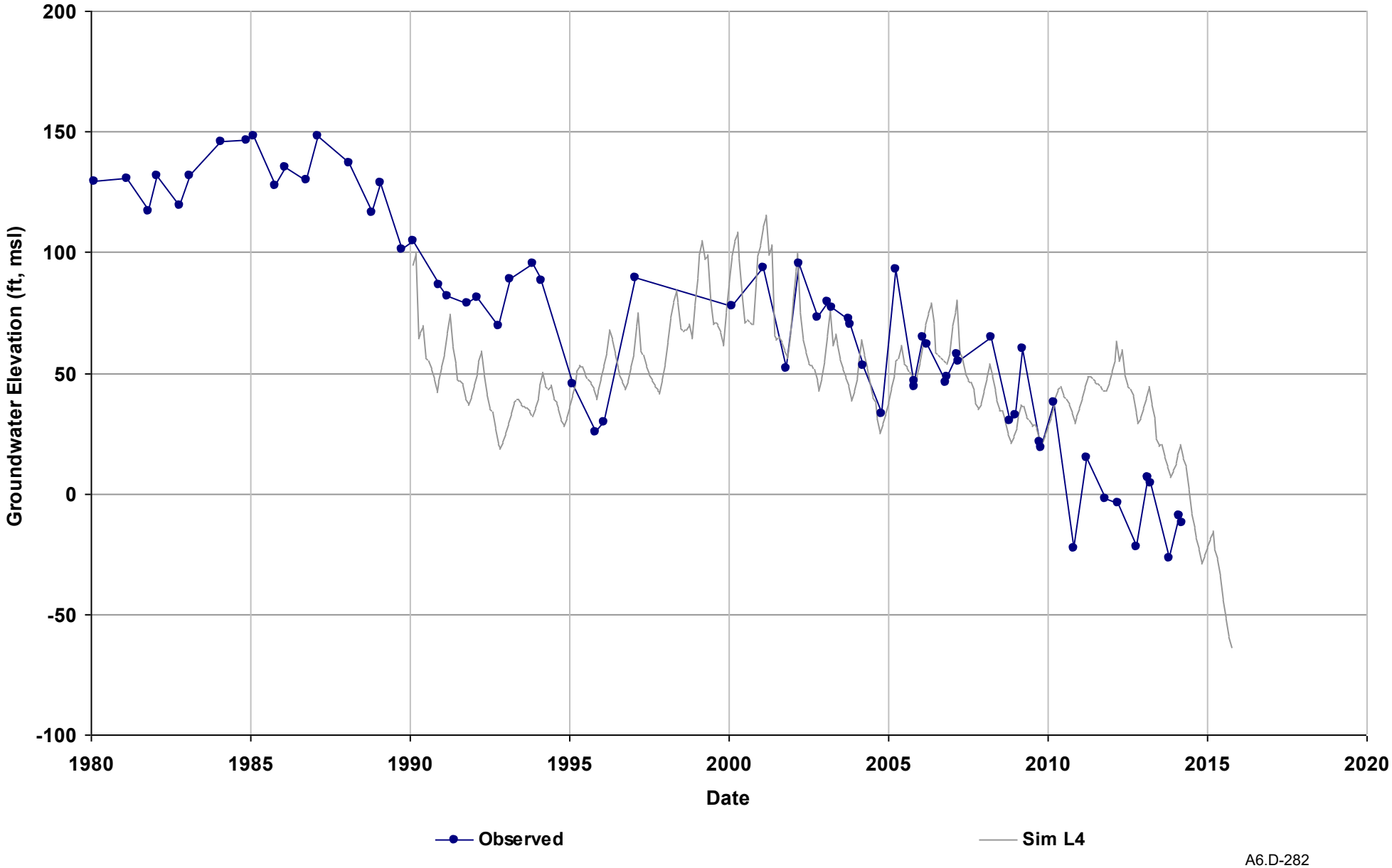
Well Name: 10S16E17C001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 224

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



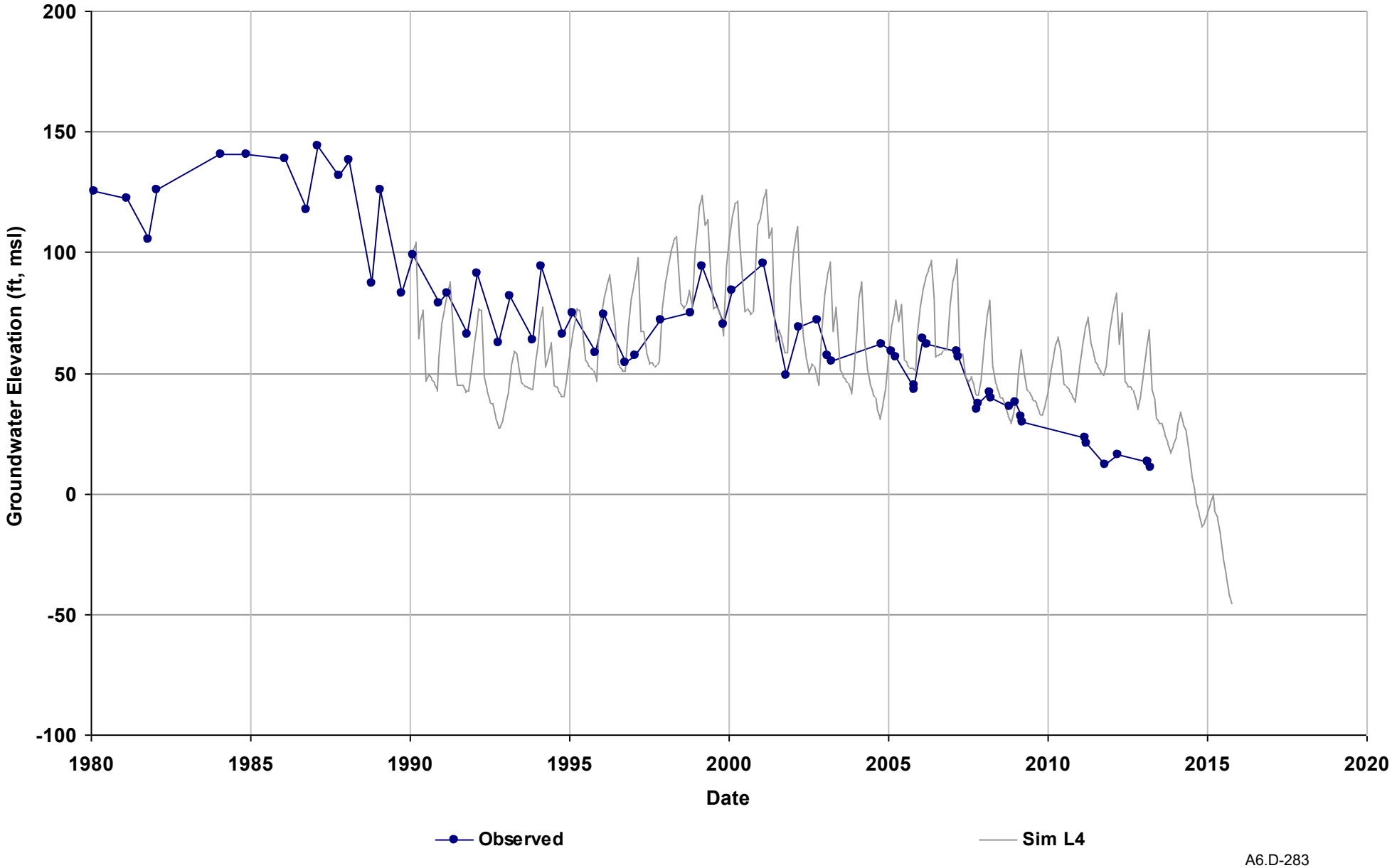
Well Name: 10S16E29A001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 216

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



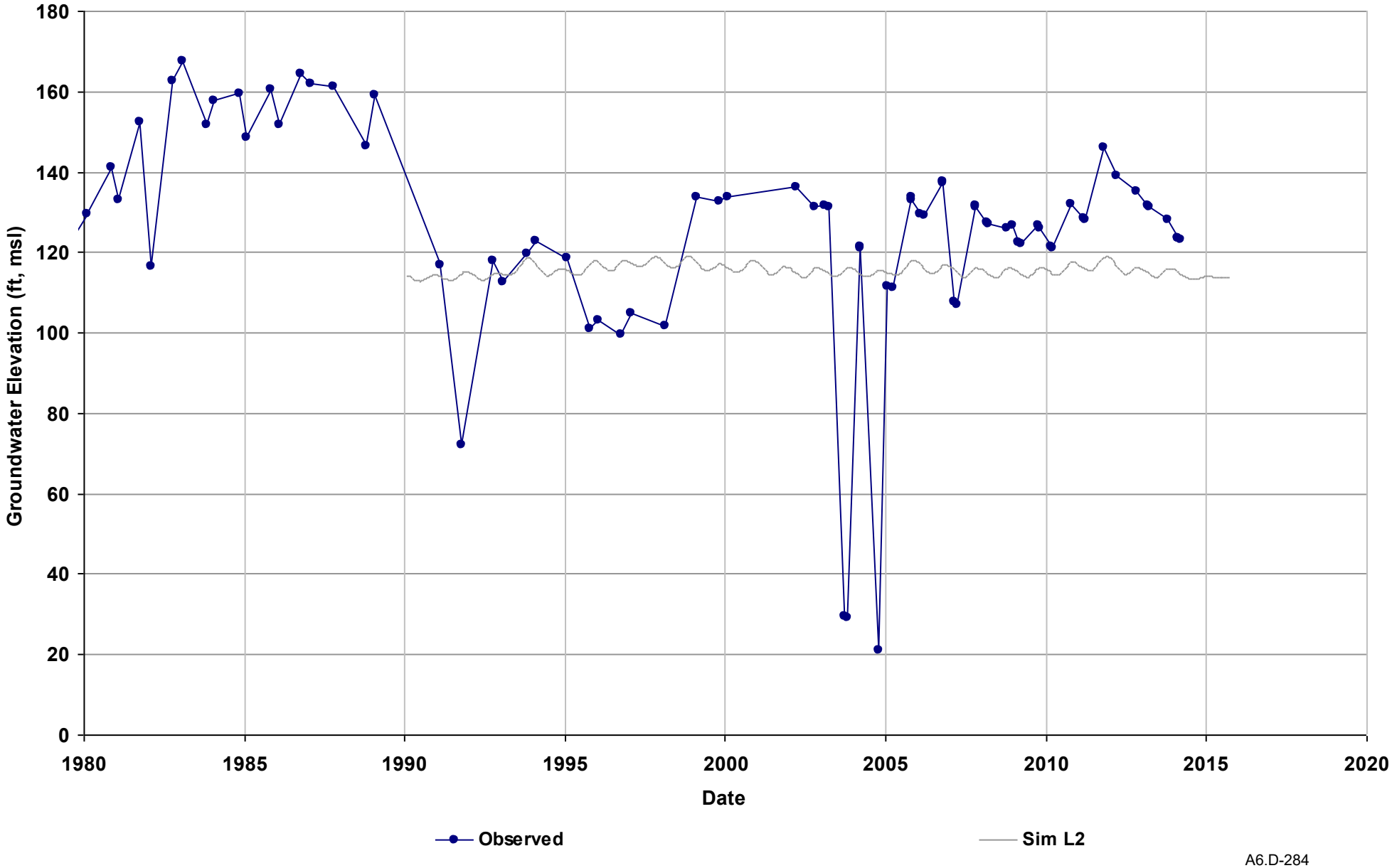
Well Name: 10S16E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 200

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



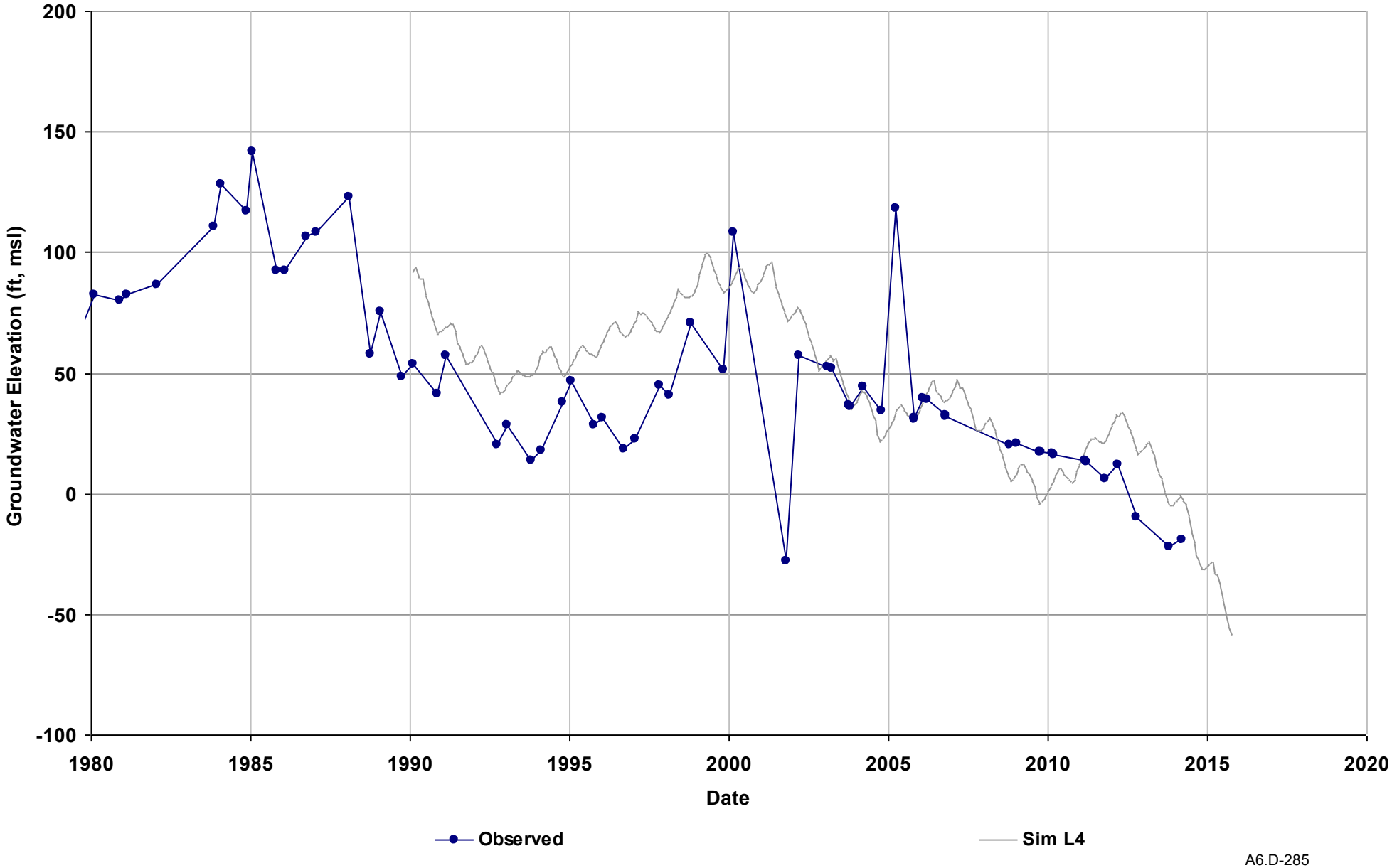
Well Name: 09S14E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



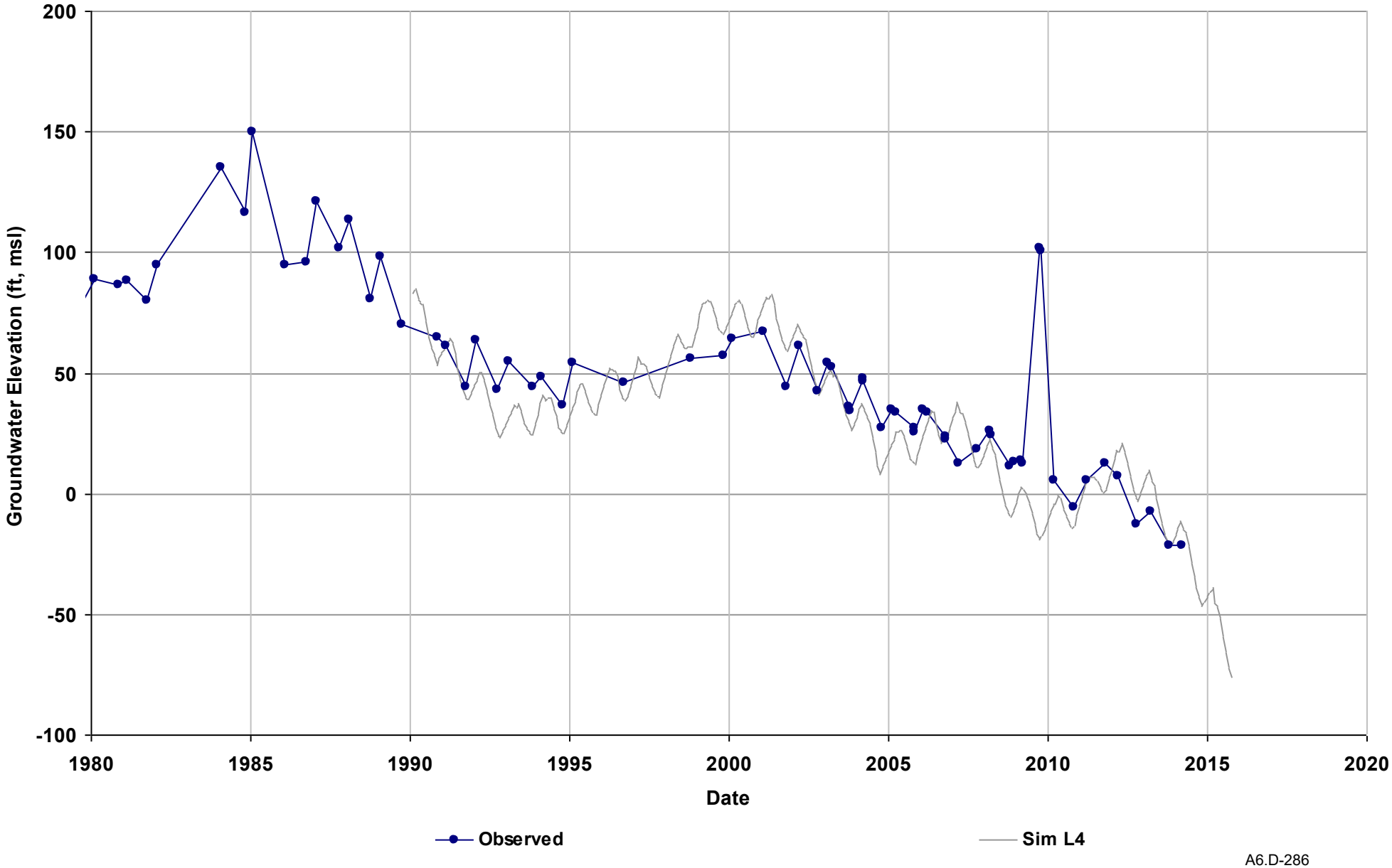
Well Name: 09S15E04R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



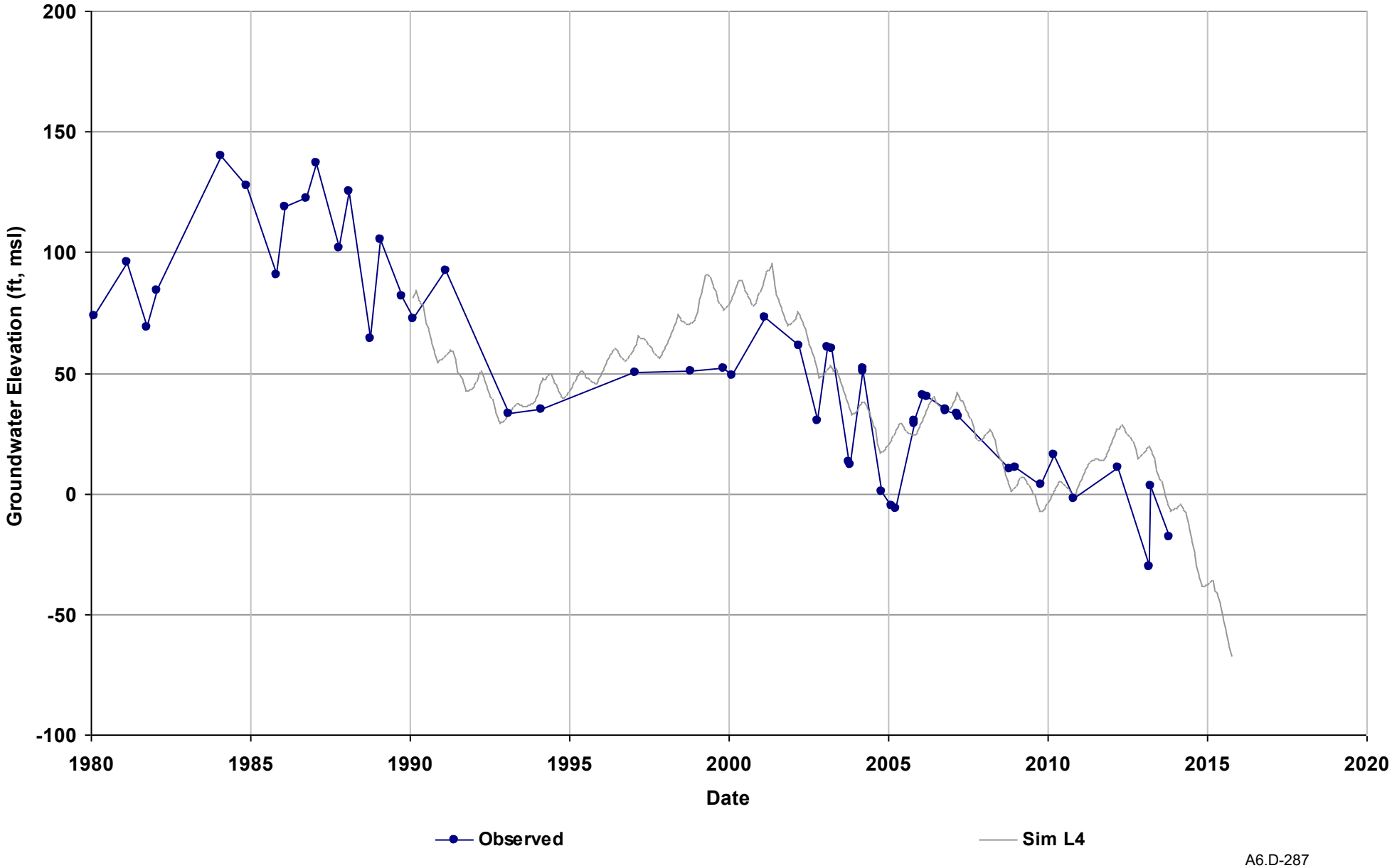
Well Name: 09S15E13E002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 233

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



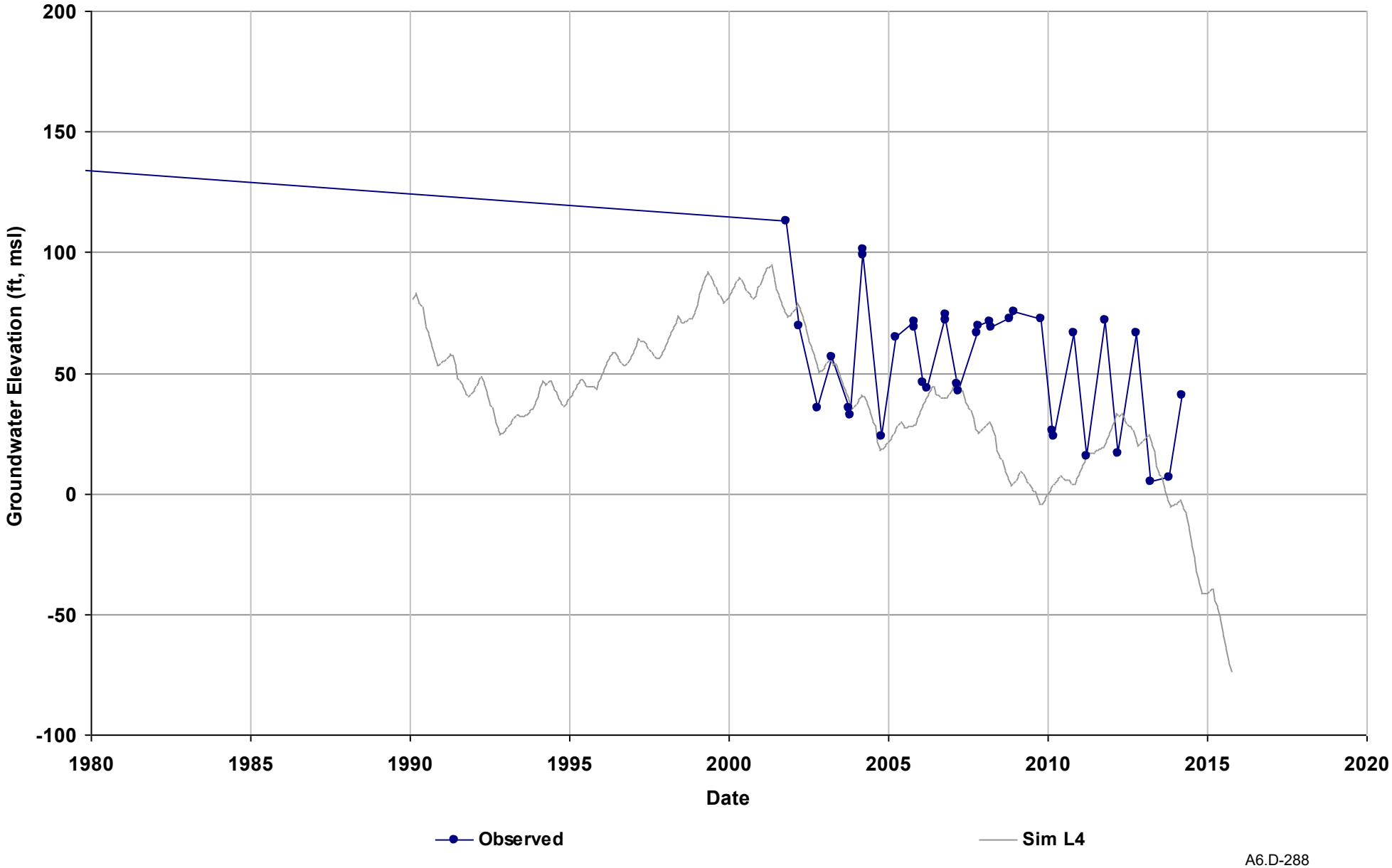
Well Name: 09S15E17R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 206

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



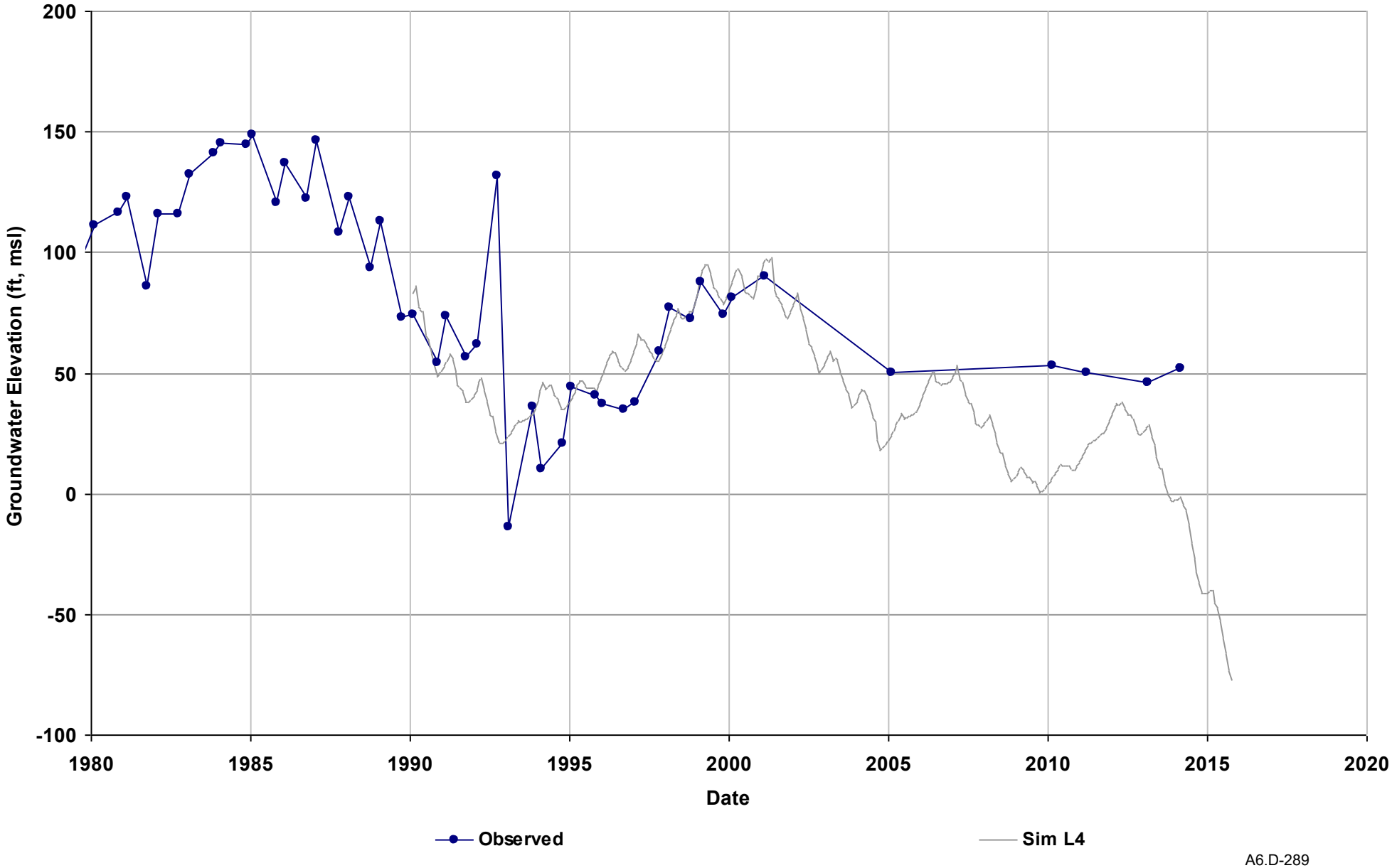
Well Name: 09S15E28A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 212

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



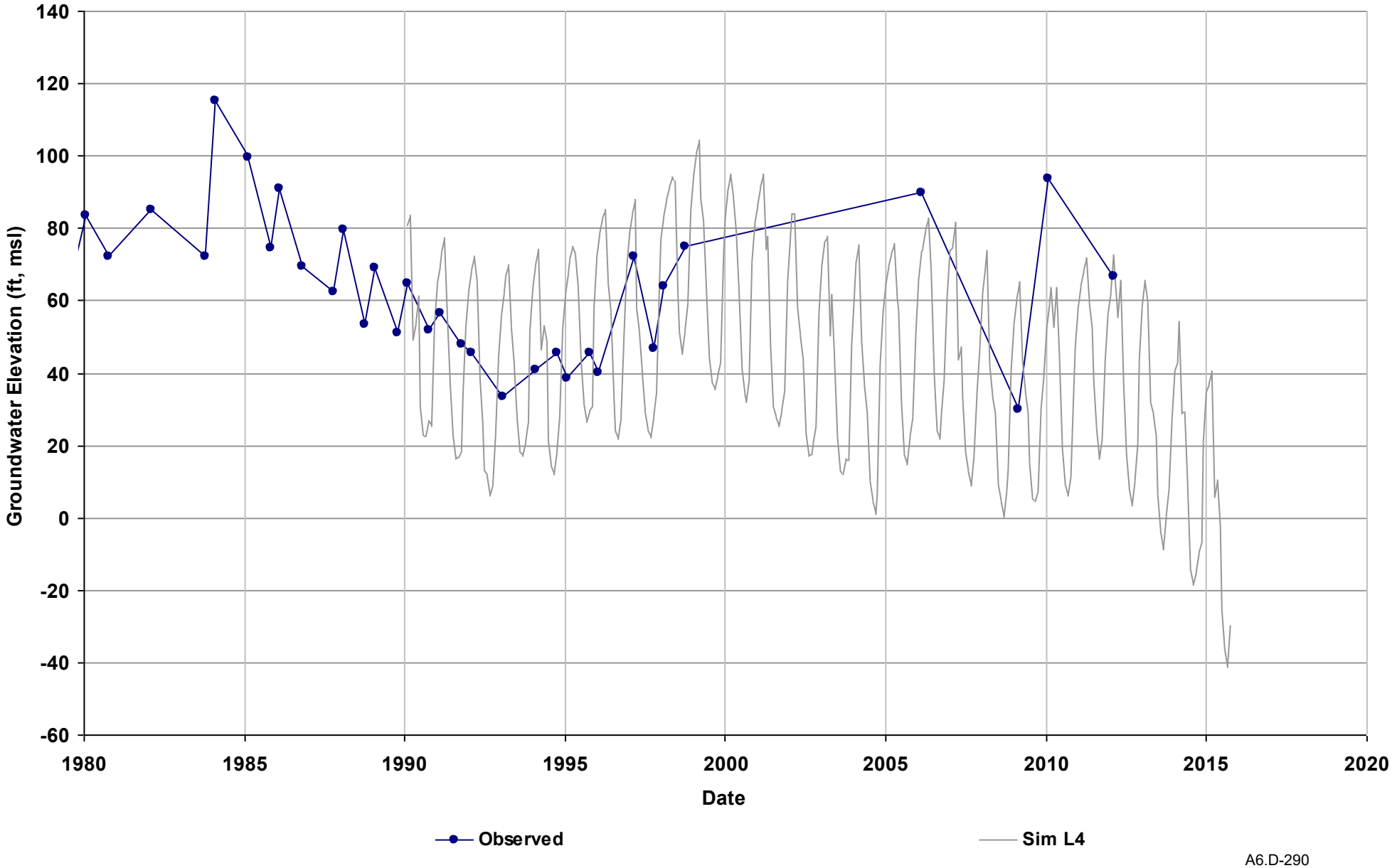
Well Name: 09S15E33J002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 207

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



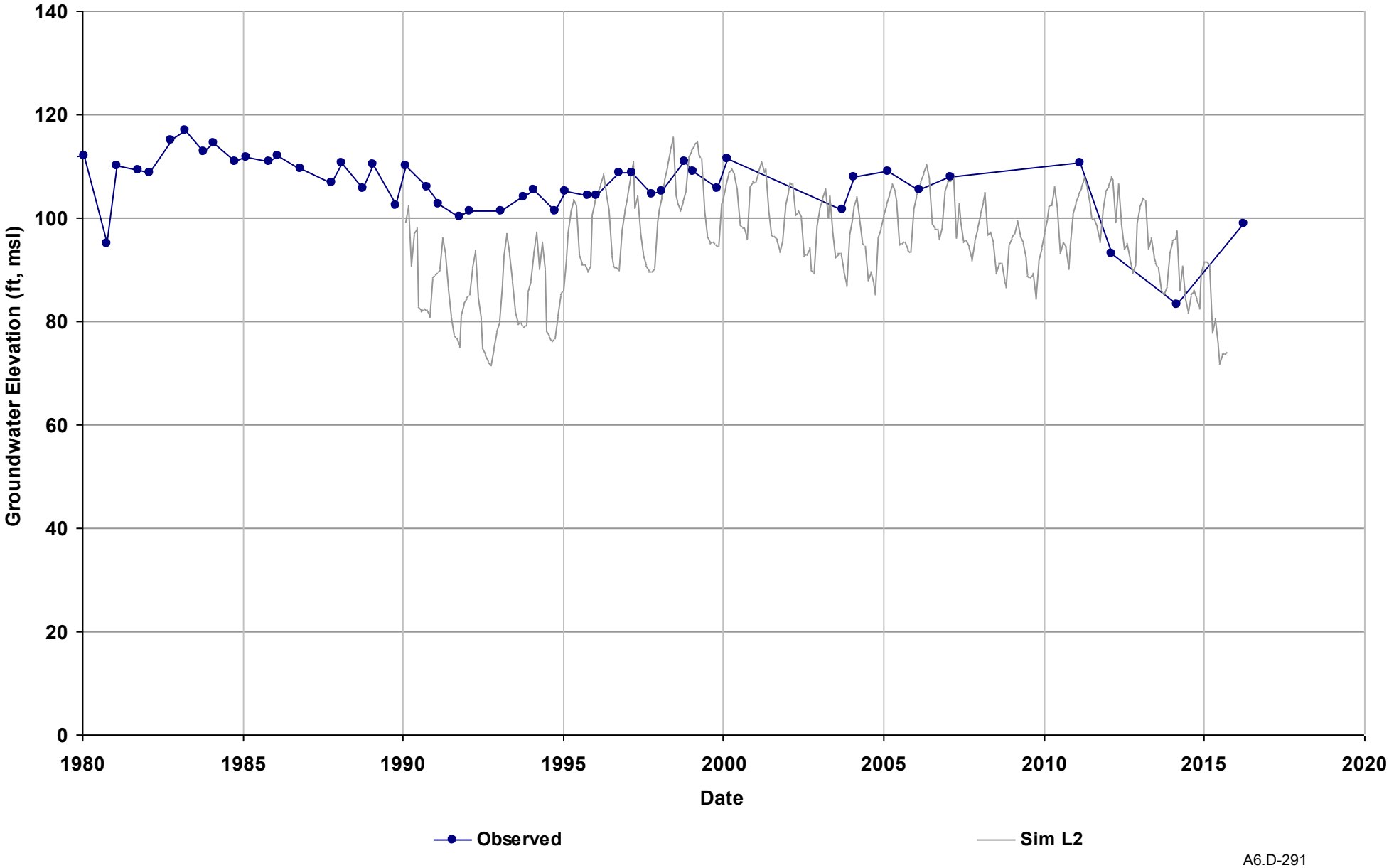
Well Name: 10S13E24L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 129

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



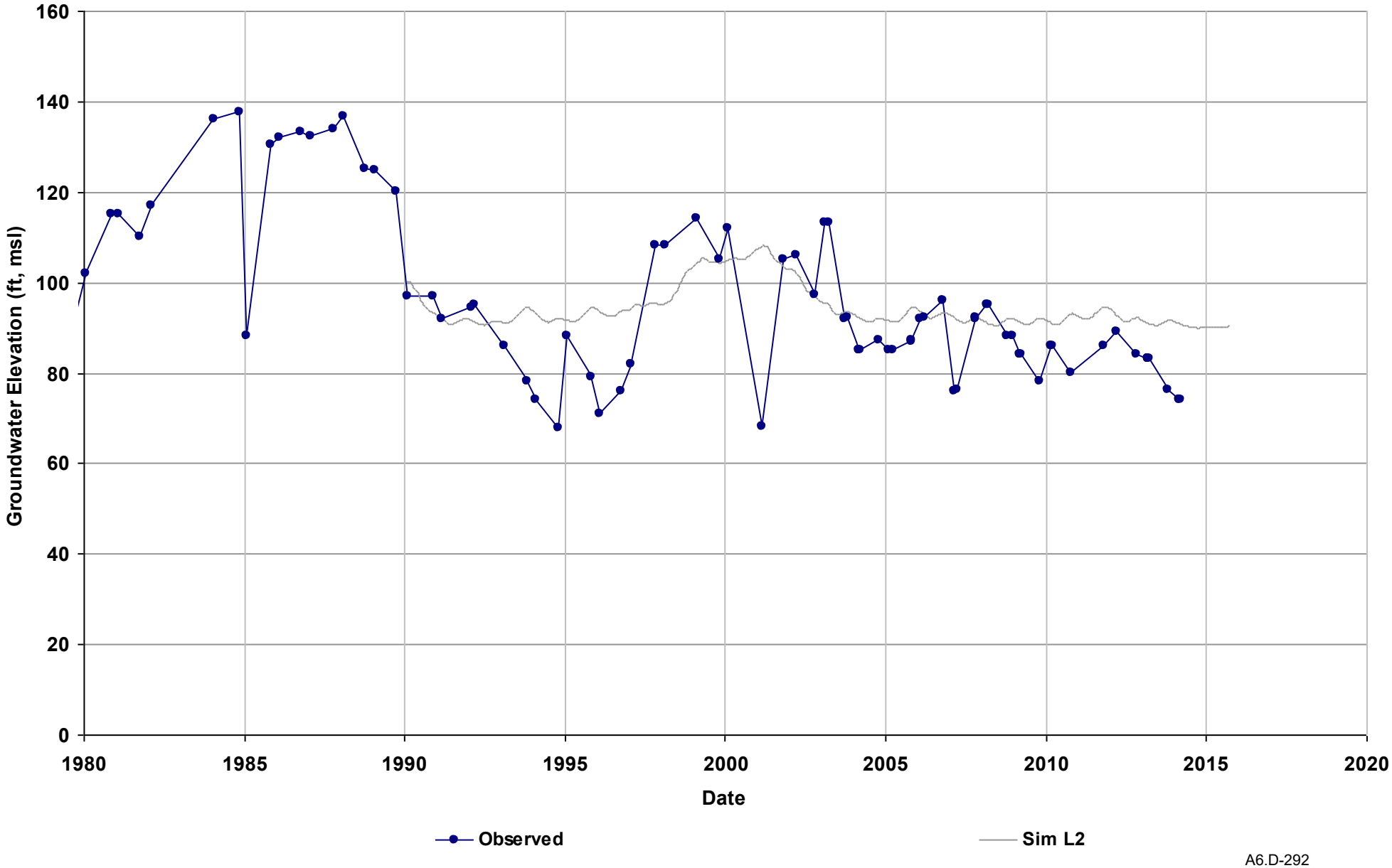
Well Name: 10S13E34G001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 123

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



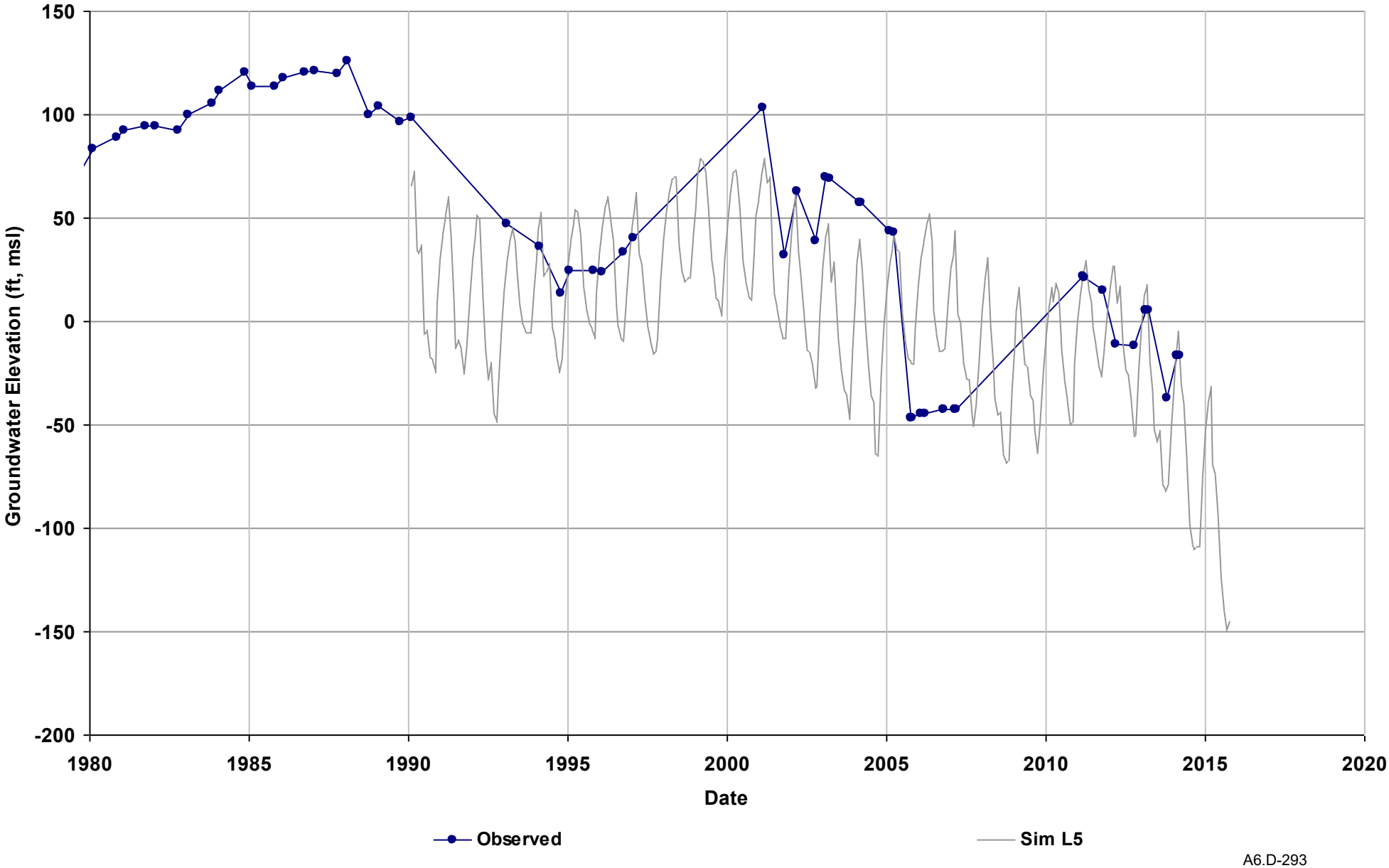
Well Name: 10S14E01R002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 180

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



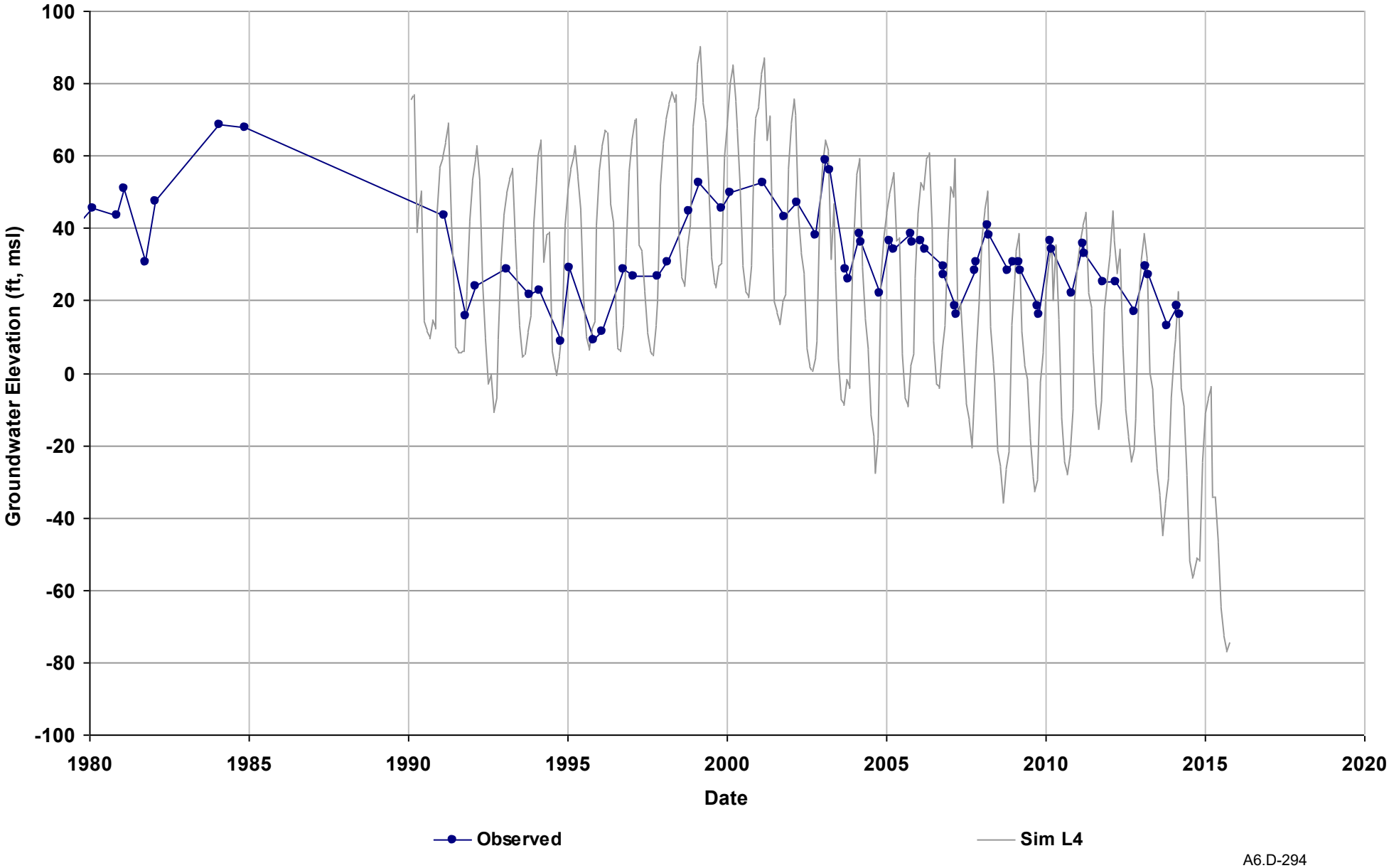
Well Name: 10S14E03A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 167

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



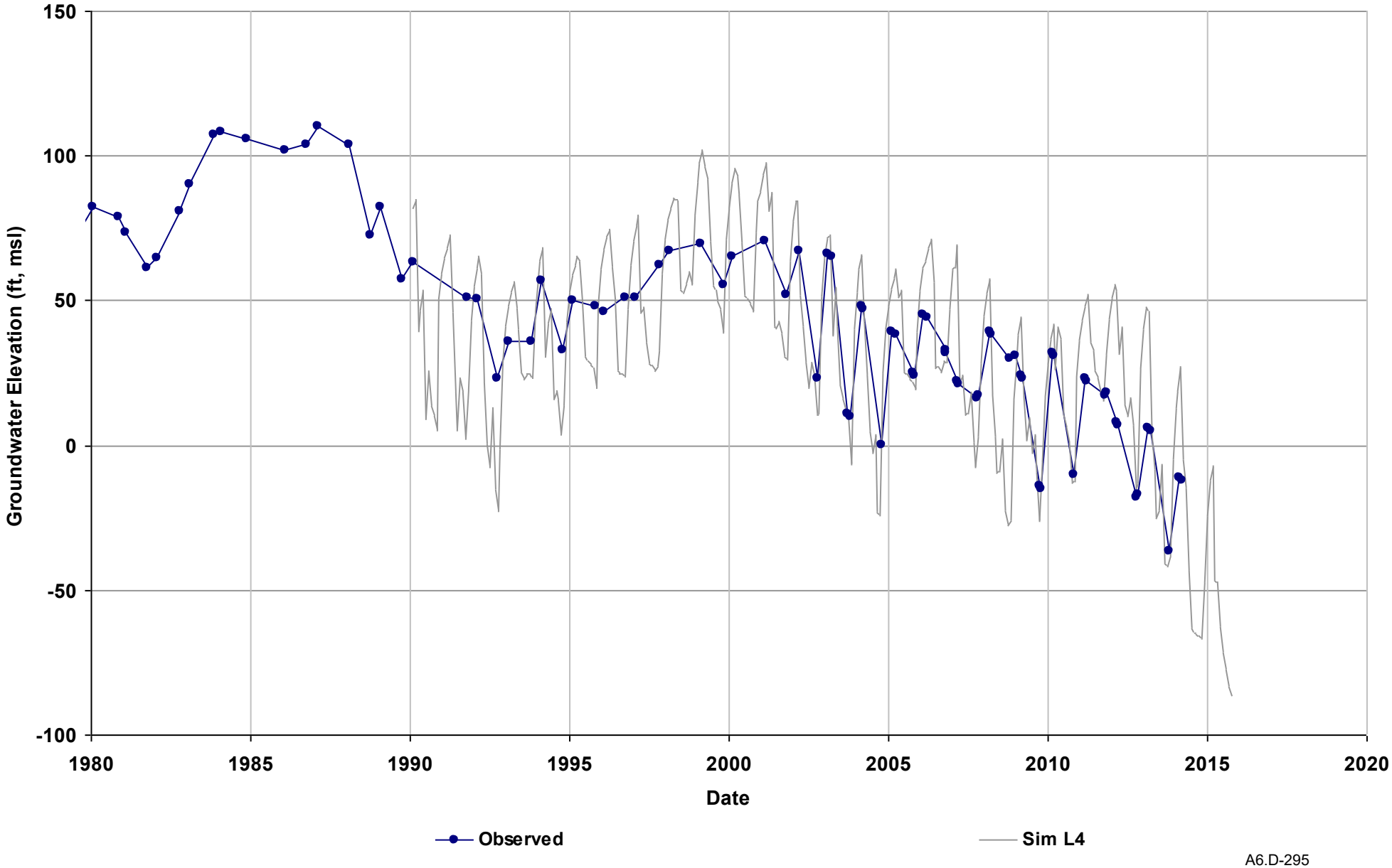
Well Name: 10S14E05C003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 148

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



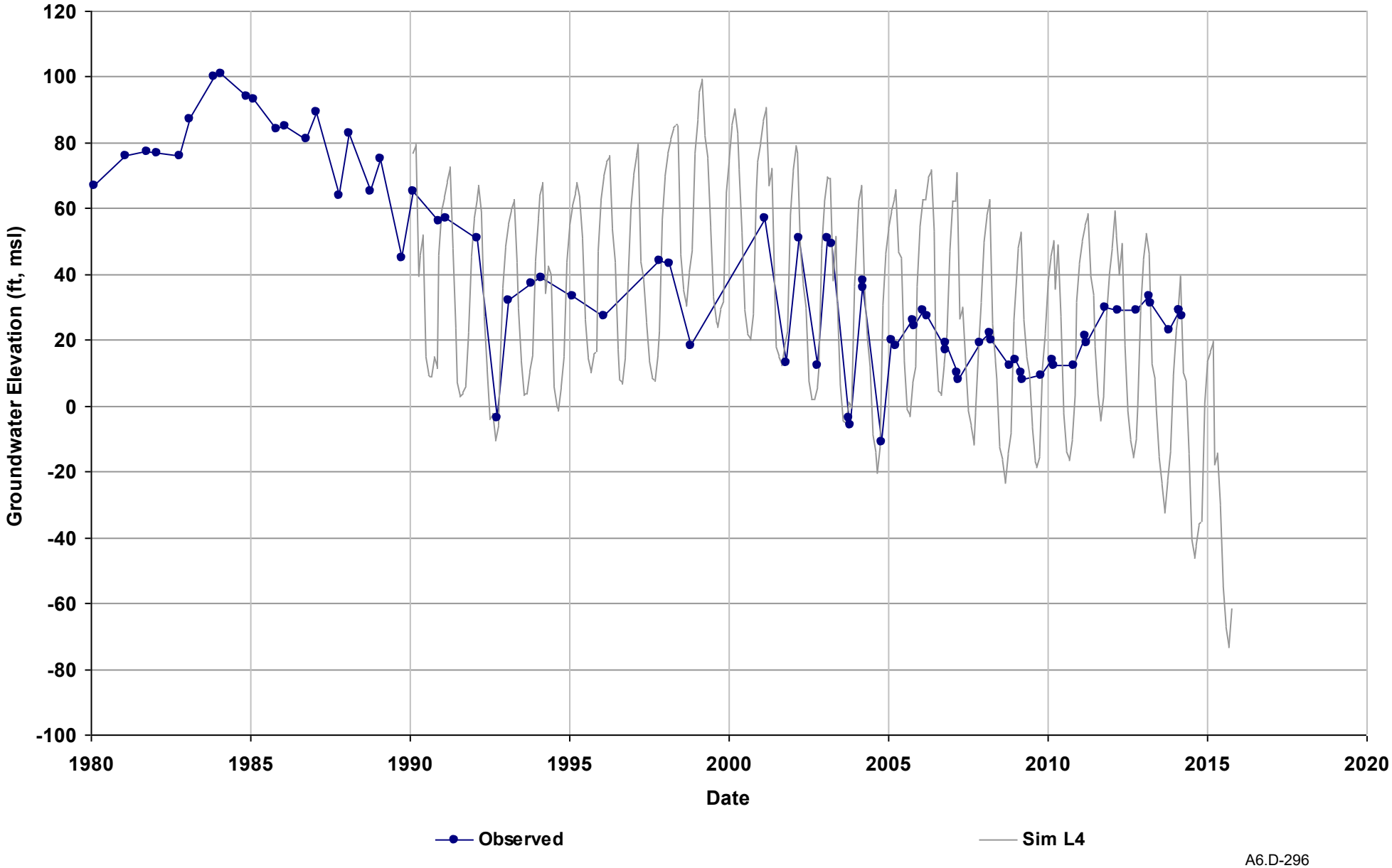
Well Name: 10S14E15H001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 162

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



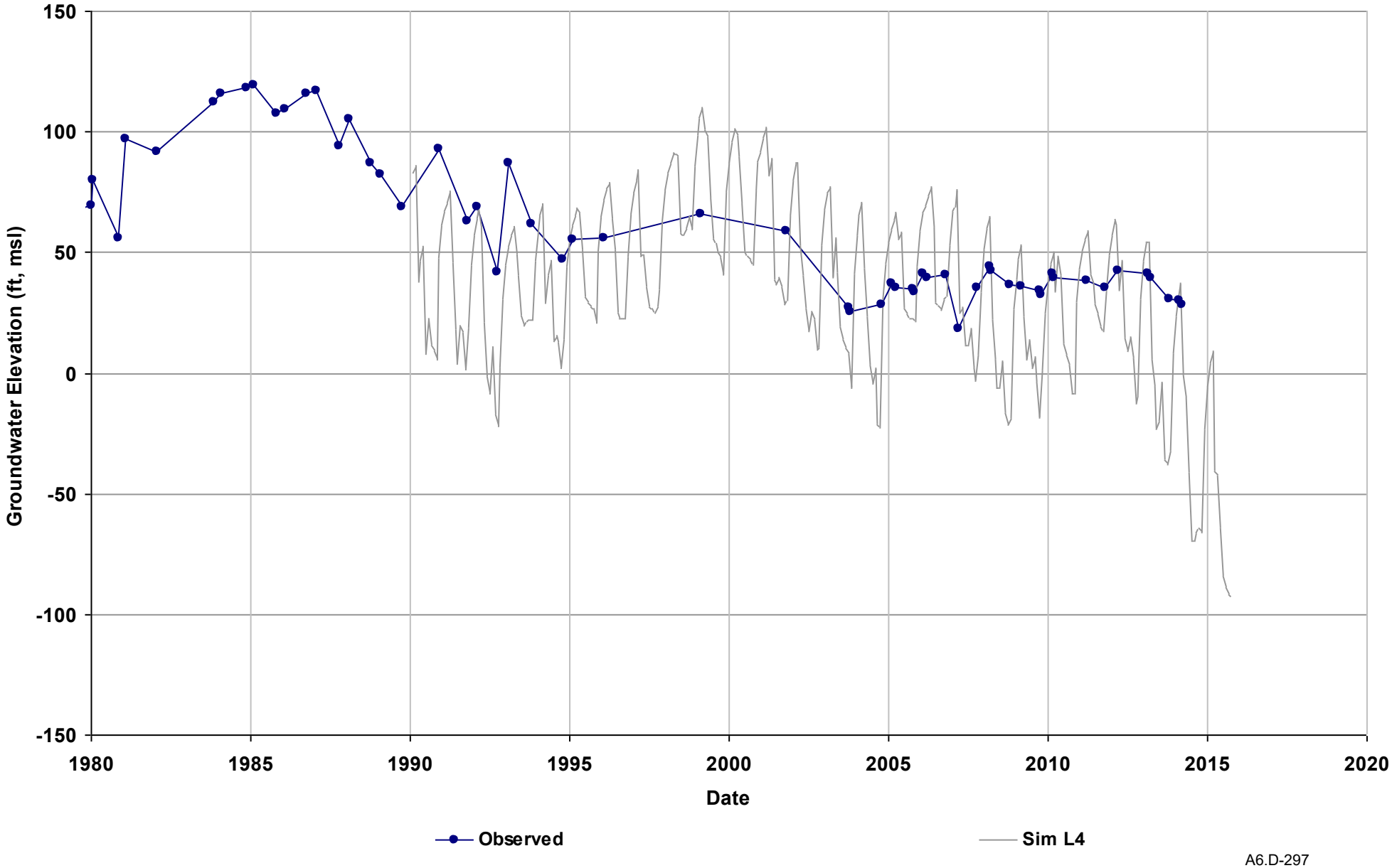
Well Name: 10S14E18K001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



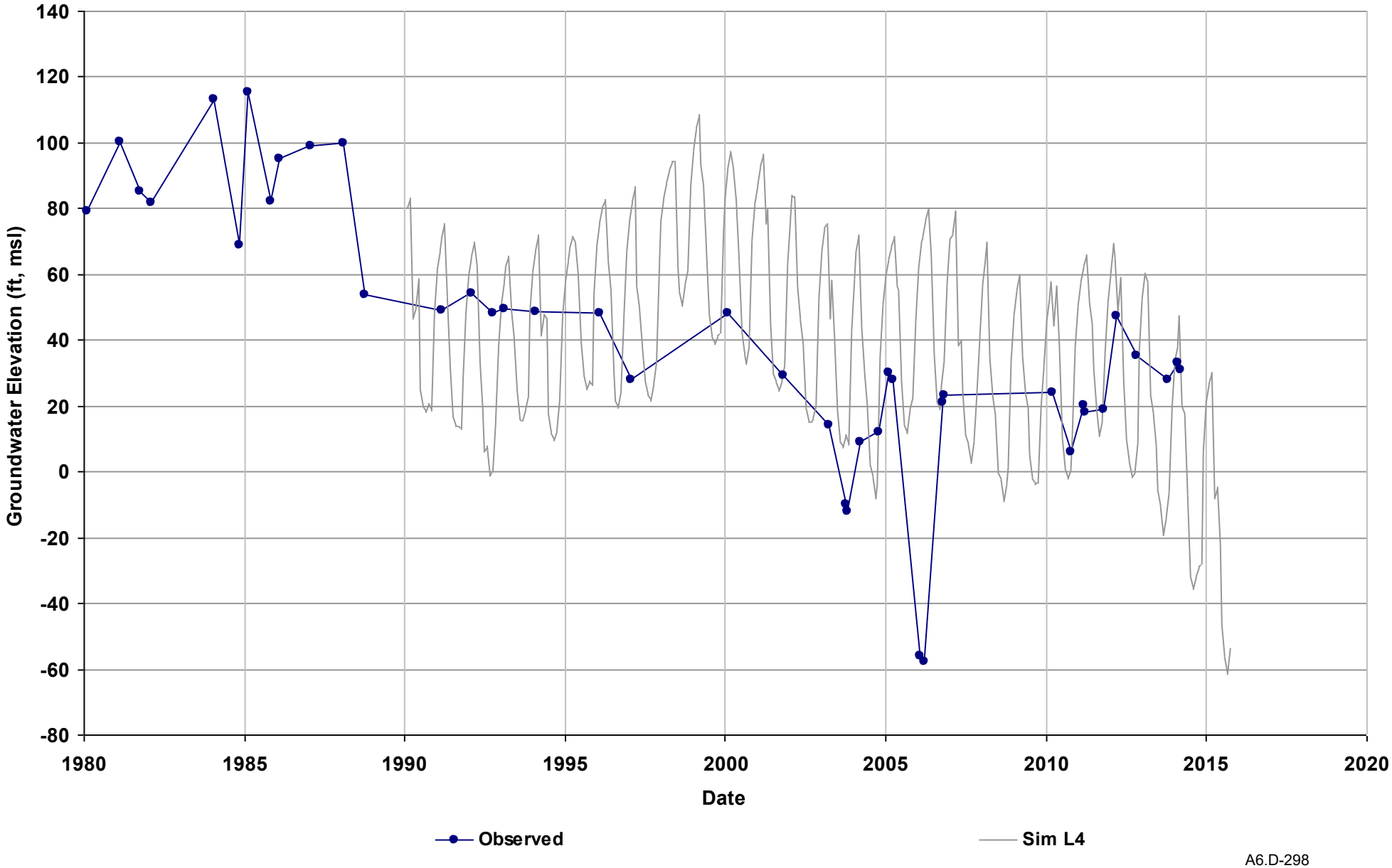
Well Name: 10S14E26C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 159

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



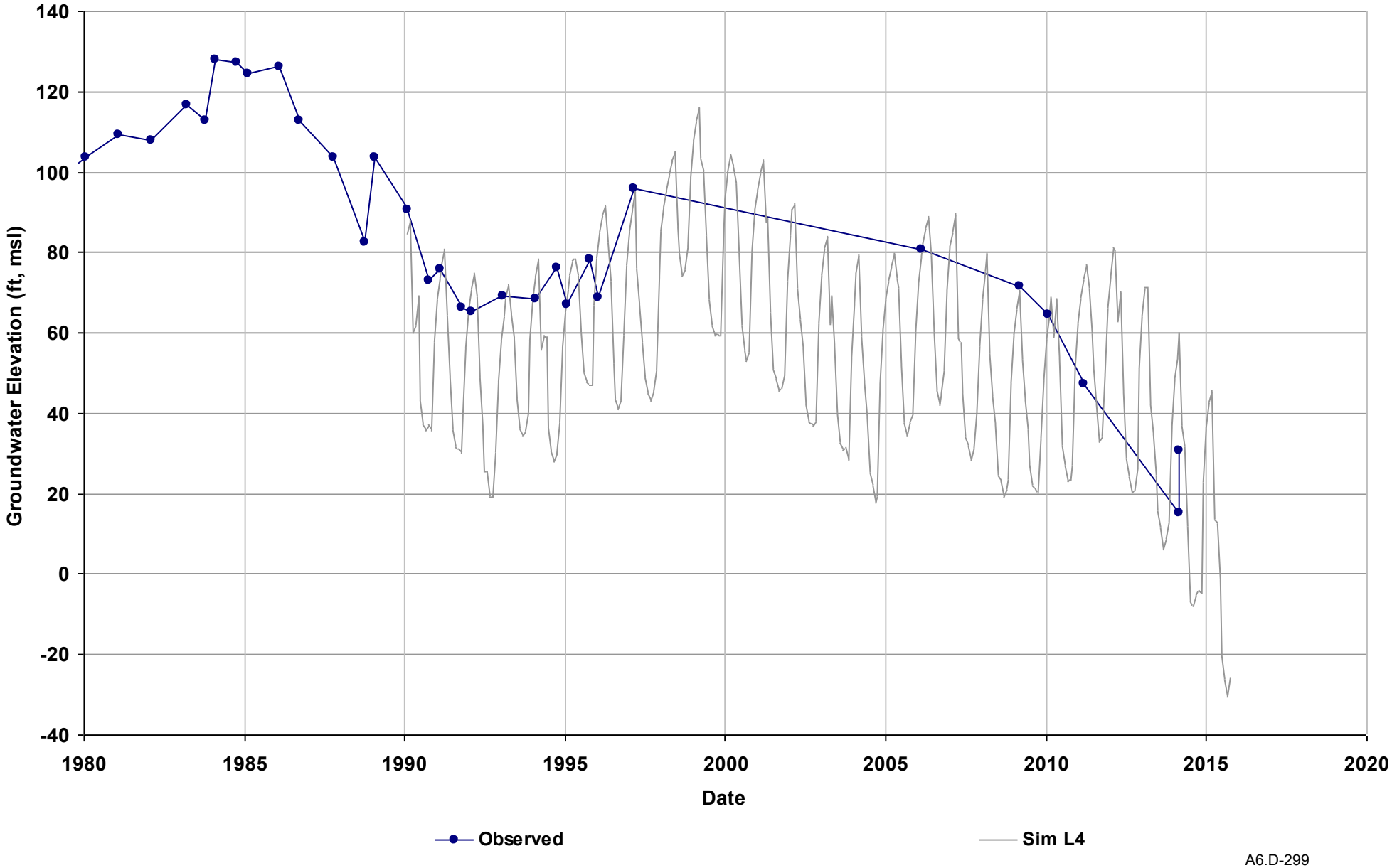
Well Name: 10S14E29C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 139

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



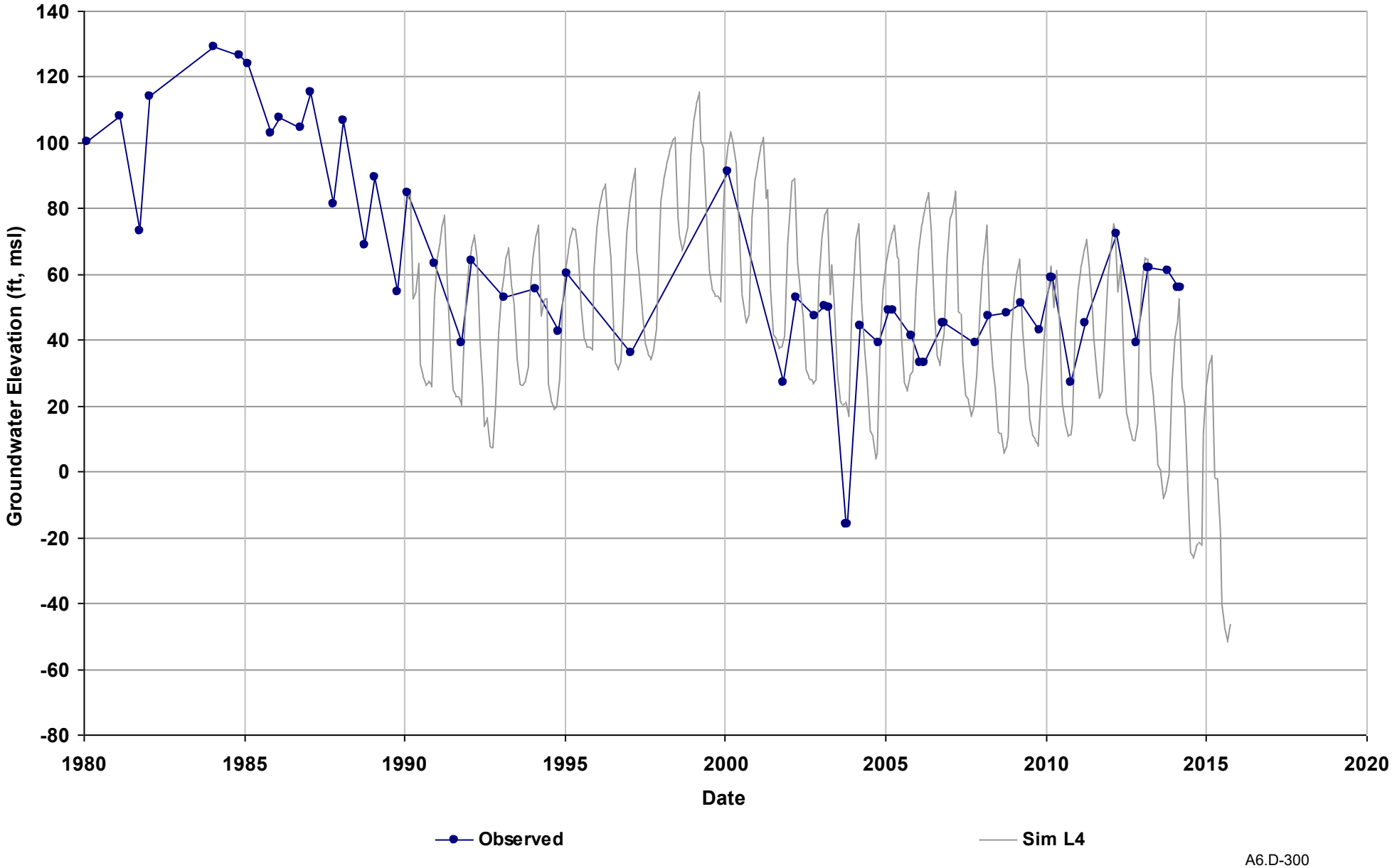
Well Name: 10S14E32Q001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 134

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



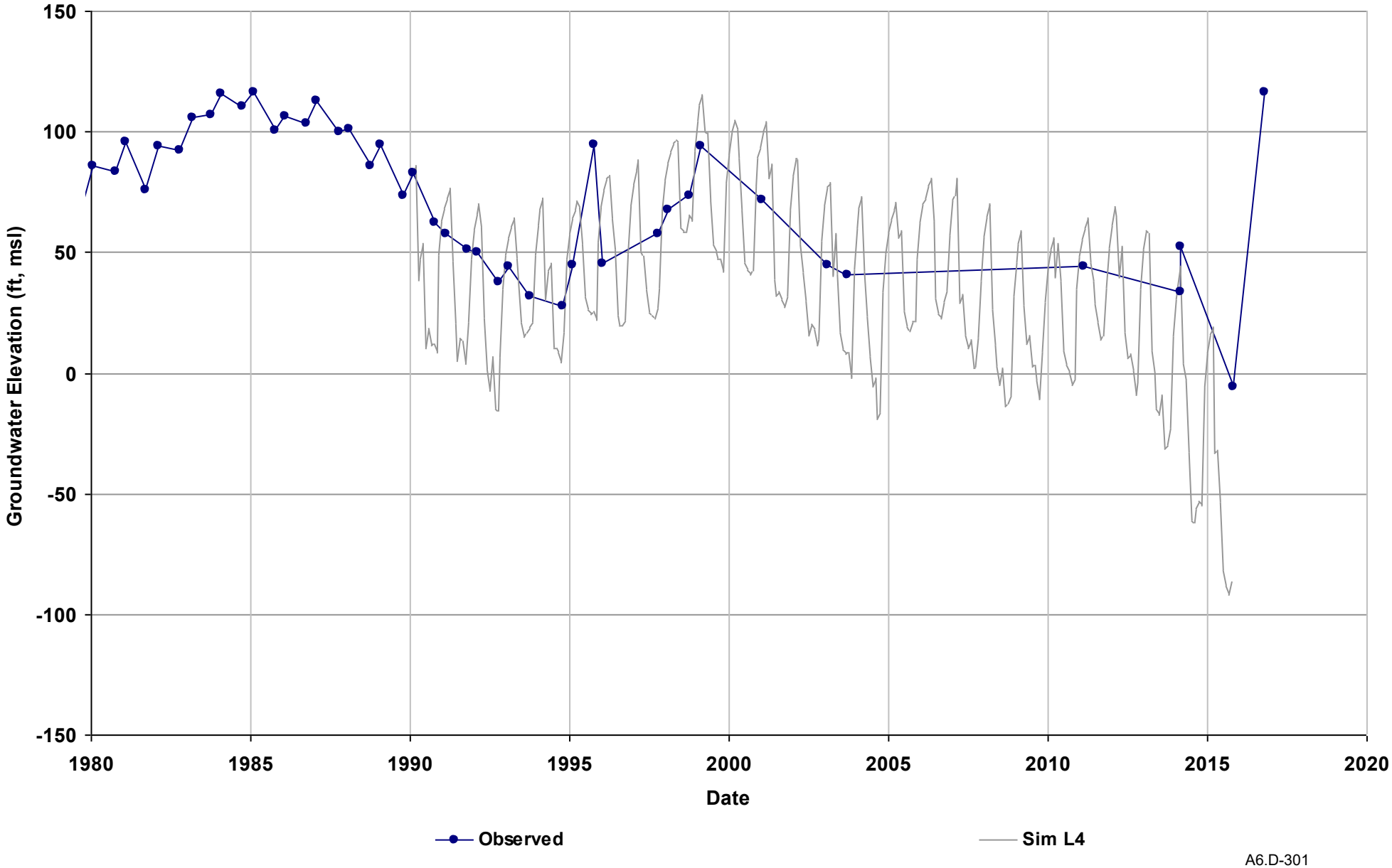
Well Name: 10S14E33L002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 139

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



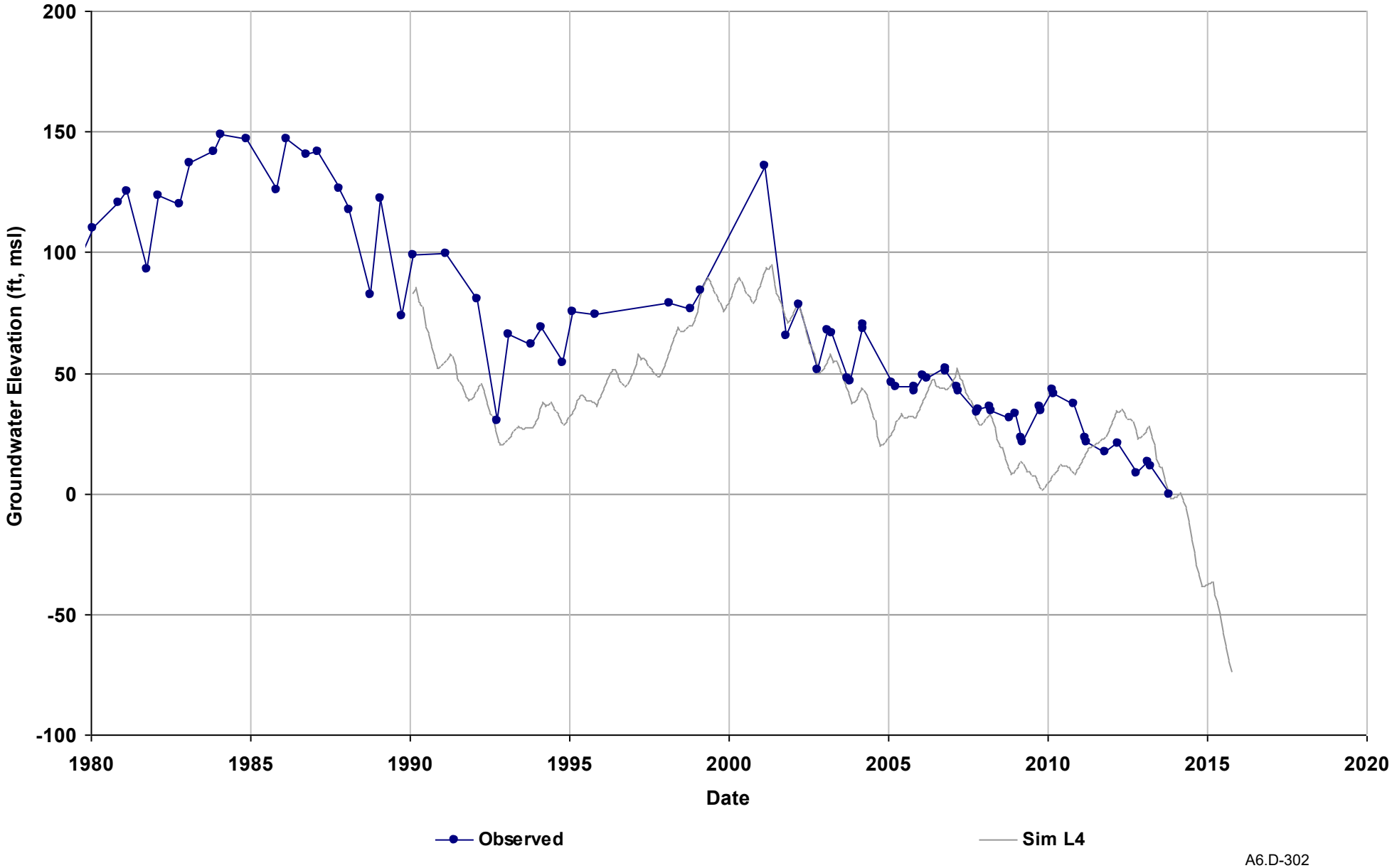
Well Name: 10S14E35F001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 153

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



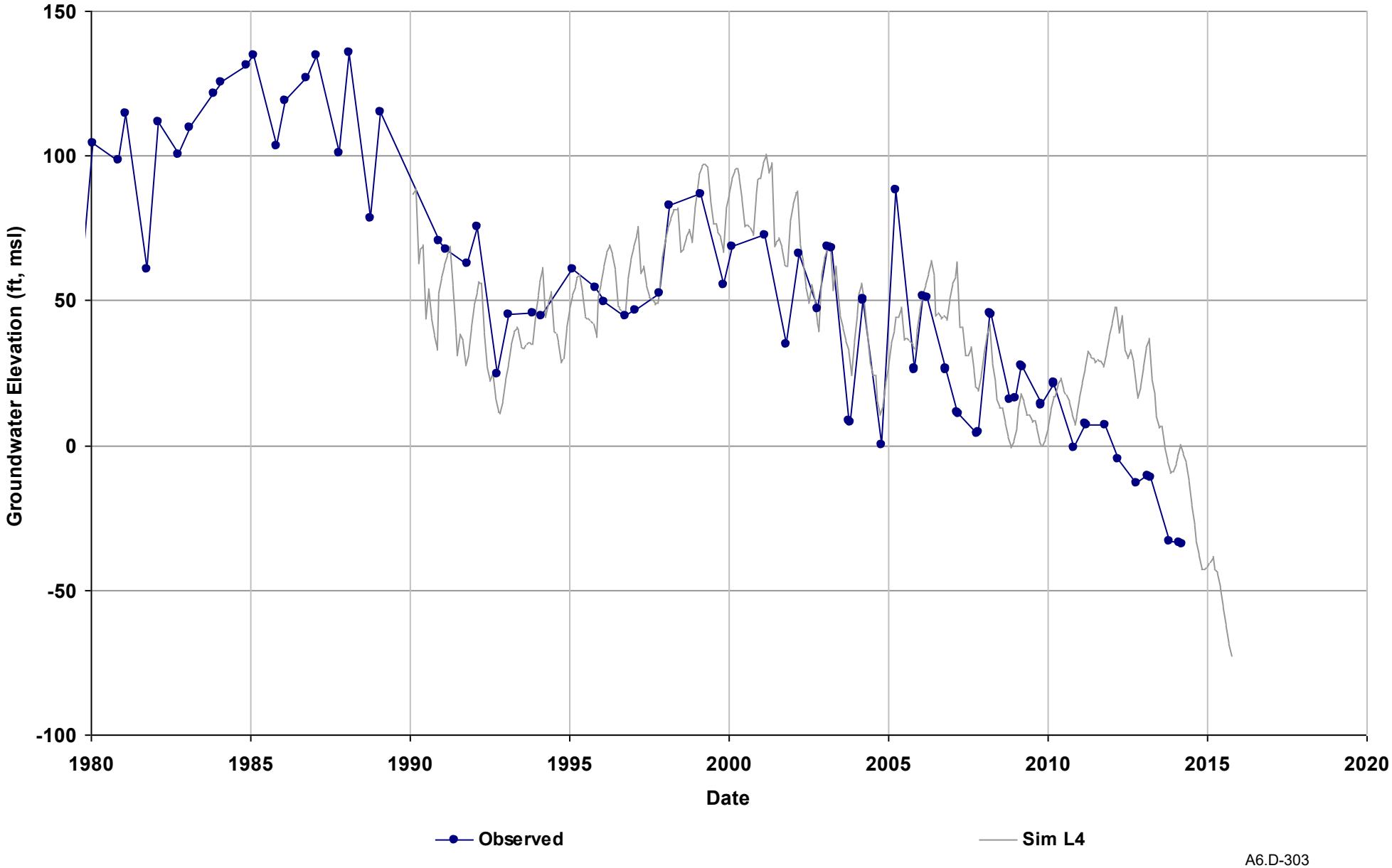
Well Name: 10S15E01E001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 219

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



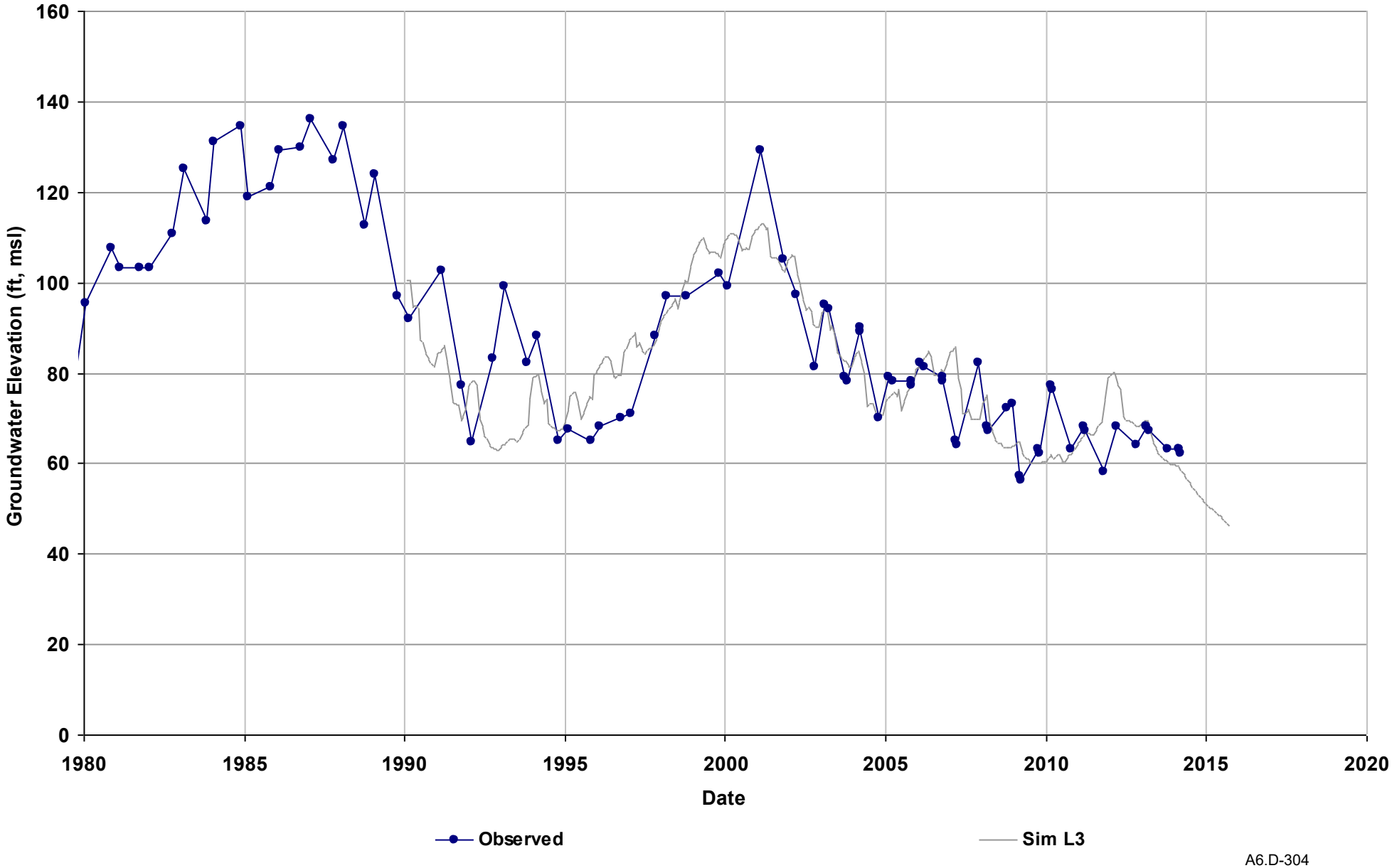
Well Name: 10S15E06L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 182

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



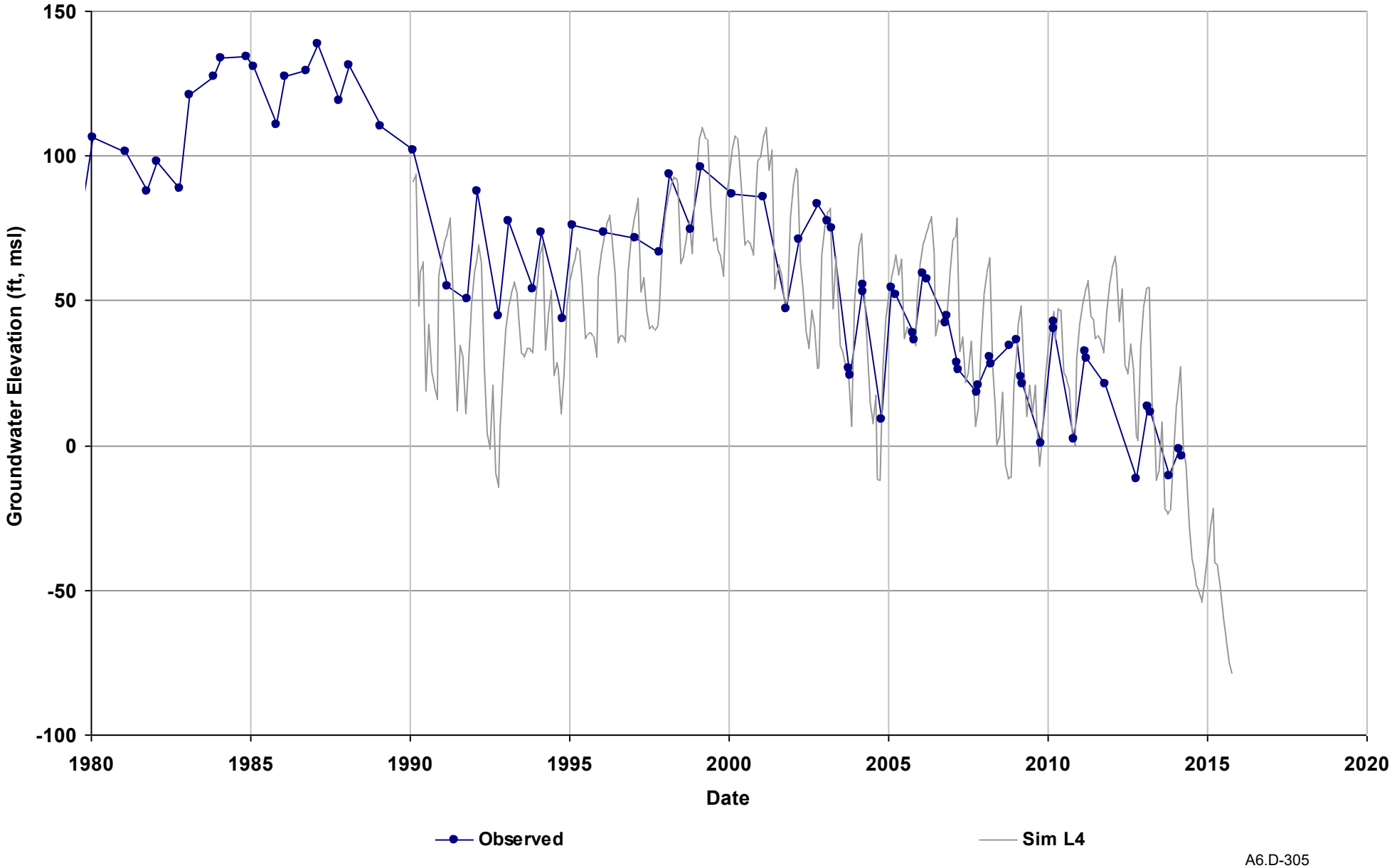
Well Name: 10S15E18L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 176

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



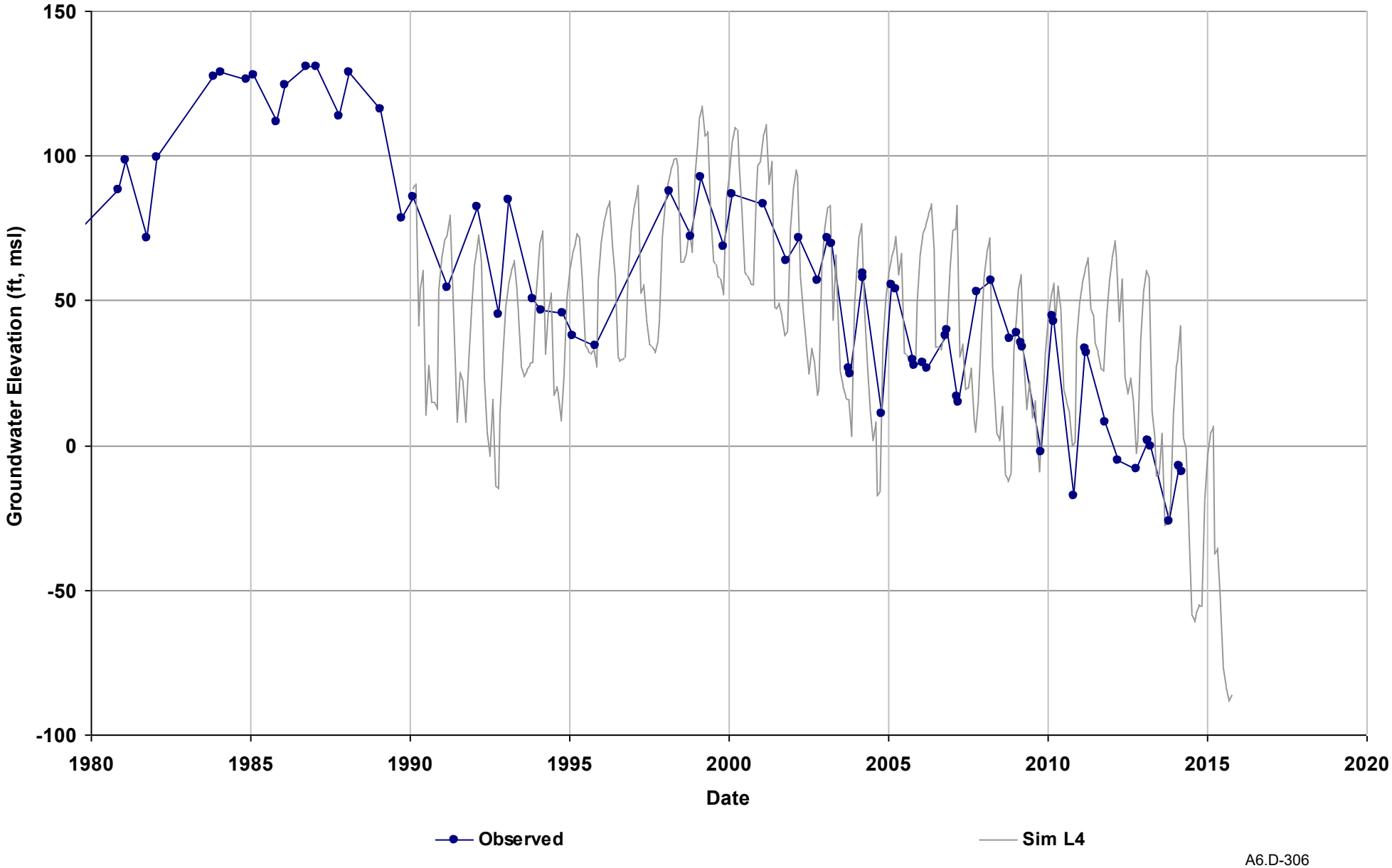
Well Name: 10S15E29A002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 179

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



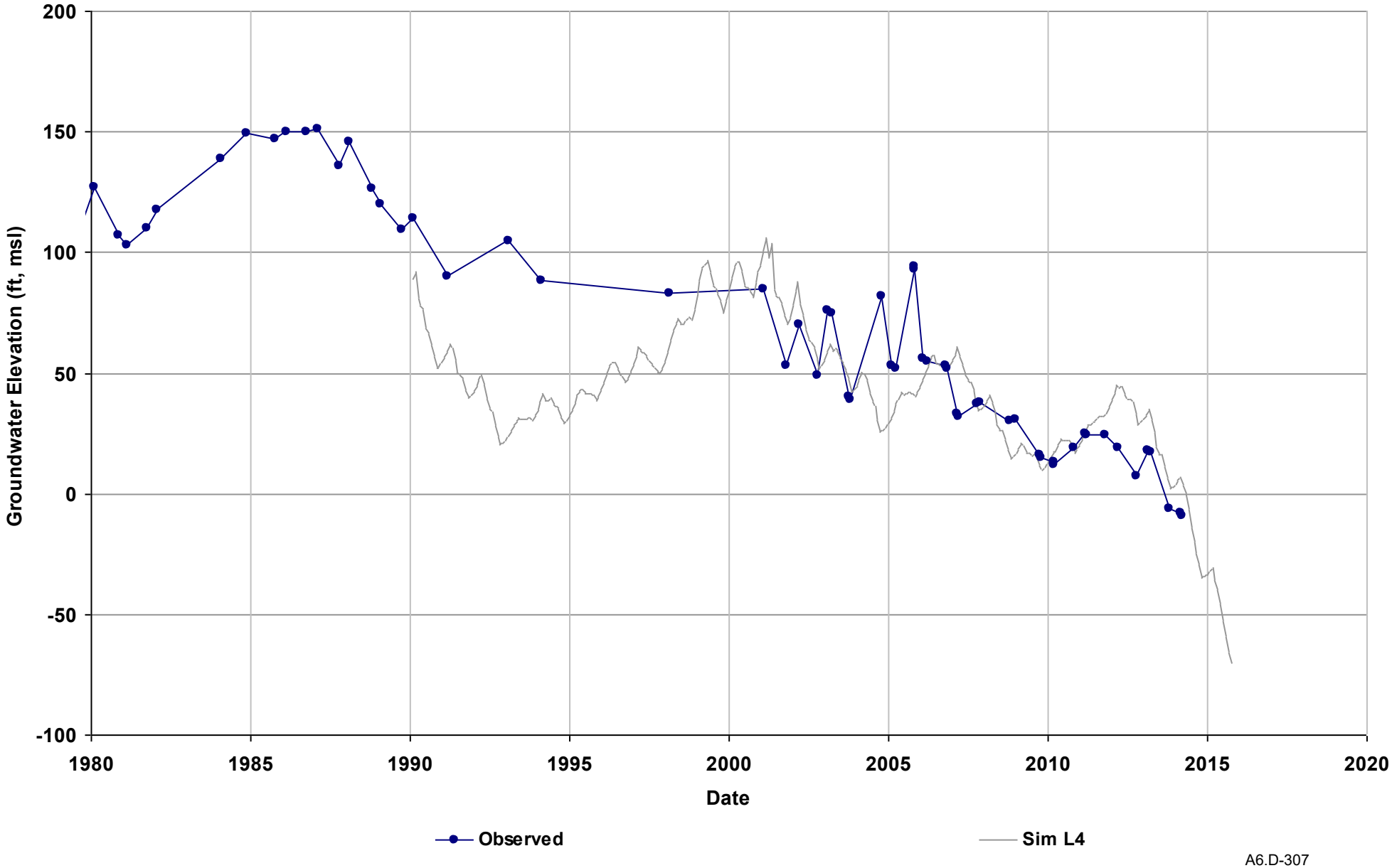
Well Name: 10S15E32L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 167

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



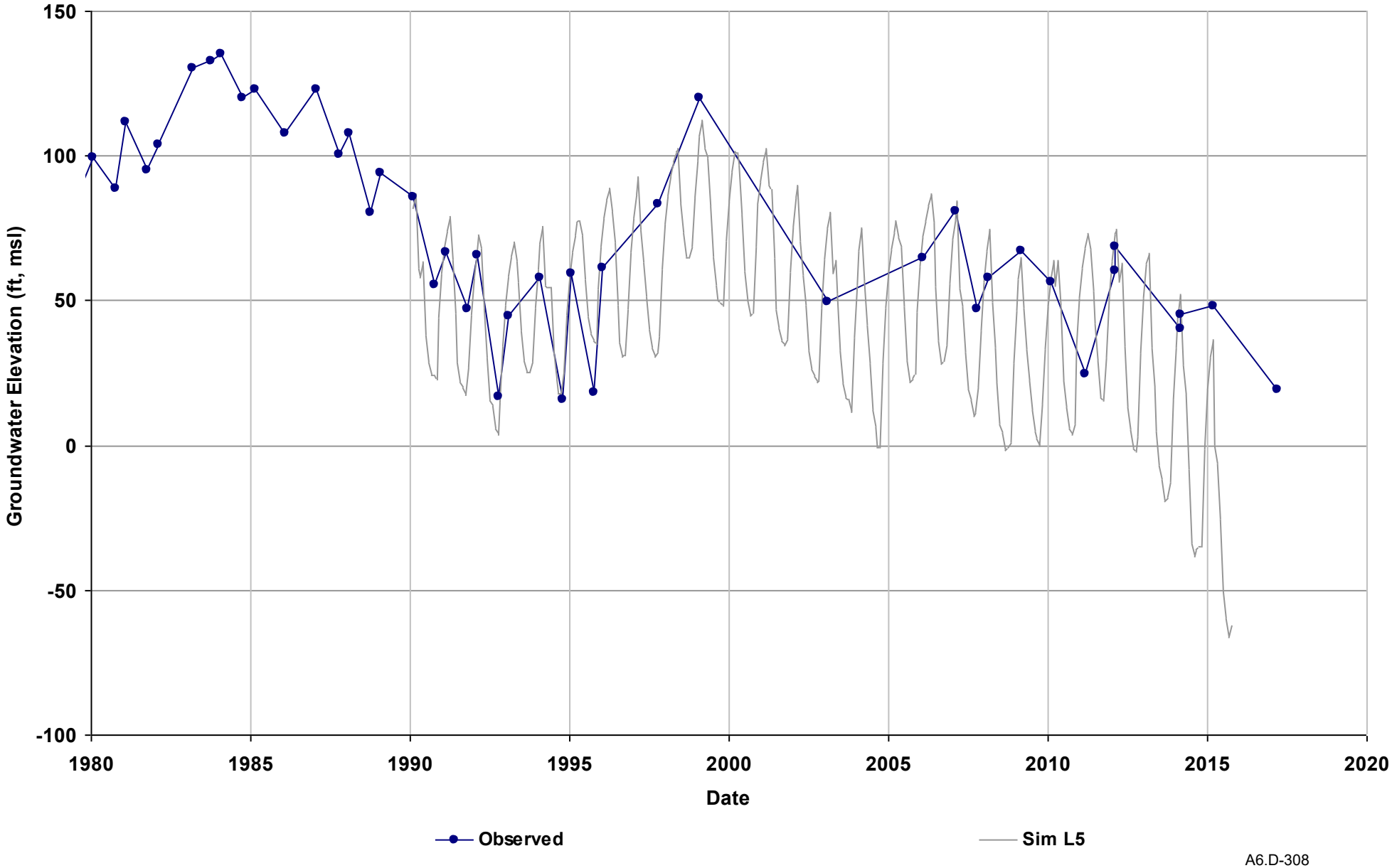
Well Name: 10S16E18D002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



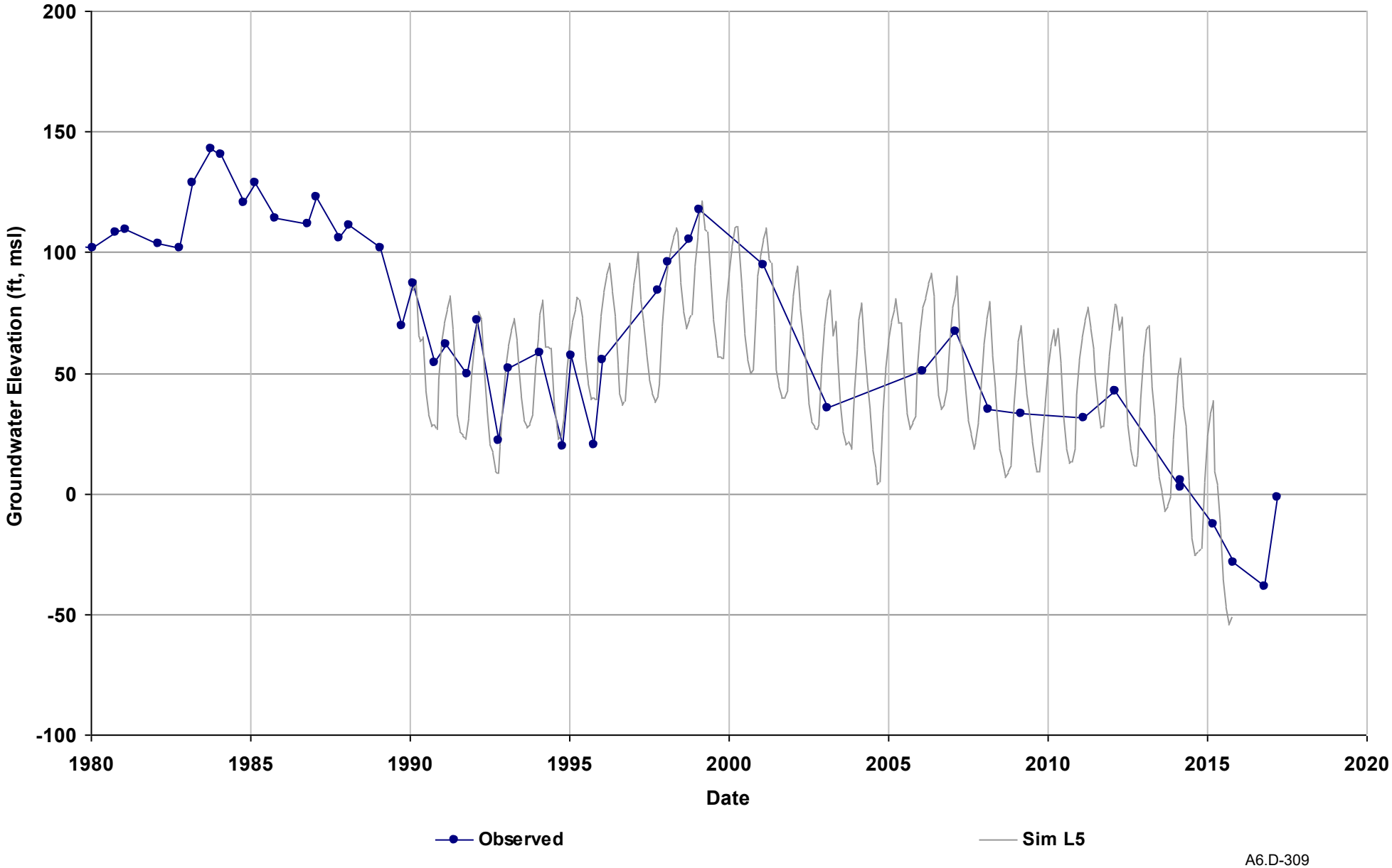
Well Name: 11S14E09A003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



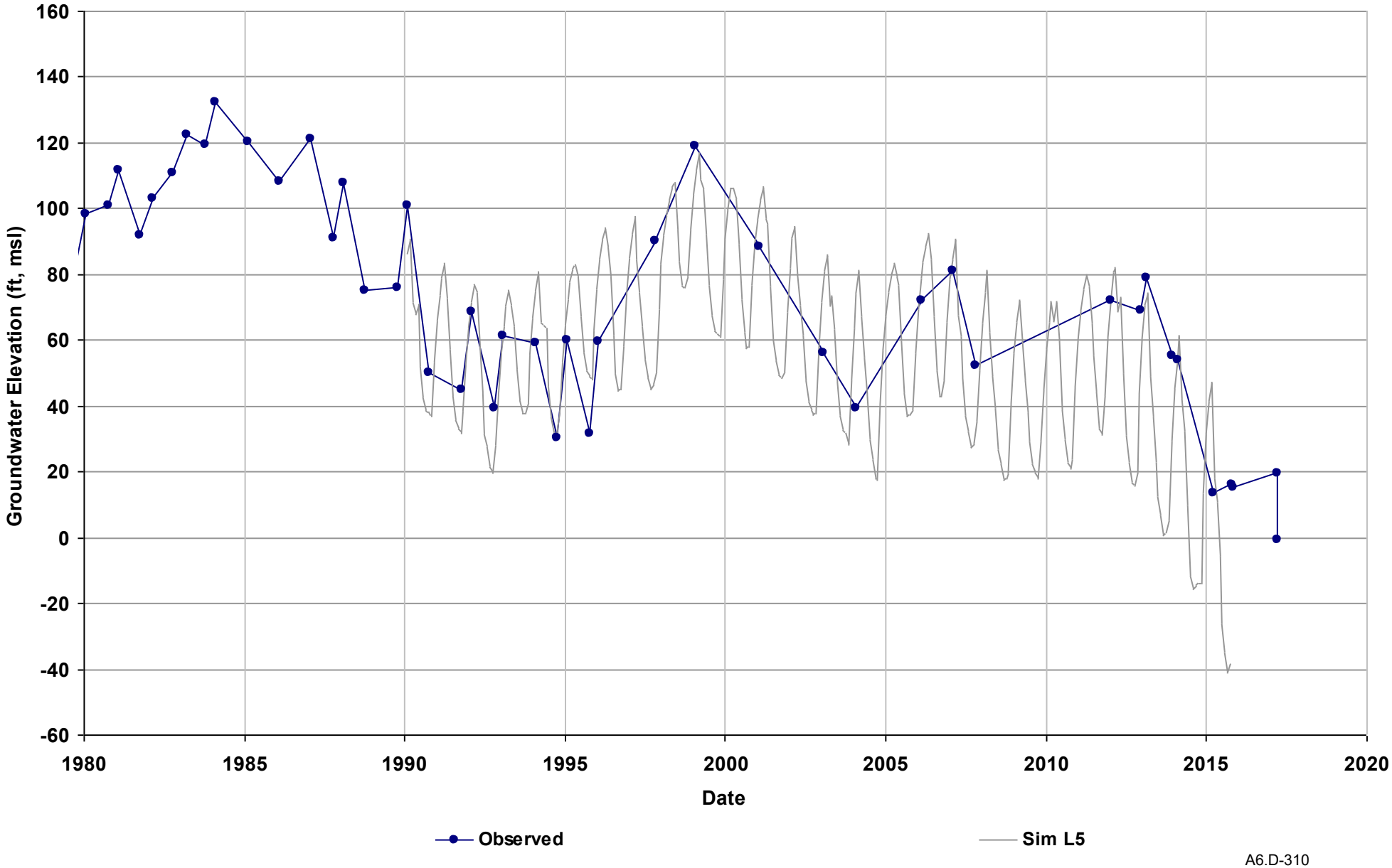
Well Name: 11S14E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 152

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



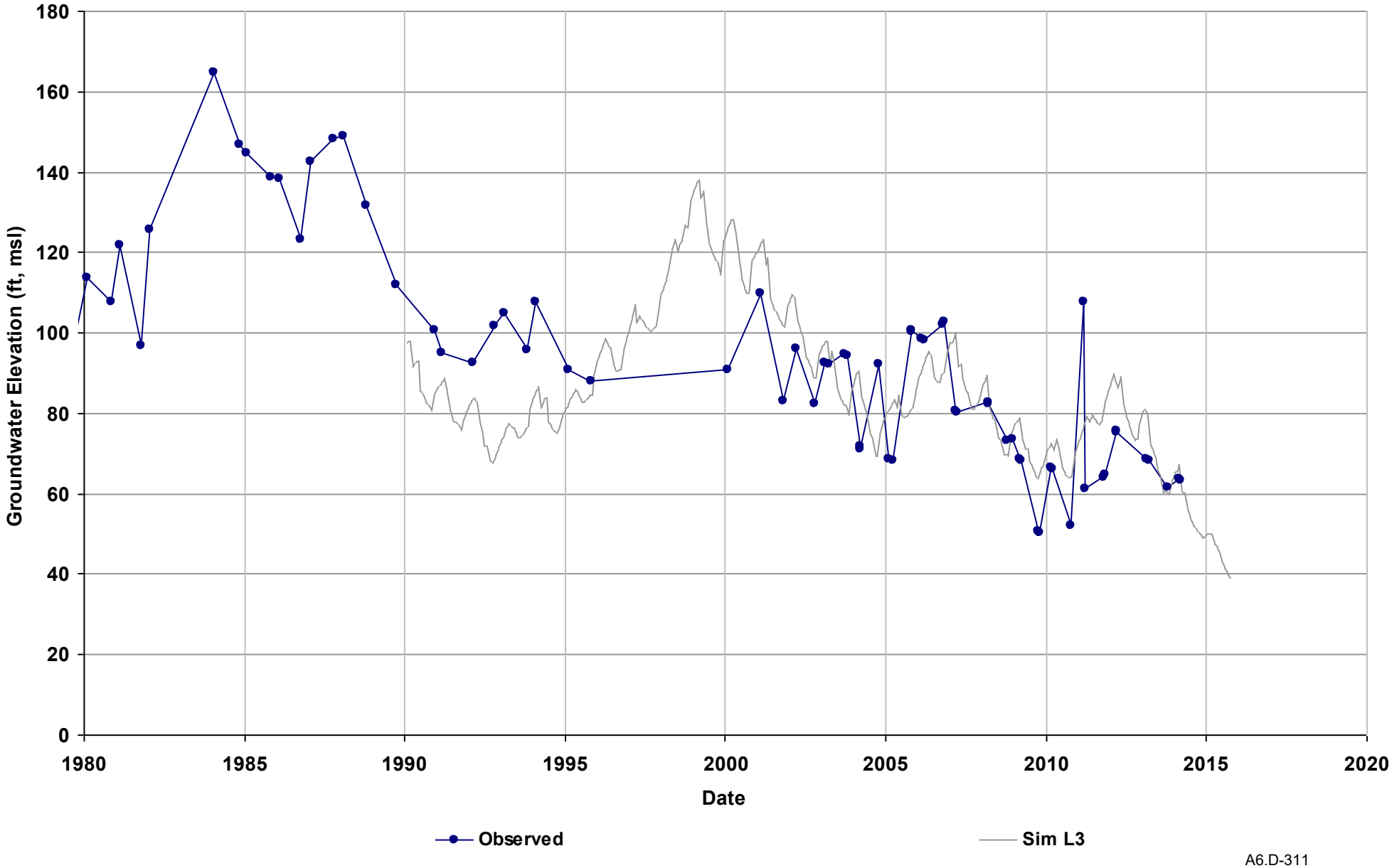
Well Name: 11S14E16A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



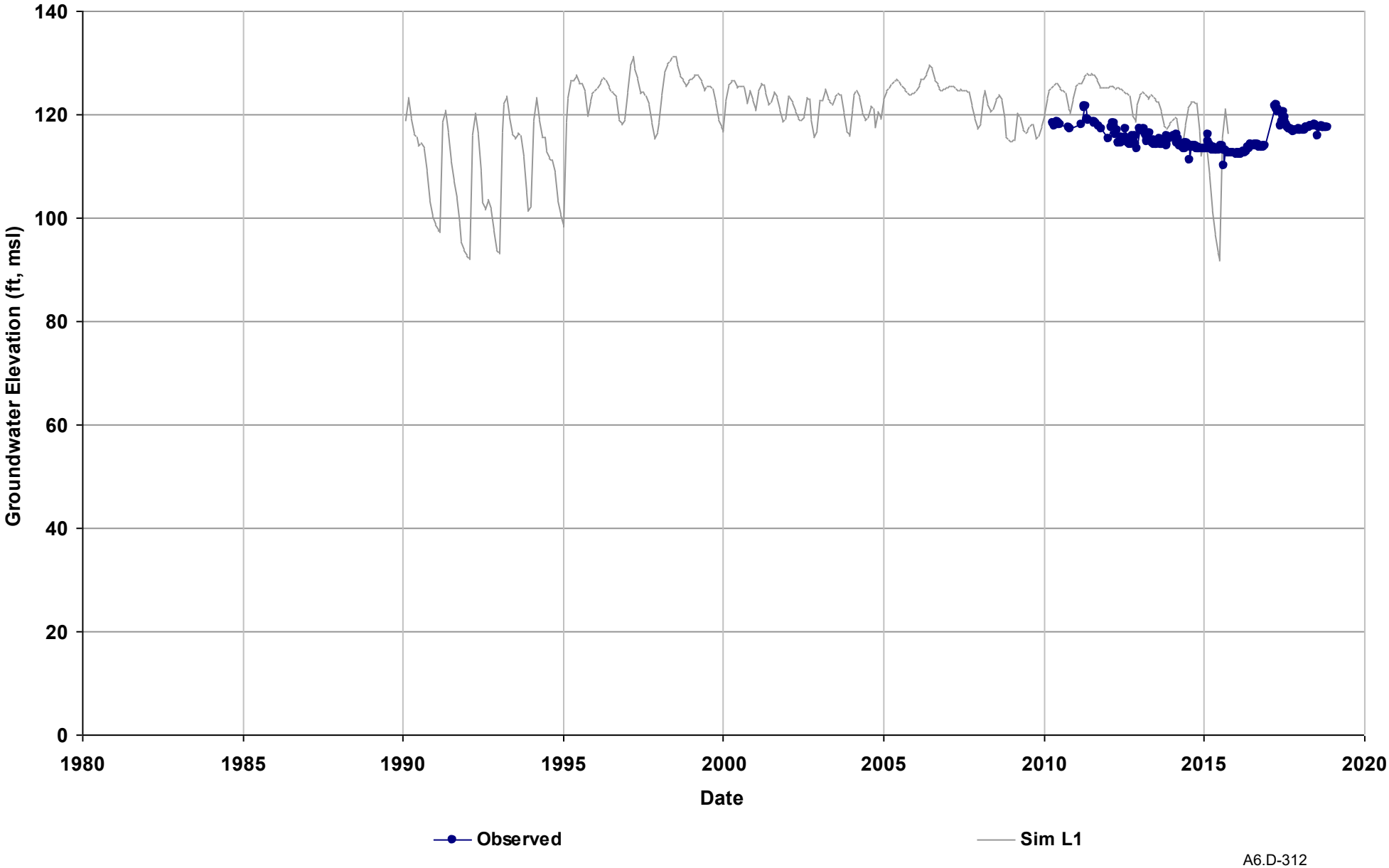
Well Name: 11S15E09C001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



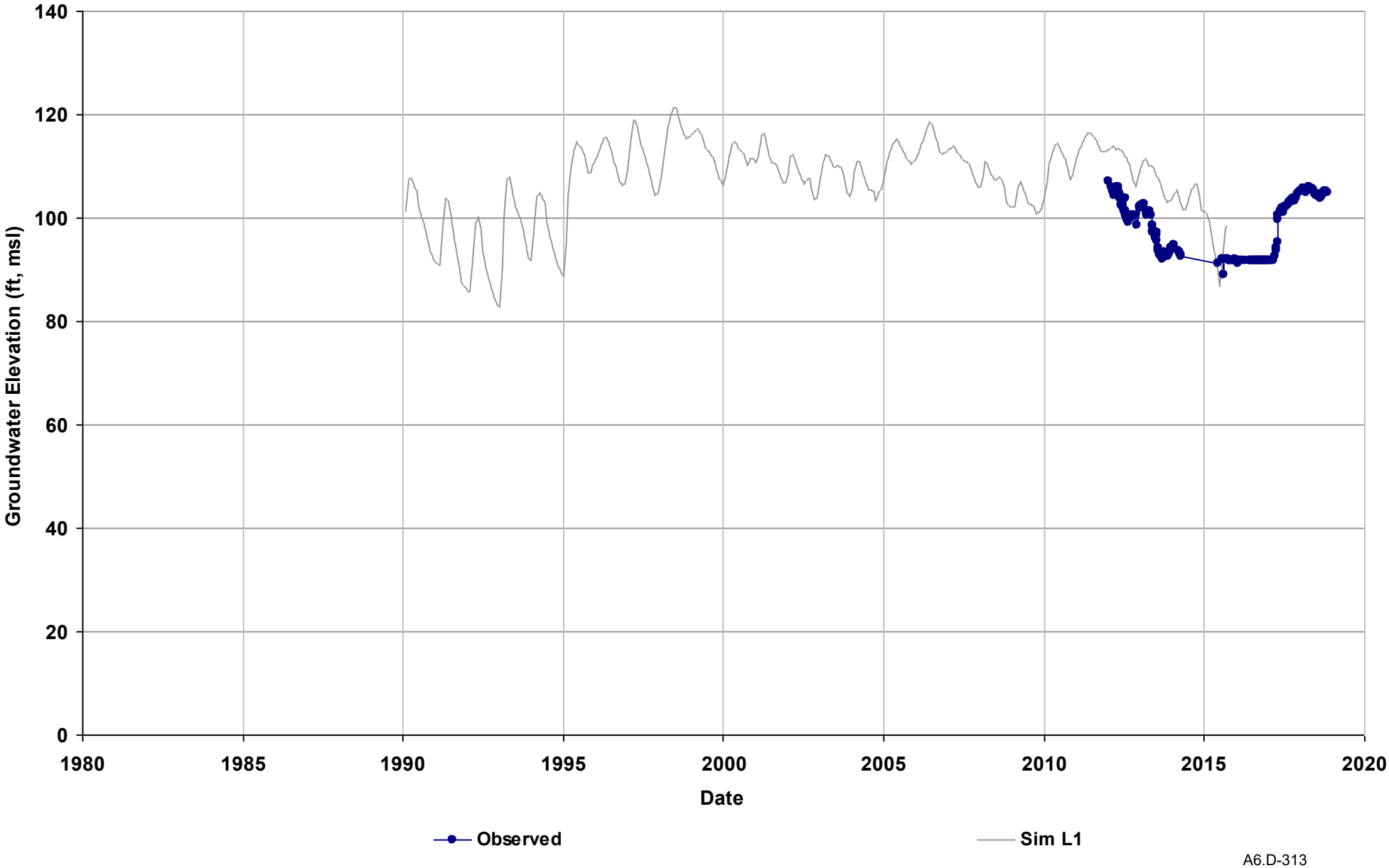
Well Name: SJRRP_MW-10-78
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 127

Total Depth (ft): 28
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



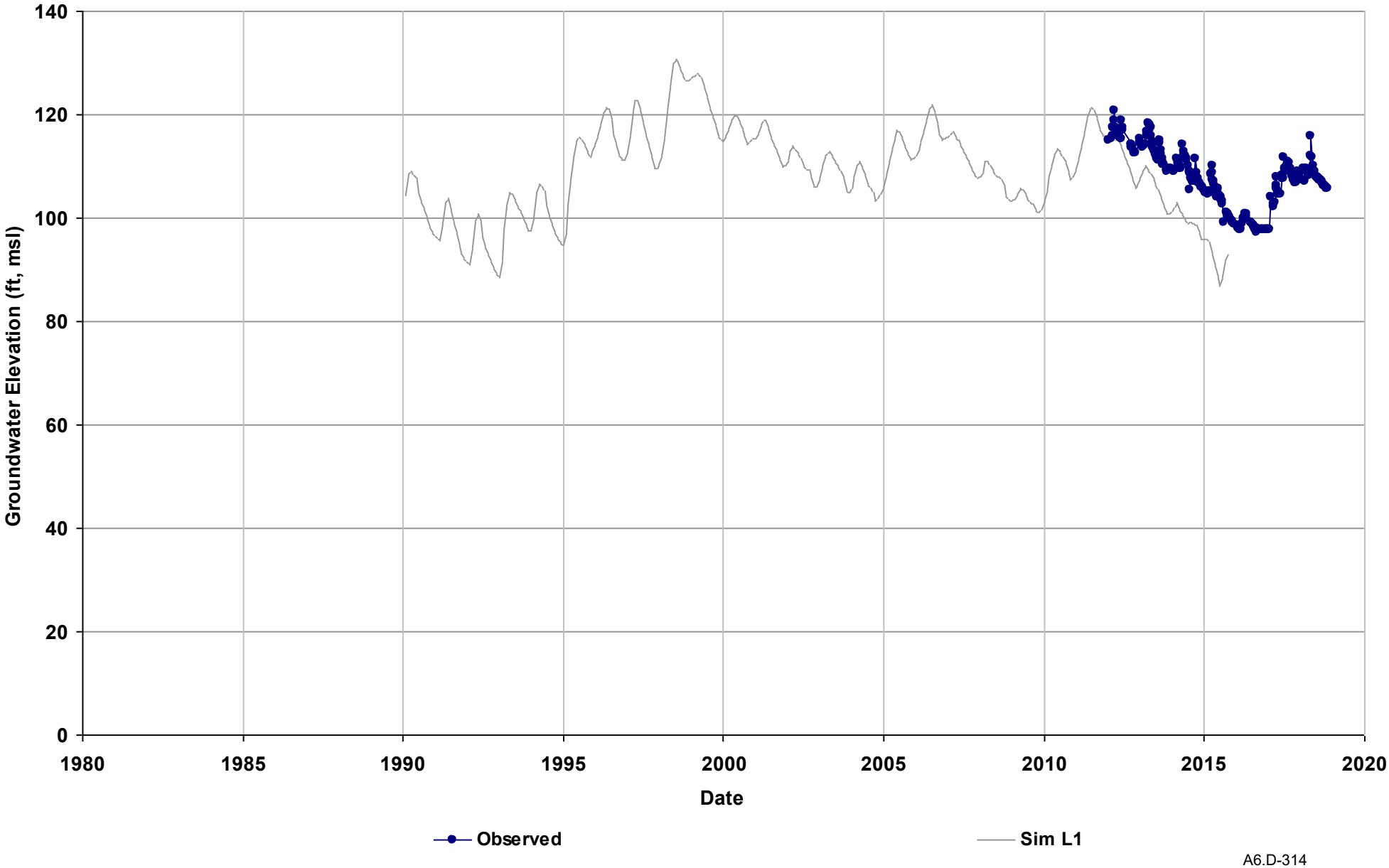
Well Name: SJRRP_MW-11-162
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 123

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



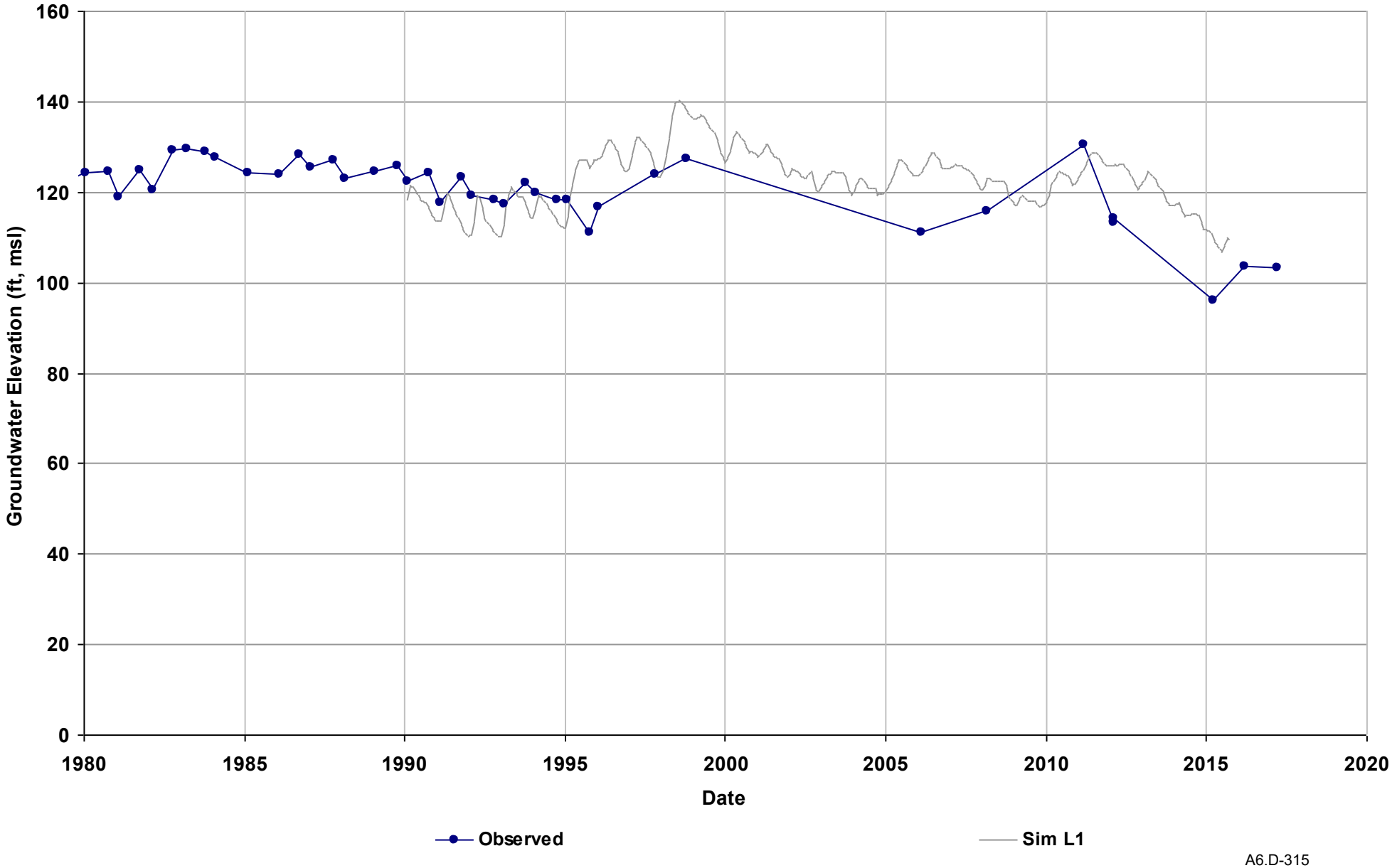
Well Name: SJRRP_MW-11-163
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 127

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



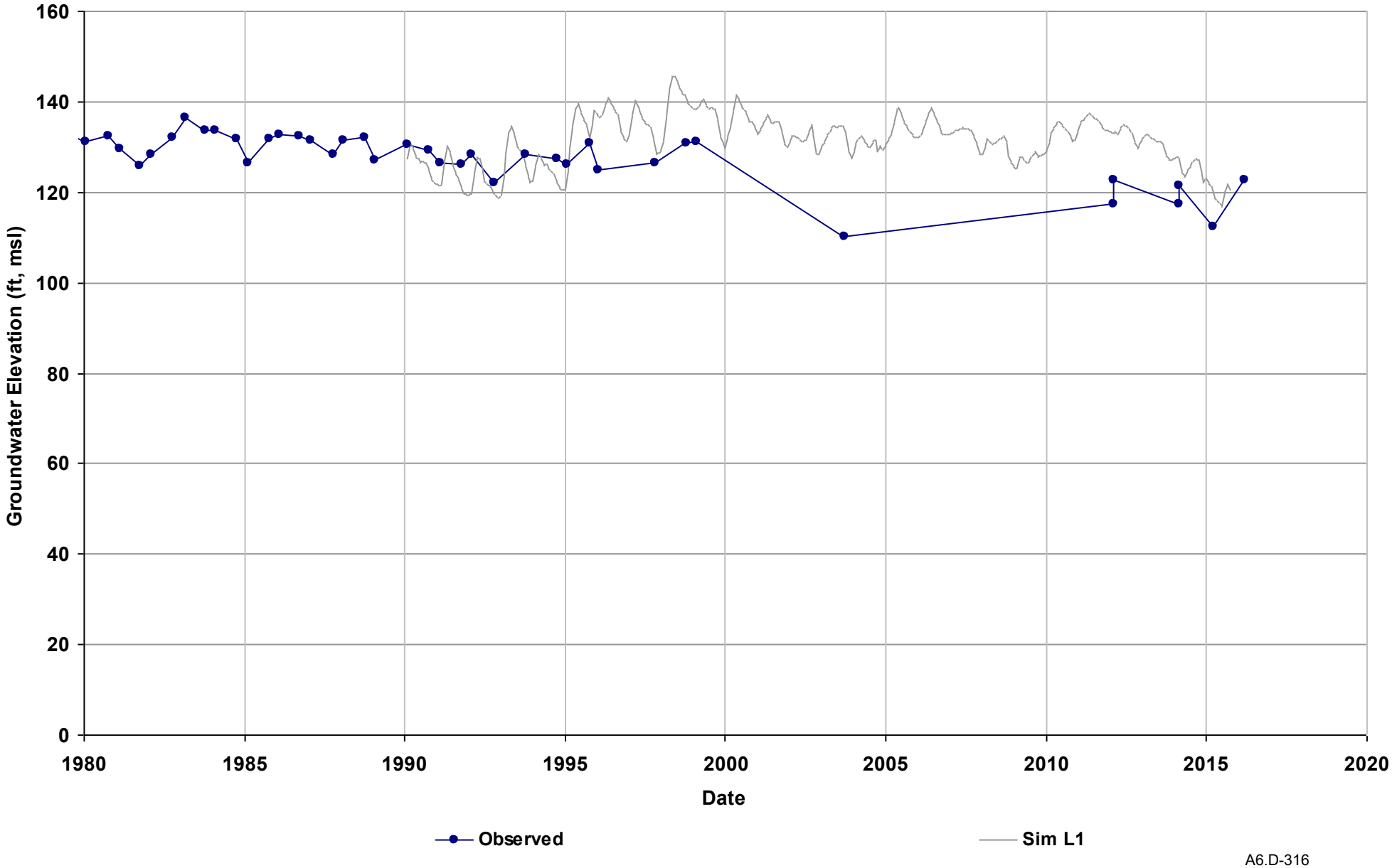
Well Name: 11S14E33L001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 137

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



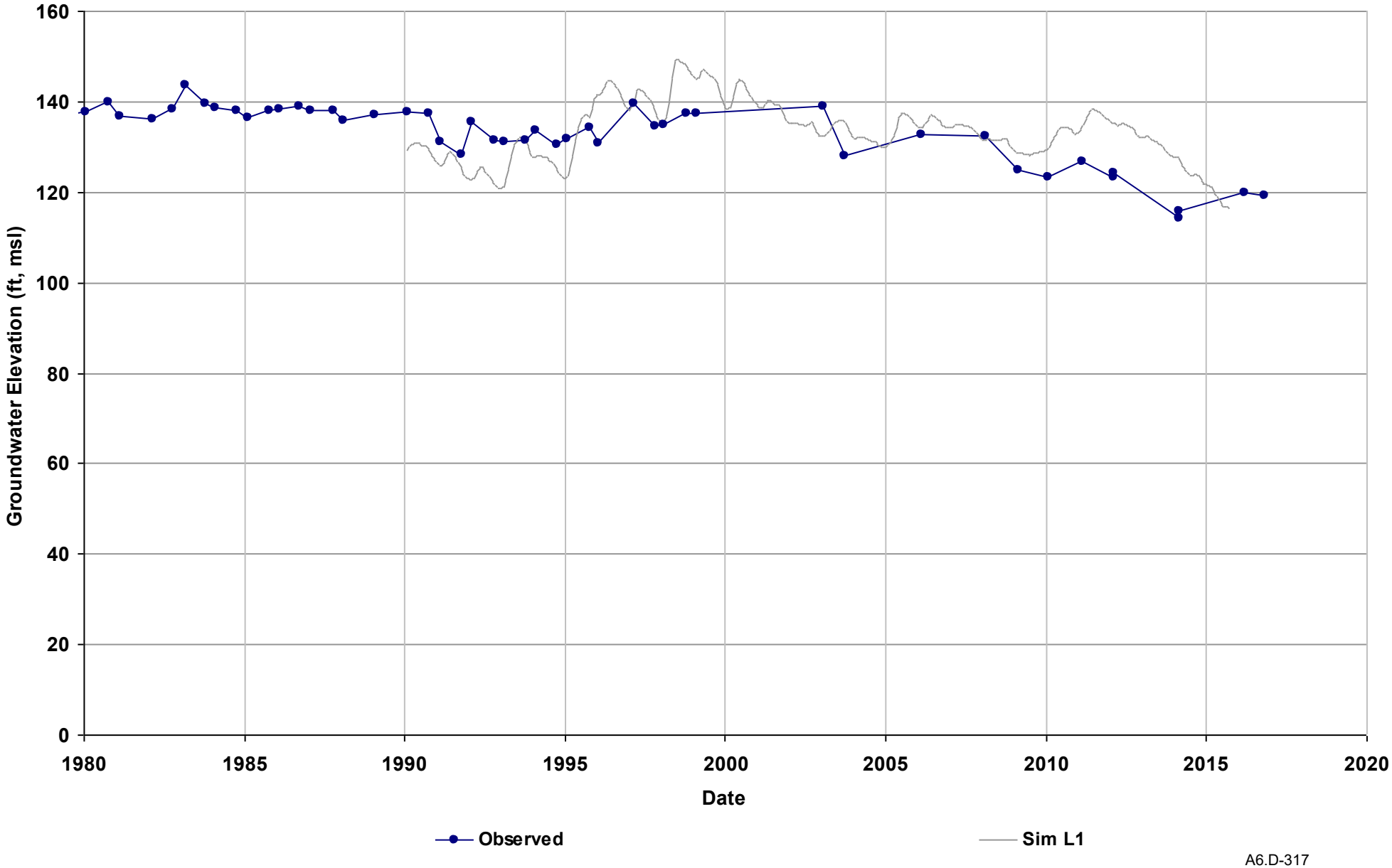
Well Name: 12S14E08R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 142

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



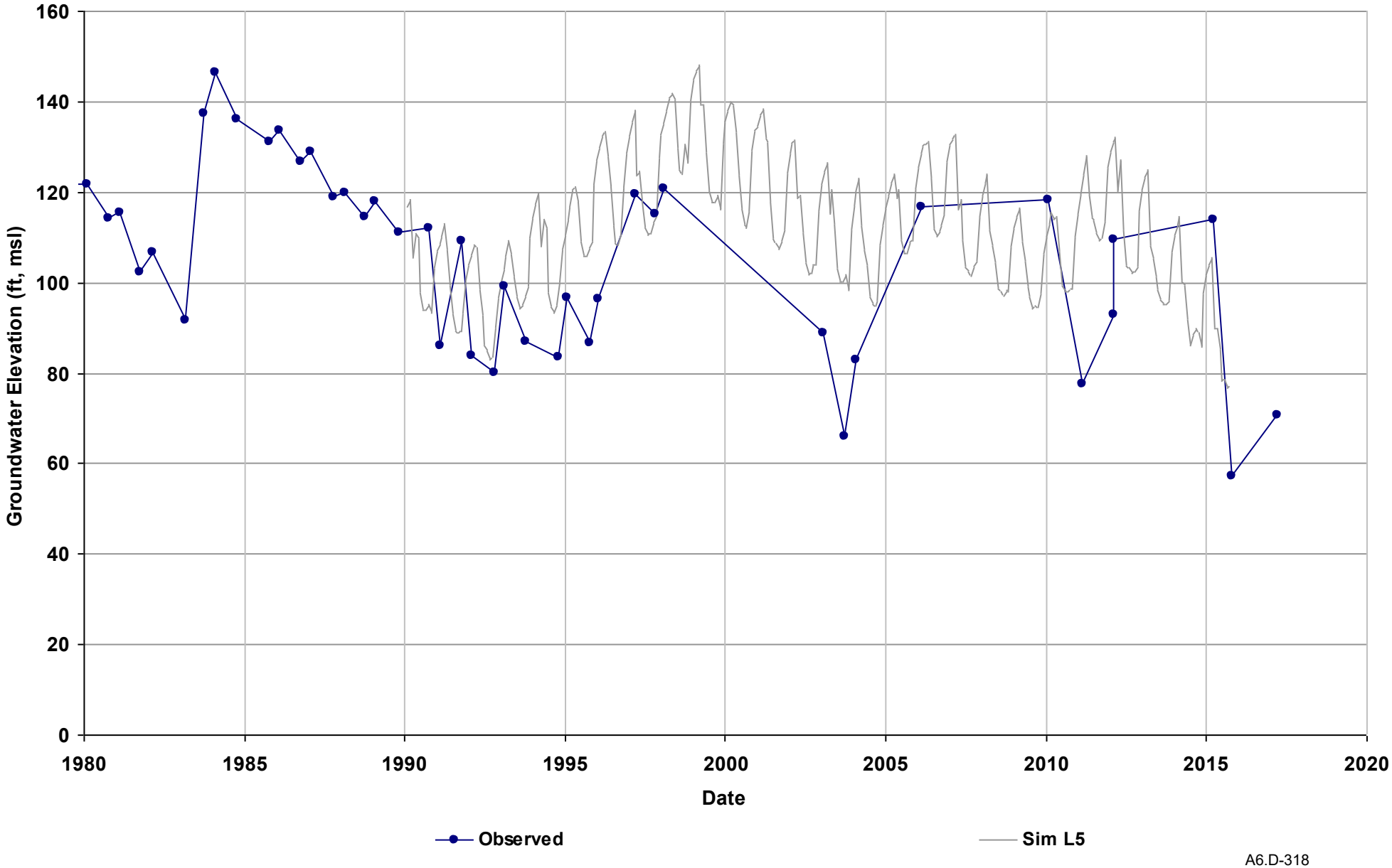
Well Name: 12S14E21H001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 148

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



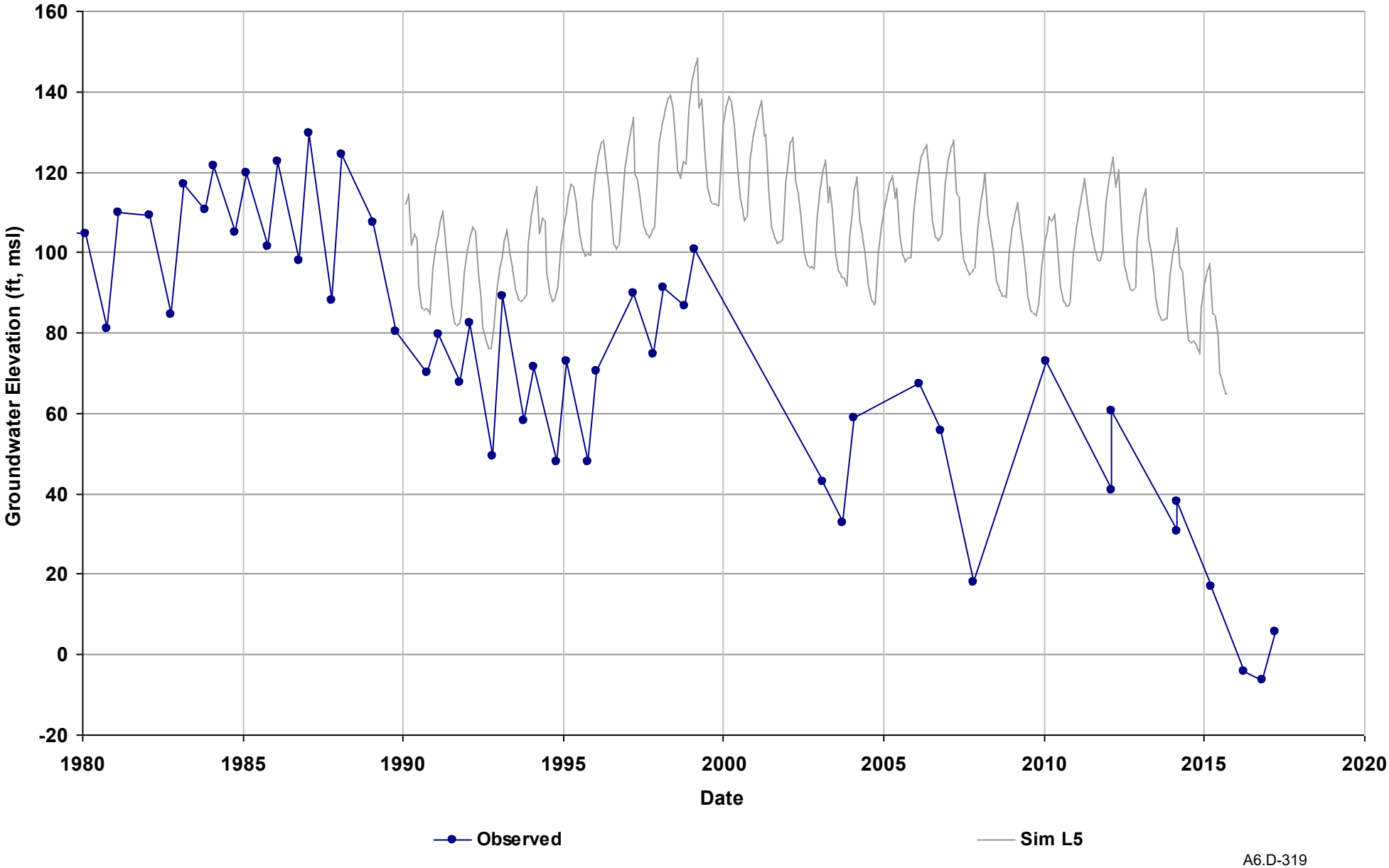
Well Name: 12S15E33R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



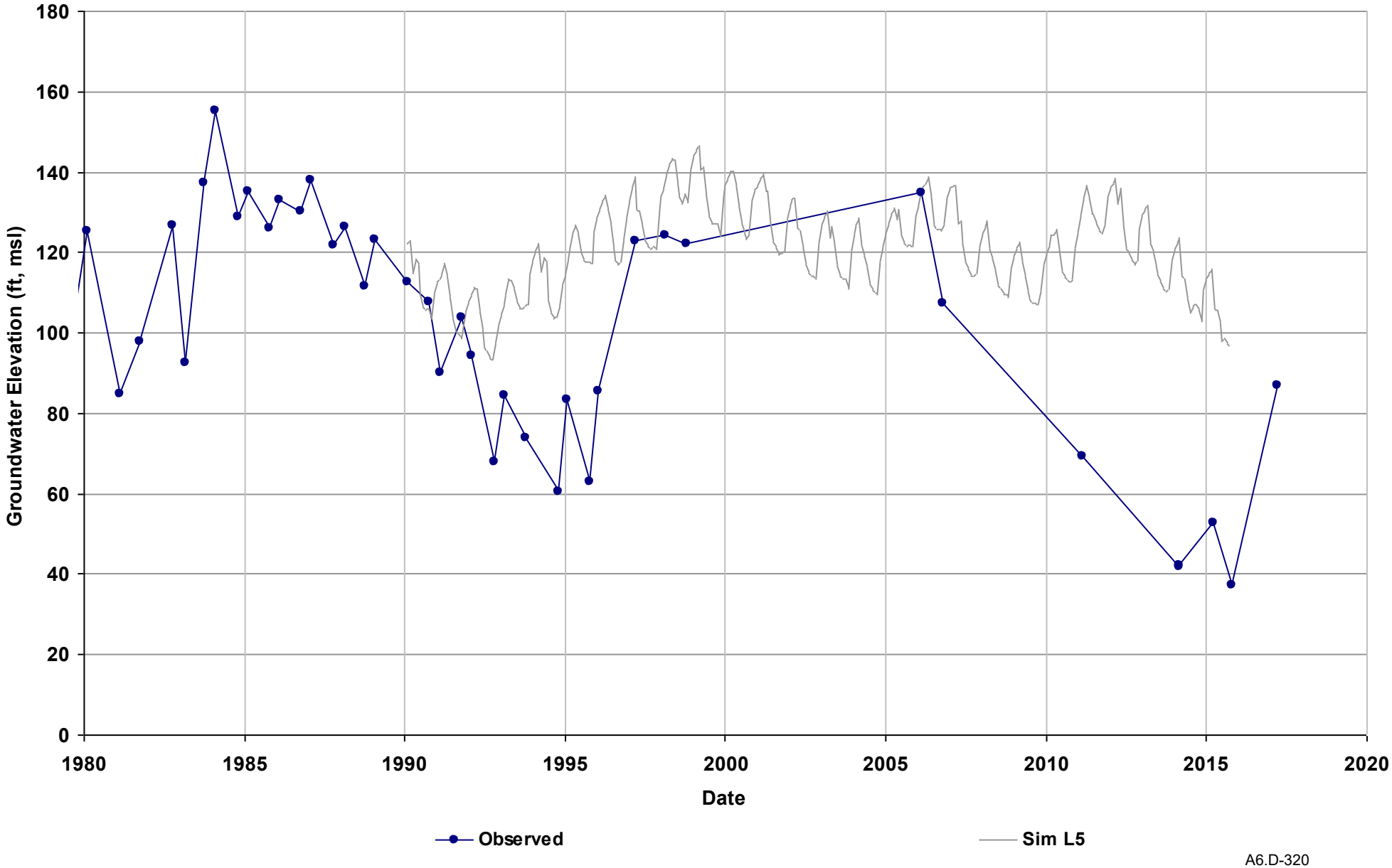
Well Name: 12S16E31G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 179

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



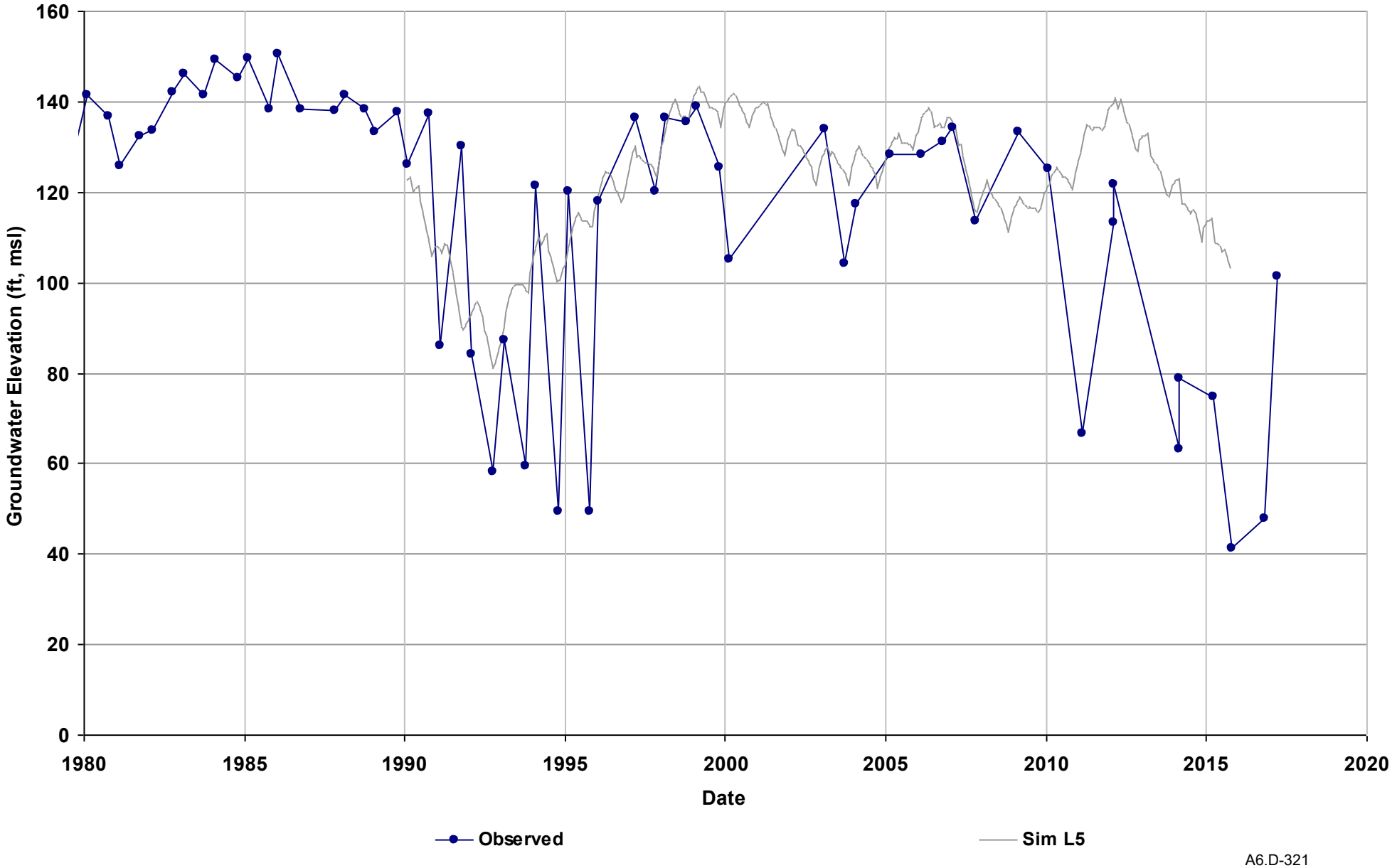
Well Name: 13S15E14M001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 166

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



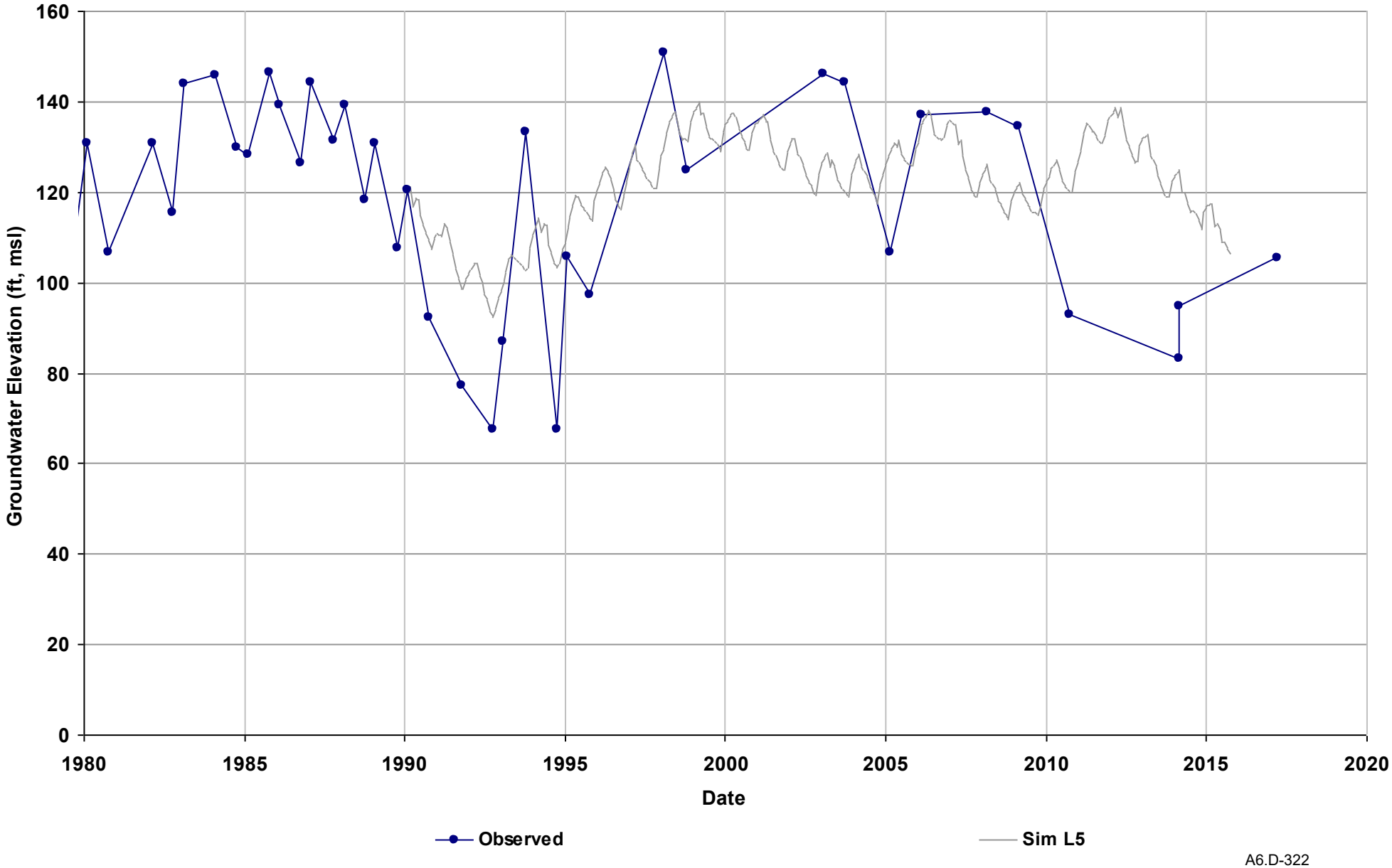
Well Name: 13S15E20G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



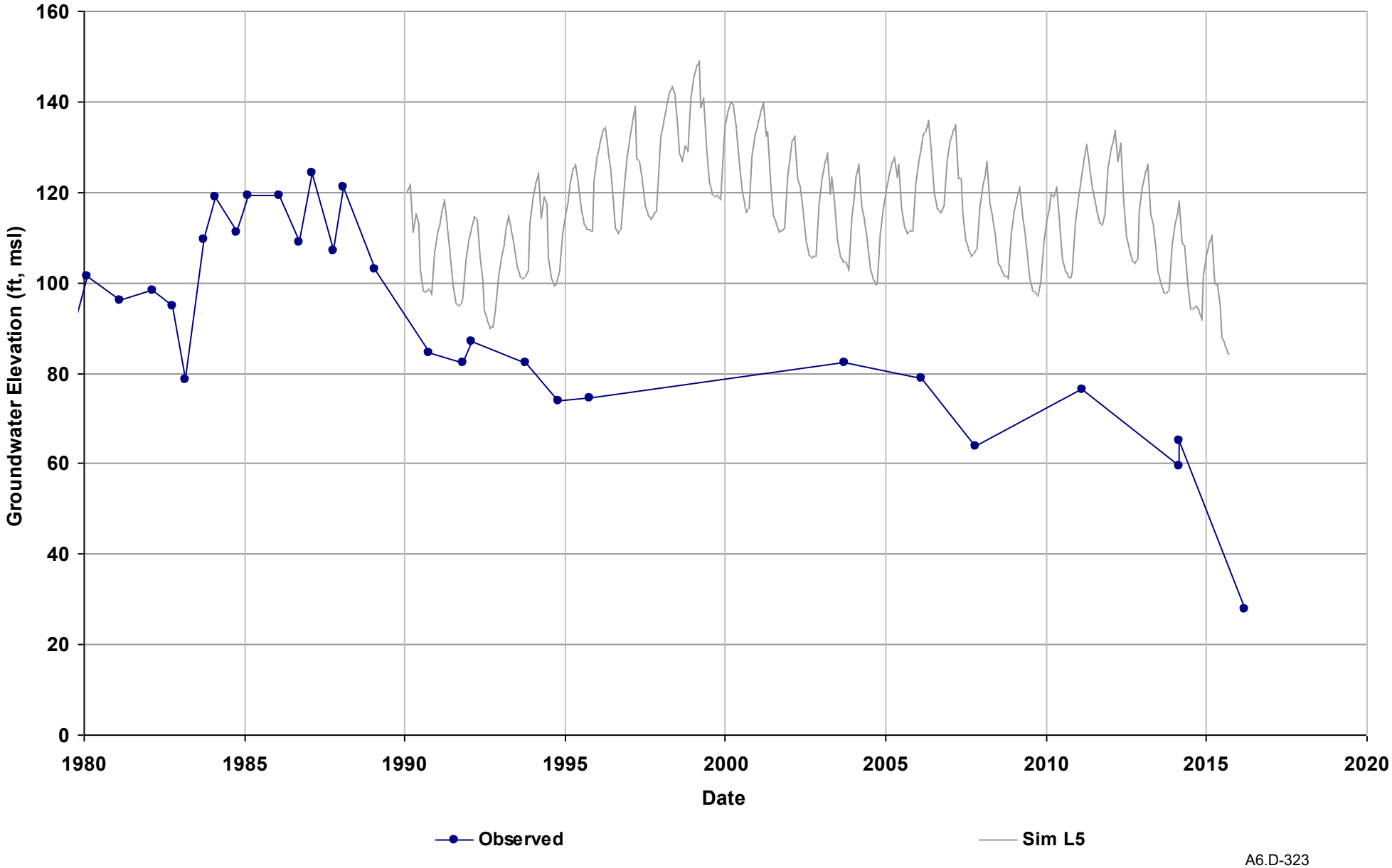
Well Name: 13S15E25N002M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 172

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



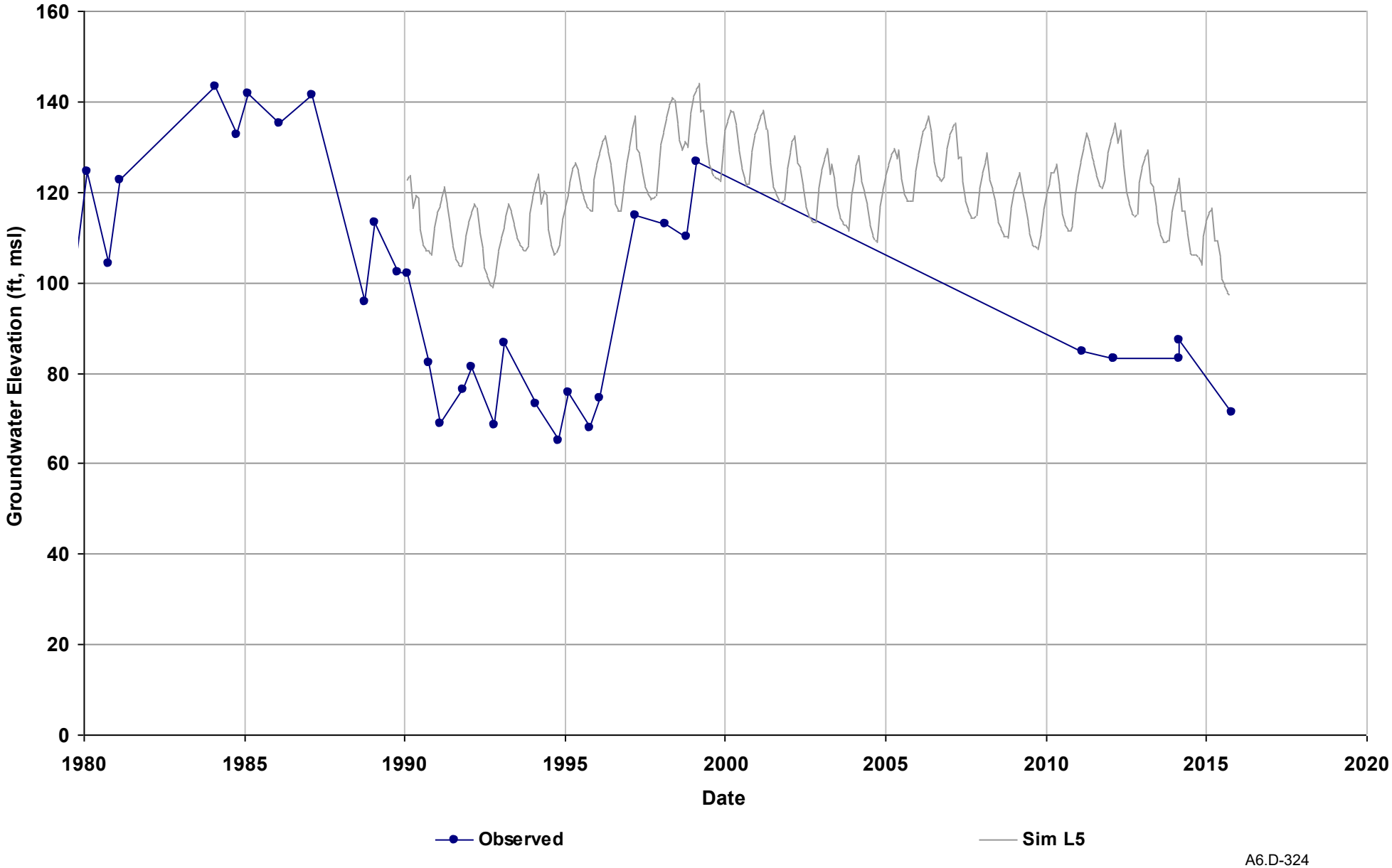
Well Name: 13S16E07R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 177

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



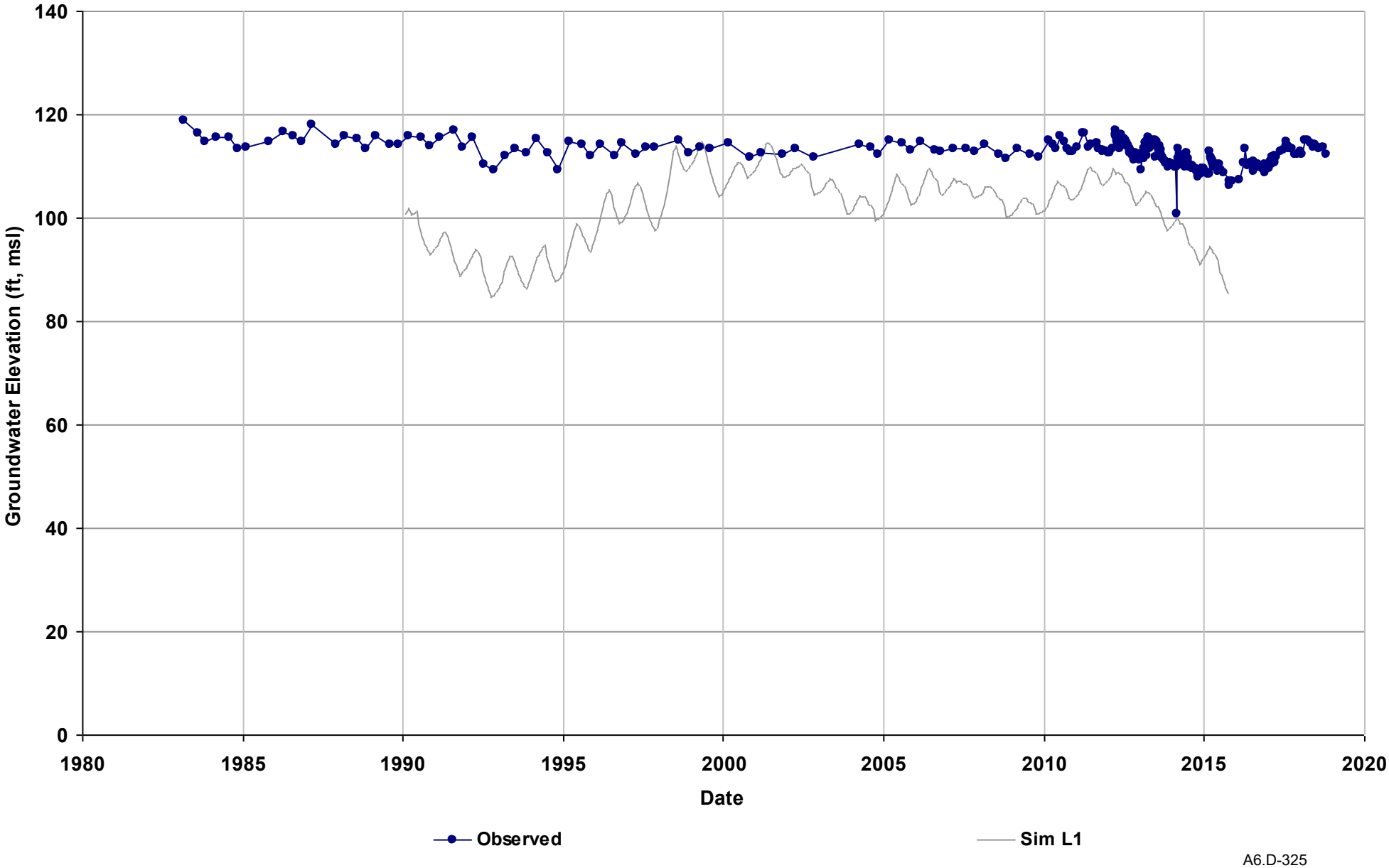
Well Name: 13S16E20J001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 182

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



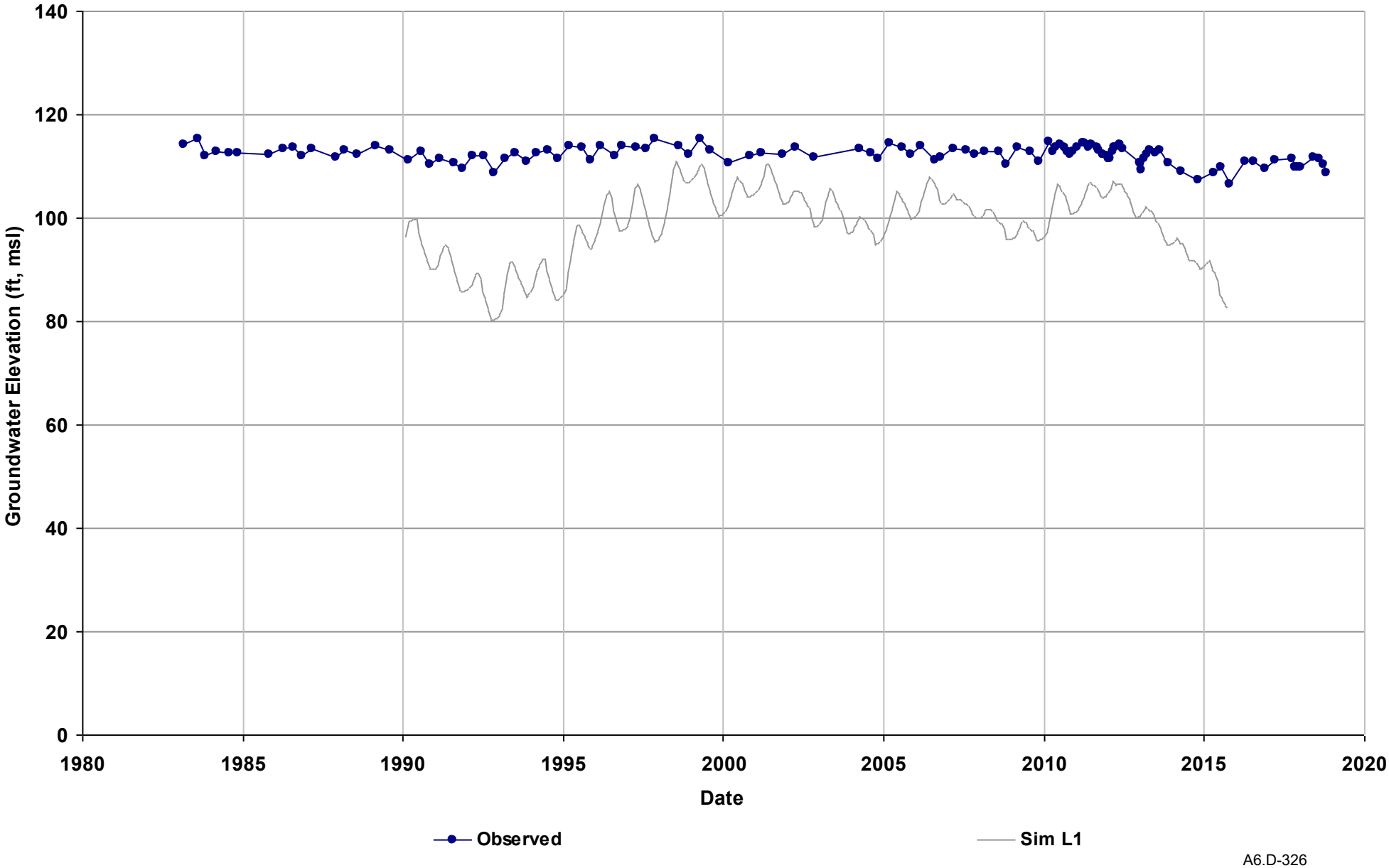
Well Name: SJRRP_135
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 122

Total Depth (ft):
Perf Top (ft): 8.4
Perf Bottom (ft): 17.4
Top Model Layer: 1
Bottom Model Layer: 1



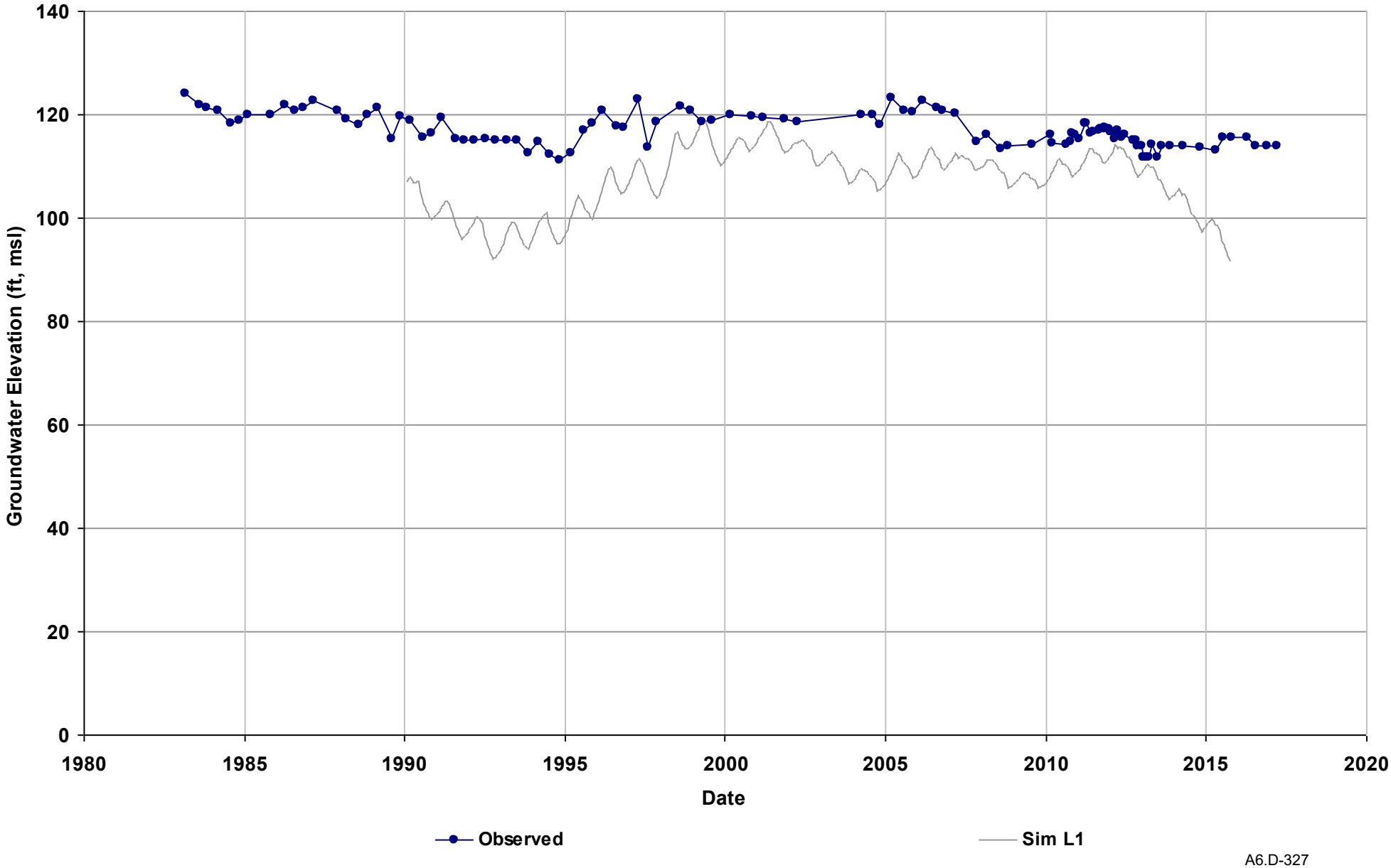
Well Name: SJRRP_129
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 117

Total Depth (ft):
Perf Top (ft): 8.2
Perf Bottom (ft): 17.2
Top Model Layer: 1
Bottom Model Layer: 1



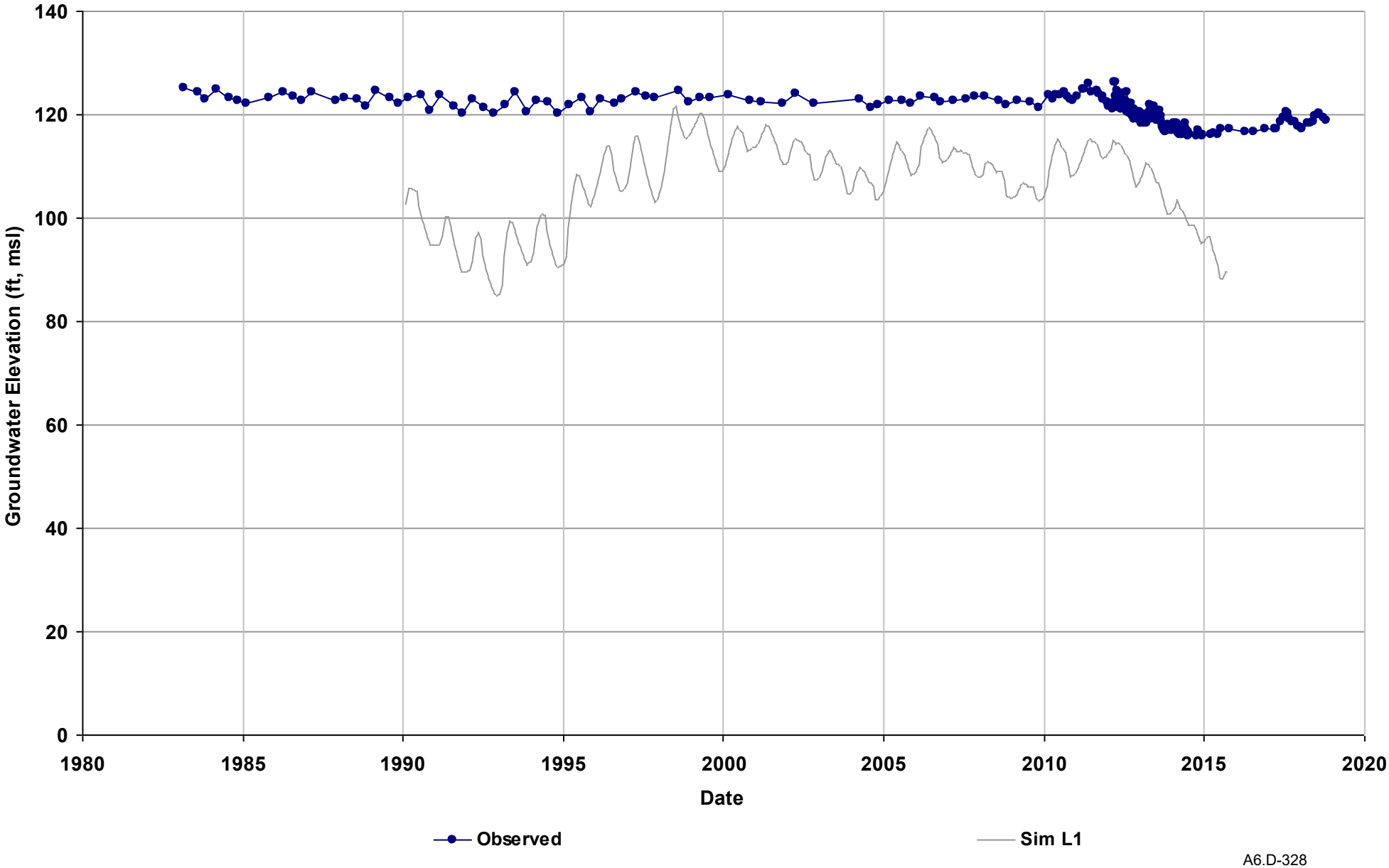
Well Name: SJRRP_140
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 126

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



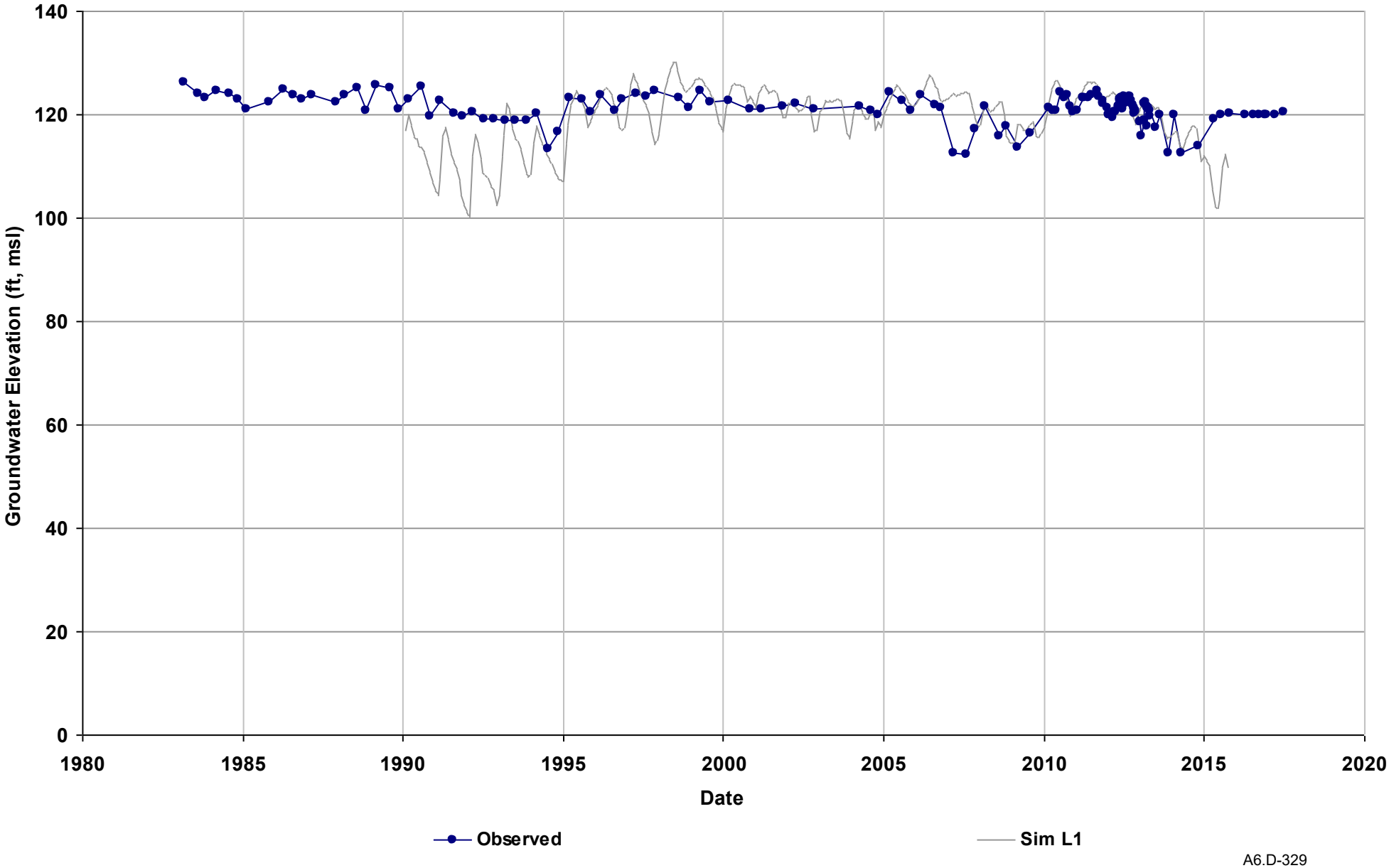
Well Name: SJRRP_145
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 128

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



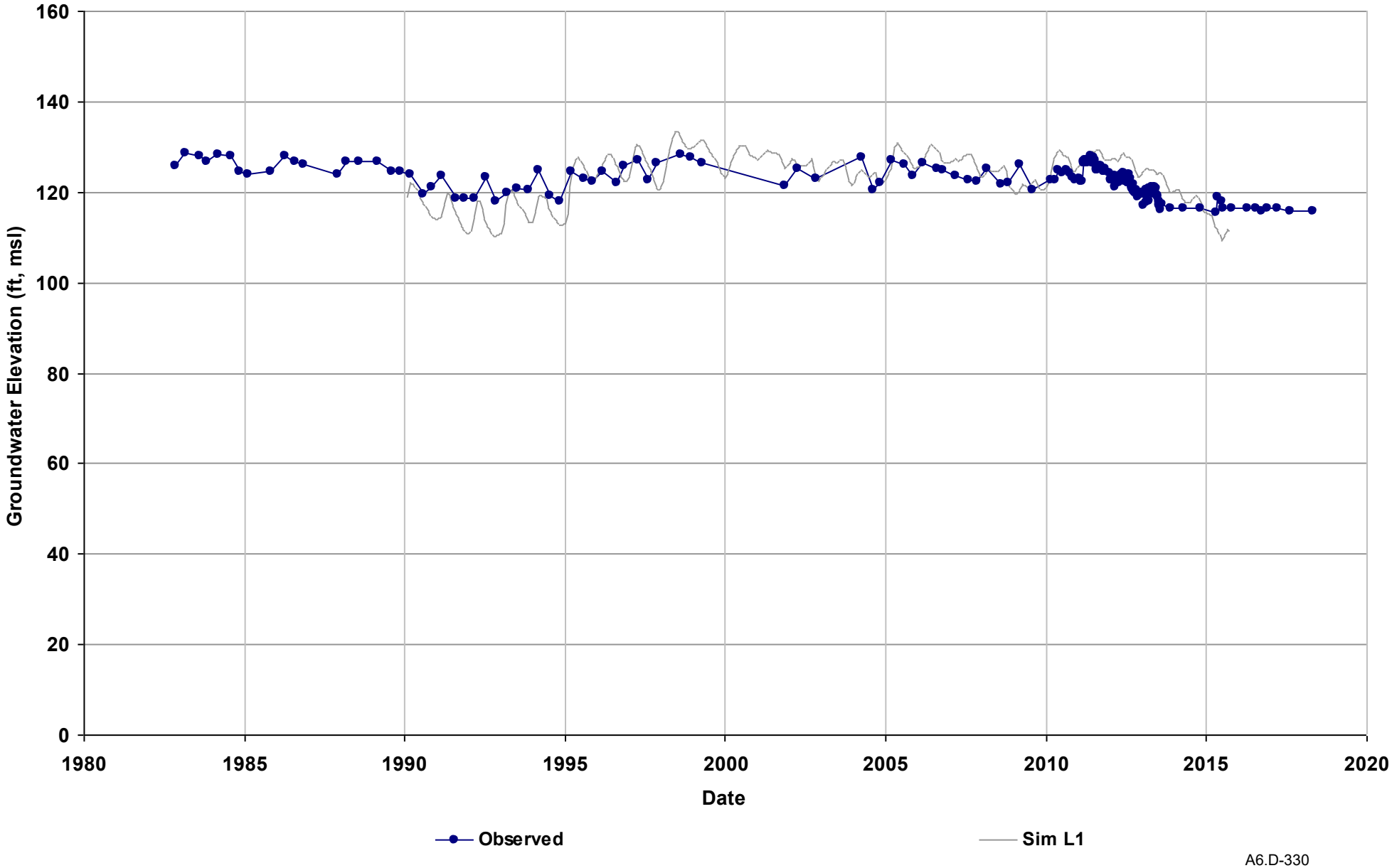
Well Name: SJRRP_151
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 7.5
Perf Bottom (ft): 16.5
Top Model Layer: 1
Bottom Model Layer: 1



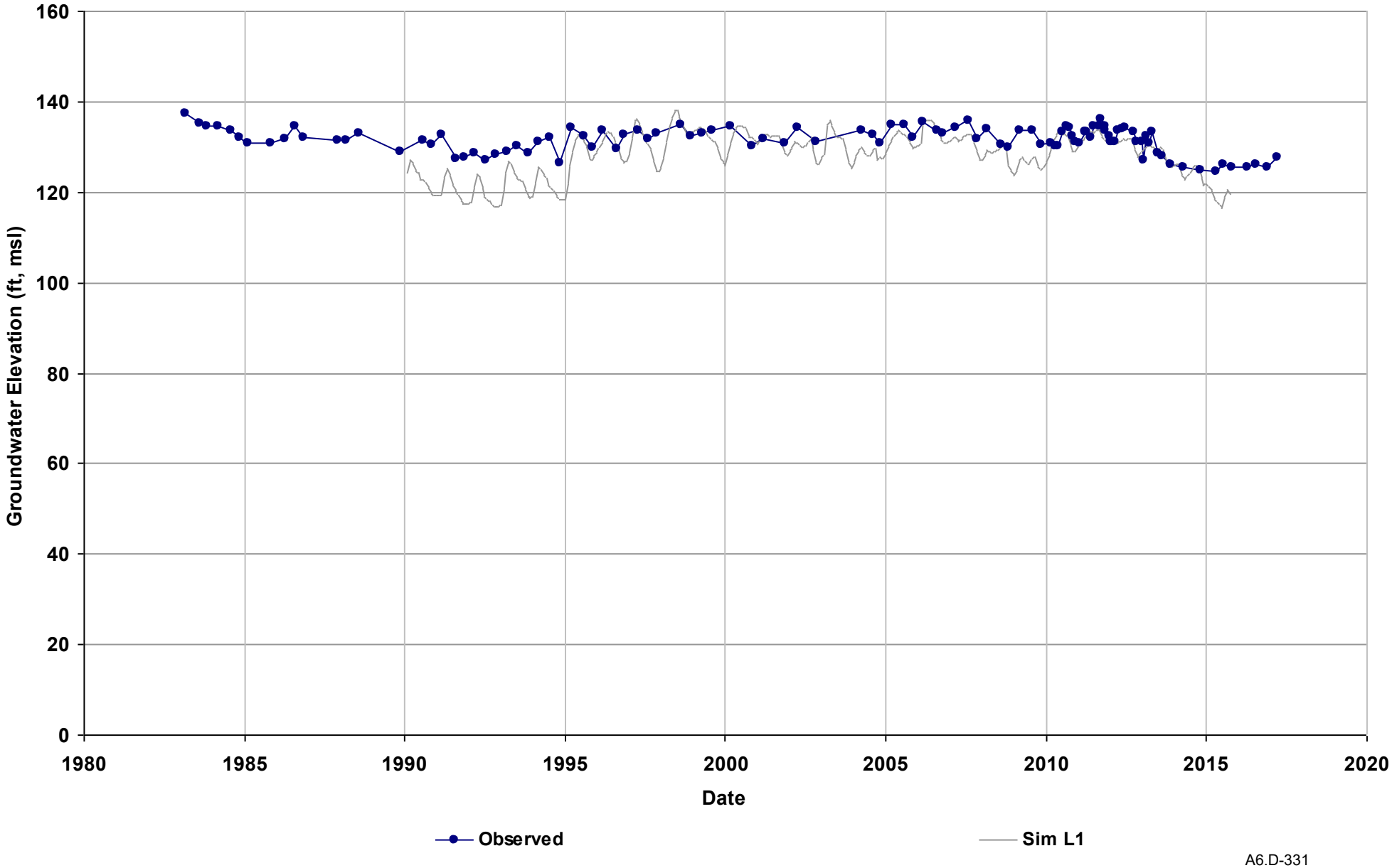
Well Name: SJRRP_155
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 135

Total Depth (ft):
Perf Top (ft): 7.1
Perf Bottom (ft): 16.1
Top Model Layer: 1
Bottom Model Layer: 1



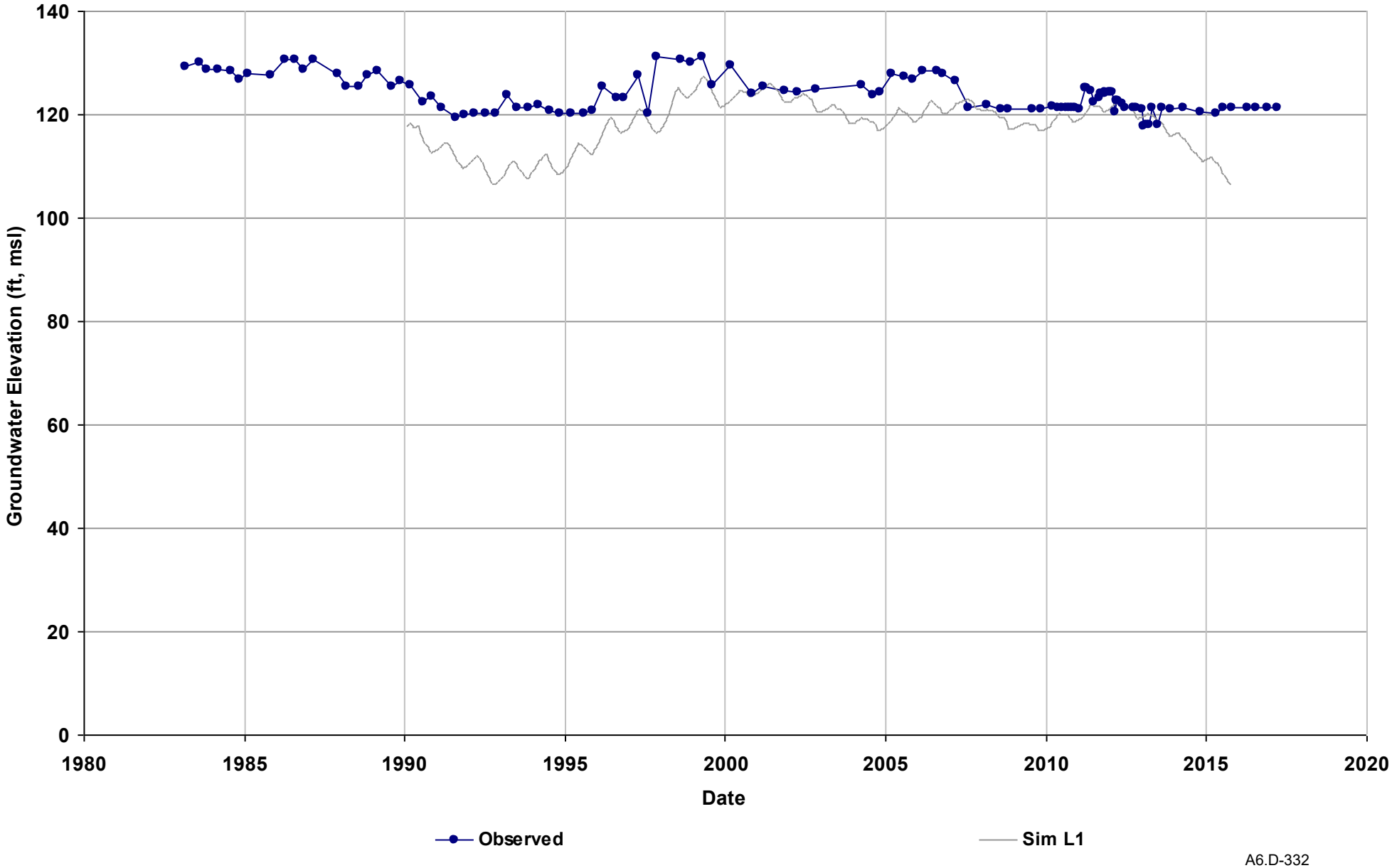
Well Name: SJRRP_156
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 141

Total Depth (ft):
Perf Top (ft): 7
Perf Bottom (ft): 16
Top Model Layer: 1
Bottom Model Layer: 1



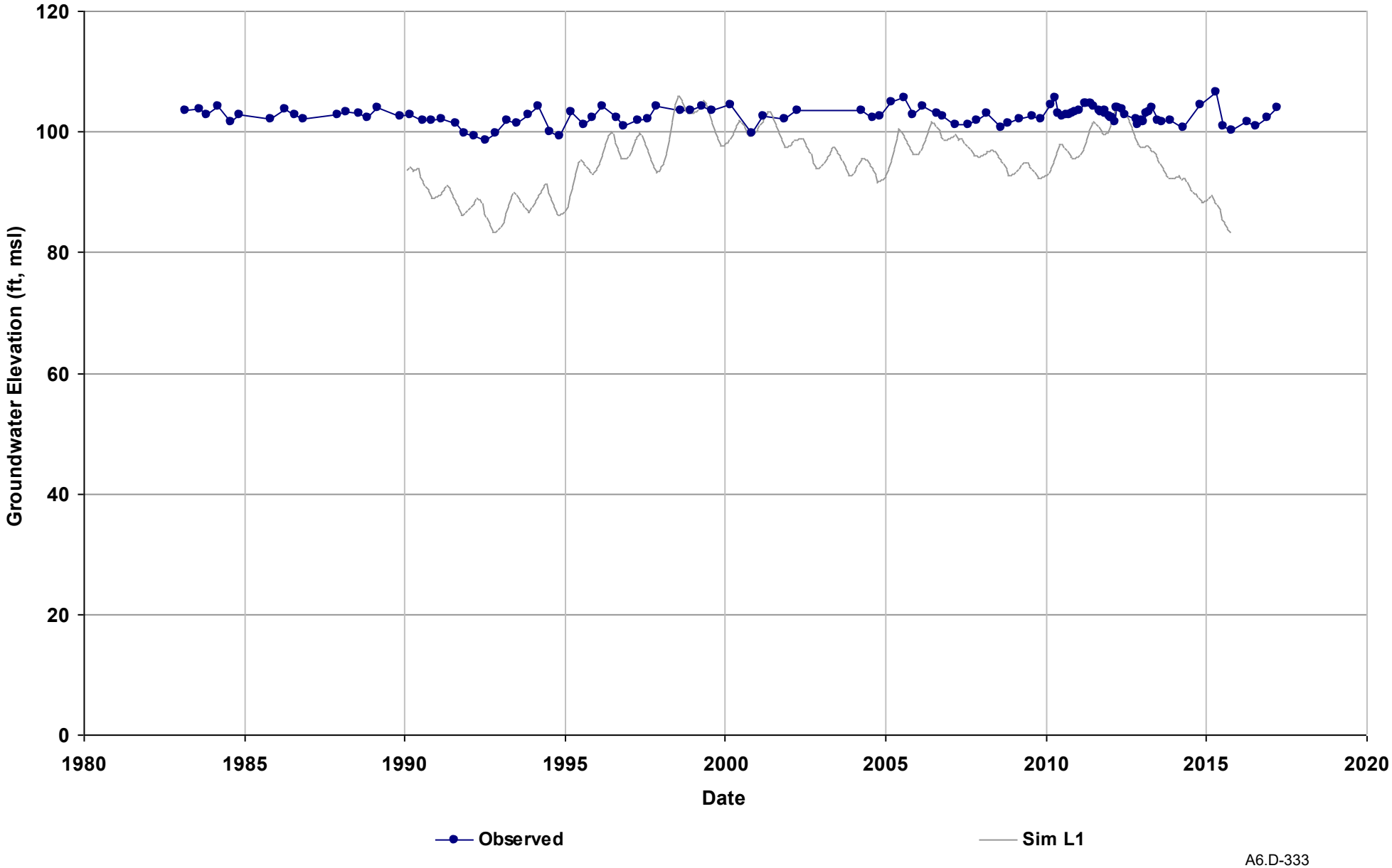
Well Name: SJRRP_166A
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 136

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



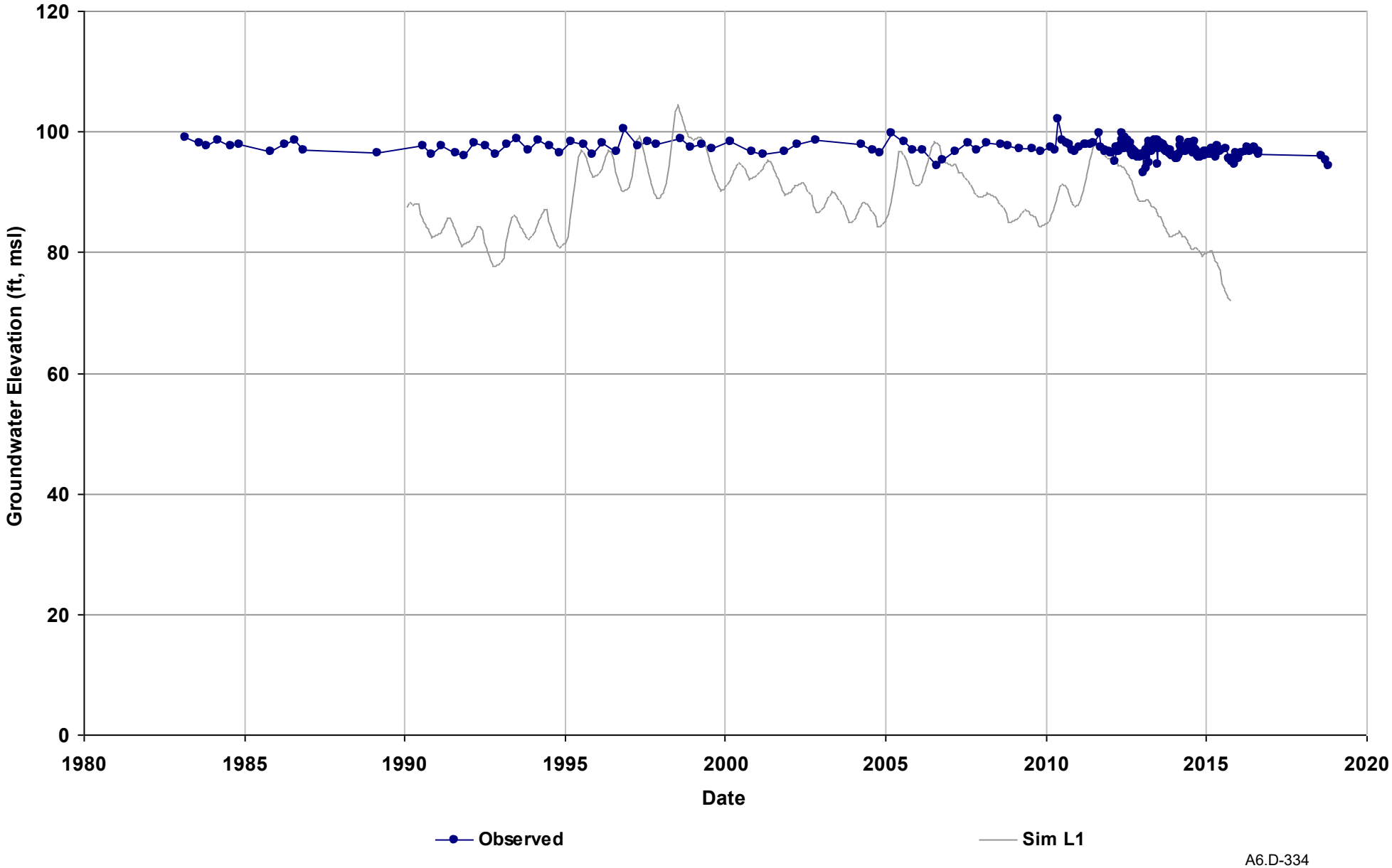
Well Name: SJRRP_181
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 114

Total Depth (ft):
Perf Top (ft): 9.2
Perf Bottom (ft): 18.2
Top Model Layer: 1
Bottom Model Layer: 1



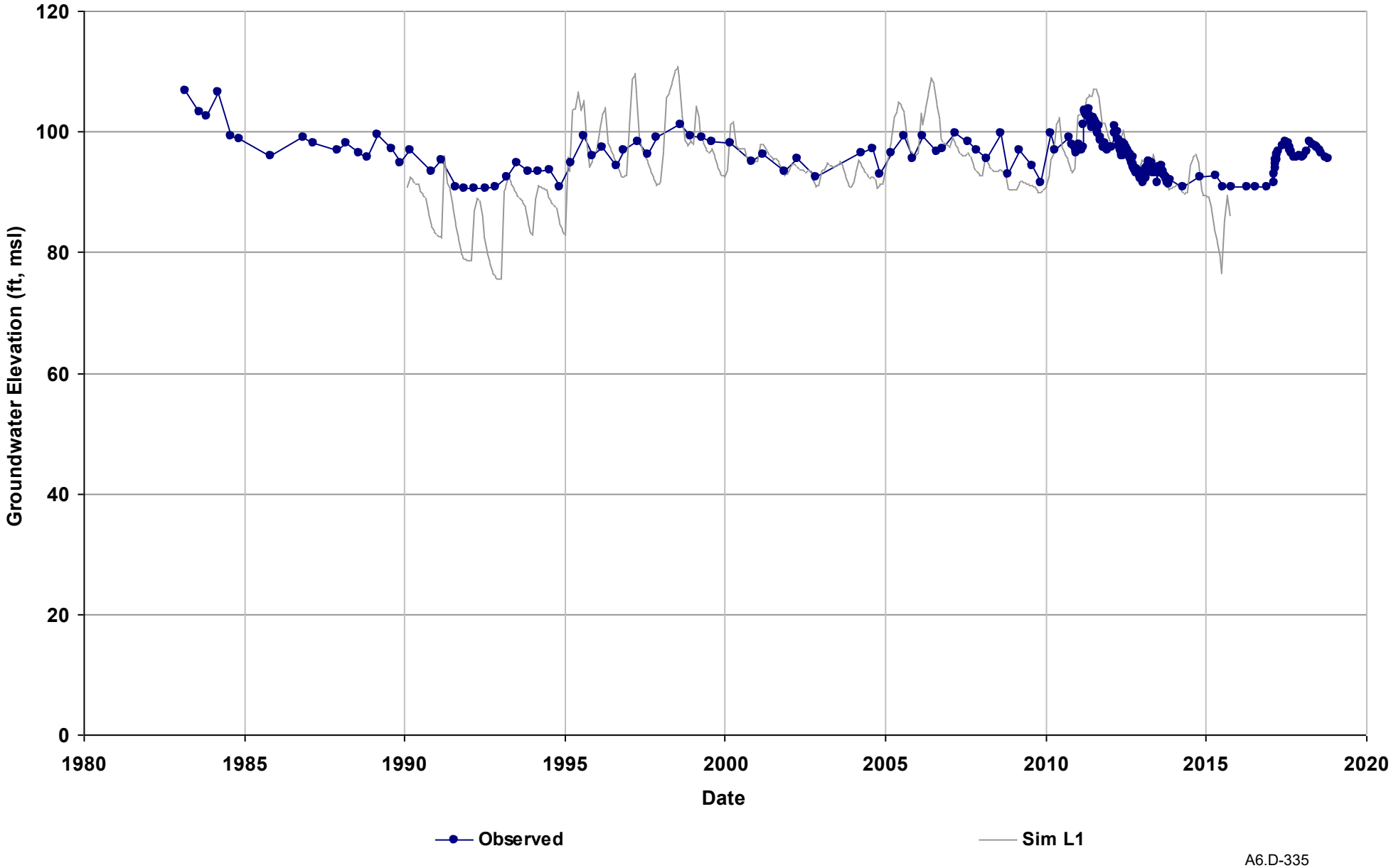
Well Name: SJRRP_184
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 105

Total Depth (ft):
Perf Top (ft): 6.7
Perf Bottom (ft): 15.7
Top Model Layer: 1
Bottom Model Layer: 1



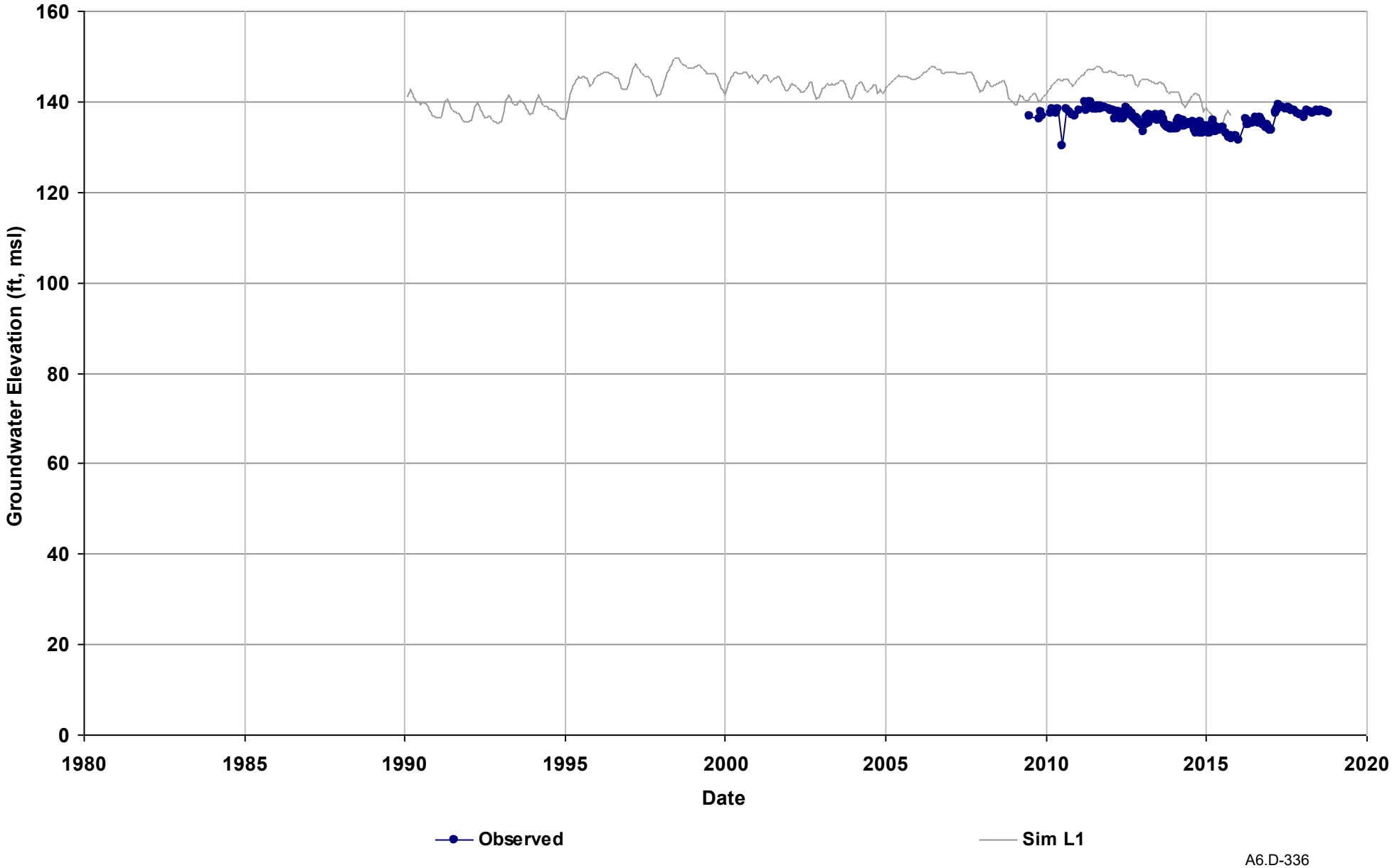
Well Name: SJRRP_191
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 110

Total Depth (ft):
Perf Top (ft): 7.9
Perf Bottom (ft): 16.9
Top Model Layer: 1
Bottom Model Layer: 1



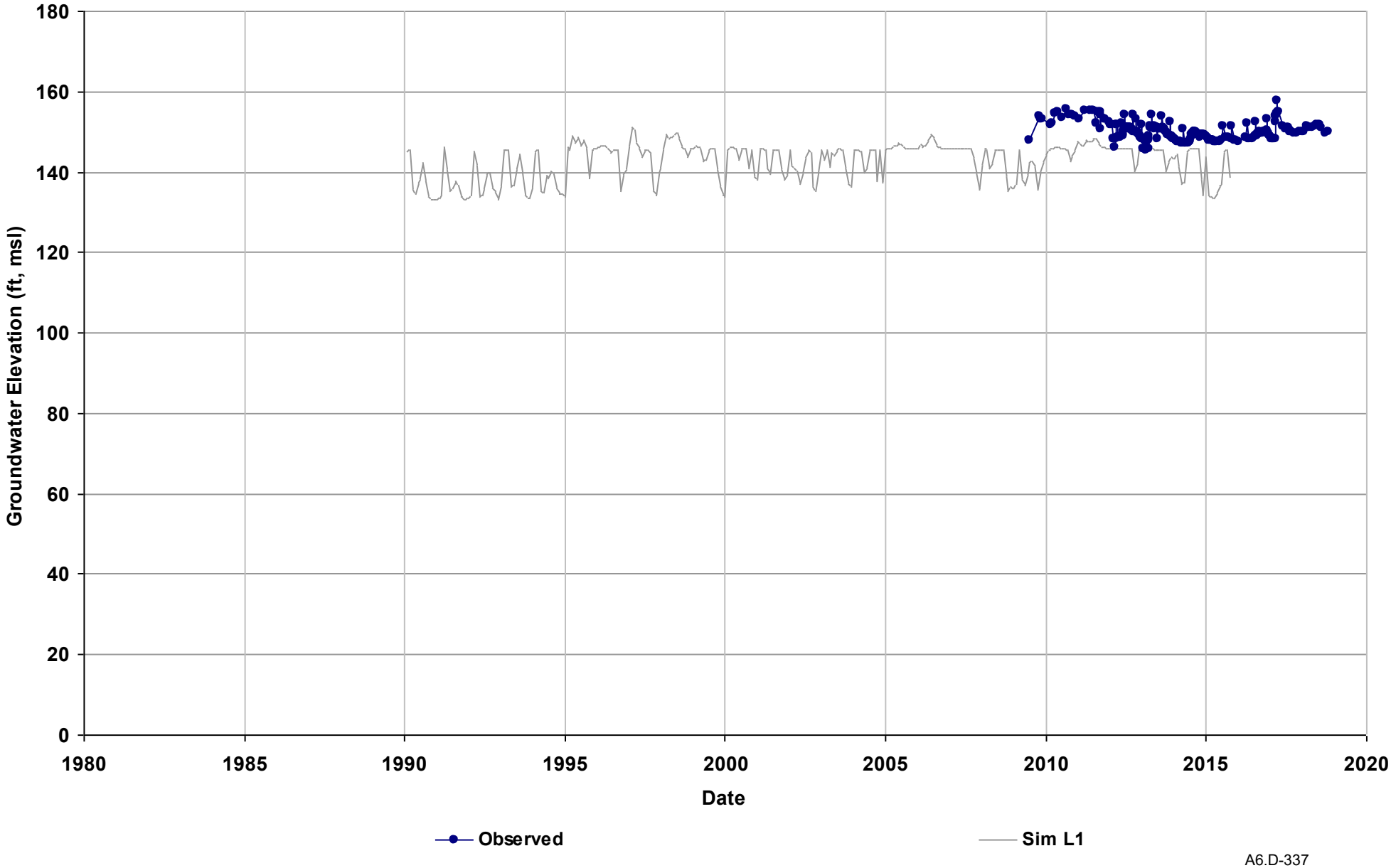
Well Name: SJRRP_355
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 149

Total Depth (ft):
Perf Top (ft): 7.7
Perf Bottom (ft): 16.7
Top Model Layer: 1
Bottom Model Layer: 1



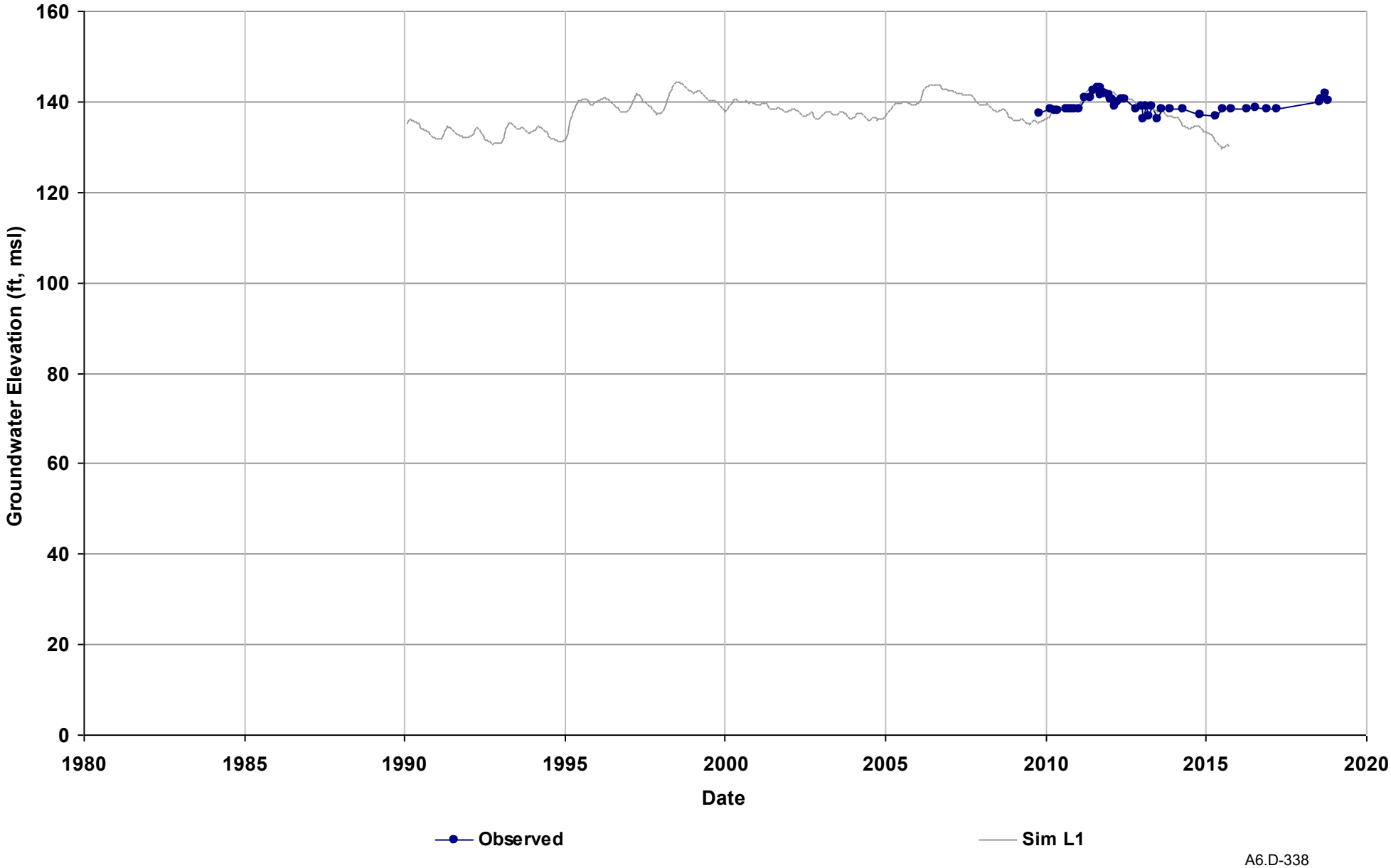
Well Name: SJRRP_364
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 162

Total Depth (ft):
Perf Top (ft): 4.4
Perf Bottom (ft): 13.4
Top Model Layer: 1
Bottom Model Layer: 1



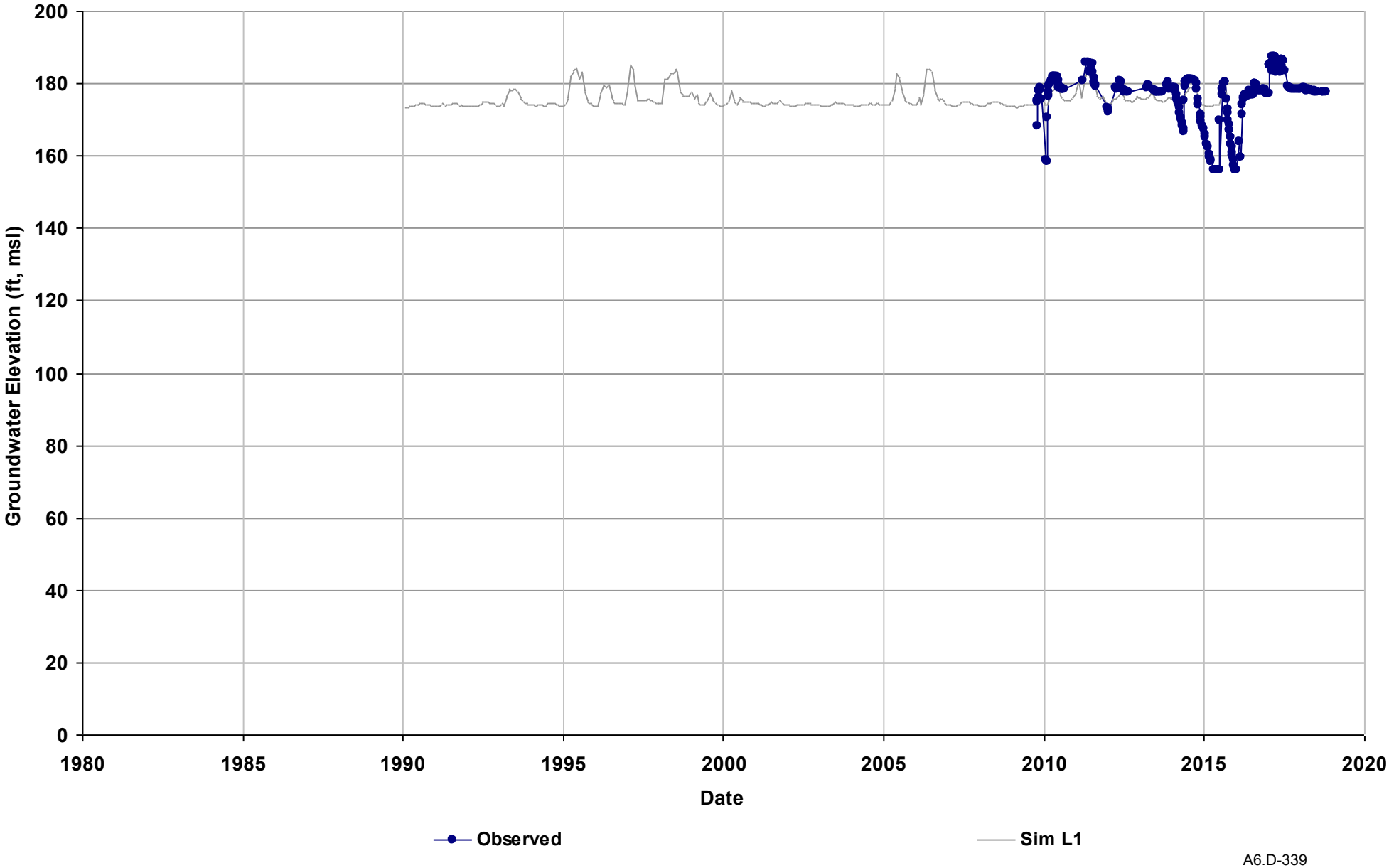
Well Name: SJRRP_366
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 157

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



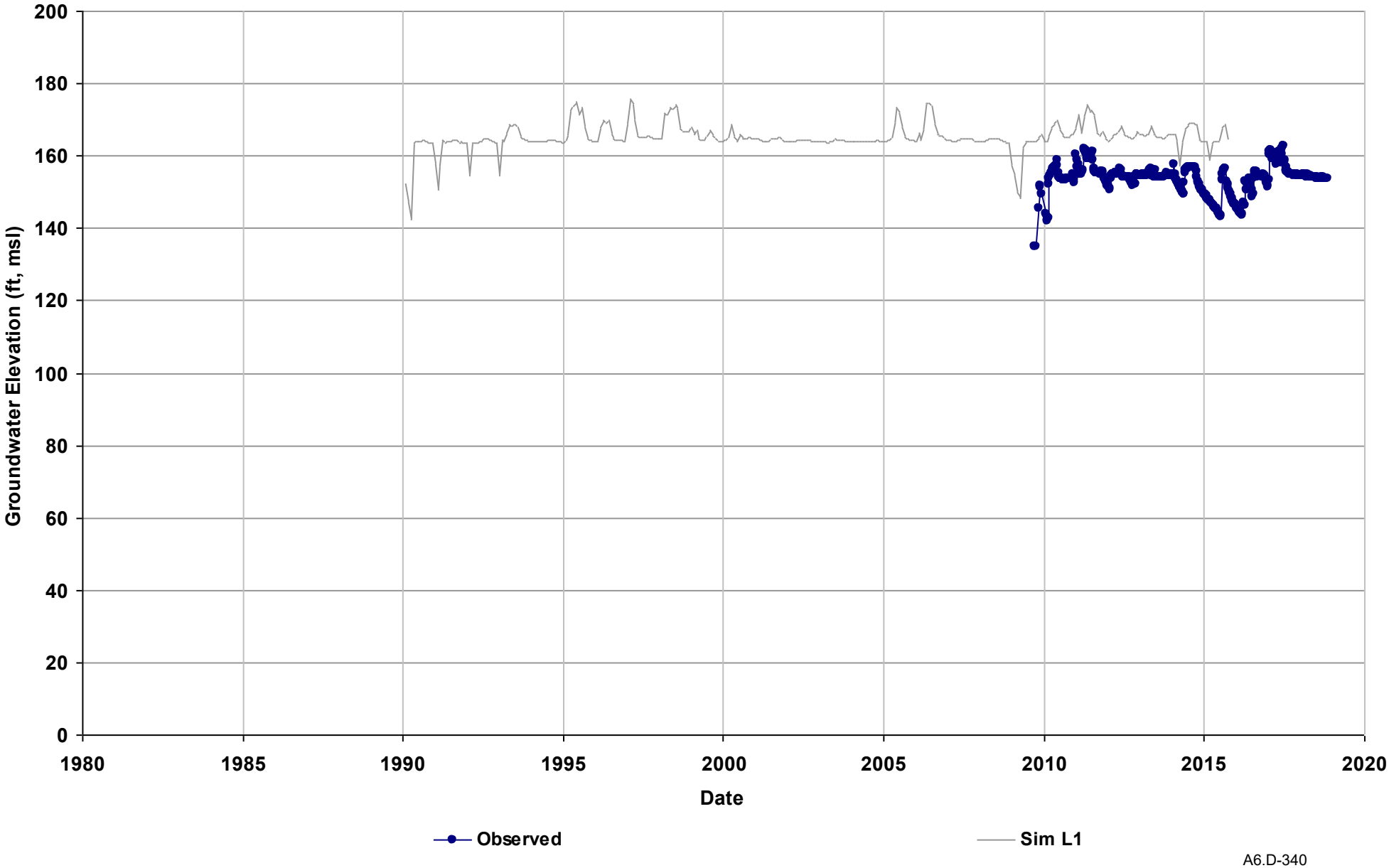
Well Name: SJRRP_MW-09-36
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 192

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



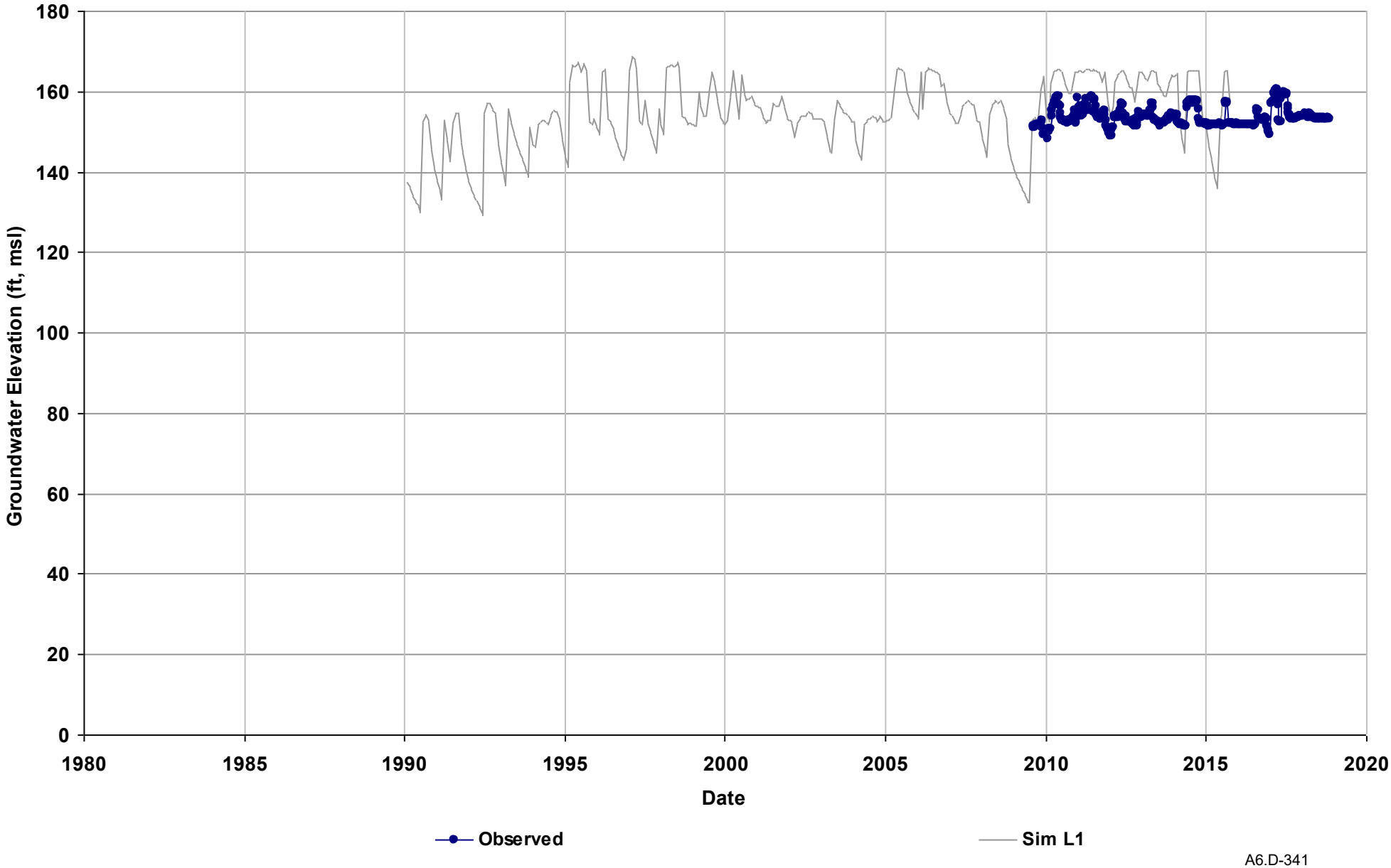
Well Name: SJRRP_MW-09-47
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 174

Total Depth (ft): 40.6
Perf Top (ft): 20
Perf Bottom (ft): 40
Top Model Layer: 1
Bottom Model Layer: 1



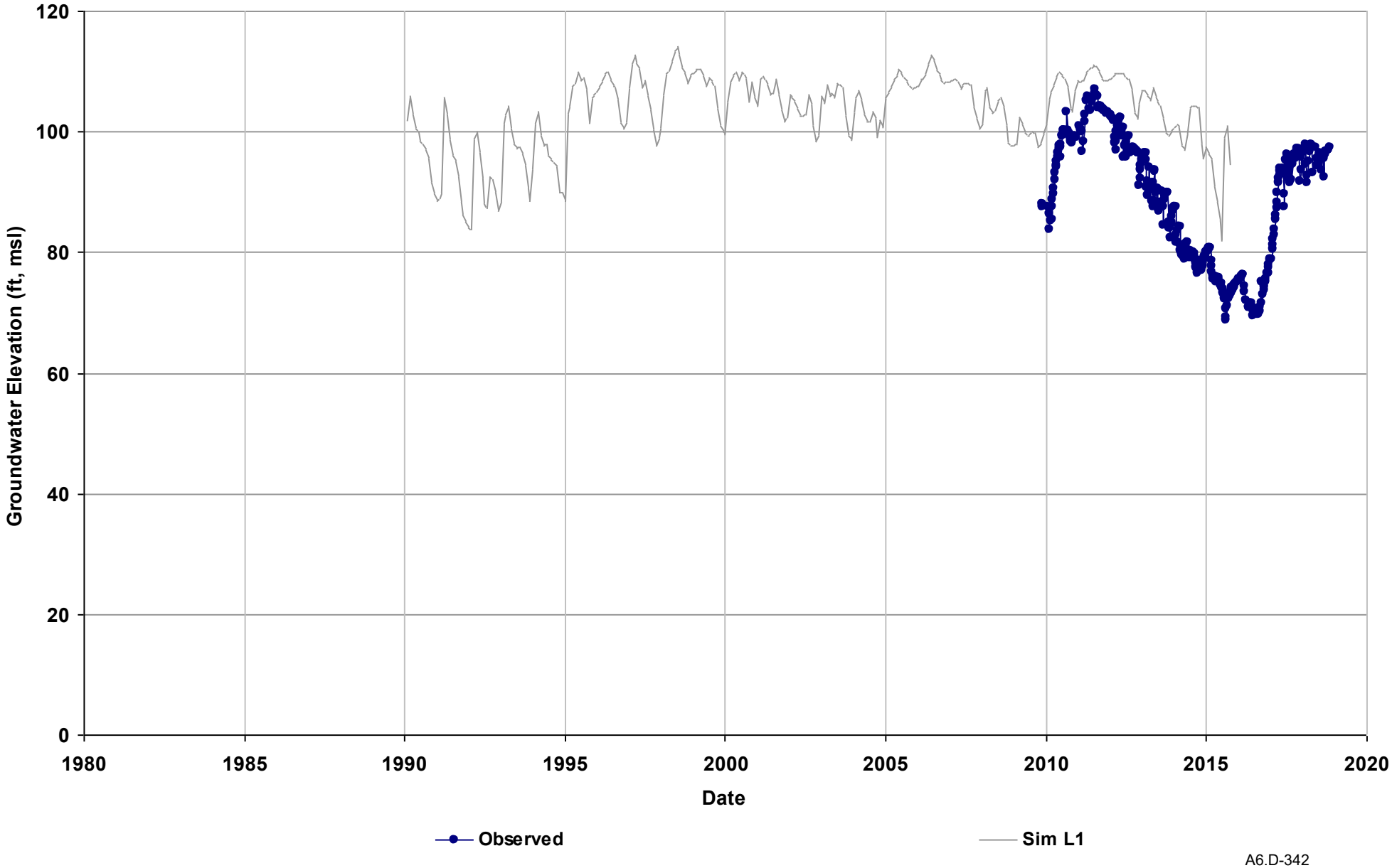
Well Name: SJRRP_MW-09-55B
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 165

Total Depth (ft): 15
Perf Top (ft): 10
Perf Bottom (ft): 15
Top Model Layer: 1
Bottom Model Layer: 1



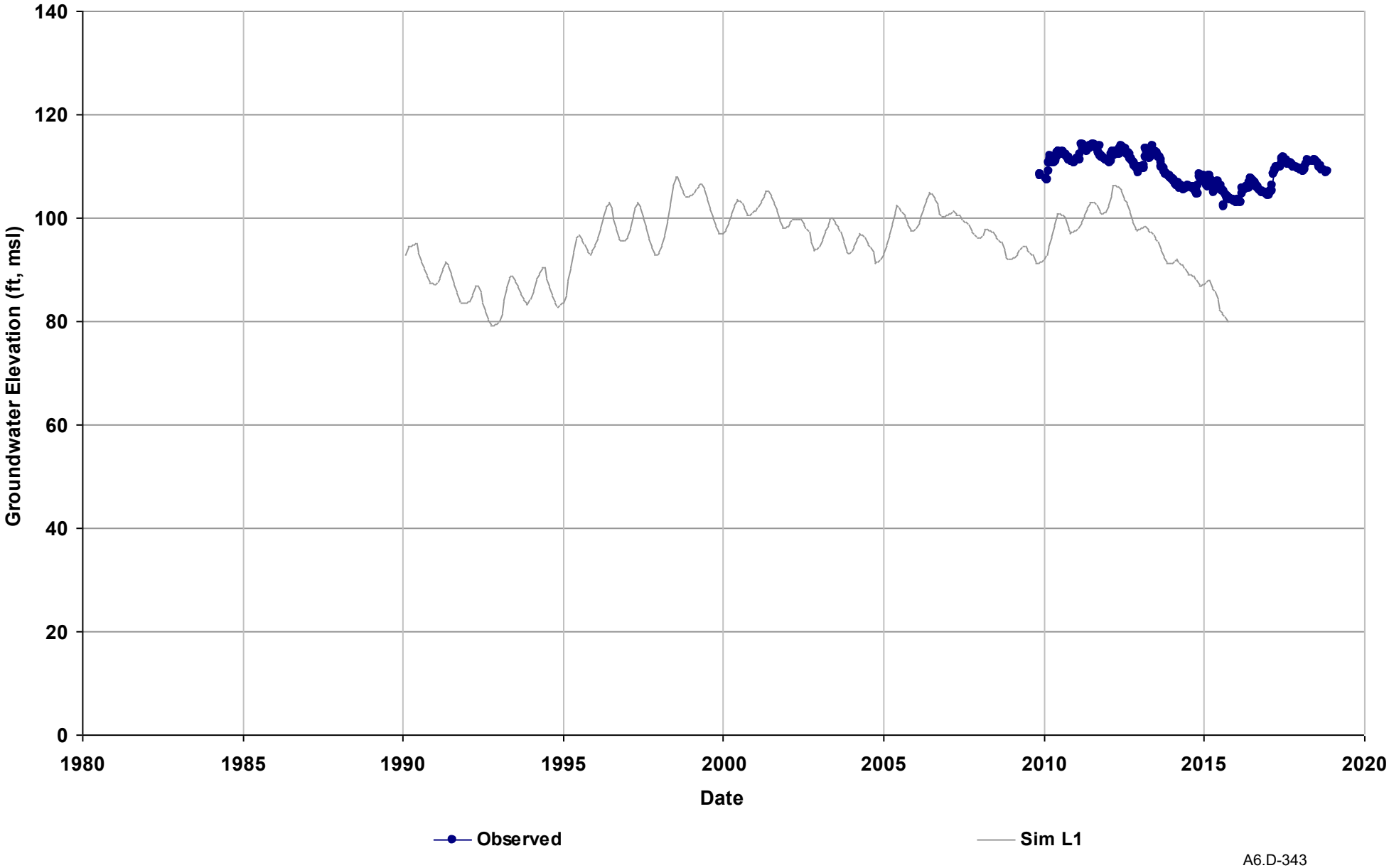
Well Name: SJRRP_MW-09-87
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 115

Total Depth (ft): 47.1
Perf Top (ft): 37
Perf Bottom (ft): 47
Top Model Layer: 1
Bottom Model Layer: 1



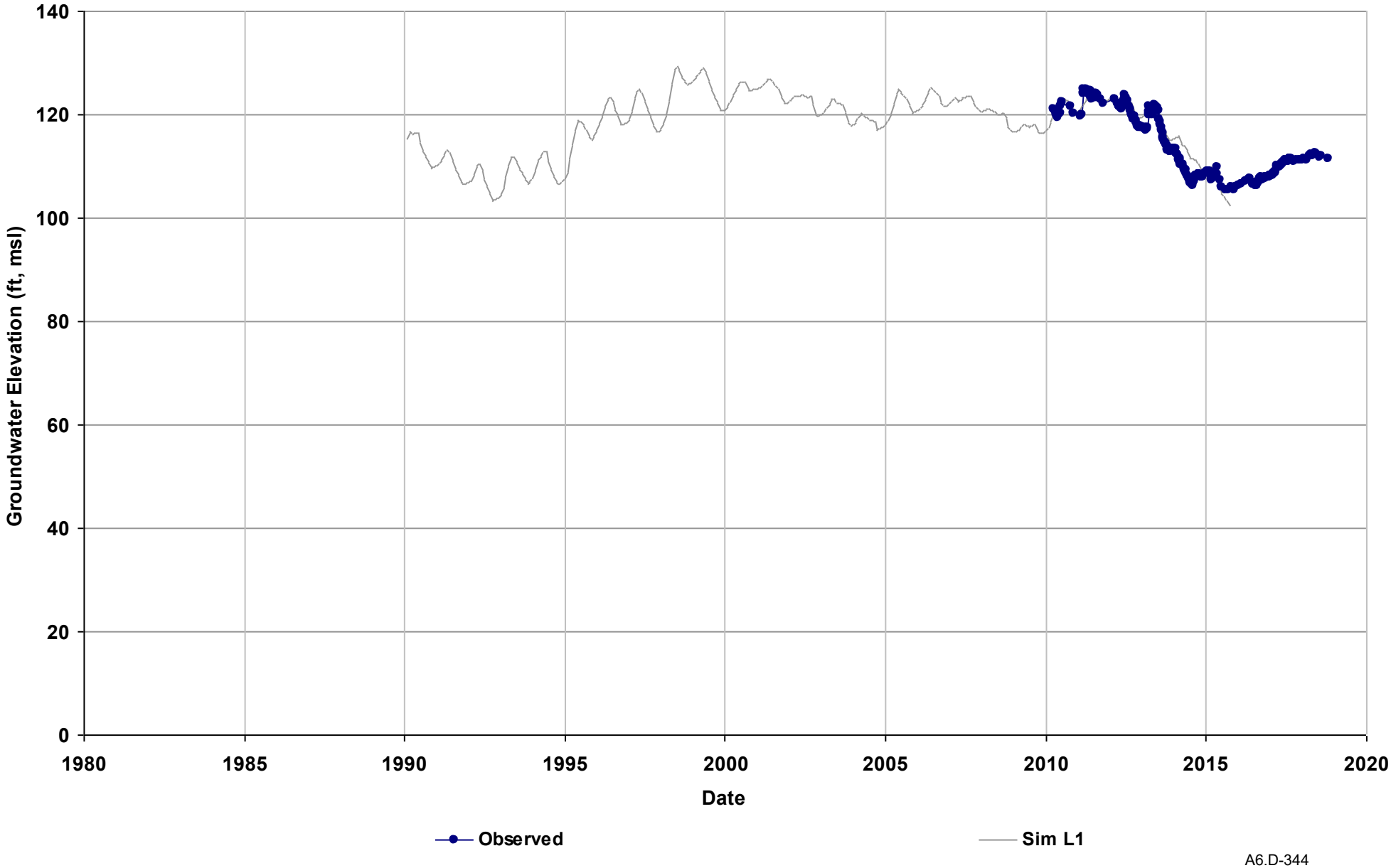
Well Name: SJRRP_MW-09-88
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 117

Total Depth (ft): 49.2
Perf Top (ft): 25
Perf Bottom (ft): 45
Top Model Layer: 1
Bottom Model Layer: 1



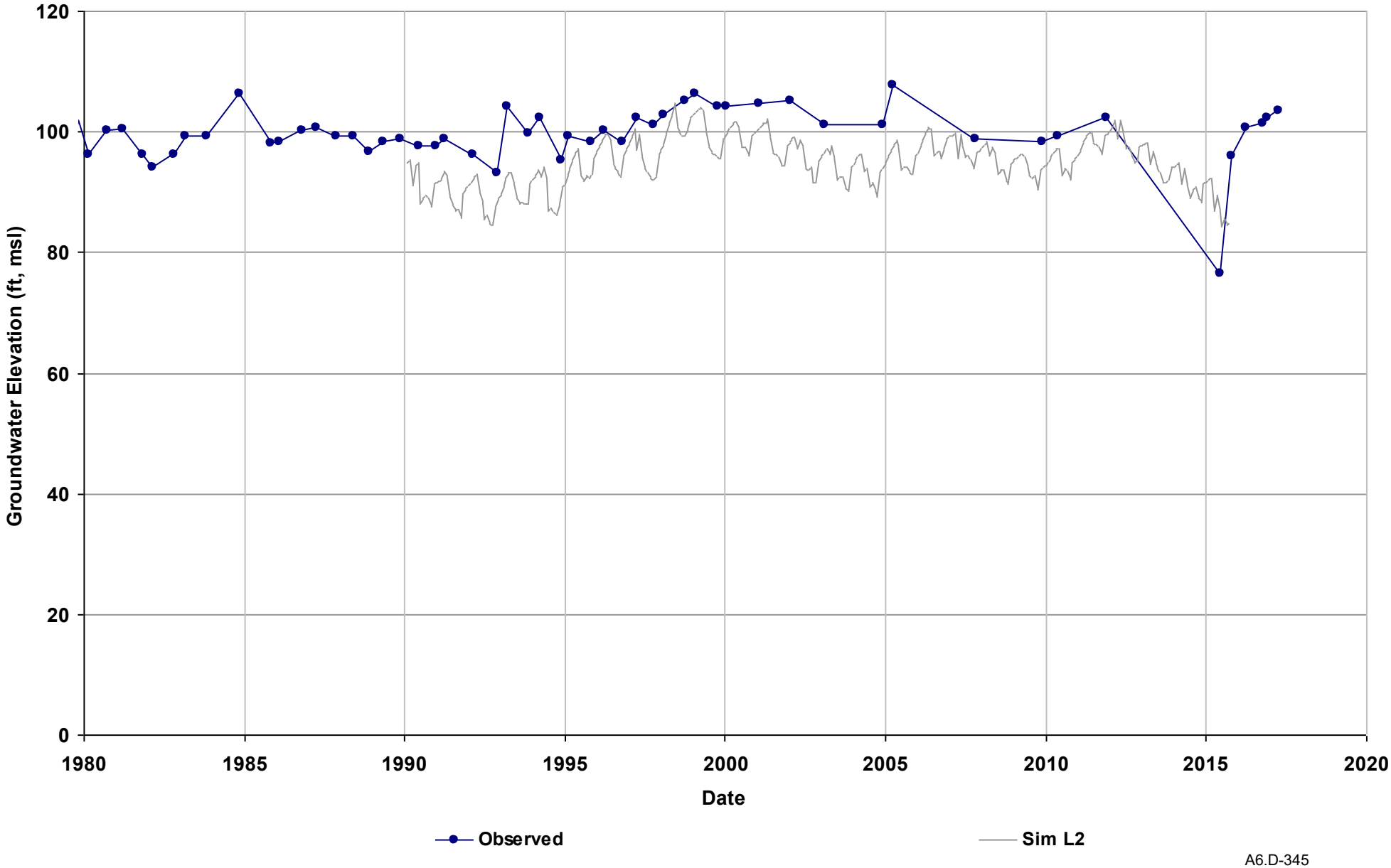
Well Name: SJRRP_MW-10-76
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 131

Total Depth (ft): 27.1
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



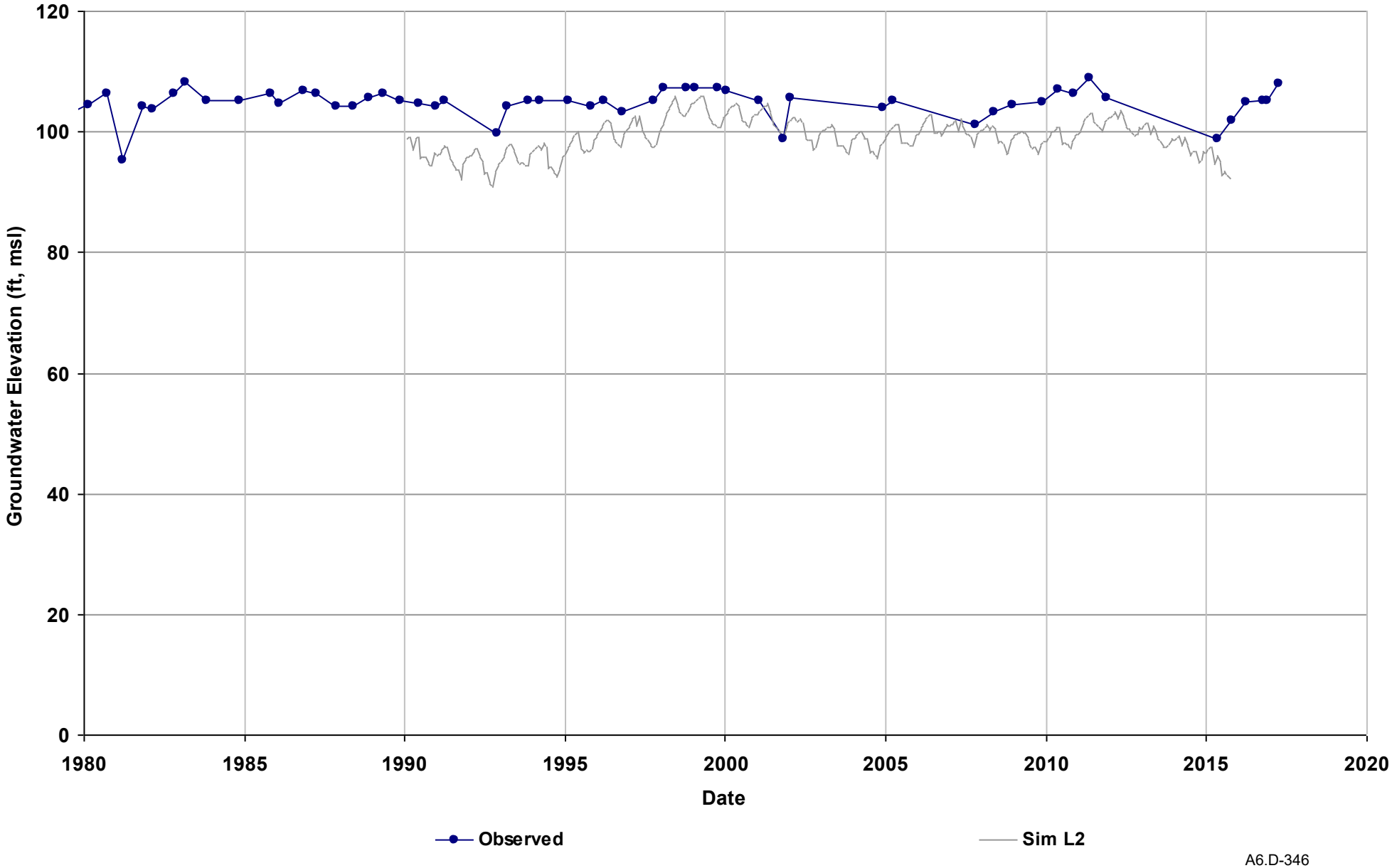
Well Name: 10S12E13L001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 200
Perf Top (ft): 80
Perf Bottom (ft): 180
Top Model Layer: 2
Bottom Model Layer: 2



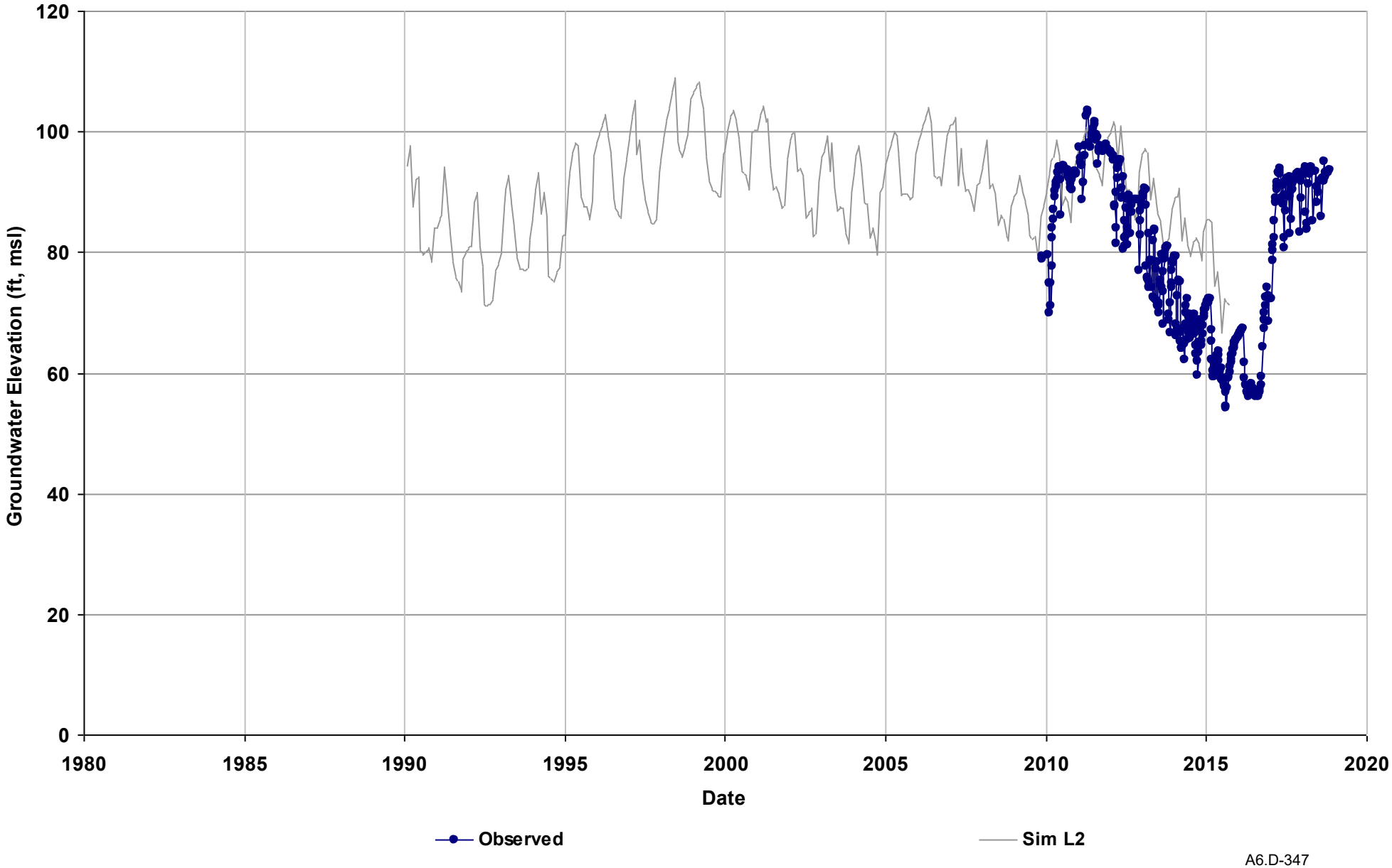
Well Name: 10S12E26H001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 158
Perf Top (ft): 60
Perf Bottom (ft): 150
Top Model Layer: 2
Bottom Model Layer: 2



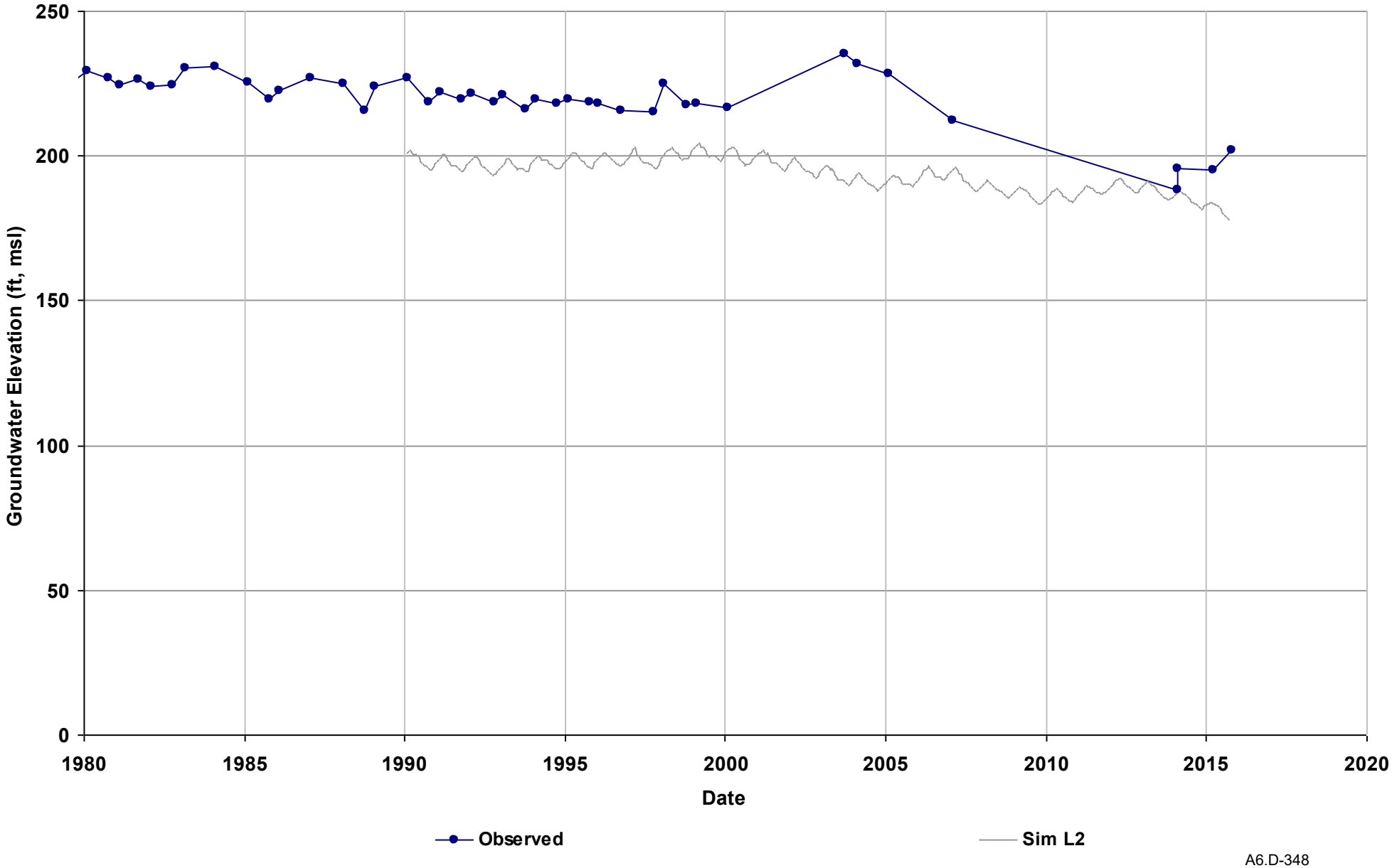
Well Name: SJRRP_MW-09-86
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 121

Total Depth (ft): 72.1
Perf Top (ft): 52
Perf Bottom (ft): 72
Top Model Layer: 2
Bottom Model Layer: 2



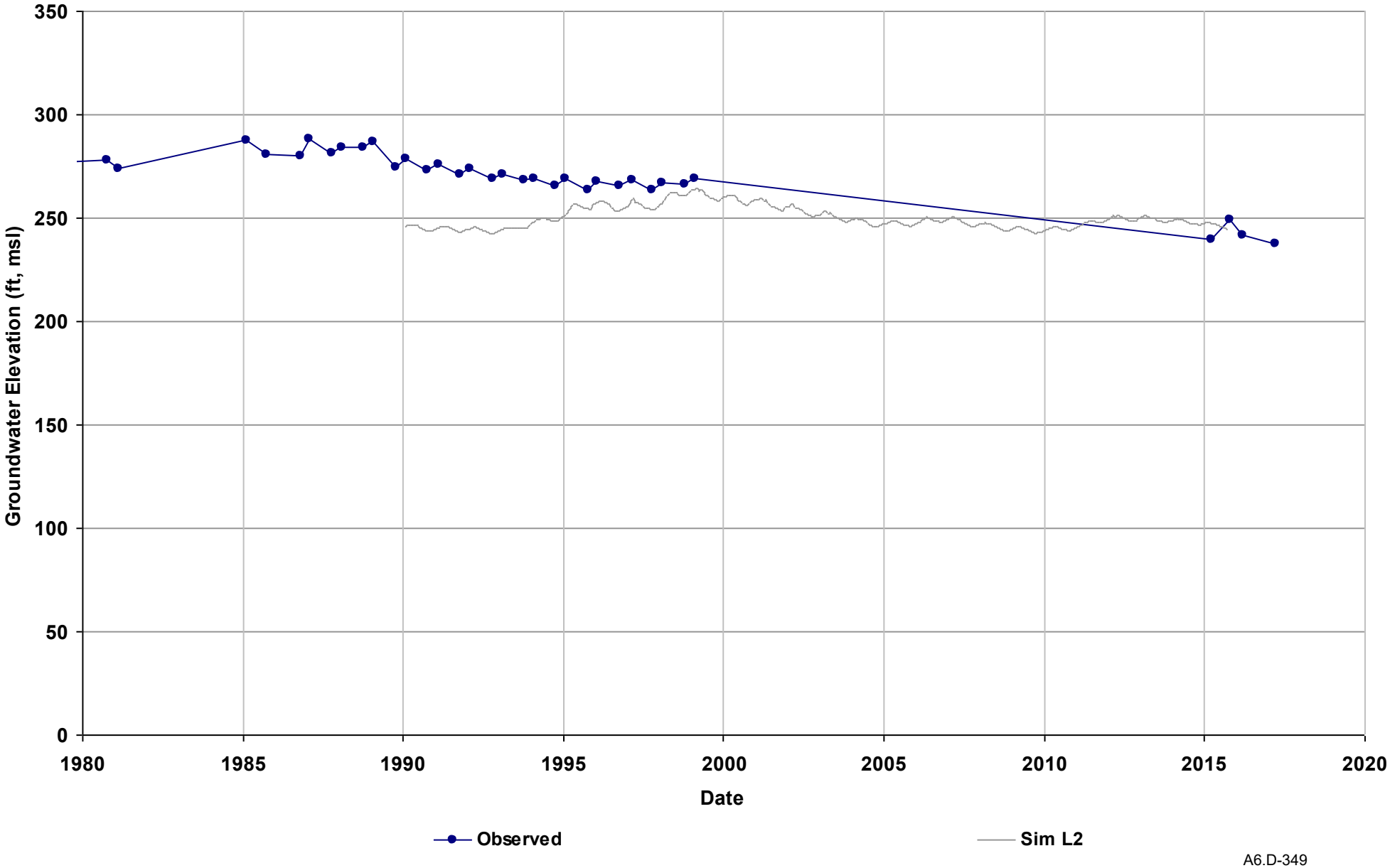
Well Name: 12S19E35A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 252

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



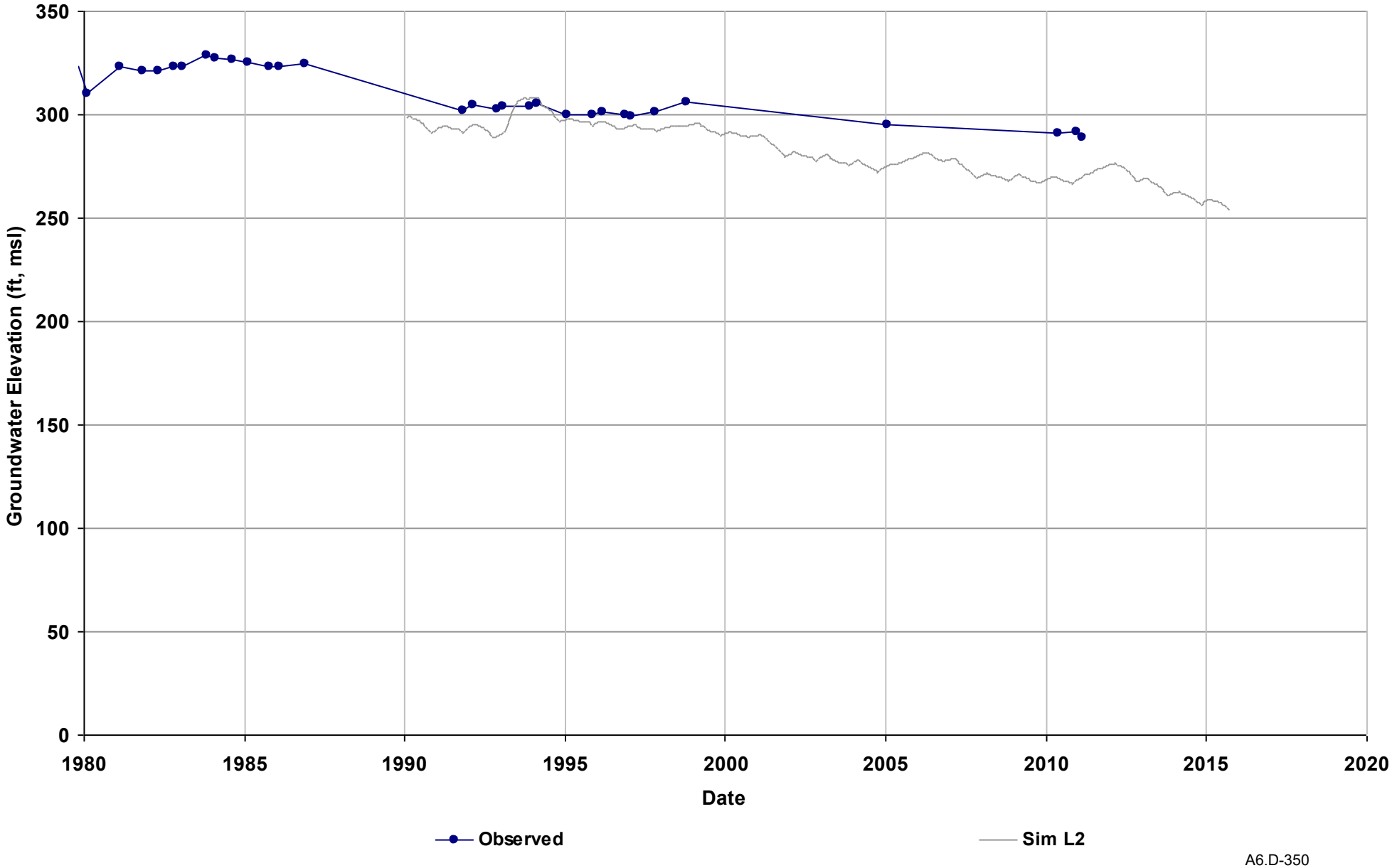
Well Name: 12S20E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 317

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



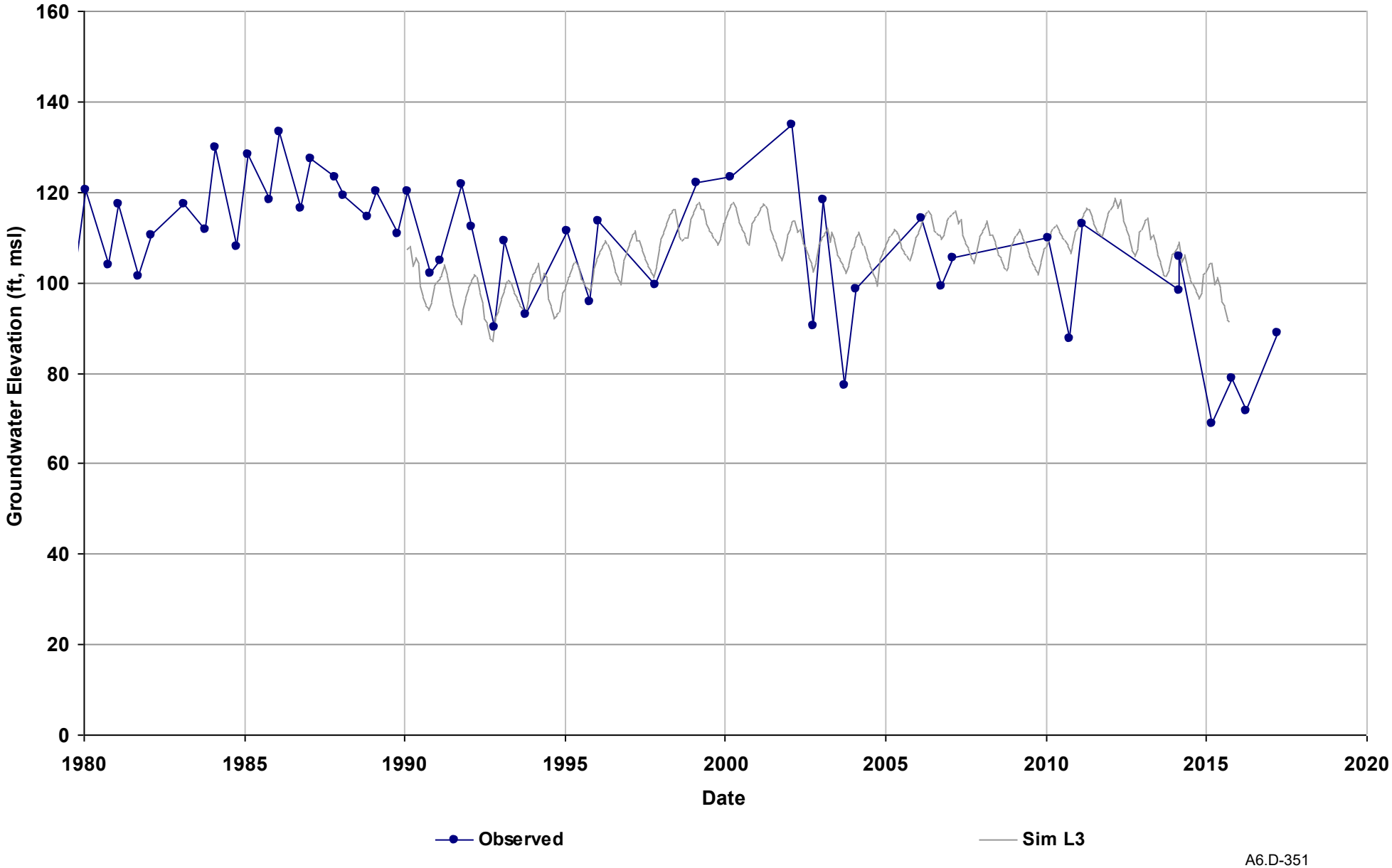
Well Name: 12S21E19J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 380

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



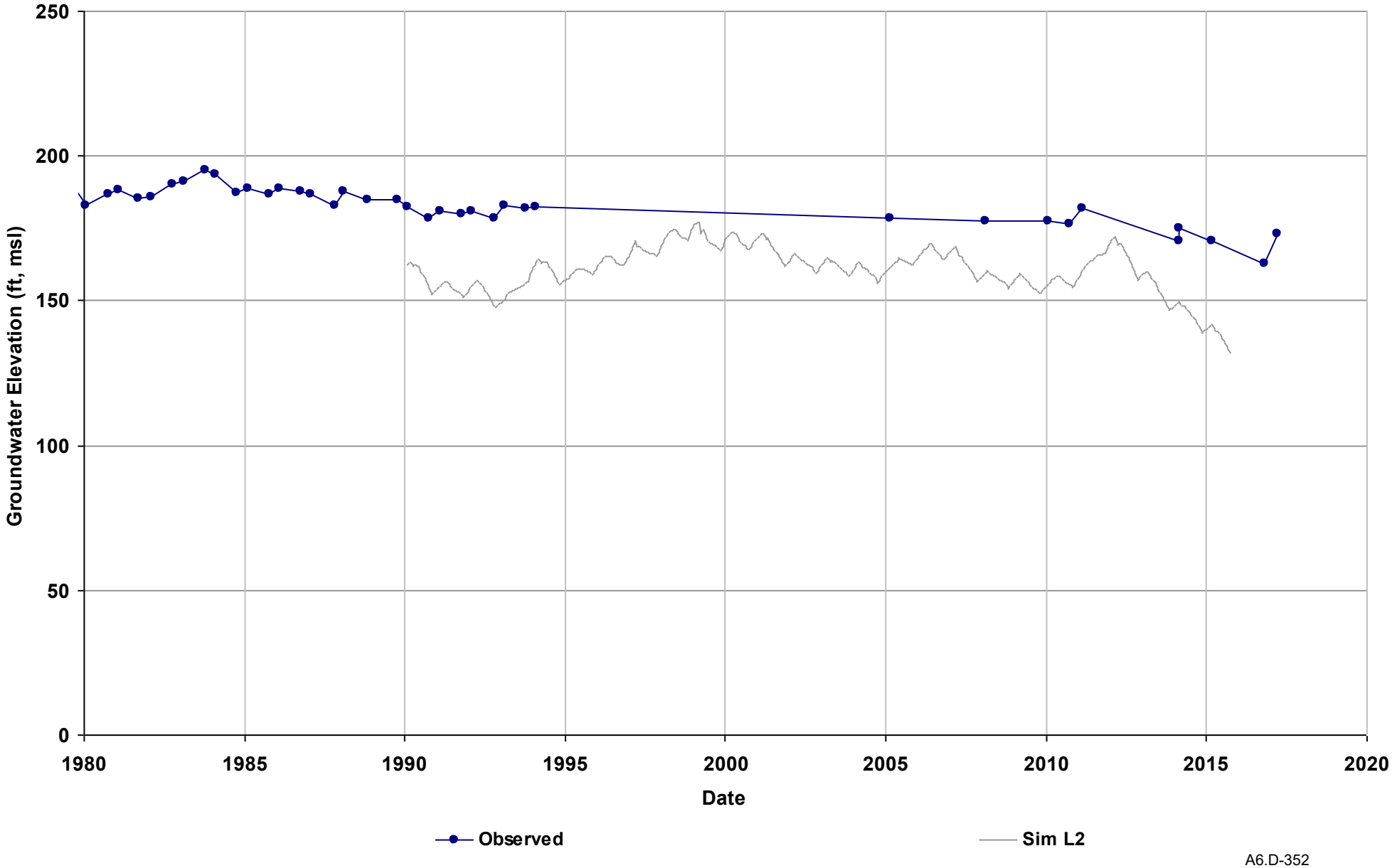
Well Name: 13S16E36R004M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



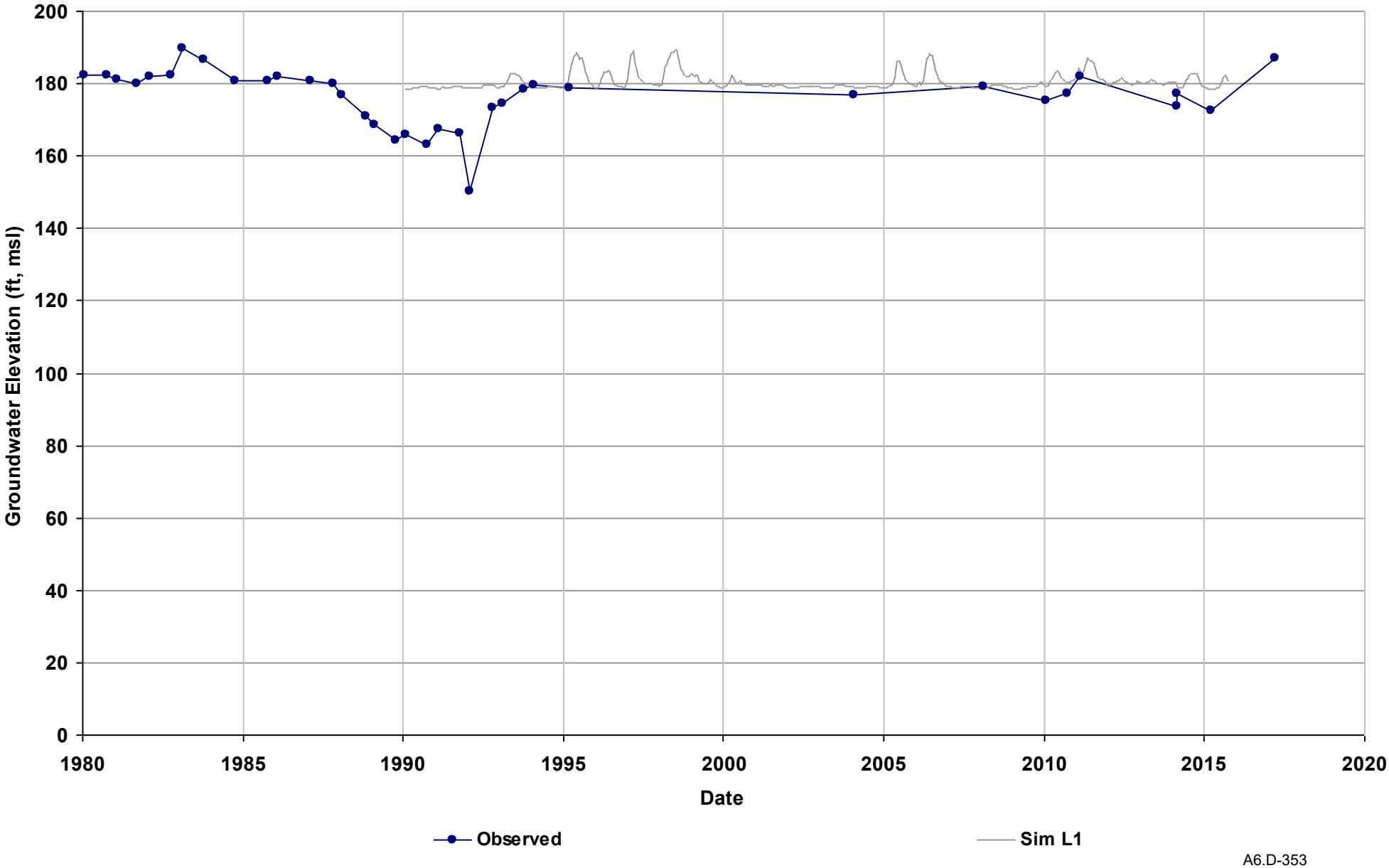
Well Name: 13S17E09R001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 220

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



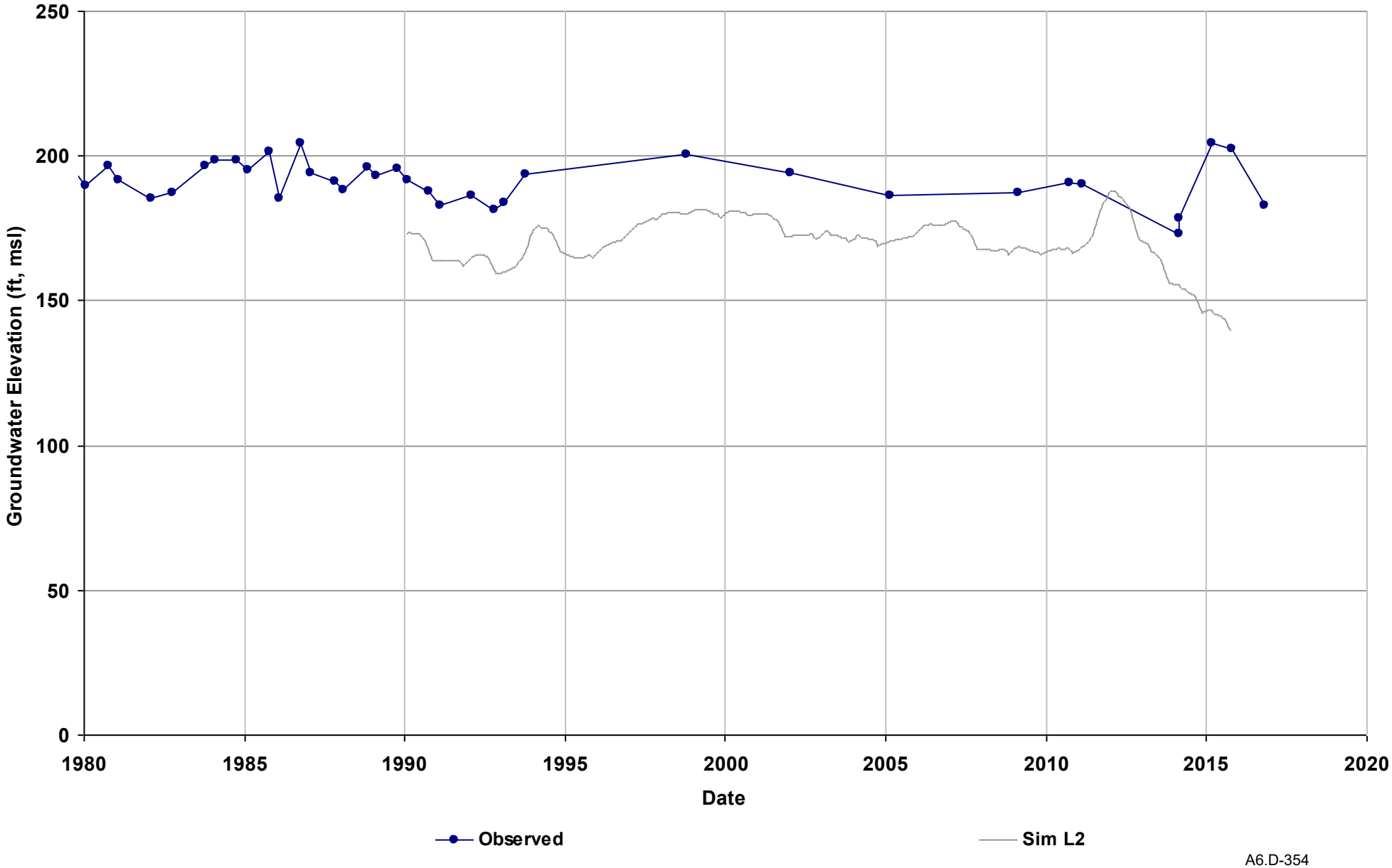
Well Name: 13S17E18M001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



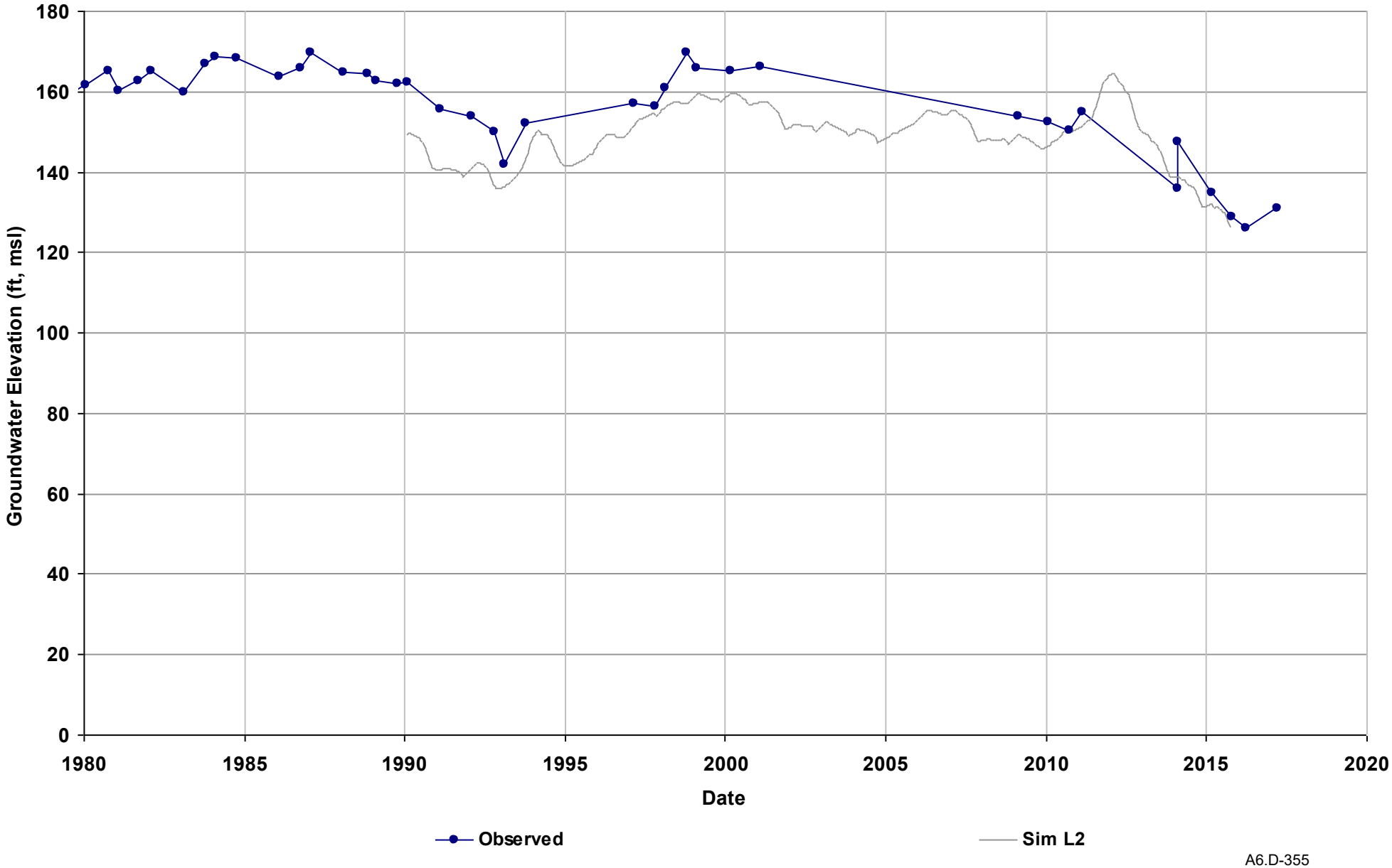
Well Name: 13S17E24A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 242

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



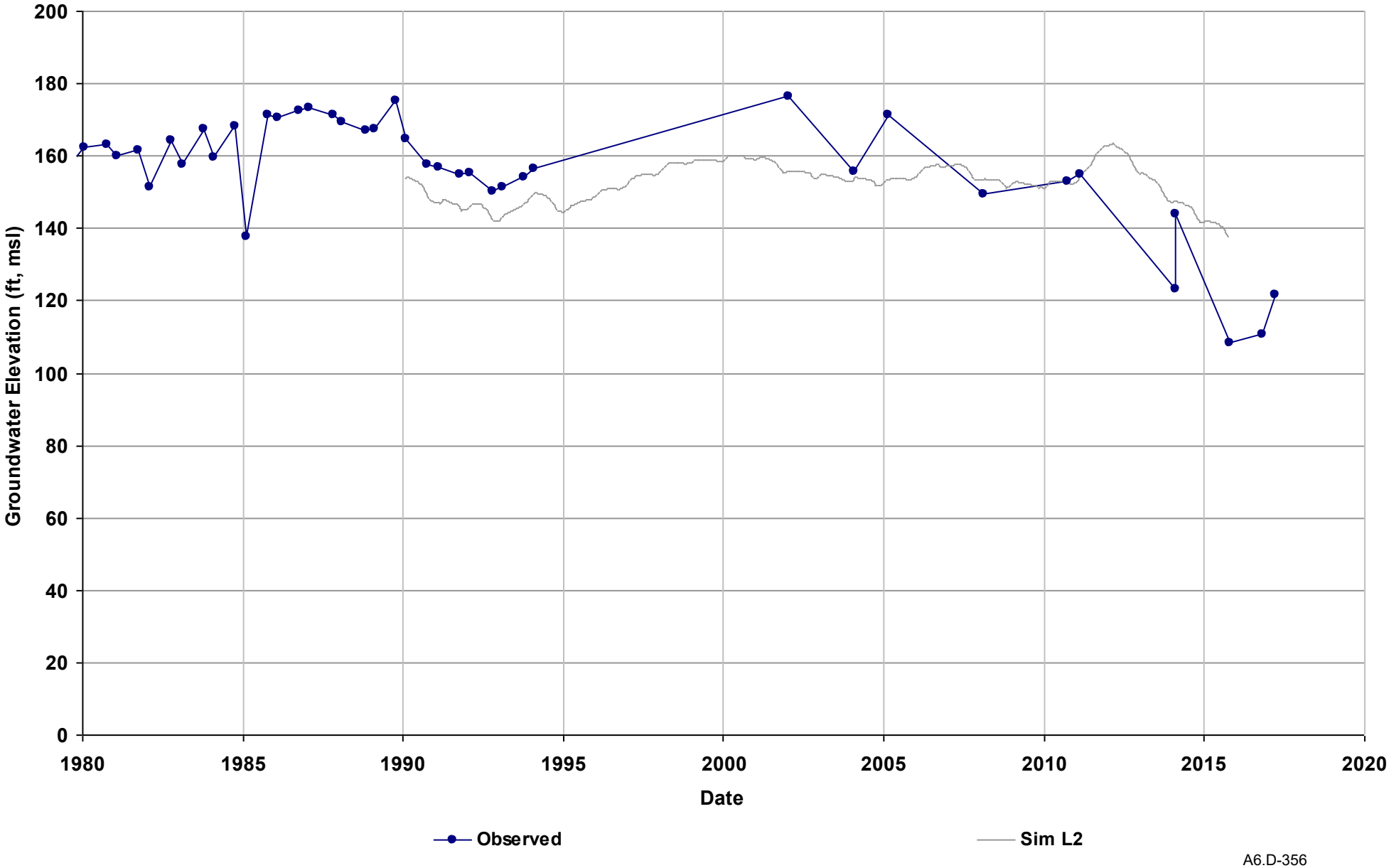
Well Name: 13S17E28H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 215

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



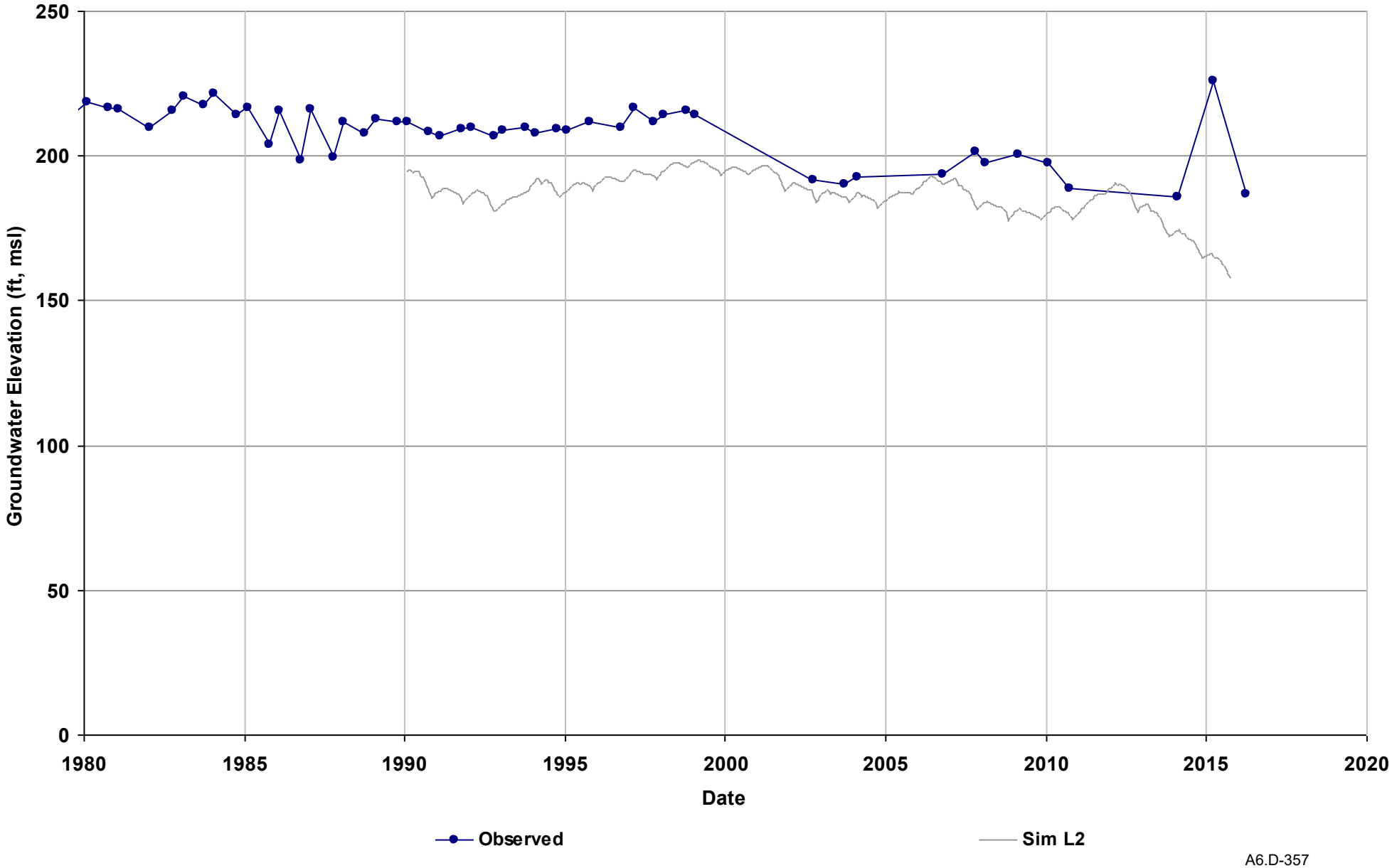
Well Name: 13S17E35L001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 222

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



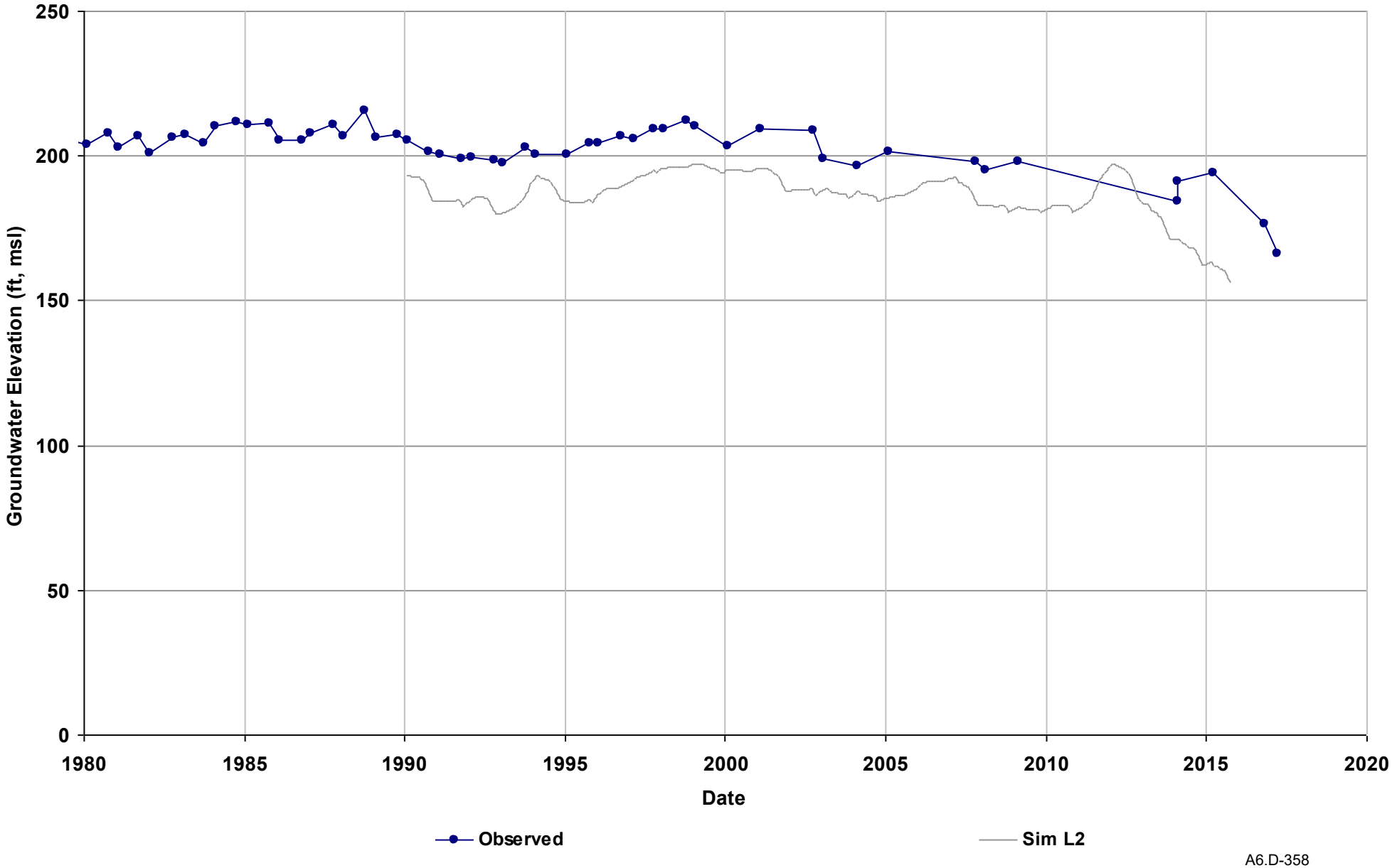
Well Name: 13S18E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 284

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



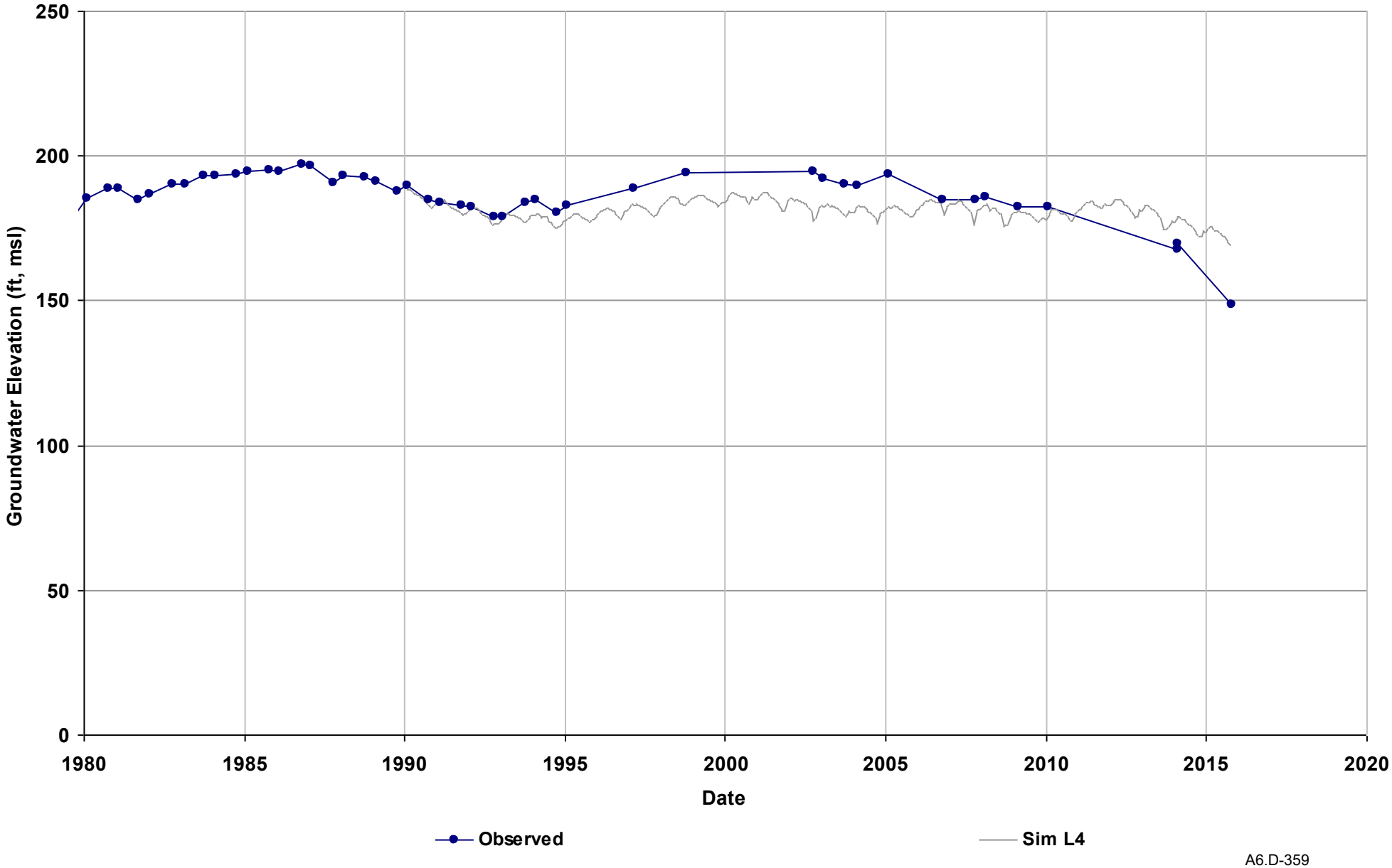
Well Name: 13S18E15J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 263

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



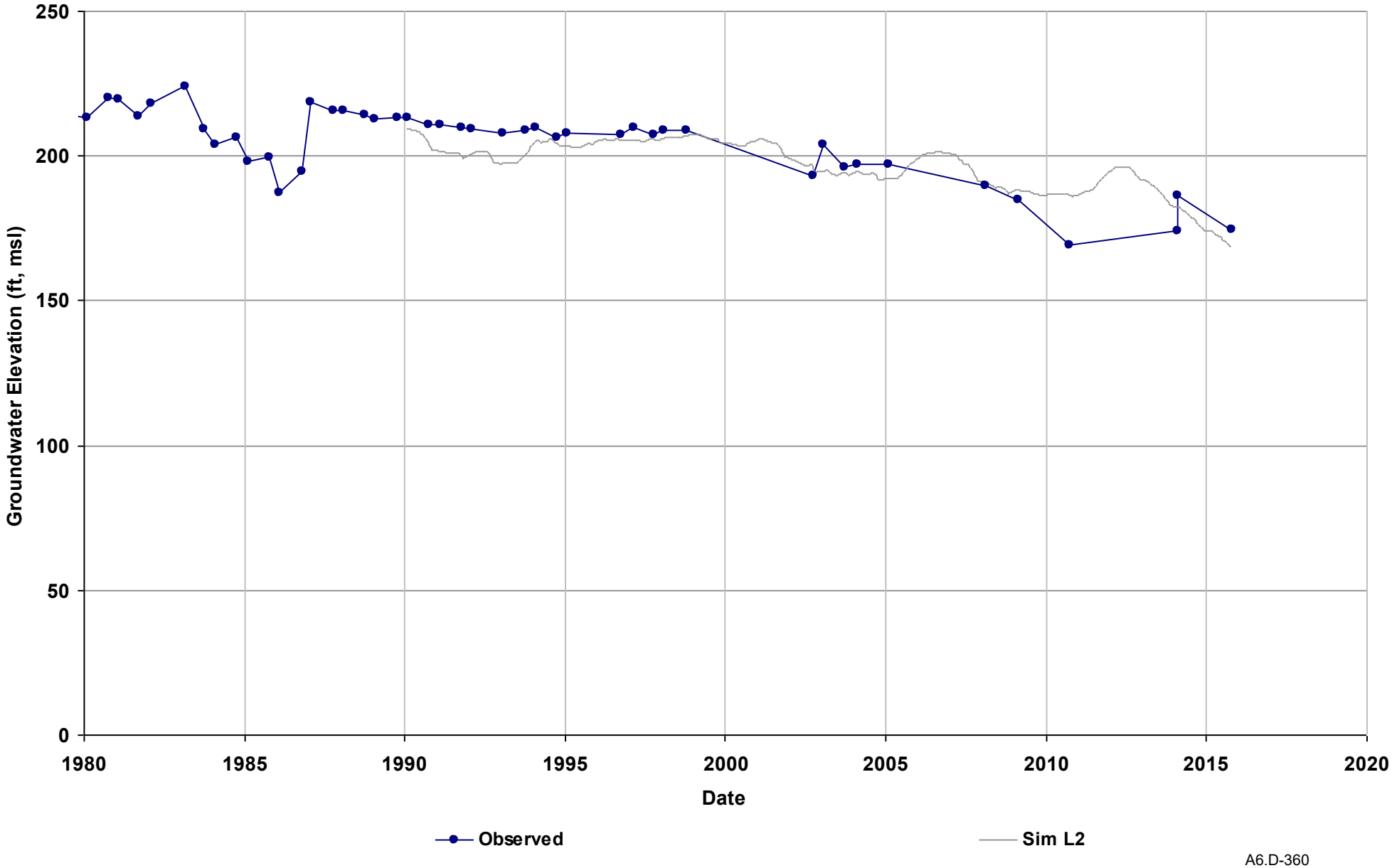
Well Name: 13S18E34D001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 247

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



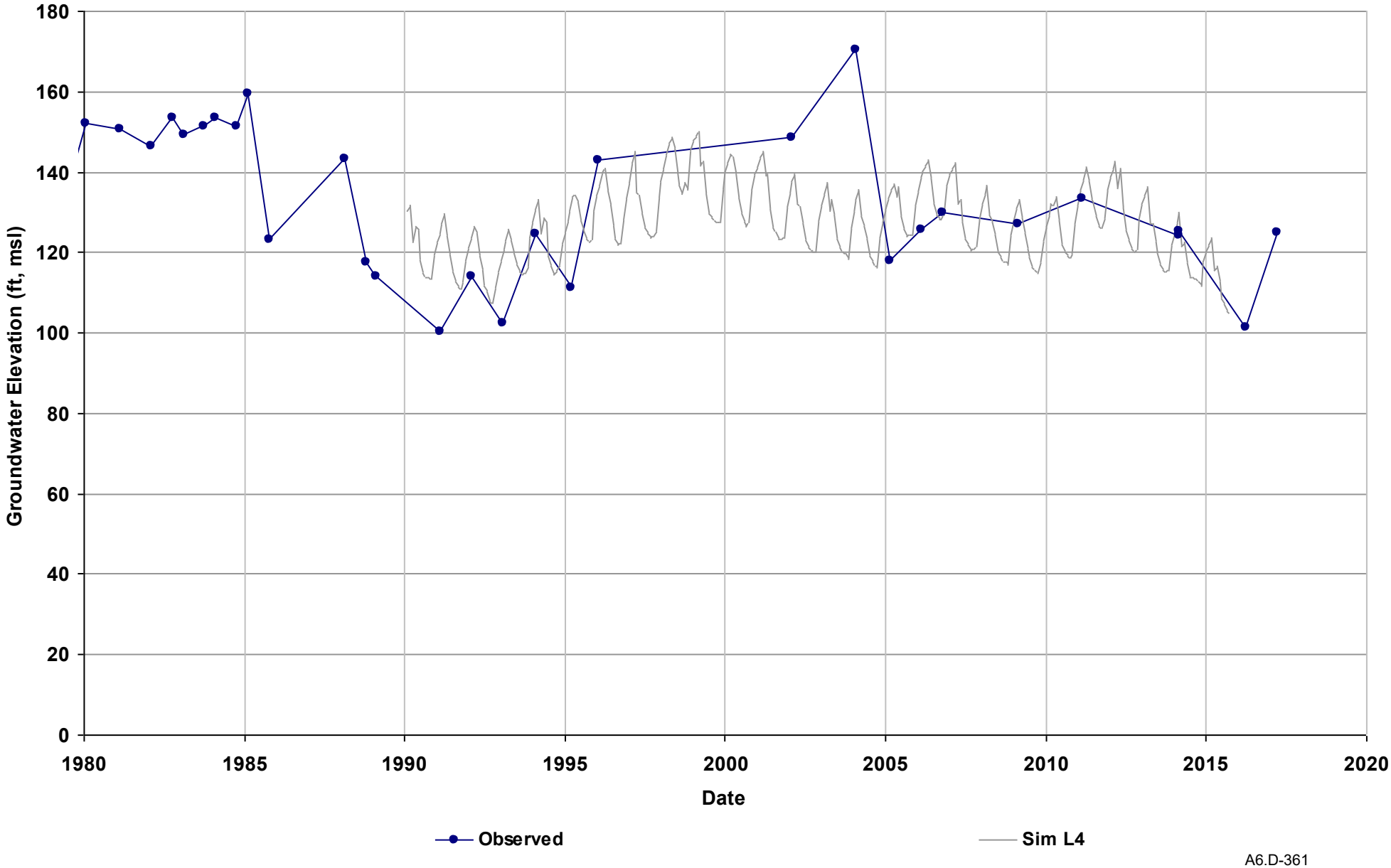
Well Name: 13S19E16K001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 292

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



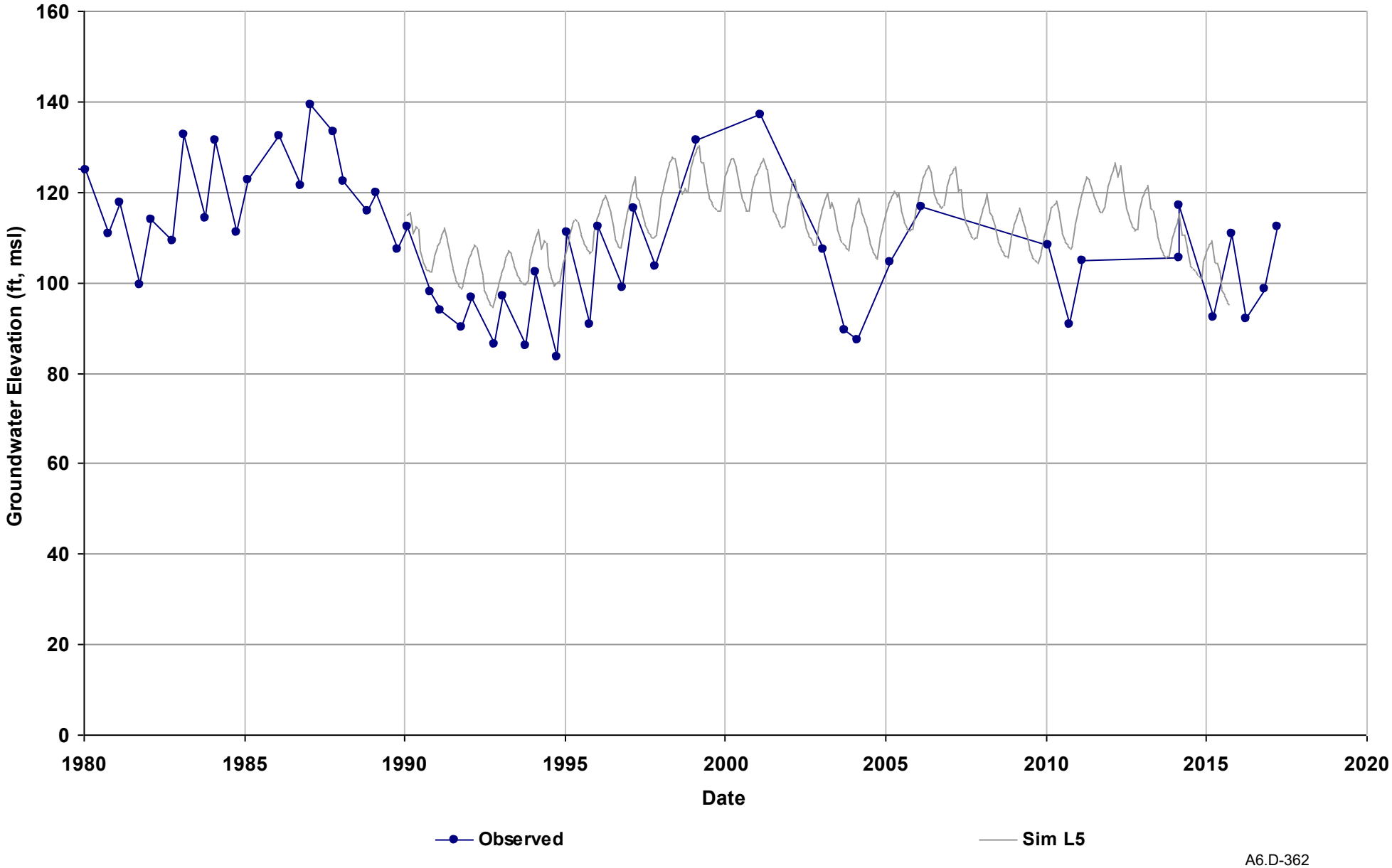
Well Name: 13S16E23N001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 192

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



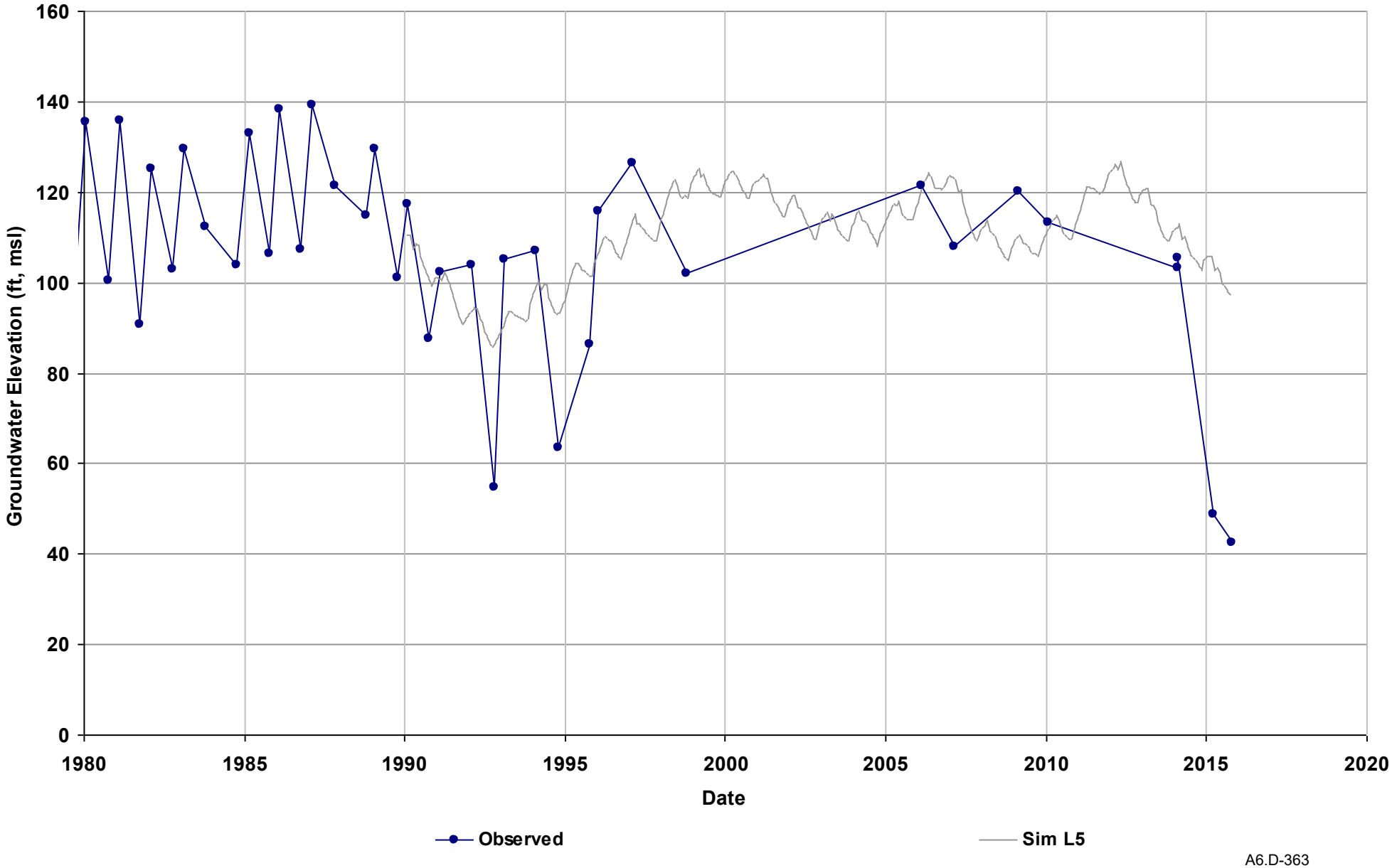
Well Name: 13S16E34C001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 184

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



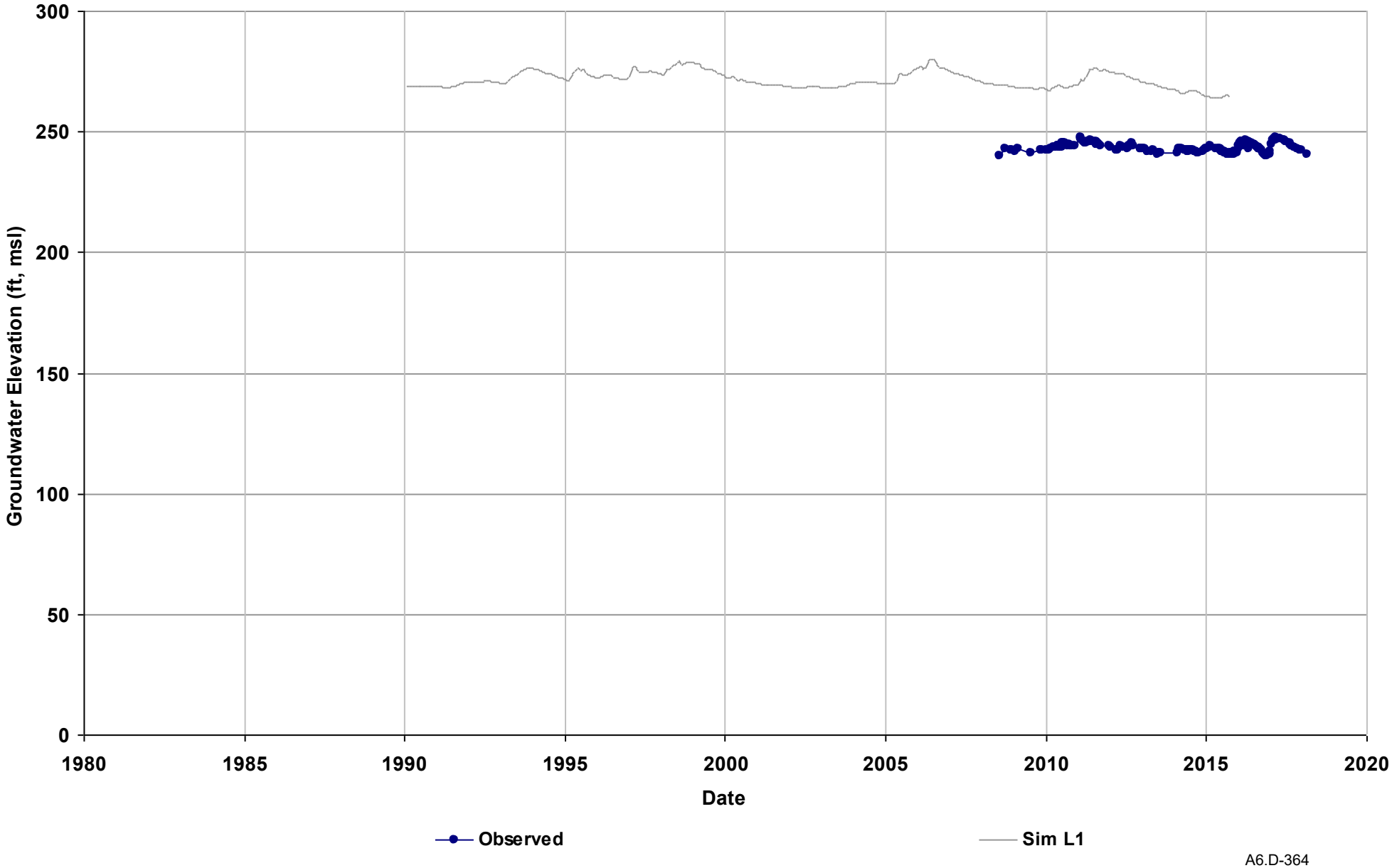
Well Name: 14S16E06A001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 172

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



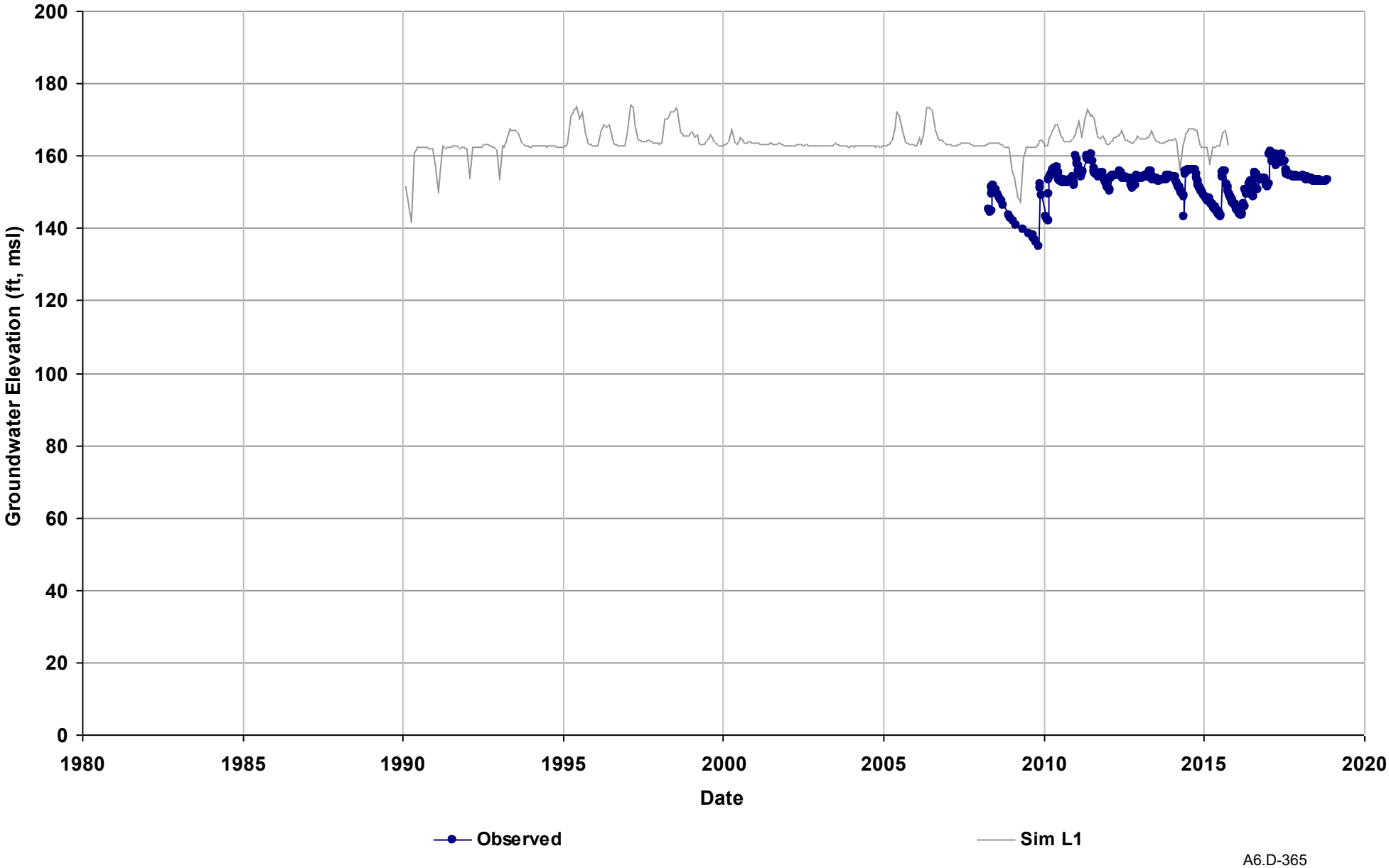
Well Name: SJRRP_JR-1
Depth Zone: Upper, Shallow GW; Ou
Subbasin: Kings
GSE (ft, msl): 277

Total Depth (ft): 37.5
Perf Top (ft): 37.5
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



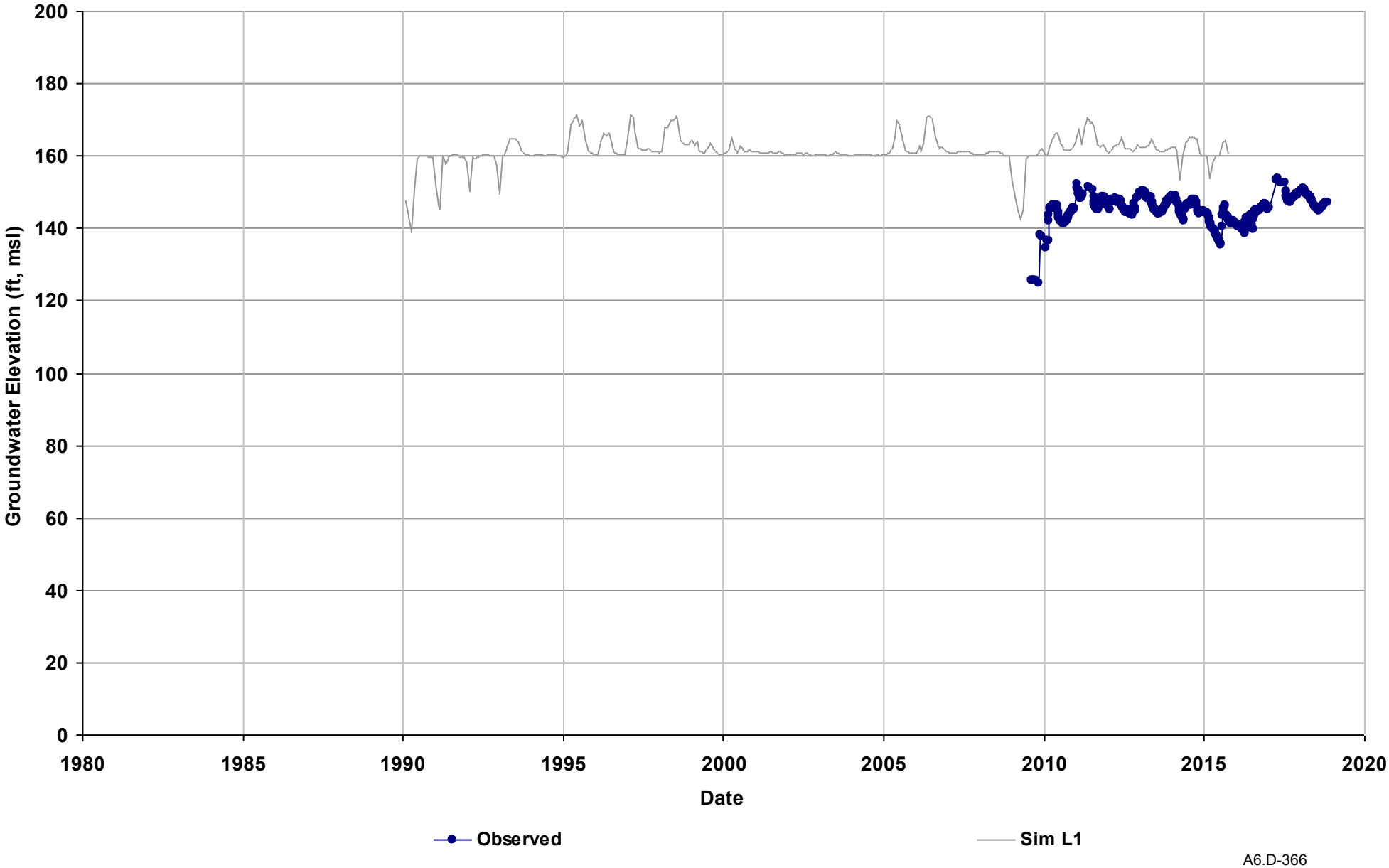
Well Name: SJRRP_FA-8
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 172

Total Depth (ft): 27.64
Perf Top (ft): 15
Perf Bottom (ft): 30
Top Model Layer: 1
Bottom Model Layer: 1



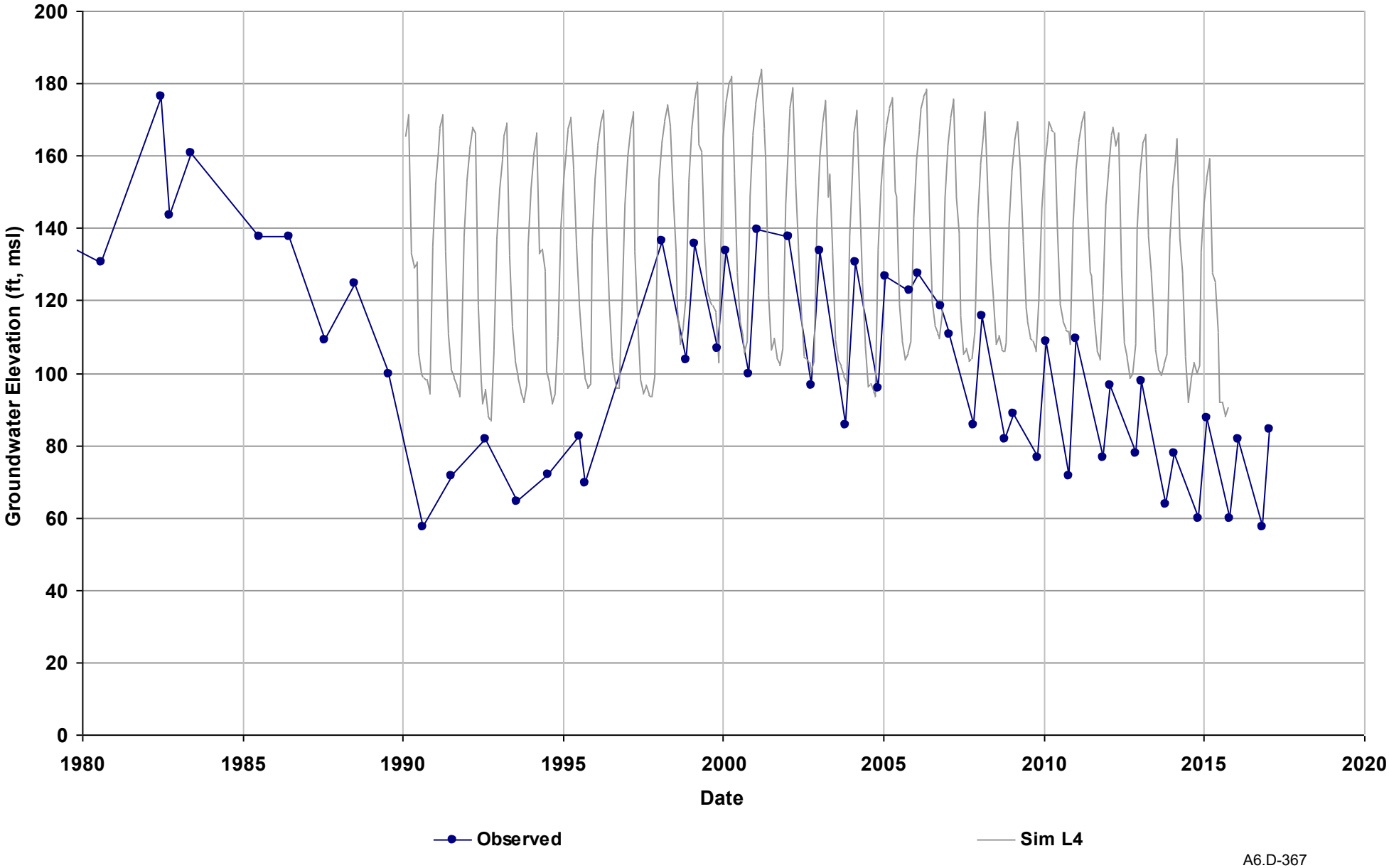
Well Name: SJRRP_MW-09-49
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 171

Total Depth (ft): 60.2
Perf Top (ft): 50
Perf Bottom (ft): 60
Top Model Layer: 1
Bottom Model Layer: 1



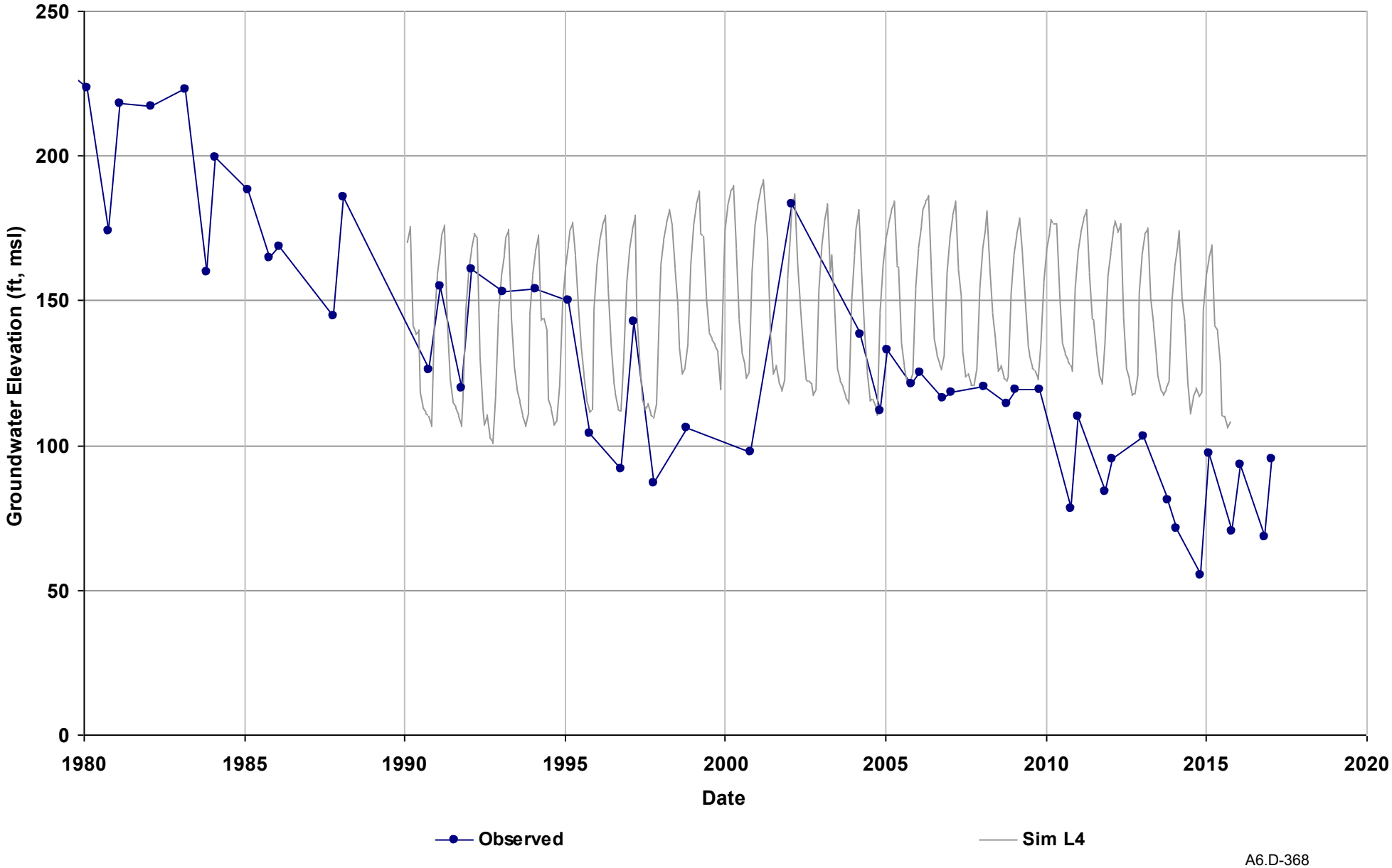
Well Name: RootCreekWD-113
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 346

Total Depth (ft): 495
Perf Top (ft): 240
Perf Bottom (ft): 492
Top Model Layer: 4
Bottom Model Layer: 4



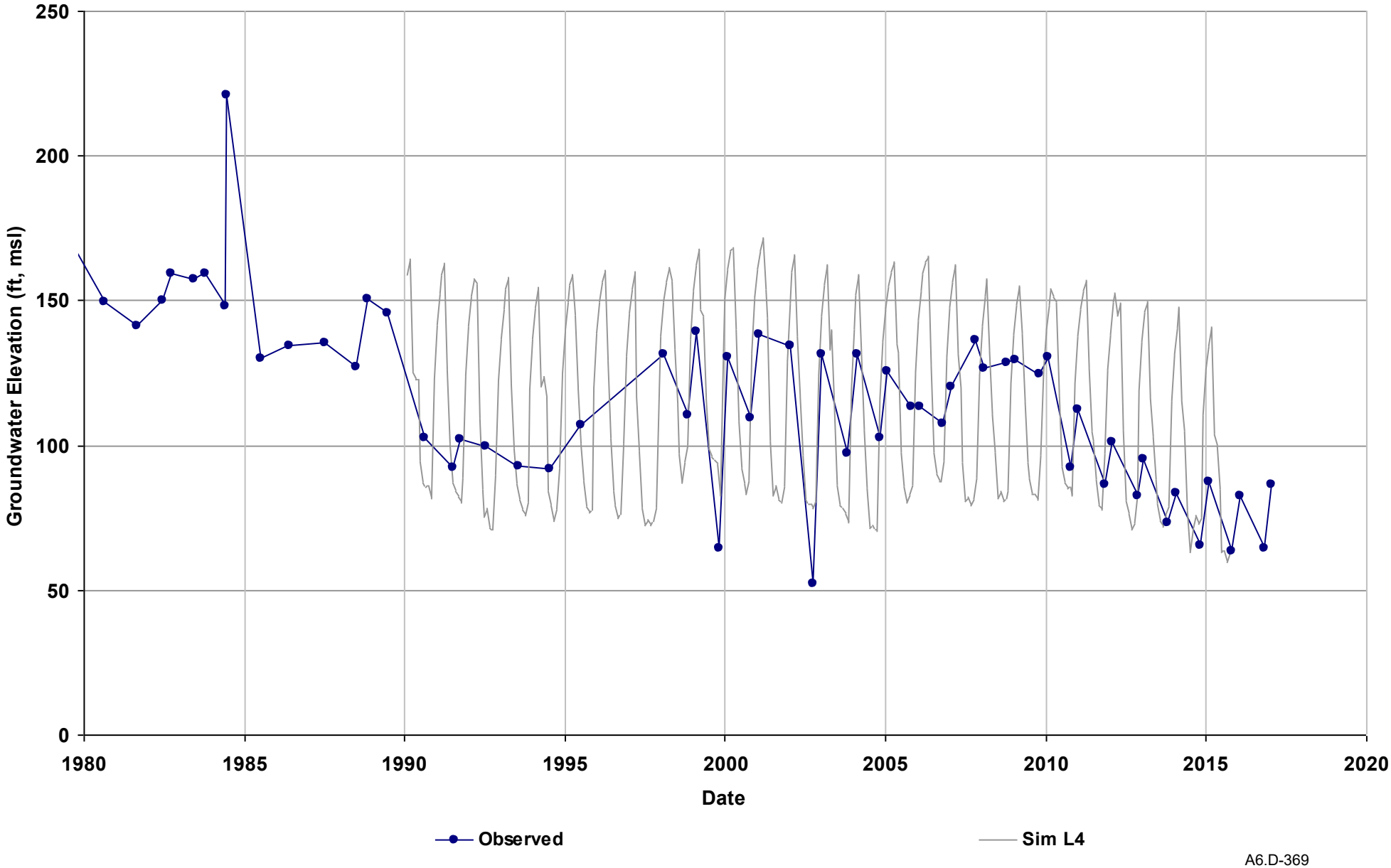
Well Name: RootCreekWD-65
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 363

Total Depth (ft): 407
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



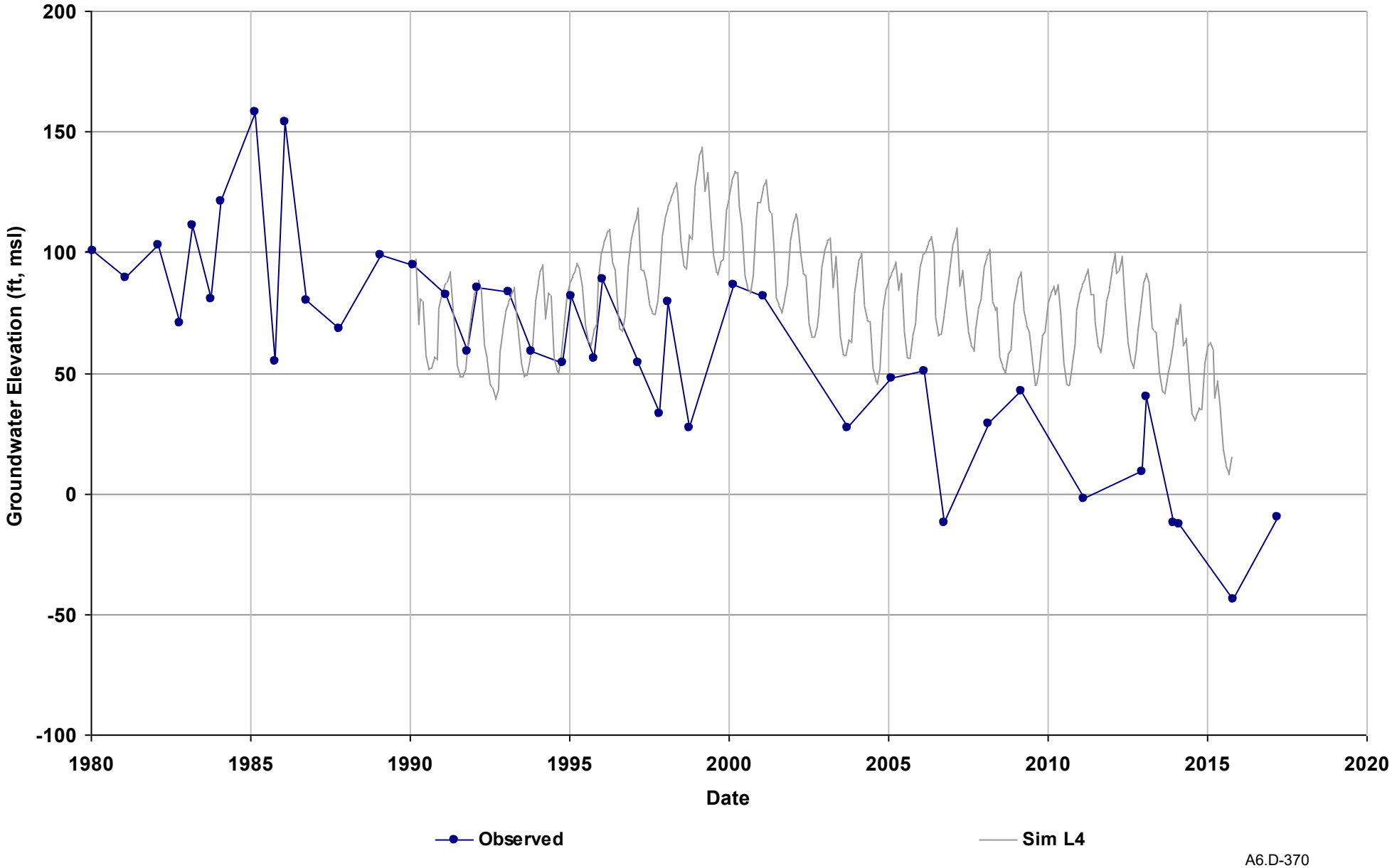
Well Name: RootCreekWD-85
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 335

Total Depth (ft): 412
Perf Top (ft): 250
Perf Bottom (ft): 408
Top Model Layer: 4
Bottom Model Layer: 4



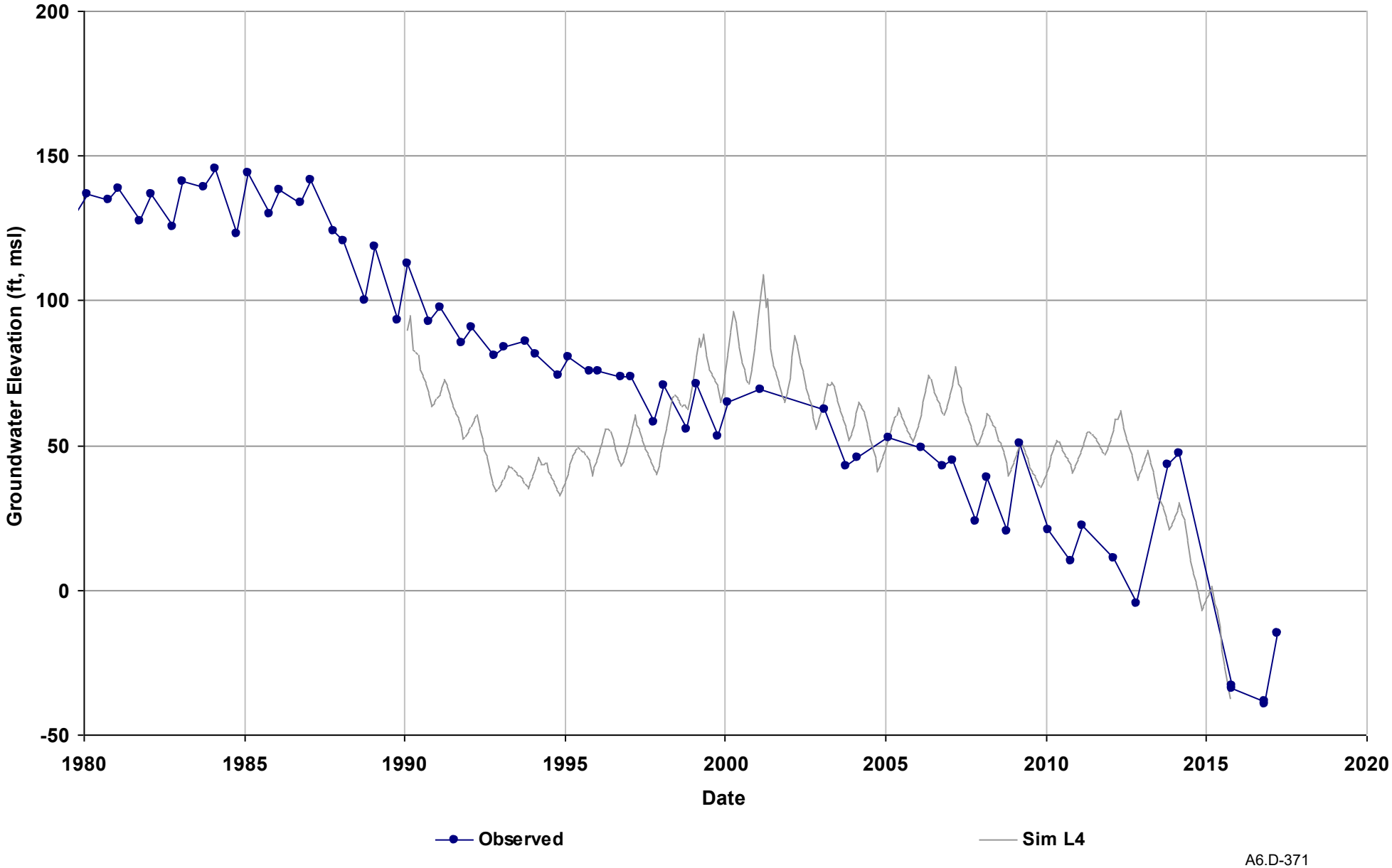
Well Name: 11S15E26R001M
Depth Zone: Composite; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



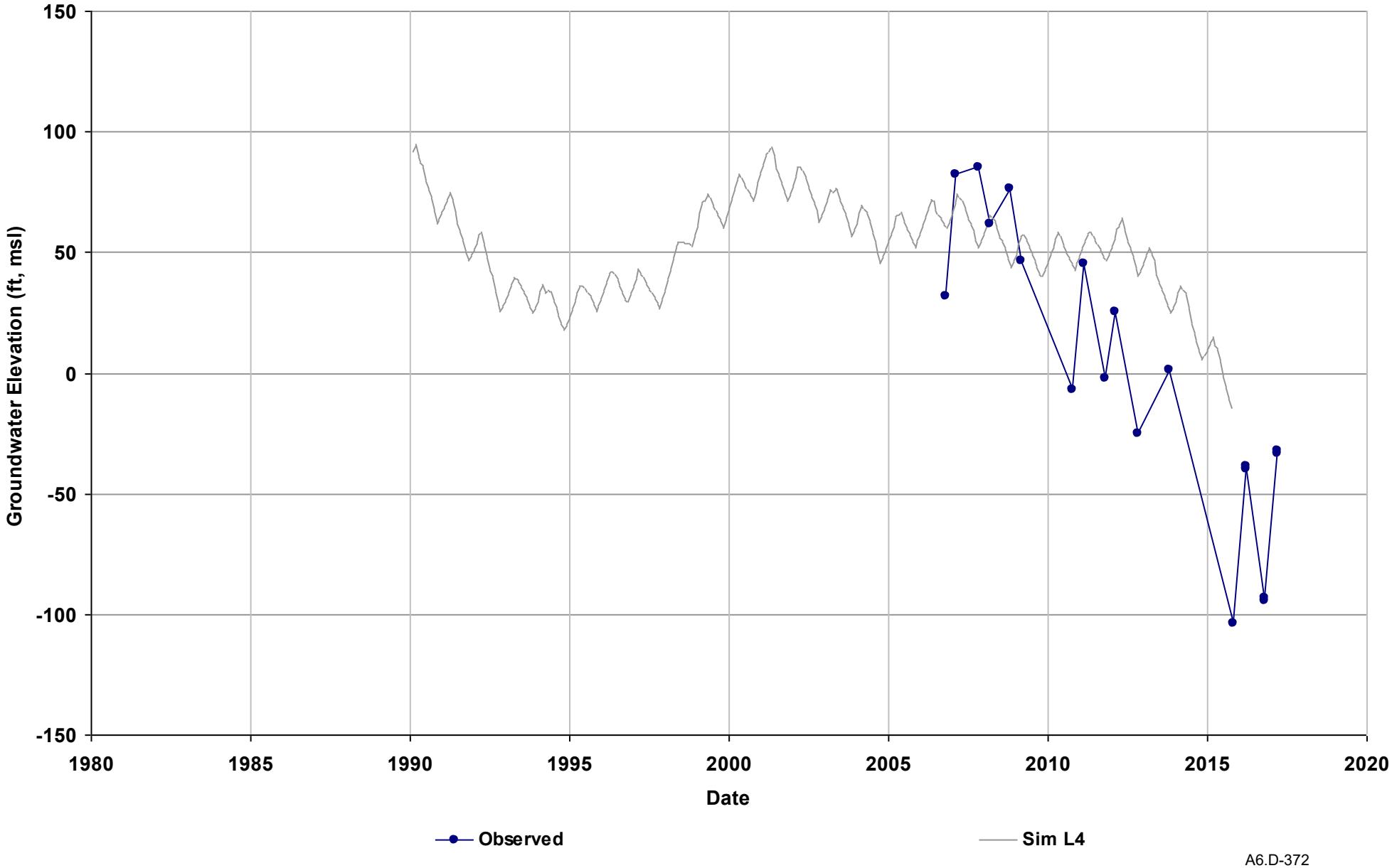
Well Name: 10S16E25F002M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 241

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



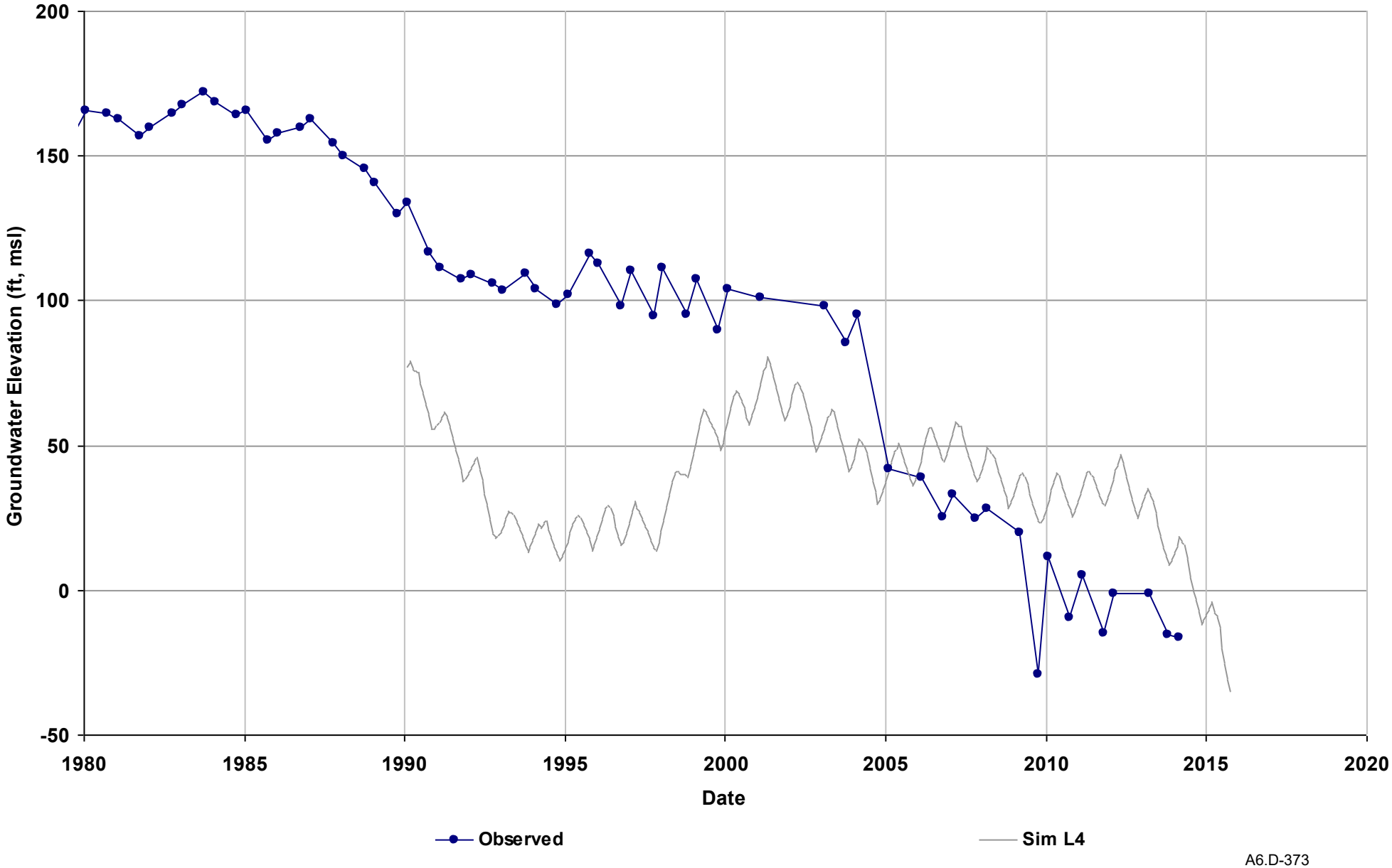
Well Name: 10S17E12C001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 324

Total Depth (ft): 640
Perf Top (ft): 140
Perf Bottom (ft): 502
Top Model Layer: 4
Bottom Model Layer: 4



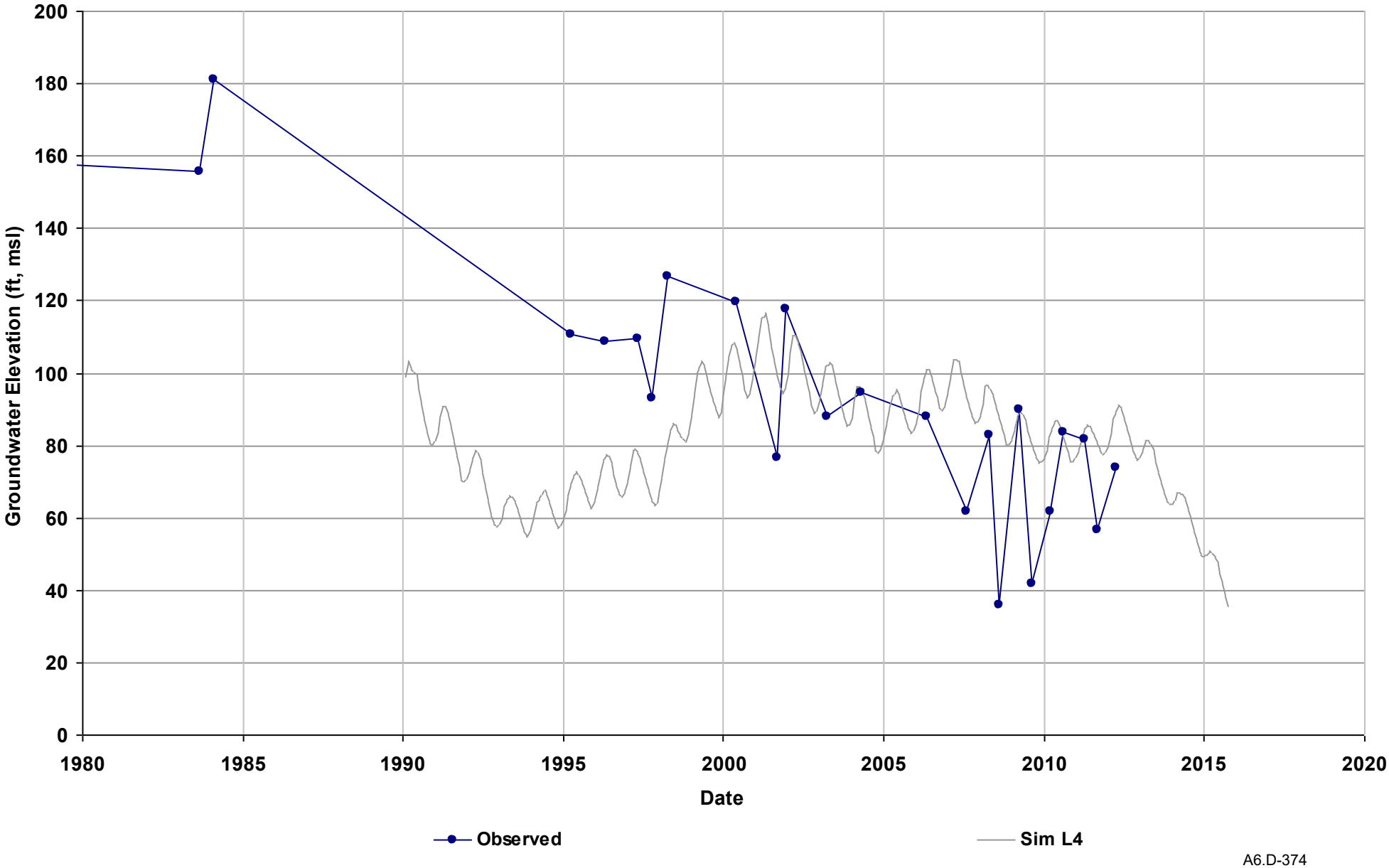
Well Name: 10S17E22D001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 277

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



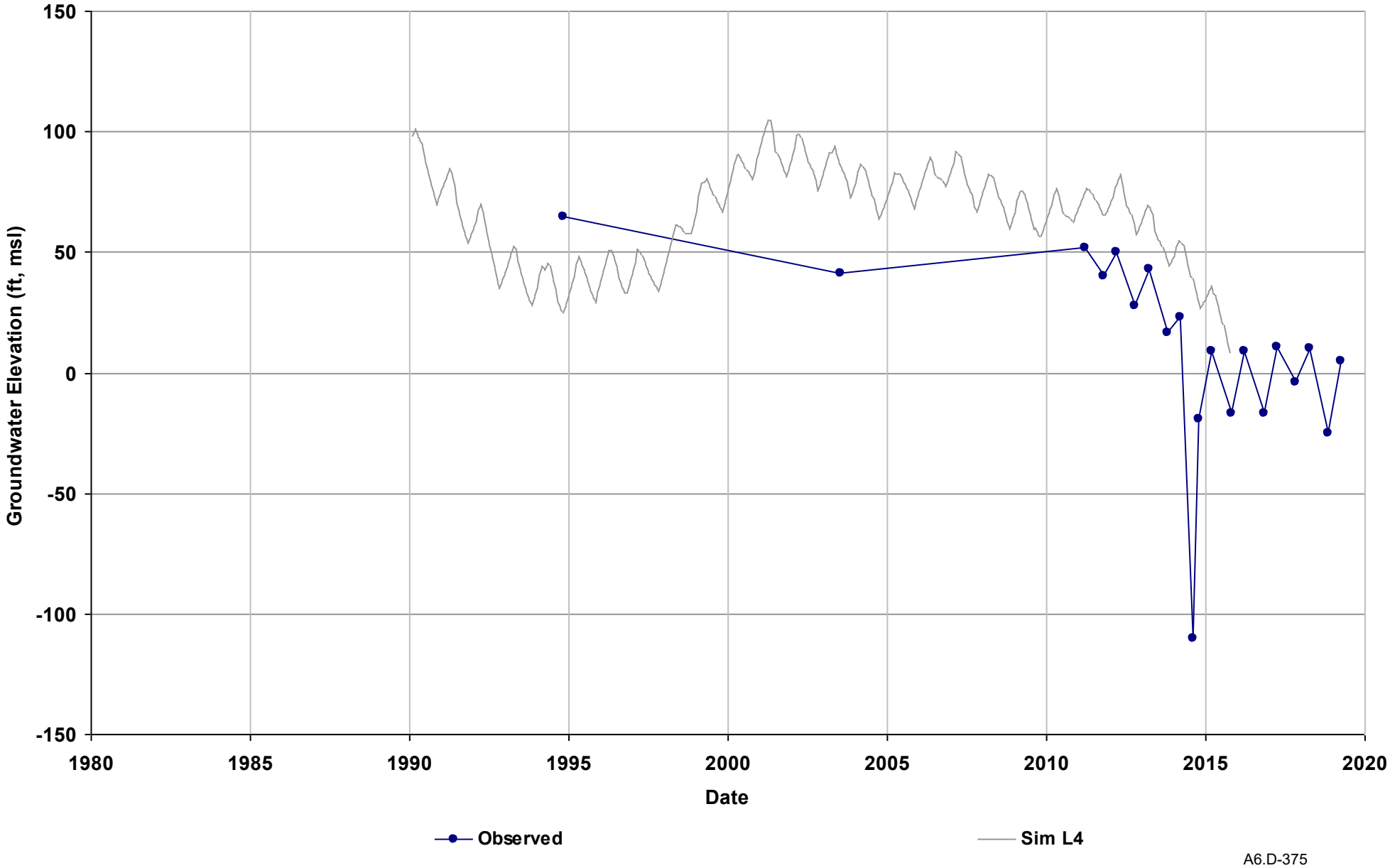
Well Name: City_of_Madera_16
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 276

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



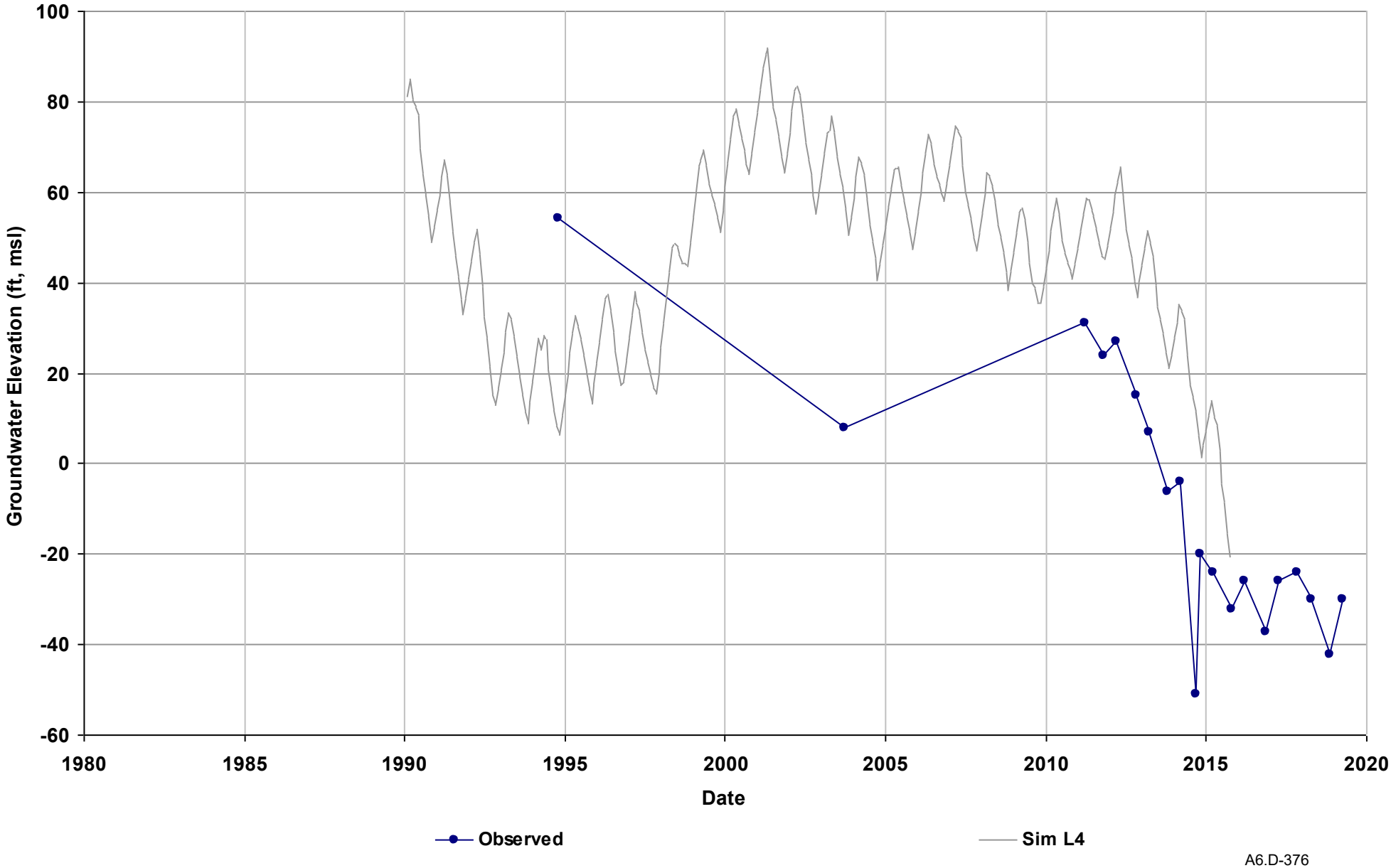
Well Name: MaderaWD-4
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 330

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



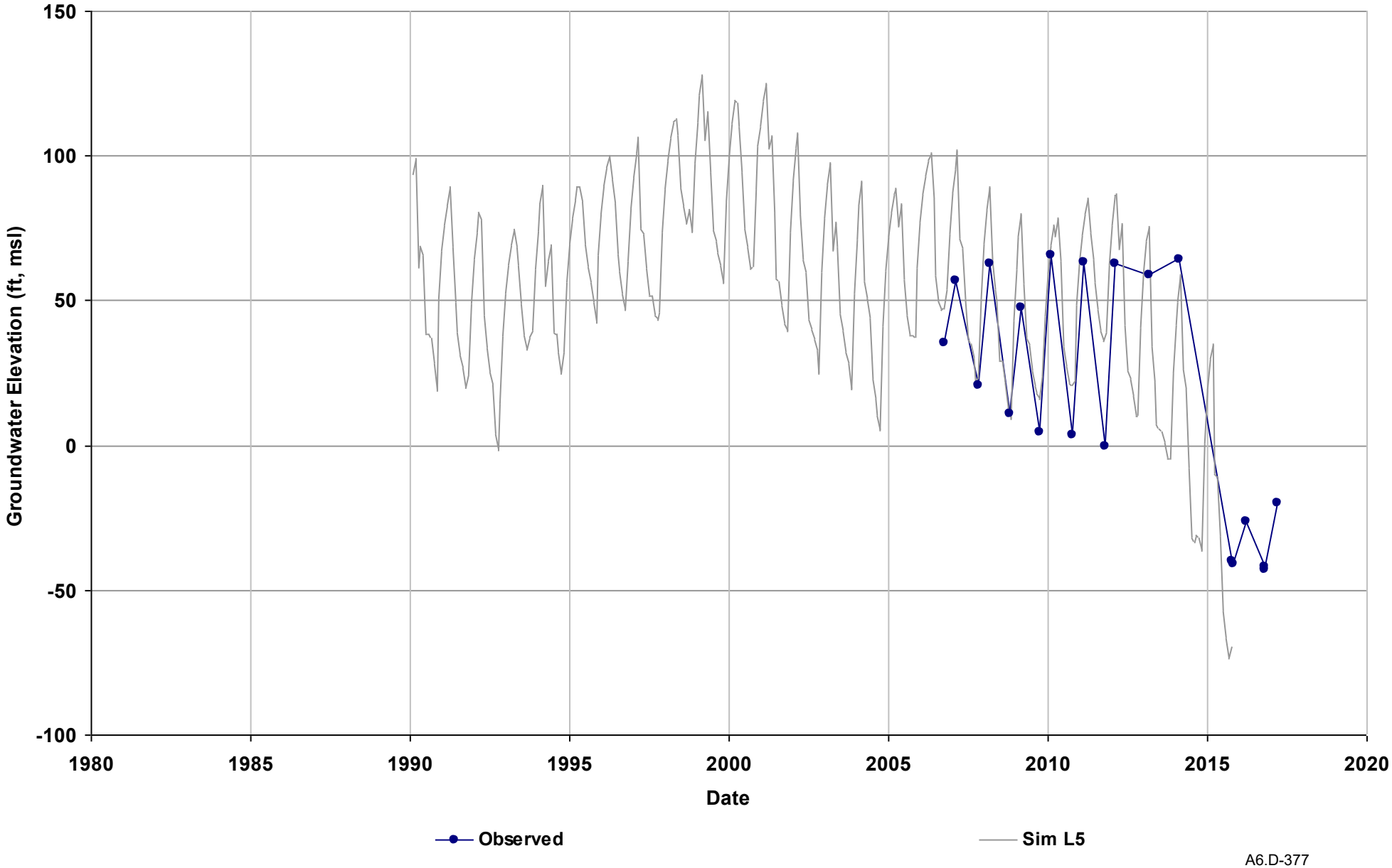
Well Name: MaderaWD-9
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 310

Total Depth (ft): 536
Perf Top (ft): 200
Perf Bottom (ft): 536
Top Model Layer: 4
Bottom Model Layer: 4



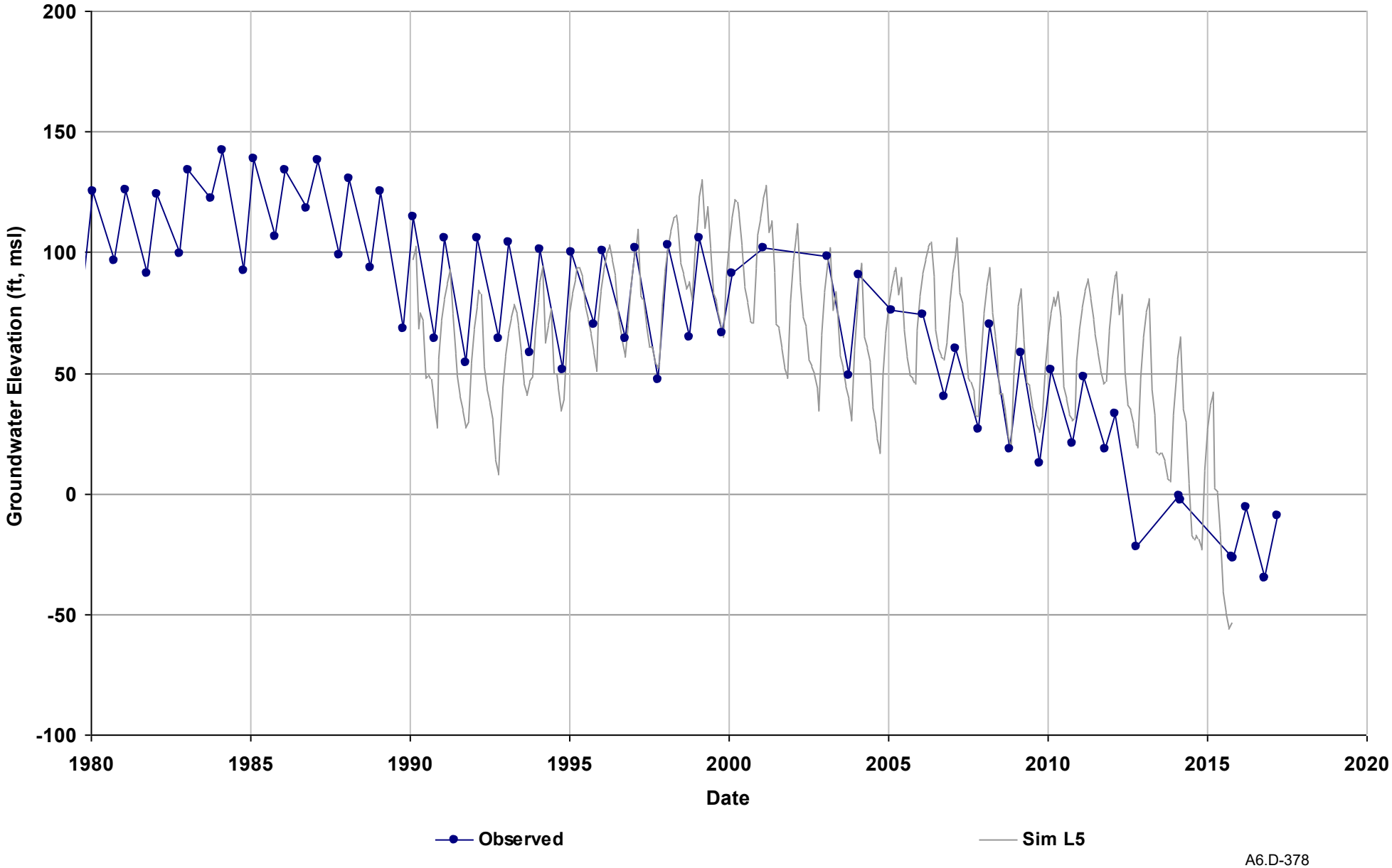
Well Name: 11S16E21A001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 203

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



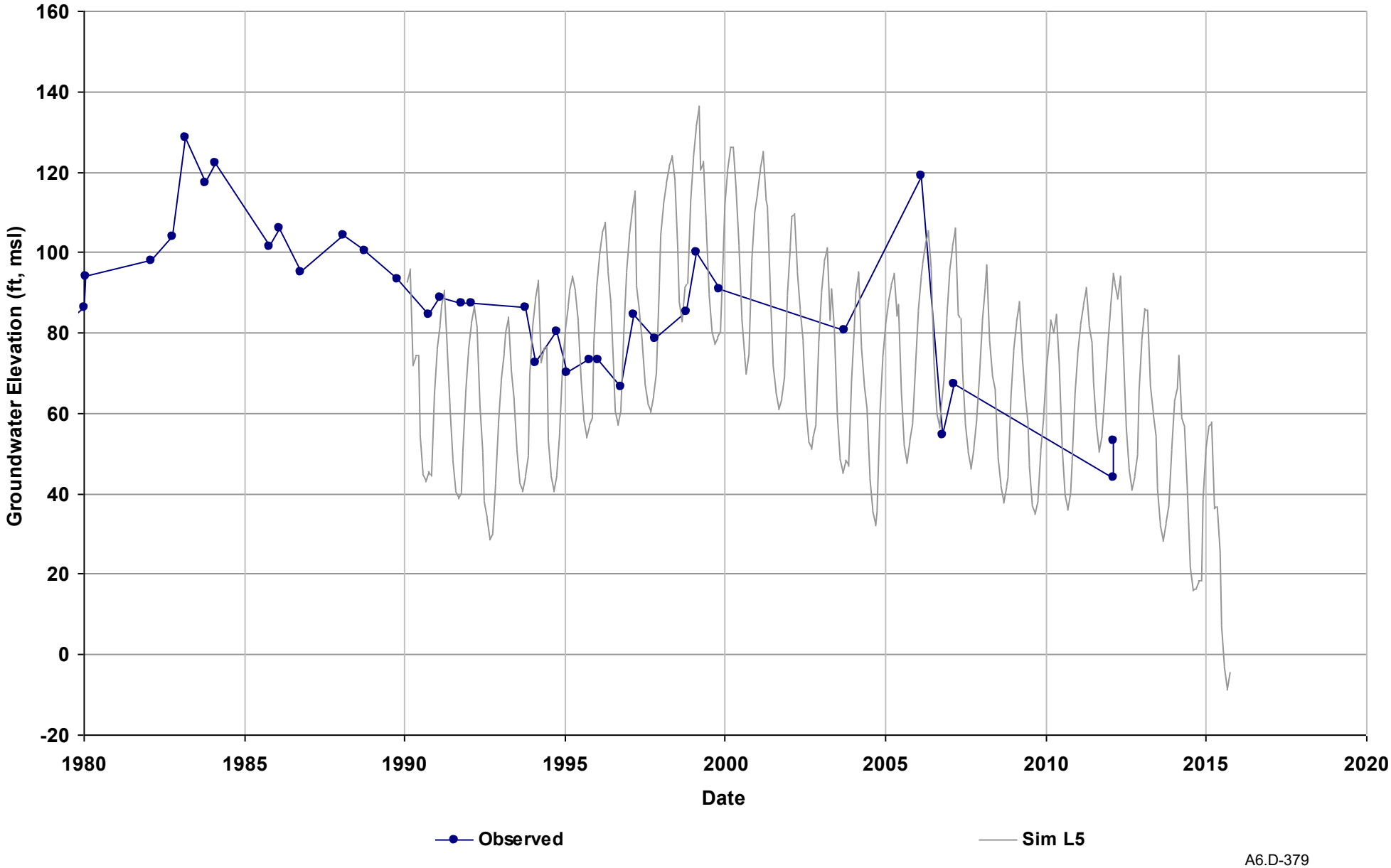
Well Name: 11S16E22K001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 207

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



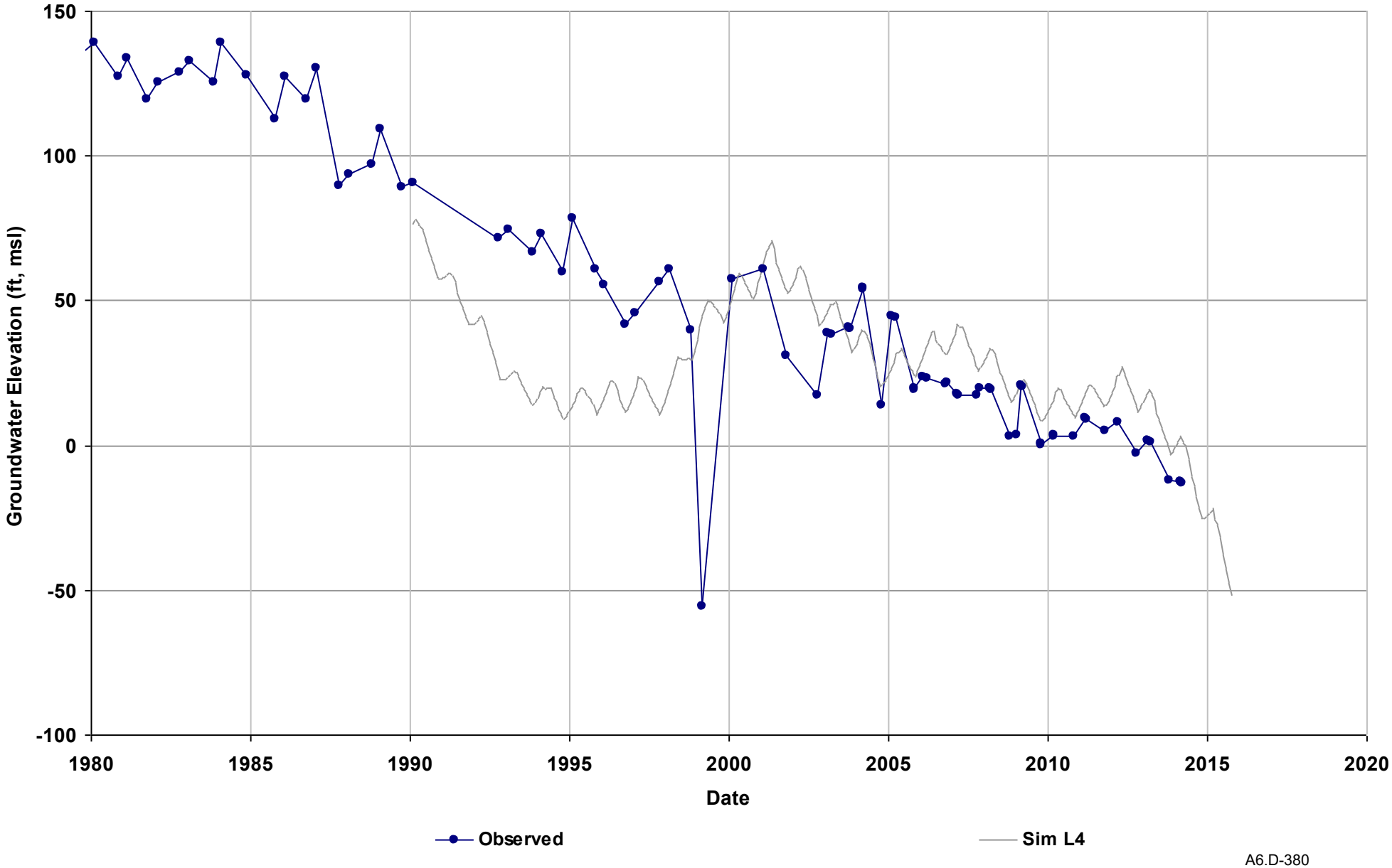
Well Name: 11S15E35P001M
Depth Zone: Unknown; Inside CC
Subbasin: Madera
GSE (ft, msl): 172

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



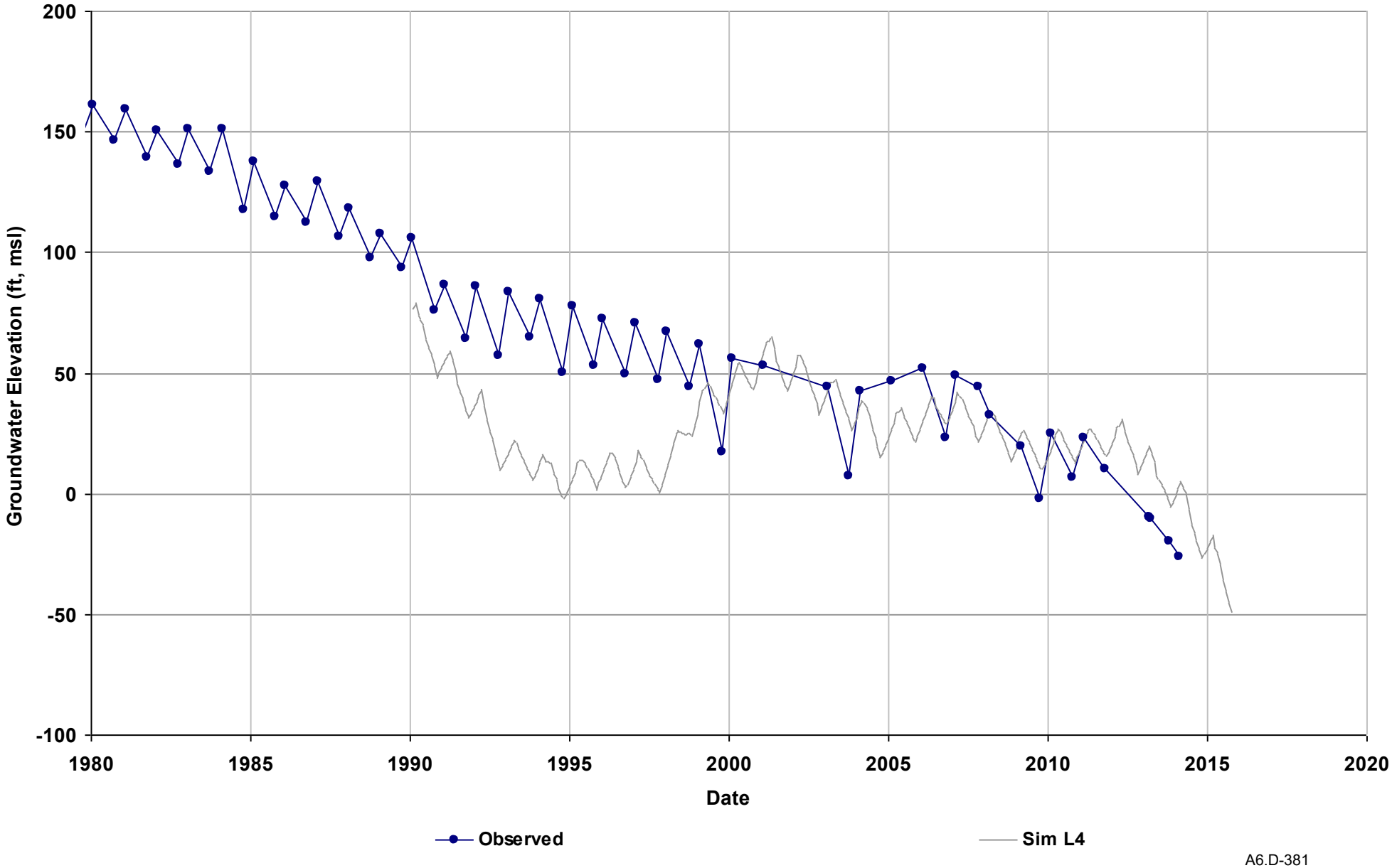
Well Name: 10S16E12K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 262

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



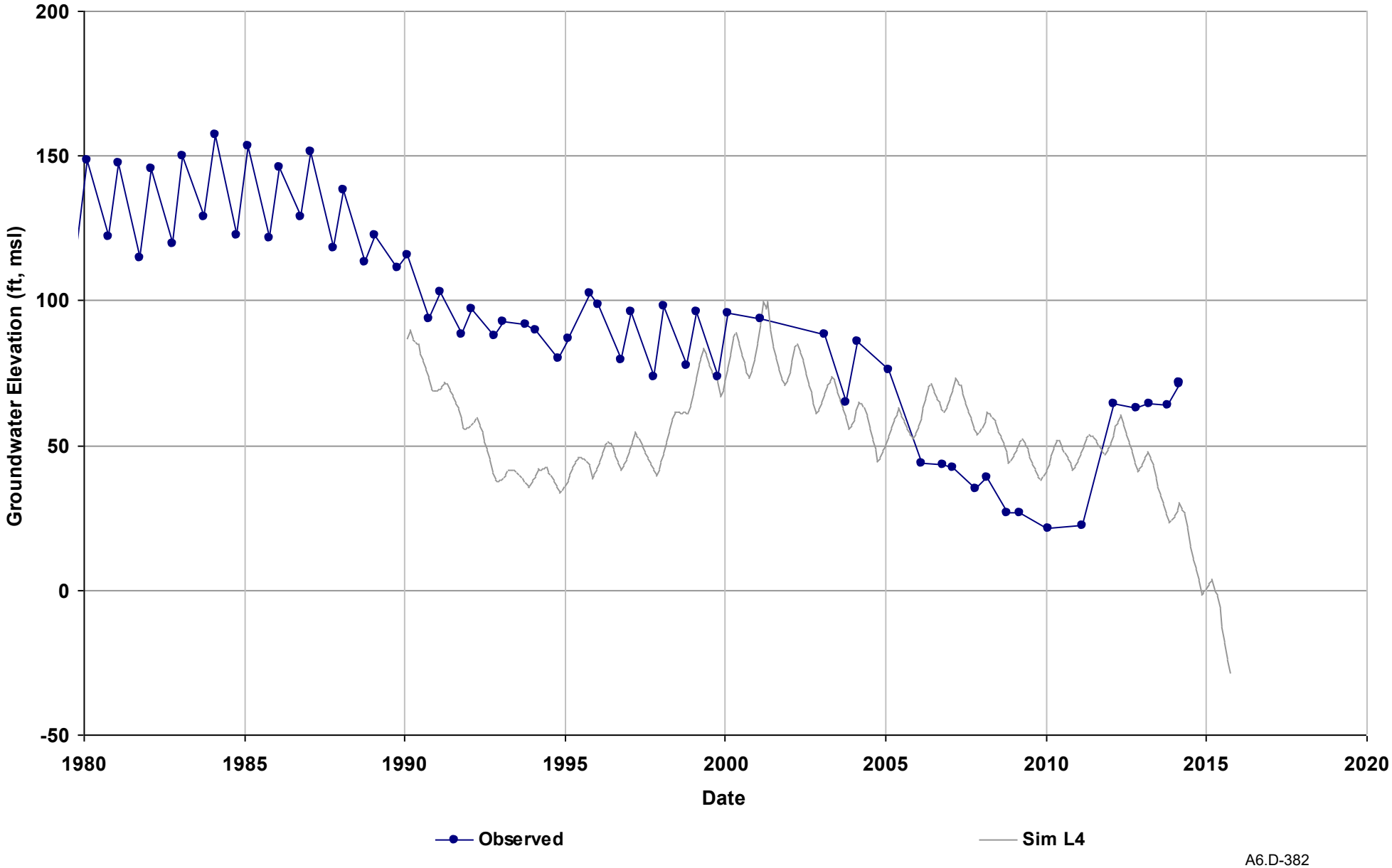
Well Name: 10S17E03F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



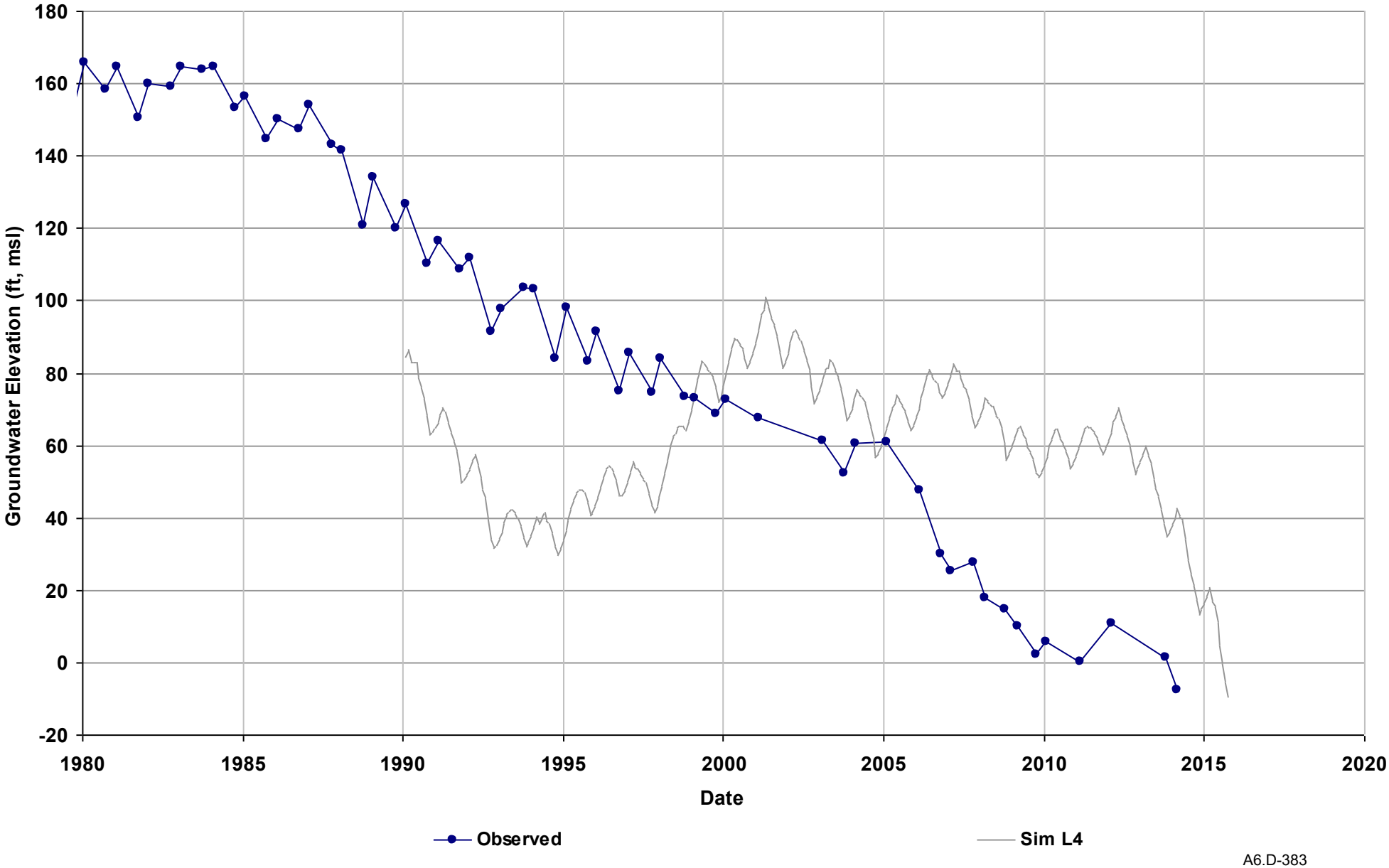
Well Name: 10S17E30B002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



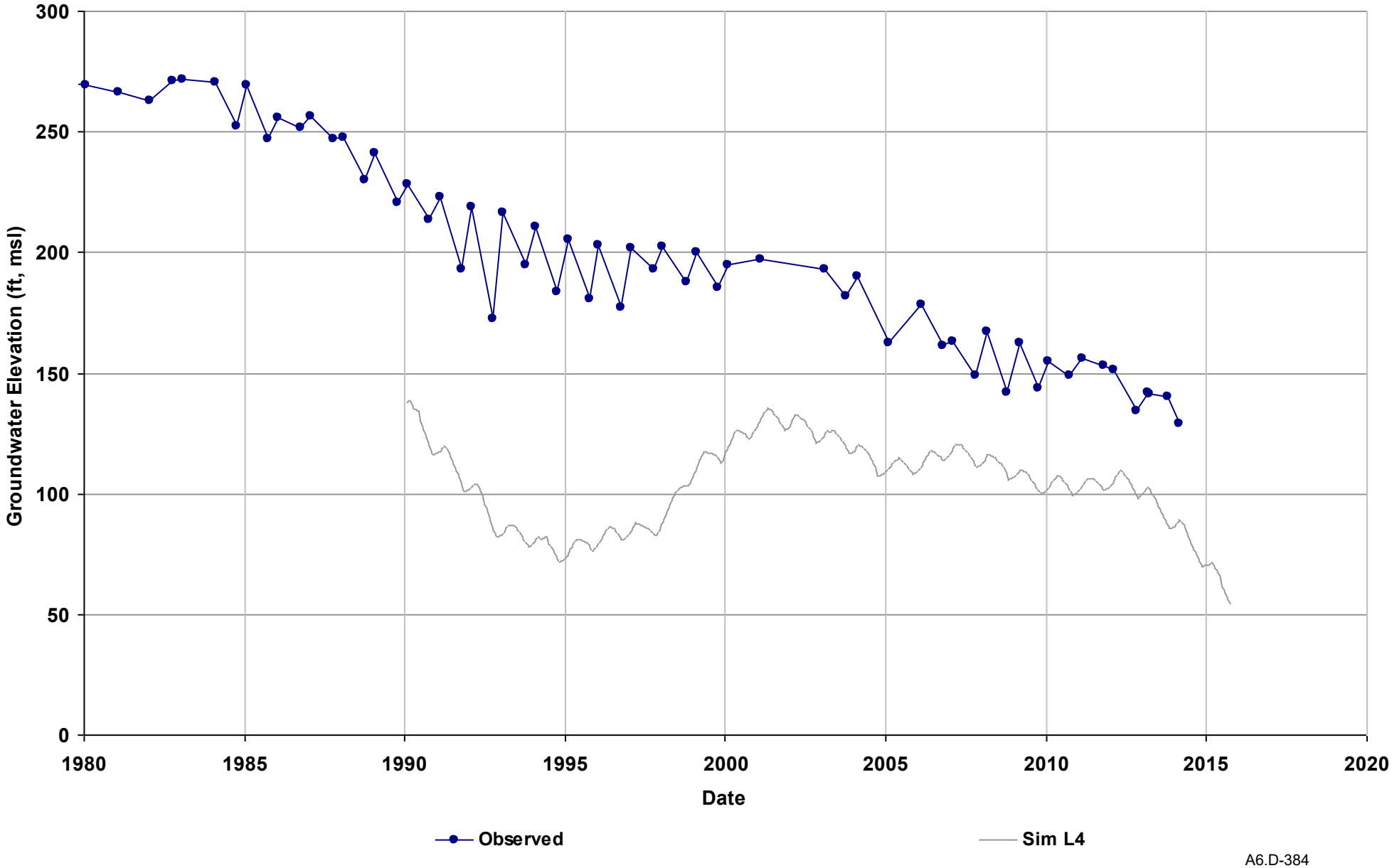
Well Name: 10S17E34A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



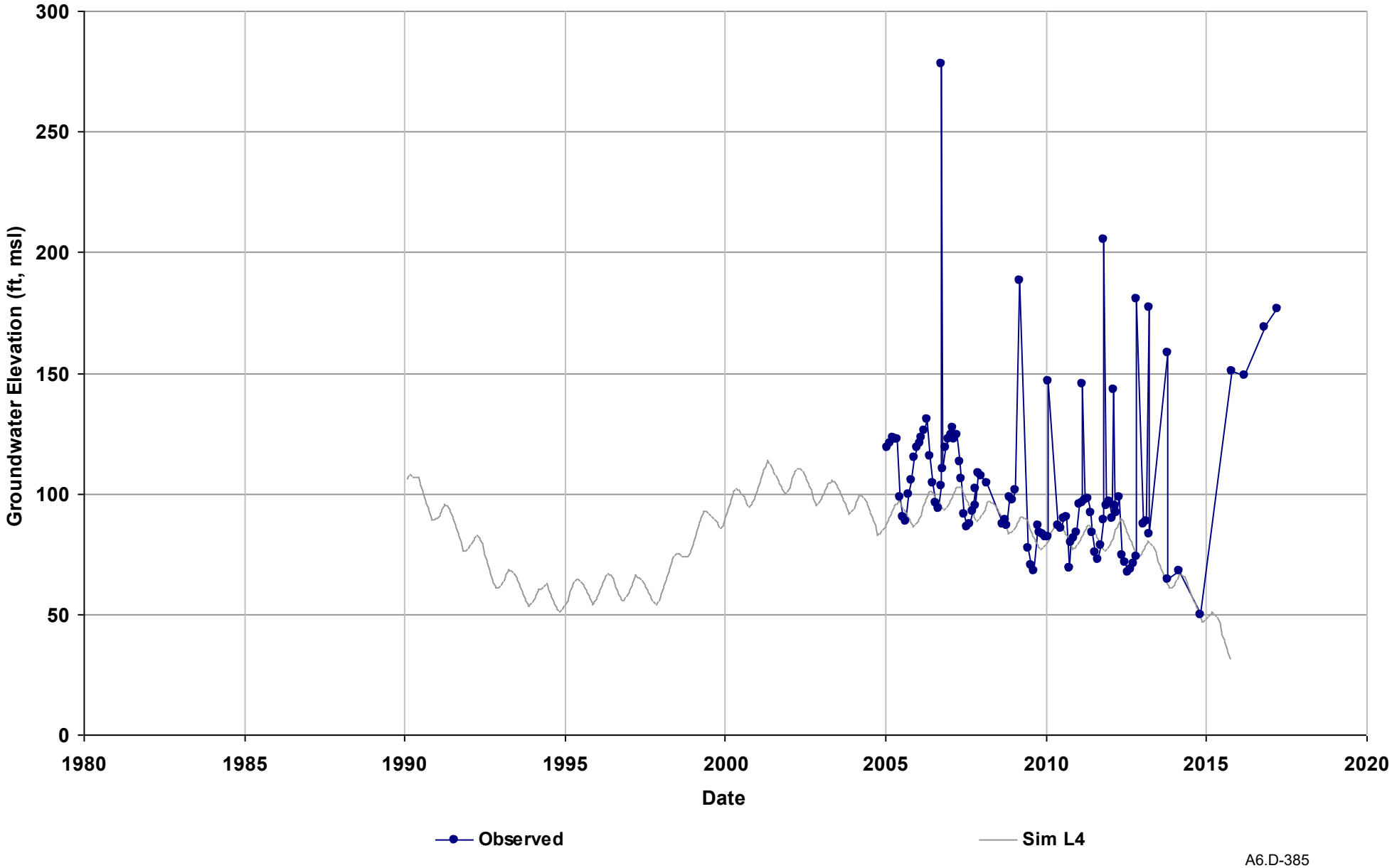
Well Name: 10S18E09C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 351

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



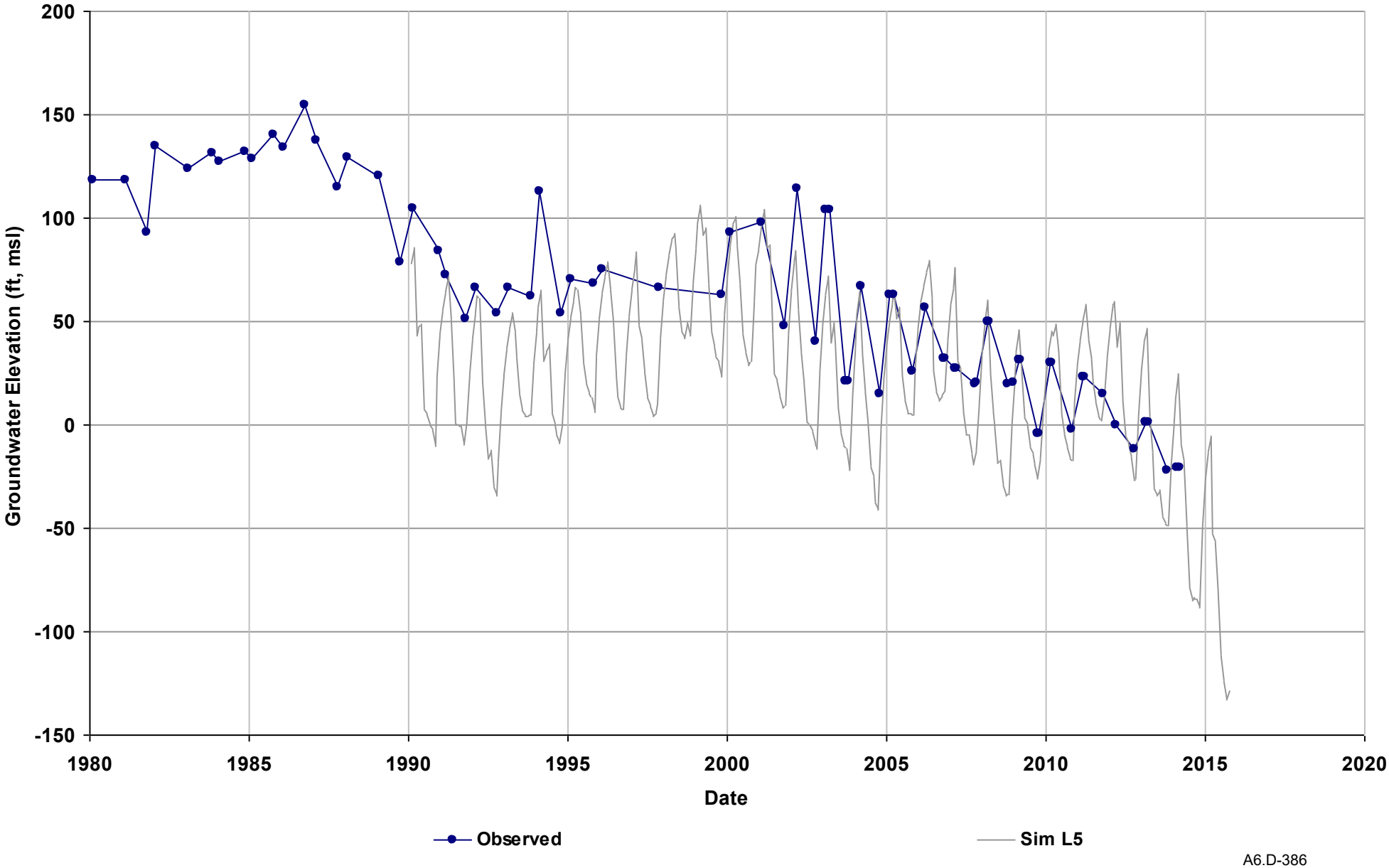
Well Name: 10S18E27N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 340

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



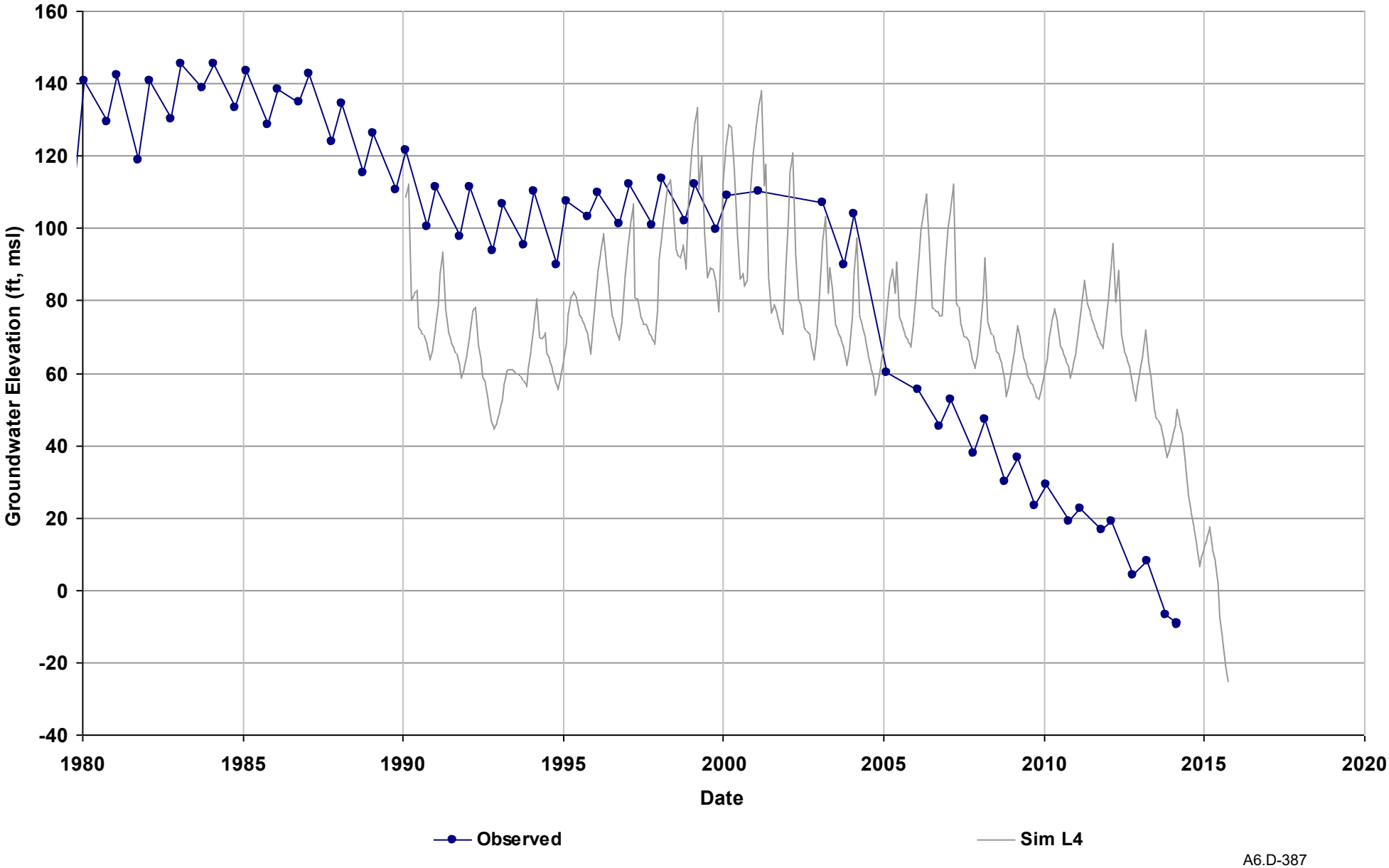
Well Name: 11S15E01H002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 189

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



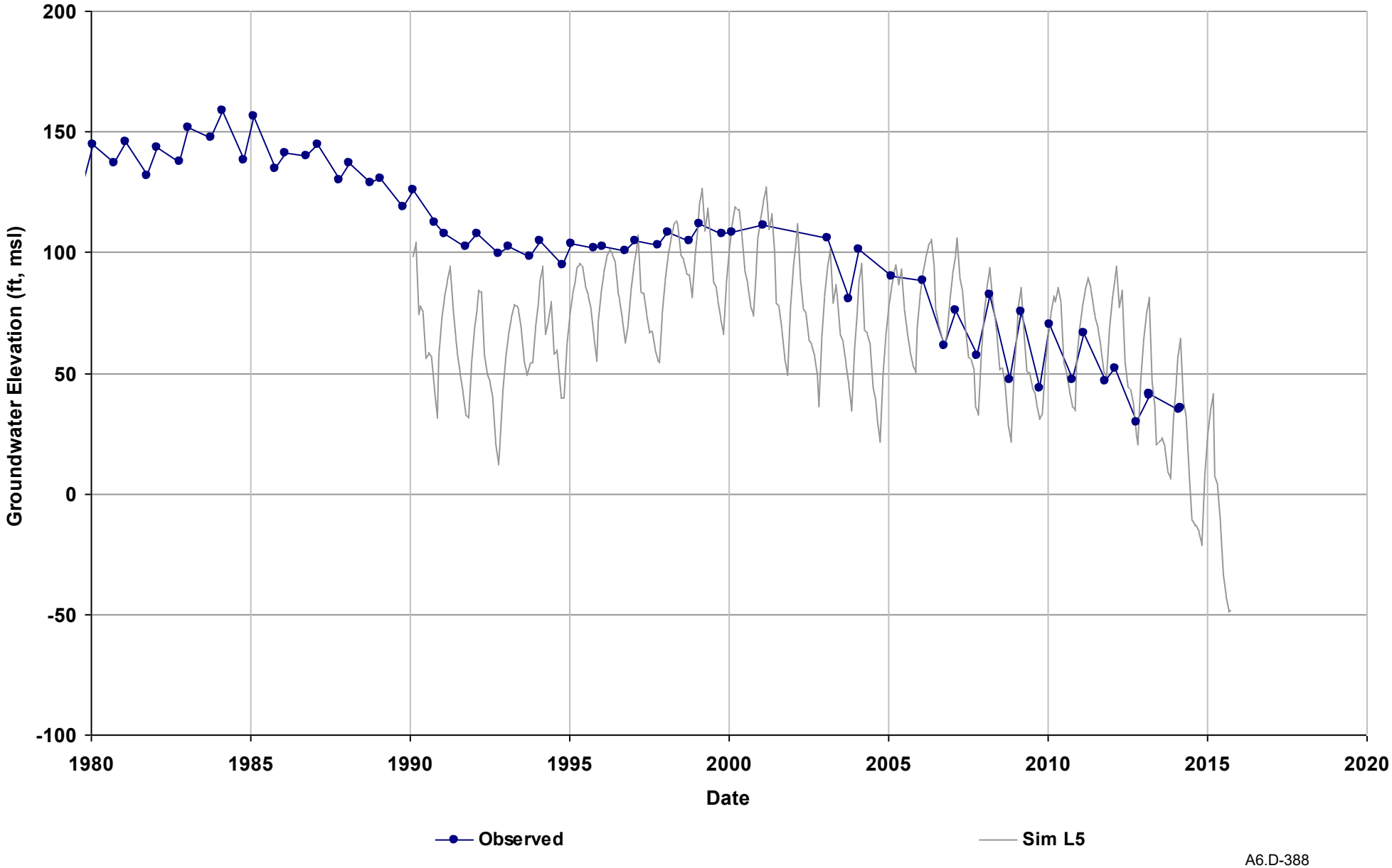
Well Name: 11S16E03A001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 222

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



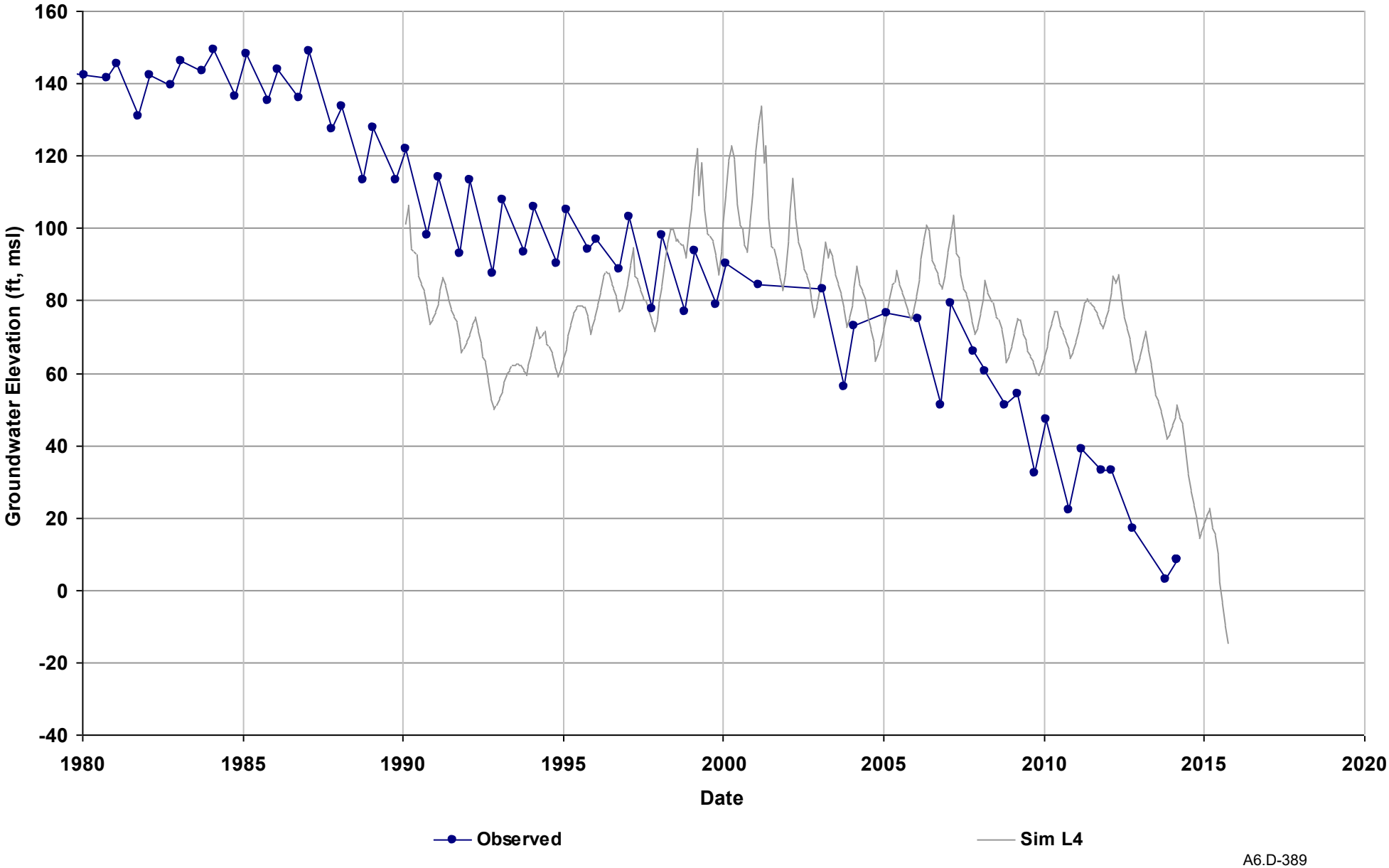
Well Name: 11S16E24M001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 219

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



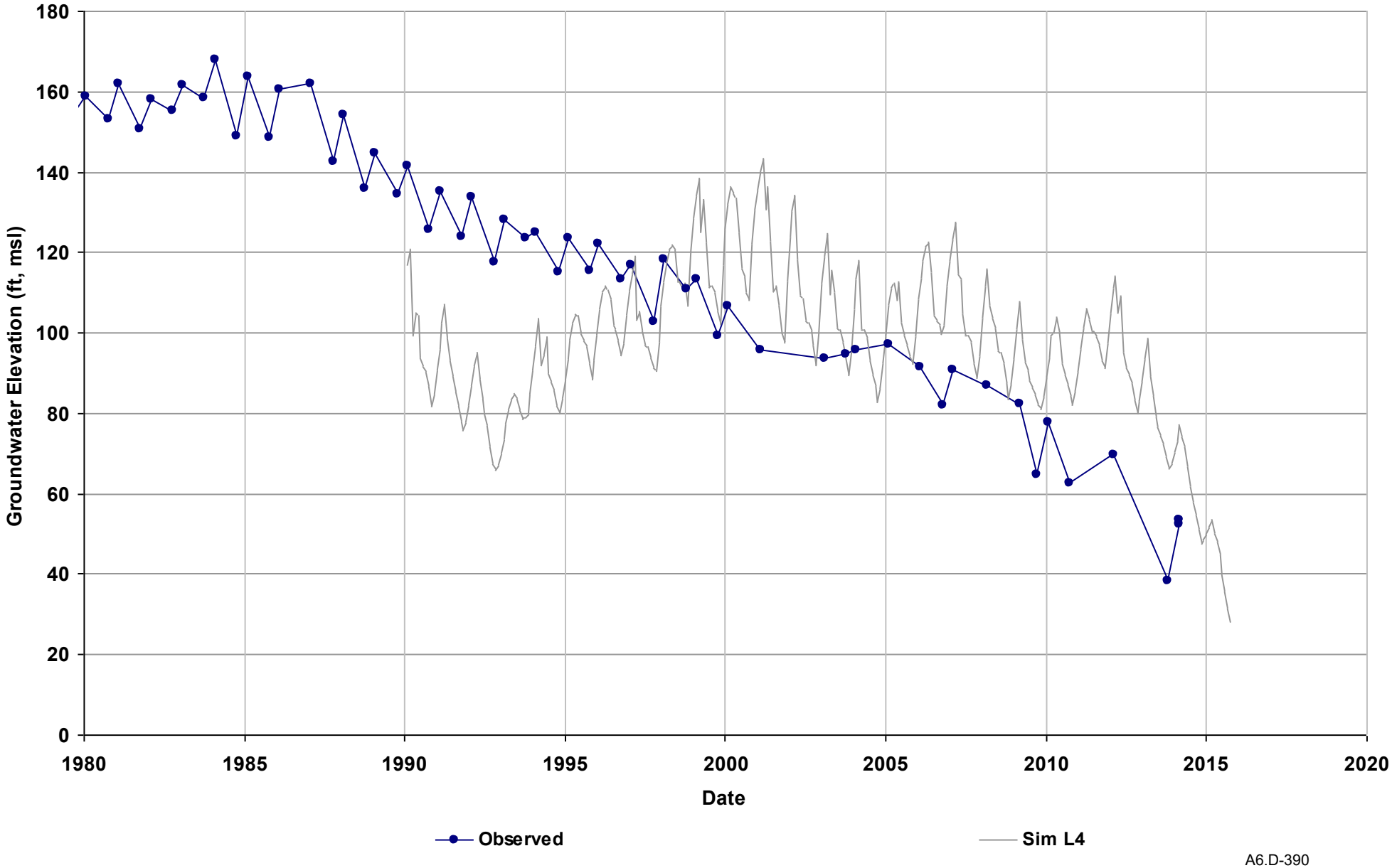
Well Name: 11S17E06C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 235

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



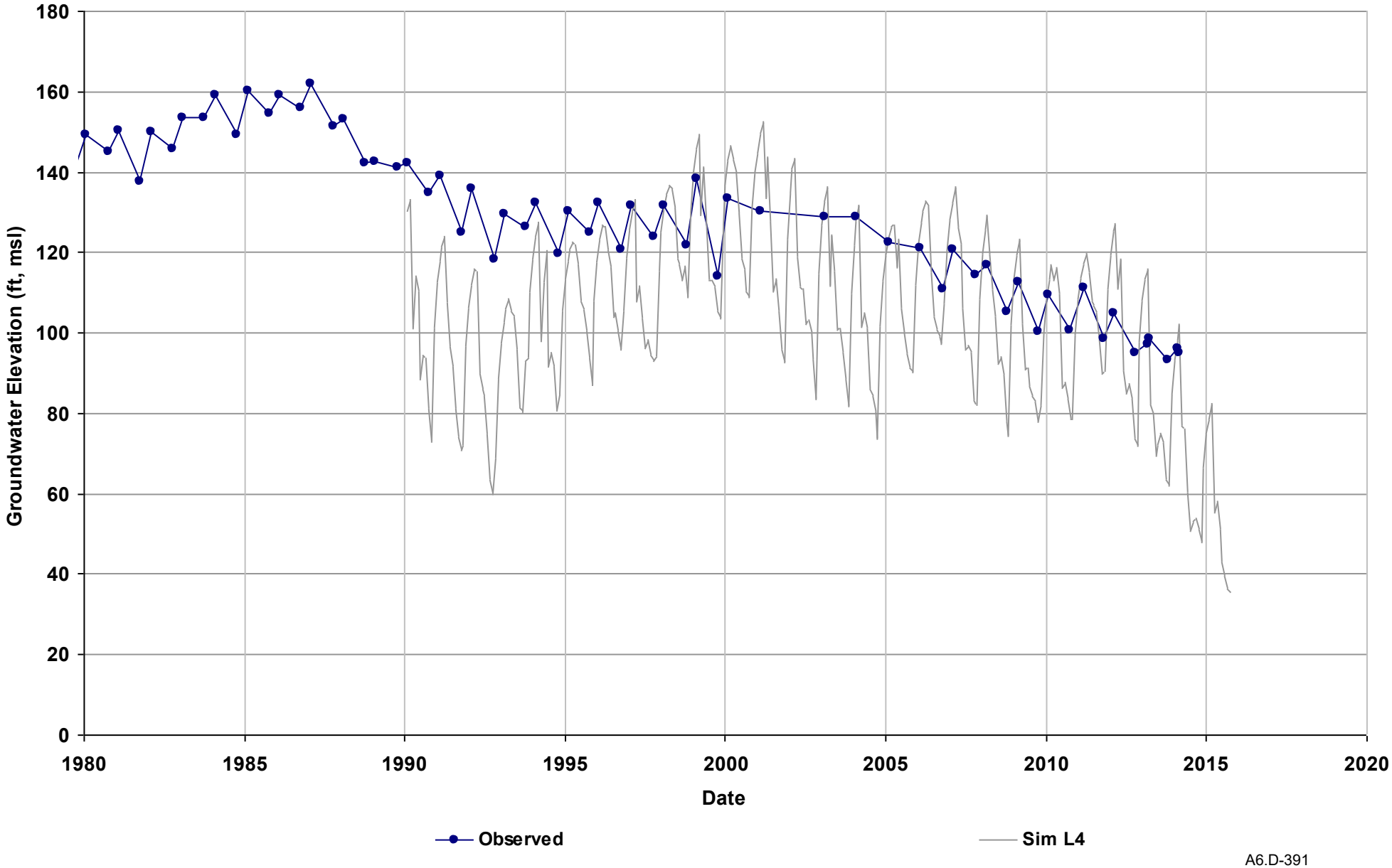
Well Name: 11S17E16H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 250

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



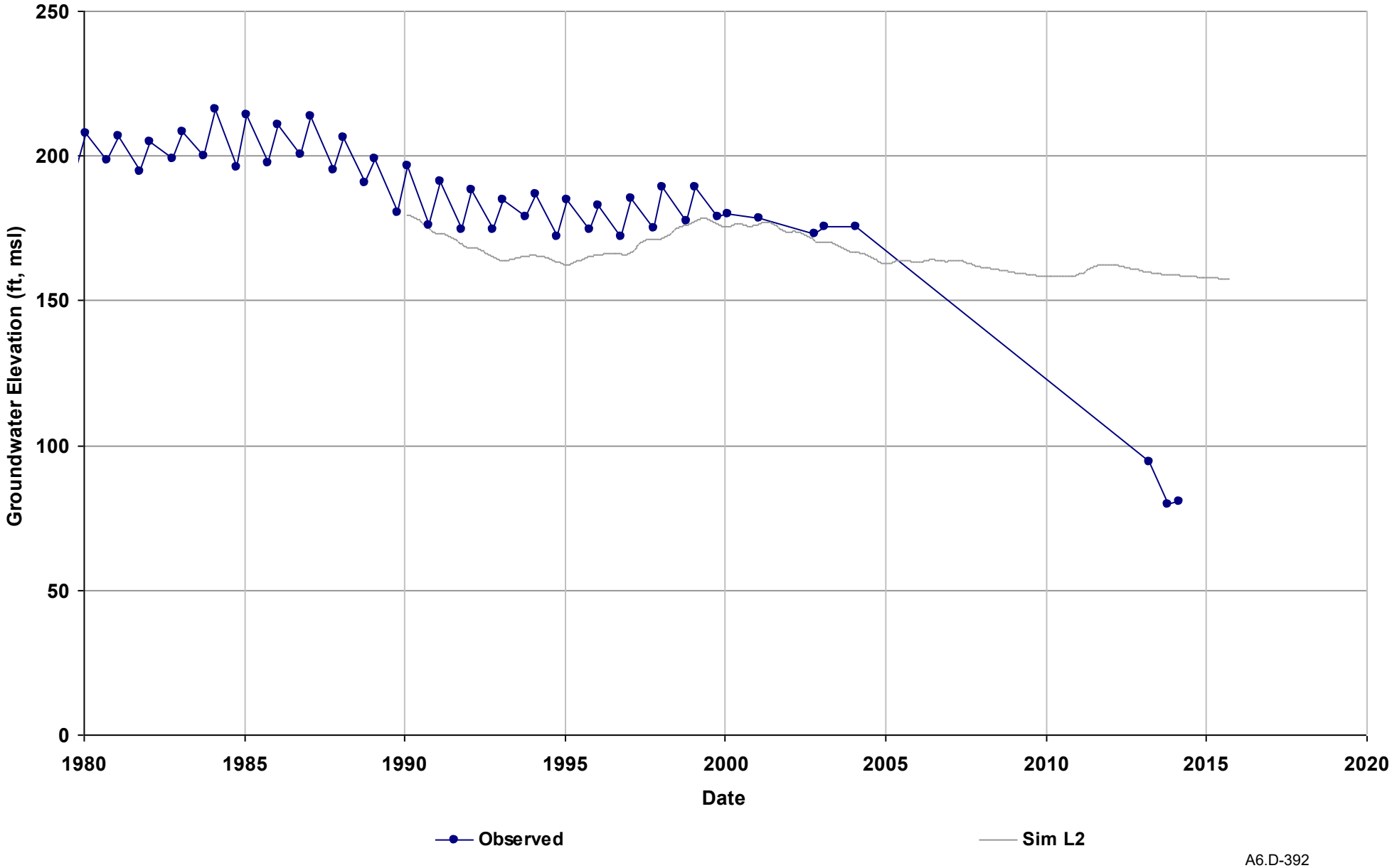
Well Name: 11S17E33H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 247

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



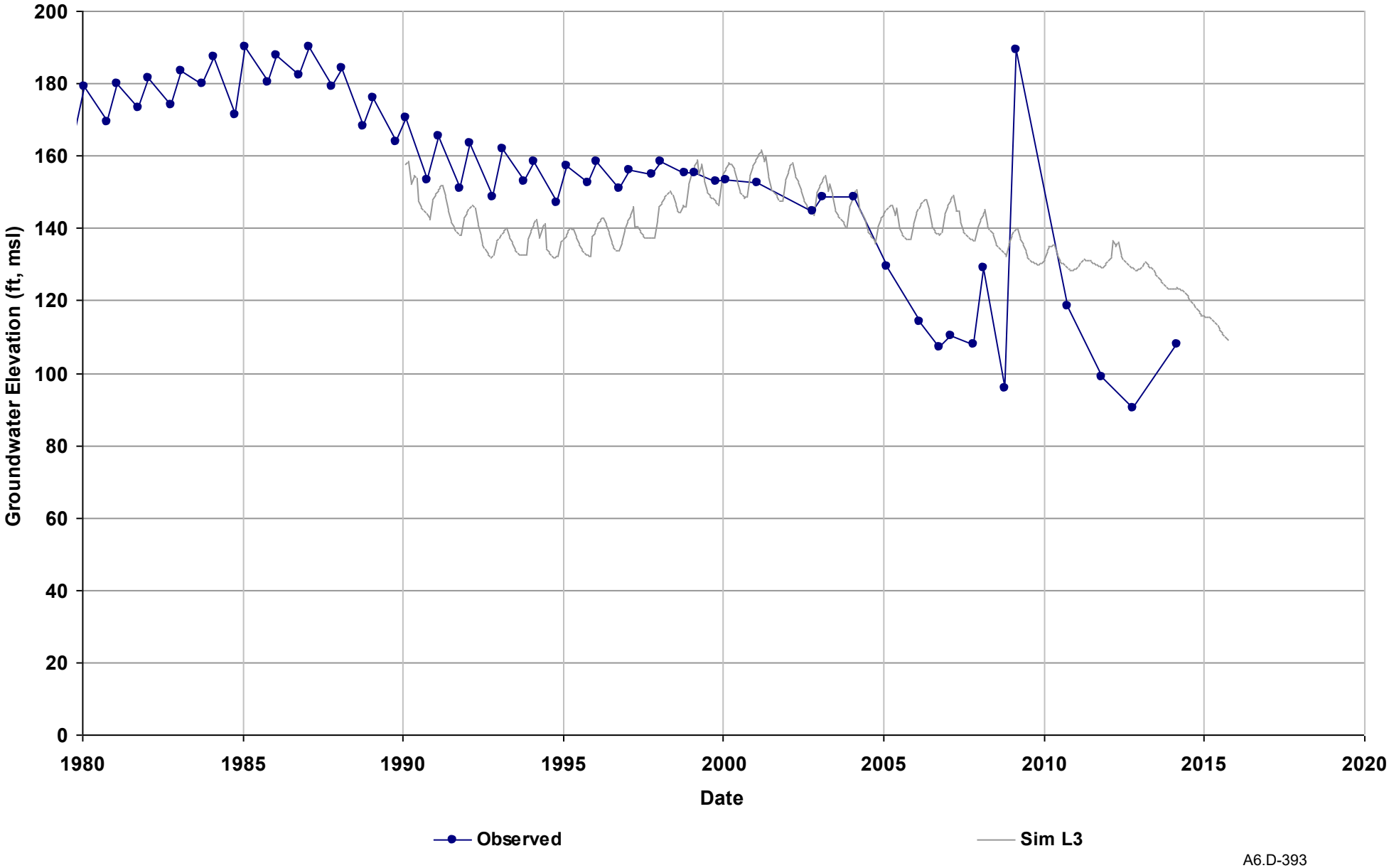
Well Name: 11S18E27F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 287

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



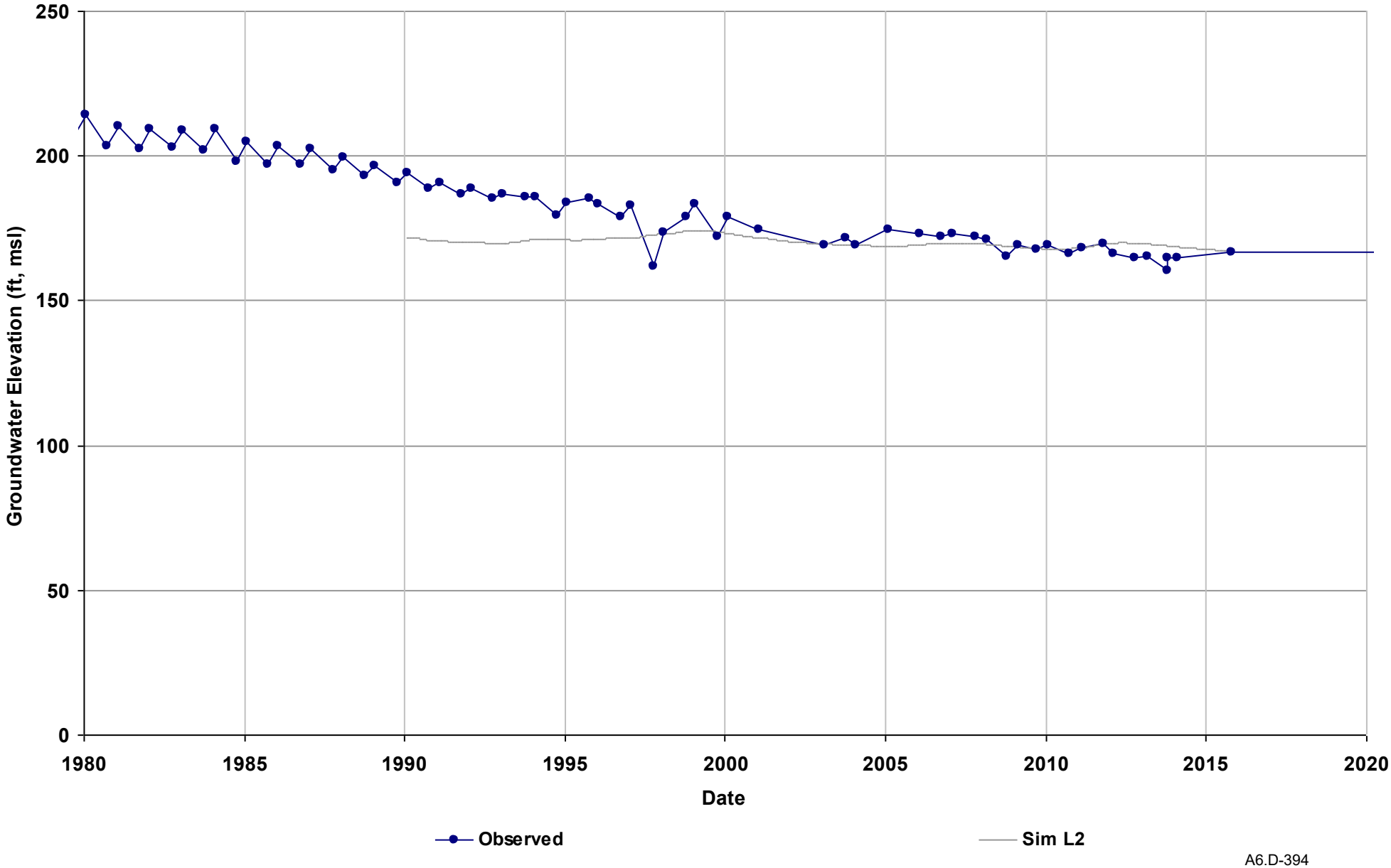
Well Name: 11S18E31A003M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



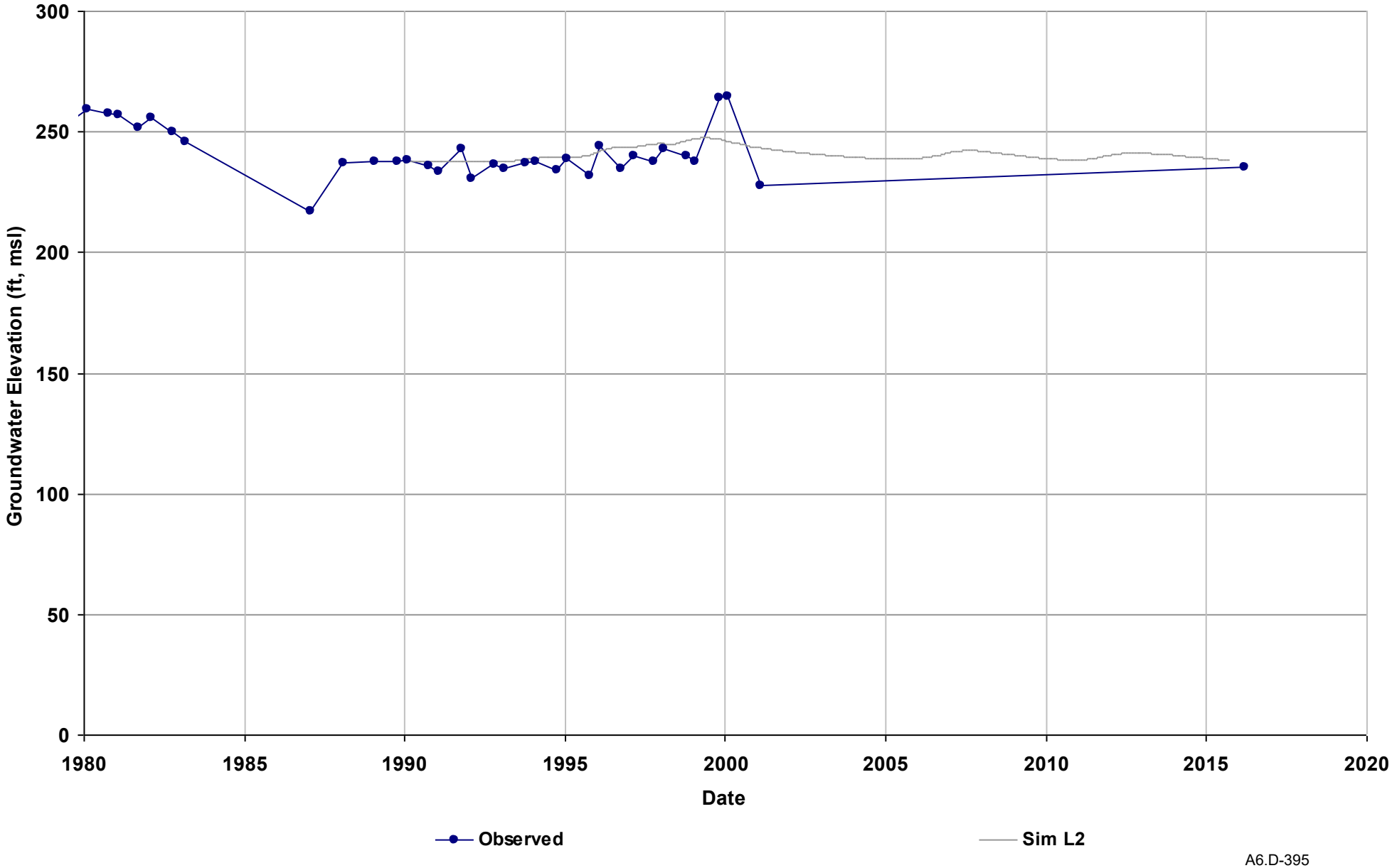
Well Name: 11S19E32R001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 322

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



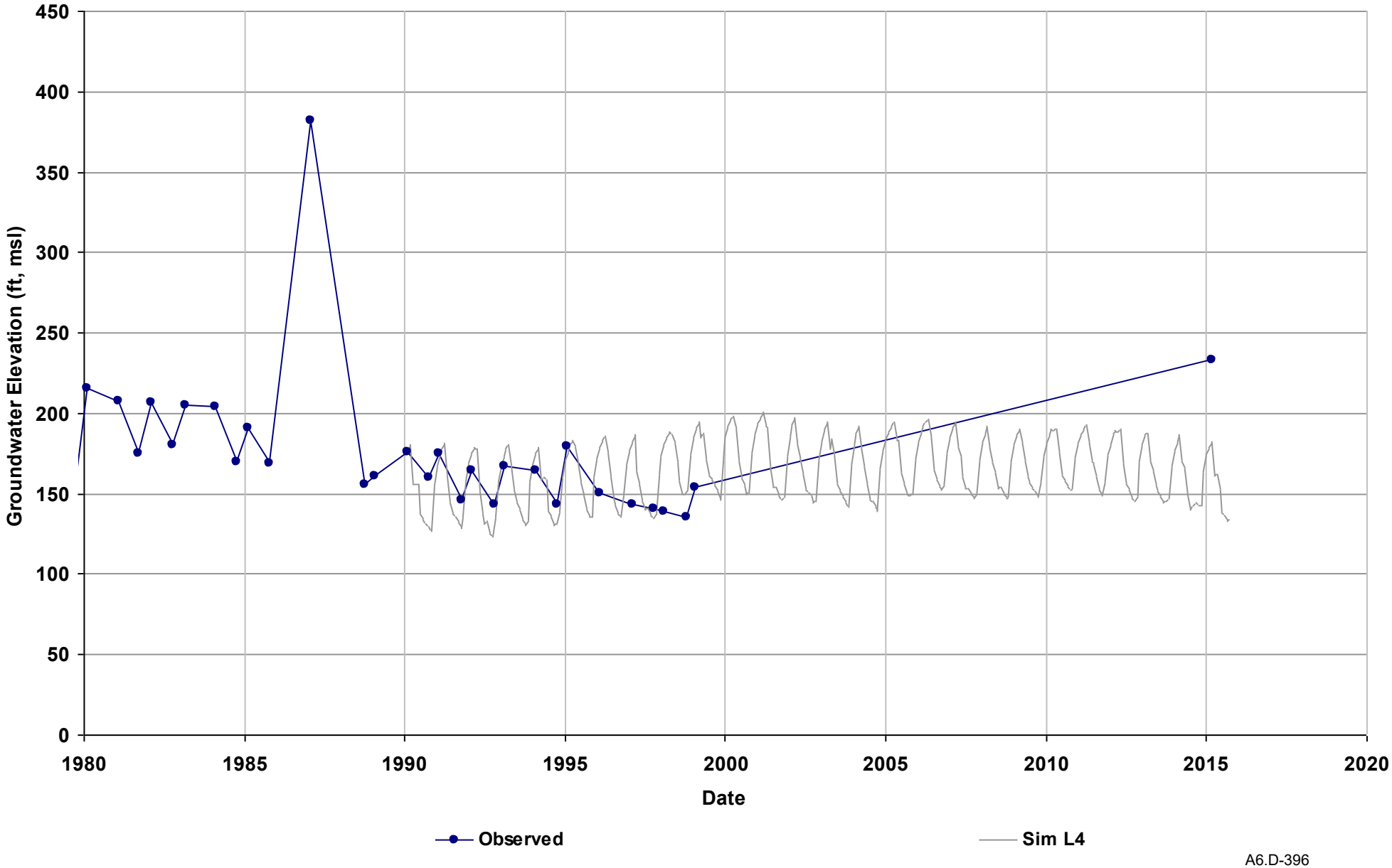
Well Name: 11S20E18L001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 391

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



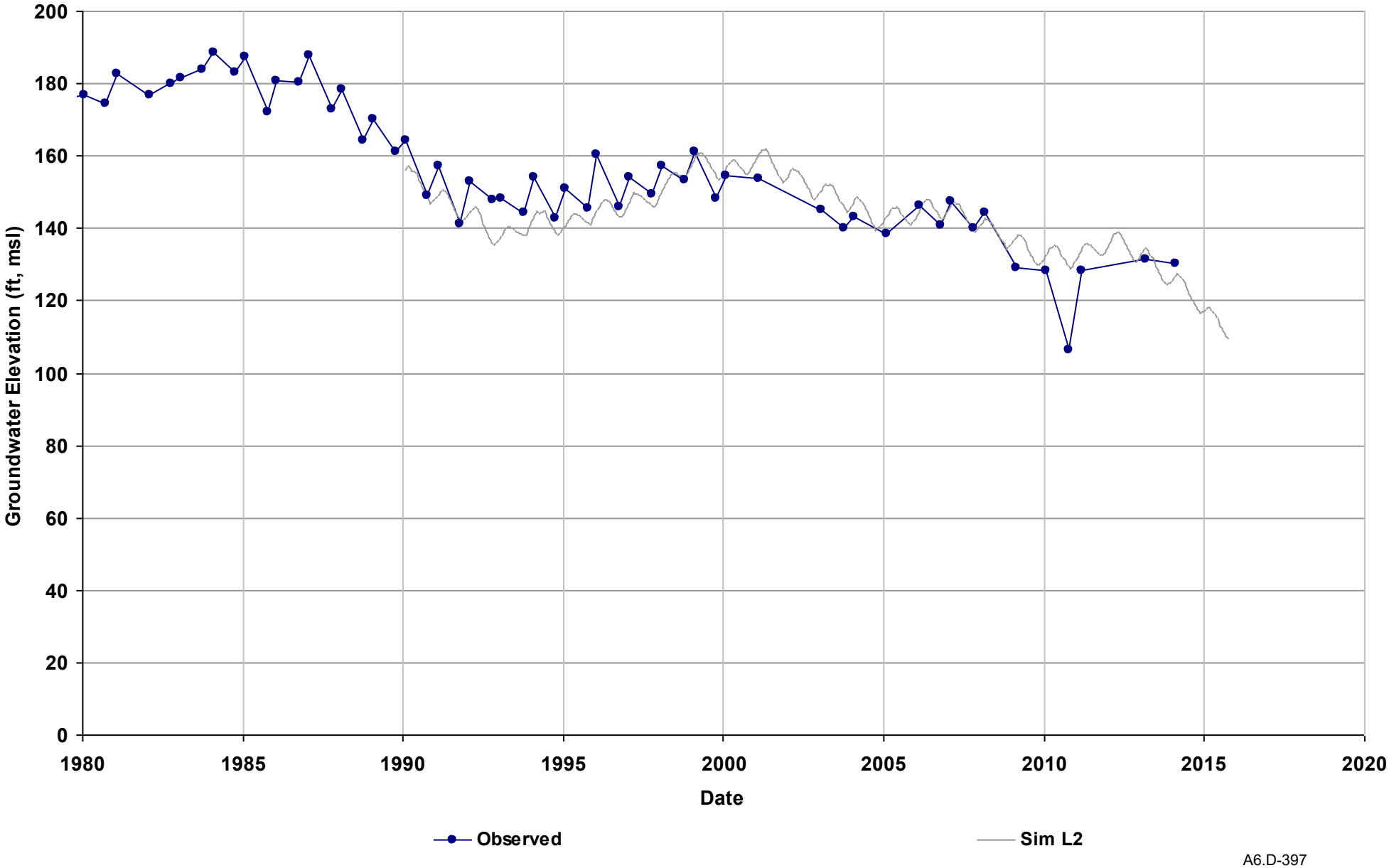
Well Name: 11S20E33K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 392

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



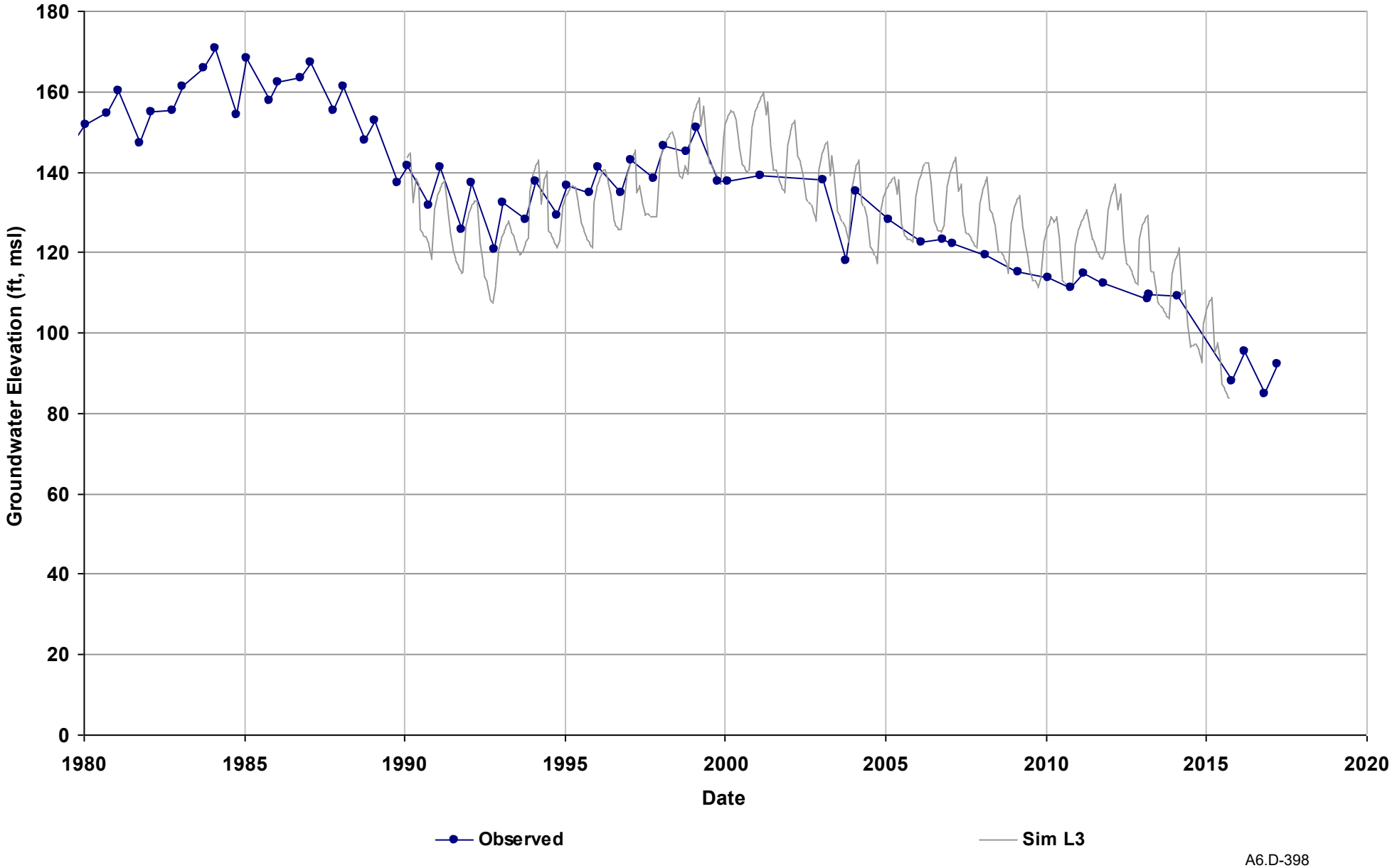
Well Name: 12S17E13J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



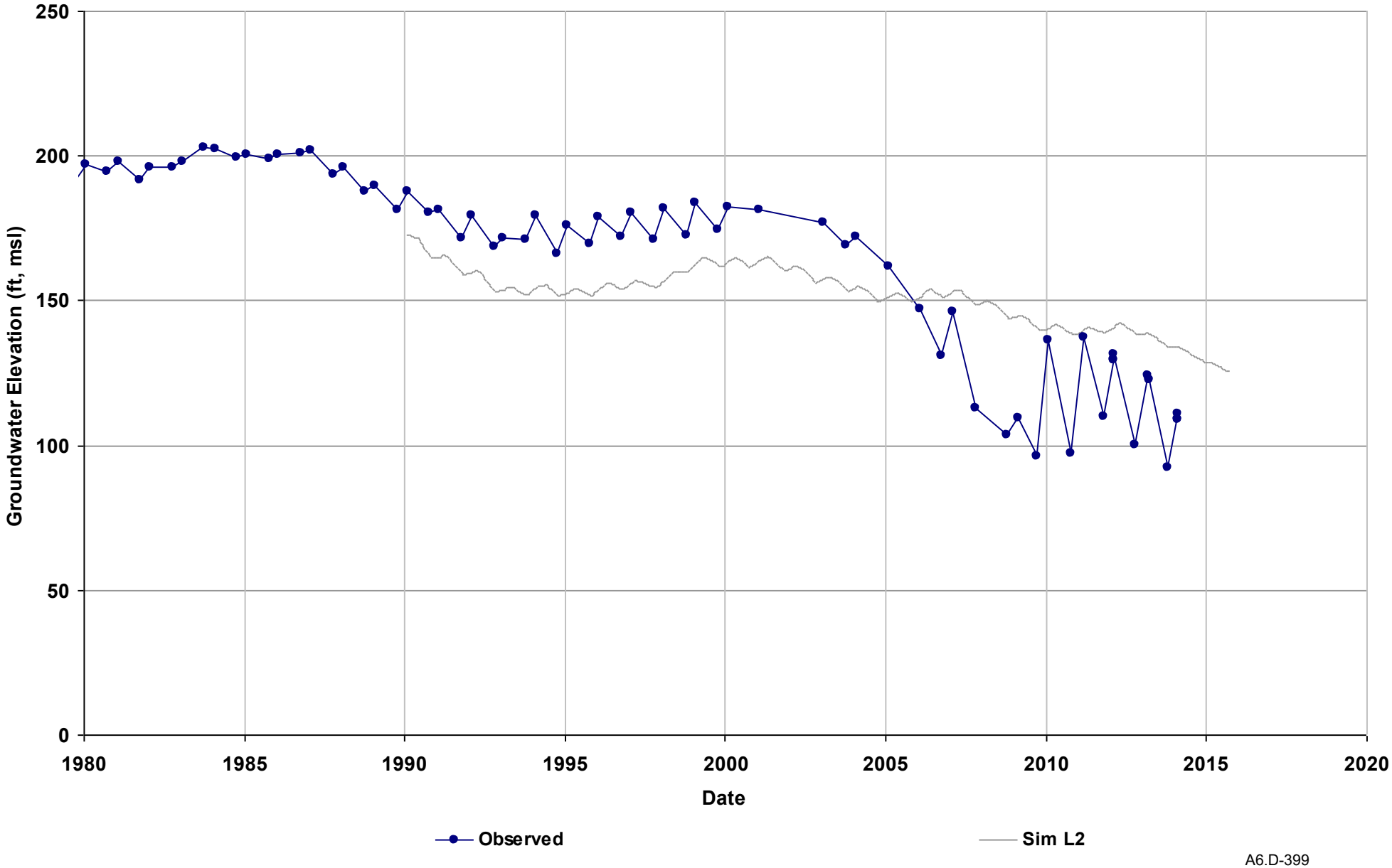
Well Name: 12S17E16A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 232

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



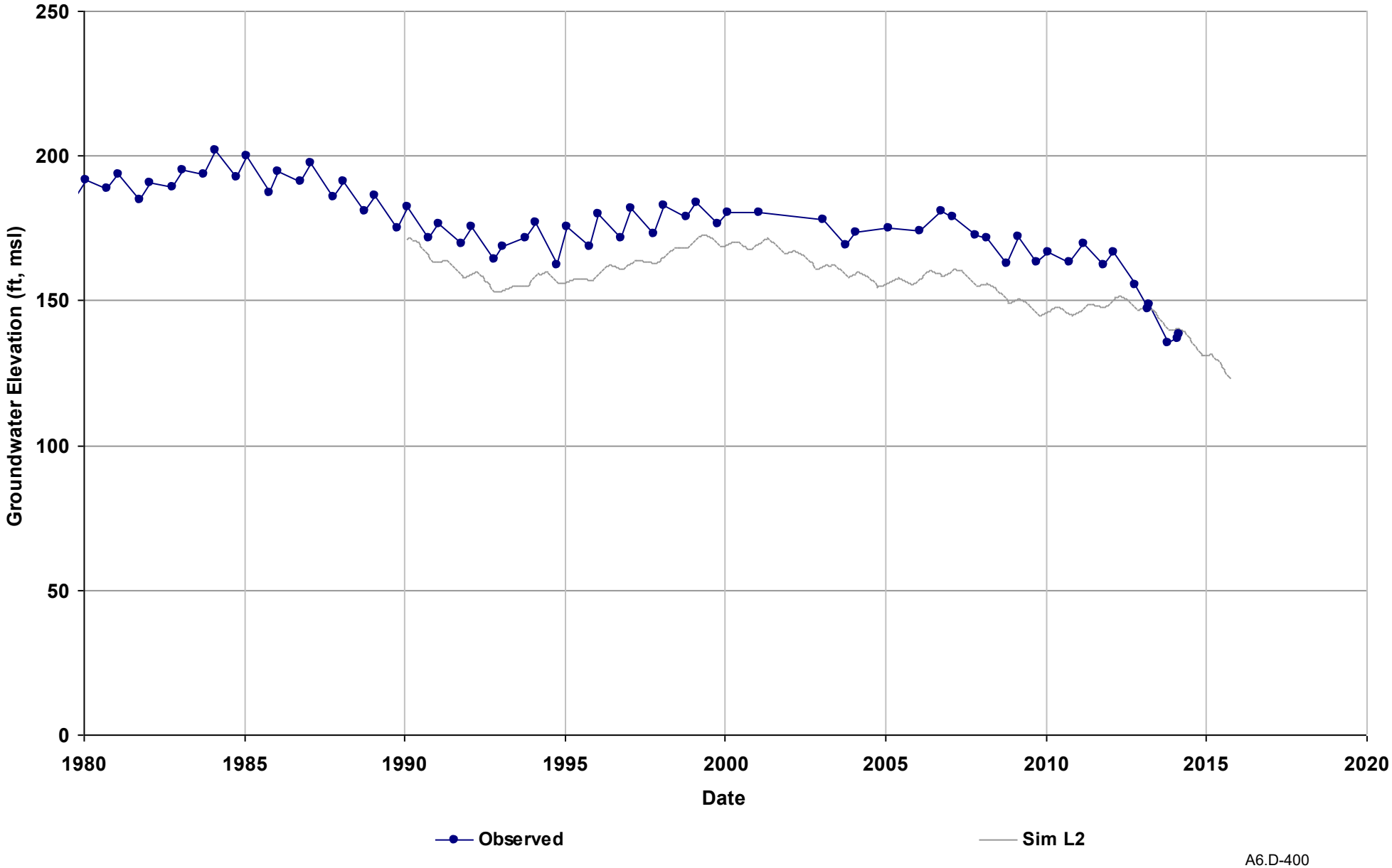
Well Name: 12S18E12N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 284

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



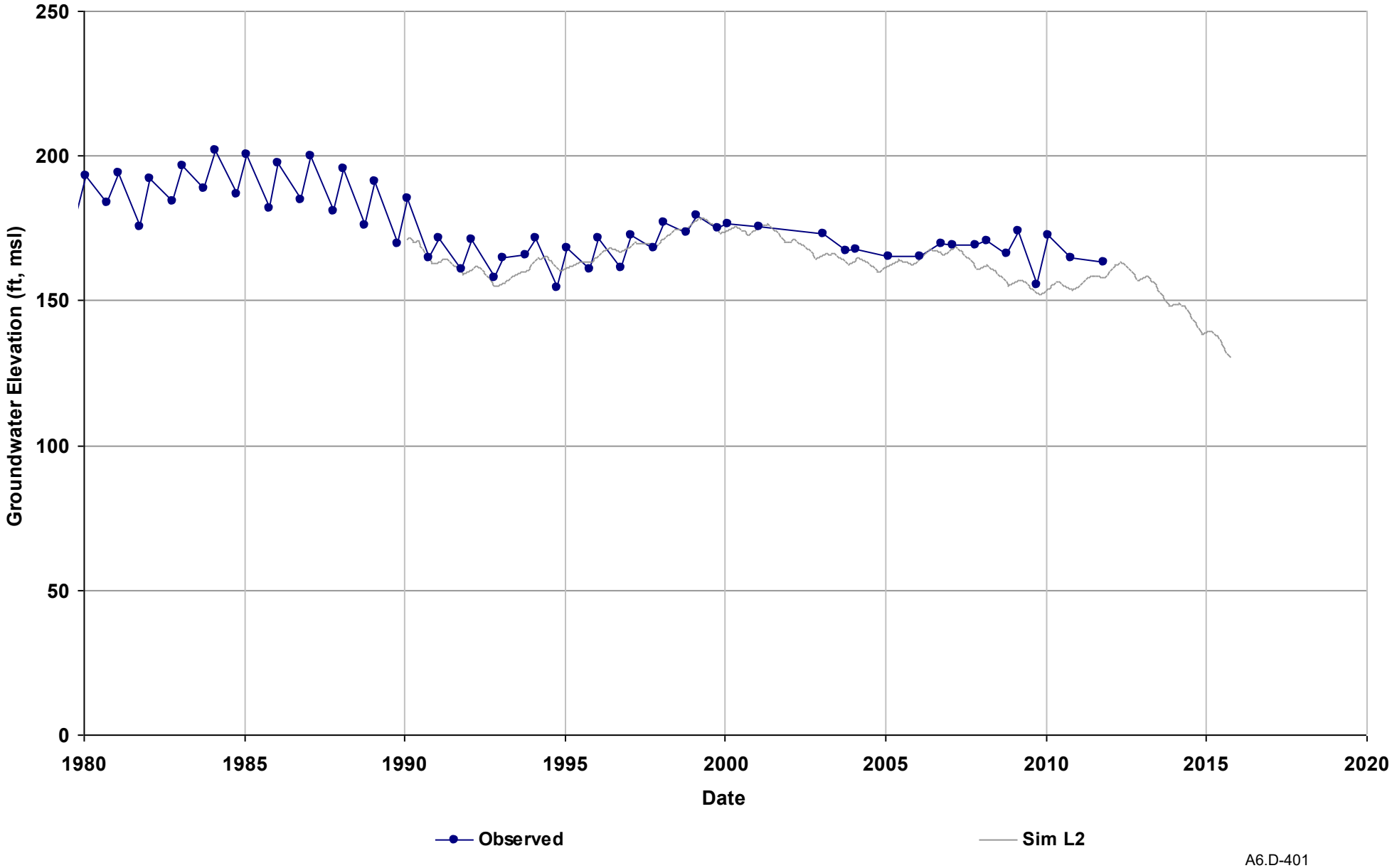
Well Name: 12S18E21G001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



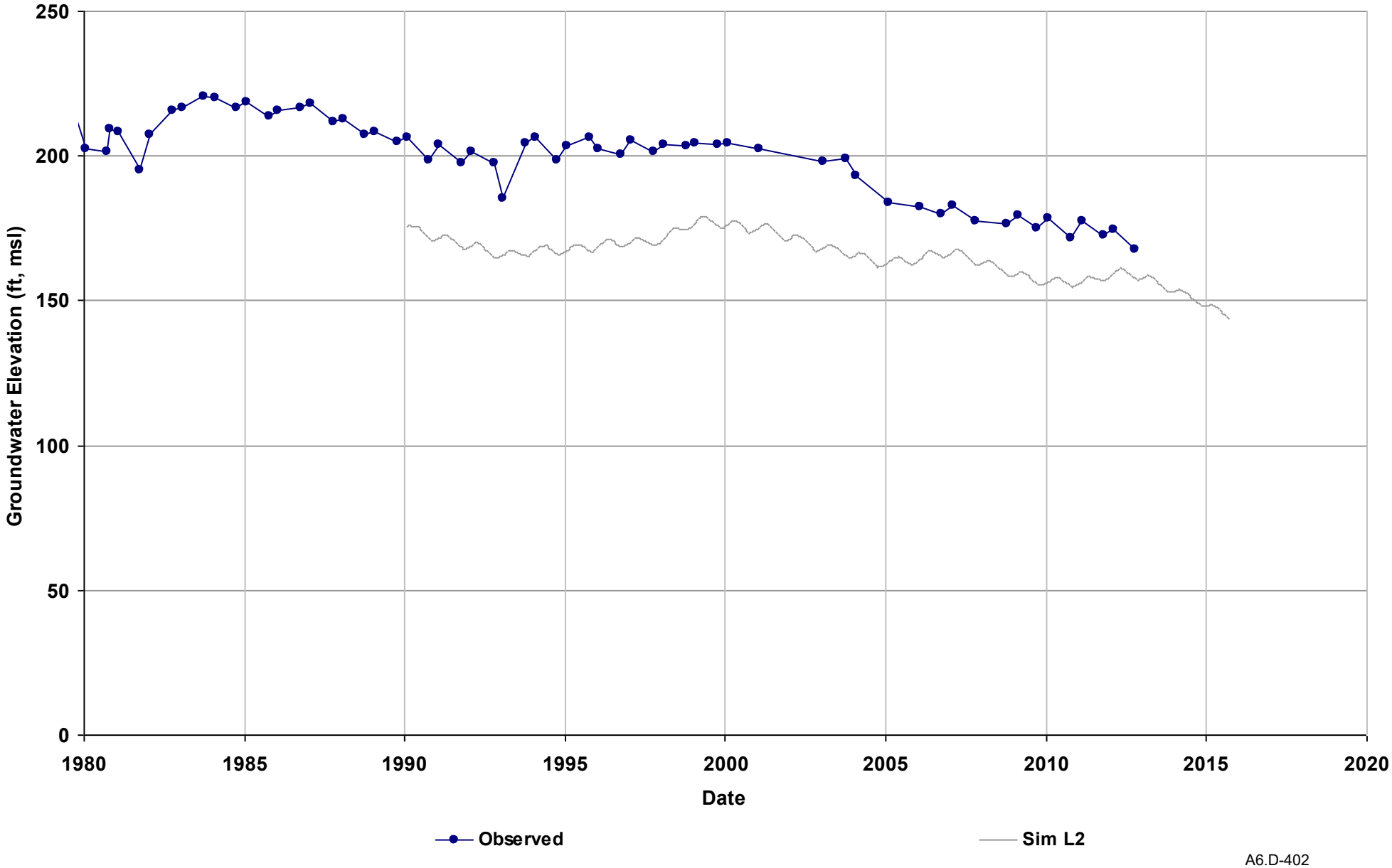
Well Name: 12S18E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 256

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



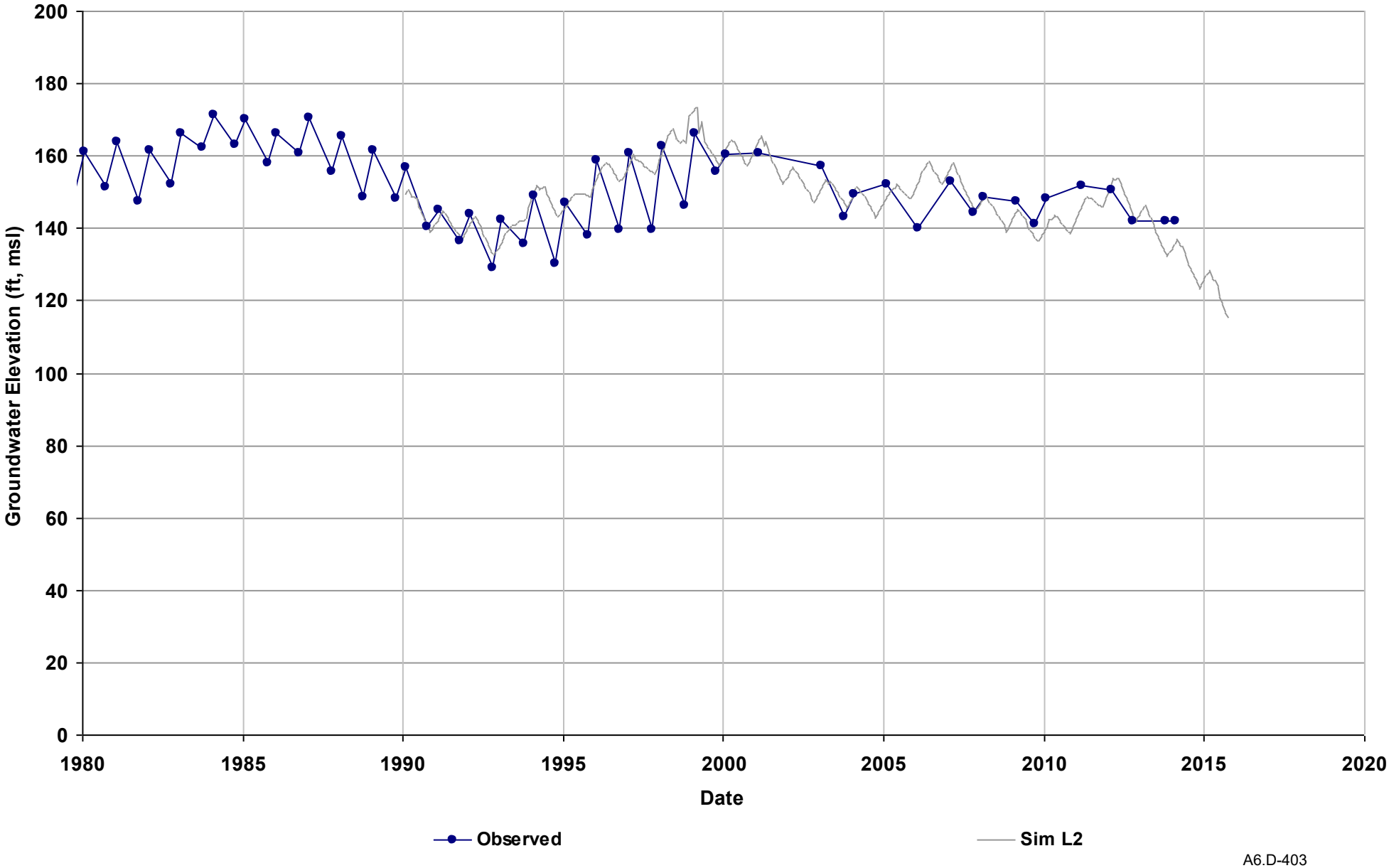
Well Name: 12S19E21B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



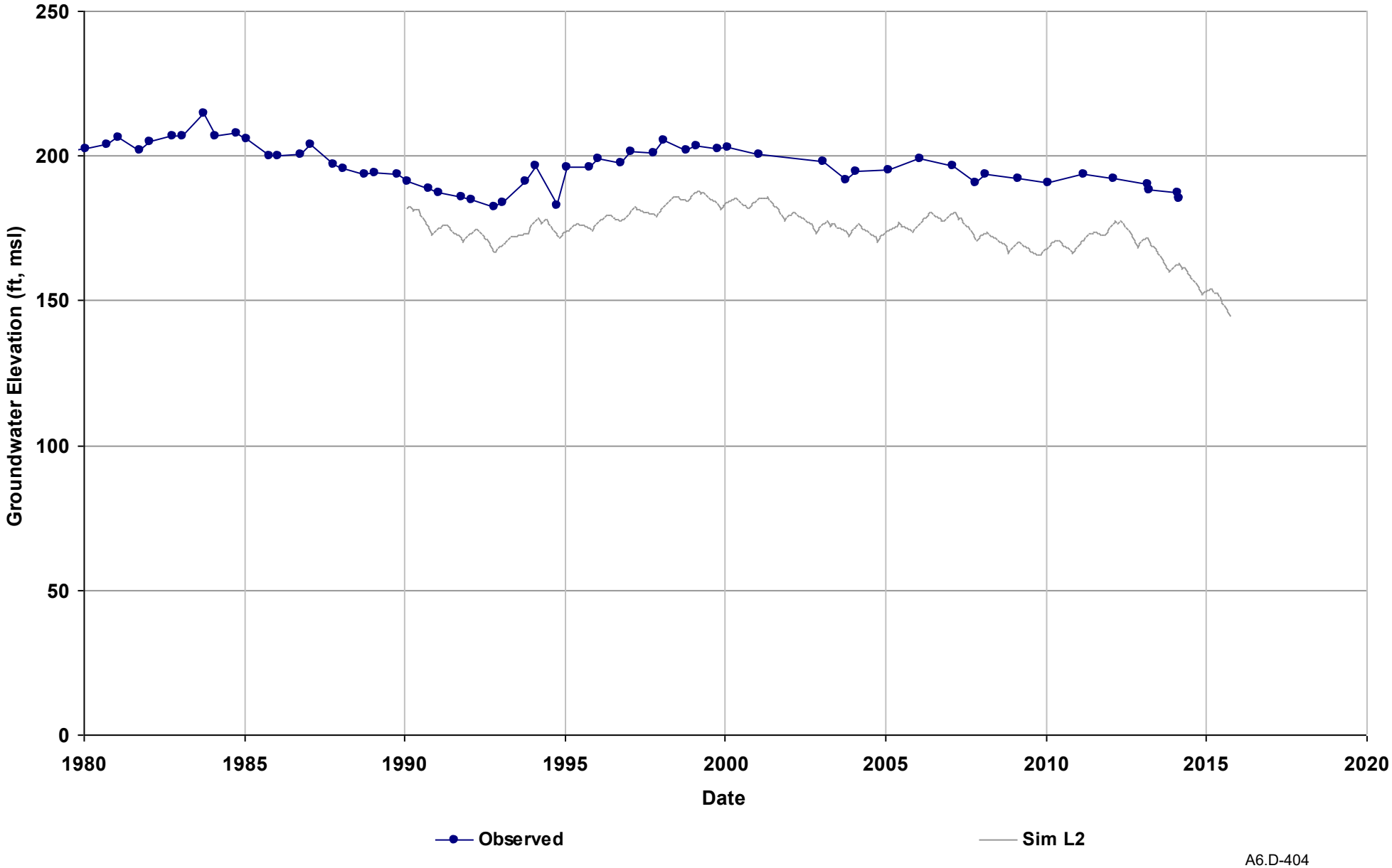
Well Name: 13S17E05P002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 214

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



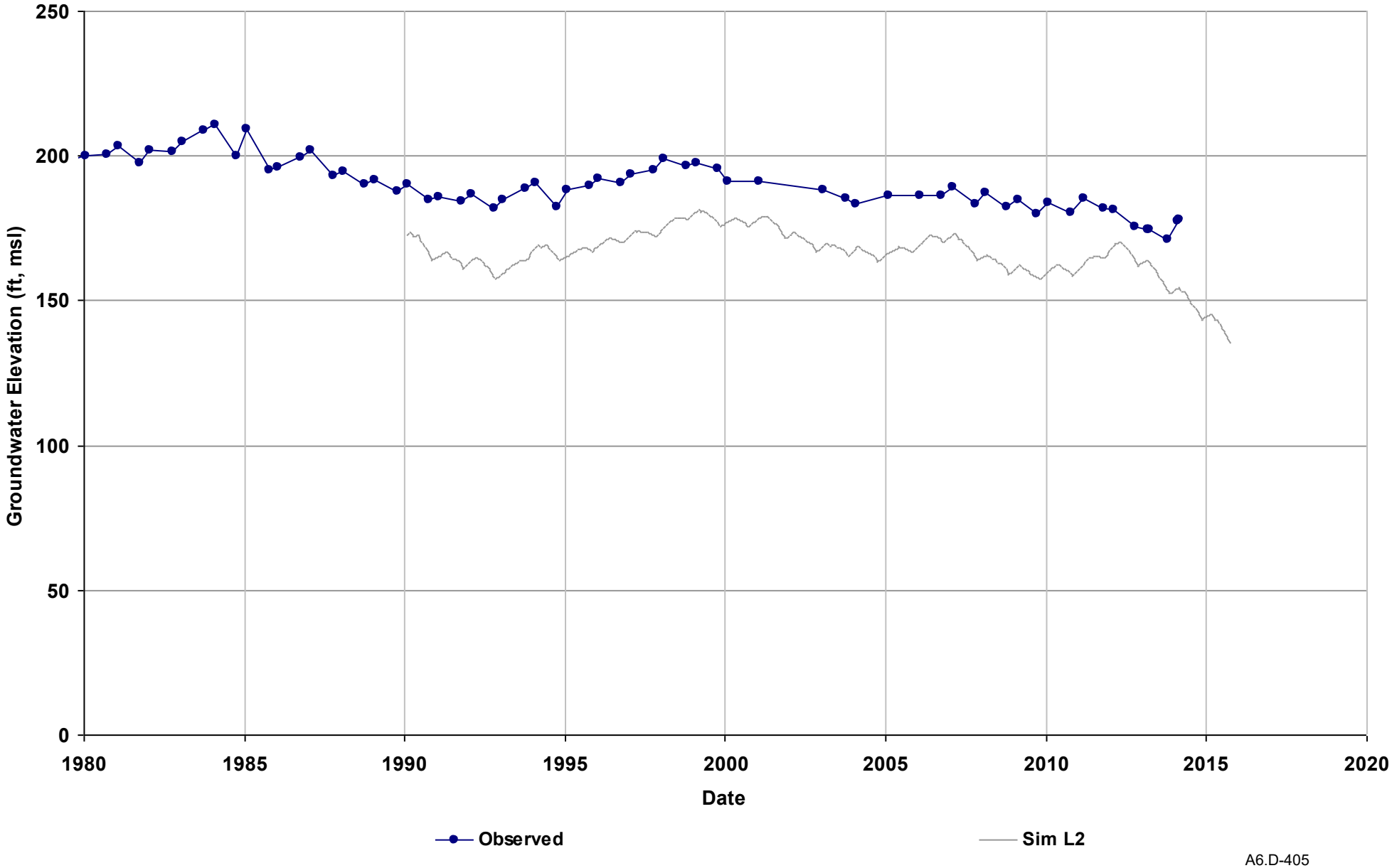
Well Name: 13S18E04B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 266

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



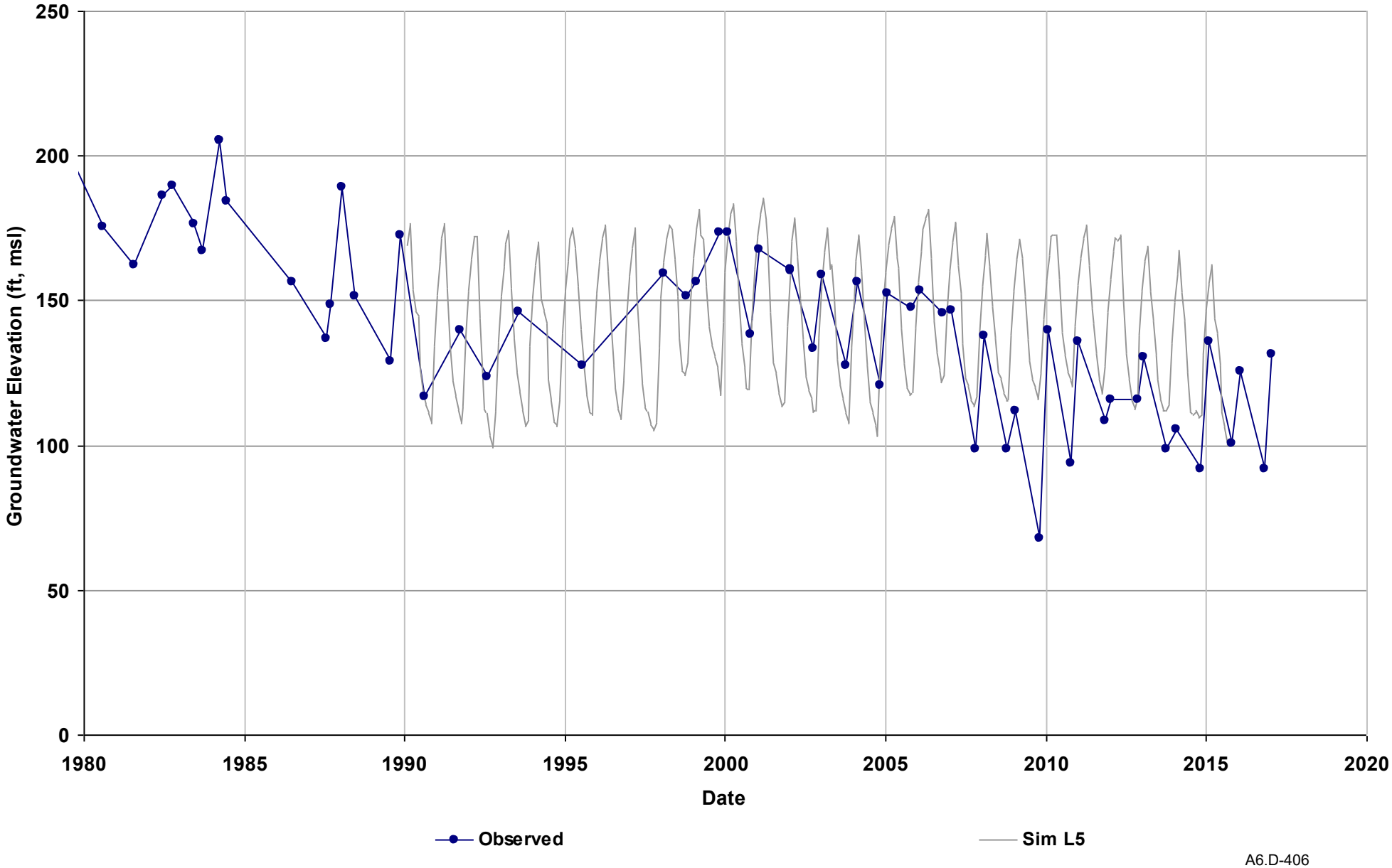
Well Name: 13S18E06K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 253

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



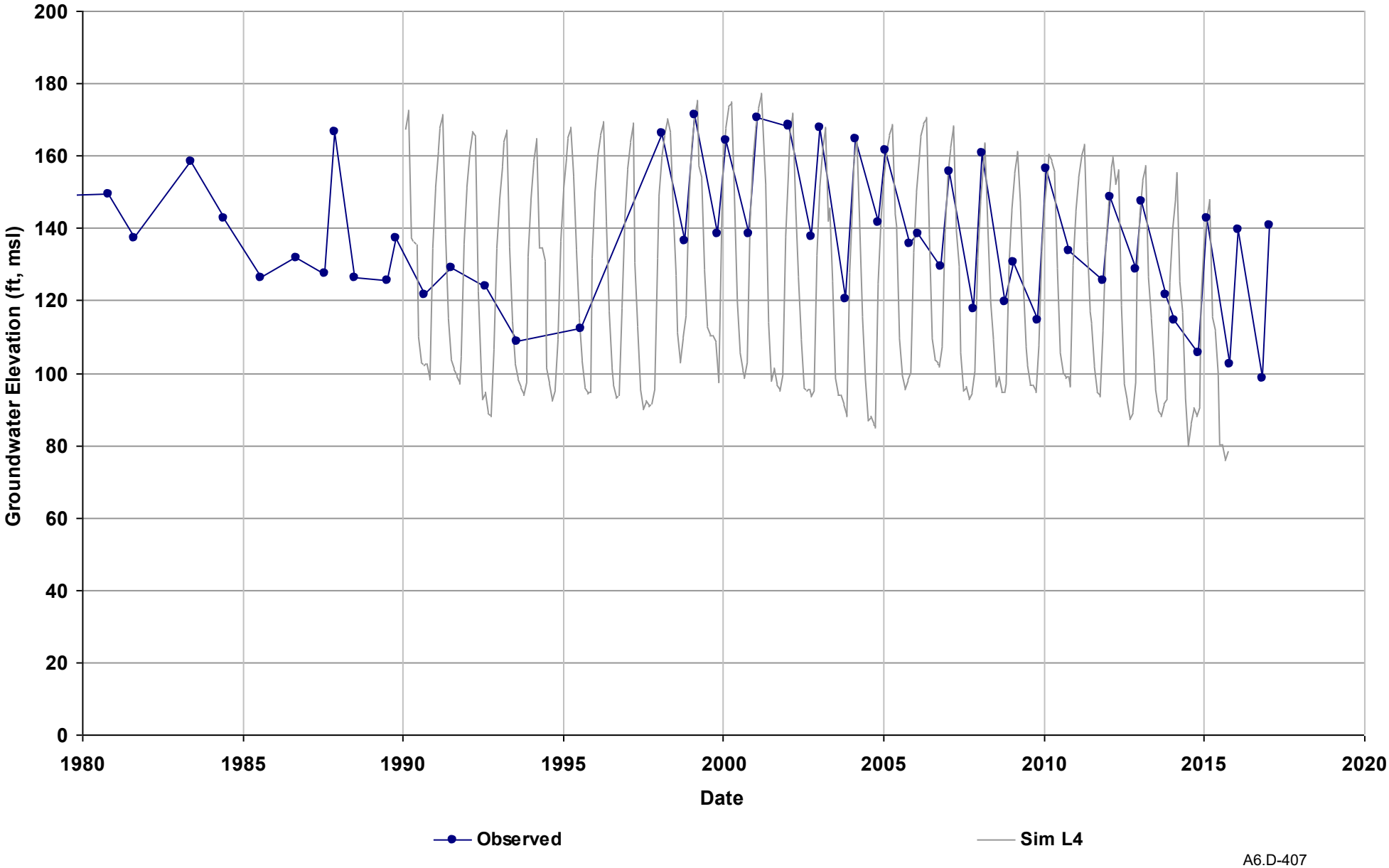
Well Name: RootCreekWD-66
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 373

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



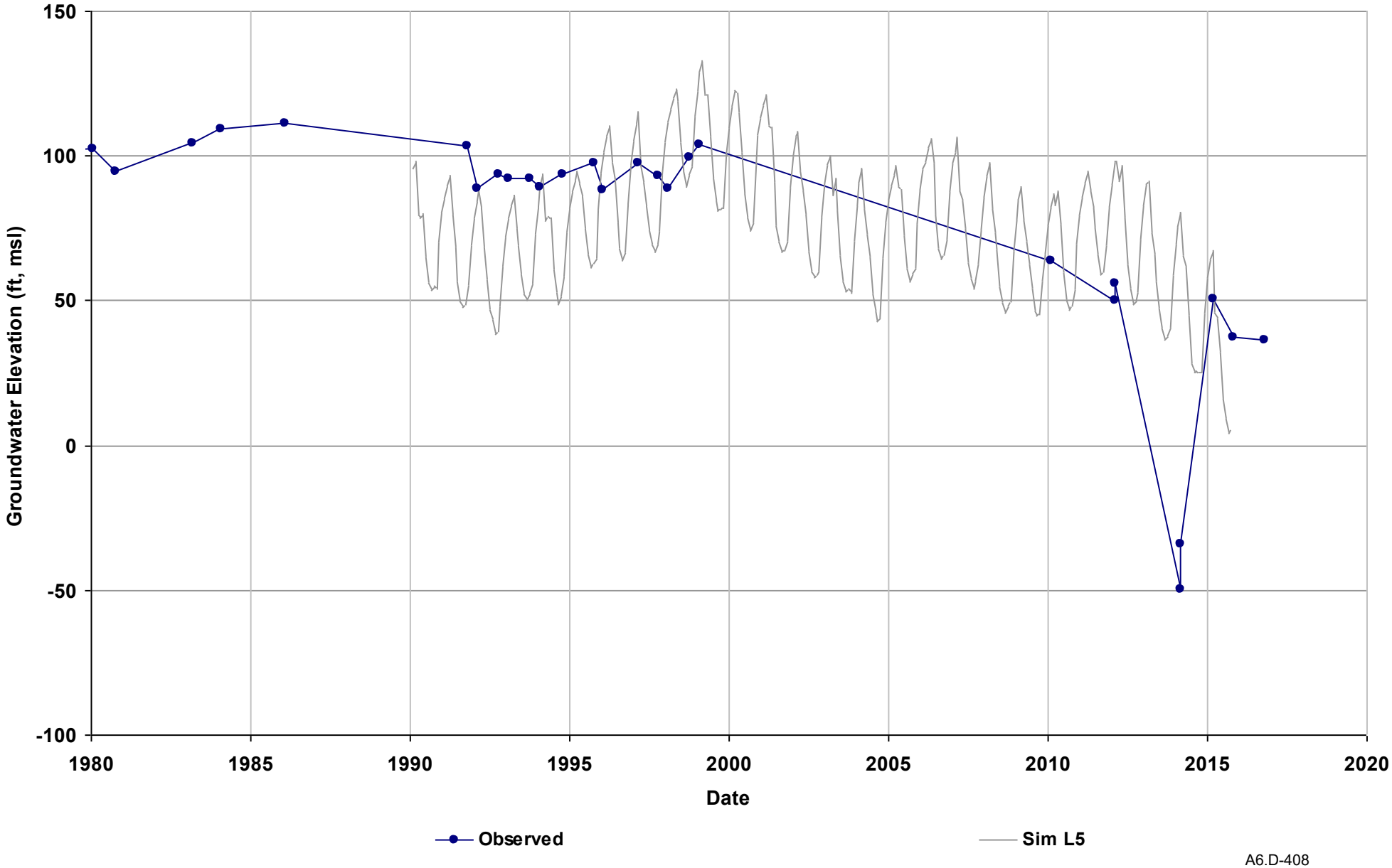
Well Name: RootCreekWD-88
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 336

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



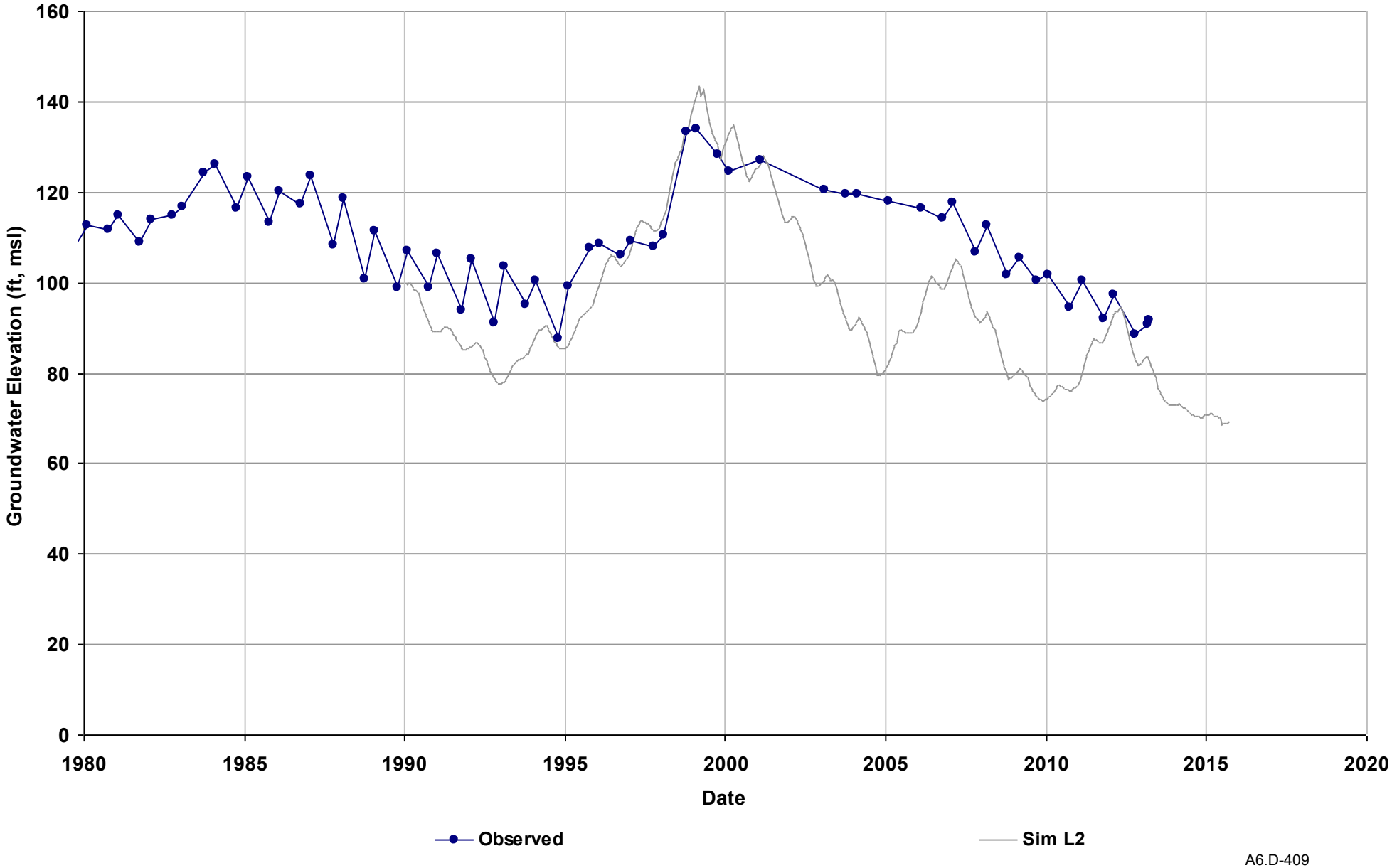
Well Name: 11S14E36R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 150

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



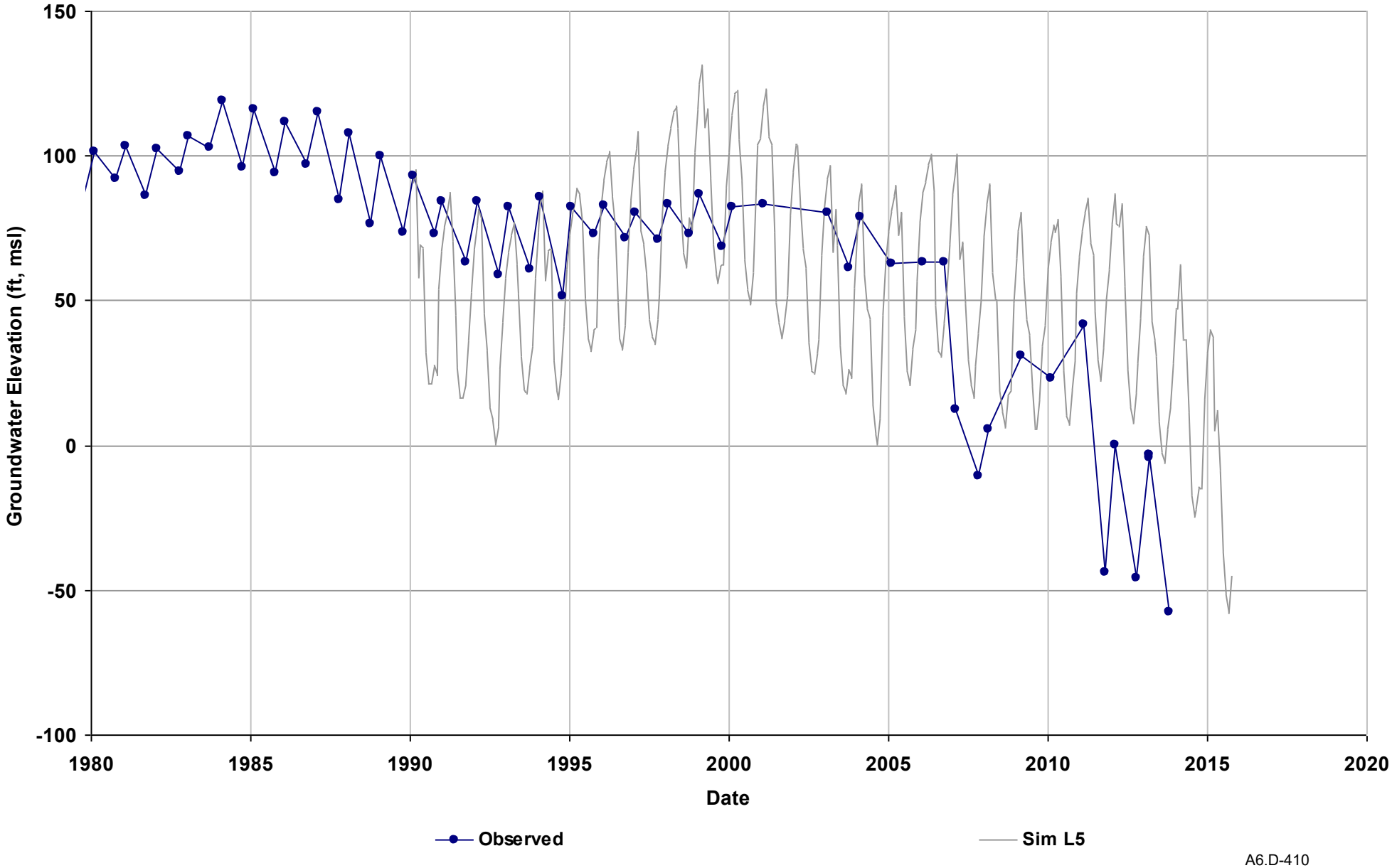
Well Name: 11S15E10J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 174

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



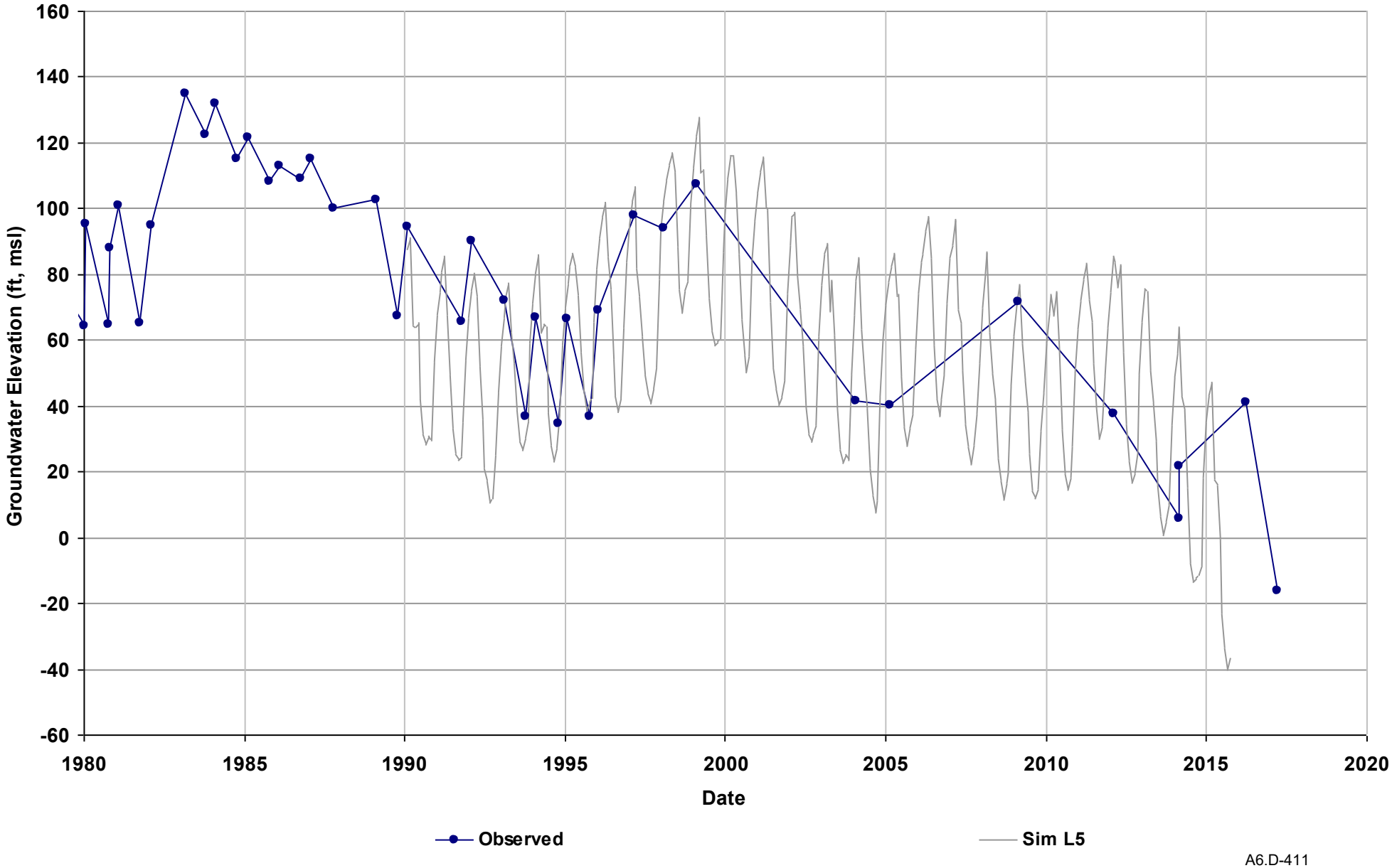
Well Name: 11S15E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 182

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



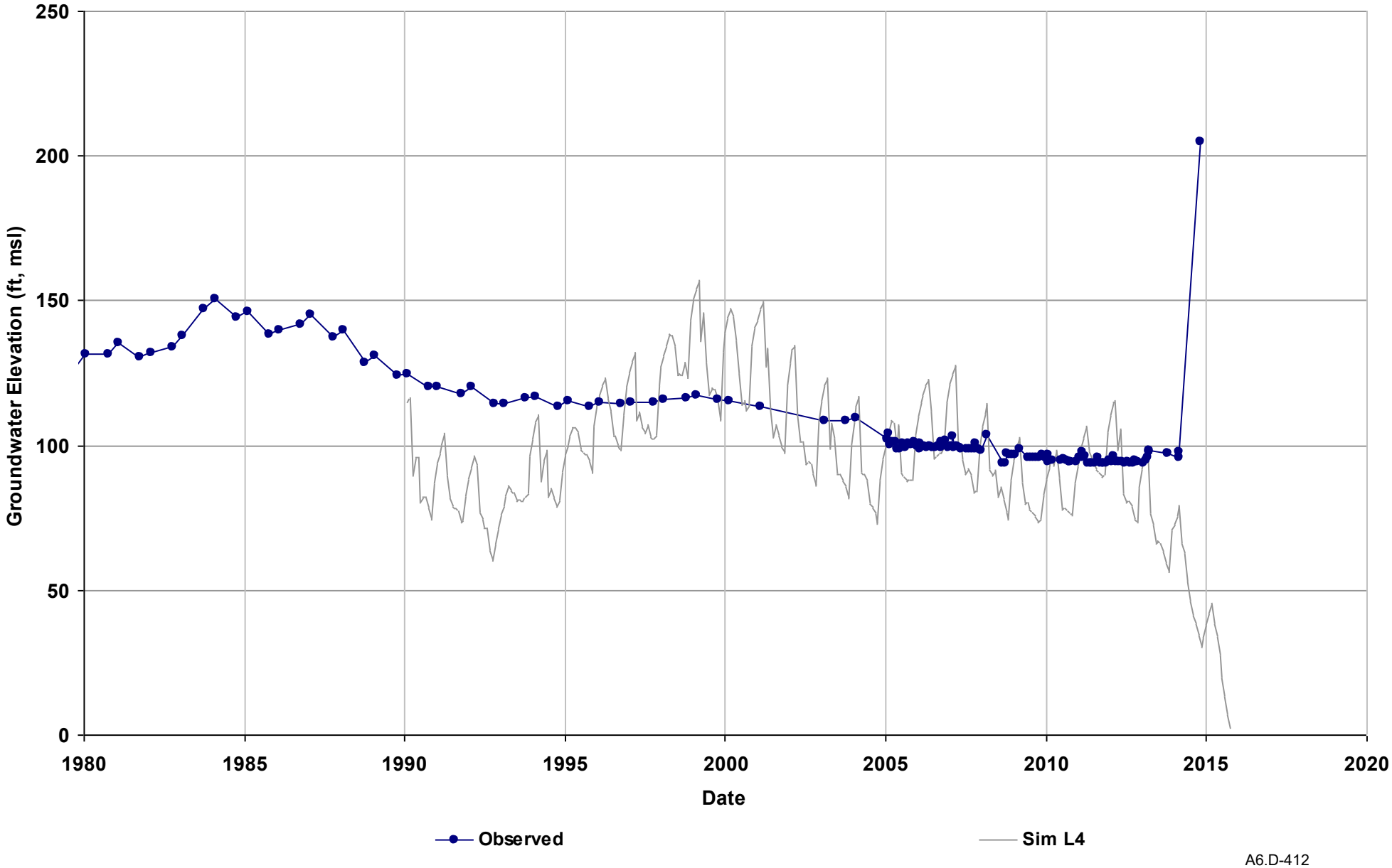
Well Name: 11S15E30A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 155

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



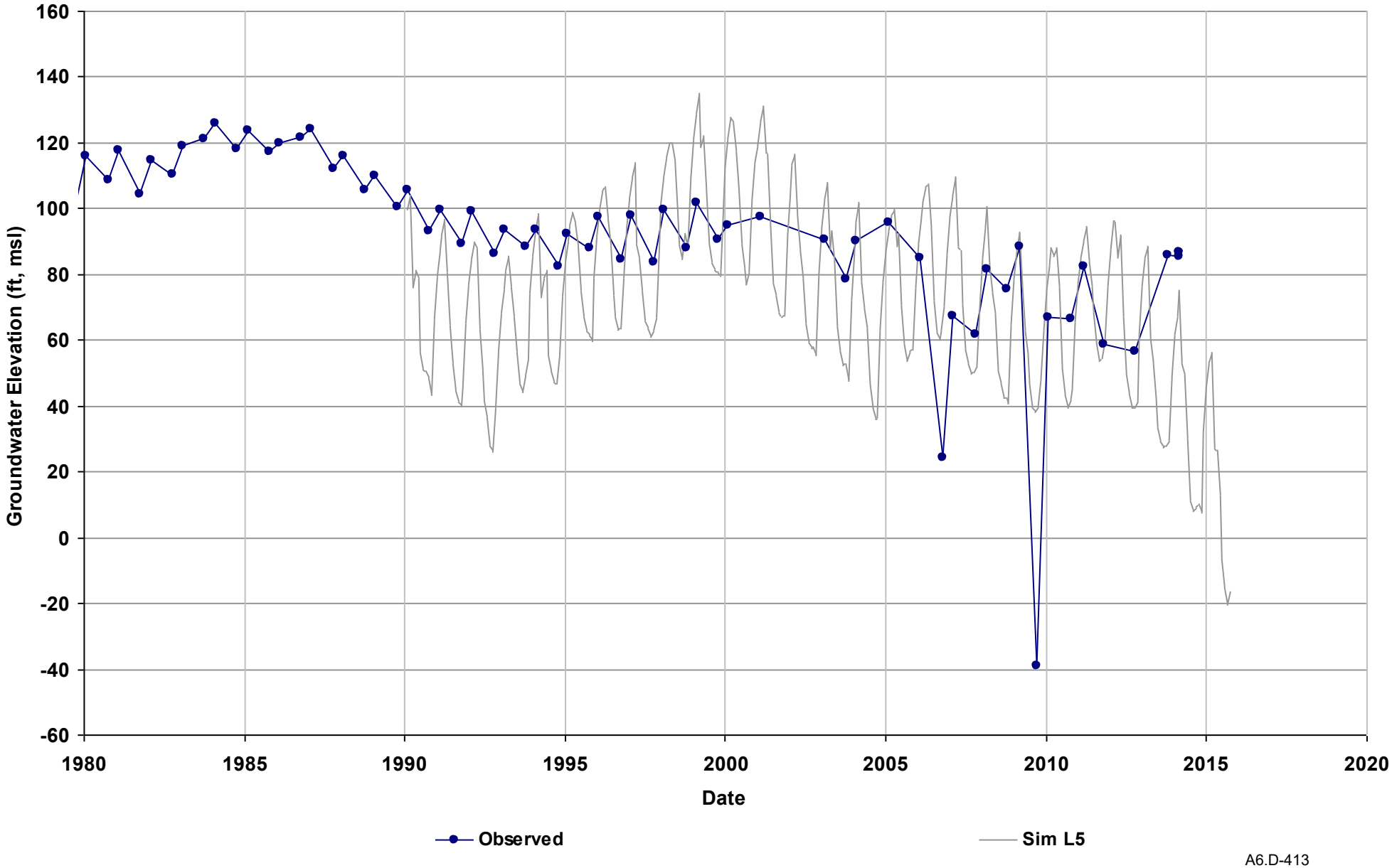
Well Name: 11S16E10N001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 206

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



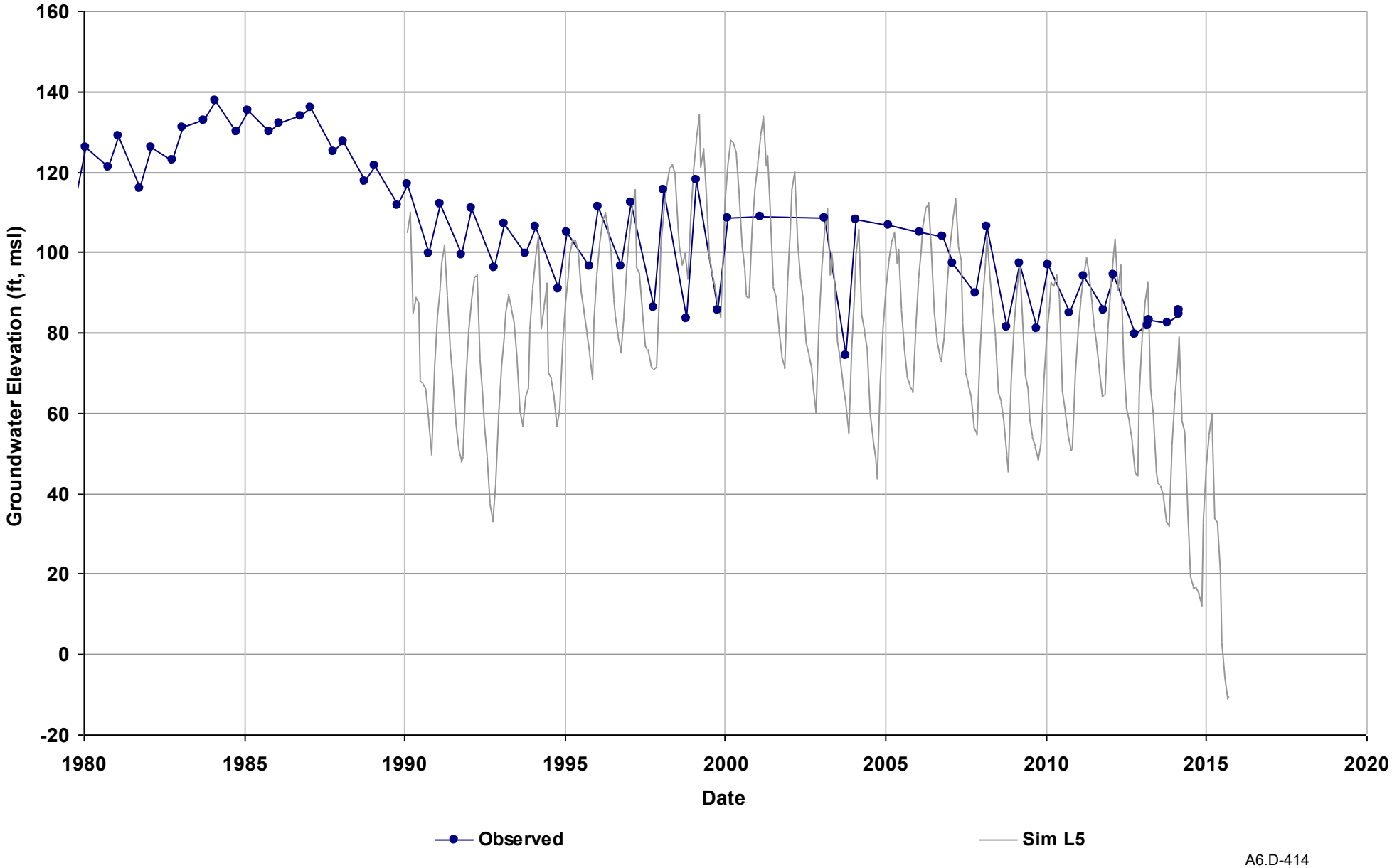
Well Name: 11S16E34D001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



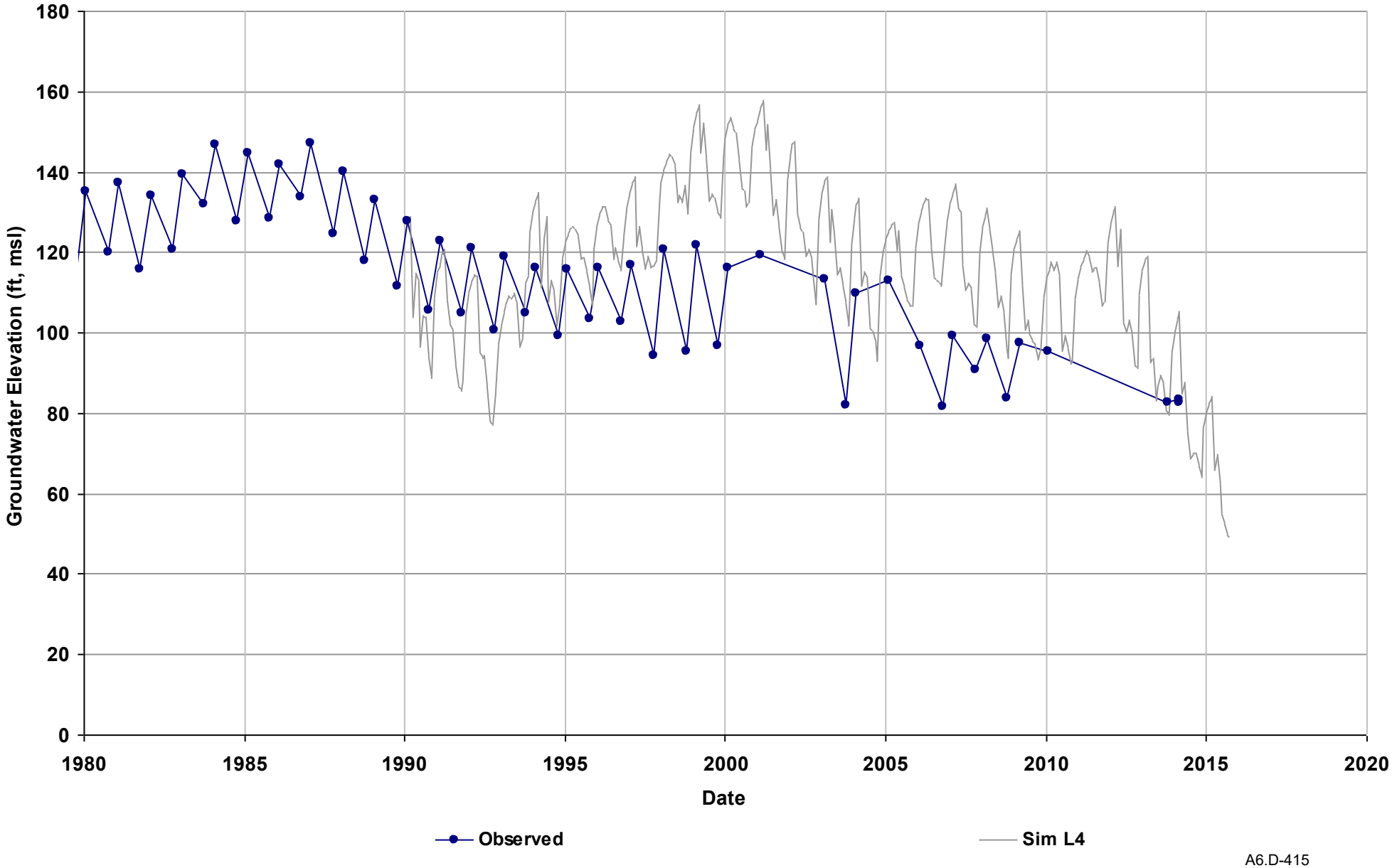
Well Name: 11S16E35H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 215

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



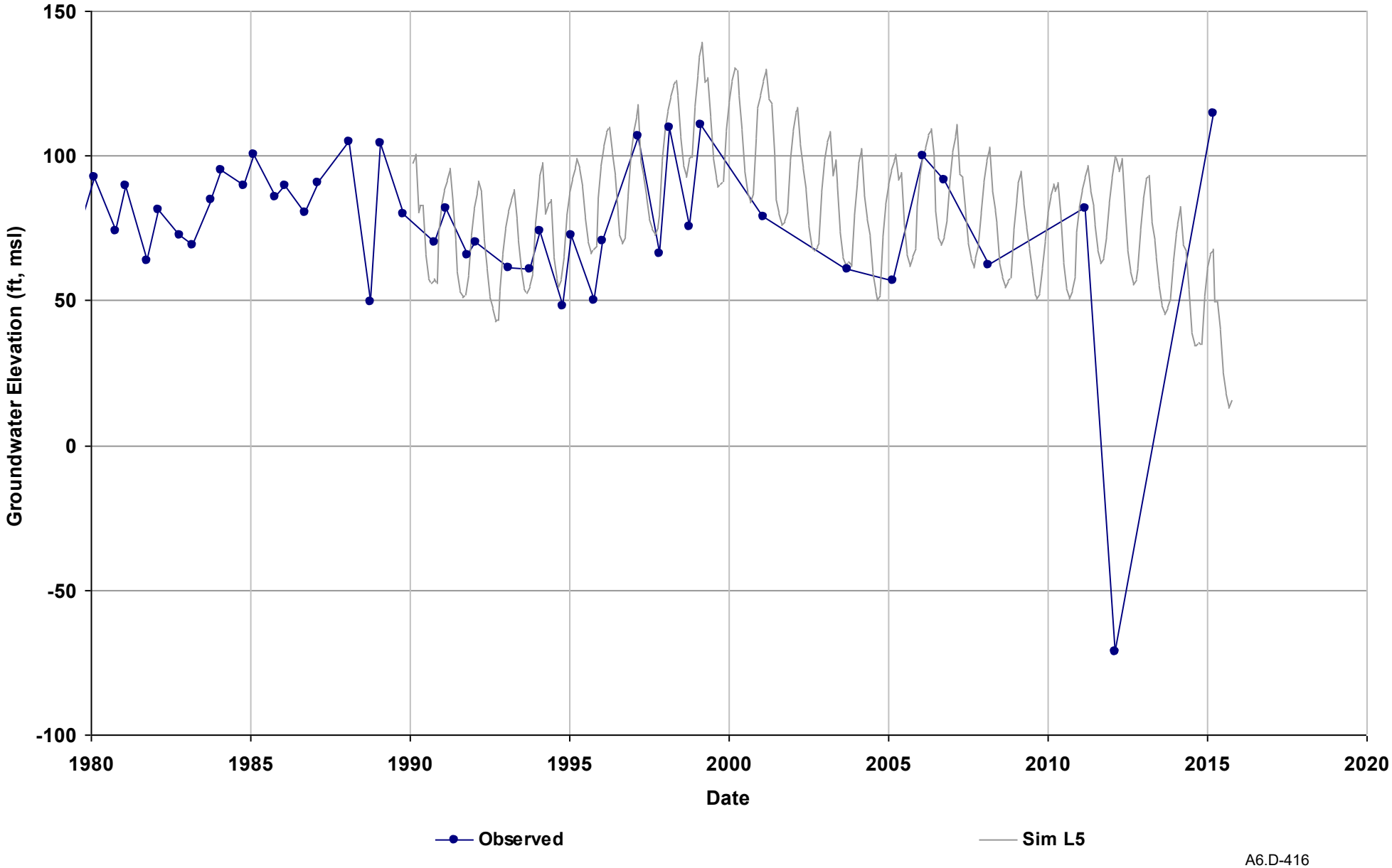
Well Name: 11S16E36J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 222

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



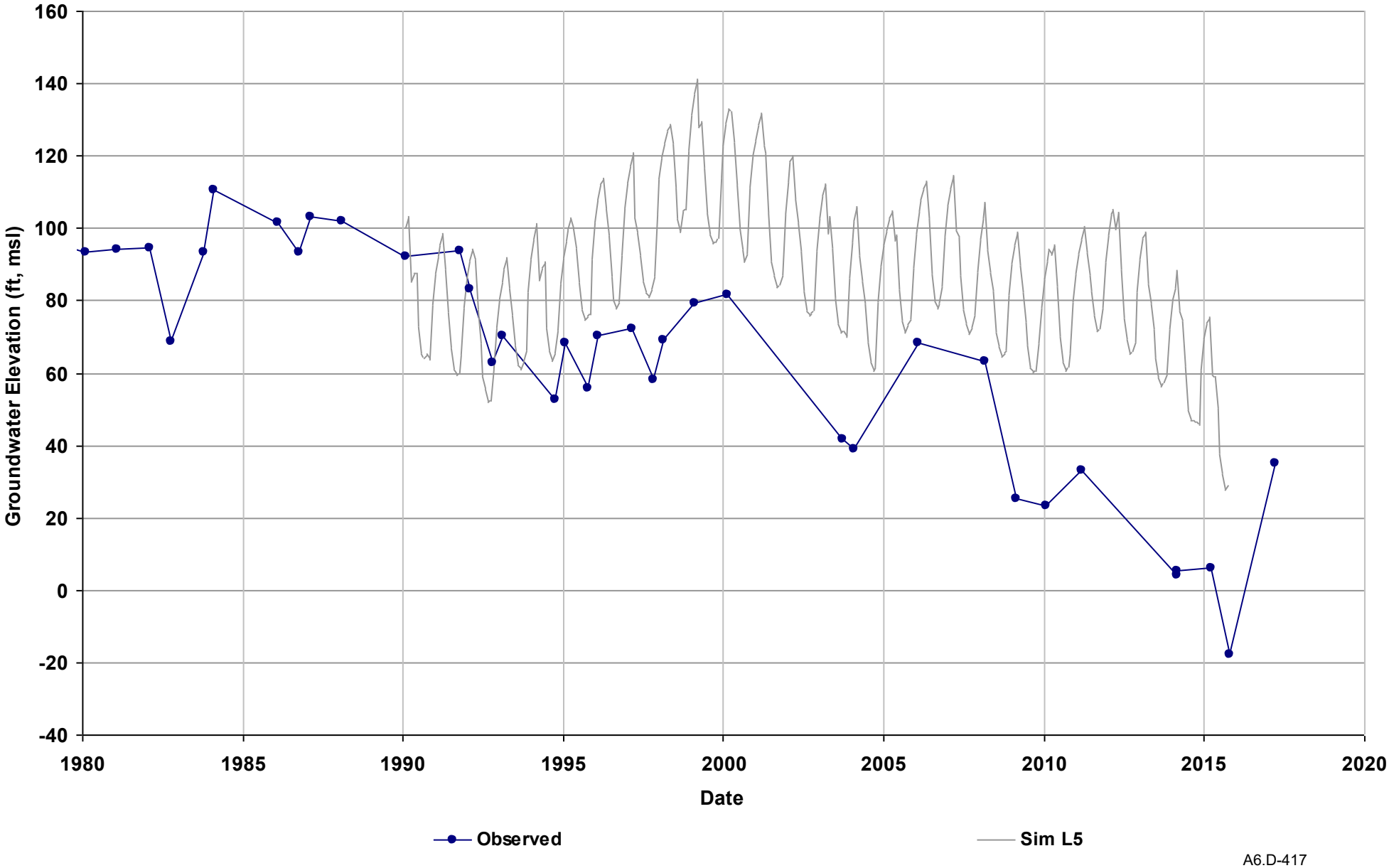
Well Name: 12S15E01R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



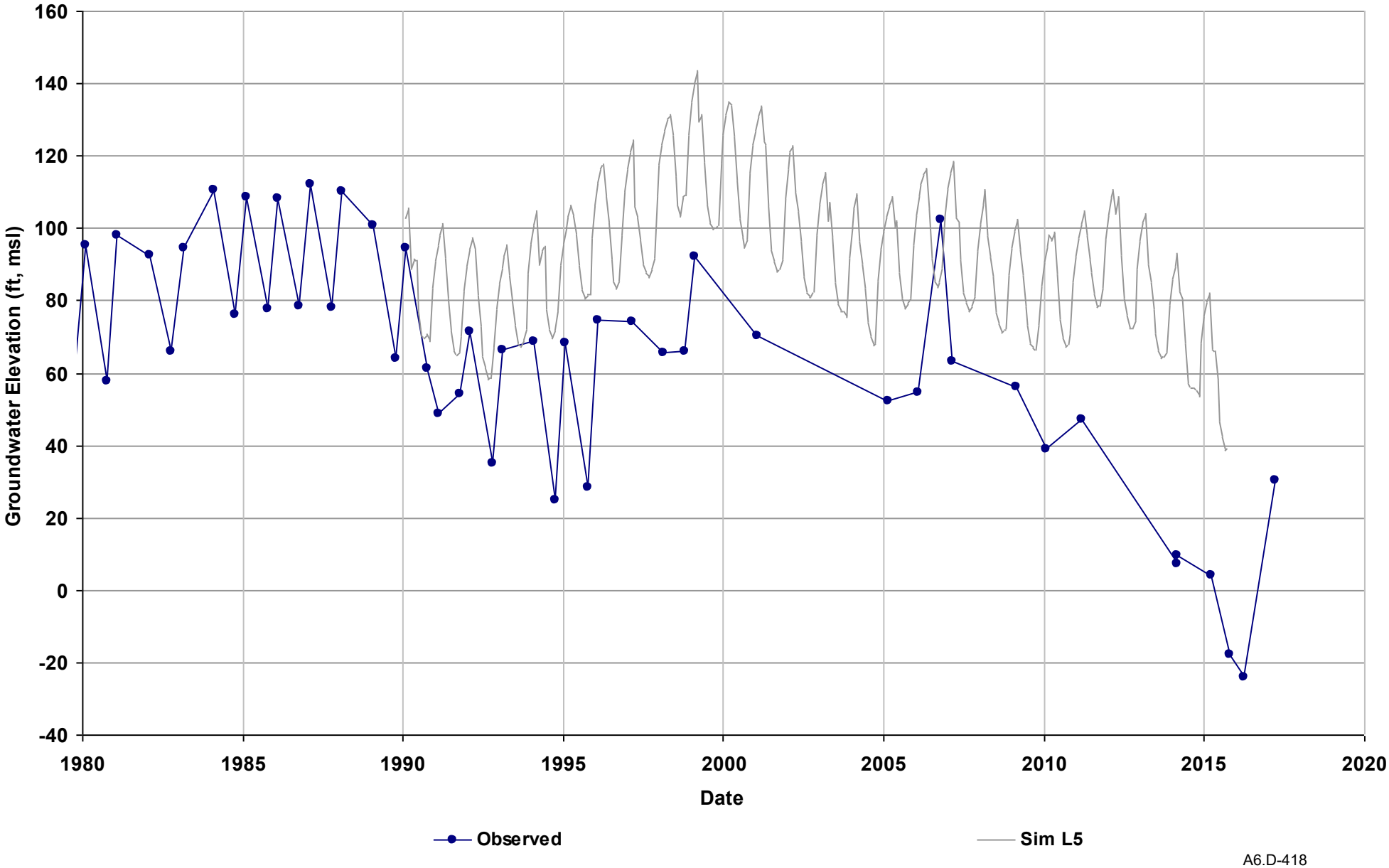
Well Name: 12S15E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 178

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



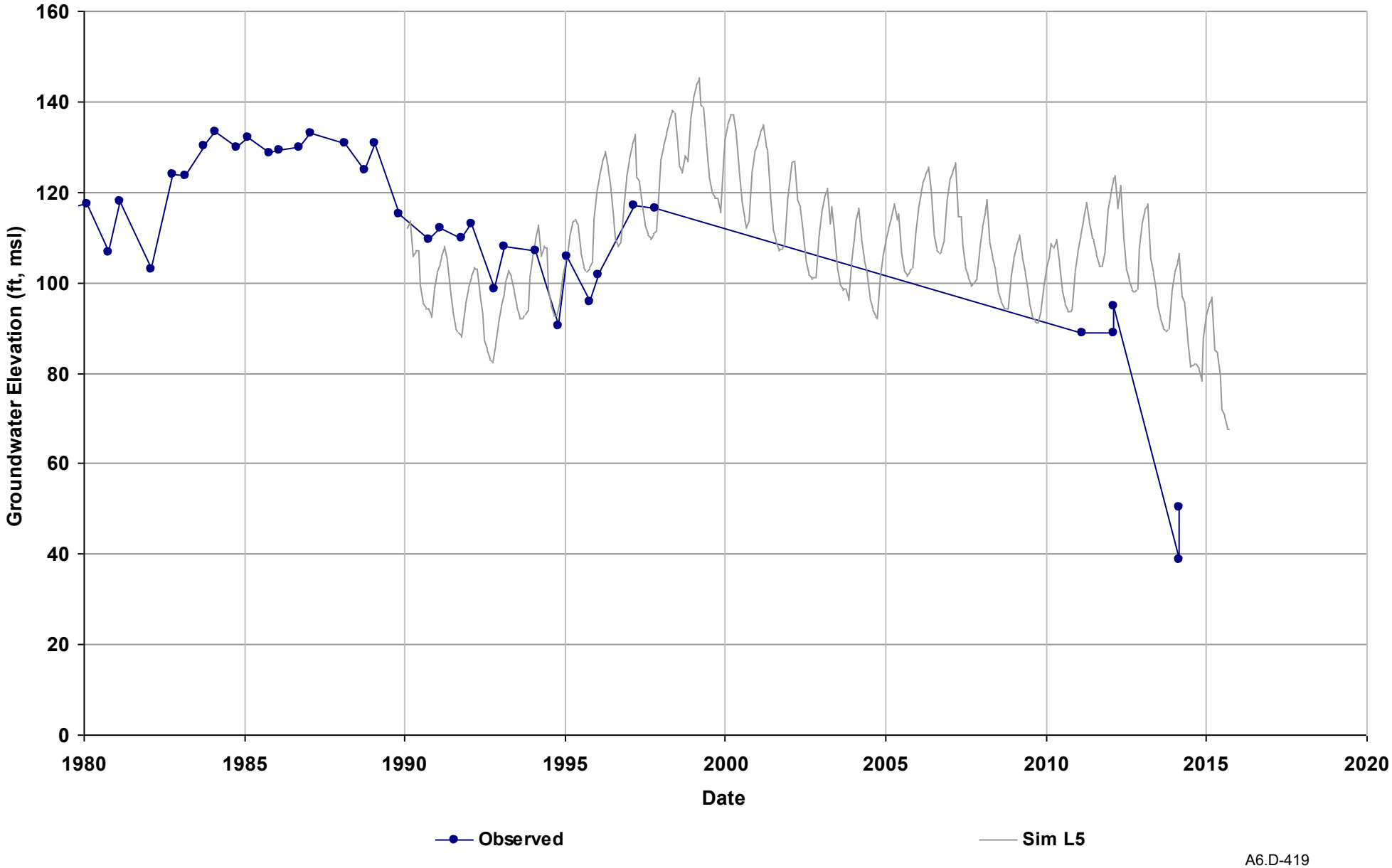
Well Name: 12S15E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 176

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



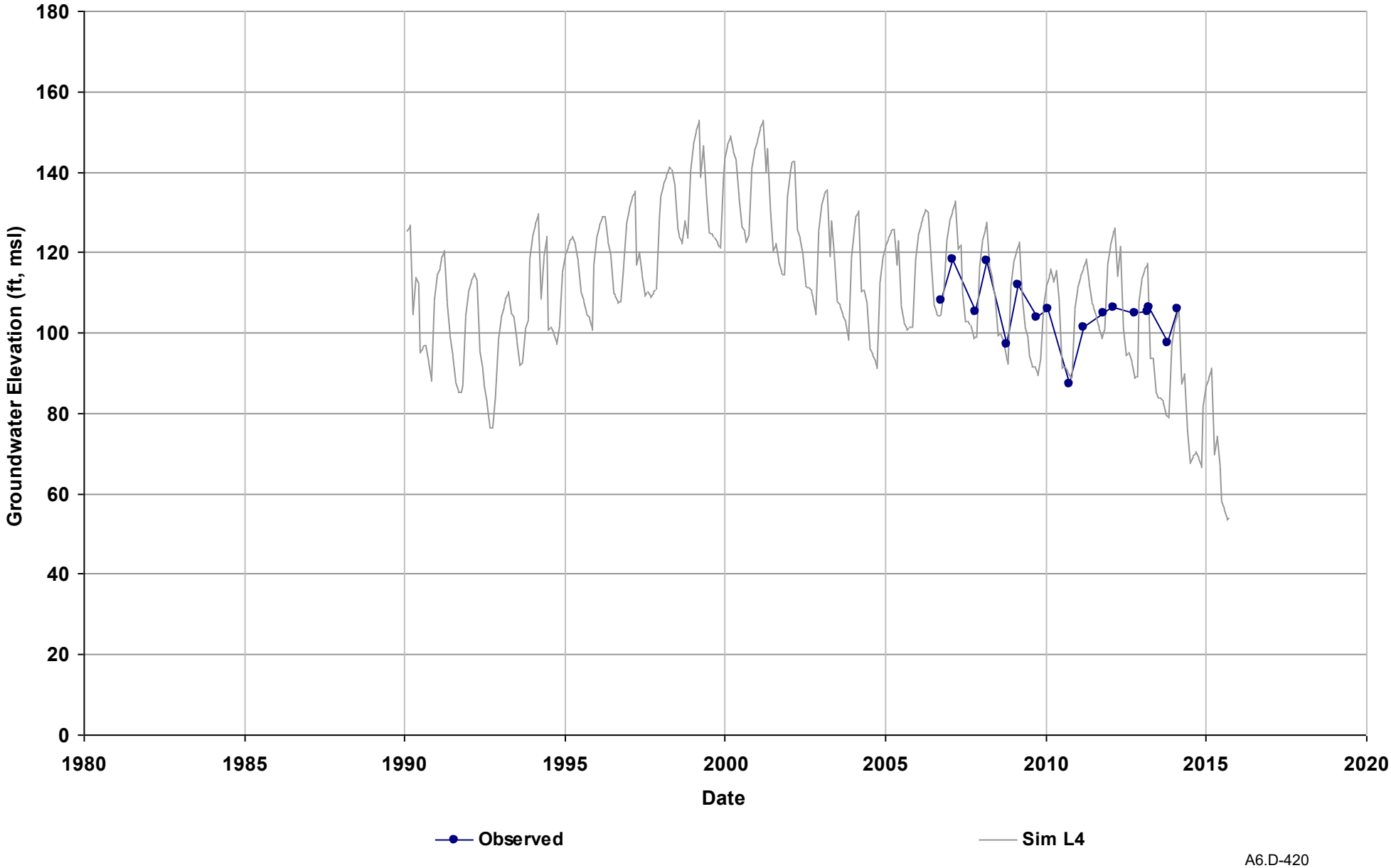
Well Name: 12S15E29C001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 156

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



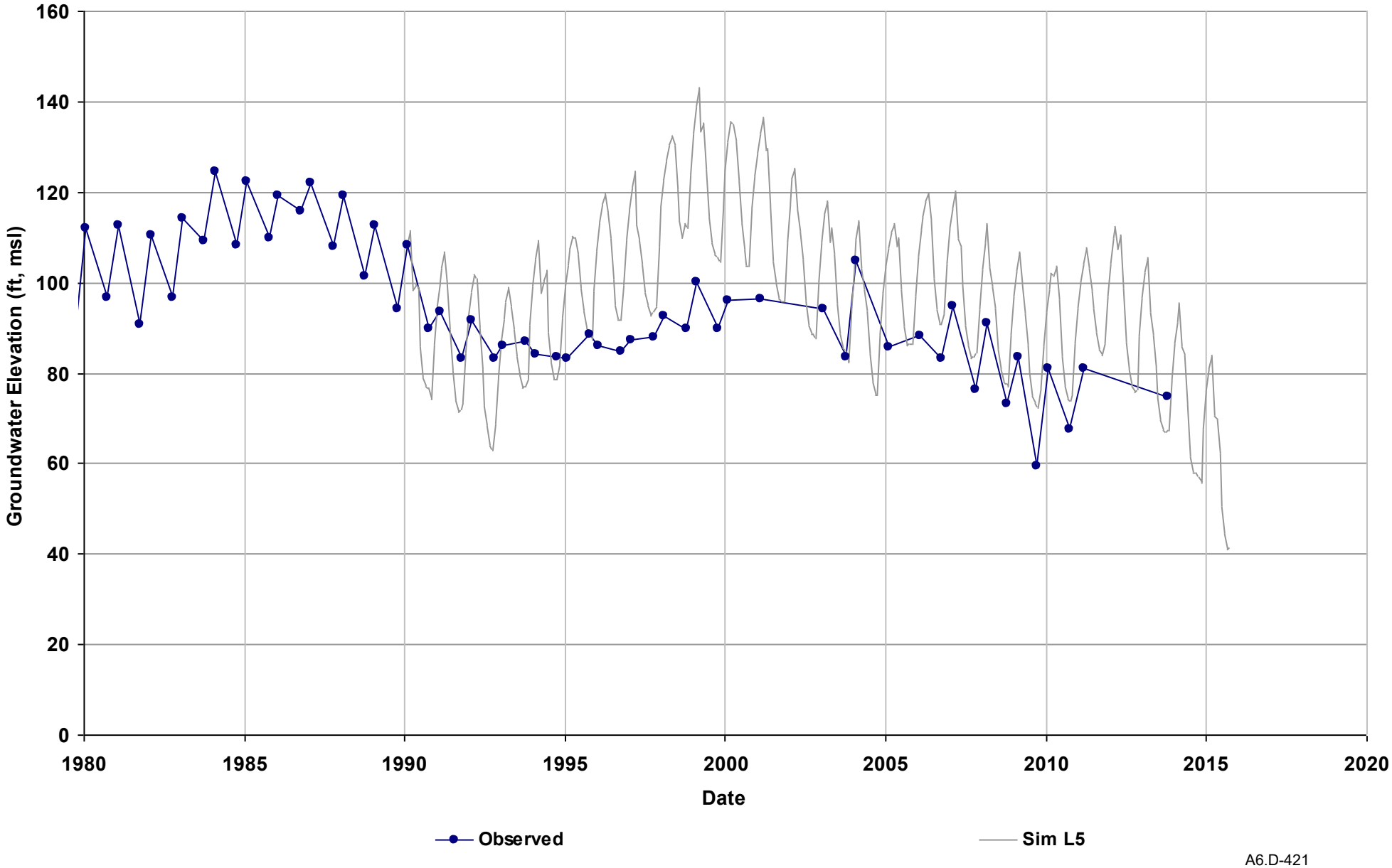
Well Name: 12S16E12H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 217

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



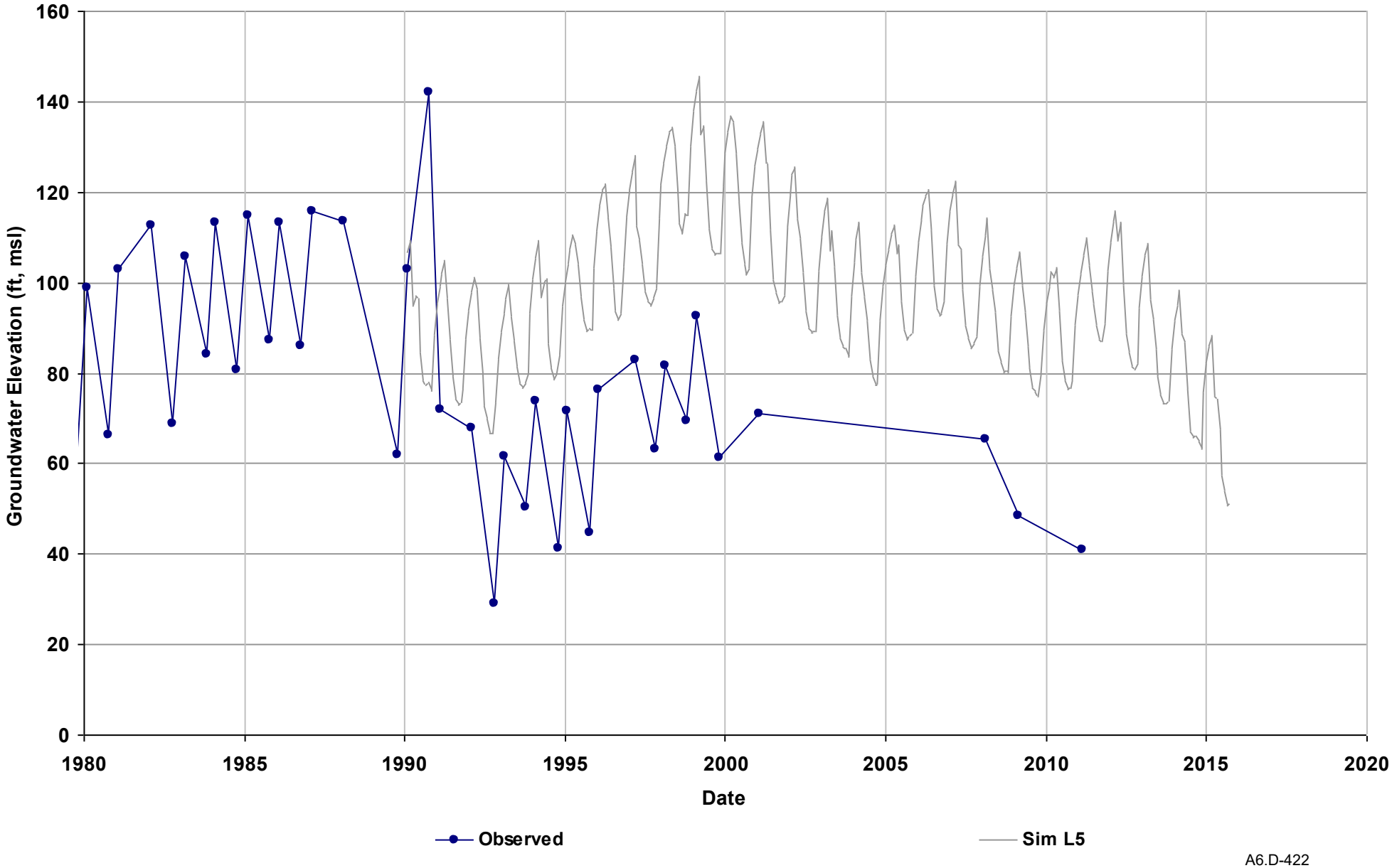
Well Name: 12S16E16R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 195

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



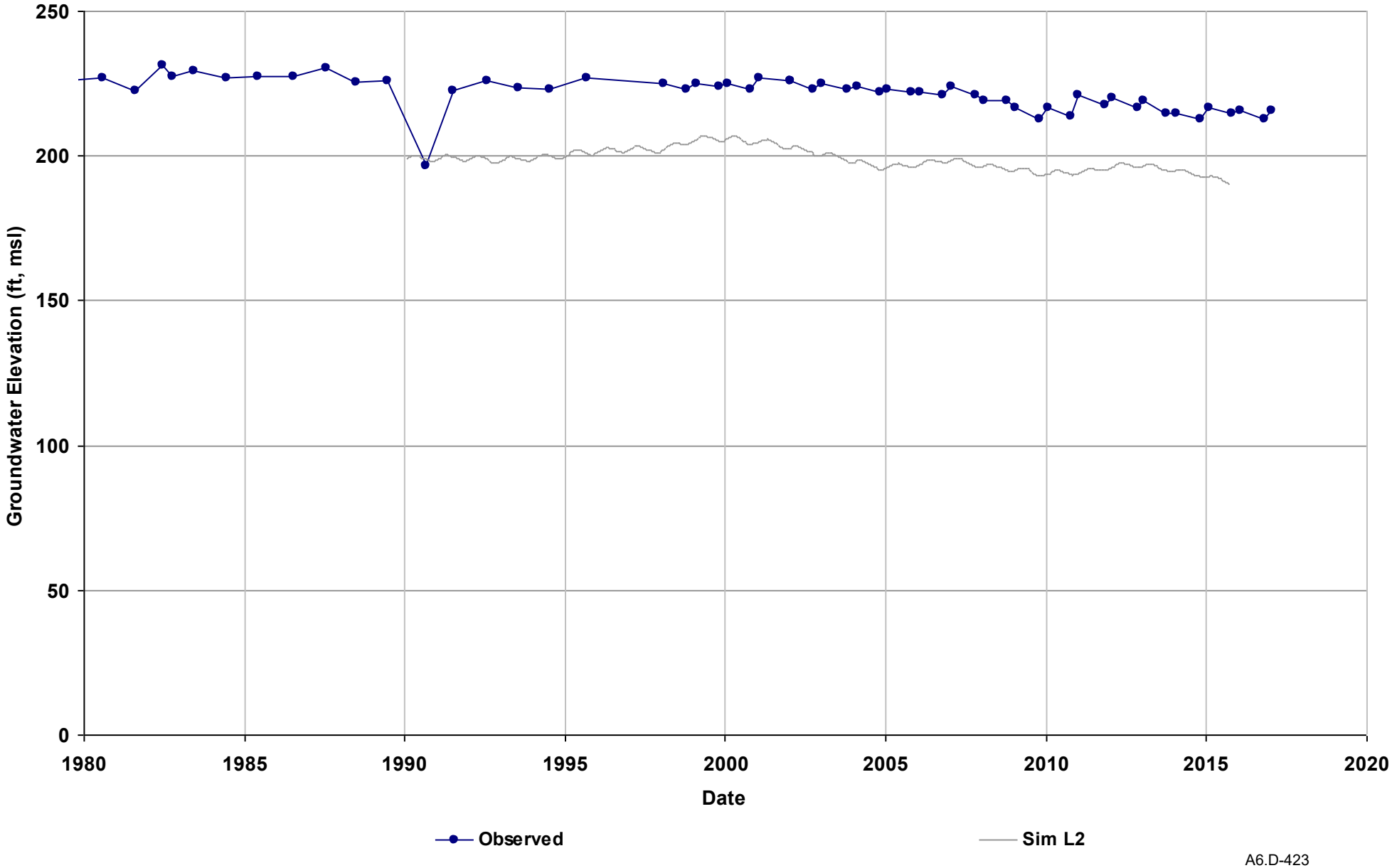
Well Name: 12S16E19P001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



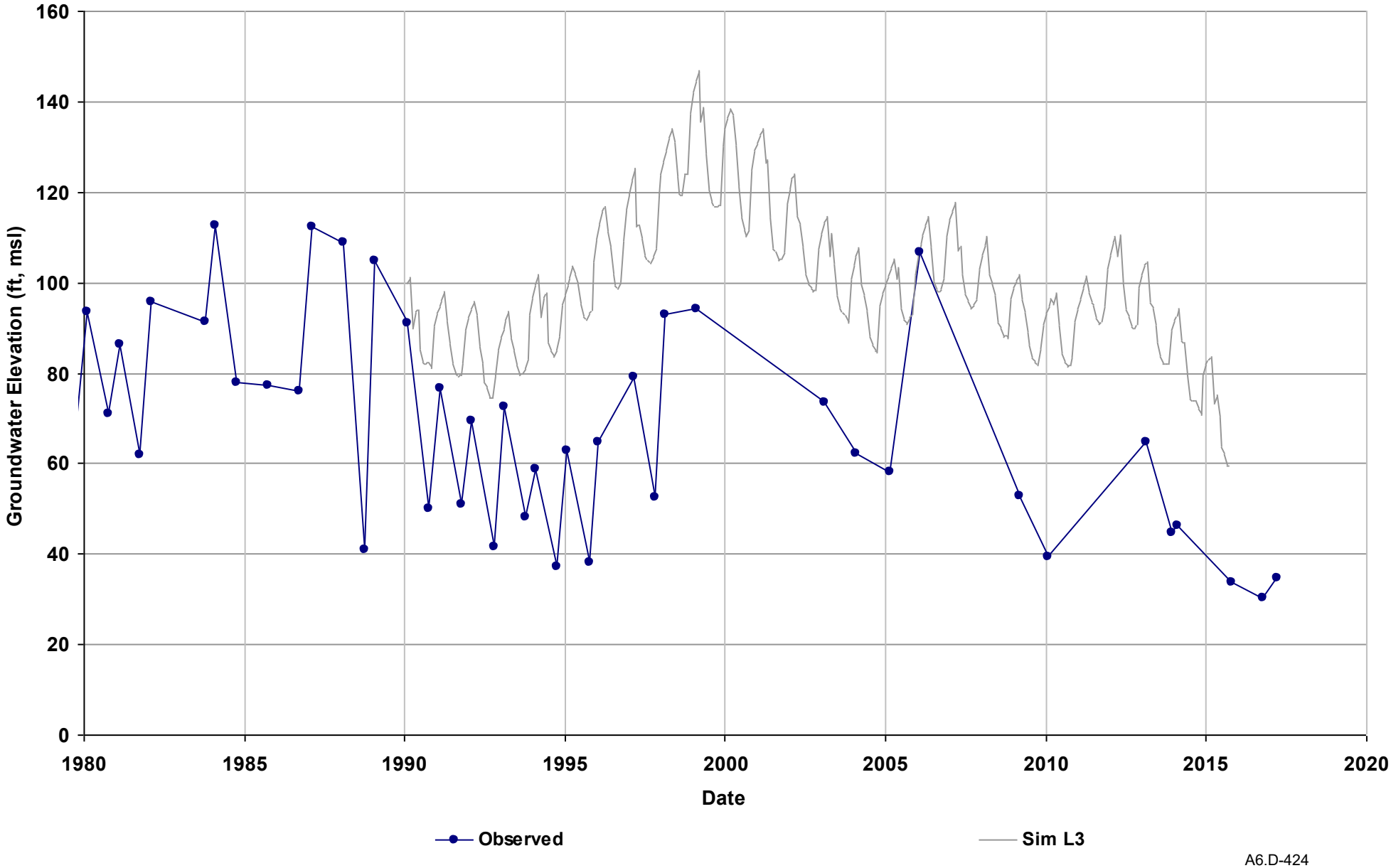
Well Name: RootCreekWD-22
Depth Zone: Upper; Outside CC
Subbasin: Madera
GSE (ft, msl): 348

Total Depth (ft): 236
Perf Top (ft): 160
Perf Bottom (ft): 228
Top Model Layer: 2
Bottom Model Layer: 2



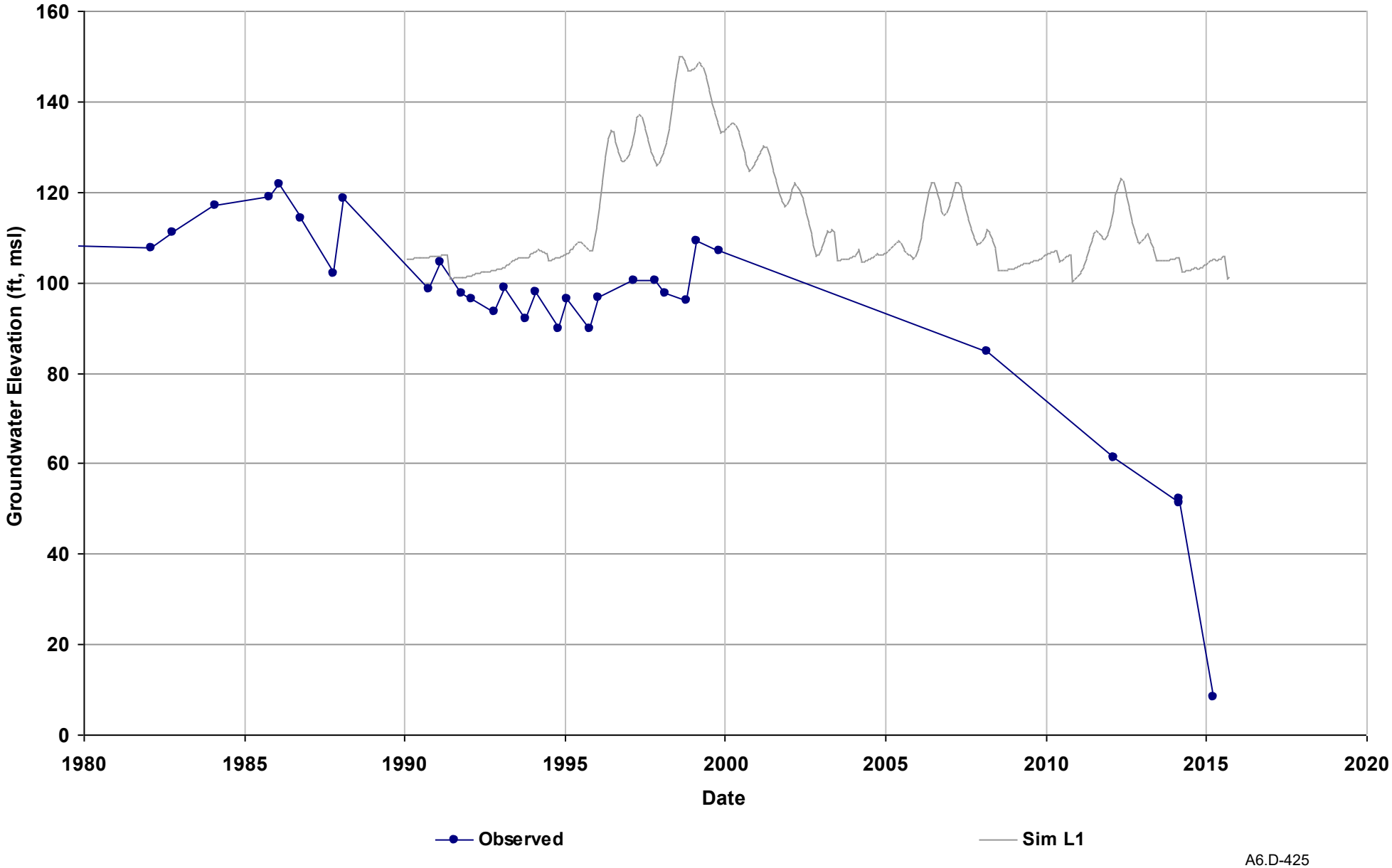
Well Name: 12S15E11R001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 173

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



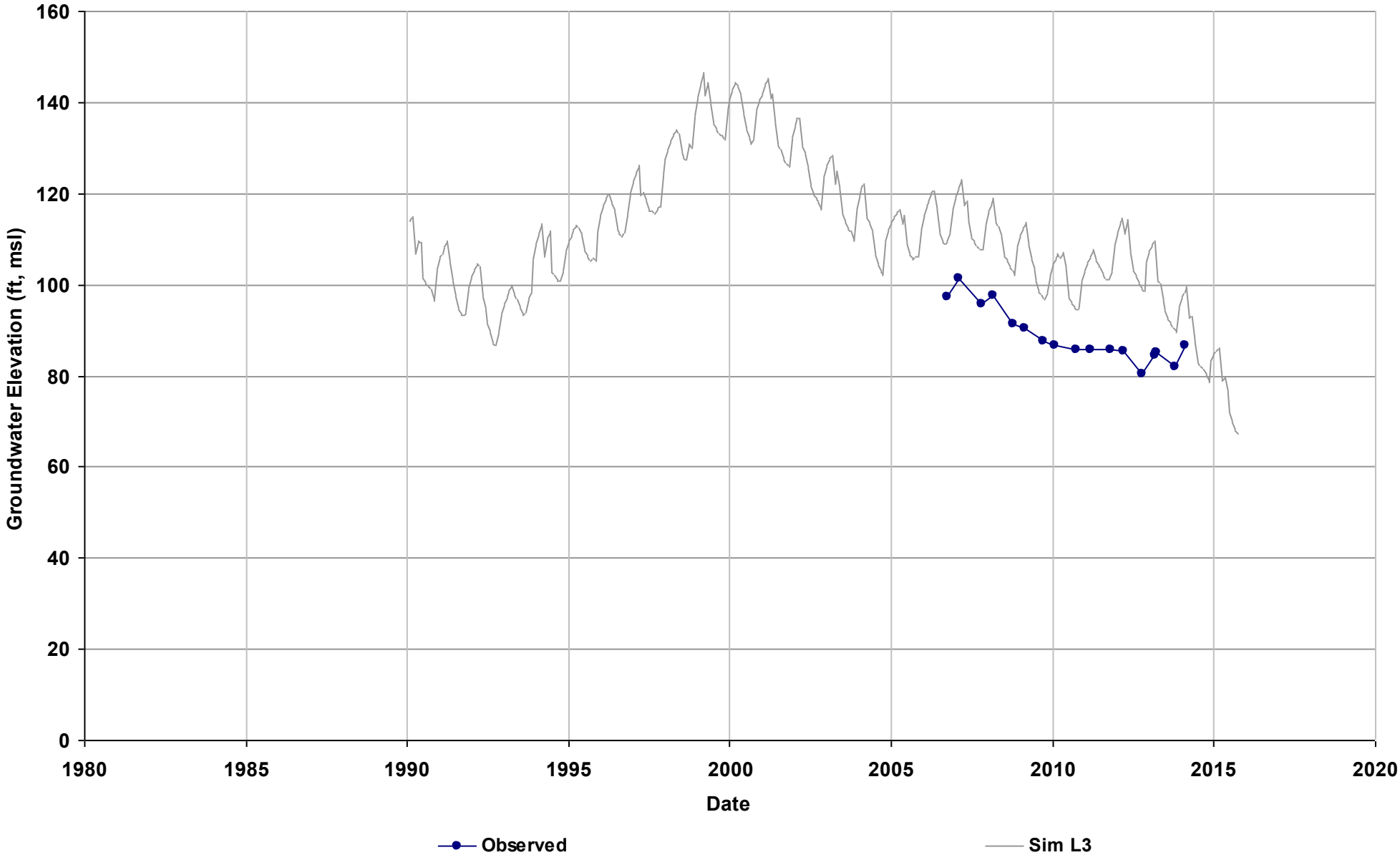
Well Name: 12S15E17E001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 154

Total Depth (ft): 57
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



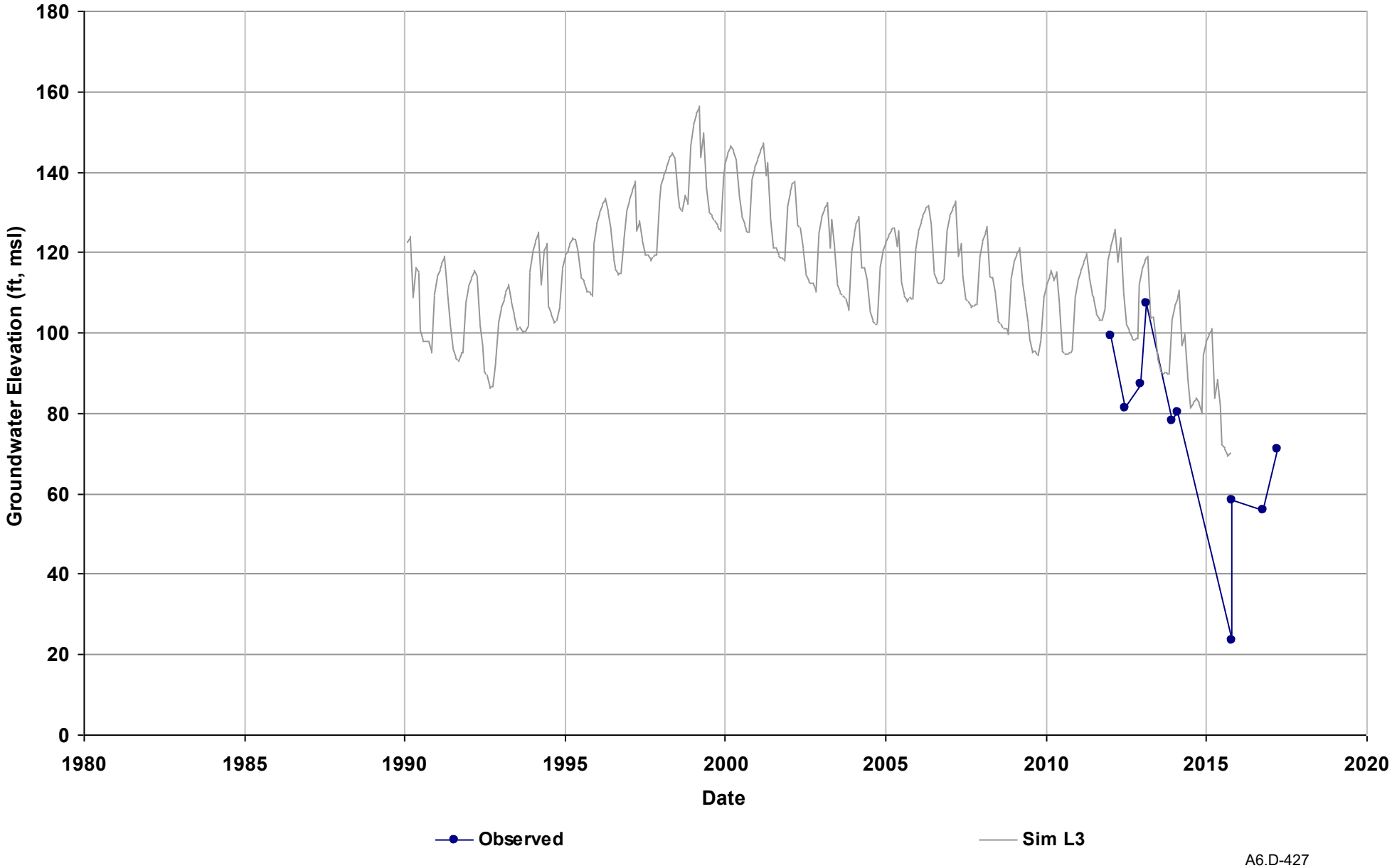
Well Name: 12S16E02N001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

Total Depth (ft): 143.6000061
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



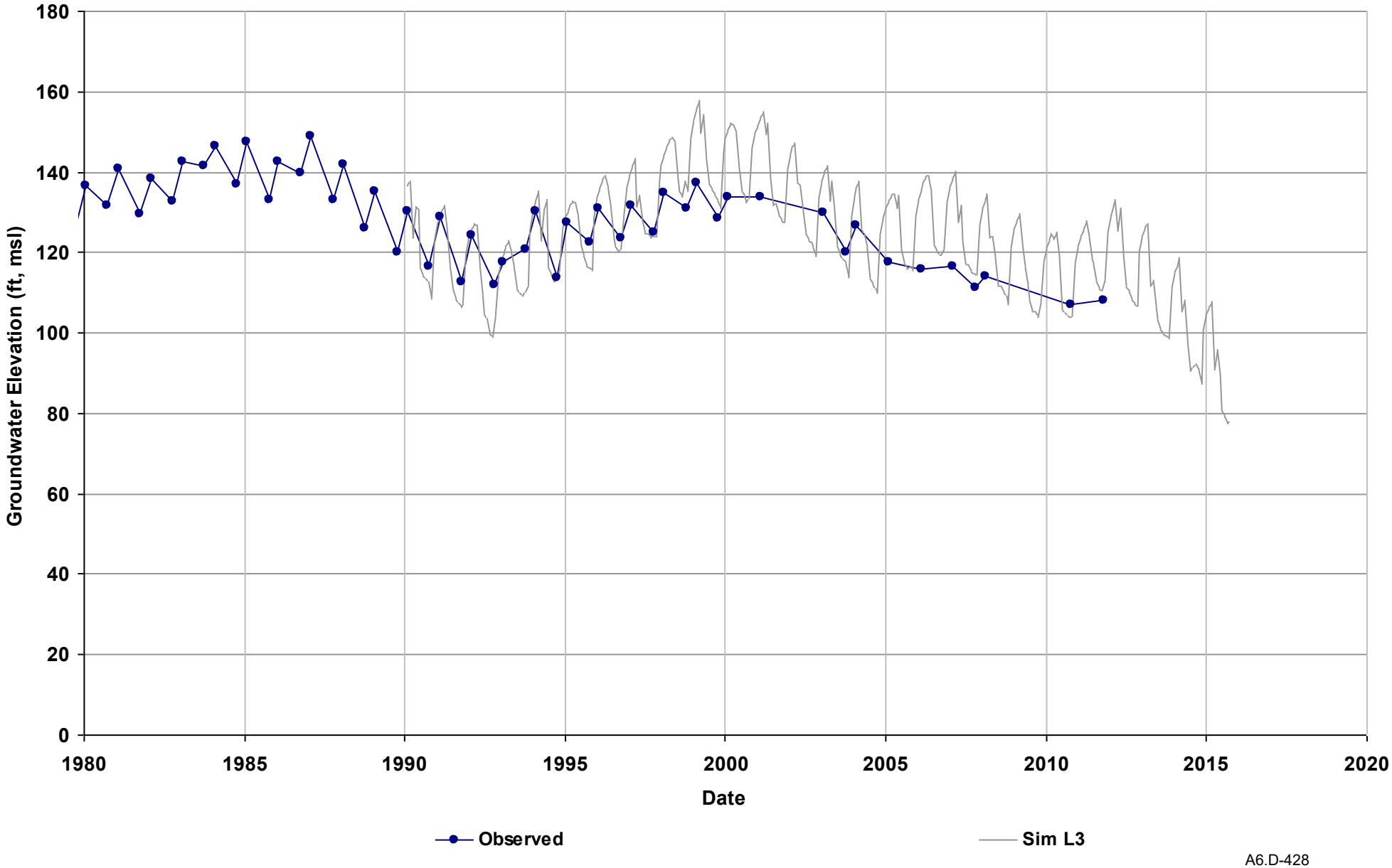
Well Name: 12S16E26H001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 203

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



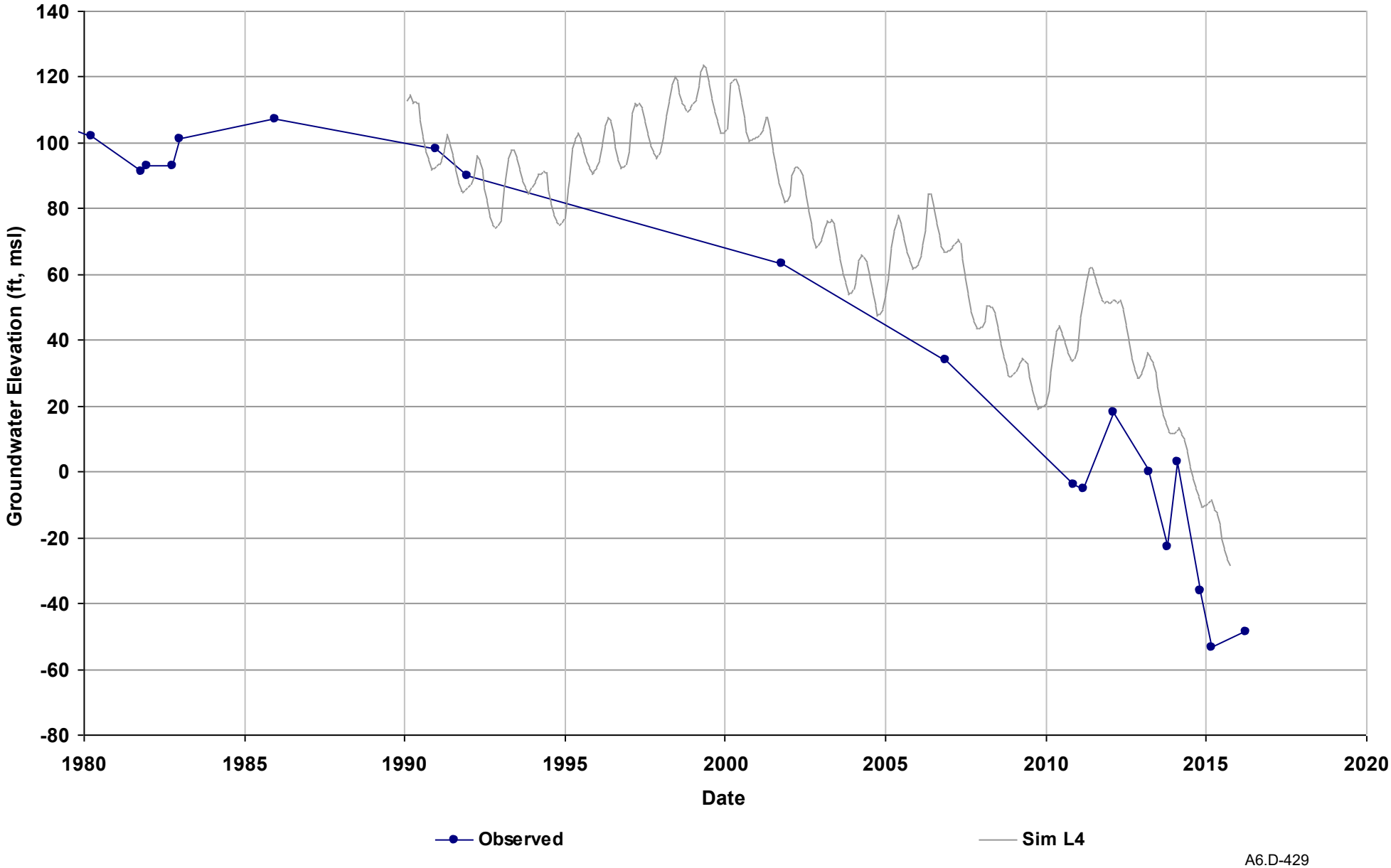
Well Name: 12S17E20P001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 220

Total Depth (ft): 252
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



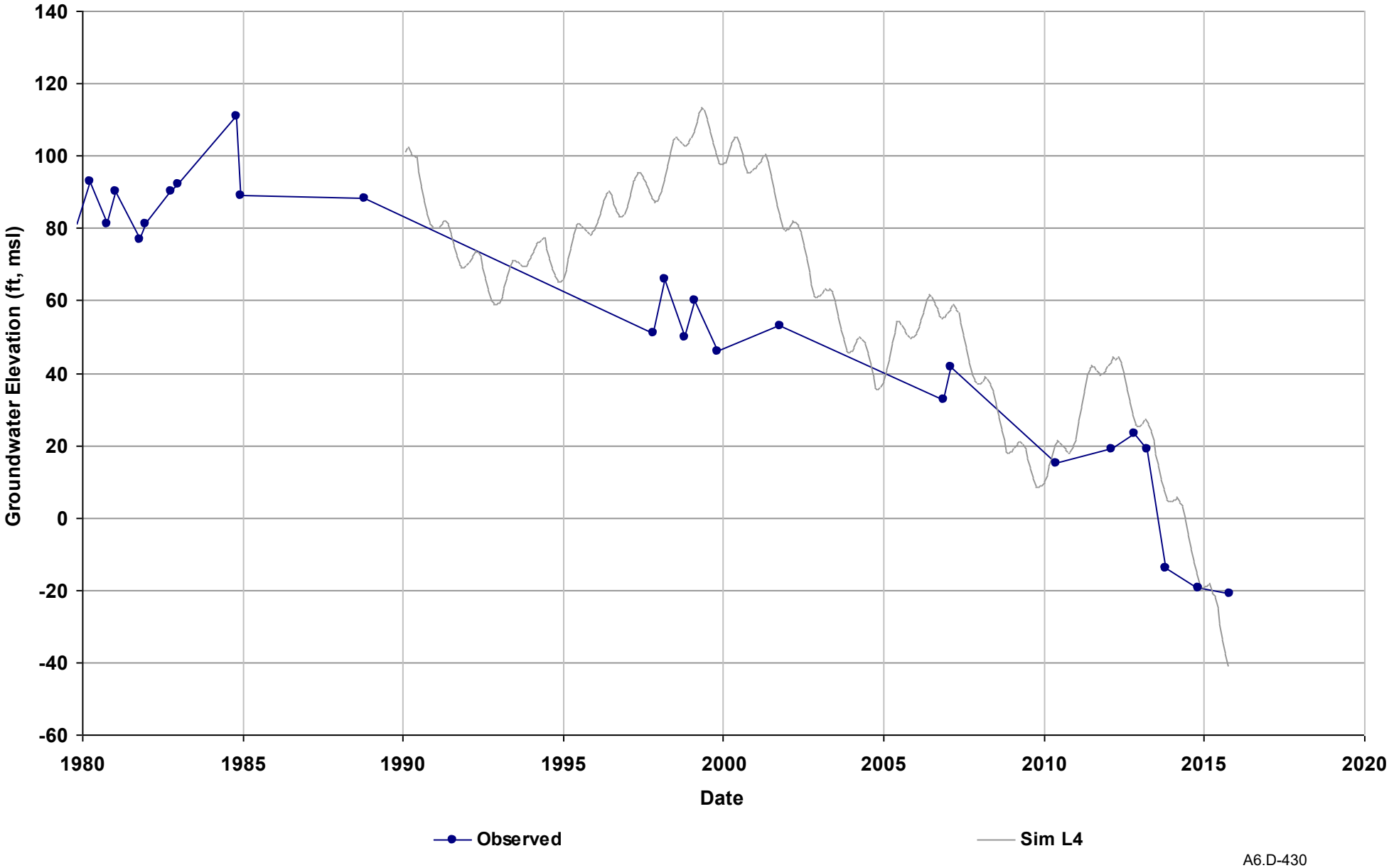
Well Name: 08S16E31C001M
Depth Zone: Composite or Lower; O
Subbasin: Merced
GSE (ft, msl): 240

Total Depth (ft): 412
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



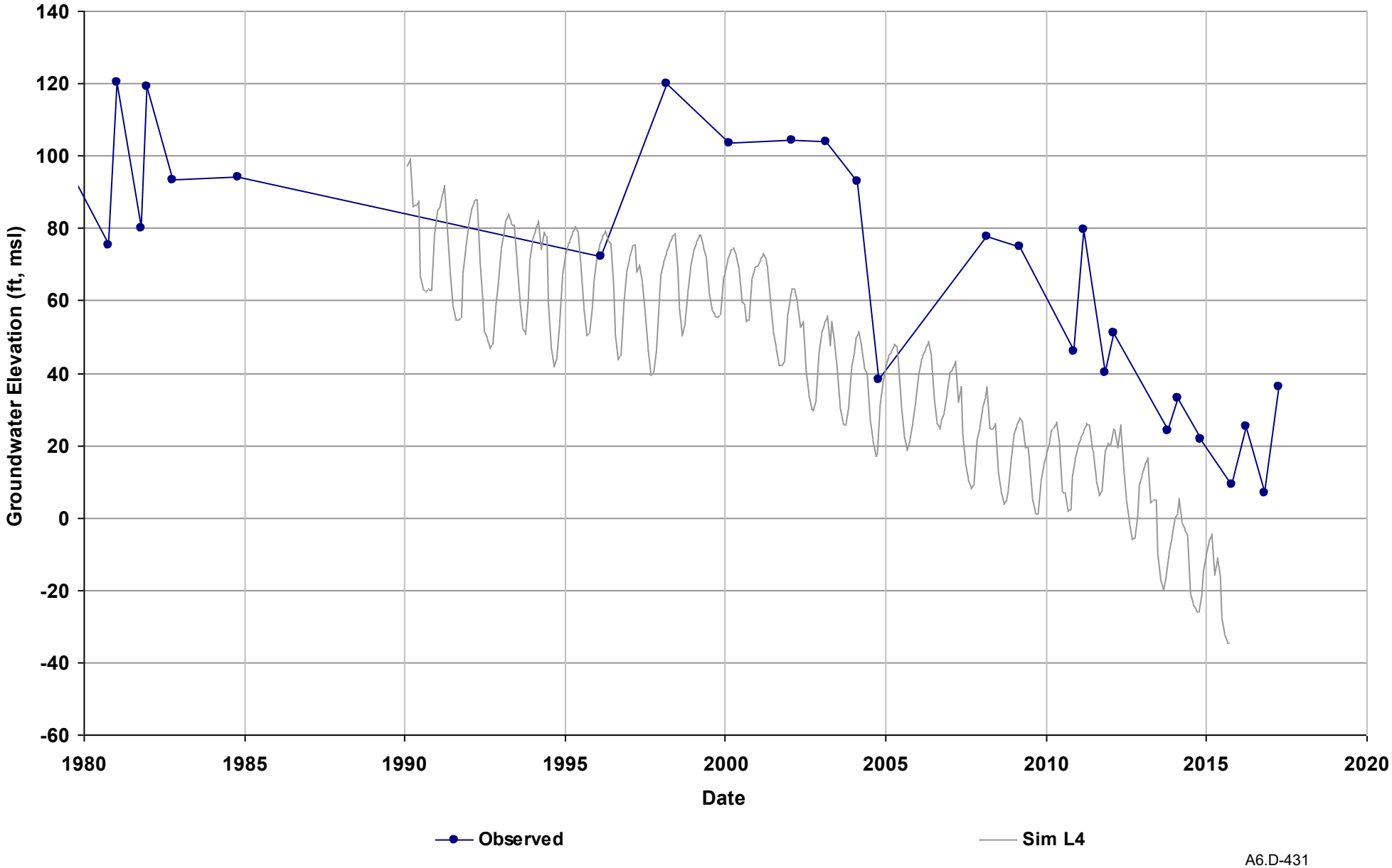
Well Name: 08S15E34L001M
Depth Zone: Composite or Lower; W
Subbasin: Merced
GSE (ft, msl): 219

Total Depth (ft): 247
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



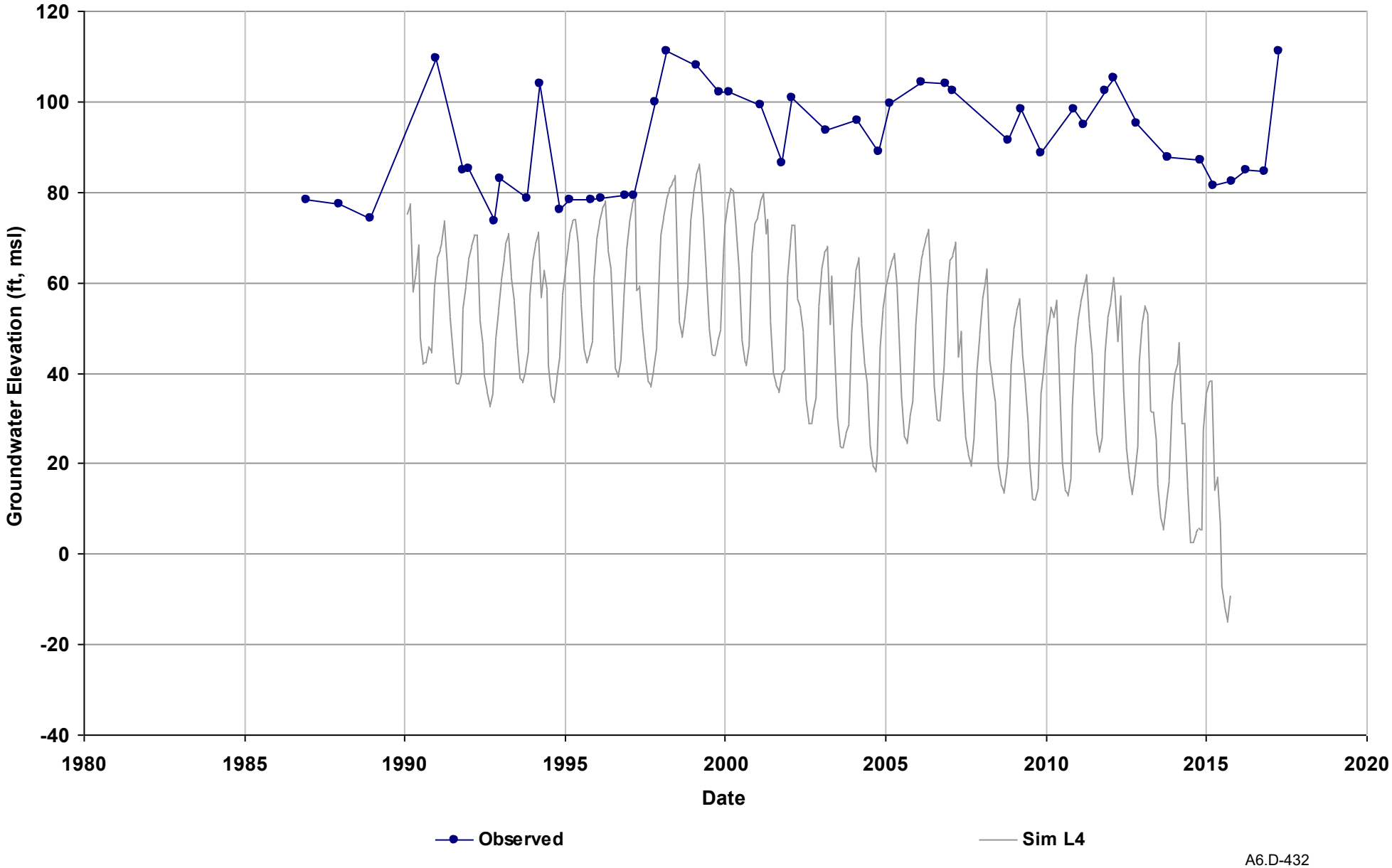
Well Name: 08S14E20J001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 435
Perf Top (ft): 150
Perf Bottom (ft): 430
Top Model Layer: 4
Bottom Model Layer: 4



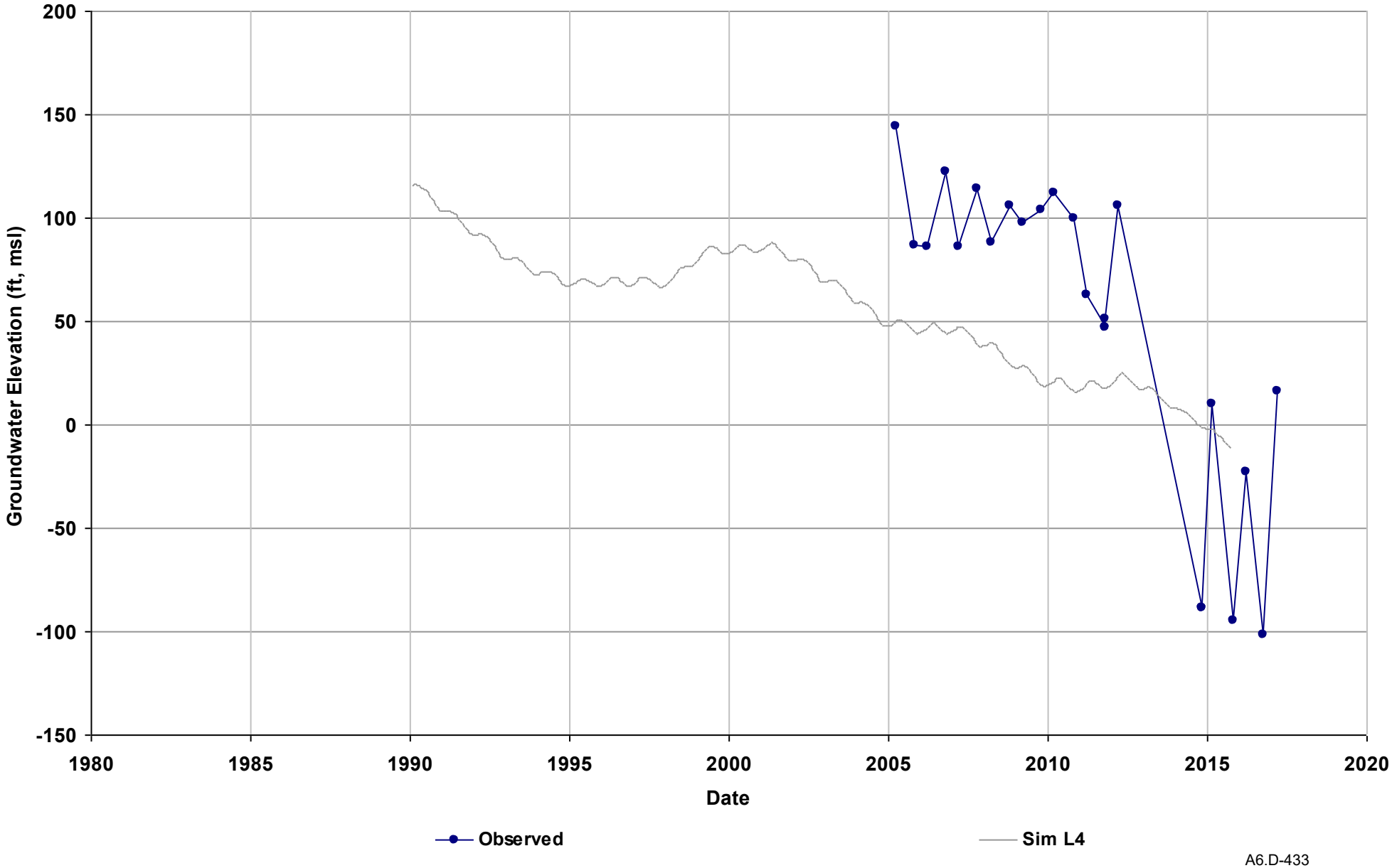
Well Name: 09S13E32A001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 116

Total Depth (ft): 616
Perf Top (ft): 150
Perf Bottom (ft): 509
Top Model Layer: 4
Bottom Model Layer: 4



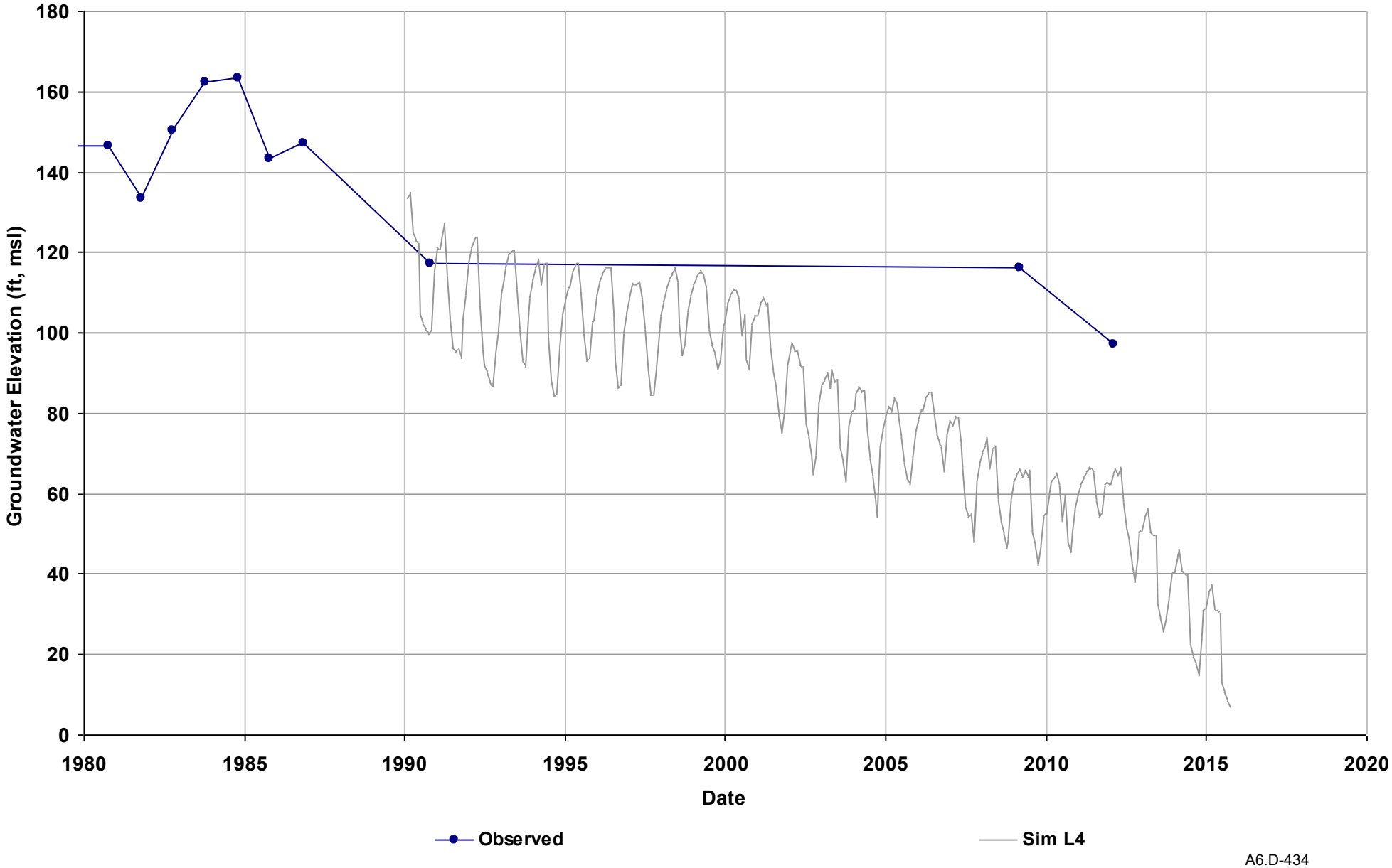
Well Name: 08S16E34J001M
Depth Zone: Lower; Outside CC
Subbasin: Merced
GSE (ft, msl): 284

Total Depth (ft): 639
Perf Top (ft): 180
Perf Bottom (ft): 639
Top Model Layer: 4
Bottom Model Layer: 4



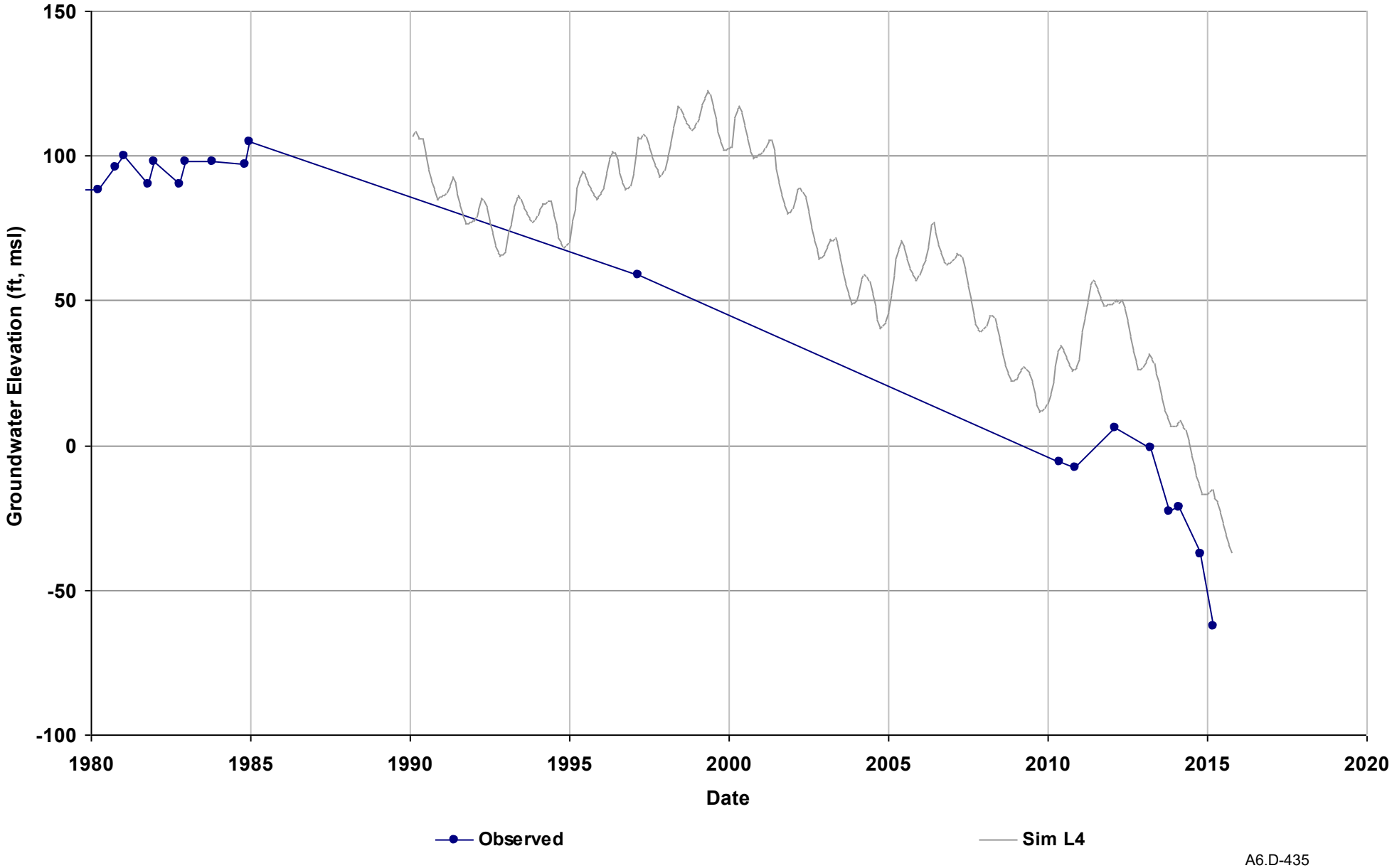
Well Name: 08S14E13L002M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 192

Total Depth (ft): 530
Perf Top (ft): 193
Perf Bottom (ft): 200
Top Model Layer: 4
Bottom Model Layer: 4



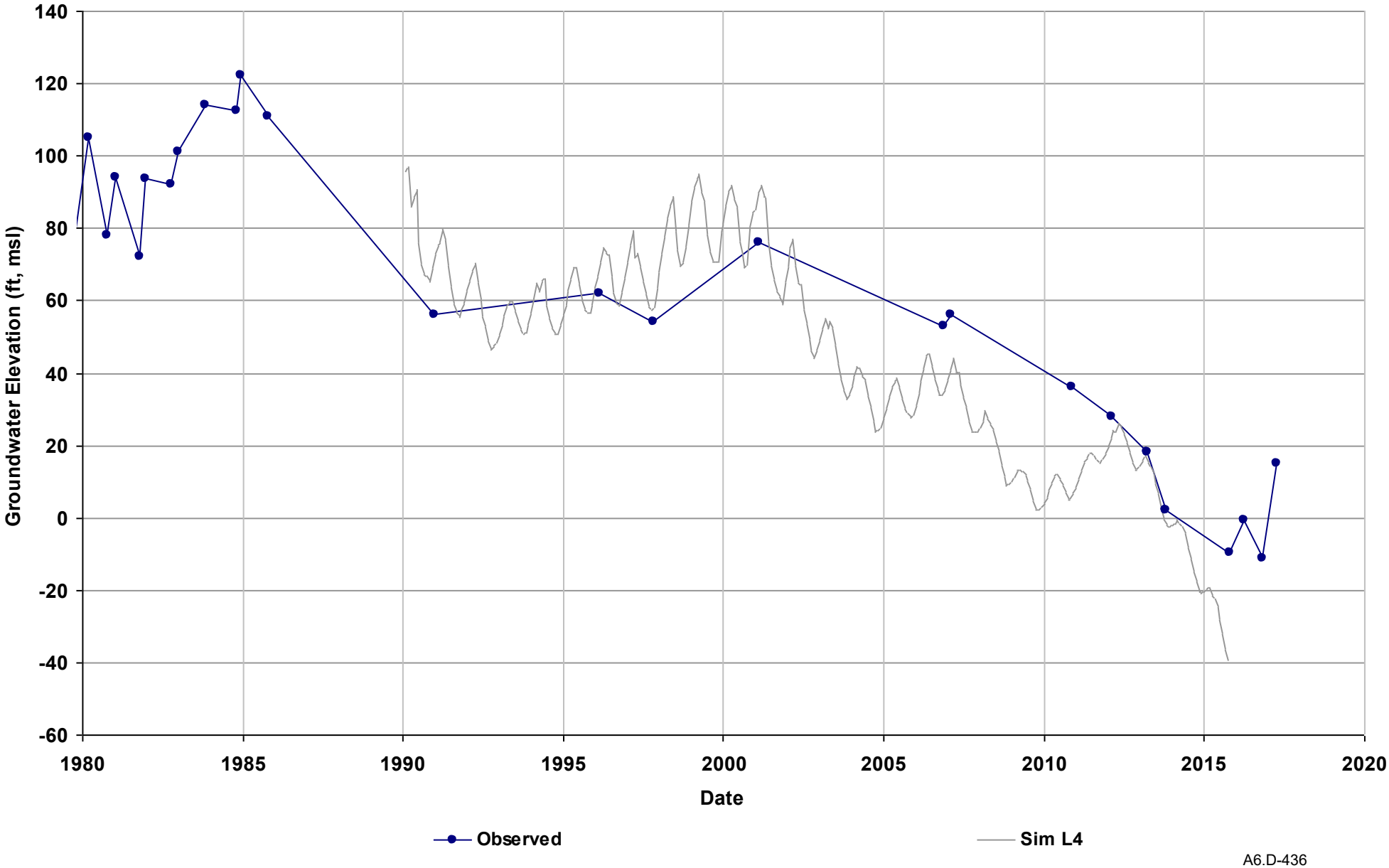
Well Name: 08S15E36G001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 227

Total Depth (ft): 509
Perf Top (ft): 176
Perf Bottom (ft): 376
Top Model Layer: 4
Bottom Model Layer: 4



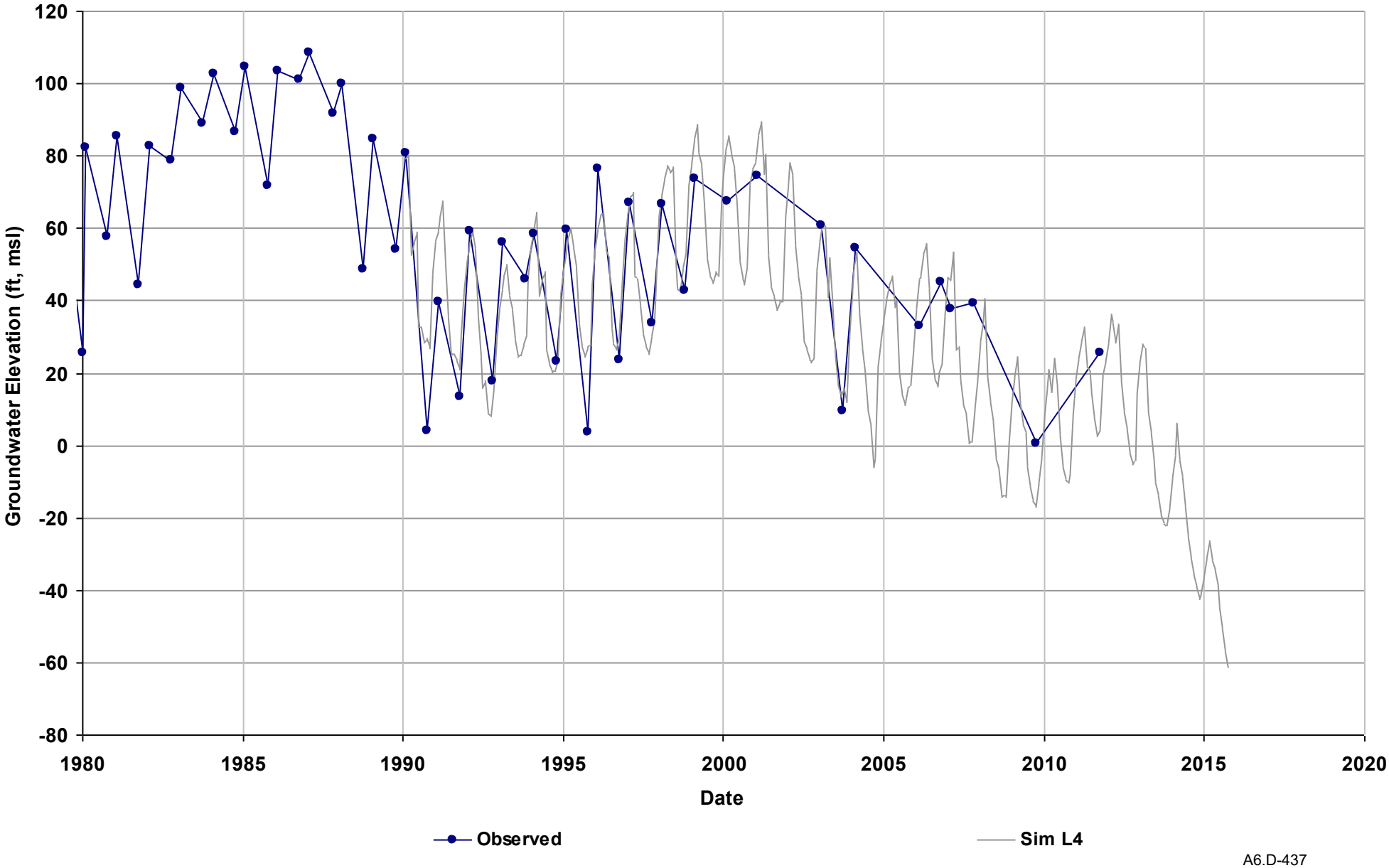
Well Name: 09S14E01B001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 345
Perf Top (ft): 225
Perf Bottom (ft): 345
Top Model Layer: 4
Bottom Model Layer: 4



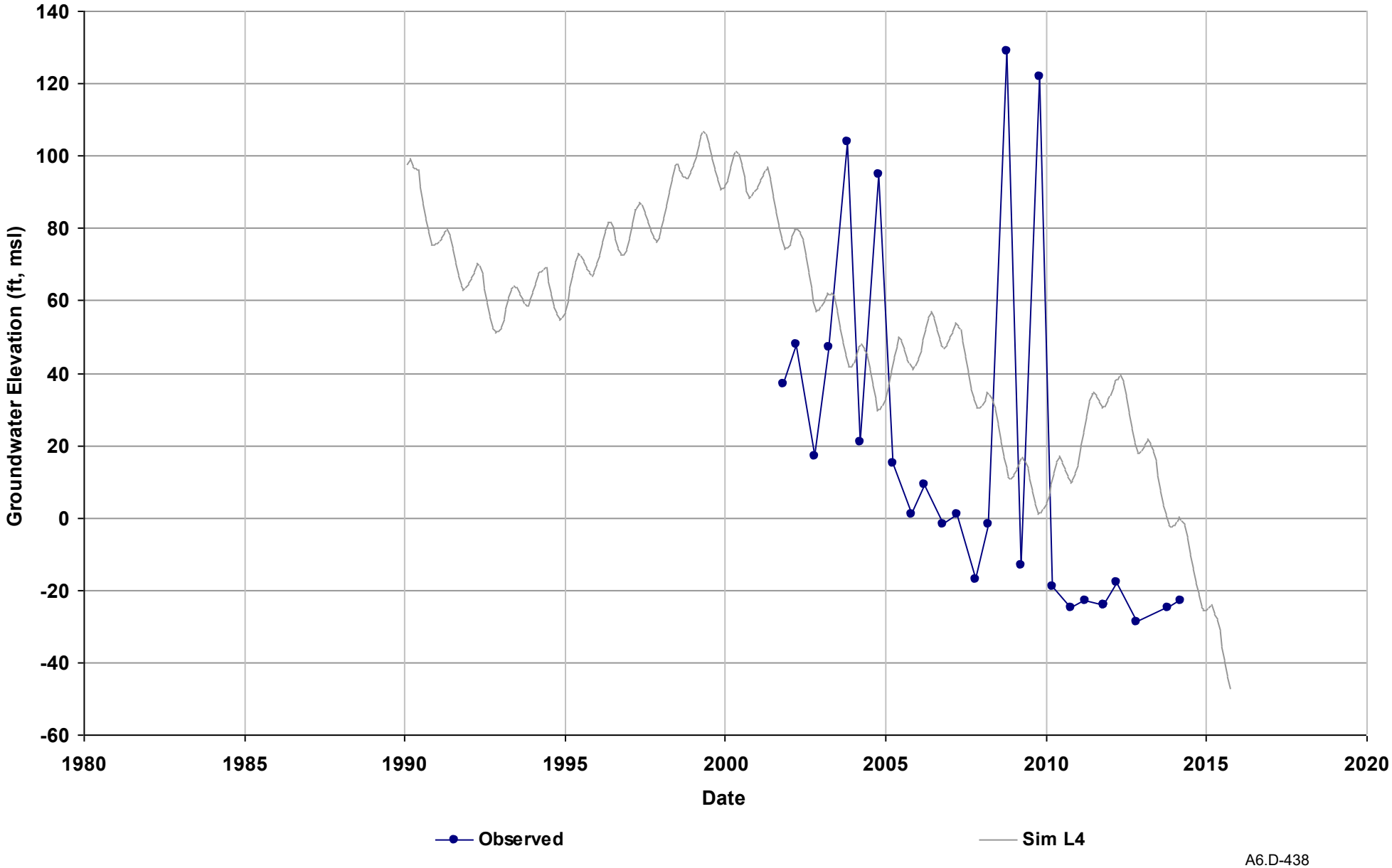
Well Name: 09S14E33A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 632
Perf Top (ft): 240
Perf Bottom (ft): 580
Top Model Layer: 4
Bottom Model Layer: 4



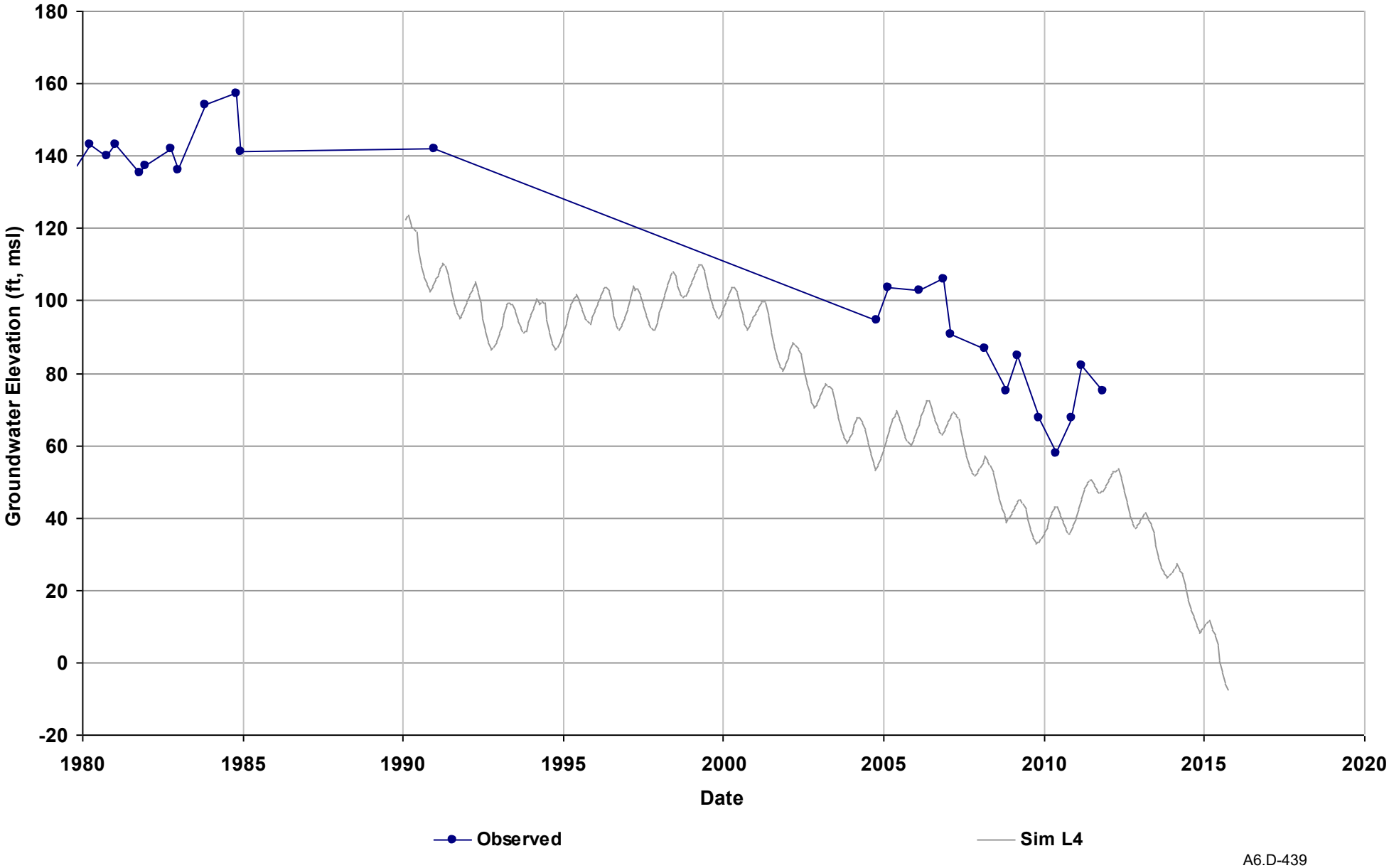
Well Name: 09S15E02A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 227

Total Depth (ft): 800
Perf Top (ft): 300
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



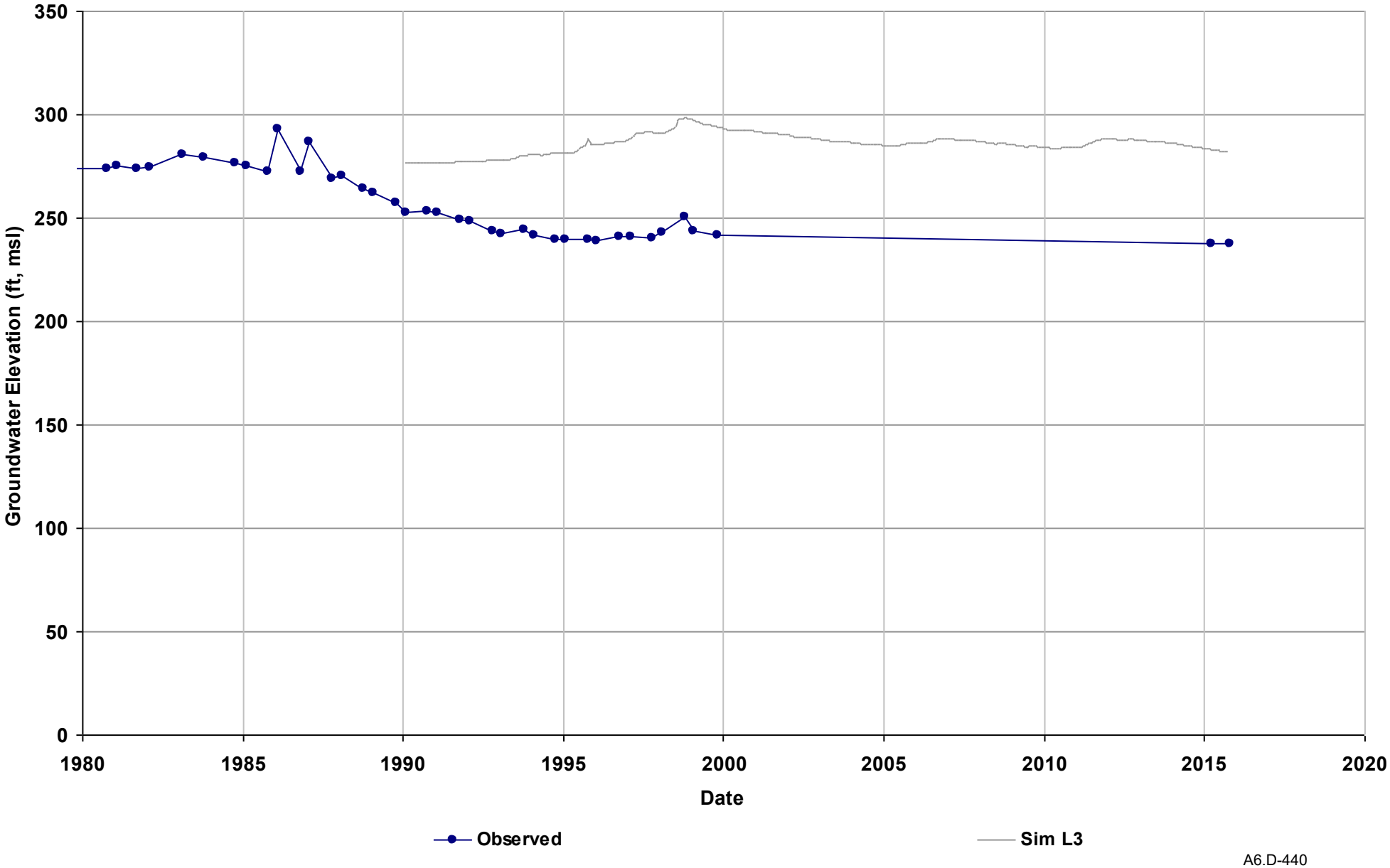
Well Name: 08S16E19D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 245

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



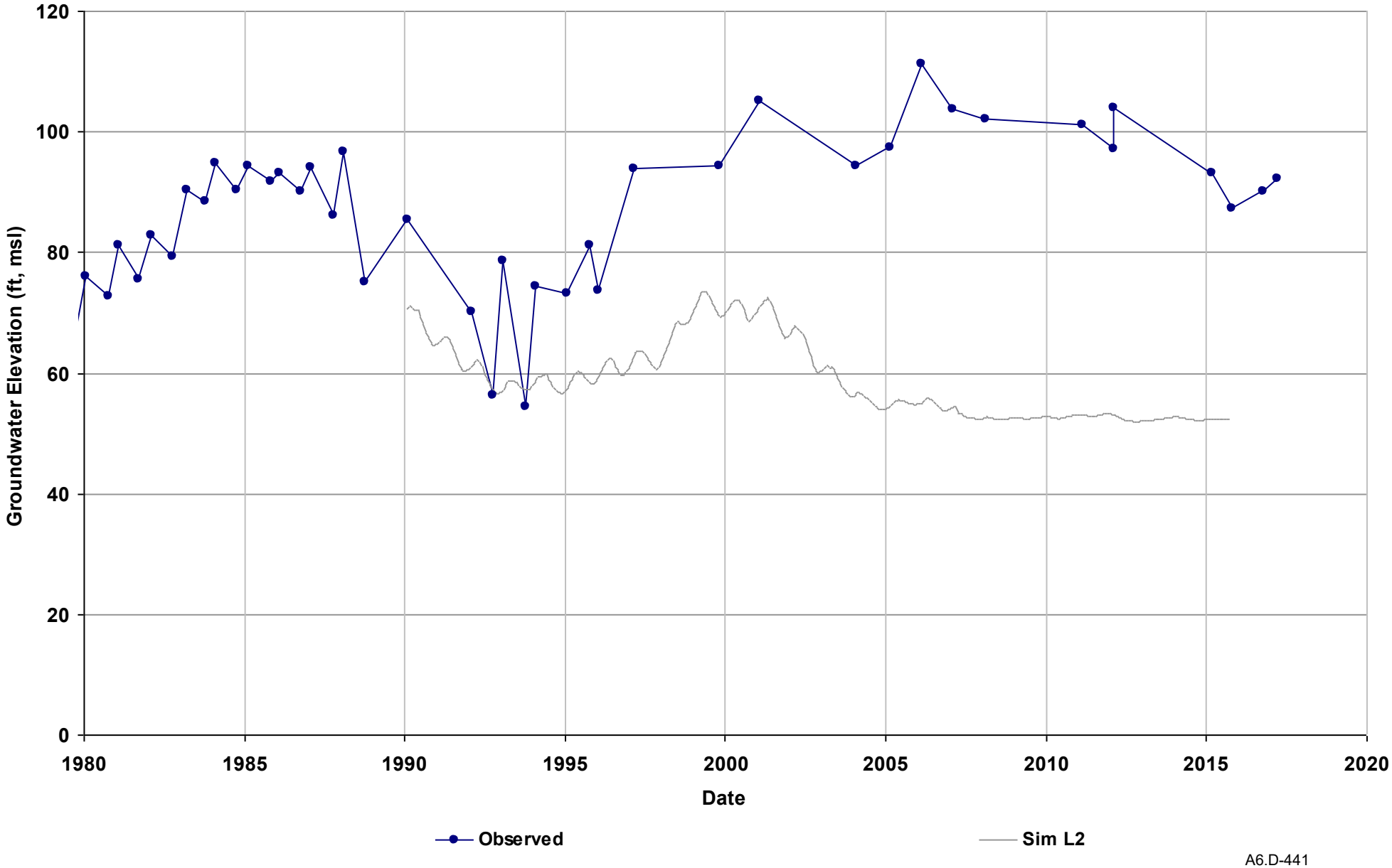
Well Name: 09S17E09D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 317

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



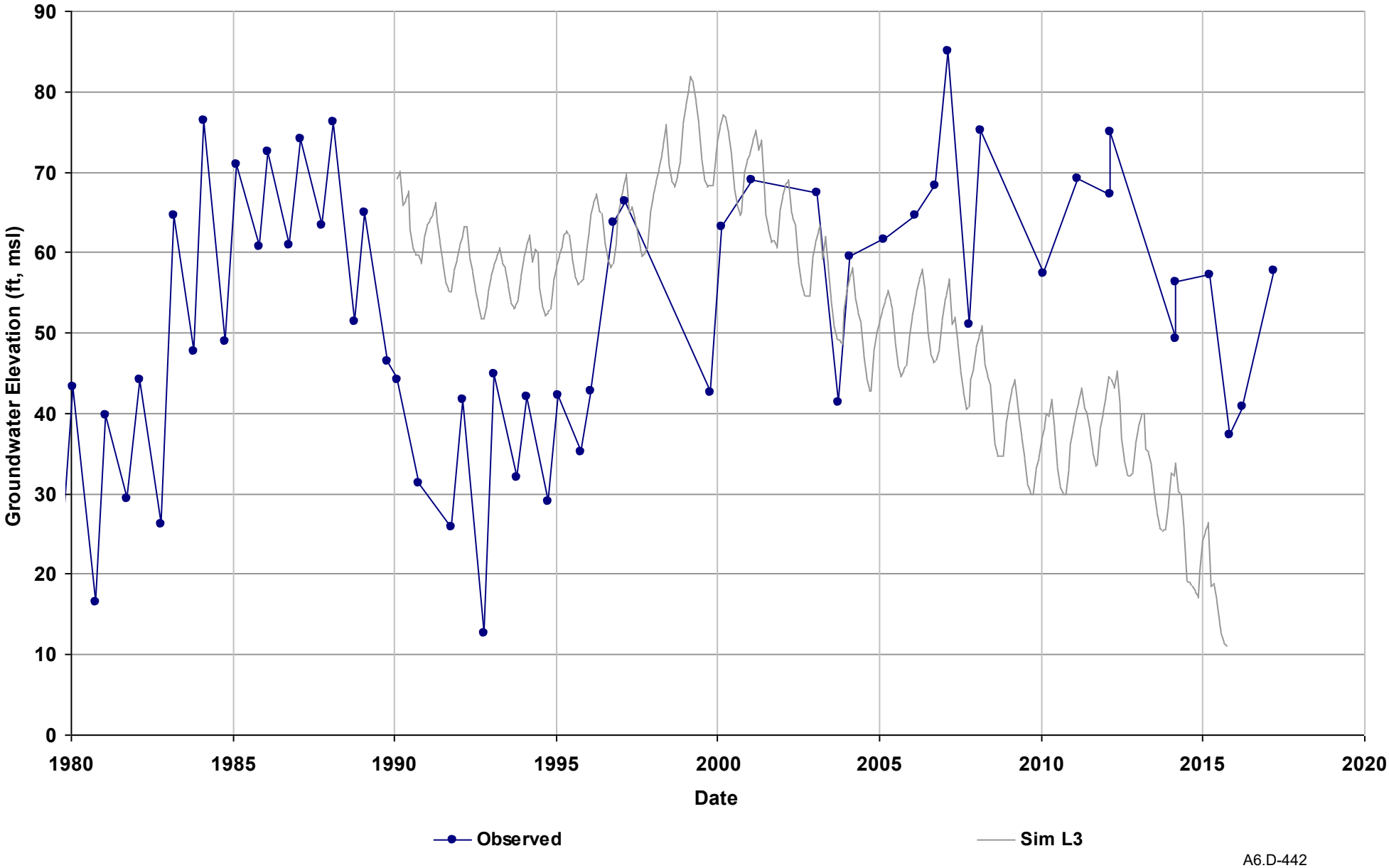
Well Name: 09S13E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 141

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



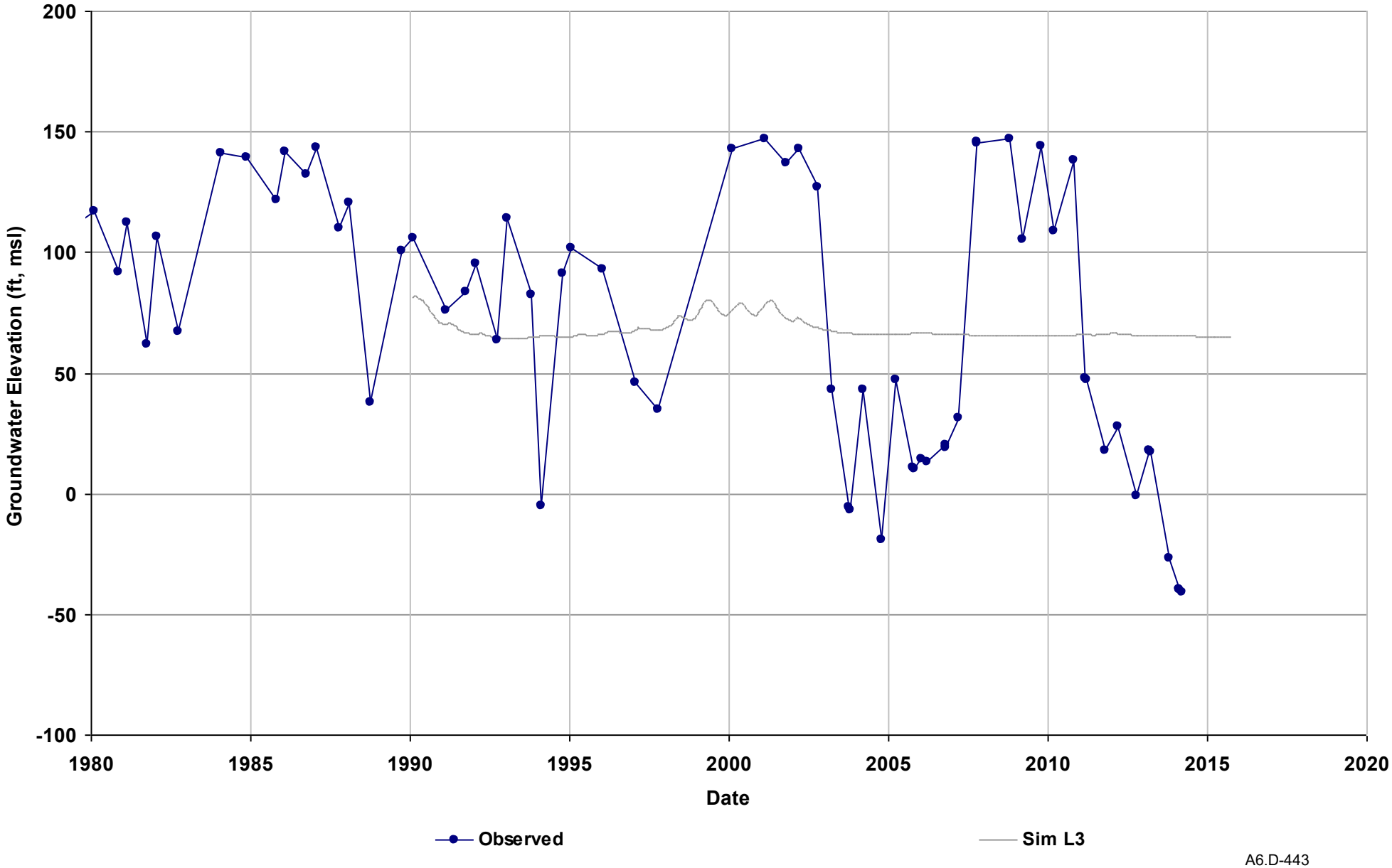
Well Name: 09S13E22H002M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 127

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



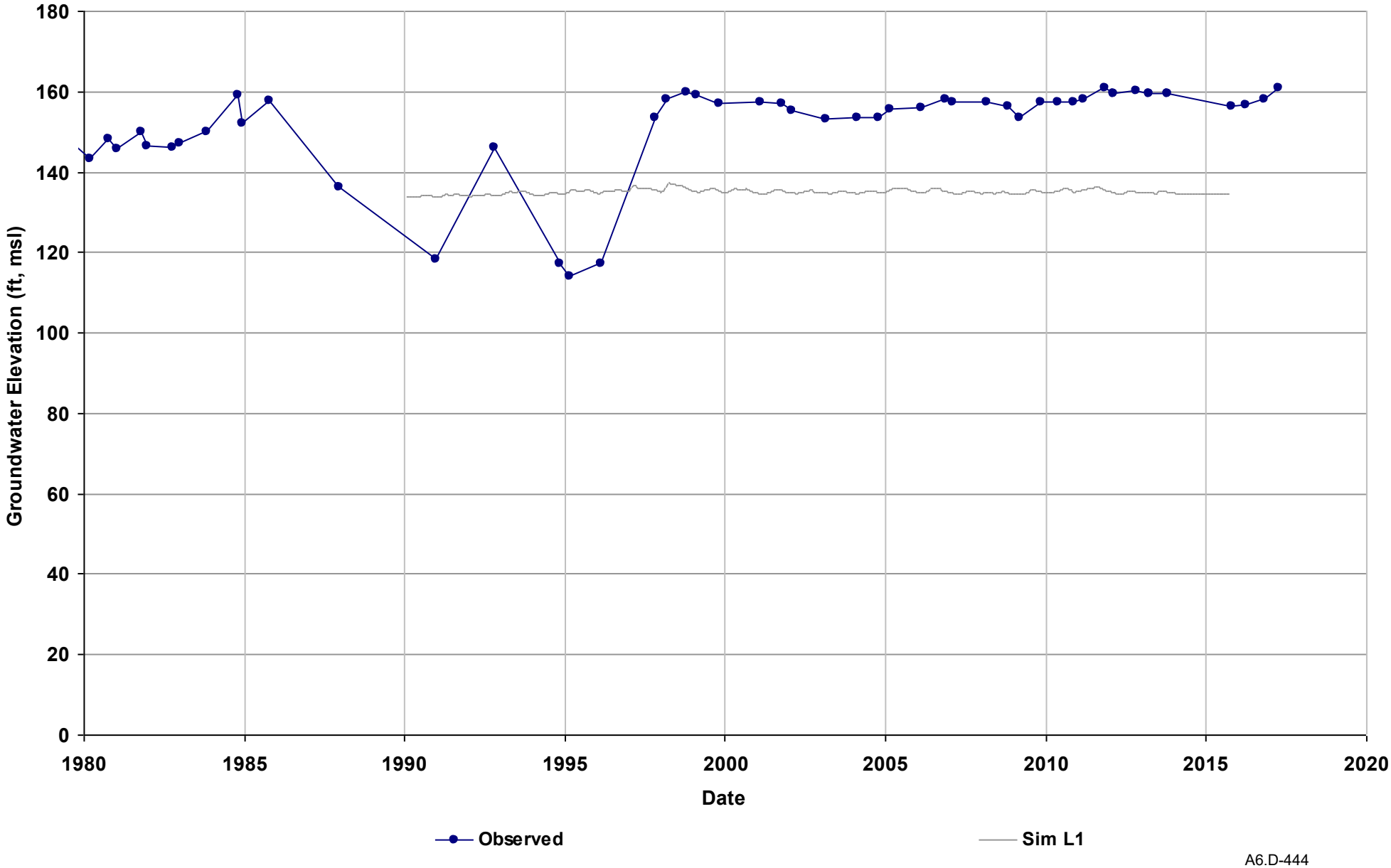
Well Name: 09S14E11F001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 173

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



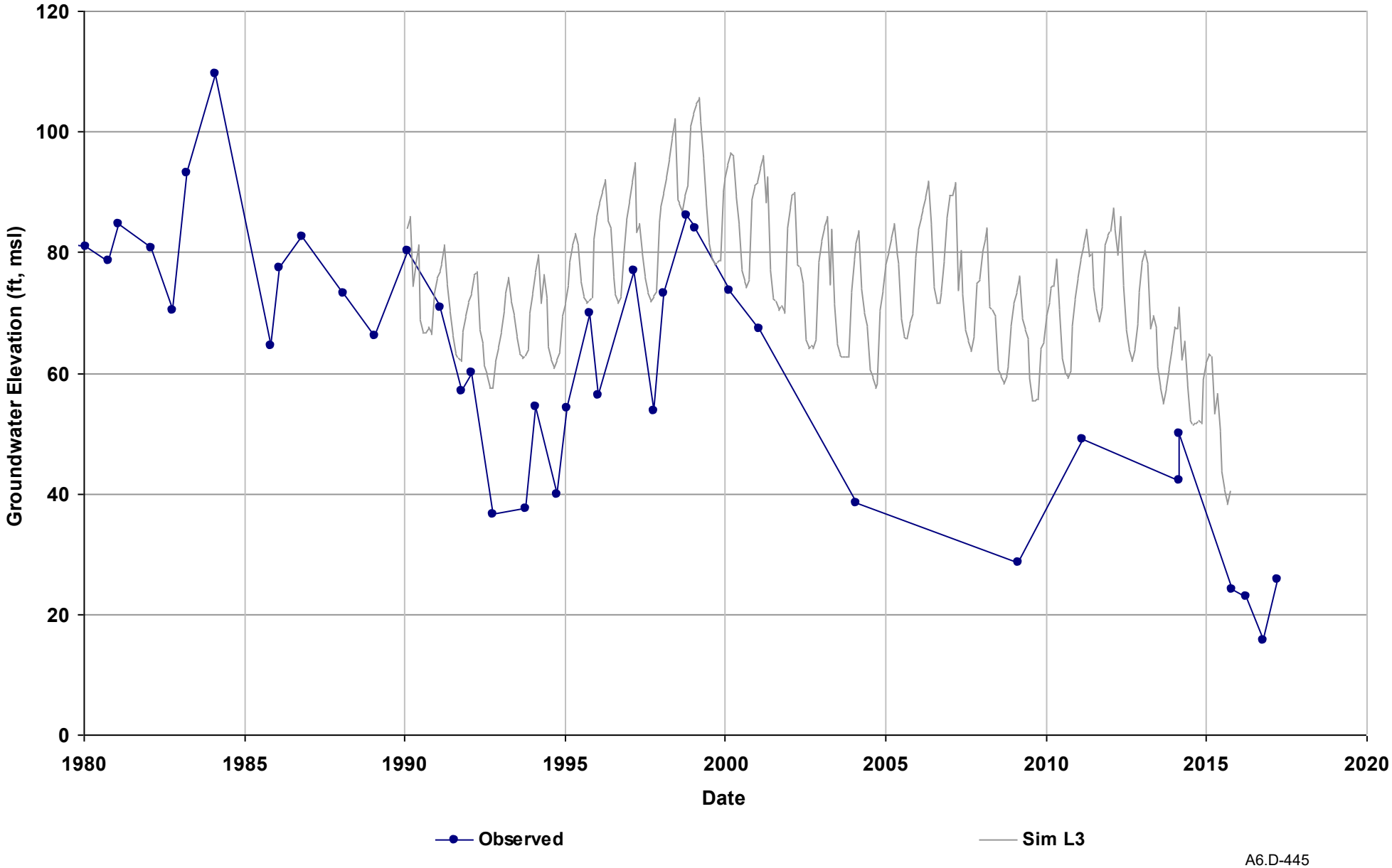
Well Name: 09S14E01B003M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 68
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



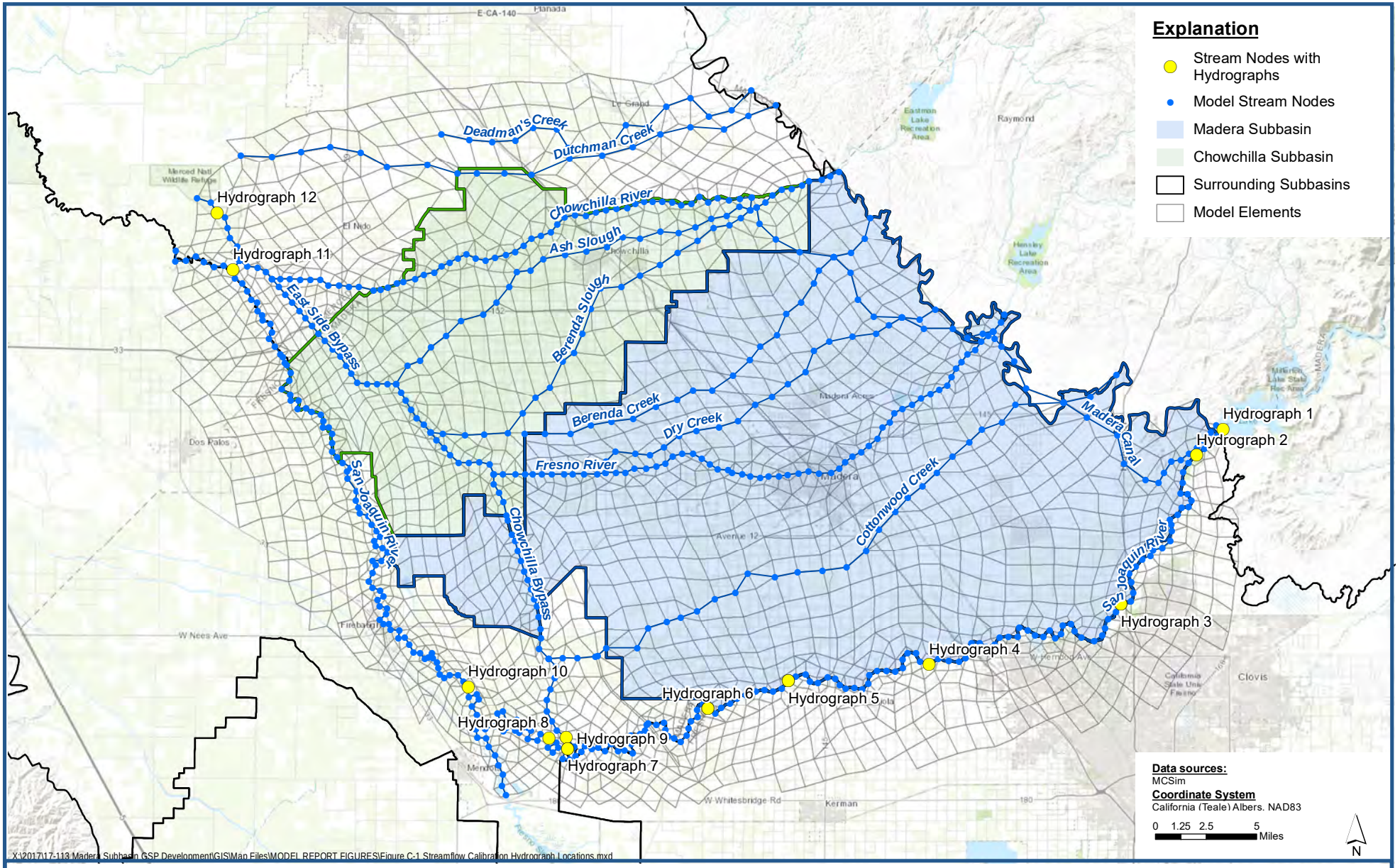
Well Name: 10S13E15A001M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 122

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



APPENDIX C

Streamflow Calibration Hydrographs



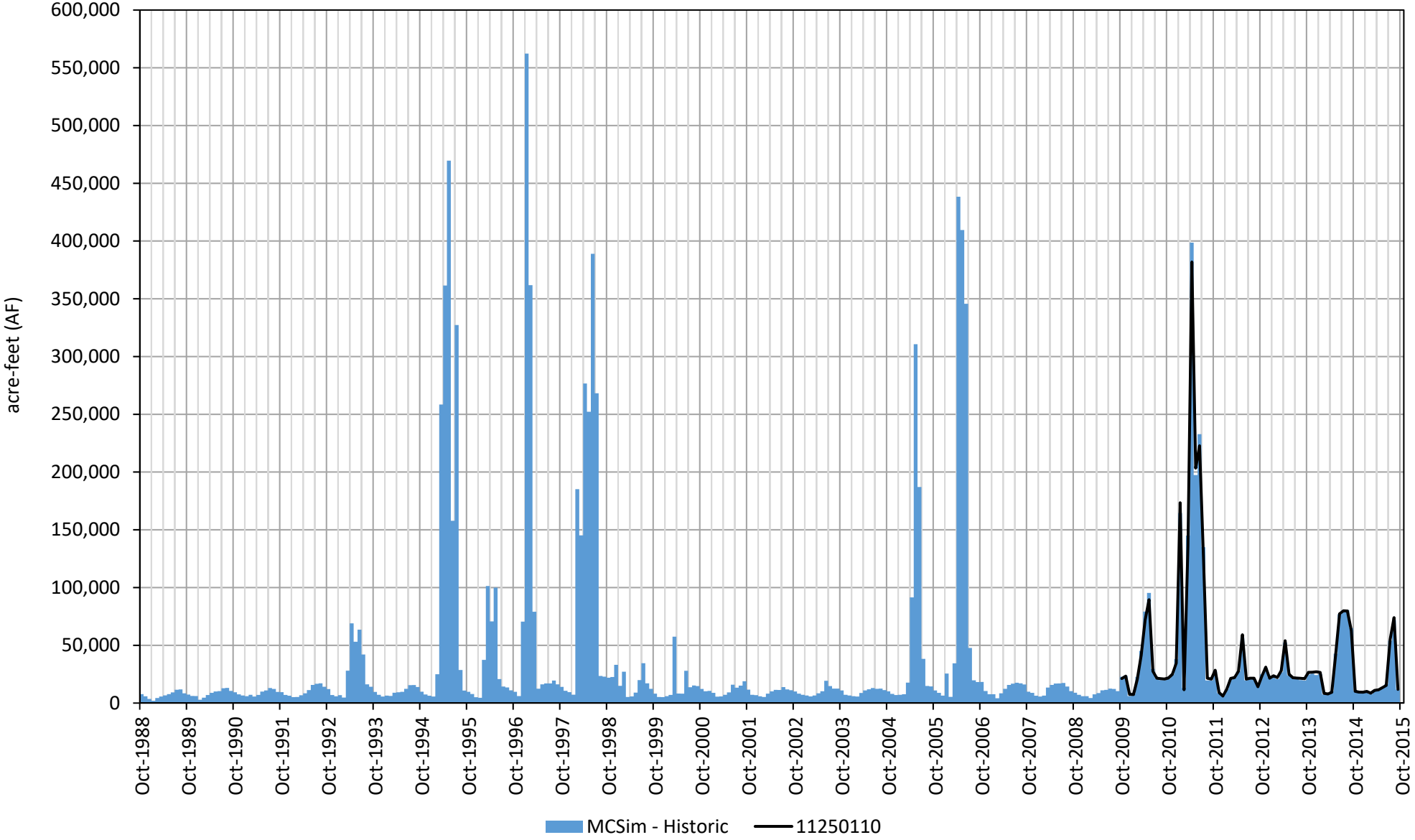
Stream Hydrograph Locations

Figure X-X

Madera-Chowchilla Groundwater-Surface Water Simulation Model (MCSim) Report
Madera County

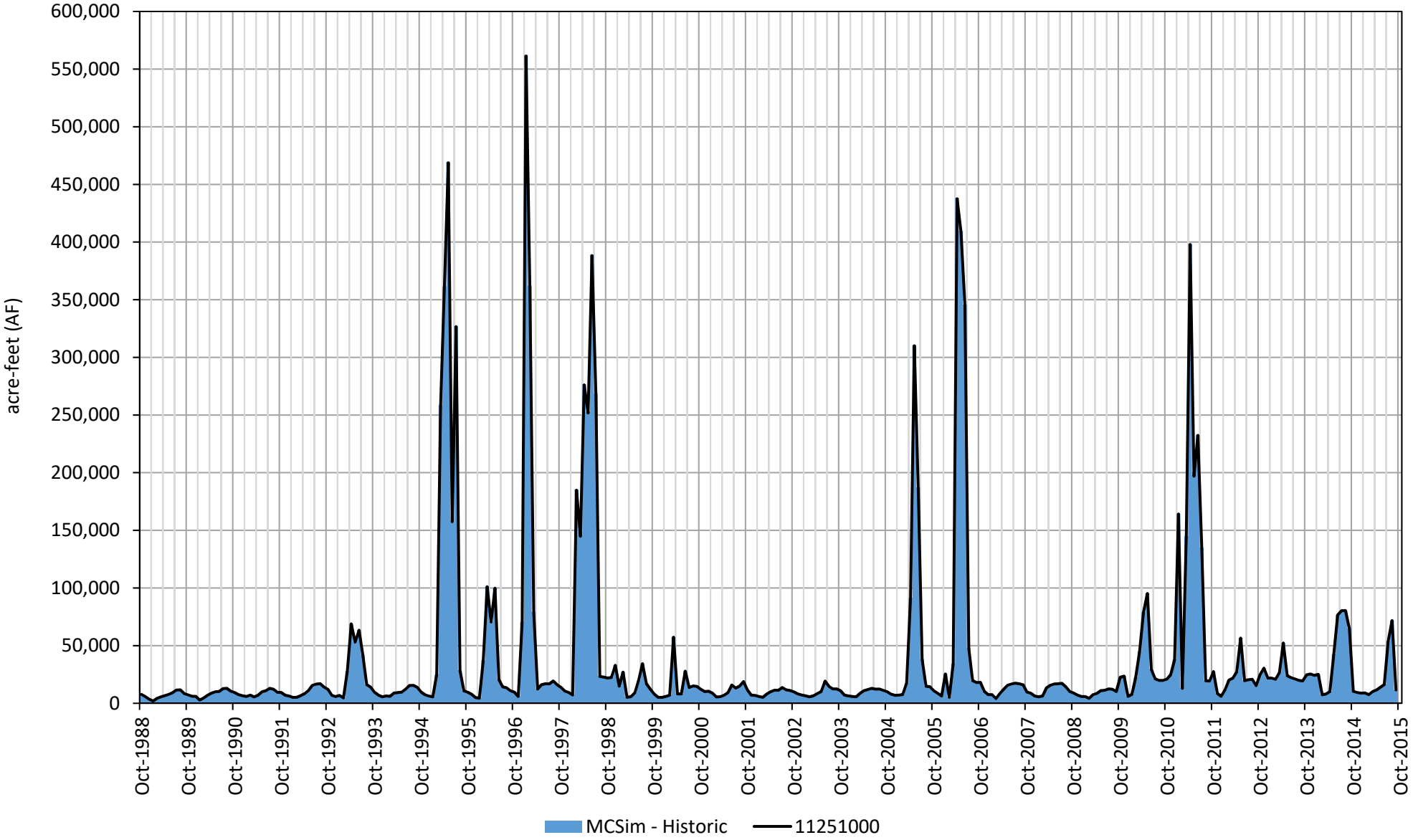
Hydrograph 1

San Joaquin River Realease at Friant Dam



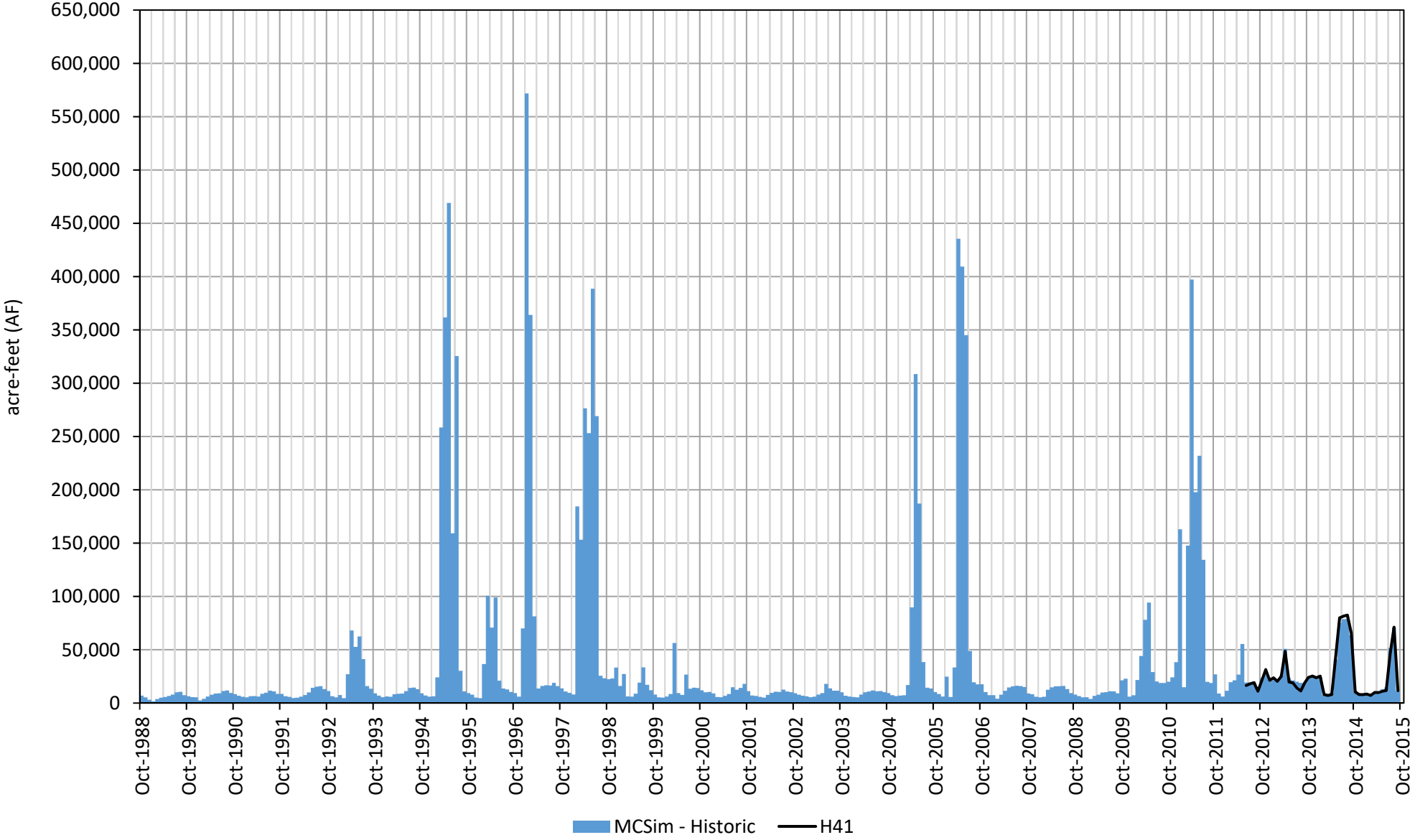
Hydrograph 2

San Joaquin River Below Friant



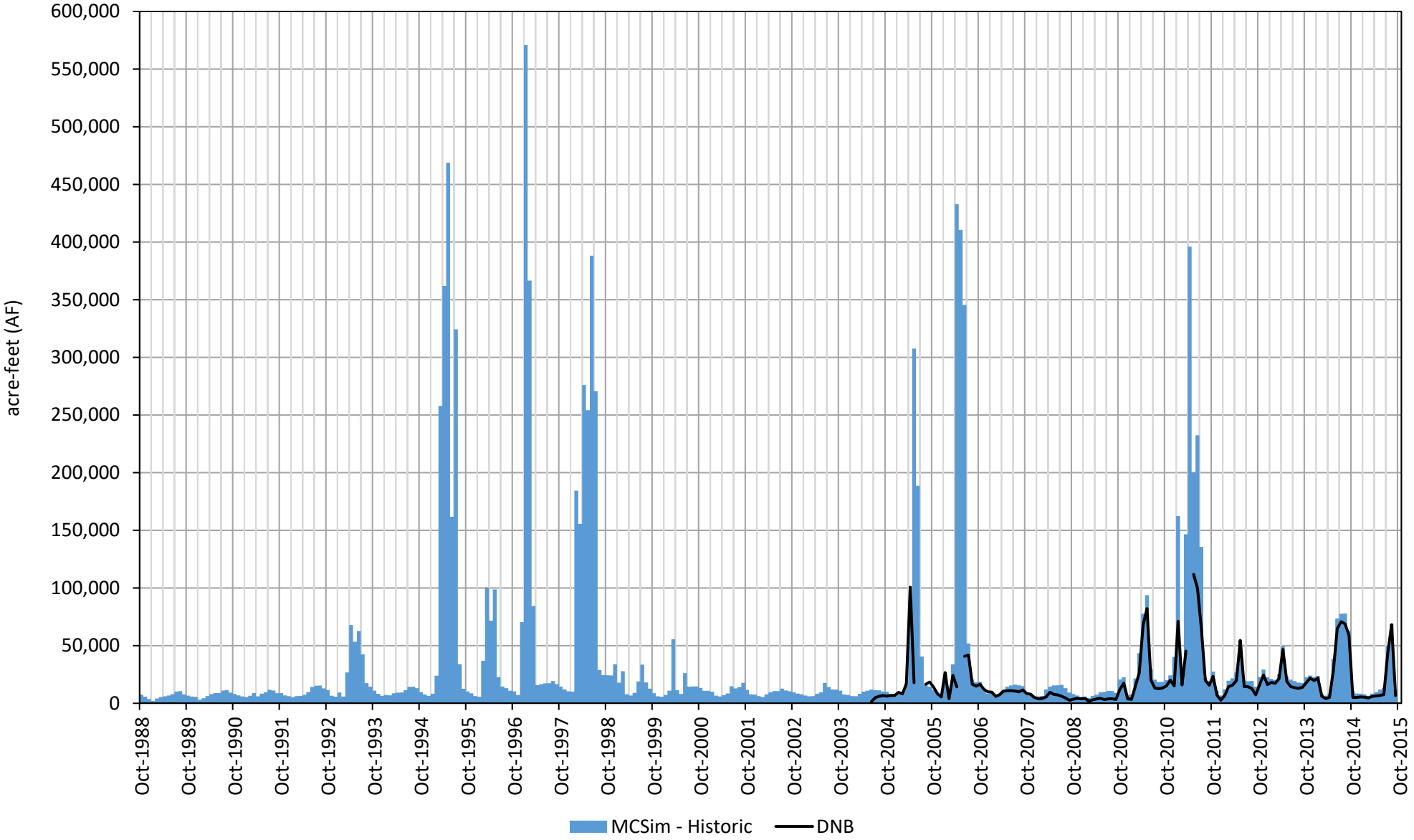
Hydrograph 3

San Joaquin River at Highway 41



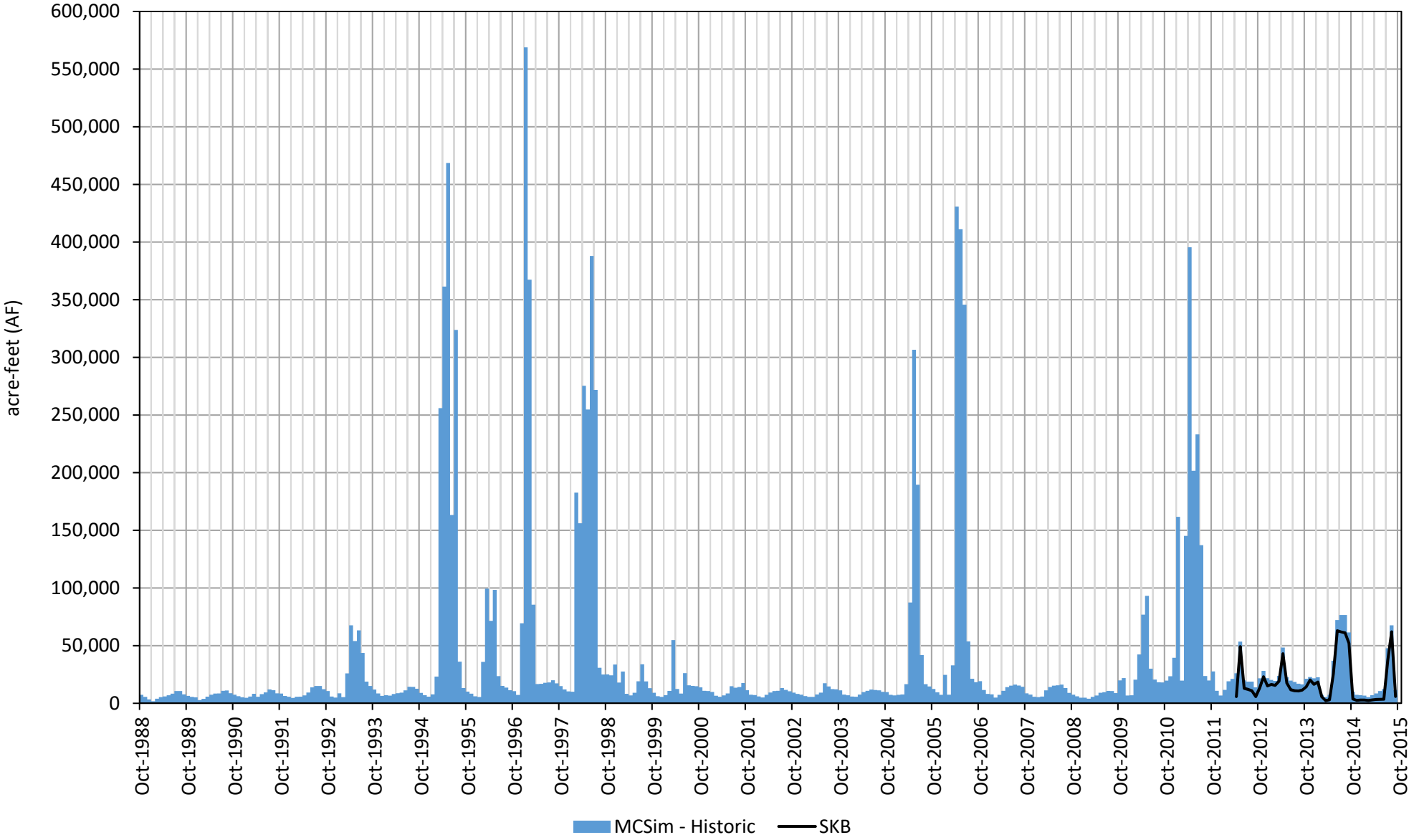
Hydrograph 4

San Joaquin River at Donny Bridge



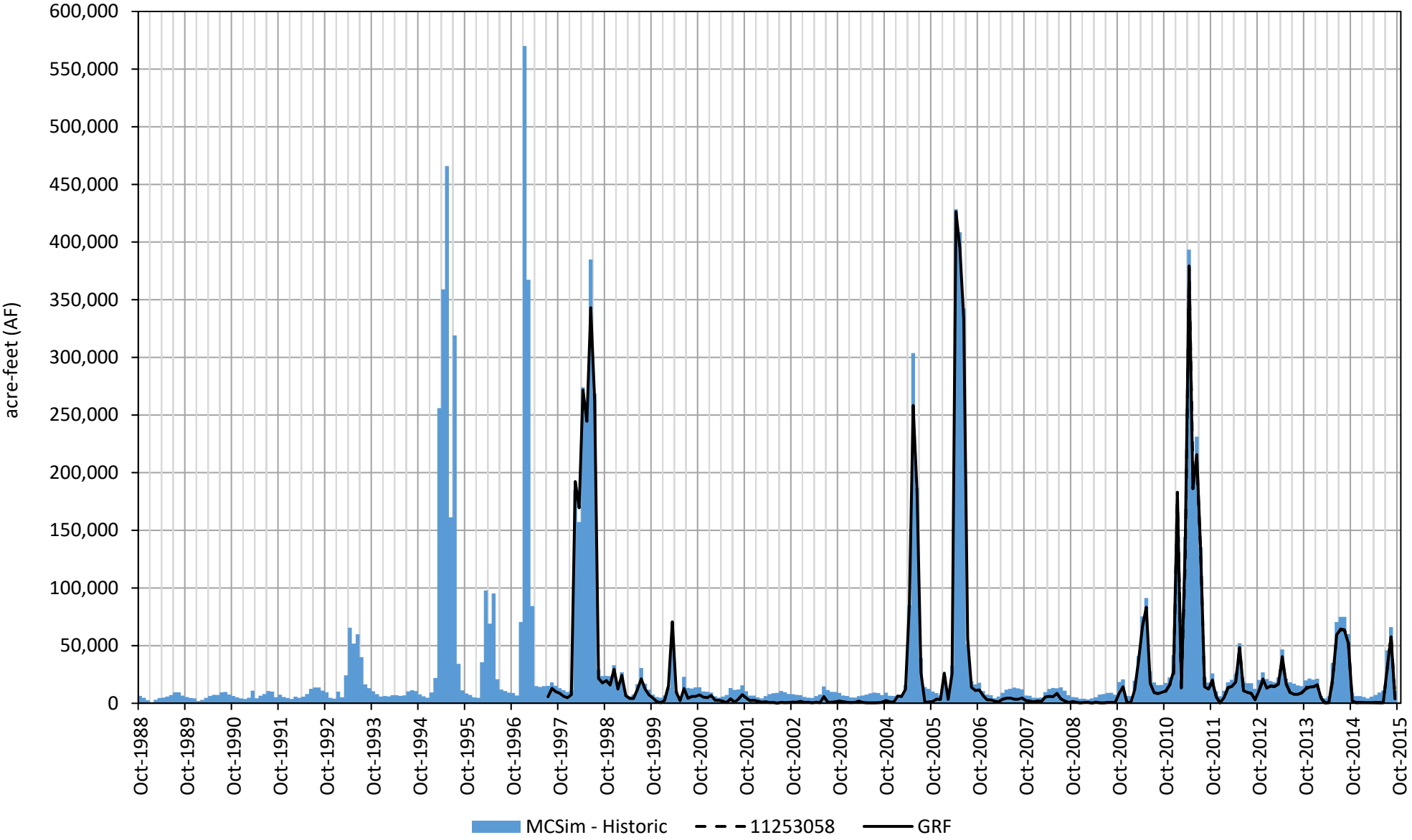
Hydrograph 5

San Joaquin River Below Hwy 145 (Skaggs Bridge)



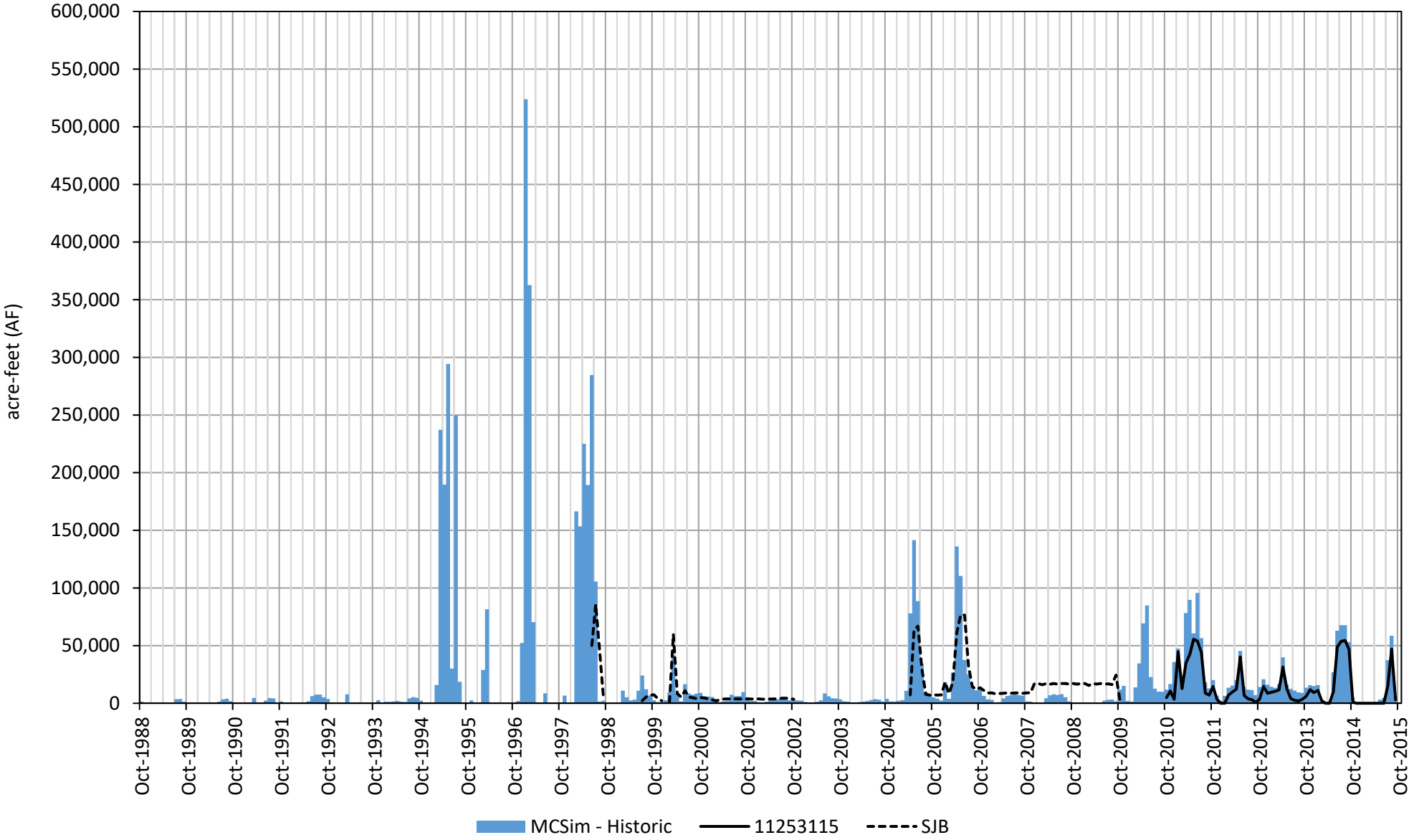
Hydrograph 6

San Joaquin River at Gravelly Ford Canal Near Kerman



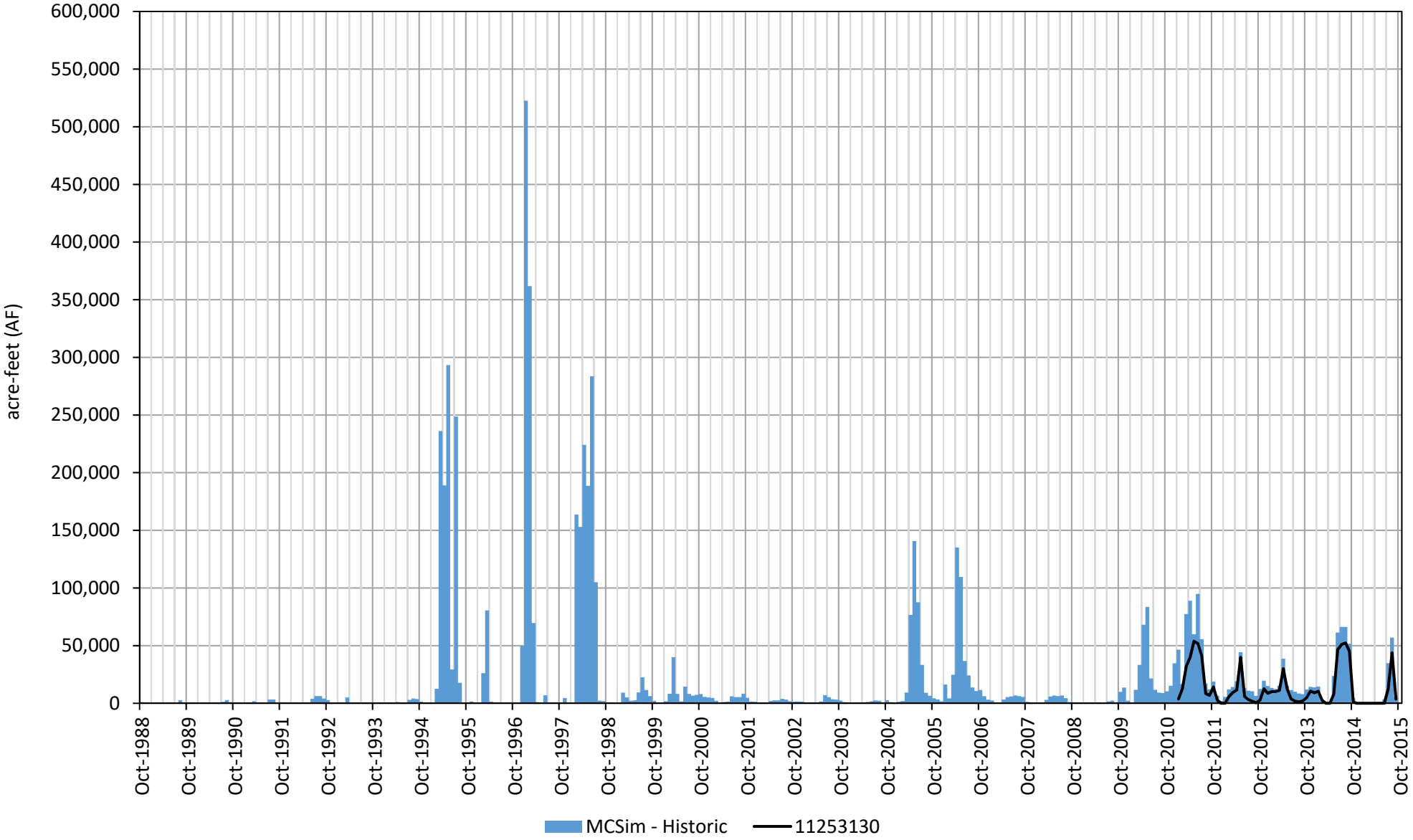
Hydrograph 7

San Joaquin River Below Bifurcation/ SJR Below Chowchilla Canal Intake Near Mendota



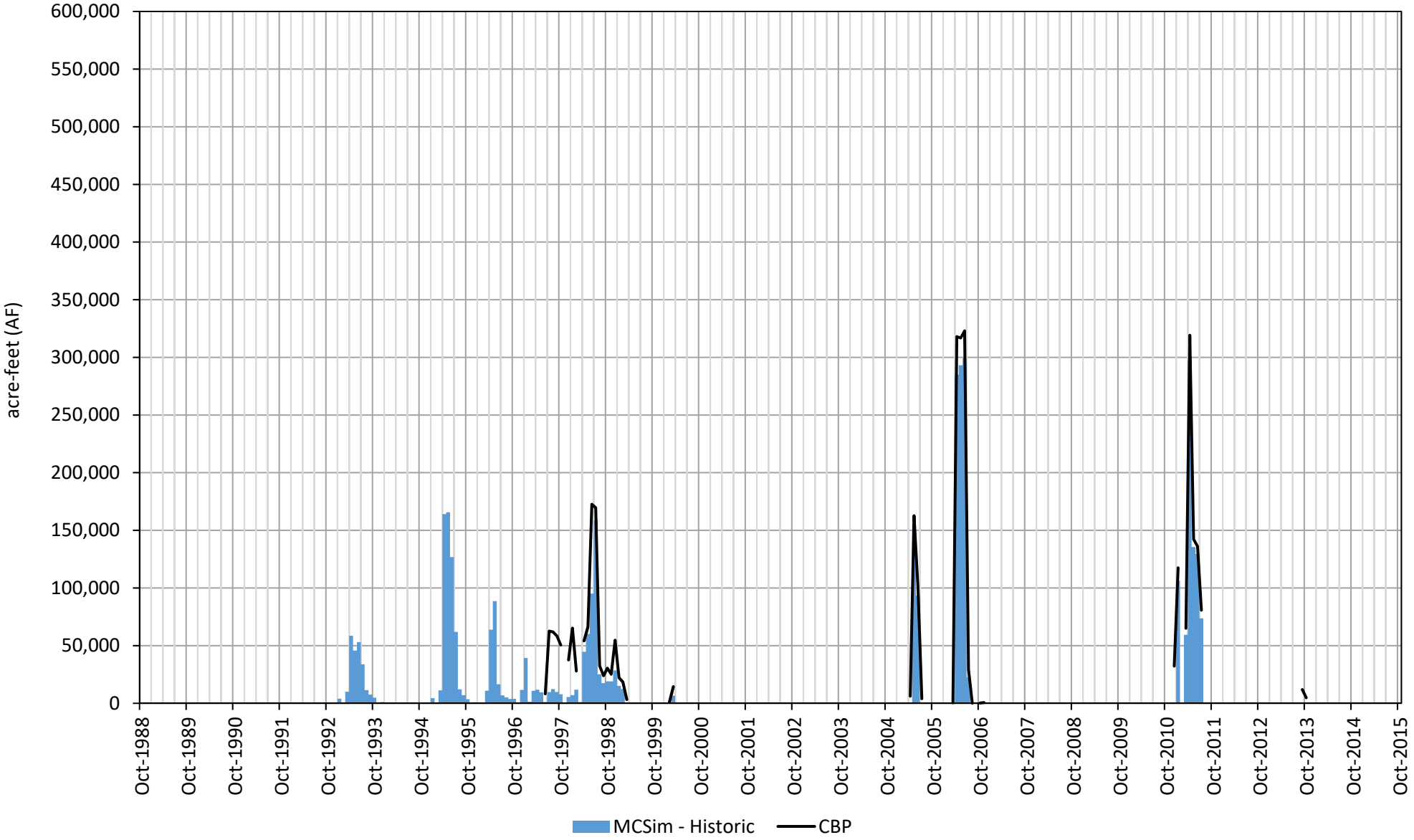
Hydrograph 8

San Joaquin River at San Mateo Road near Mendota



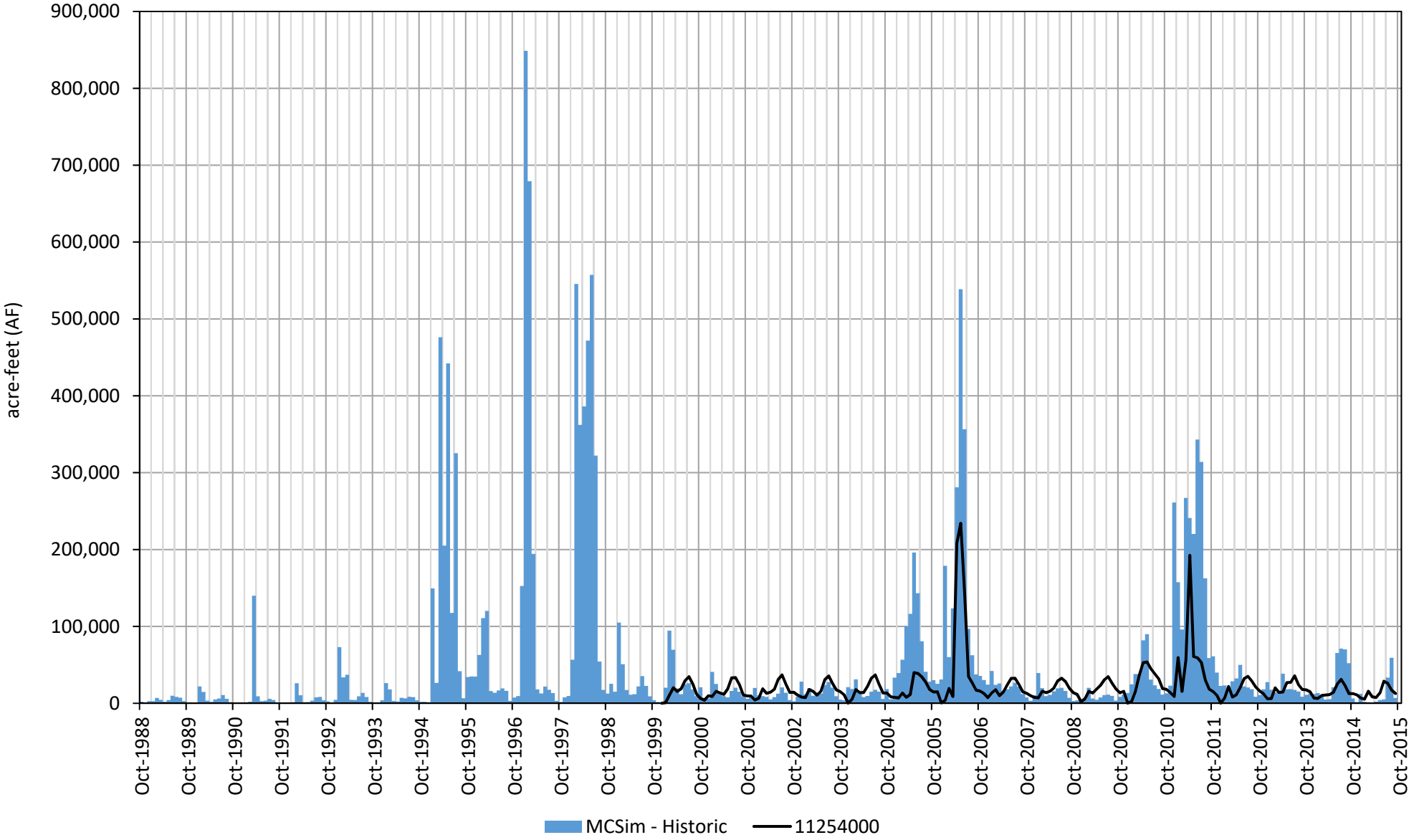
Hydrograph 9

Chowchilla Bypass



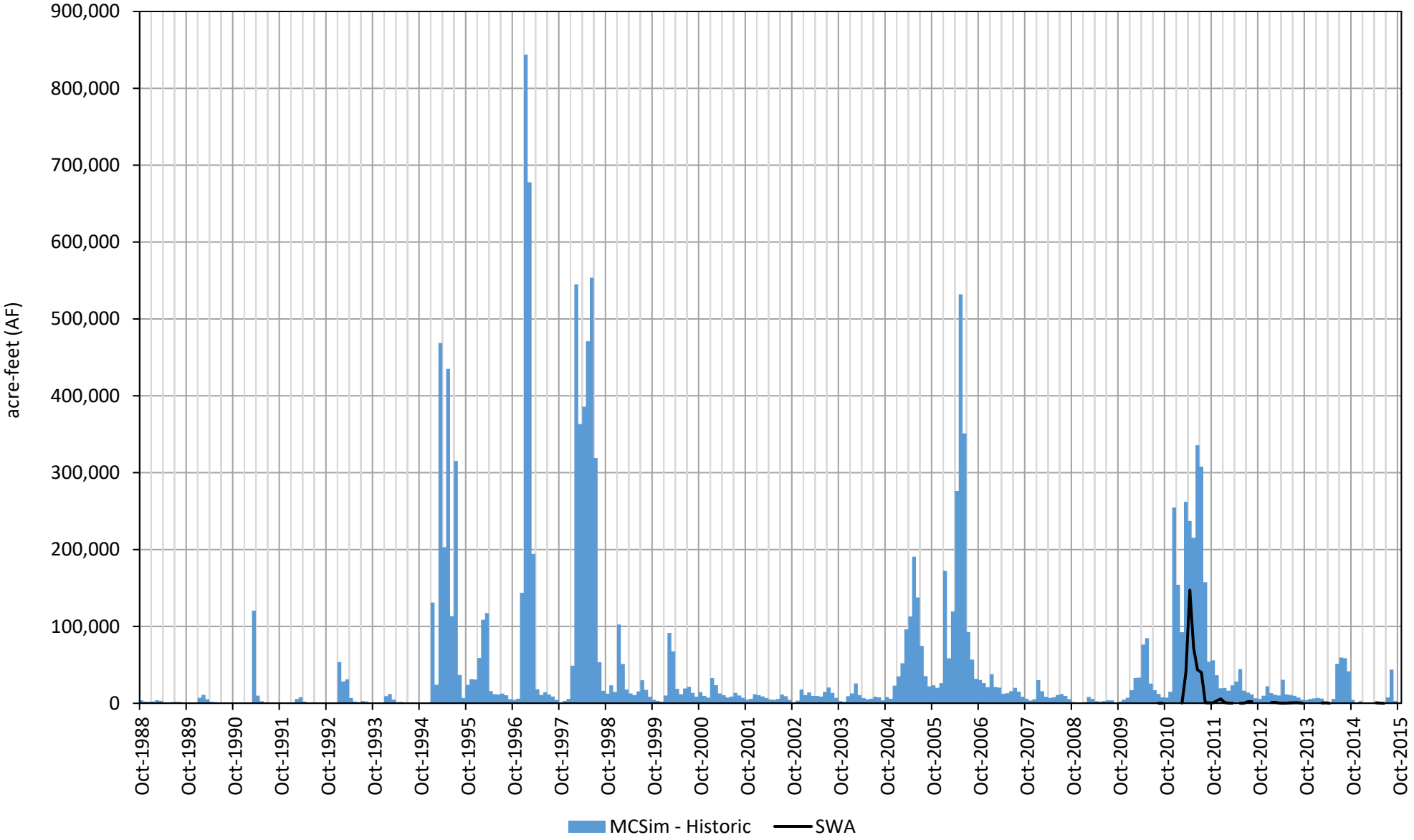
Hydrograph 10

San Joaquin River near Mendota



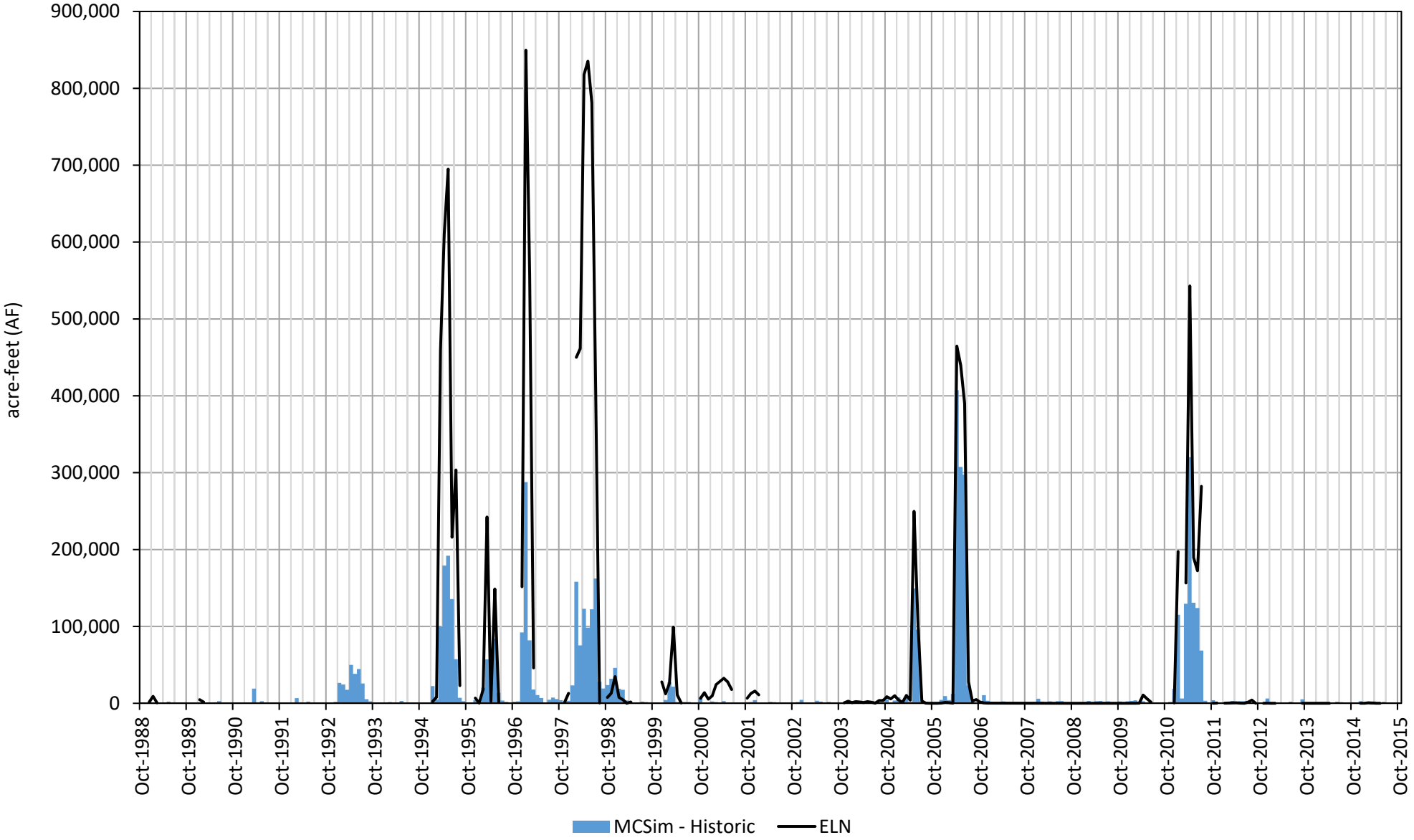
Hydrograph 11

San Joaquin River near Washington Rd



Hydrograph 12

Eastside Bypass near El Nido



APPENDIX D

MCSim Water Budget Results

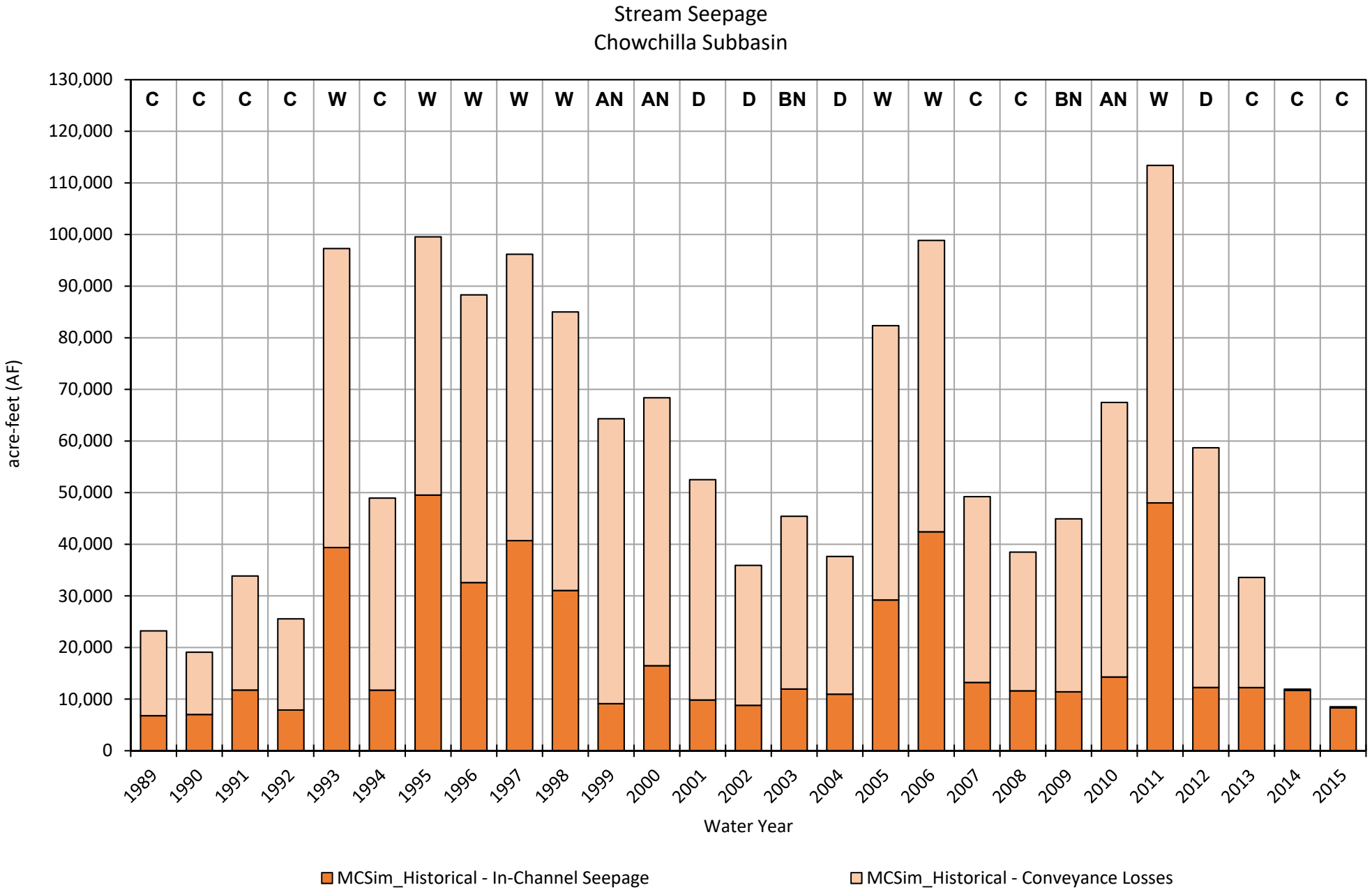
Appendix D

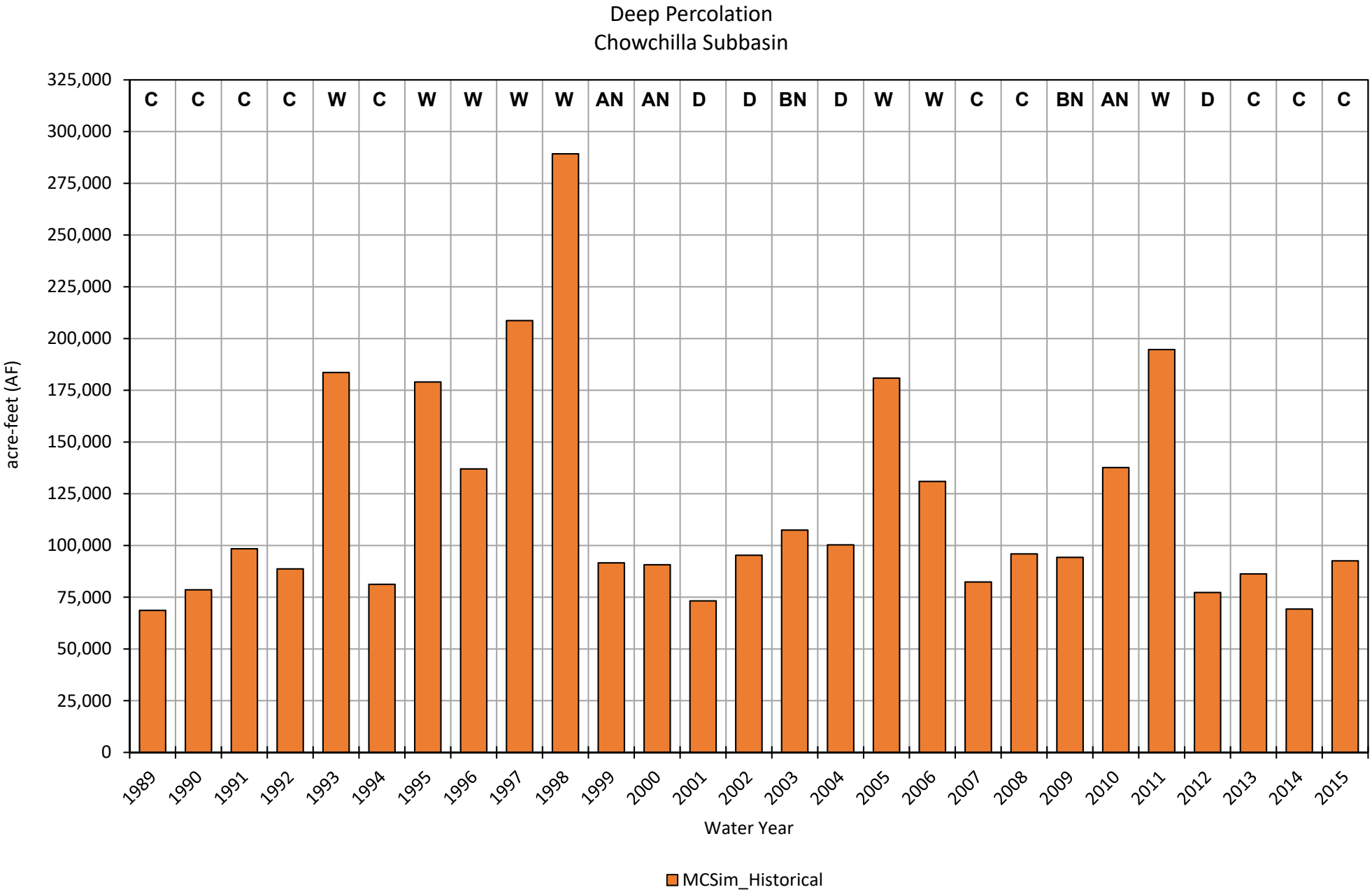
MCSim Water Budget Results

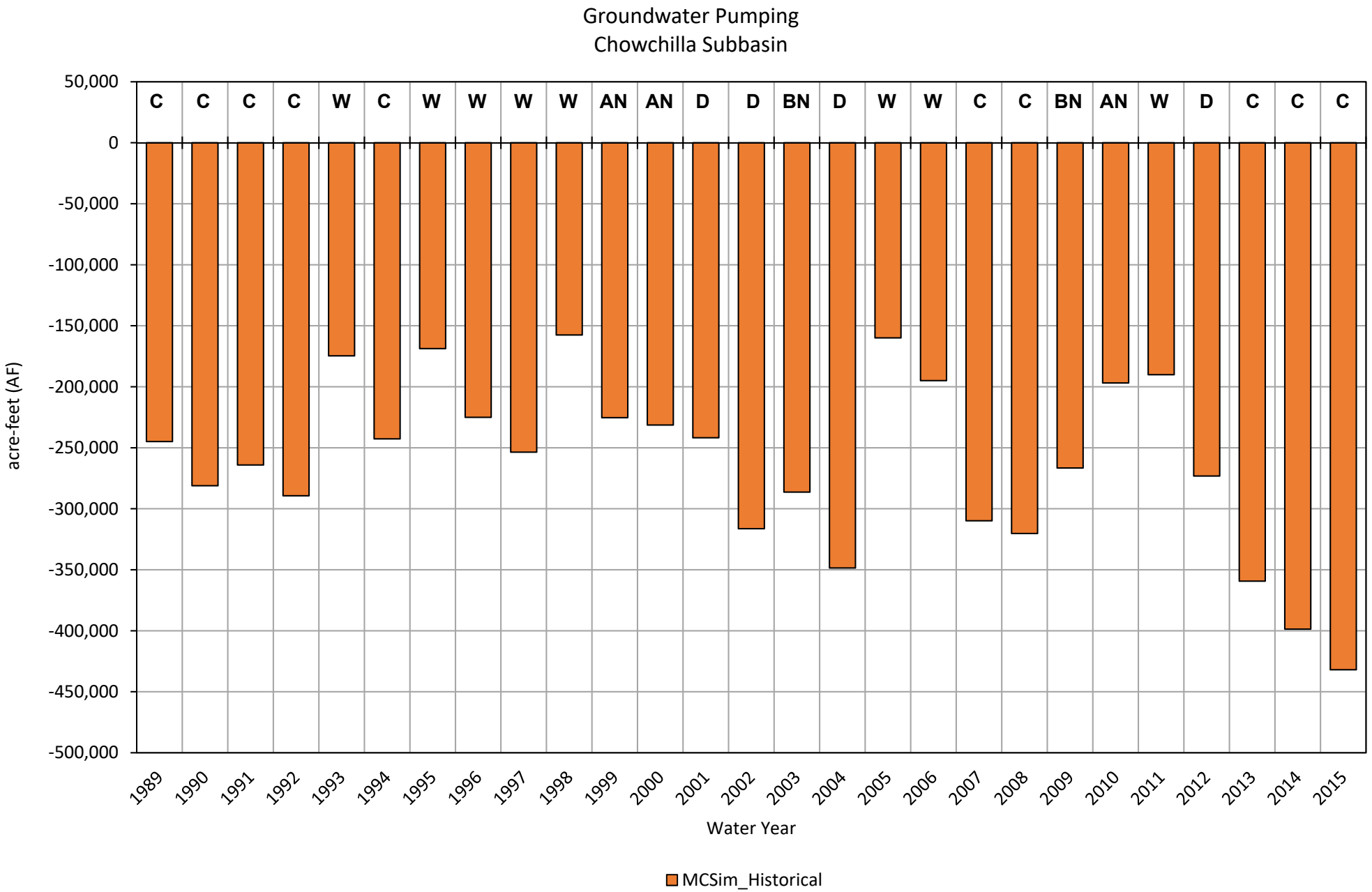
1. Historical
    a. *Chowchilla Subbasin*
    b. *Madera Subbasin*
    c. *Chowchilla Subbasin by GSA*
    d. *Madera Subbasin by GSA*
2. Projected with Projects
    a. *Chowchilla Subbasin*
    b. *Madera Subbasin*
    c. *Chowchilla Subbasin by GSA*
    d. *Madera Subbasin by GSA*
3. Projected with Projects with Climate Change
    a. *Chowchilla Subbasin*
    b. *Madera Subbasin*
    c. *Chowchilla Subbasin by GSA*
    d. *Madera Subbasin by GSA*
4. Projected
    a. *Chowchilla Subbasin*
    b. *Madera Subbasin*
    c. *Chowchilla Subbasin by GSA*
    d. *Madera Subbasin by GSA*
5. Projected with Climate Change
    a. *Chowchilla Subbasin*
    b. *Madera Subbasin*
    c. *Chowchilla Subbasin by GSA*
    d. *Madera Subbasin by GSA*

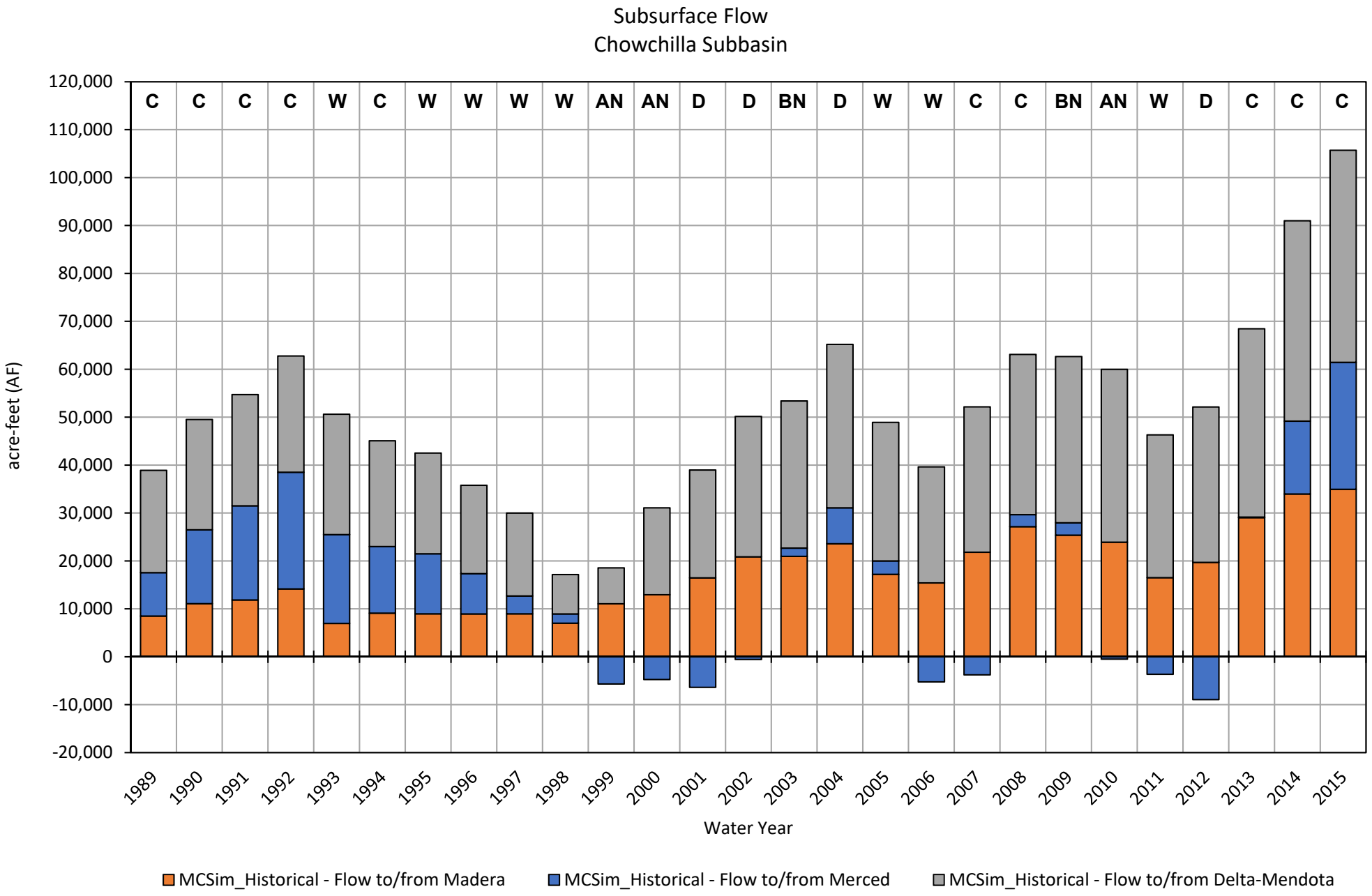
MCSim Historical Water Budget
Chowchilla Subbasin

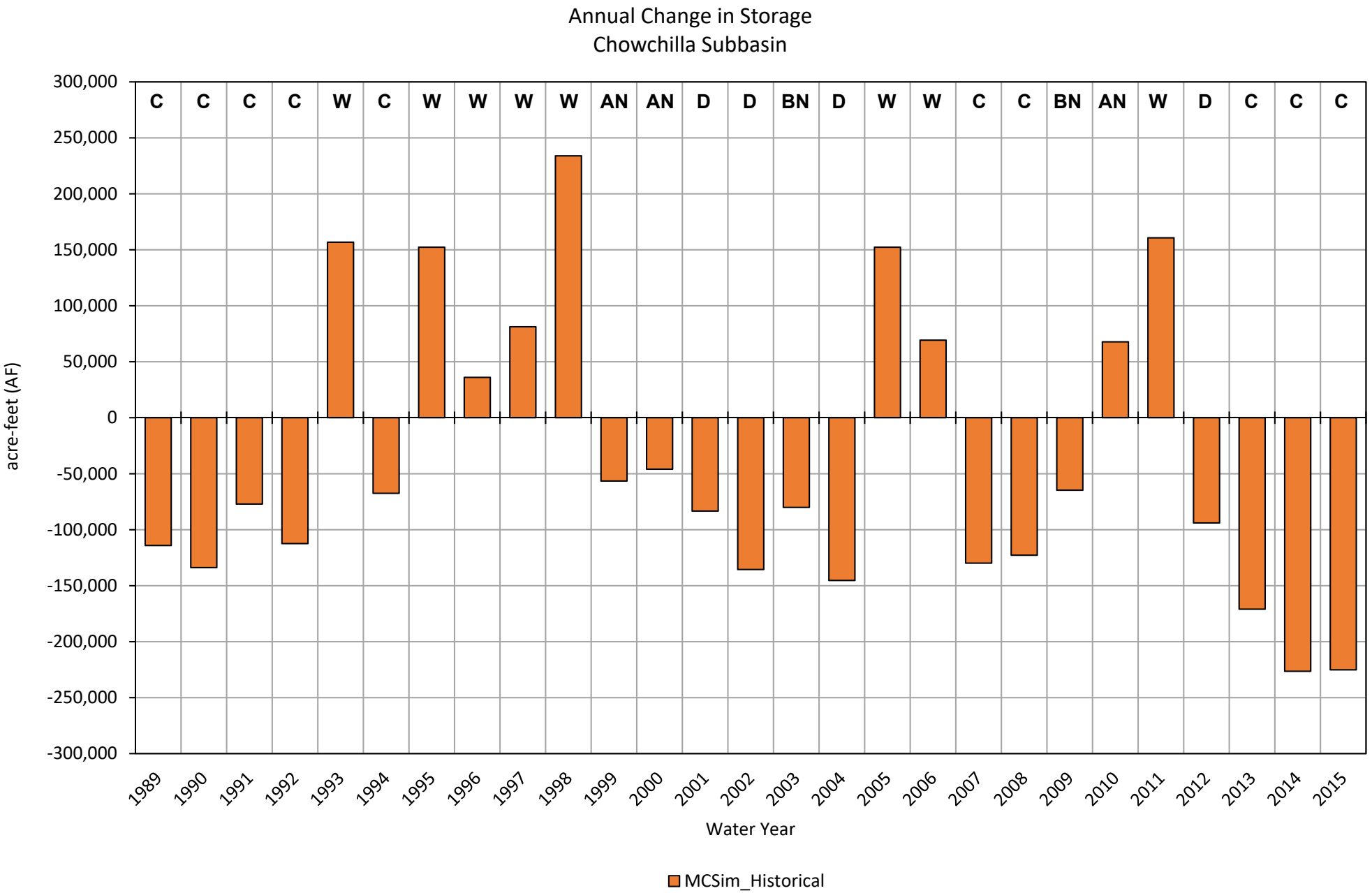
	Average Annual Water Budget (AF/m)
	Historical Period 1989-2015
Total Stream Seepage	56,615
In-Channel Seepage	*19,268*
Conveyance Losses	*37,348*
Deep Percolation	119,039
General Head Boundary Conditions	0
Small Watershed Baseflow	0
Small Watershed Percolation	0
Groundwater Pumping	-261,227
Total Subsurface Inflow	49,442
Flow to(+)/from(-) Madera	*17,274*
Flow to(+)/from(-) Merced	*5,444*
Flow to(+)/from(-) Delta-Mendota	*26,725*
Average Annual Change in Storage	-36,131
Total Cumulative Change in Storage	-975,531

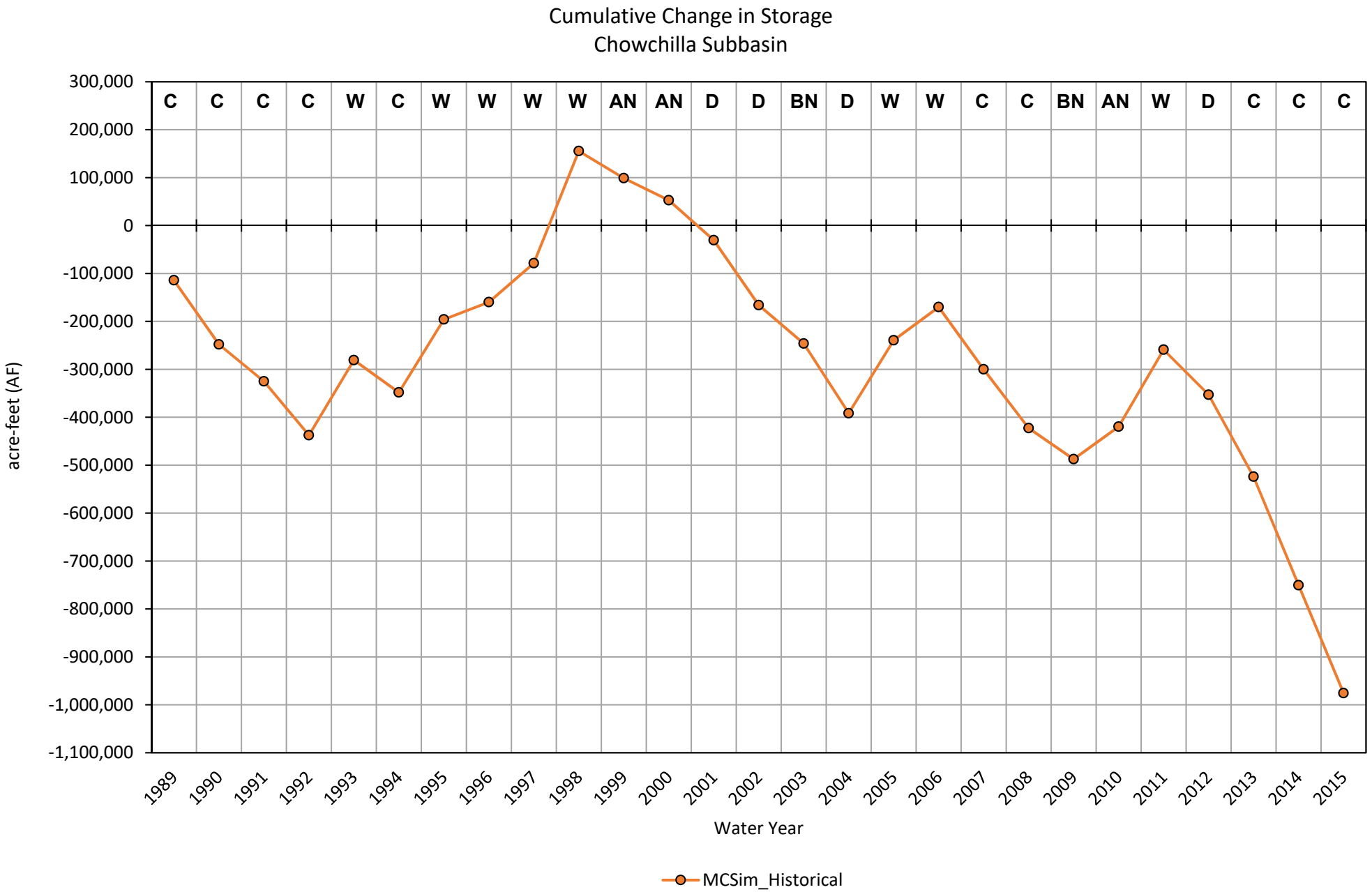

Stream Seepage
Chowchilla Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
130,000
120,000
110,000
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical - In-Channel Seepage
MCSim_Historical - Conveyance Losses


Deep Percolation
Chowchilla Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
325,000
300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical


Groundwater Pumping
Chowchilla Subbasin
50,000
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
-450,000
-500,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical

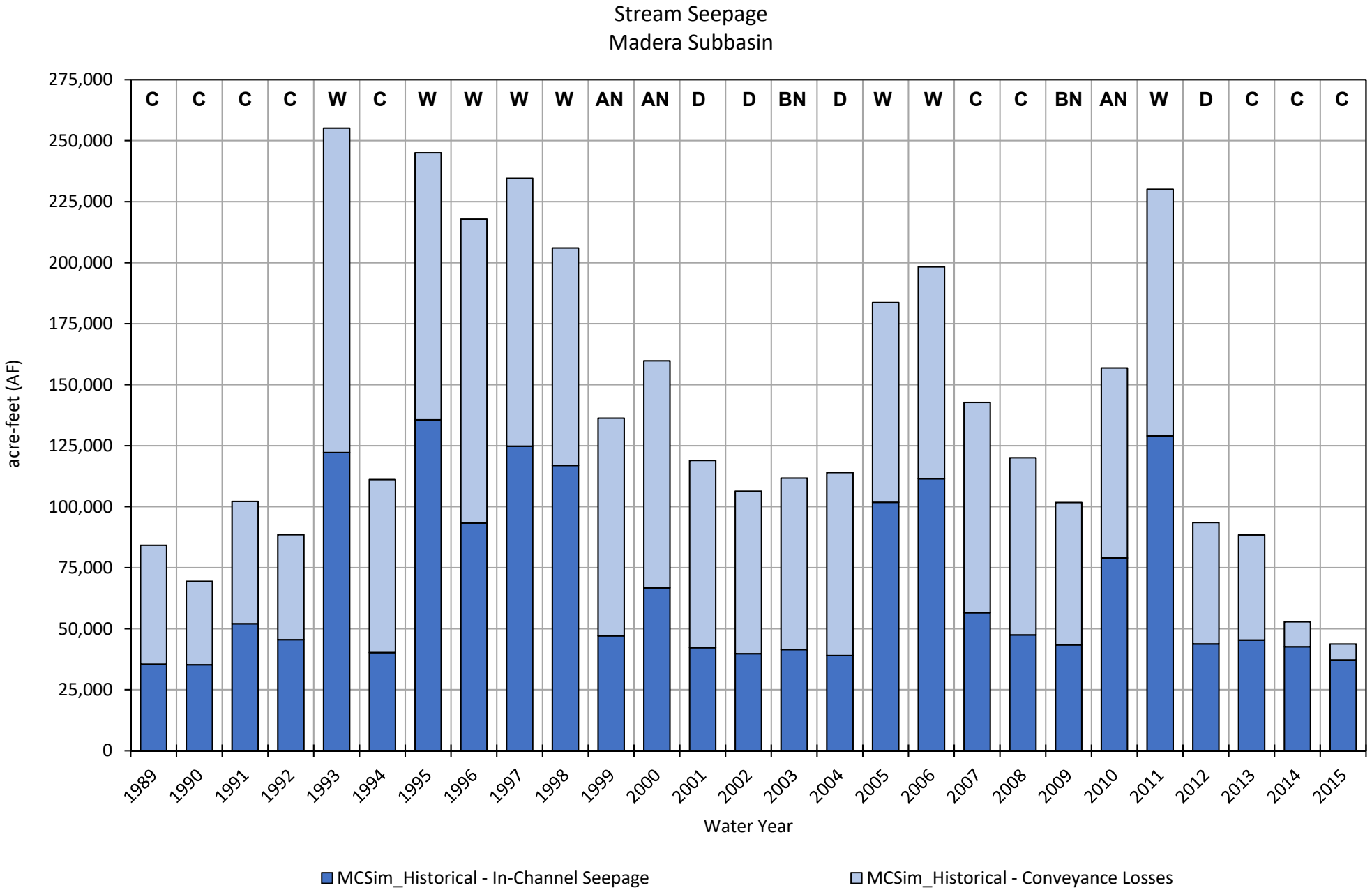

Subsurface Flow
Chowchilla Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
120,000
110,000
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
-20,000
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical - Flow to/from Madera
MCSim_Historical - Flow to/from Merced
MCSim_Historical - Flow to/from Delta-Mendota

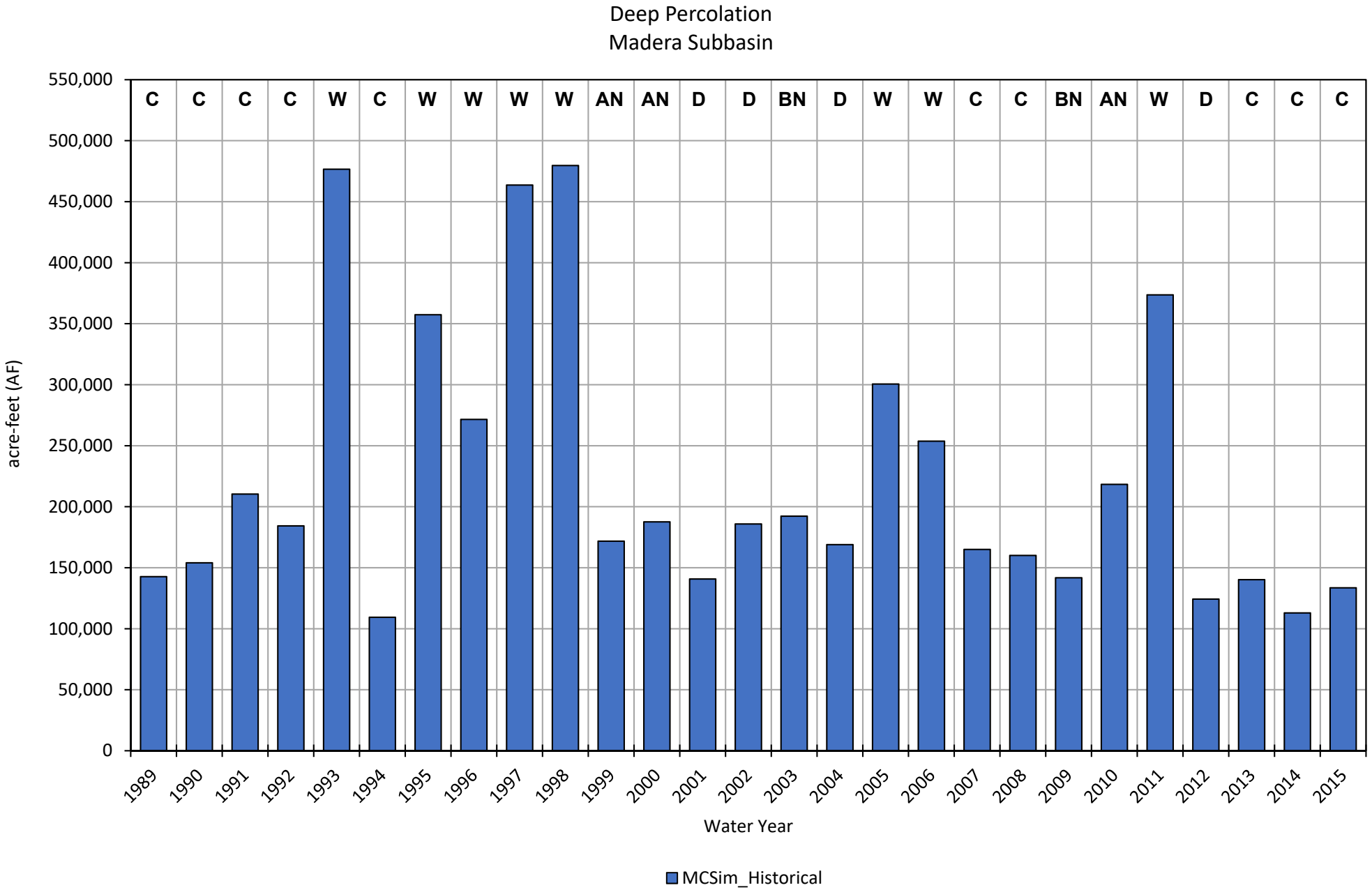

Annual Change in Storage
Chowchilla Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical

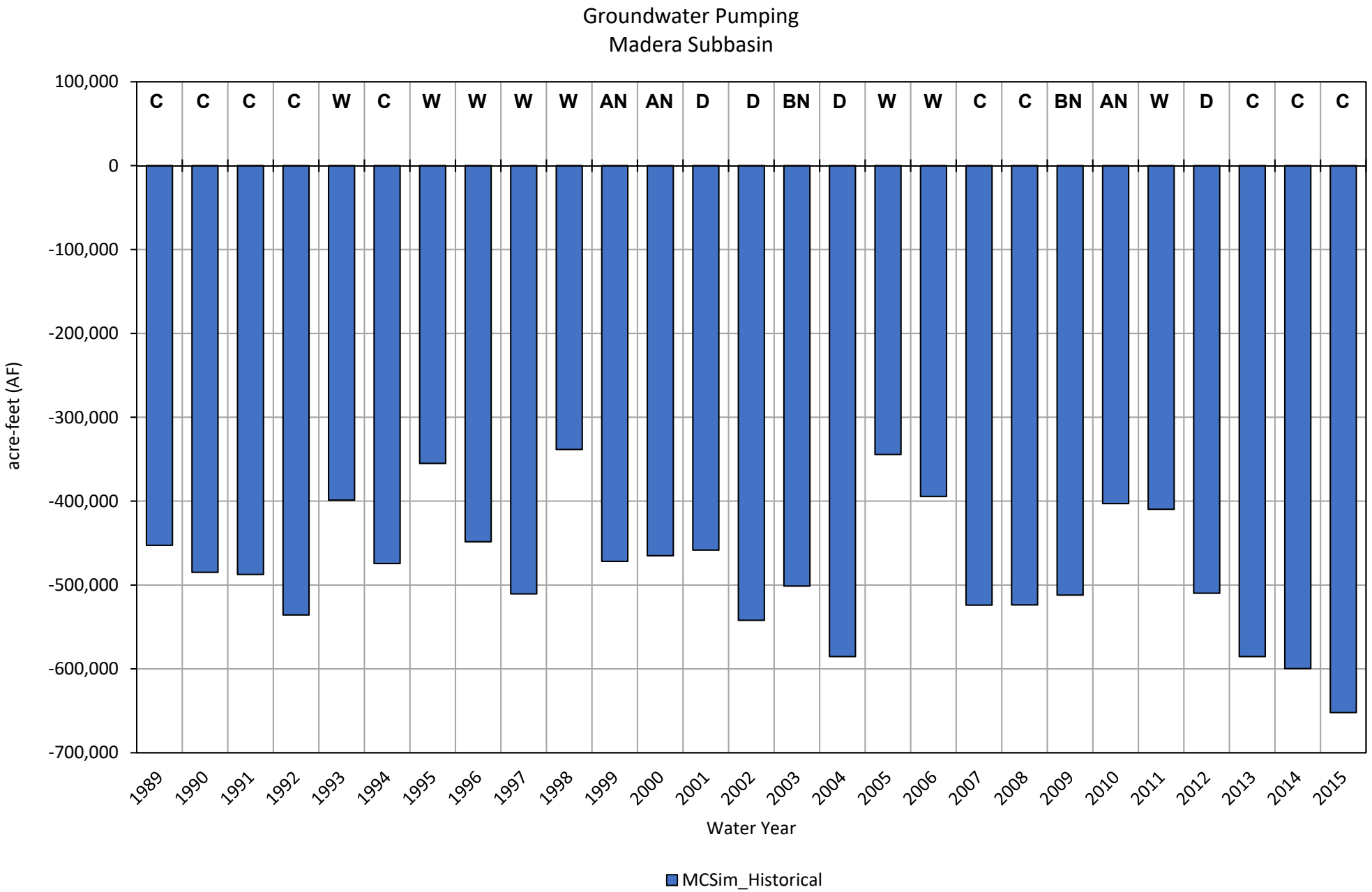

Cumulative Change in Storage
Chowchilla Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
-900,000
-1,000,000
-1,100,000
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical

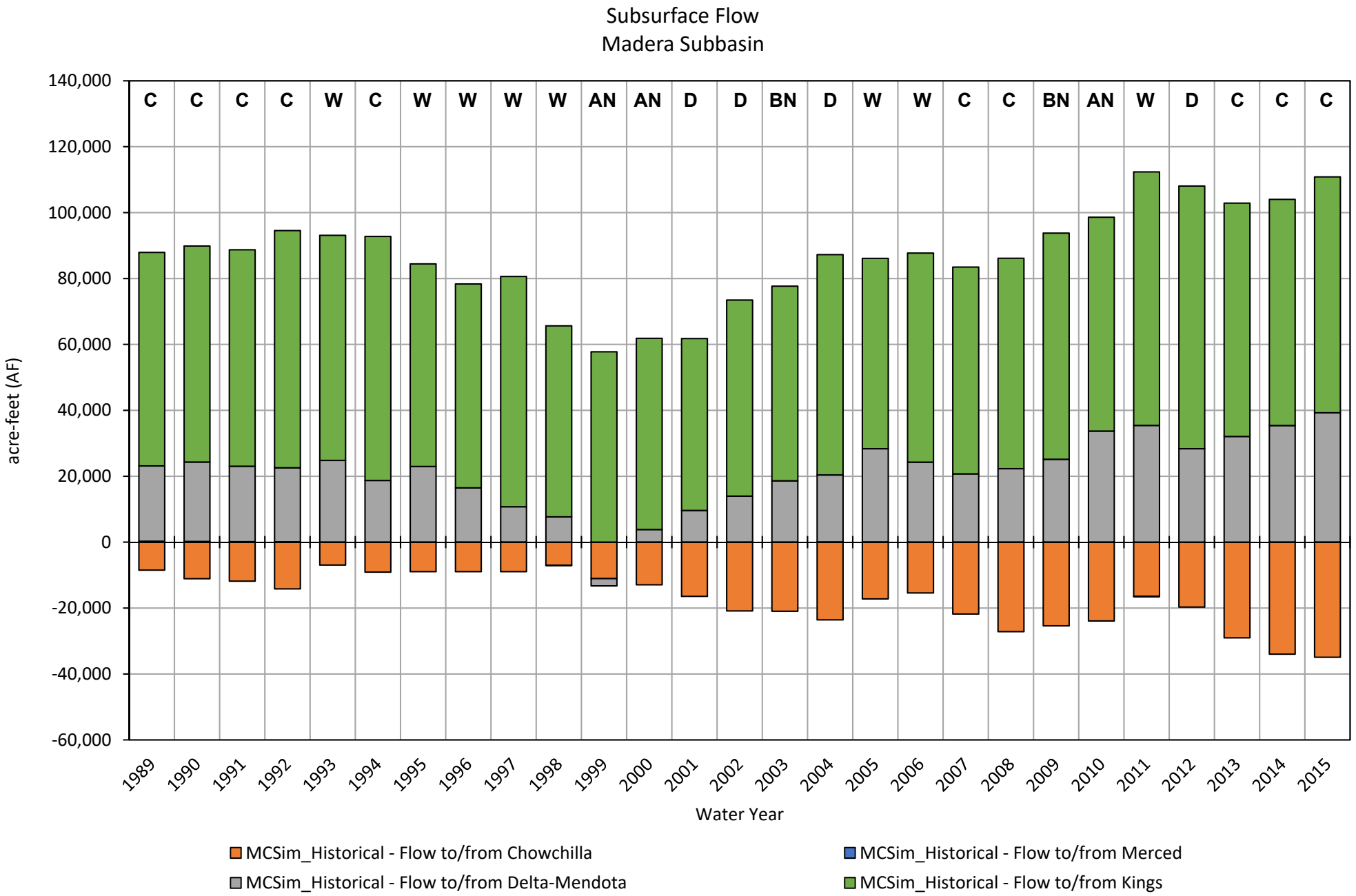
MCSim Historical Water Budget
Madera Subbasin

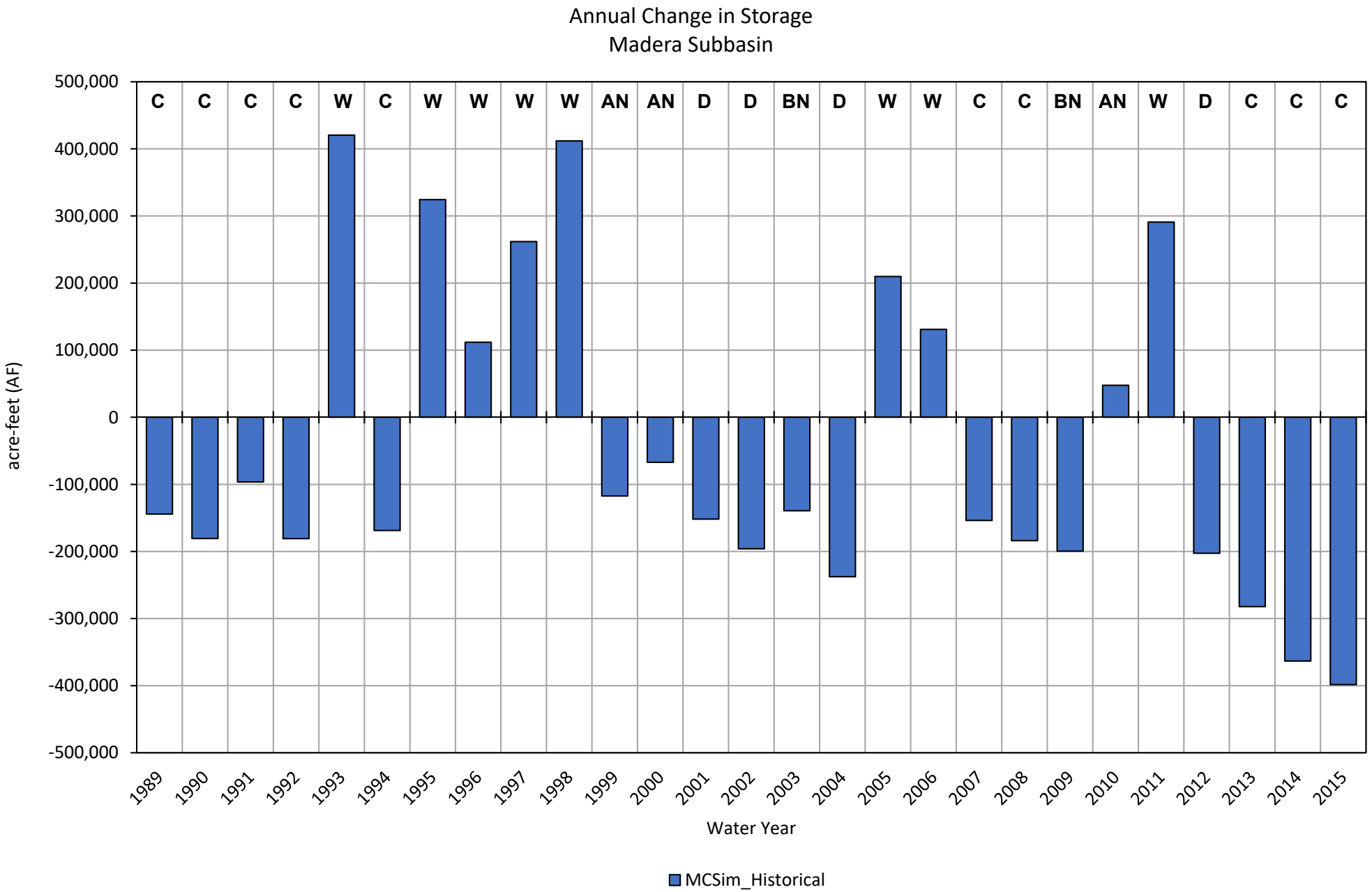
	Average Annual Water Budget (AF/m)
	Historical Period 1989-2015
Total Stream Seepage	139,743
In-Channel Seepage	*67,233*
Conveyance Losses	*72,510*
Deep Percolation	222,993
General Head Boundary Conditions	0
Small Watershed Baseflow	1,225
Small Watershed Percolation	210
Bypass Recoverable Loss	0
Groundwater Pumping	-480,299
Total Subsurface Inflow	69,675
Flow to(+)/from(-) Chowchilla	*-17,274*
Flow to(+)/from(-) Merced	*61*
Flow to(+)/from(-) Delta-Mendota	*21,560*
Flow to(+)/from(-) Kings	*65,328*
Average Annual Change in Storage	-46,453
Total Cumulative Change in Storage	-1,254,228

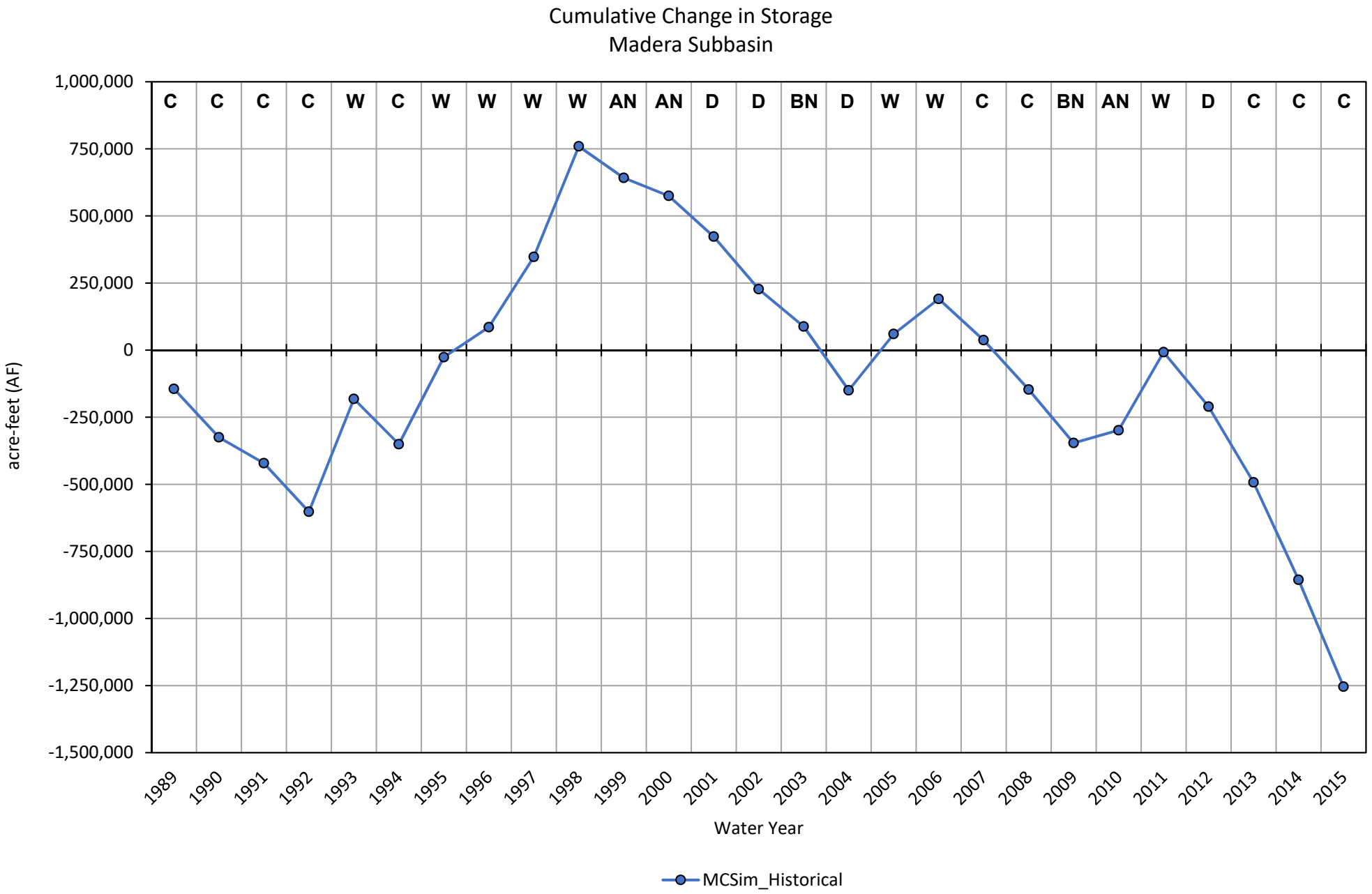

Stream Seepage
Madera Subbasin
acre-feet (AF)
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical - In-Channel Seepage
MCSim_Historical - Conveyance Losses


Deep Percolation
Madera Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical


Groundwater Pumping
Madera Subbasin
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical

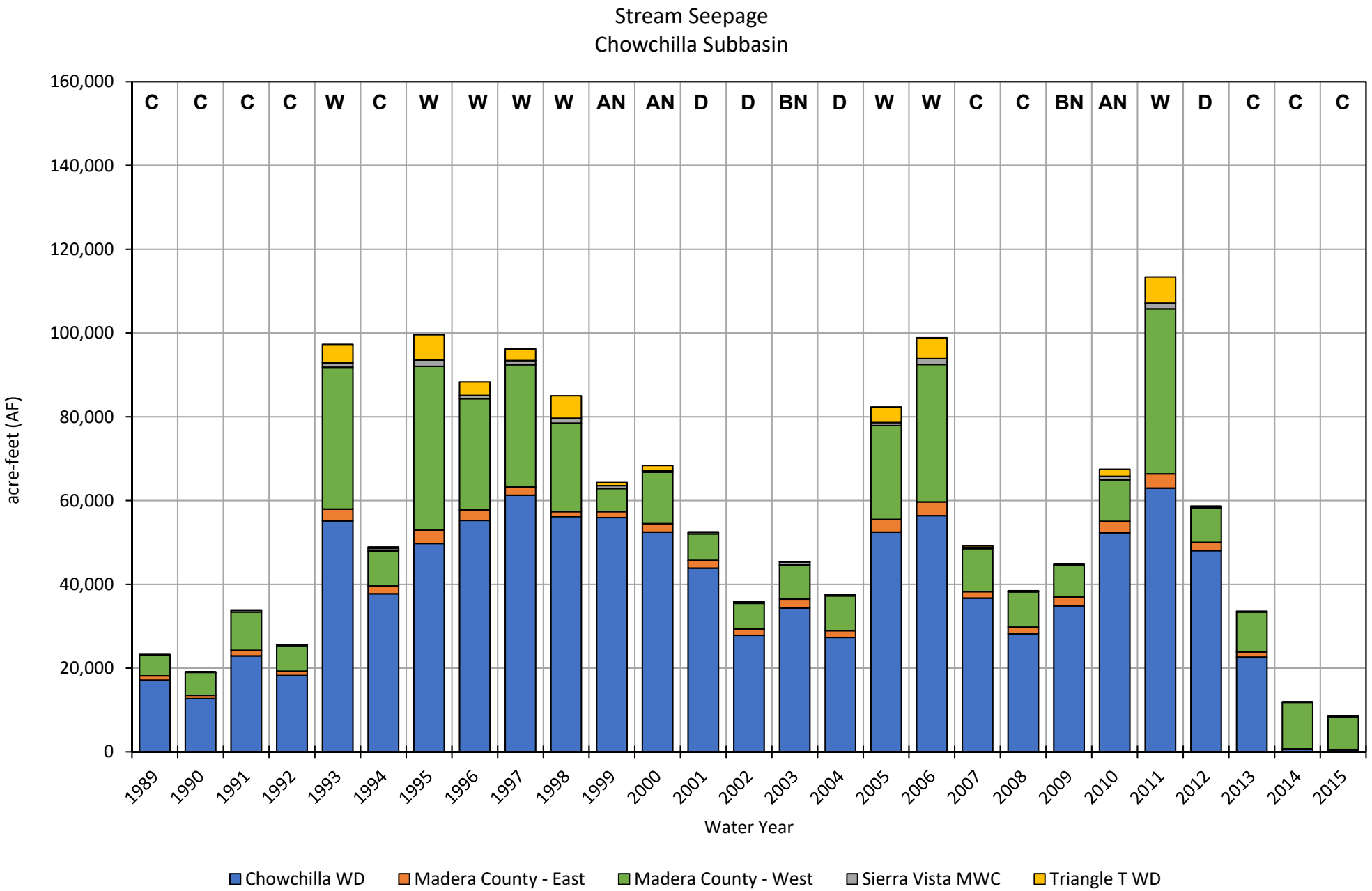

Subsurface Flow
Madera Subbasin
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical - Flow to/from Chowchilla
MCSim_Historical - Flow to/from Merced
MCSim_Historical - Flow to/from Delta-Mendota
MCSim_Historical - Flow to/from Kings

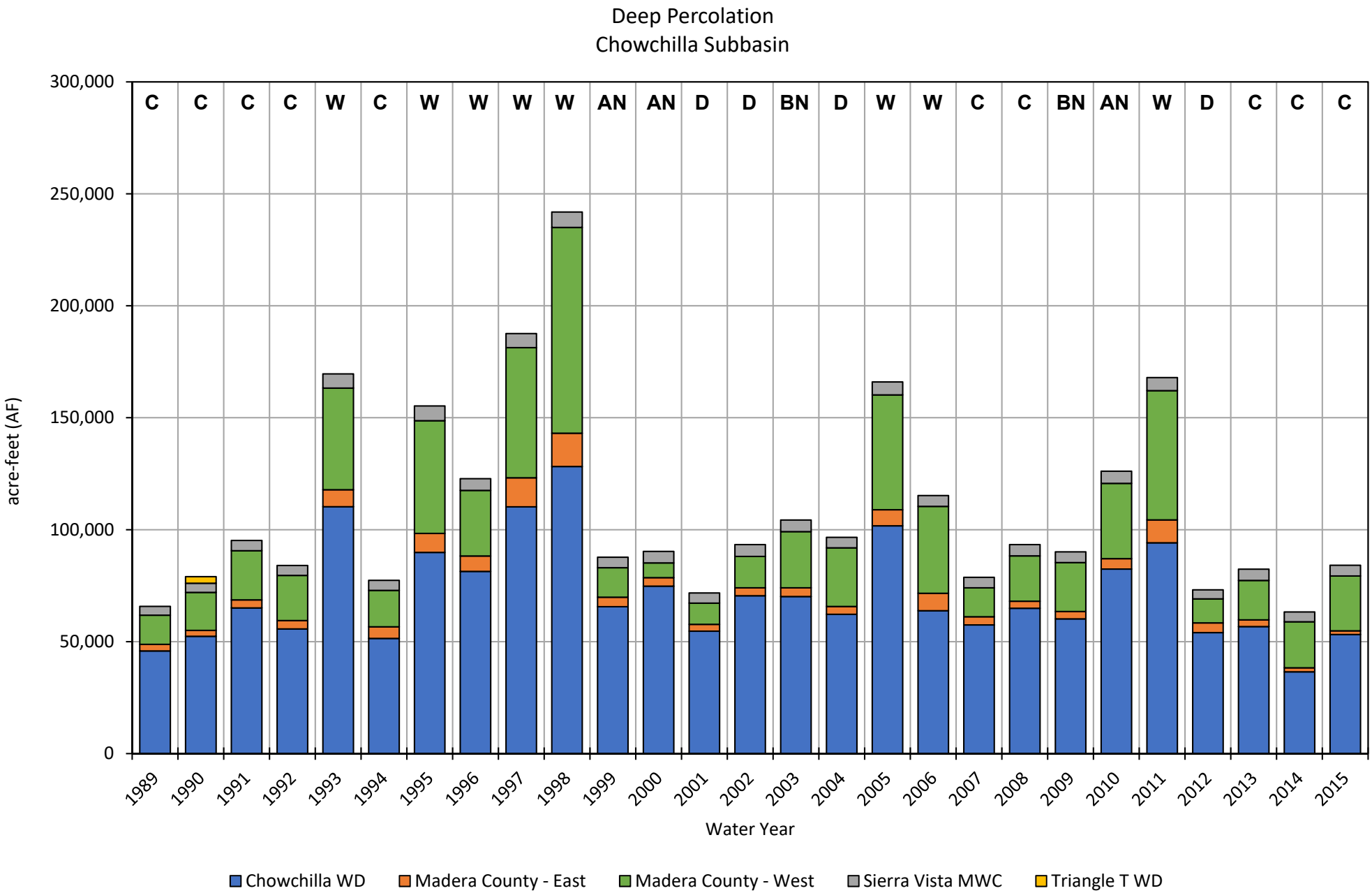

Annual Change in Storage
Madera Subbasin
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical

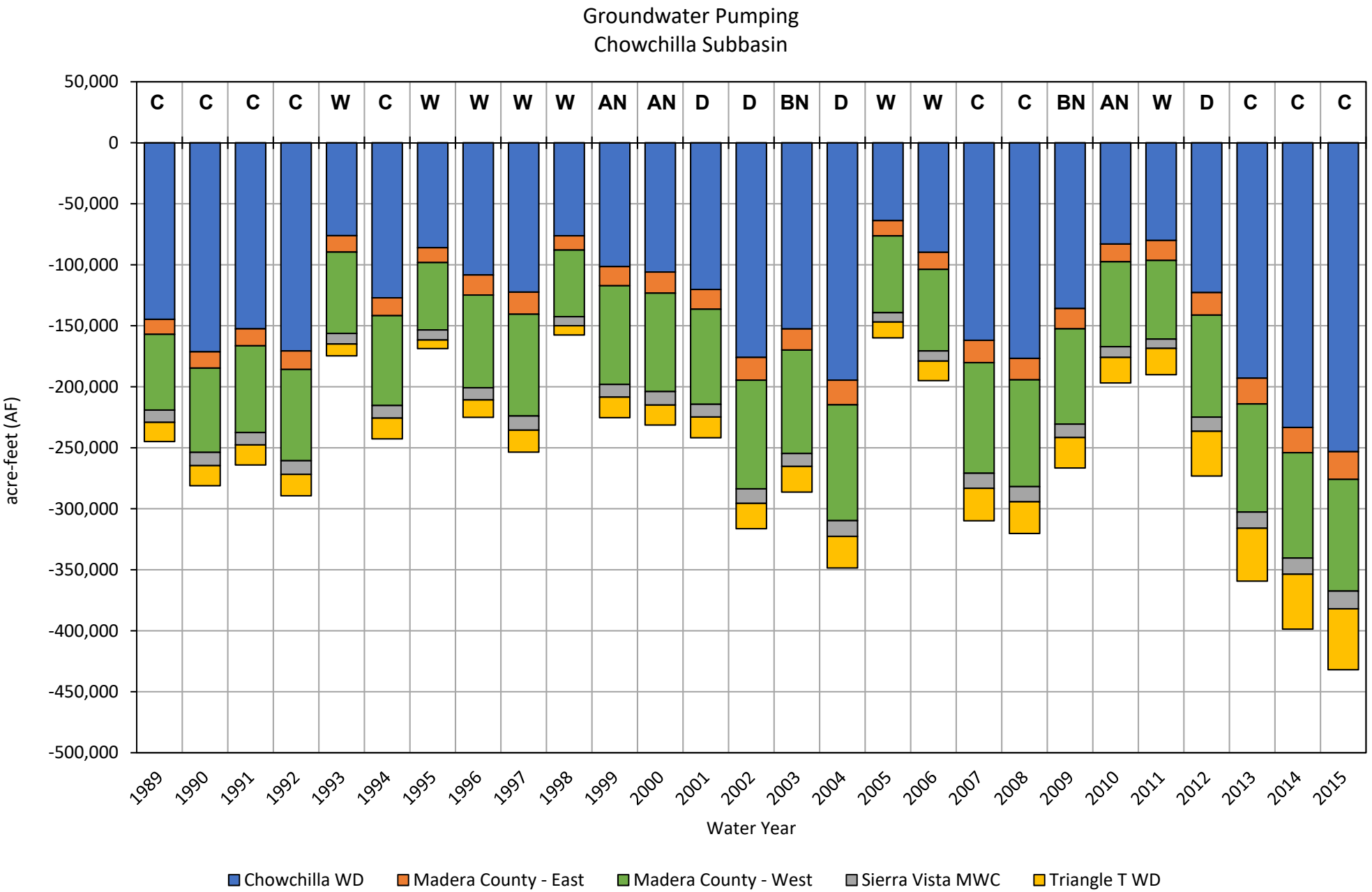

Cumulative Change in Storage
Madera Subbasin
1,000,000
750,000
500,000
250,000
0
-250,000
-500,000
-750,000
-1,000,000
-1,250,000
-1,500,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
MCSim_Historical

MCSim Historical Water Budget by GSA
Chowchilla Subbasin

	Average Annual Water Budget (AF/m)				
	Historical Period, 1989-2015				
	Chowchilla Water District	**Madera County - East**	**Madera County - West**	**Sierra Vista Mutual Water Company**	**Triangle T Water District**
Total Stream Seepage	37,925	1,832	14,727	574	1,558
In-Channel Seepage	*2,939*	*1,788*	*14,113*	*94*	*333*
Conveyance Losses	*34,986*	*44*	*613*	*480*	*1,225*
Deep Percolation	70,860	5,250	28,435	5,079	9,415
General Head Boundary Conditions	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0
Groundwater Pumping	-136,284	-16,292	-76,491	-10,622	-21,538
Total Subsurface Inflow	1,514	7,246	28,601	3,820	8,260
Average Annual Change in Storage	-25,985	-1,964	-4,728	-1,149	-2,306
Total Cumulative Change in Storage	-701,589	-53,017	-127,649	-31,021	-62,258

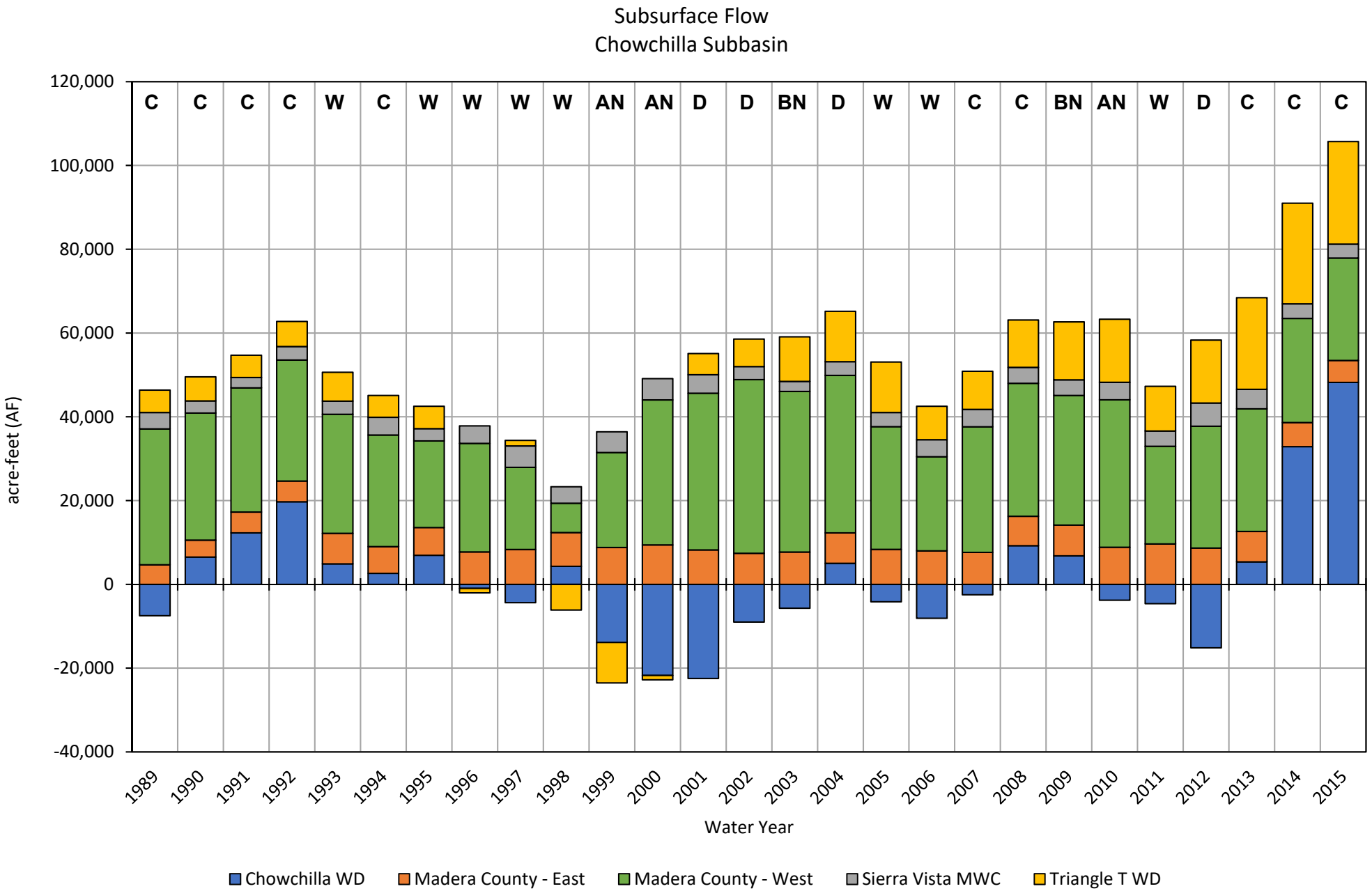

Stream Seepage
Chowchilla Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

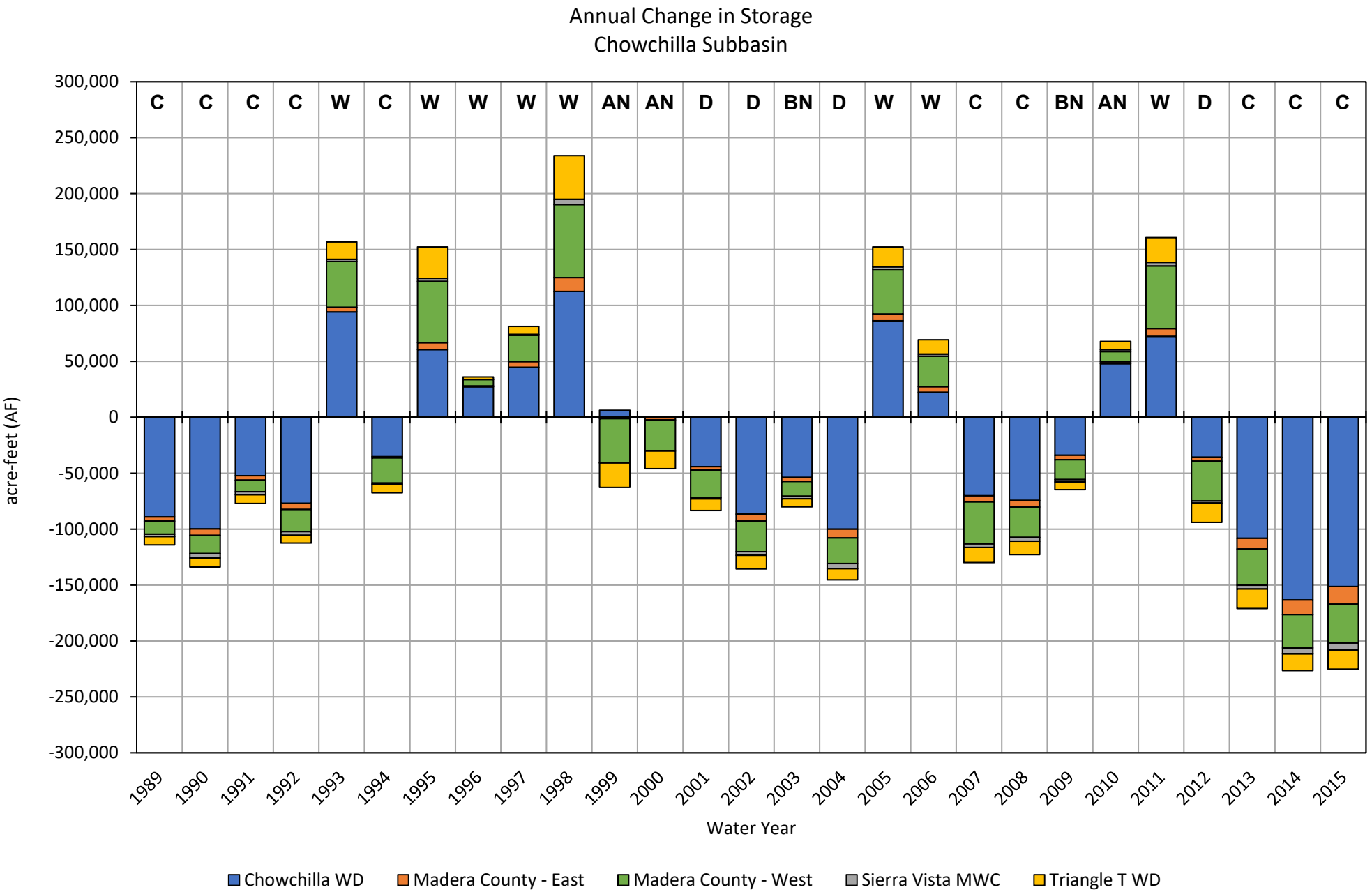

Deep Percolation
Chowchilla Subbasin
300,000
250,000
200,000
150,000
100,000
50,000
0
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

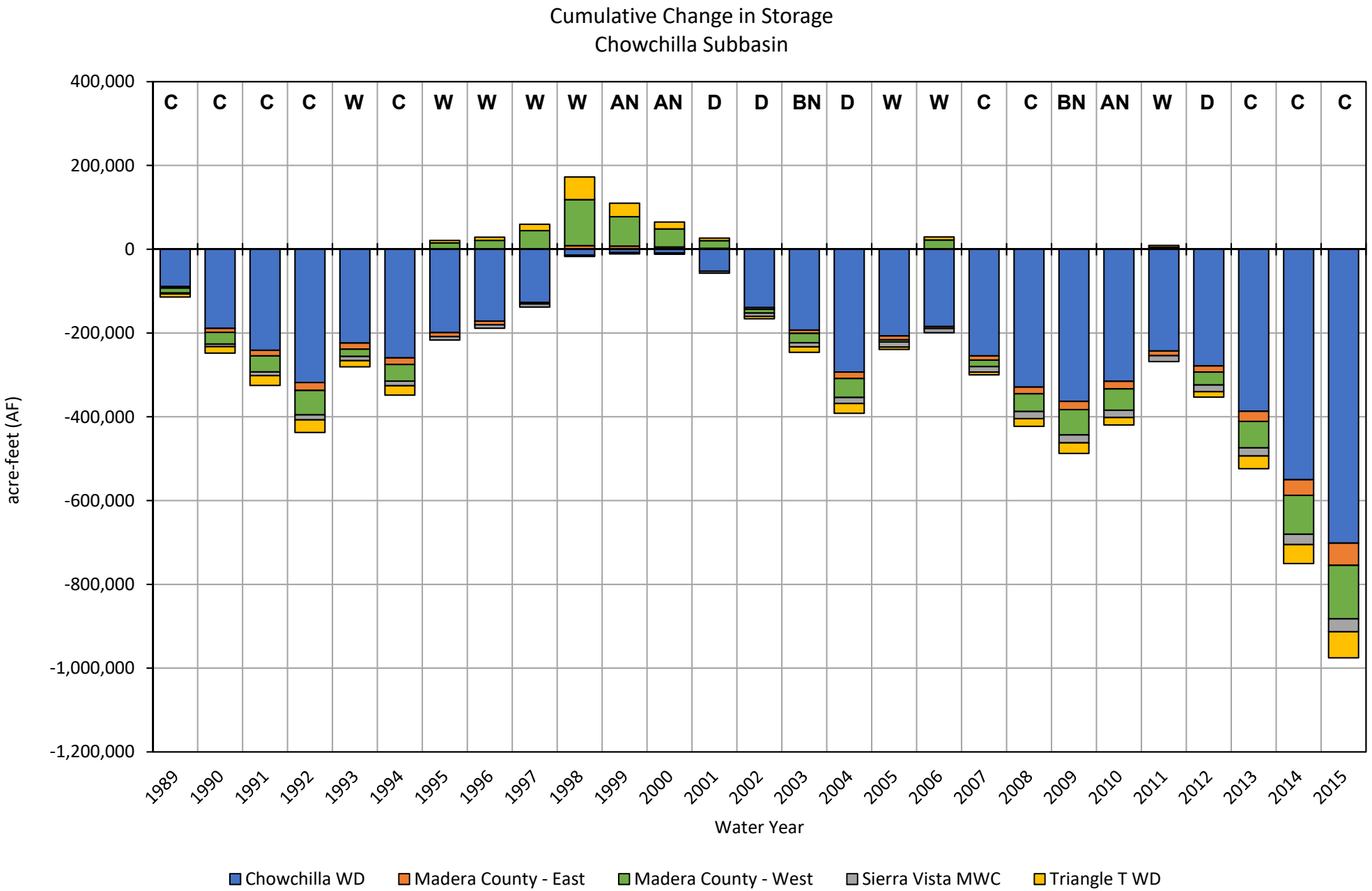


MCSim - Historical, Chowchilla Subbasin by GSA

Appendix D.1.c.

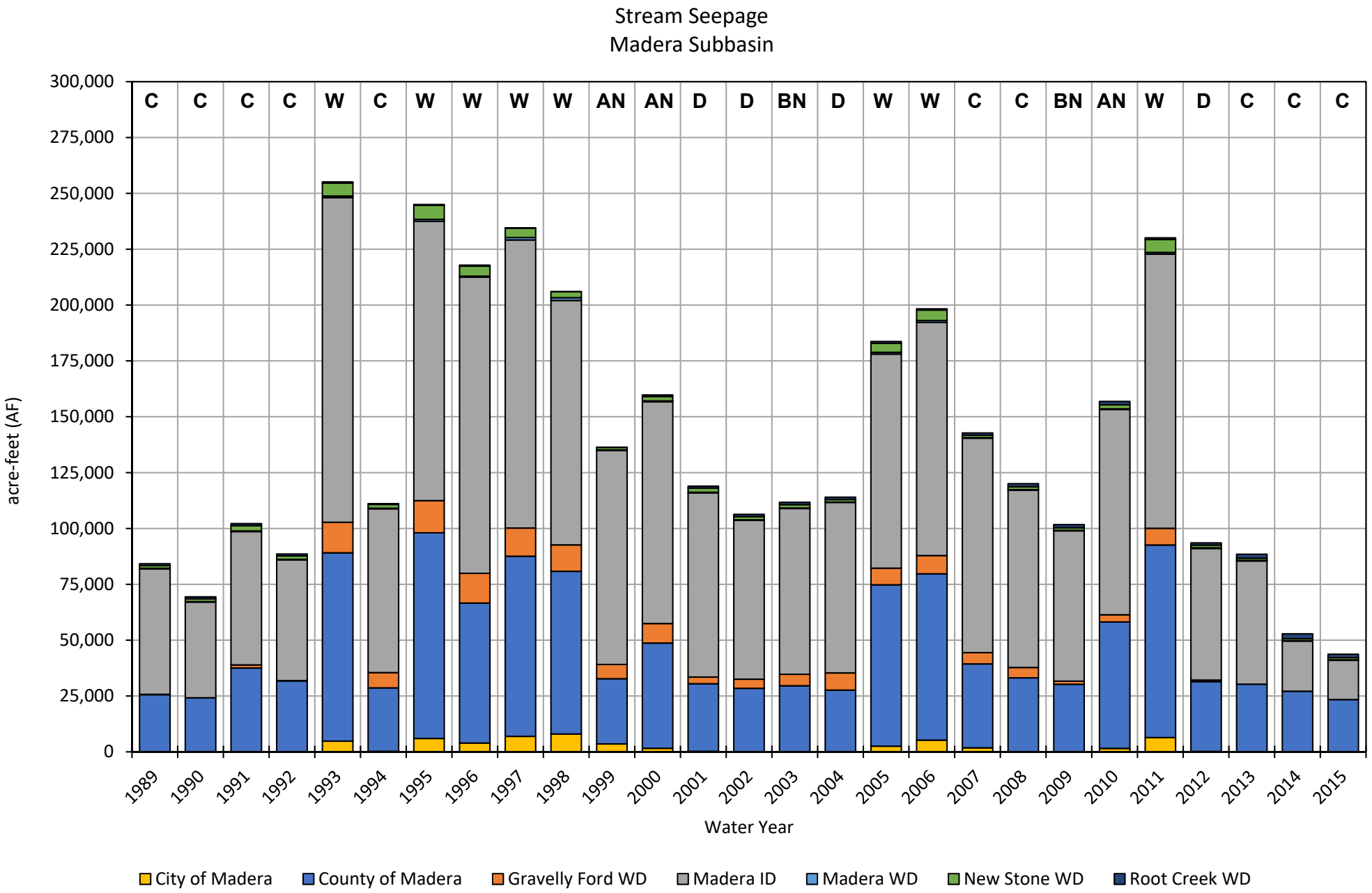

Subsurface Flow
Chowchilla Subbasin
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

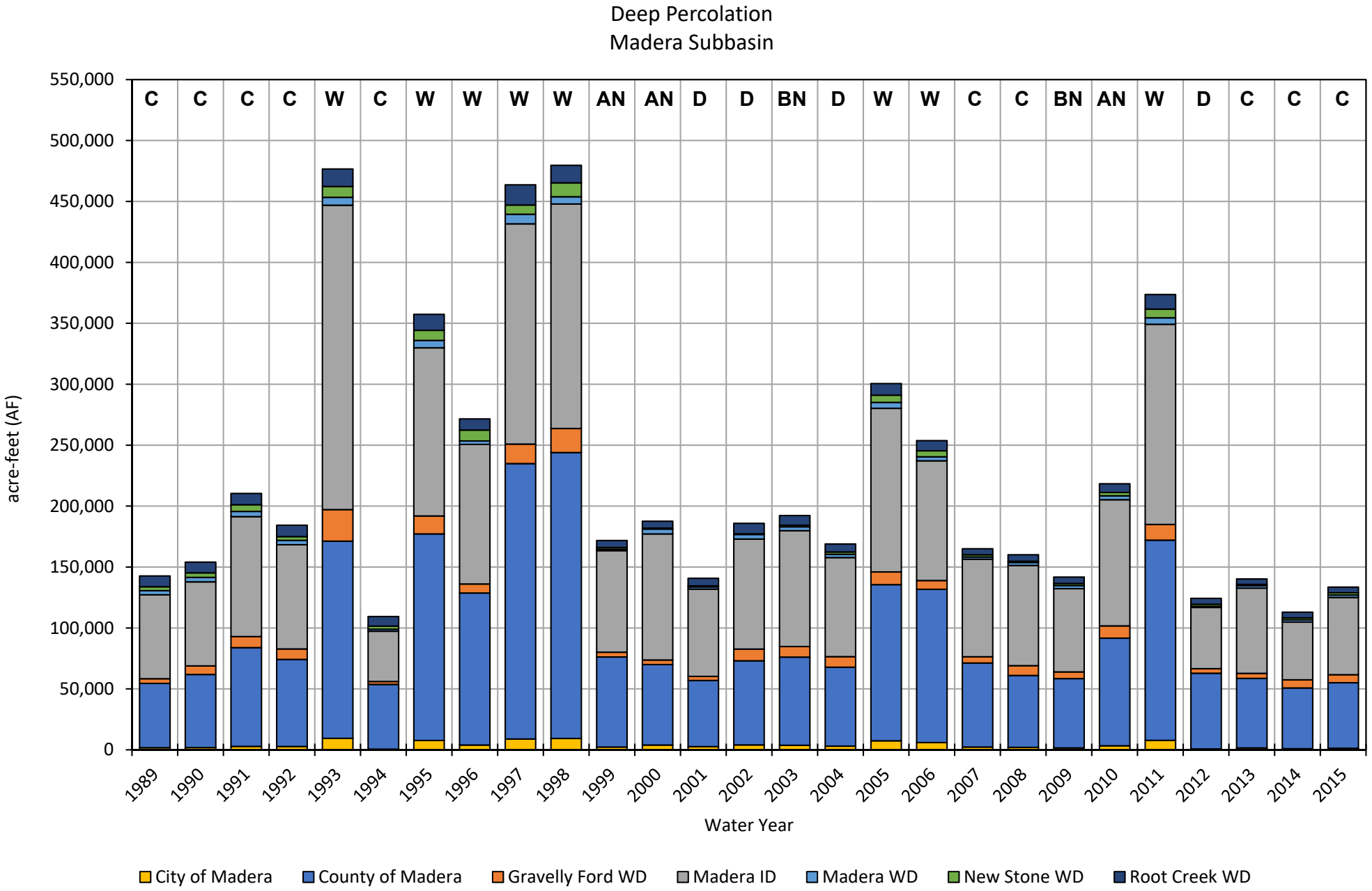

Annual Change in Storage
Chowchilla Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

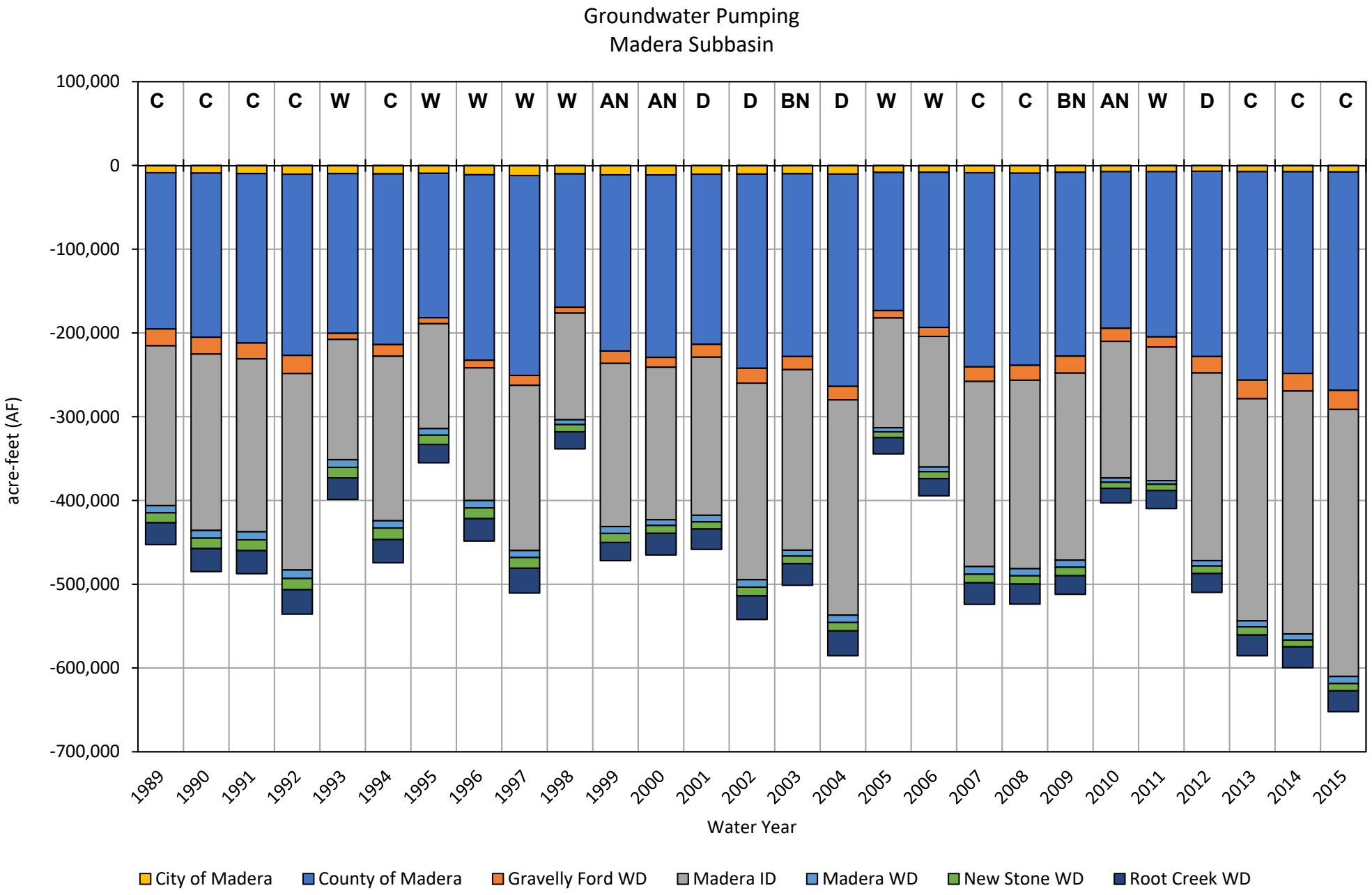

Cumulative Change in Storage
Chowchilla Subbasin
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
-1,000,000
-1,200,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

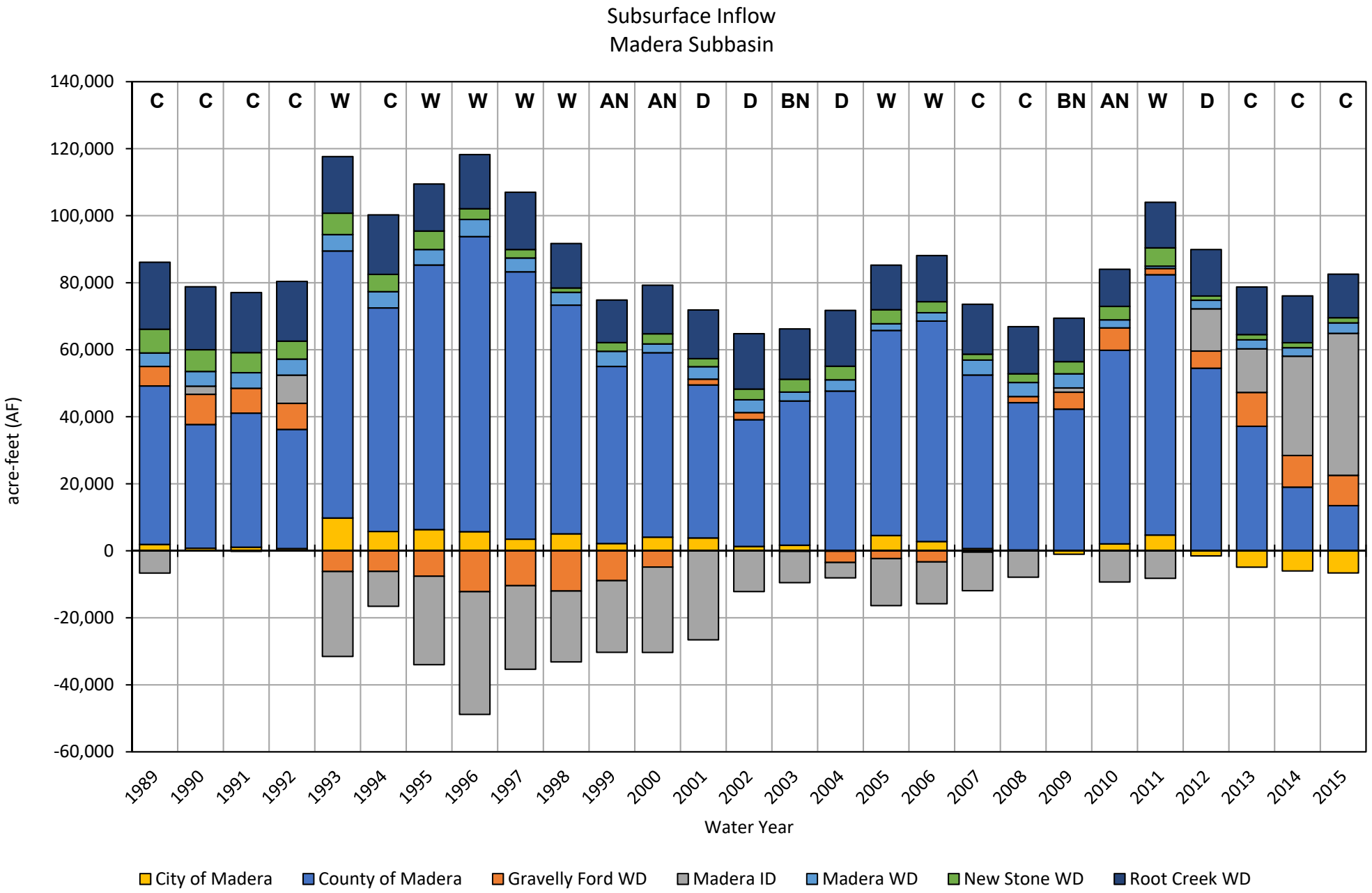
MCSim Water Budget by GSA
Madera Subbasin

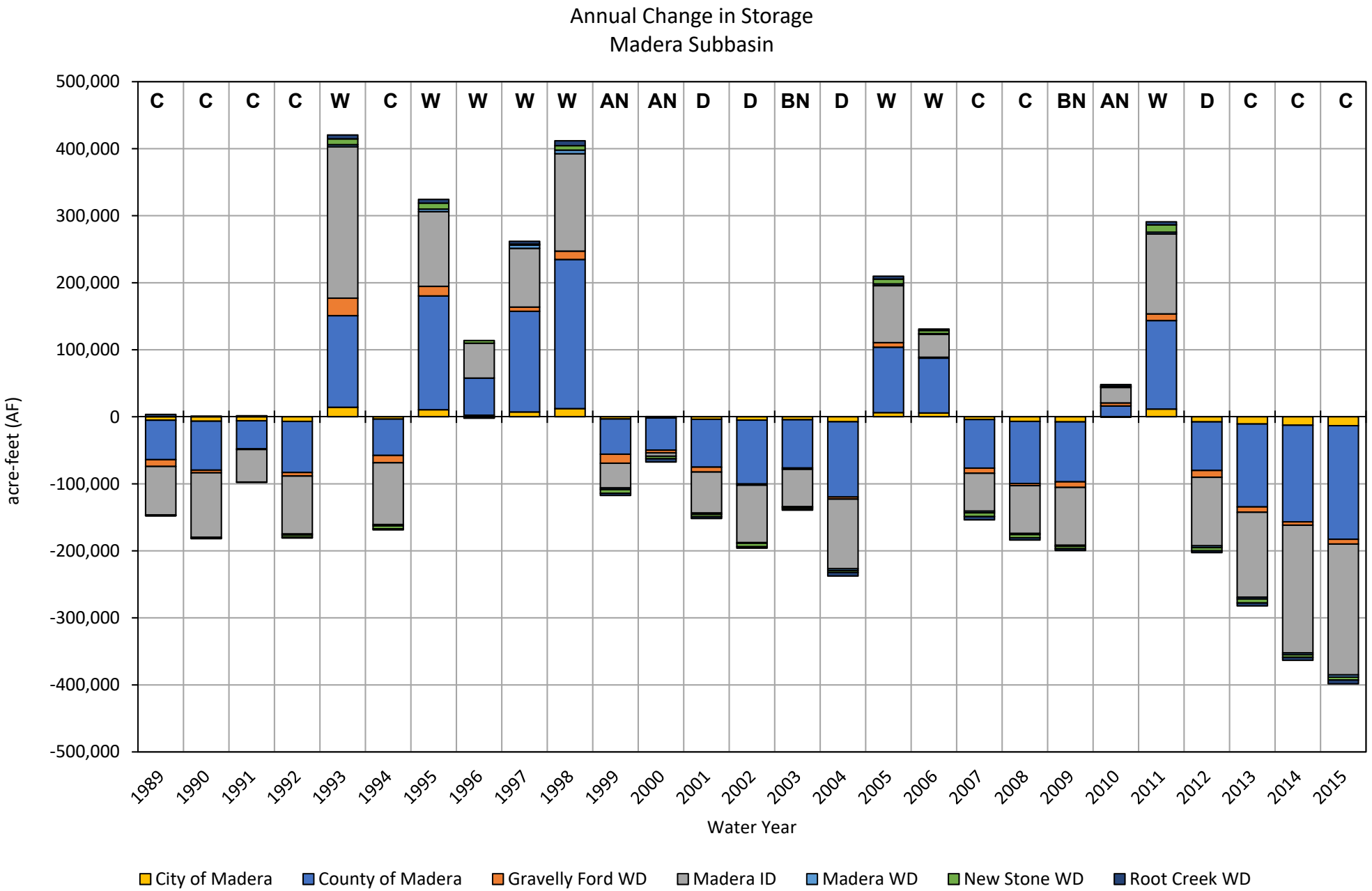
	Average Annual Water Budget (AF/m)						
	Historical Period, 1989-2015						
	City of Madera	**Madera County**	**Gravelly Ford Water District**	**Madera Irrigation District**	**Madera Water District**	**New Stone Water District**	**Root Creek Water District**
Total Stream Seepage	1,975	45,713	5,461	82,897	425	2,390	882
In-Channel Seepage	*1,975*	*44,607*	*265*	*17,549*	*425*	*2,390*	*22*
Conveyance Losses	*0*	*1,106*	*5,195*	*65,348*	*0*	*0*	*861*
Deep Percolation	3,826	94,442	8,626	100,636	3,432	3,757	8,275
General Head Boundary Conditions	0	0	0	0	0	0	0
Small Watershed Baseflow	0	1,225	0	0	0	0	0
Small Watershed Percolation	0	205	0	5	0	0	0
Groundwater Pumping	-9,316	-211,419	-15,433	-201,504	-7,758	-10,209	-24,660
Total Subsurface Inflow	1,786	52,887	190	-7,587	3,605	3,663	15,131
Average Annual Change in Storage	-1,729	-16,948	-1,157	-25,553	-295	-399	-372
Total Cumulative Change in Storage	-46,688	-457,590	-31,240	-689,925	-7,966	-10,769	-10,051

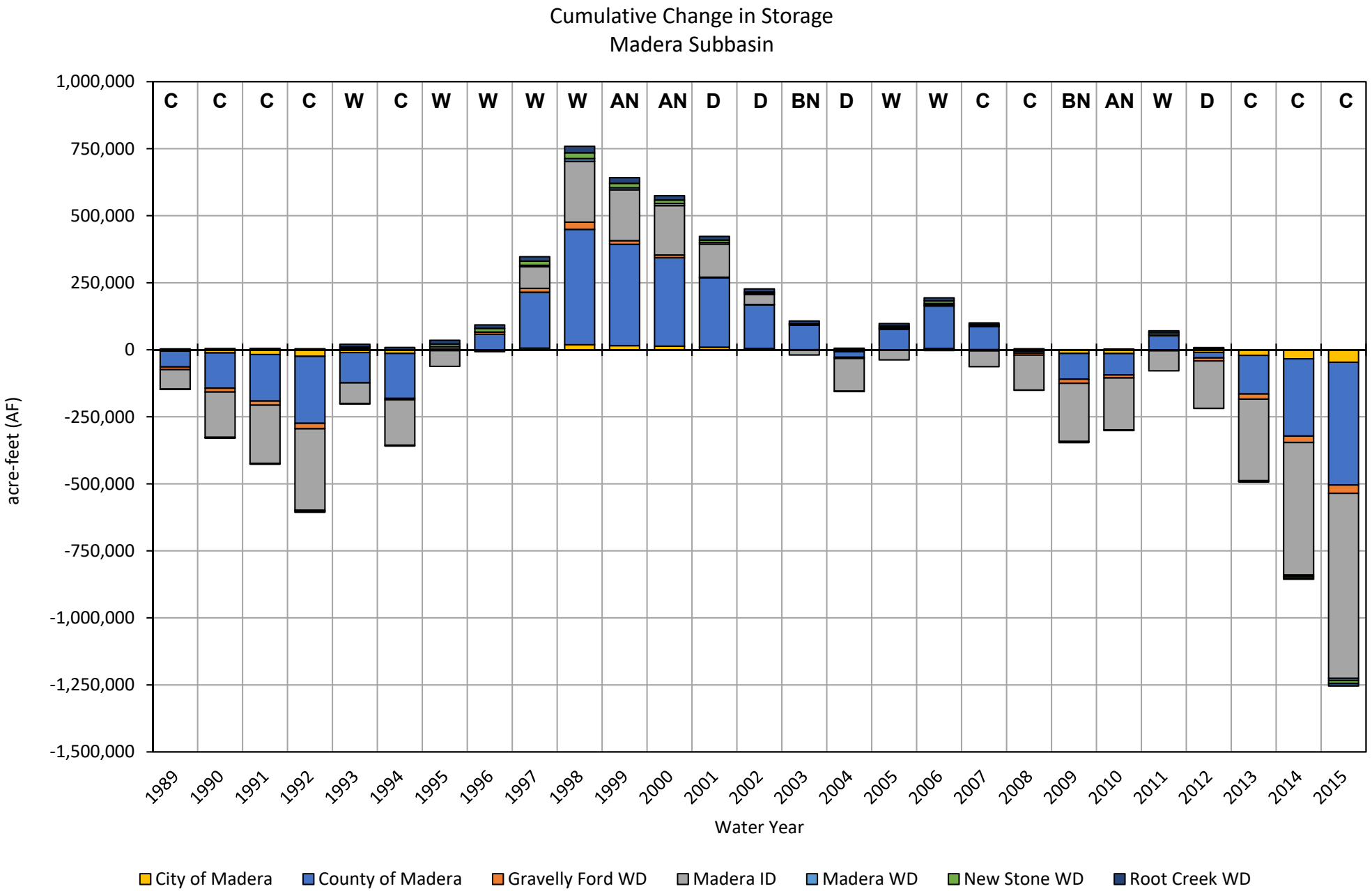

Stream Seepage
Madera Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD


Deep Percolation
Madera Subbasin
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
acre-feet (AF)
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD


Groundwater Pumping
Madera Subbasin
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

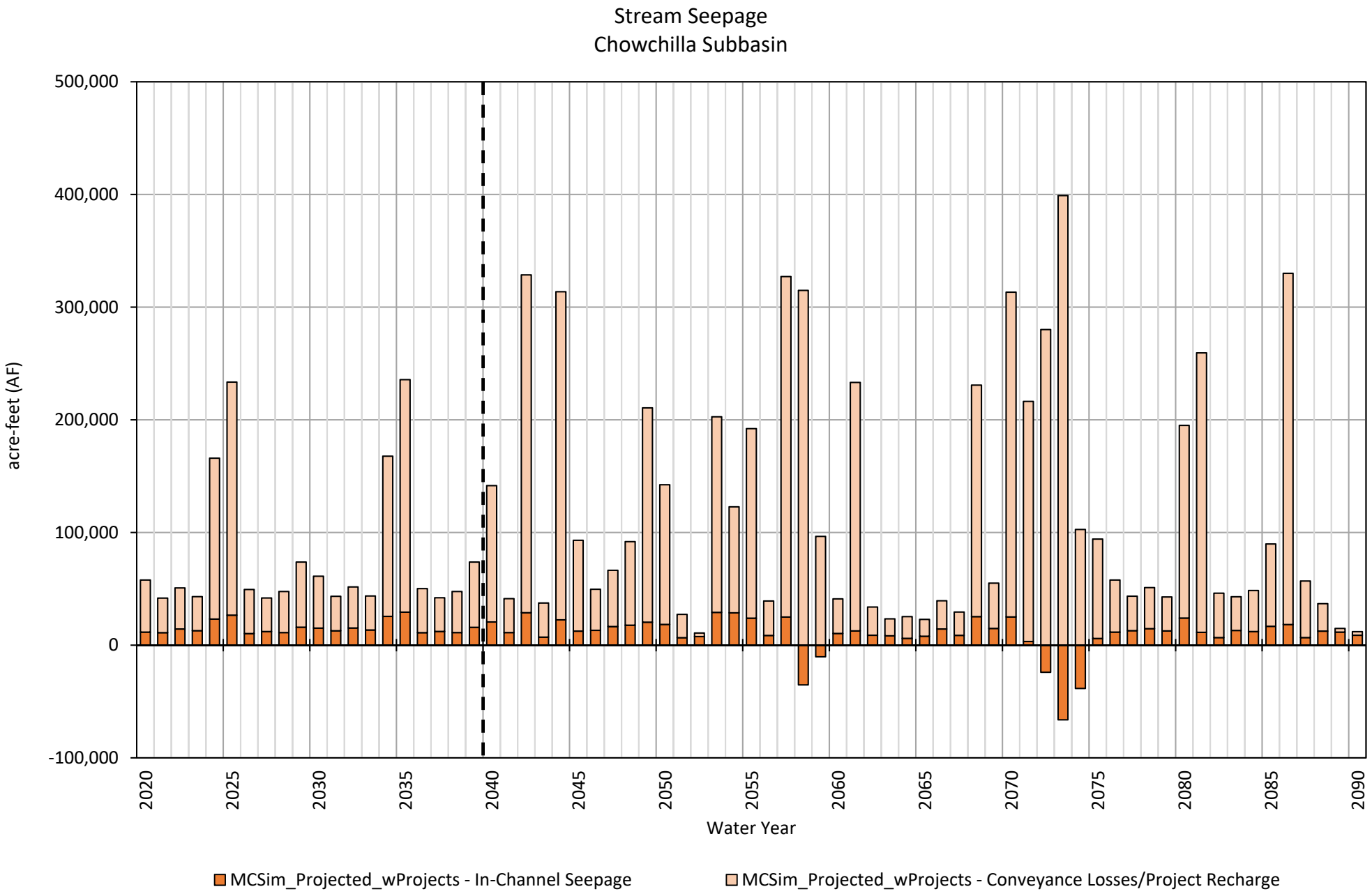

Subsurface Inflow
Madera Subbasin
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

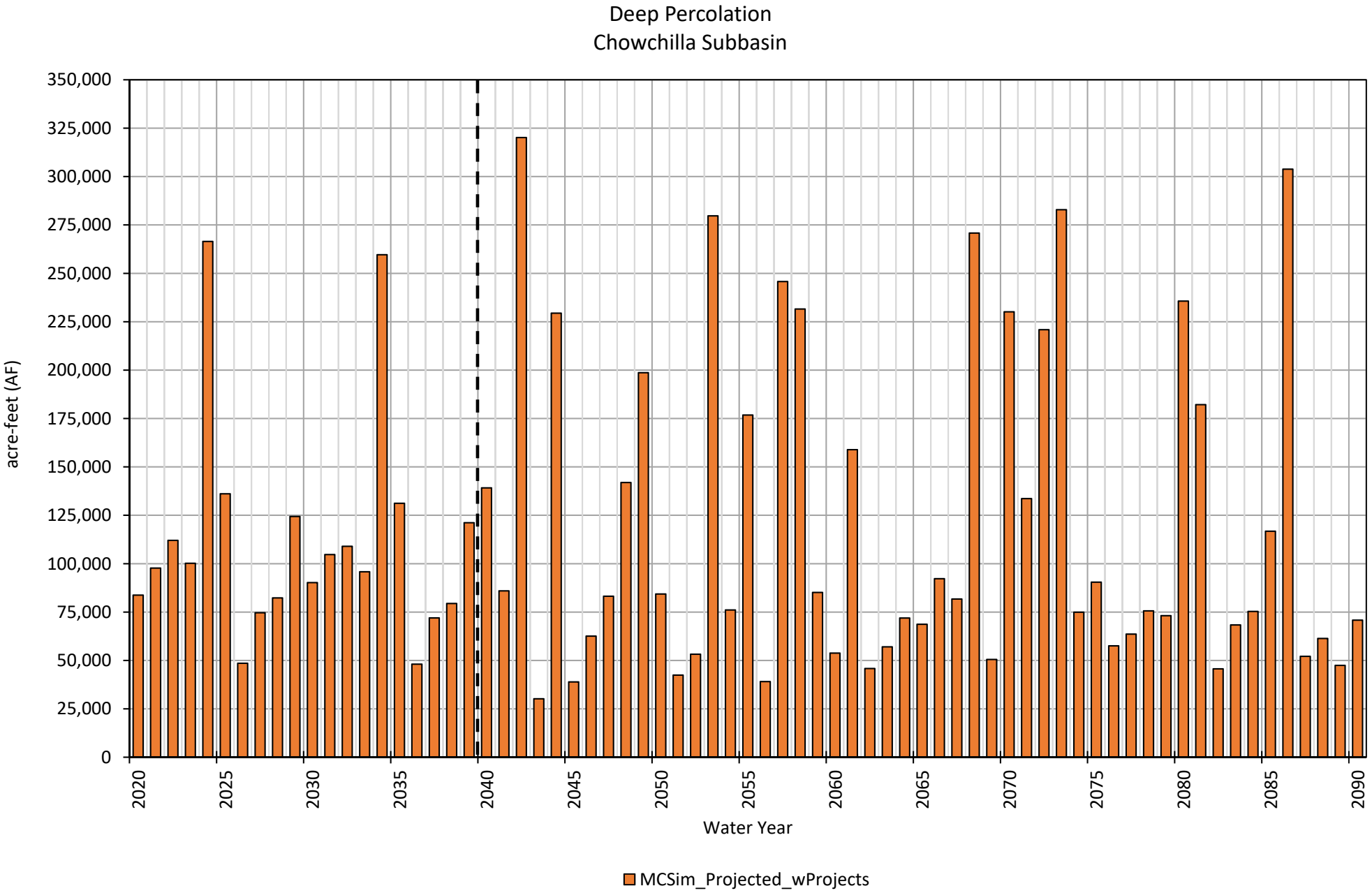

Annual Change in Storage
Madera Subbasin
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

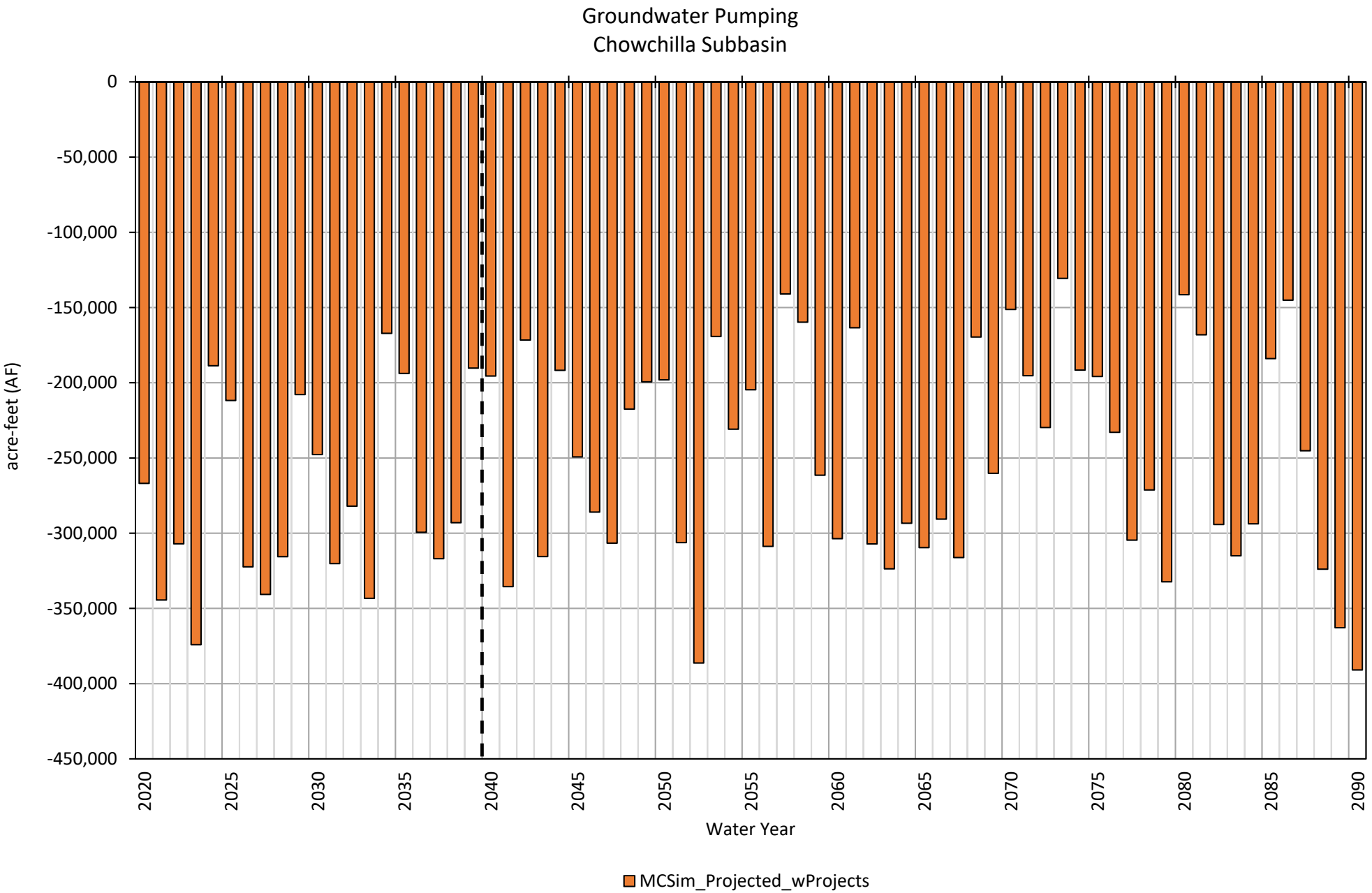

Cumulative Change in Storage
Madera Subbasin
1,000,000
750,000
500,000
250,000
0
-250,000
-500,000
-750,000
-1,000,000
-1,250,000
-1,500,000
acre-feet (AF)
C C C C W C W W W W AN AN D D BN D W W C C BN AN W D C C C
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

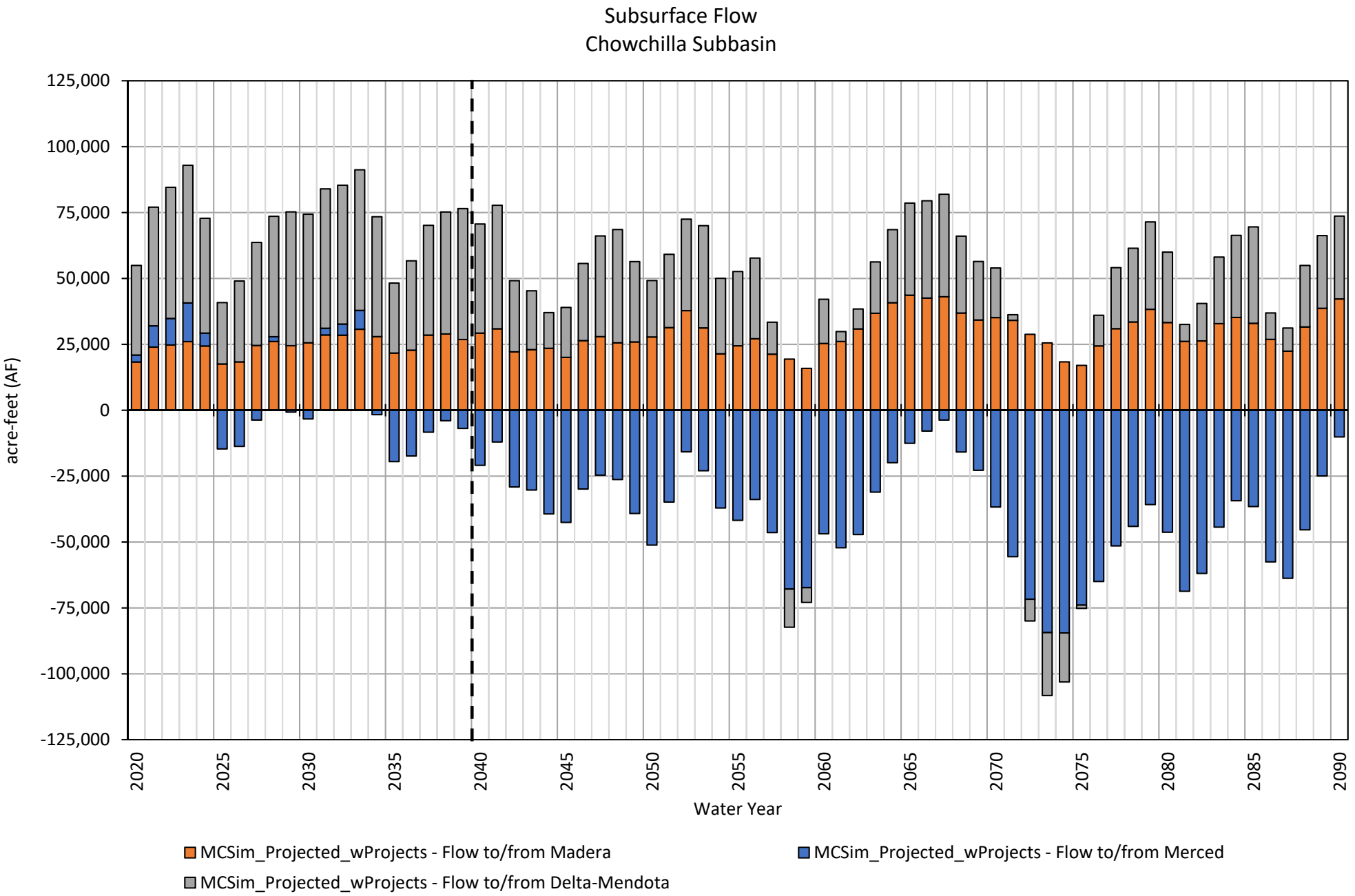
MCSim Projected with Projects Water Budget
Chowchilla Subbasin

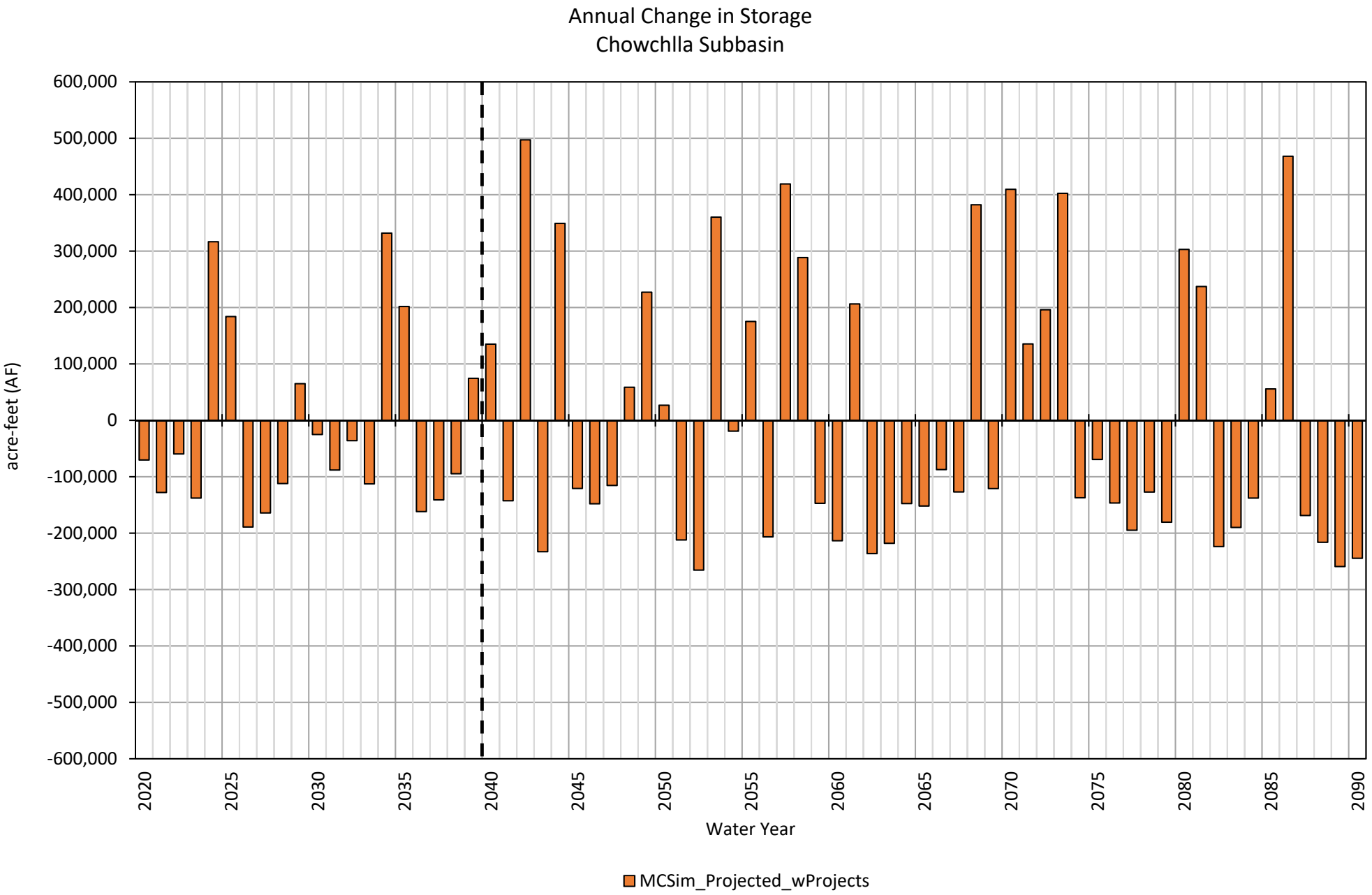
	Average Annual Water Budget (AF/m)	
	Implementation Period 2020-2039	**Sustainability Period 2040-2090**
Total Stream Seepage	81,142	120,468
In-Channel Seepage	*15,561*	*9,619*
Conveyance Losses/Project Recharge	*65,581*	*110,849*
Deep Percolation	111,871	120,748
General Head Boundary Conditions	0	0
Small Watershed Baseflow	0	0
Small Watershed Percolation	0	0
Groundwater Pumping	-276,658	-248,474
Total Subsurface Inflow	66,309	9,696
Flow to(+)/from(-) Madera	*24,931*	*29,560*
Flow to(+)/from(-) Merced	*-1,886*	*-40,588*
Flow to(+)/from(-) Delta-Mendota	*43,264*	*20,724*
Average Annual Change in Storage	-17,335	2,438
Total Cumulative Change in Storage	-346,693	124,330

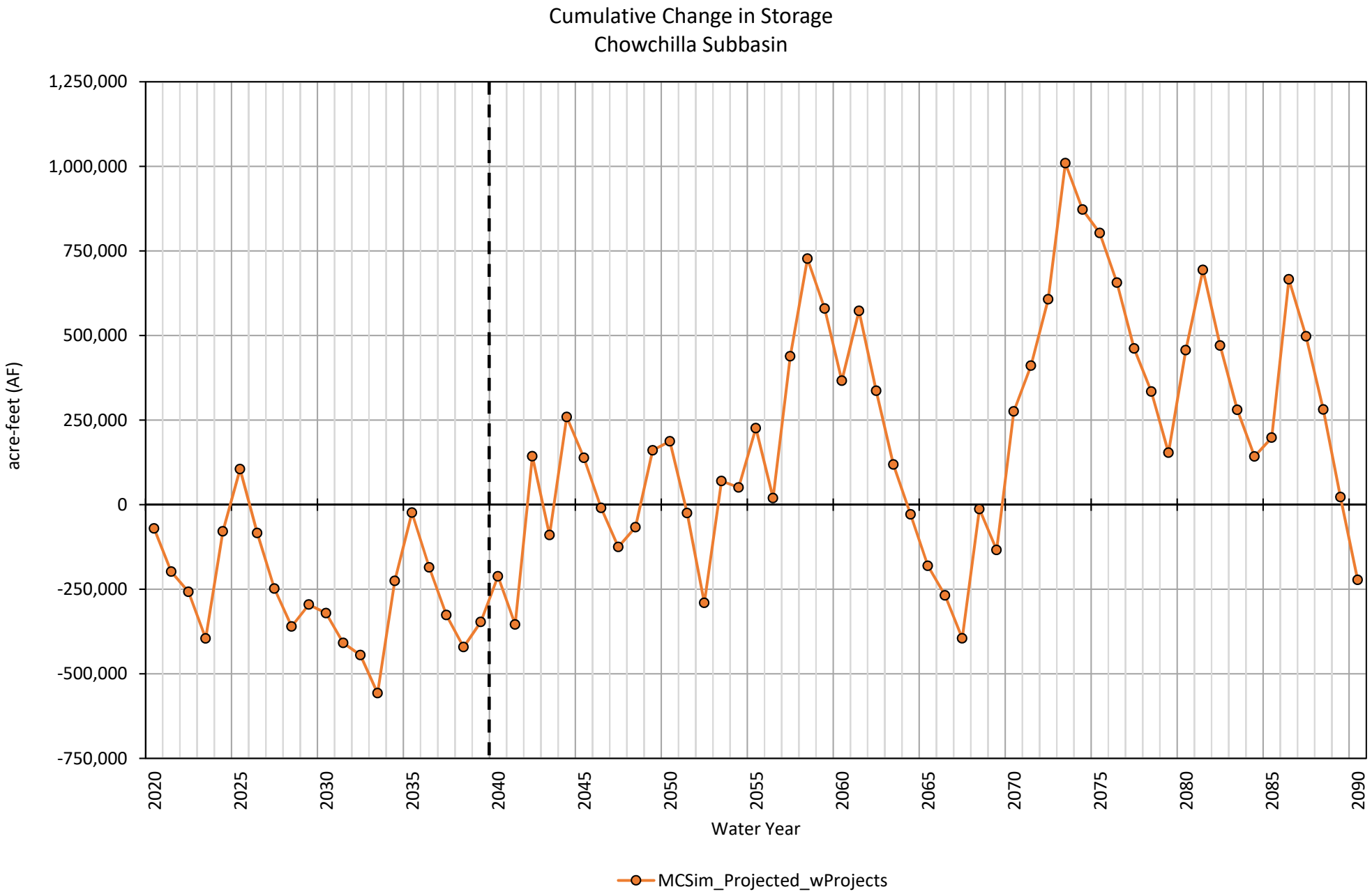

Stream Seepage
Chowchilla Subbasin
500,000
400,000
300,000
200,000
100,000
0
-100,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects - In-Channel Seepage
MCSim_Projected_wProjects - Conveyance Losses/Project Recharge


Deep Percolation
Chowchilla Subbasin
acre-feet (AF)
350,000
325,000
300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects


Groundwater Pumping
Chowchilla Subbasin
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
-450,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects

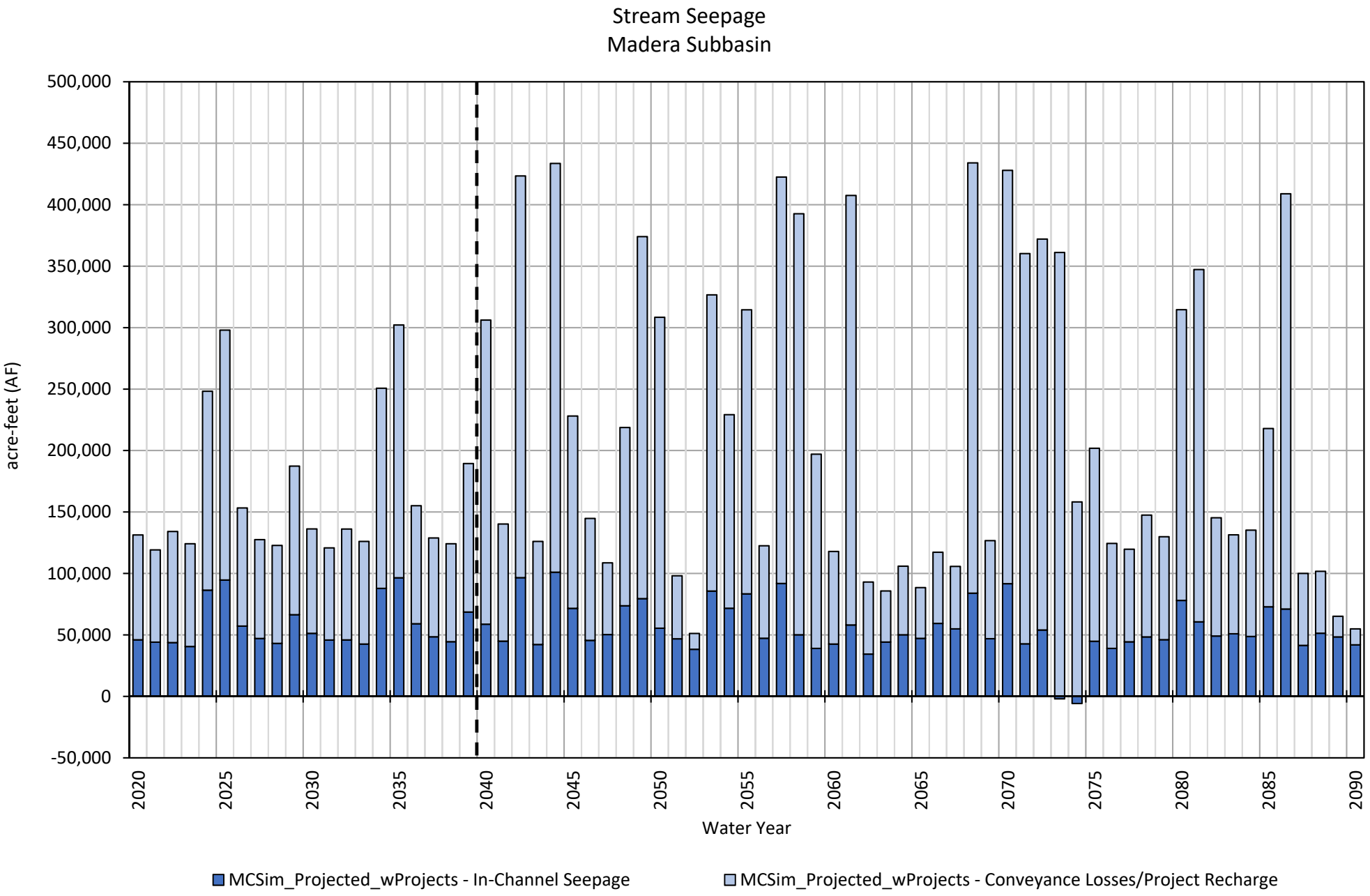

Subsurface Flow
Chowchilla Subbasin
125,000
100,000
75,000
50,000
25,000
0
-25,000
-50,000
-75,000
-100,000
-125,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects - Flow to/from Madera
MCSim_Projected_wProjects - Flow to/from Merced
MCSim_Projected_wProjects - Flow to/from Delta-Mendota

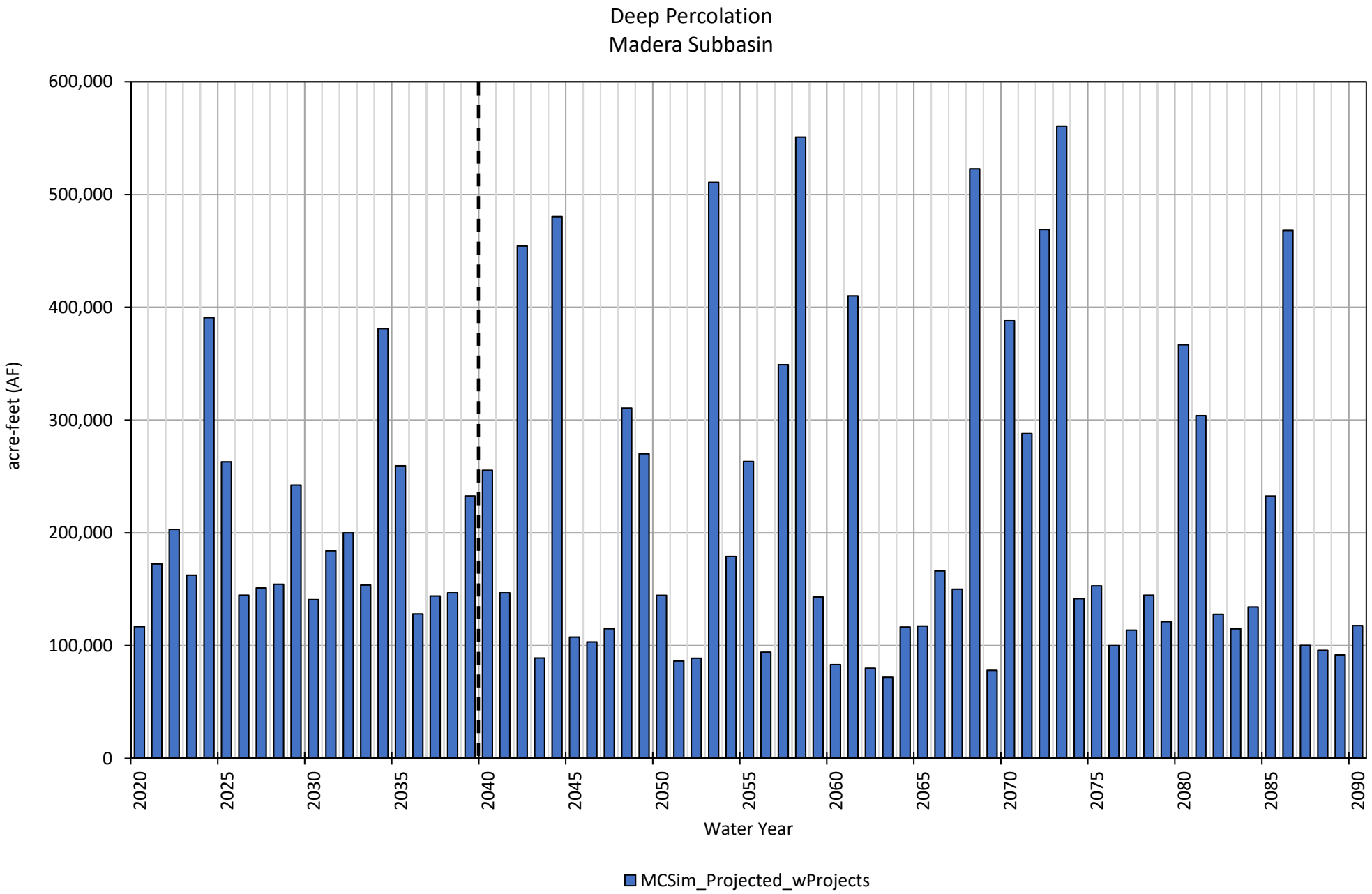

Annual Change in Storage
Chowchlla Subbasin
600,000
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects

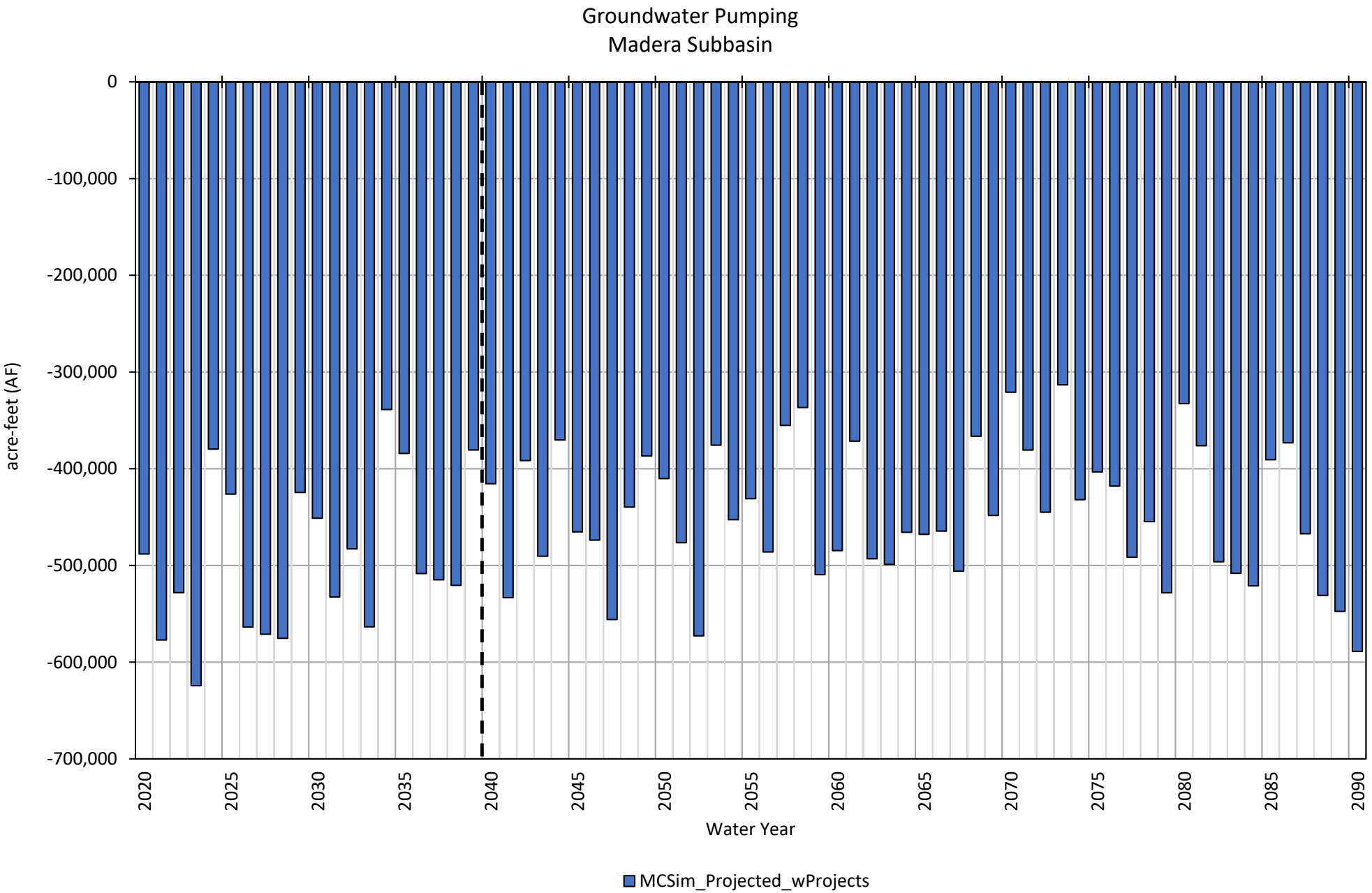

Cumulative Change in Storage
Chowchilla Subbasin
1,250,000
1,000,000
750,000
500,000
250,000
0
-250,000
-500,000
-750,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects

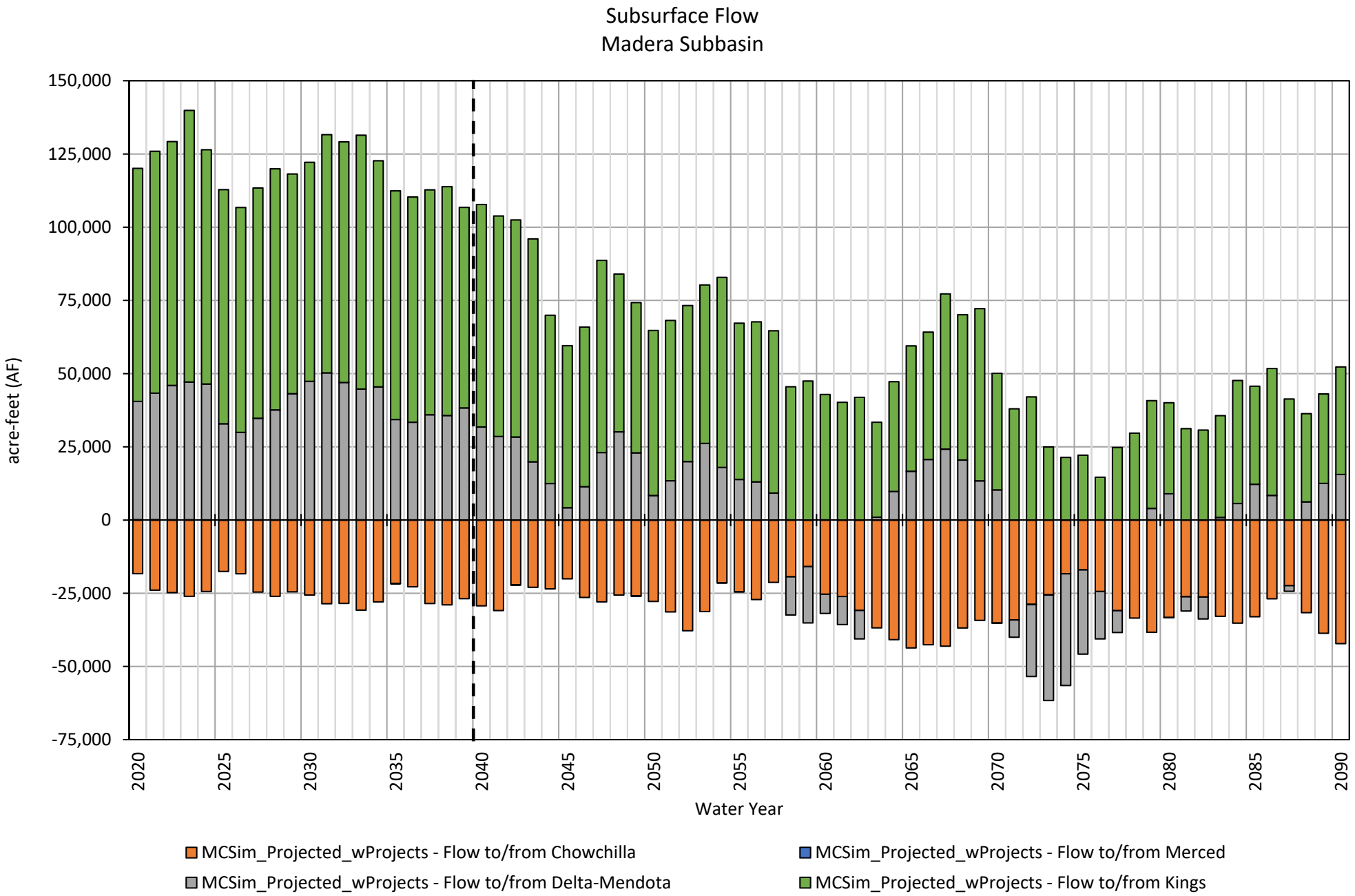
MCSim Projected with Projects Water Budget
Madera Subbasin

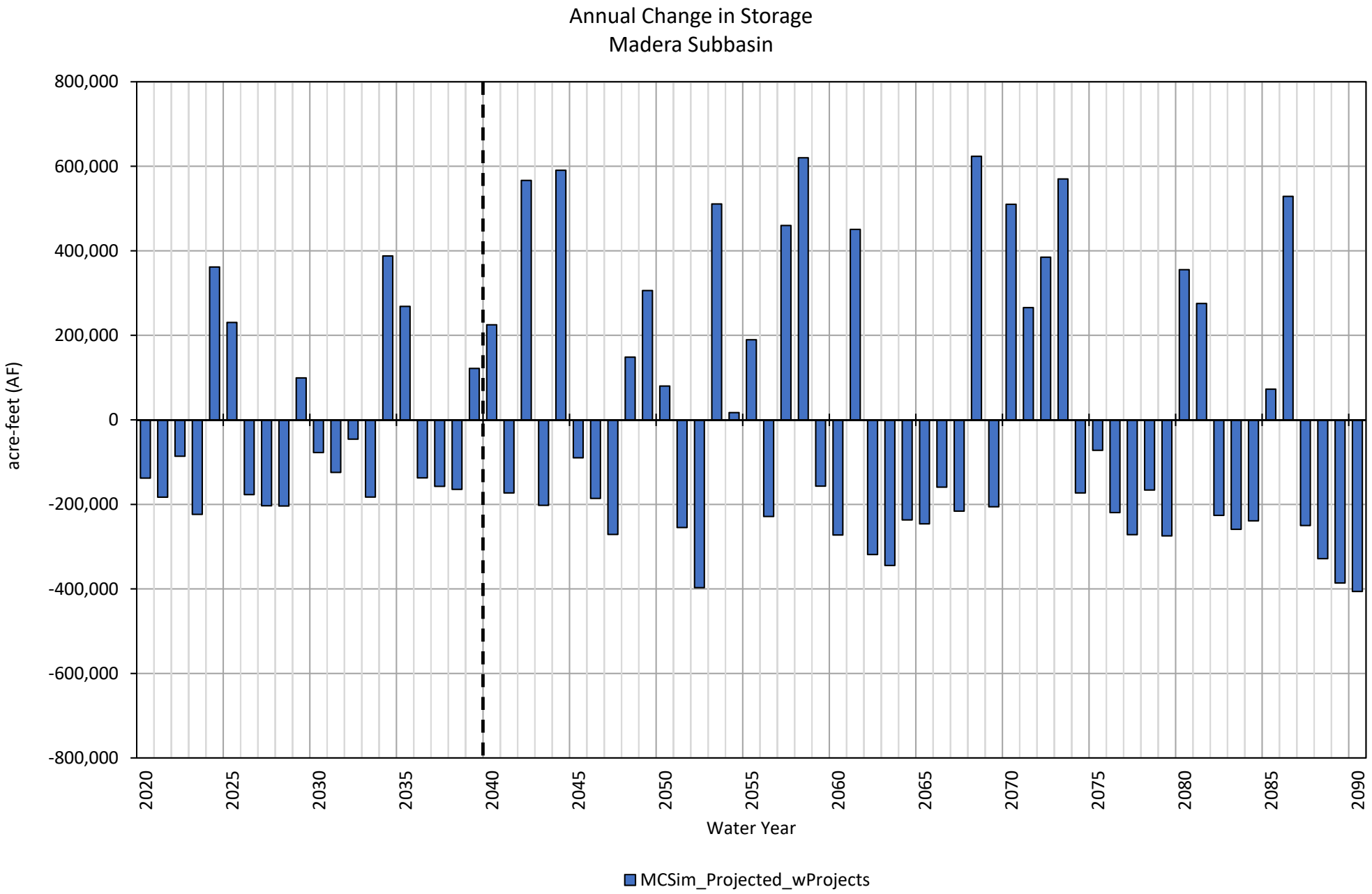
	Average Annual Water Budget (AF/m)	
	Implementation Period 2020-2040	**Sustainability Period 2040-2090**
Total Stream Seepage	165,784	216,997
In-Channel Seepage	58,006	55,182
Conveyance Losses/Project Recharge	107,778	161,815
Deep Percolation	198,629	219,091
General Head Boundary Conditions	0	0
Small Watershed Baseflow	313	148
Small Watershed Percolation	0	0
Groundwater Pumping	-491,766	-447,362
Total Subsurface Inflow	95,358	21,376
Flow to(+)/from(-) Chowchilla	-24,931	-29,560
Flow to(+)/from(-) Merced	59	23
Flow to(+)/from(-) Delta-Mendota	40,652	5,789
Flow to(+)/from(-) Kings	79,579	45,123
Average Annual Change in Storage	-31,682	10,249
Total Cumulative Change in Storage	-633,649	522,696

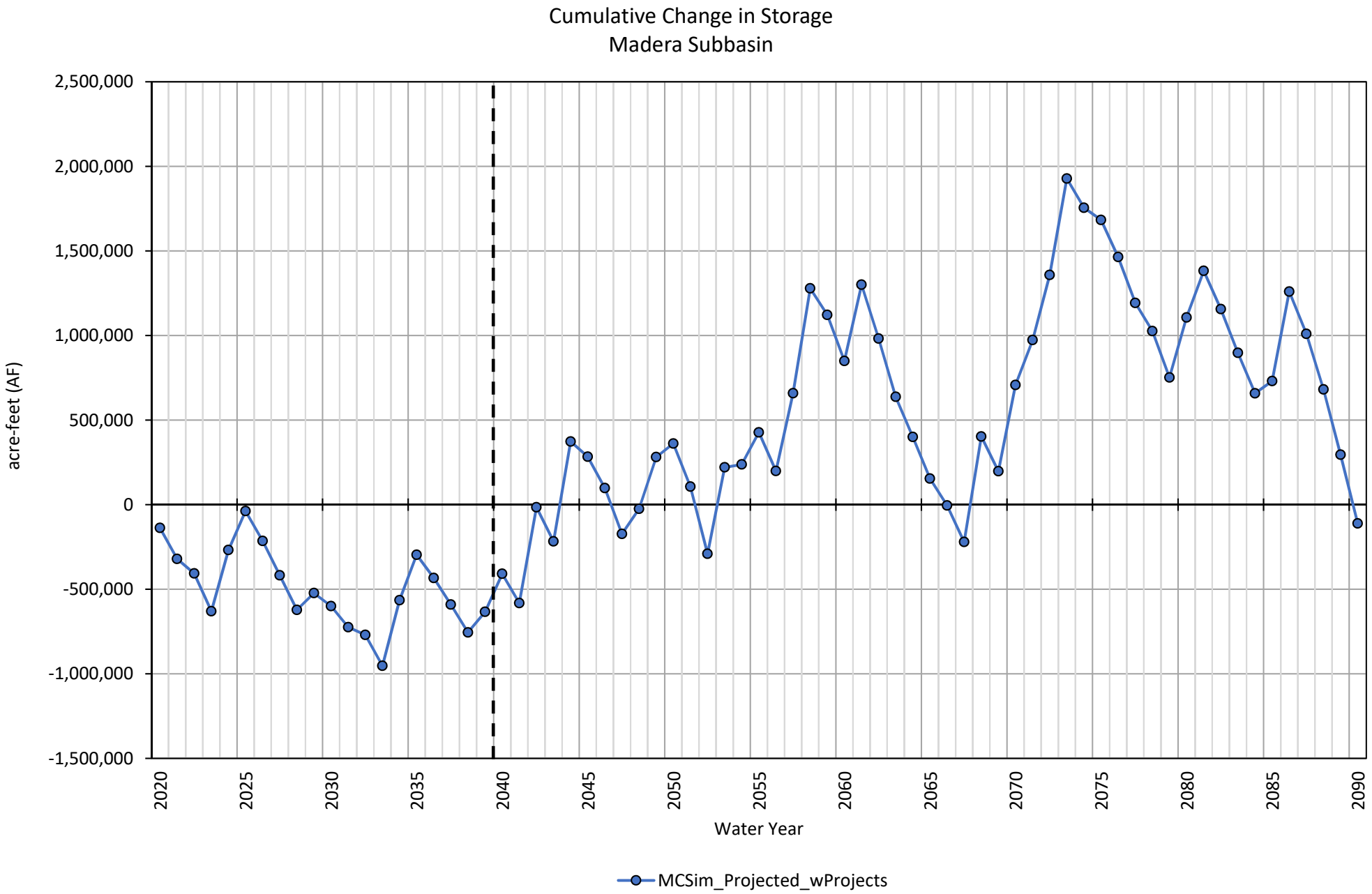

Stream Seepage
Madera Subbasin
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects - In-Channel Seepage
MCSim_Projected_wProjects - Conveyance Losses/Project Recharge


Deep Percolation
Madera Subbasin
600,000
500,000
400,000
300,000
200,000
100,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects


Groundwater Pumping
Madera Subbasin
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects

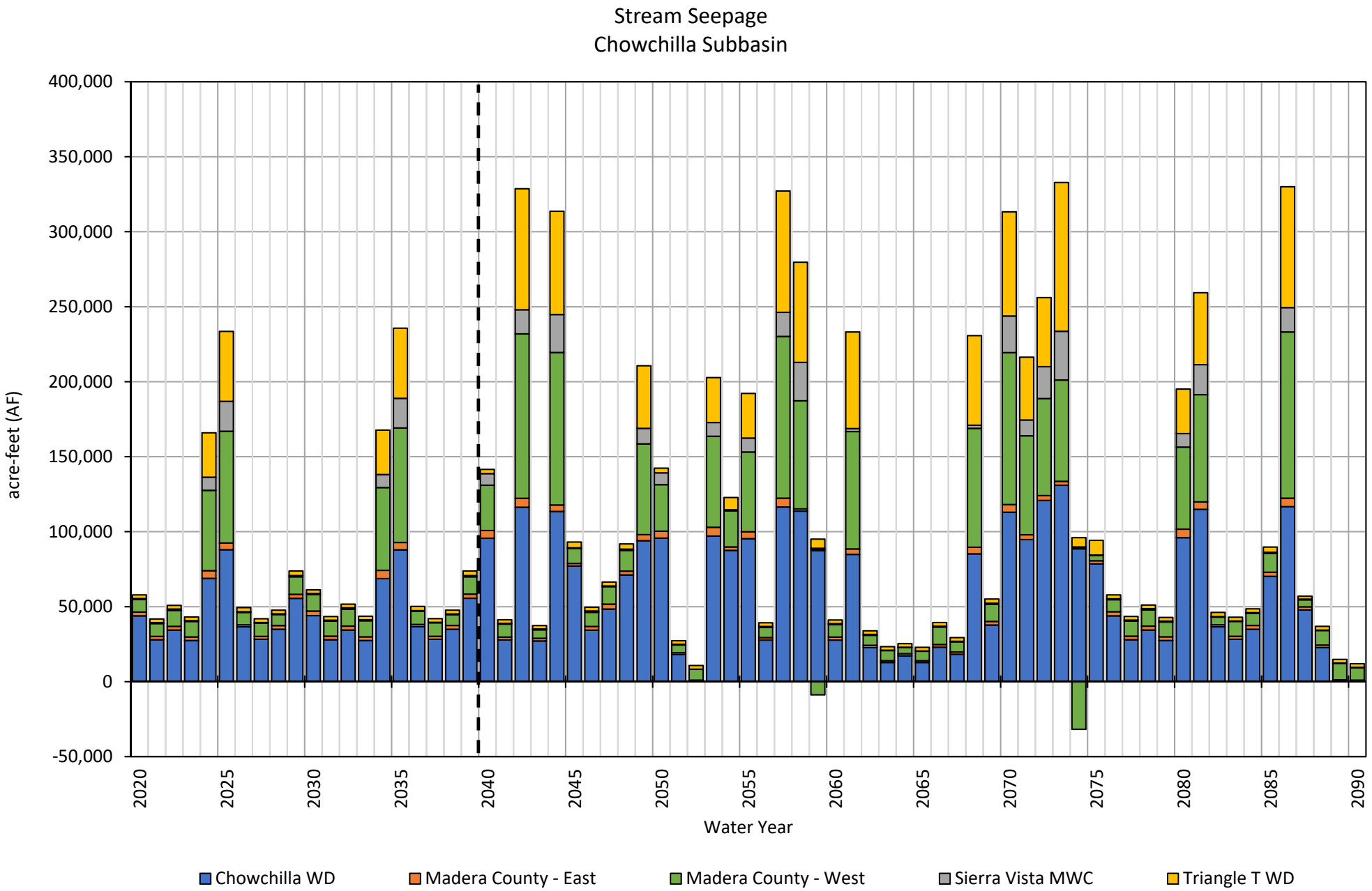

Subsurface Flow
Madera Subbasin
150,000
125,000
100,000
75,000
50,000
25,000
0
-25,000
-50,000
-75,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects - Flow to/from Chowchilla
MCSim_Projected_wProjects - Flow to/from Merced
MCSim_Projected_wProjects - Flow to/from Delta-Mendota
MCSim_Projected_wProjects - Flow to/from Kings

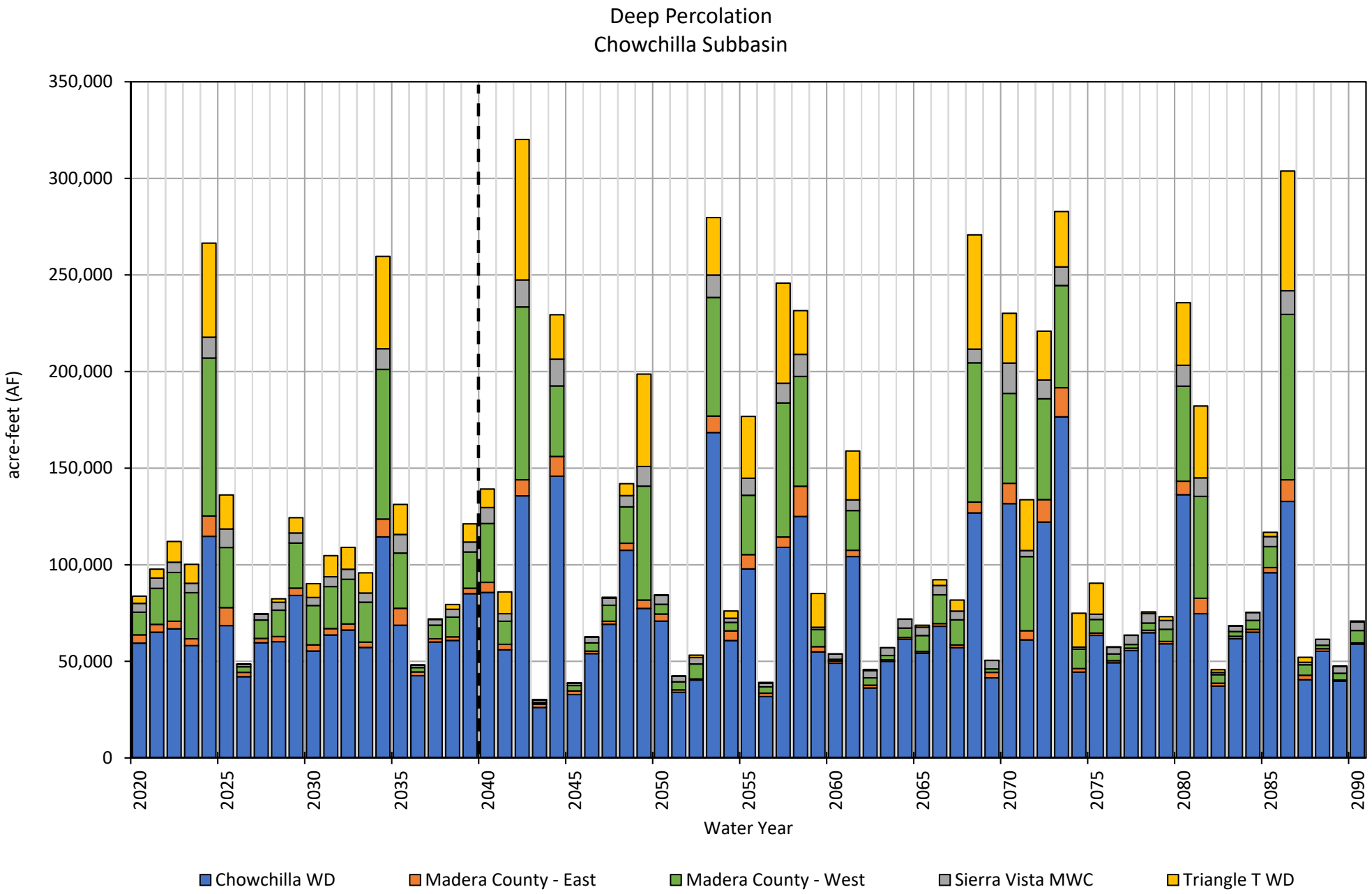

Annual Change in Storage
Madera Subbasin
800,000
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects


Cumulative Change in Storage
Madera Subbasin
acre-feet (AF)
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects

MCSim Projected with Projects Water Budget by GSA
Chowchilla Subbasin

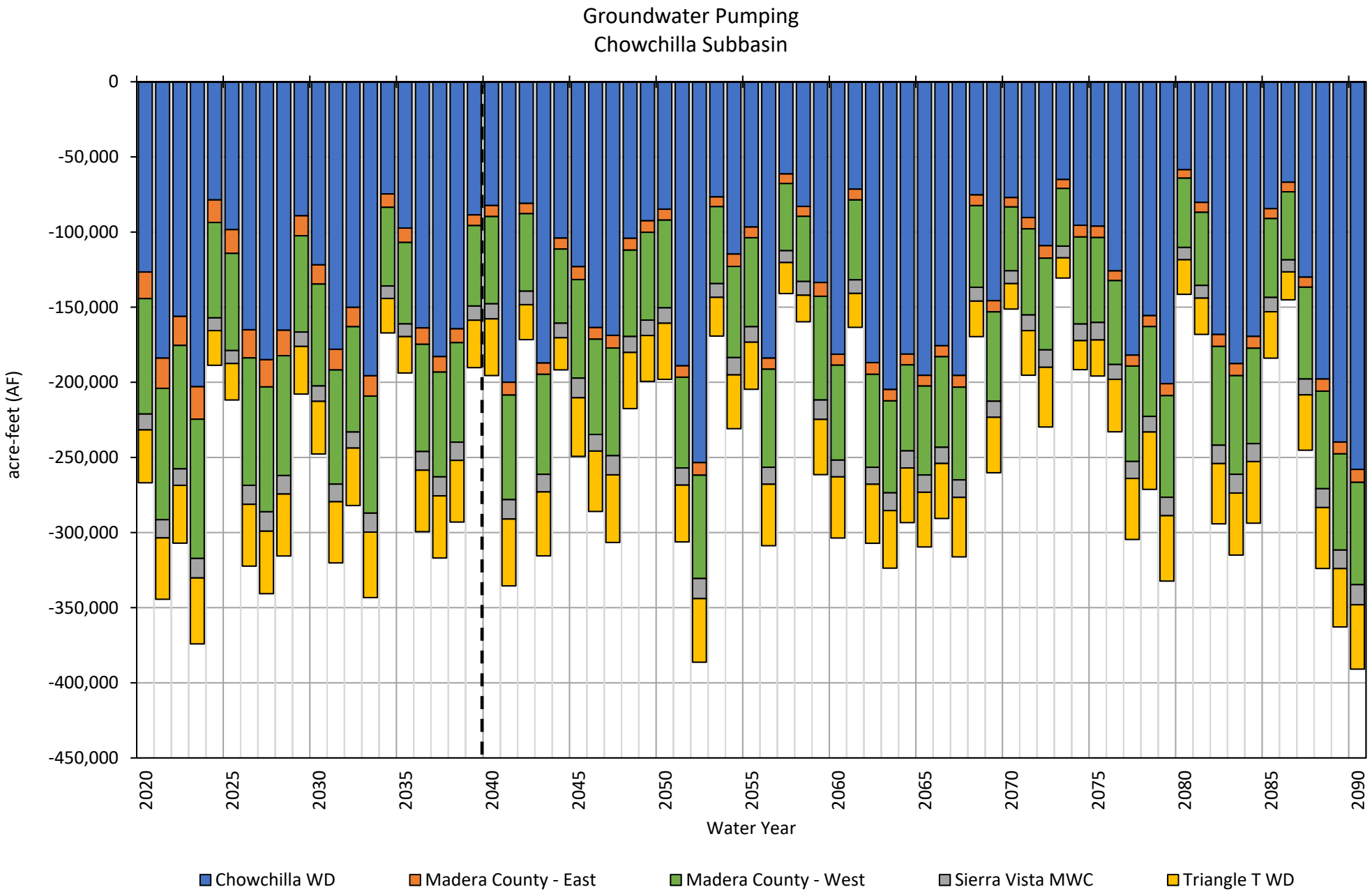
	Average Annual Water Budget (AF/m)									
	Chowchilla Water District		Madera County - East		Madera County - West		Sierra Vista Mutual Water Company		Triangle T Water District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	44,590	61,126	2,869	2,747	20,666	30,514	3,331	5,524	9,687	20,557
In-Channel Seepage	*2,147*	*1,834*	*1,523*	*1,171*	*12,101*	*8,002*	*-254*	*-626*	*43*	*-762*
Conveyance Losses	*42,442*	*59,292*	*1,346*	*1,576*	*8,565*	*22,512*	*3,585*	*6,150*	*9,643*	*21,320*
Deep Percolation	67,631	75,645	4,264	3,924	23,608	21,683	5,344	5,632	11,024	13,863
General Head Boundary Conditions	0	0	0	0	0	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0	0	0	0	0
Groundwater Pumping	-143,432	-137,951	-14,292	-7,430	-71,883	-58,628	-10,992	-10,802	-36,059	-33,663
Total Subsurface Inflow	31,496	9,778	5,524	1,405	23,086	7,394	1,833	-229	12,425	-585
Average Annual Change in Storage	284	8,599	-1,635	647	-4,523	963	-483	125	-2,923	173
Total Cumulative Change in Storage	5,688	438,529	-32,696	33,003	-90,464	49,124	-9,658	6,363	-58,470	8,804


Stream Seepage
Chowchilla Subbasin
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD



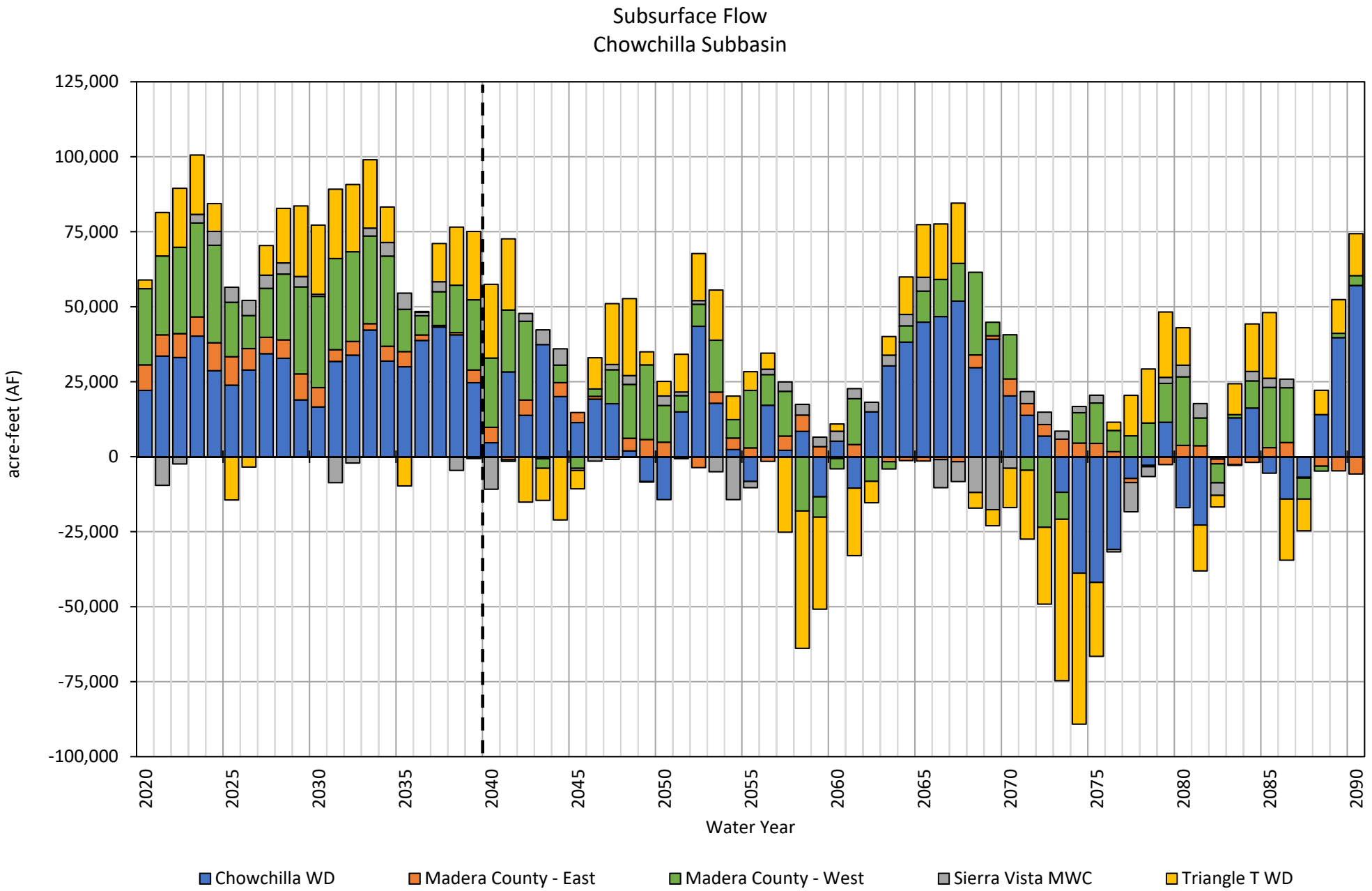
MCSim - Projected with Projects, Chowchilla Subbasin by GSA

Appendix D.2.c.



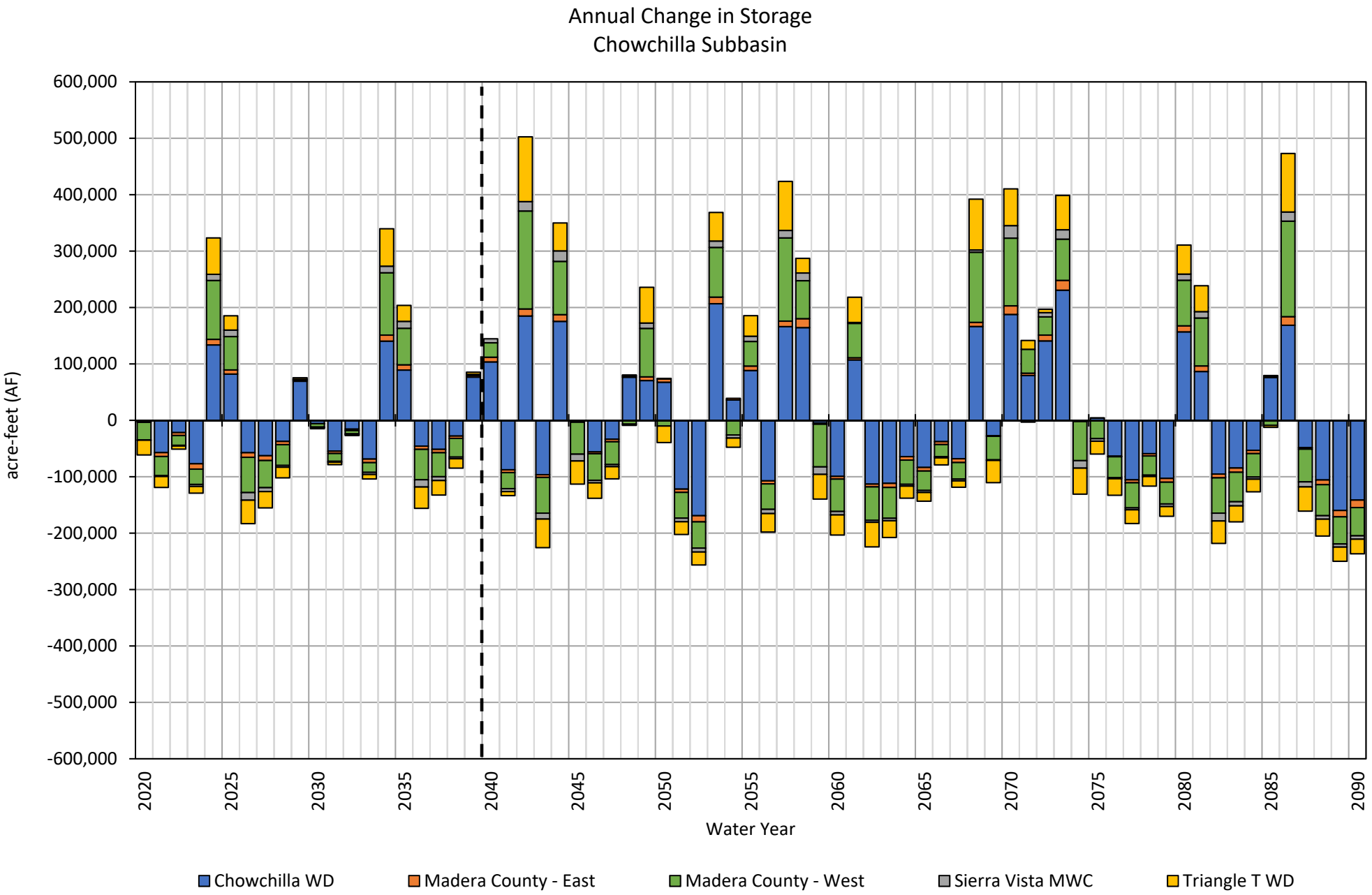
MCSim - Projected with Projects, Chowchilla Subbasin by GSA

Appendix D.2.c.



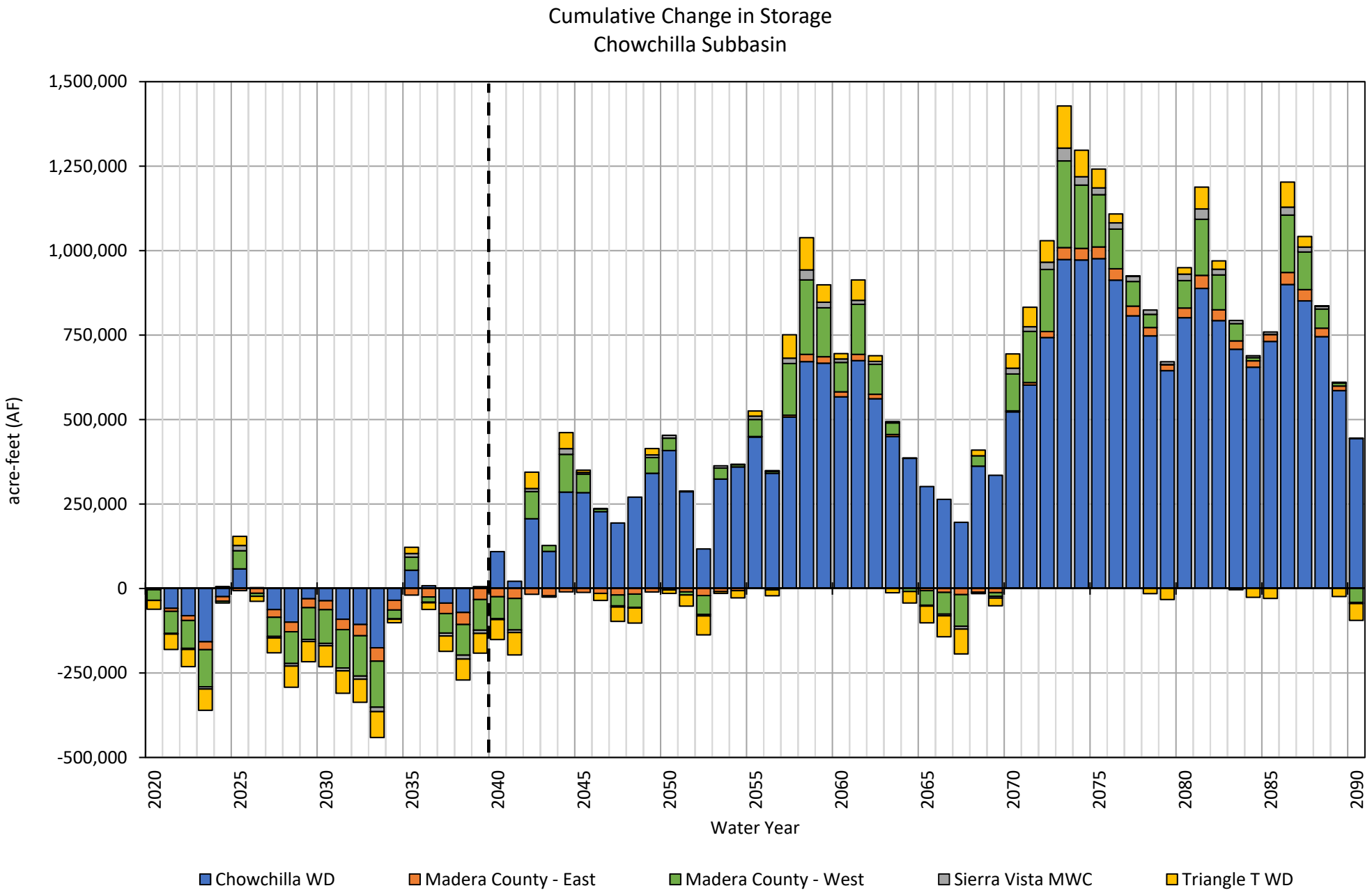
MCSim - Projected with Projects, Chowchilla Subbasin by GSA

Appendix D.2.c.



MCSim - Projected with Projects, Chowchilla Subbasin by GSA

Appendix D.2.c.



MCSim - Projected with Projects, Chowchilla Subbasin by GSA

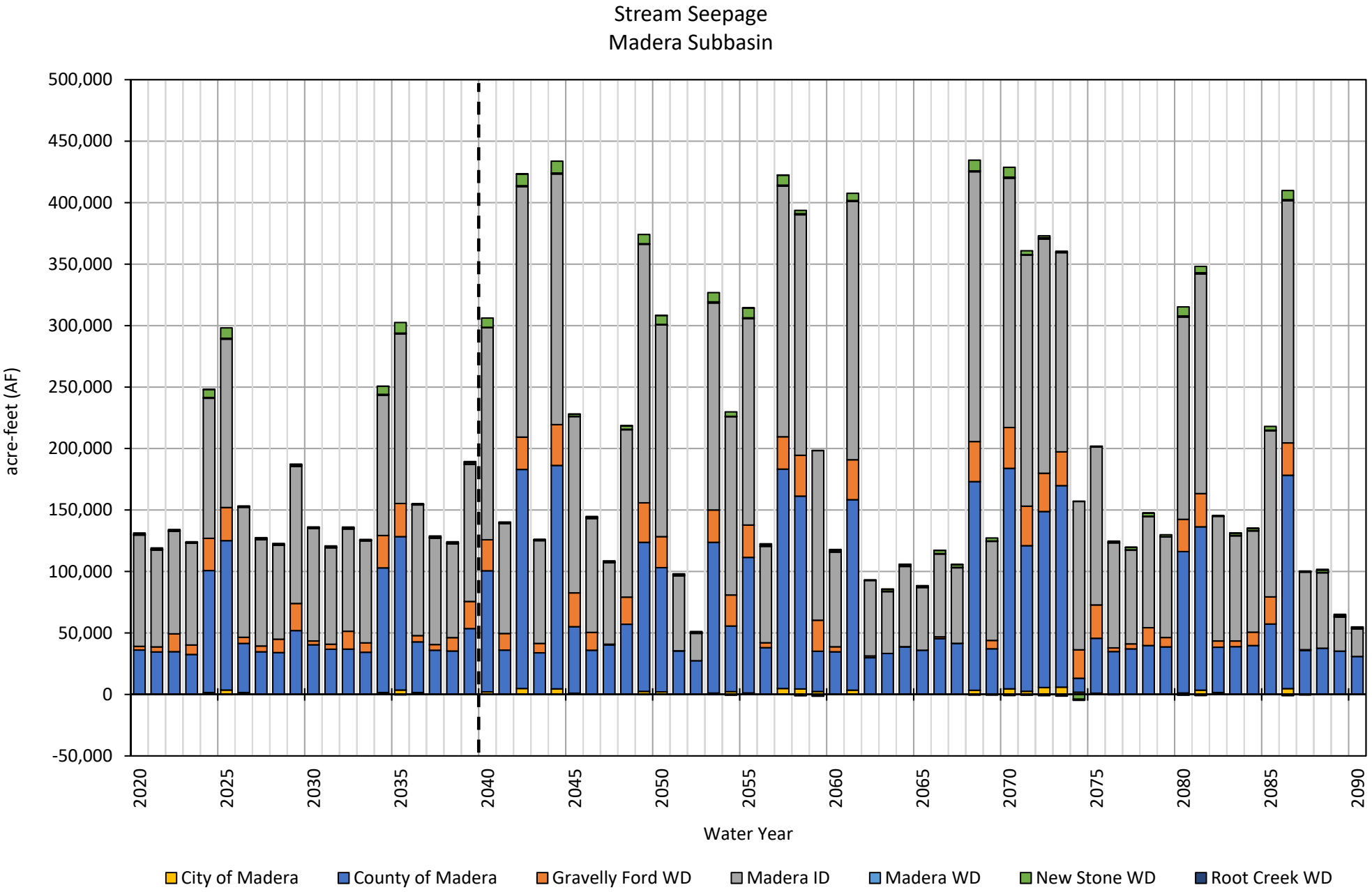
Appendix D.2.c.

MCSim Projected with Projects Water Budget by GSA
Madera Subbasin

	Average Annual Water Budget (AF/m)							
	City of Madera		Madera County		Gravelly Ford Water District		Madera Irrigation District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	729	1,456	52,942	75,636	12,517	15,694	96,752	120,771
In-Channel Seepage	*729*	*1,456*	*39,394*	*38,862*	*125*	*155*	*17,209*	*15,781*
Conveyance Losses	*0*	*0*	*13,548*	*36,775*	*12,391*	*15,539*	*79,543*	*104,989*
Deep Percolation	9,401	13,896	78,701	82,195	7,231	7,719	88,002	97,426
General Head Boundary Conditions	0	0	0	0	0	0	0	0
Small Watershed Baseflow	0	0	313	148	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0	0	0
Groundwater Pumping	-8,956	-12,703	-219,207	-175,069	-16,128	-15,146	-220,066	-221,149
Total Subsurface Inflow	-2,072	-2,082	71,234	23,487	-4,280	-8,395	23,054	6,169
Average Annual Change in Storage	-898	568	-16,018	6,397	-660	-128	-12,259	3,217
Total Cumulative Change in Storage	-17,969	28,946	-320,352	326,255	-13,204	-6,519	-245,173	164,069

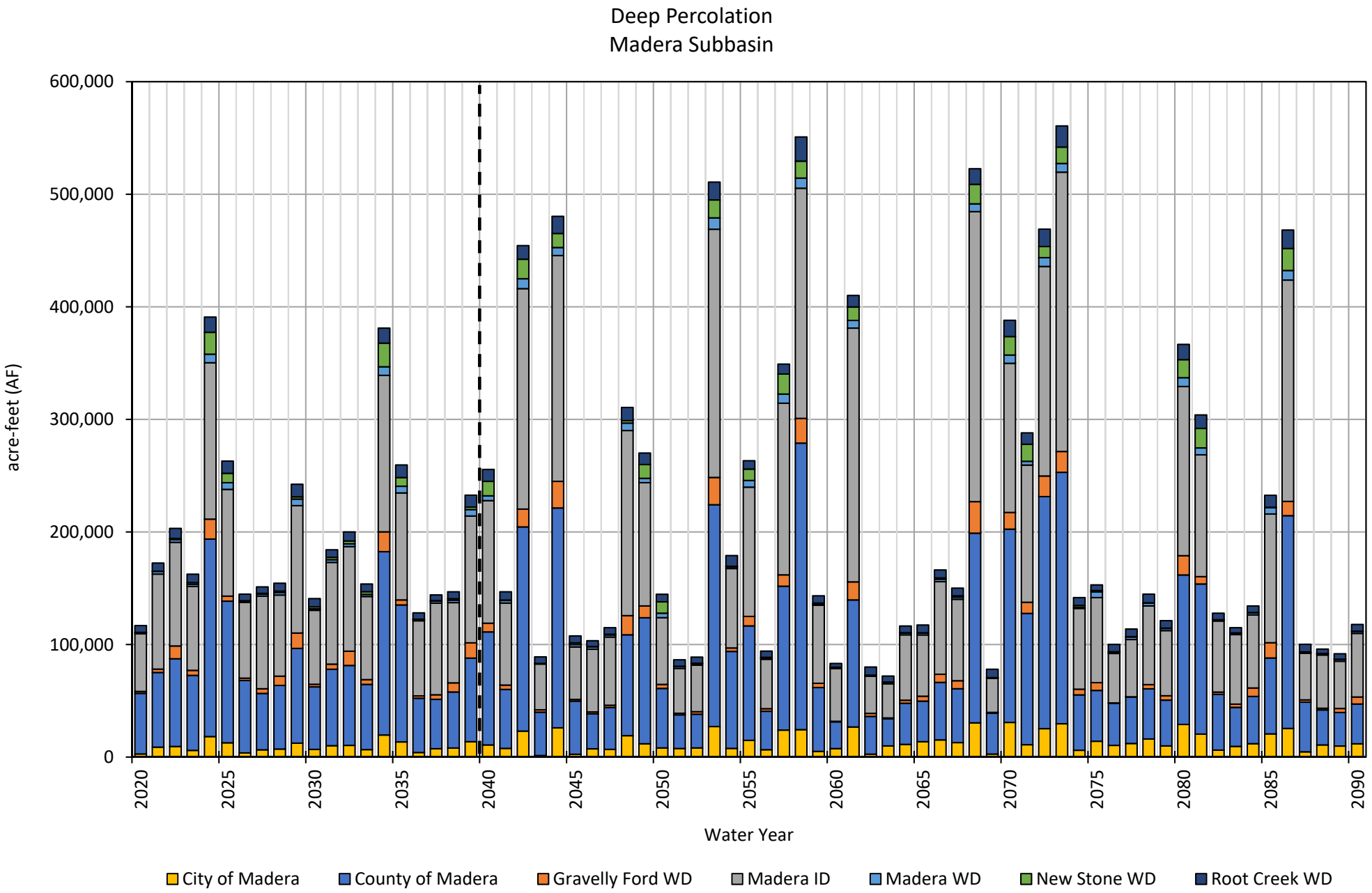
MCSim Projected with Projects Water Budget by GSA
Madera Subbasin

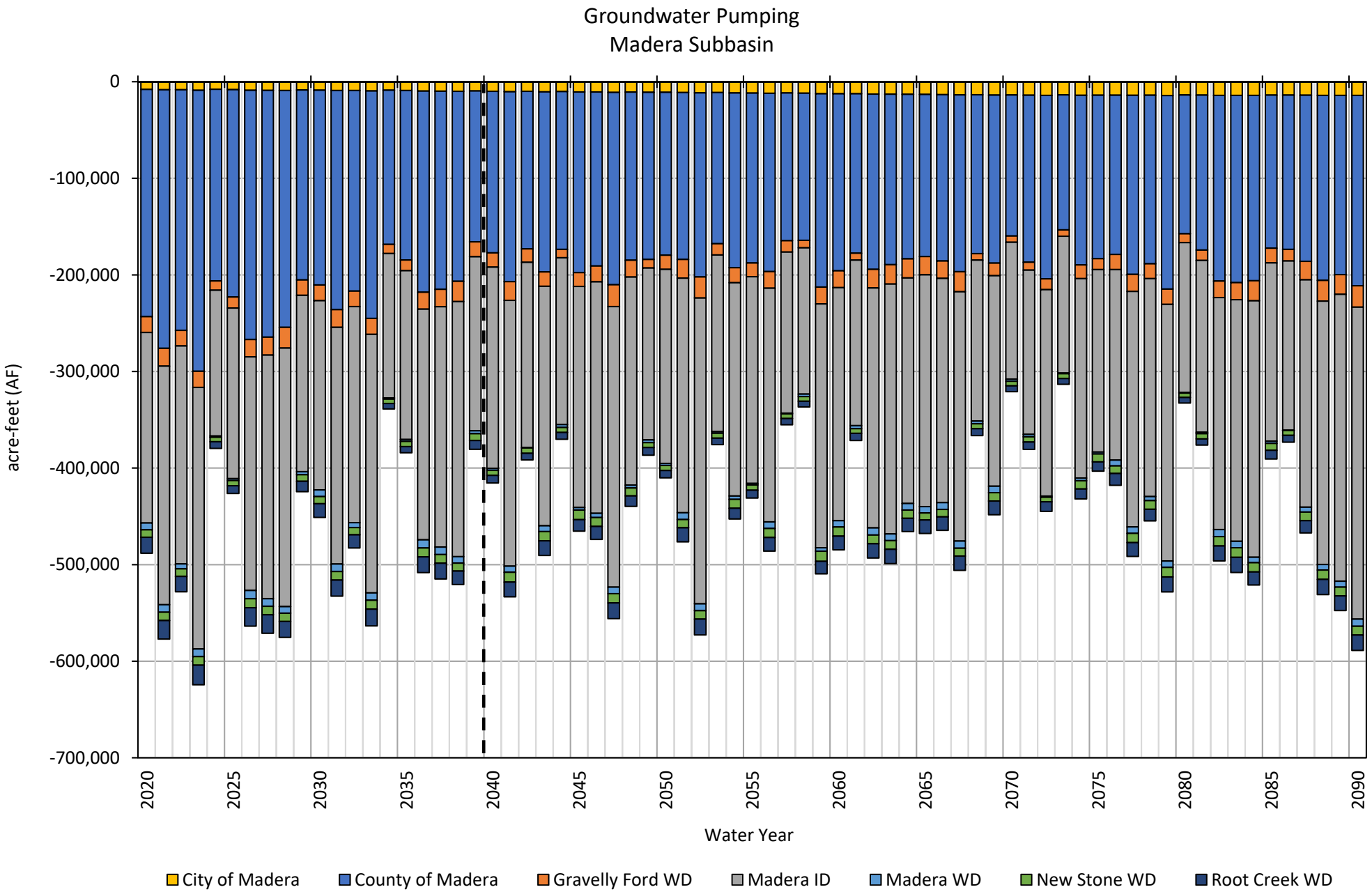
	Average Annual Water Budget (AF/m)					
	Madera Water District		New Stone Water District		Root Creek Water District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	286	462	2,012	3,032	546	-54
In-Channel Seepage	*286*	*462*	*572*	*-622*	*-309*	*-913*
Conveyance Losses	*0*	*0*	*1,441*	*3,654*	*855*	*859*
Deep Percolation	3,241	3,647	3,831	5,469	8,222	8,738
General Head Boundary Conditions	0	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0
Groundwater Pumping	-5,660	-4,283	-7,665	-7,623	-14,084	-11,389
Total Subsurface Inflow	1,685	318	808	-676	4,929	2,554
Average Annual Change in Storage	-448	144	-1,014	202	-386	-151
Total Cumulative Change in Storage	-8,953	7,324	-20,270	10,305	-7,728	-7,683



MCSim - Projected with Projects, Madera Subbasin by GSA

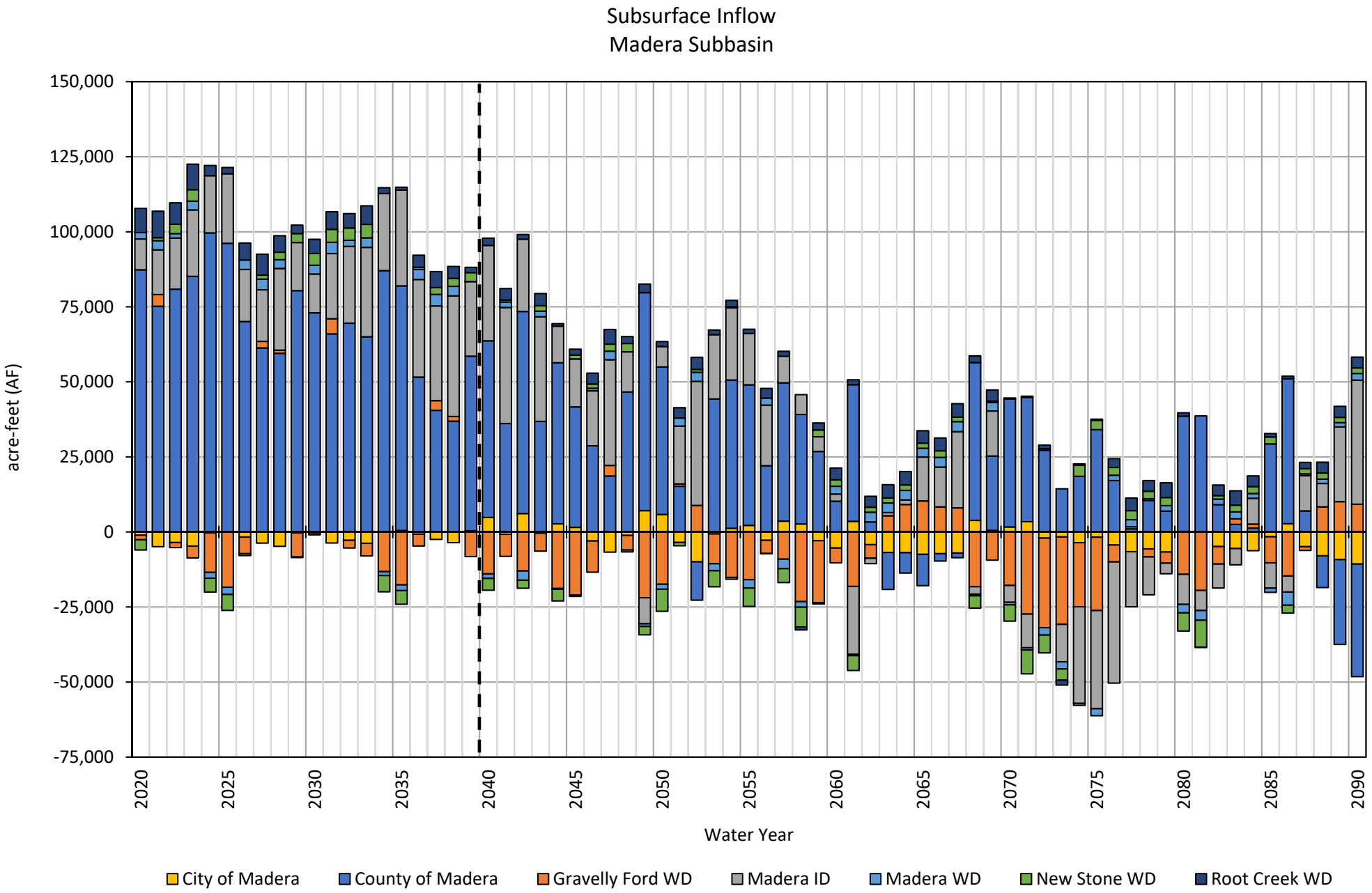
Appendix D.2.d.


Deep Percolation
Madera Subbasin
600,000
500,000
400,000
300,000
200,000
100,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD



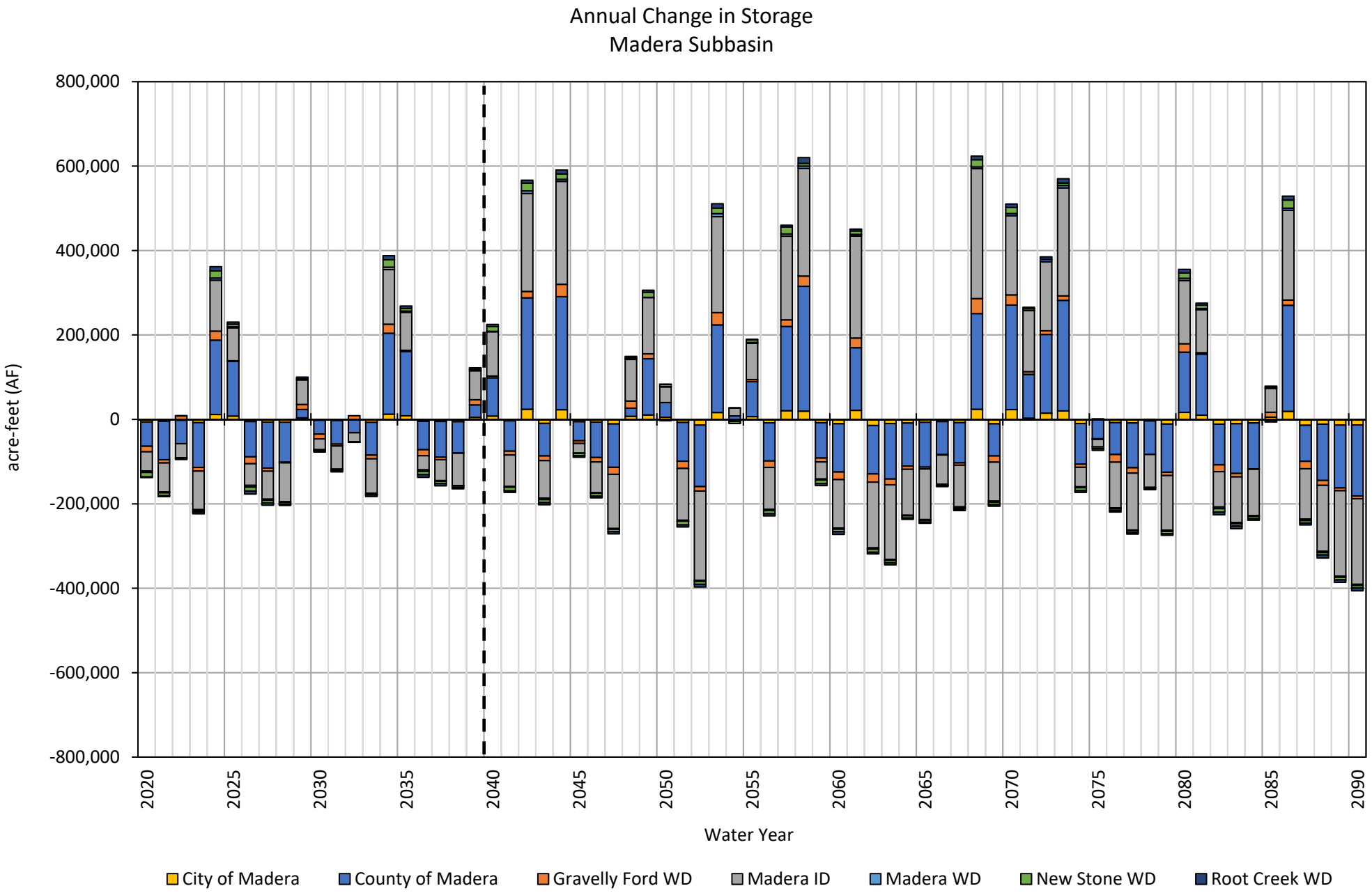
MCSim - Projected with Projects, Madera Subbasin by GSA

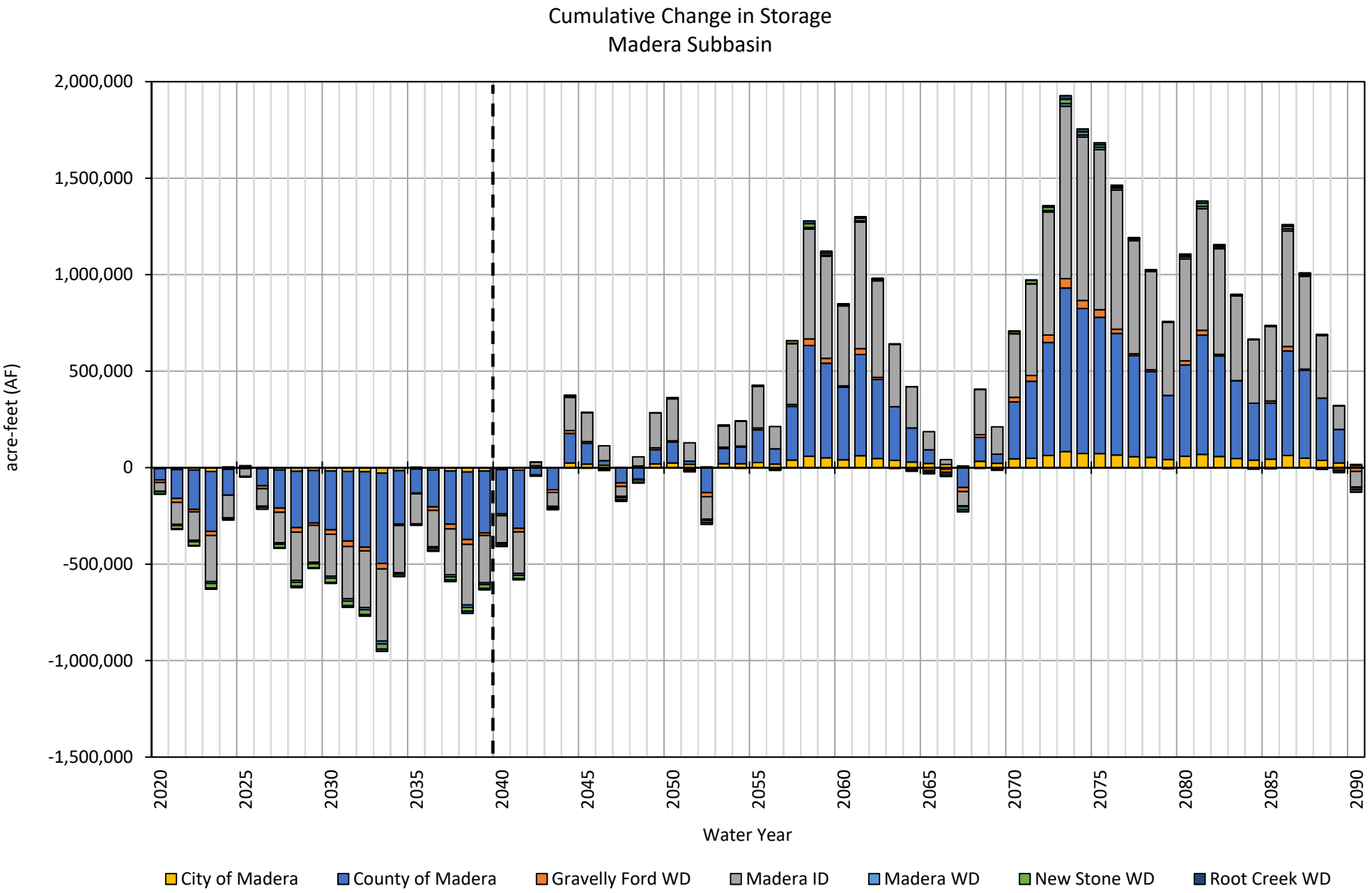
Appendix D.2.d.



MCSim - Projected with Projects, Madera Subbasin by GSA

Appendix D.2.d.


Annual Change in Storage
Madera Subbasin
800,000
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

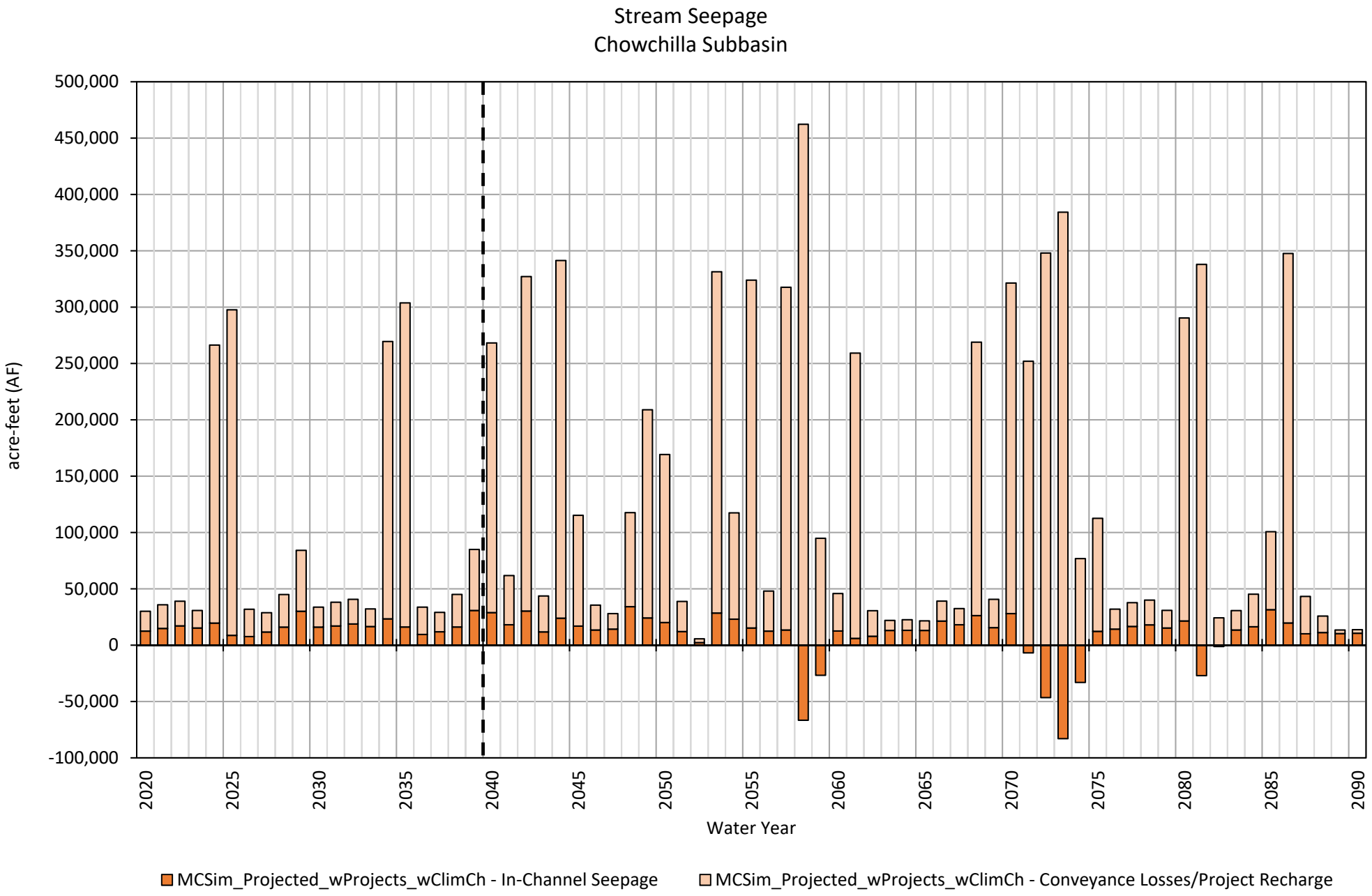


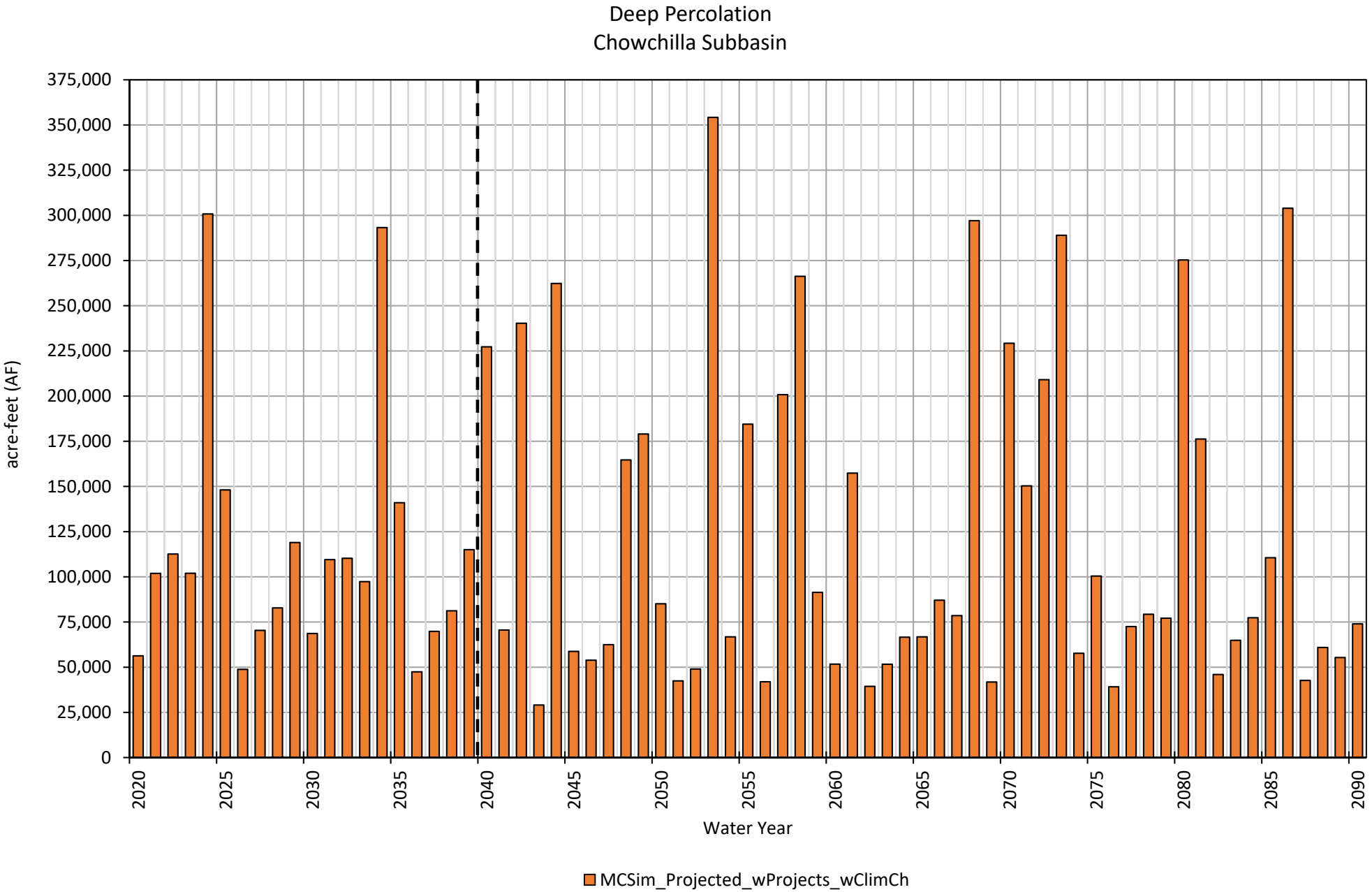
MCSim - Projected with Projects, Madera Subbasin by GSA

Appendix D.2.d.

MCSim Projected with Projects with Climate Change Water Budget
Chowchilla Subbasin

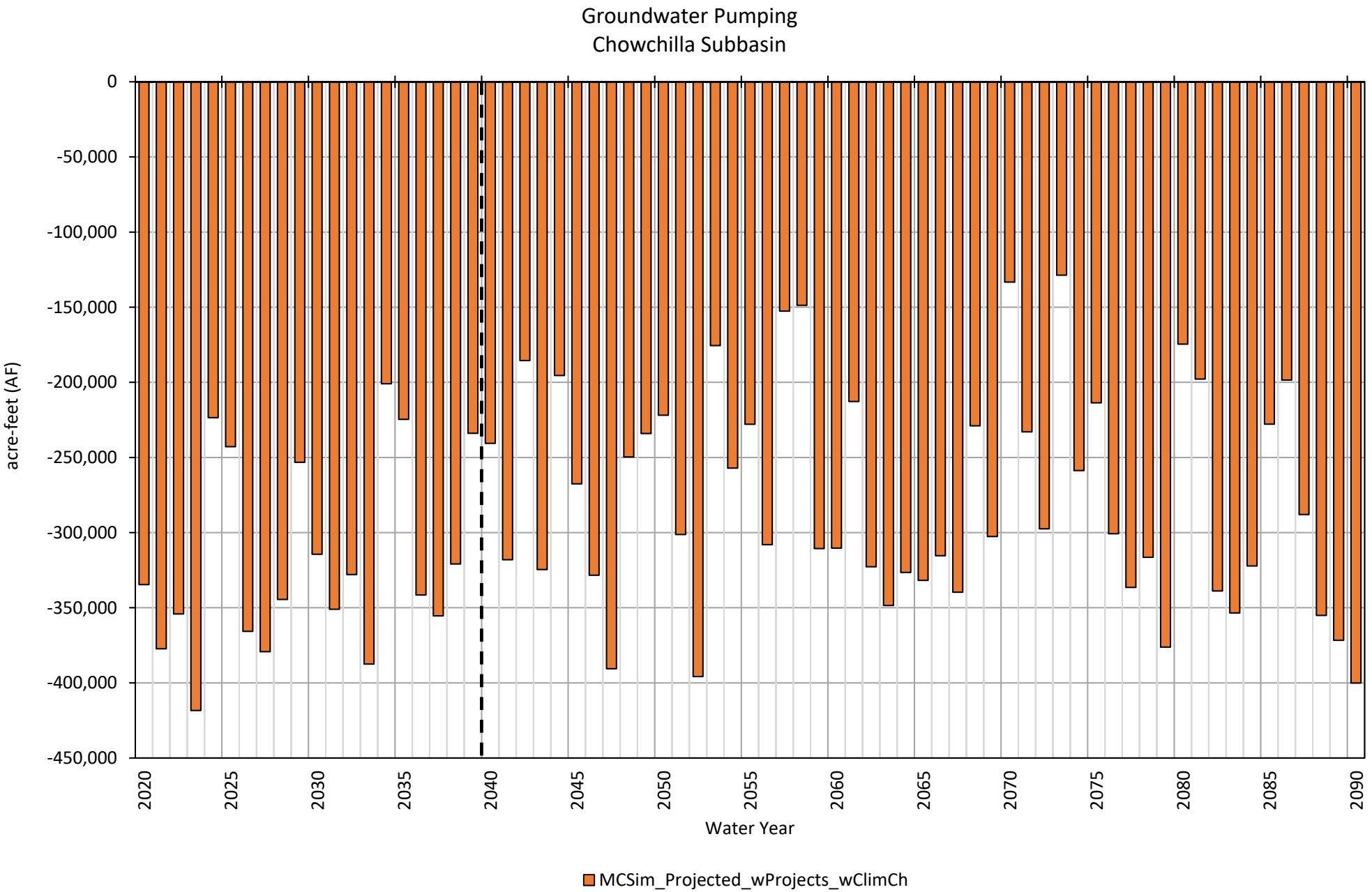
	Average Annual Water Budget (AF/m)	
	Implementation Period 2020-2039	**Sustainability Period 2040-2090**
Total Stream Seepage	90,023	134,470
In-Channel Seepage	*16,499*	*8,805*
Conveyance Losses/Project Recharge	*73,524*	*125,665*
Deep Percolation	113,823	122,745
General Head Boundary Conditions	0	0
Small Watershed Baseflow	0	0
Small Watershed Percolation	0	0
Groundwater Pumping	-317,567	-276,377
Total Subsurface Inflow	77,246	21,408
Flow to(+)/from(-) Madera	*25,109*	*28,306*
Flow to(+)/from(-) Merced	*13,531*	*-27,026*
Flow to(+)/from(-) Delta-Mendota	*38,606*	*20,127*
Average Annual Change in Storage	-36,474	2,245
Total Cumulative Change in Storage	-729,489	114,476


Stream Seepage
Chowchilla Subbasin
acre-feet (AF)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
-100,000
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh - In-Channel Seepage
MCSim_Projected_wProjects_wClimCh - Conveyance Losses/Project Recharge



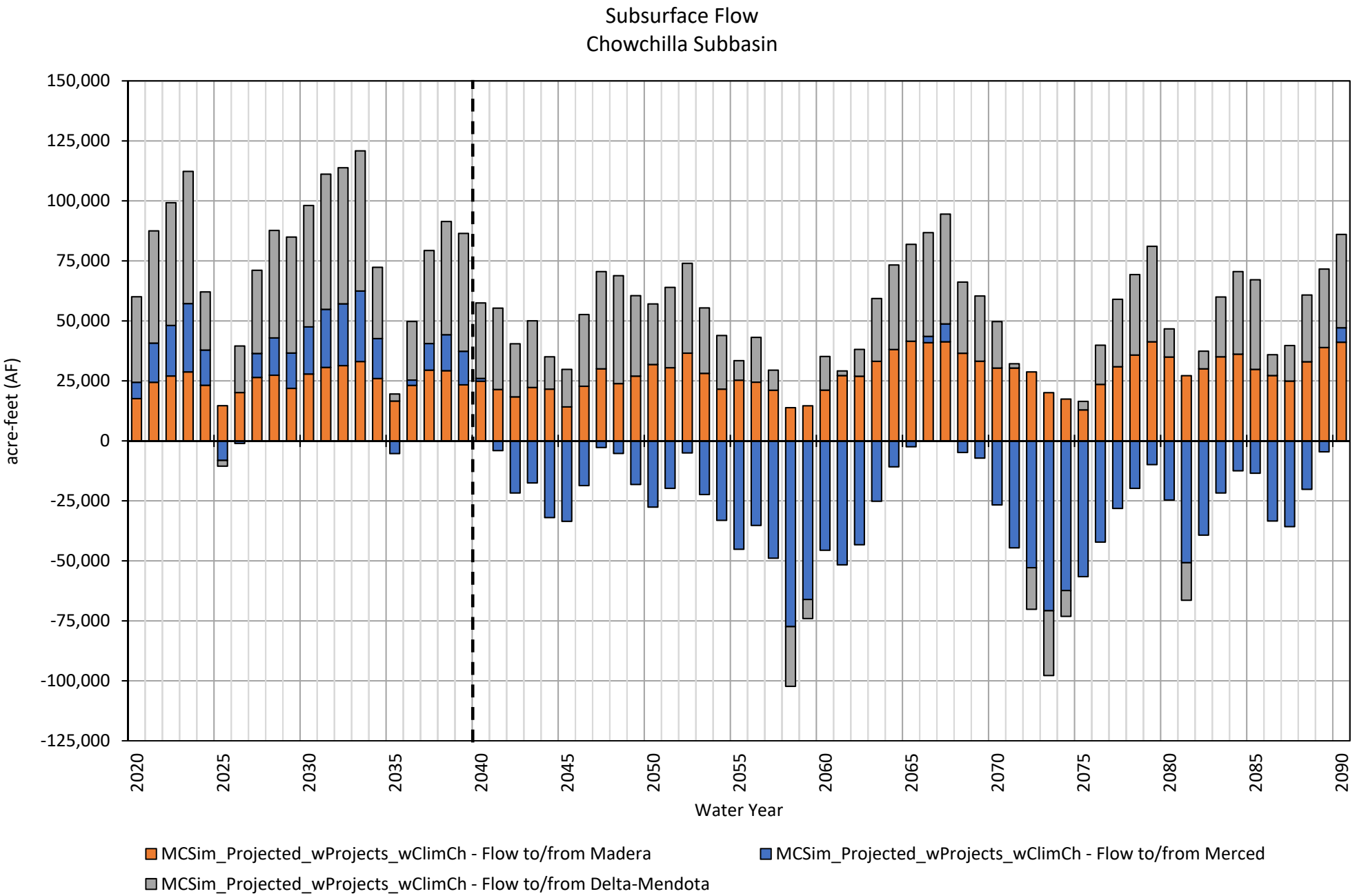
MCSim Projected with Projects with Climate Change, Chowchilla Subbasin

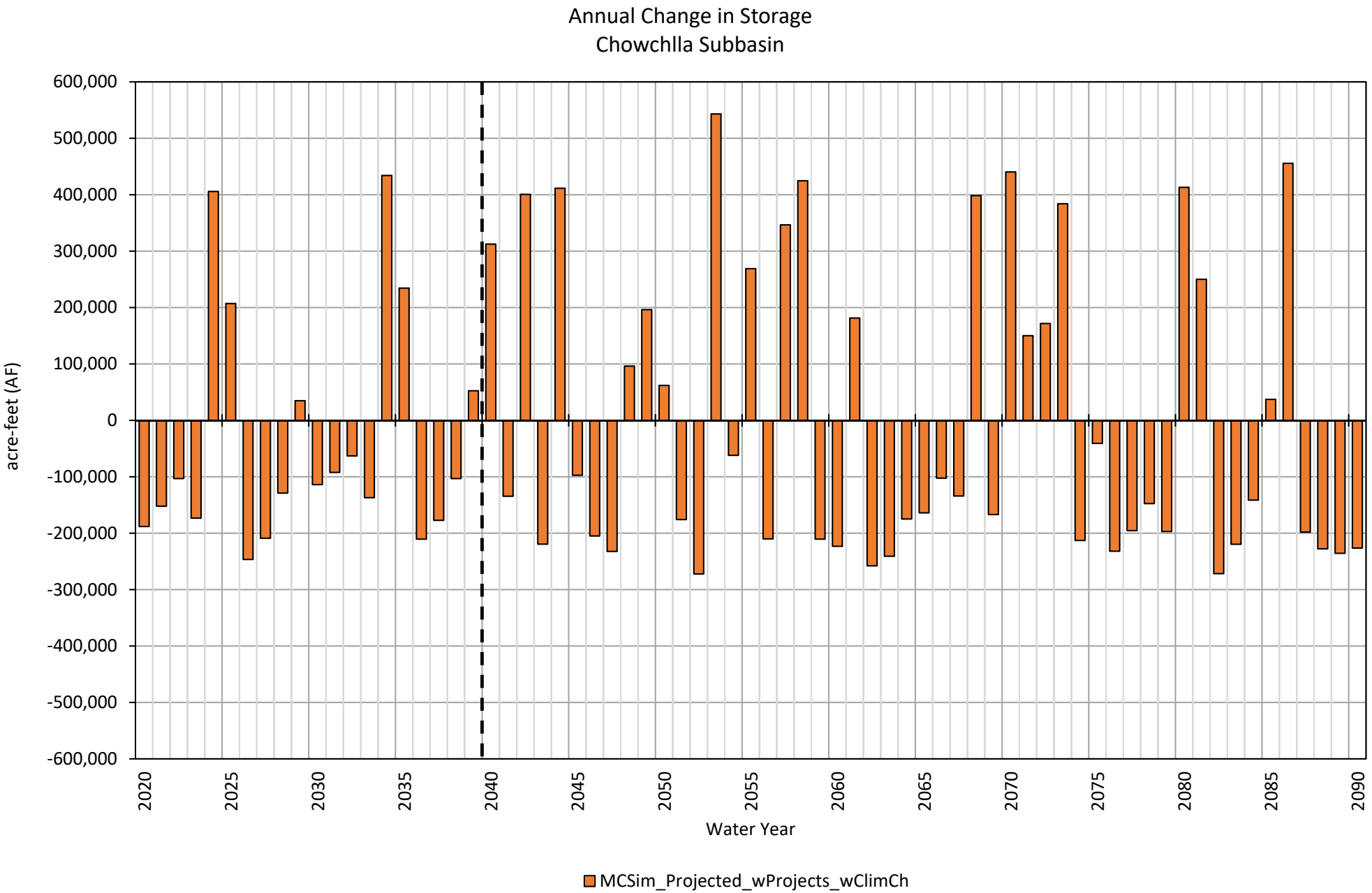
Appendix D.3.a.

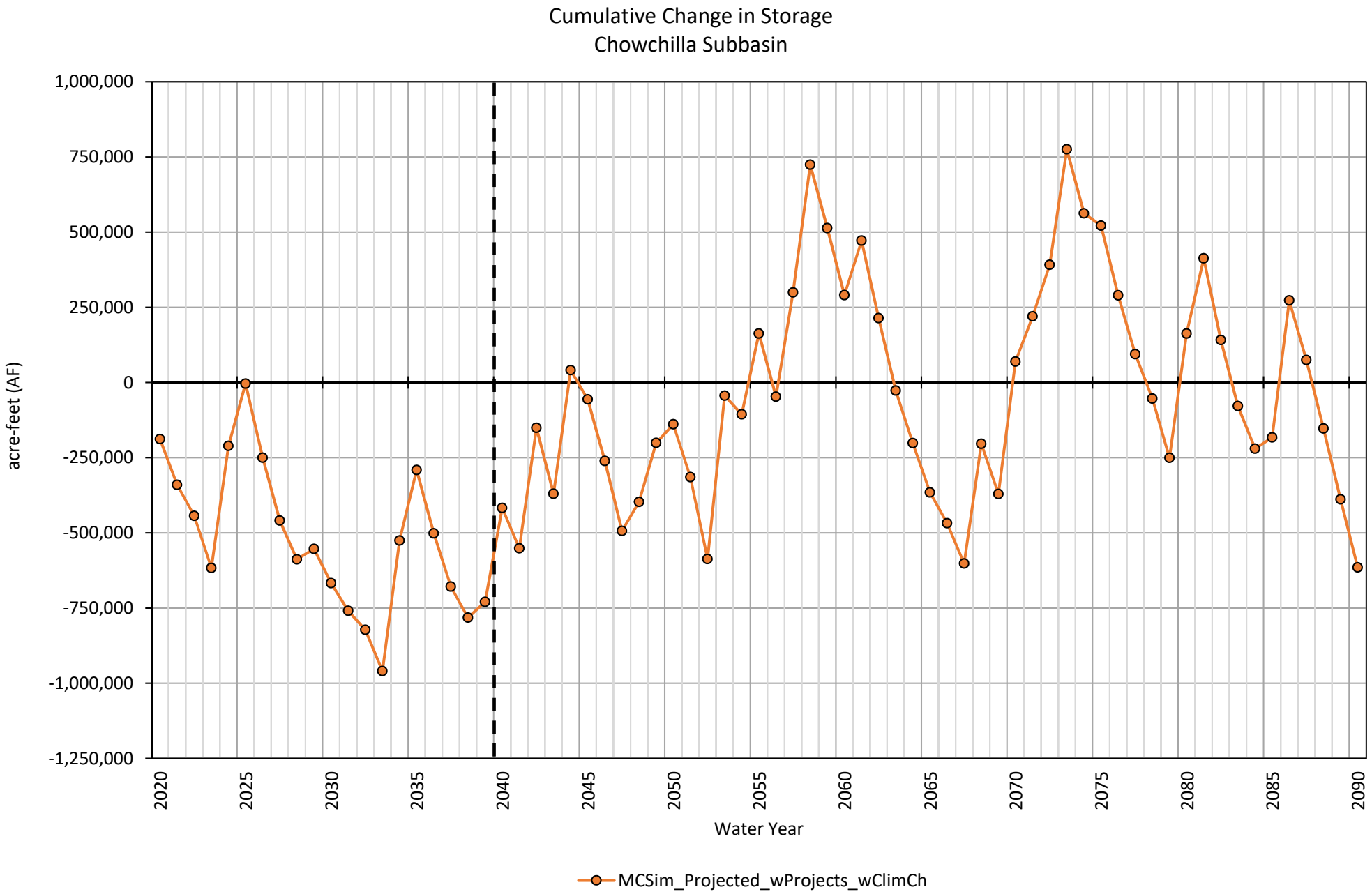


MCSim Projected with Projects with Climate Change, Chowchilla Subbasin

Appendix D.3.a.


Subsurface Flow
Chowchilla Subbasin
150,000
125,000
100,000
75,000
50,000
25,000
0
-25,000
-50,000
-75,000
-100,000
-125,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh - Flow to/from Madera
MCSim_Projected_wProjects_wClimCh - Flow to/from Merced
MCSim_Projected_wProjects_wClimCh - Flow to/from Delta-Mendota


Annual Change in Storage
Chowchlla Subbasin
600,000
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh

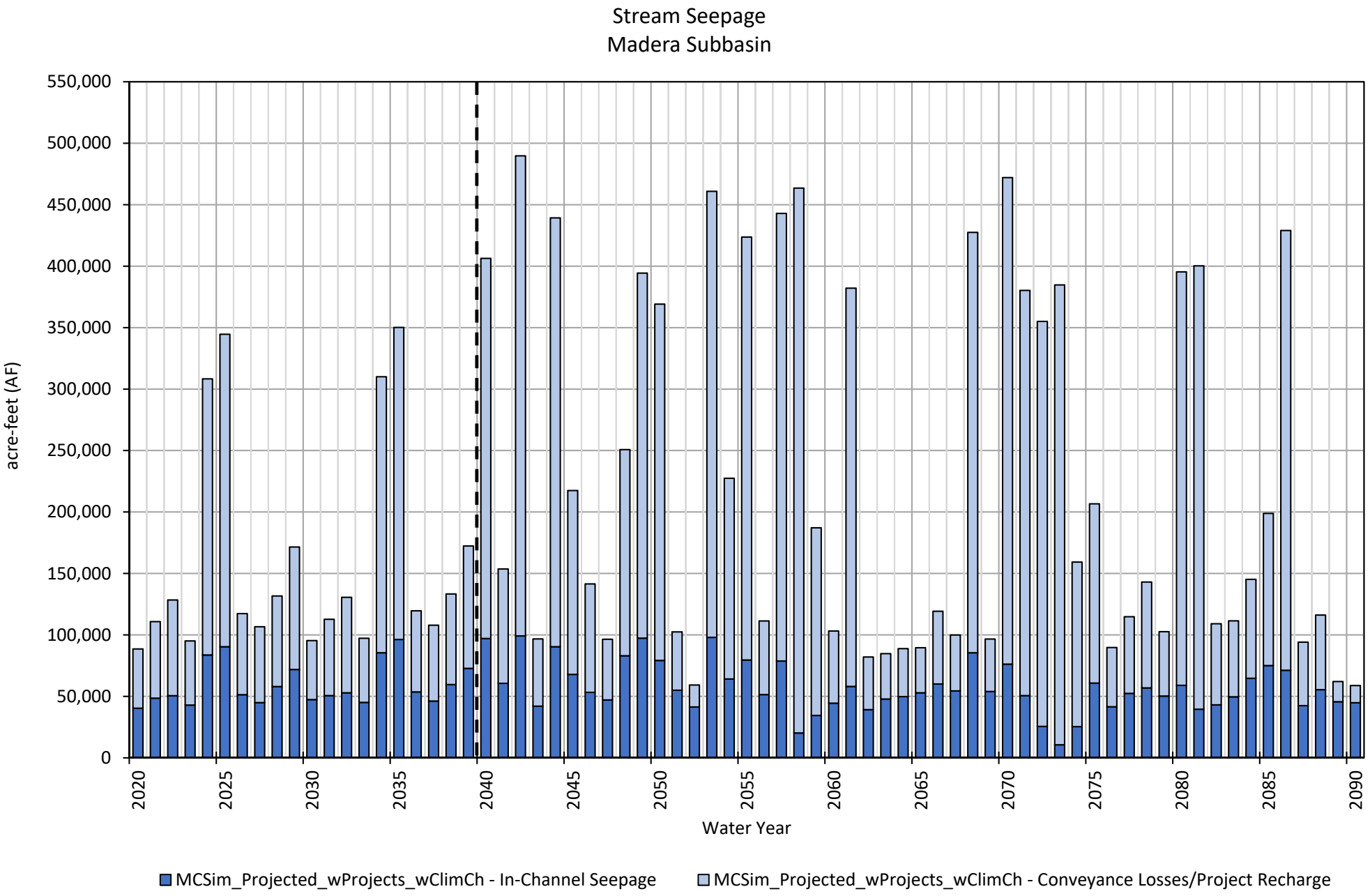


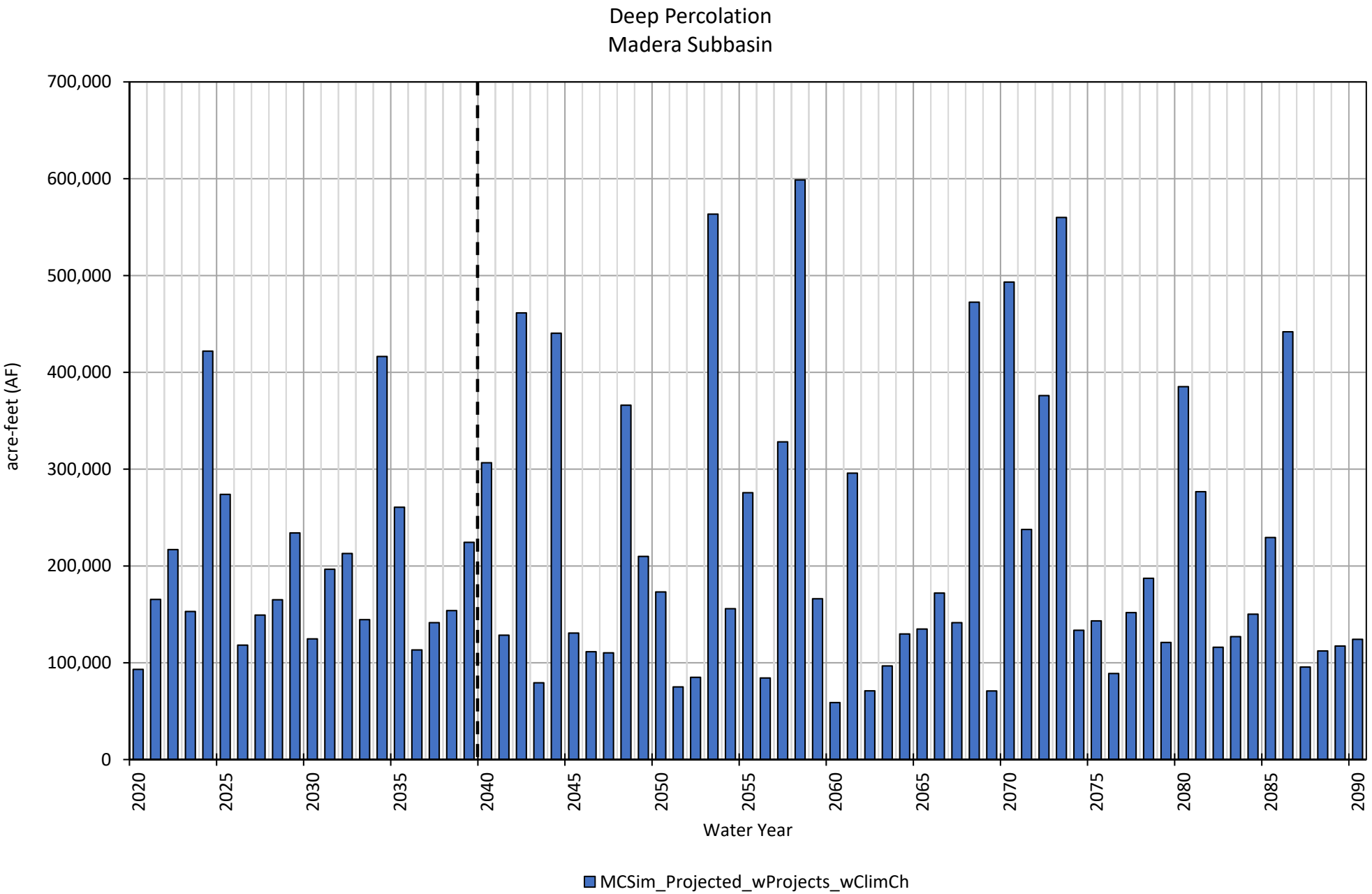
MCSim Projected with Projects with Climate Change, Chowchilla Subbasin

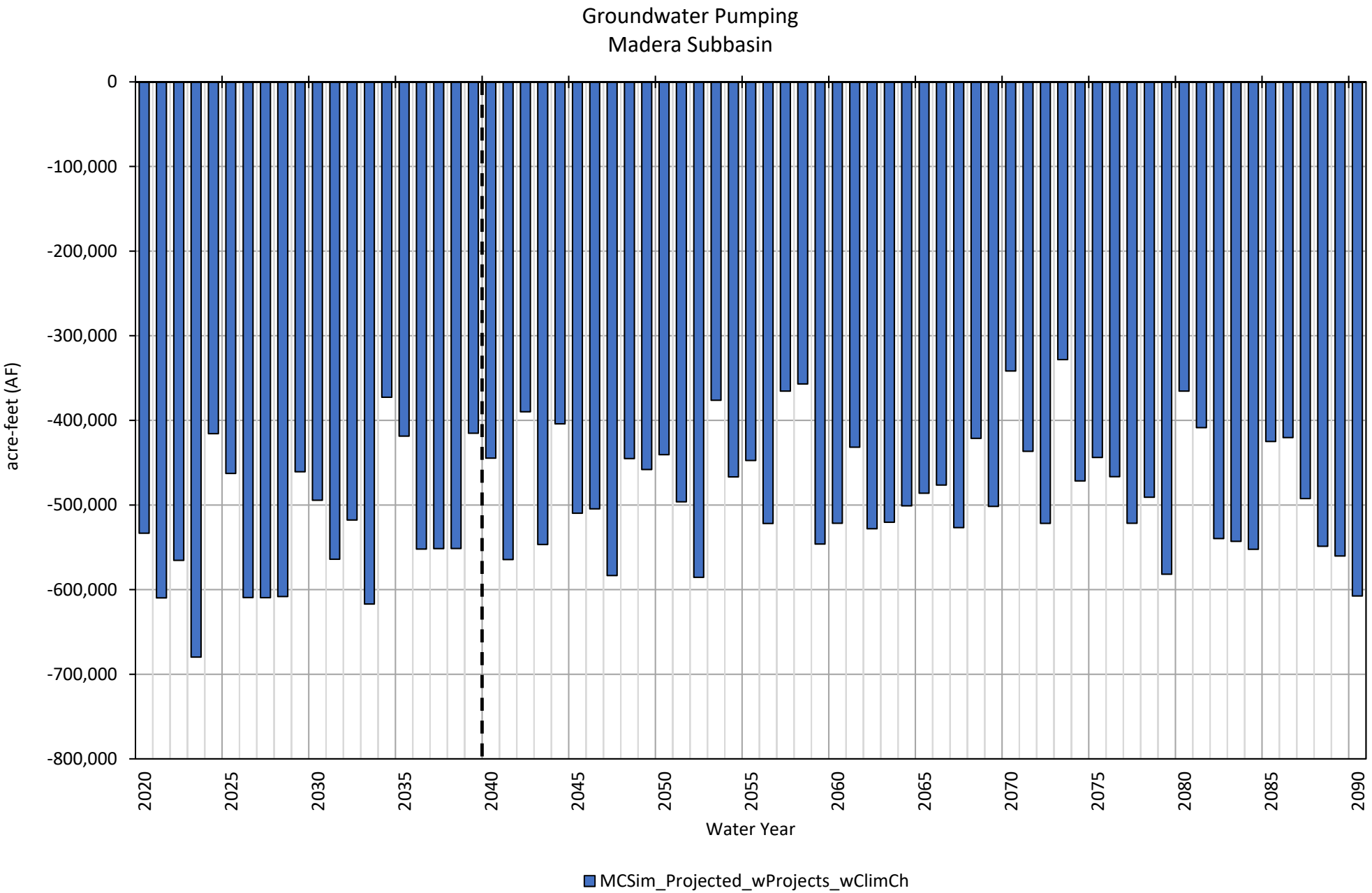
Appendix D.3.a.

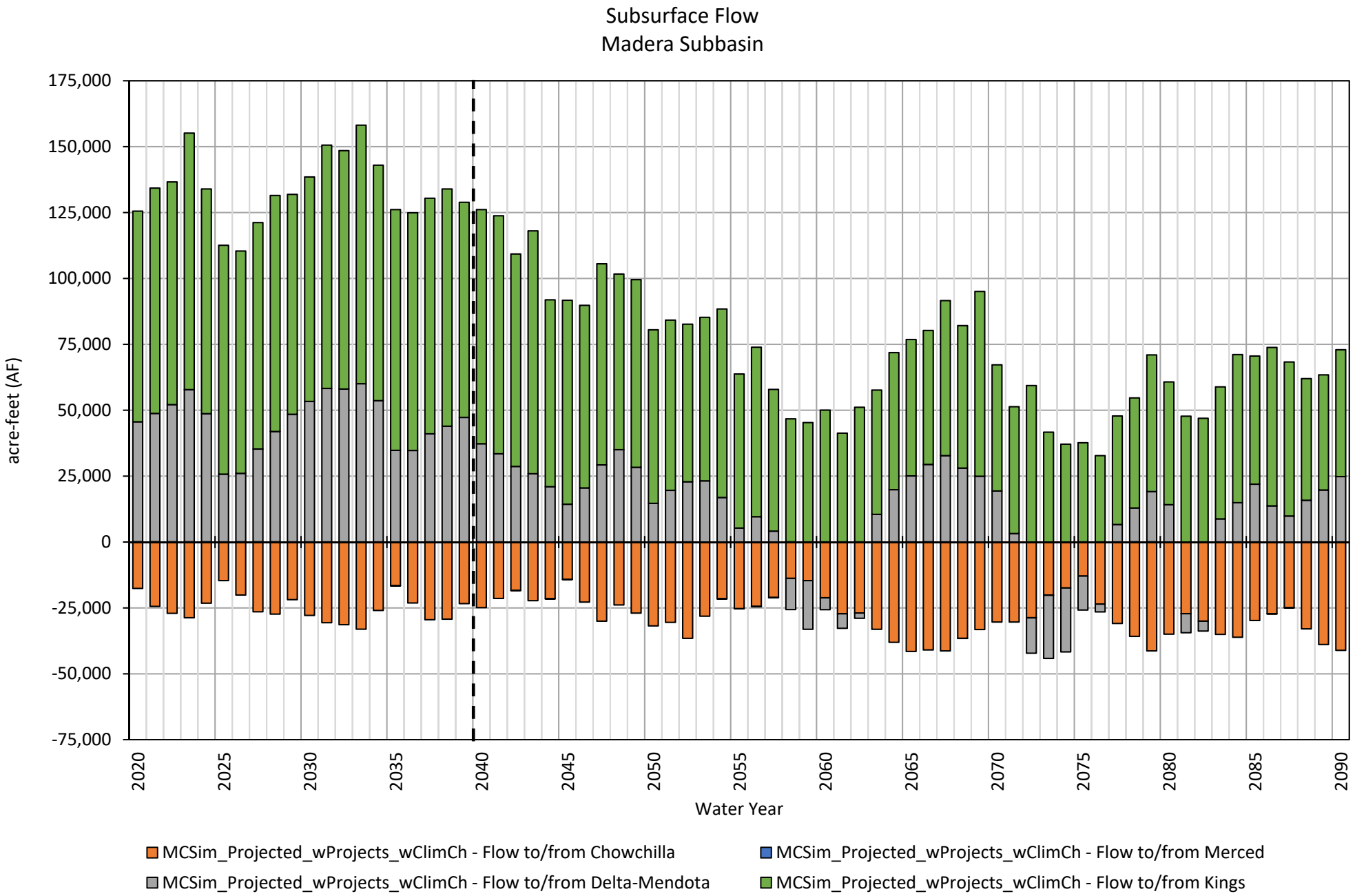
MCSim Projected with Projects with Climate Change Water Budget
Madera Subbasin

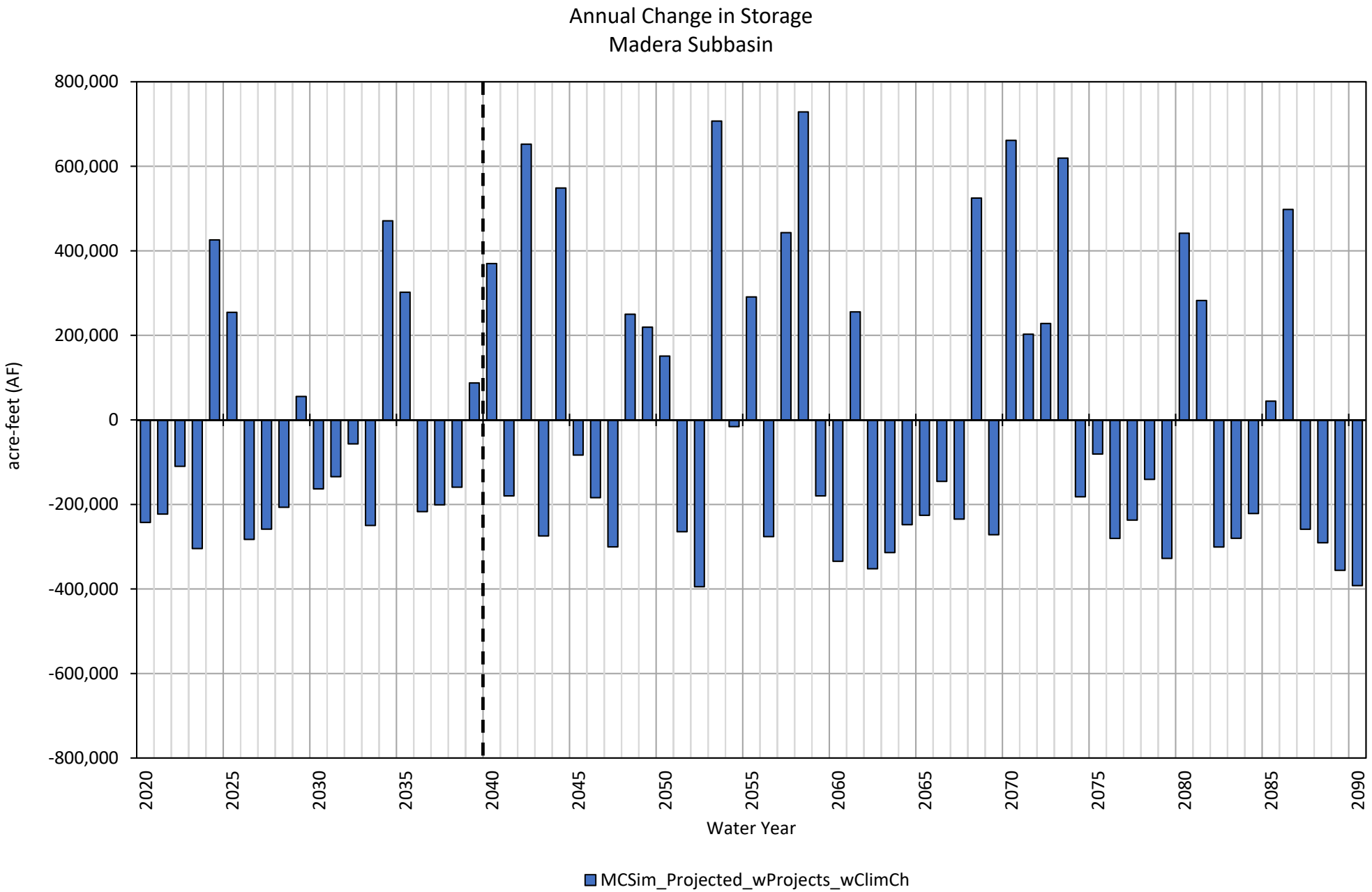
	Average Annual Water Budget (AF/m)	
	Implementation Period 2020-2040	**Sustainability Period 2040-2090**
Total Stream Seepage	161,632	228,172
In-Channel Seepage	59,656	57,426
Conveyance Losses/Project Recharge	101,976	170,747
Deep Percolation	198,989	218,860
General Head Boundary Conditions	0	0
Small Watershed Baseflow	495	664
Small Watershed Percolation	0	203
Groundwater Pumping	-530,455	-479,141
Total Subsurface Inflow	108,704	40,910
Flow to(+)/from(-) Chowchilla	-25,109	-28,306
Flow to(+)/from(-) Merced	58	20
Flow to(+)/from(-) Delta-Mendota	45,729	12,431
Flow to(+)/from(-) Kings	88,026	56,765
Average Annual Change in Storage	-60,635	9,667
Total Cumulative Change in Storage	-1,212,704	493,038

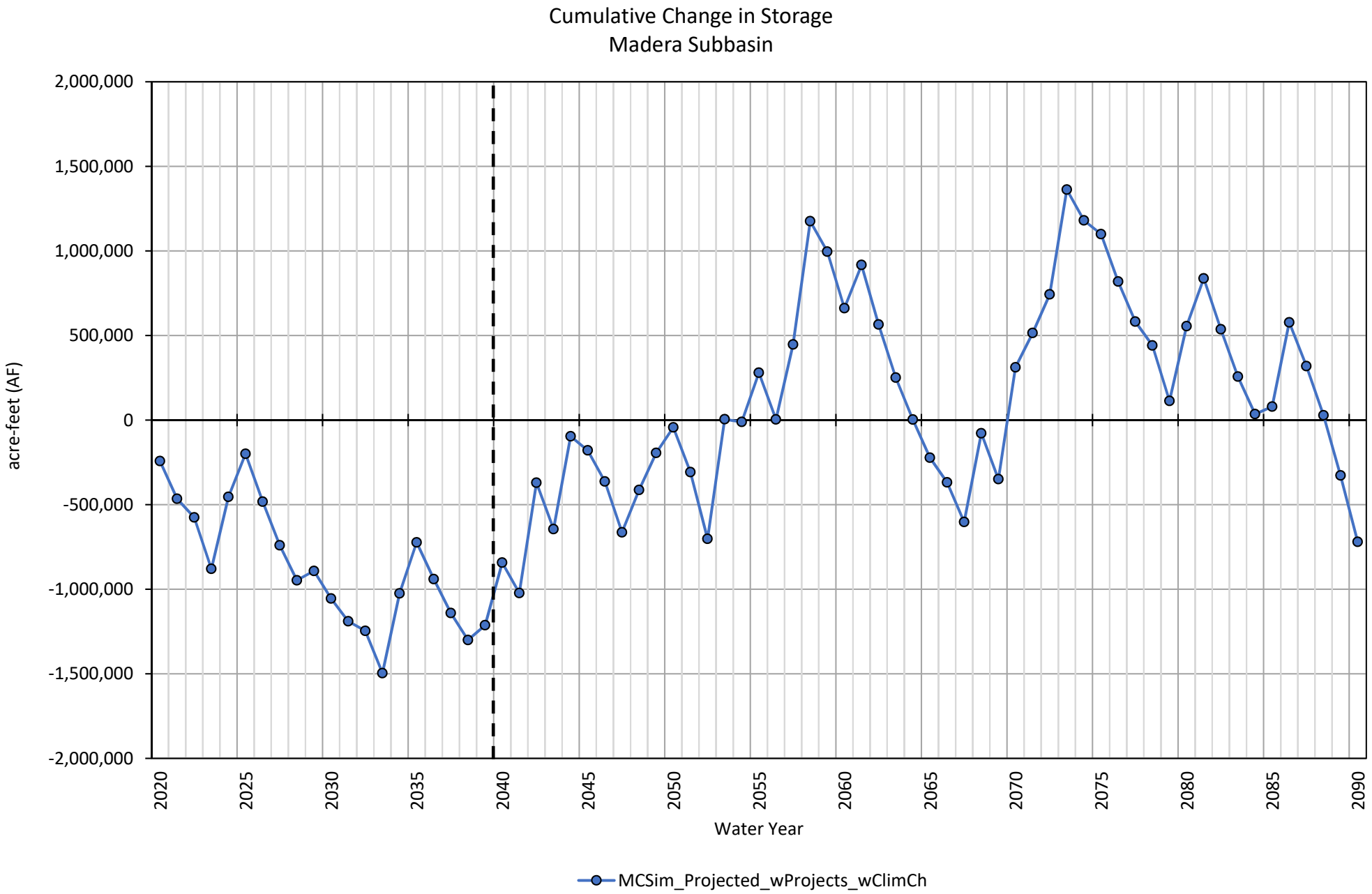

Stream Seepage
Madera Subbasin
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh - In-Channel Seepage
MCSim_Projected_wProjects_wClimCh - Conveyance Losses/Project Recharge


Deep Percolation
Madera Subbasin
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh


Groundwater Pumping
Madera Subbasin
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh

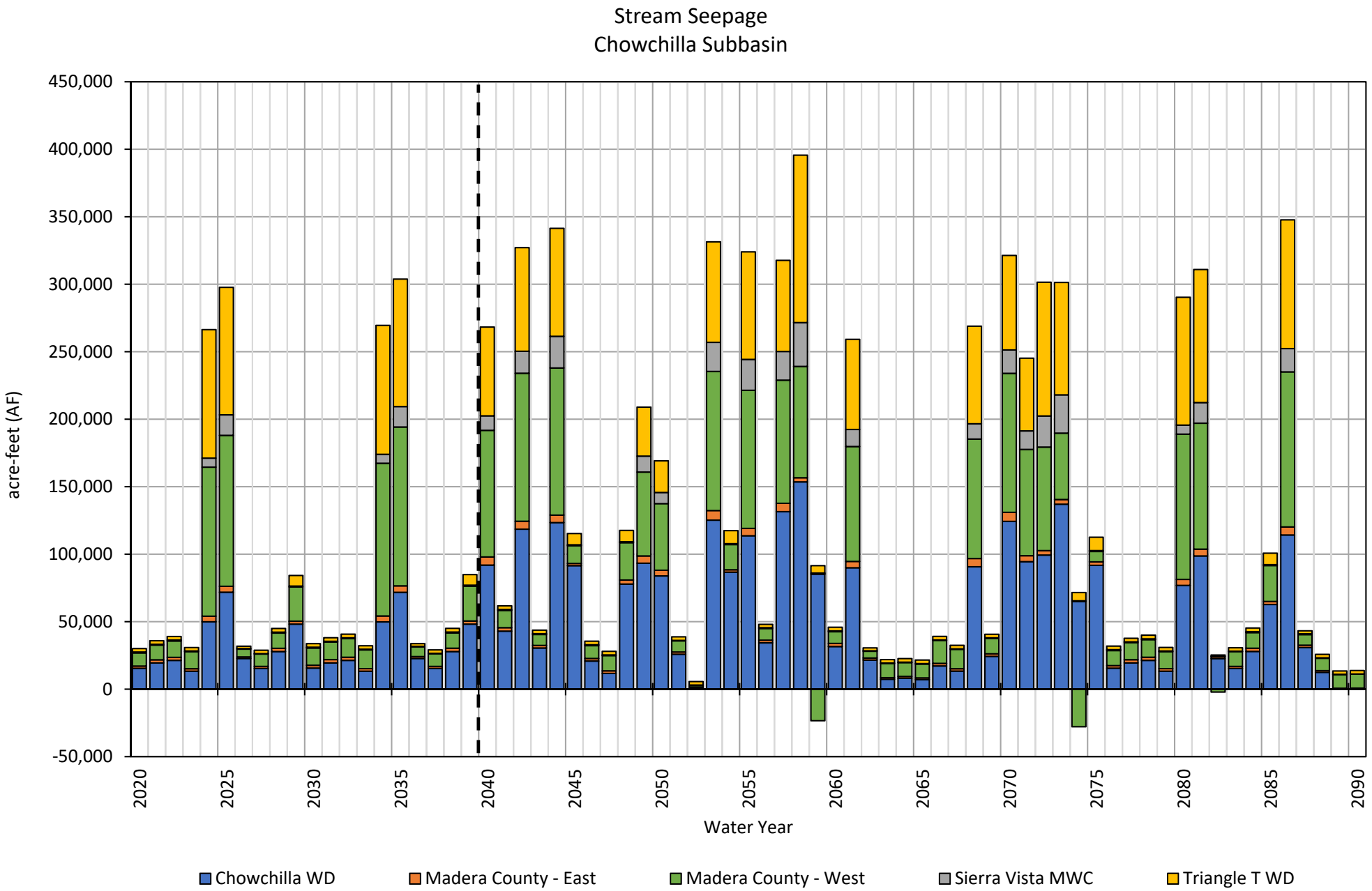

Subsurface Flow
Madera Subbasin
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
-25,000
-50,000
-75,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh - Flow to/from Chowchilla
MCSim_Projected_wProjects_wClimCh - Flow to/from Merced
MCSim_Projected_wProjects_wClimCh - Flow to/from Delta-Mendota
MCSim_Projected_wProjects_wClimCh - Flow to/from Kings

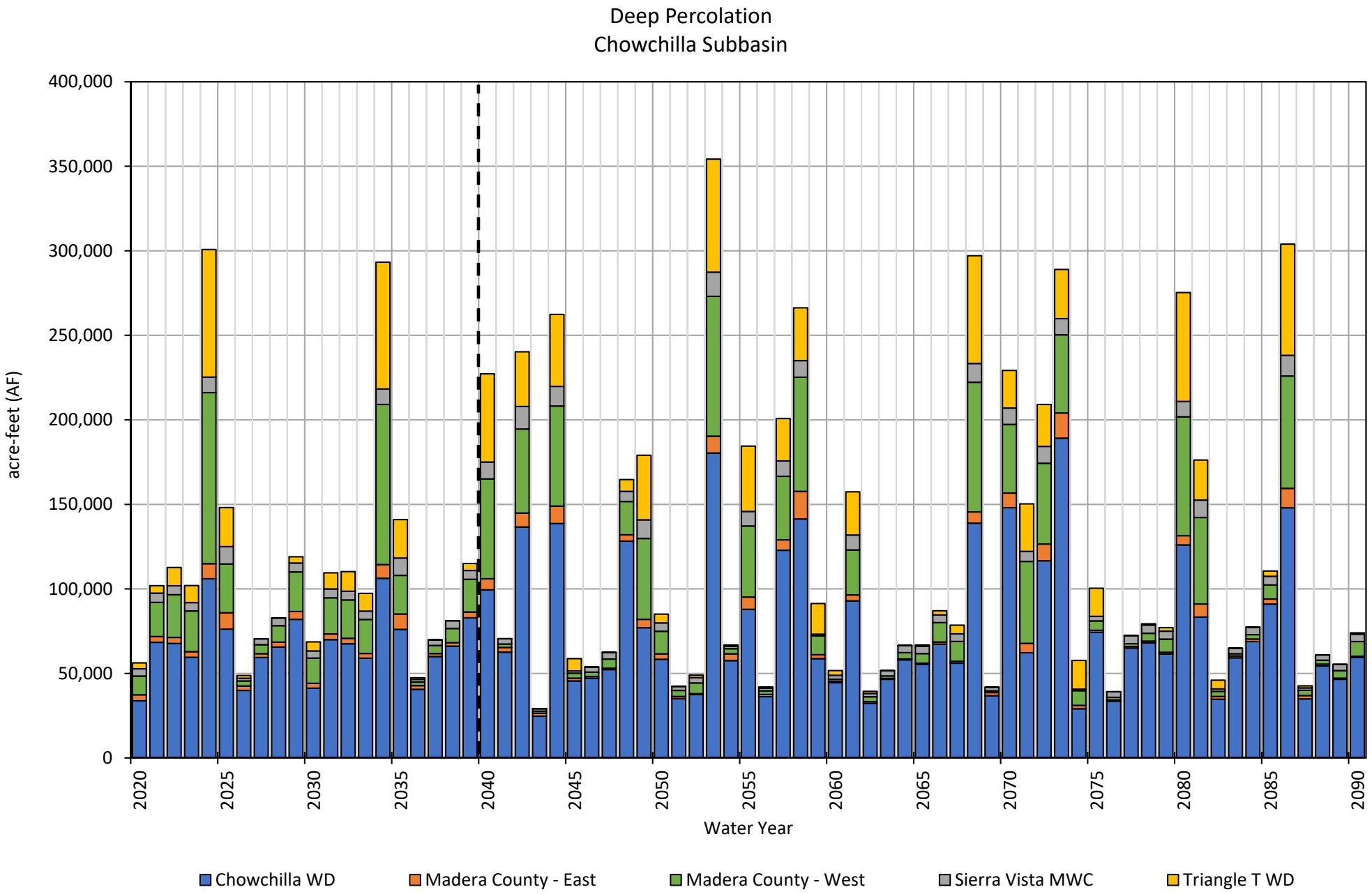

Annual Change in Storage
Madera Subbasin
800,000
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh

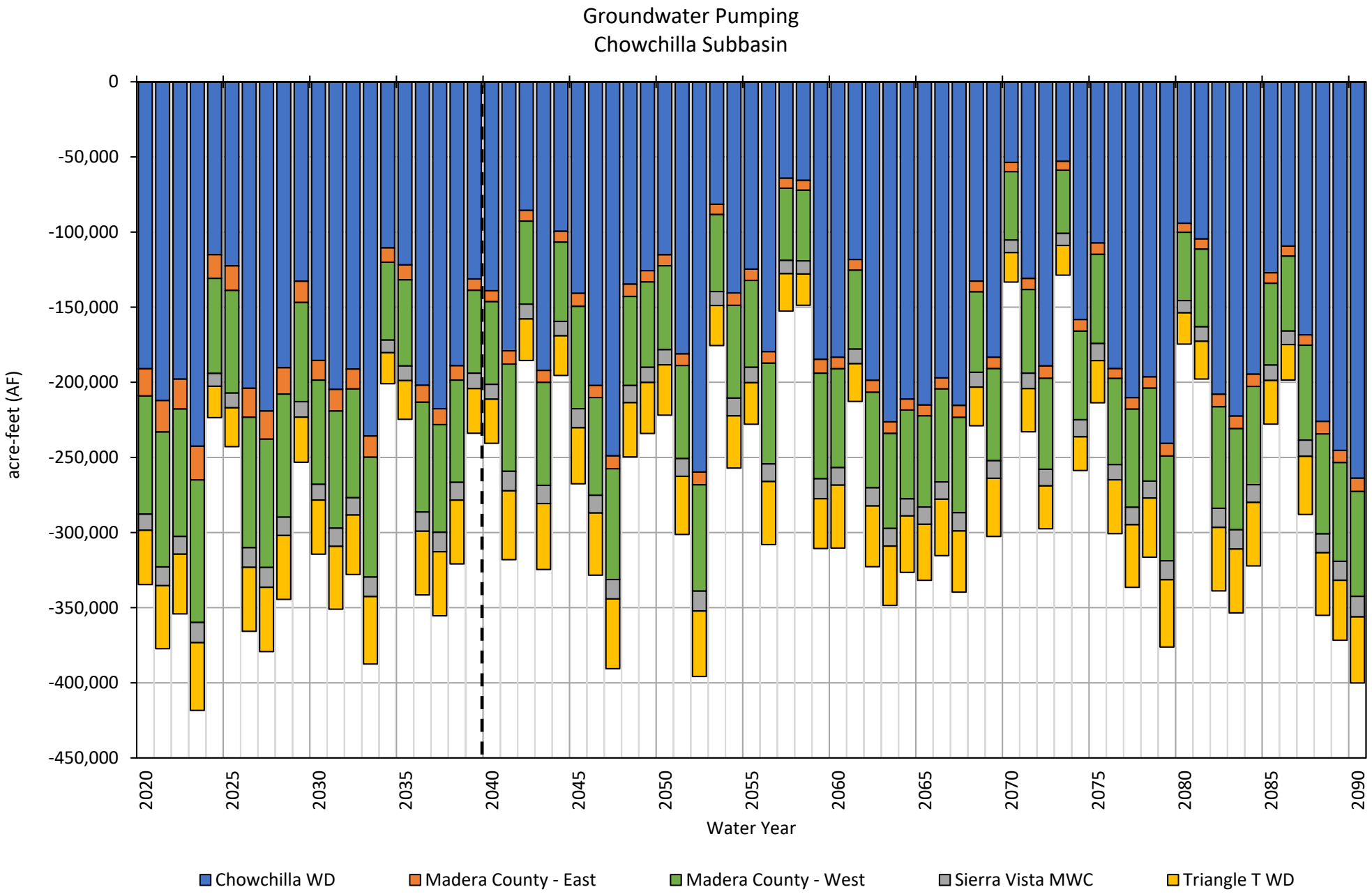

Cumulative Change in Storage
Madera Subbasin
2,000,000
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wProjects_wClimCh

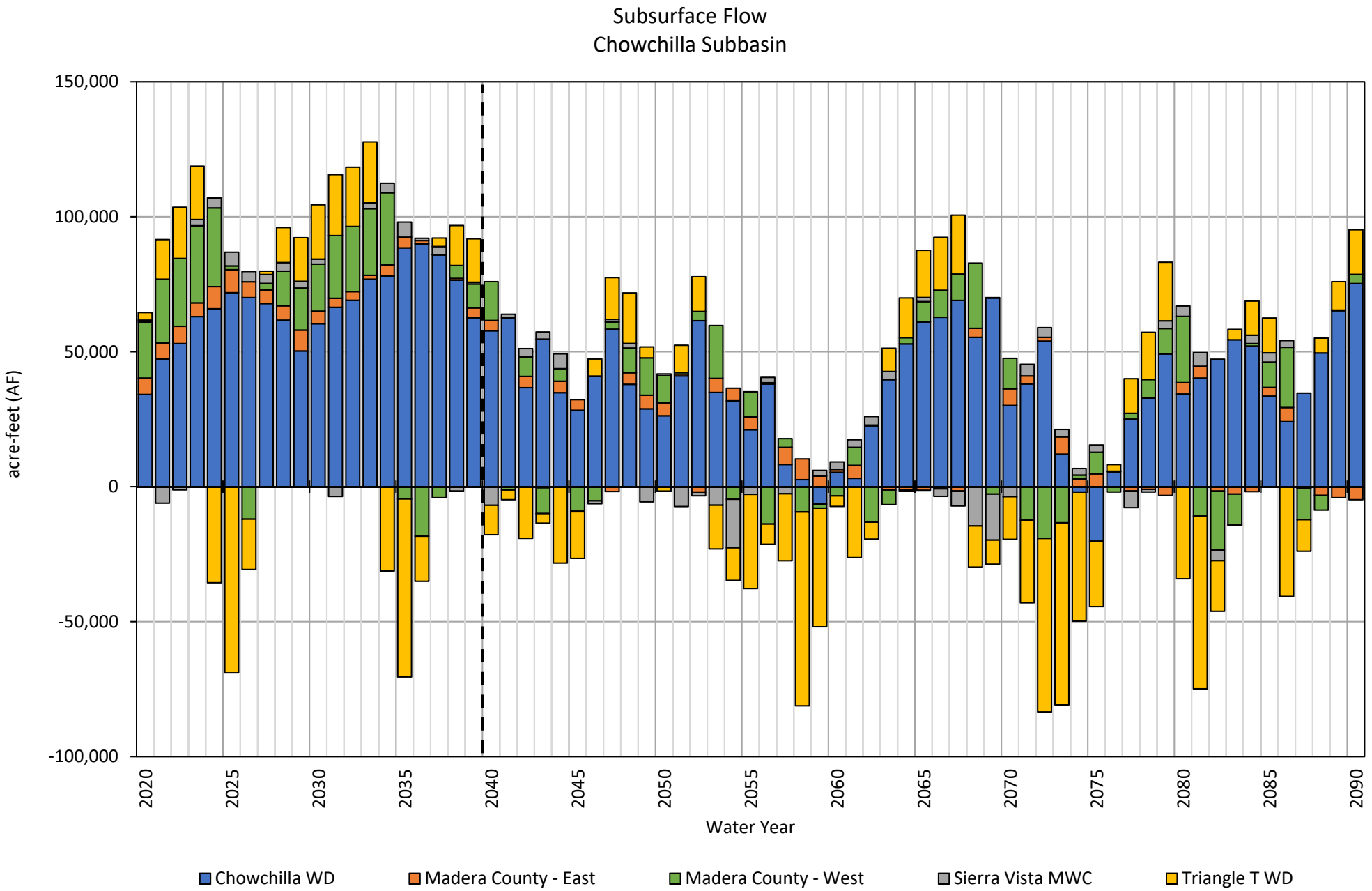
MCSim Projected with Projects with Climate Change Water Budget by GSA
Chowchilla Subbasin

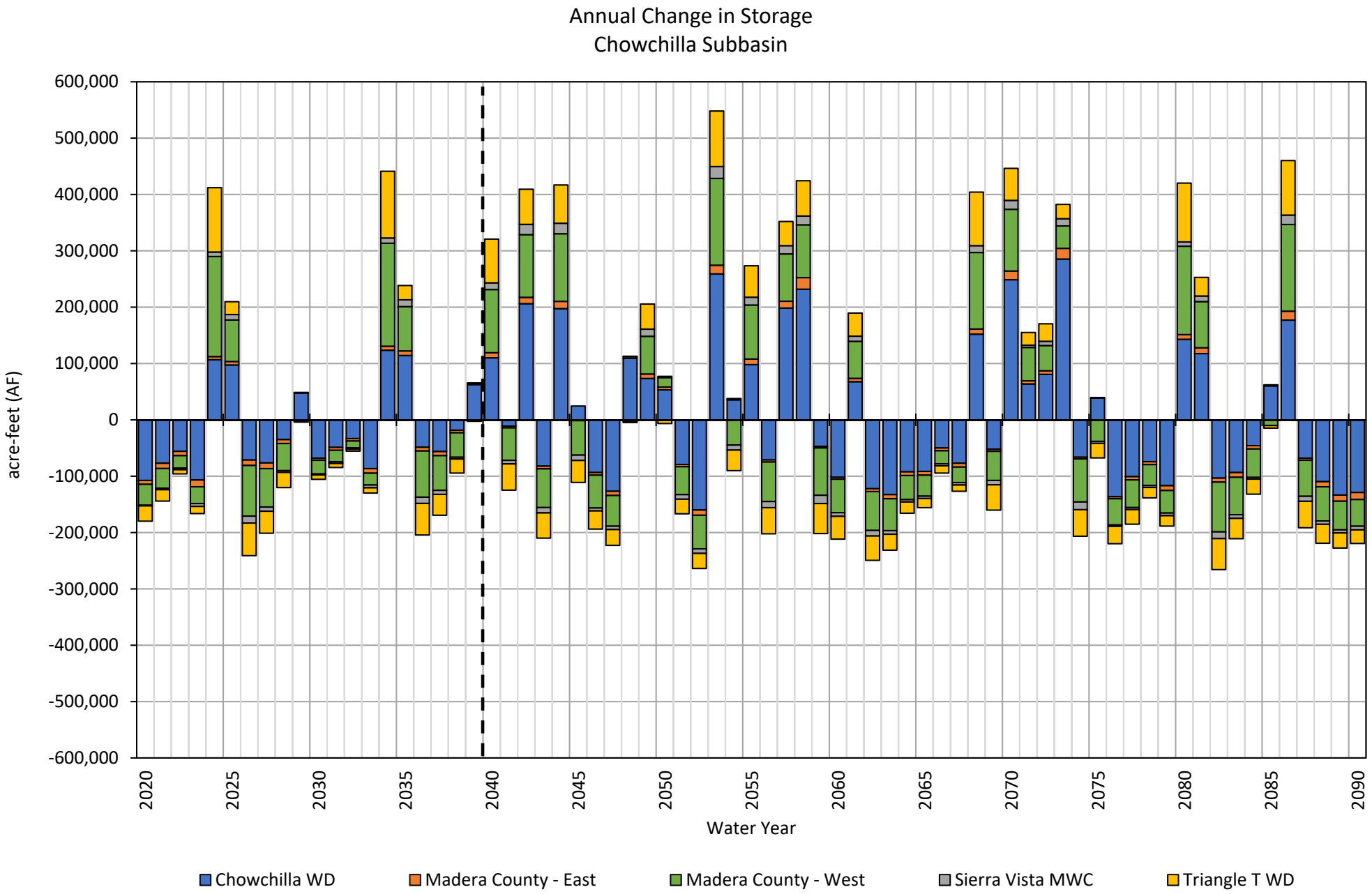
	Average Annual Water Budget (AF/m)									
	Chowchilla Water District		Madera County - East		Madera County - West		Sierra Vista Mutual Water Company		Triangle T Water District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	30,553	58,799	2,471	2,889	32,868	37,204	2,617	6,481	21,514	29,098
In-Channel Seepage	*2,491*	*2,875*	*1,330*	*767*	*13,482*	*7,091*	*-130*	*-599*	*-675*	*-1,328*
Conveyance Losses	*28,062*	*55,924*	*1,140*	*2,122*	*19,385*	*30,113*	*2,748*	*7,080*	*22,189*	*30,426*
Deep Percolation	66,428	76,694	4,180	3,820	24,177	21,495	5,396	5,544	13,642	15,192
General Head Boundary Conditions	0	0	0	0	0	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0	0	0	0	0
Groundwater Pumping	-180,847	-163,157	-14,813	-7,585	-73,814	-60,103	-11,436	-11,097	-36,657	-34,435
Total Subsurface Inflow	66,967	36,794	4,520	1,582	12,512	1,398	2,033	-703	-1,463	-9,990
Average Annual Change in Storage	-16,898	9,130	-3,642	705	-4,258	-6	-1,390	224	-2,964	-135
Total Cumulative Change in Storage	-337,968	465,614	-72,832	35,945	-85,151	-318	-27,793	11,444	-59,275	-6,909

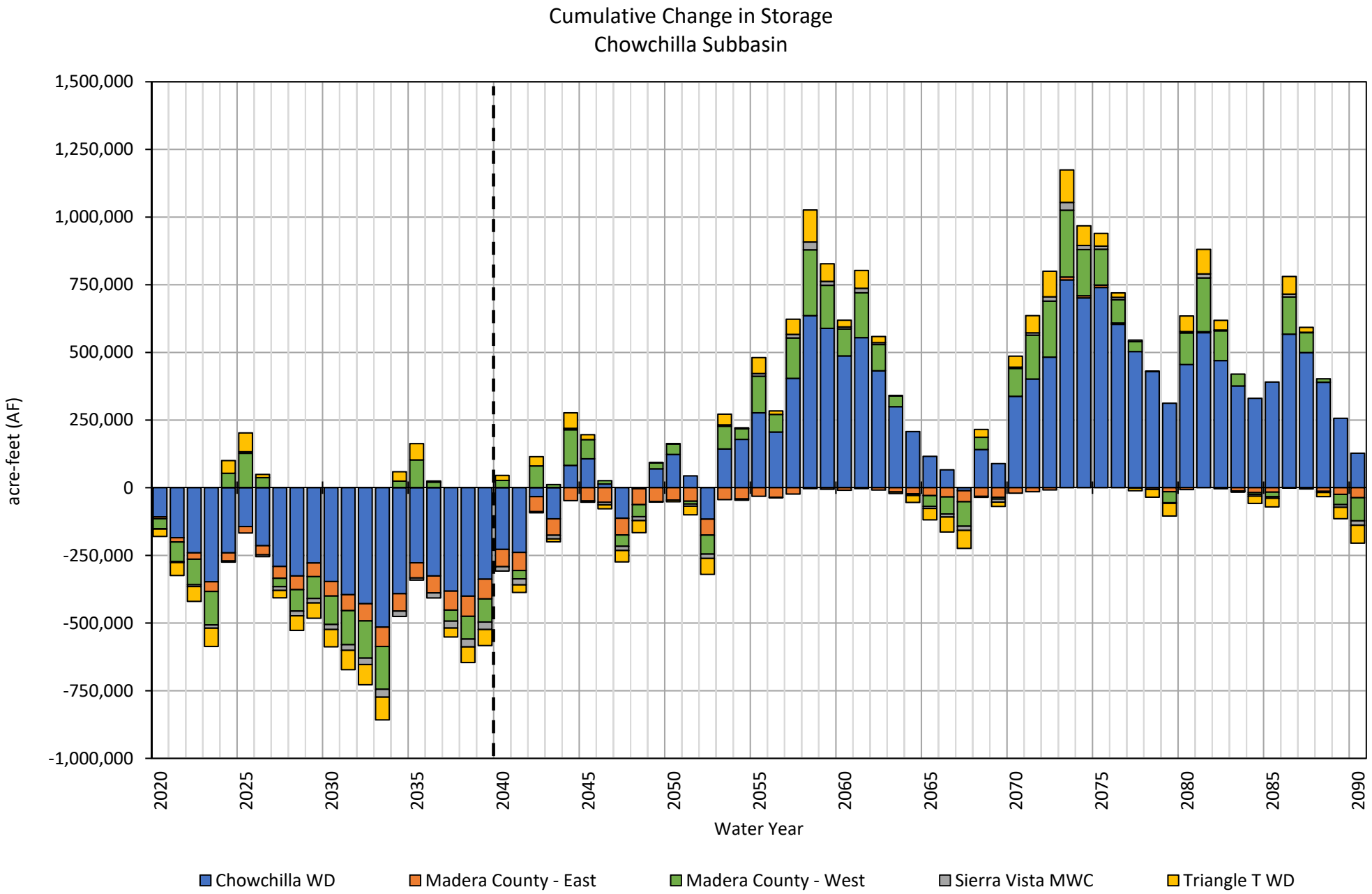

Stream Seepage
Chowchilla Subbasin
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD


Deep Percolation
Chowchilla Subbasin
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD


Groundwater Pumping
Chowchilla Subbasin
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
-450,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD


Subsurface Flow
Chowchilla Subbasin
150,000
100,000
50,000
0
-50,000
-100,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD


Annual Change in Storage
Chowchilla Subbasin
600,000
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

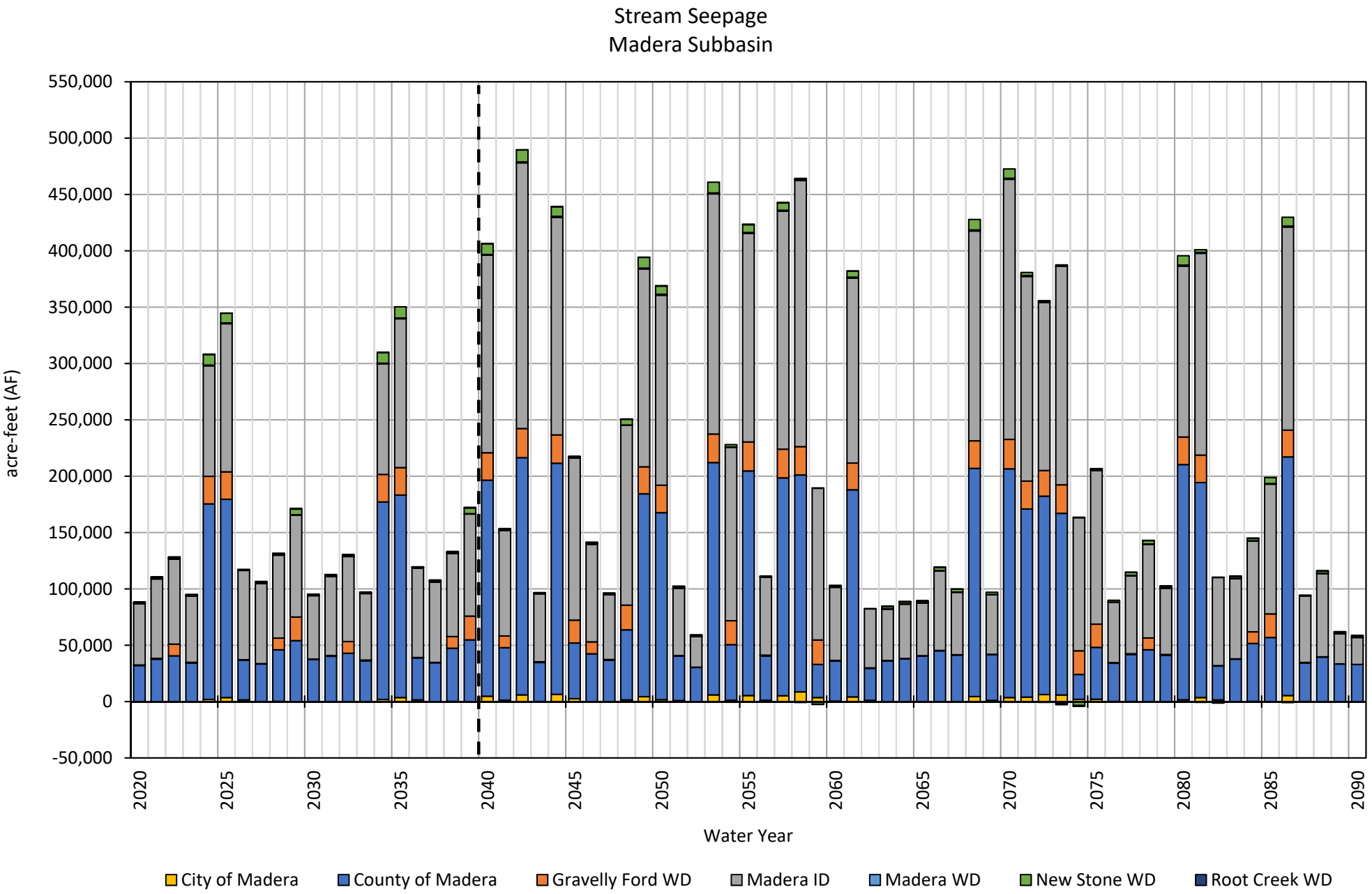

Cumulative Change in Storage
Chowchilla Subbasin
acre-feet (AF)
1,500,000
1,250,000
1,000,000
750,000
500,000
250,000
0
-250,000
-500,000
-750,000
-1,000,000
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

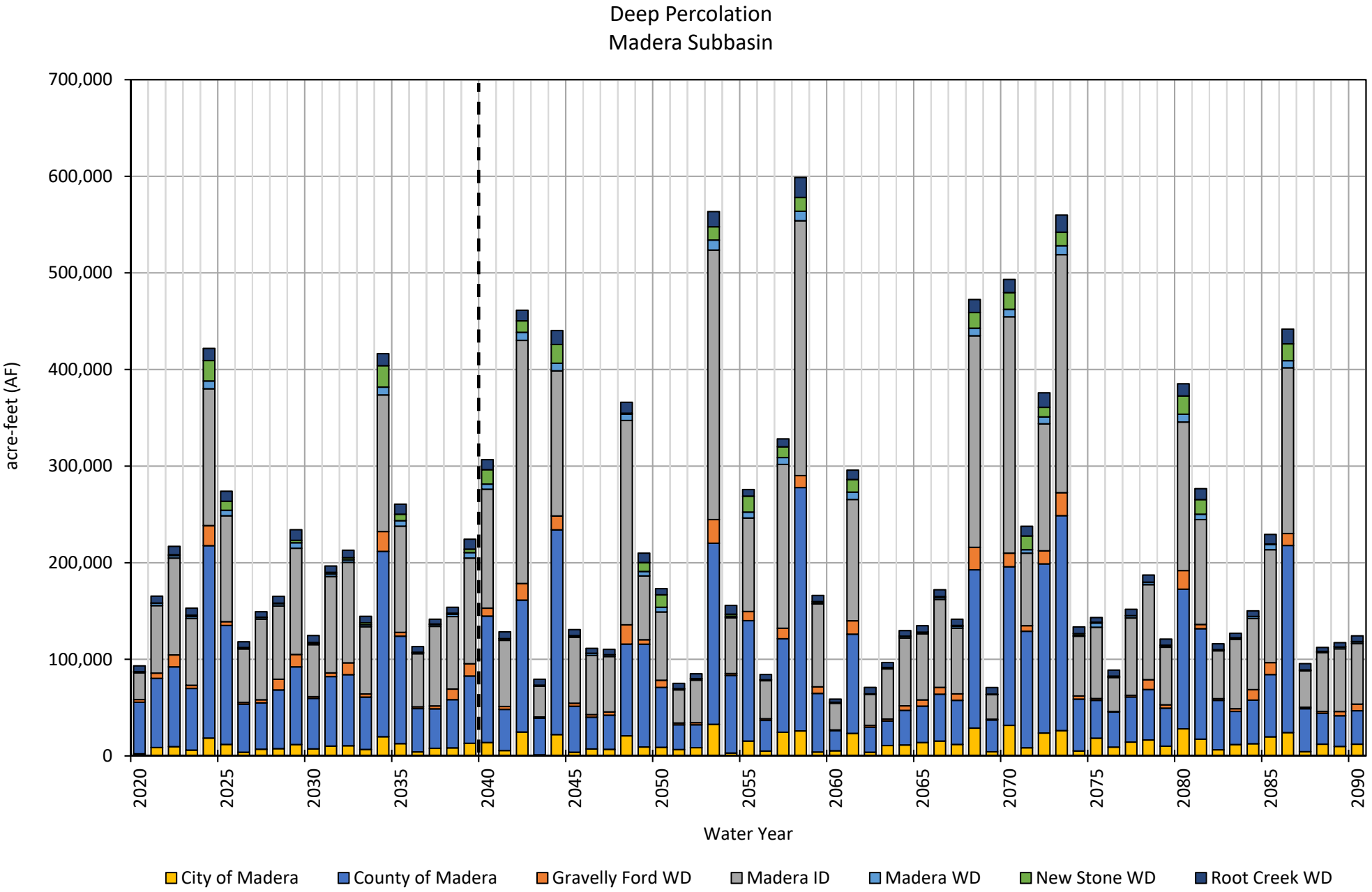
MCSim Projected with Projects with Climate Change Water Budget by GSA
Madera Subbasin

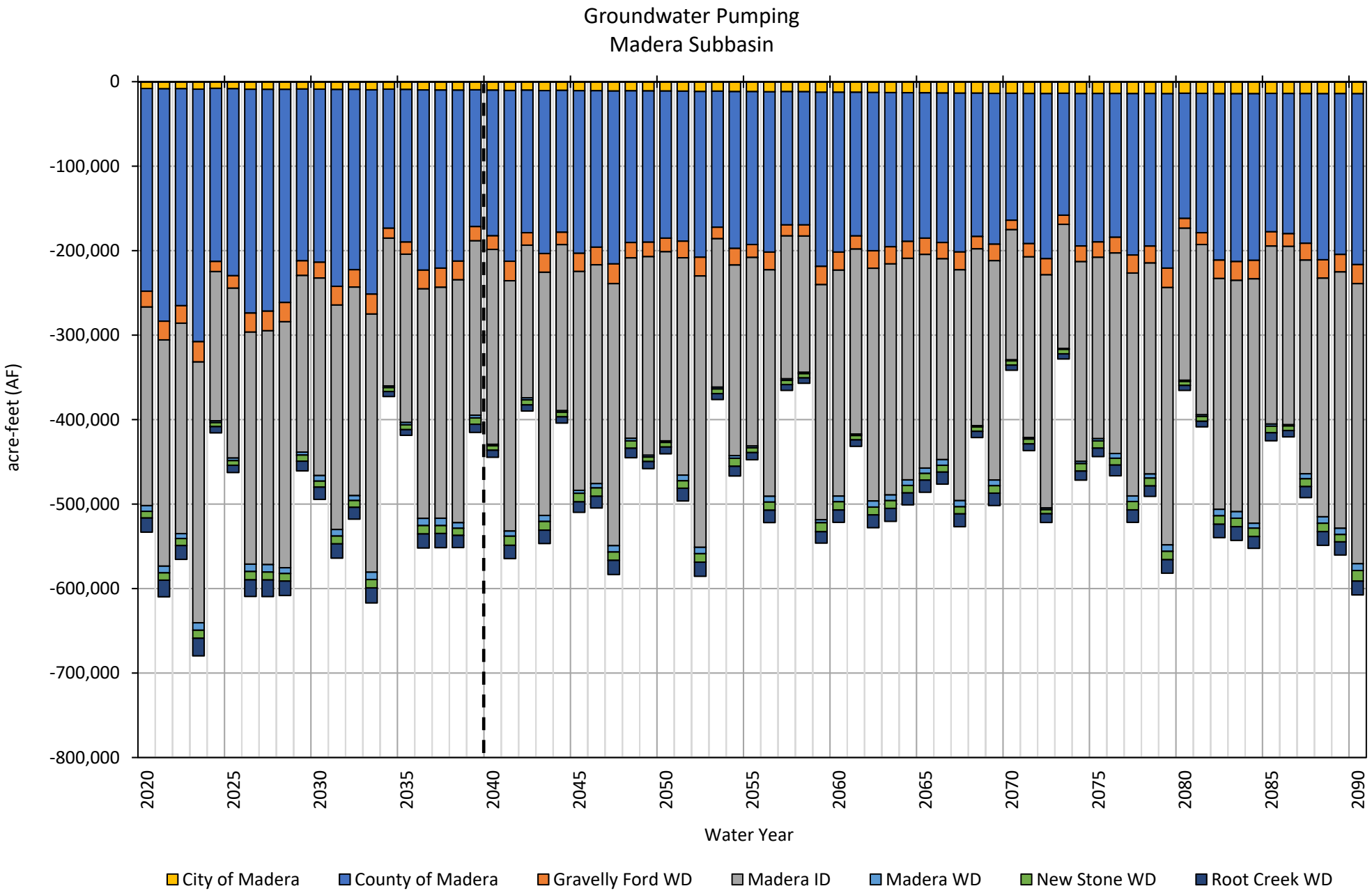
	Average Annual Water Budget (AF/m)							
	City of Madera		Madera County		Gravelly Ford Water District		Madera Irrigation District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	738	2,123	67,366	93,343	9,304	12,624	80,460	116,466
In-Channel Seepage	*738*	*2,123*	*40,570*	*37,859*	*209*	*294*	*17,547*	*19,279*
Conveyance Losses	*0*	*0*	*26,796*	*55,484*	*9,094*	*12,330*	*62,913*	*97,187*
Deep Percolation	9,402	13,765	79,634	80,402	7,585	7,476	87,167	99,774
General Head Boundary Conditions	0	0	0	0	0	0	0	0
Small Watershed Baseflow	0	0	495	664	0	0	0	0
Small Watershed Percolation	0	0	0	200	0	0	0	3
Groundwater Pumping	-9,013	-12,748	-225,328	-180,292	-19,670	-18,518	-247,743	-243,340
Total Subsurface Inflow	-3,162	-2,558	53,386	10,835	2,357	-1,717	48,736	31,251
Average Annual Change in Storage	-2,034	584	-24,447	5,153	-425	-135	-31,381	4,154
Total Cumulative Change in Storage	-40,684	29,761	-488,940	262,783	-8,502	-6,865	-627,610	211,862

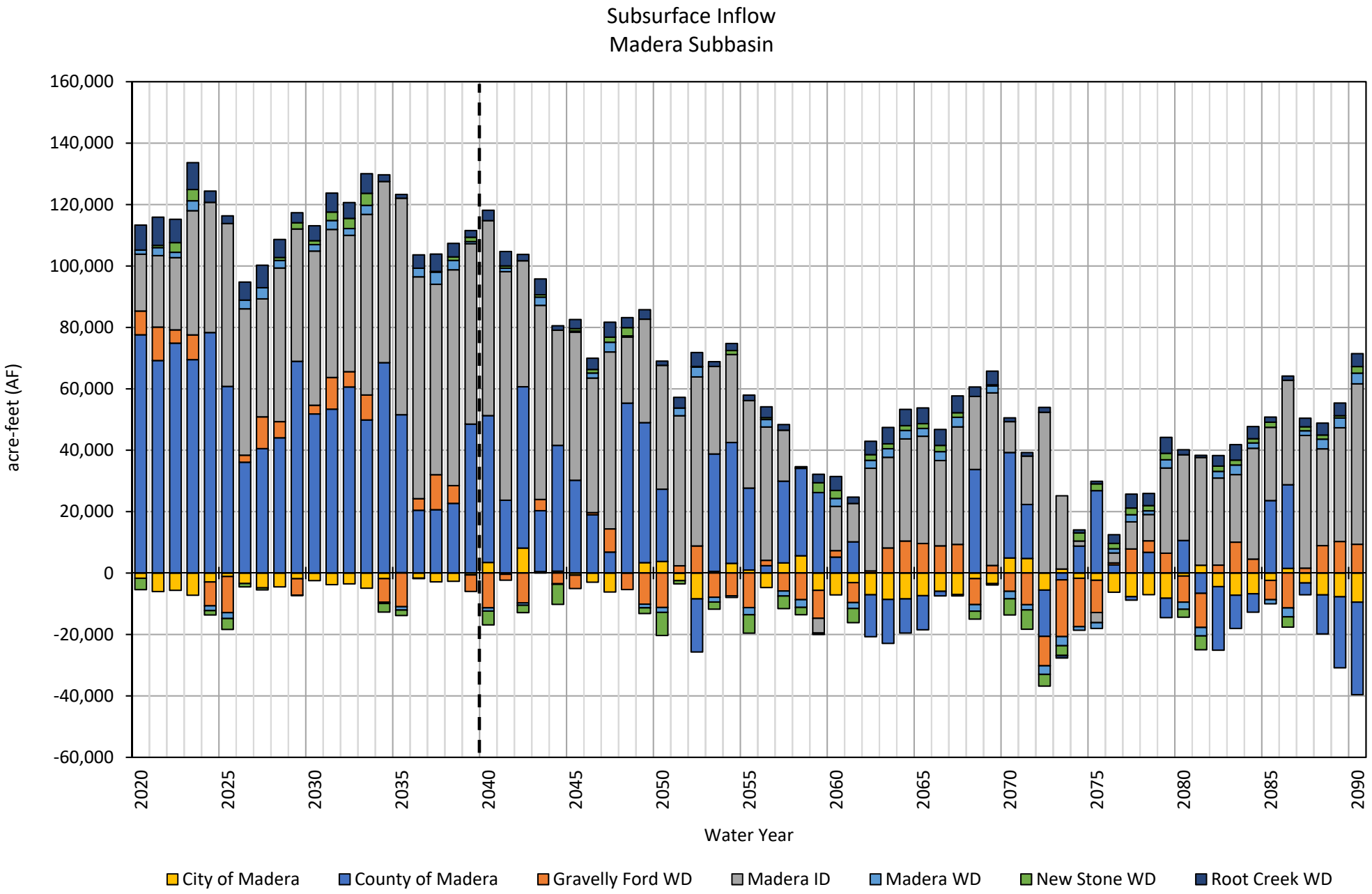
MCSim Projected with Projects with Climate Change Water Budget by GSA
Madera Subbasin

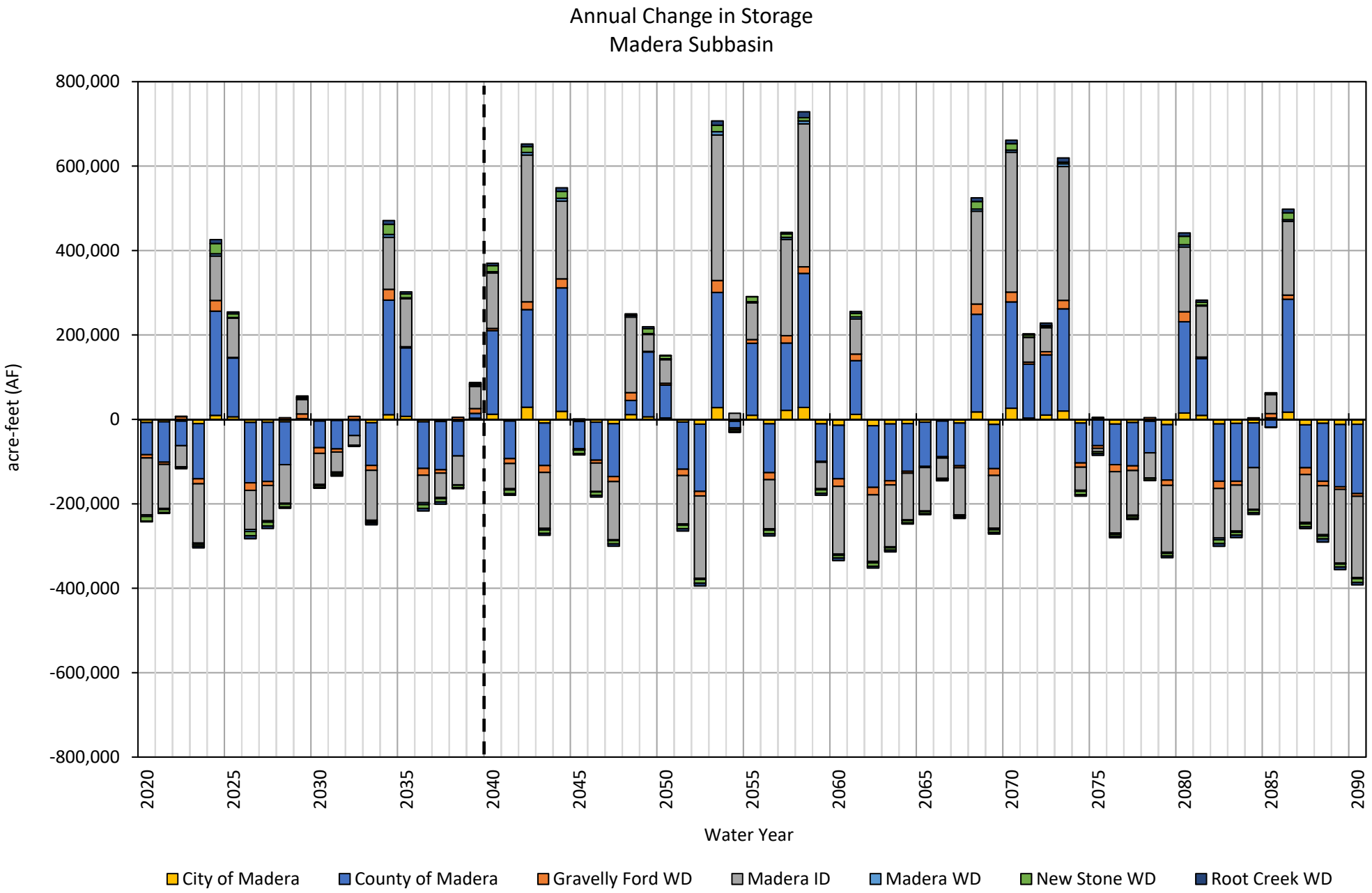
	Average Annual Water Budget (AF/m)					
	Madera Water District		New Stone Water District		Root Creek Water District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	301	509	2,797	3,034	666	72
In-Channel Seepage	*301*	*509*	*470*	*-1,865*	*-180*	*-774*
Conveyance Losses	*0*	*0*	*2,327*	*4,899*	*846*	*846*
Deep Percolation	3,268	3,665	3,915	5,376	8,018	8,401
General Head Boundary Conditions	0	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0
Groundwater Pumping	-6,159	-4,477	-7,989	-7,975	-14,553	-11,792
Total Subsurface Inflow	1,674	487	472	-475	5,241	3,086
Average Annual Change in Storage	-916	185	-805	-40	-628	-233
Total Cumulative Change in Storage	-18,319	9,423	-16,097	-2,042	-12,554	-11,884

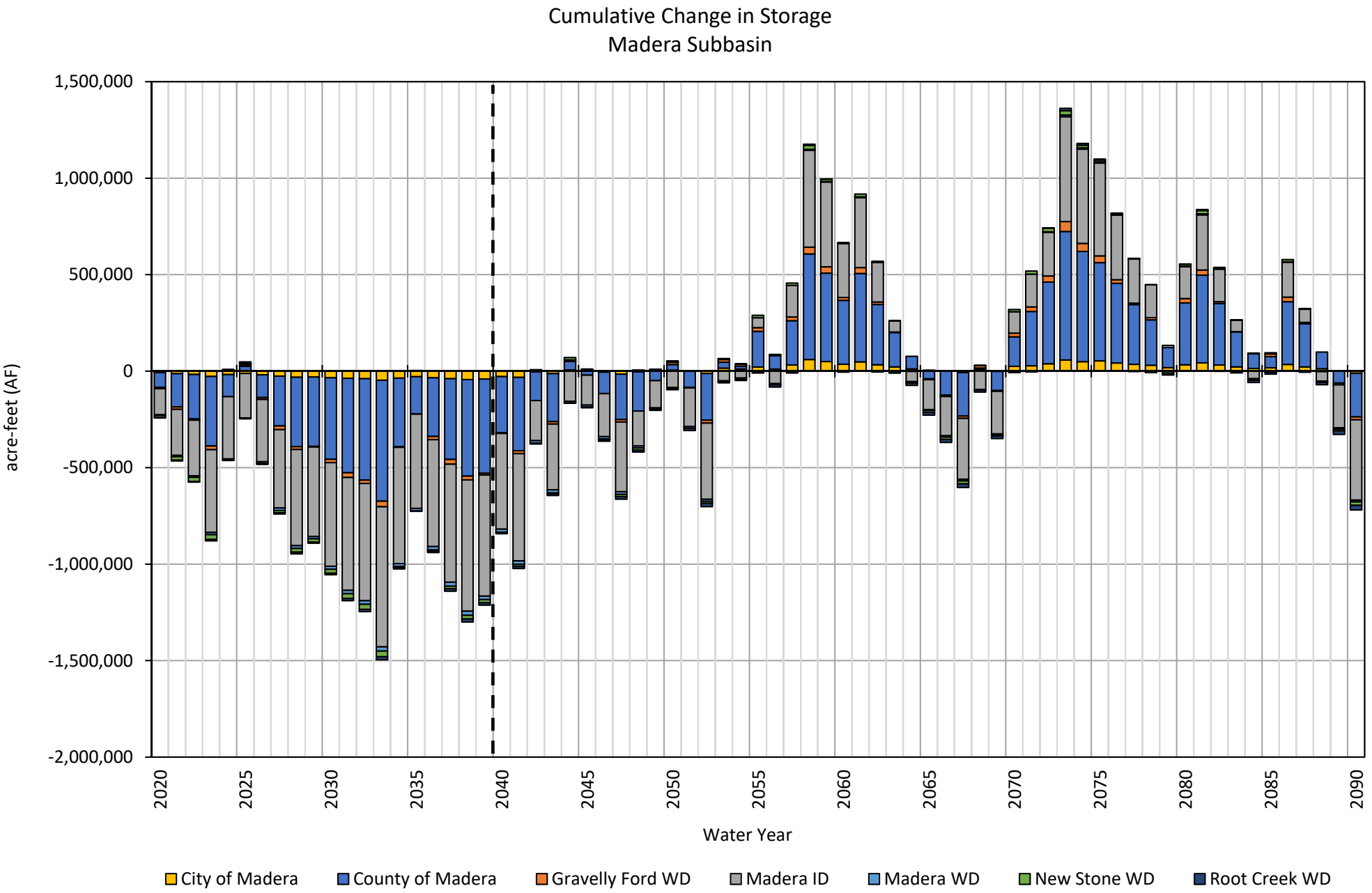

Stream Seepage
Madera Subbasin
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD


Deep Percolation
Madera Subbasin
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD


Groundwater Pumping
Madera Subbasin
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

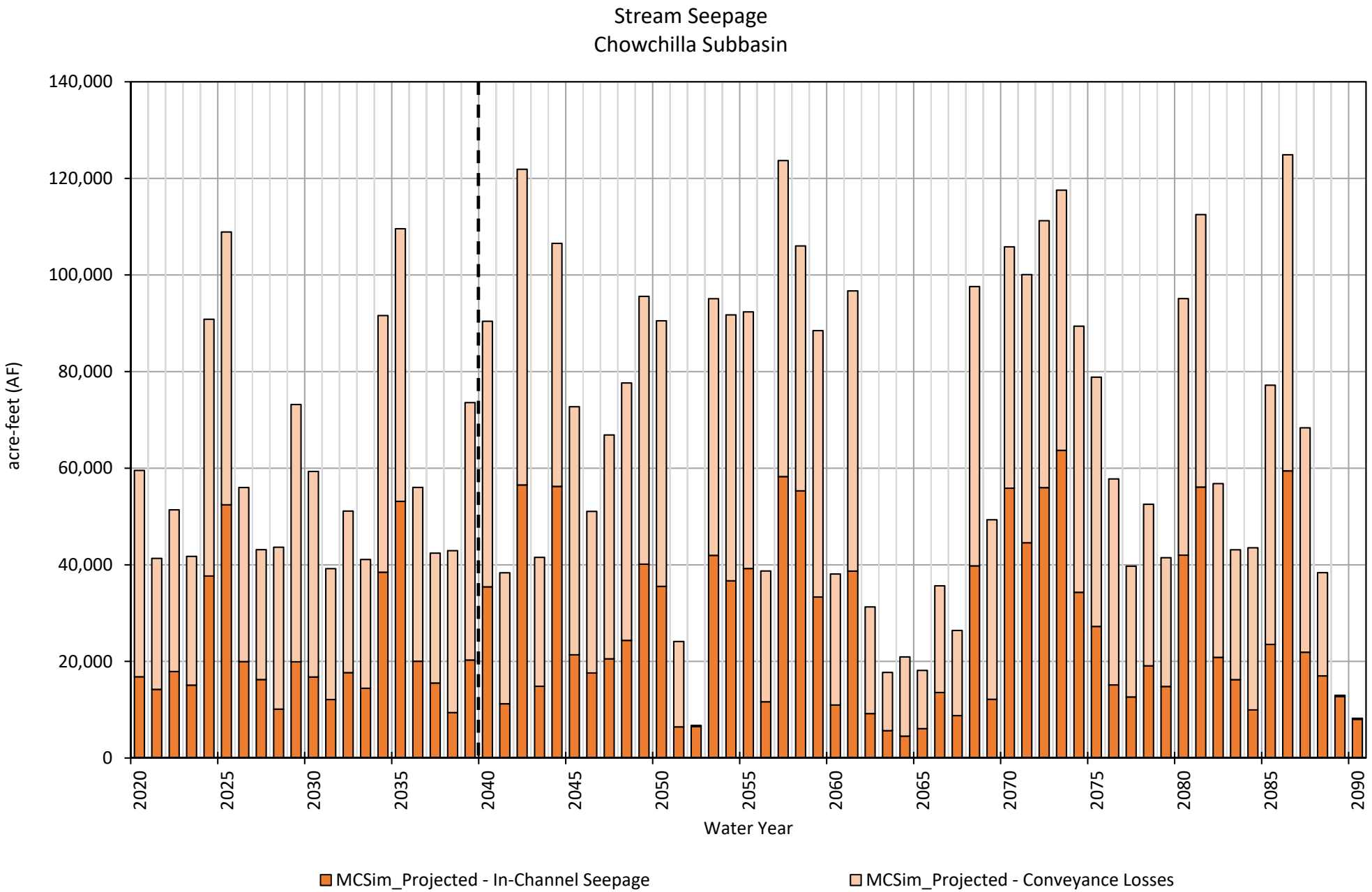

Subsurface Inflow
Madera Subbasin
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

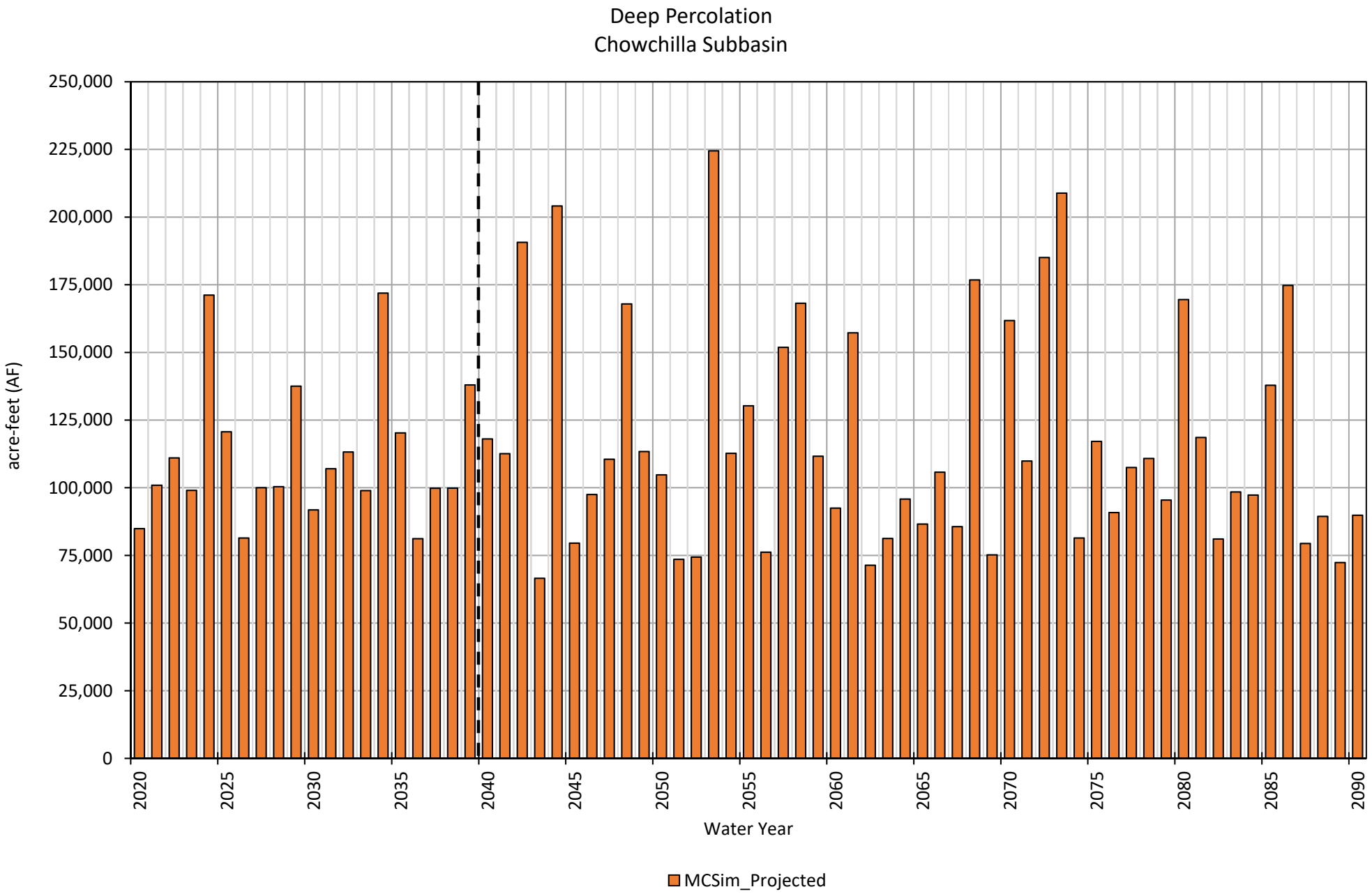

Annual Change in Storage
Madera Subbasin
800,000
600,000
400,000
200,000
0
-200,000
-400,000
-600,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

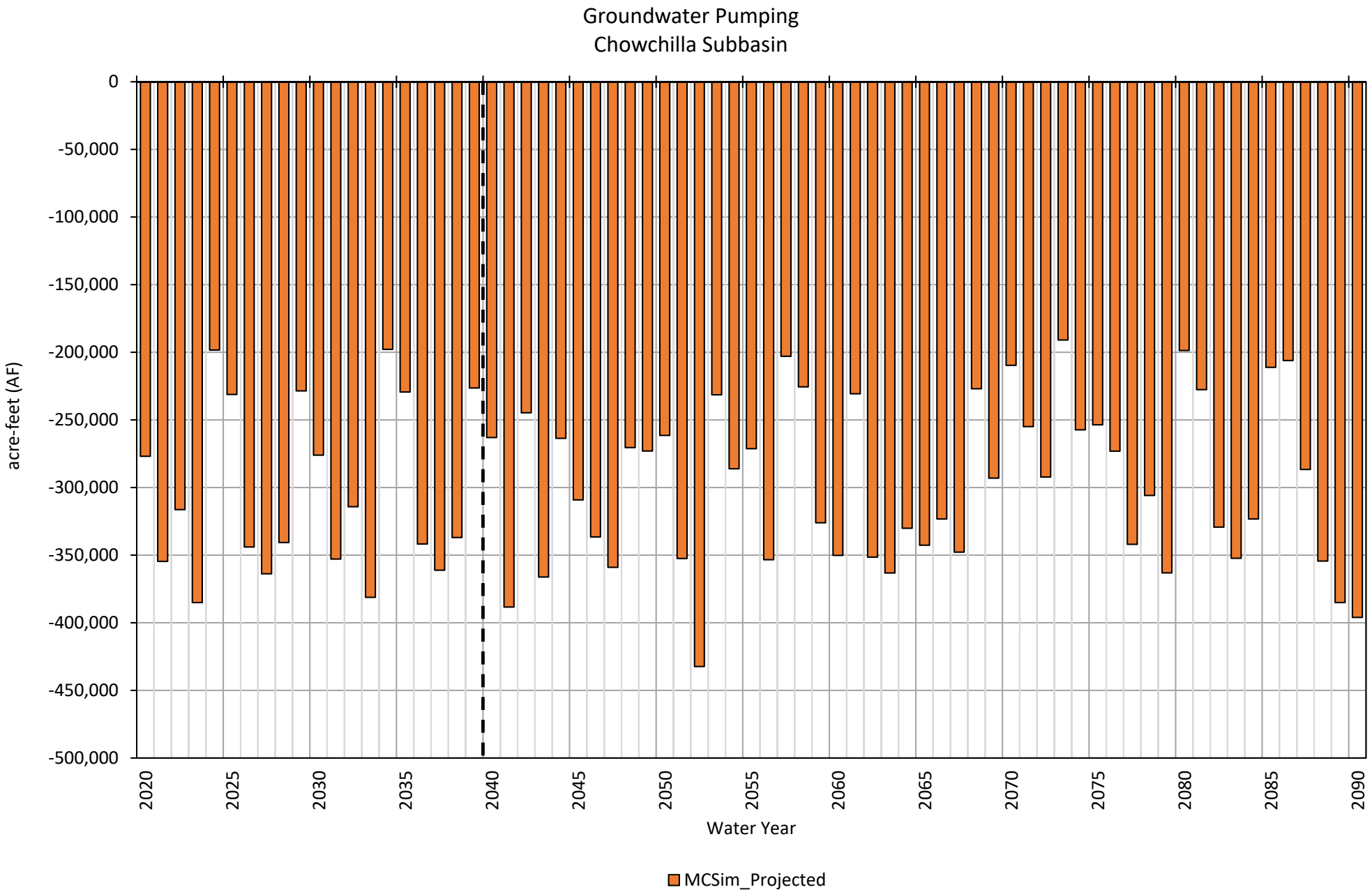

Cumulative Change in Storage
Madera Subbasin
1,500,000
1,000,000
500,000
0
-500,000
-1,000,000
-1,500,000
-2,000,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

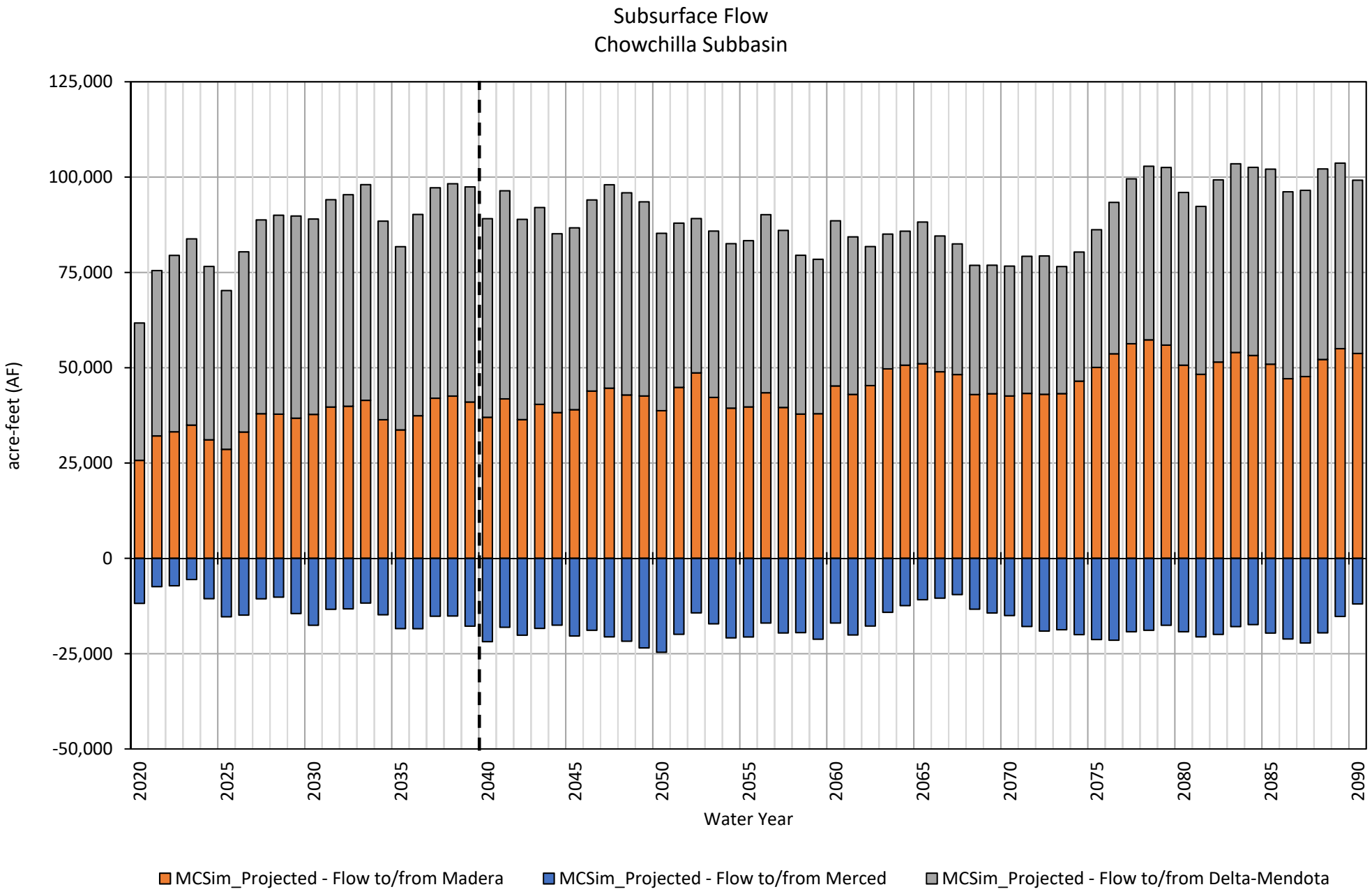
MCSim Projected Water Budget
Chowchilla Subbasin

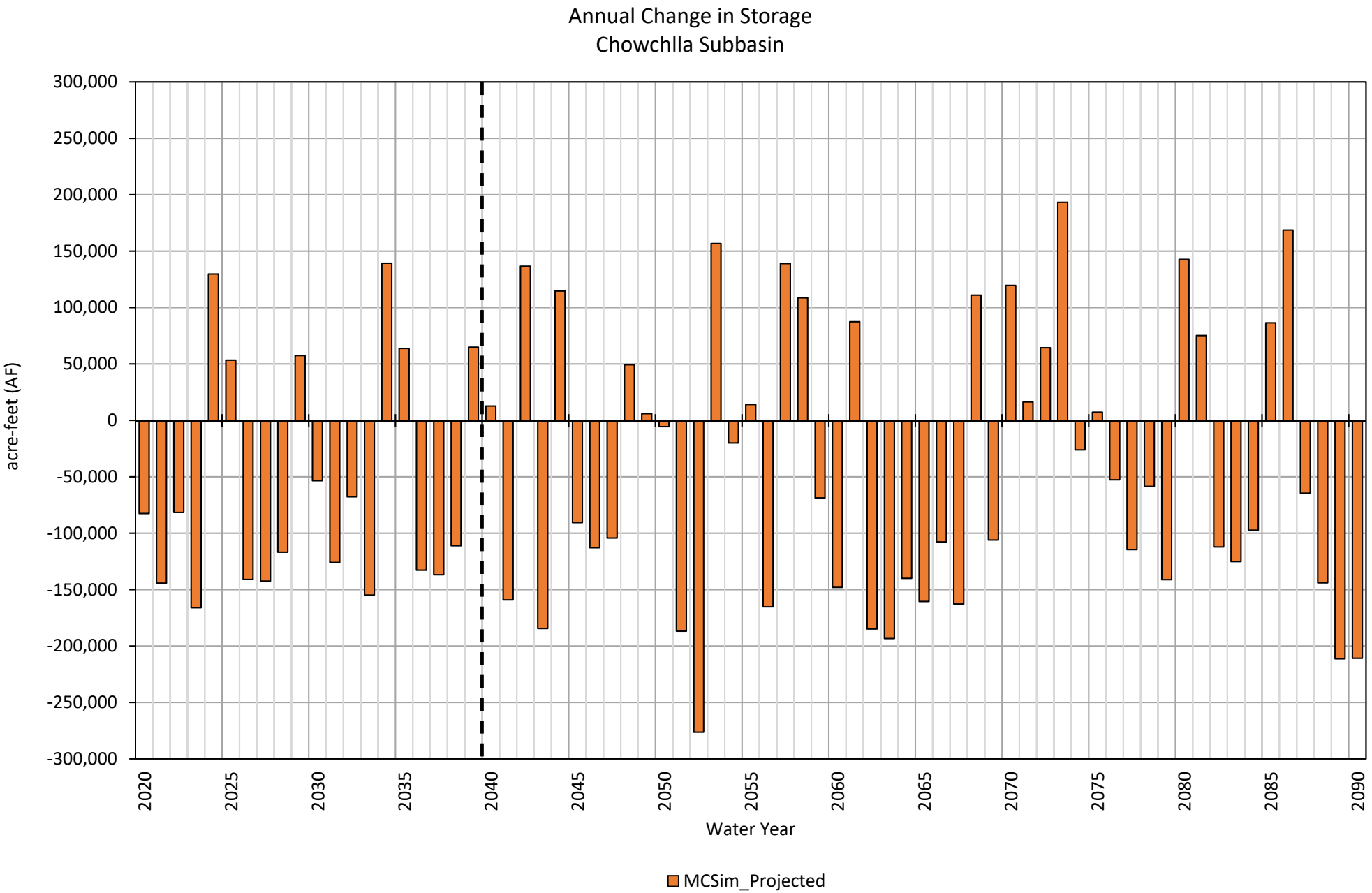
	Average Annual Water Budget (AF/m)	
	Implementation Period 2020-2039	**Sustainability Period 2040-2090**
Total Stream Seepage	60,828	67,205
In-Channel Seepage	*21,913*	*27,524*
Conveyance Losses	*38,915*	*39,681*
Deep Percolation	111,459	117,534
General Head Boundary Conditions	0	0
Small Watershed Baseflow	0	0
Small Watershed Percolation	0	0
Groundwater Pumping	-302,847	-297,844
Total Subsurface Inflow	73,123	71,430
Flow to(+)/from(-) Madera	*36,156*	*45,951*
Flow to(+)/from(-) Merced	*-13,183*	*-18,225*
Flow to(+)/from(-) Delta-Mendota	*50,150*	*43,704*
Average Annual Change in Storage	-57,436	-41,674
Total Cumulative Change in Storage	-1,148,730	-2,125,394

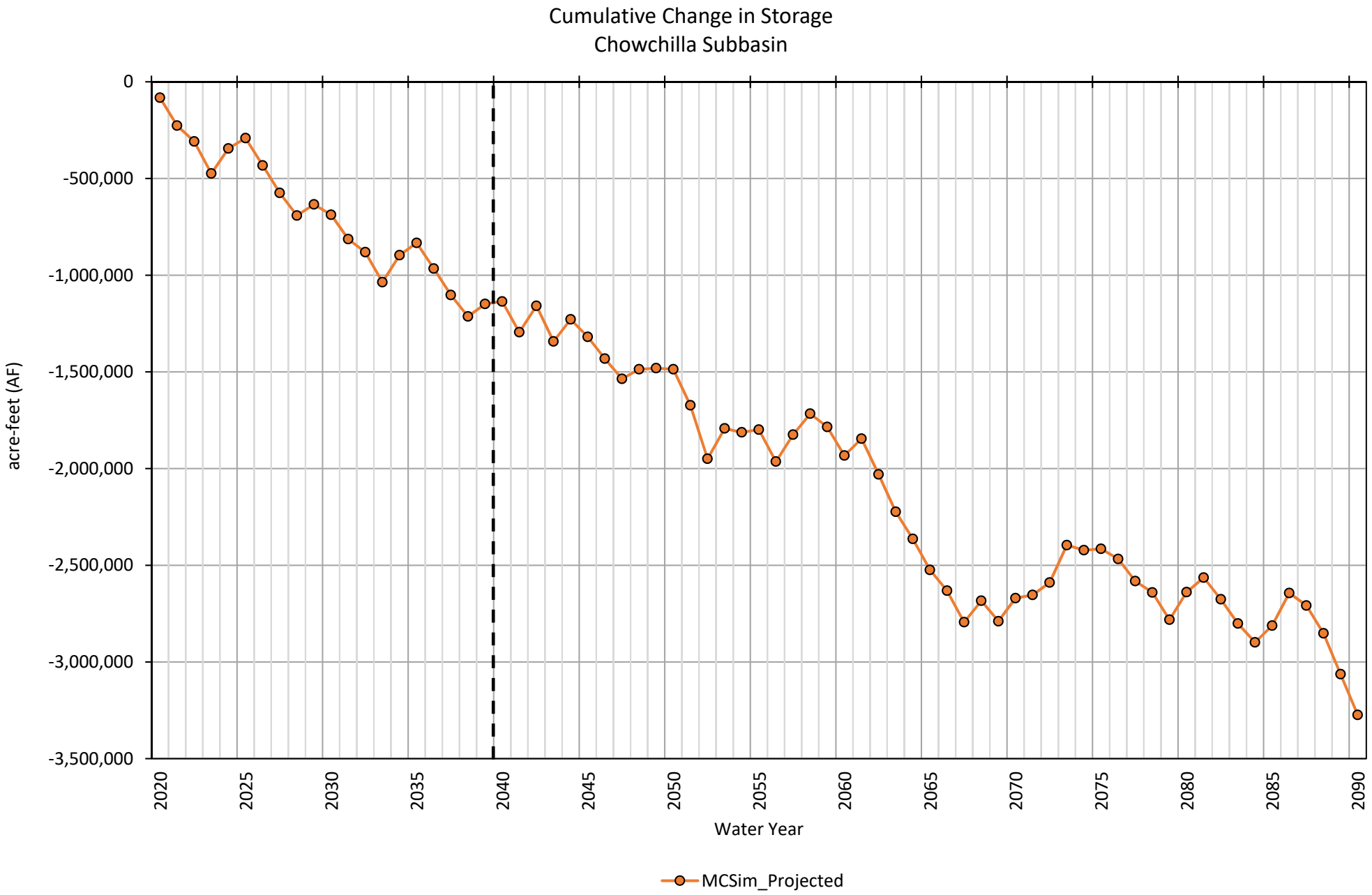

Stream Seepage
Chowchilla Subbasin
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected - In-Channel Seepage
MCSim_Projected - Conveyance Losses


Deep Percolation
Chowchilla Subbasin
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected


Groundwater Pumping
Chowchilla Subbasin
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
-450,000
-500,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected


Subsurface Flow
Chowchilla Subbasin
125,000
100,000
75,000
50,000
25,000
0
-25,000
-50,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected - Flow to/from Madera
MCSim_Projected - Flow to/from Merced
MCSim_Projected - Flow to/from Delta-Mendota


Annual Change in Storage
Chowchlla Subbasin
300,000
250,000
200,000
150,000
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected

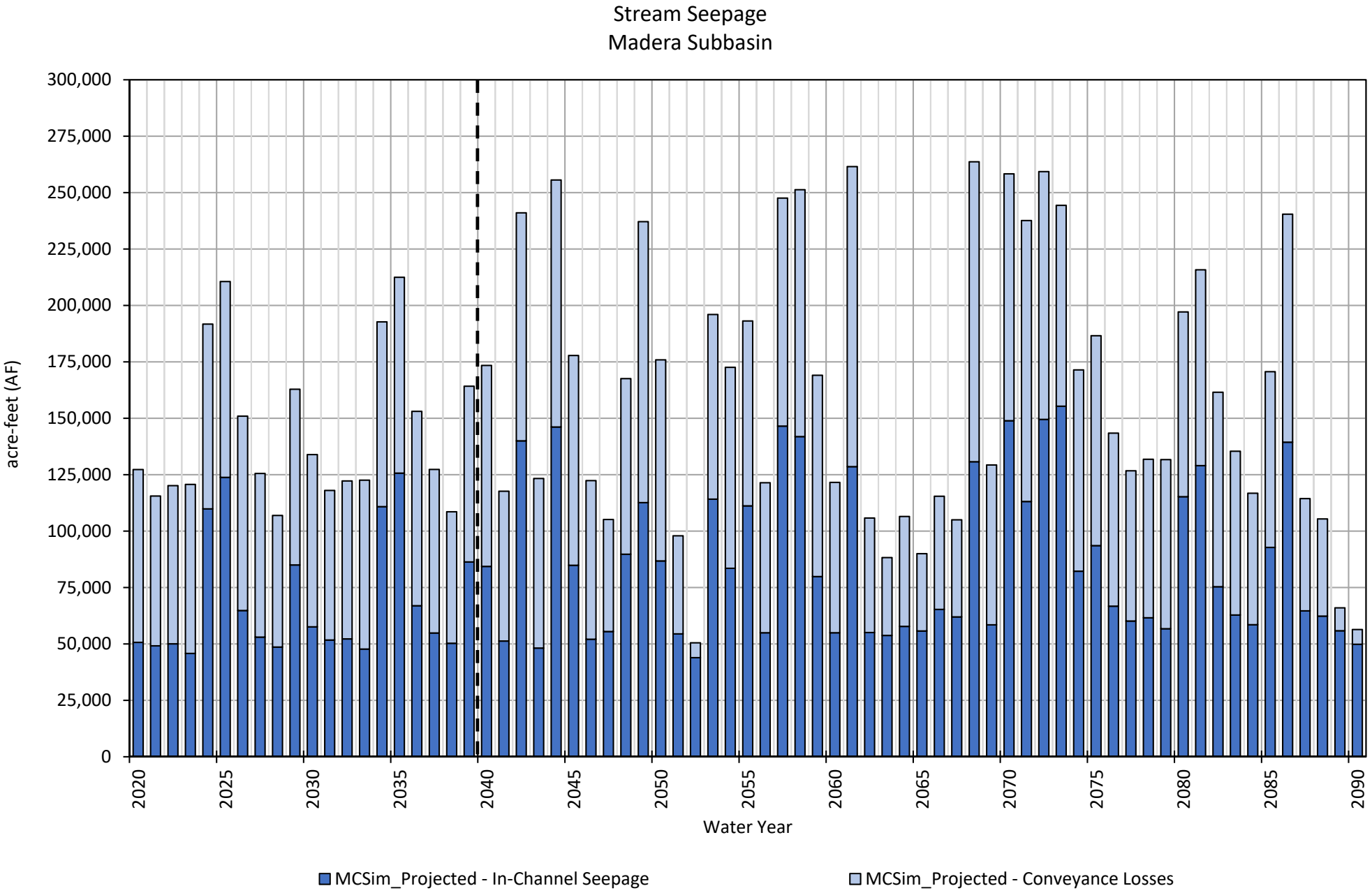


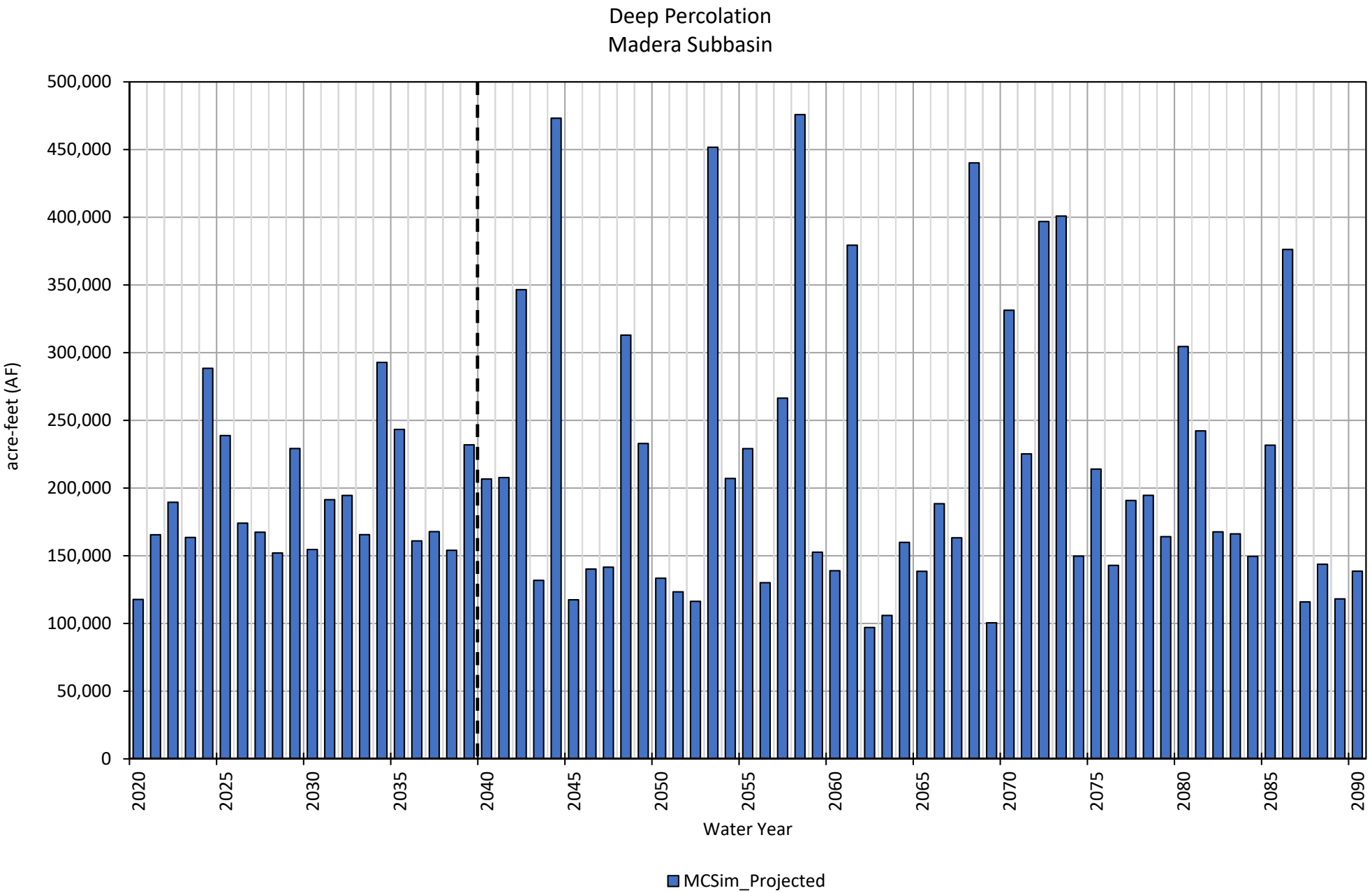
MCSim - Projected, Chowchilla Subbasin

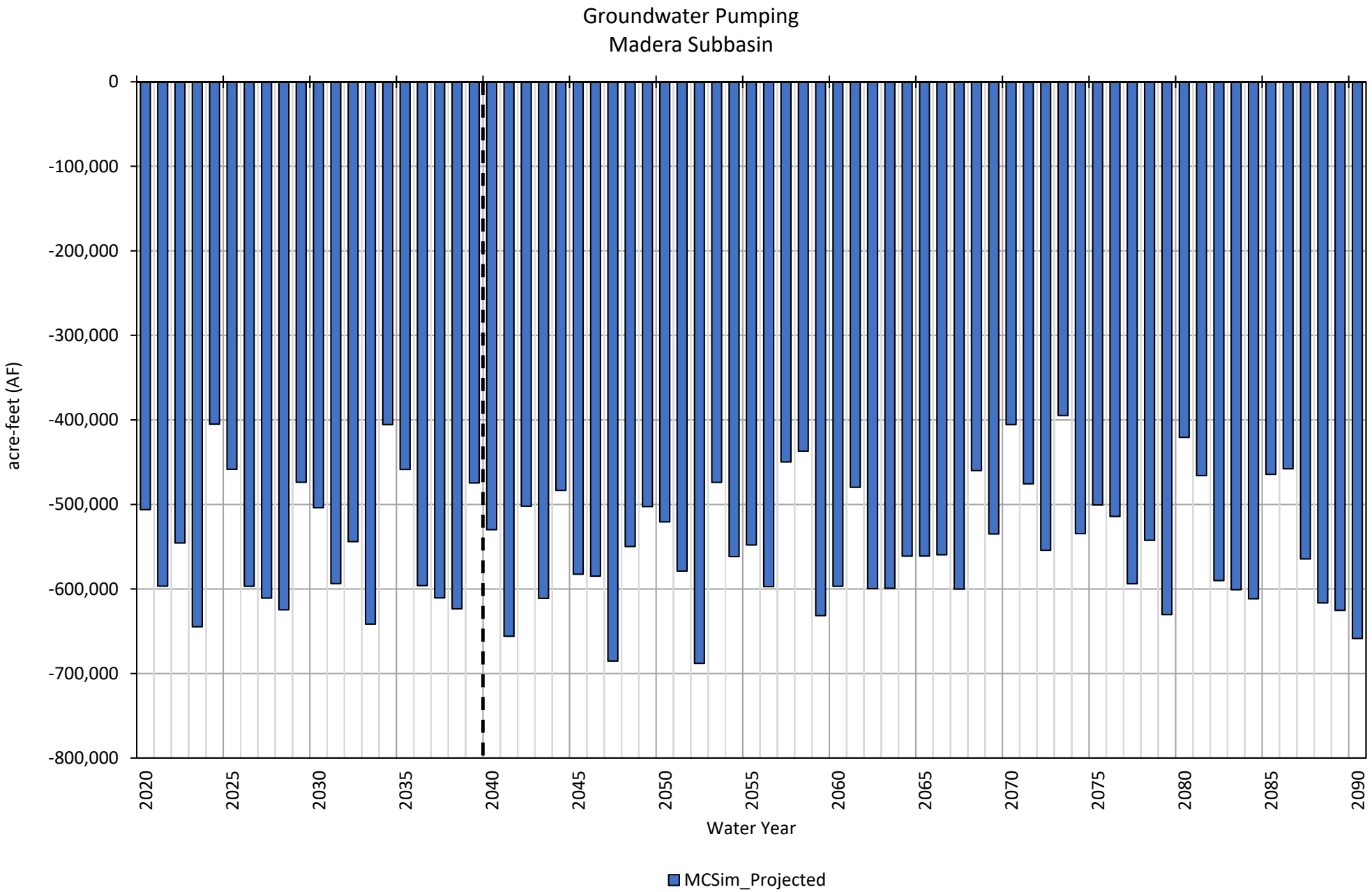
Appendix D.4.a.

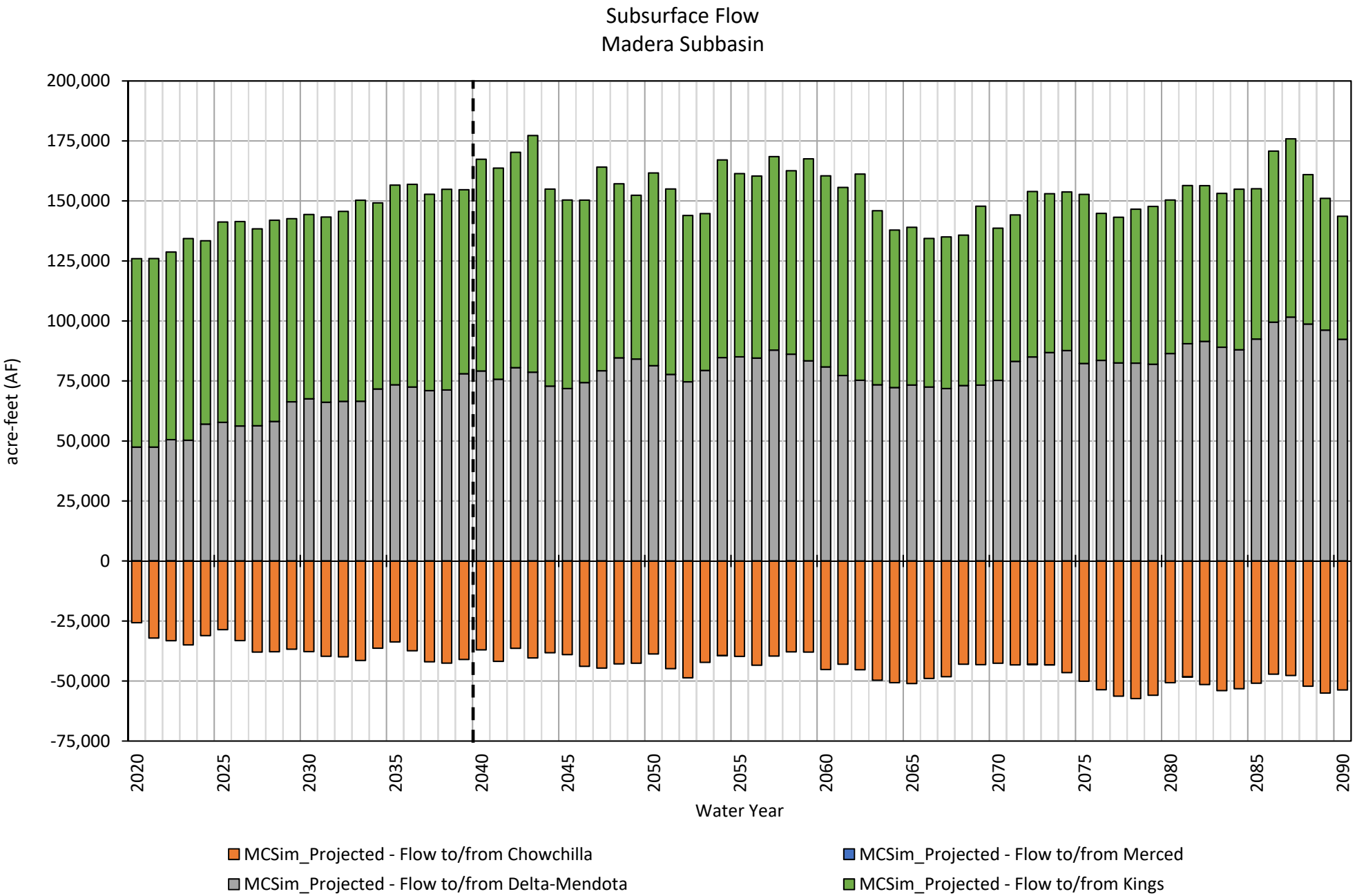
MCSim Projected Water Budget
Madera Subbasin

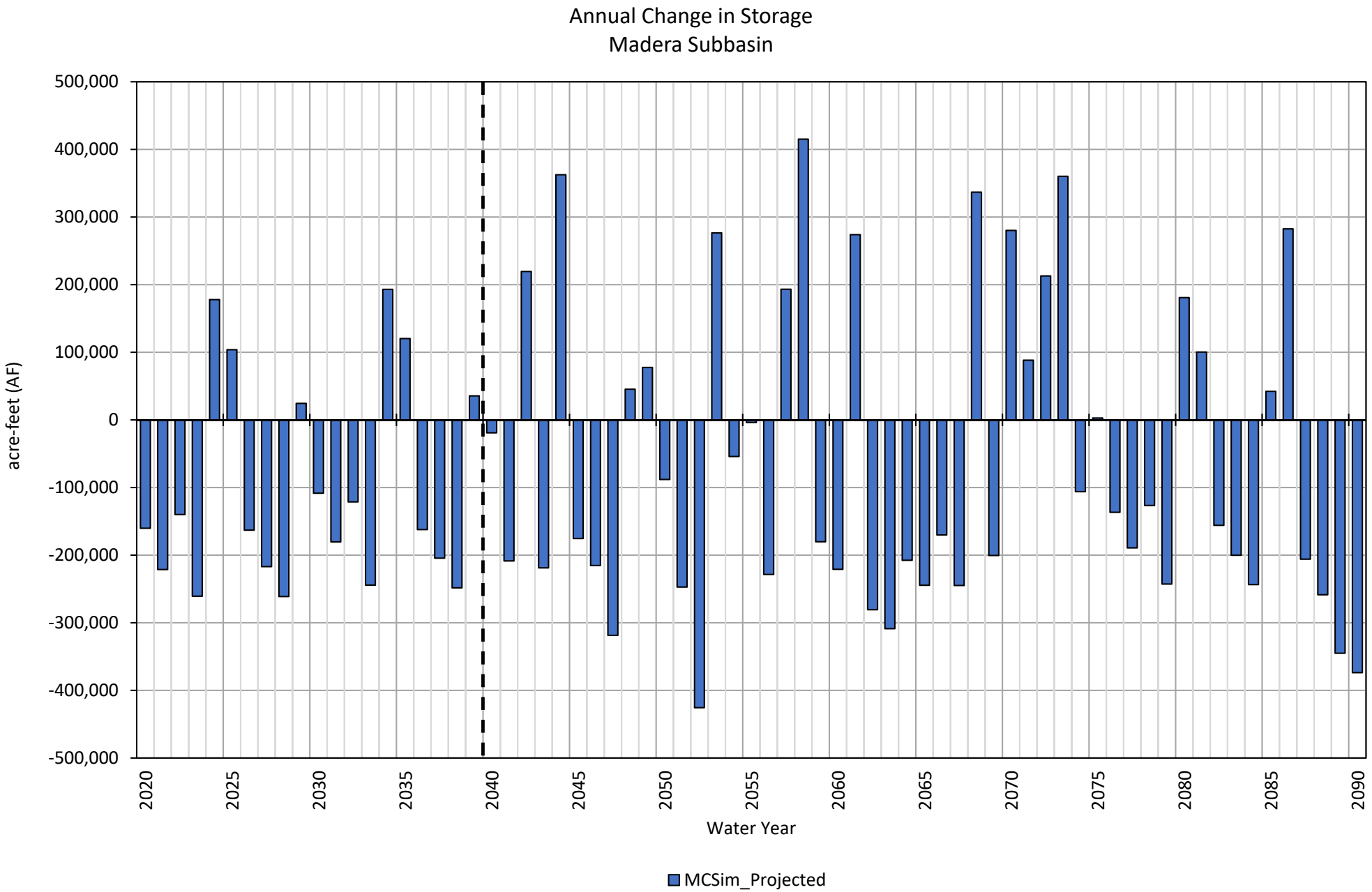
	Average Annual Water Budget (AF/m)	
	Implementation Period 2020-2040	**Sustainability Period 2040-2090**
Total Stream Seepage	144,372	161,856
In-Channel Seepage	69,255	86,240
Conveyance Losses	75,117	75,616
Deep Percolation	192,180	217,143
General Head Boundary Conditions	0	0
Small Watershed Baseflow	313	148
Small Watershed Percolation	0	0
Groundwater Pumping	-545,727	-548,011
Total Subsurface Inflow	106,974	108,189
Flow to(+)/from(-) Chowchilla	-36,156	-45,951
Flow to(+)/from(-) Merced	63	42
Flow to(+)/from(-) Delta-Mendota	62,545	82,435
Flow to(+)/from(-) Kings	80,521	71,663
Average Annual Change in Storage	-101,888	-60,676
Total Cumulative Change in Storage	-2,037,765	-3,094,457

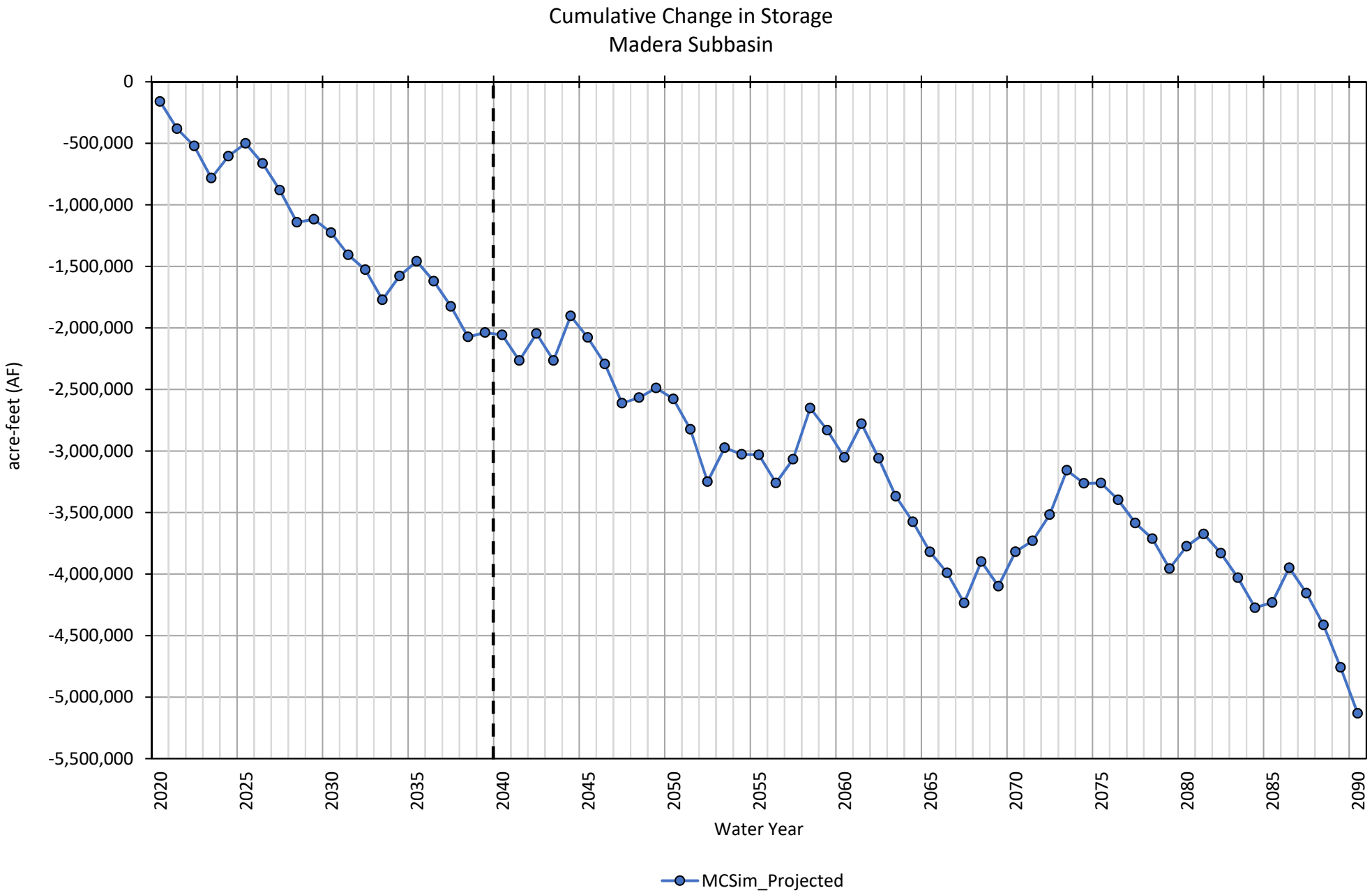

Stream Seepage
Madera Subbasin
acre-feet (AF)
300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected - In-Channel Seepage
MCSim_Projected - Conveyance Losses


Deep Percolation
Madera Subbasin
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected


Groundwater Pumping
Madera Subbasin
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected


Subsurface Flow
Madera Subbasin
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
-25,000
-50,000
-75,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected - Flow to/from Chowchilla
MCSim_Projected - Flow to/from Merced
MCSim_Projected - Flow to/from Delta-Mendota
MCSim_Projected - Flow to/from Kings


Annual Change in Storage
Madera Subbasin
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected

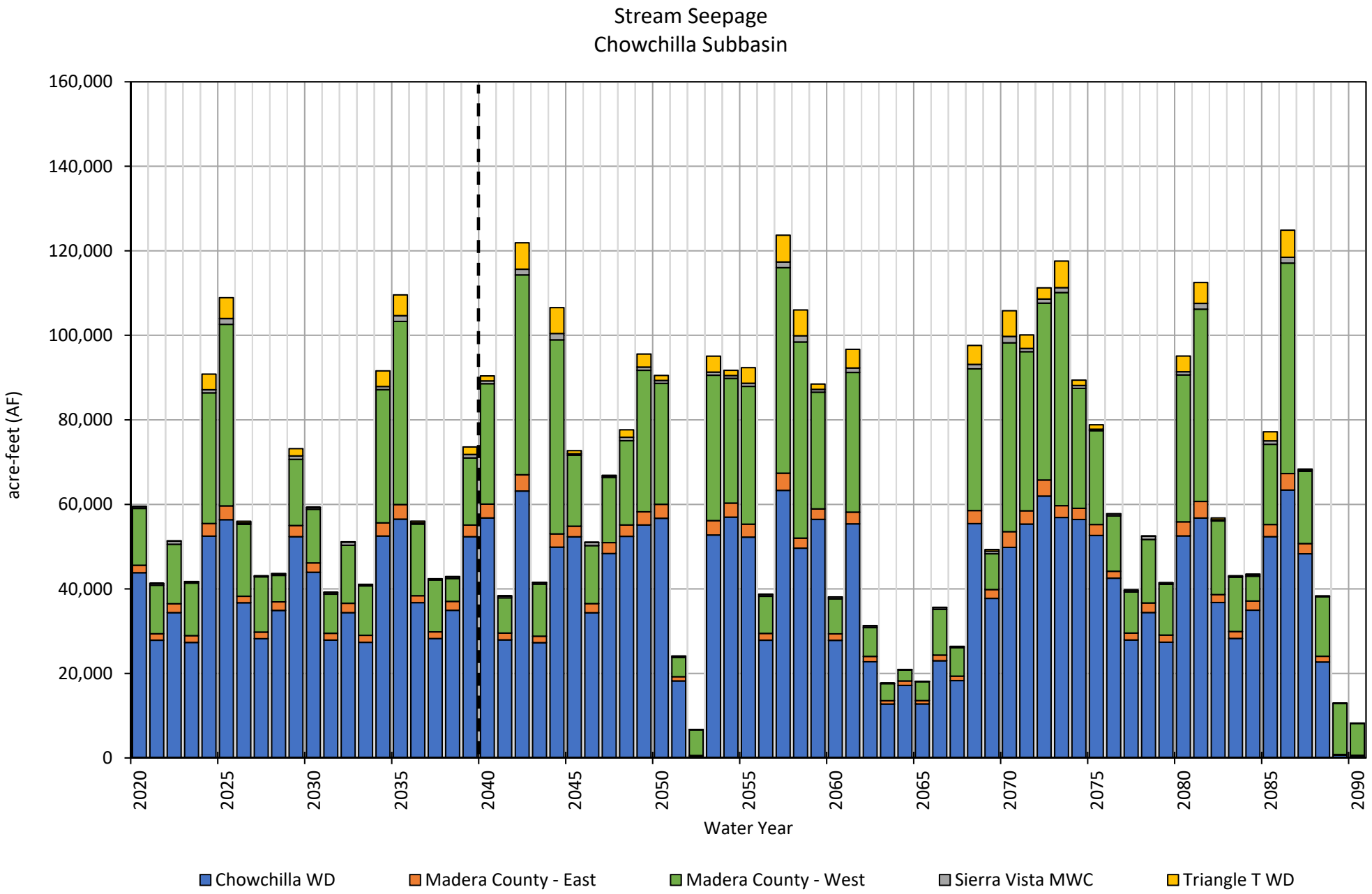


MCSim - Projected, Madera Subbasin

Appendix D.4.b.

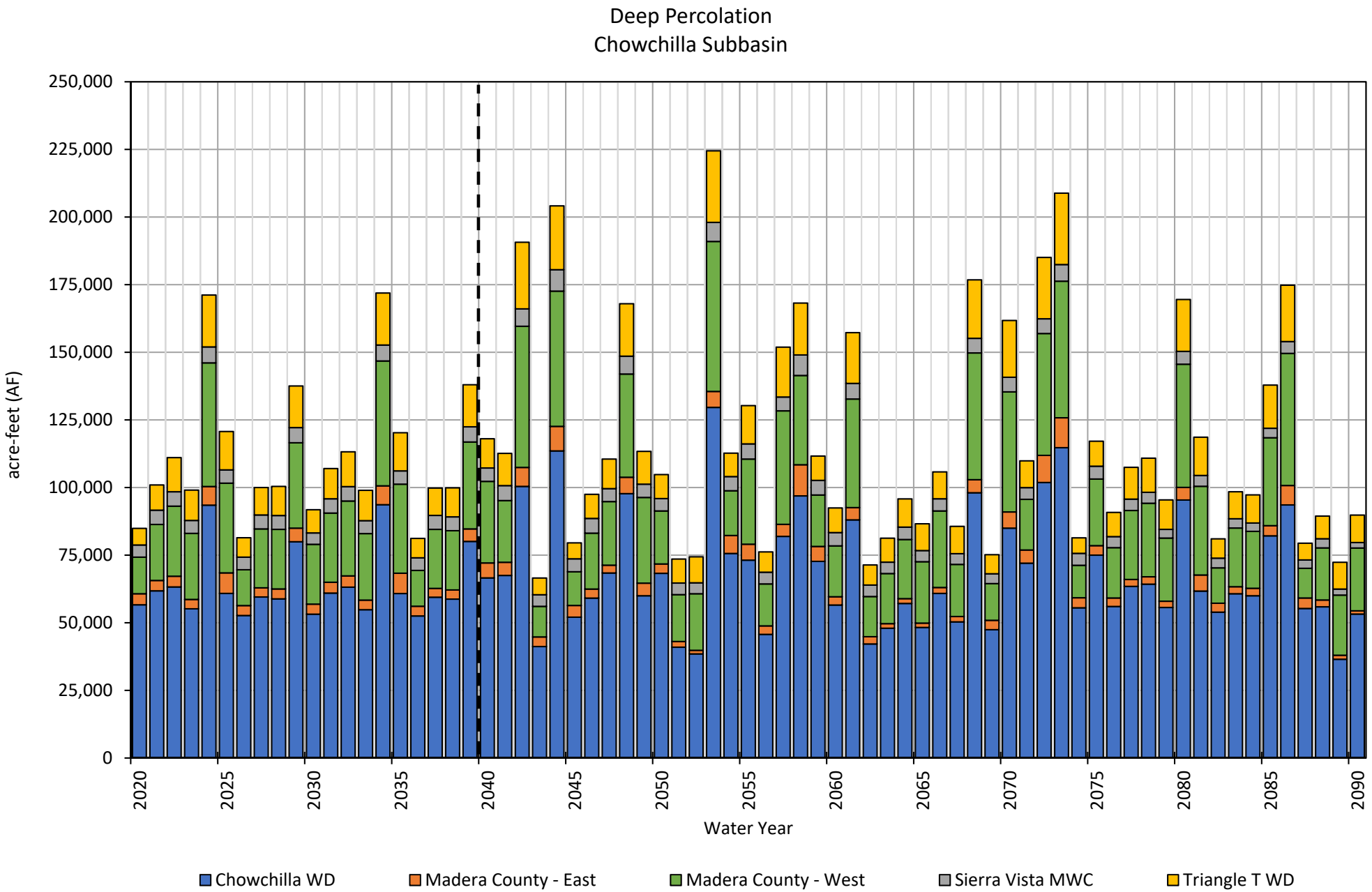
MCSim Projected Water Budget by GSA
Chowchilla Subbasin

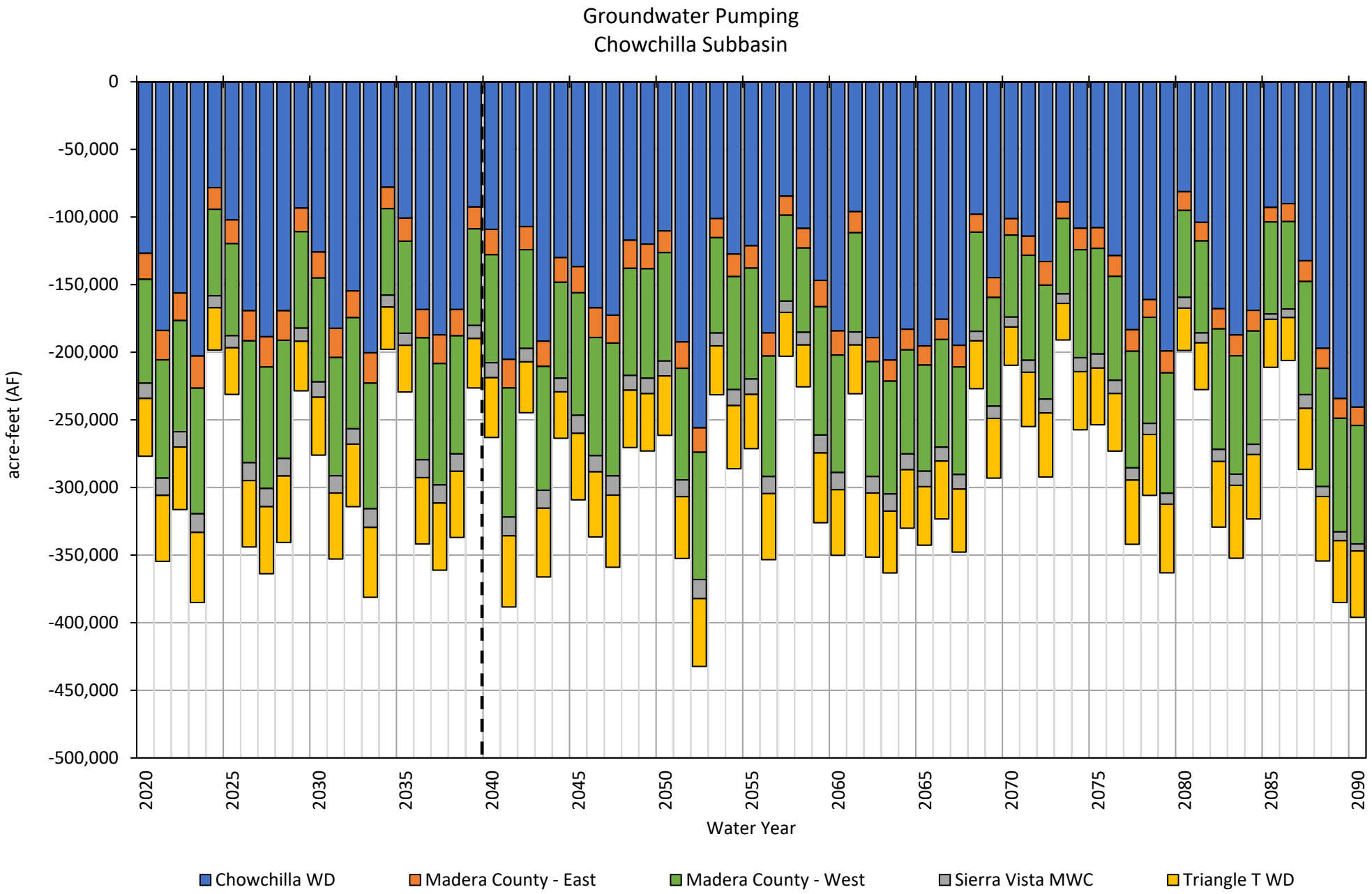
	Average Annual Water Budget (AF/m)									
	Chowchilla Water District		Madera County - East		Madera County - West		Sierra Vista Mutual Water Company		Triangle T Water District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	39,466	40,162	2,172	2,286	17,503	22,329	571	623	1,116	1,804
In-Channel Seepage	*2,521*	*3,043*	*2,073*	*2,237*	*17,048*	*21,732*	*58*	*89*	*214*	*422*
Conveyance Losses	*36,946*	*37,119*	*99*	*49*	*455*	*596*	*513*	*534*	*902*	*1,382*
Deep Percolation	63,978	68,605	4,521	4,278	26,011	27,251	5,102	4,661	11,848	12,740
General Head Boundary Conditions	0	0	0	0	0	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0	0	0	0	0
Groundwater Pumping	-146,469	-148,640	-19,823	-16,046	-80,996	-80,037	-11,618	-10,001	-43,940	-43,120
Total Subsurface Inflow	20,805	20,803	8,066	7,850	26,741	24,002	3,409	3,361	26,146	25,971
Average Annual Change in Storage	-22,221	-19,070	-5,064	-1,632	-10,742	-6,456	-2,536	-1,357	-4,830	-2,604
Total Cumulative Change in Storage	-444,423	-972,552	-101,275	-83,247	-214,836	-329,234	-50,711	-69,183	-96,604	-132,807



MCSim - Projected, Chowchilla Subbasin by GSA

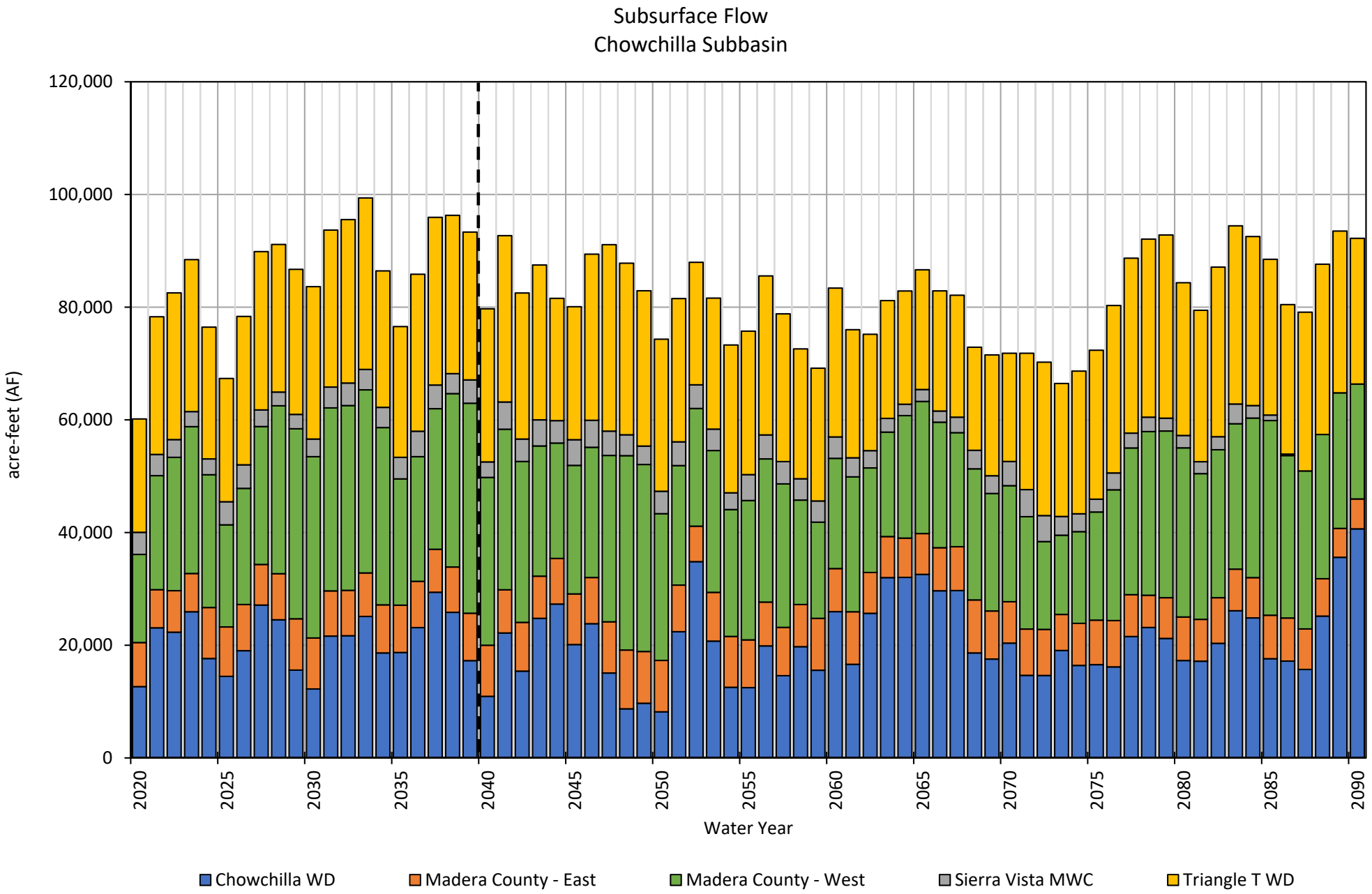
Appendix D.4.c.

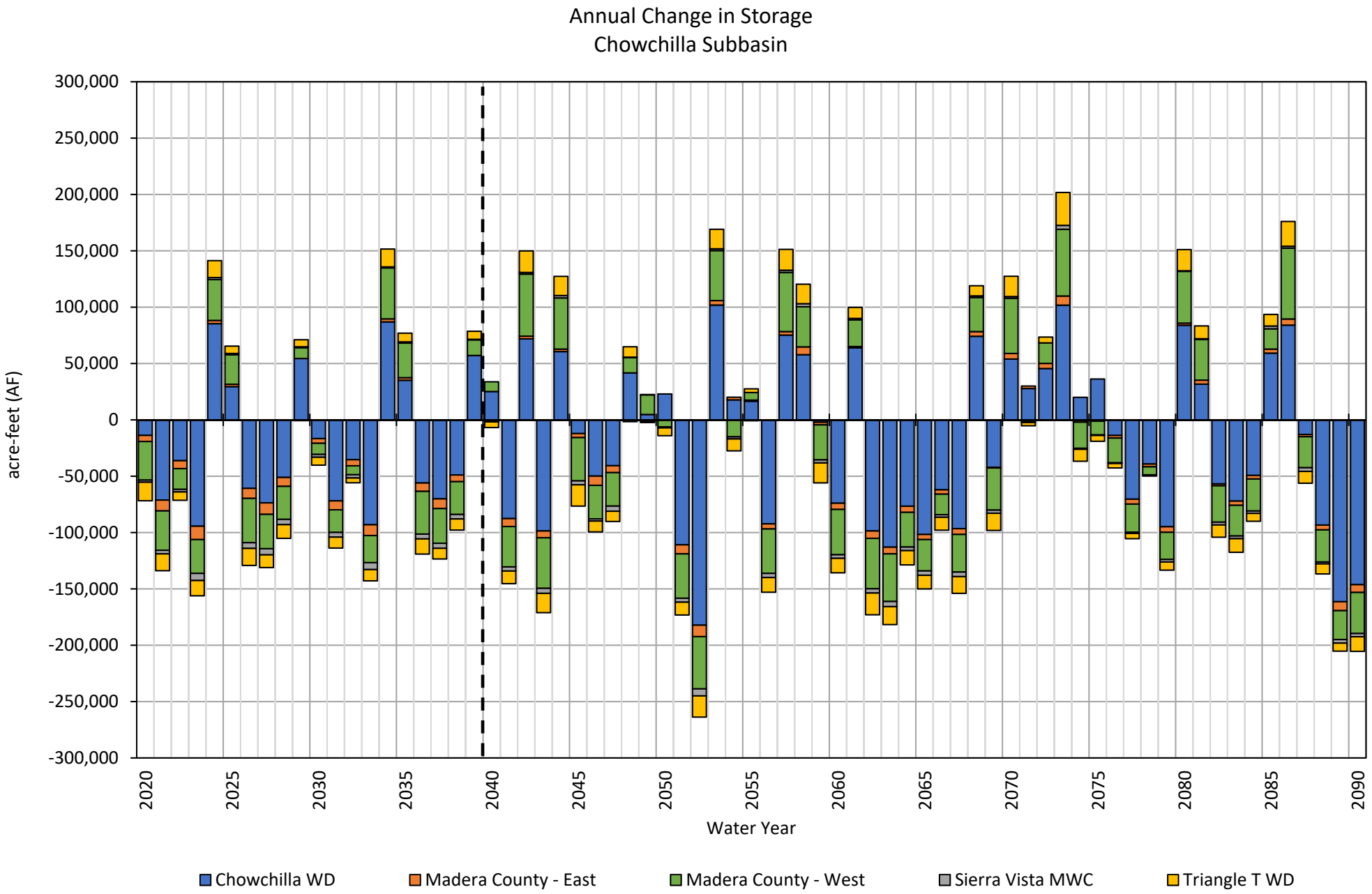

Deep Percolation
Chowchilla Subbasin
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD



MCSim - Projected, Chowchilla Subbasin by GSA

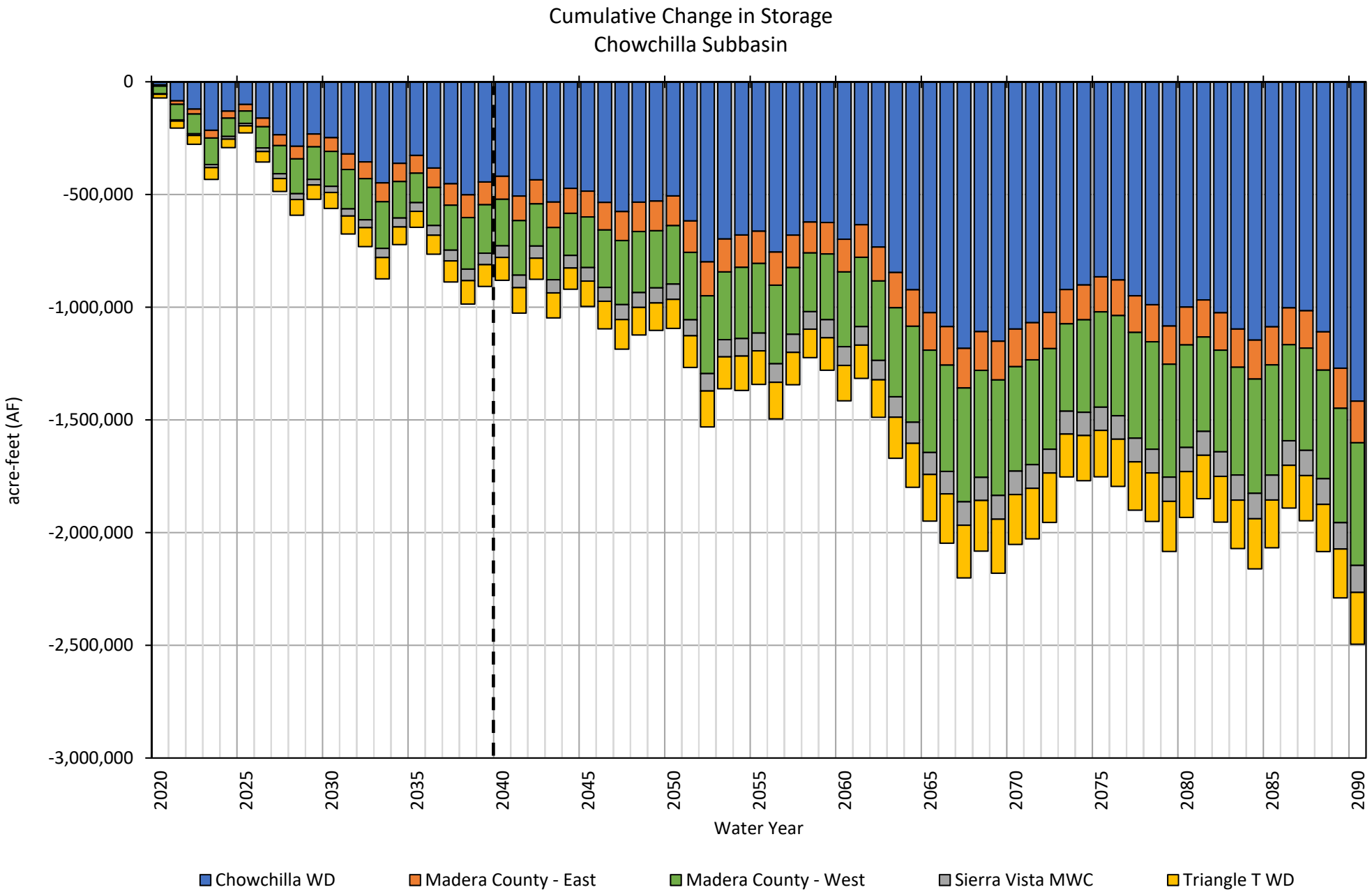
Appendix D.4.c.


Subsurface Flow
Chowchilla Subbasin
120,000
100,000
80,000
60,000
40,000
20,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD



MCSim - Projected, Chowchilla Subbasin by GSA

Appendix D.4.c.

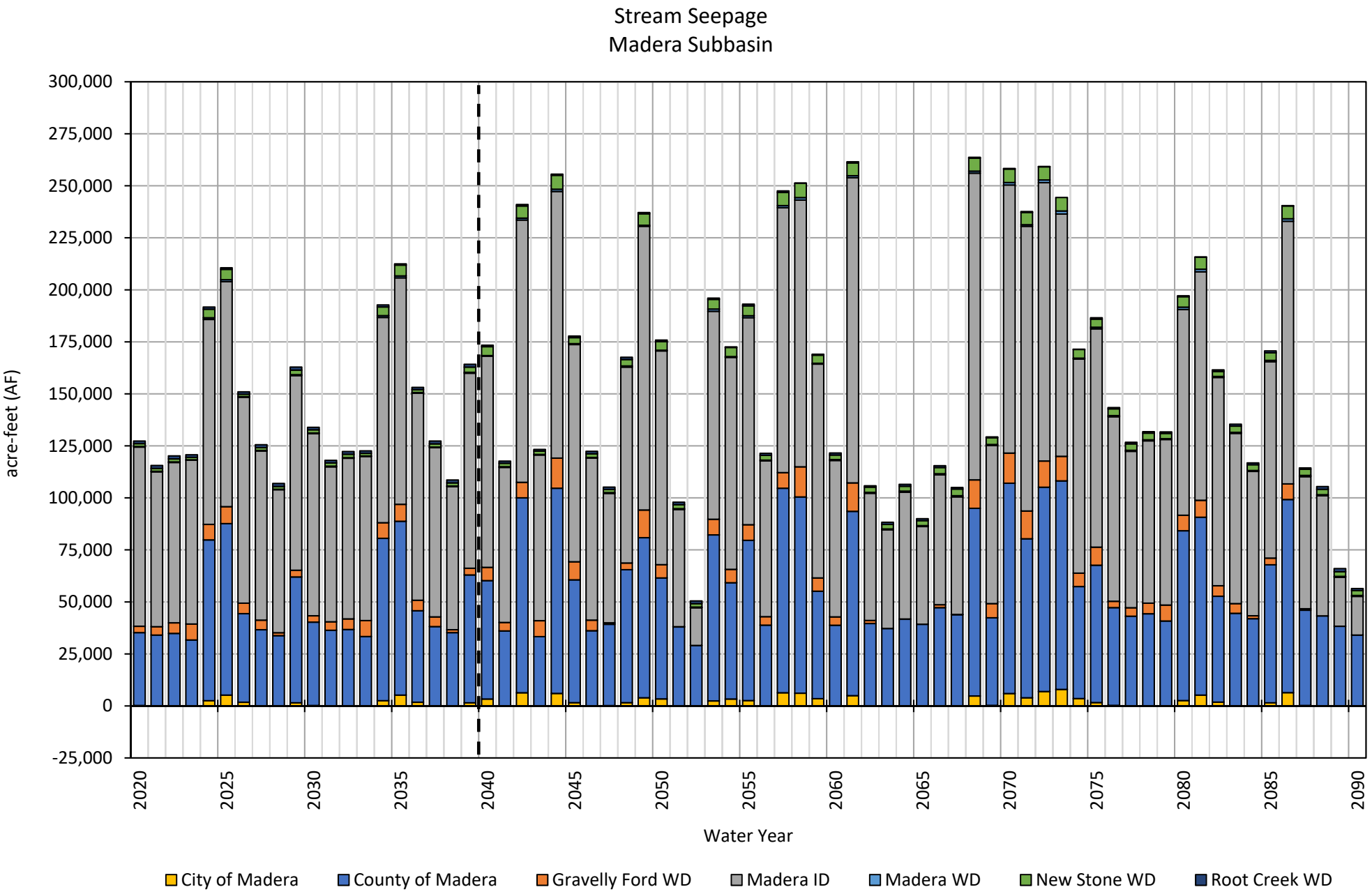

Cumulative Change in Storage
Chowchilla Subbasin
0
-500,000
-1,000,000
-1,500,000
-2,000,000
-2,500,000
-3,000,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

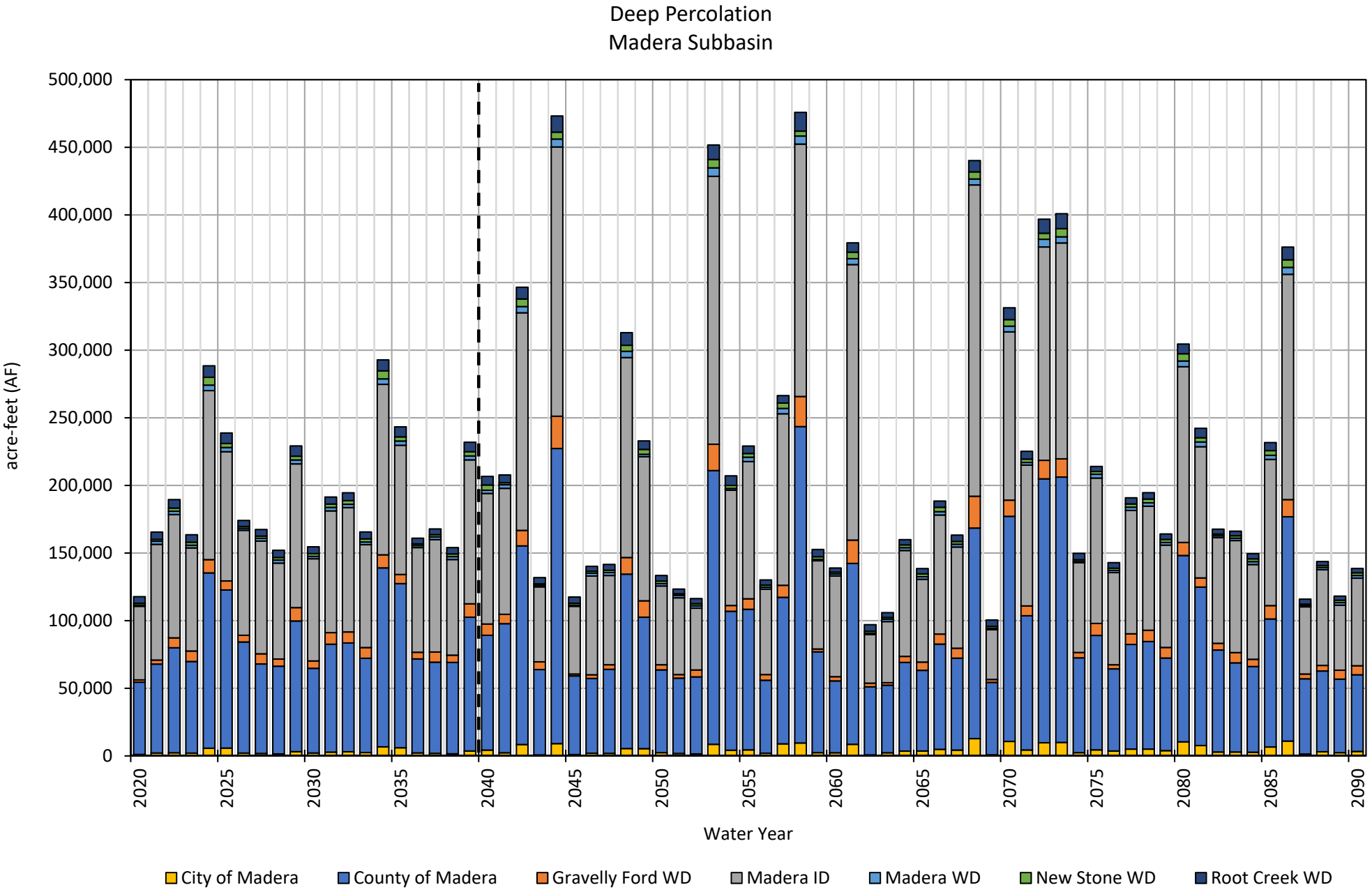
MCSim Projected Water Budget by GSA
Madera Subbasin

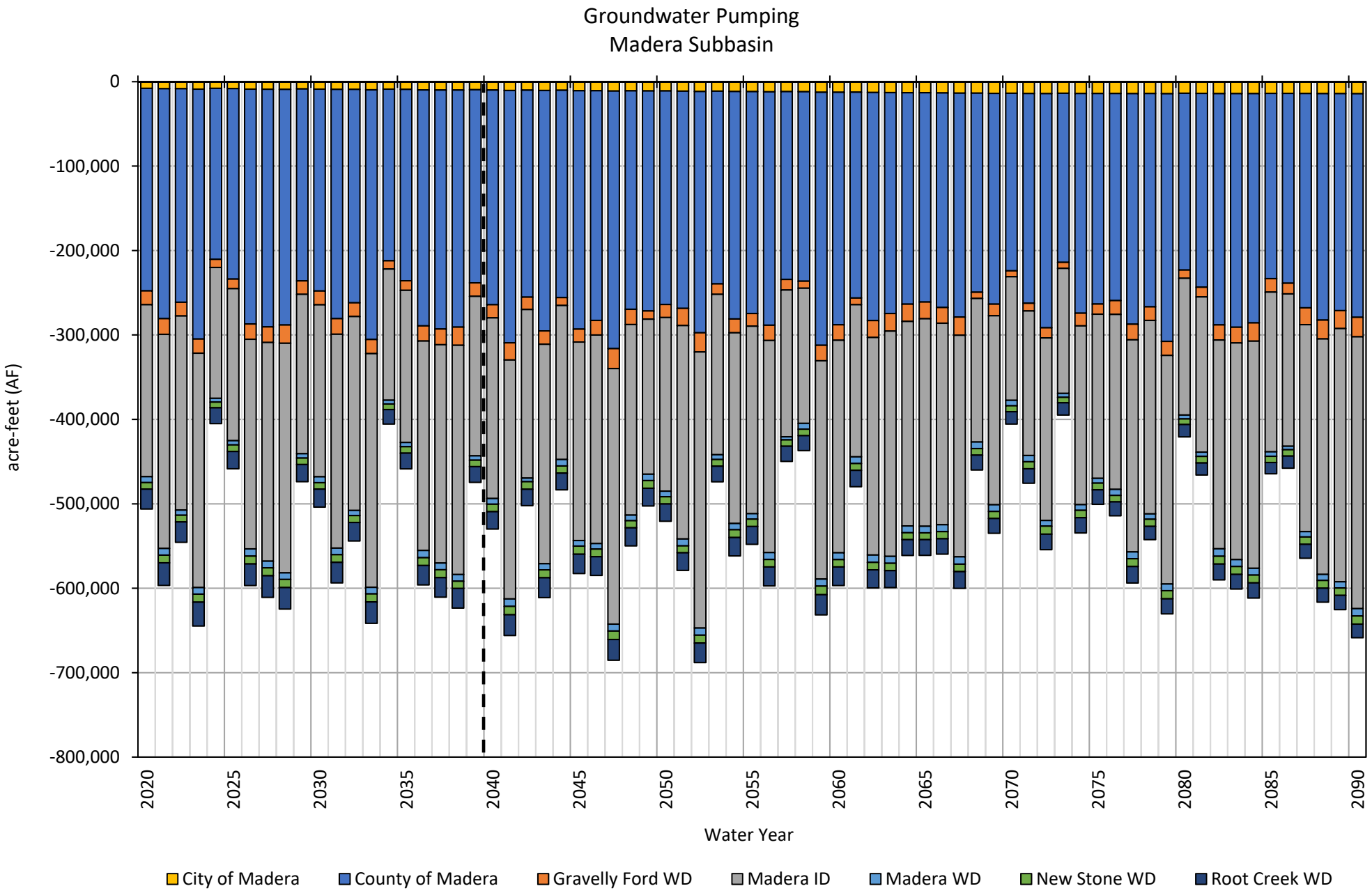
	Average Annual Water Budget (AF/m)							
	City of Madera		Madera County		Gravelly Ford Water District		Madera Irrigation District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	1,141	2,135	47,763	59,190	4,981	5,841	86,744	89,550
In-Channel Seepage	*1,141*	*2,135*	*46,649*	*58,082*	*125*	*267*	*18,452*	*21,476*
Conveyance Losses	*0*	*0*	*1,114*	*1,108*	*4,856*	*5,574*	*68,292*	*68,075*
Deep Percolation	3,014	4,802	83,517	95,596	6,924	8,010	87,954	97,591
General Head Boundary Conditions	0	0	0	0	0	0	0	0
Small Watershed Baseflow	0	0	313	148	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0	0	0
Groundwater Pumping	-8,956	-12,703	-255,805	-256,871	-16,308	-15,936	-226,697	-227,844
Total Subsurface Inflow	2,006	4,159	75,835	77,069	1,950	809	10,970	12,088
Average Annual Change in Storage	-2,796	-1,608	-48,377	-24,869	-2,452	-1,276	-41,030	-28,615
Total Cumulative Change in Storage	-55,911	-81,986	-967,535	-1,268,302	-49,049	-65,066	-820,603	-1,459,340

MCSim Projected Water Budget by GSA
Madera Subbasin

	Average Annual Water Budget (AF/m)					
	Madera Water District		New Stone Water District		Root Creek Water District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	403	631	2,147	3,803	1,192	705
In-Channel Seepage	*403*	*631*	*2,147*	*3,803*	*337*	*-154*
Conveyance Losses	*0*	*0*	*0*	*0*	*855*	*859*
Deep Percolation	2,386	2,649	2,508	2,774	5,877	5,720
General Head Boundary Conditions	0	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0
Groundwater Pumping	-6,778	-7,101	-8,414	-8,601	-22,768	-18,955
Total Subsurface Inflow	2,842	3,232	2,364	1,583	11,008	9,250
Average Annual Change in Storage	-1,147	-589	-1,394	-440	-4,692	-3,280
Total Cumulative Change in Storage	-22,941	-30,020	-27,888	-22,454	-93,837	-167,289

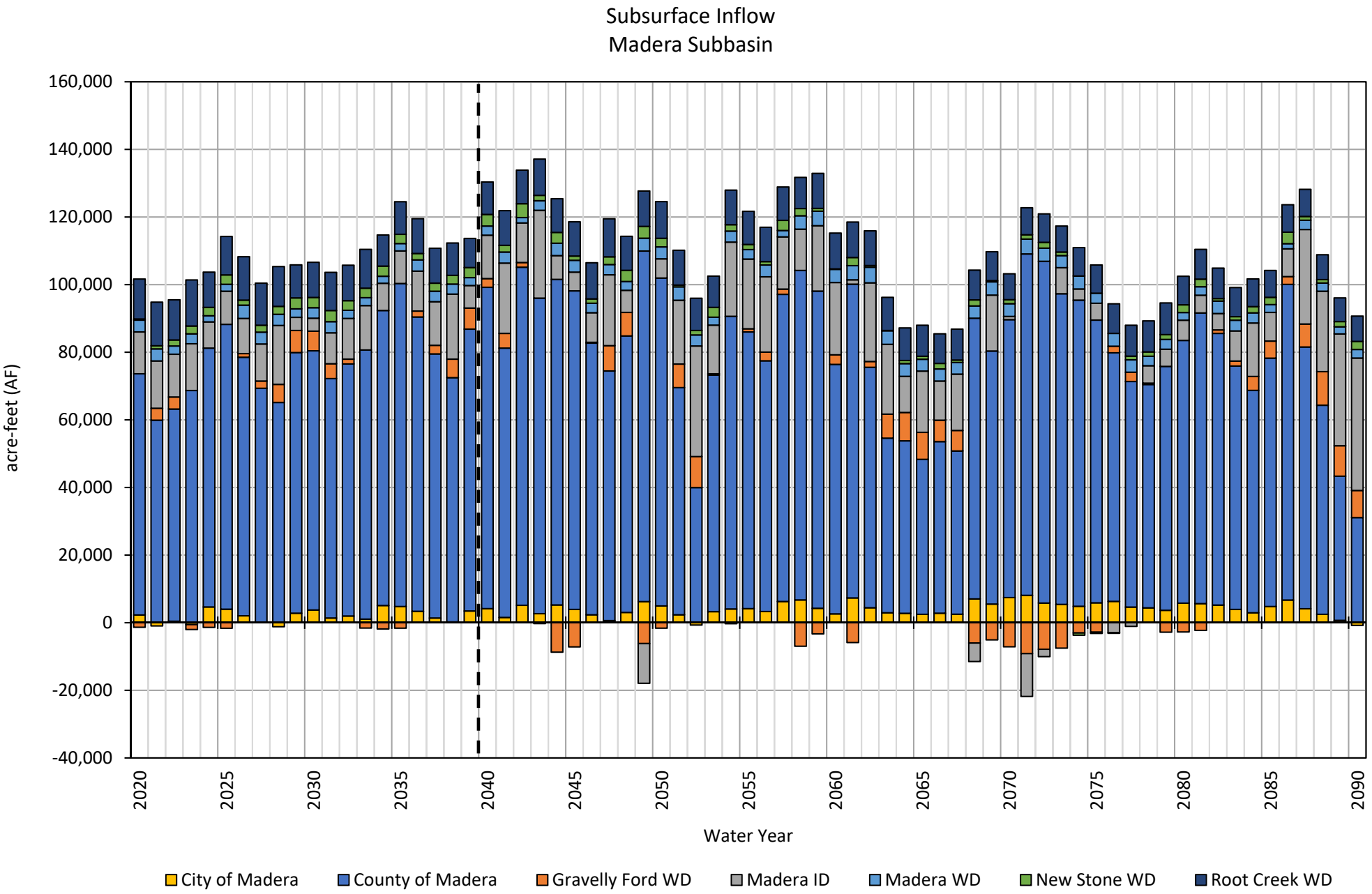

Stream Seepage
Madera Subbasin
acre-feet (AF)
300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
-25,000
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD


Deep Percolation
Madera Subbasin
acre-feet (AF)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD



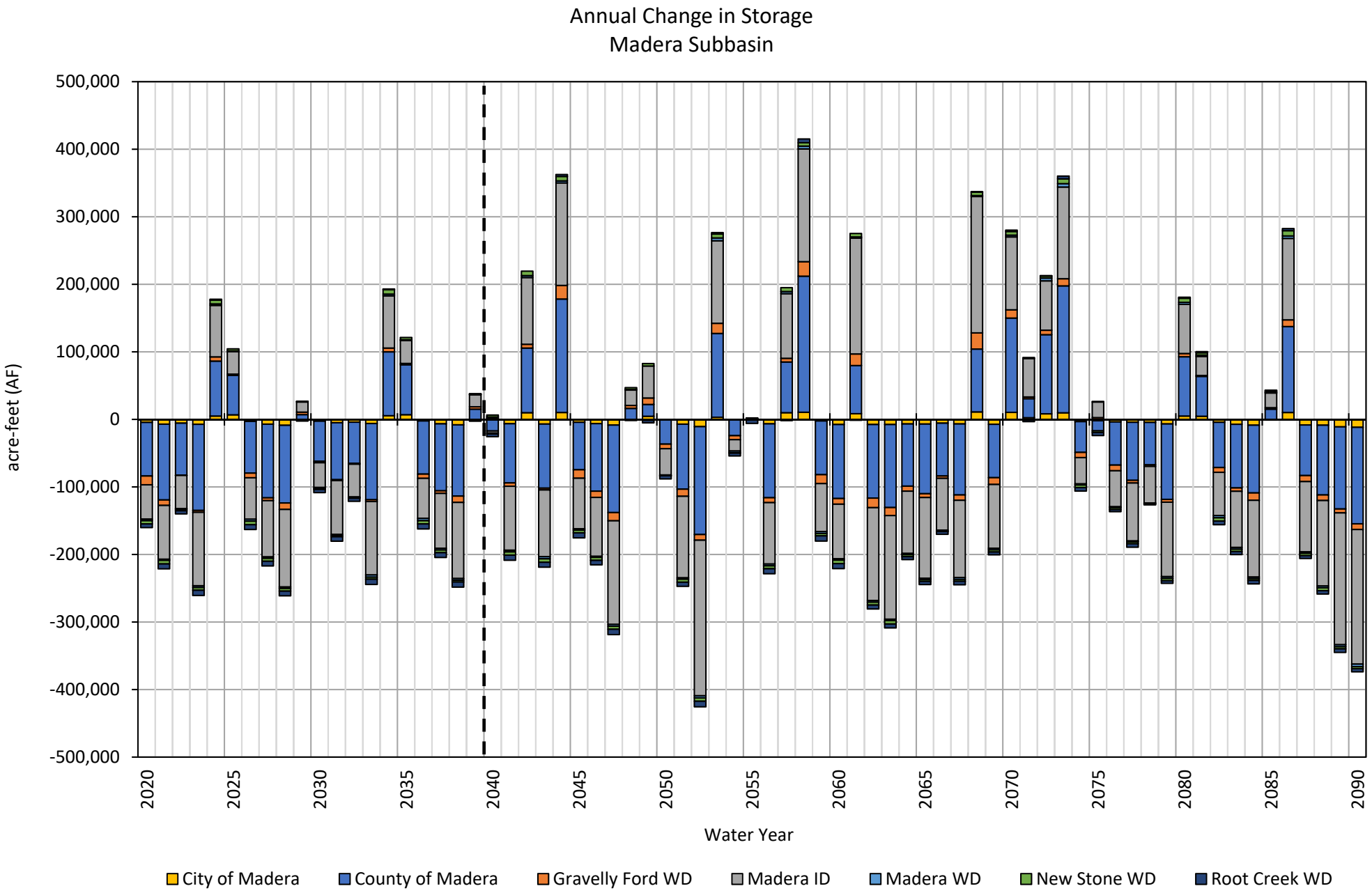
MCSim - Projected, Madera Subbasin by GSA

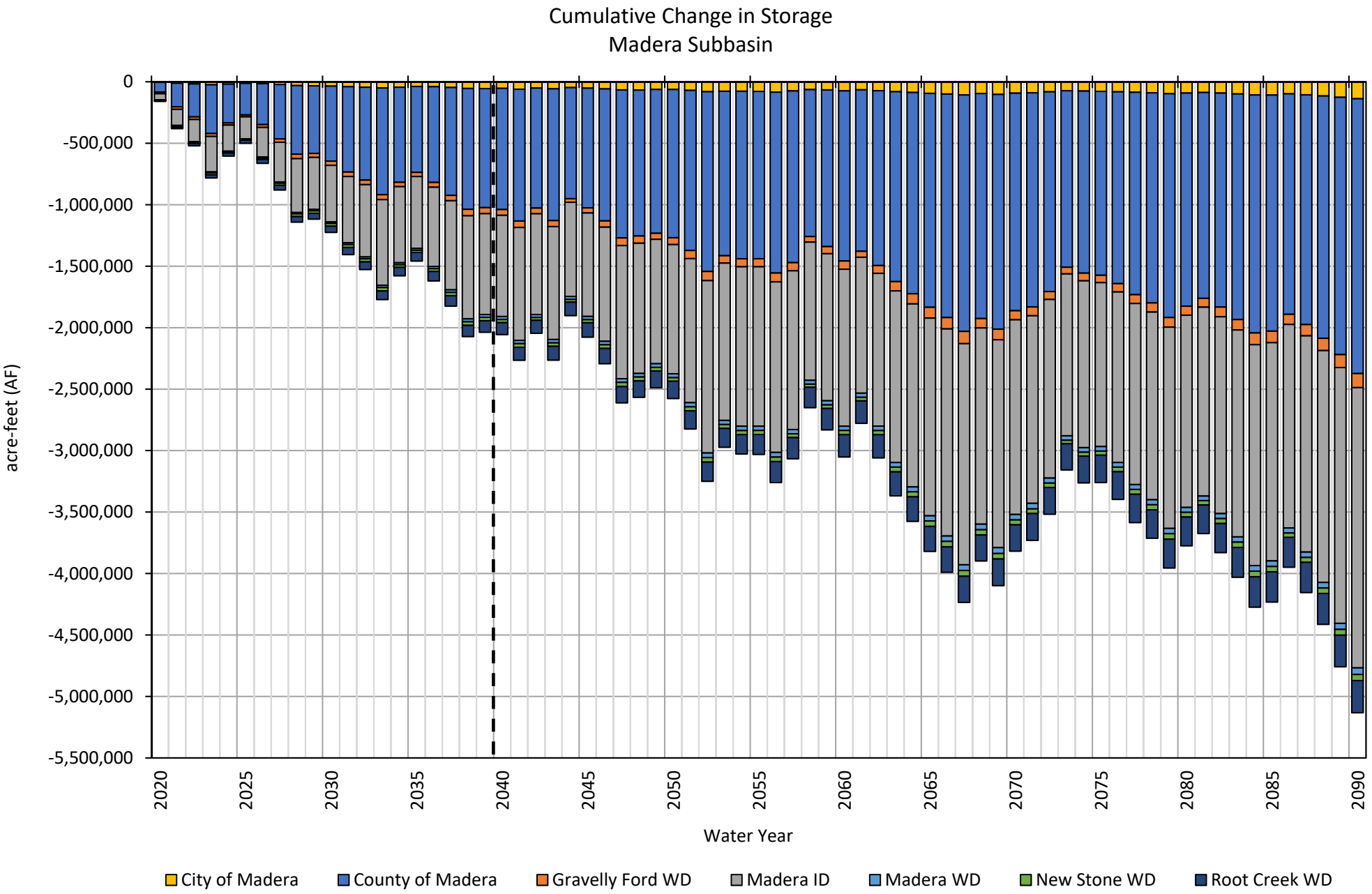
Appendix D.4.d.



MCSim - Projected, Madera Subbasin by GSA

Appendix D.4.d.


Annual Change in Storage
Madera Subbasin
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

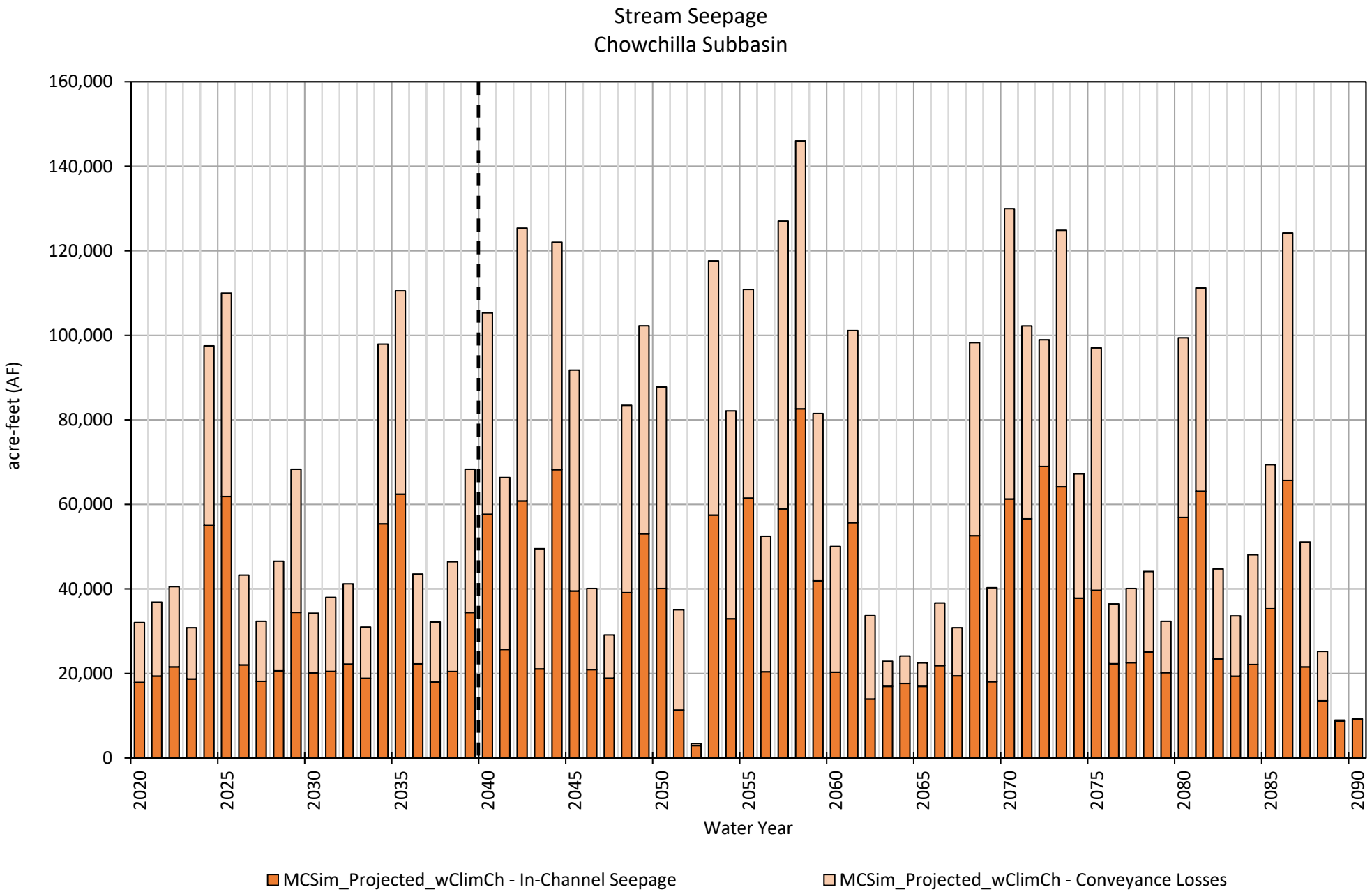


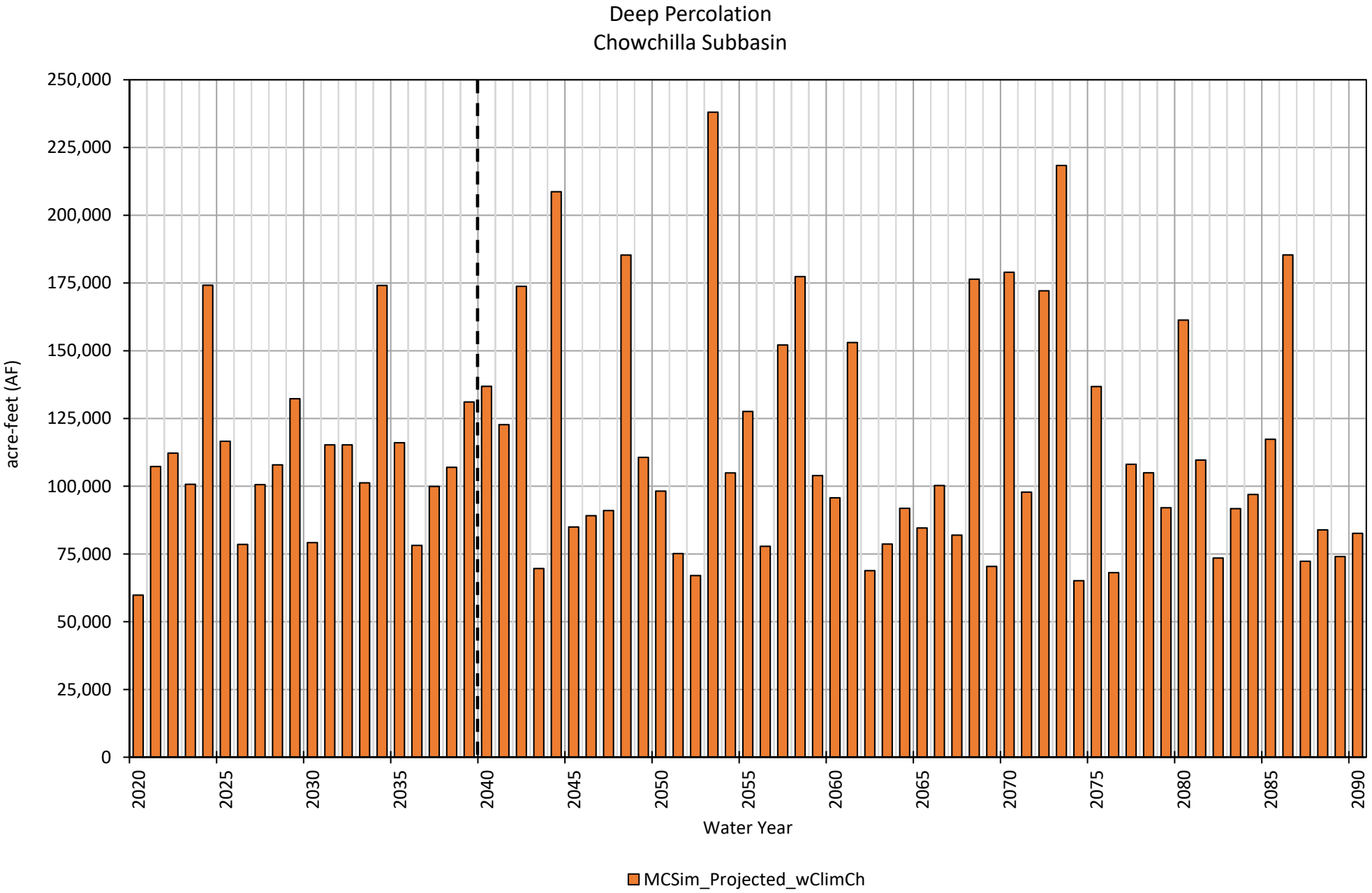
MCSim - Projected, Madera Subbasin by GSA

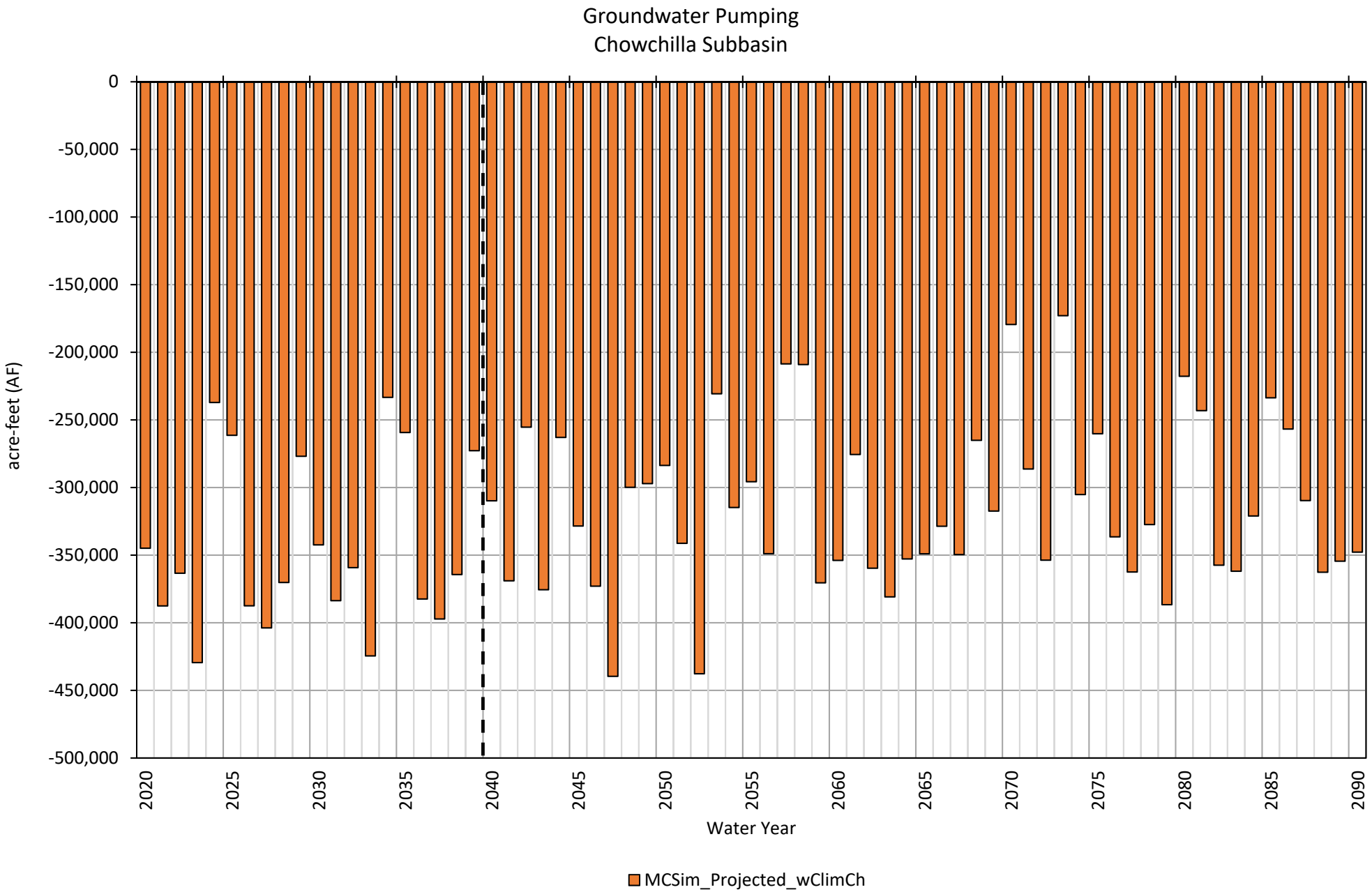
Appendix D.4.d.

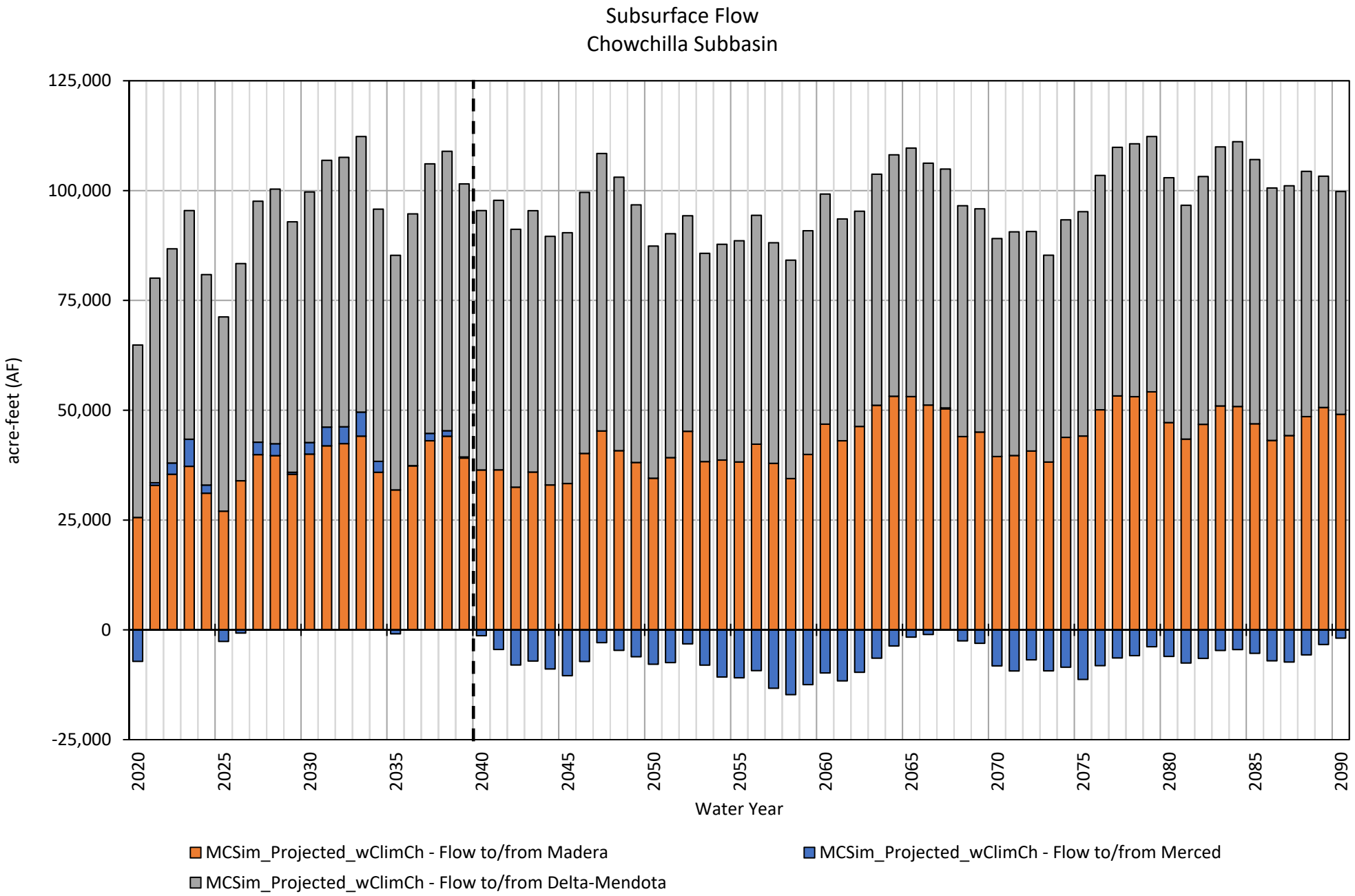
MCSim Projected with Climate Change Water Budget
Chowchilla Subbasin

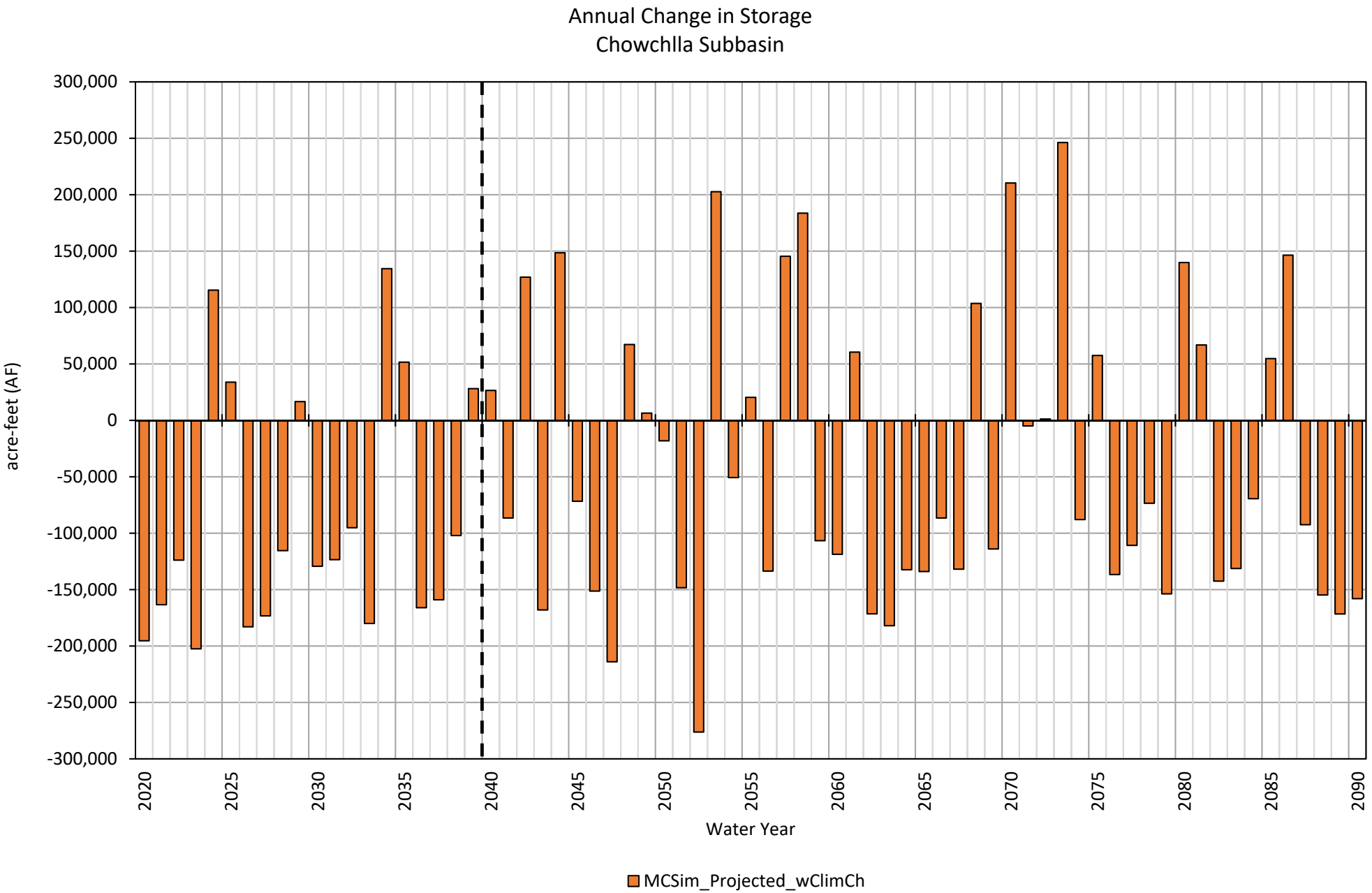
	Average Annual Water Budget (AF/m)	
	Implementation Period 2020-2039	**Sustainability Period 2040-2090**
Total Stream Seepage	54,071	68,979
In-Channel Seepage	*29,212*	*35,800*
Conveyance Losses	*24,859*	*33,180*
Deep Percolation	110,375	115,454
General Head Boundary Conditions	0	0
Small Watershed Baseflow	0	0
Small Watershed Percolation	0	0
Groundwater Pumping	-344,064	-314,134
Total Subsurface Inflow	93,042	91,118
Flow to(+)/from(-) Madera	*36,901*	*43,594*
Flow to(+)/from(-) Merced	*1,382*	*-6,778*
Flow to(+)/from(-) Delta-Mendota	*54,759*	*54,303*
Average Annual Change in Storage	-86,576	-38,582
Total Cumulative Change in Storage	-1,731,522	-1,967,706


Stream Seepage
Chowchilla Subbasin
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh - In-Channel Seepage
MCSim_Projected_wClimCh - Conveyance Losses


Deep Percolation
Chowchilla Subbasin
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh

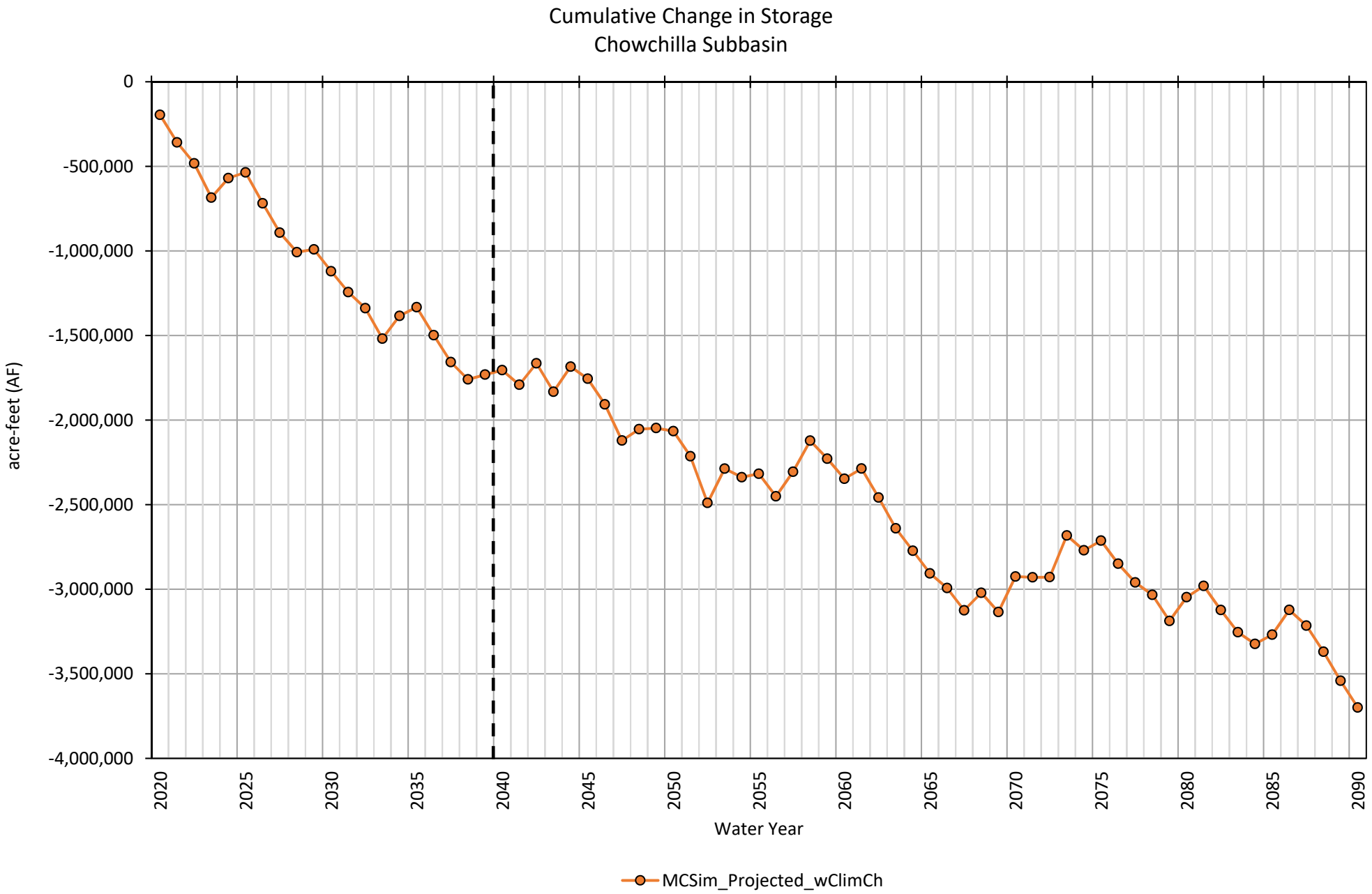

Groundwater Pumping
Chowchilla Subbasin
0
-50,000
-100,000
-150,000
-200,000
-250,000
-300,000
-350,000
-400,000
-450,000
-500,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh


Subsurface Flow
Chowchilla Subbasin
125,000
100,000
75,000
50,000
25,000
0
-25,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh - Flow to/from Madera
MCSim_Projected_wClimCh - Flow to/from Merced
MCSim_Projected_wClimCh - Flow to/from Delta-Mendota



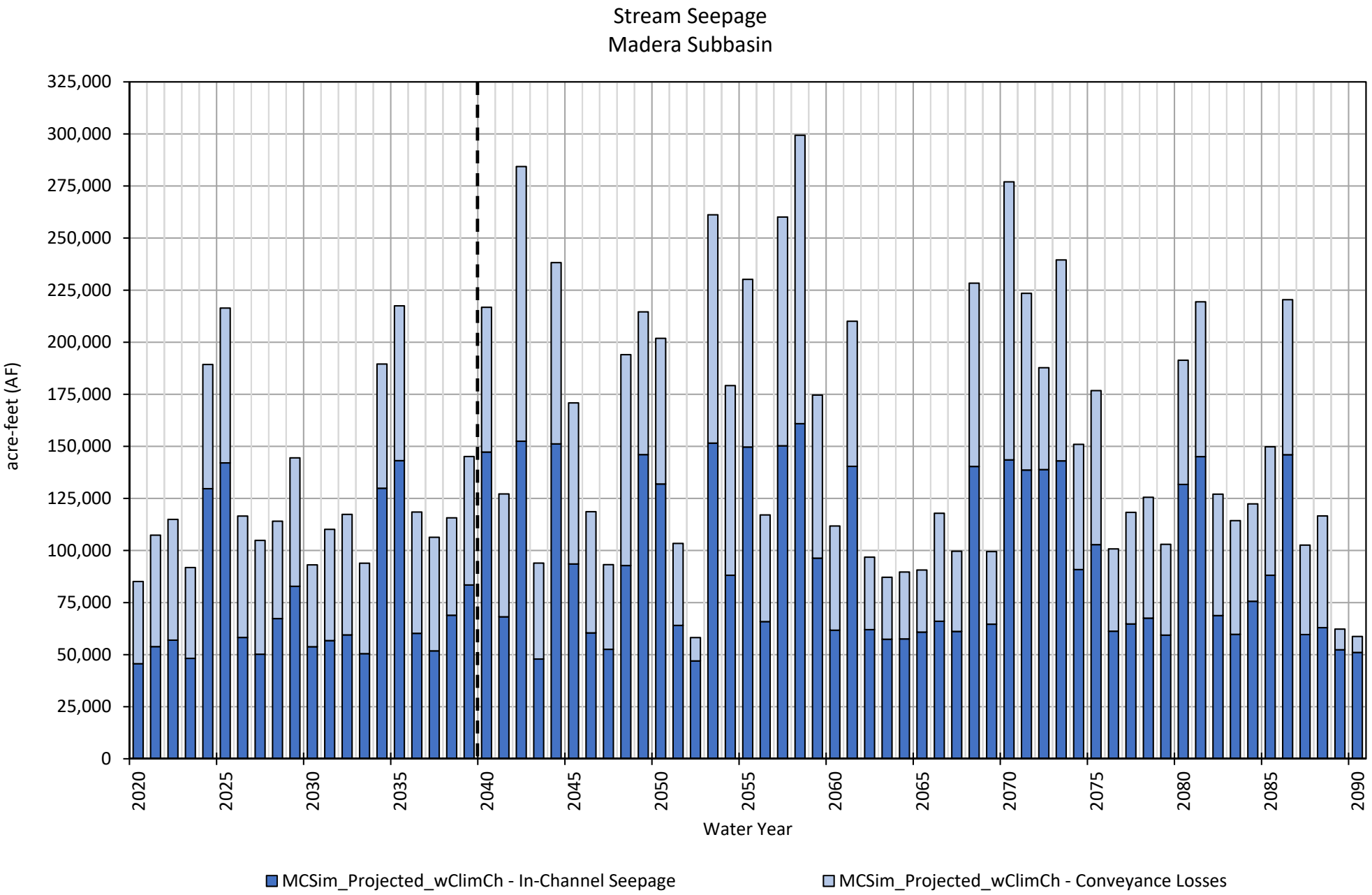
MCSim - Projected with Climate Change, Chowchilla Subbasin

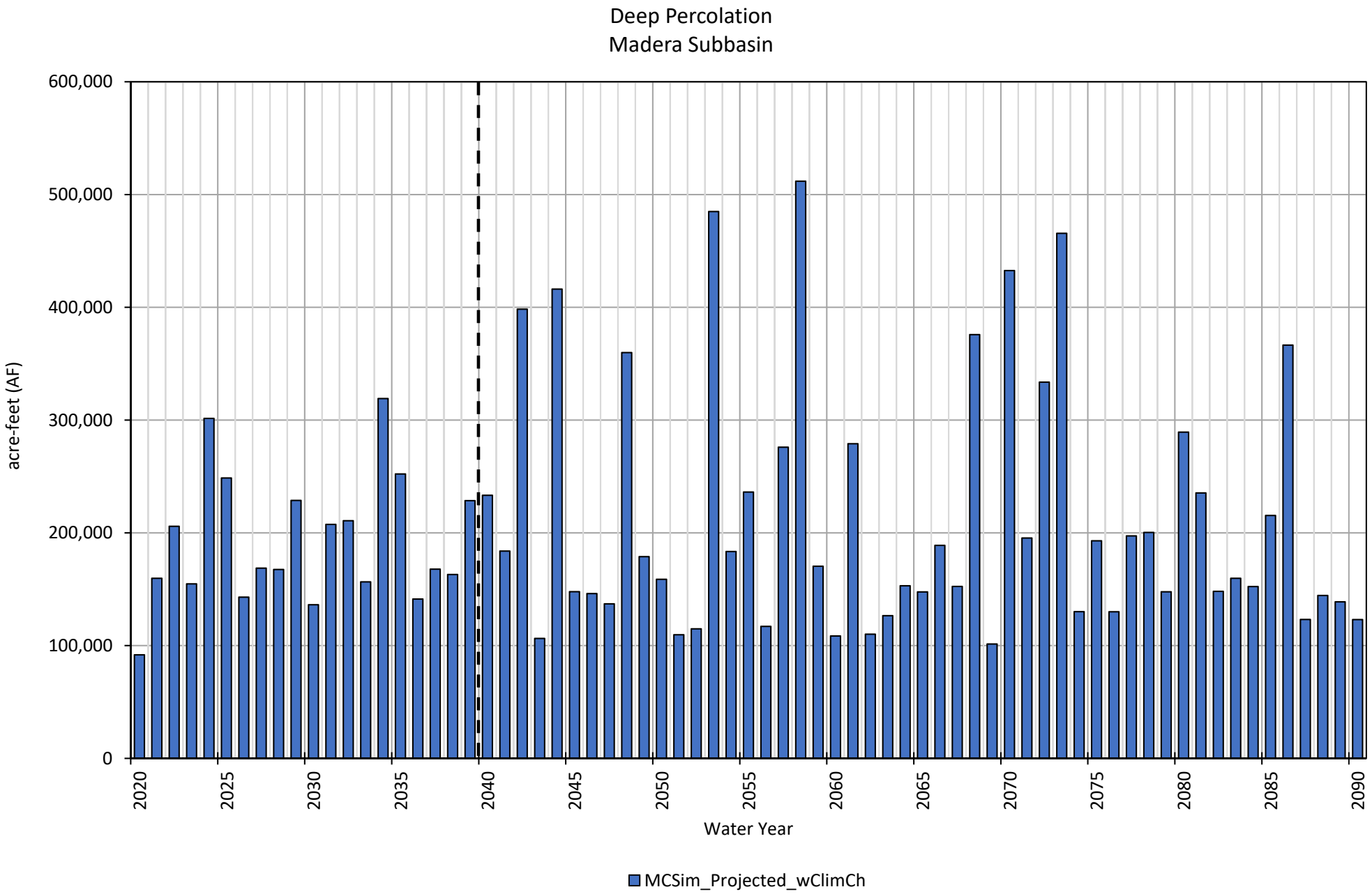
Appendix D.5.a.

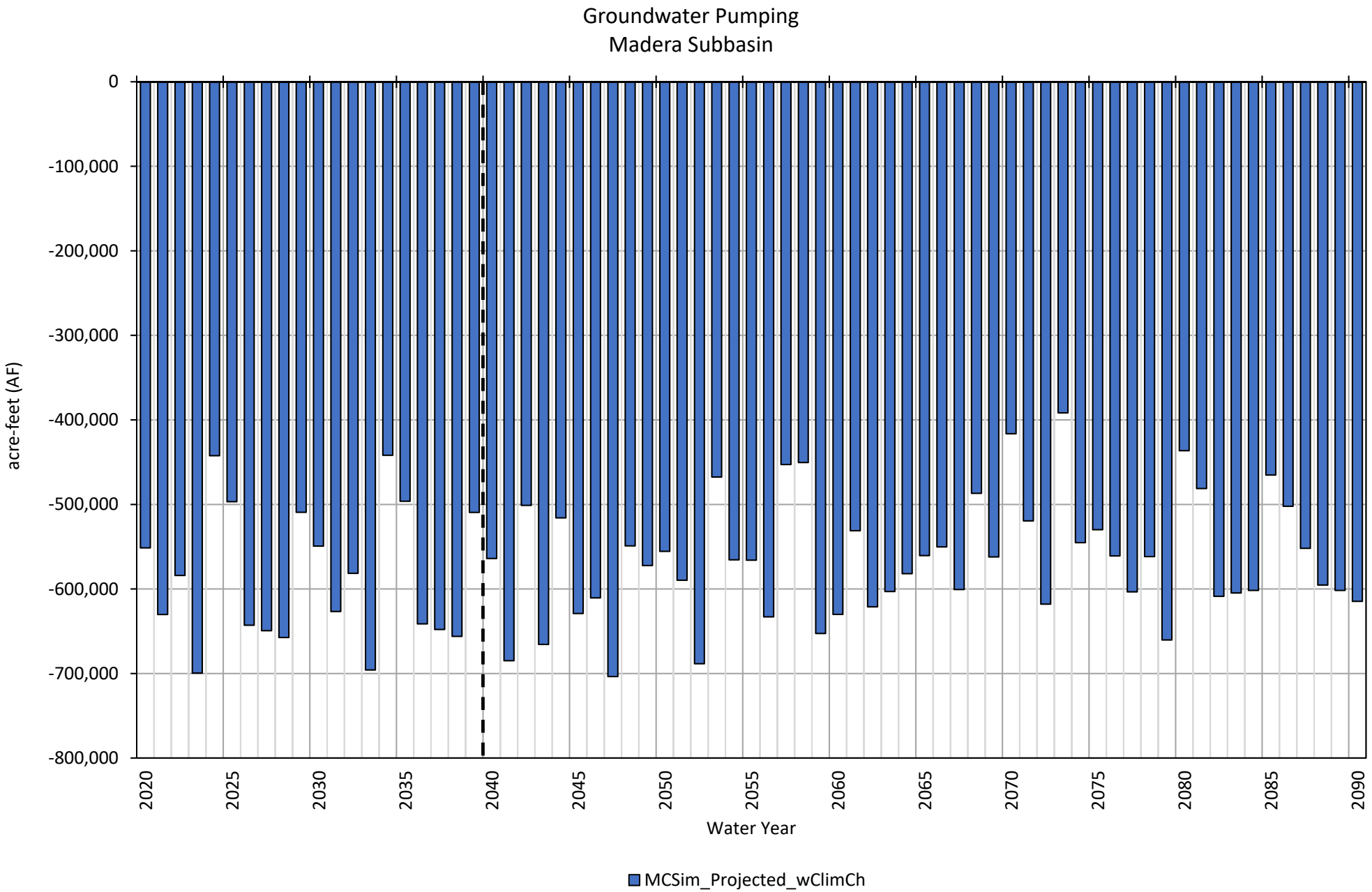

Cumulative Change in Storage
Chowchilla Subbasin
0
-500,000
-1,000,000
-1,500,000
-2,000,000
-2,500,000
-3,000,000
-3,500,000
-4,000,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh

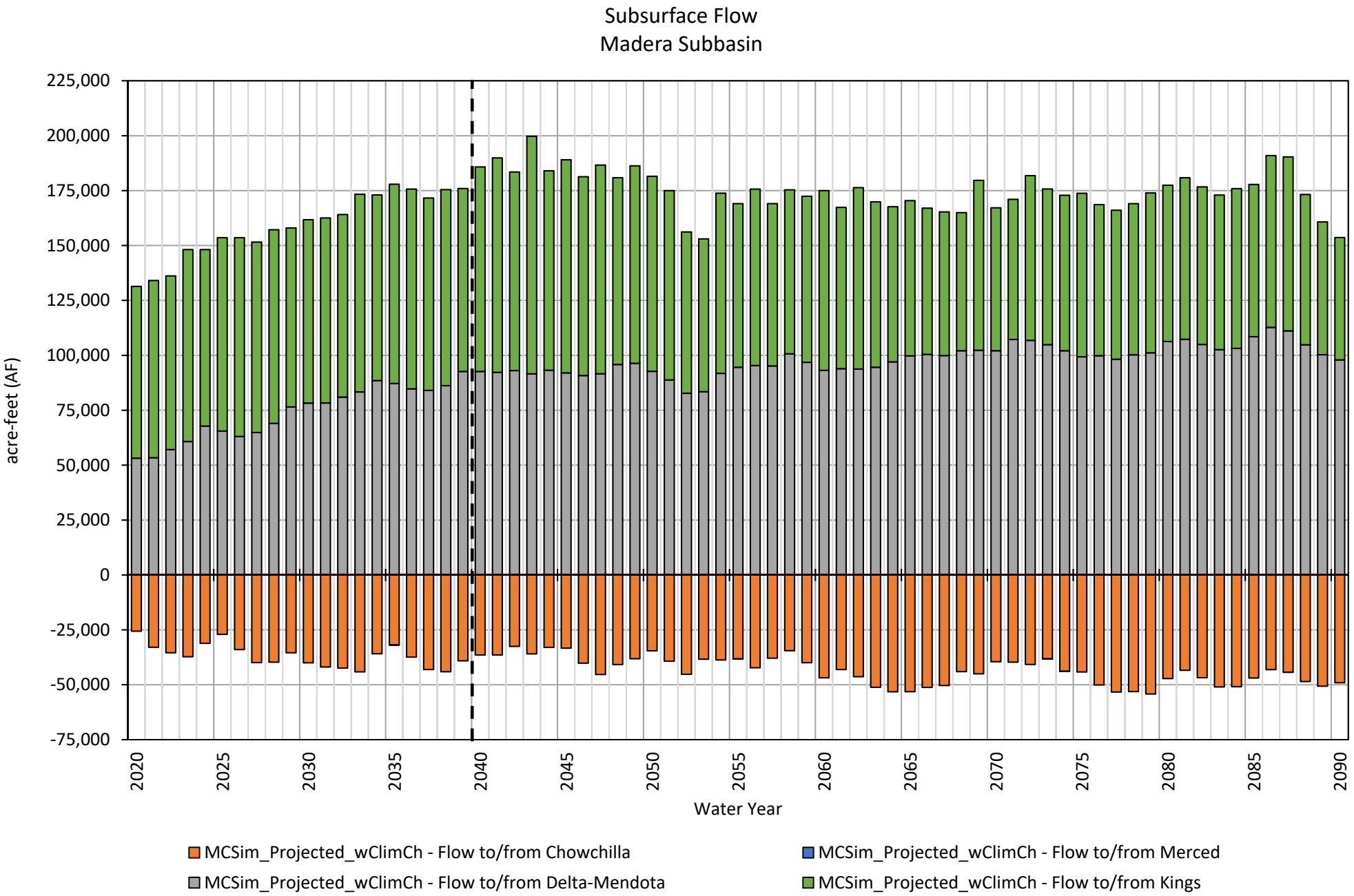
MCSim Projected with Climate Change Water Budget
Madera Subbasin

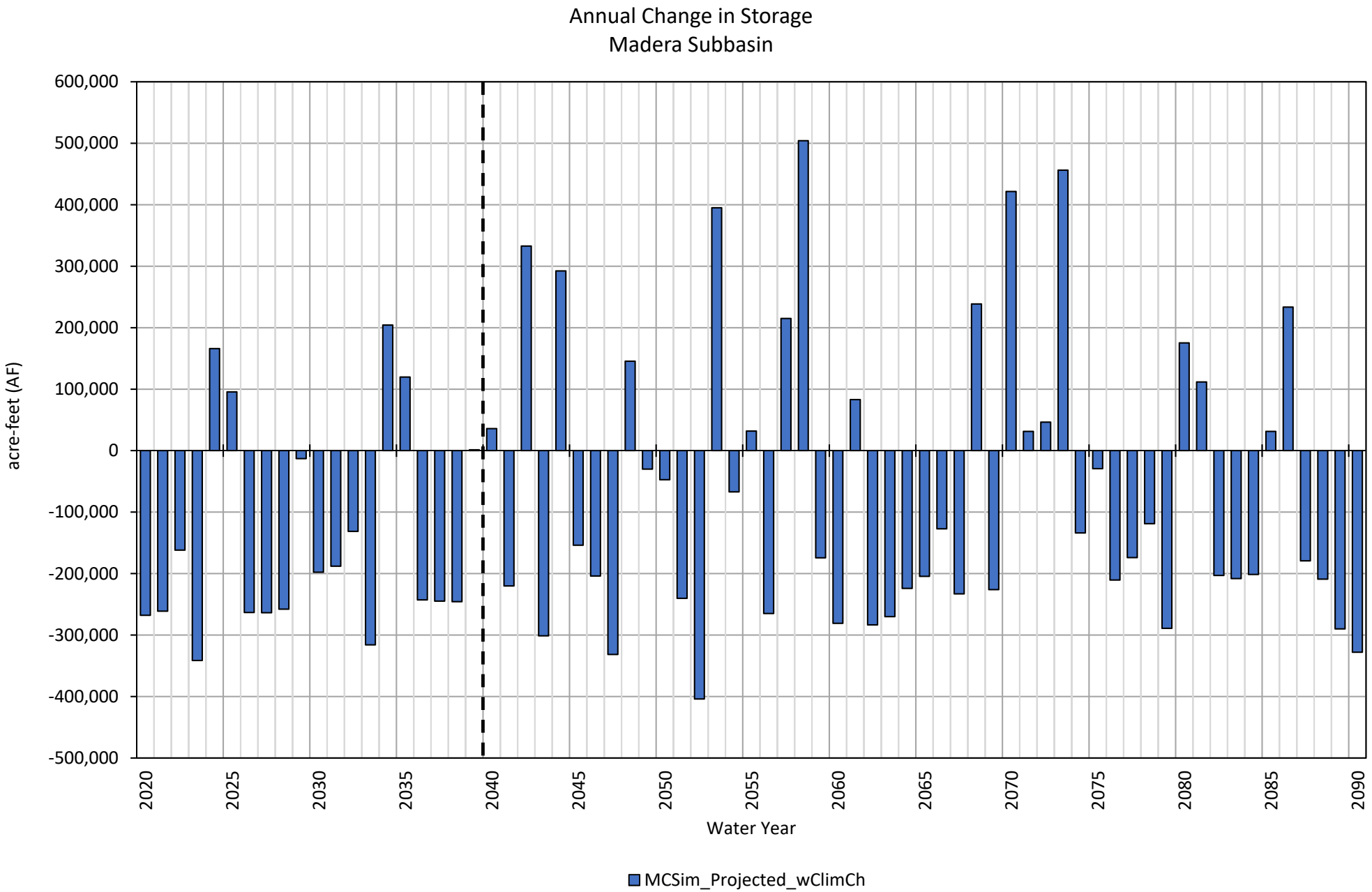
	Average Annual Water Budget (AF/m)	
	Implementation Period 2020-2040	**Sustainability Period 2040-2090**
Total Stream Seepage	129,602	157,970
In-Channel Seepage	74,650	94,935
Conveyance Losses	54,952	63,035
Deep Percolation	192,666	214,438
General Head Boundary Conditions	0	0
Small Watershed Baseflow	495	664
Small Watershed Percolation	0	203
Groundwater Pumping	-585,466	-565,019
Total Subsurface Inflow	122,256	131,357
Flow to(+)/from(-) Chowchilla	-36,901	-43,594
Flow to(+)/from(-) Merced	61	42
Flow to(+)/from(-) Delta-Mendota	73,702	98,190
Flow to(+)/from(-) Kings	85,395	76,718
Average Annual Change in Storage	-140,448	-60,386
Total Cumulative Change in Storage	-2,808,958	-3,079,702

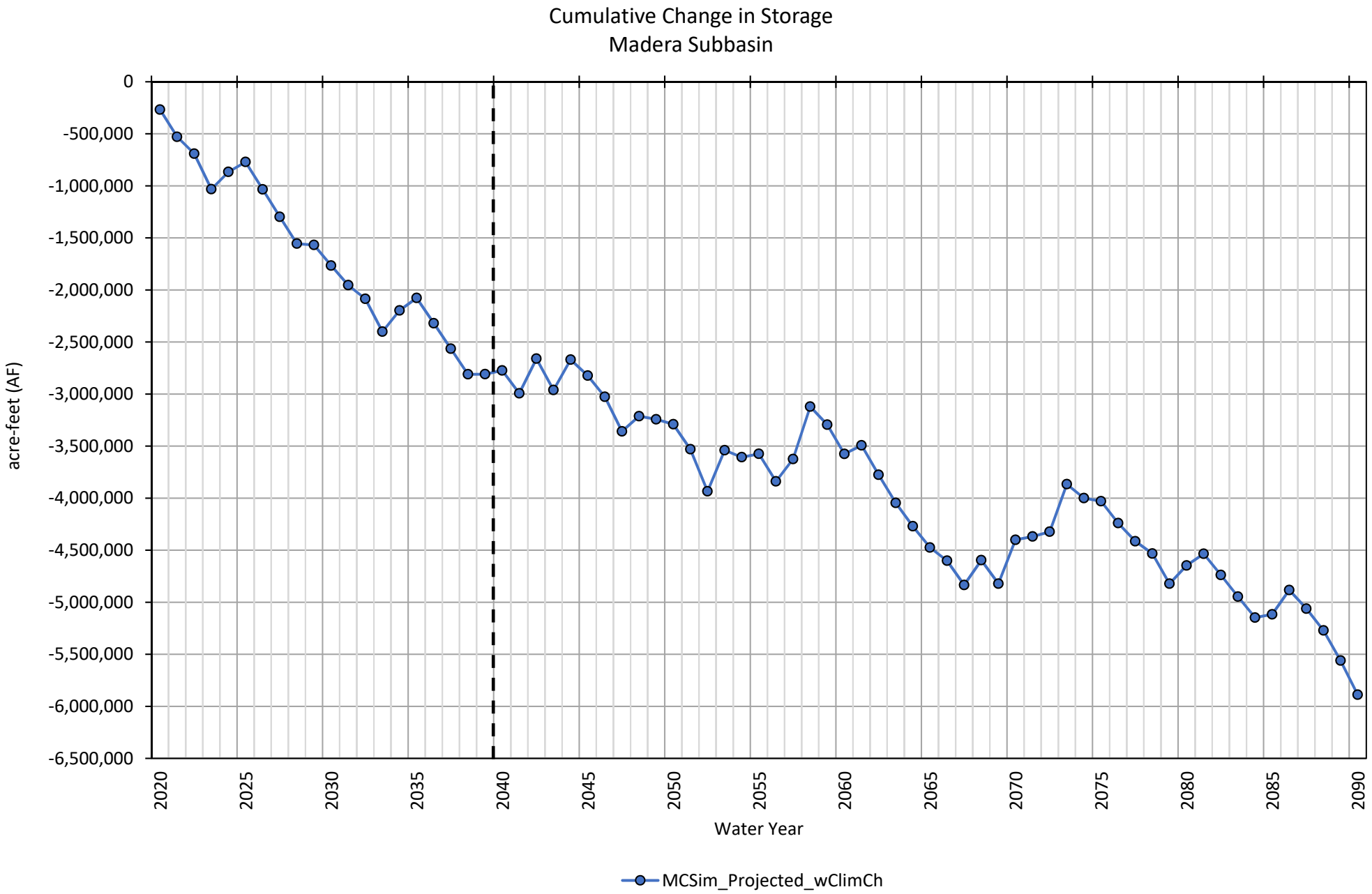

Stream Seepage
Madera Subbasin
acre-feet (AF)
325,000
300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh - In-Channel Seepage
MCSim_Projected_wClimCh - Conveyance Losses


Deep Percolation
Madera Subbasin
600,000
500,000
400,000
300,000
200,000
100,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh


Groundwater Pumping
Madera Subbasin
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh

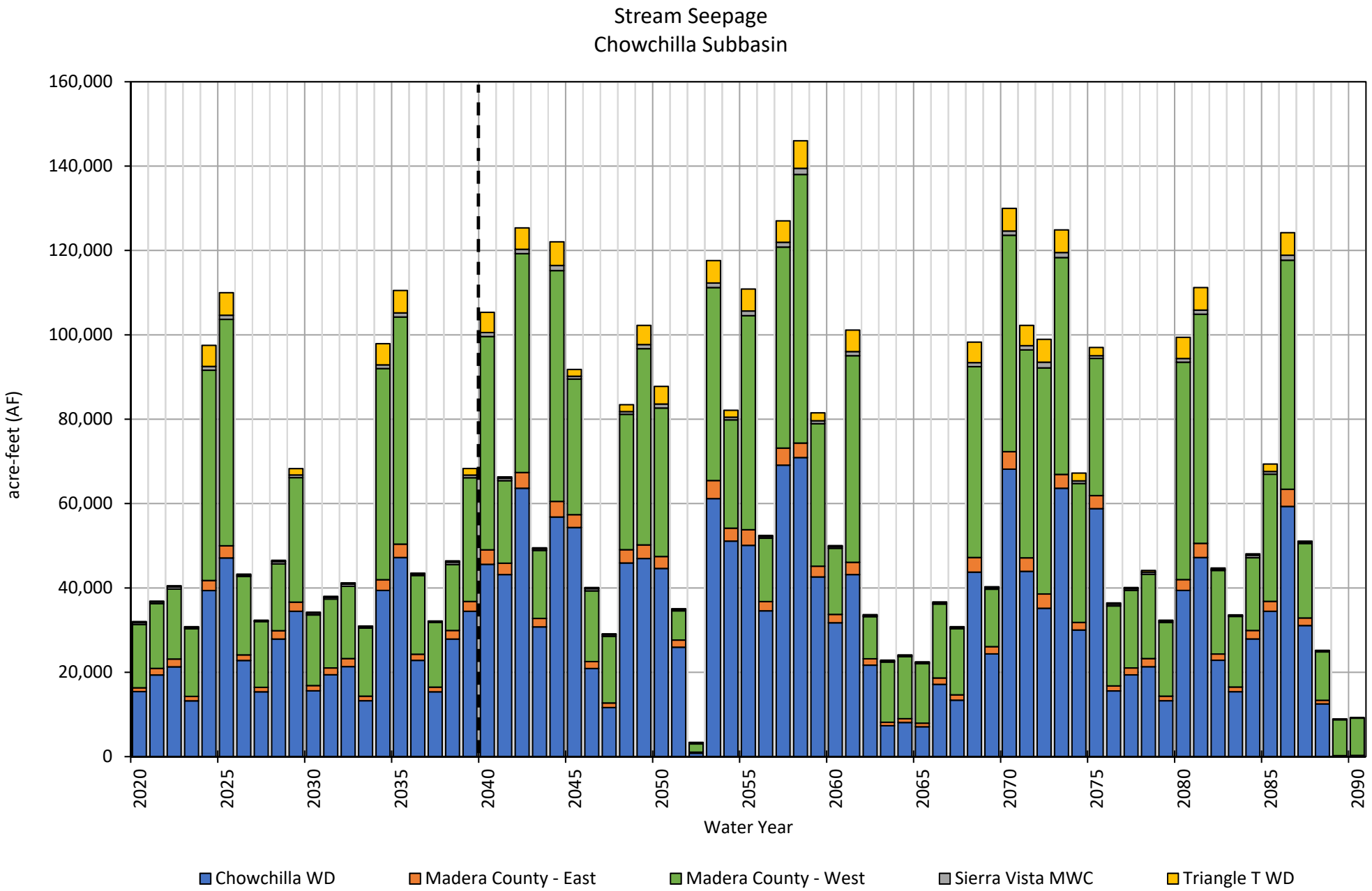

Subsurface Flow
Madera Subbasin
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
-25,000
-50,000
-75,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh - Flow to/from Chowchilla
MCSim_Projected_wClimCh - Flow to/from Merced
MCSim_Projected_wClimCh - Flow to/from Delta-Mendota
MCSim_Projected_wClimCh - Flow to/from Kings


Annual Change in Storage
Madera Subbasin
600,000
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh


Cumulative Change in Storage
Madera Subbasin
0
-500,000
-1,000,000
-1,500,000
-2,000,000
-2,500,000
-3,000,000
-3,500,000
-4,000,000
-4,500,000
-5,000,000
-5,500,000
-6,000,000
-6,500,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
MCSim_Projected_wClimCh

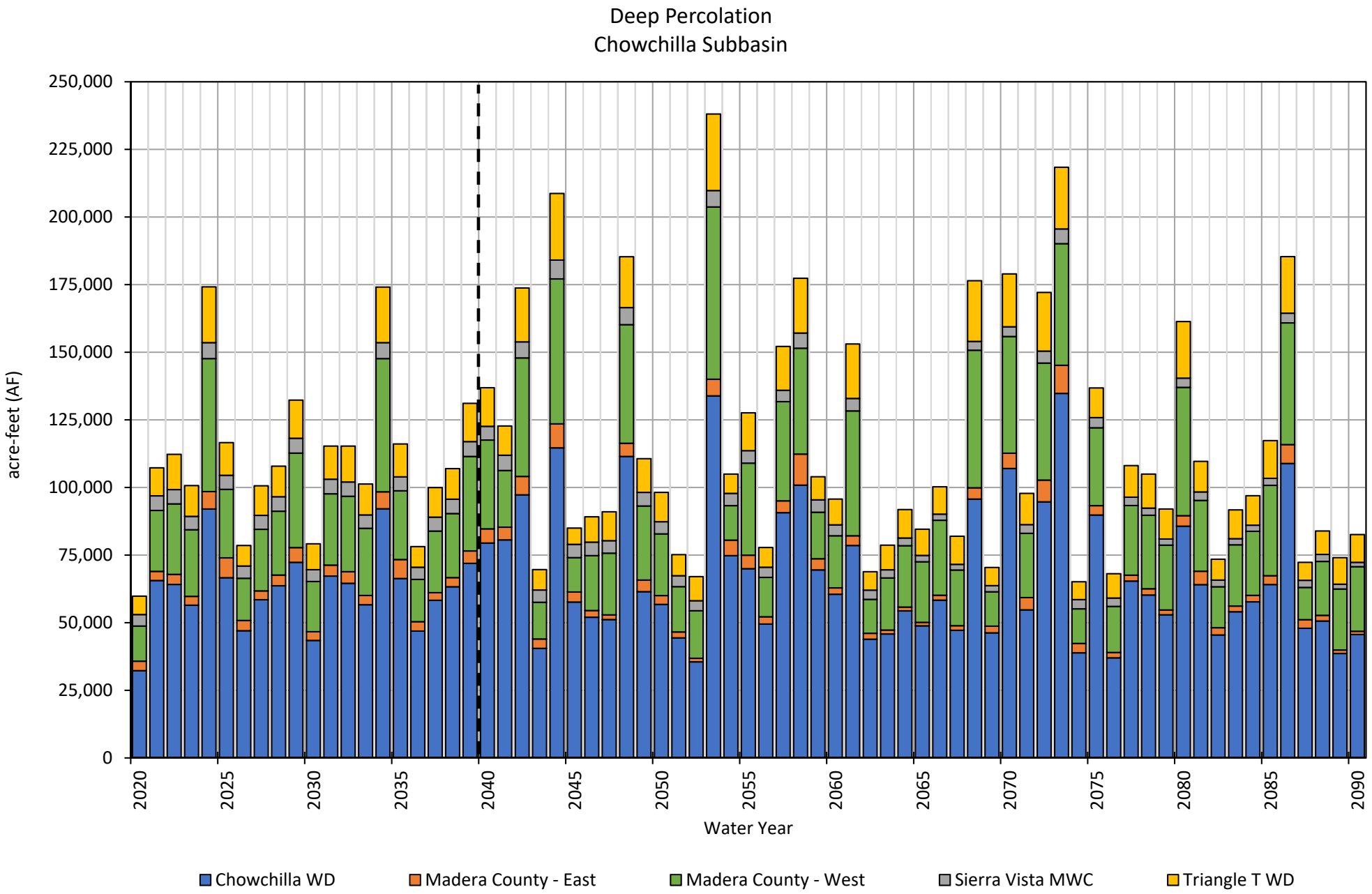
MCSim Projected with Climate Change Water Budget by GSA
Chowchilla Subbasin

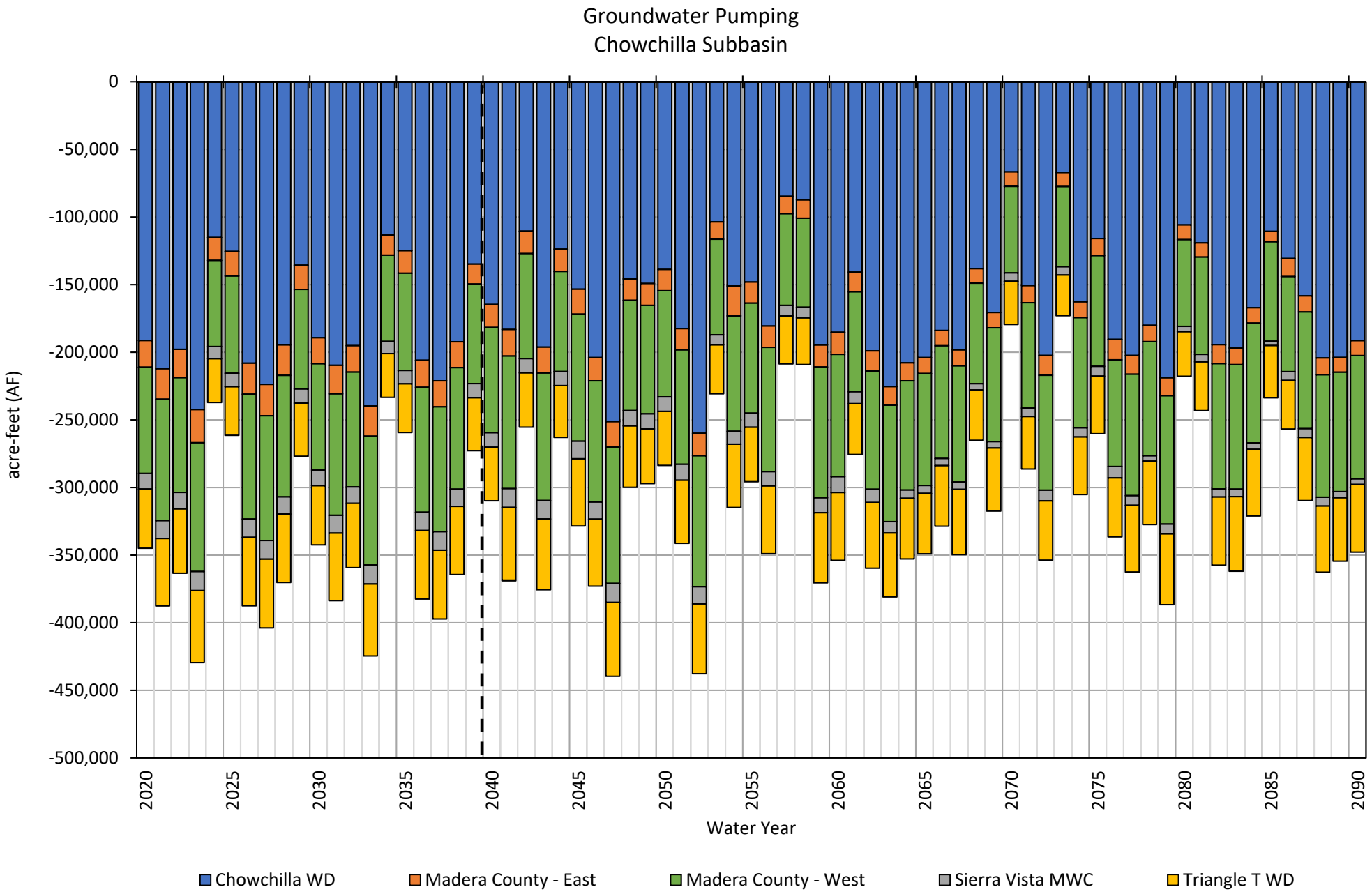
	Average Annual Water Budget (AF/m)									
	Chowchilla Water District		Madera County - East		Madera County - West		Sierra Vista Mutual Water Company		Triangle T Water District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	25,655	34,282	1,782	2,296	24,766	29,584	514	624	1,354	2,193
In-Channel Seepage	*2,752*	*4,168*	*1,696*	*2,201*	*24,296*	*28,690*	*43*	*95*	*424*	*647*
Conveyance Losses	*22,903*	*30,114*	*86*	*95*	*470*	*894*	*471*	*530*	*930*	*1,547*
Deep Percolation	62,476	67,649	4,330	3,777	26,348	27,521	5,151	3,791	12,070	12,715
General Head Boundary Conditions	0	0	0	0	0	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0	0	0	0	0
Groundwater Pumping	-183,637	-164,836	-19,818	-14,025	-83,193	-82,805	-12,051	-8,159	-45,364	-44,310
Total Subsurface Inflow	46,264	43,266	6,931	6,813	20,275	19,521	2,718	2,553	26,958	27,048
Average Annual Change in Storage	-49,242	-19,638	-6,775	-1,139	-11,804	-6,179	-3,668	-1,191	-4,983	-2,353
Total Cumulative Change in Storage	-984,846	-1,001,563	-135,507	-58,071	-236,070	-315,140	-73,355	-60,738	-99,652	-119,988



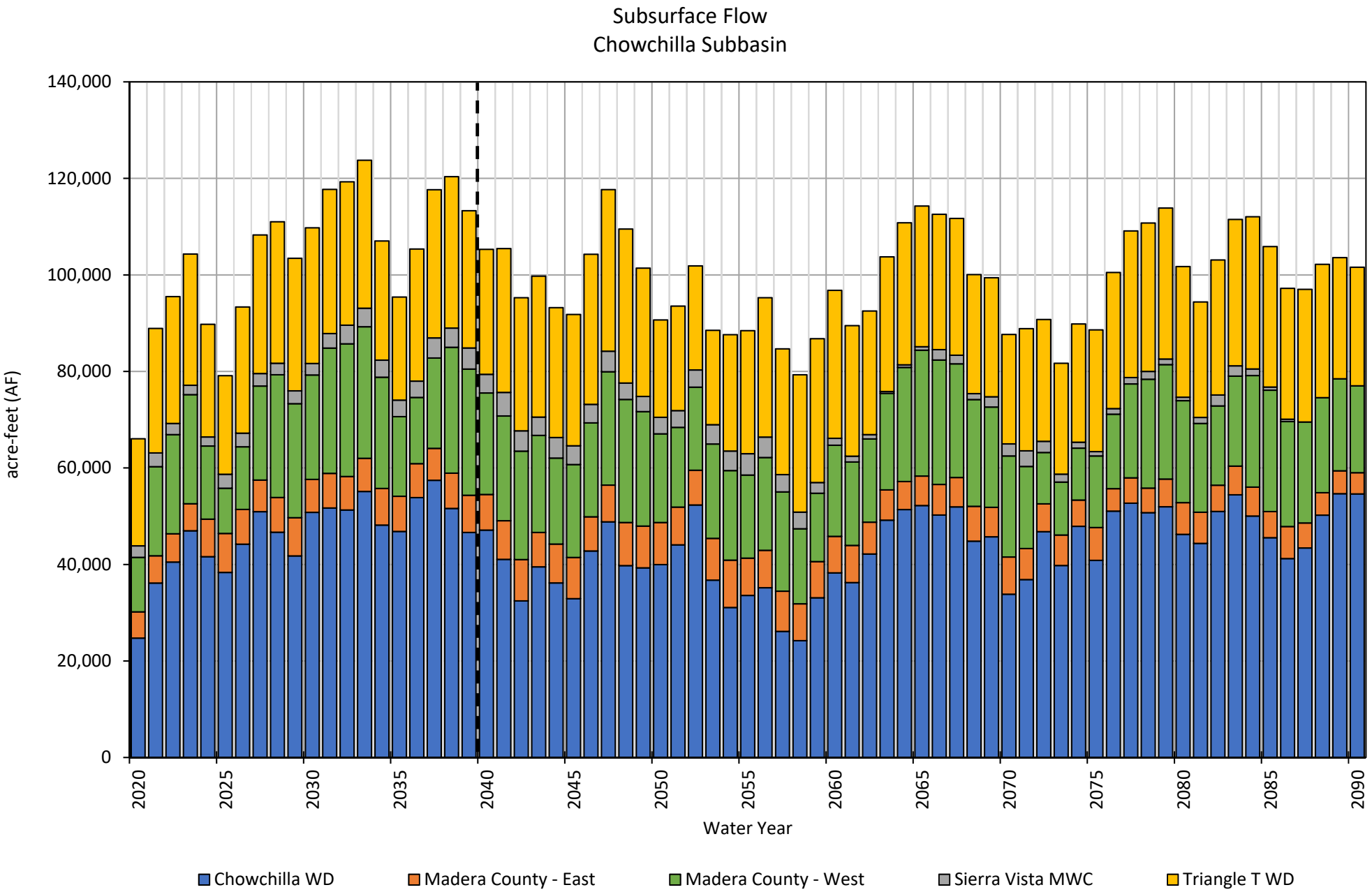
MCSim - Projected with Climate Change, Chowchilla Subbasin by GSA

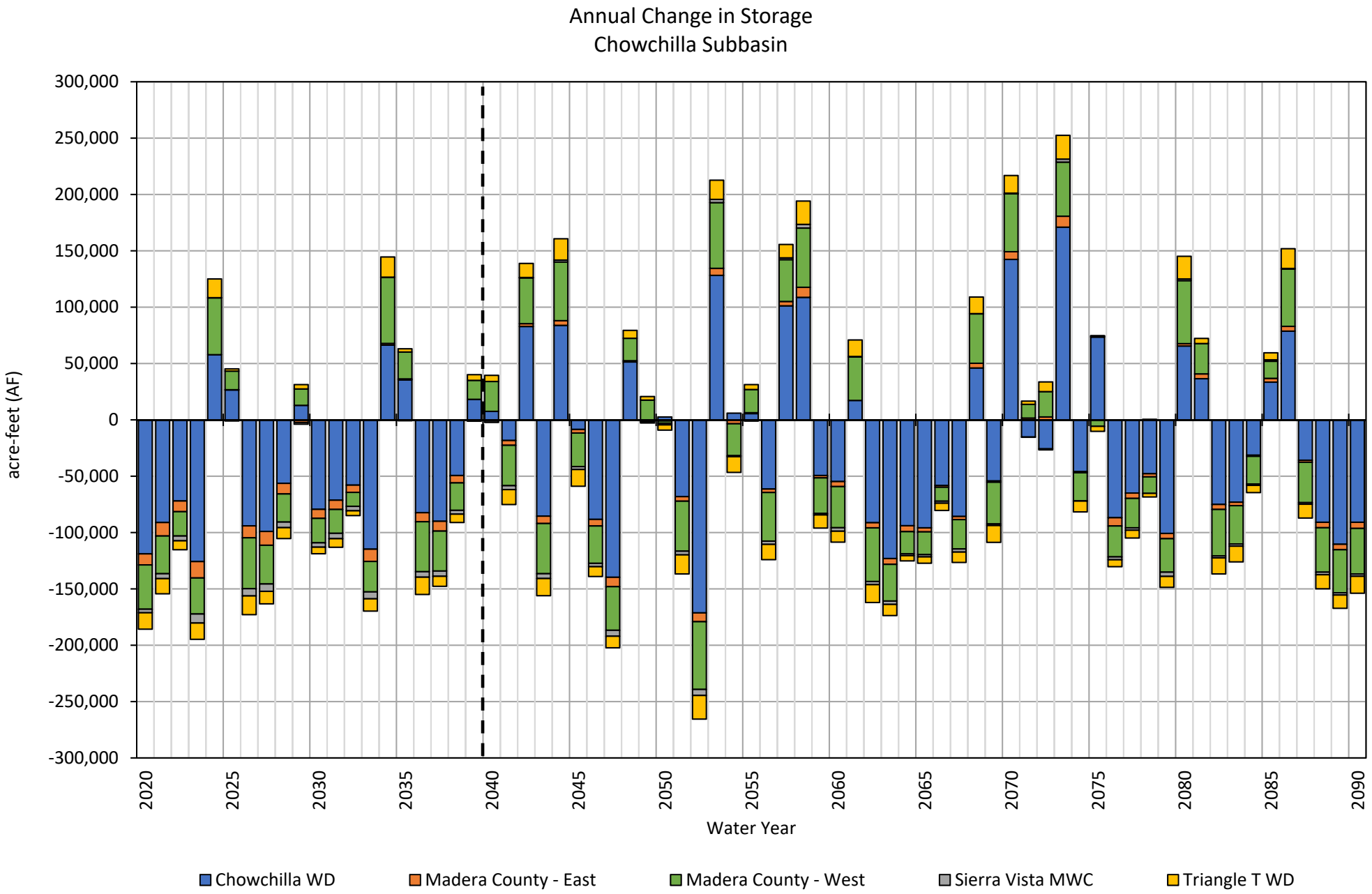
Appendix D.5.c.


Deep Percolation
Chowchilla Subbasin
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD



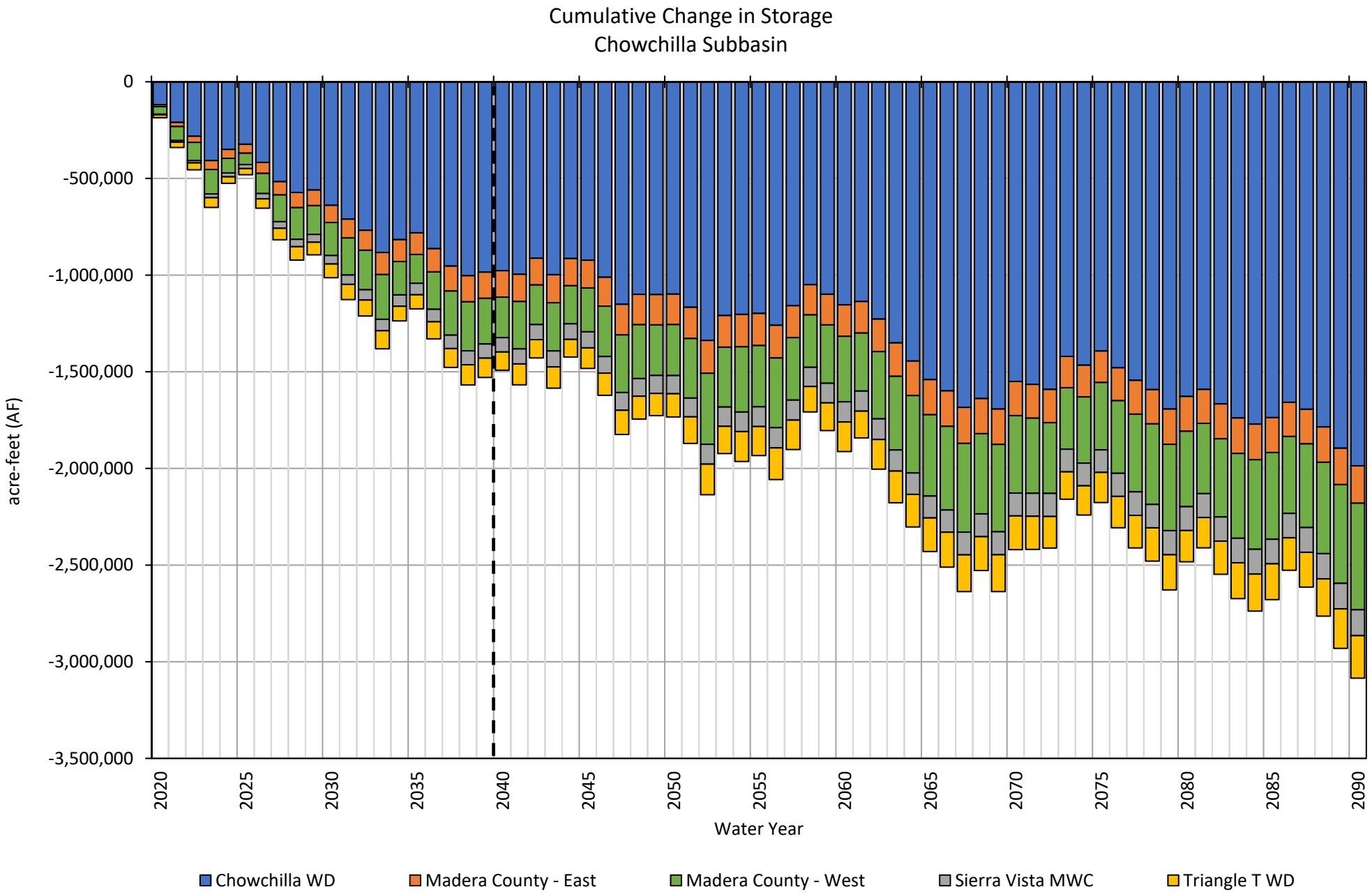
MCSim - Projected with Climate Change, Chowchilla Subbasin by GSA


Subsurface Flow
Chowchilla Subbasin
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD



MCSim - Projected with Climate Change, Chowchilla Subbasin by GSA

Appendix D.5.c.

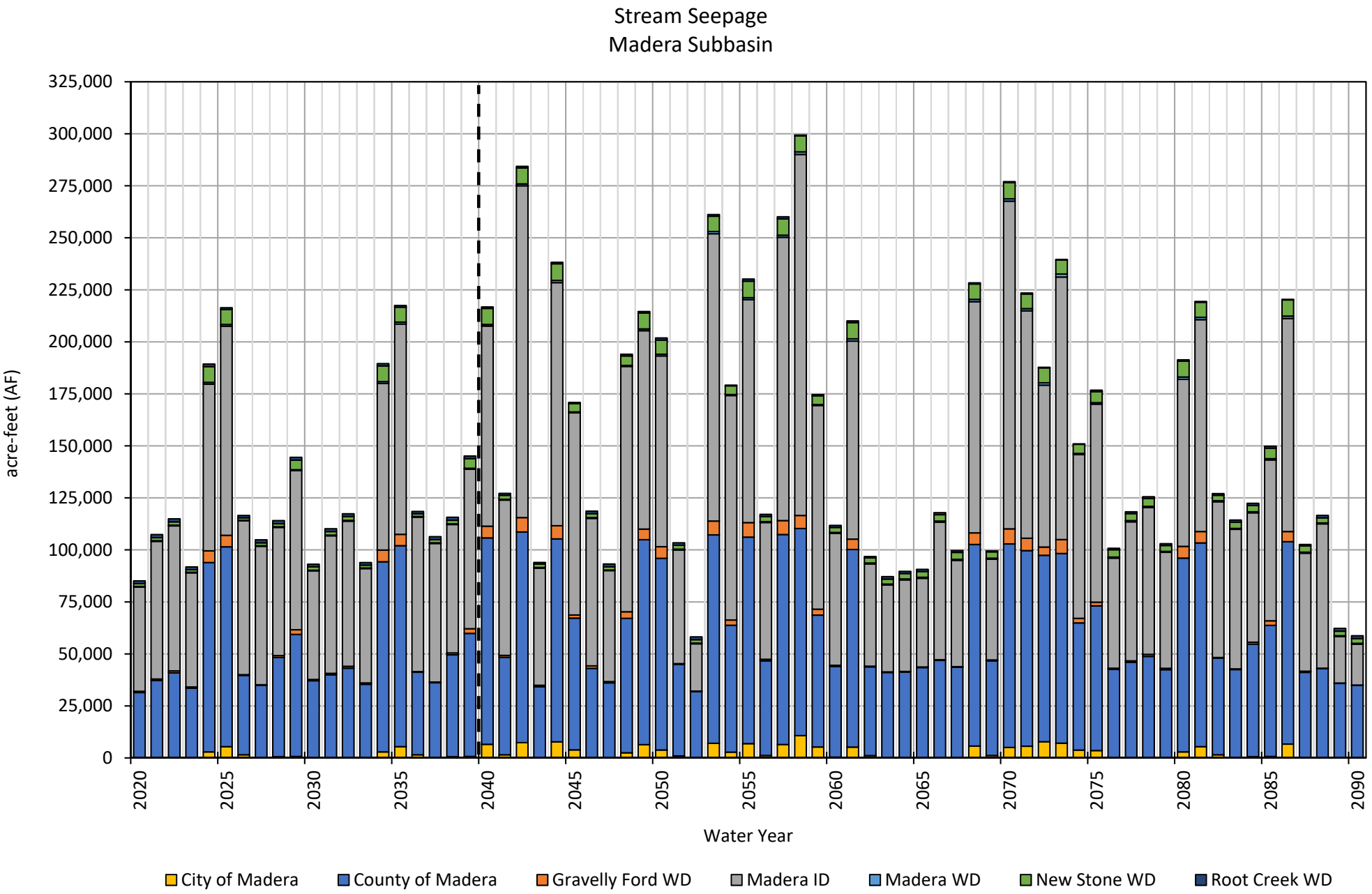

Cumulative Change in Storage
Chowchilla Subbasin
0
-500,000
-1,000,000
-1,500,000
-2,000,000
-2,500,000
-3,000,000
-3,500,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
Chowchilla WD
Madera County - East
Madera County - West
Sierra Vista MWC
Triangle T WD

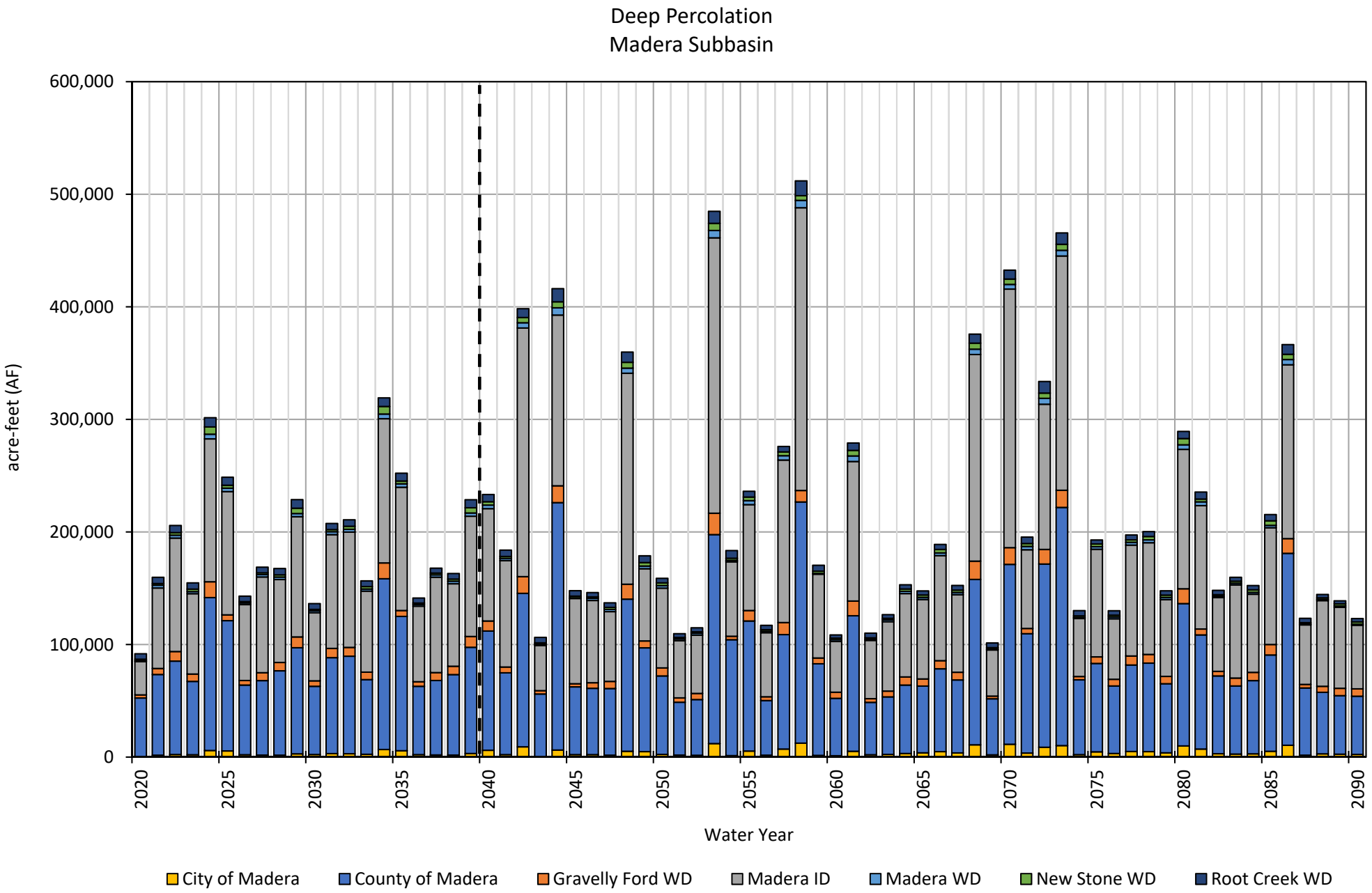
MCSim Projected with Climate Change Water Budget by GSA
Madera Subbasin

	Average Annual Water Budget (AF/m)							
	City of Madera		Madera County		Gravelly Ford Water District		Madera Irrigation District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	1,131	2,856	51,841	64,595	1,768	2,660	70,192	81,797
In-Channel Seepage	*1,131*	*2,856*	*50,746*	*63,488*	*209*	*297*	*18,739*	*23,077*
Conveyance Losses	*0*	*0*	*1,094*	*1,107*	*1,559*	*2,363*	*51,453*	*58,719*
Deep Percolation	2,935	4,608	84,157	92,051	7,268	7,773	87,411	99,192
General Head Boundary Conditions	0	0	0	0	0	0	0	0
Small Watershed Baseflow	0	0	495	664	0	0	0	0
Small Watershed Percolation	0	0	0	200	0	0	0	3
Groundwater Pumping	-9,013	-12,518	-262,714	-253,270	-19,856	-19,339	-254,430	-245,385
Total Subsurface Inflow	883	3,140	65,496	71,307	8,293	7,575	31,972	36,030
Average Annual Change in Storage	-4,064	-1,914	-60,726	-24,452	-2,527	-1,332	-64,855	-28,363
Total Cumulative Change in Storage	-81,285	-97,624	-1,214,524	-1,247,065	-50,545	-67,938	-1,297,096	-1,446,536

MCSim Projected with Climate Change Water Budget by GSA
Madera Subbasin

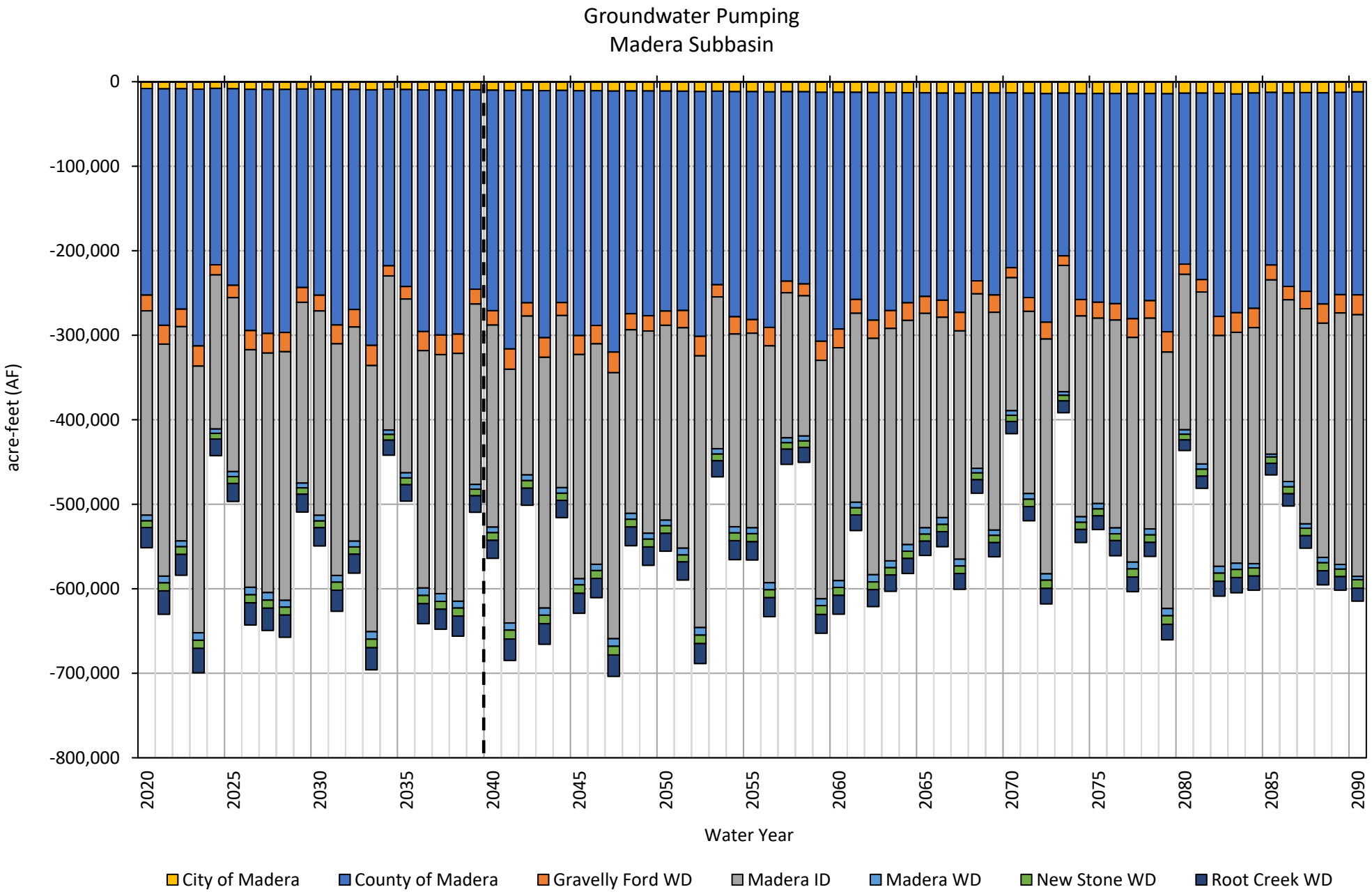
	Average Annual Water Budget (AF/m)					
	Madera Water District		New Stone Water District		Root Creek Water District	
	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090	Implementation Period, 2020-2039	Sustainability Period, 2040-2090
Total Stream Seepage	419	670	2,996	4,598	1,254	795
In-Channel Seepage	*419*	*670*	*2,996*	*4,598*	*408*	*-51*
Conveyance Losses	*0*	*0*	*0*	*0*	*846*	*846*
Deep Percolation	2,414	2,611	2,605	2,721	5,876	5,482
General Head Boundary Conditions	0	0	0	0	0	0
Small Watershed Baseflow	0	0	0	0	0	0
Small Watershed Percolation	0	0	0	0	0	0
Groundwater Pumping	-7,291	-6,873	-8,724	-8,887	-23,439	-18,746
Total Subsurface Inflow	2,688	3,103	1,734	1,090	11,191	9,113
Average Annual Change in Storage	-1,770	-489	-1,388	-479	-5,117	-3,356
Total Cumulative Change in Storage	-35,393	-24,916	-27,770	-24,442	-102,345	-171,181

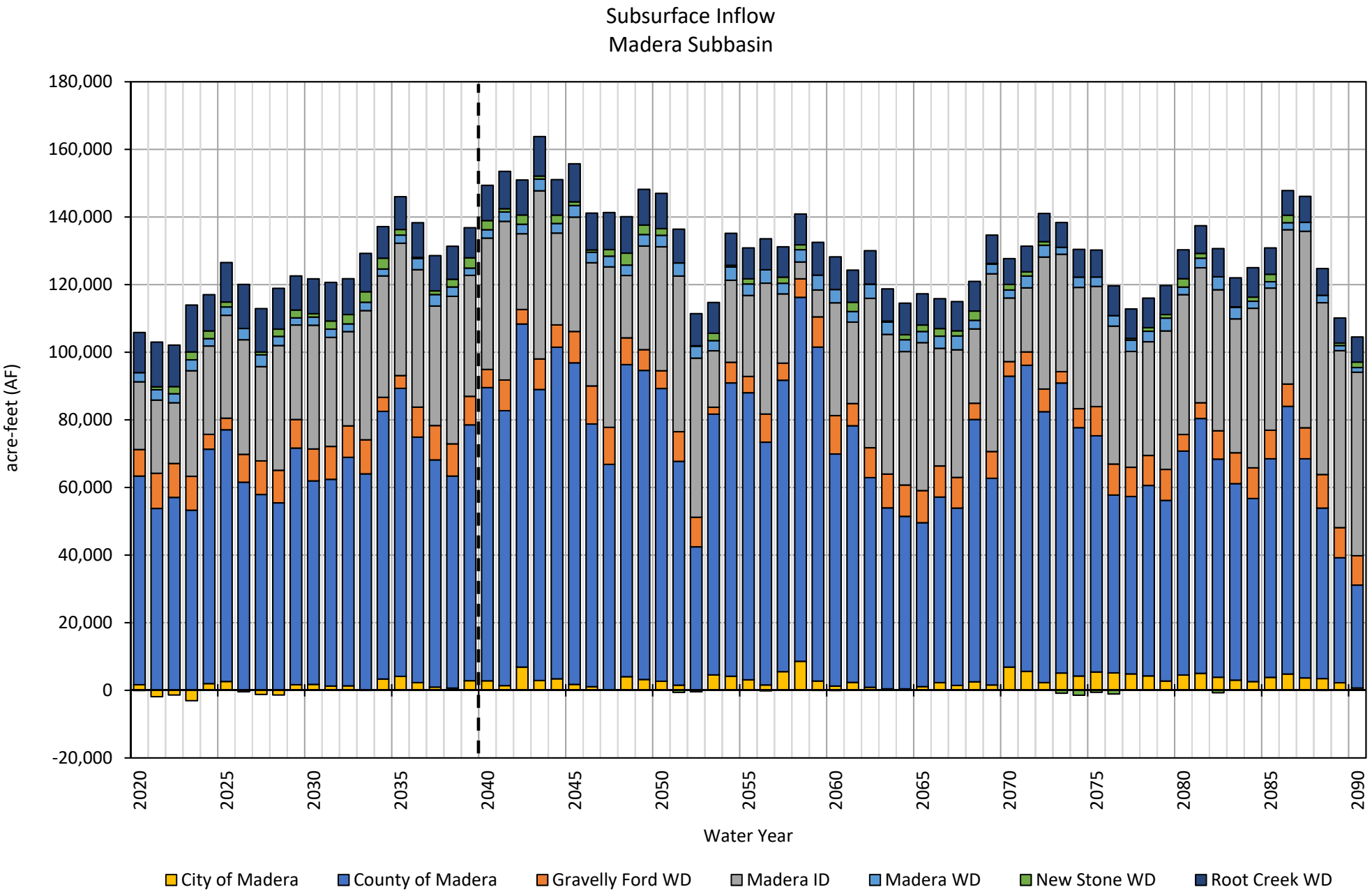

Stream Seepage
Madera Subbasin
acre-feet (AF)
325,000
300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD

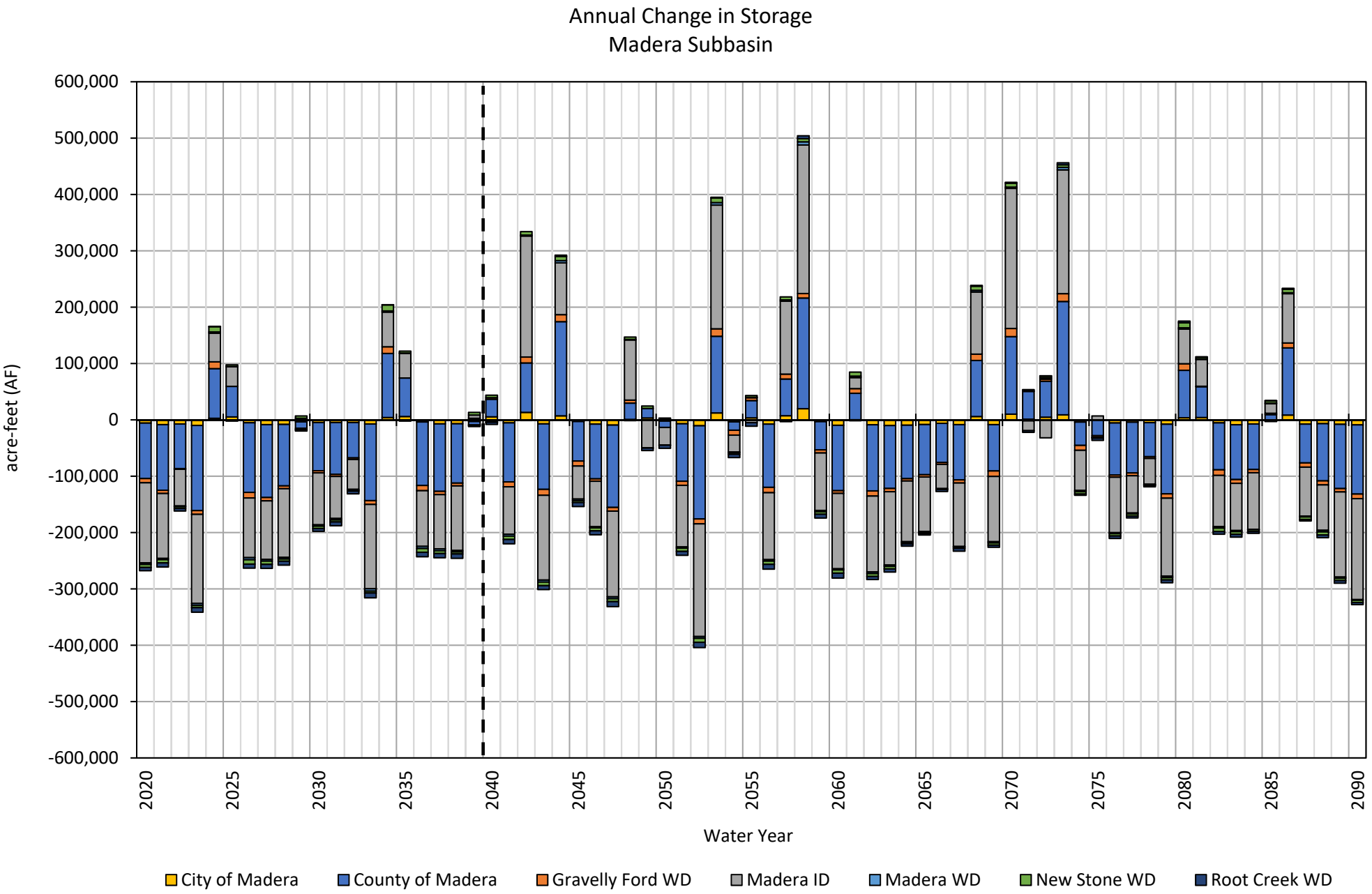


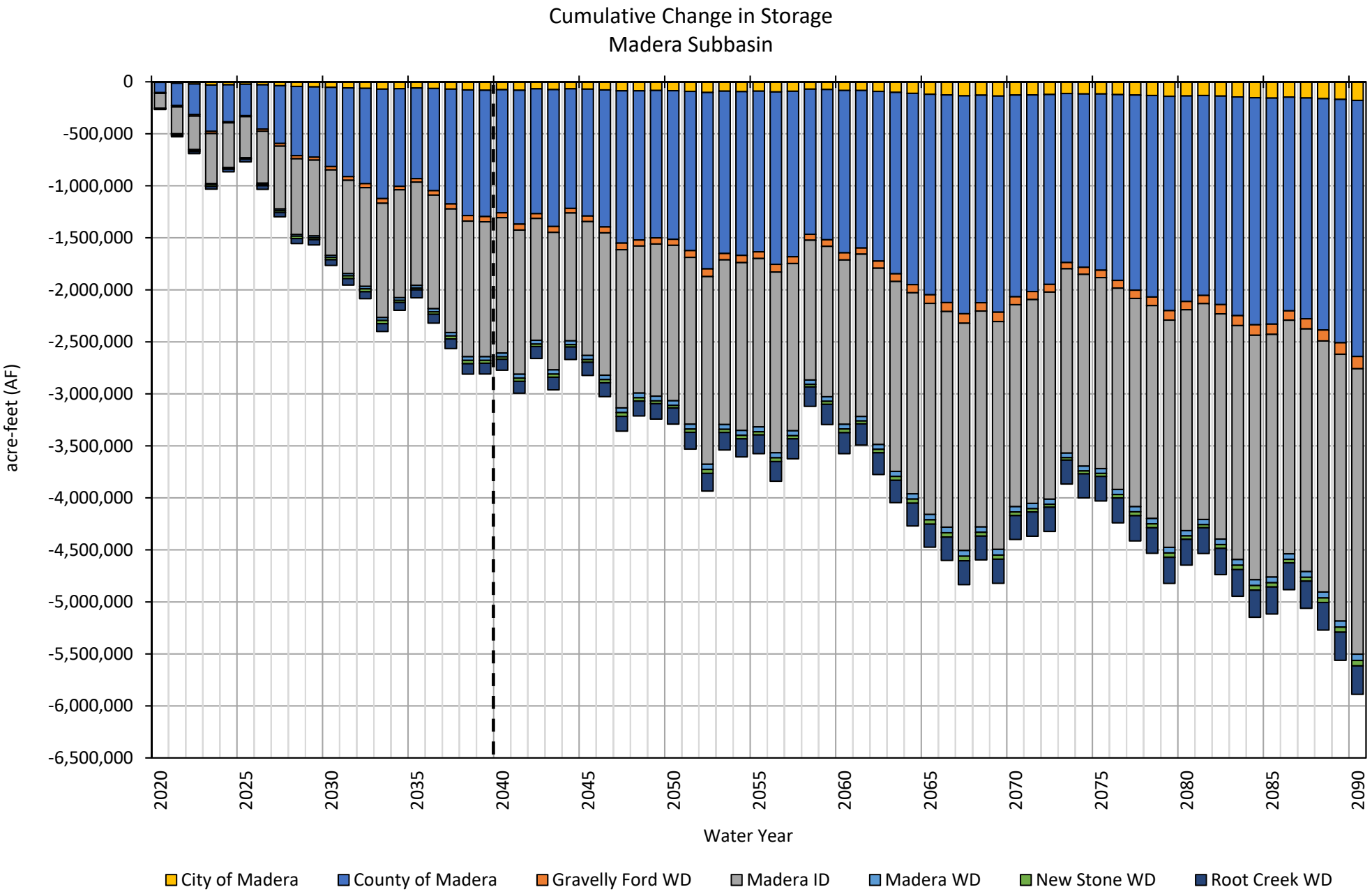
MCSim - Projected with Climate Change, Madera Subbasin by GSA

Appendix D.5.d.


Groundwater Pumping
Madera Subbasin
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD


Subsurface Inflow
Madera Subbasin
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
-20,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD


Annual Change in Storage
Madera Subbasin
600,000
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
acre-feet (AF)
2020
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
2075
2080
2085
2090
Water Year
City of Madera
County of Madera
Gravelly Ford WD
Madera ID
Madera WD
New Stone WD
Root Creek WD



MCSim - Projected with Climate Change, Madera Subbasin by GSA

Appendix D.5.d.

APPENDIX E

Groundwater Elevation Hydrographs for
Projected Future Scenarios

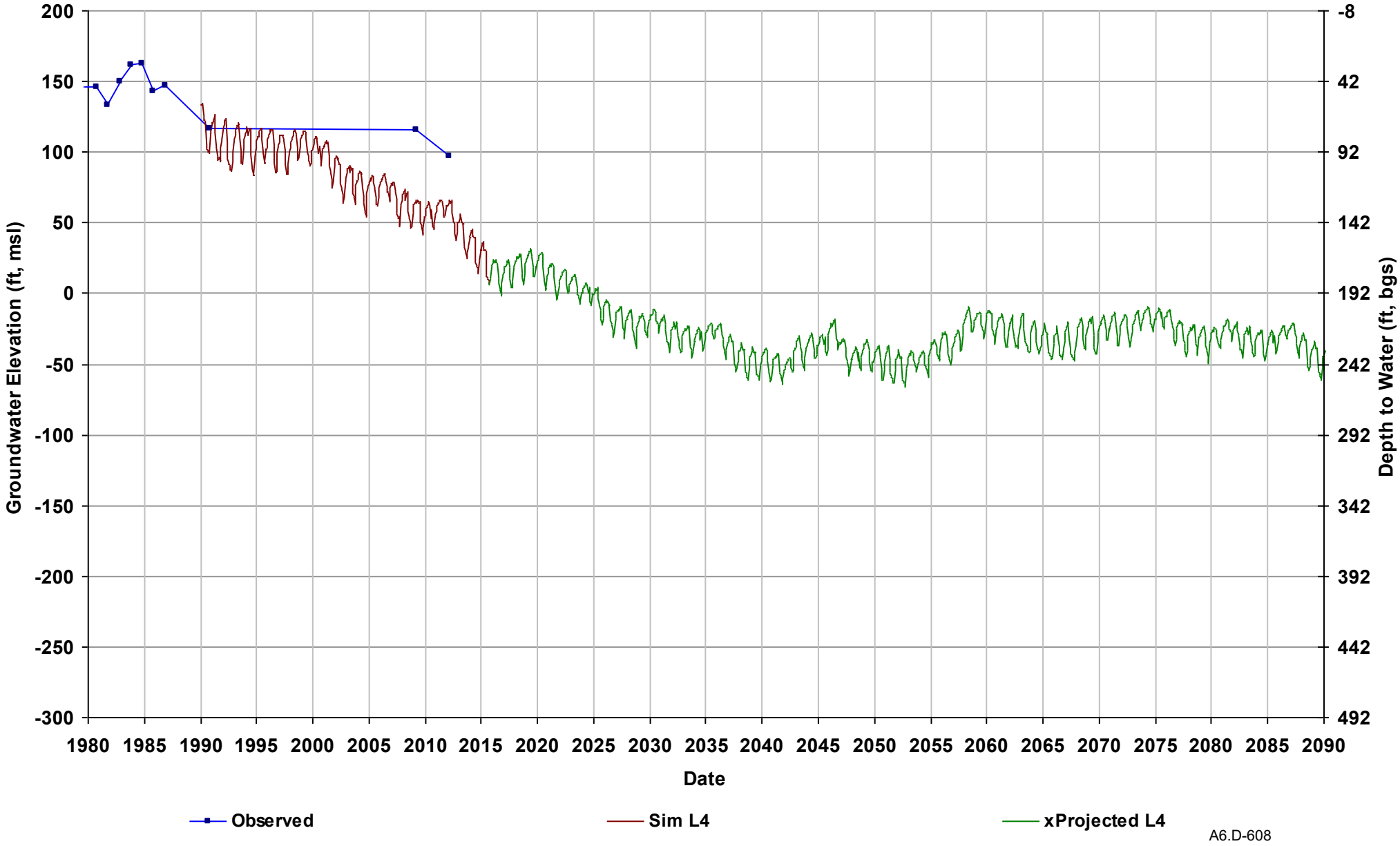
Appendix E

Groundwater Elevation Hydrographs for Projected Future Scenarios

1. Projected with Projects
2. Projected with Projects with Climate Change
3. Projected
4. Projected with Climate Change

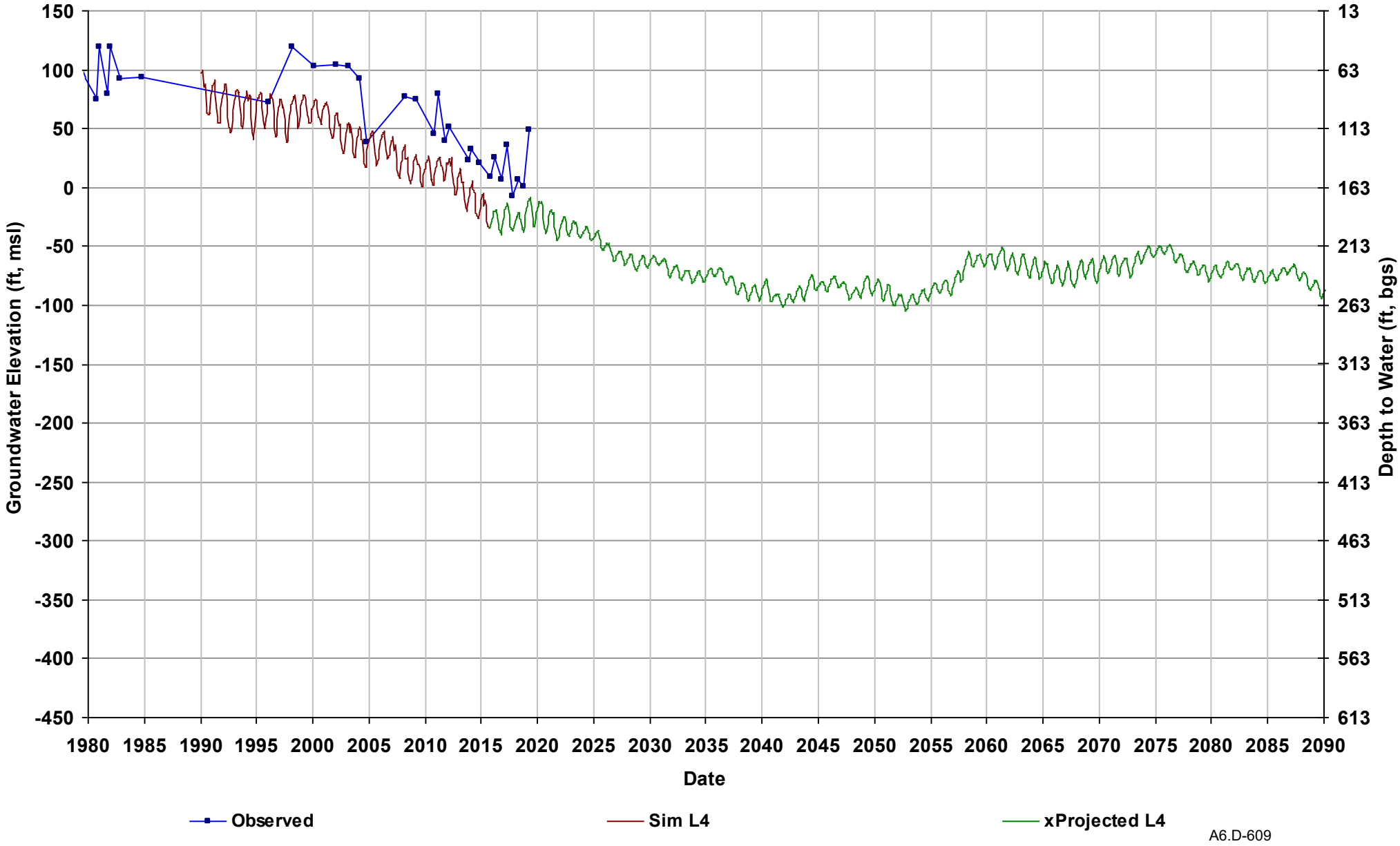
Well Name: 08S14E13L002M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 192

Total Depth (ft): 530
Perf Top (ft): 193
Perf Bottom (ft): 200
Top Model Layer: 4
Bottom Model Layer: 4



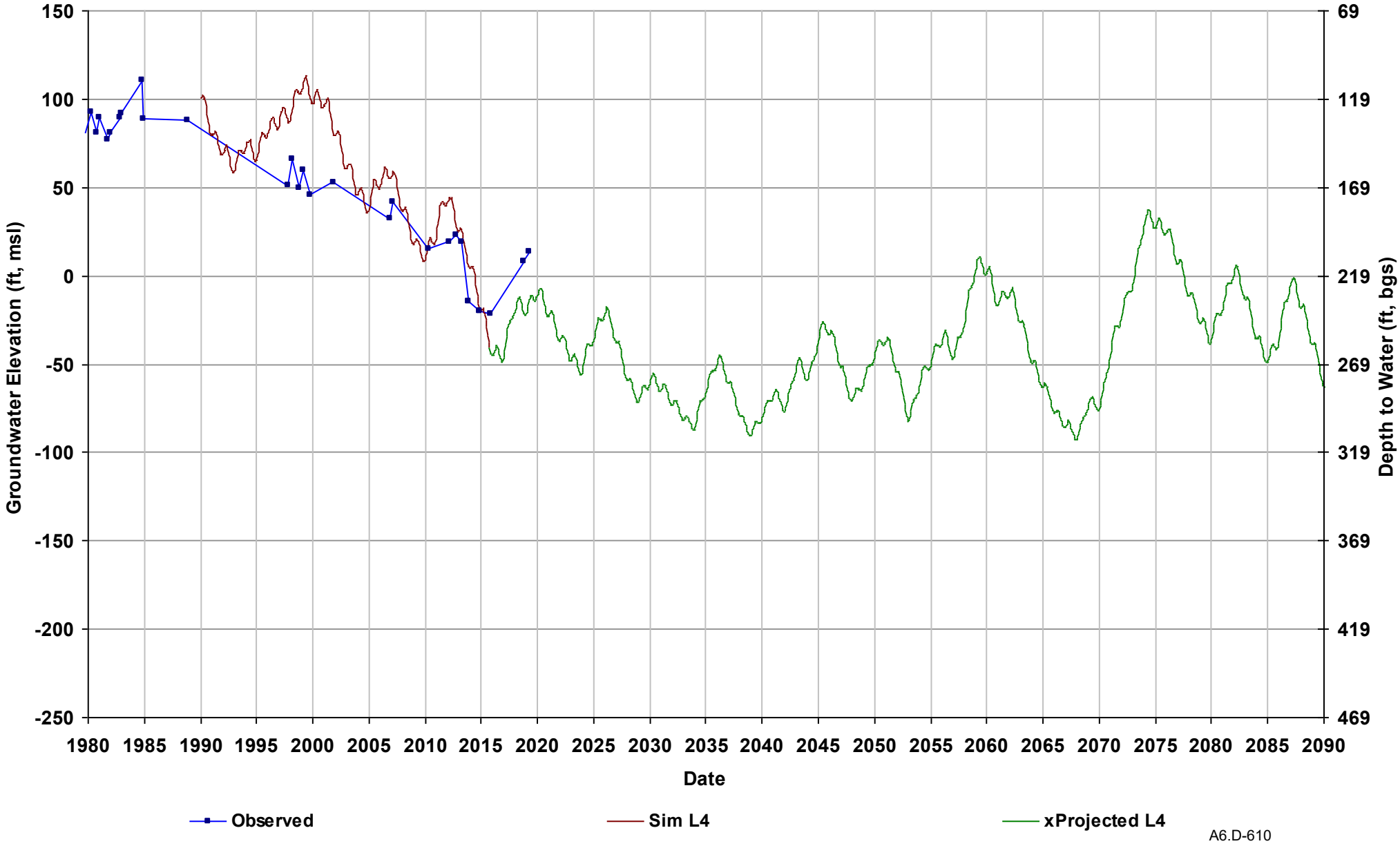
Well Name: 08S14E20J001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 435
Perf Top (ft): 150
Perf Bottom (ft): 430
Top Model Layer: 4
Bottom Model Layer: 4



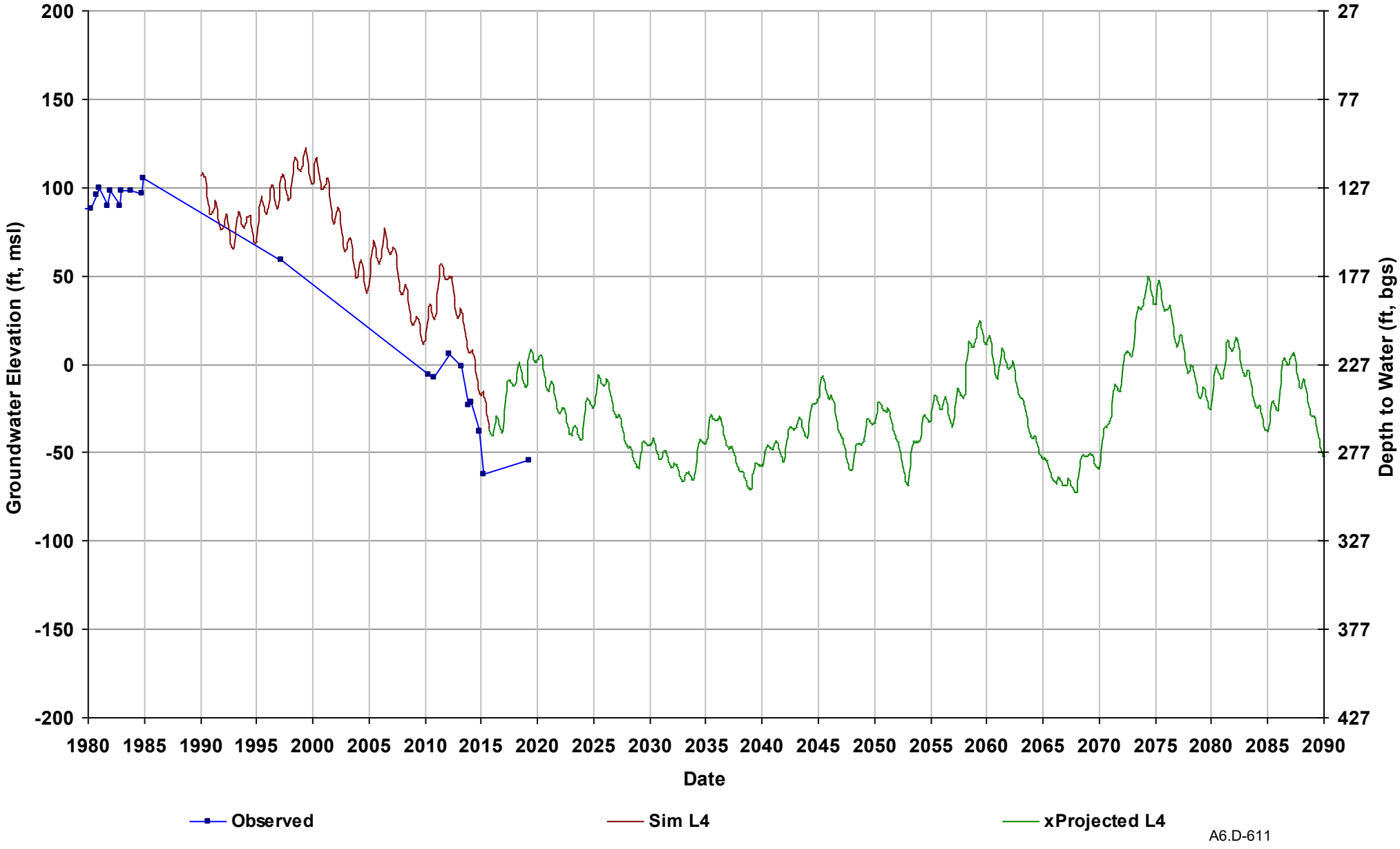
Well Name: 08S15E34L001M
Depth Zone: Composite or Lower; Wi
Subbasin: Merced
GSE (ft, msl): 219

Total Depth (ft): 247
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



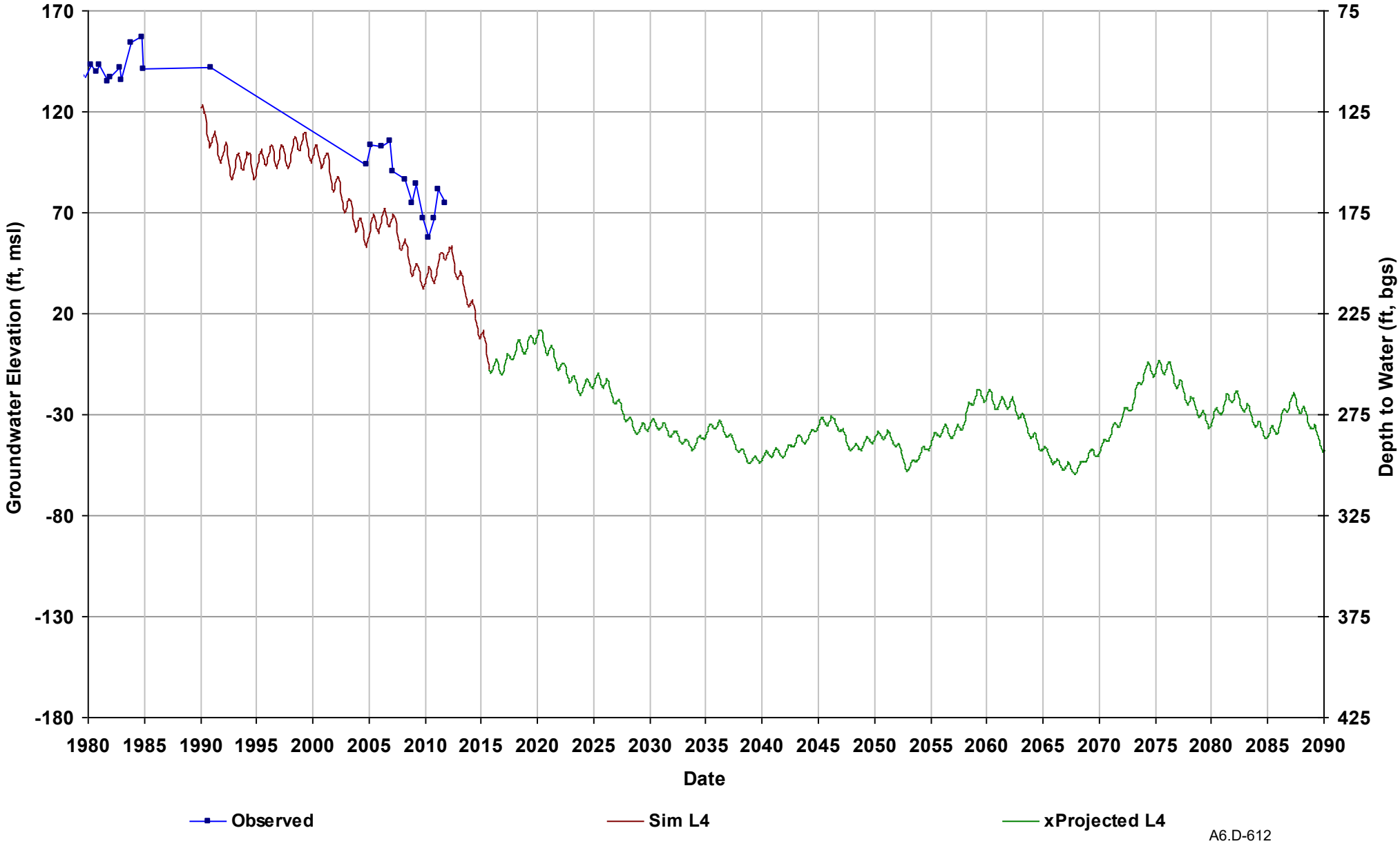
Well Name: 08S15E36G001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 227

Total Depth (ft): 509
Perf Top (ft): 176
Perf Bottom (ft): 376
Top Model Layer: 4
Bottom Model Layer: 4



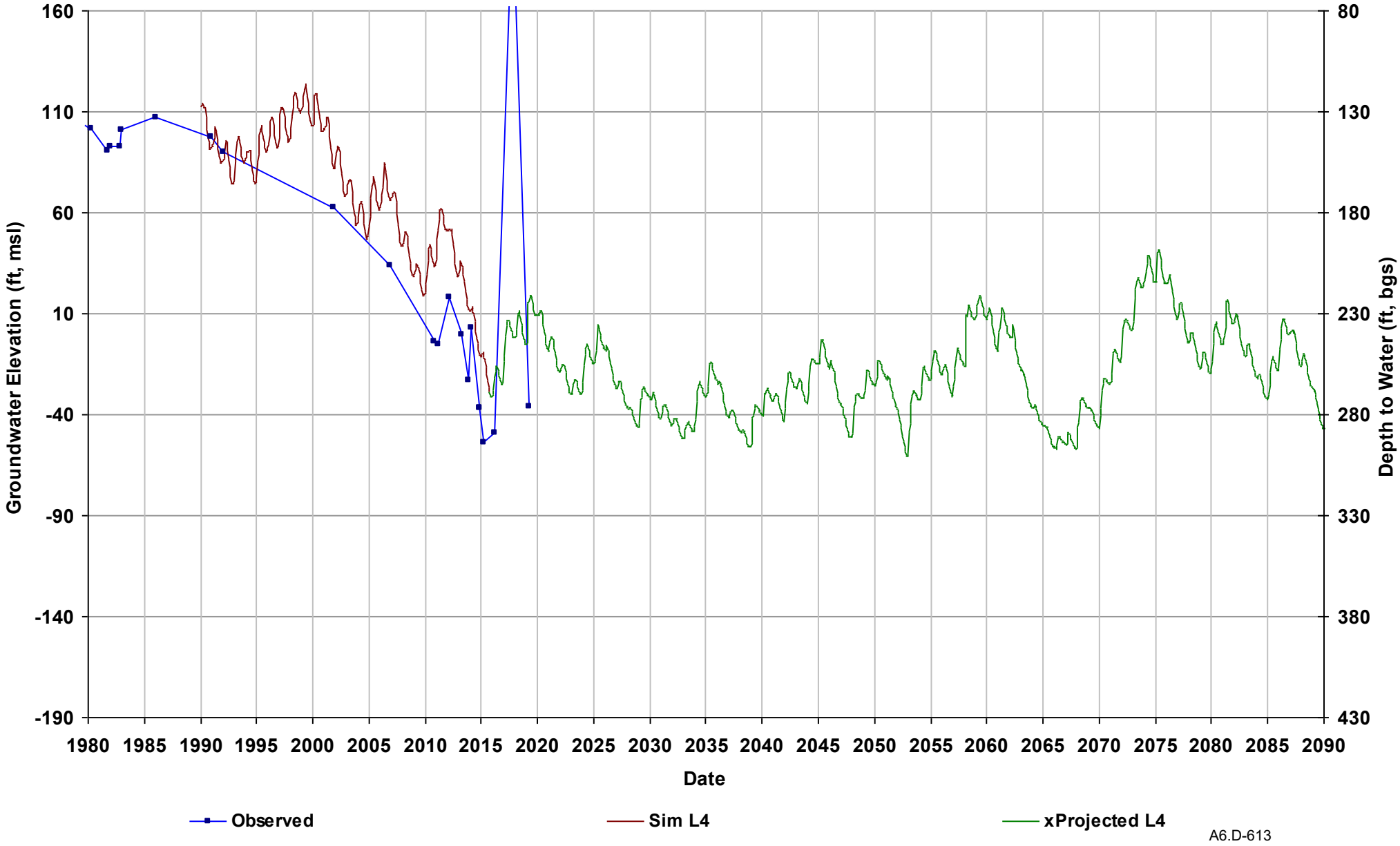
Well Name: 08S16E19D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 245

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



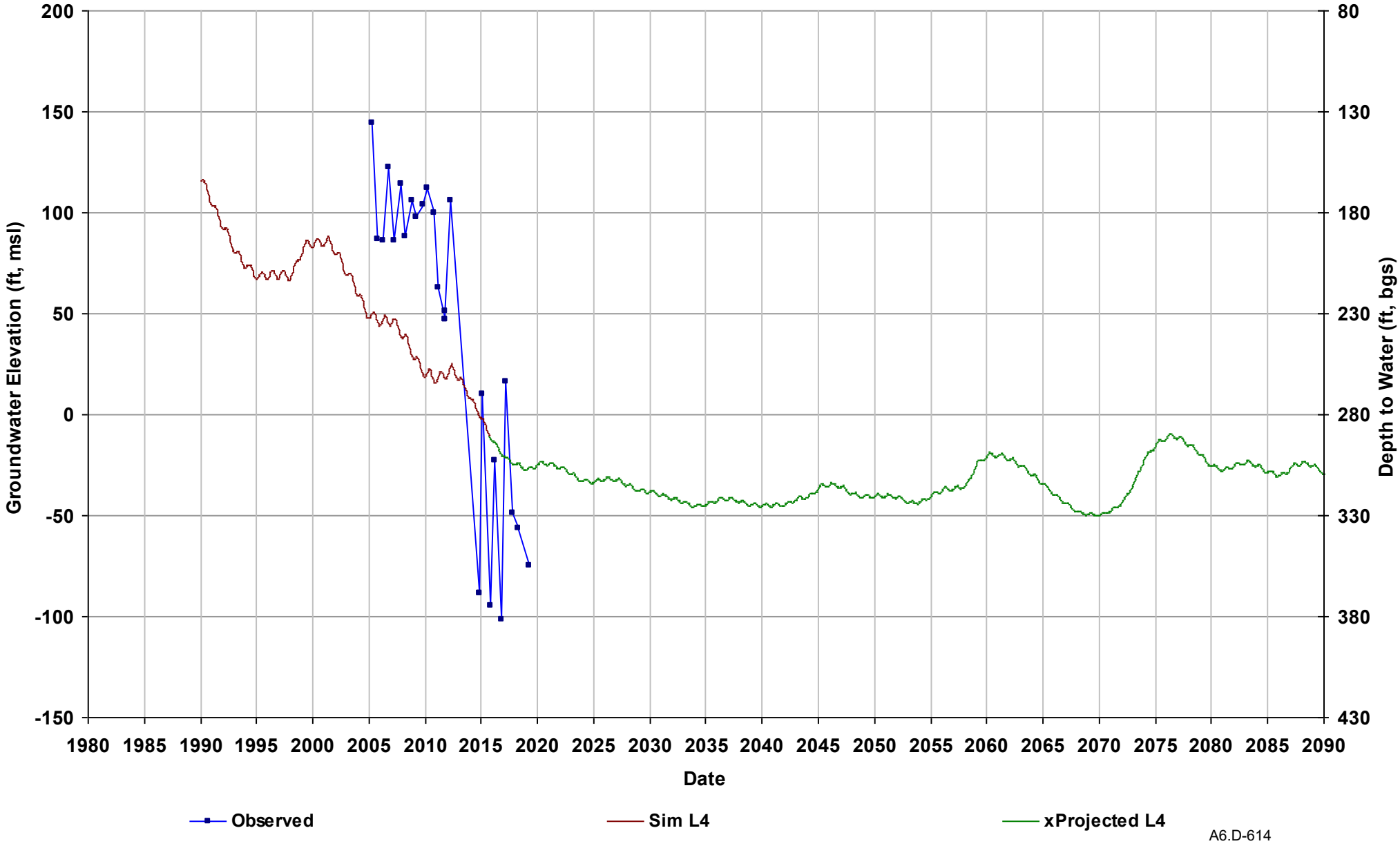
Well Name: 08S16E31C001M
Depth Zone: Composite or Lower; O
Subbasin: Merced
GSE (ft, msl): 240

Total Depth (ft): 412
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



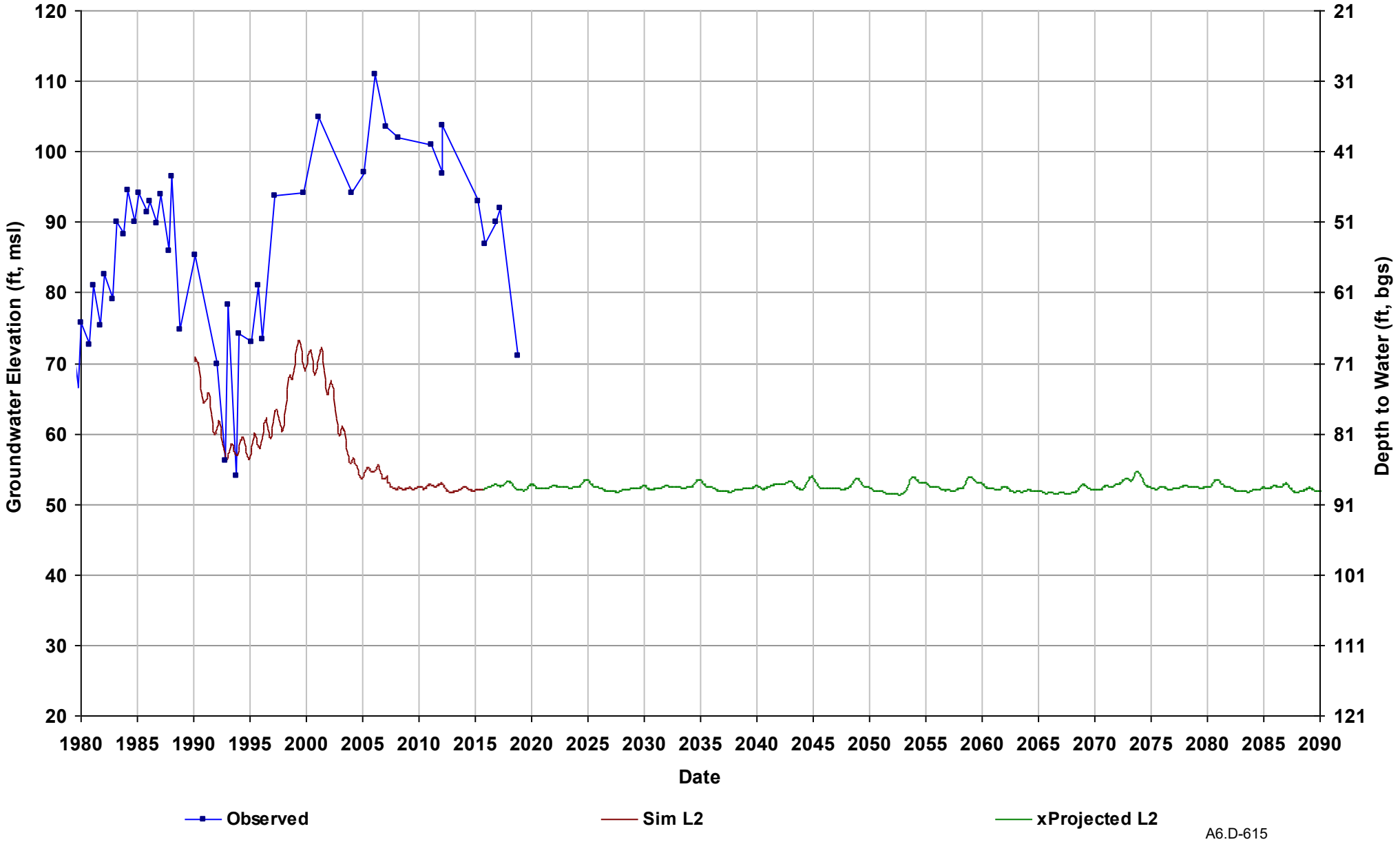
Well Name: 08S16E34J001M
Depth Zone: Lower; Outside CC
Subbasin: Merced
GSE (ft, msl): 280

Total Depth (ft): 639
Perf Top (ft): 180
Perf Bottom (ft): 639
Top Model Layer: 4
Bottom Model Layer: 4



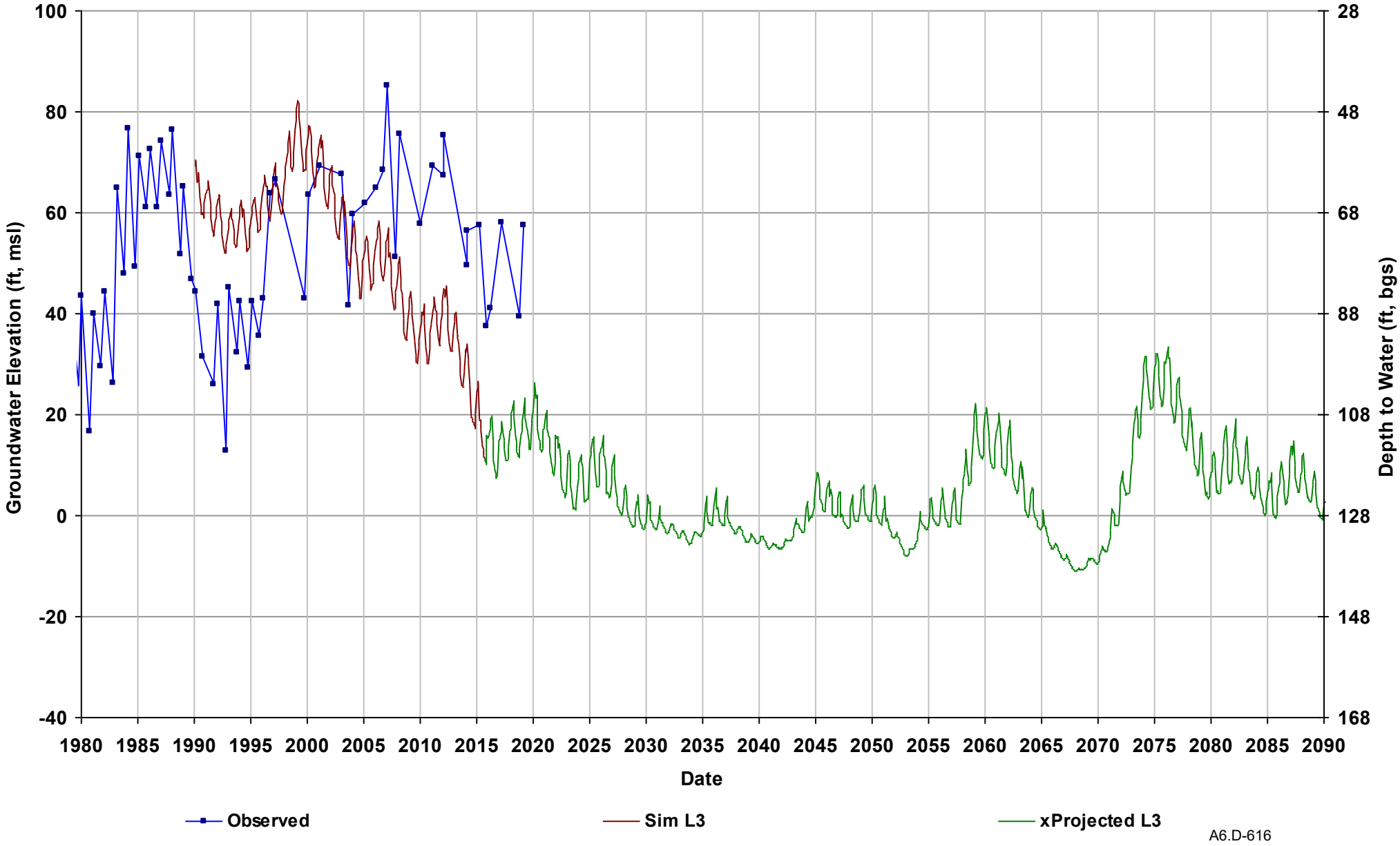
Well Name: 09S13E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 141

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



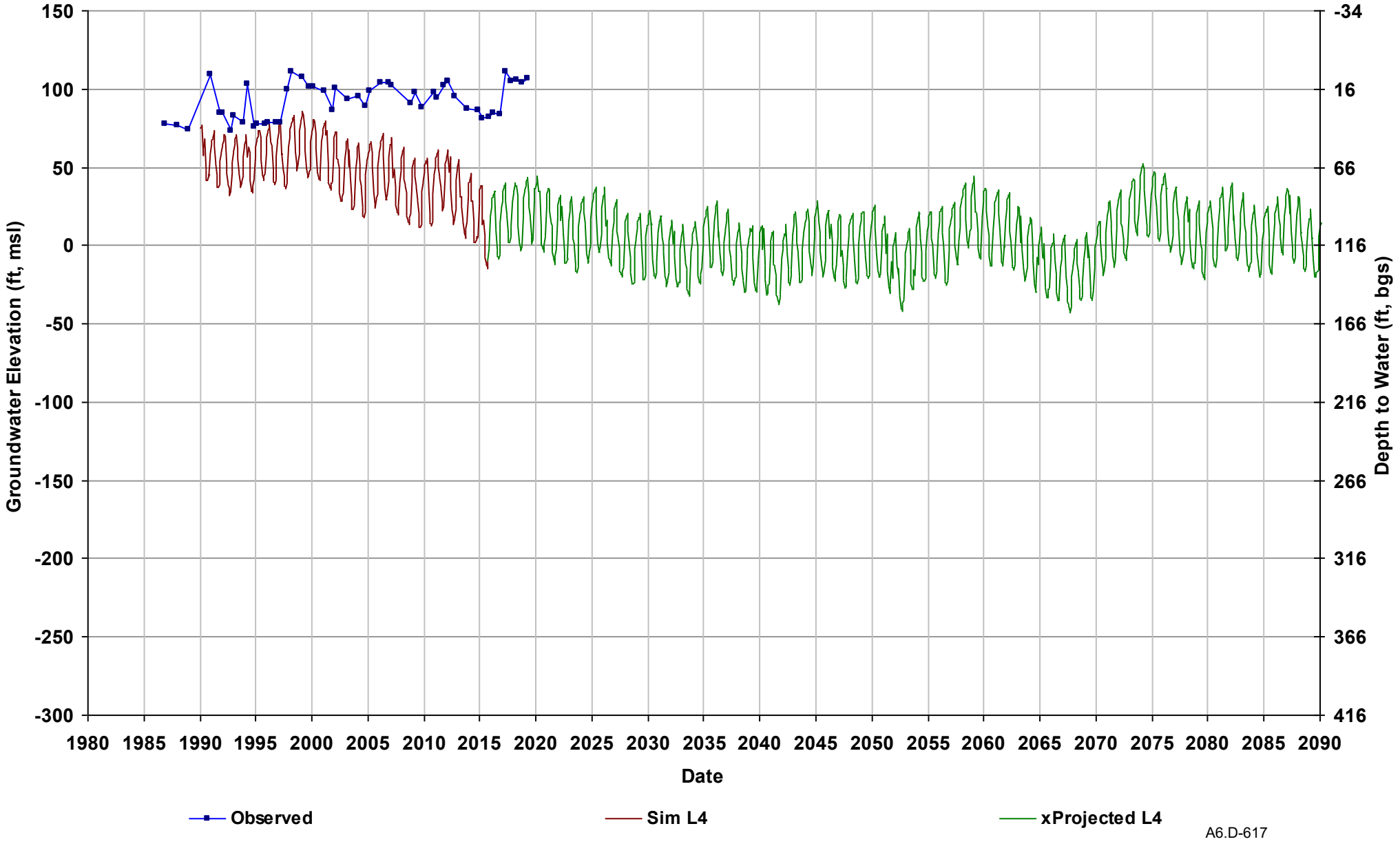
Well Name: 09S13E22H002M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 127

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



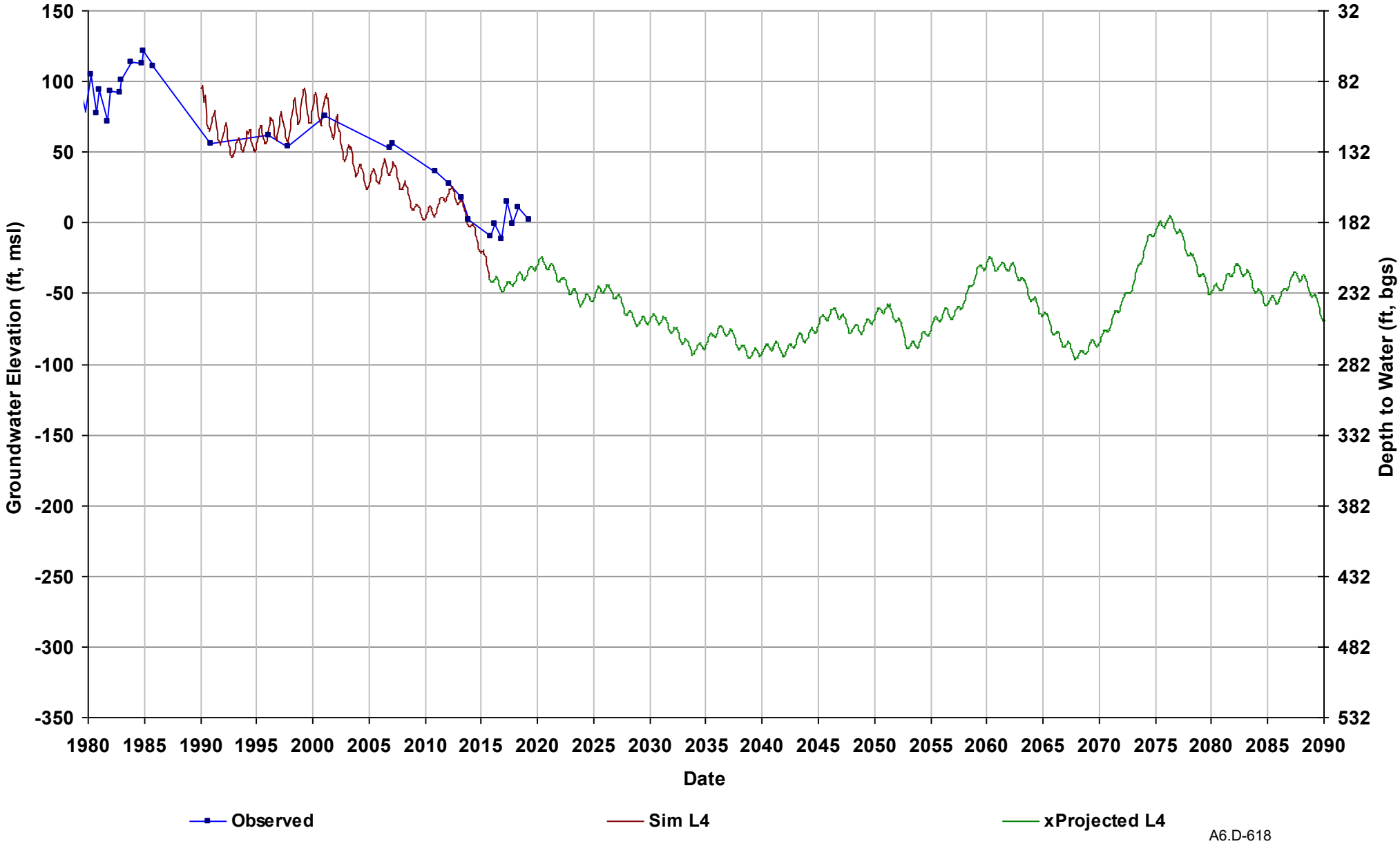
Well Name: 09S13E32A001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 116

Total Depth (ft): 616
Perf Top (ft): 150
Perf Bottom (ft): 509
Top Model Layer: 4
Bottom Model Layer: 4



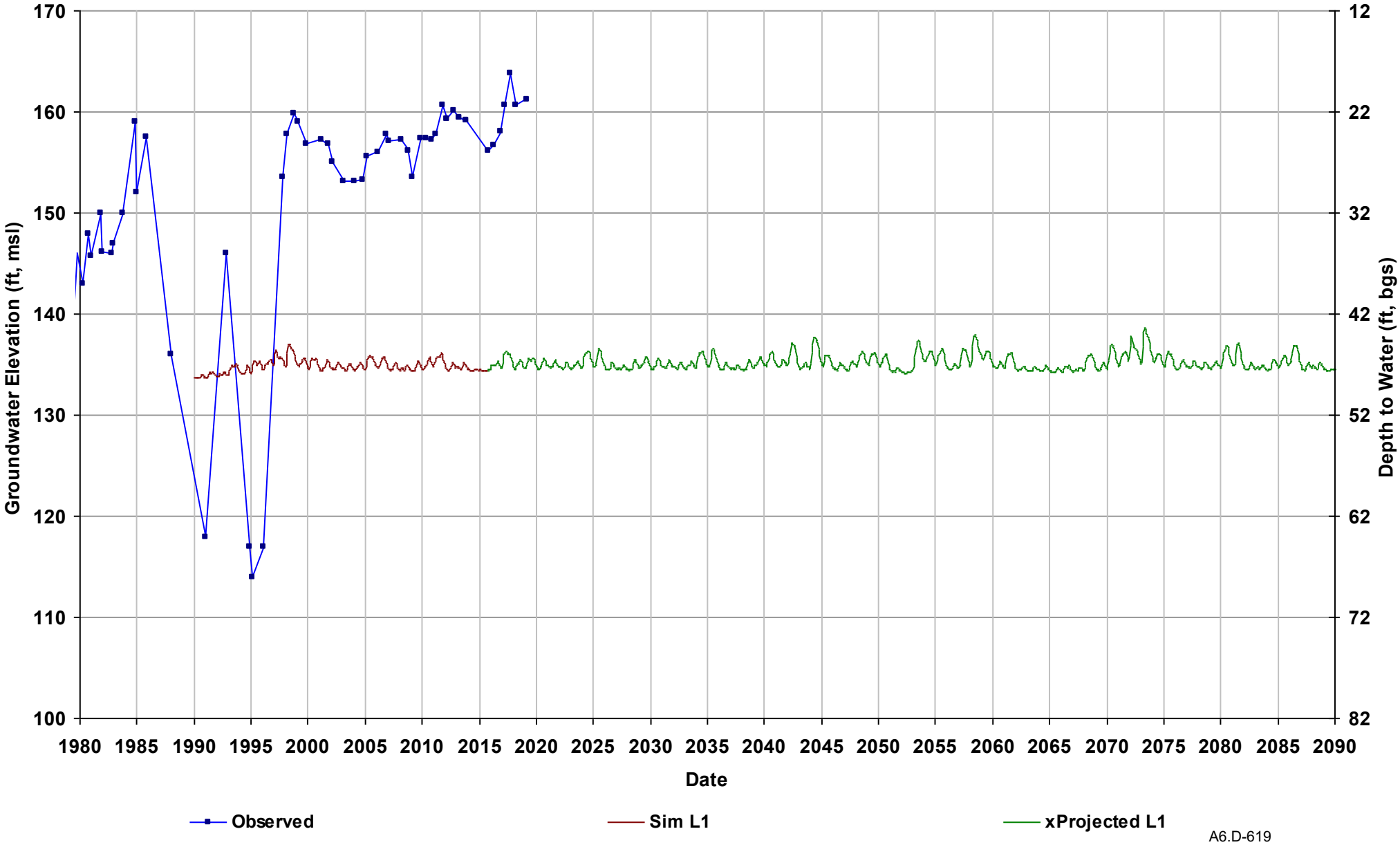
Well Name: 09S14E01B001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 345
Perf Top (ft): 225
Perf Bottom (ft): 345
Top Model Layer: 4
Bottom Model Layer: 4



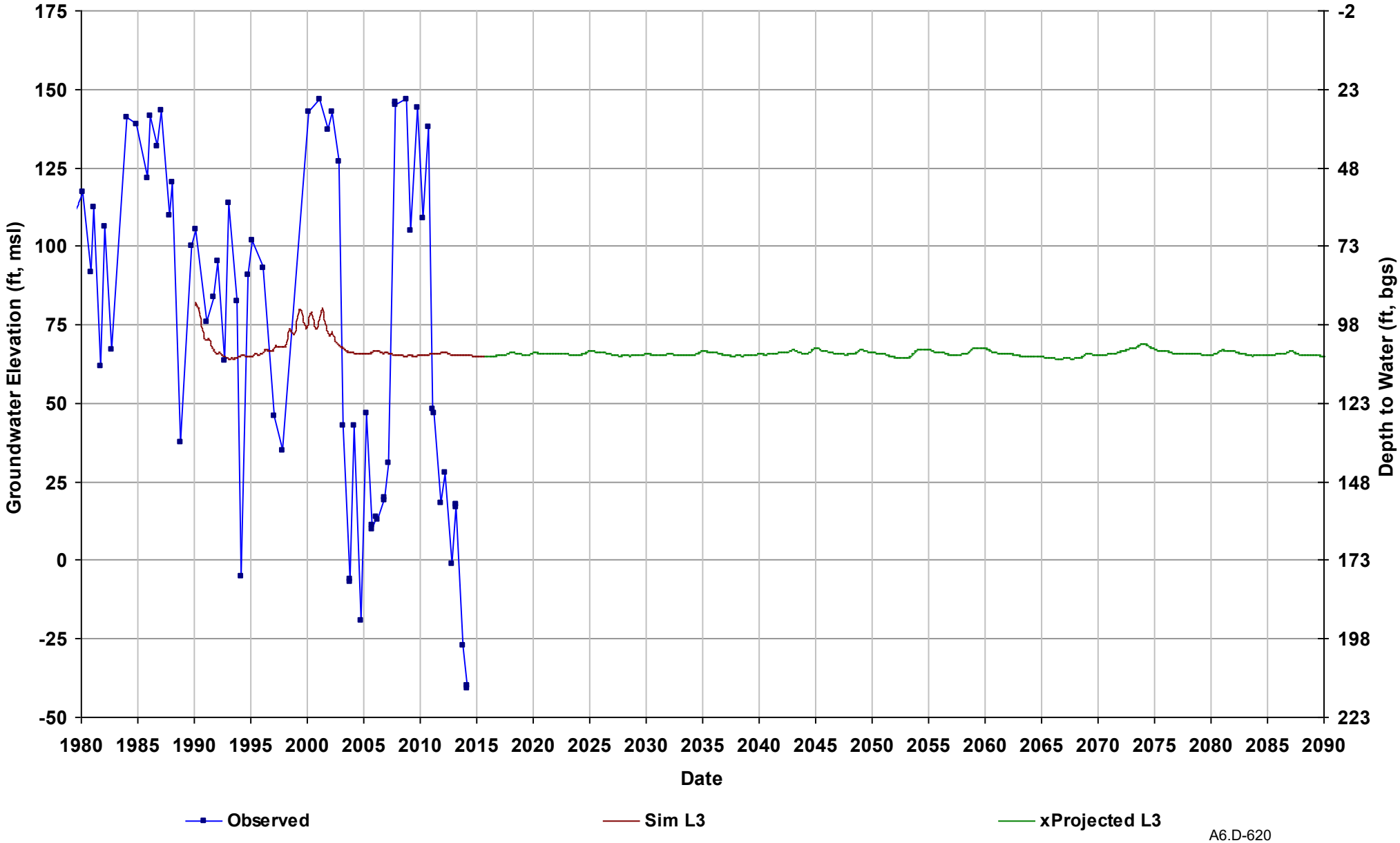
Well Name: 09S14E01B003M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 68
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



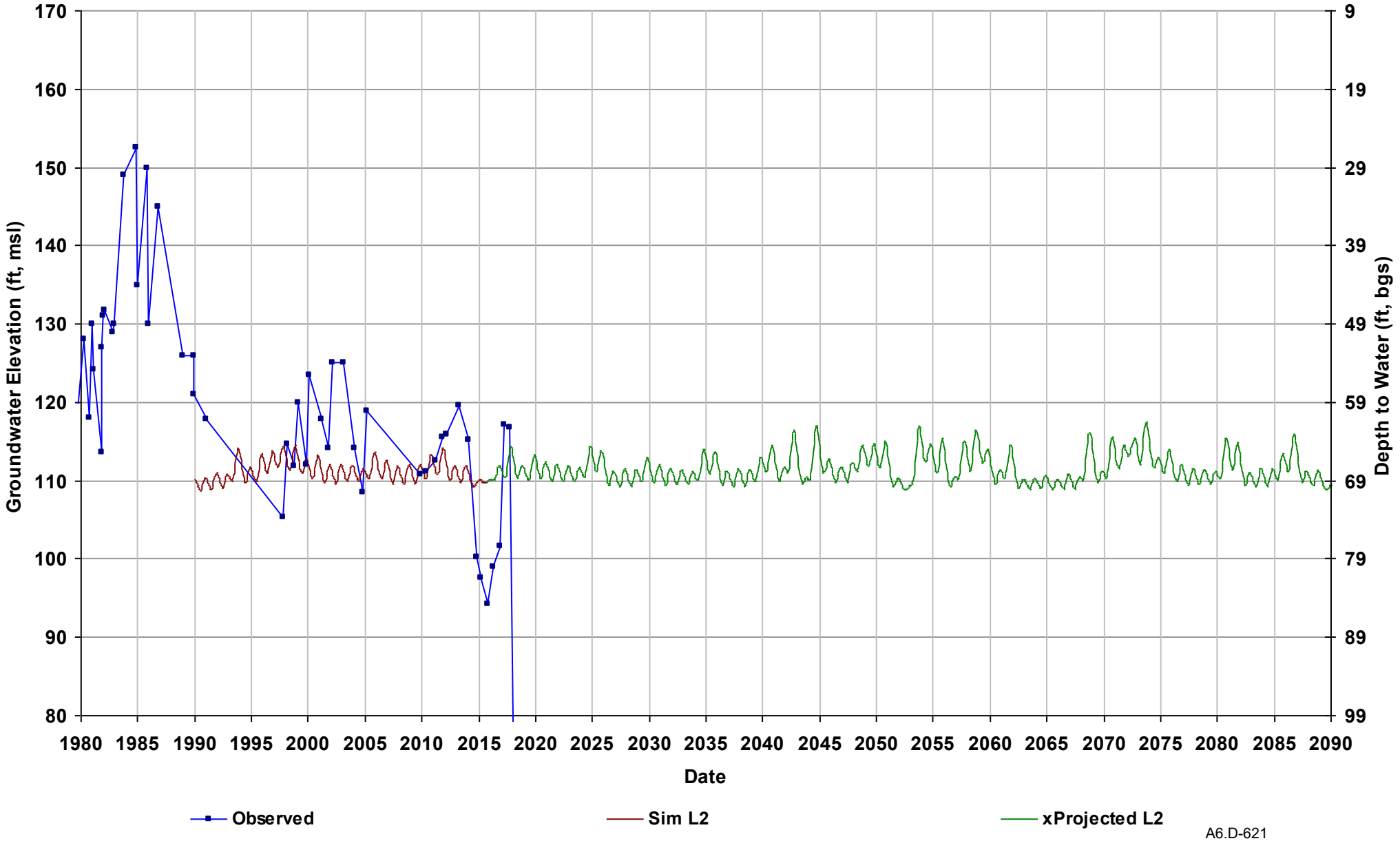
Well Name: 09S14E11F001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 173

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



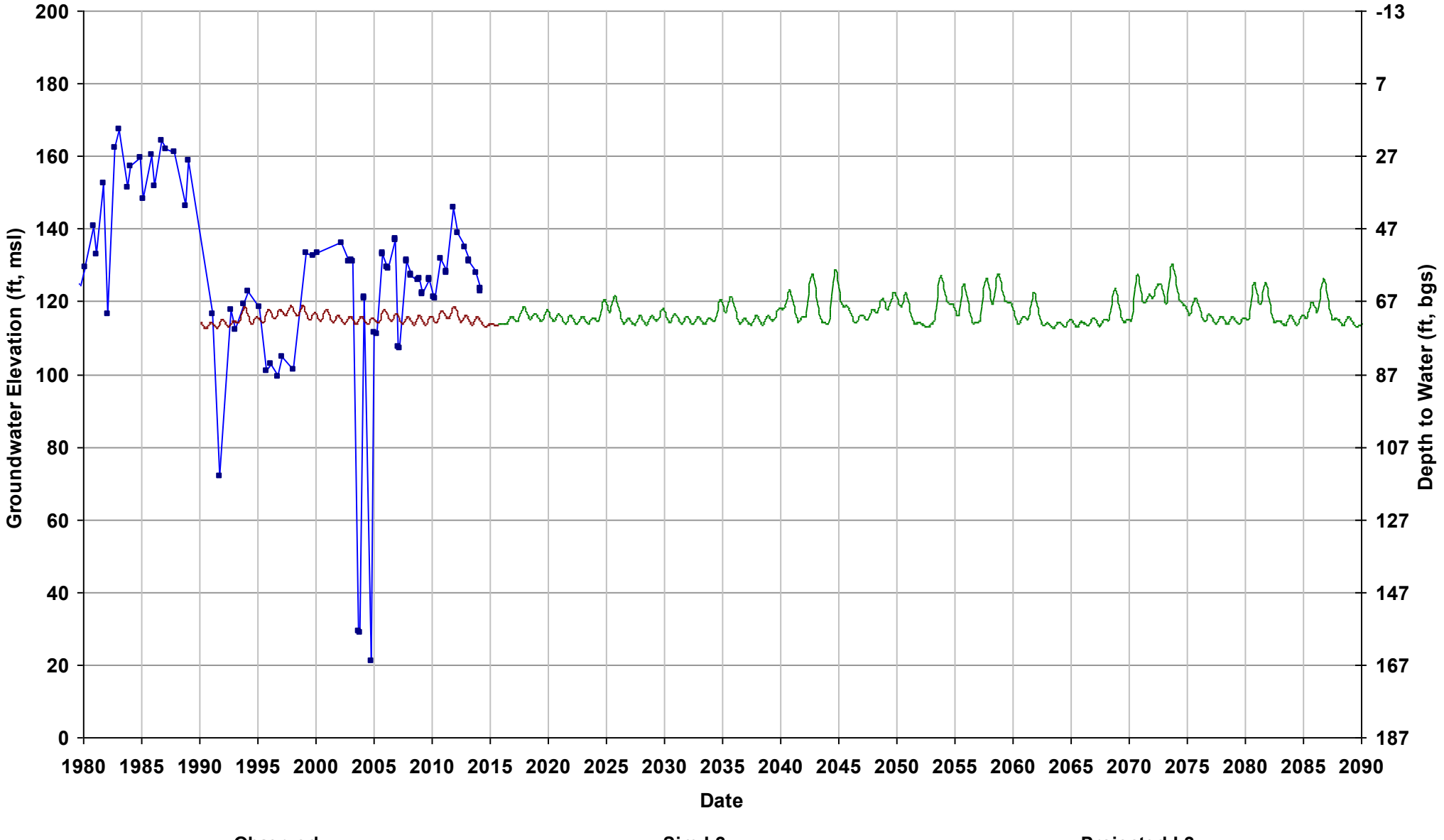
Well Name: 09S14E14R001M
Depth Zone: Composite or Lower; Wi
Subbasin: Chowchilla
GSE (ft, msl): 179

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



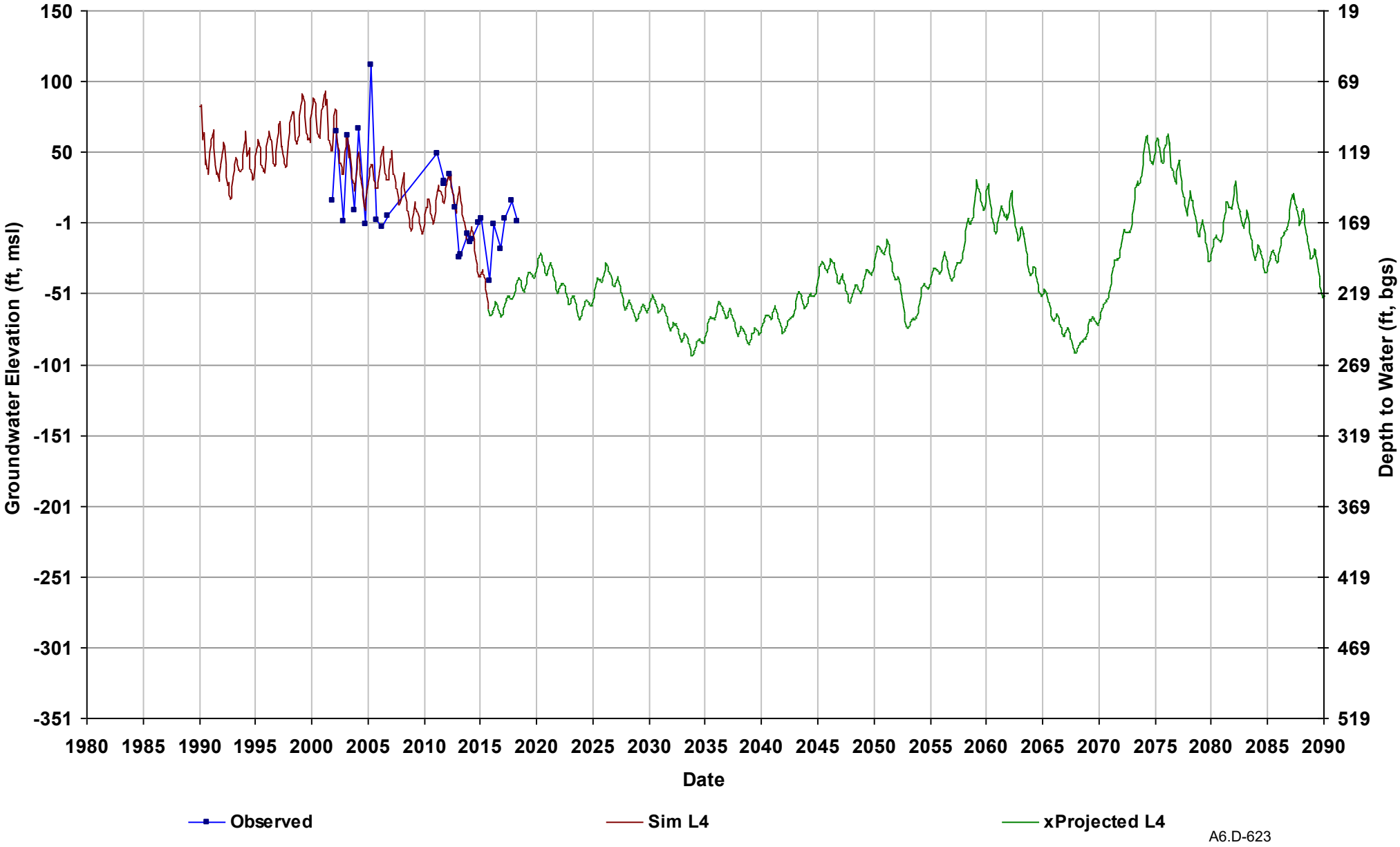
Well Name: 09S14E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



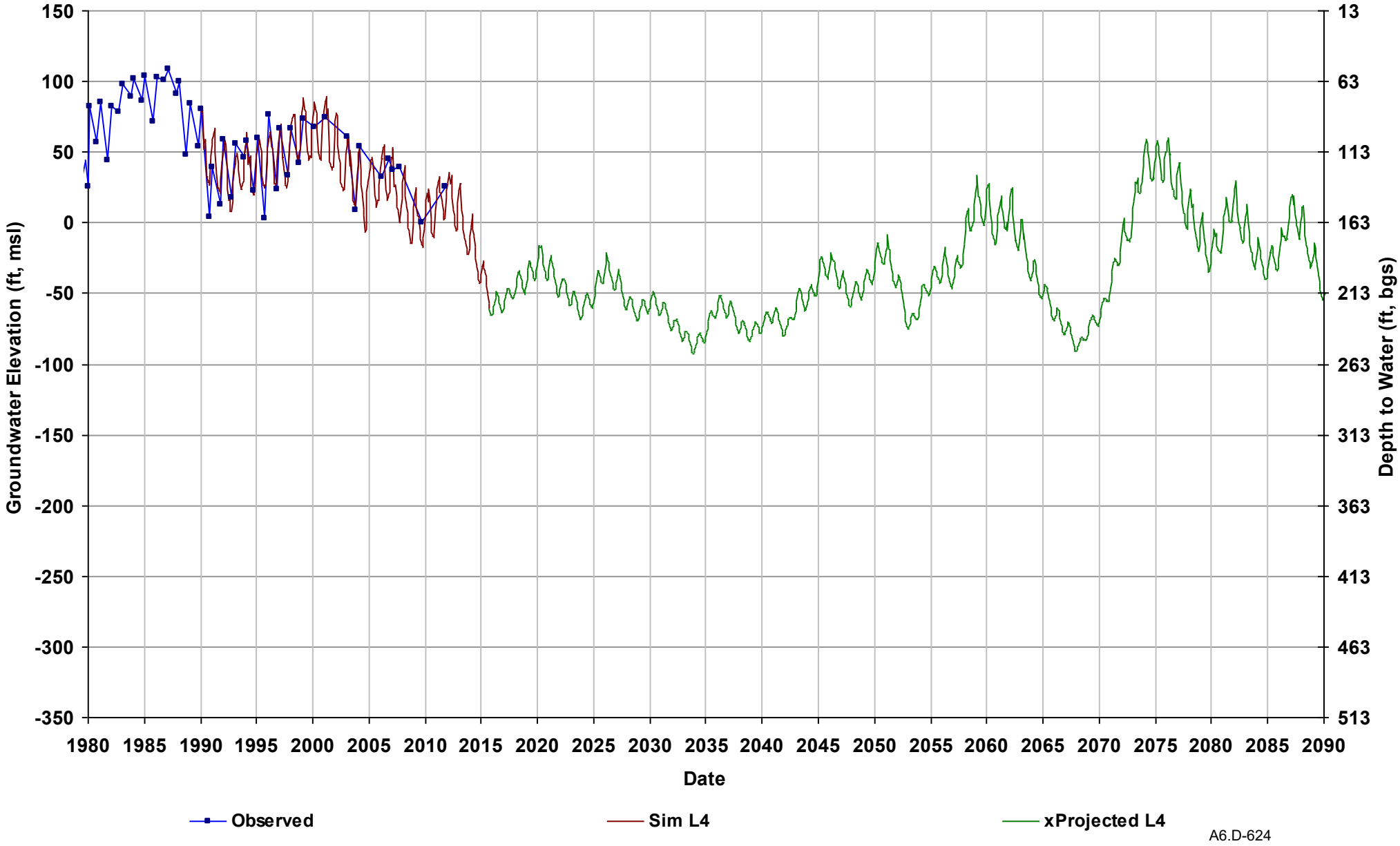
Well Name: 09S14E27R001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 168

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



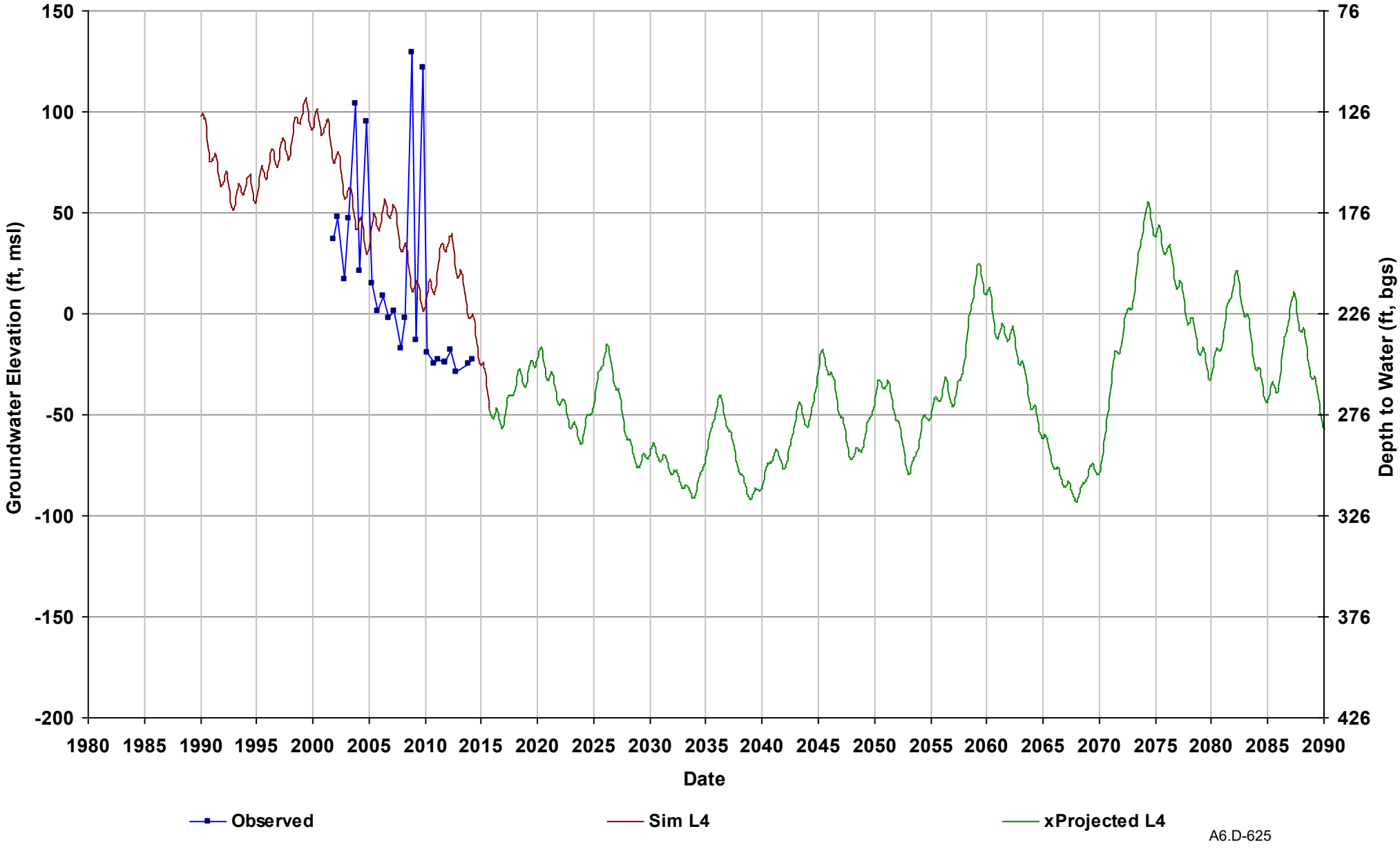
Well Name: 09S14E33A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 632
Perf Top (ft): 240
Perf Bottom (ft): 580
Top Model Layer: 4
Bottom Model Layer: 4



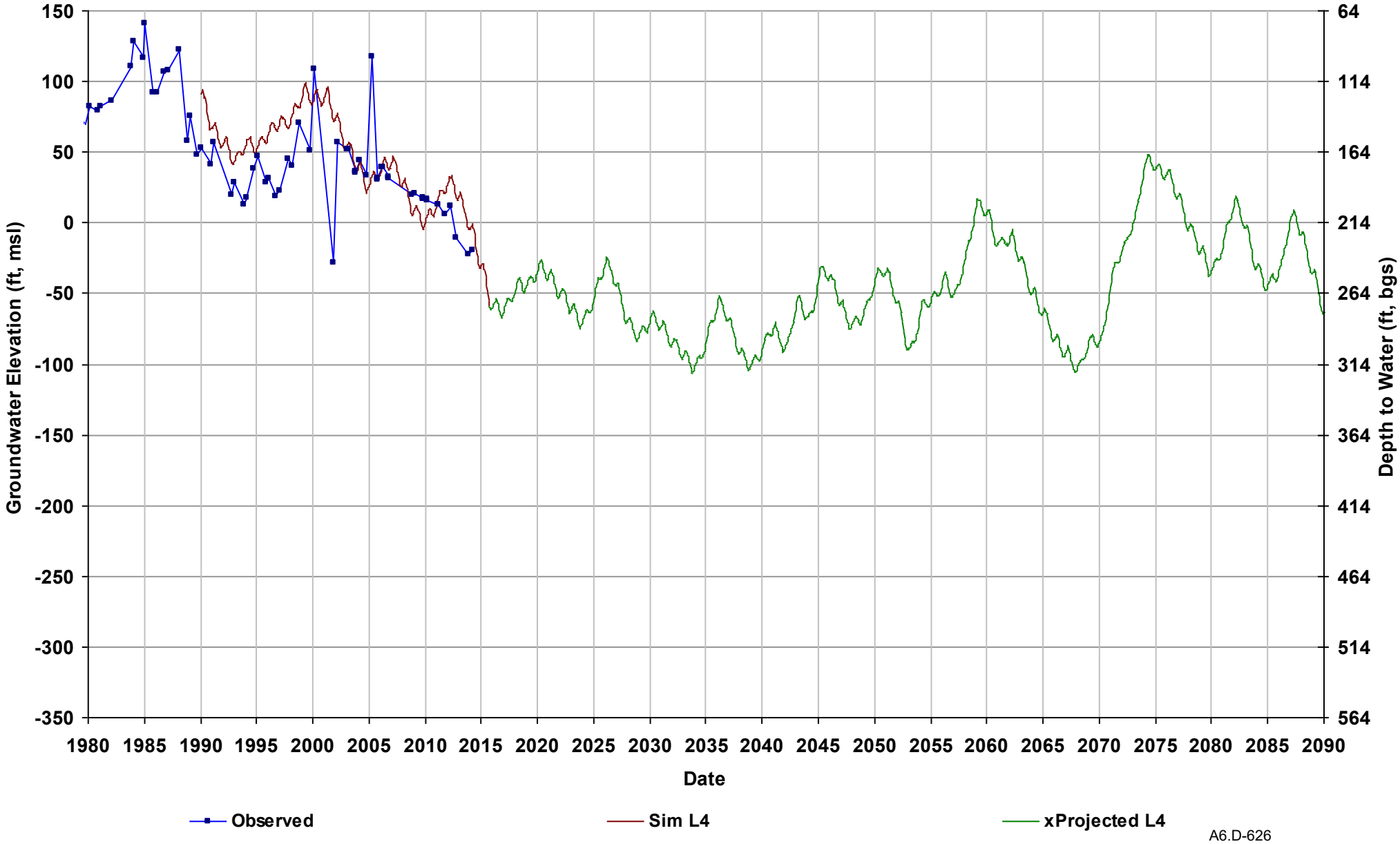
Well Name: 09S15E02A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 226

Total Depth (ft): 800
Perf Top (ft): 300
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



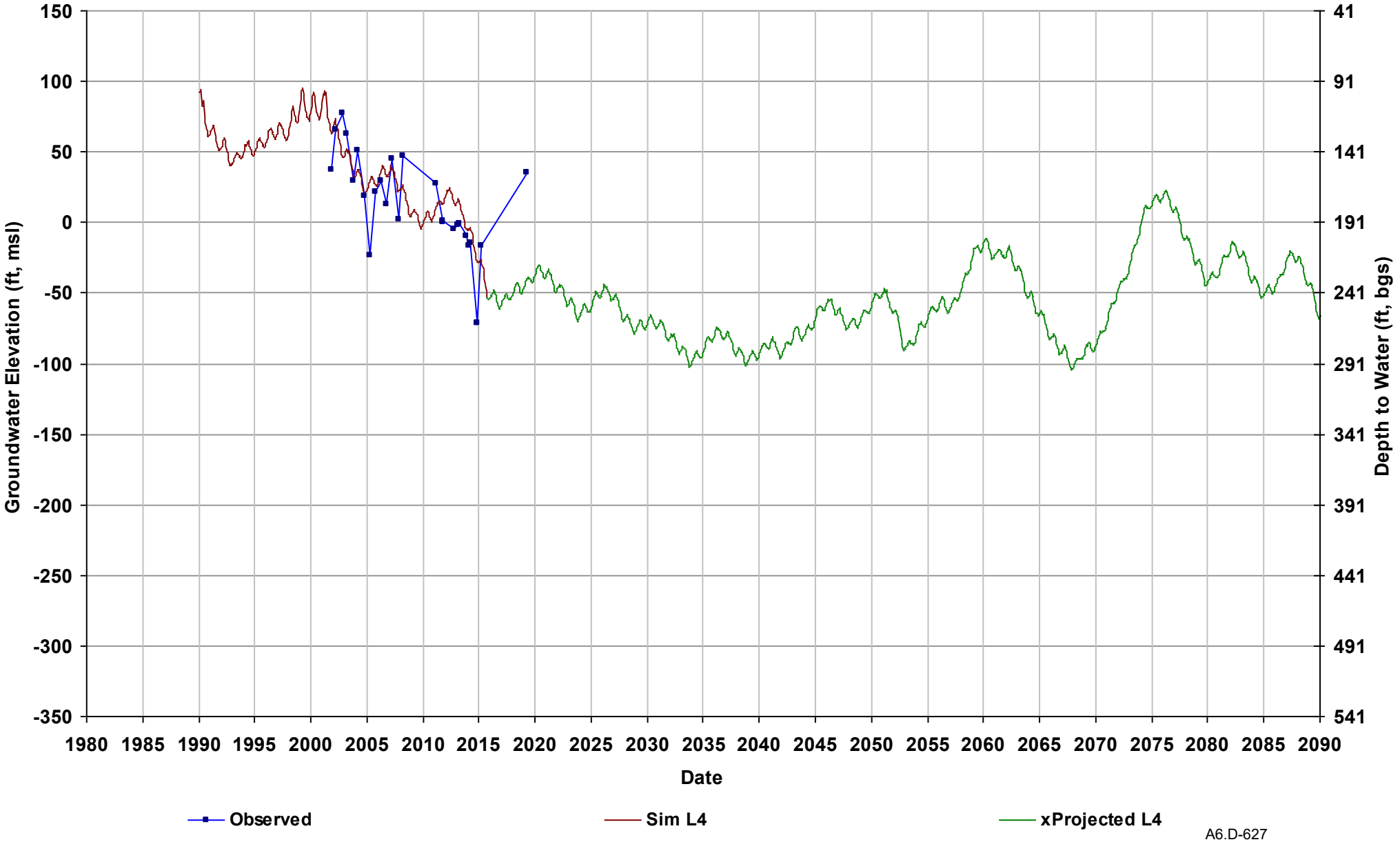
Well Name: 09S15E04R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



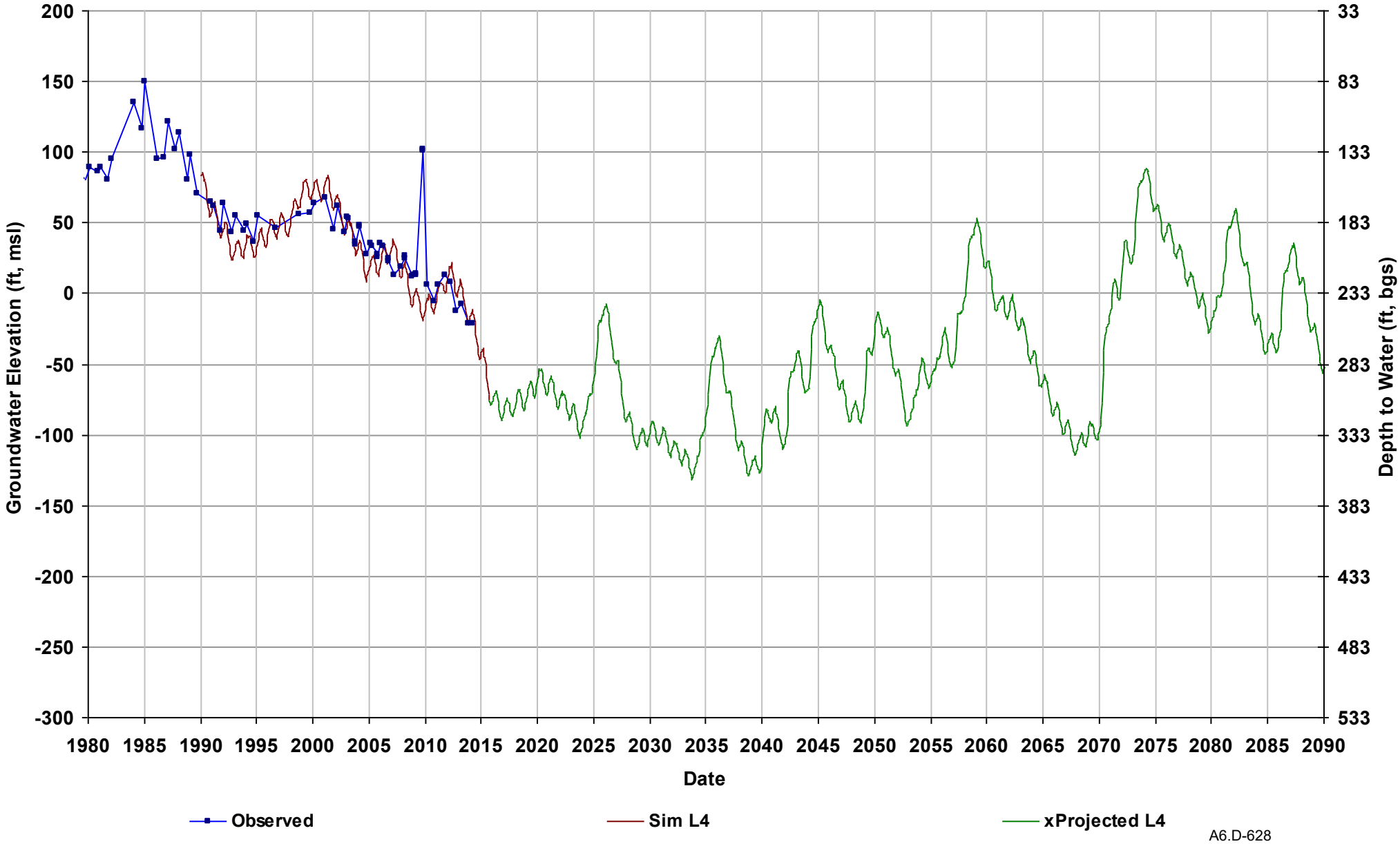
Well Name: 09S15E06P001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 4
Bottom Model Layer: 4



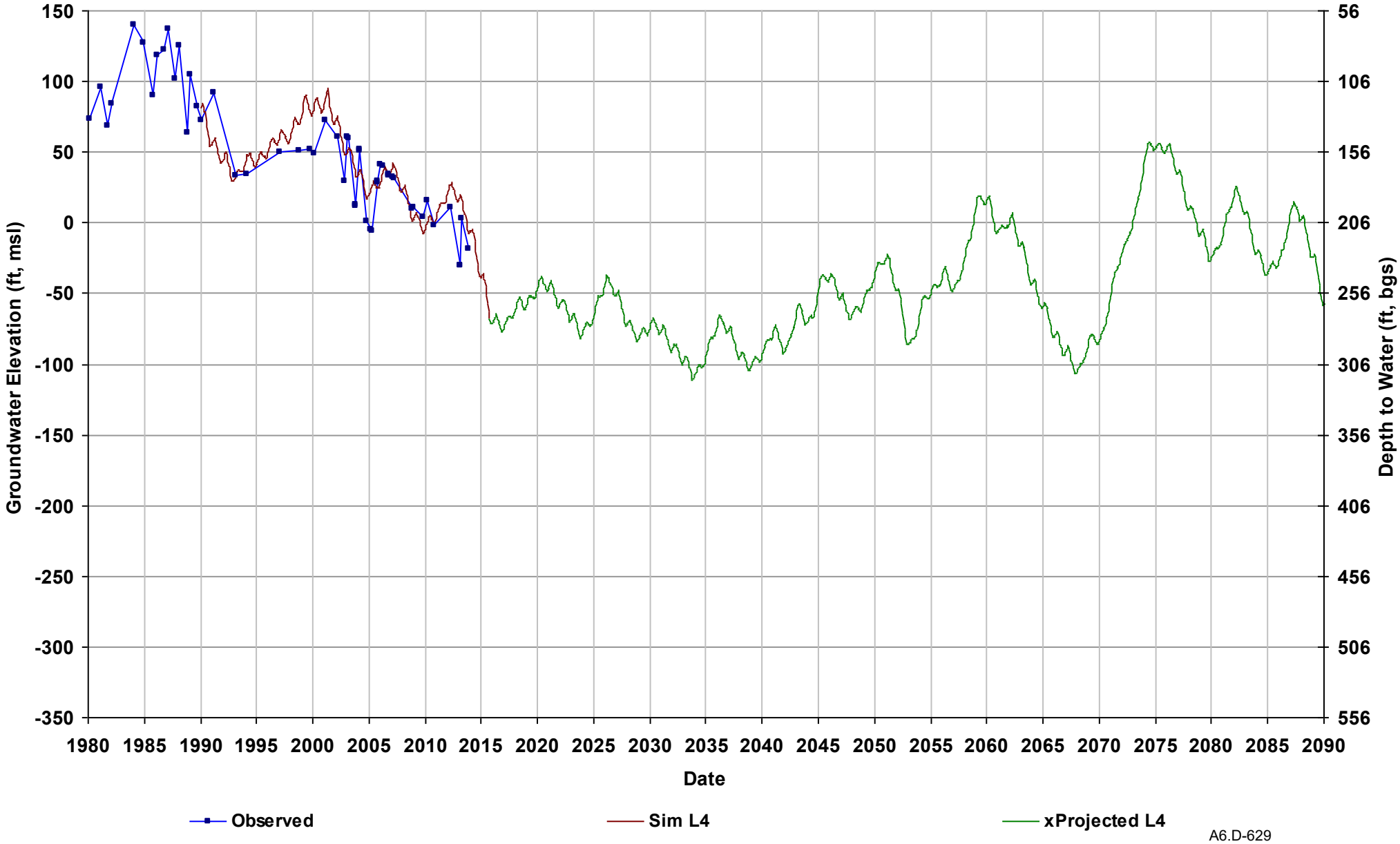
Well Name: 09S15E13E002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 232

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



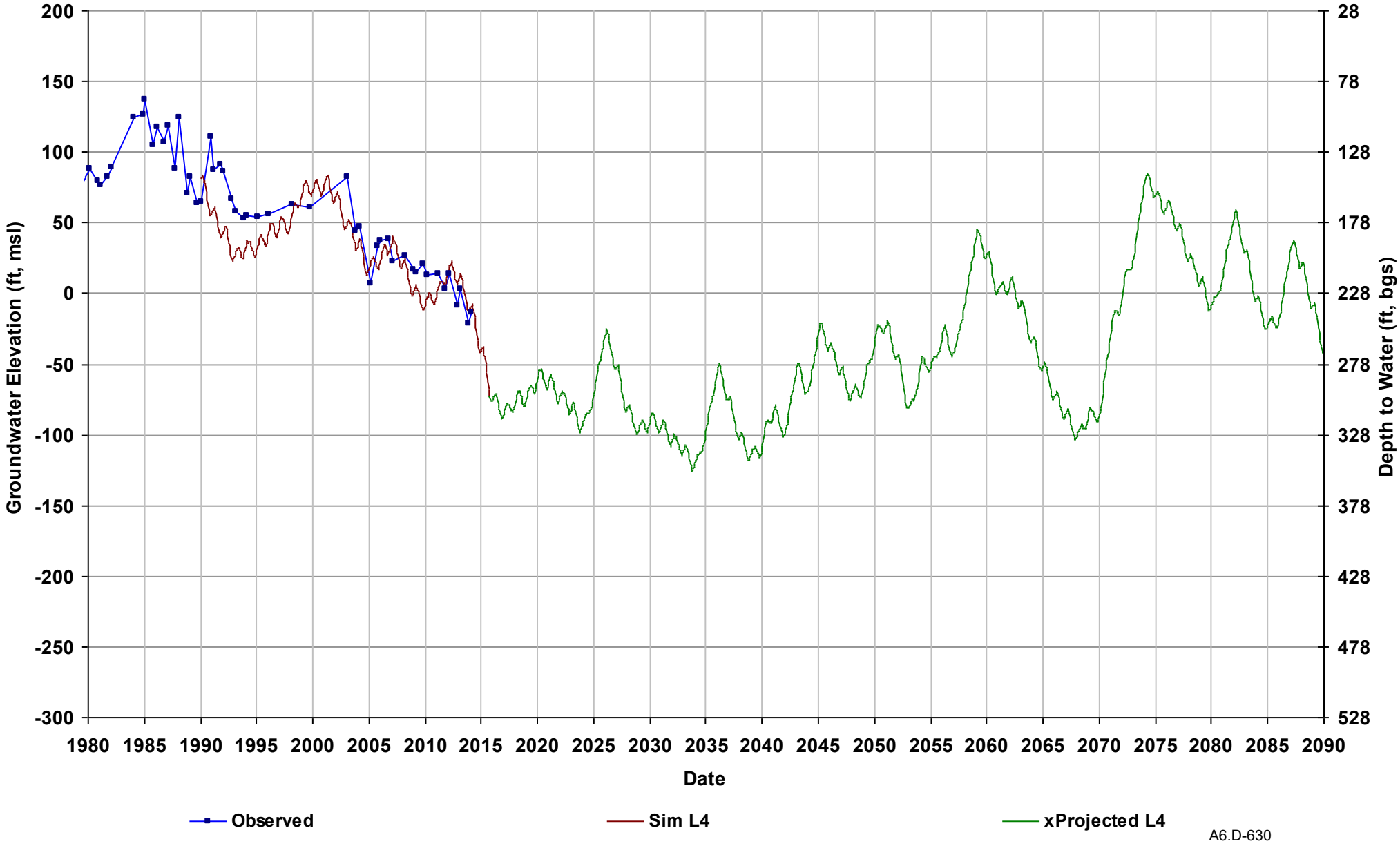
Well Name: 09S15E17R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 206

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



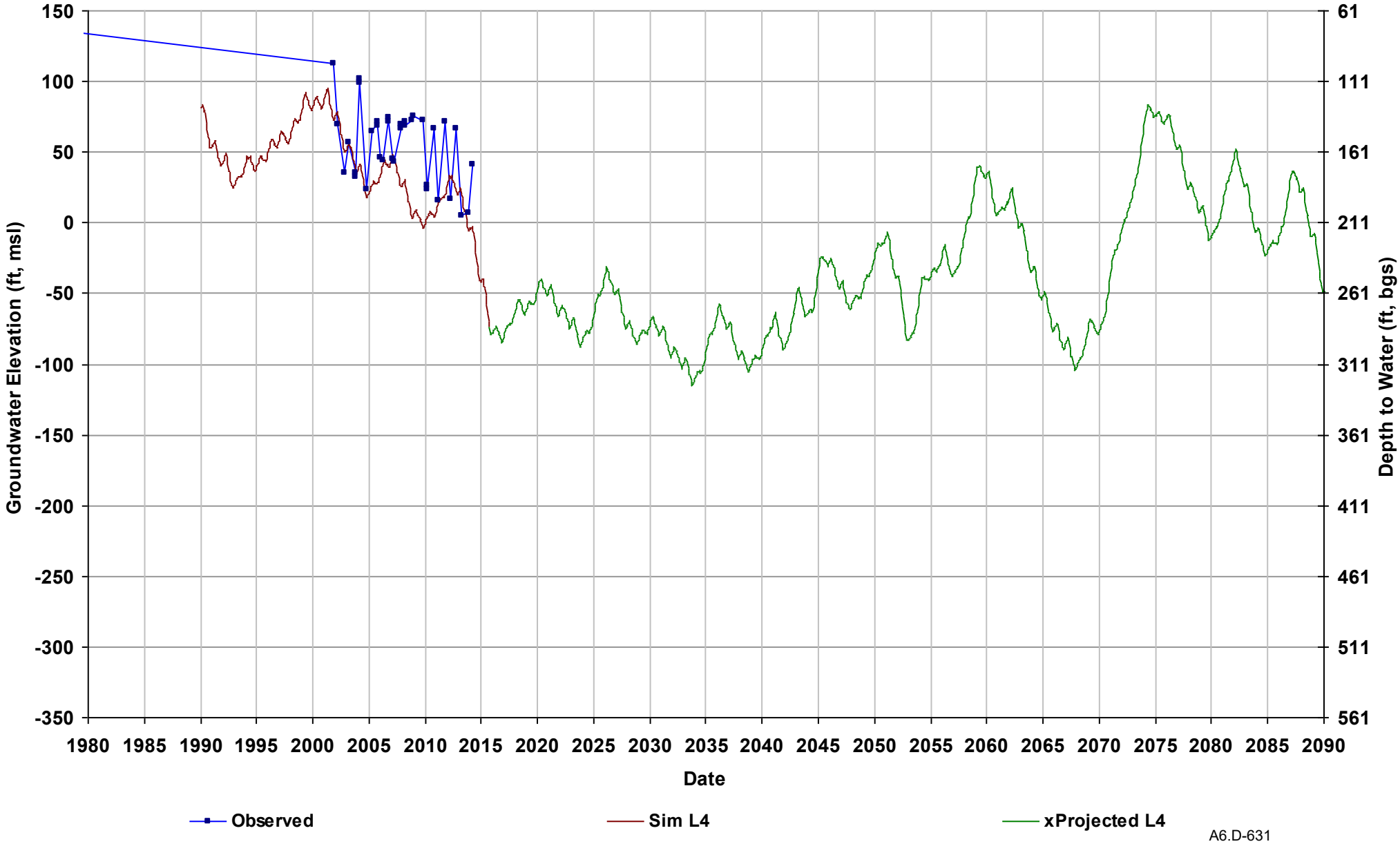
Well Name: 09S15E23J2
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 228

Total Depth (ft): 291
Perf Top (ft): 290.5
Perf Bottom (ft): 291
Top Model Layer: 4
Bottom Model Layer: 4



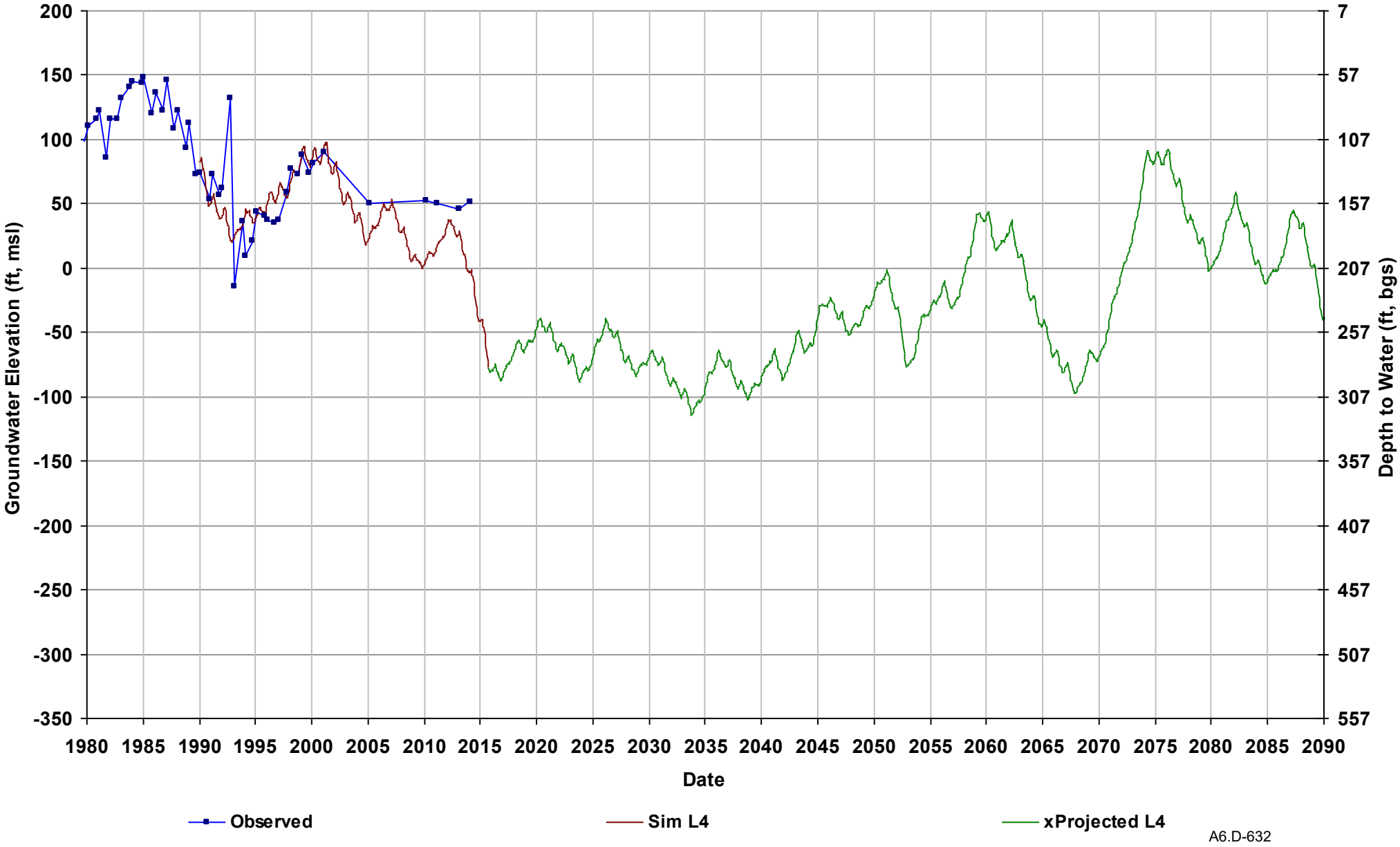
Well Name: 09S15E28A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 210

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



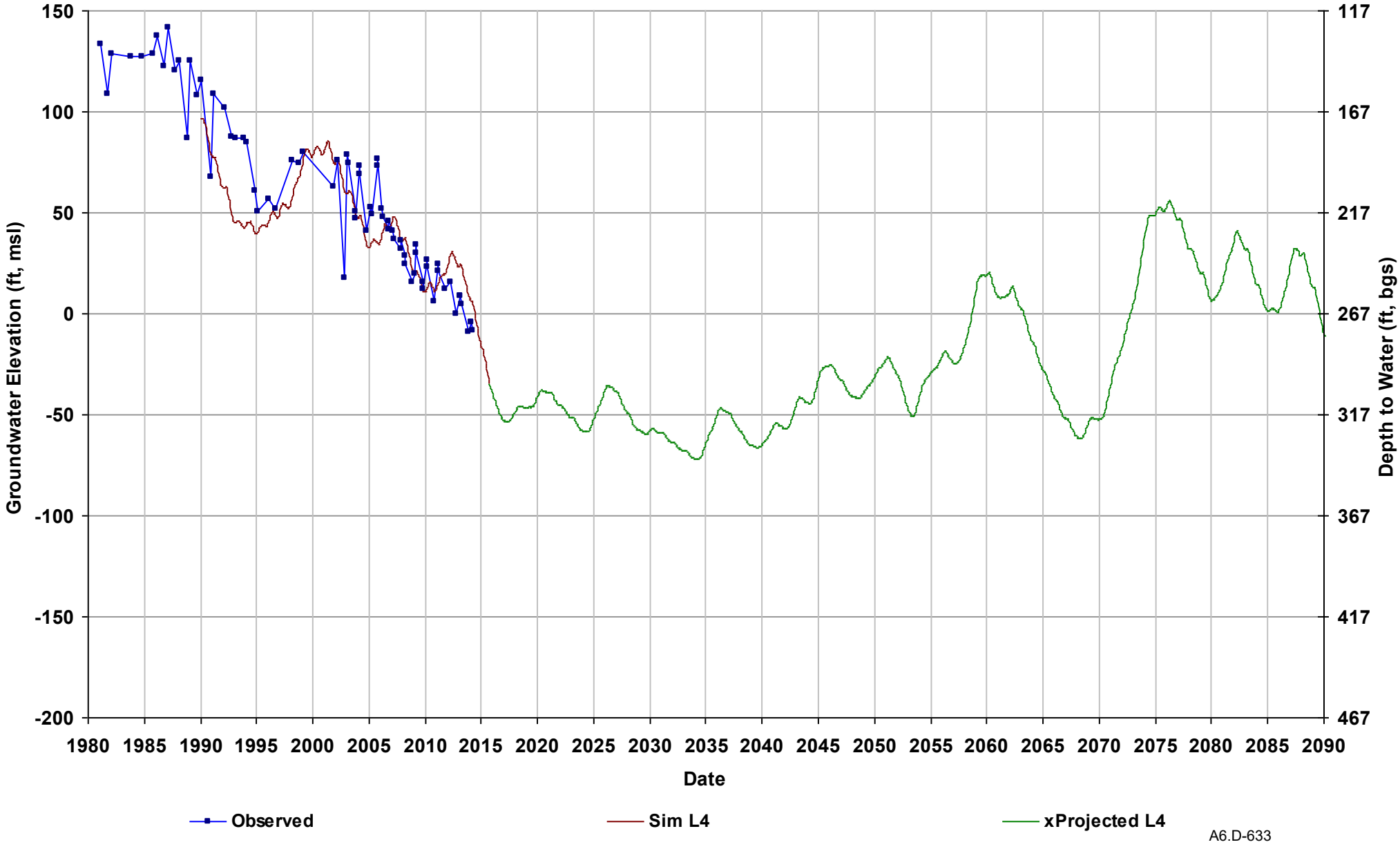
Well Name: 09S15E33J002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 207

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



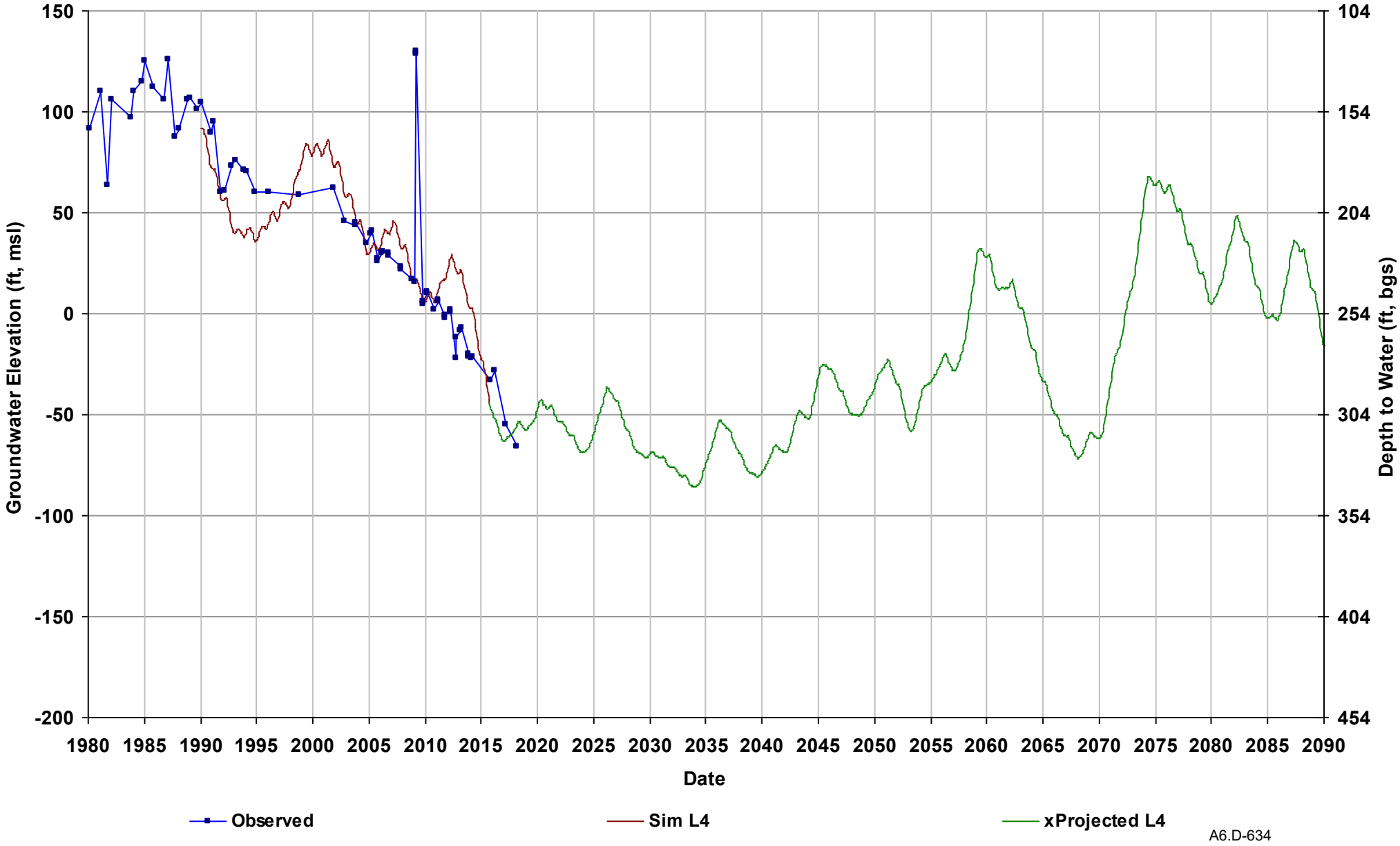
Well Name: 09S16E15Q001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 267

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



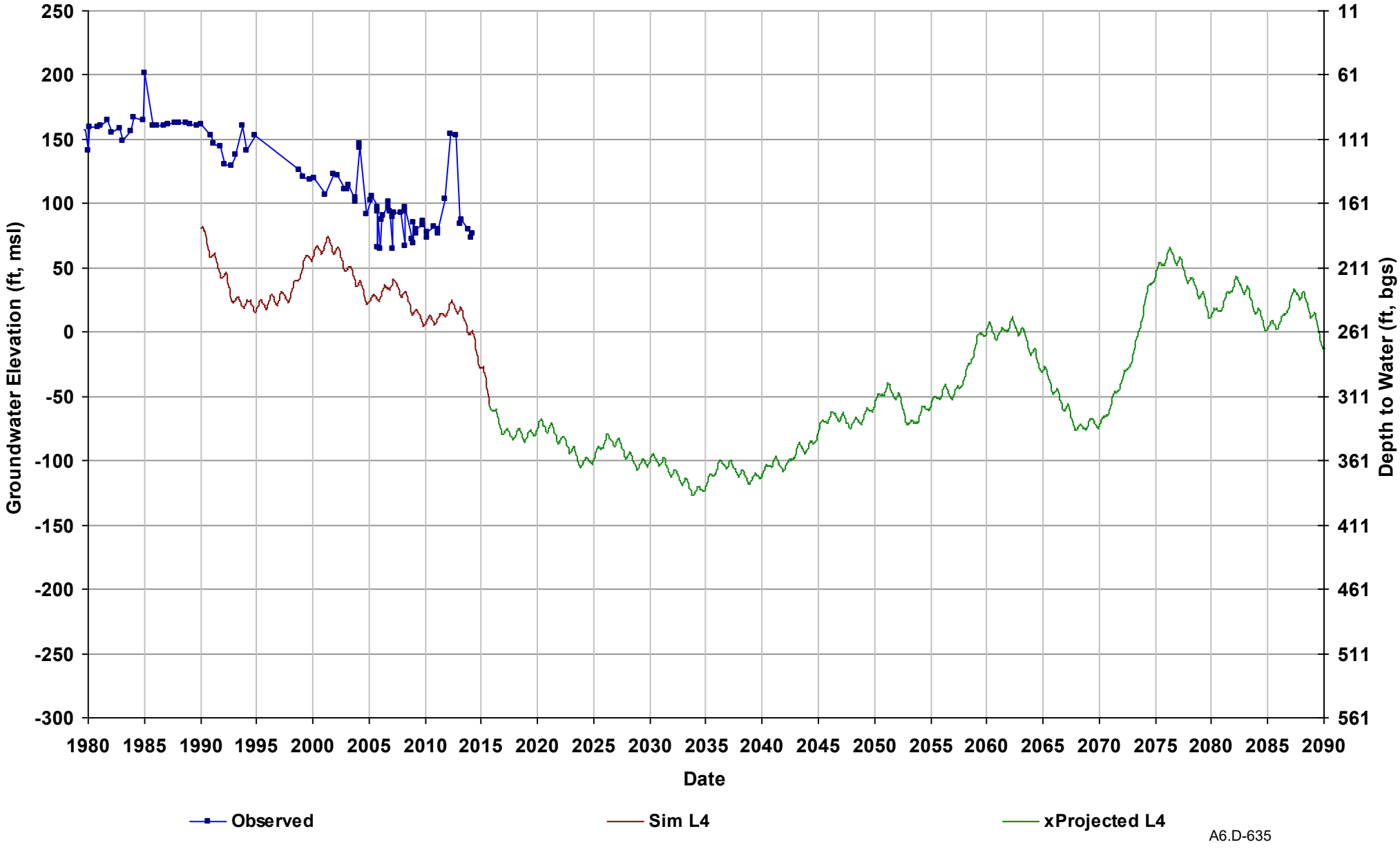
Well Name: 09S16E16N001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 254

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 4
Bottom Model Layer: 4



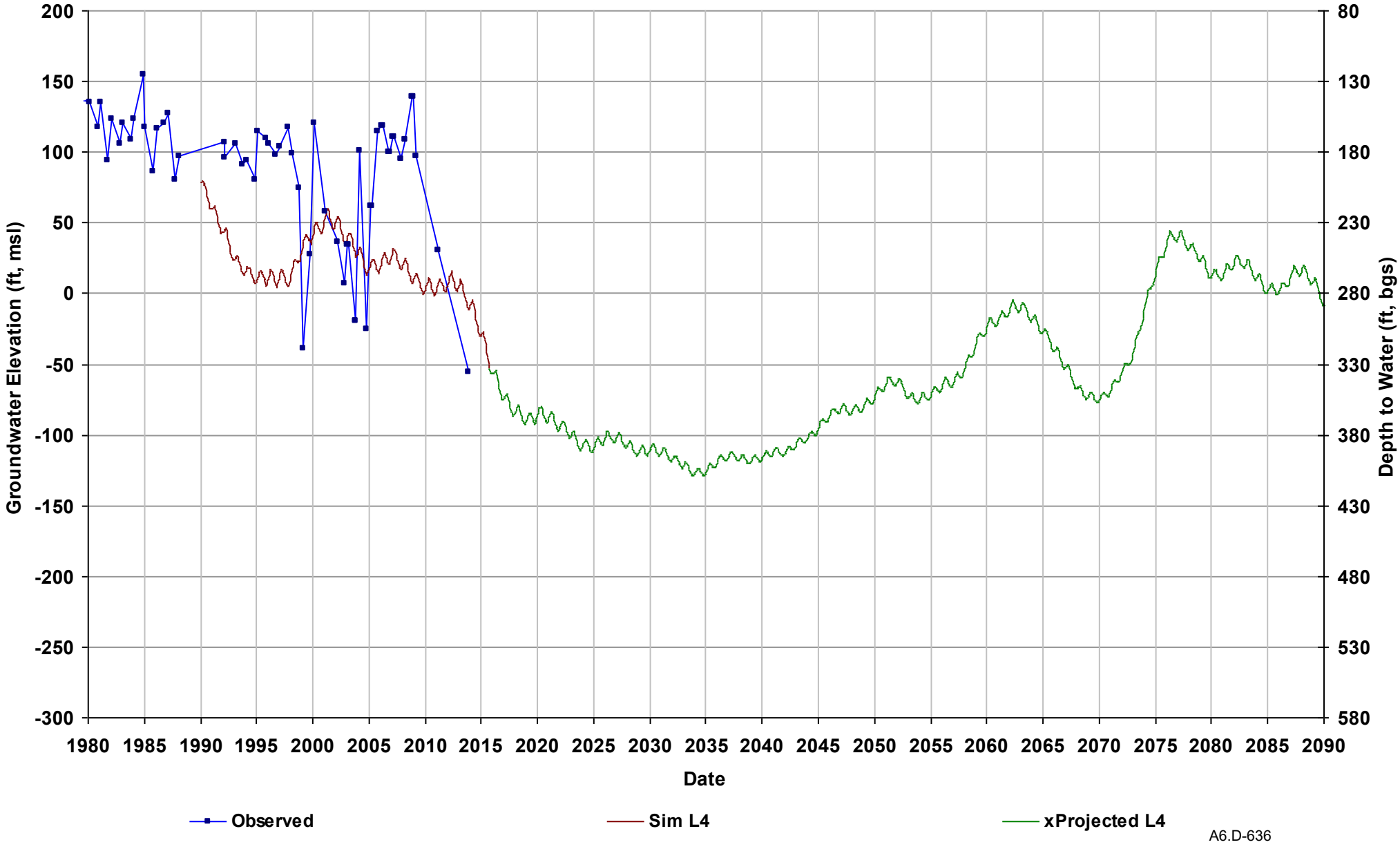
Well Name: 09S16E34J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 261

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



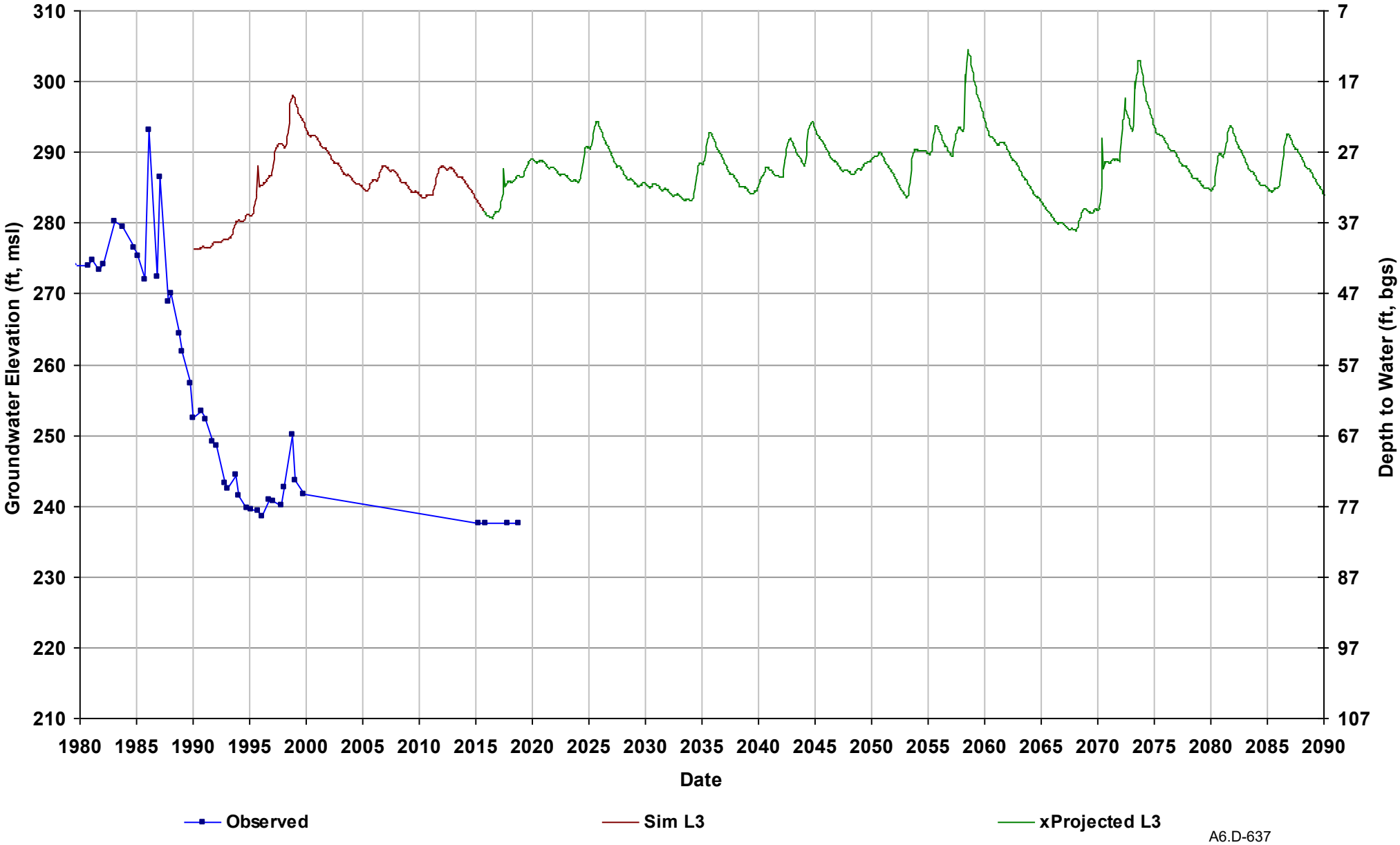
Well Name: 09S16E36J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 280

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



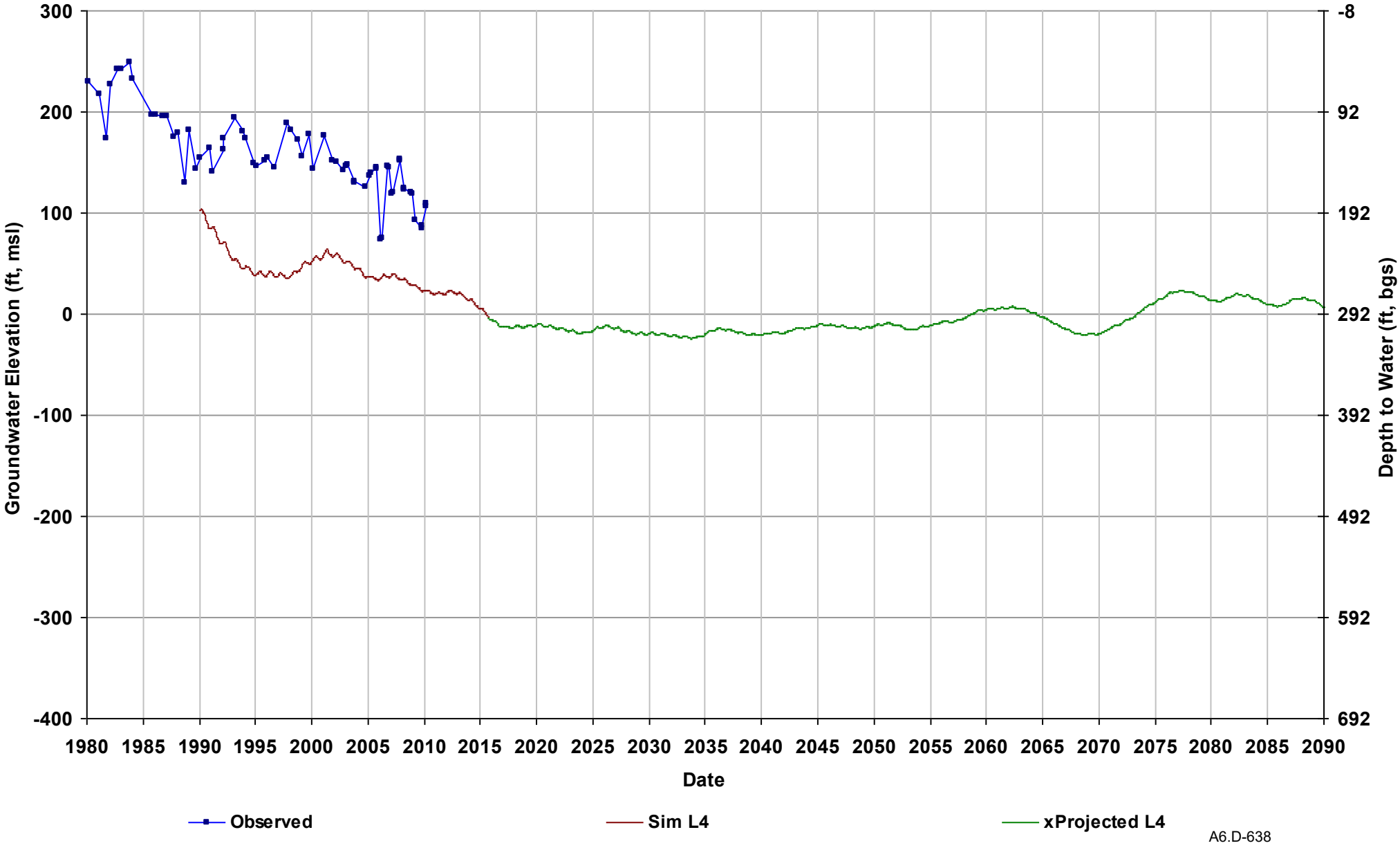
Well Name: 09S17E09D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 317

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



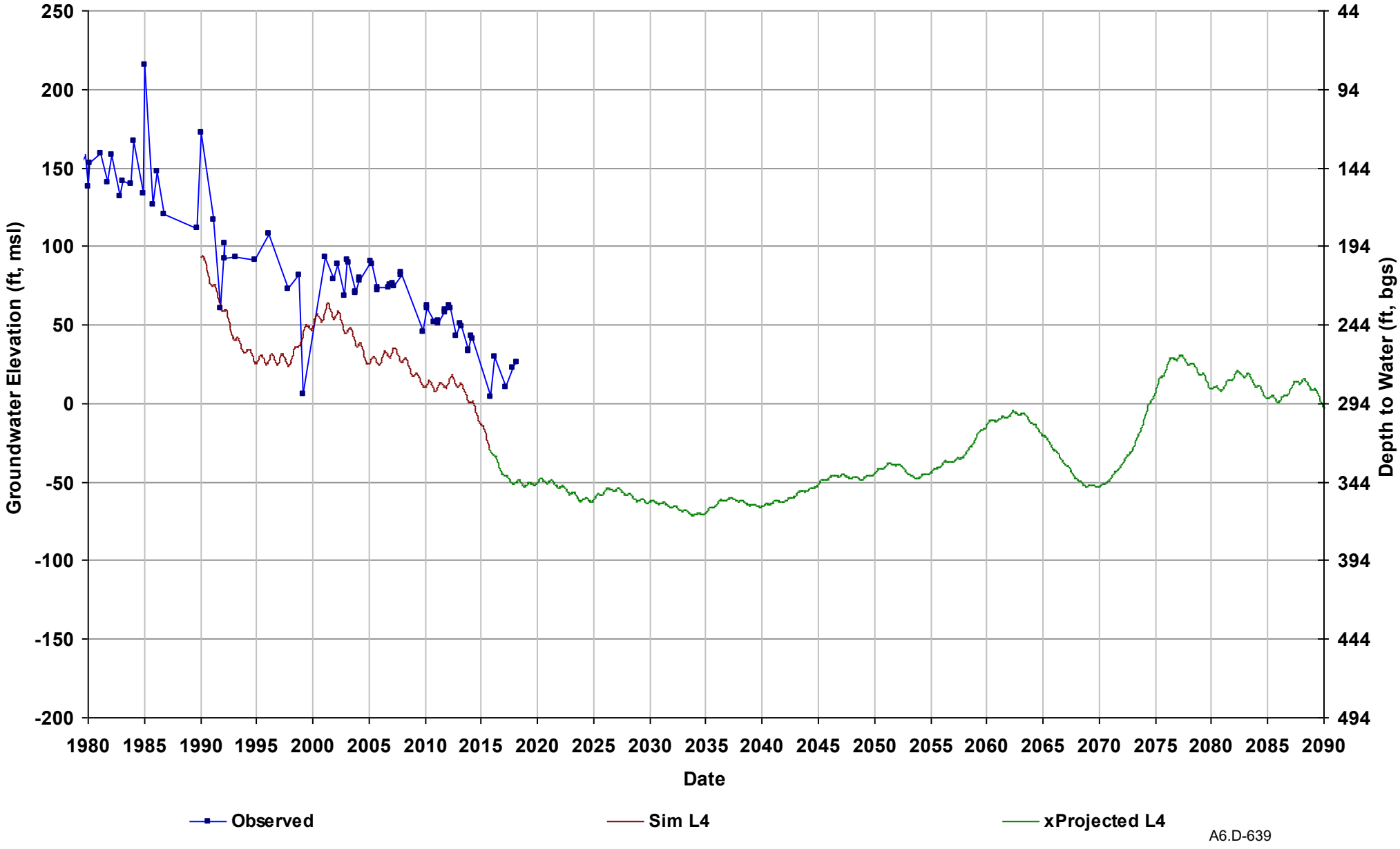
Well Name: 09S17E17F001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 292

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



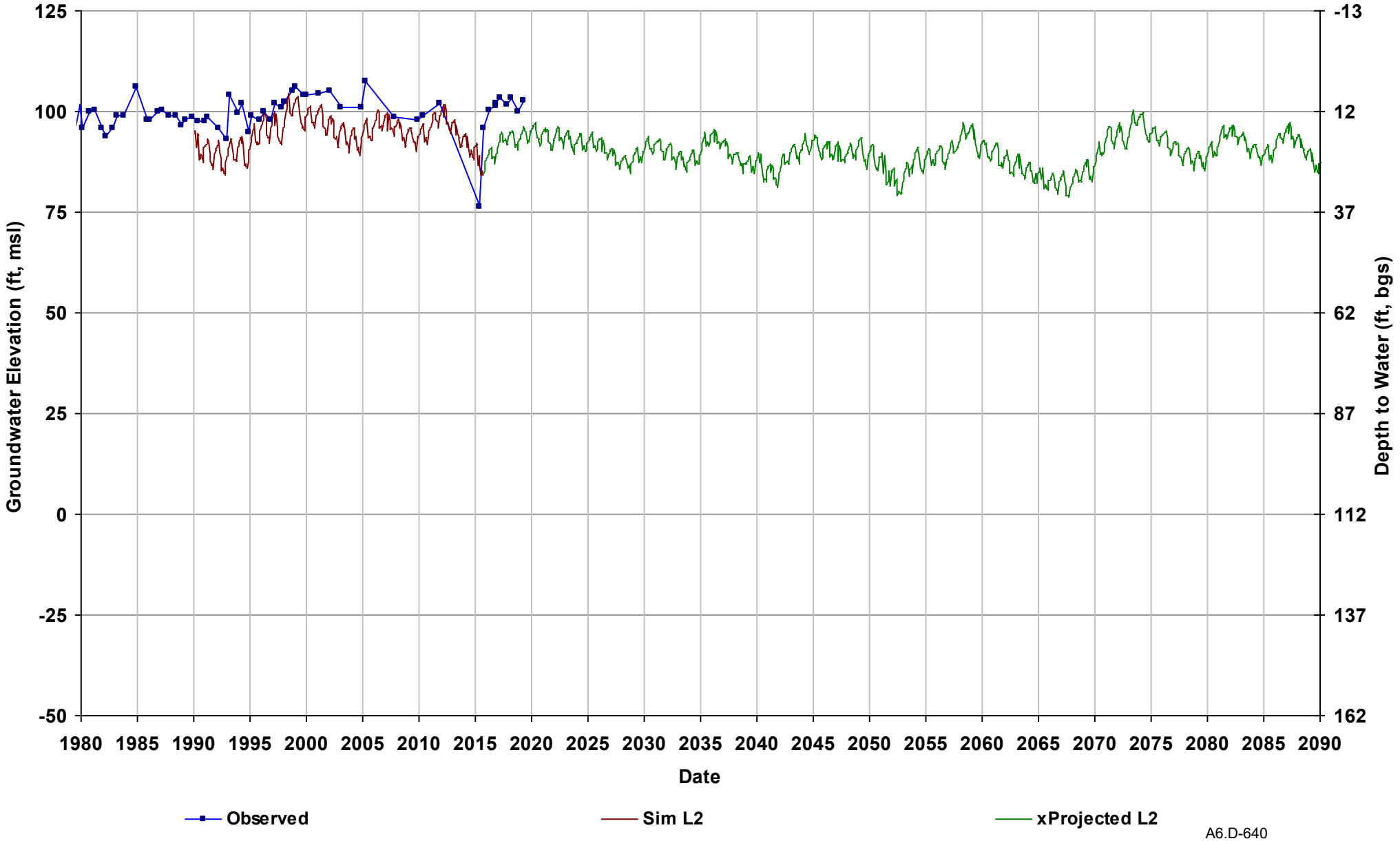
Well Name: 09S17E19L001M
Depth Zone: Lower; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 294

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



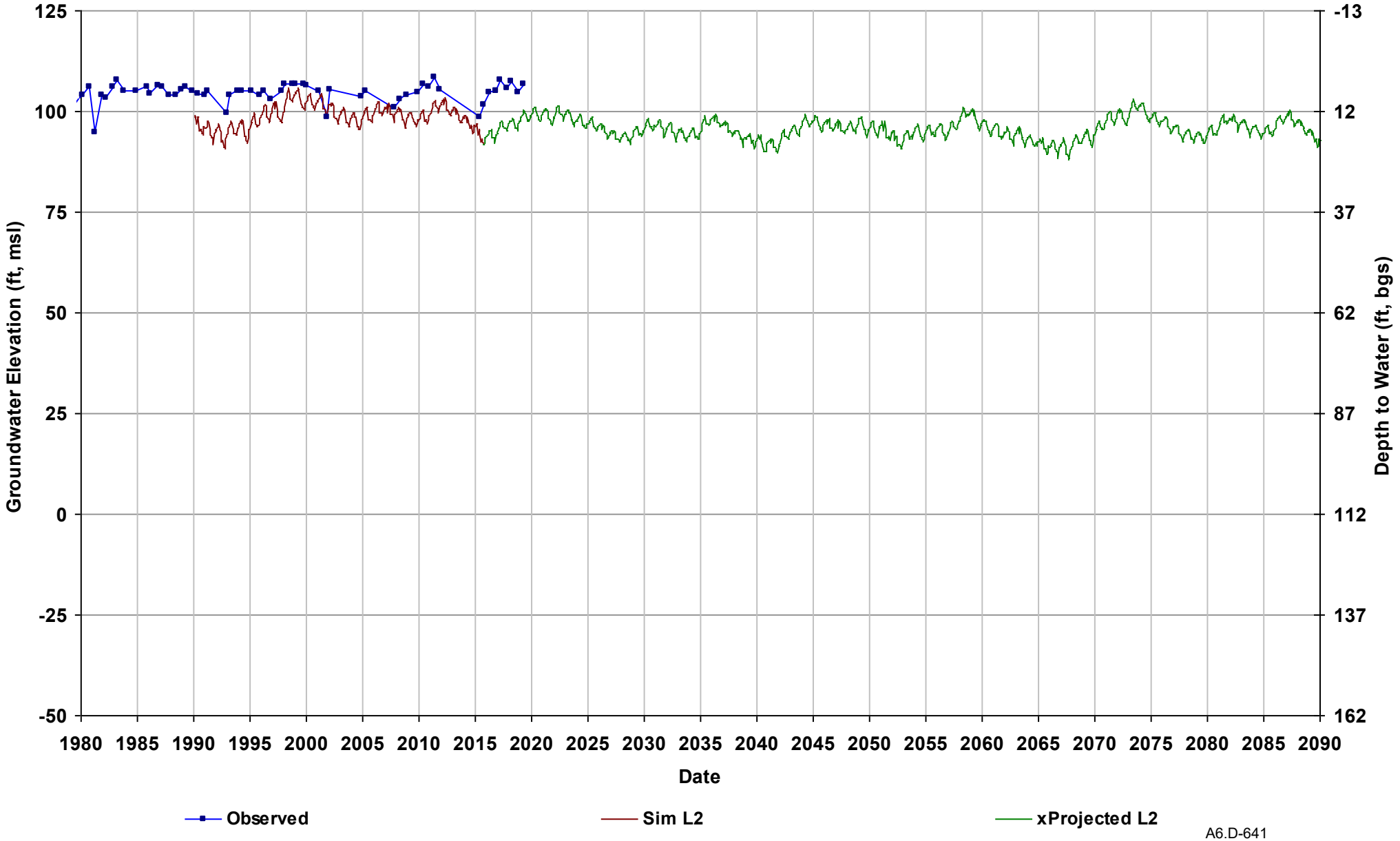
Well Name: 10S12E13L001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 200
Perf Top (ft): 80
Perf Bottom (ft): 180
Top Model Layer: 2
Bottom Model Layer: 2



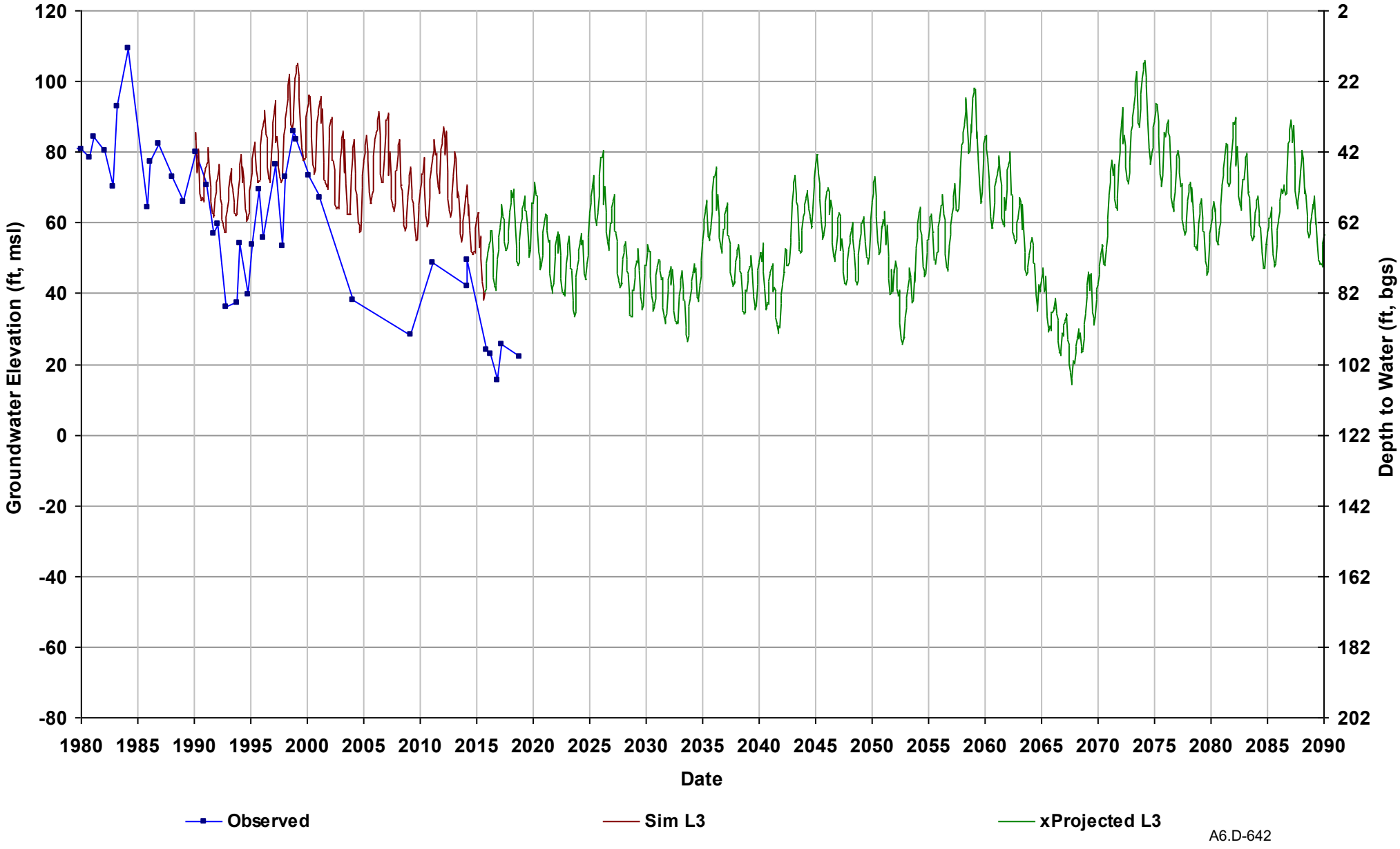
Well Name: 10S12E26H001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 158
Perf Top (ft): 60
Perf Bottom (ft): 150
Top Model Layer: 2
Bottom Model Layer: 2



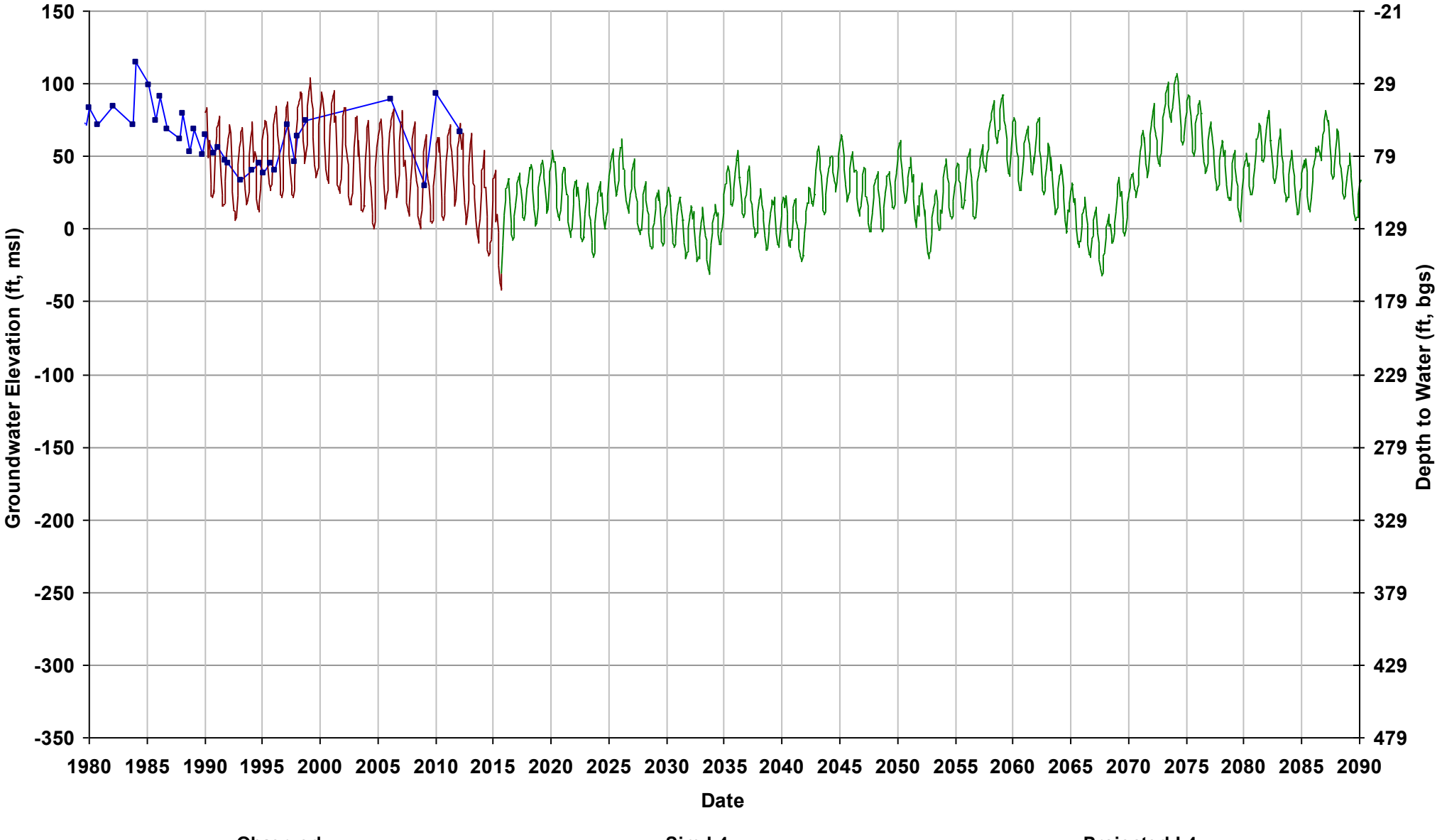
Well Name: 10S13E15A001M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 122

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



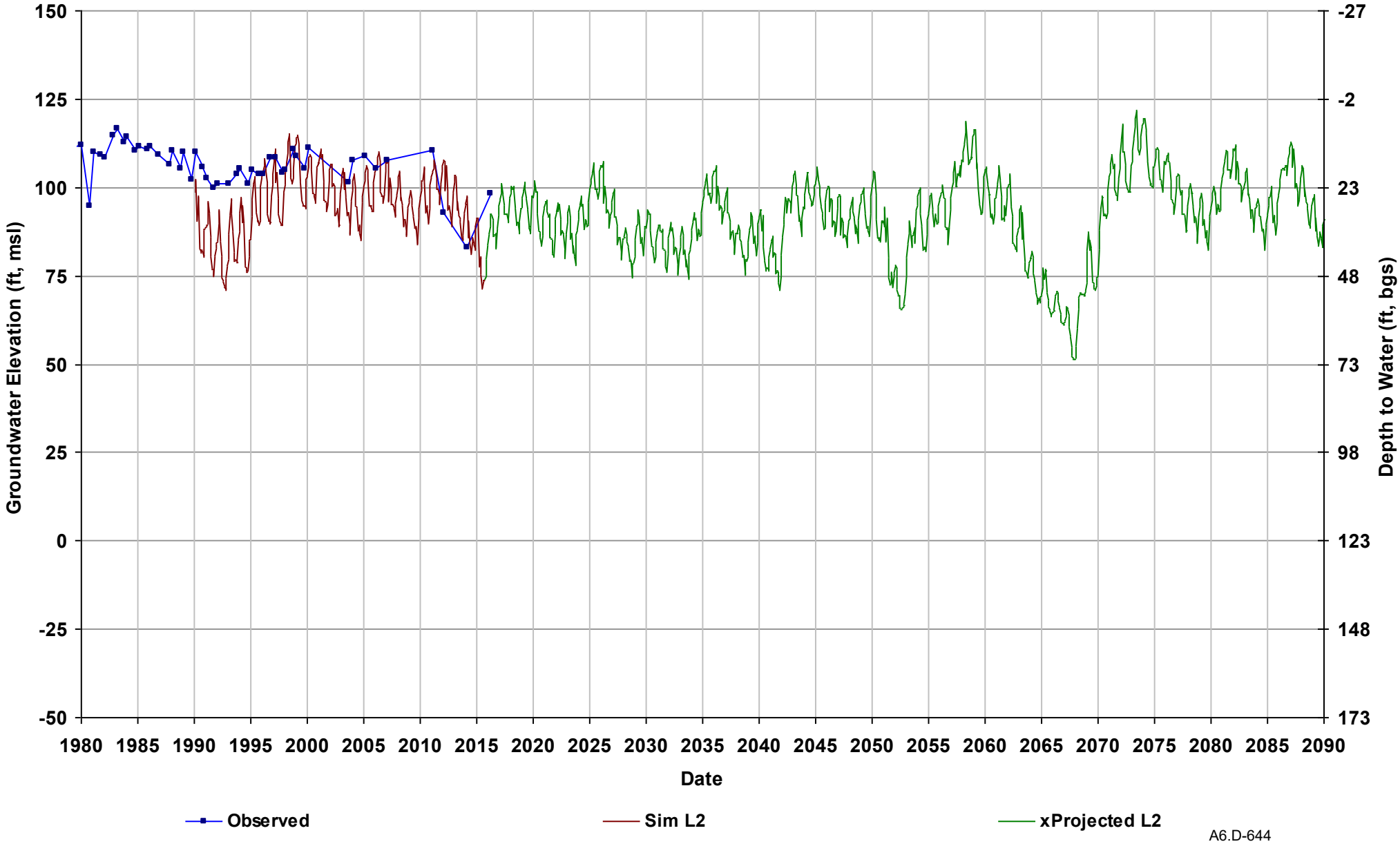
Well Name: 10S13E24L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 129

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



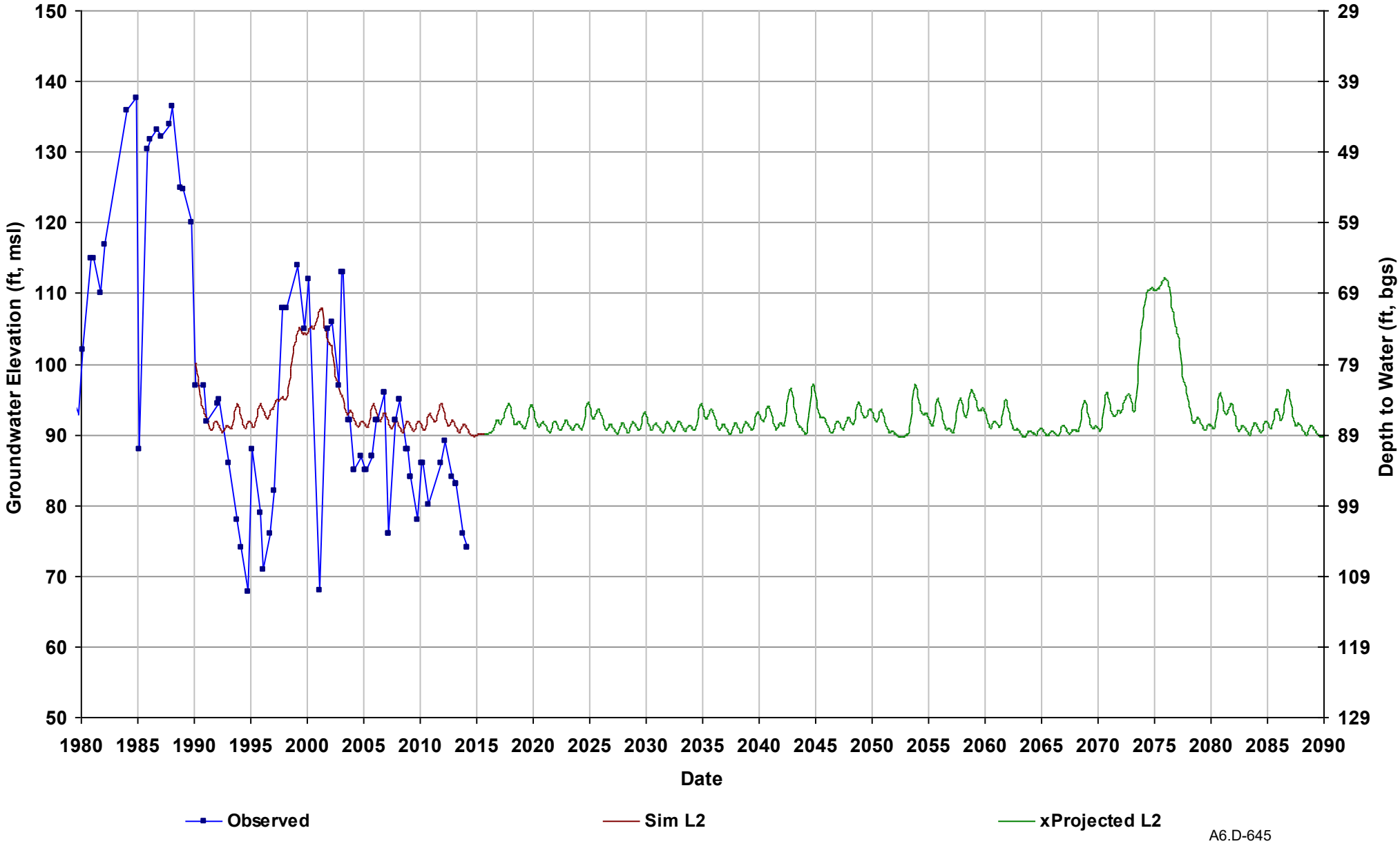
Well Name: 10S13E34G001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 123

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



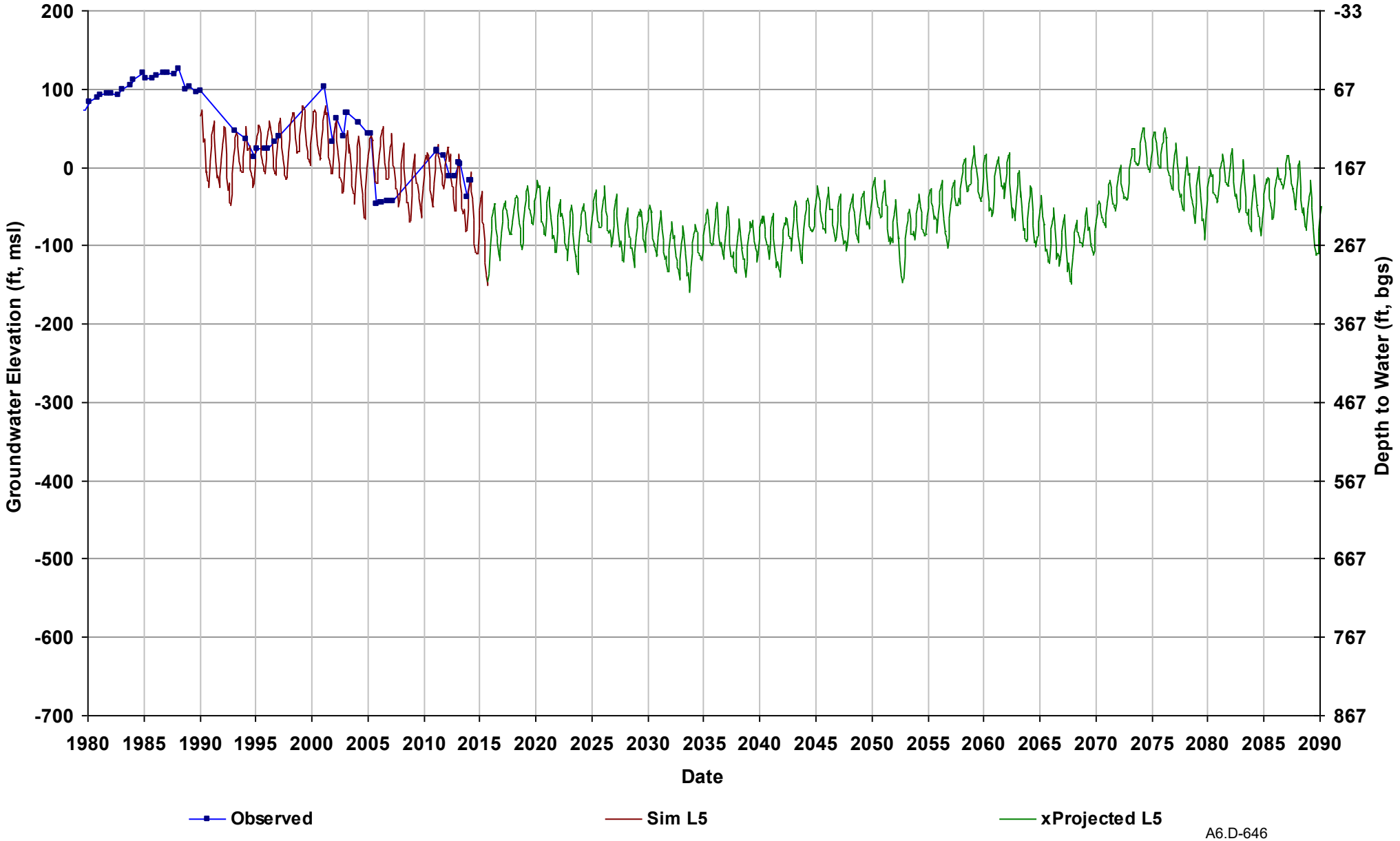
Well Name: 10S14E01R002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 179

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



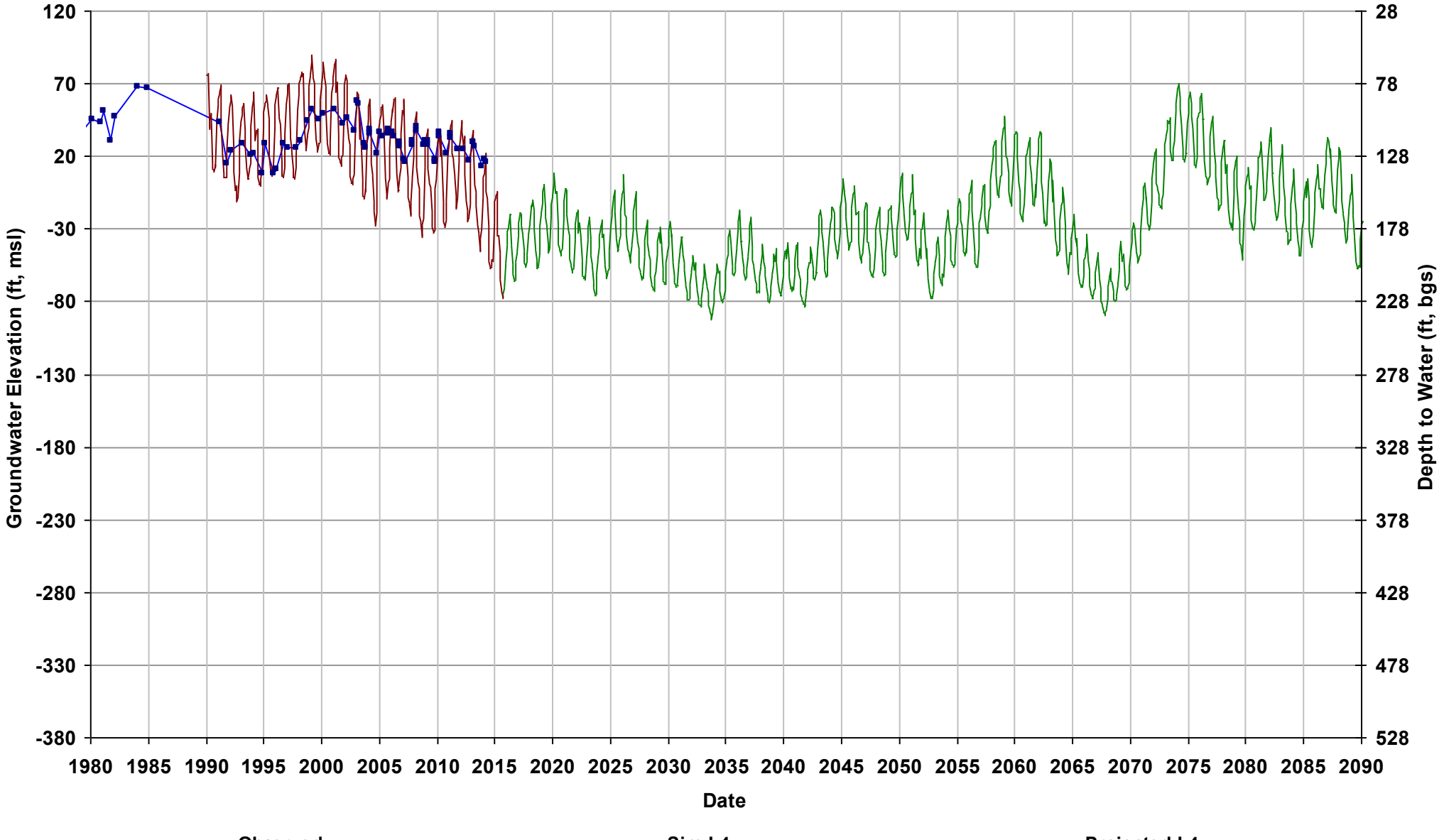
Well Name: 10S14E03A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 167

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



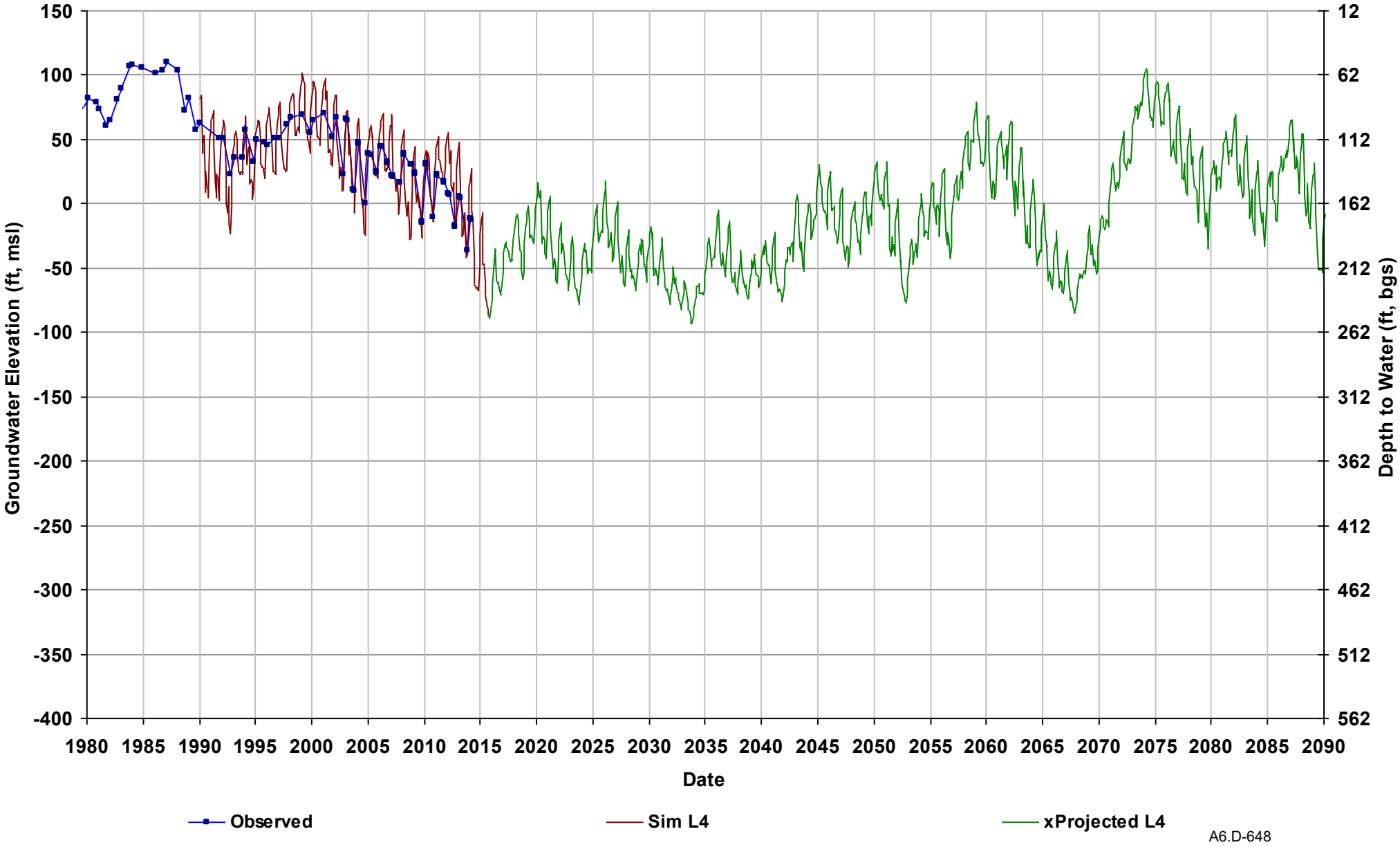
Well Name: 10S14E05C003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 148

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



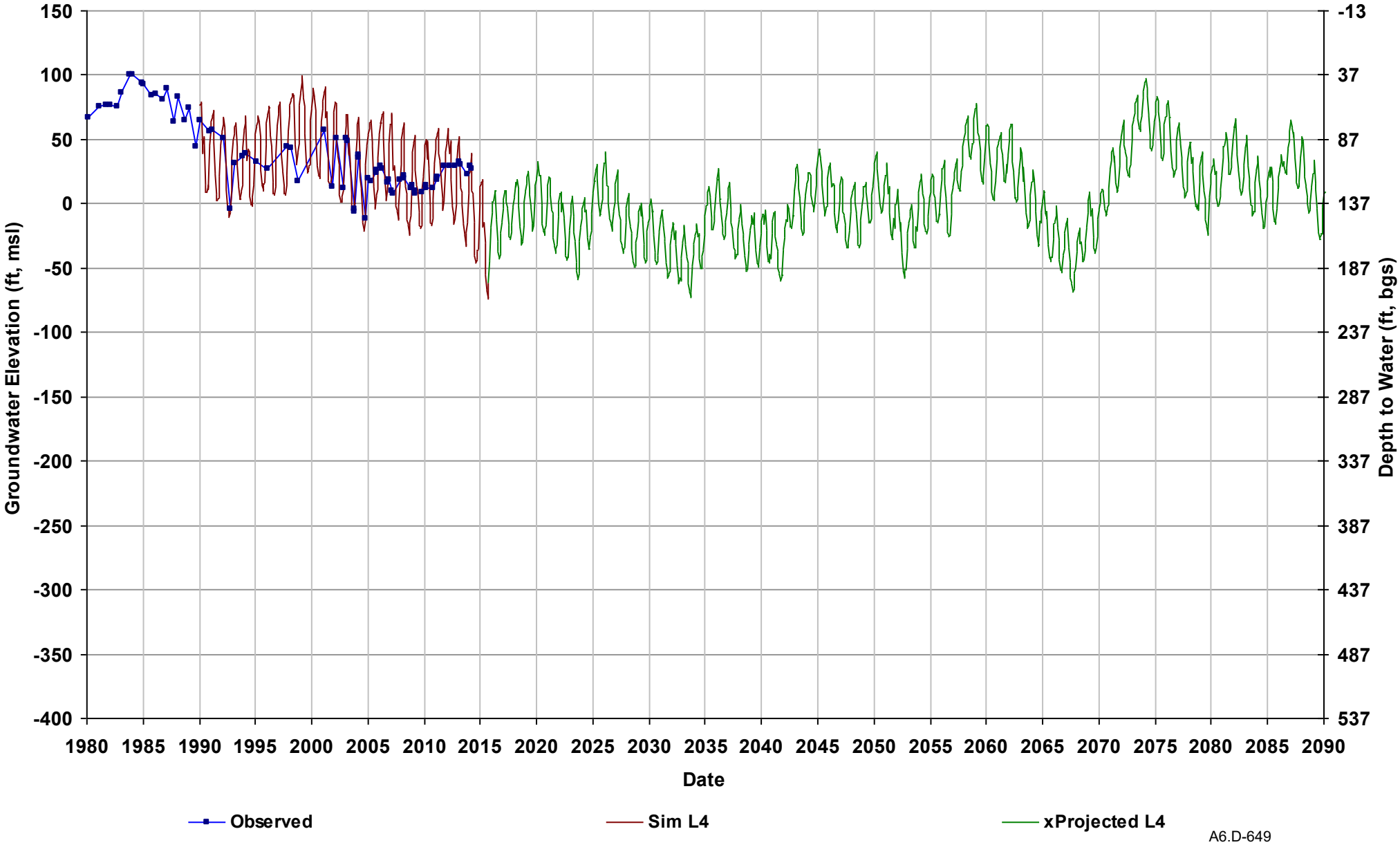
Well Name: 10S14E15H001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 162

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



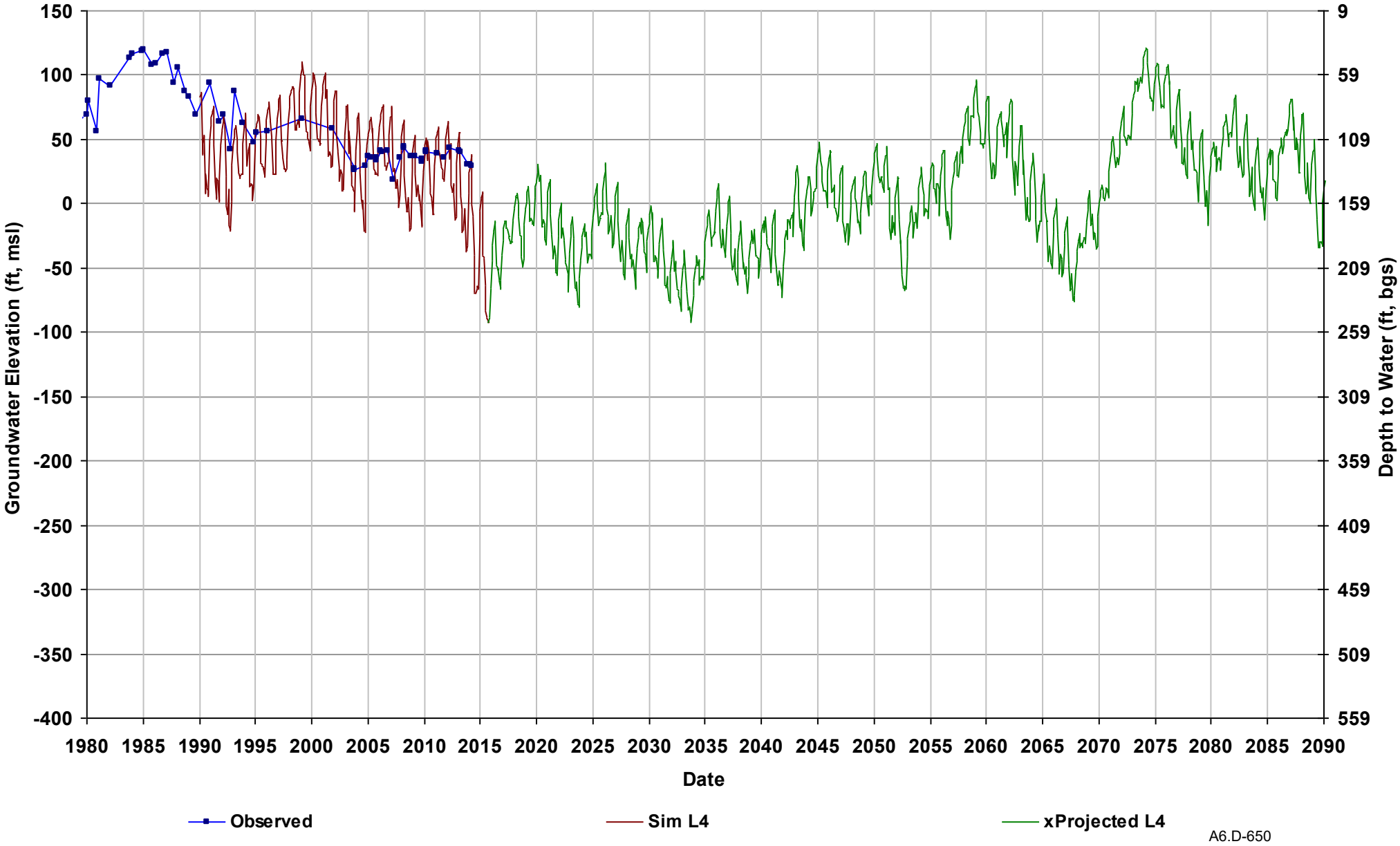
Well Name: 10S14E18K001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 137

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



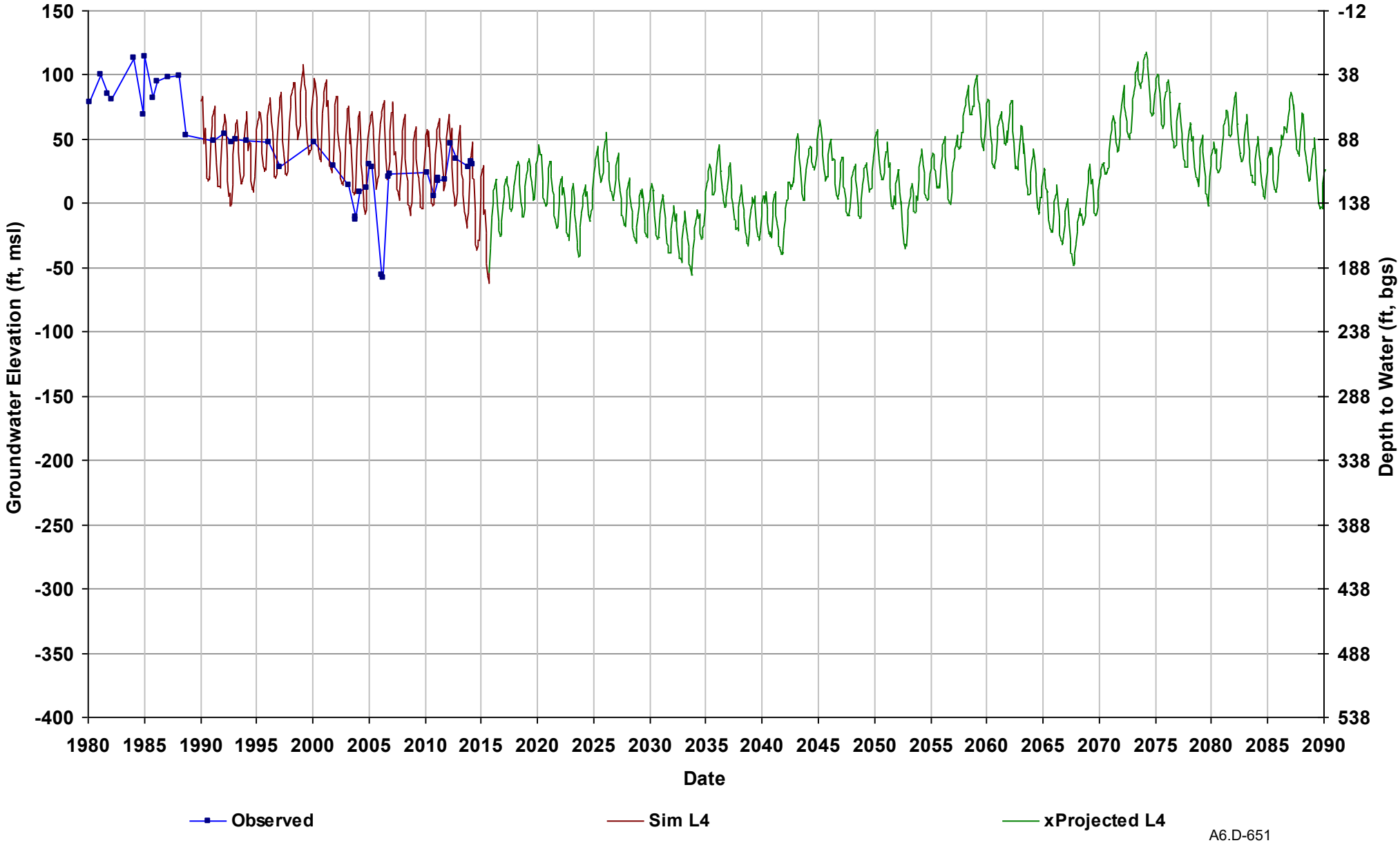
Well Name: 10S14E26C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 158

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



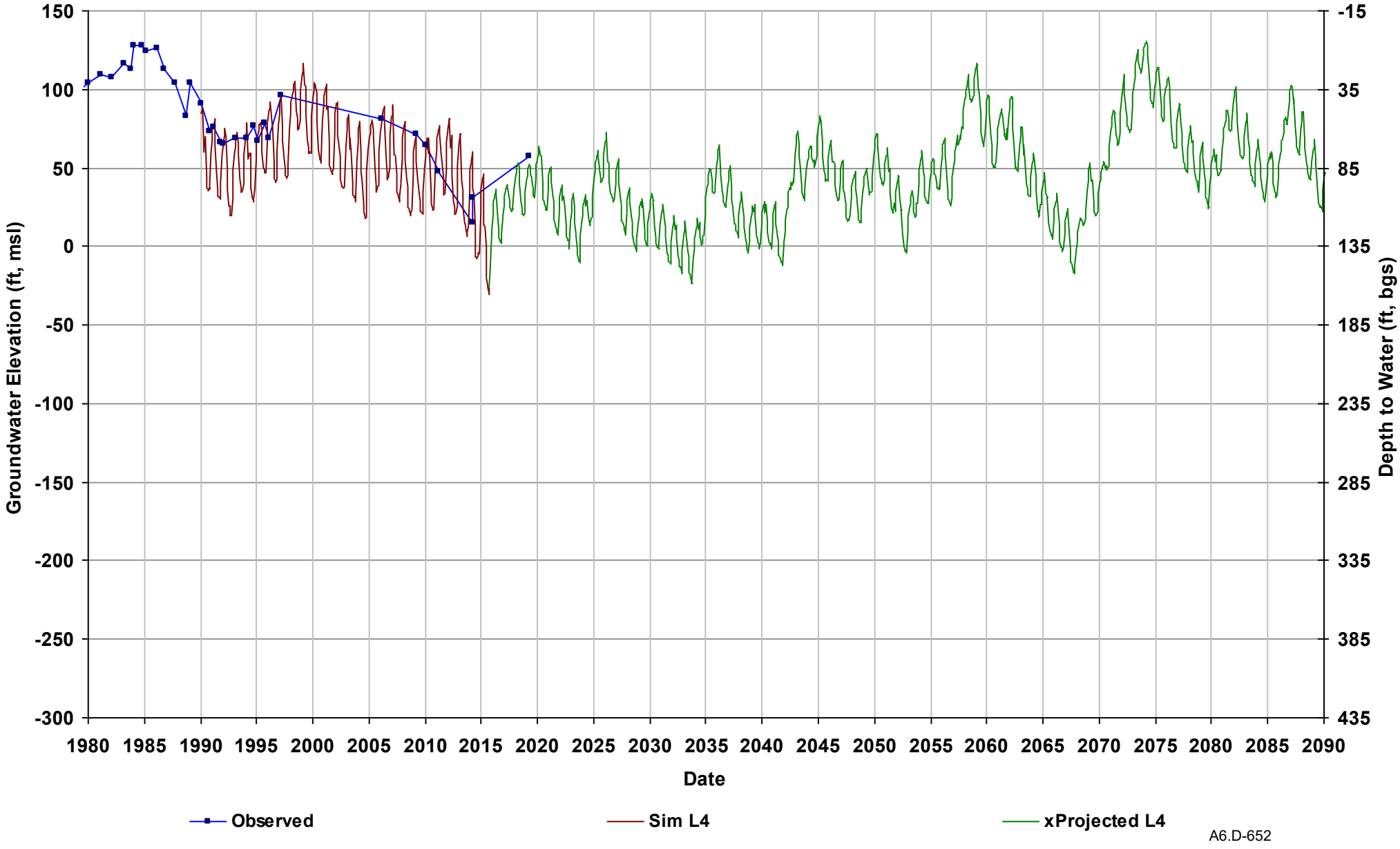
Well Name: 10S14E29C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



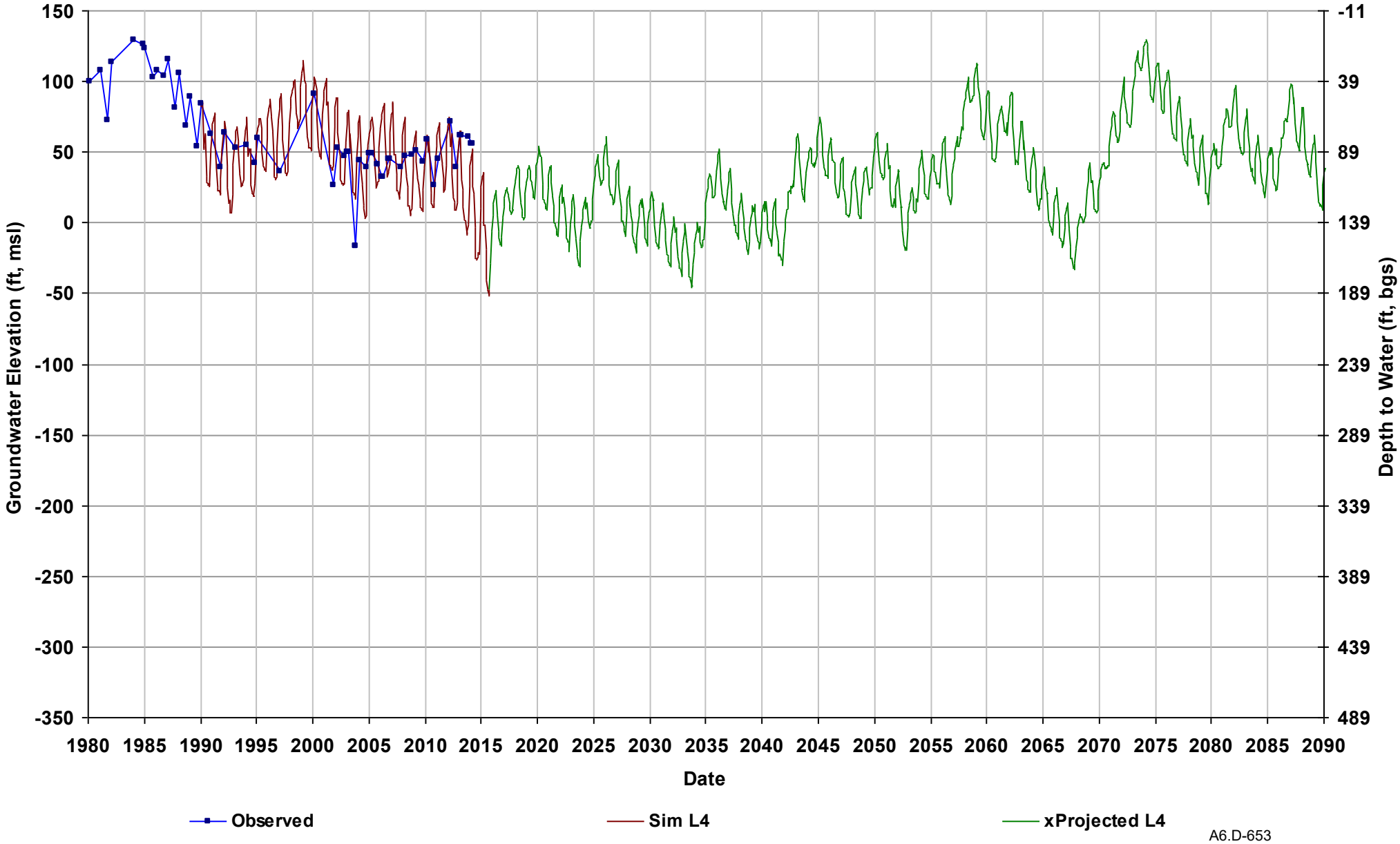
Well Name: 10S14E32Q001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 134

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



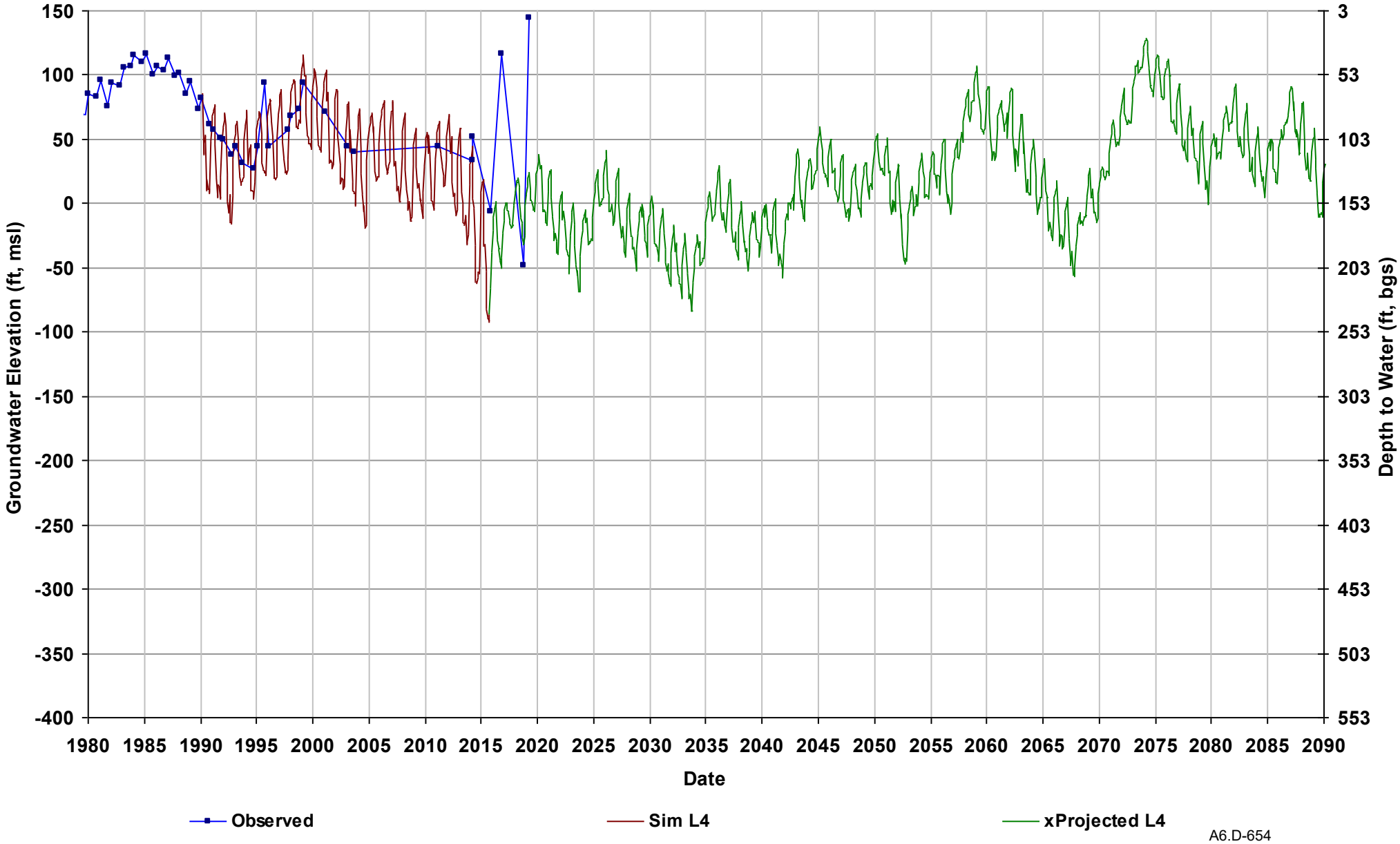
Well Name: 10S14E33L002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 139

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



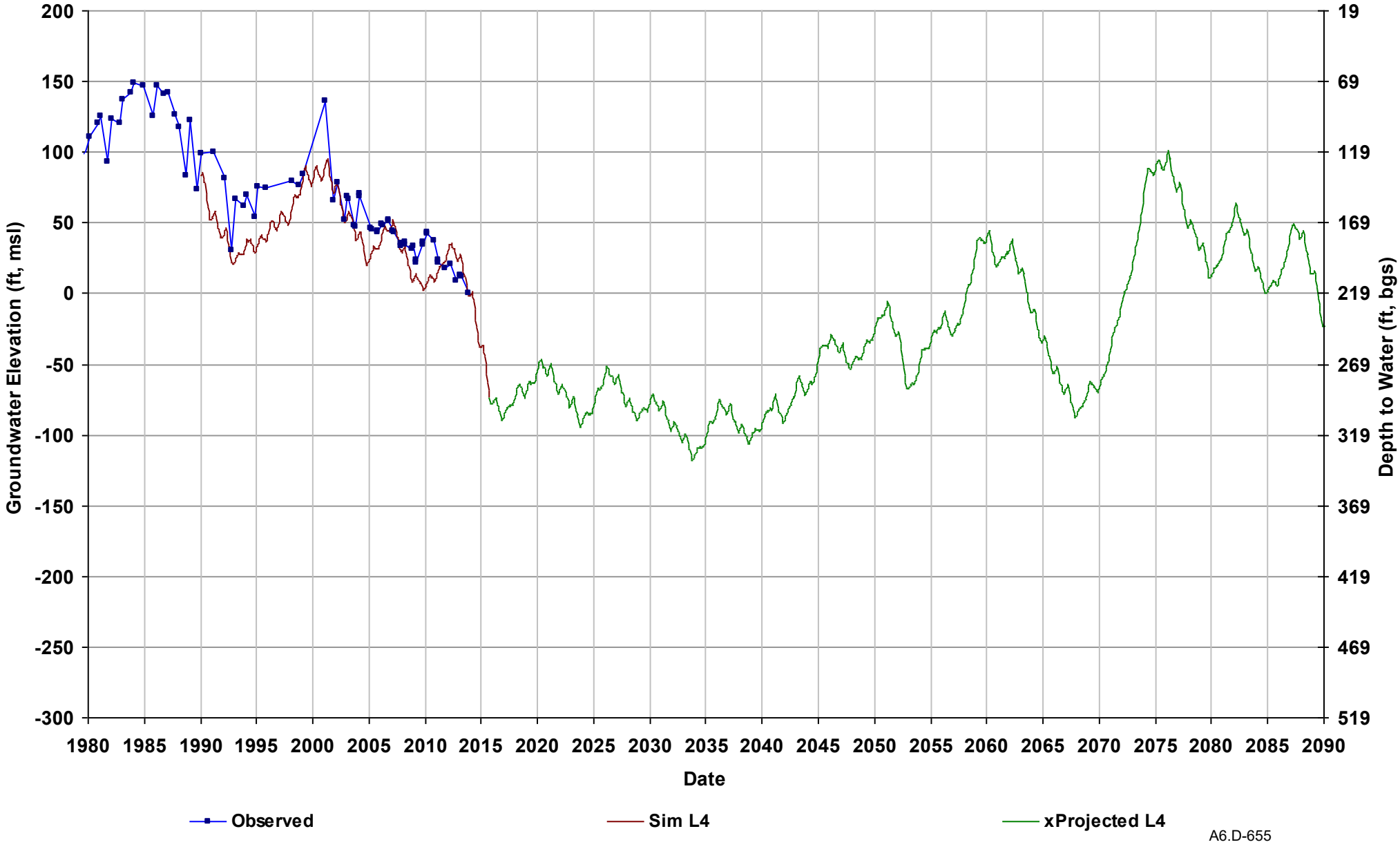
Well Name: 10S14E35F001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 153

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



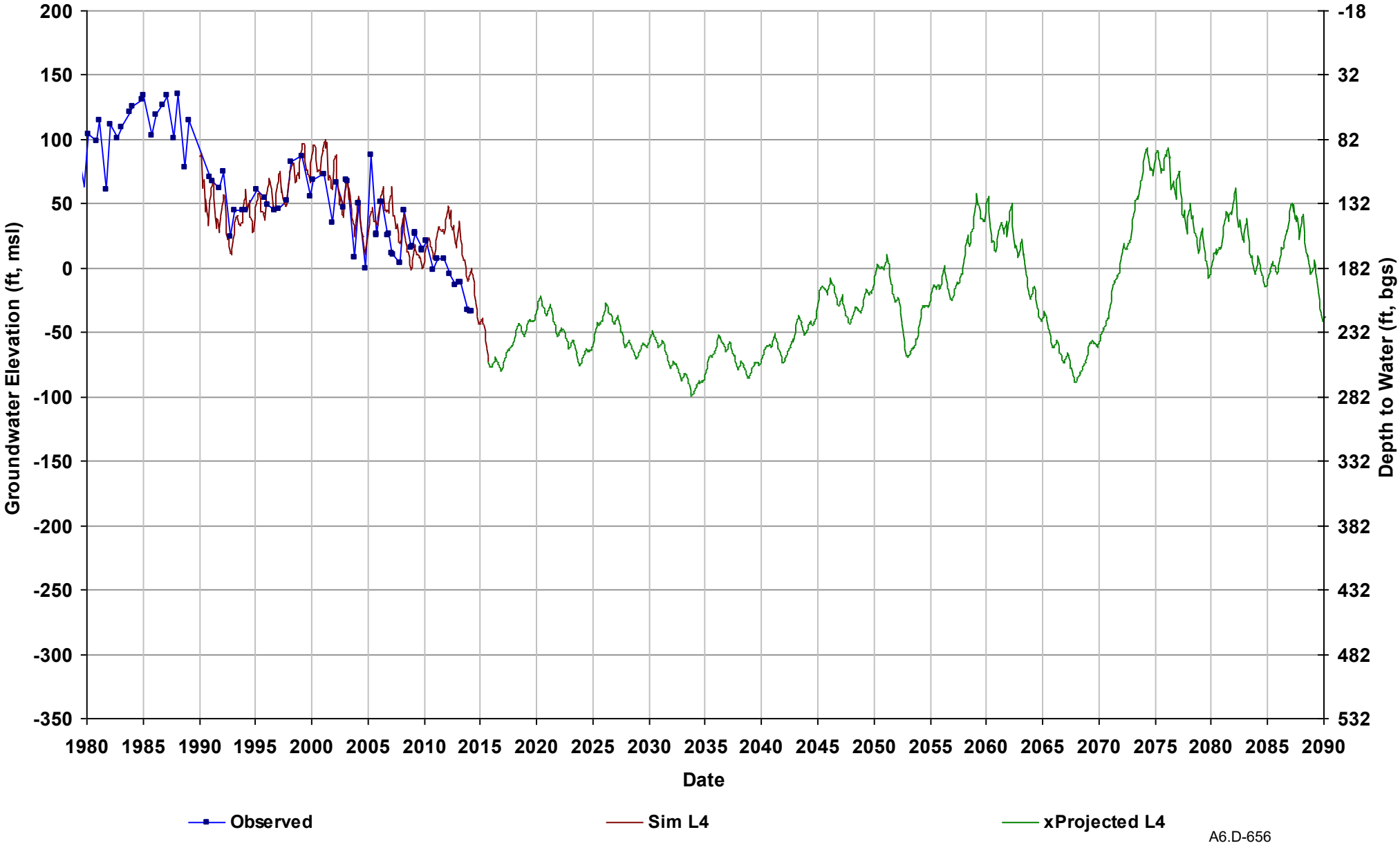
Well Name: 10S15E01E001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 218

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



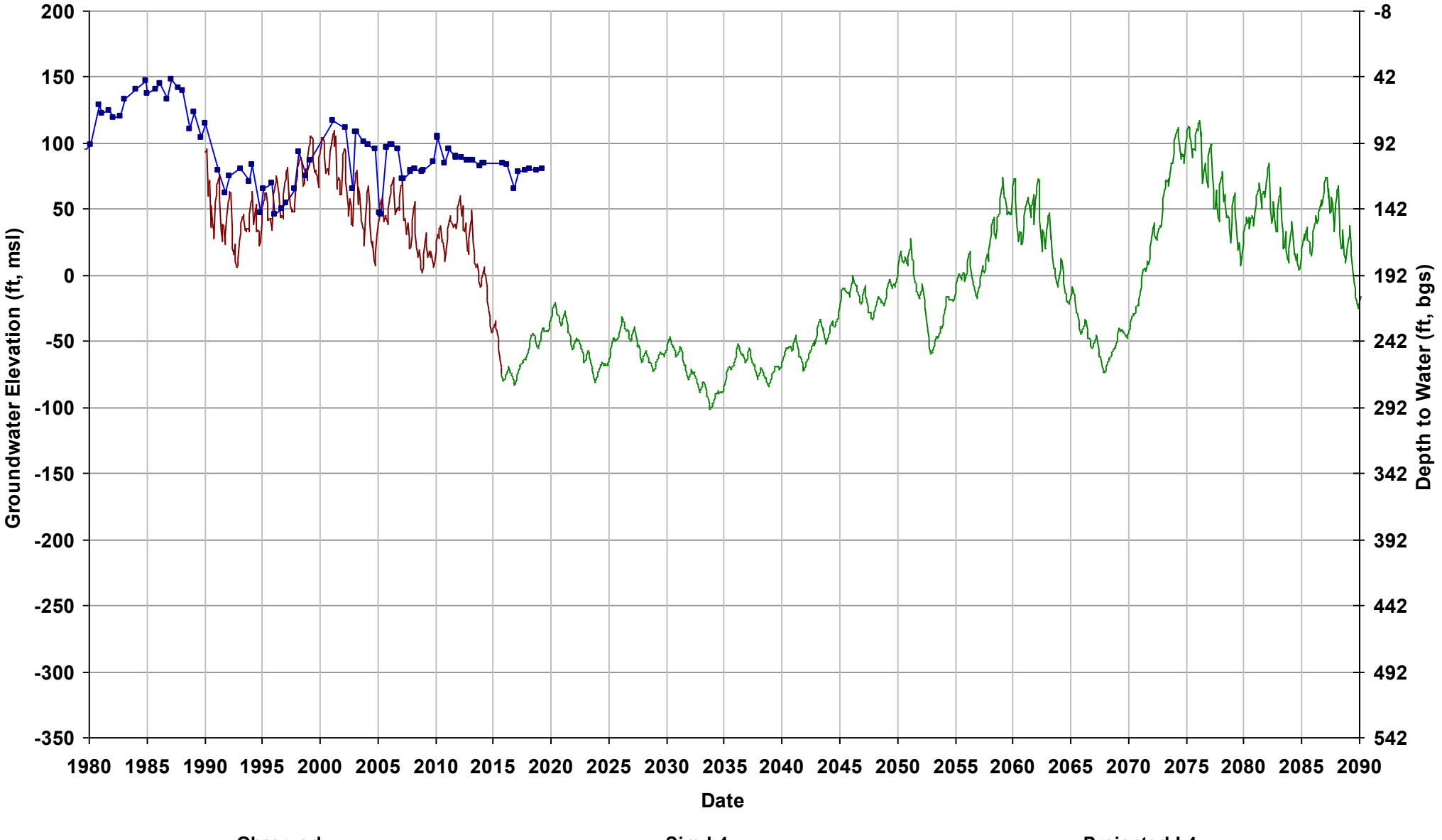
Well Name: 10S15E06L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 182

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



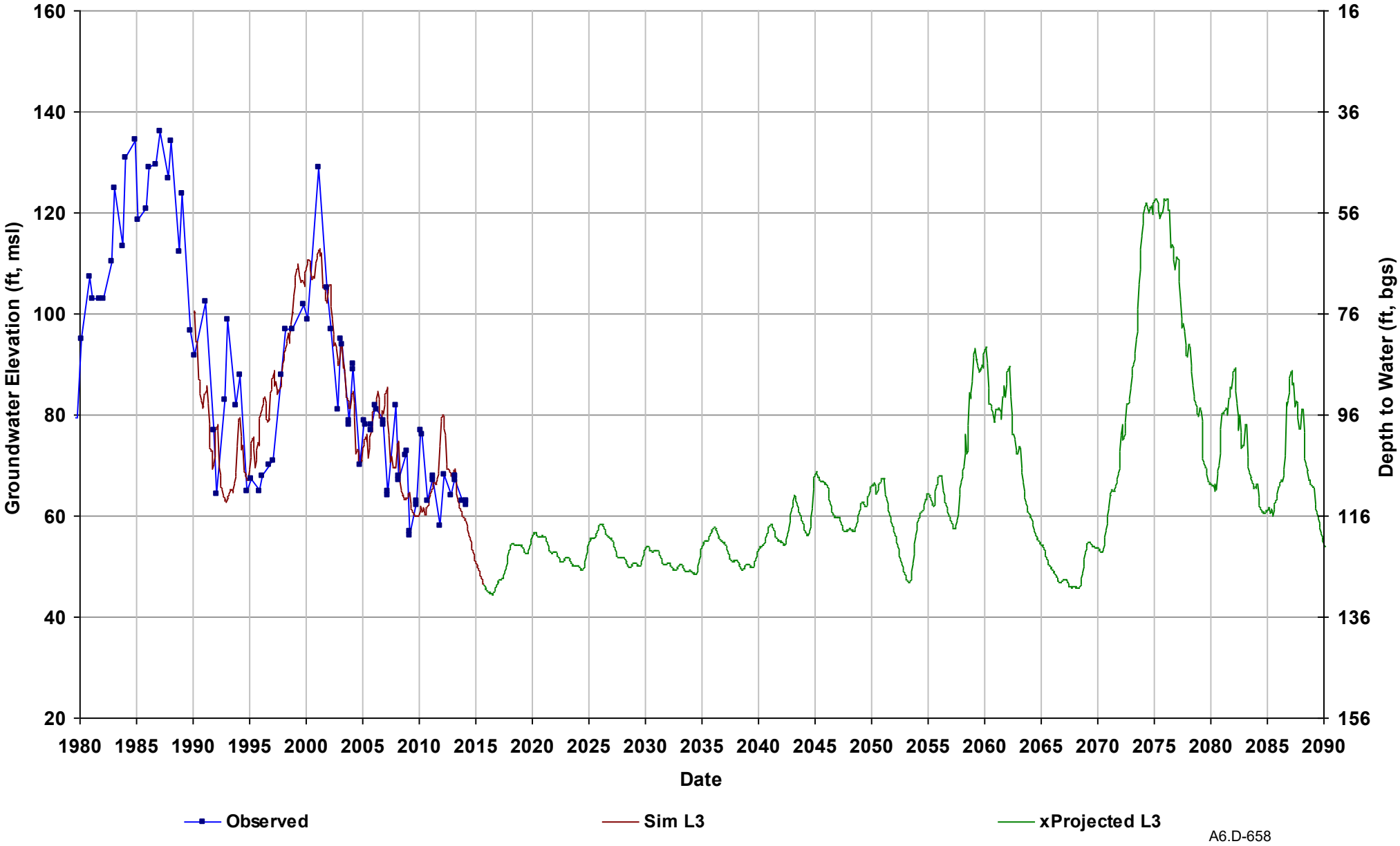
Well Name: 10S15E16R002M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



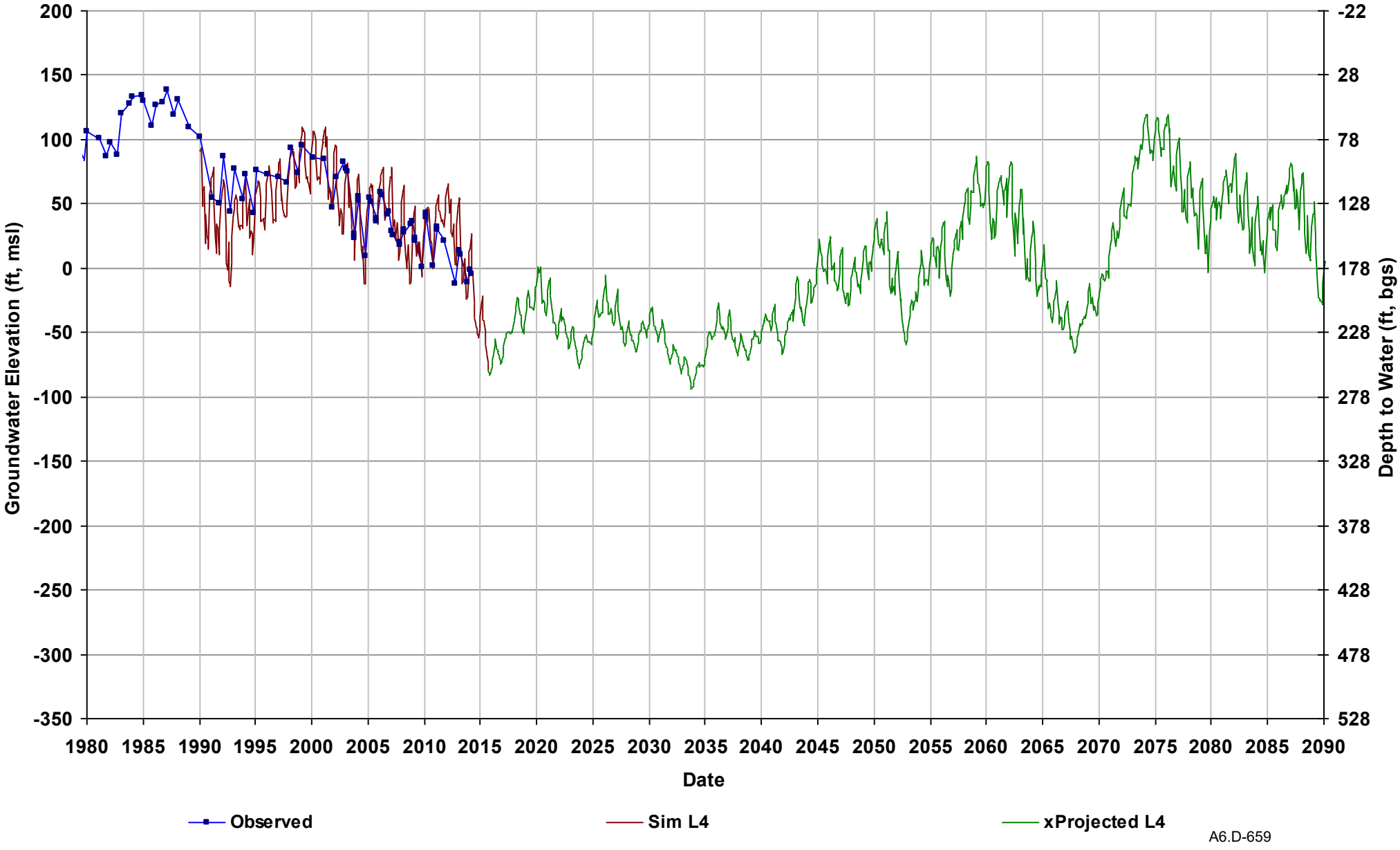
Well Name: 10S15E18L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 176

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



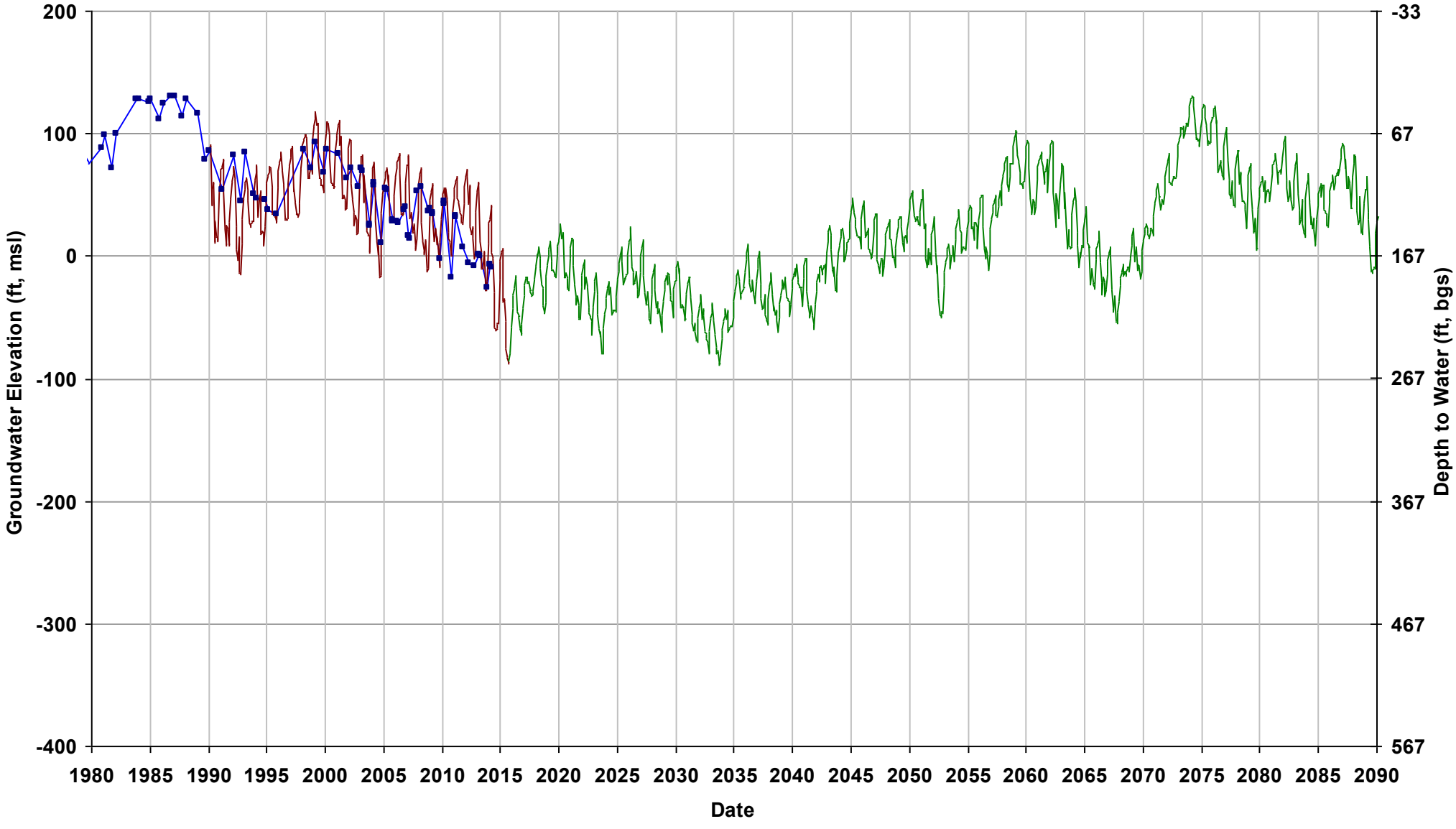
Well Name: 10S15E29A002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 178

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



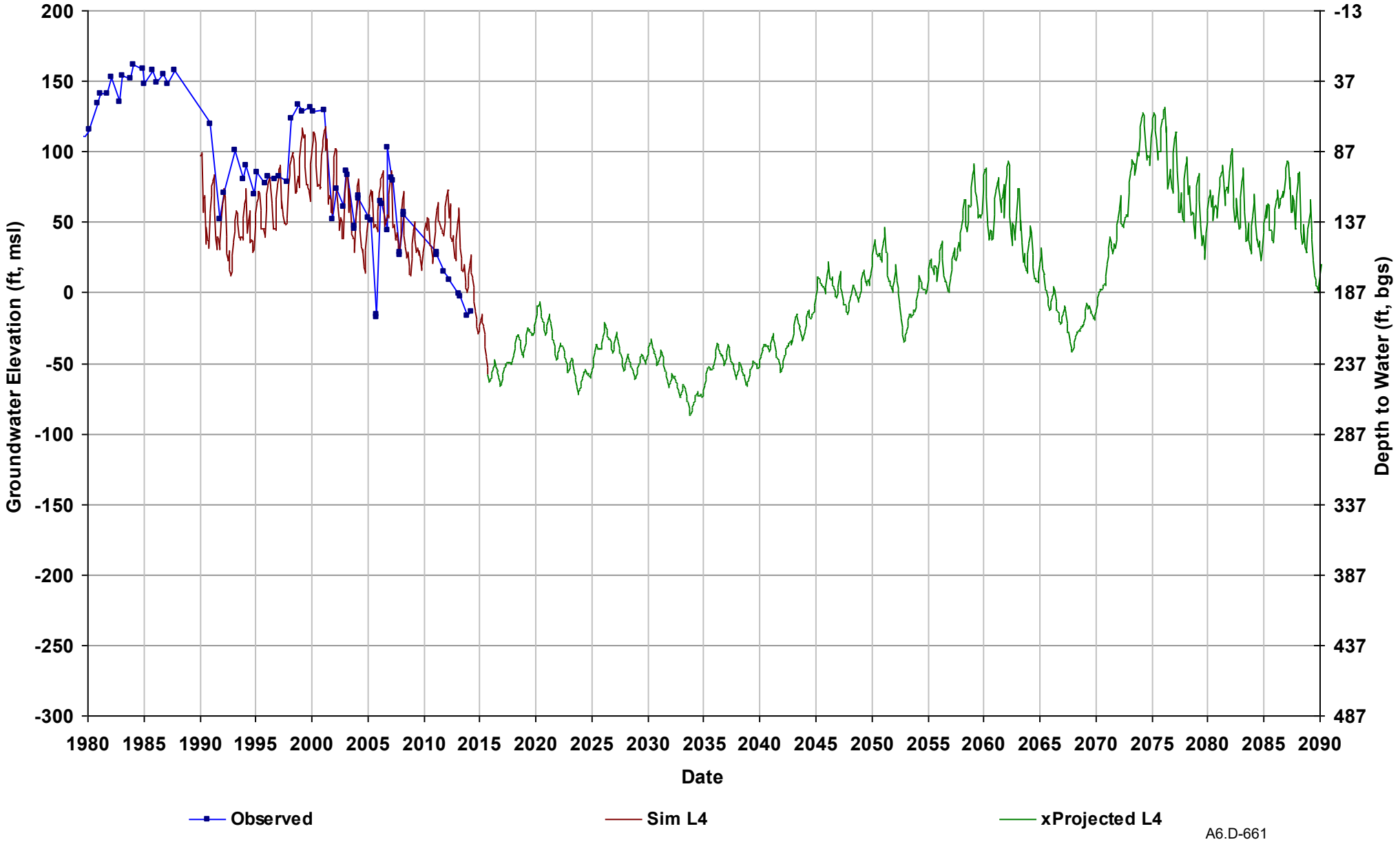
Well Name: 10S15E32L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



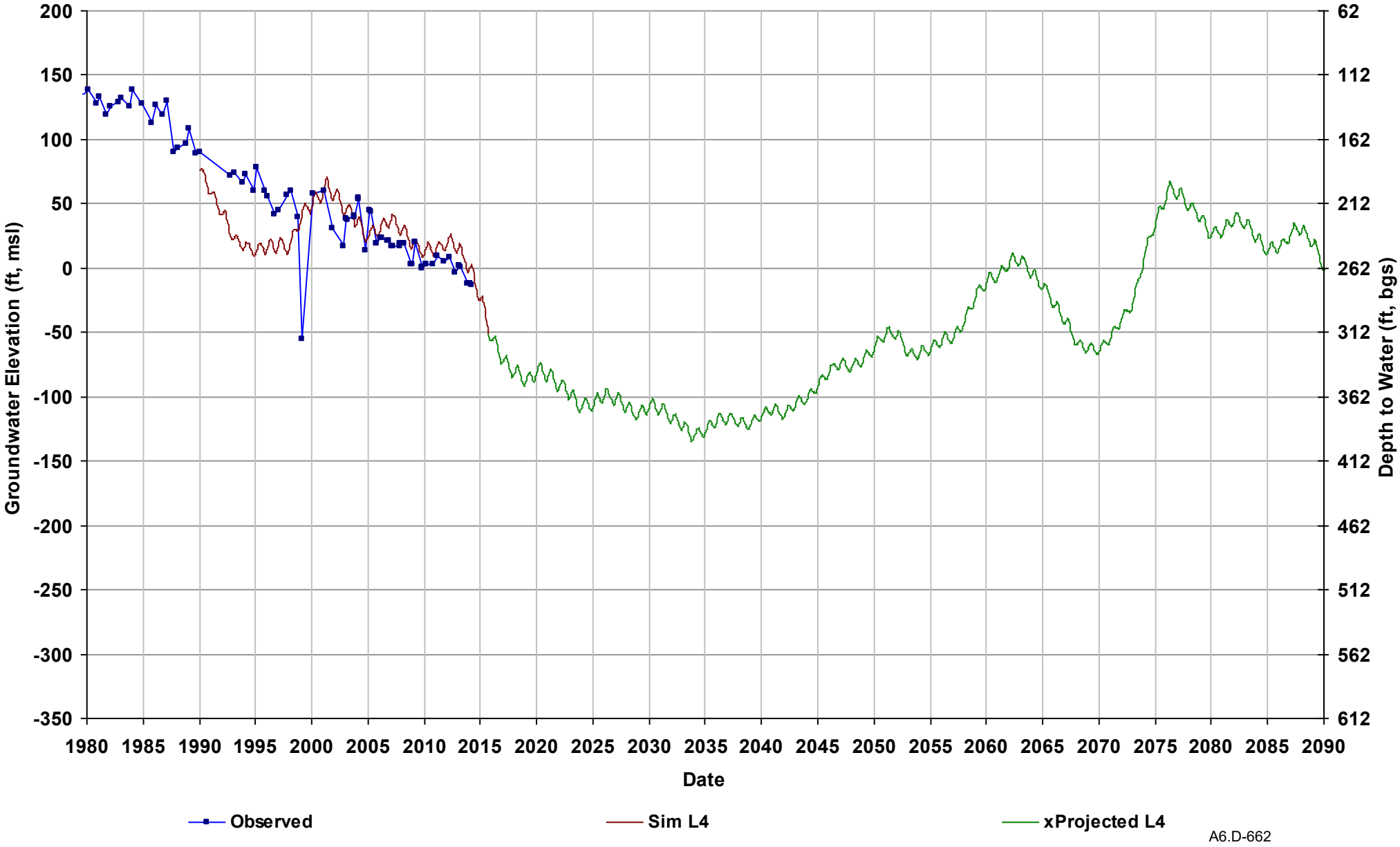
Well Name: 10S15E35A002M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



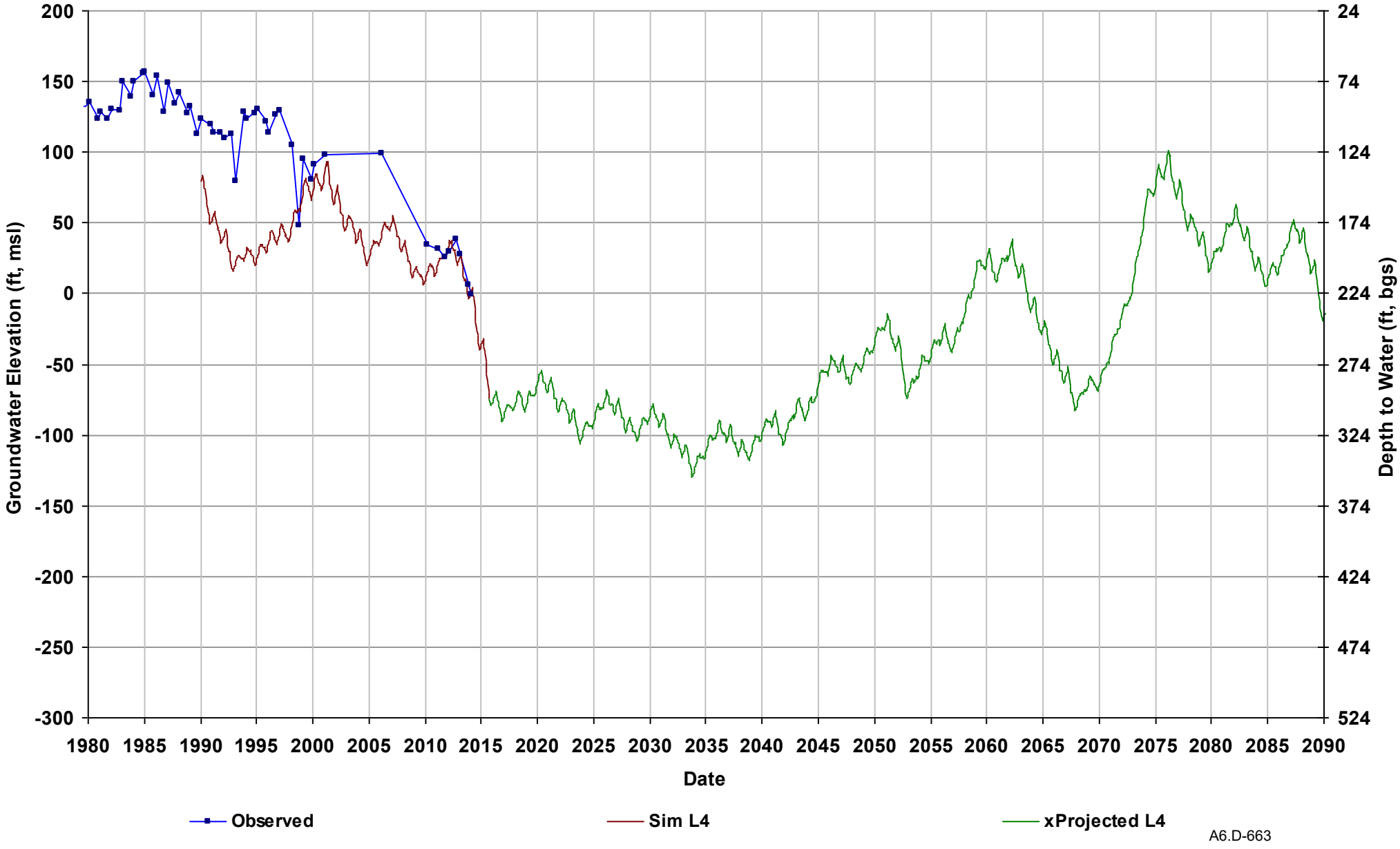
Well Name: 10S16E12K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 262

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



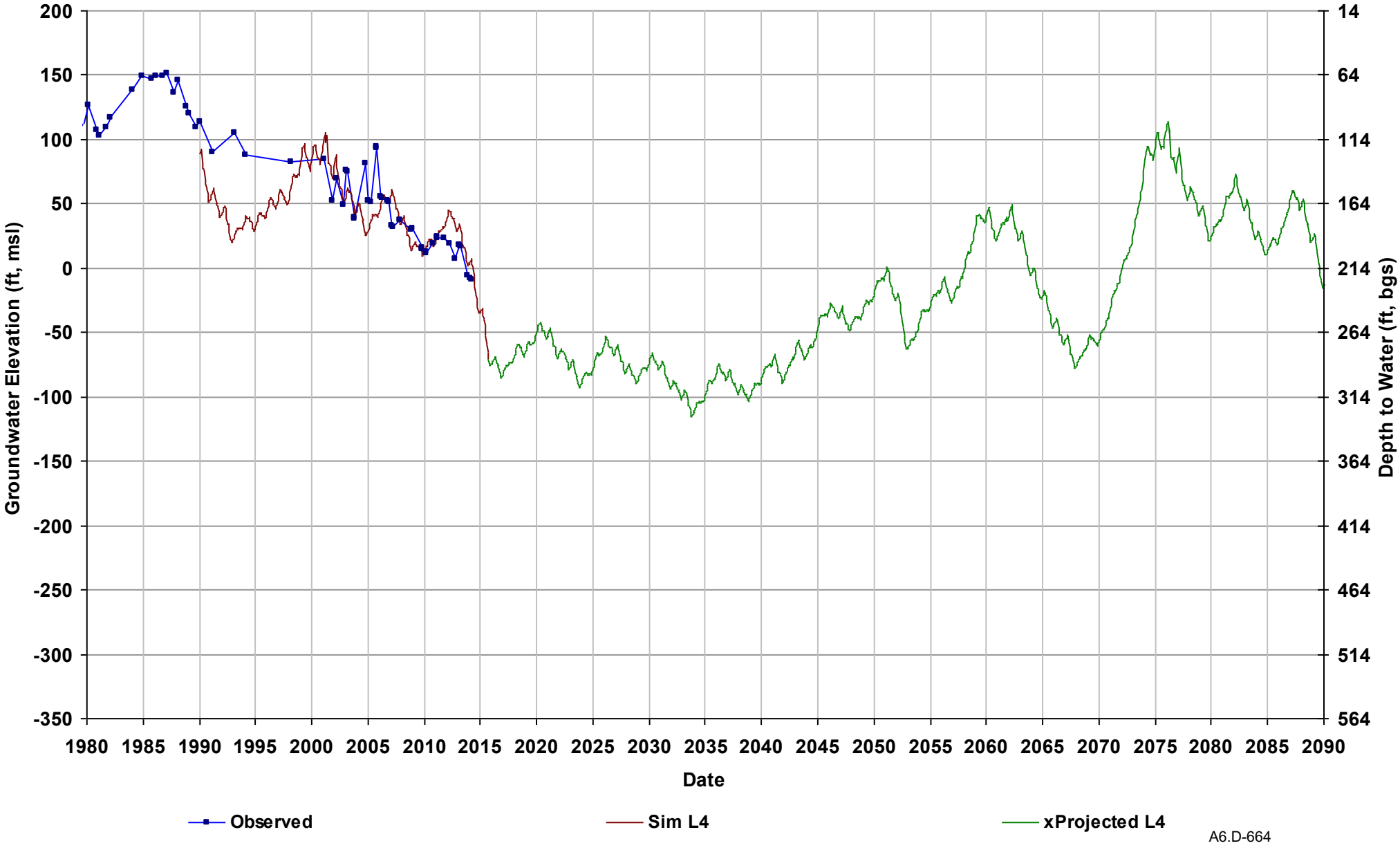
Well Name: 10S16E17C001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 224

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



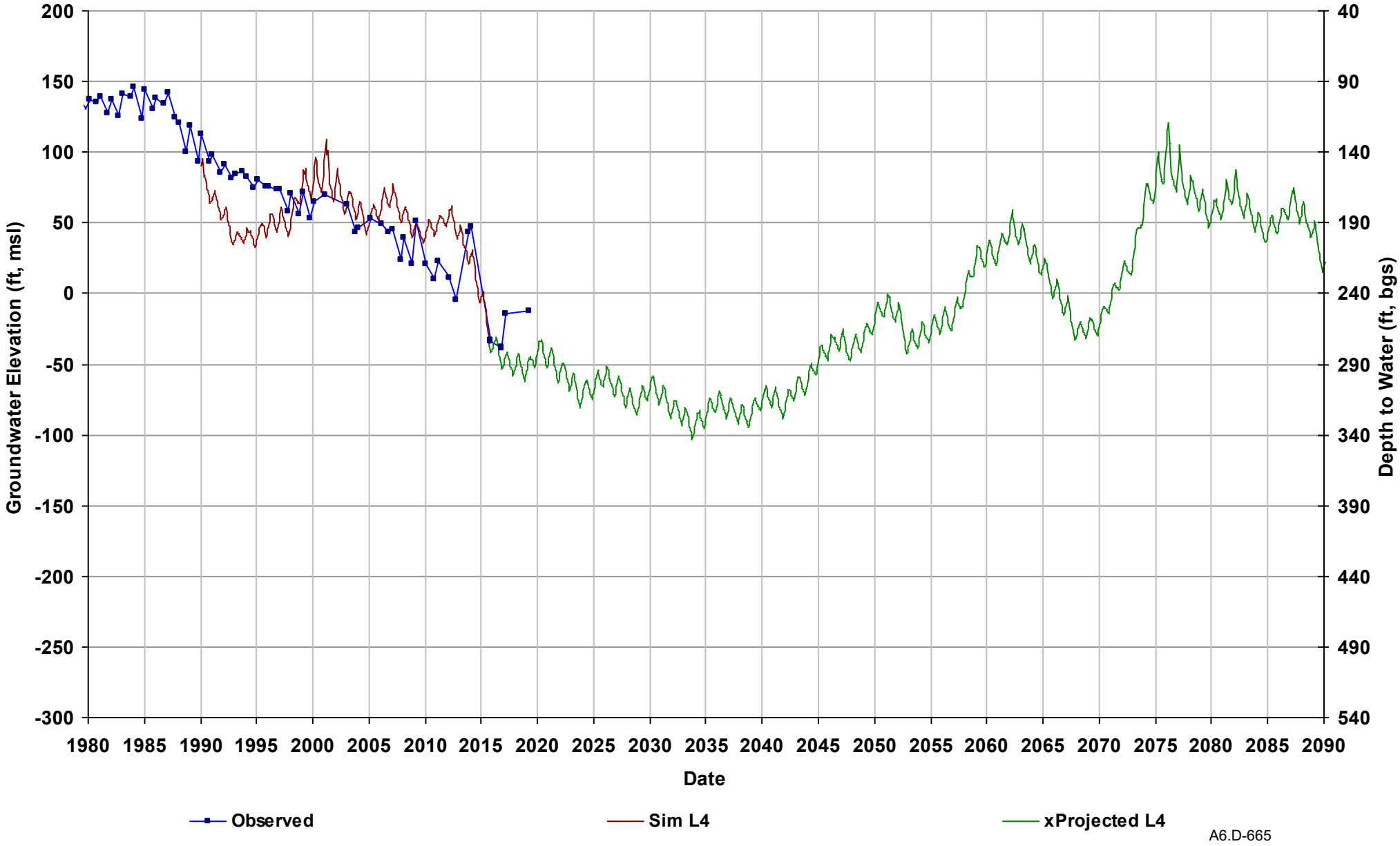
Well Name: 10S16E18D002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



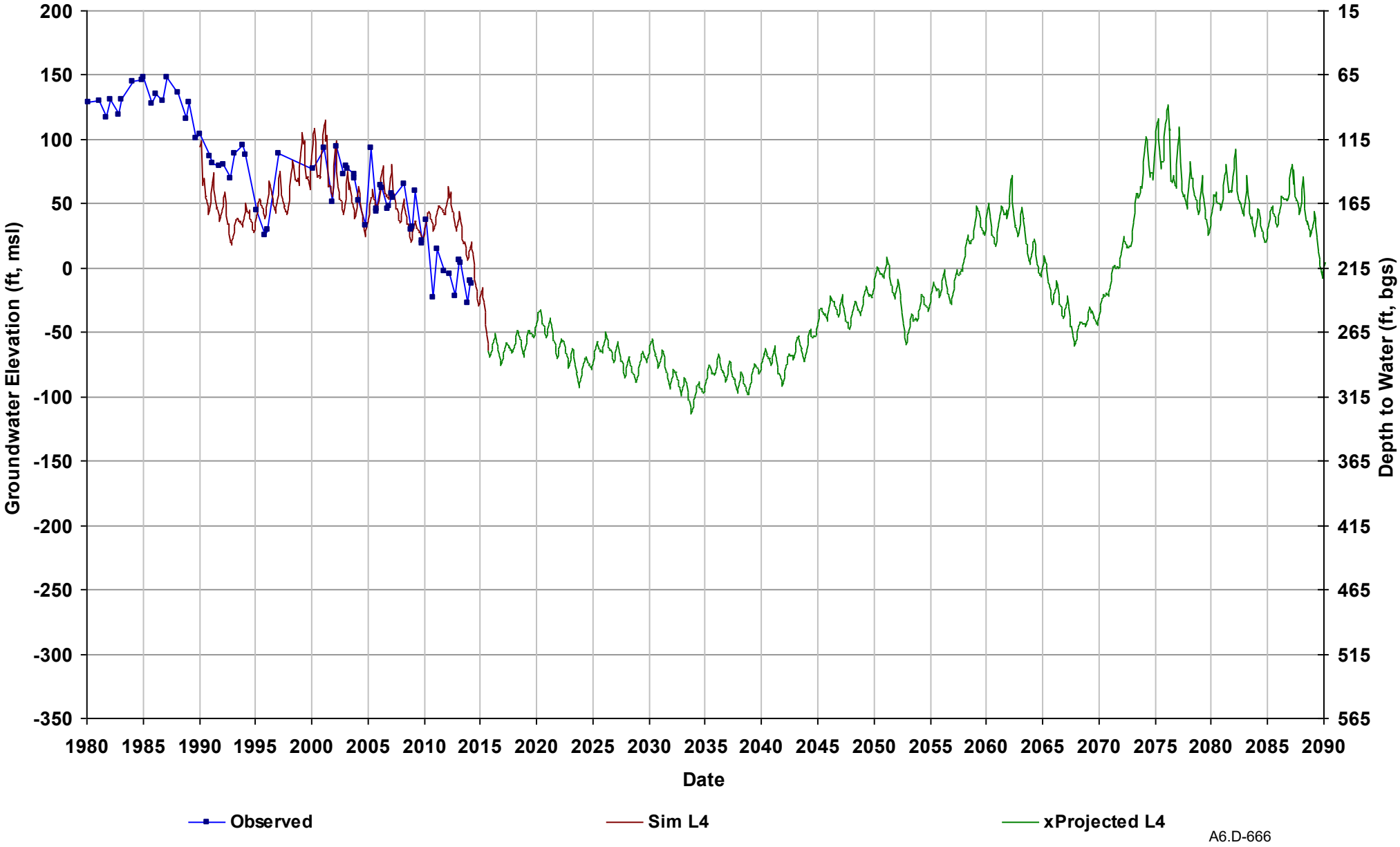
Well Name: 10S16E25F002M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 239

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



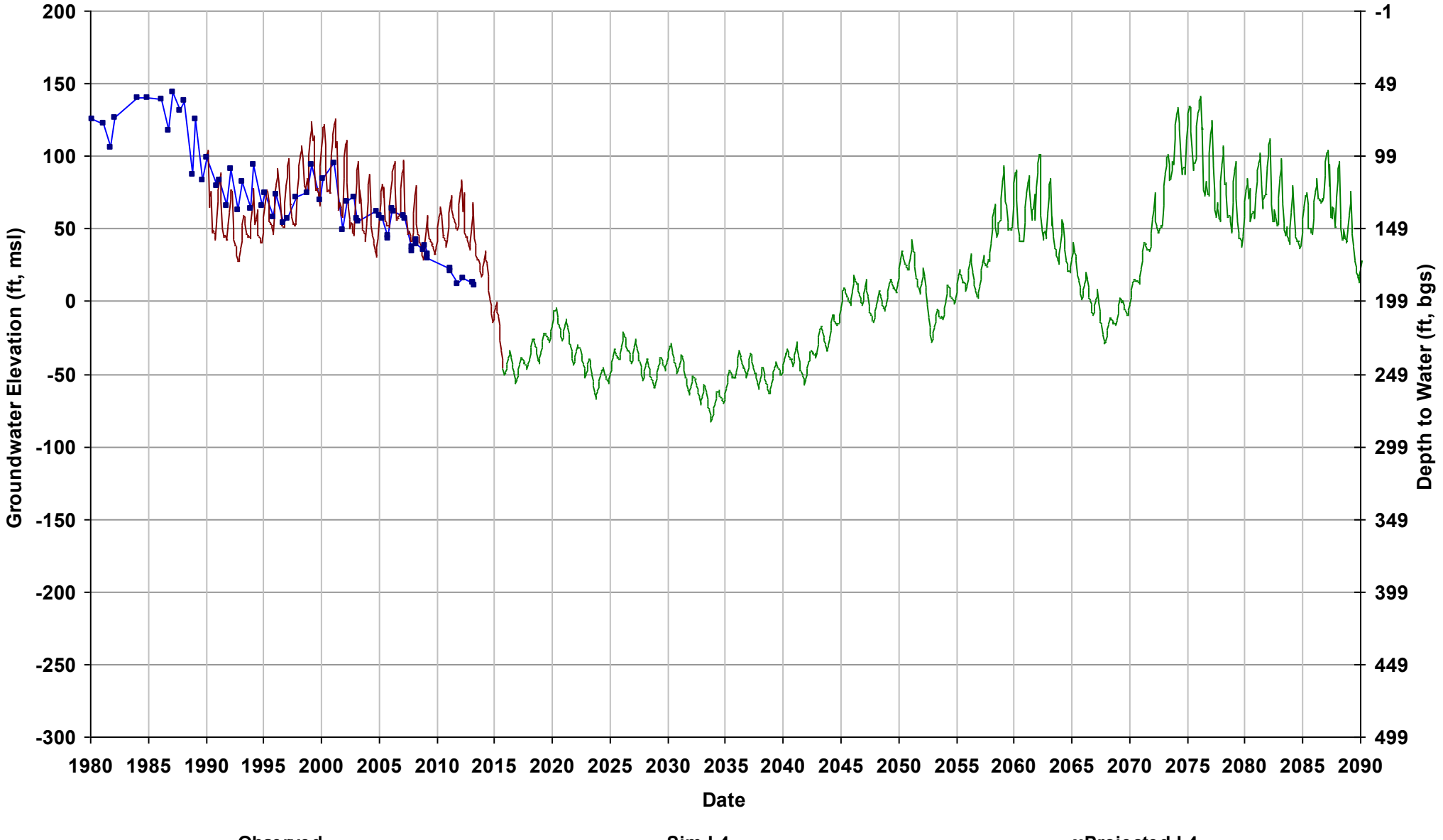
Well Name: 10S16E29A001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 215

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



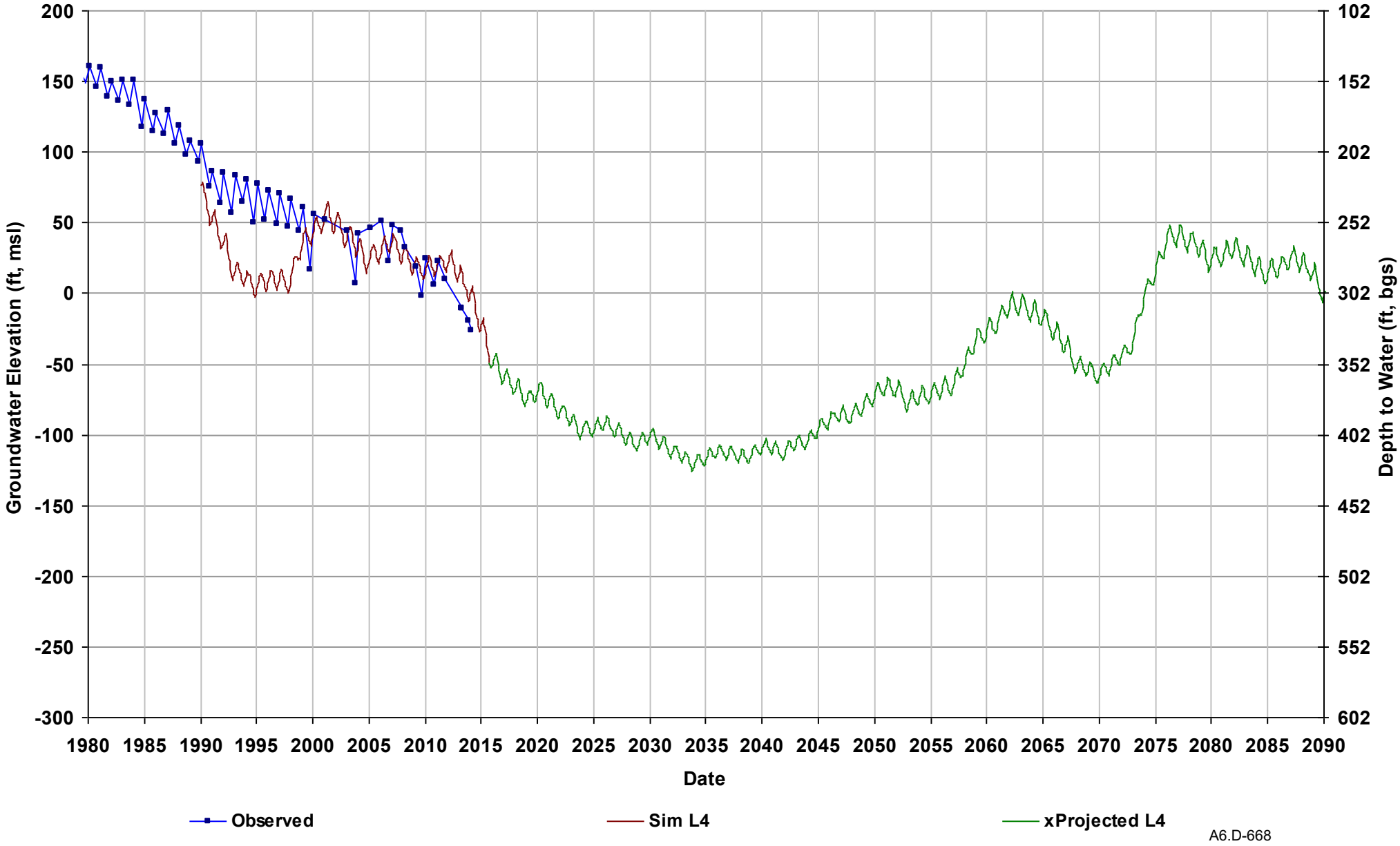
Well Name: 10S16E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 198

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



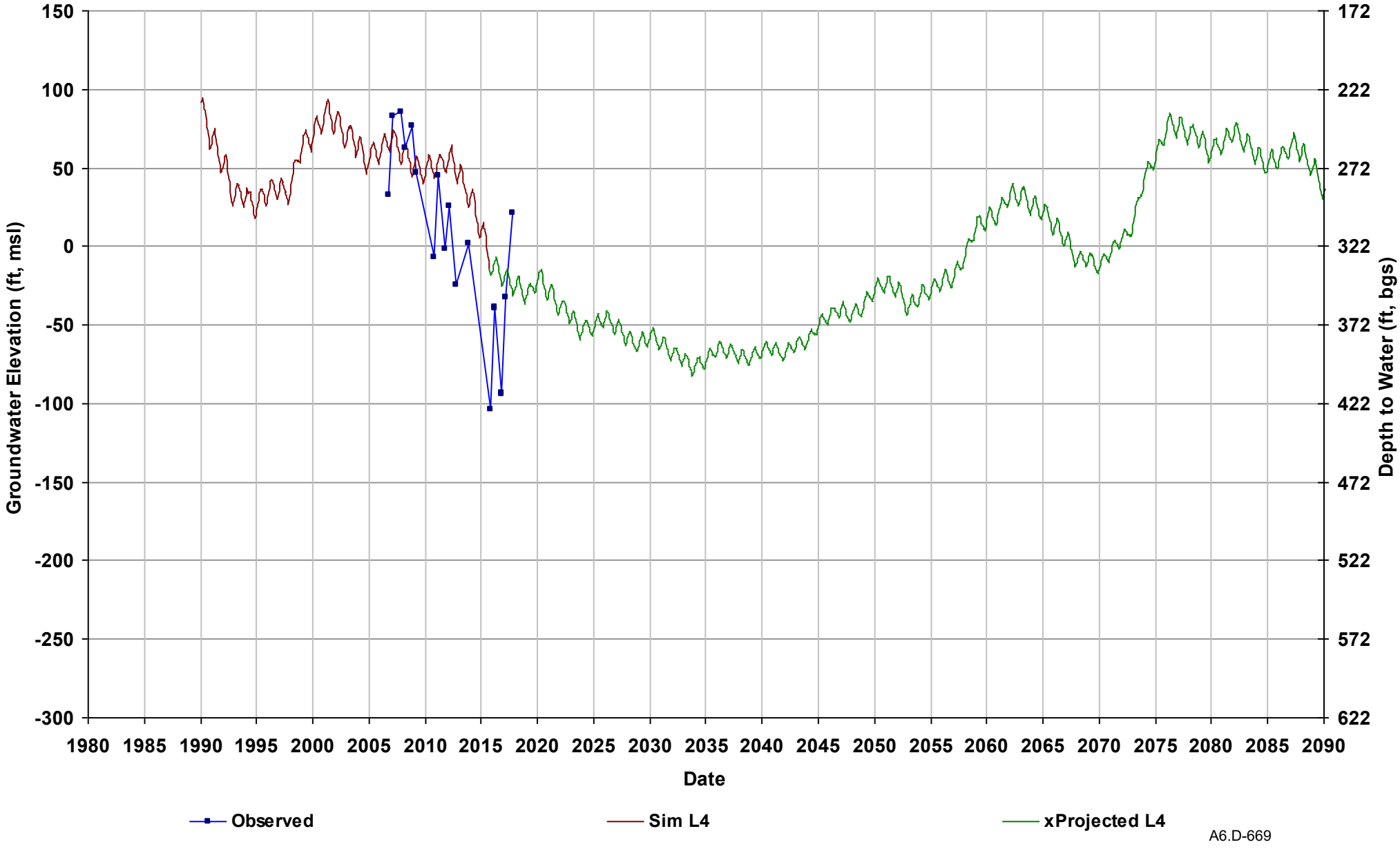
Well Name: 10S17E03F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



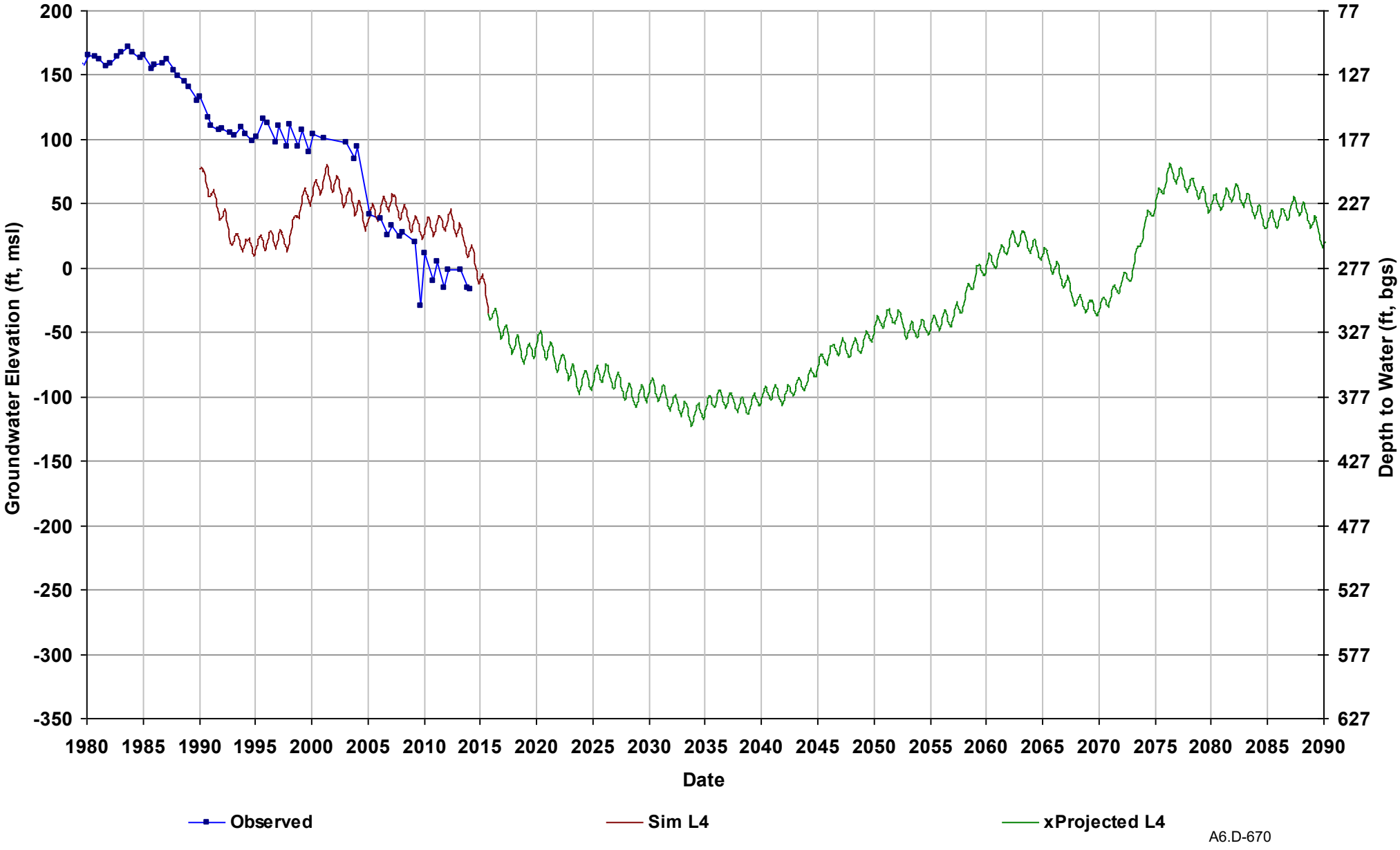
Well Name: 10S17E12C001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 321

Total Depth (ft): 640
Perf Top (ft): 140
Perf Bottom (ft): 502
Top Model Layer: 4
Bottom Model Layer: 4



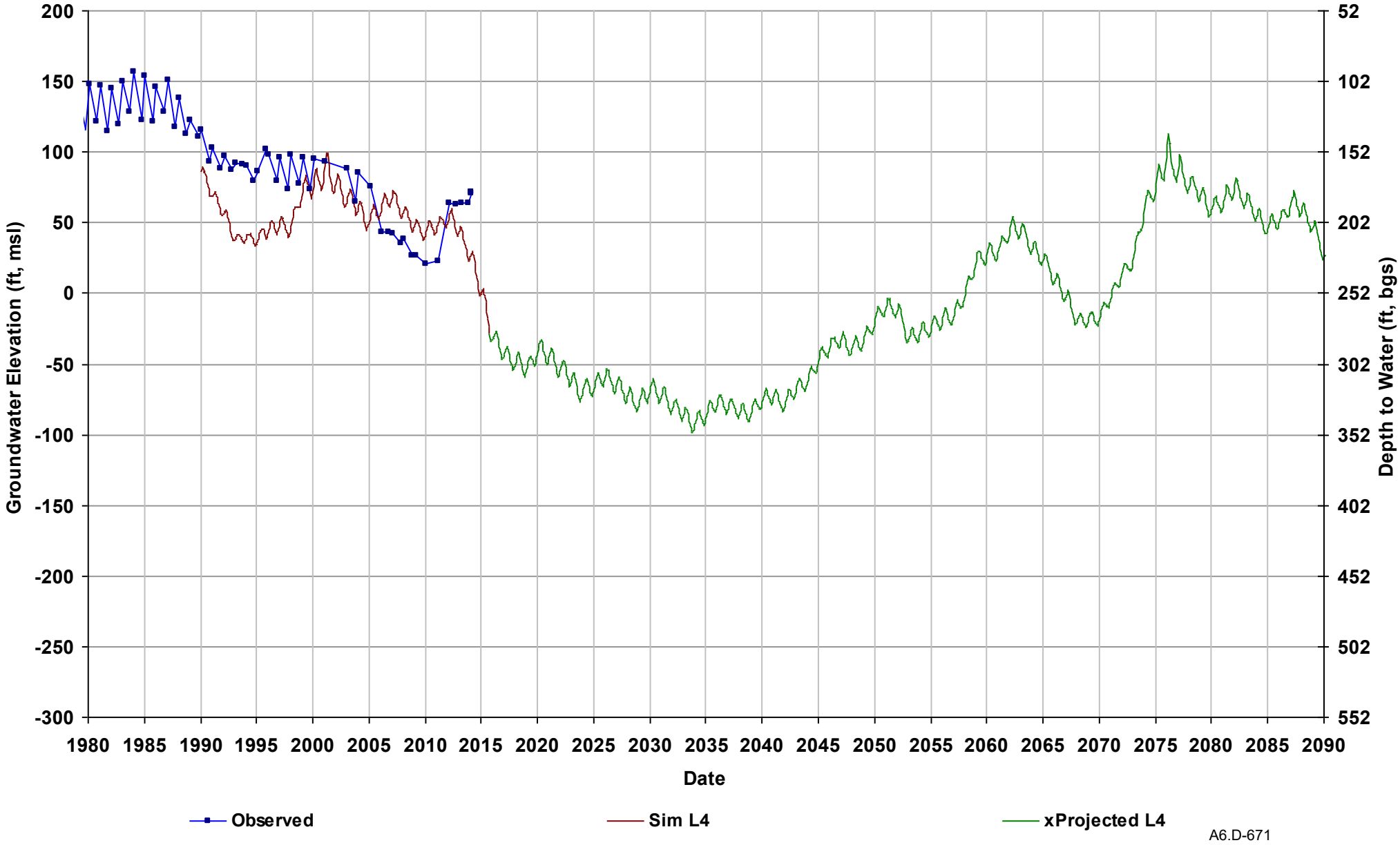
Well Name: 10S17E22D001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 277

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



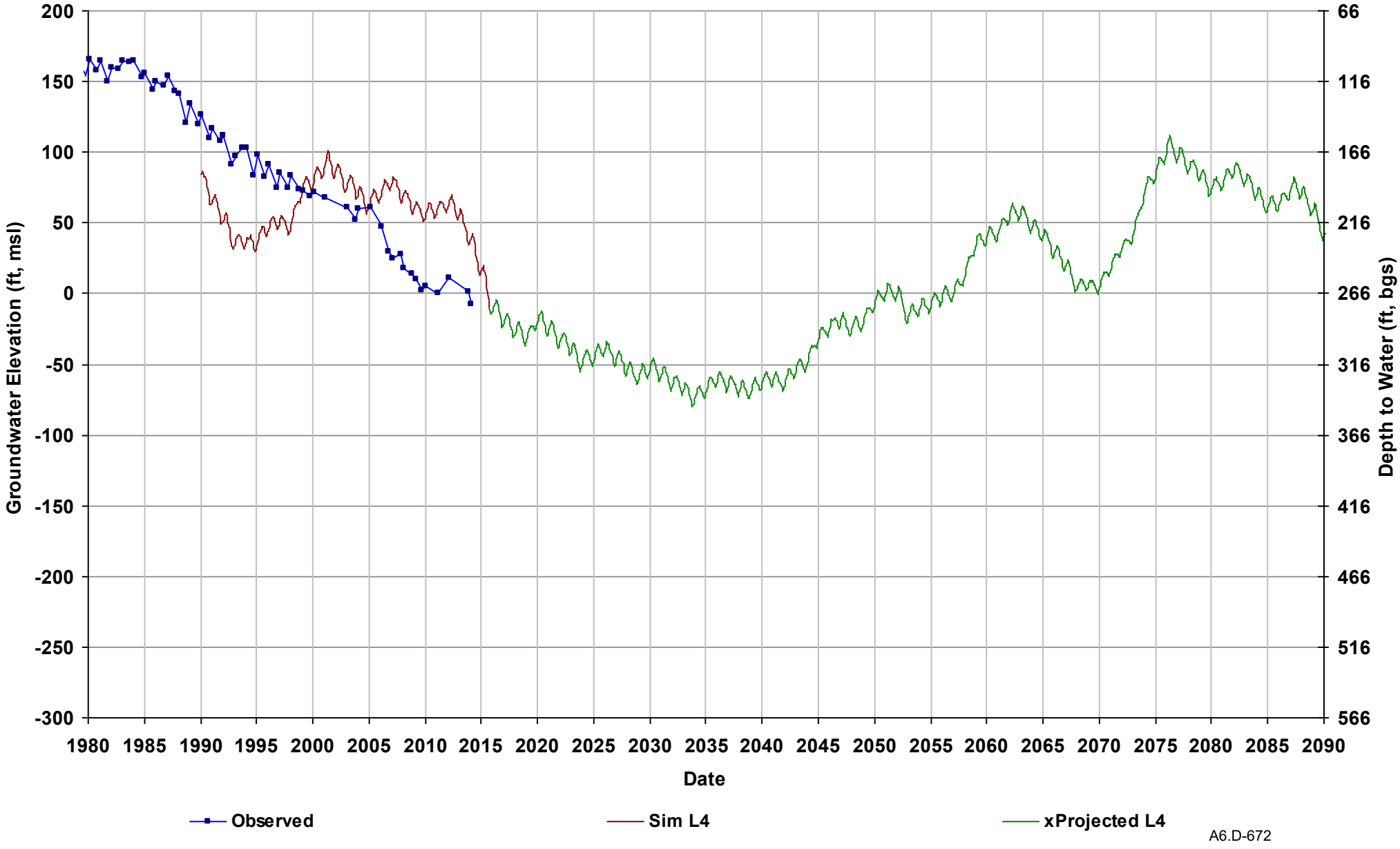
Well Name: 10S17E30B002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



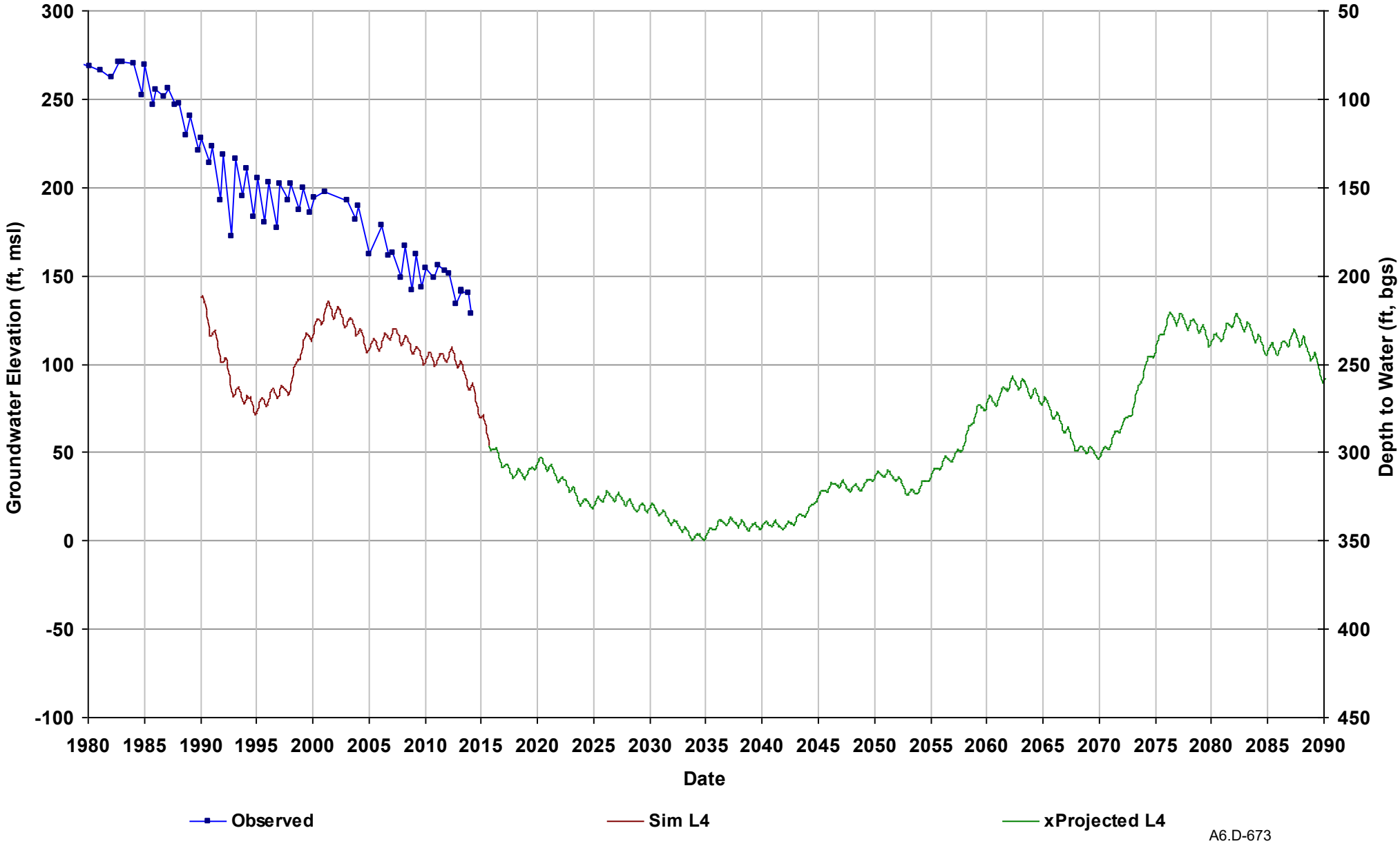
Well Name: 10S17E34A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 266

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



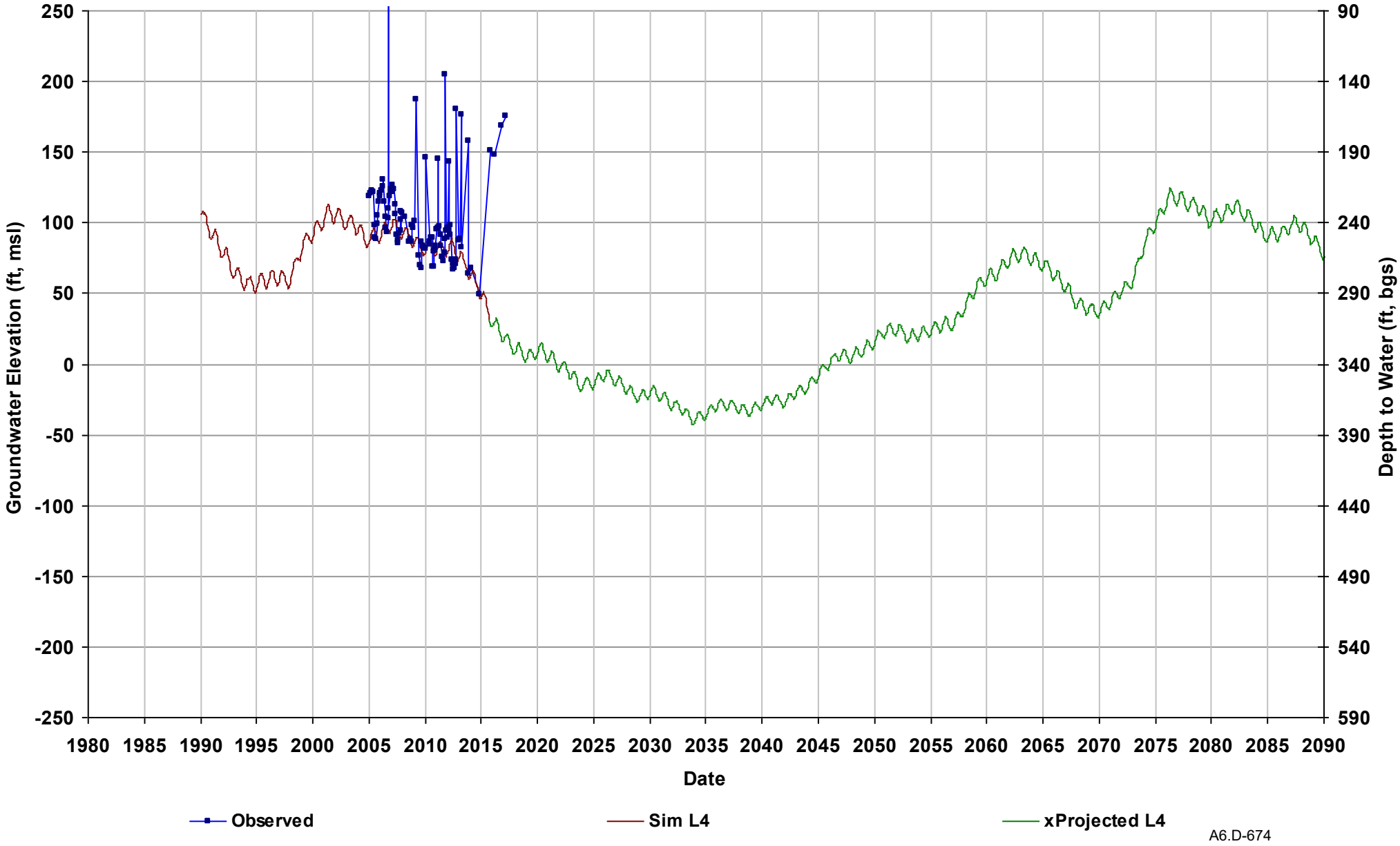
Well Name: 10S18E09C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 350

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



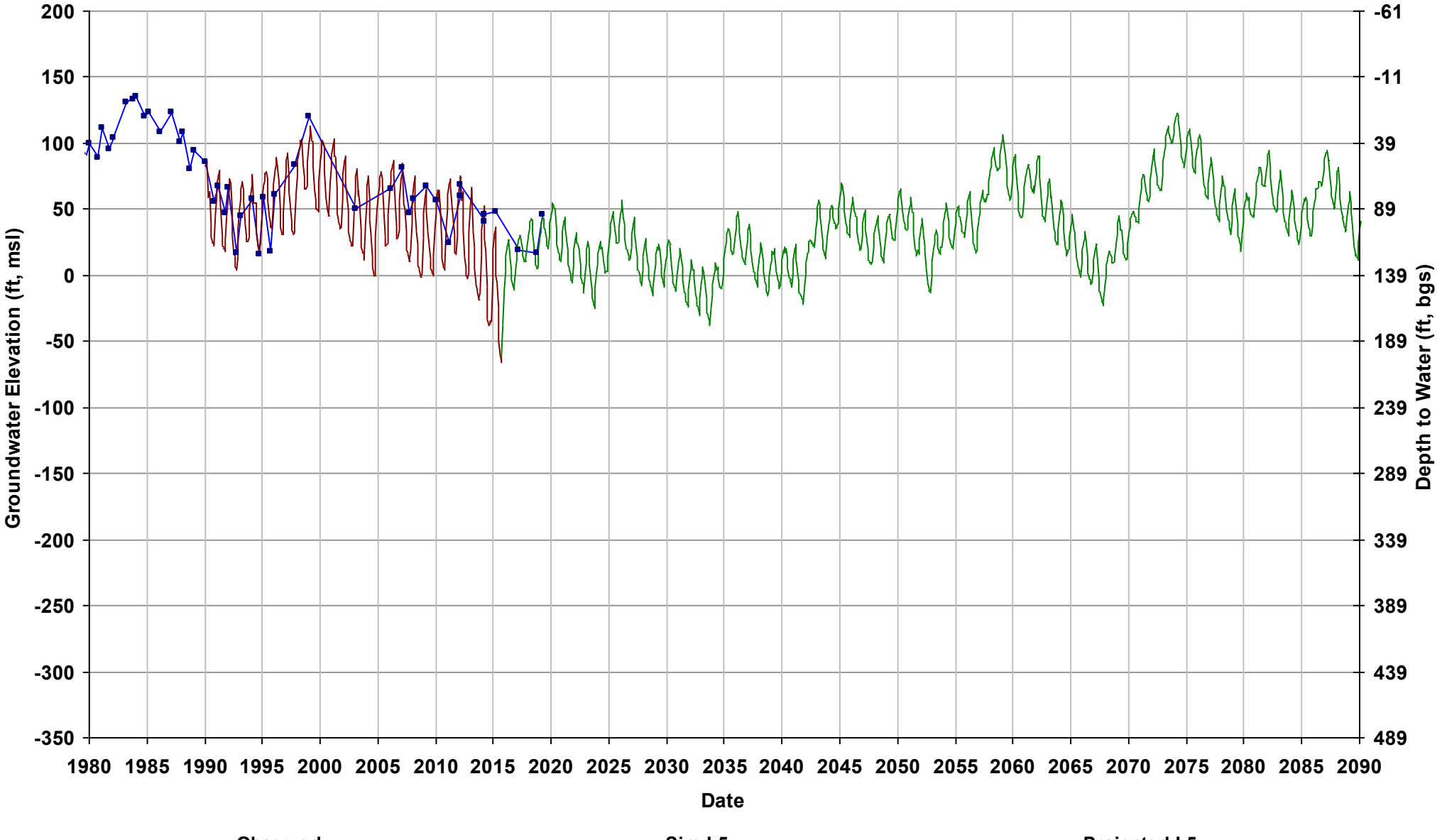
Well Name: 10S18E27N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 340

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



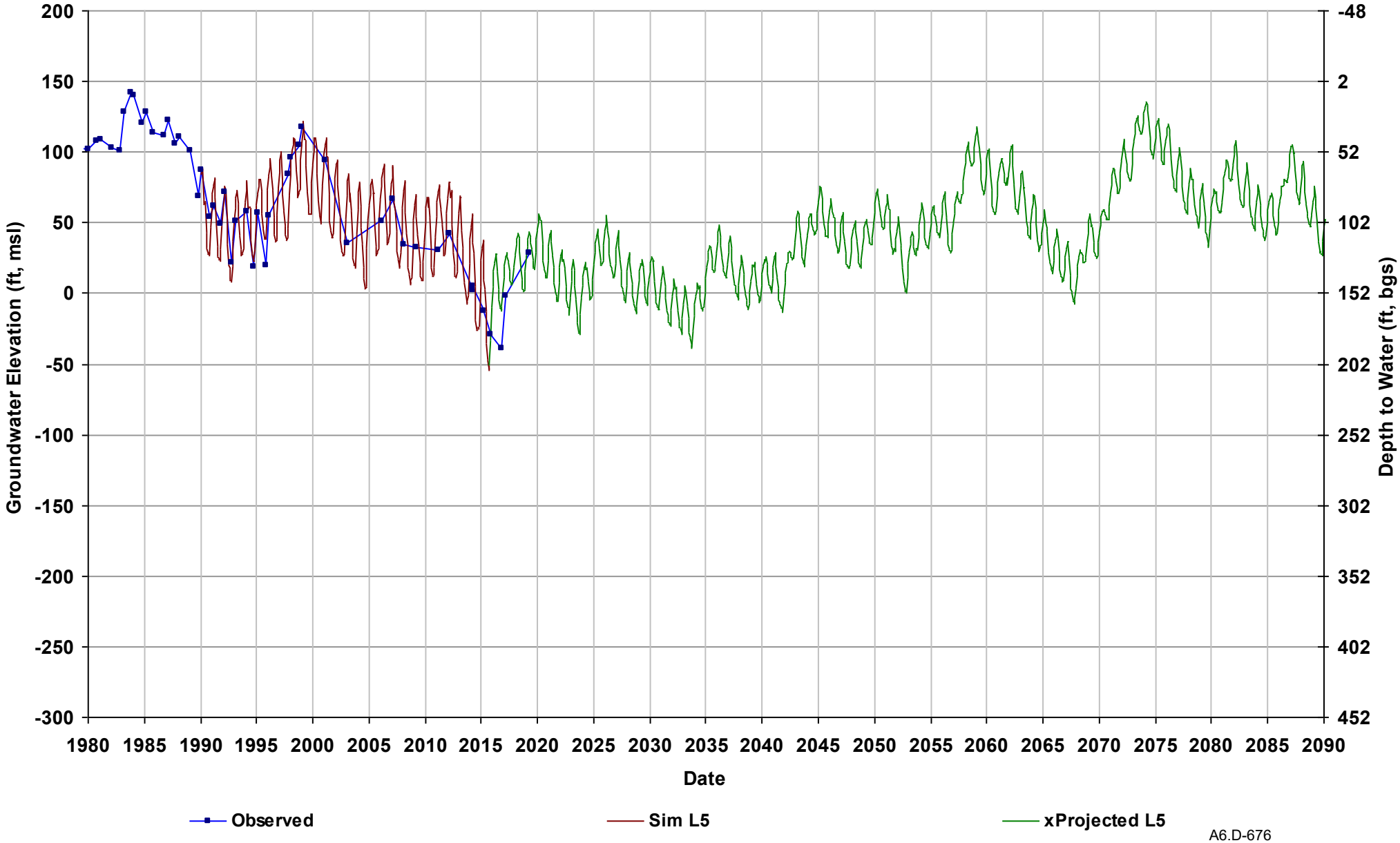
Well Name: 11S14E09A003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



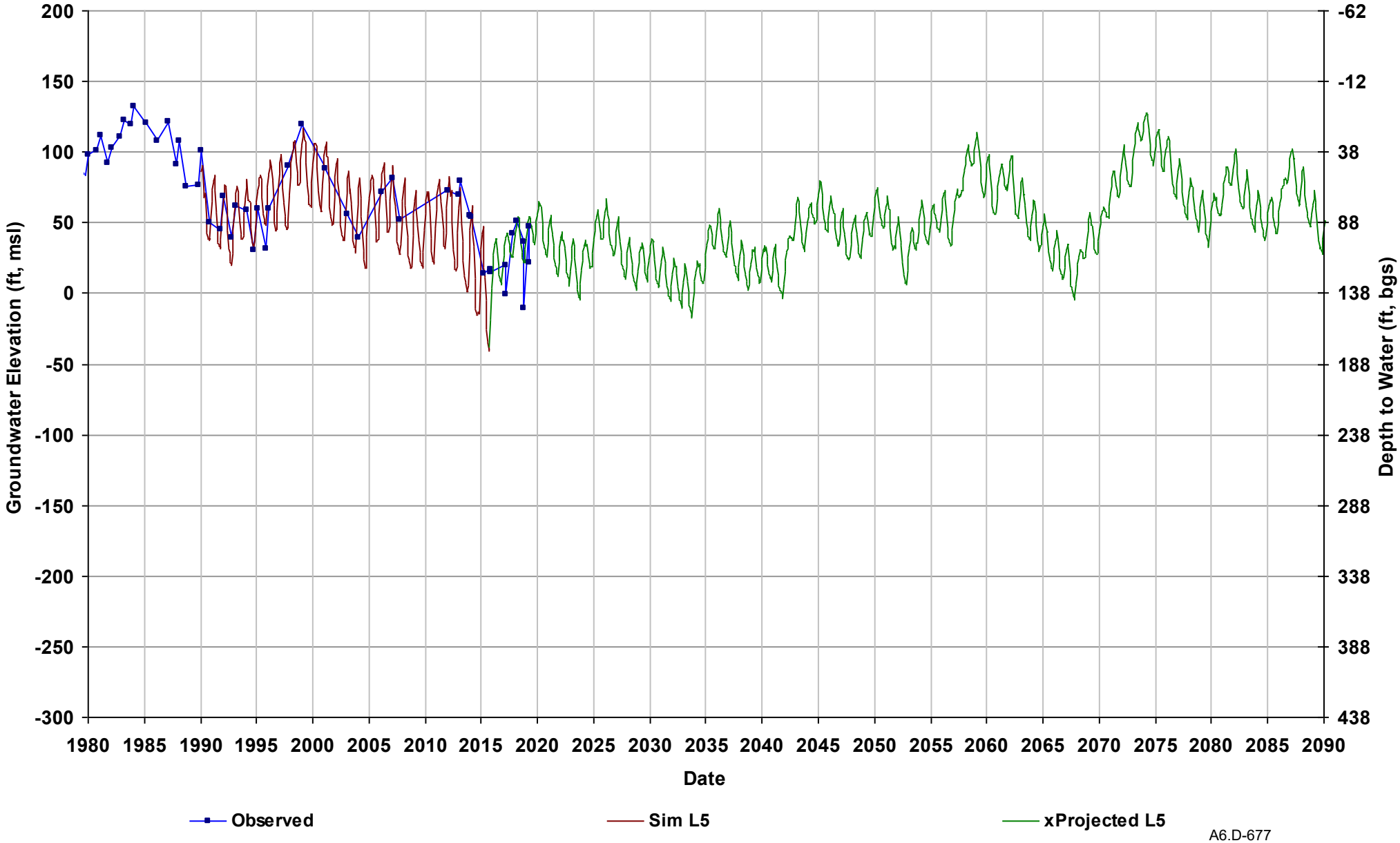
Well Name: 11S14E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 152

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



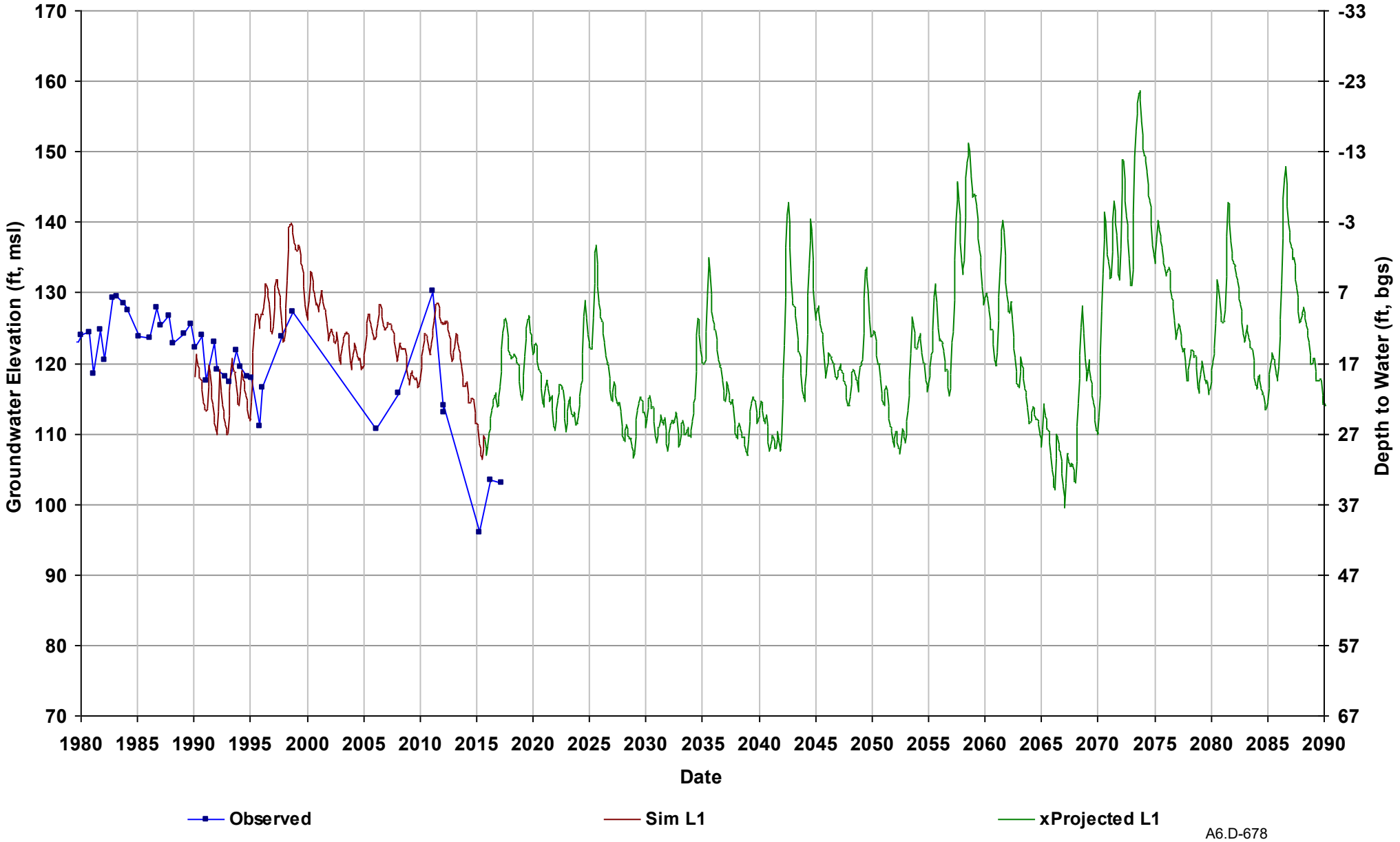
Well Name: 11S14E16A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 137

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



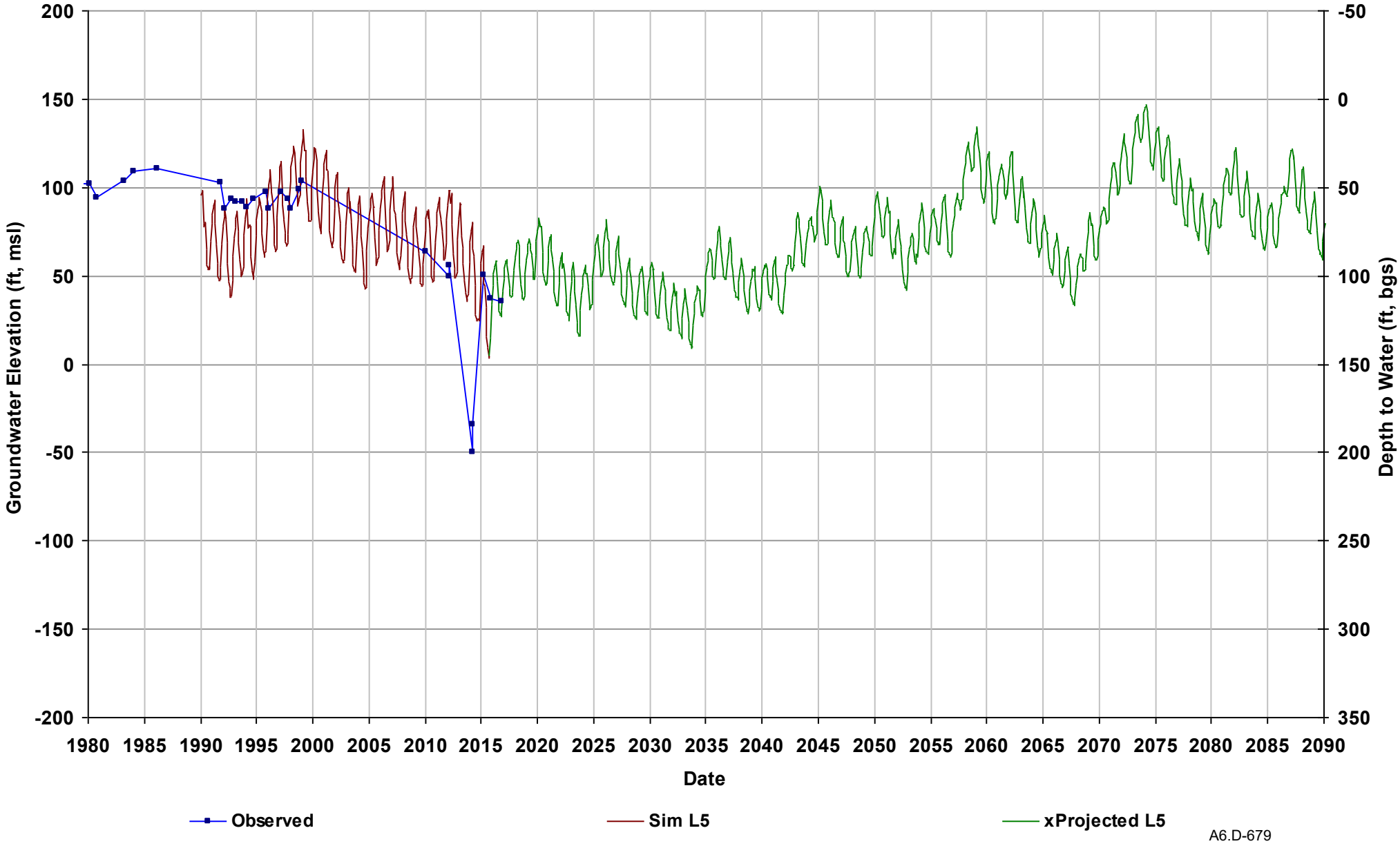
Well Name: 11S14E33L001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 137

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



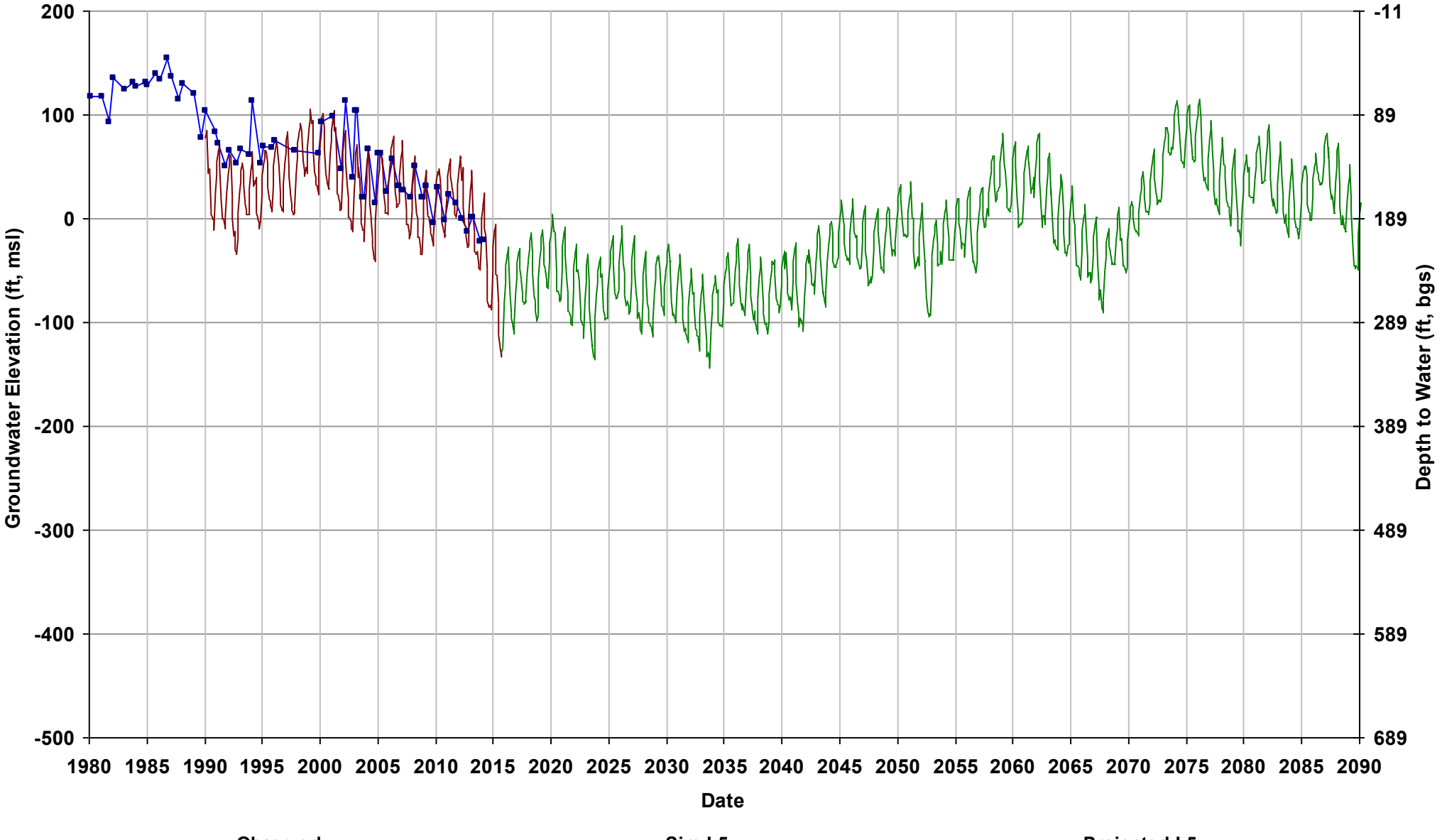
Well Name: 11S14E36R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 150

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



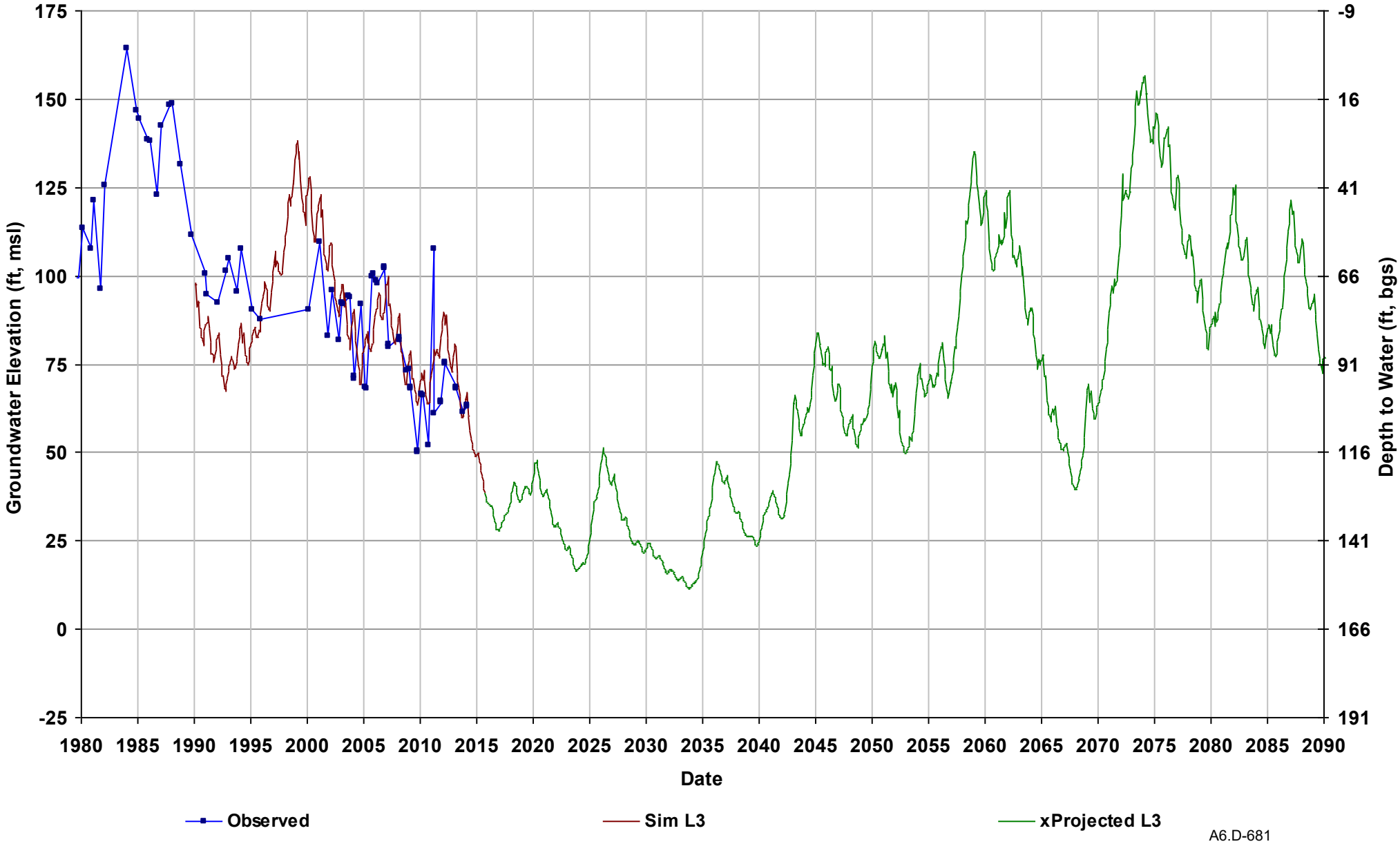
Well Name: 11S15E01H002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 189

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



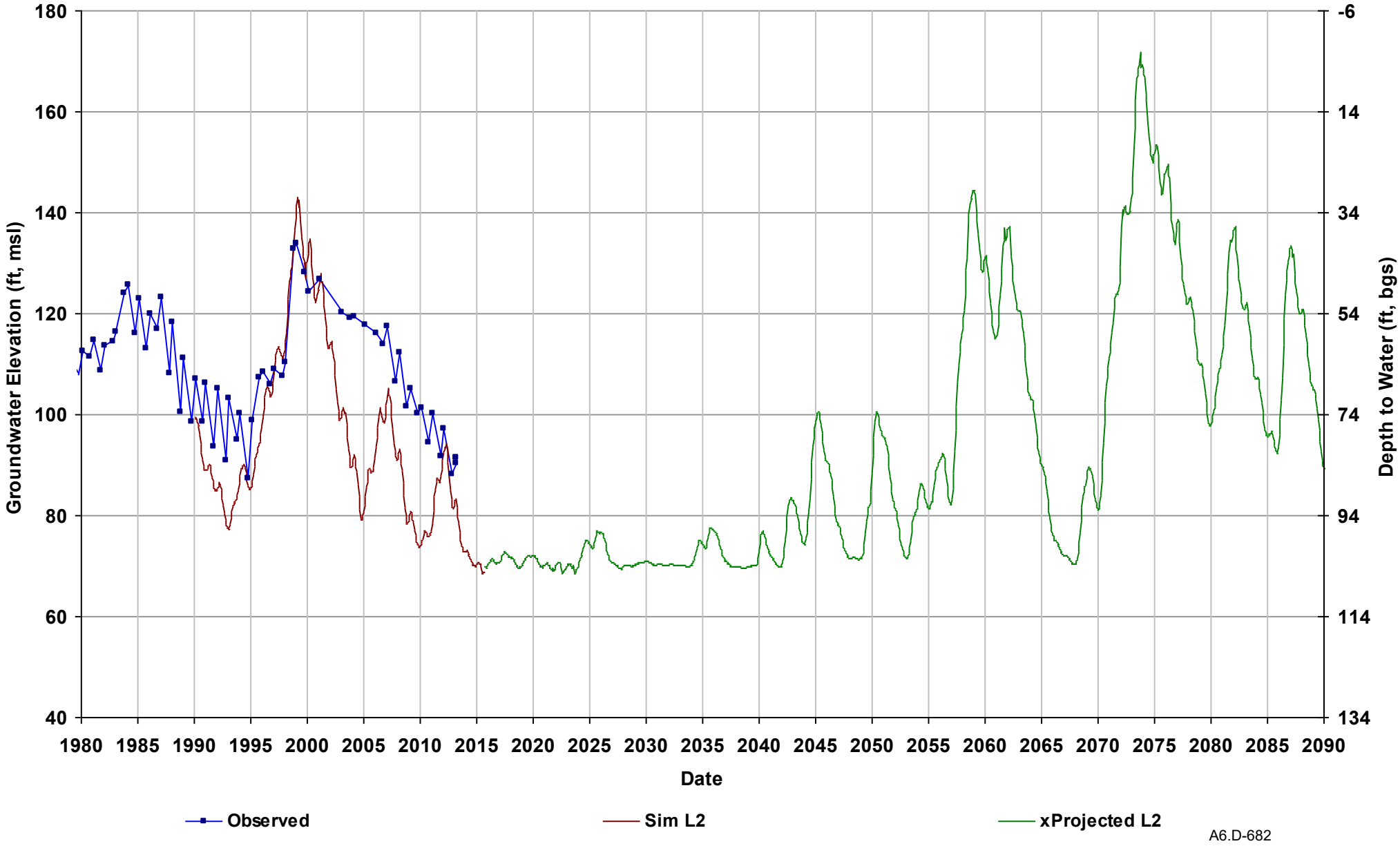
Well Name: 11S15E09C001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



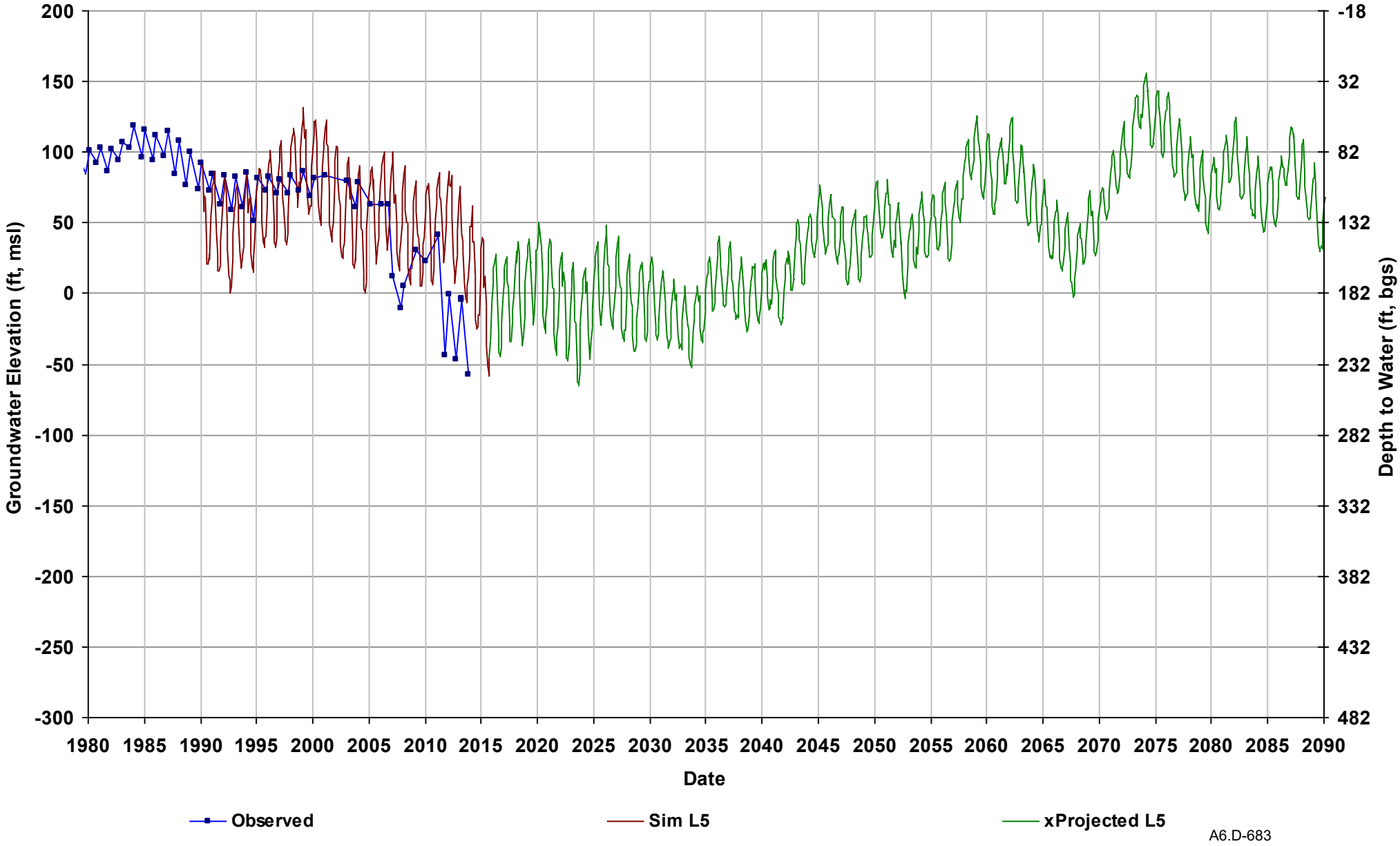
Well Name: 11S15E10J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 174

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



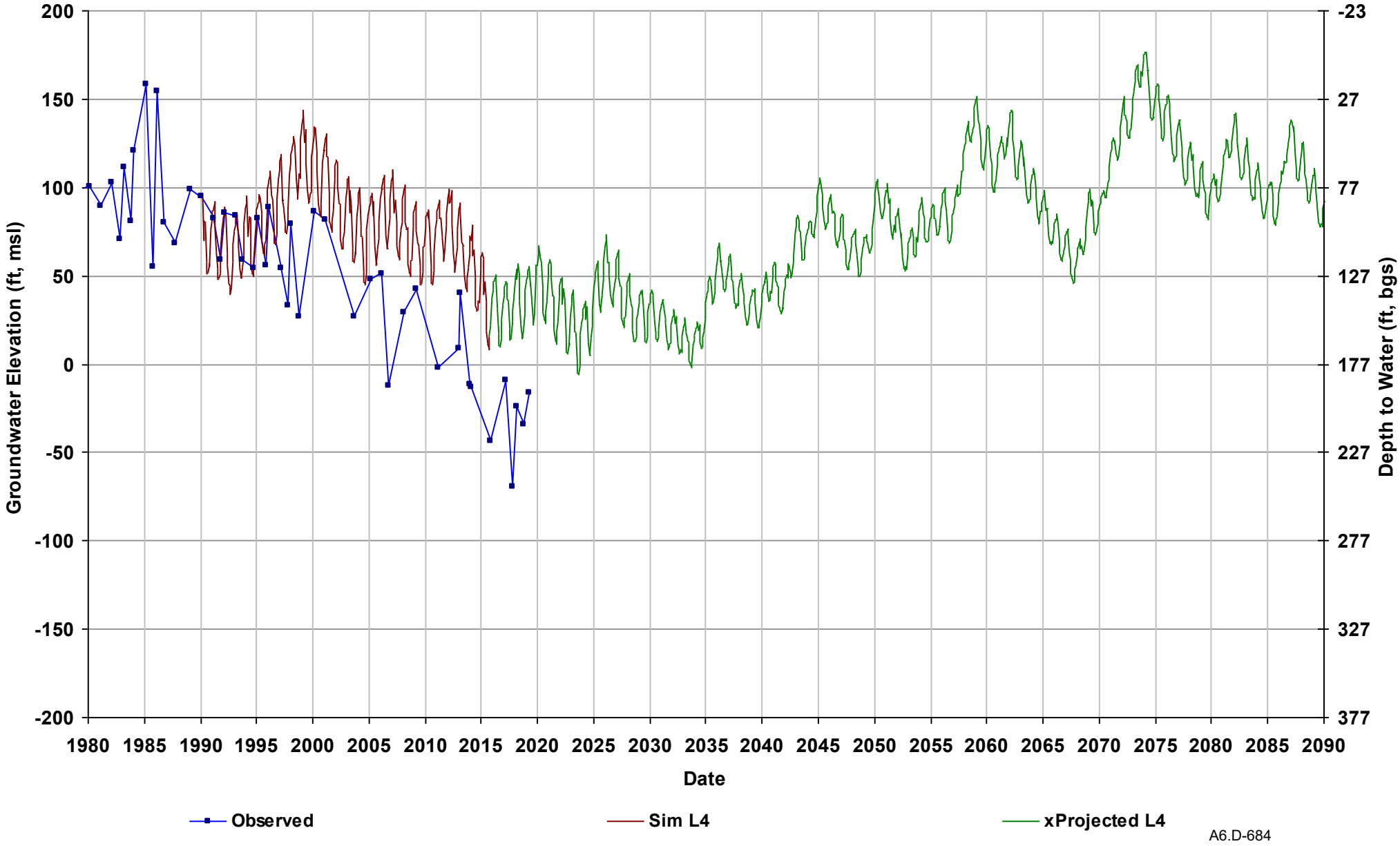
Well Name: 11S15E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 182

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



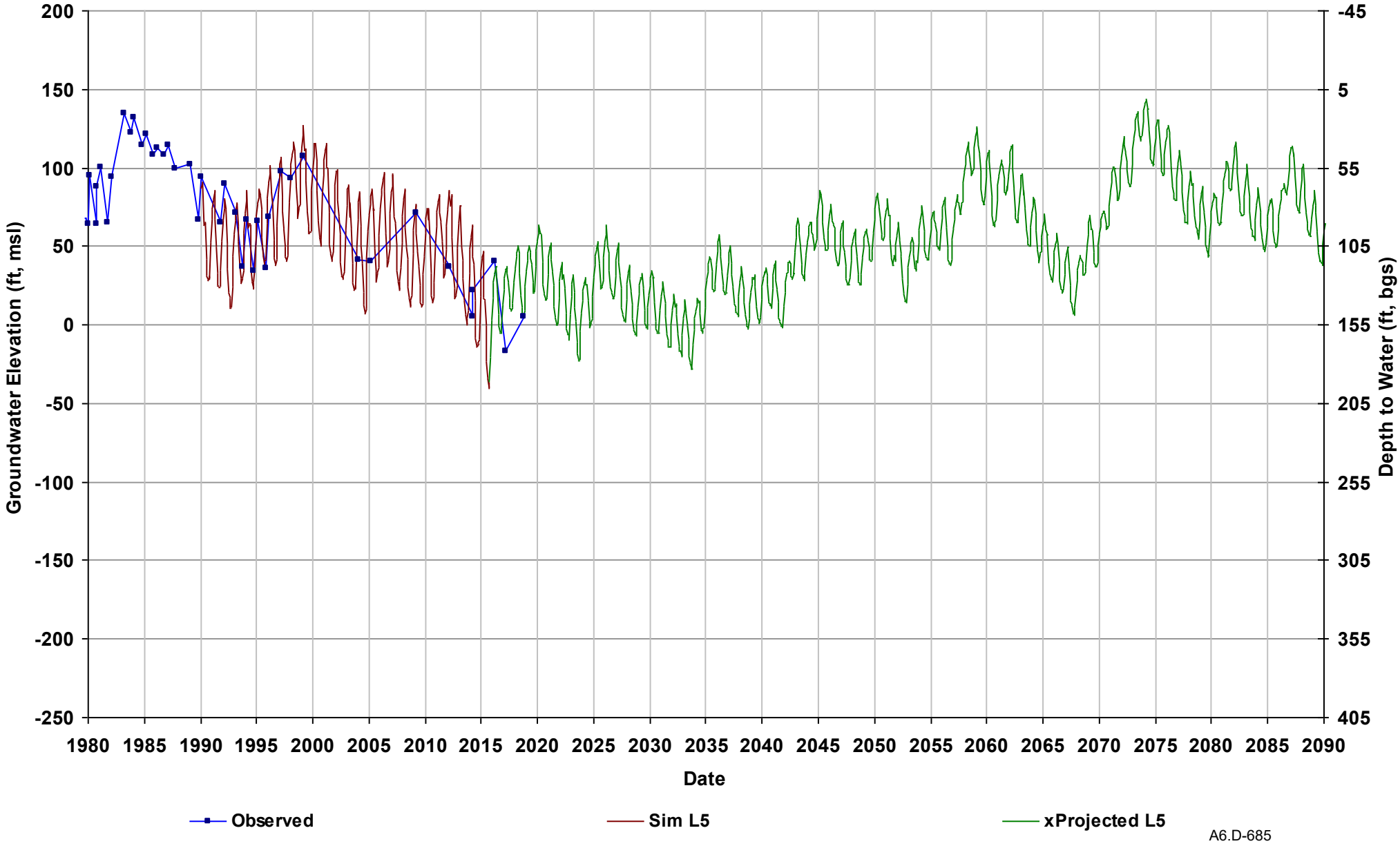
Well Name: 11S15E26R001M
Depth Zone: Composite; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



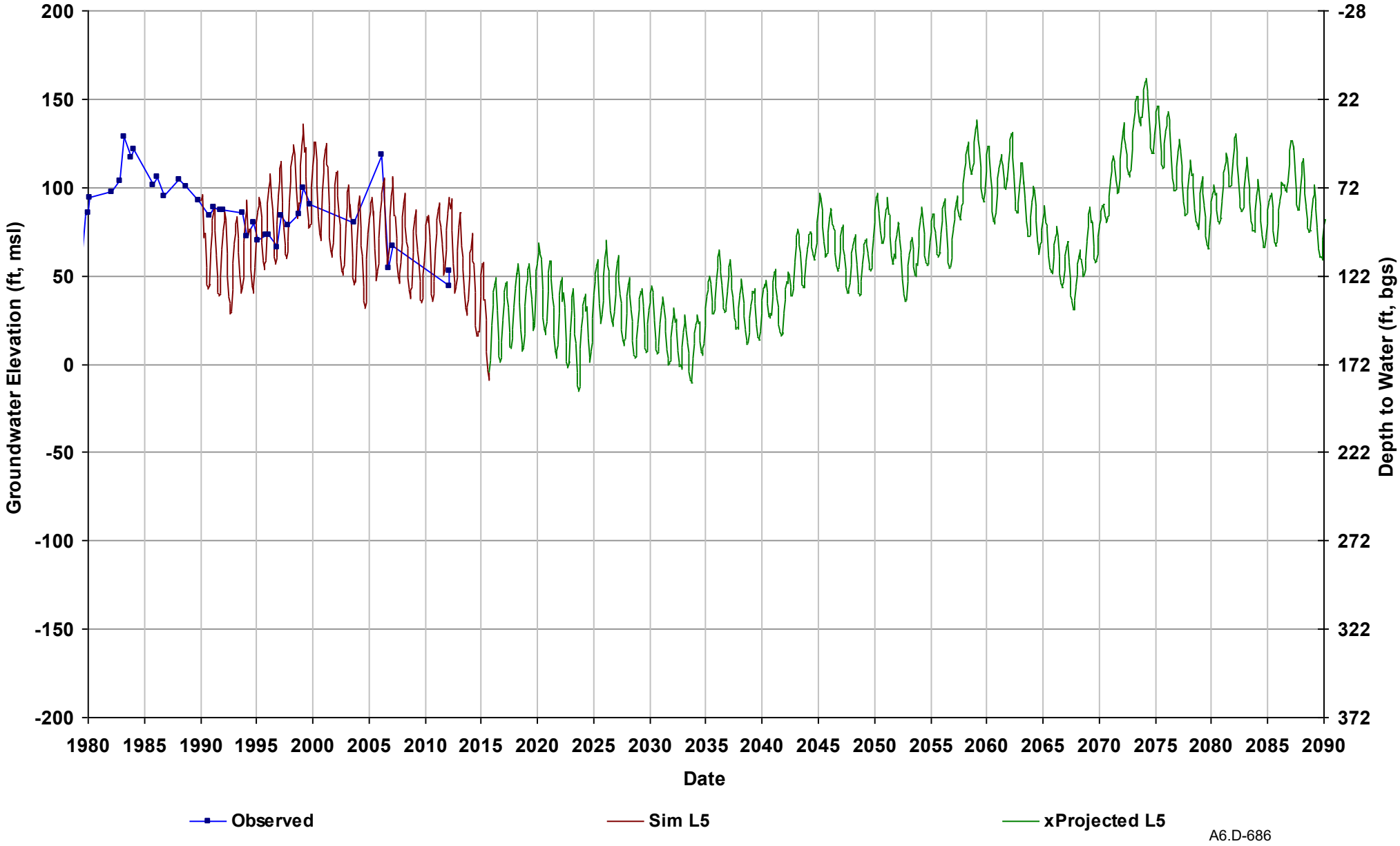
Well Name: 11S15E30A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 155

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



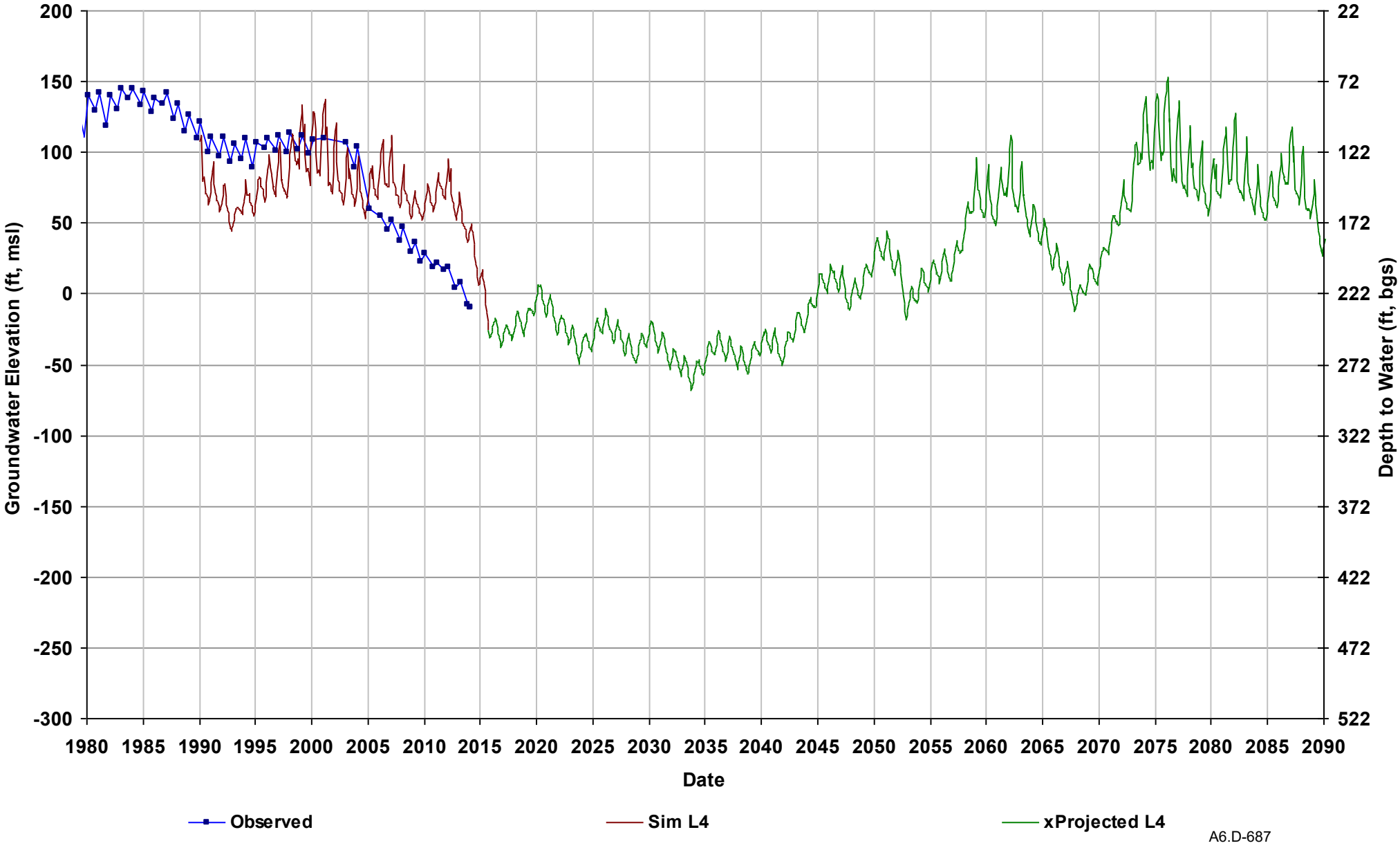
Well Name: 11S15E35P001M
Depth Zone: Unknown; Inside CC
Subbasin: Madera
GSE (ft, msl): 172

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



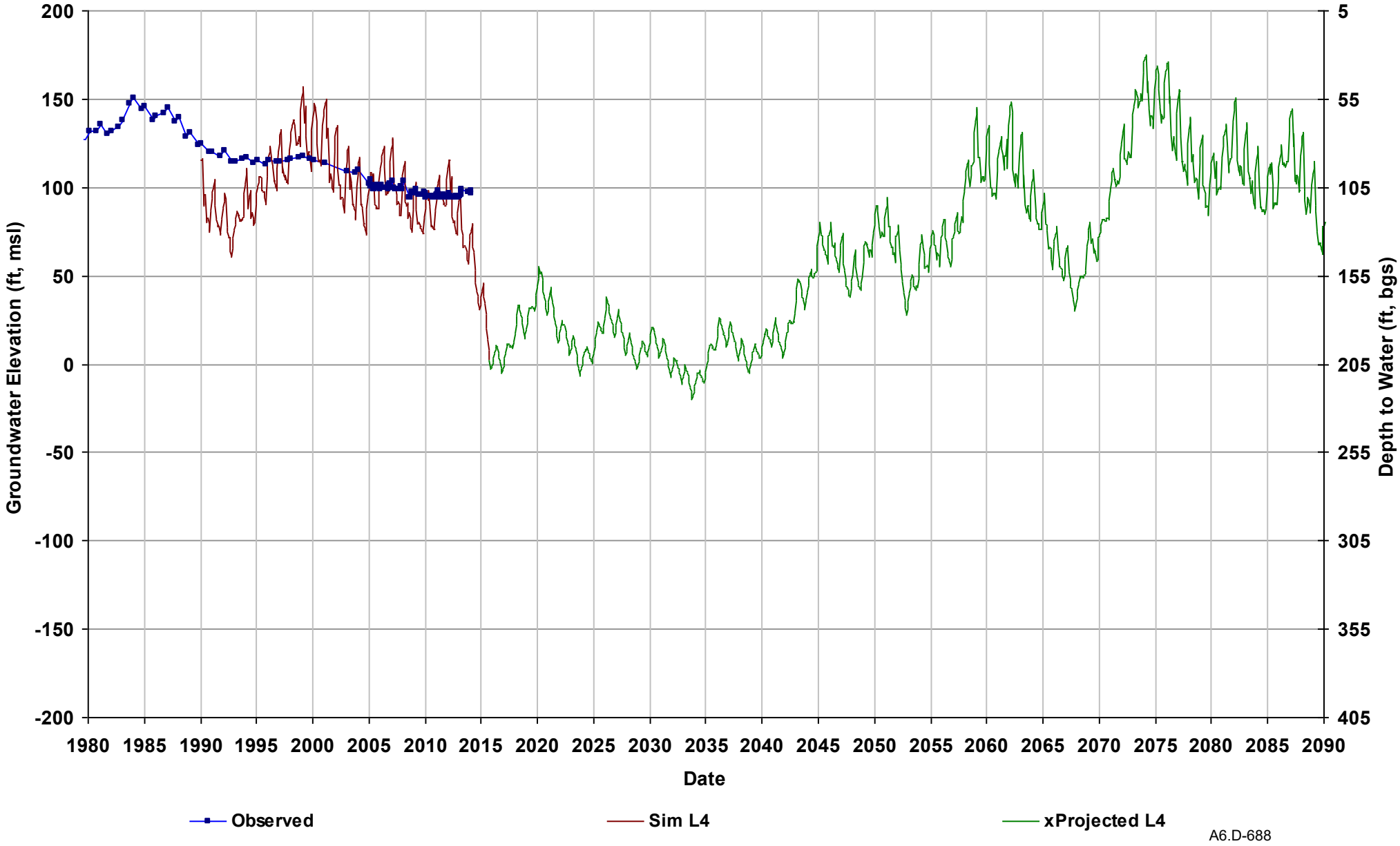
Well Name: 11S16E03A001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 222

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



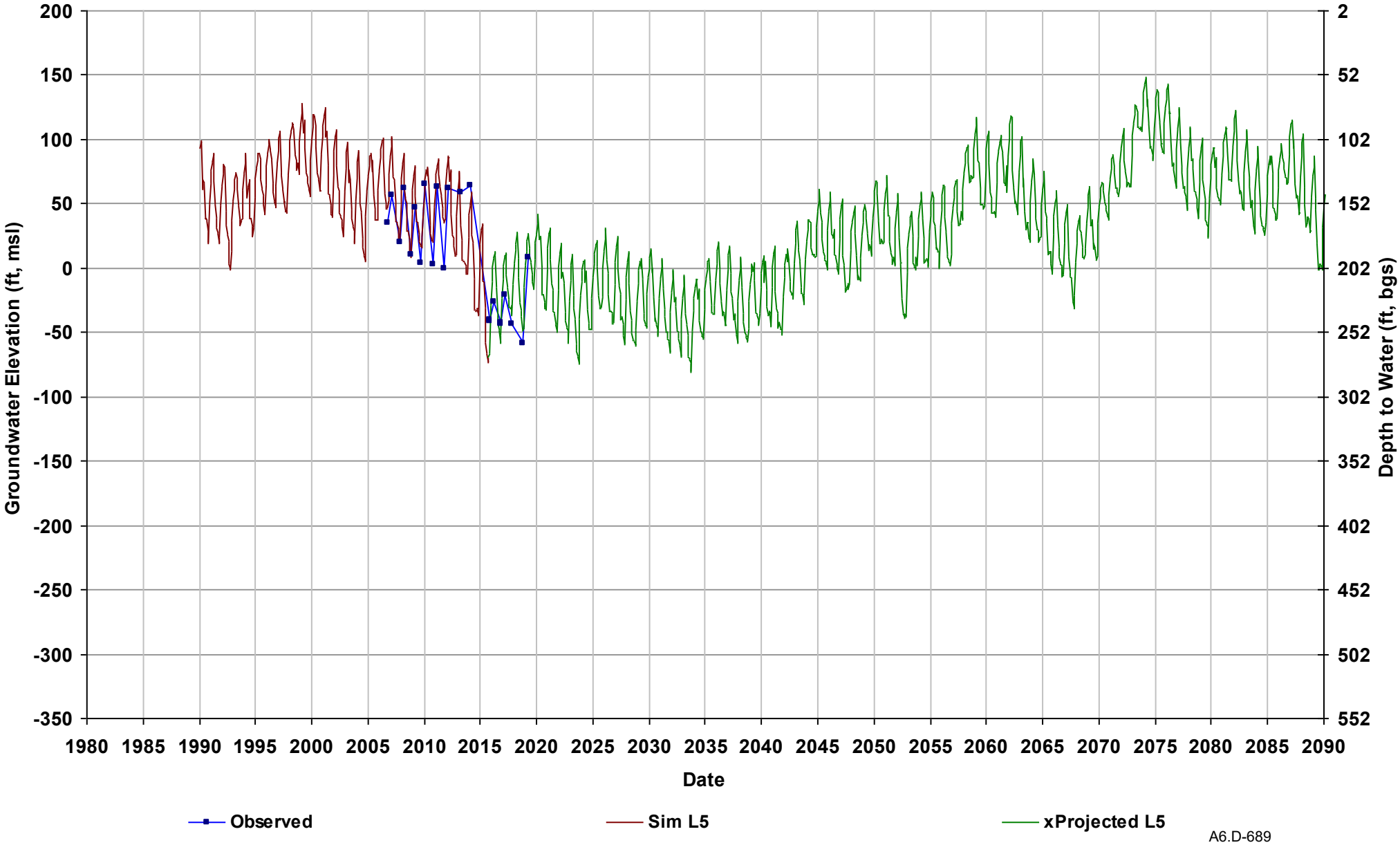
Well Name: 11S16E10N001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 204

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



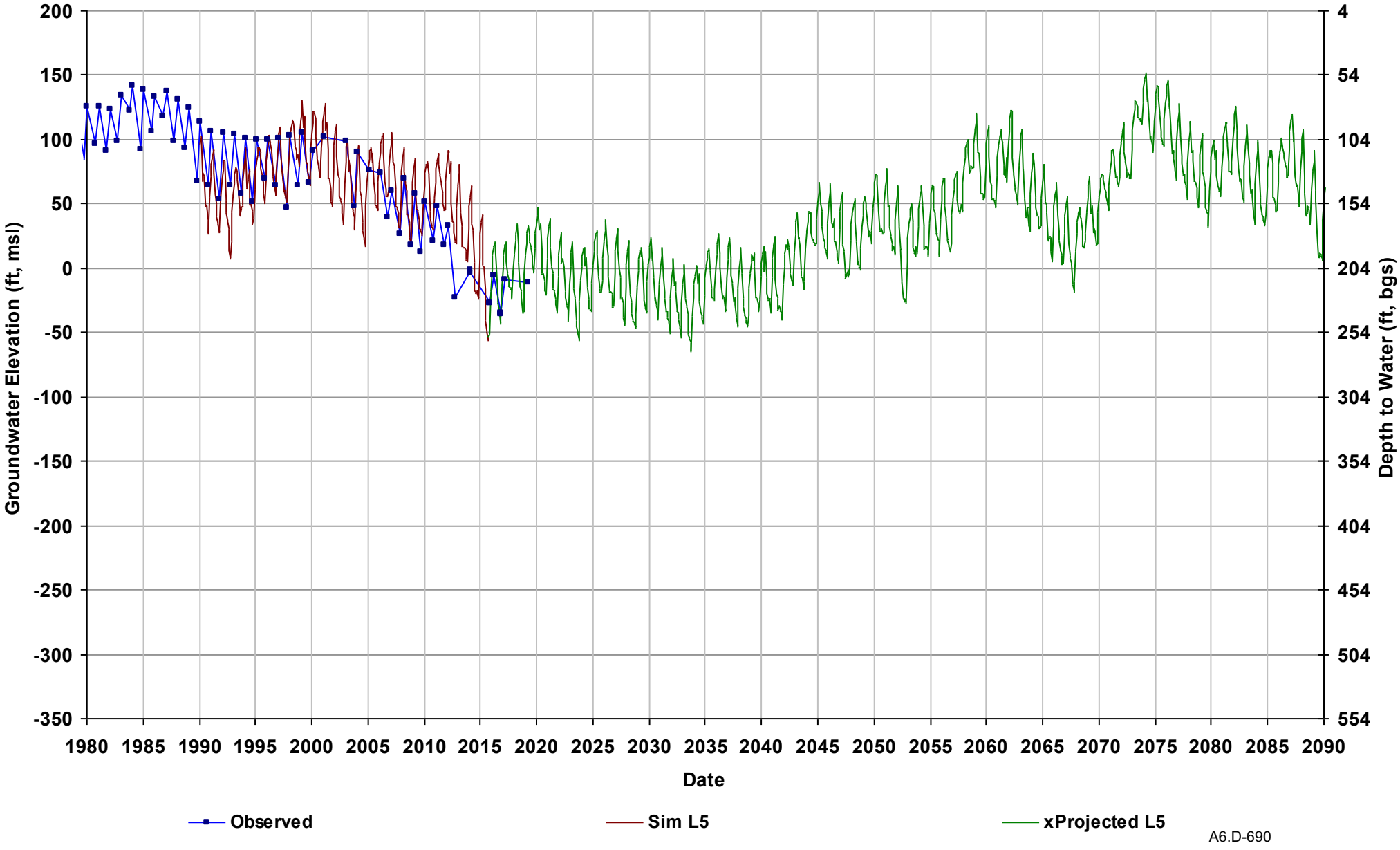
Well Name: 11S16E21A001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



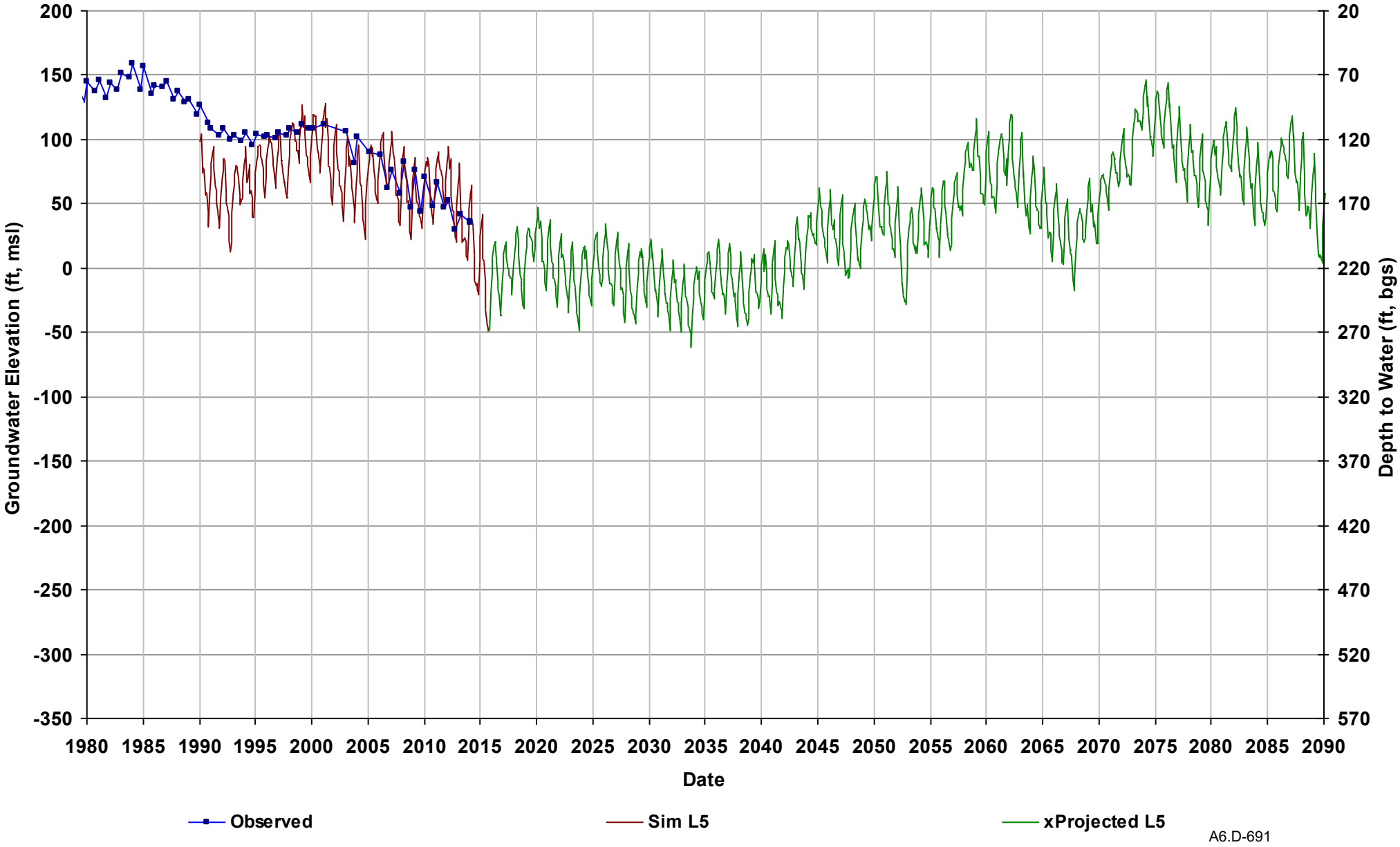
Well Name: 11S16E22K001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 204

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



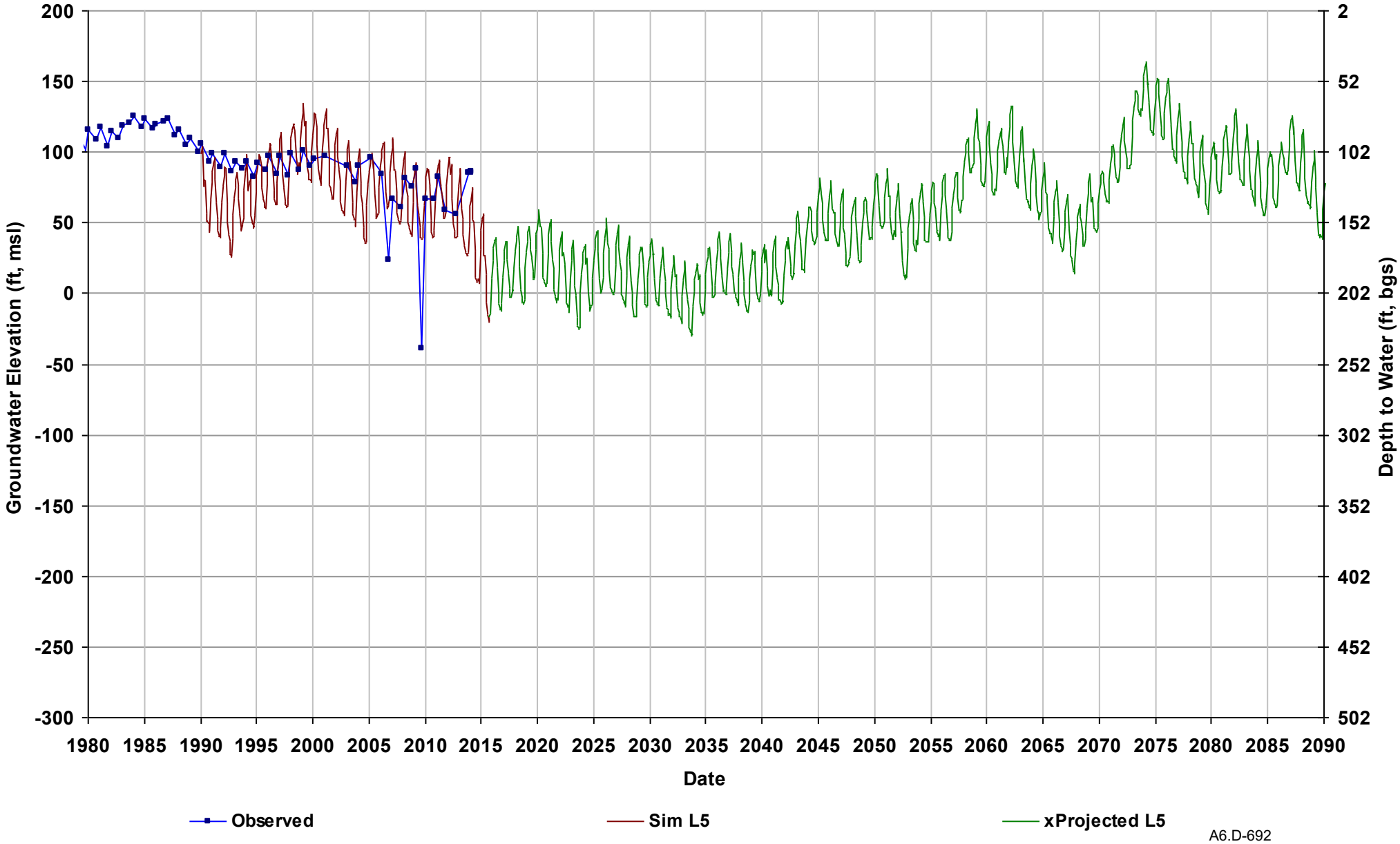
Well Name: 11S16E24M001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 219

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



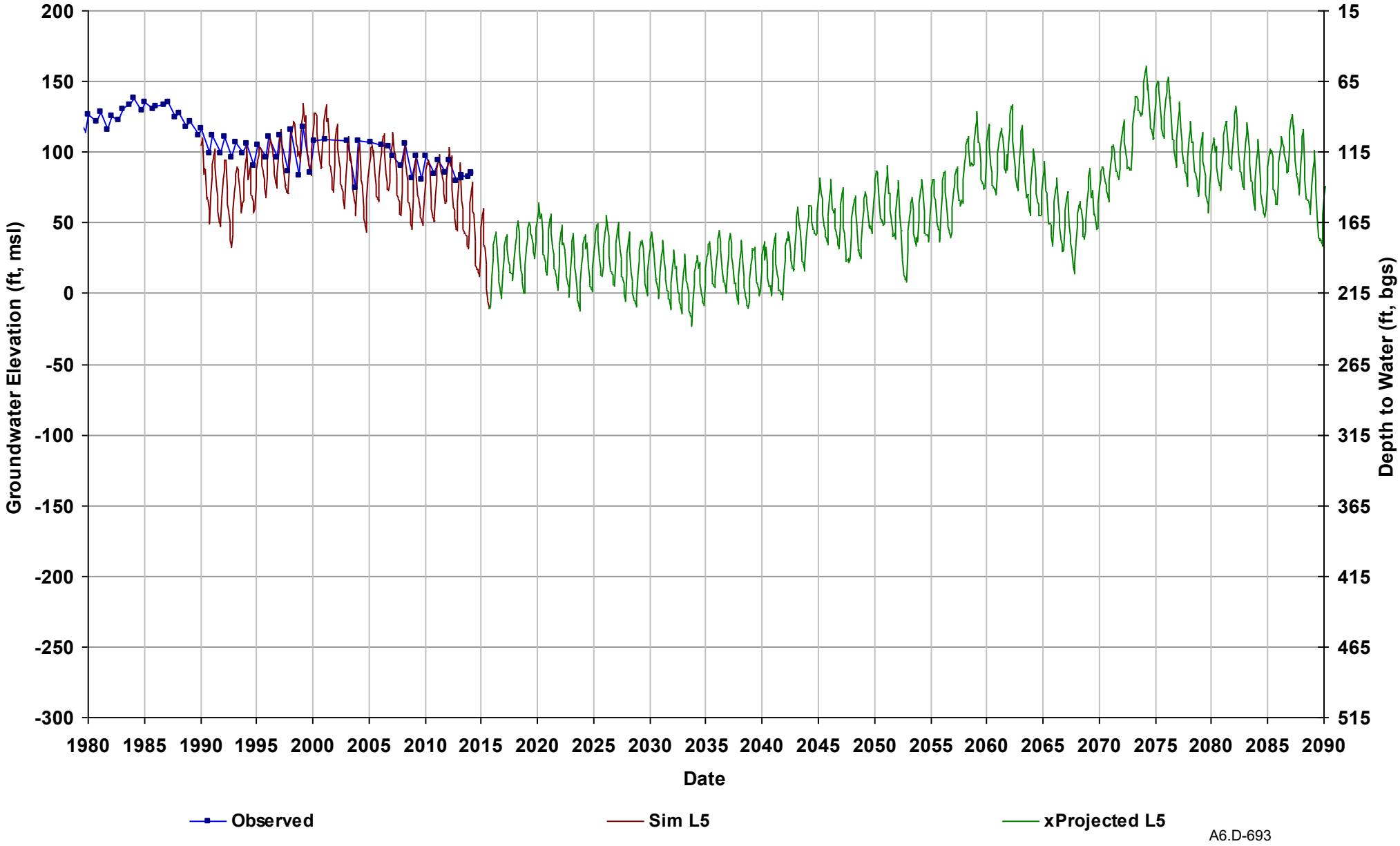
Well Name: 11S16E34D001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



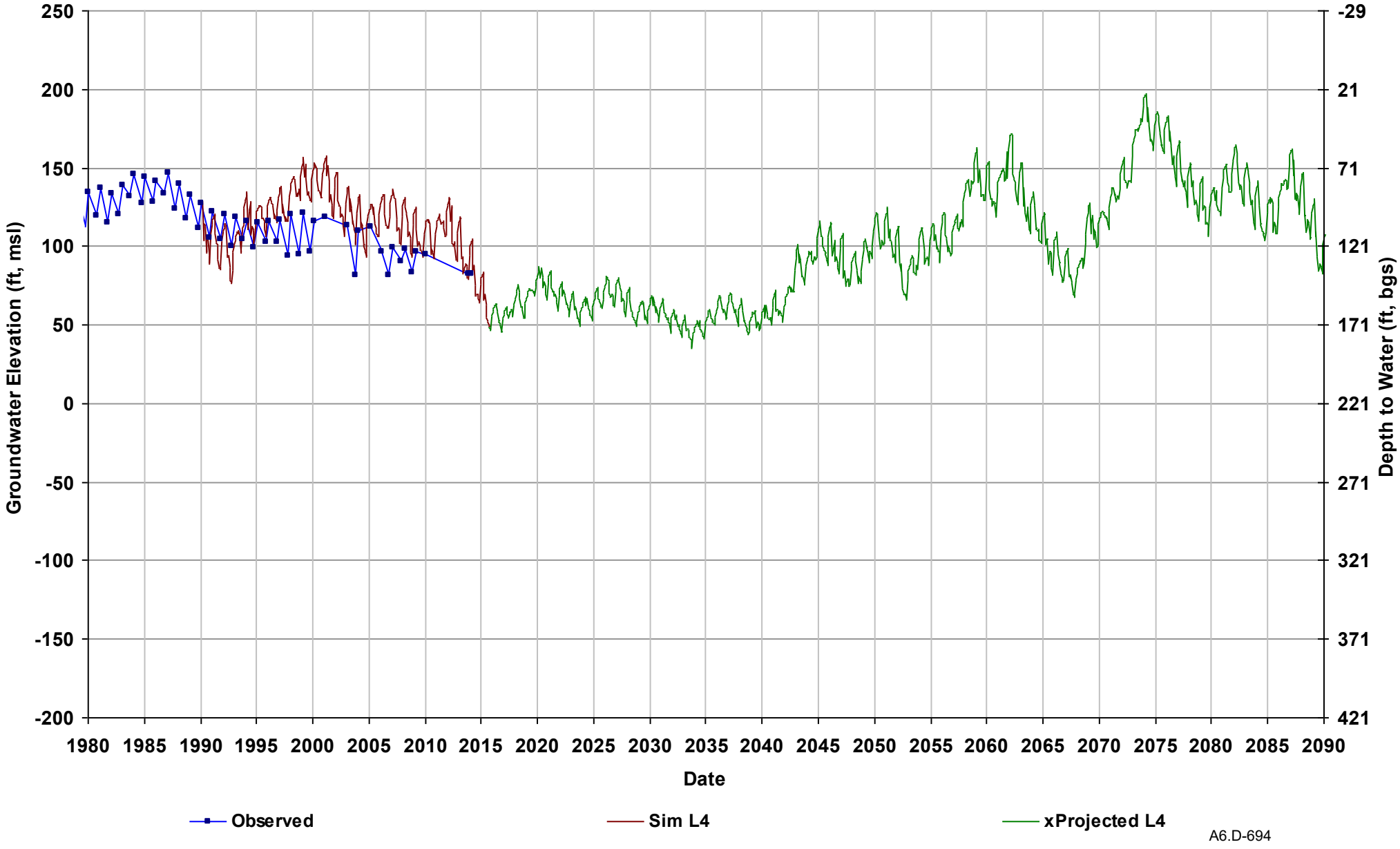
Well Name: 11S16E35H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 215

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



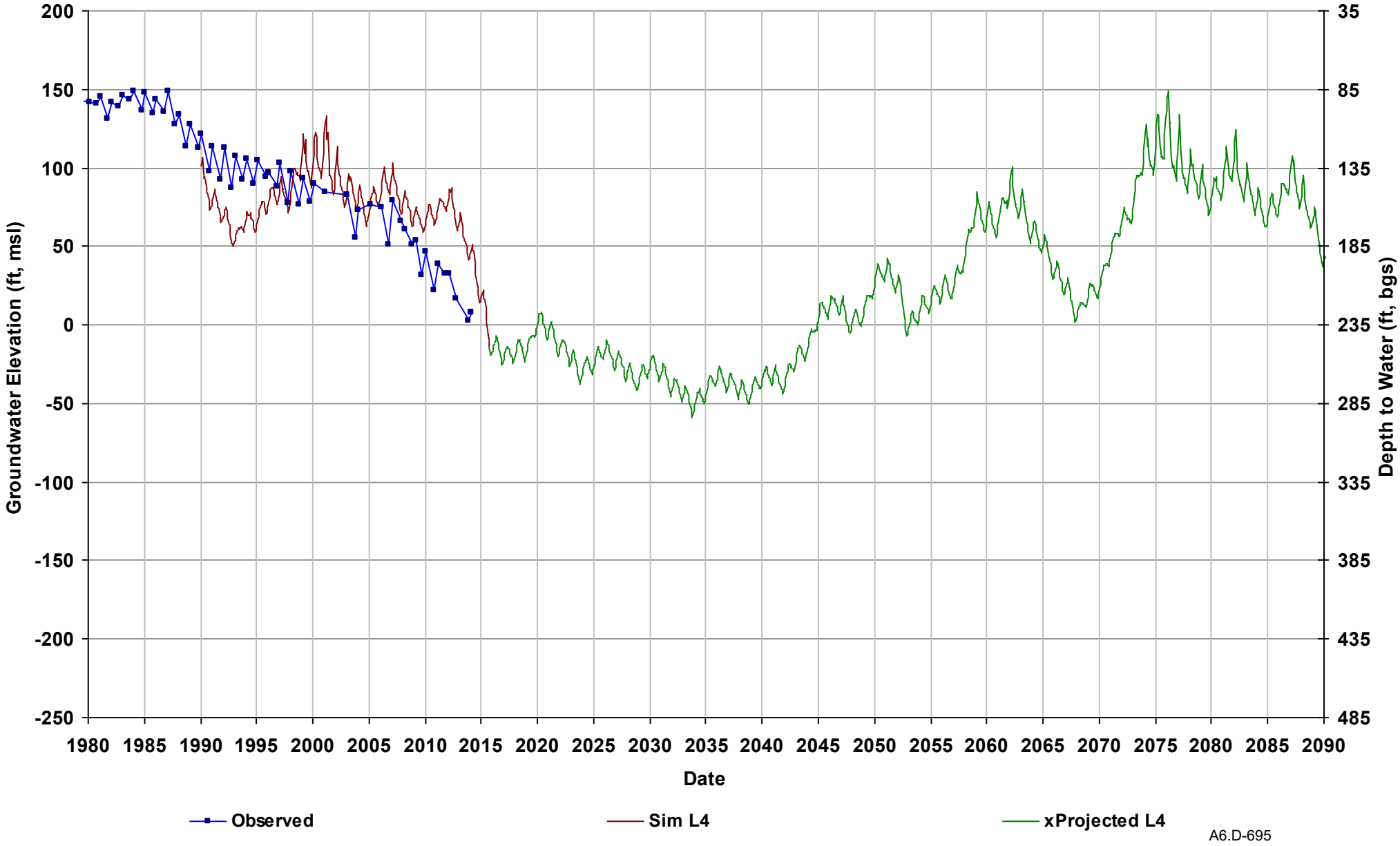
Well Name: 11S16E36J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 221

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



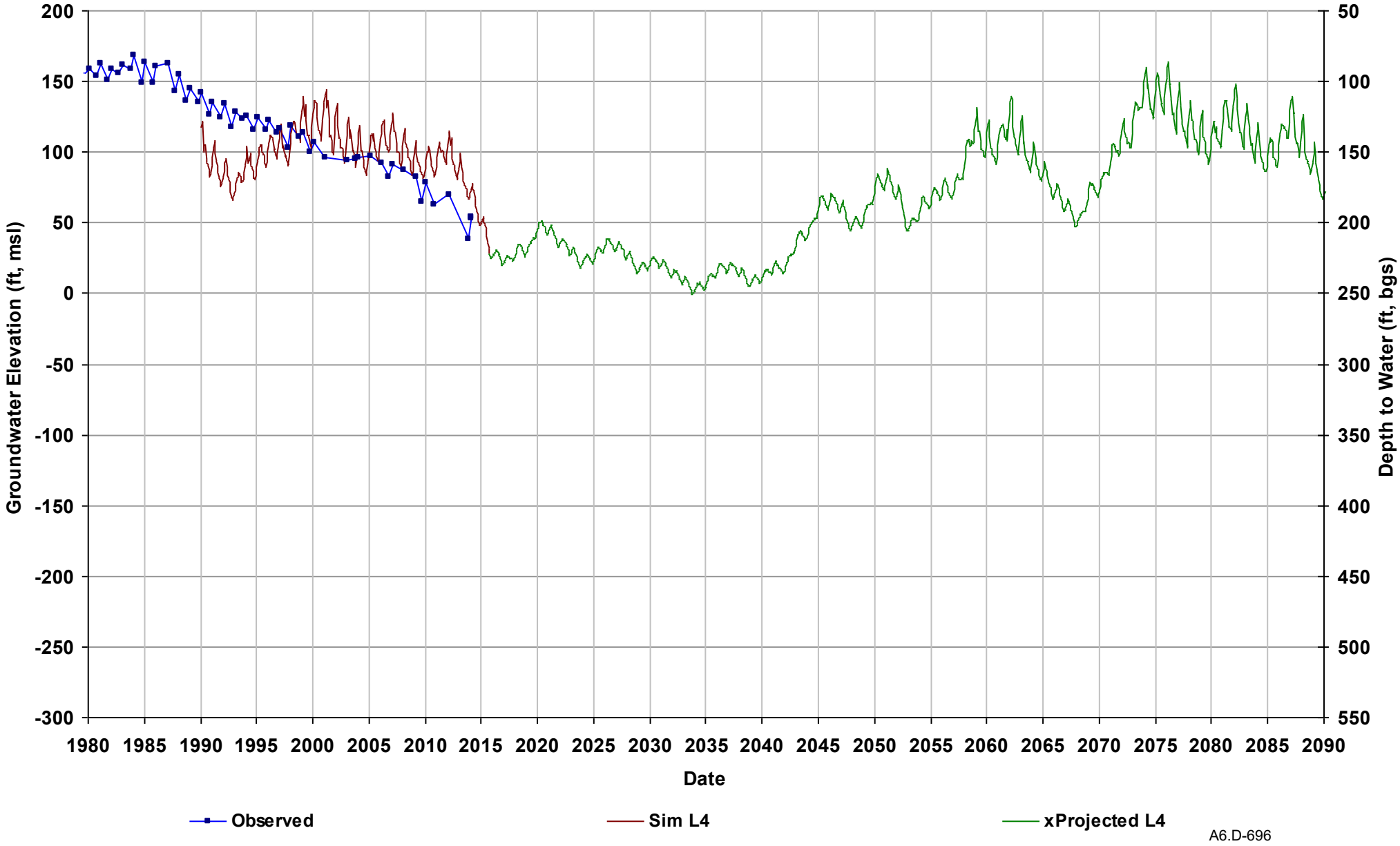
Well Name: 11S17E06C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 235

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



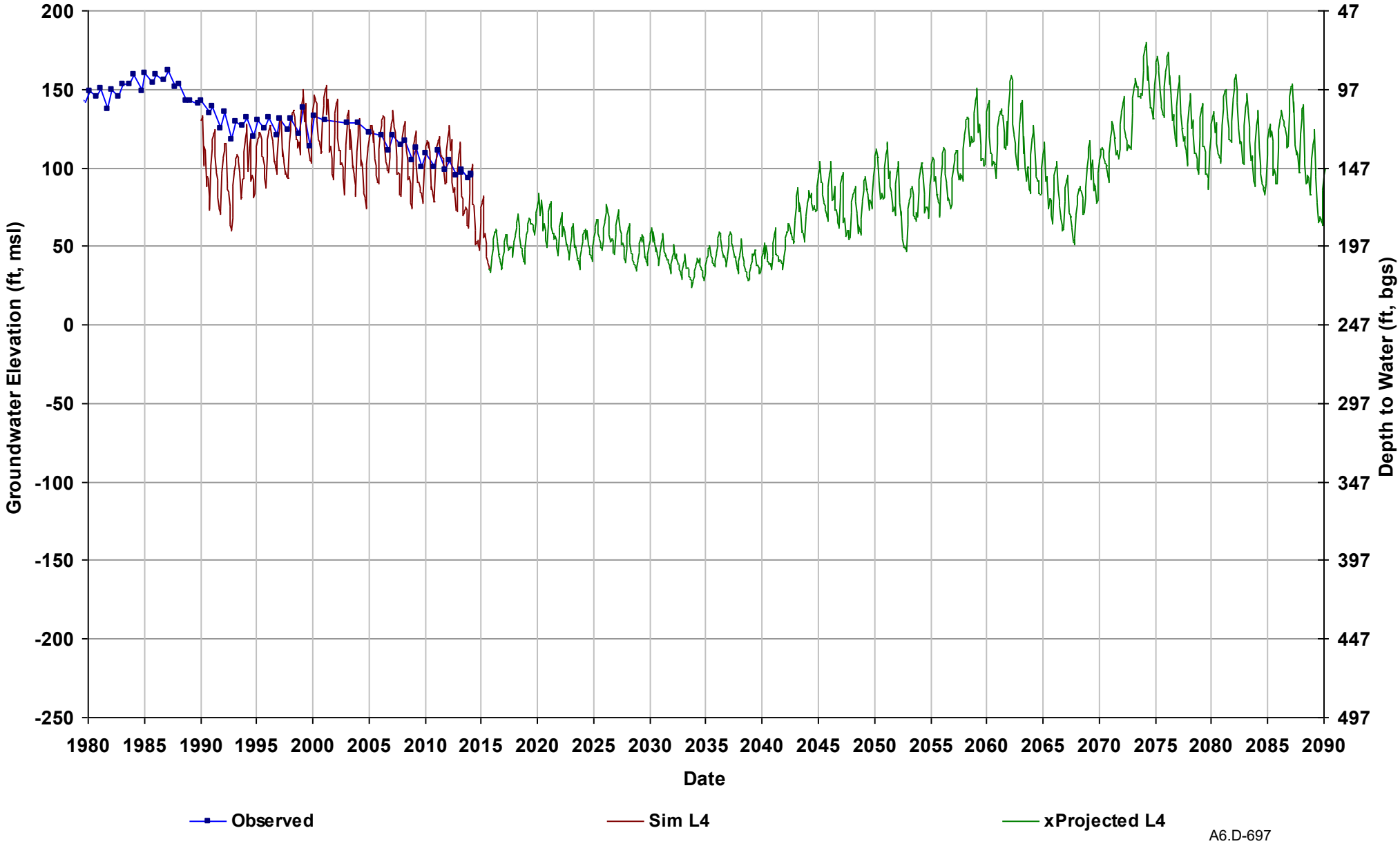
Well Name: 11S17E16H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 249

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



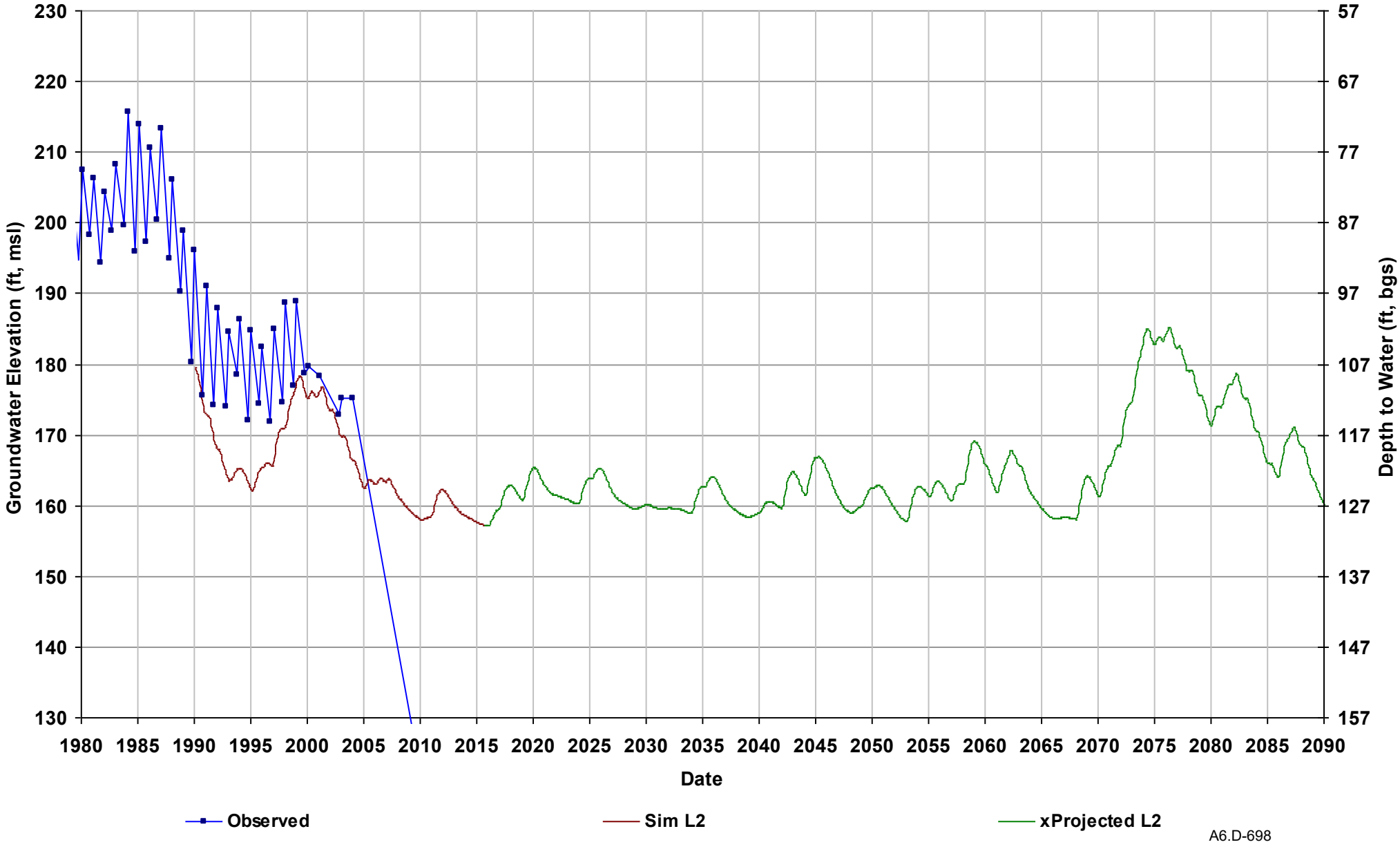
Well Name: 11S17E33H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 246

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



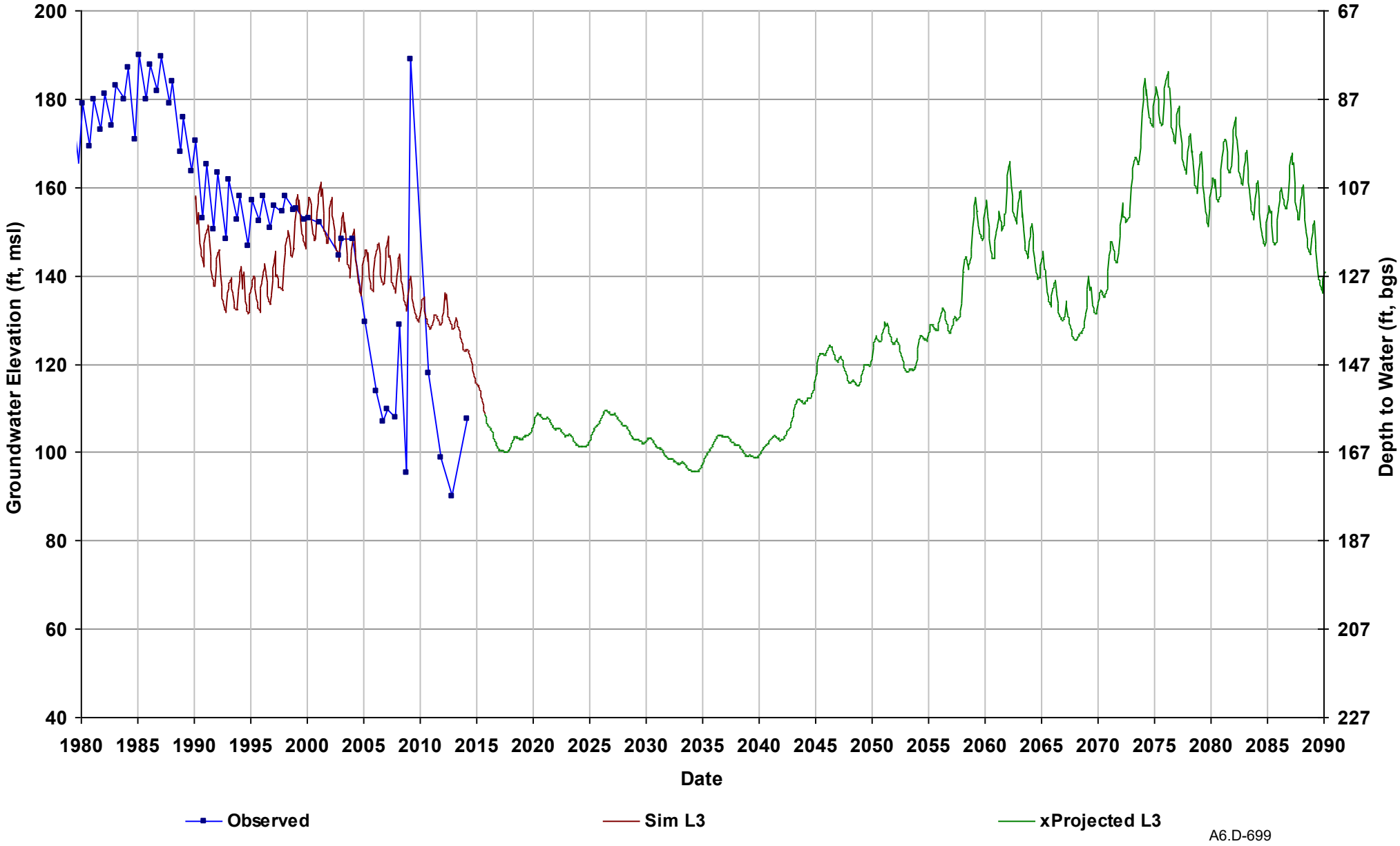
Well Name: 11S18E27F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 287

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



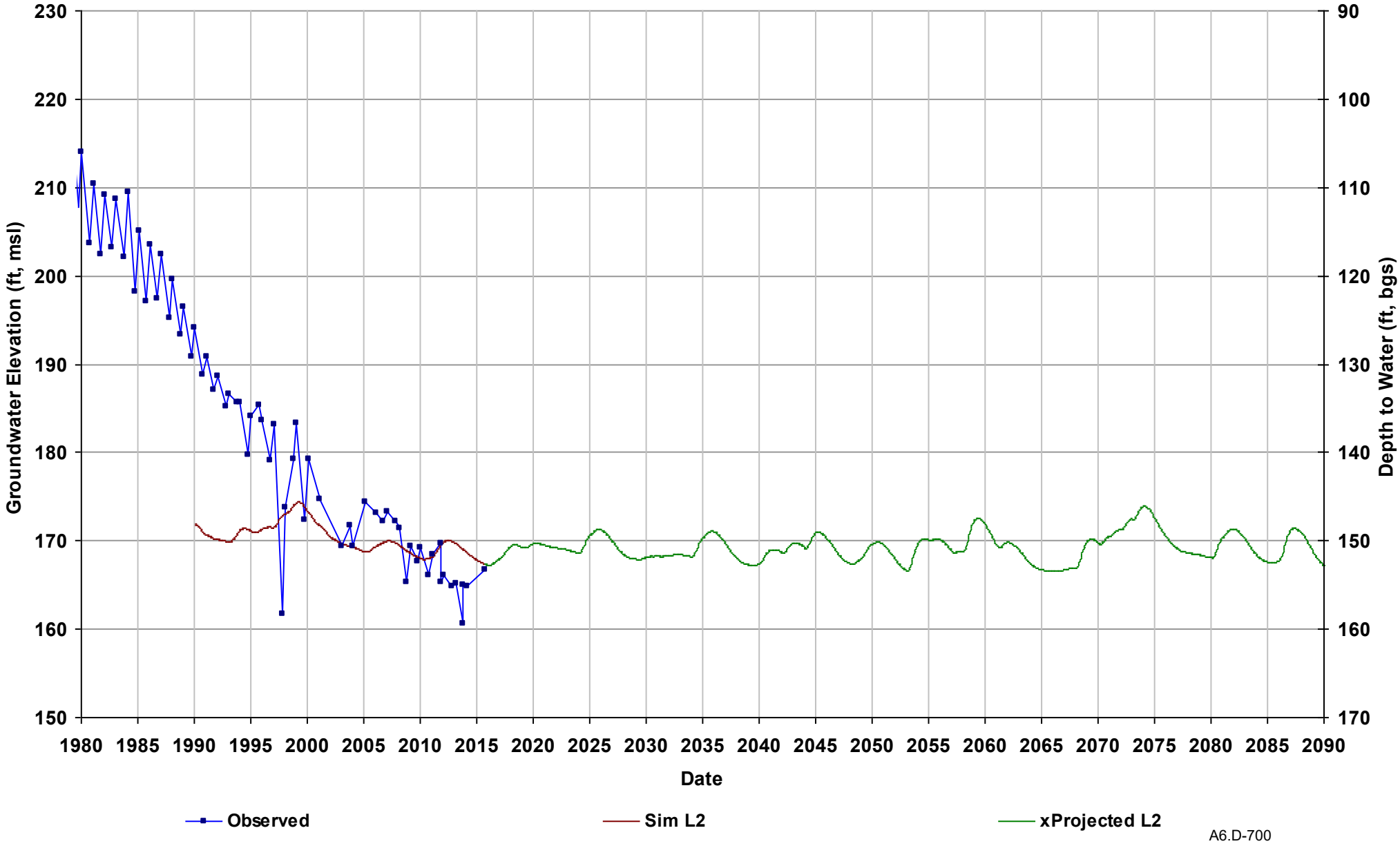
Well Name: 11S18E31A003M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



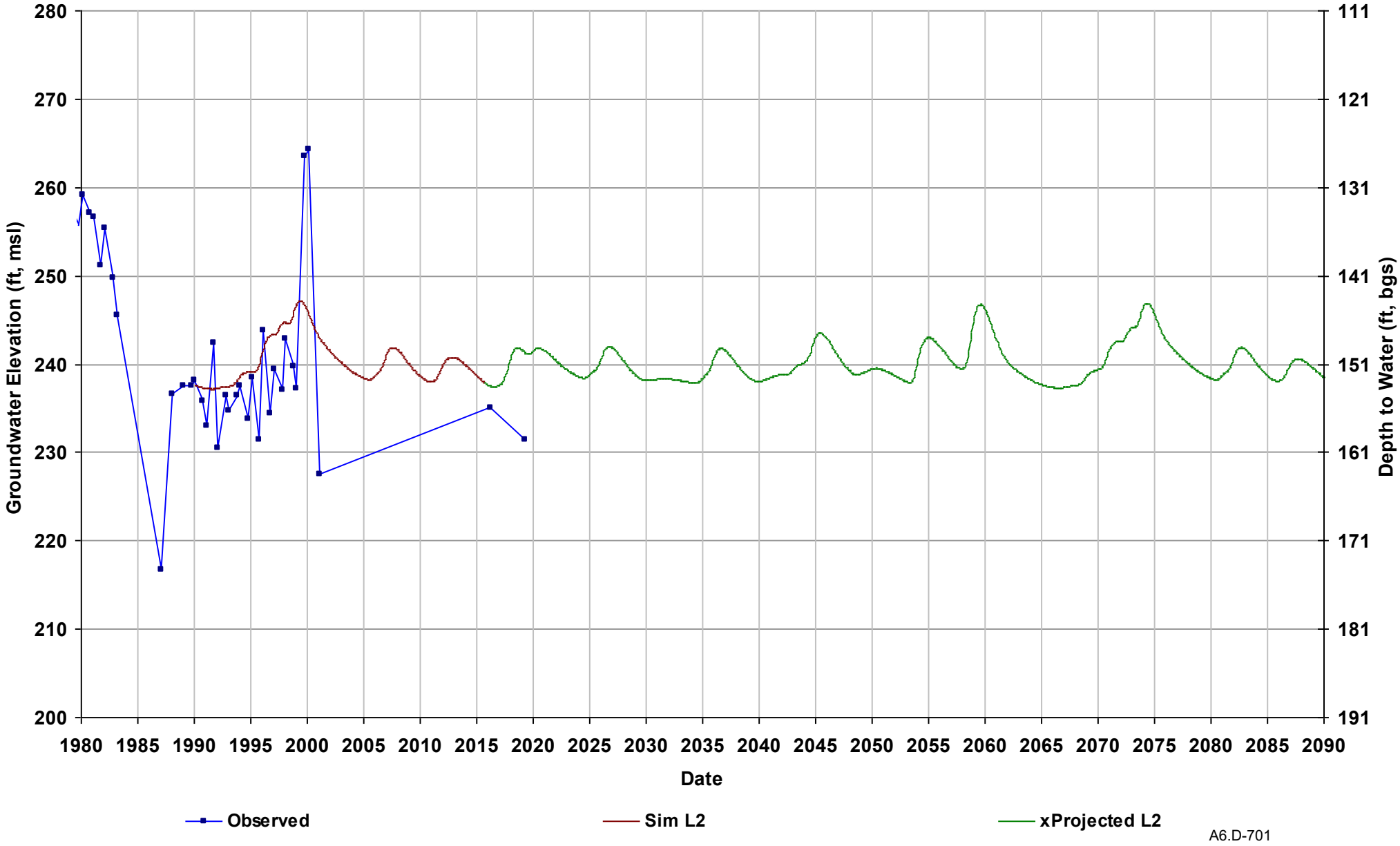
Well Name: 11S19E32R001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 320

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



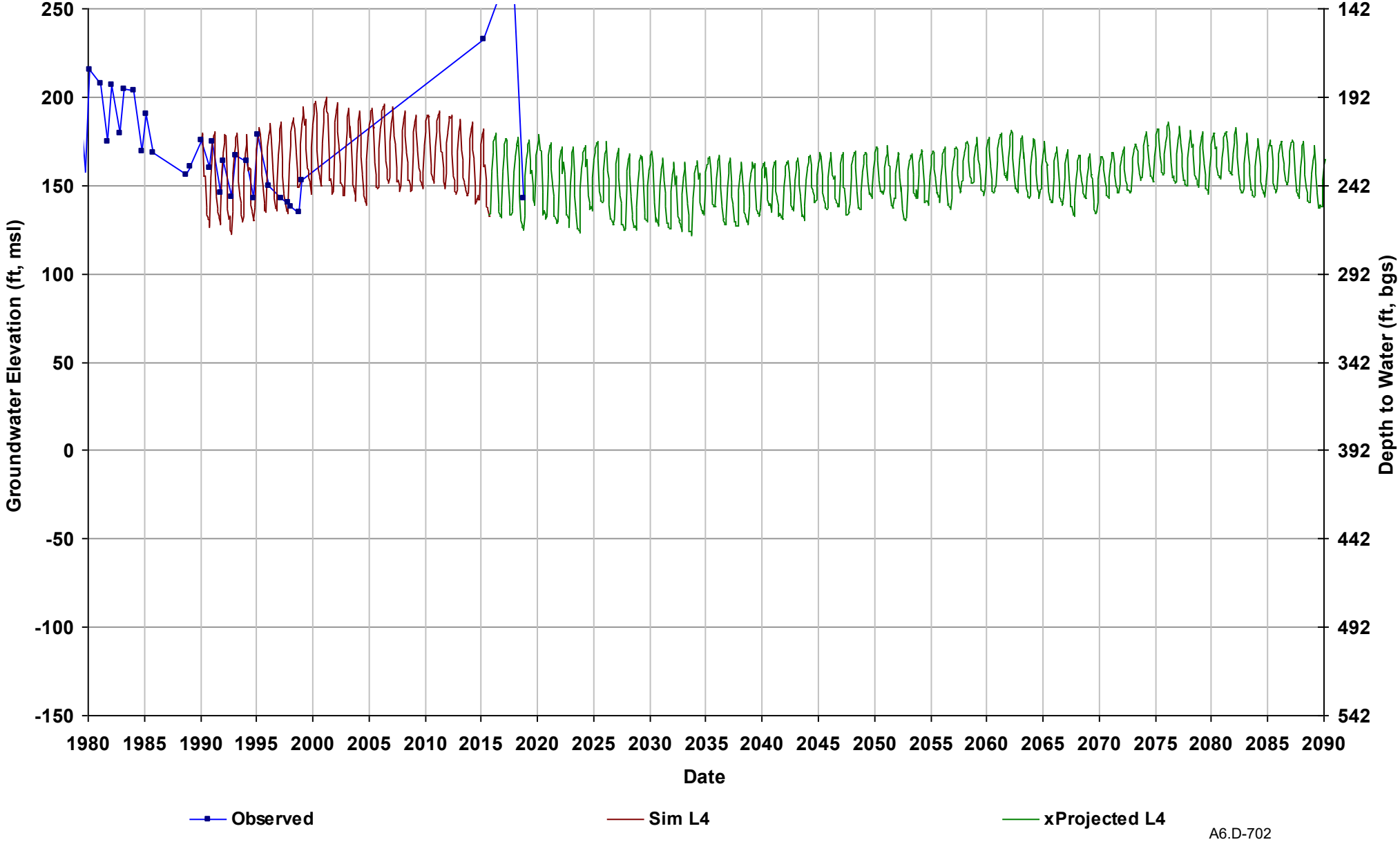
Well Name: 11S20E18L001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 391

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



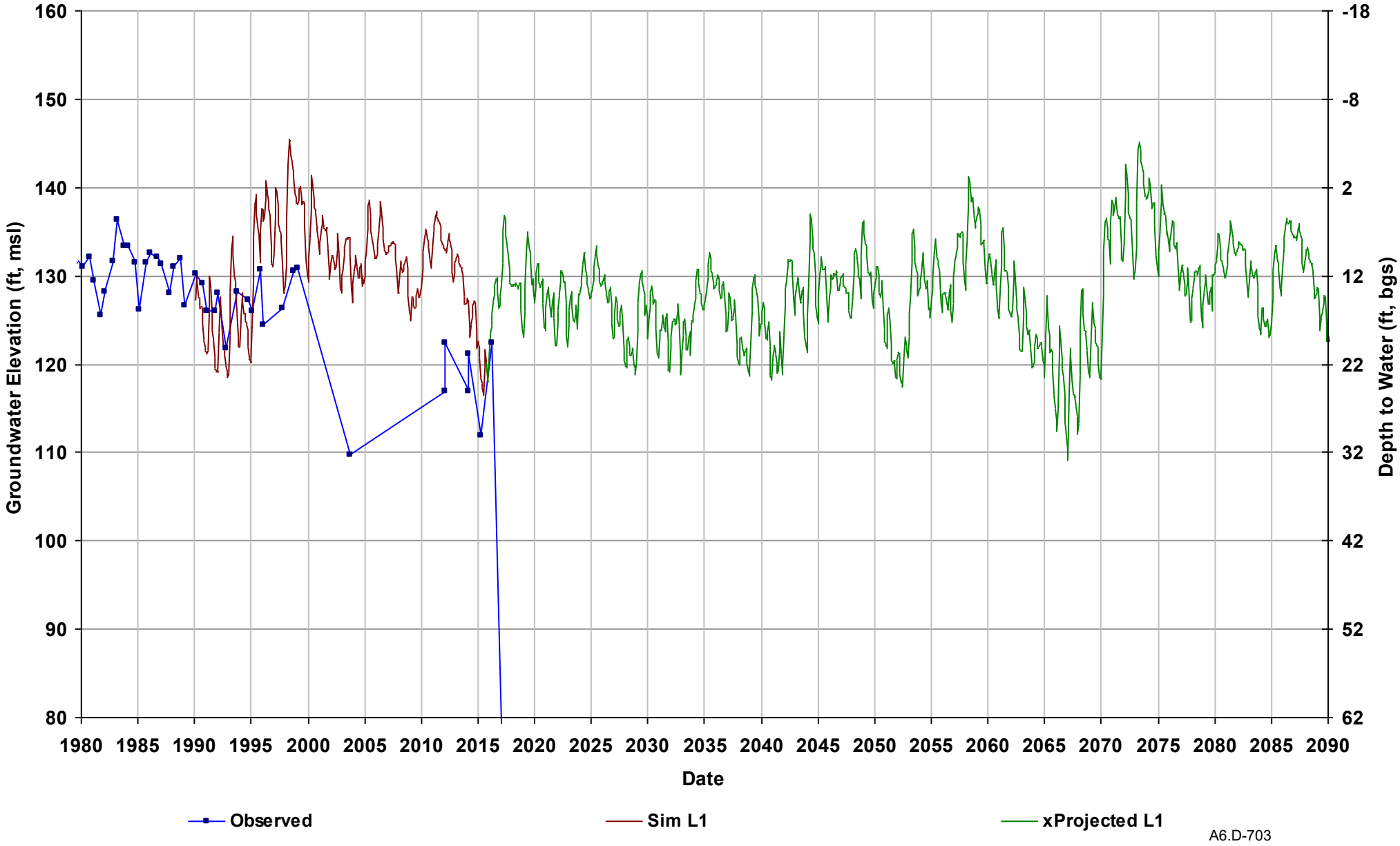
Well Name: 11S20E33K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 392

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



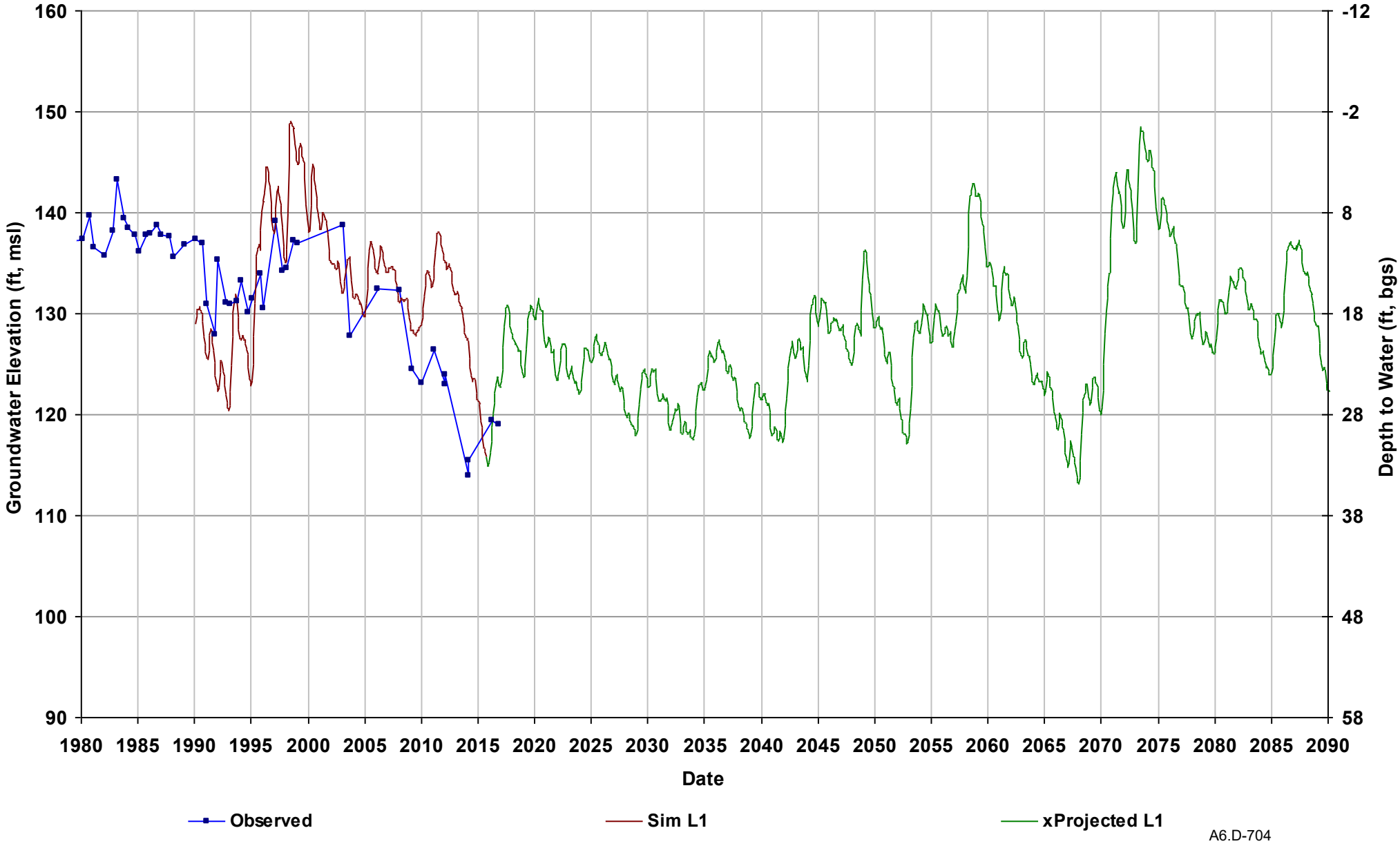
Well Name: 12S14E08R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 142

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



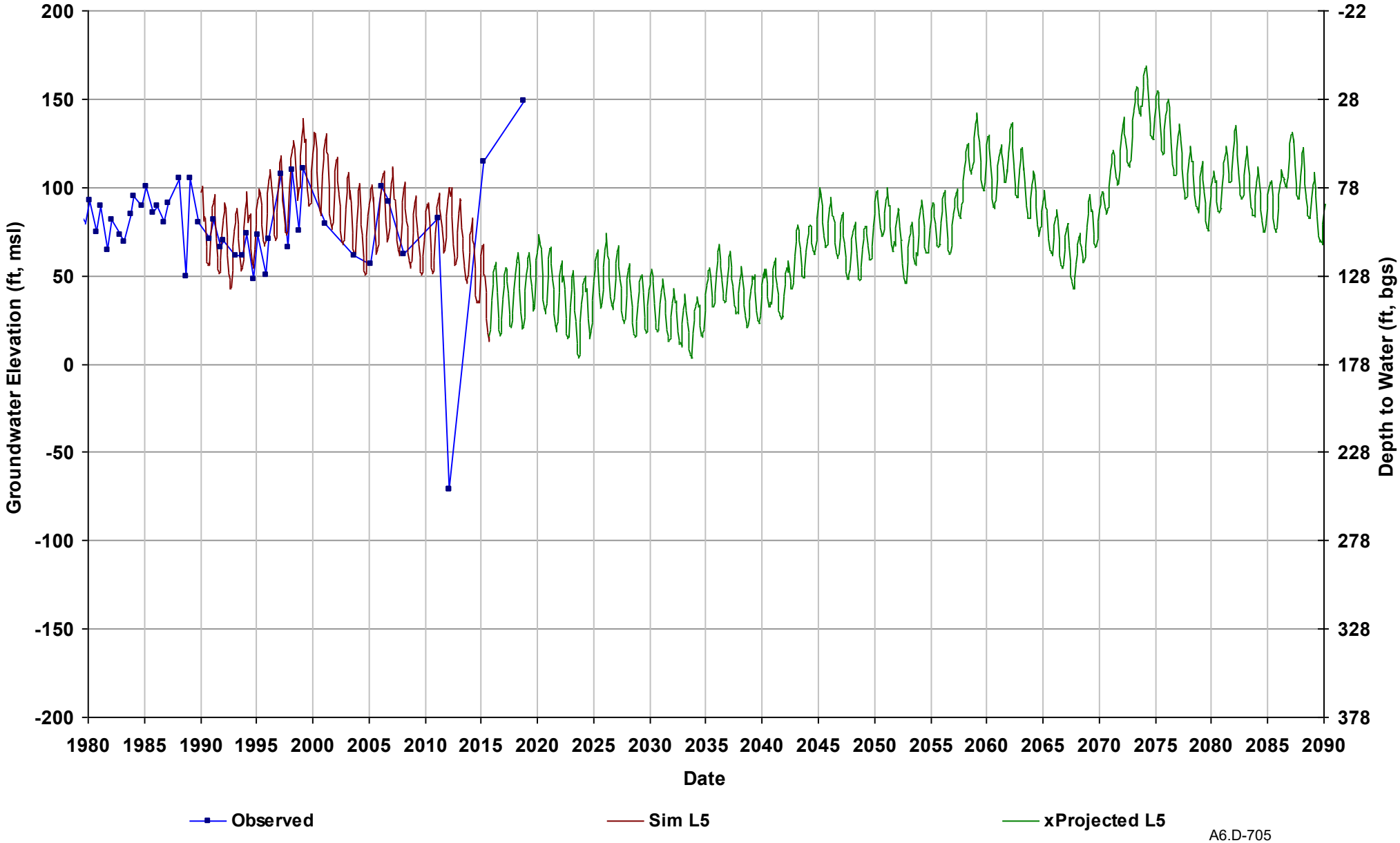
Well Name: 12S14E21H001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 148

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



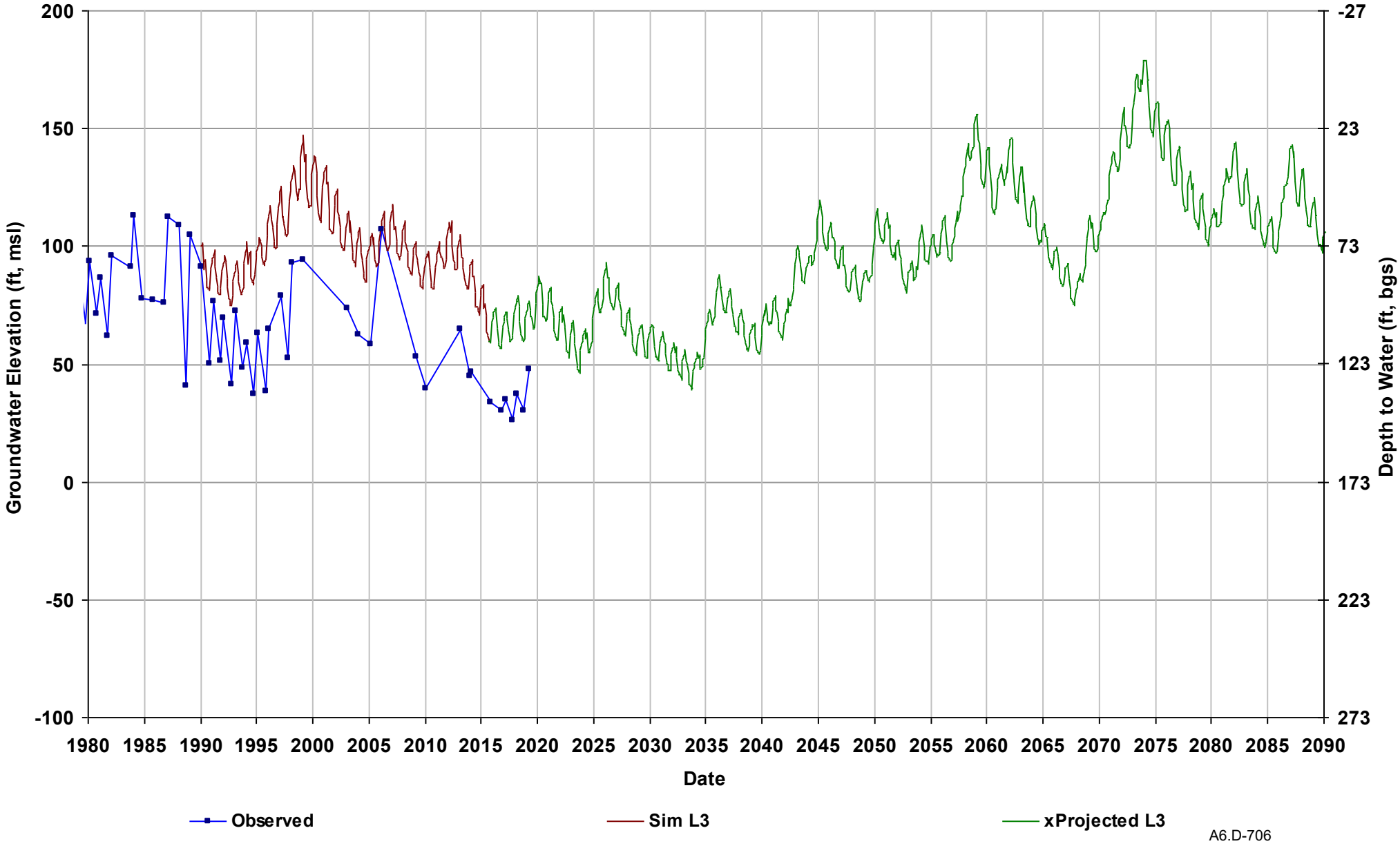
Well Name: 12S15E01R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



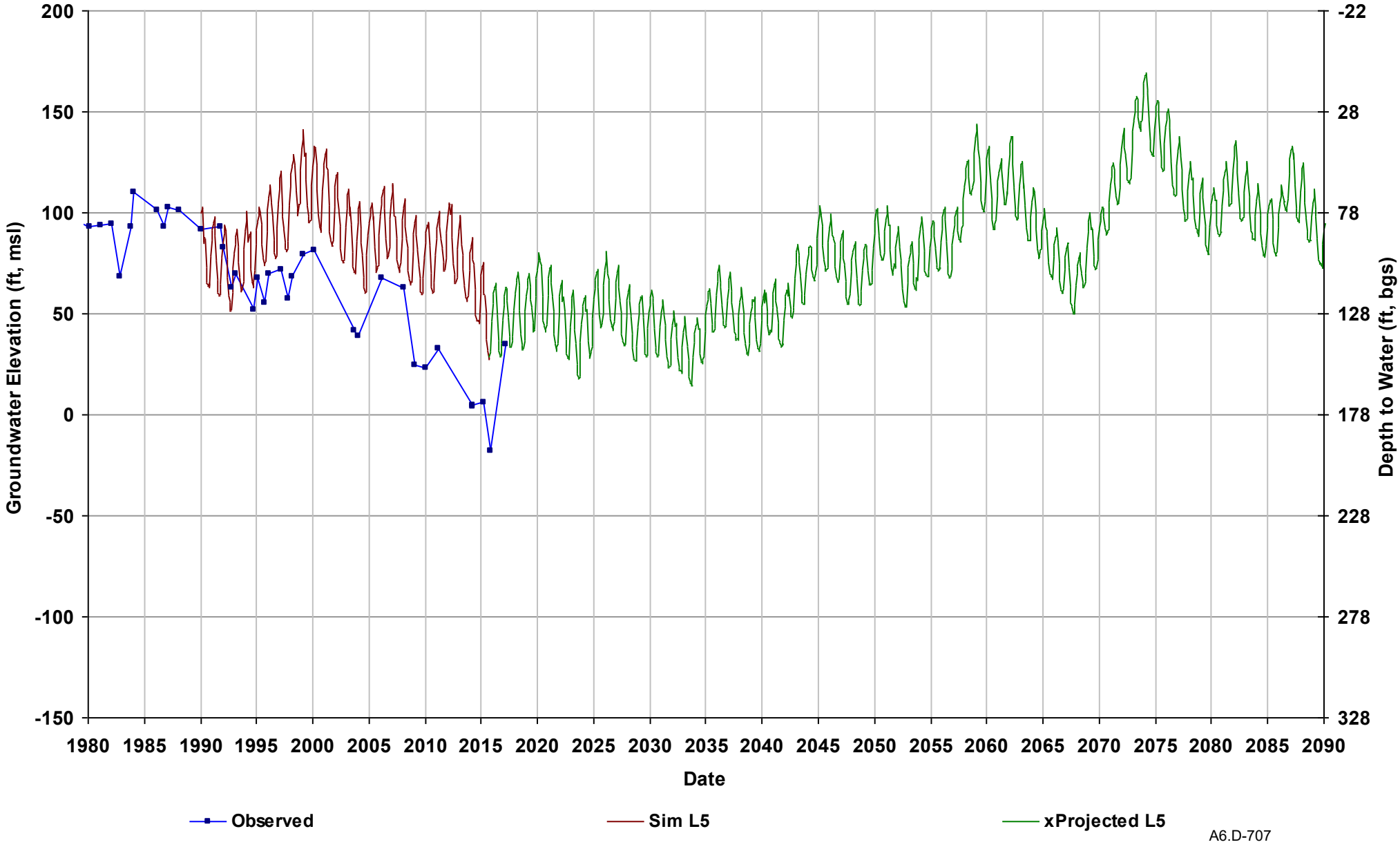
Well Name: 12S15E11R001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 172

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



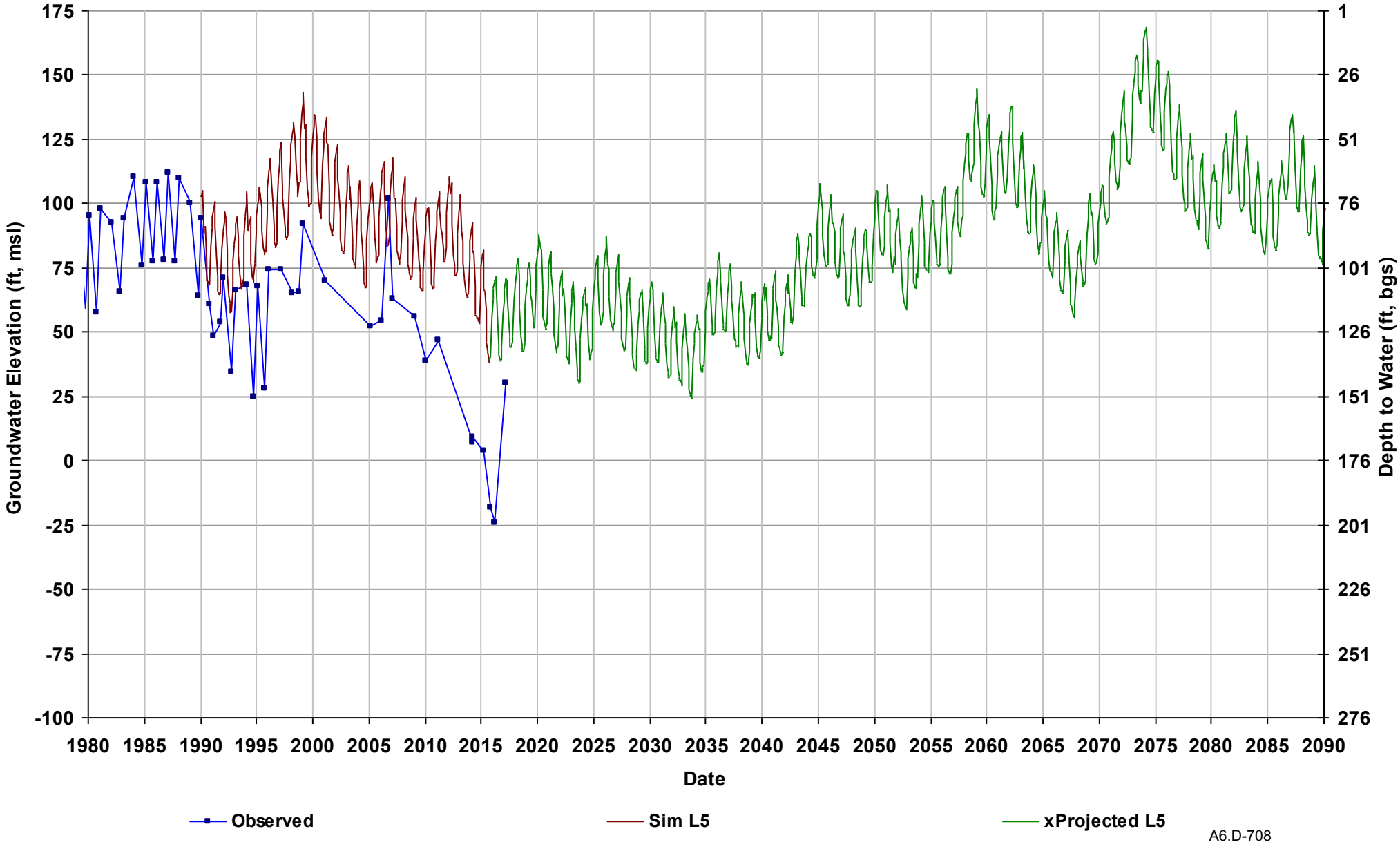
Well Name: 12S15E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 178

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



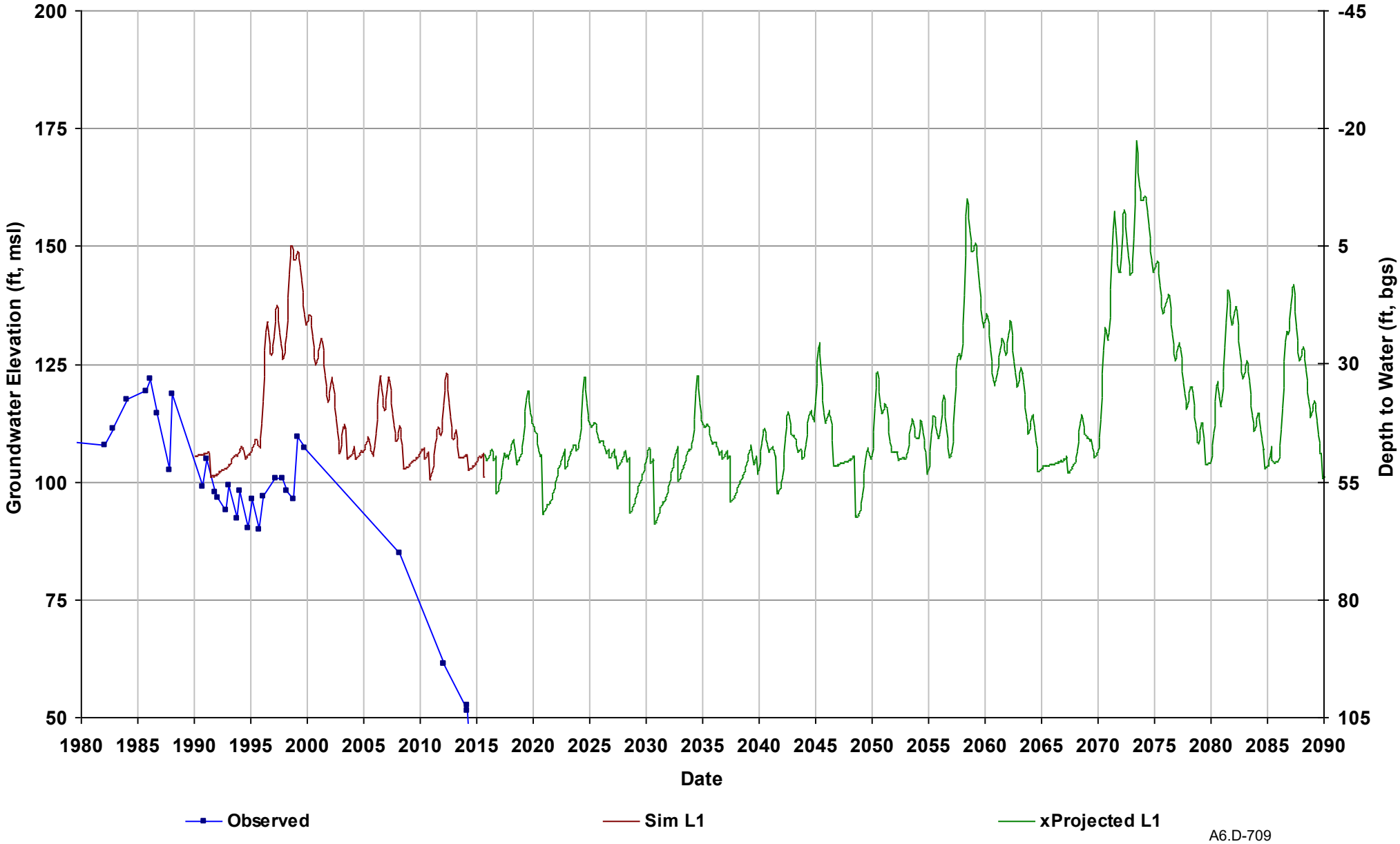
Well Name: 12S15E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 176

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



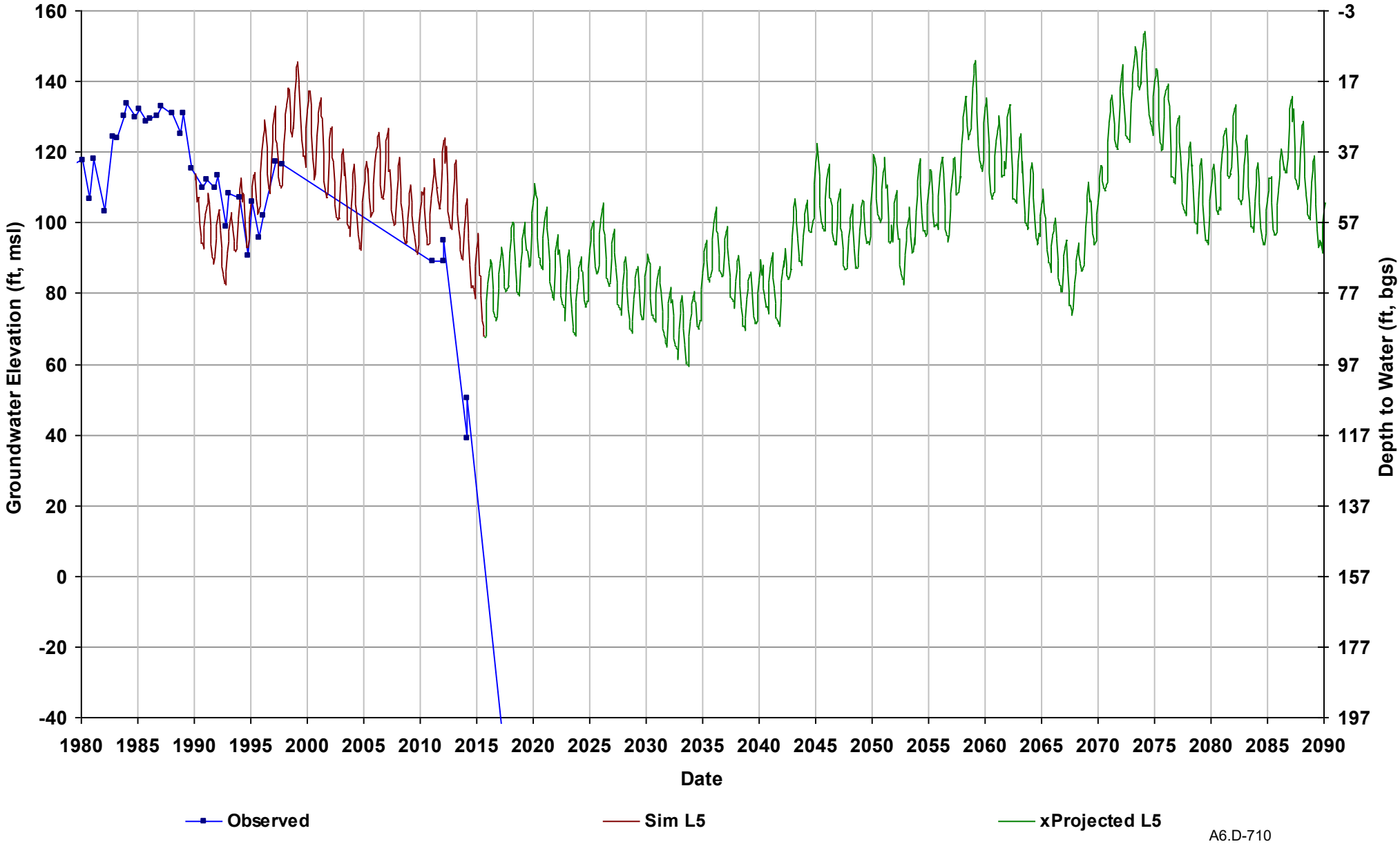
Well Name: 12S15E17E001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 154

Total Depth (ft): 57
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



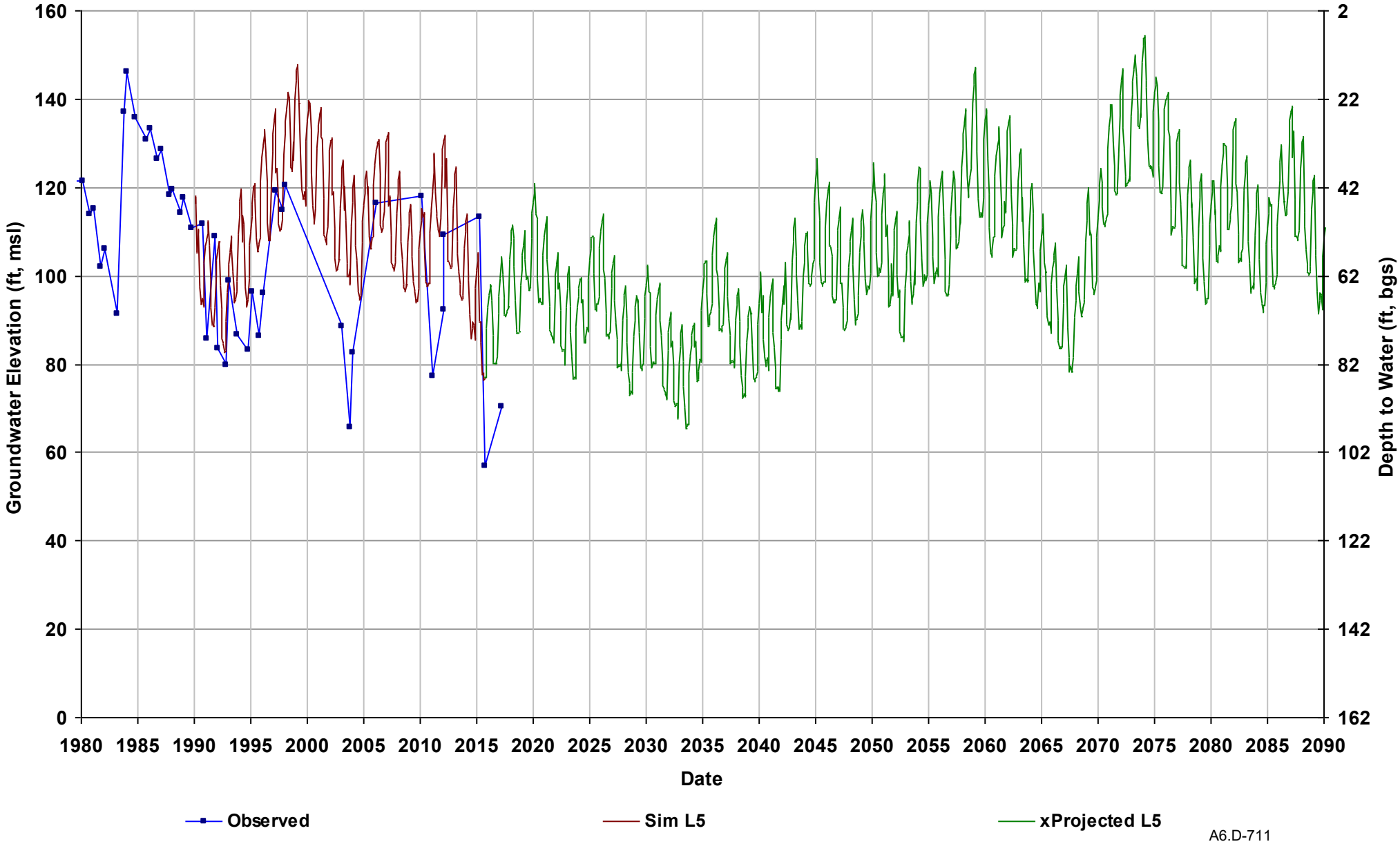
Well Name: 12S15E29C001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 156

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



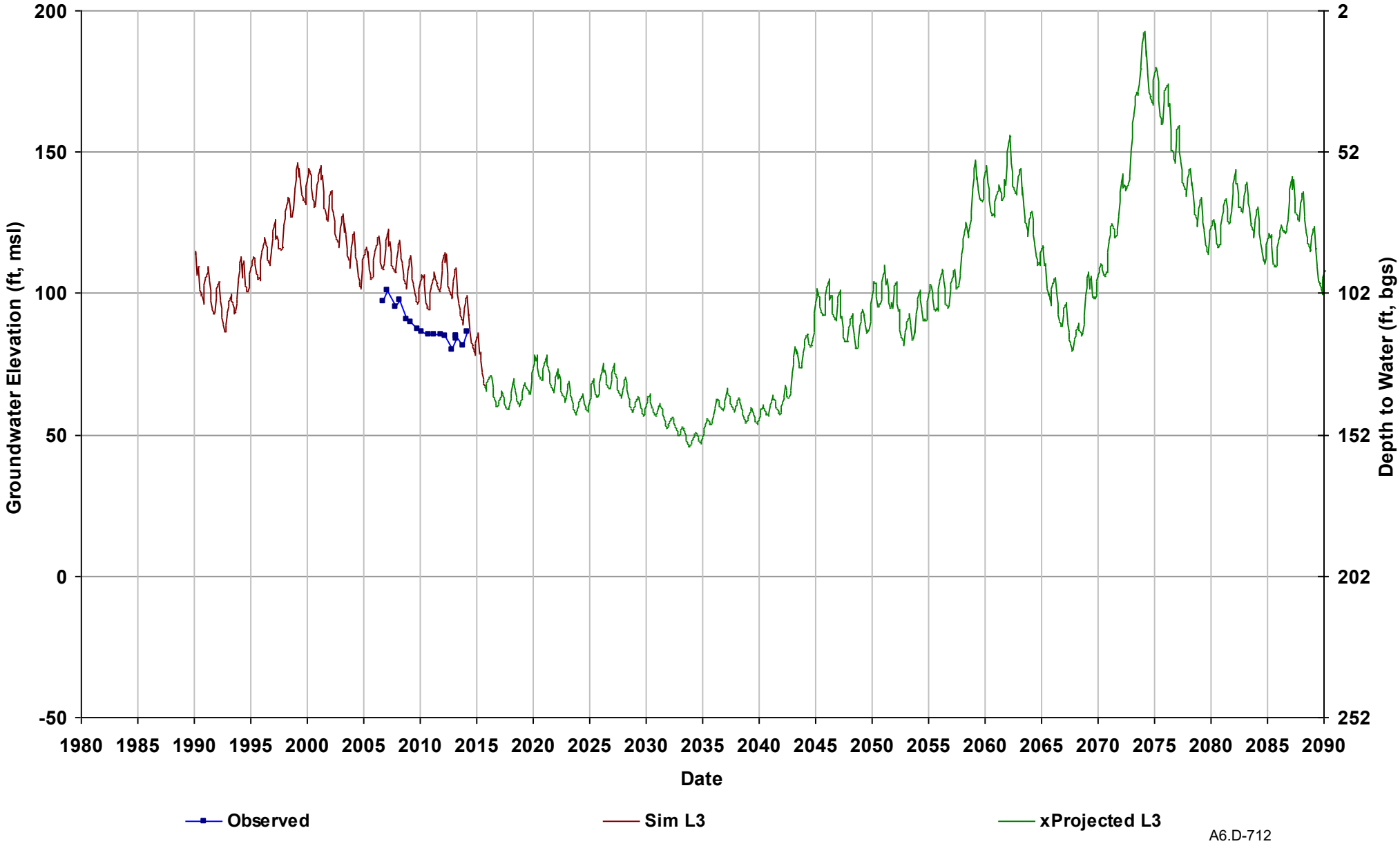
Well Name: 12S15E33R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



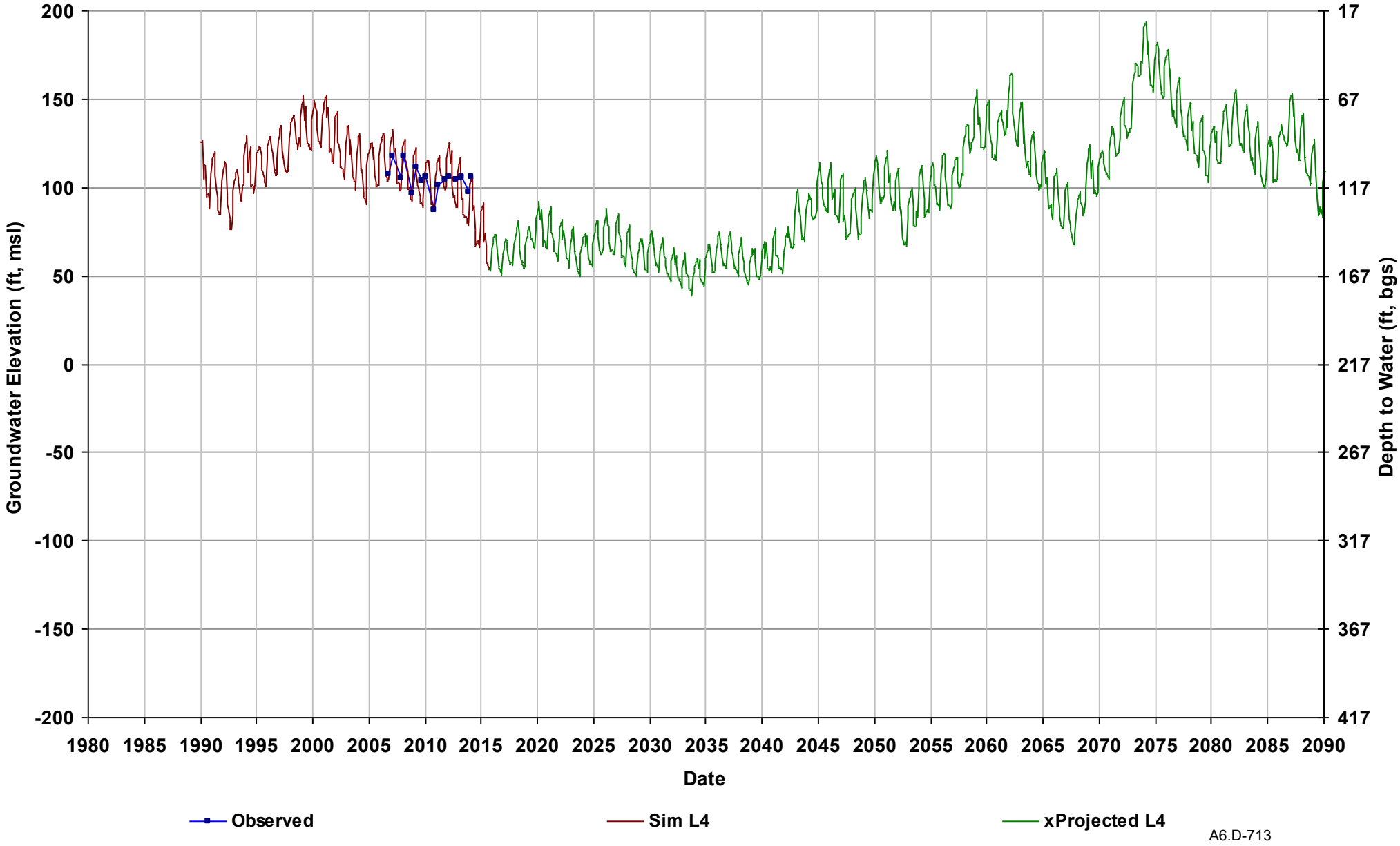
Well Name: 12S16E02N001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

Total Depth (ft): 144
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



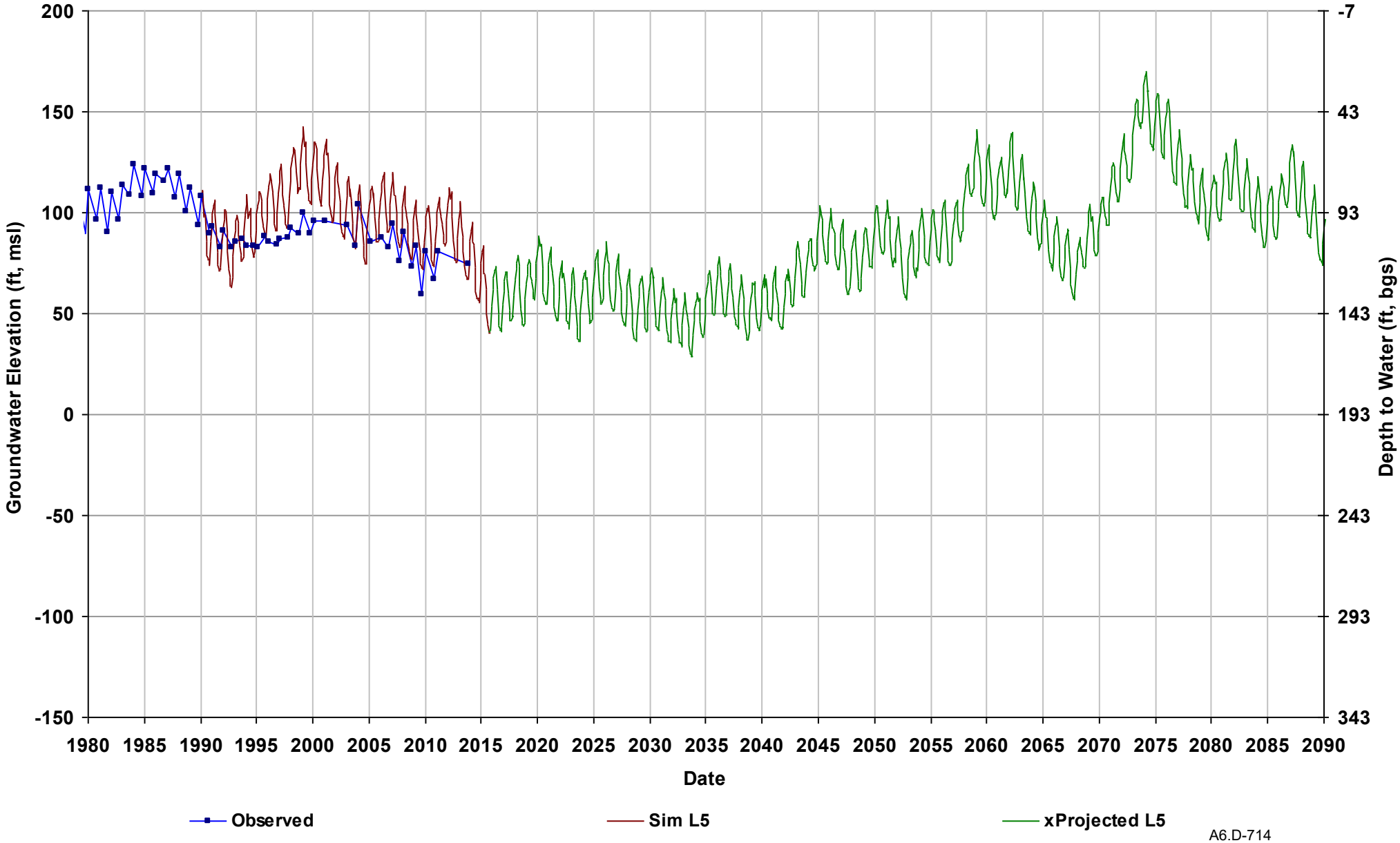
Well Name: 12S16E12H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 217

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



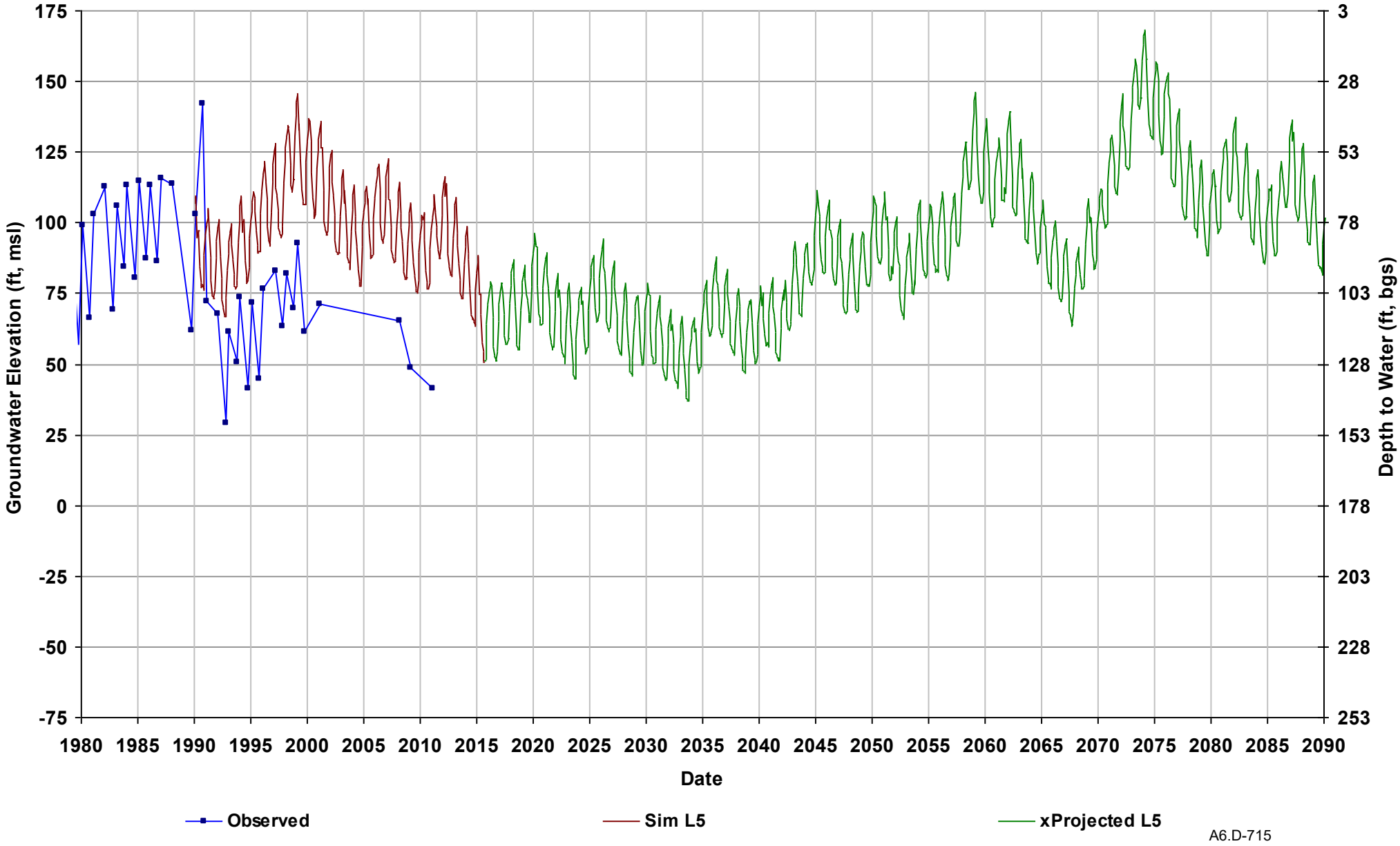
Well Name: 12S16E16R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 193

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



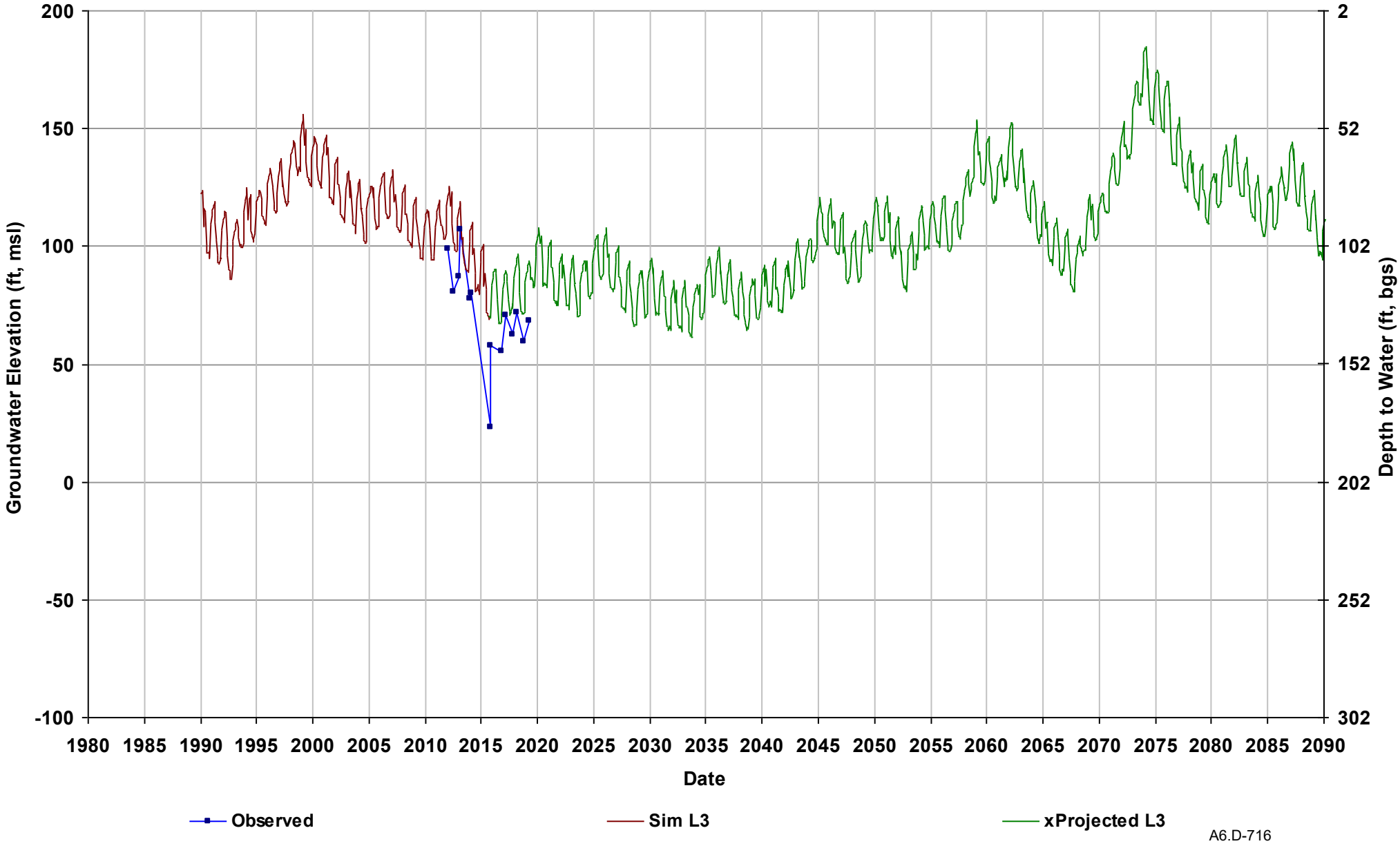
Well Name: 12S16E19P001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



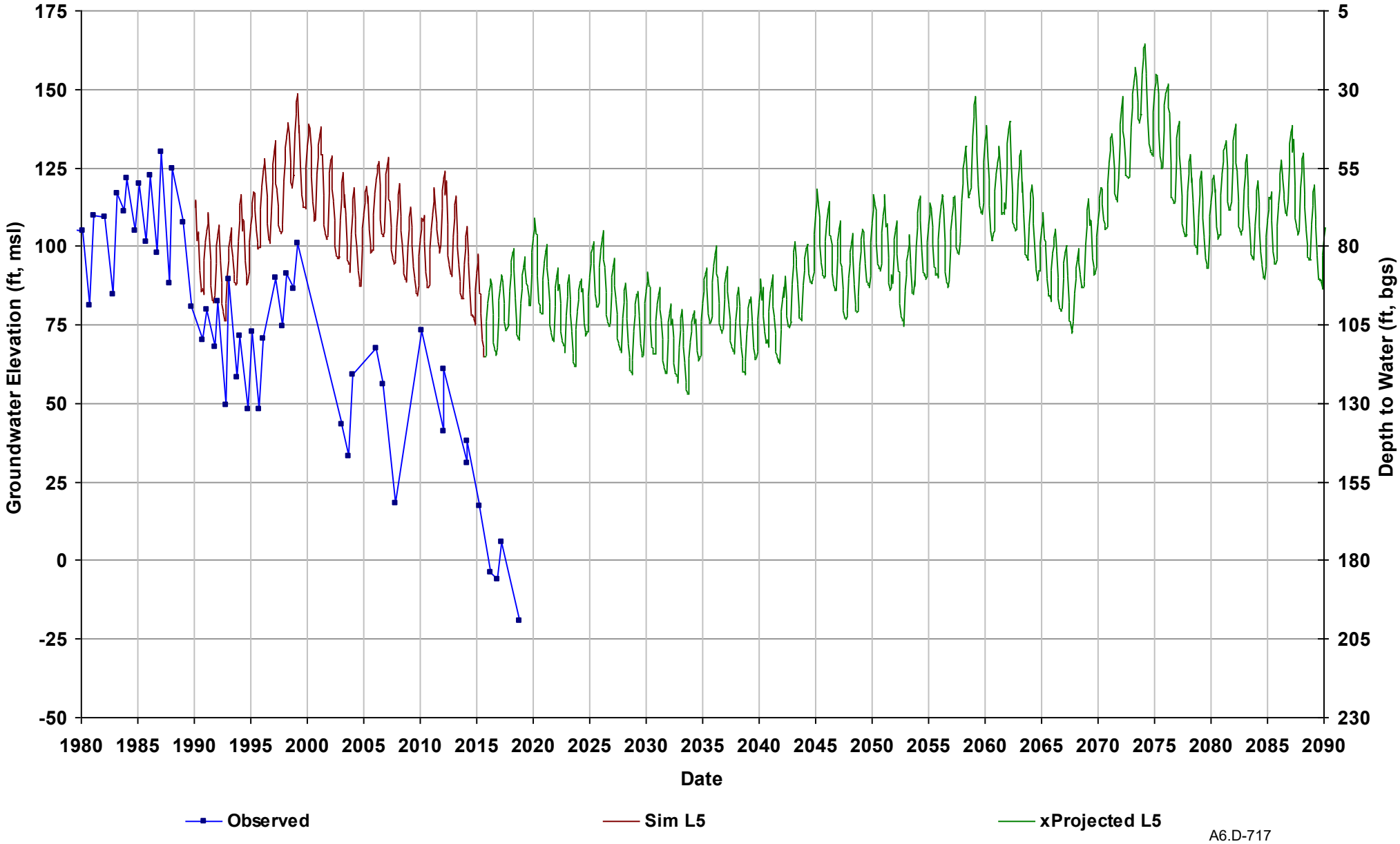
Well Name: 12S16E26H001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



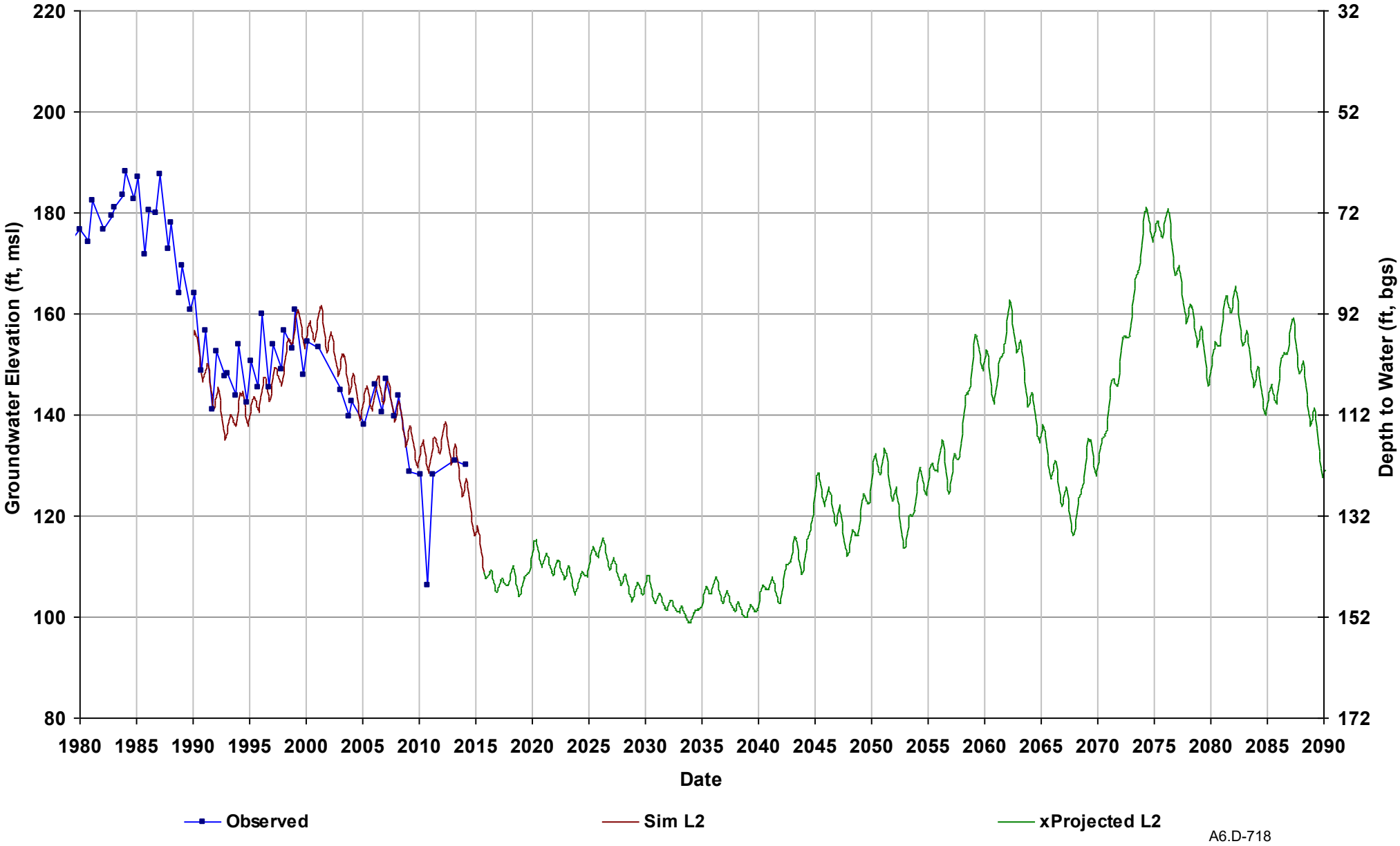
Well Name: 12S16E31G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 179

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



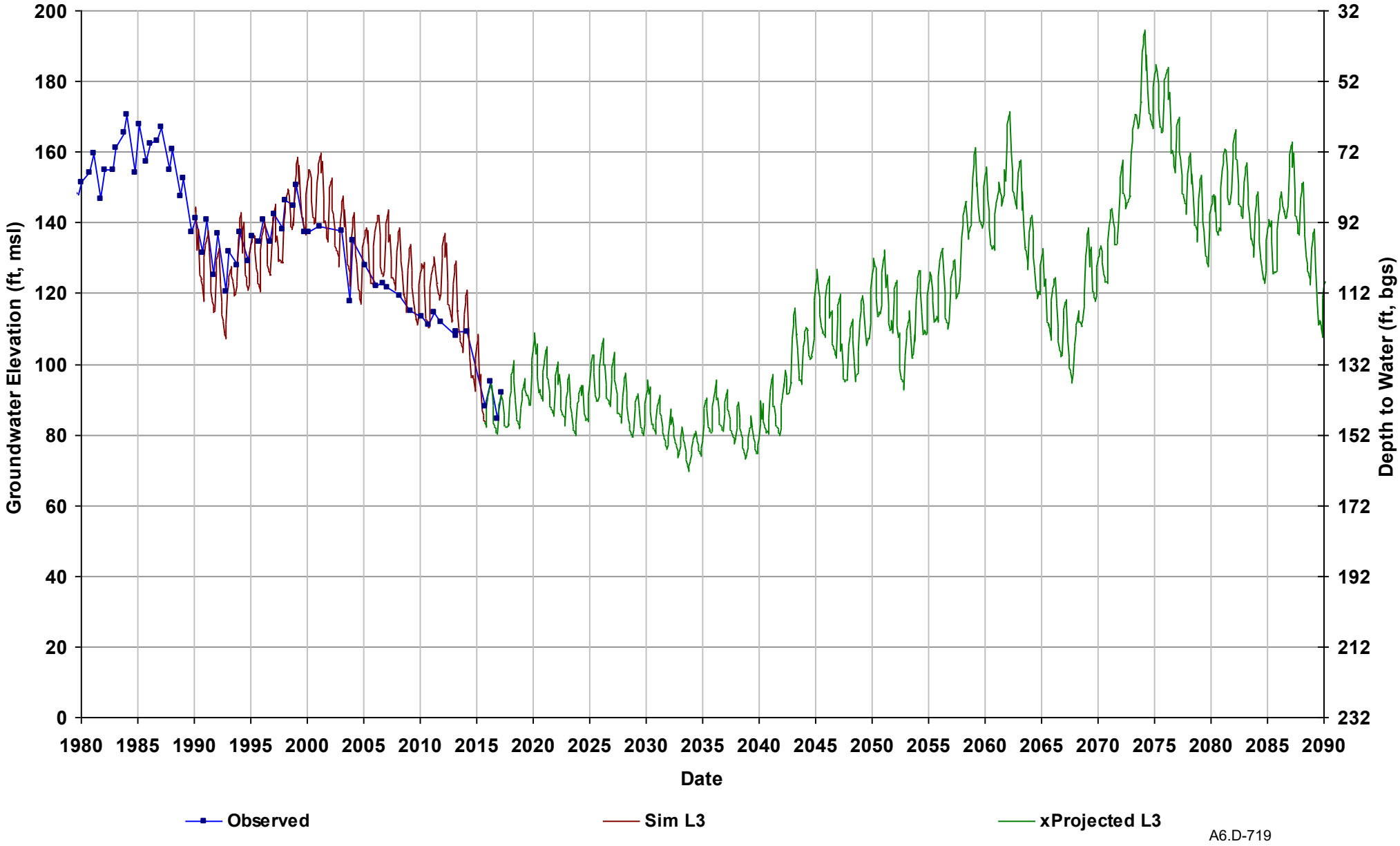
Well Name: 12S17E13J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



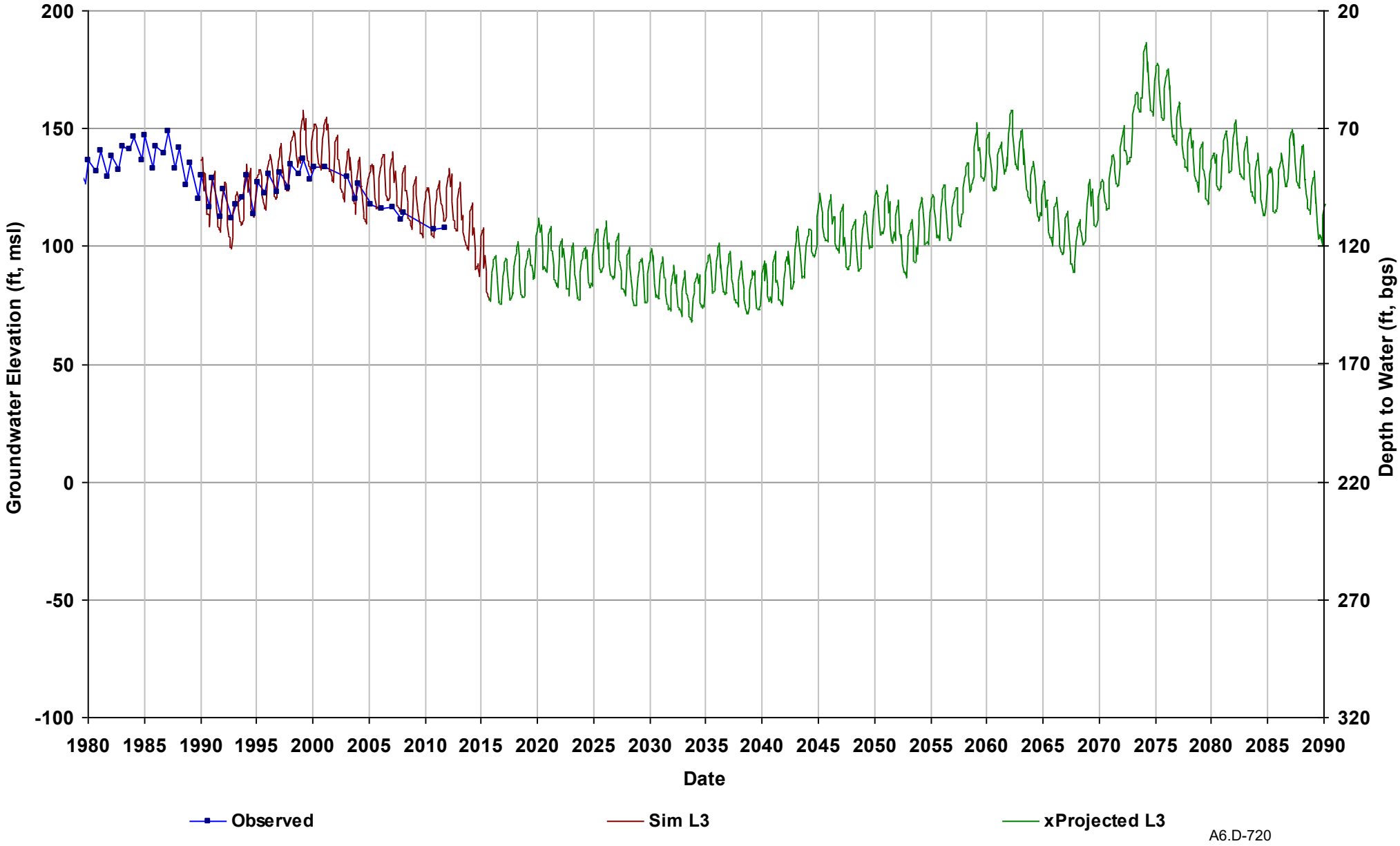
Well Name: 12S17E16A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 232

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



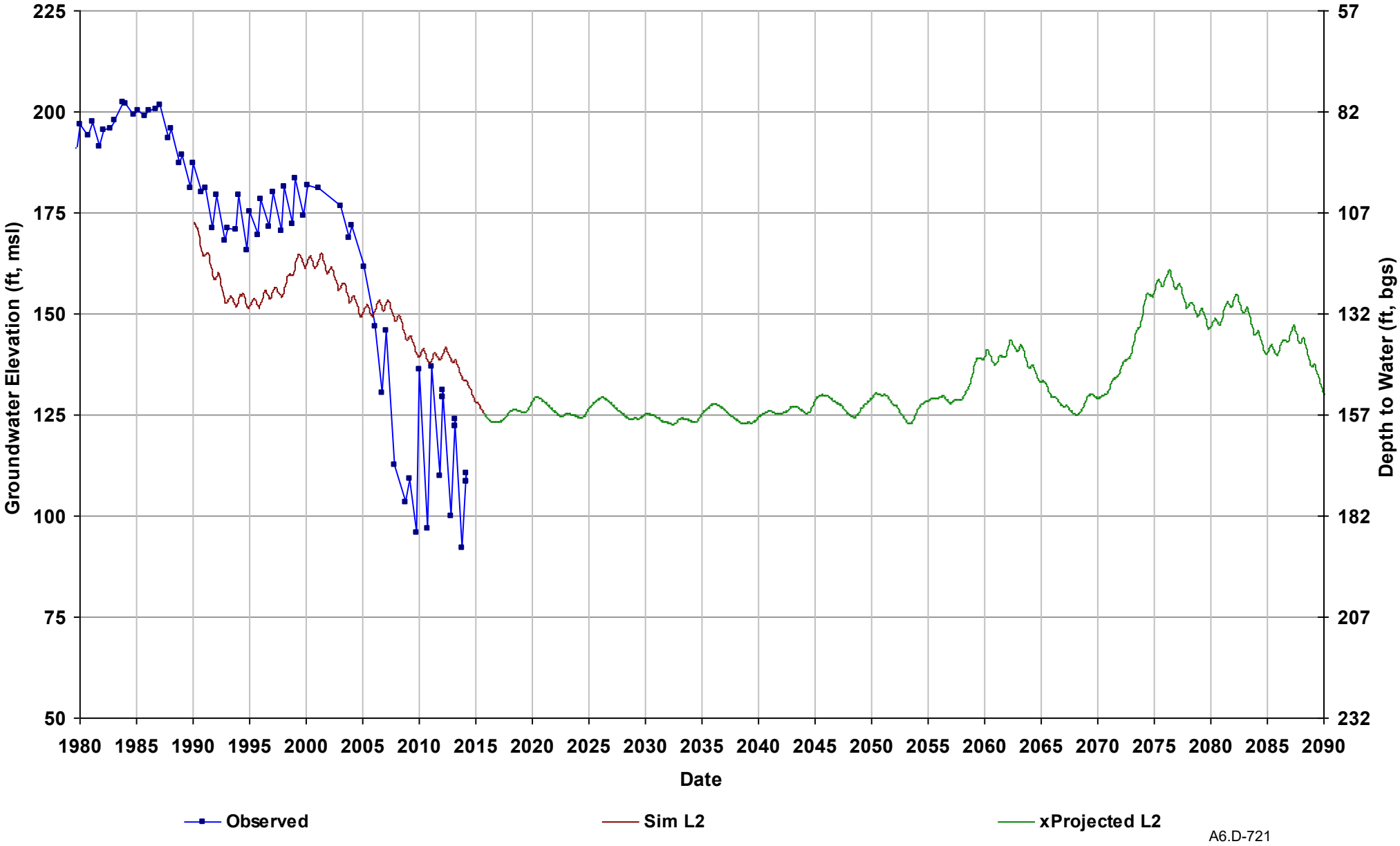
Well Name: 12S17E20P001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 220

Total Depth (ft): 252
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



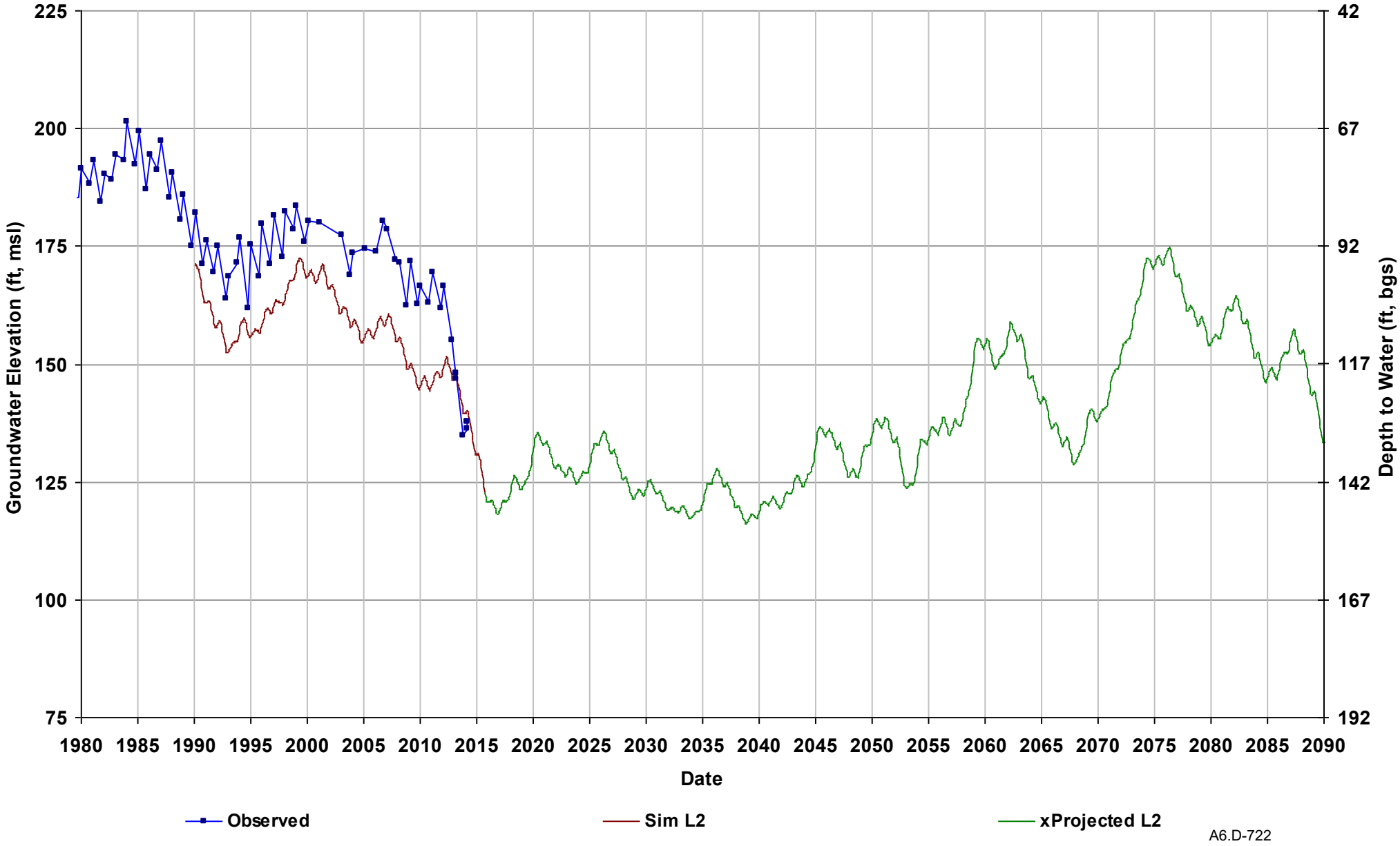
Well Name: 12S18E12N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 282

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



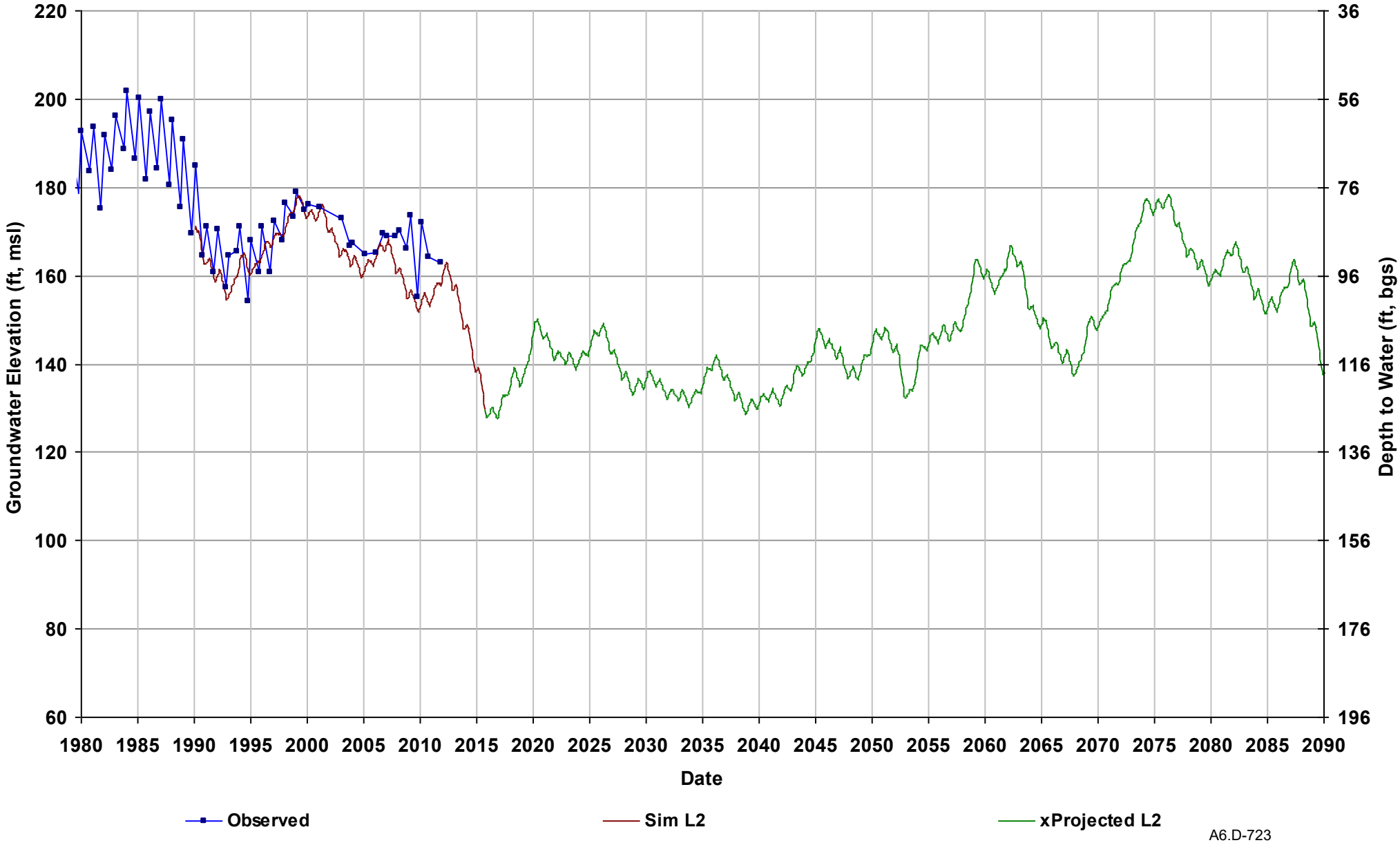
Well Name: 12S18E21G001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



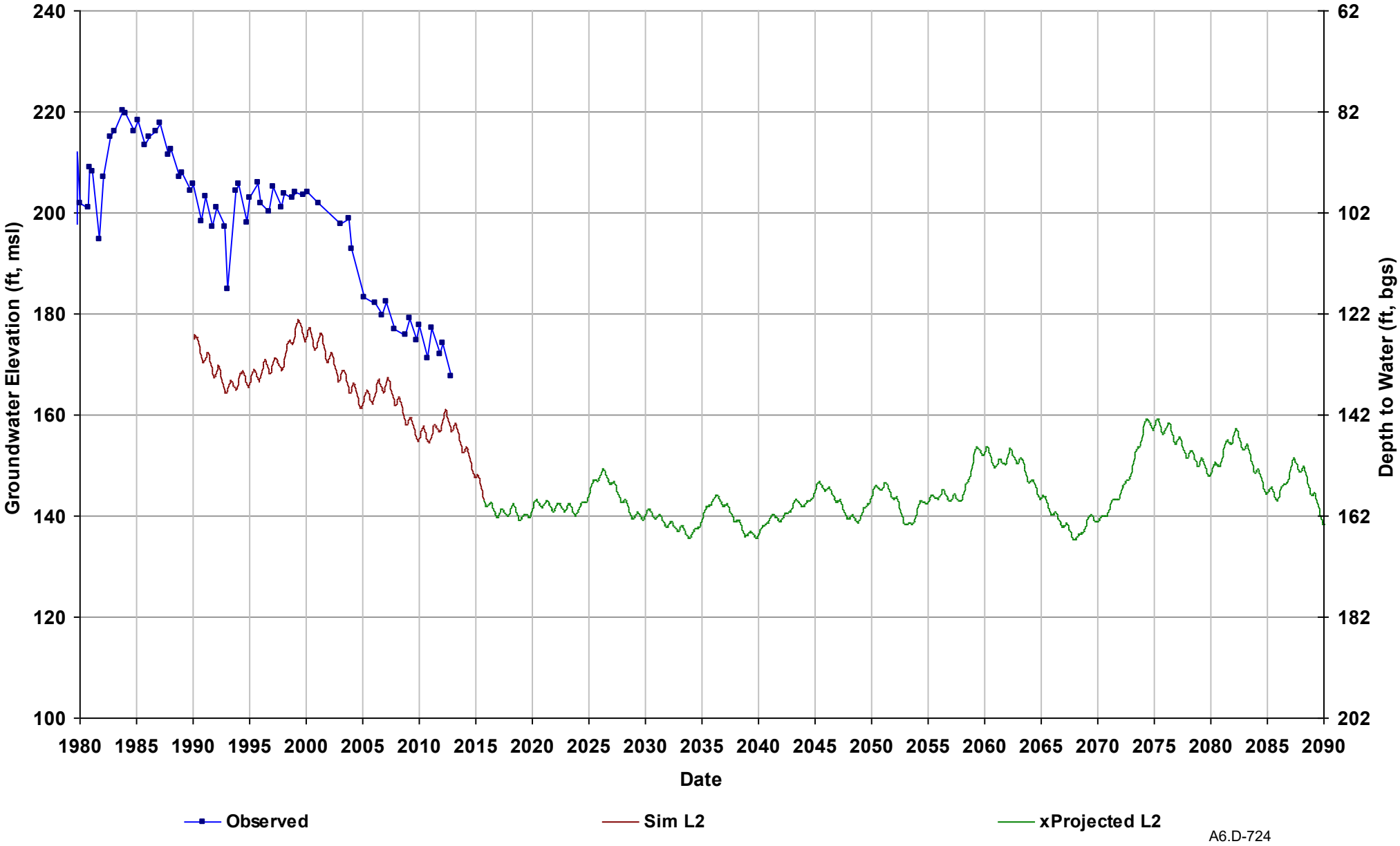
Well Name: 12S18E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 256

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



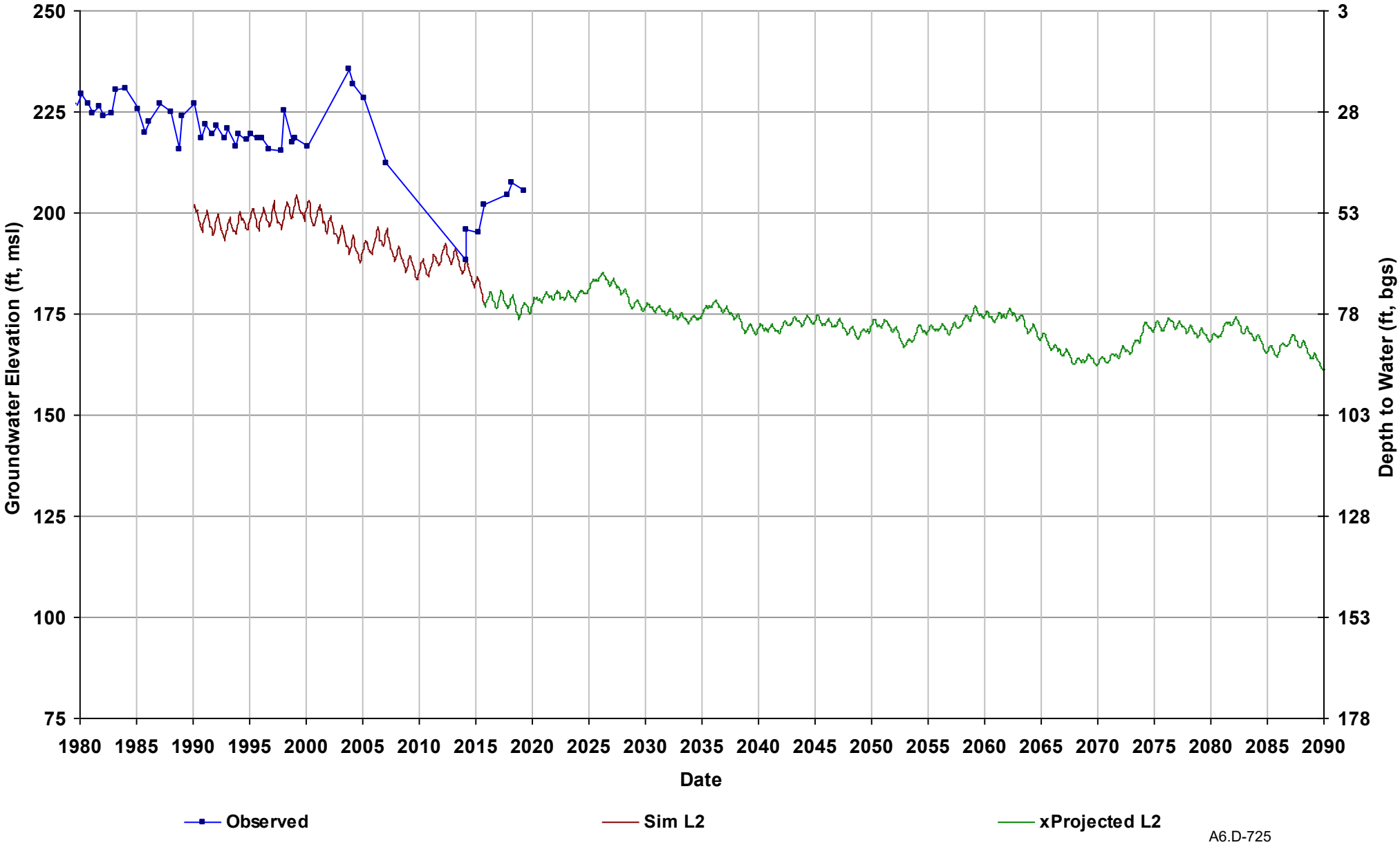
Well Name: 12S19E21B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



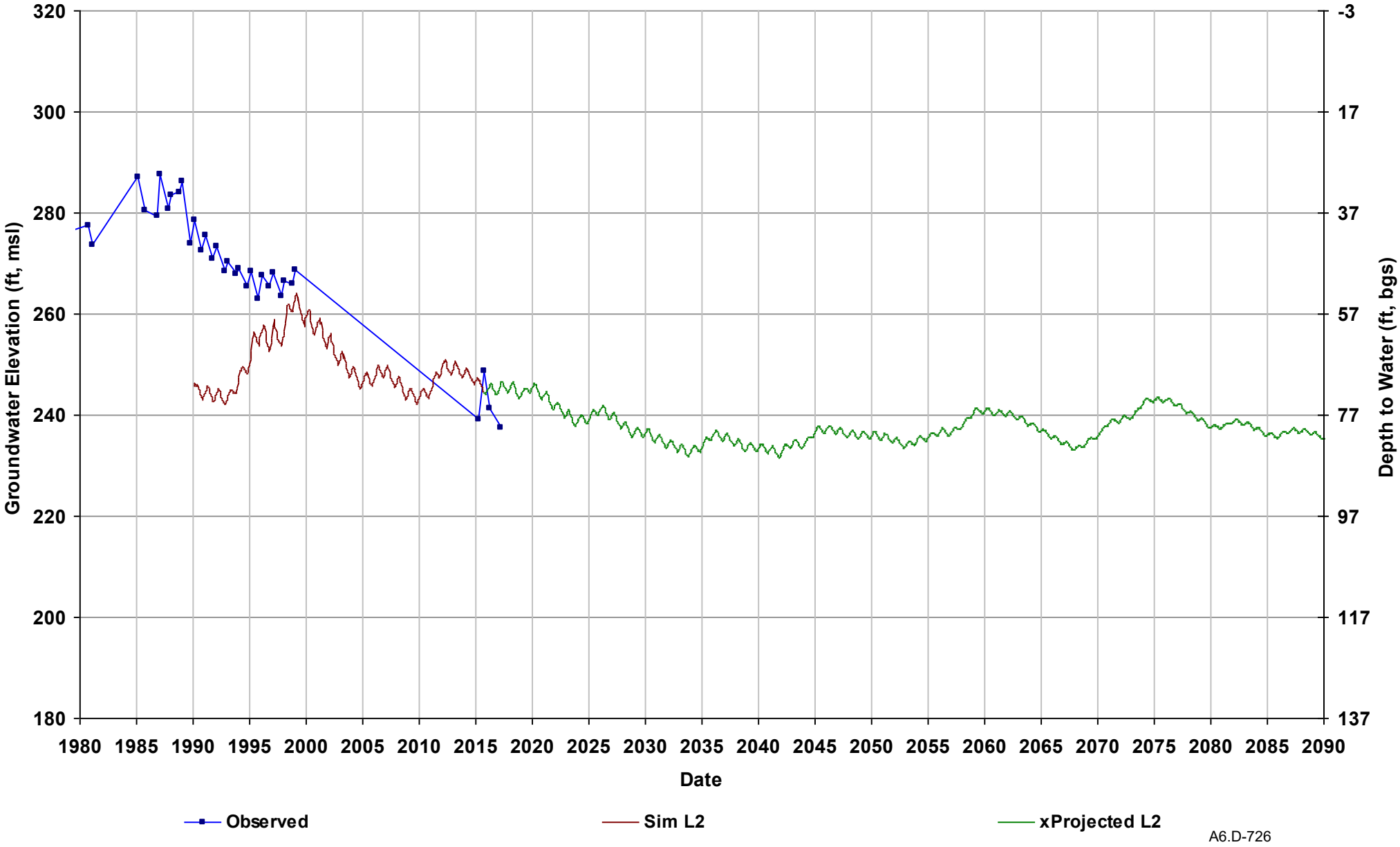
Well Name: 12S19E35A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 252

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



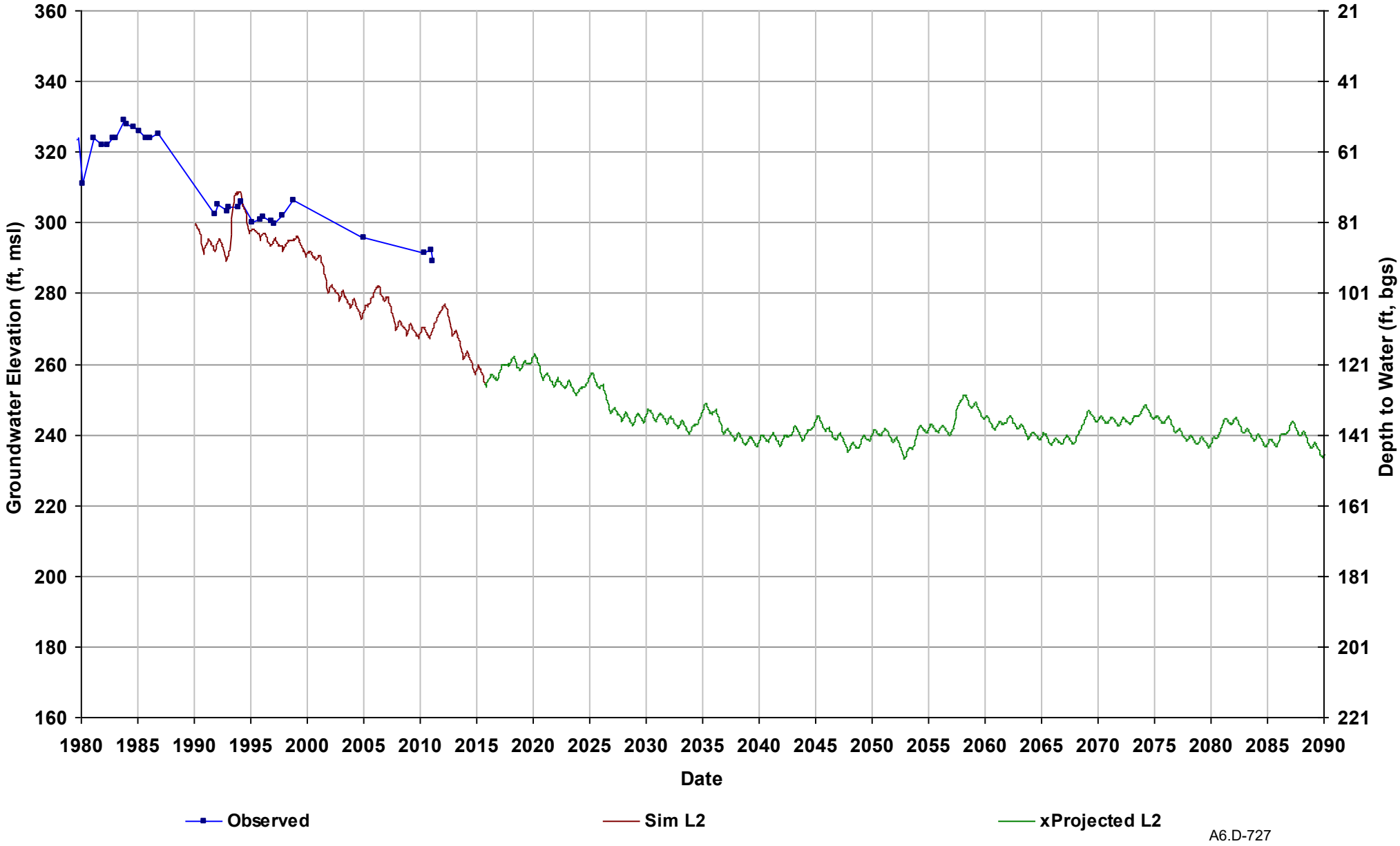
Well Name: 12S20E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 317

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



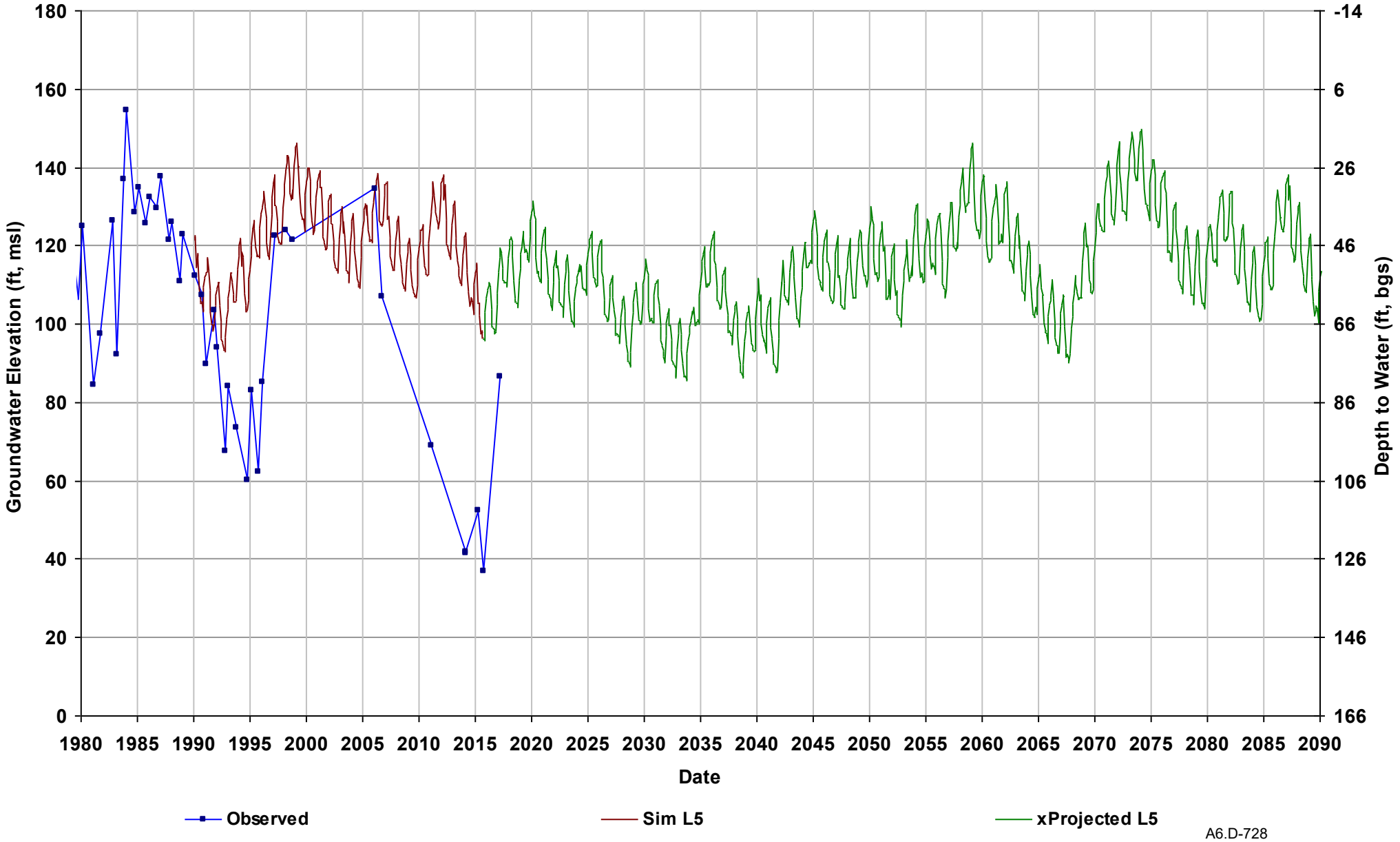
Well Name: 12S21E19J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 380

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



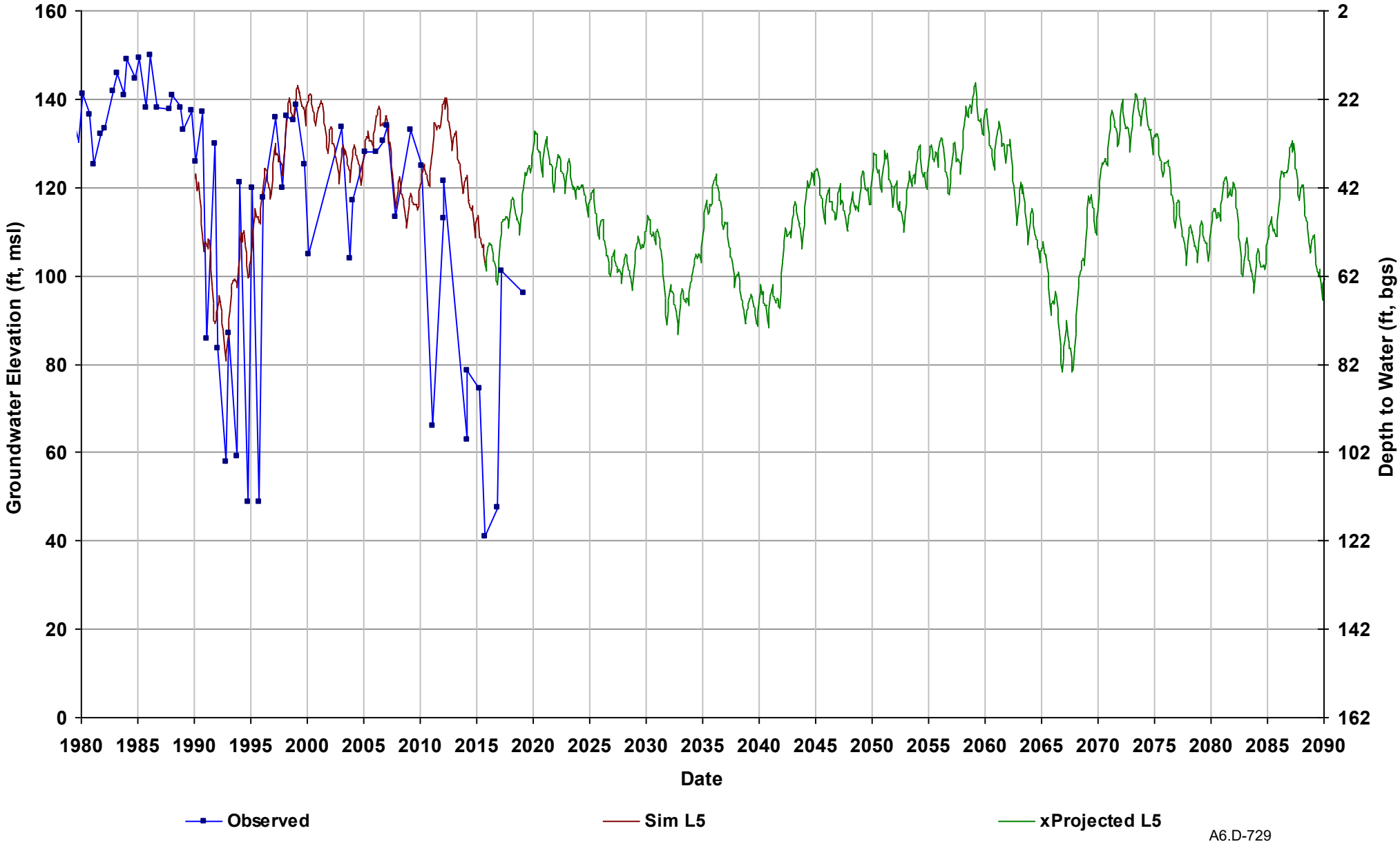
Well Name: 13S15E14M001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 166

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



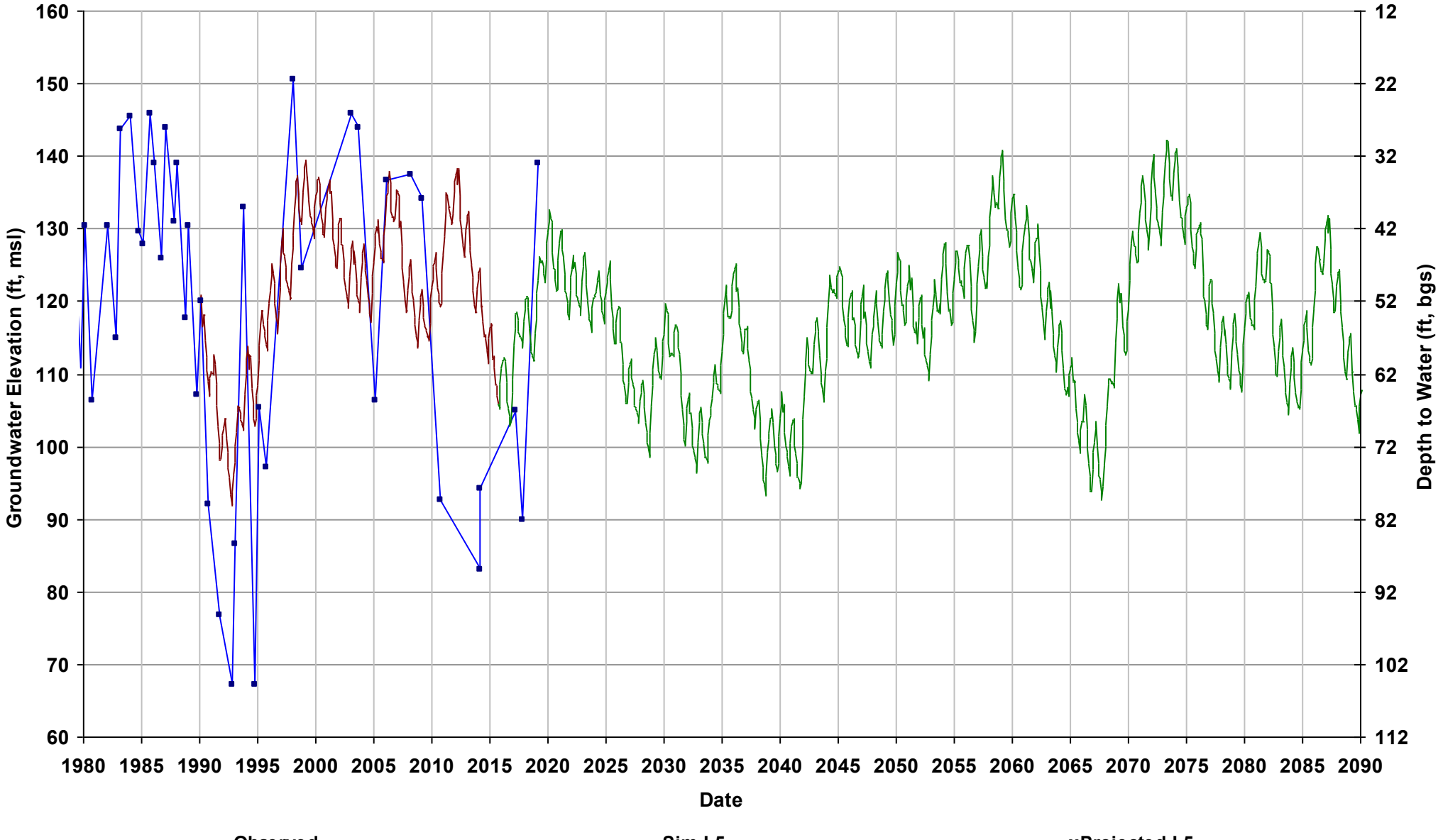
Well Name: 13S15E20G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



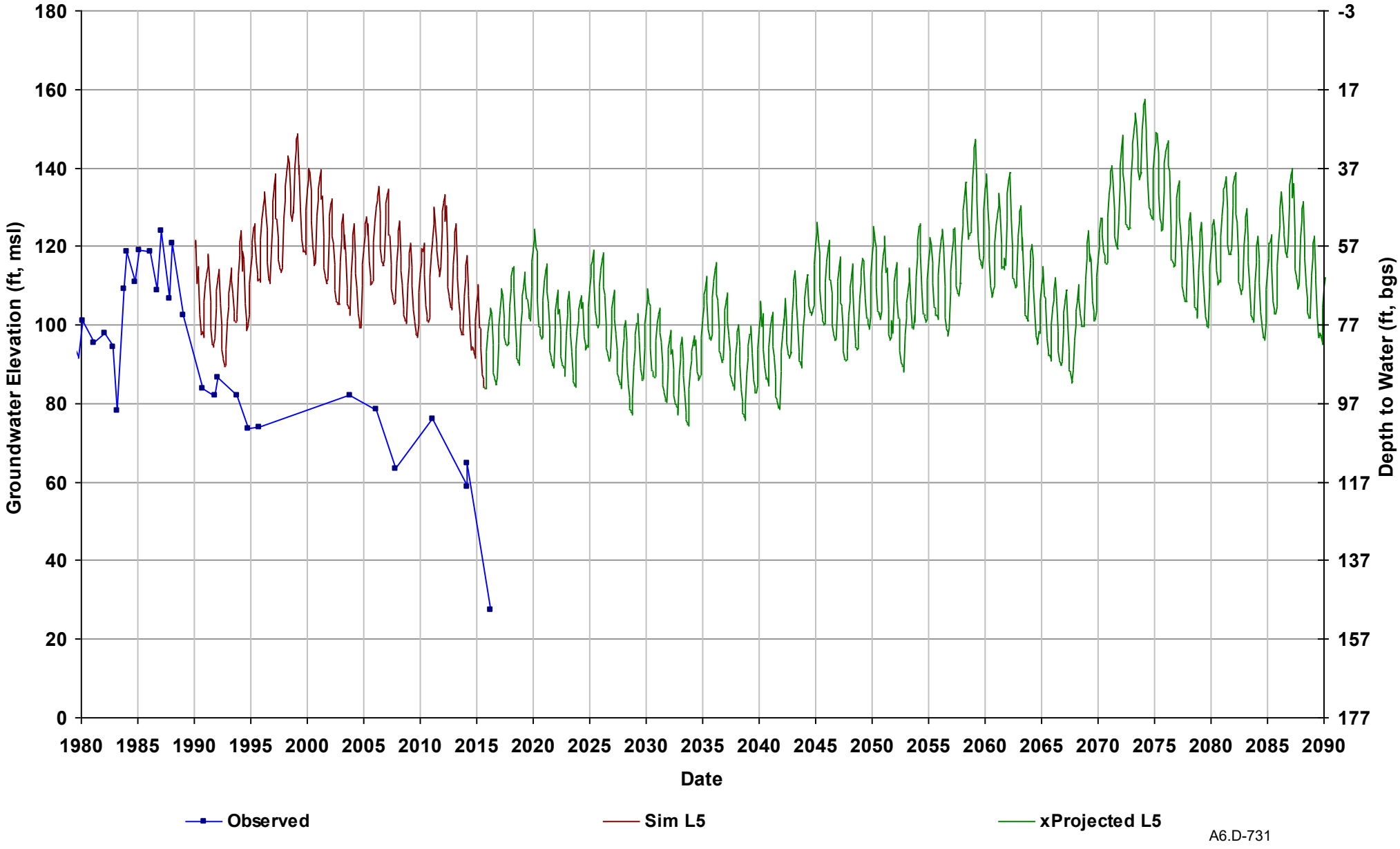
Well Name: 13S15E25N002M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 172

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



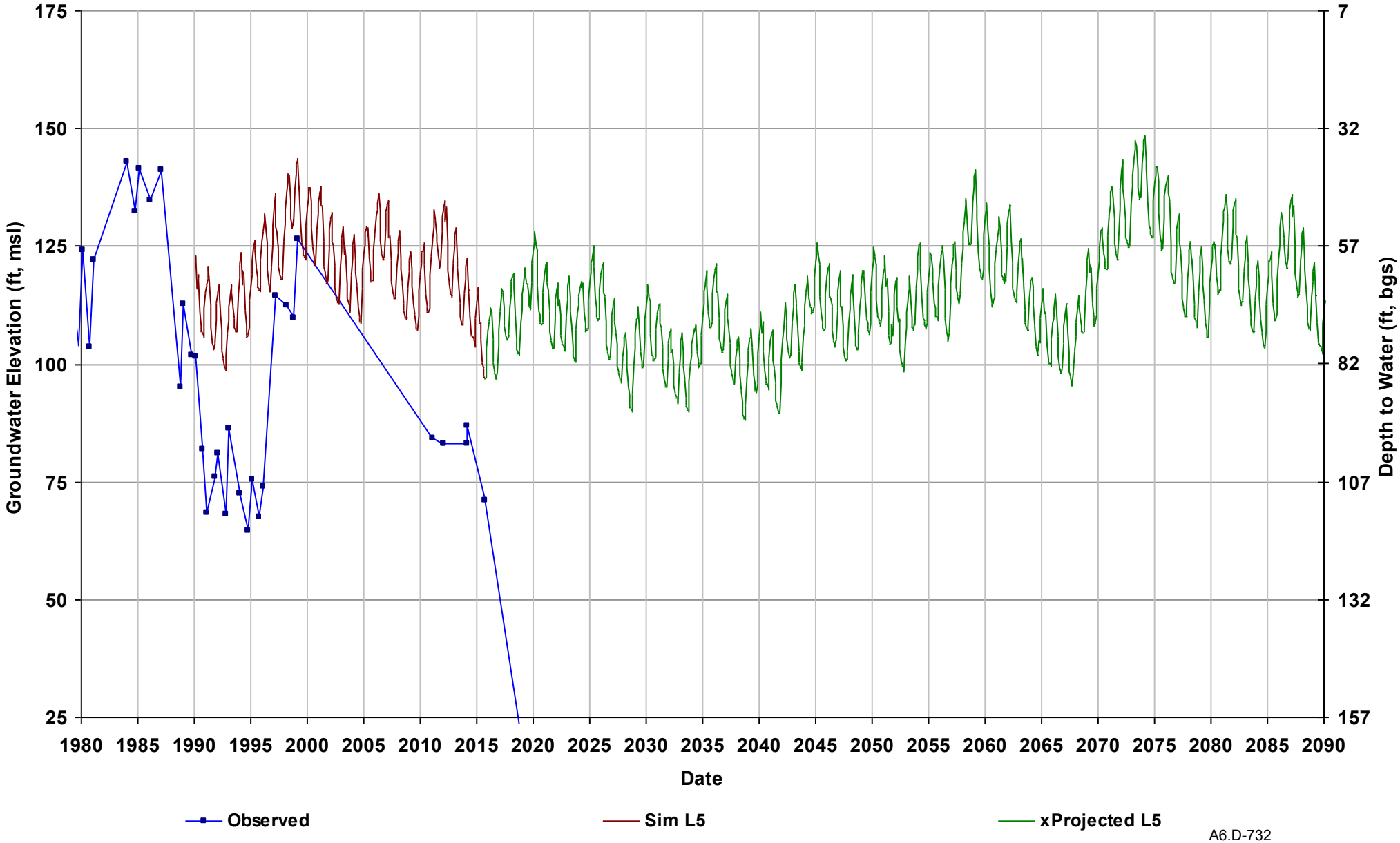
Well Name: 13S16E07R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 177

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



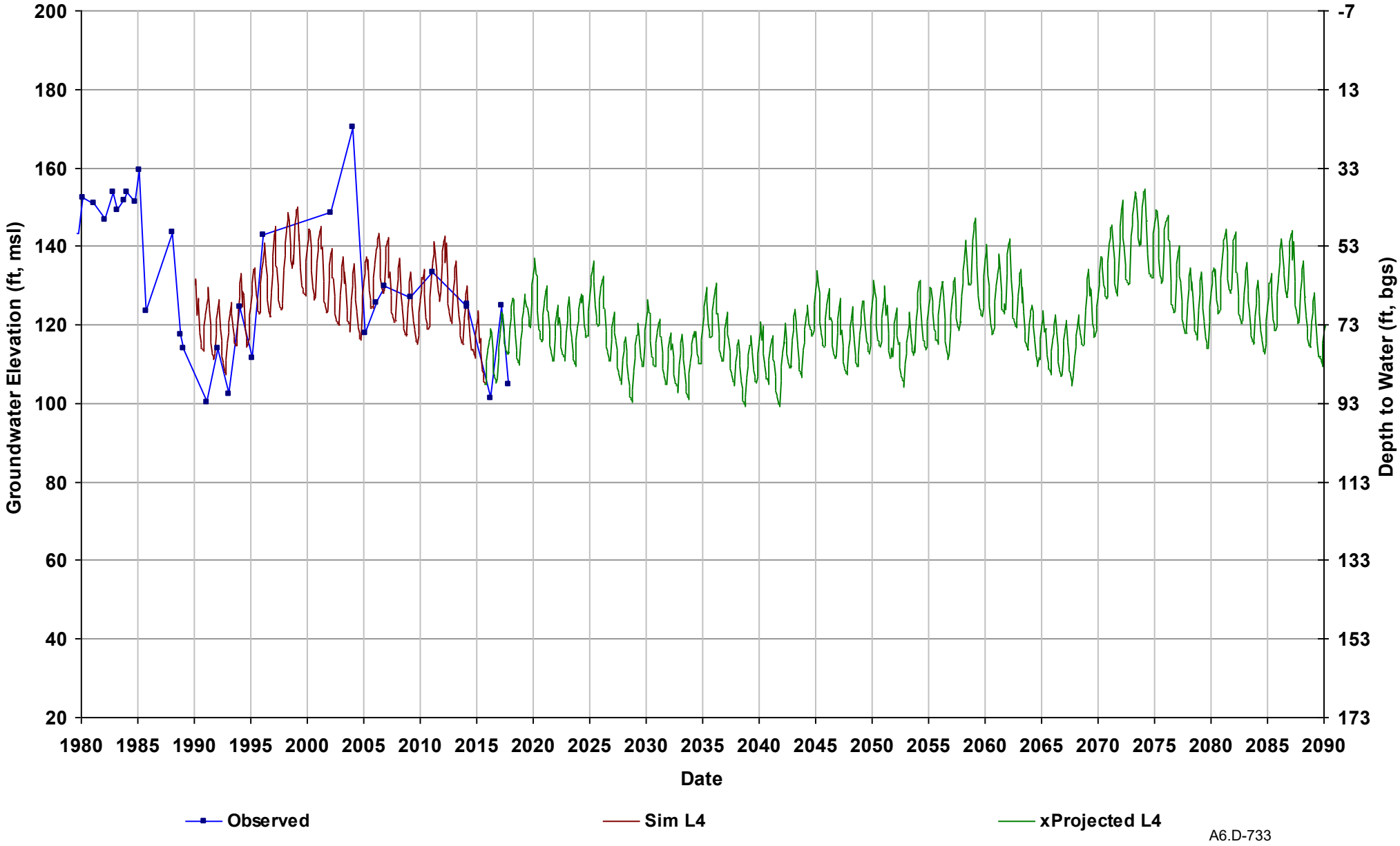
Well Name: 13S16E20J001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 182

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



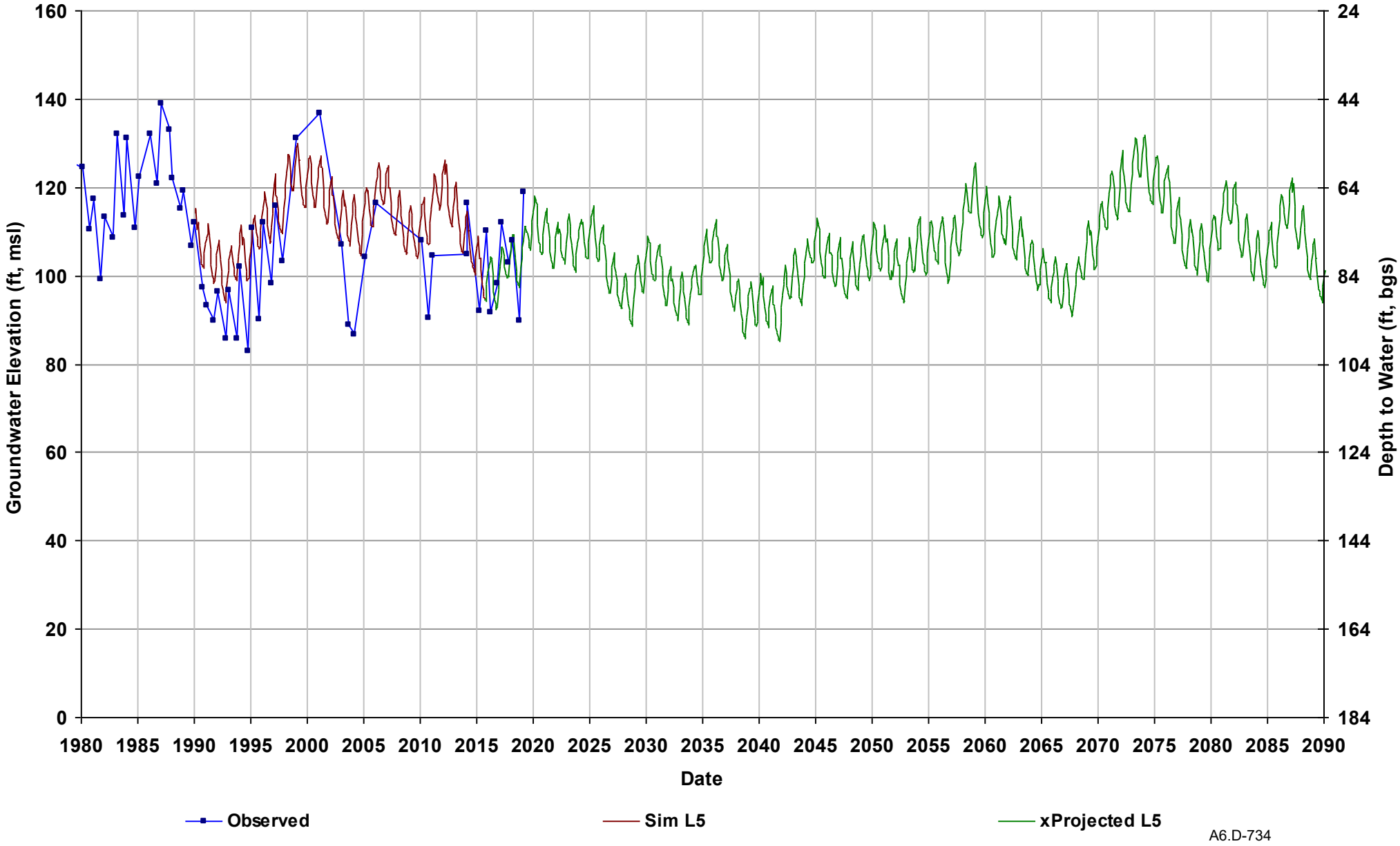
Well Name: 13S16E23N001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 192

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



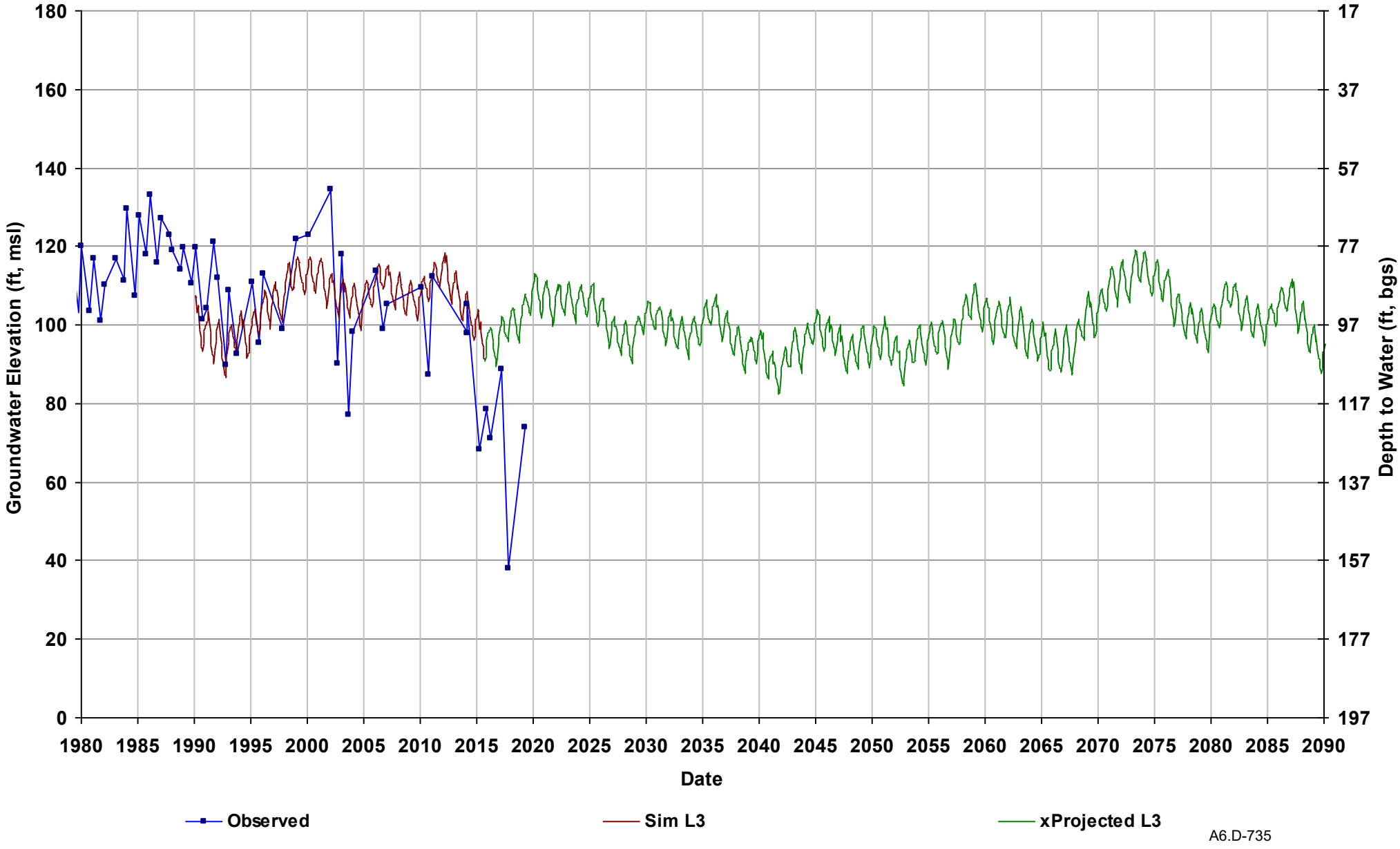
Well Name: 13S16E34C001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 184

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



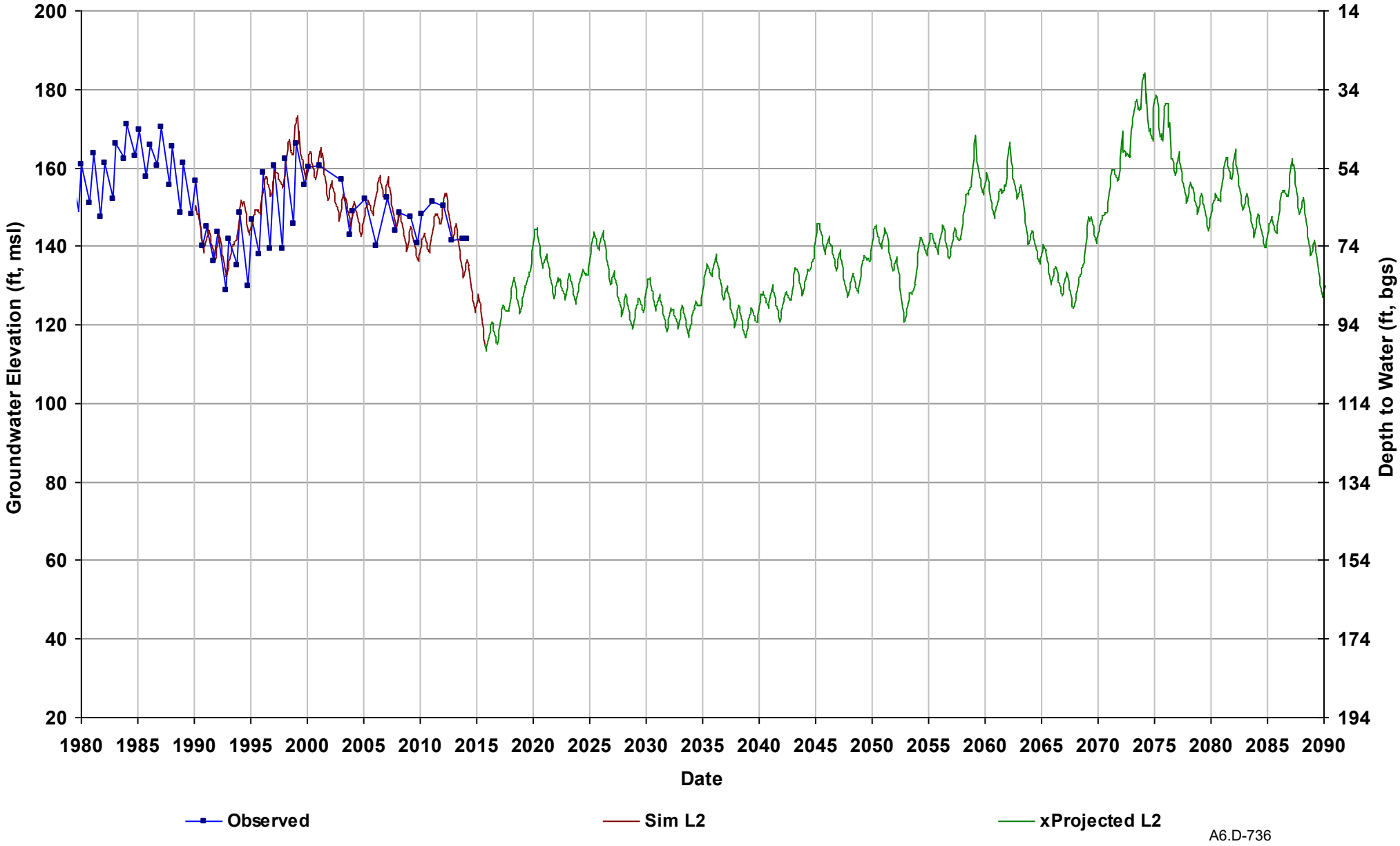
Well Name: 13S16E36R004M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



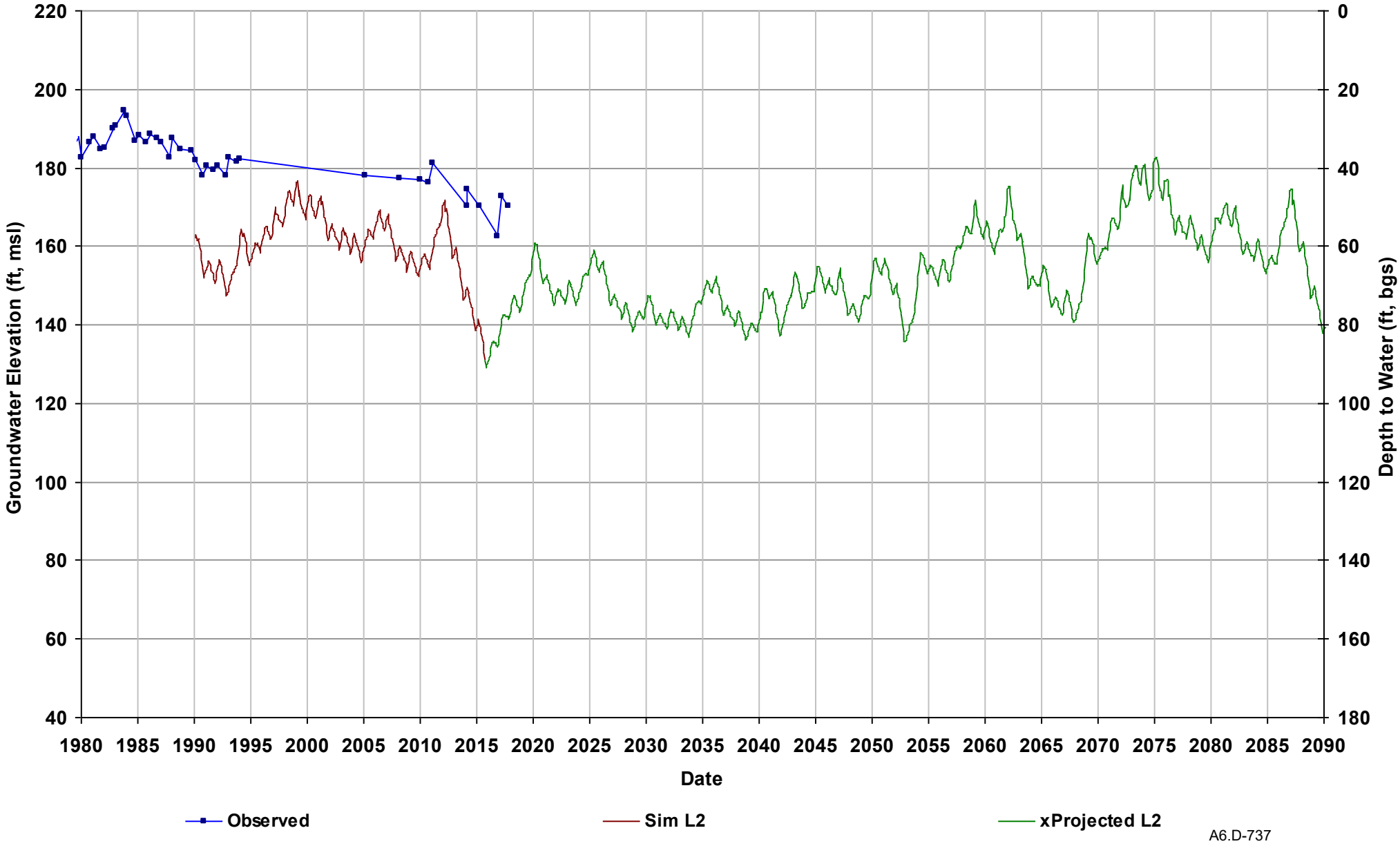
Well Name: 13S17E05P002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 214

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



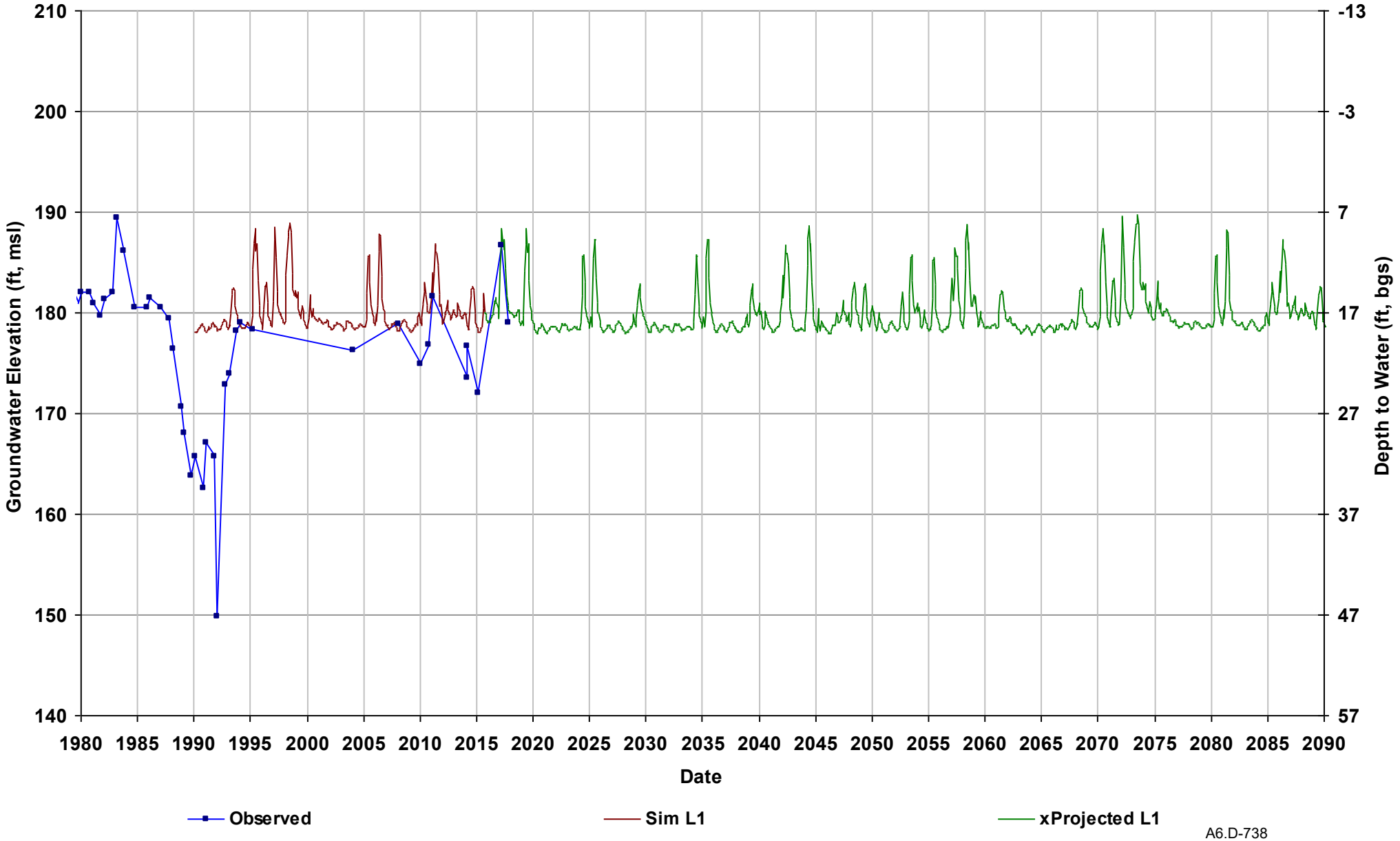
Well Name: 13S17E09R001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 220

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



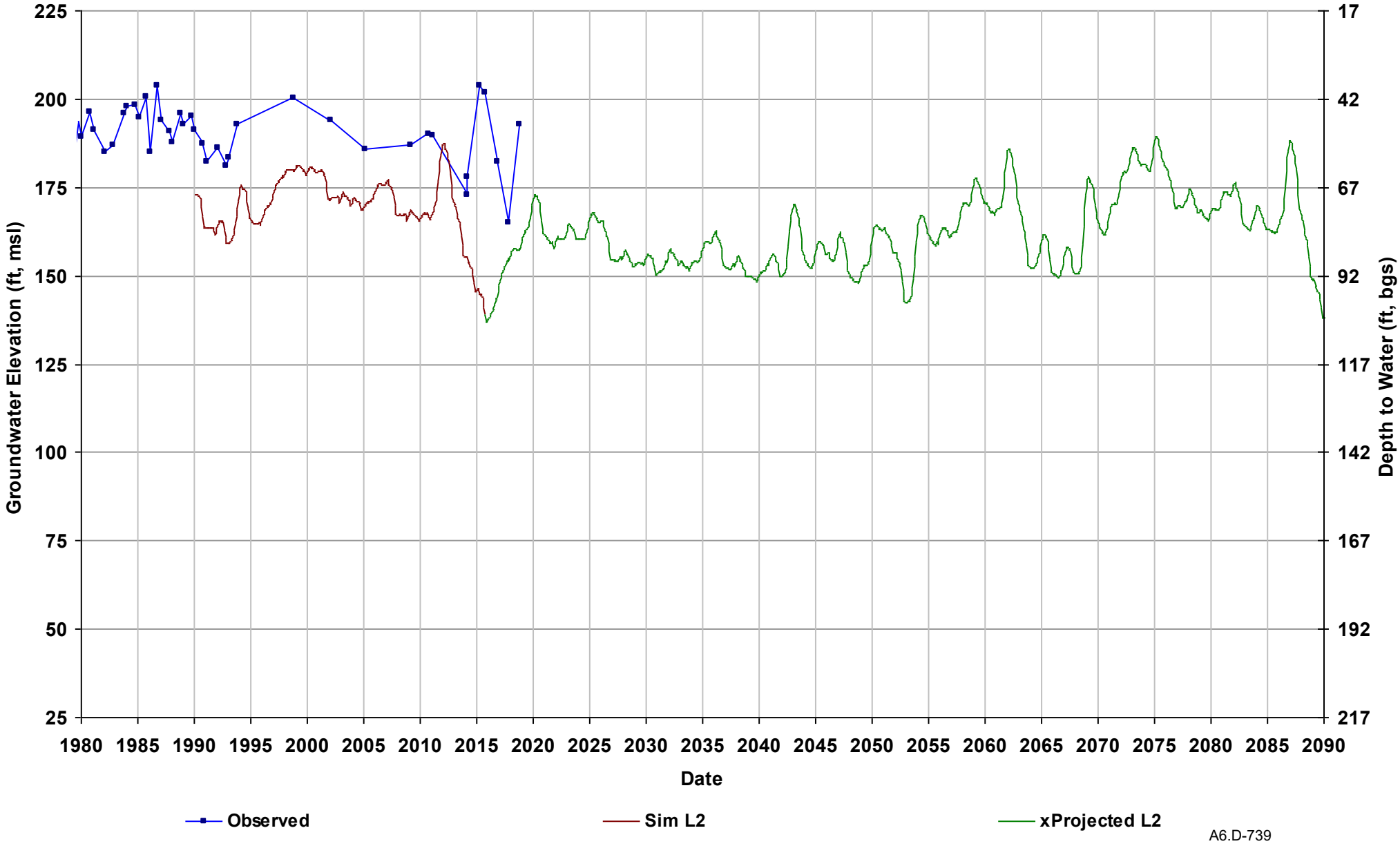
Well Name: 13S17E18M001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



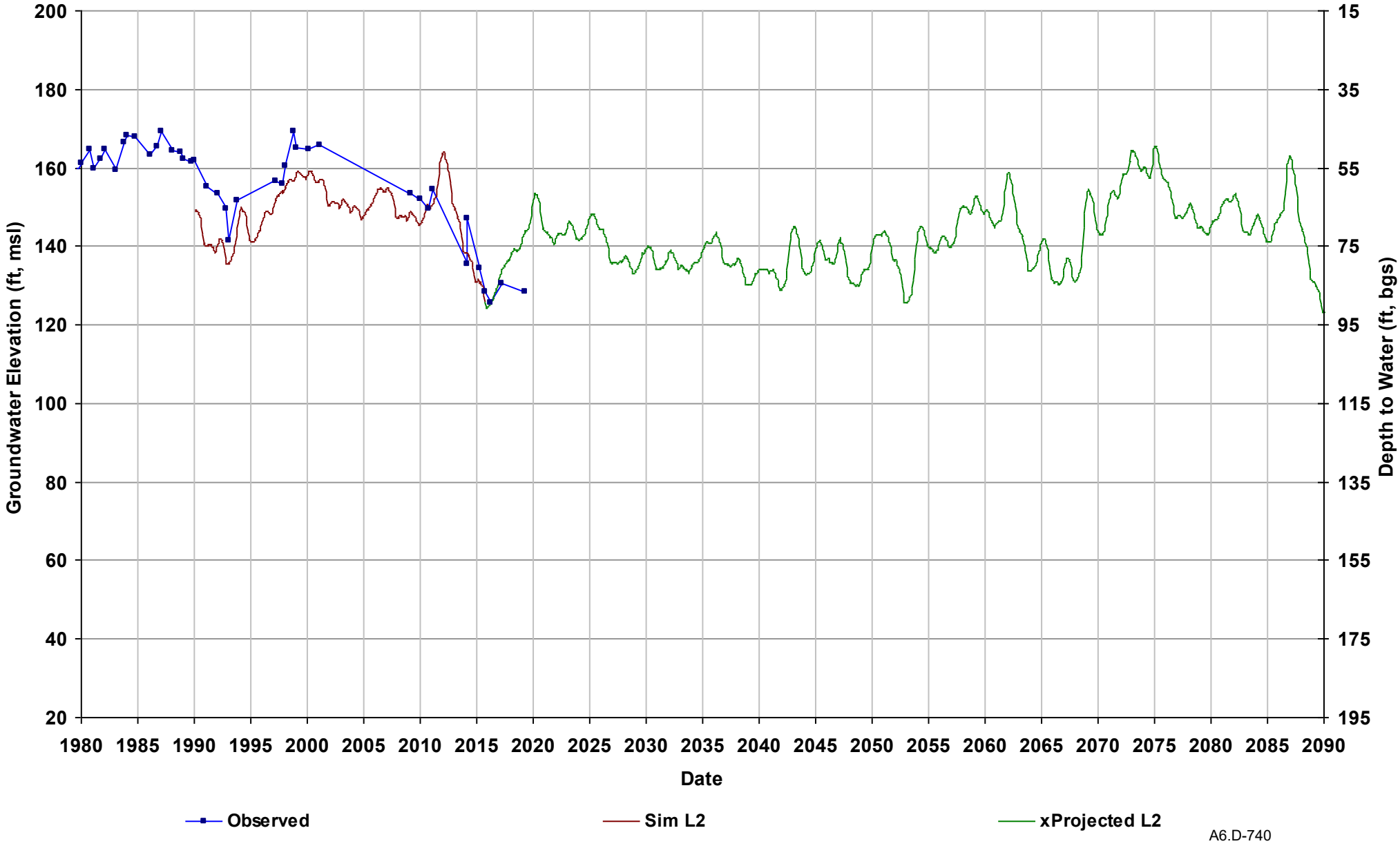
Well Name: 13S17E24A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 242

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



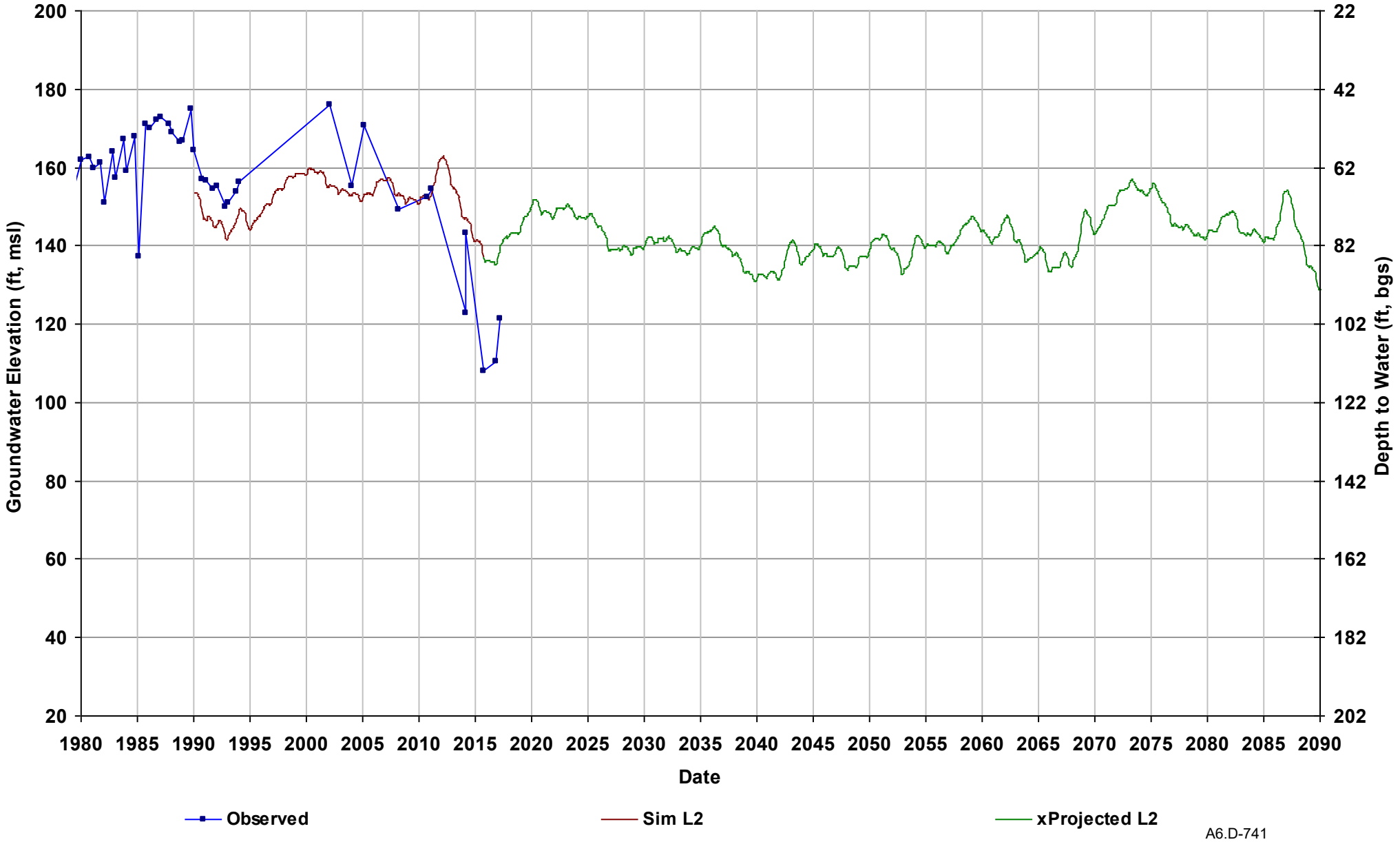
Well Name: 13S17E28H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 215

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



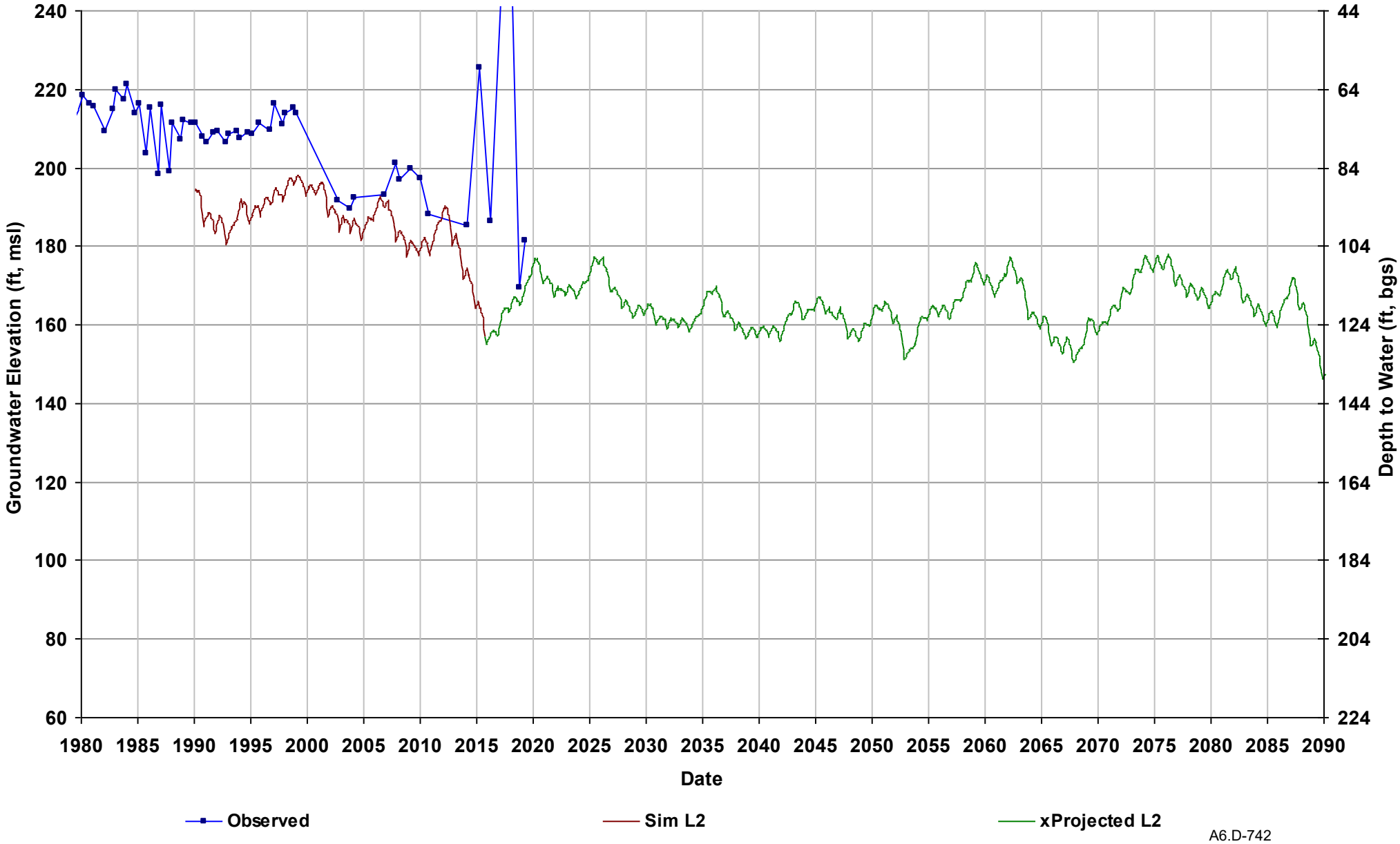
Well Name: 13S17E35L001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 222

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



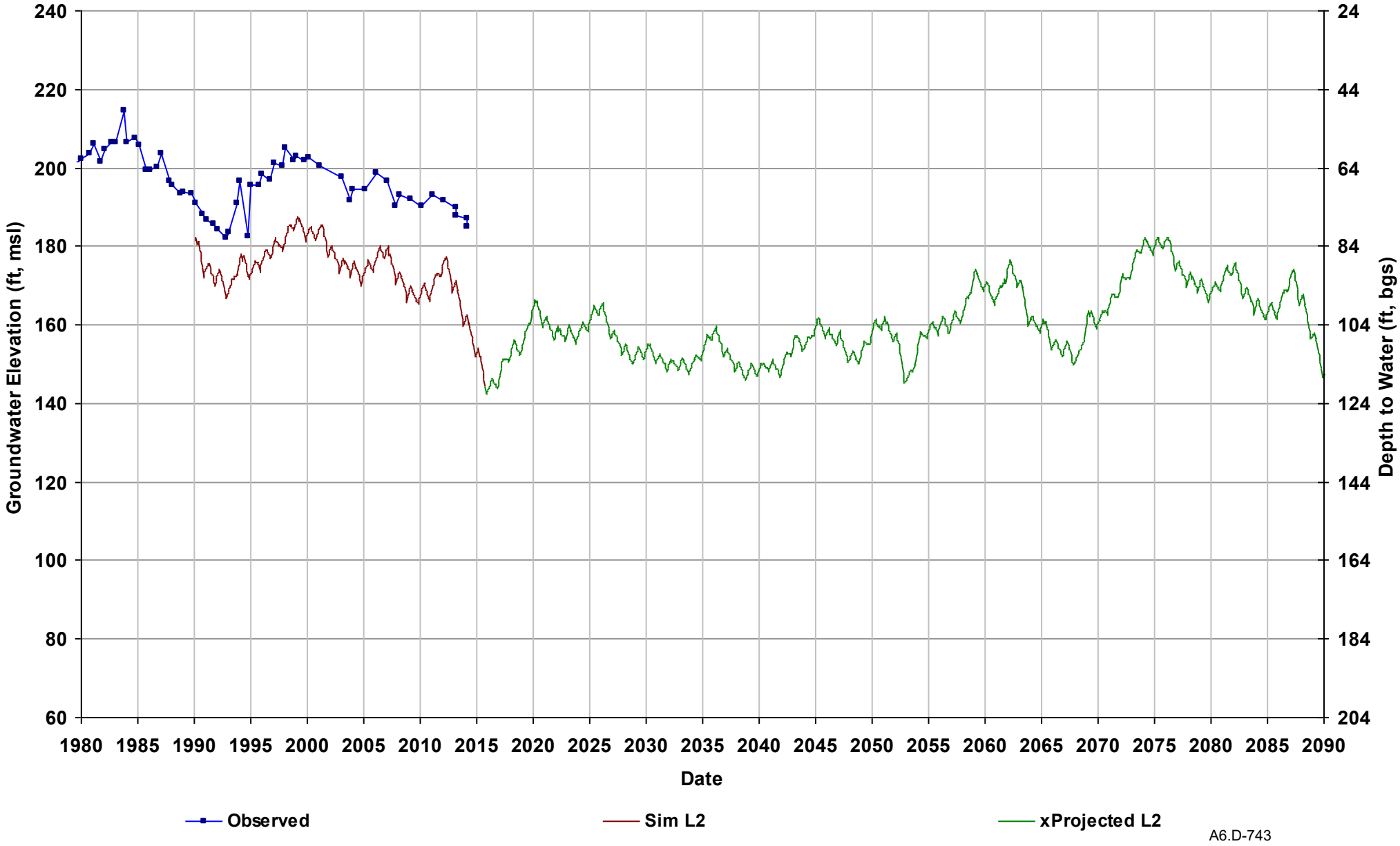
Well Name: 13S18E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 284

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



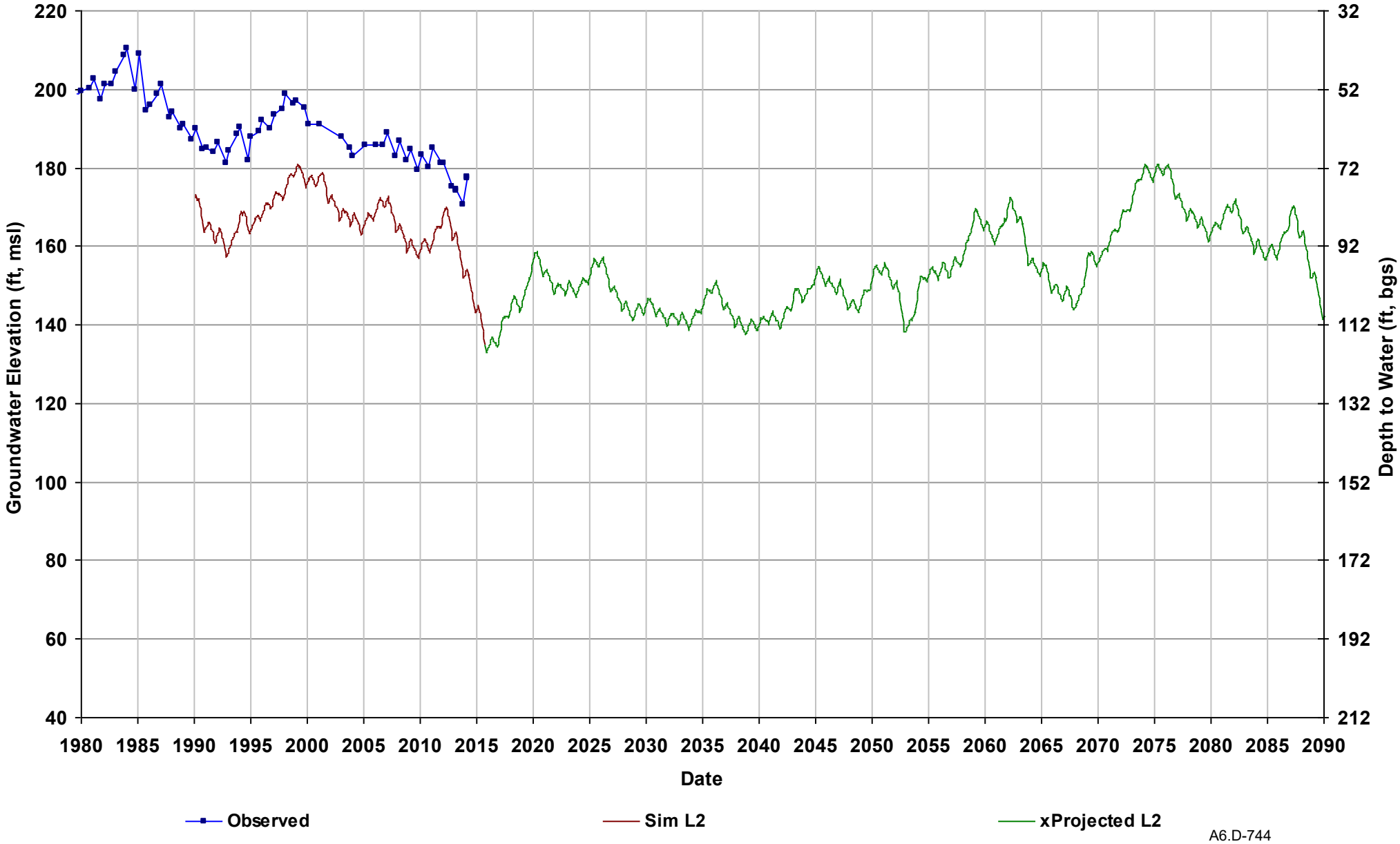
Well Name: 13S18E04B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 264

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



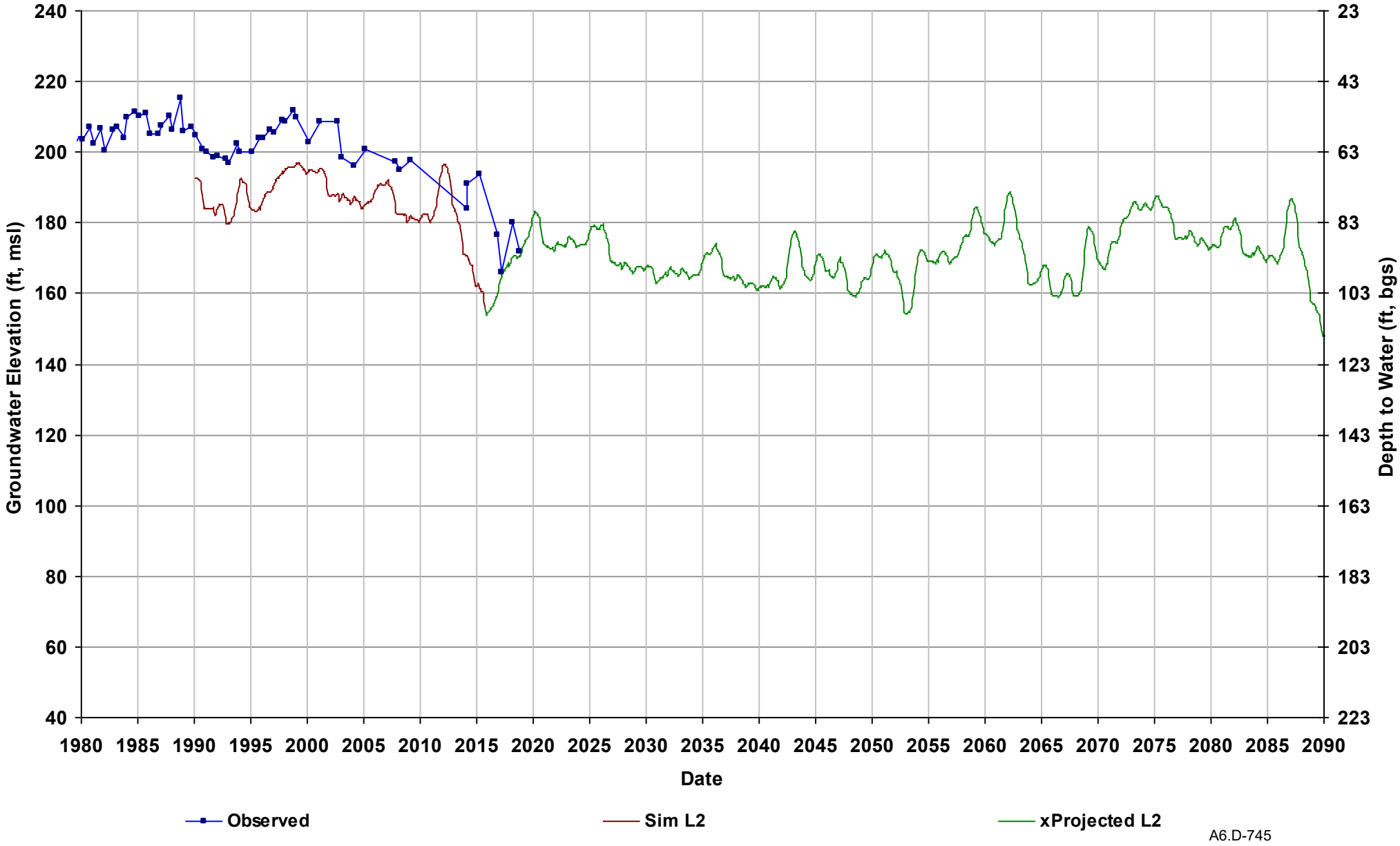
Well Name: 13S18E06K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



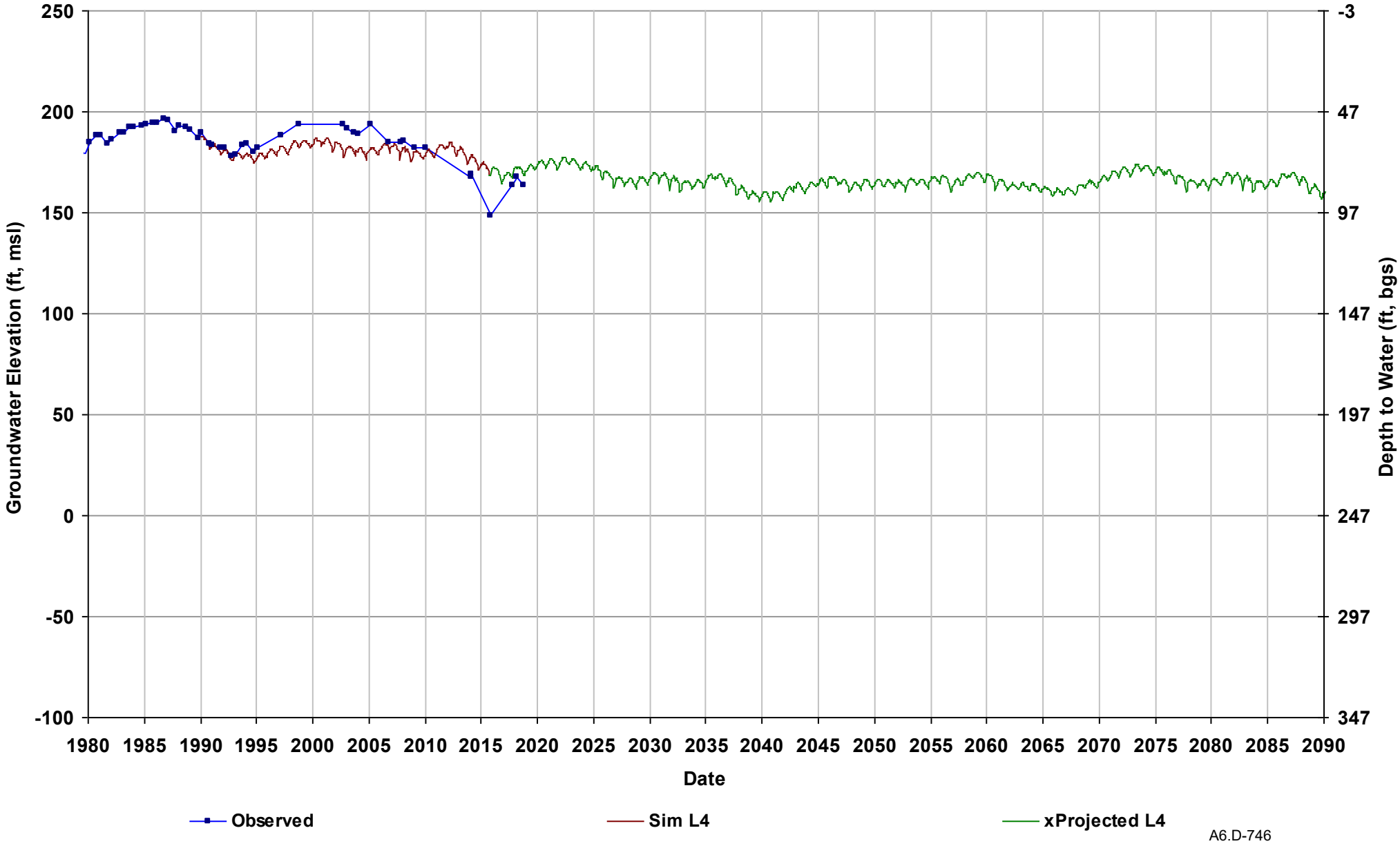
Well Name: 13S18E15J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 263

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



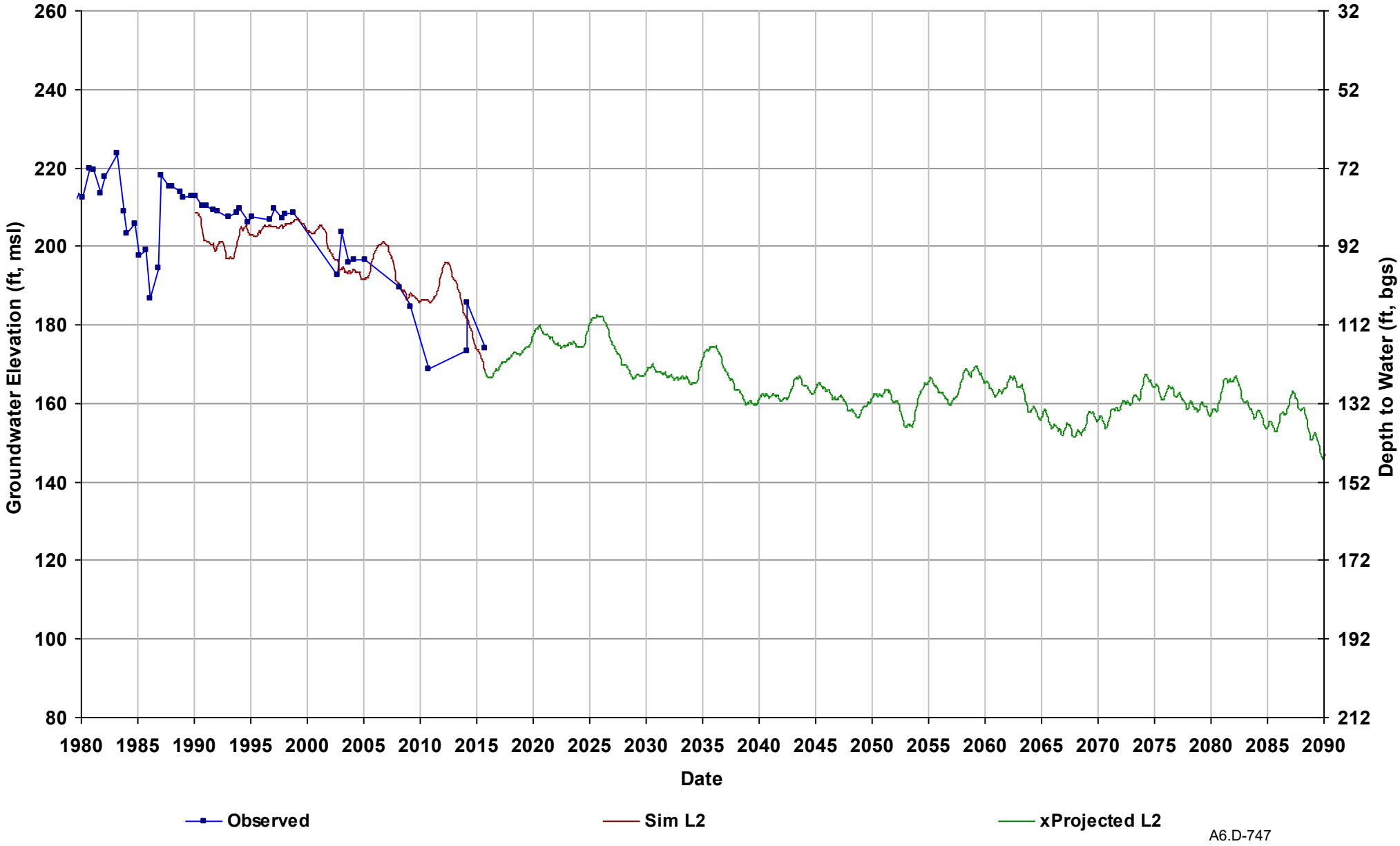
Well Name: 13S18E34D001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 247

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



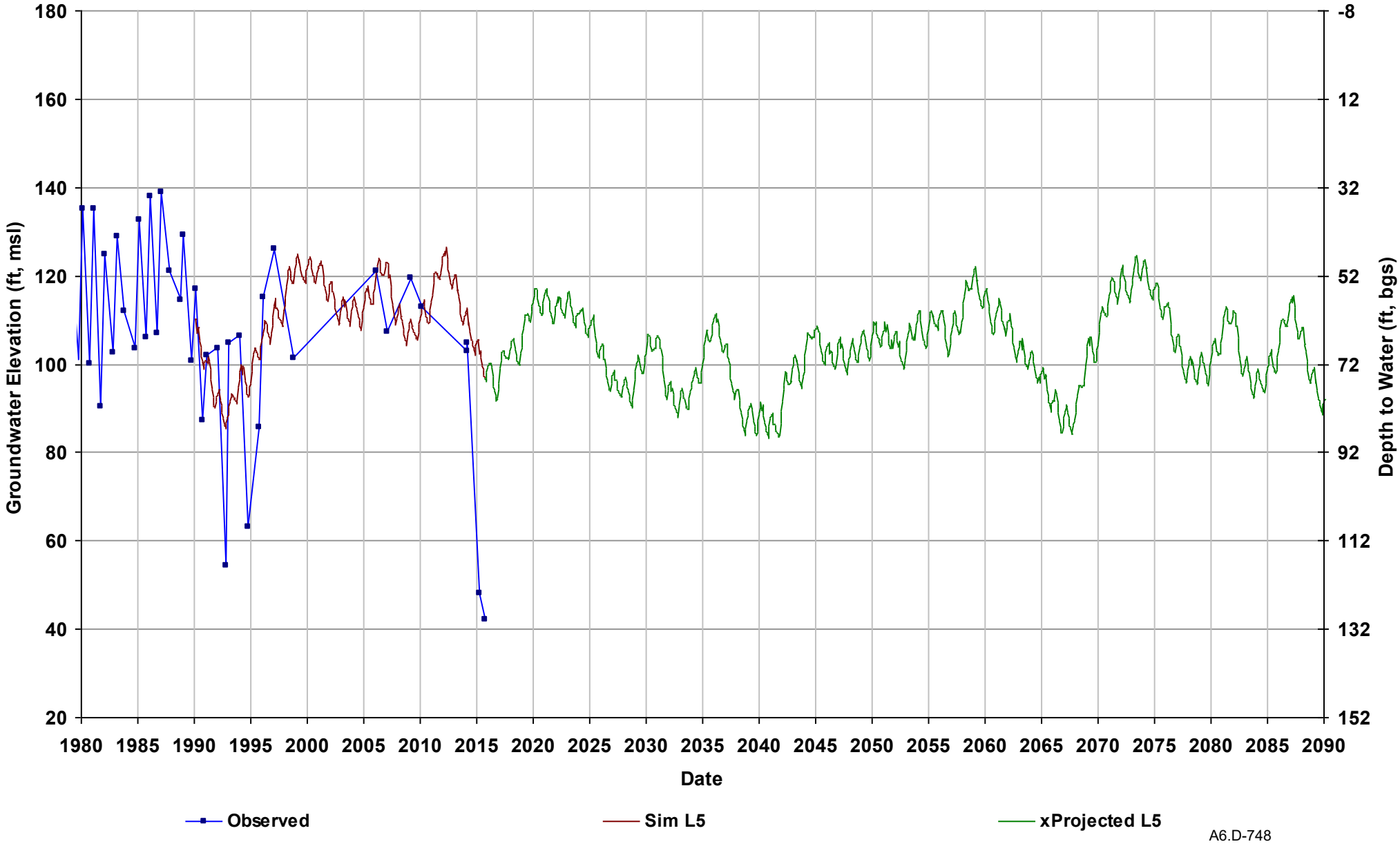
Well Name: 13S19E16K001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 292

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



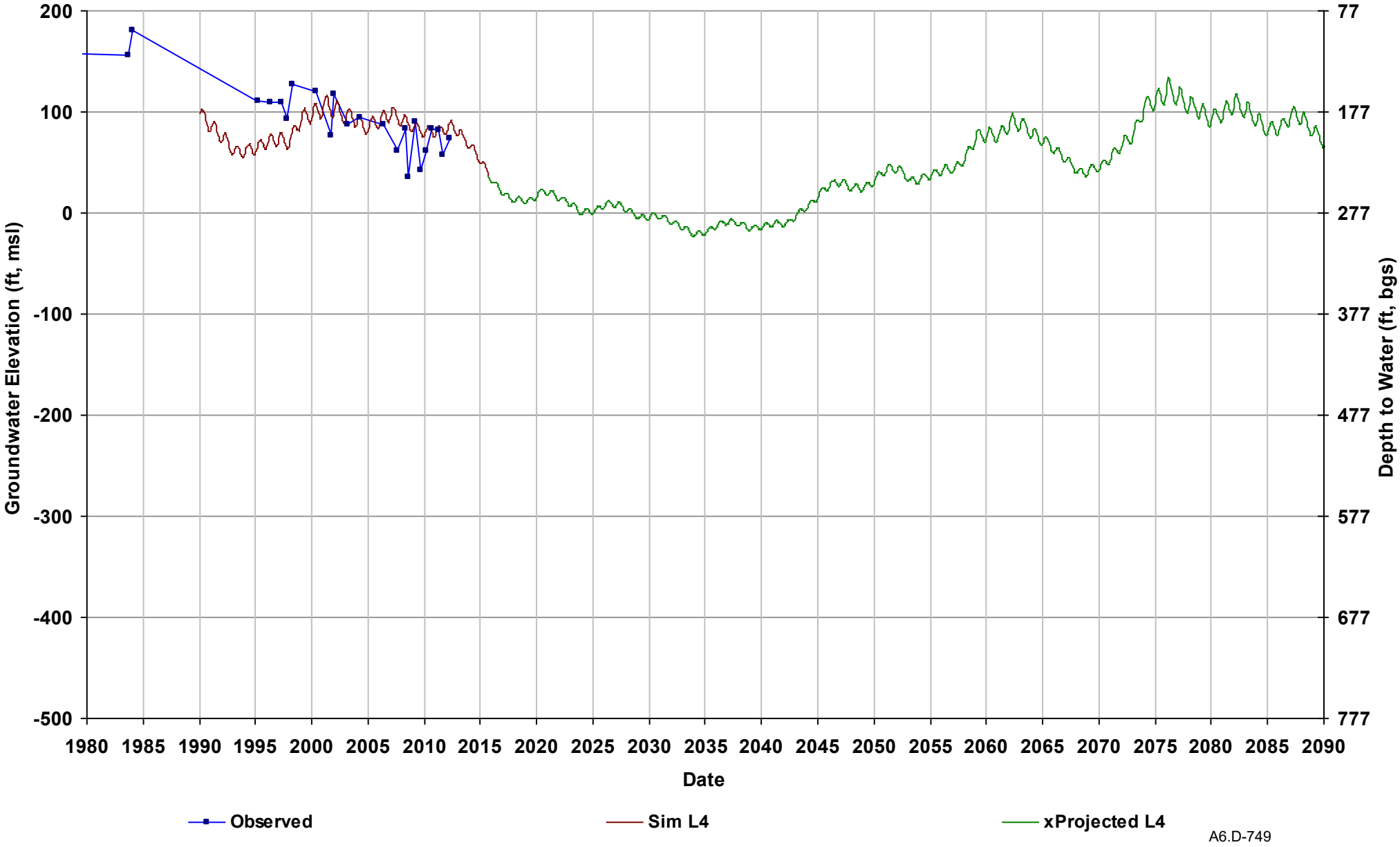
Well Name: 14S16E06A001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 172

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



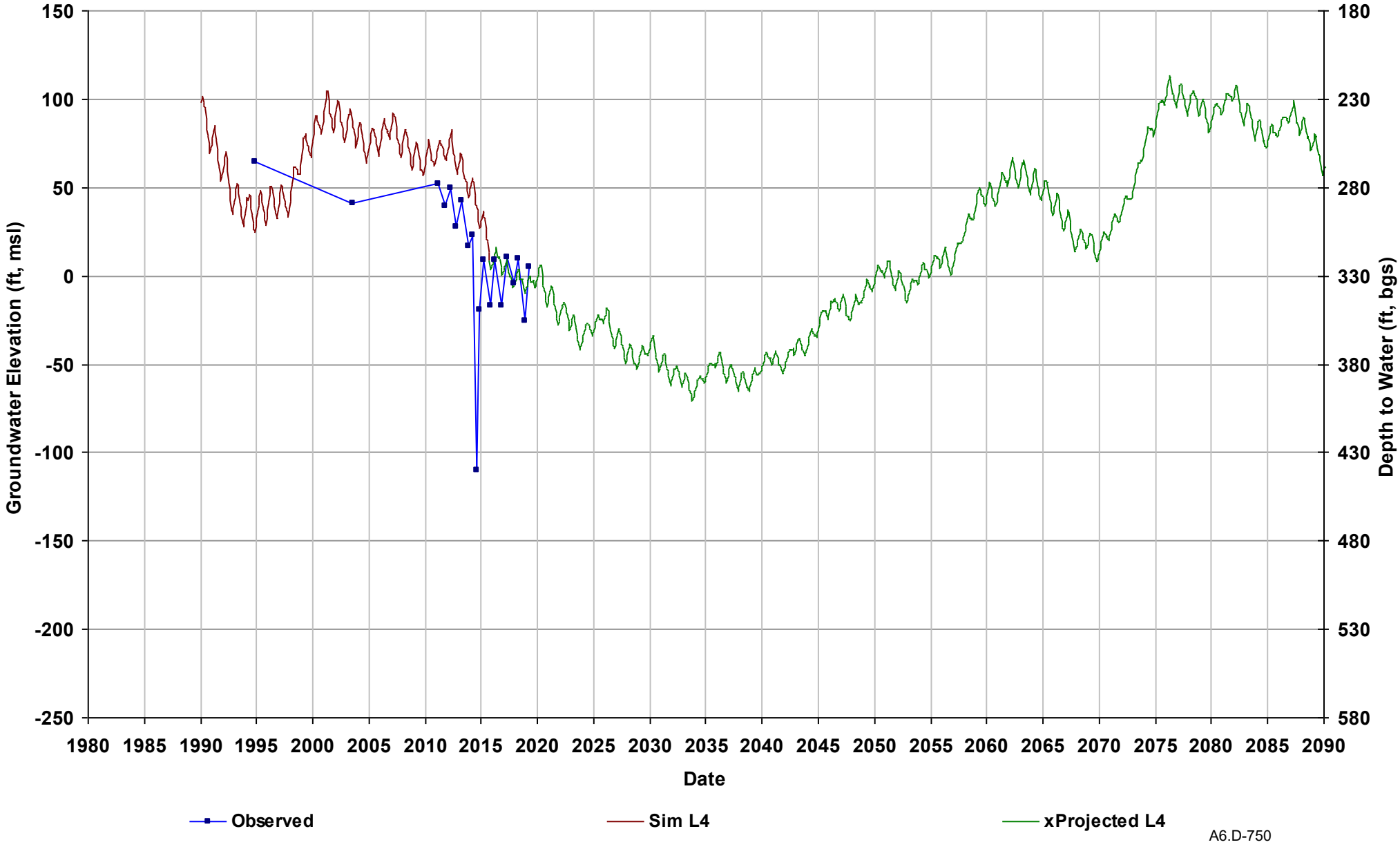
Well Name: City_of_Madera_16
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 276

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



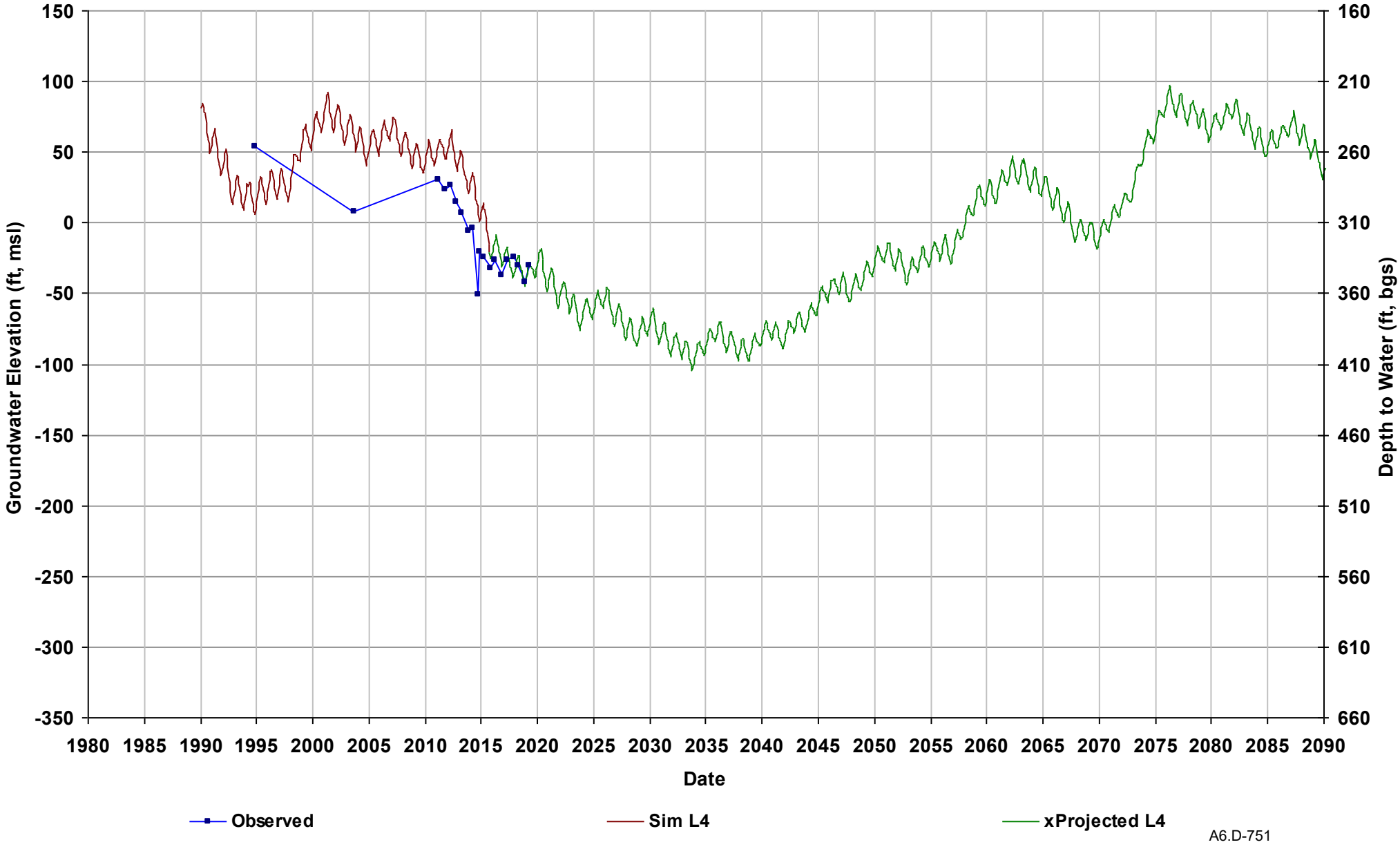
Well Name: MaderaWD-4
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 330

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



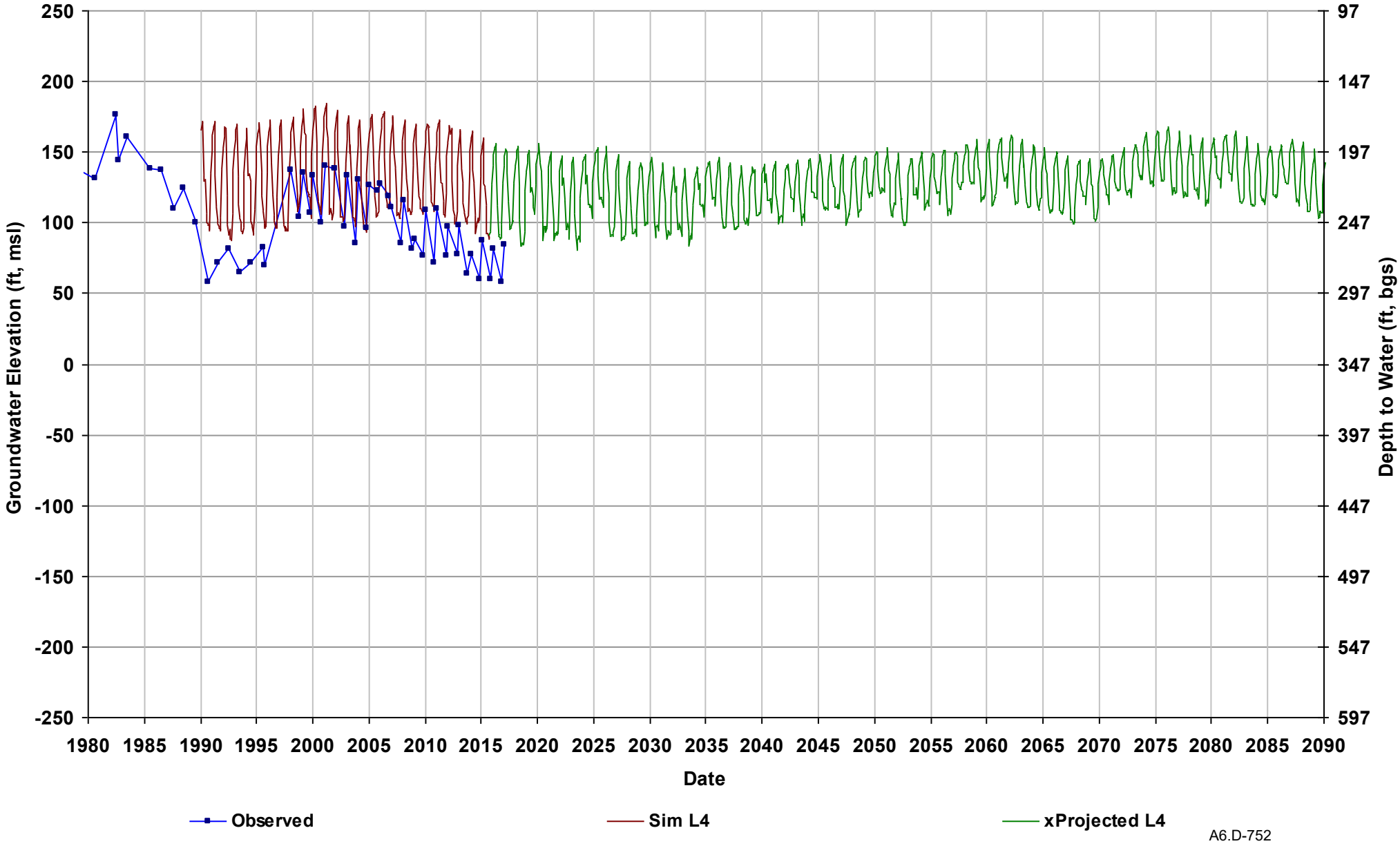
Well Name: MaderaWD-9
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 310

Total Depth (ft): 536
Perf Top (ft): 200
Perf Bottom (ft): 536
Top Model Layer: 4
Bottom Model Layer: 4



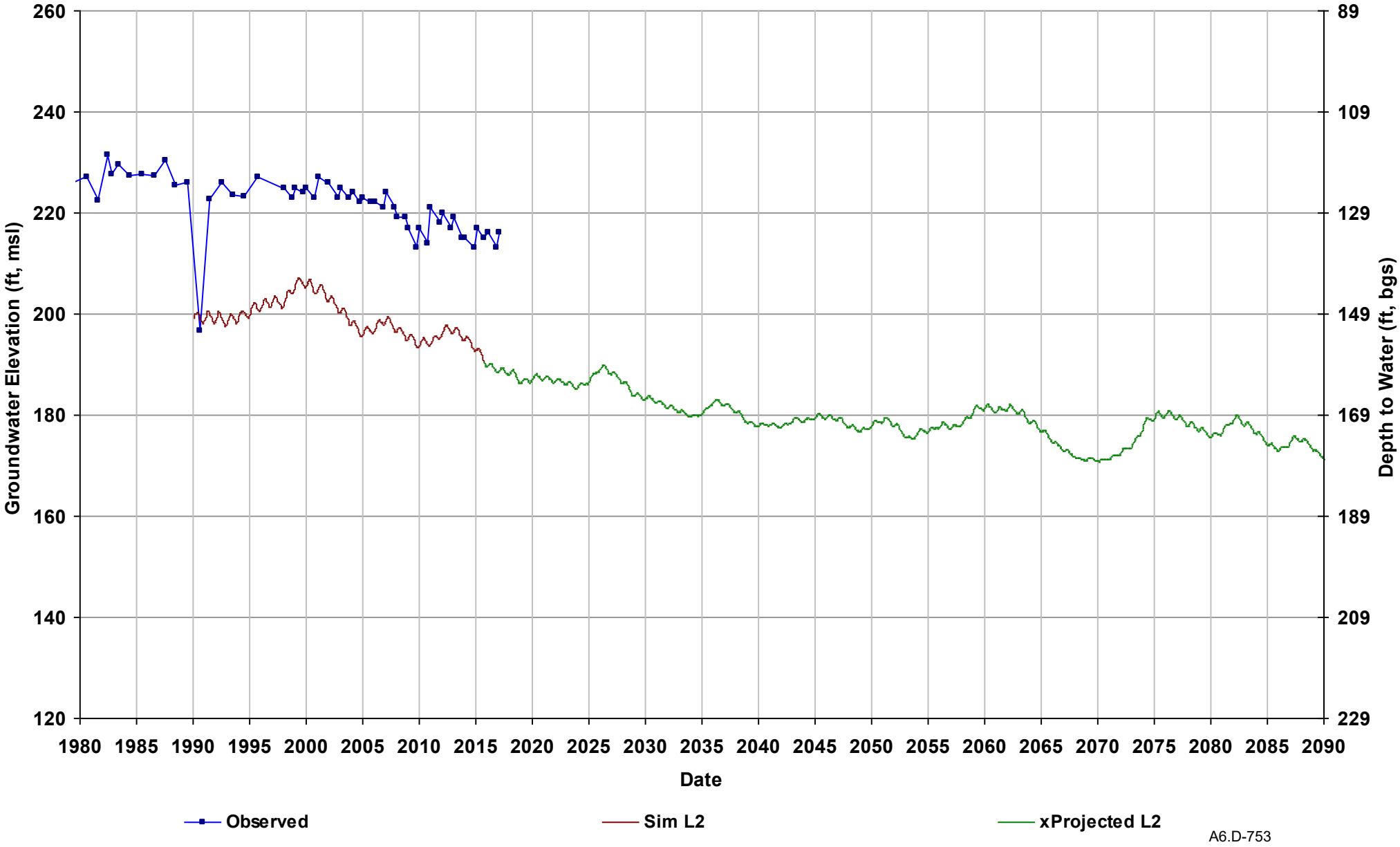
Well Name: RootCreekWD-113
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 346

Total Depth (ft): 495
Perf Top (ft): 240
Perf Bottom (ft): 492
Top Model Layer: 4
Bottom Model Layer: 4



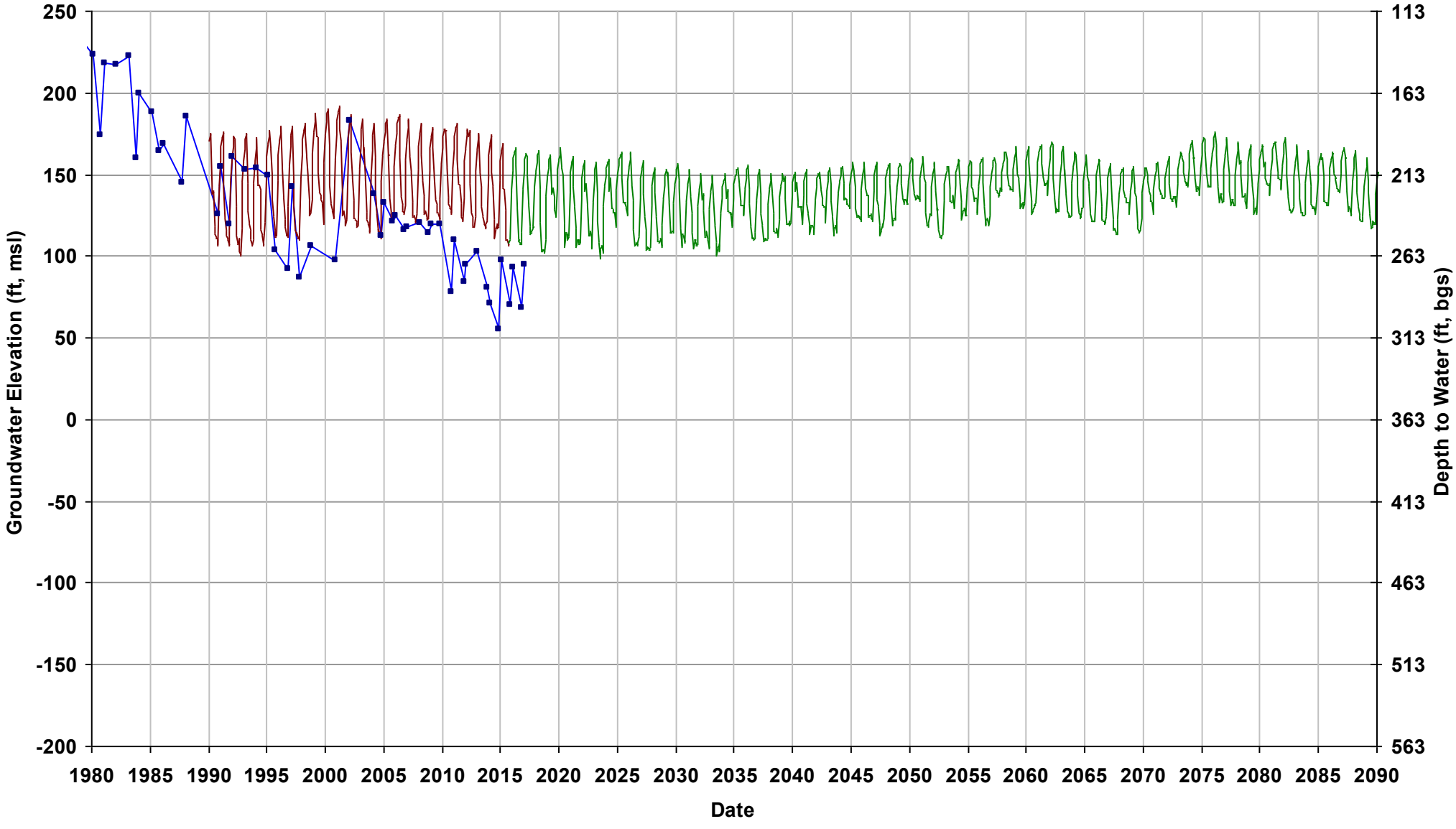
Well Name: RootCreekWD-22
Depth Zone: Upper; Outside CC
Subbasin: Madera
GSE (ft, msl): 348

Total Depth (ft): 236
Perf Top (ft): 160
Perf Bottom (ft): 228
Top Model Layer: 2
Bottom Model Layer: 2



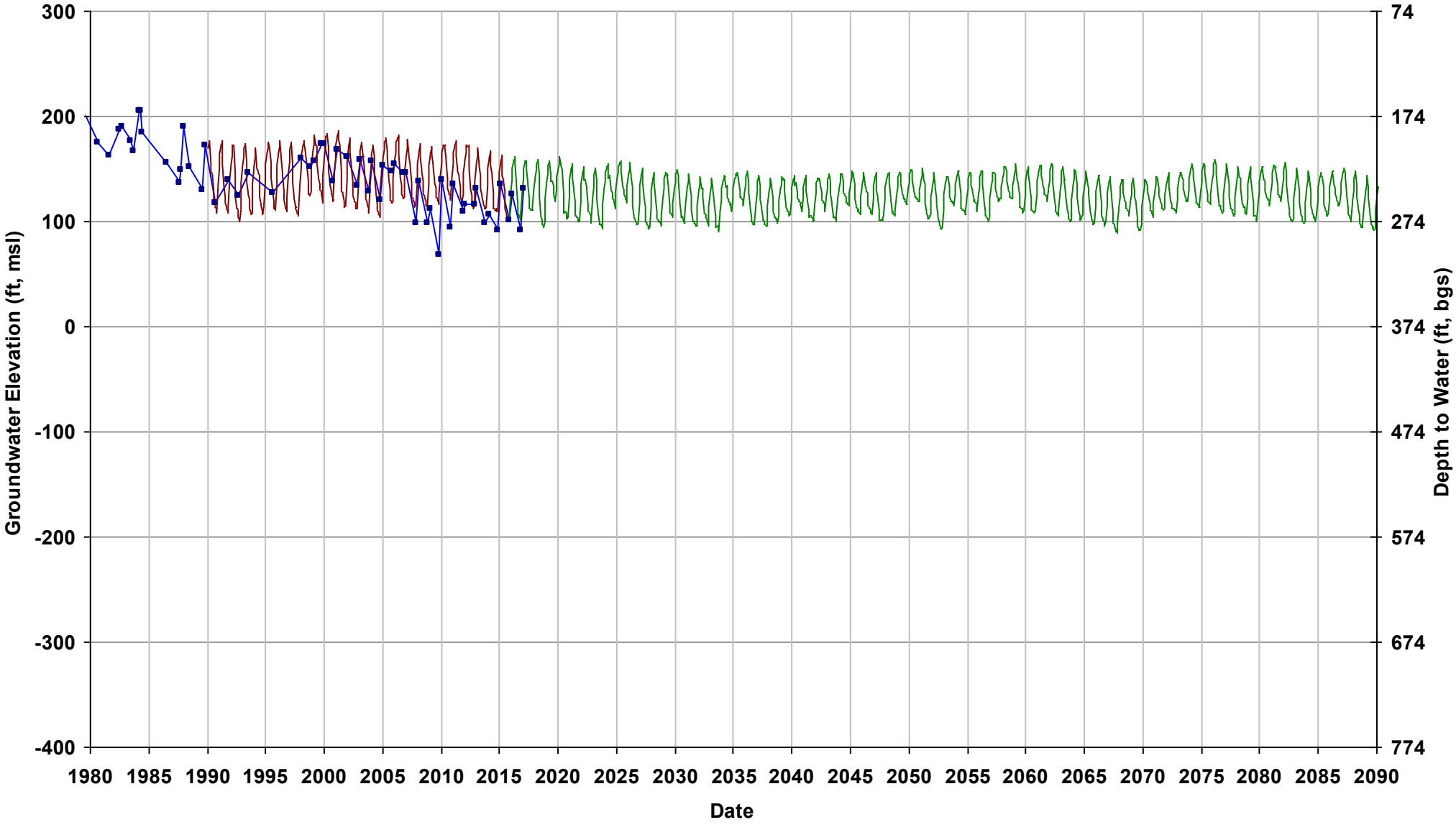
Well Name: RootCreekWD-65
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 363

Total Depth (ft): 407
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



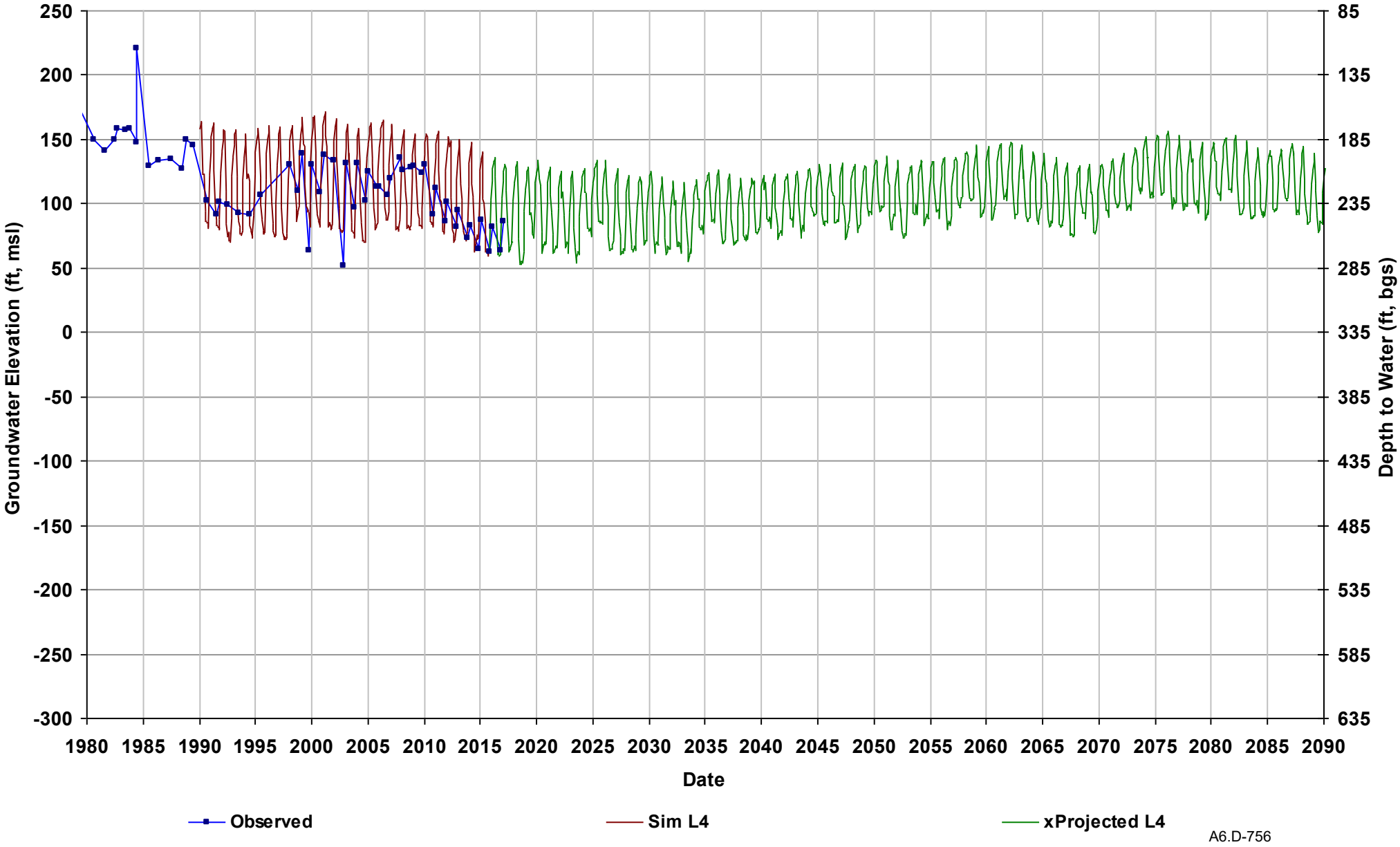
Well Name: RootCreekWD-66
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 373

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



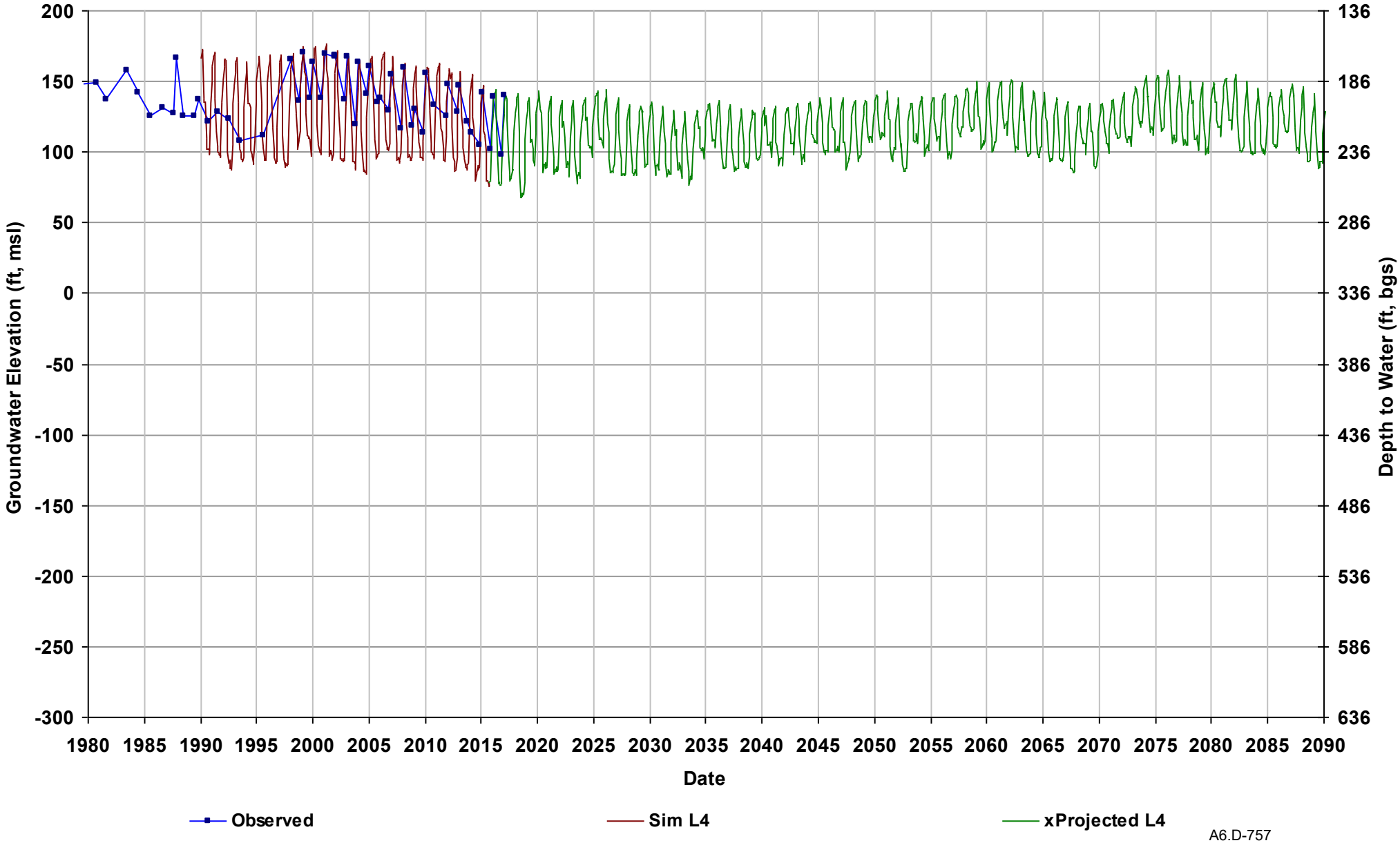
Well Name: RootCreekWD-85
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 335

Total Depth (ft): 412
Perf Top (ft): 250
Perf Bottom (ft): 408
Top Model Layer: 4
Bottom Model Layer: 4



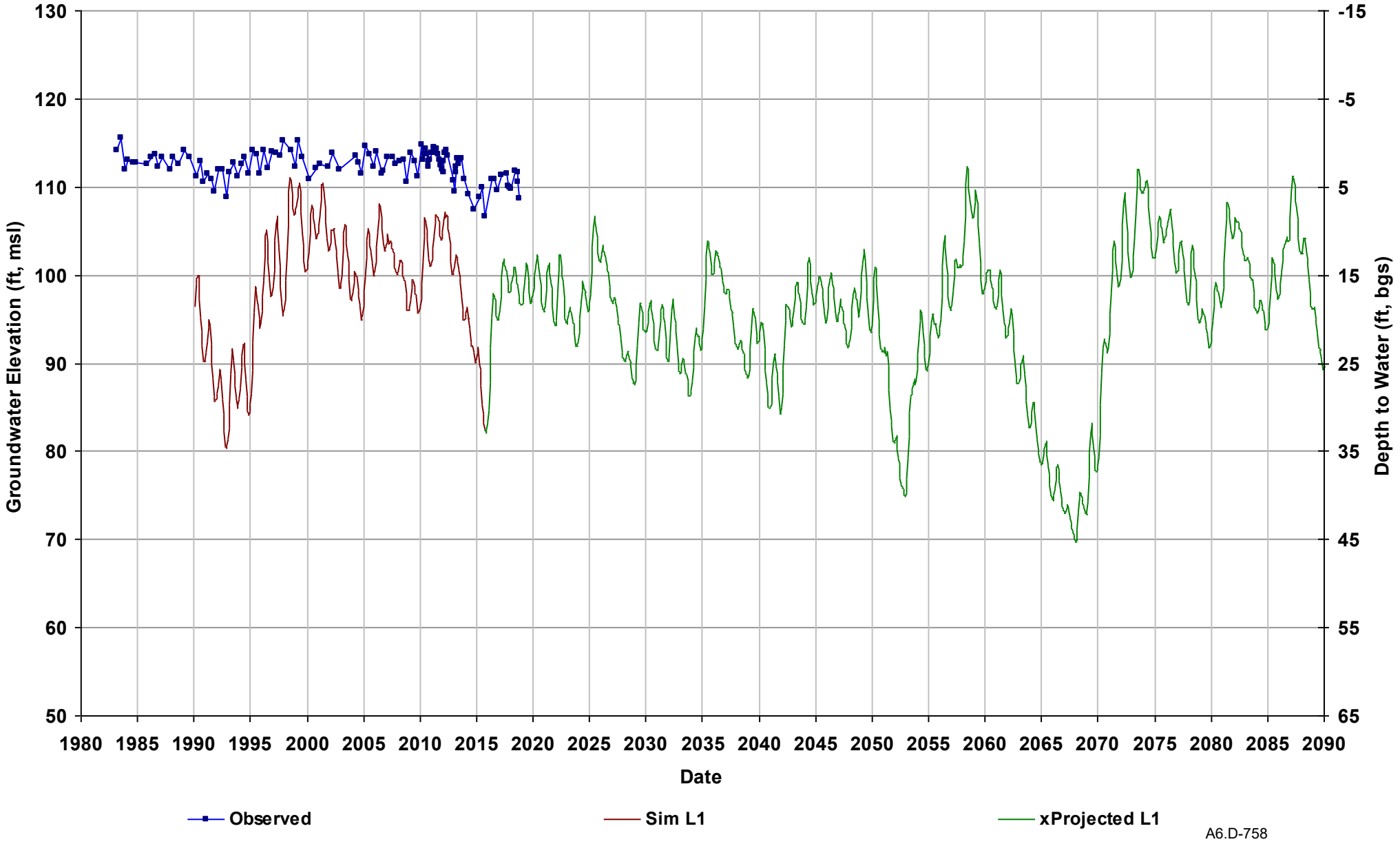
Well Name: RootCreekWD-88
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 336

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



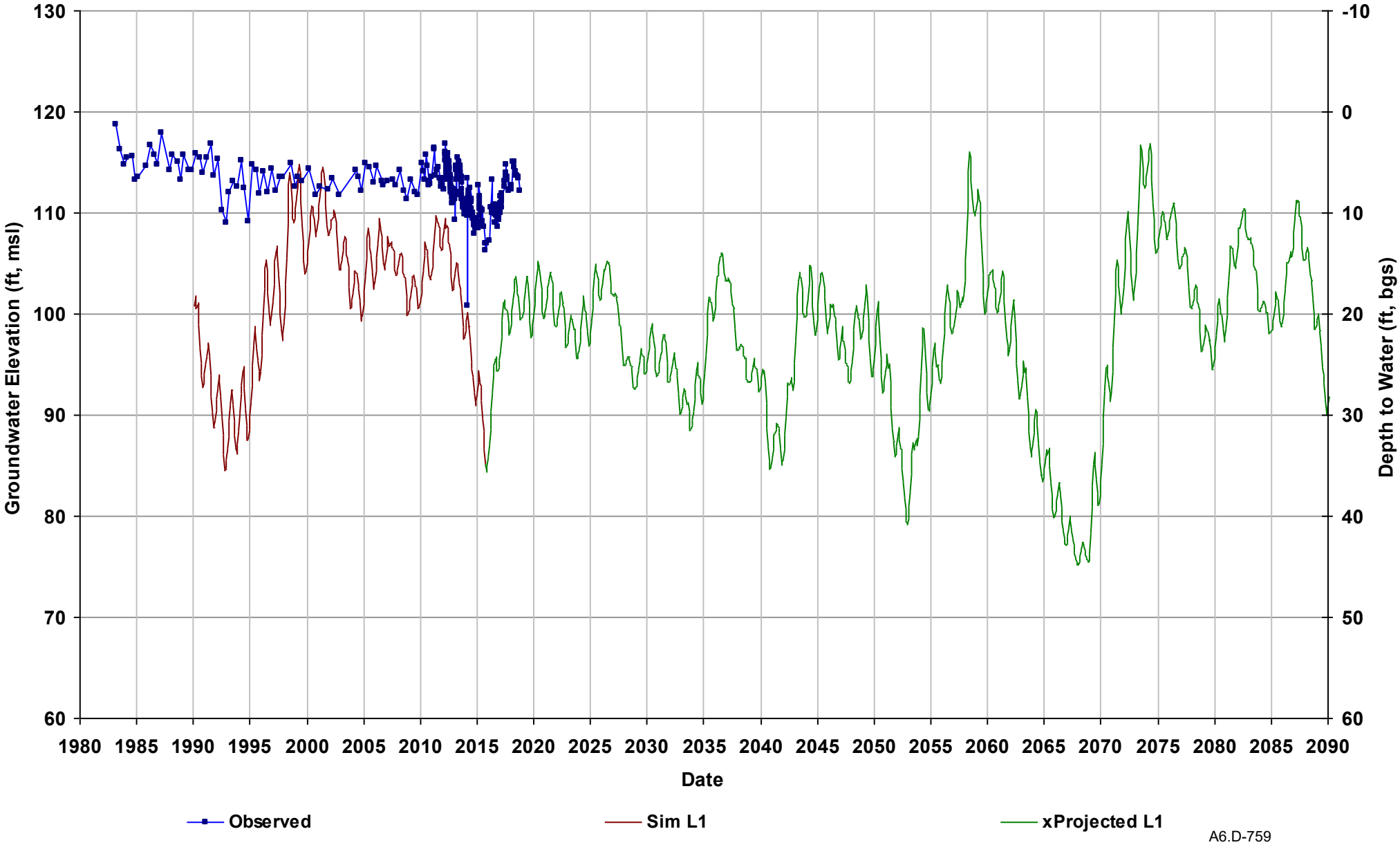
Well Name: SJRRP_129
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 114

Total Depth (ft):
Perf Top (ft): 8.2
Perf Bottom (ft): 17.2
Top Model Layer: 1
Bottom Model Layer: 1



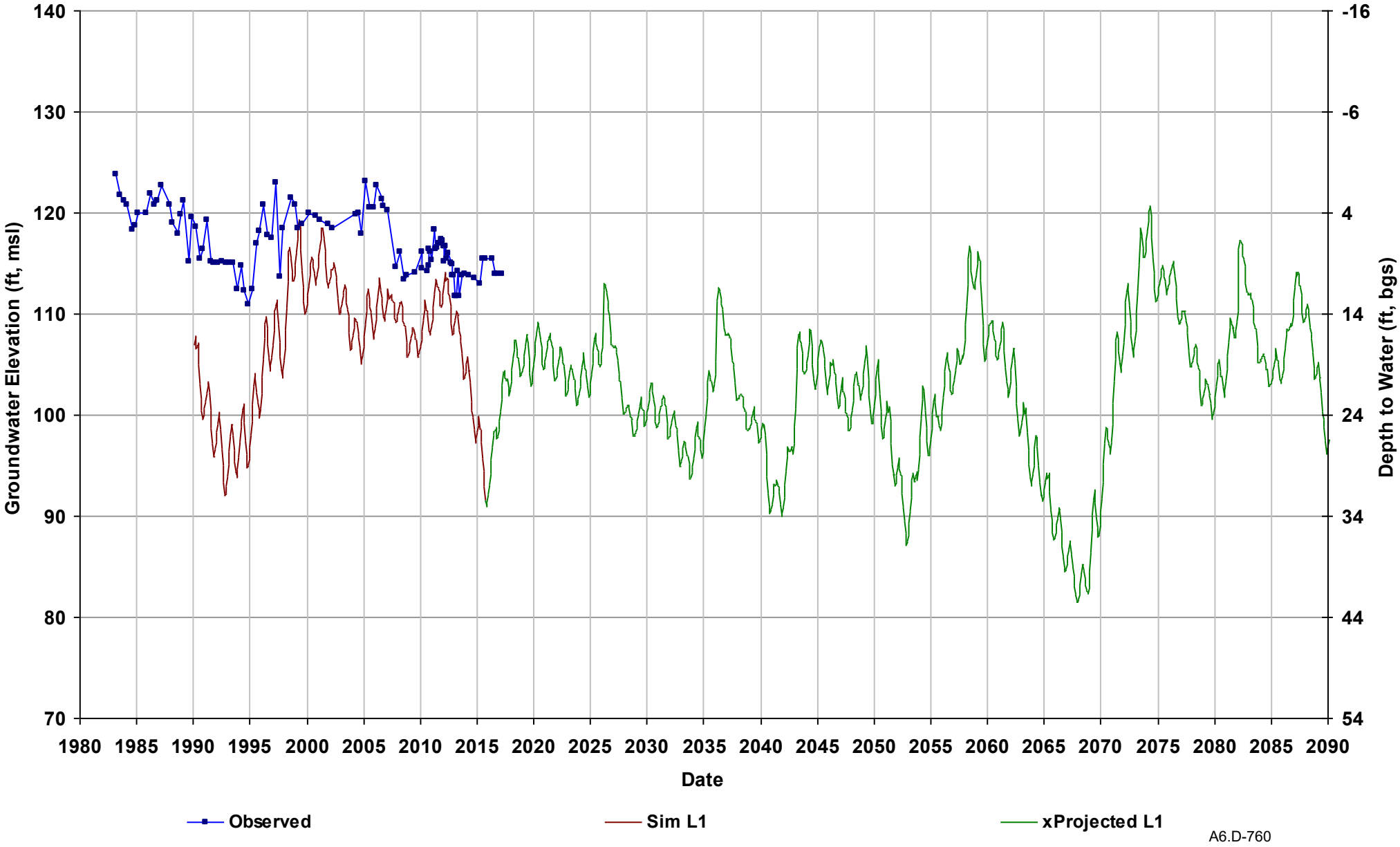
Well Name: SJRRP_135
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 120

Total Depth (ft):
Perf Top (ft): 8.4
Perf Bottom (ft): 17.4
Top Model Layer: 1
Bottom Model Layer: 1



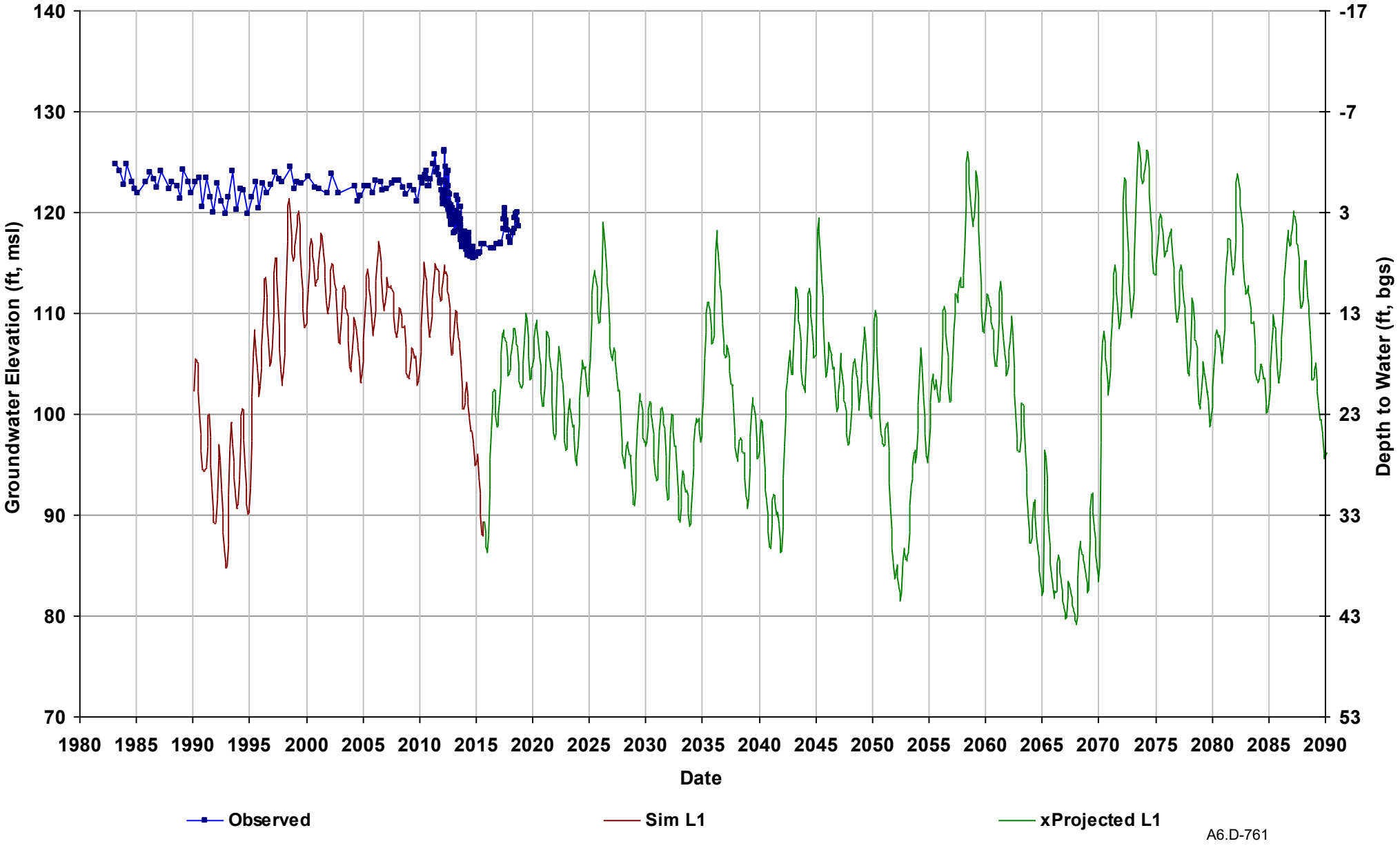
Well Name: SJRRP_140
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



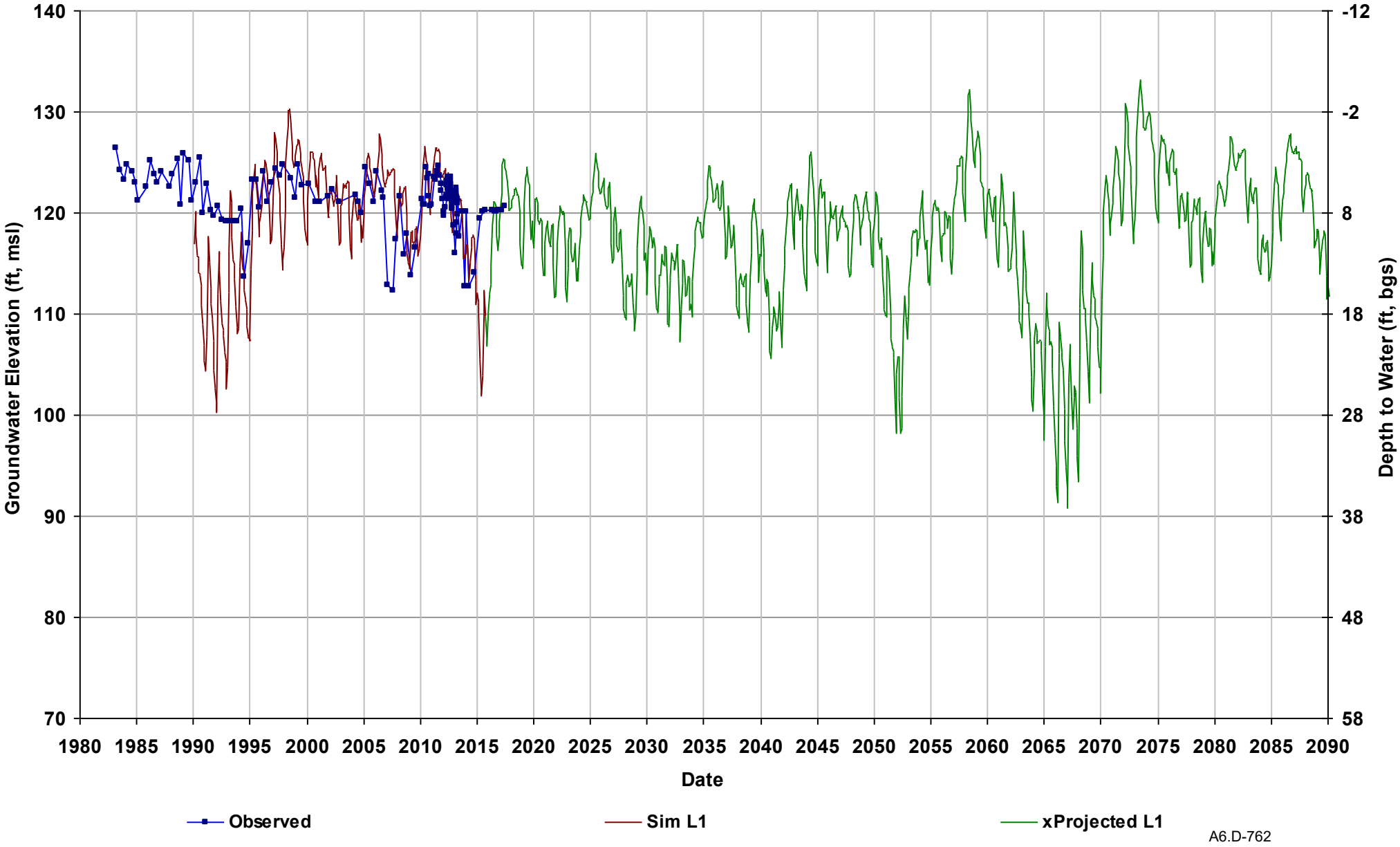
Well Name: SJRRP_145
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



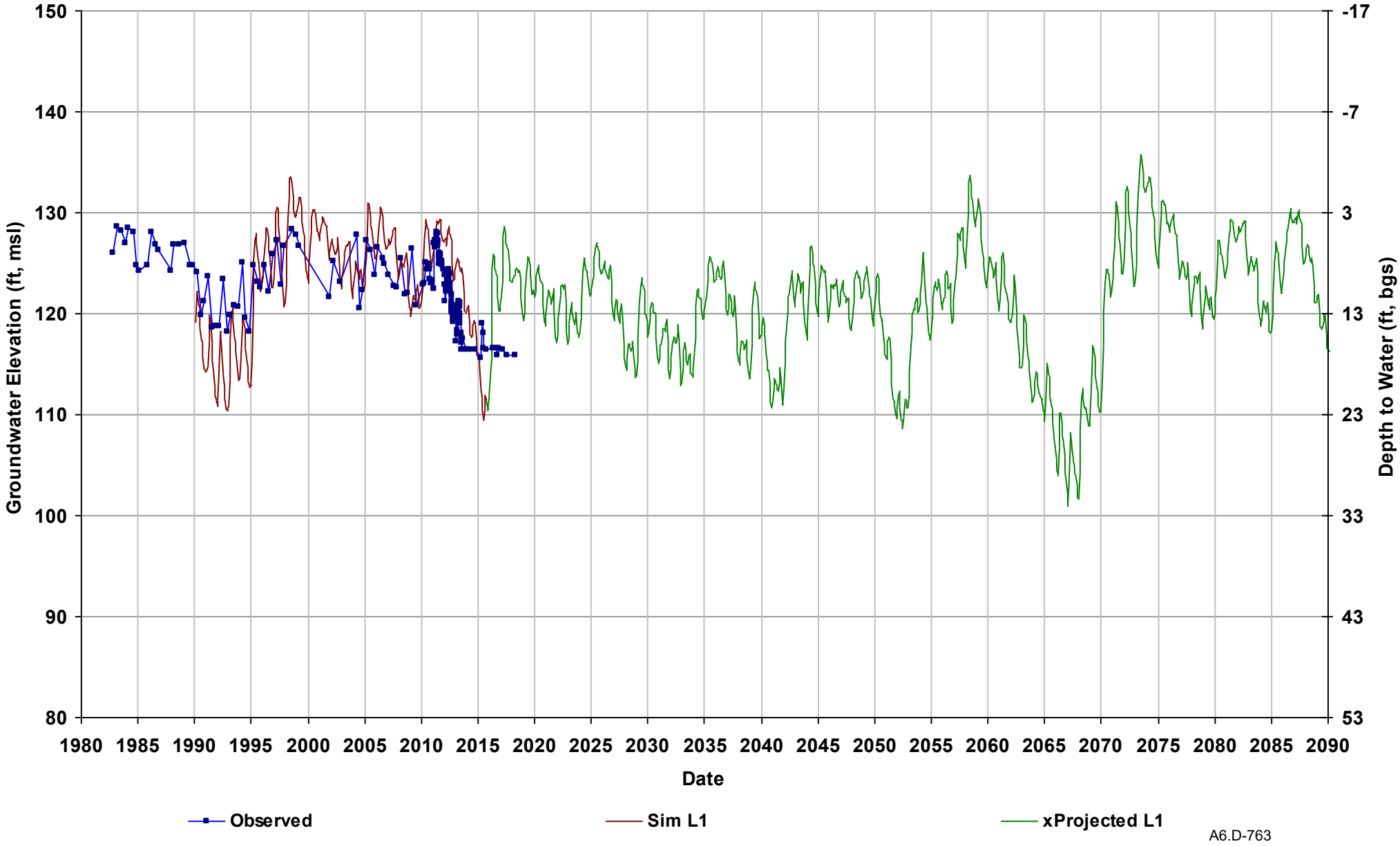
Well Name: SJRRP_151
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 127

Total Depth (ft):
Perf Top (ft): 7.5
Perf Bottom (ft): 16.5
Top Model Layer: 1
Bottom Model Layer: 1



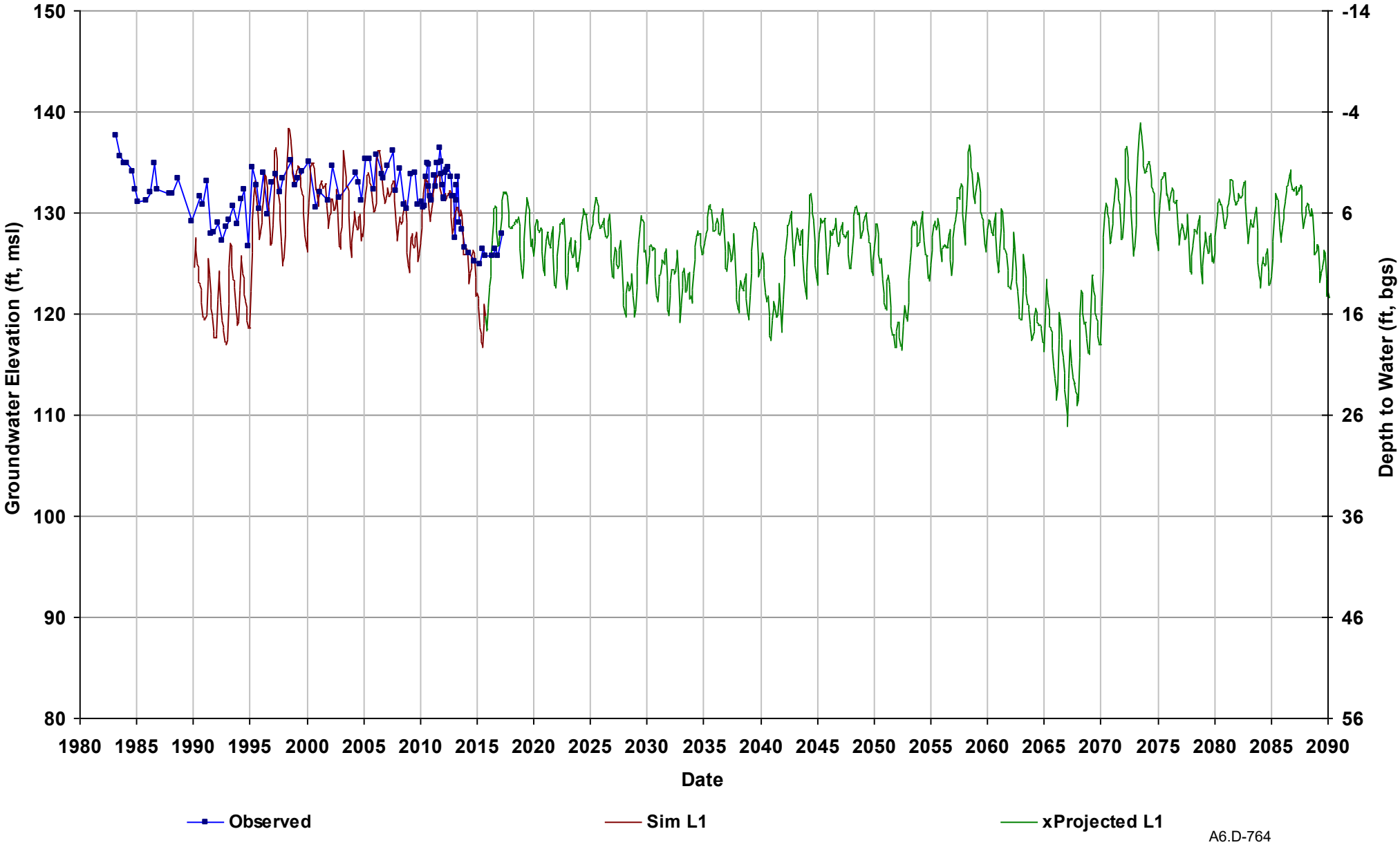
Well Name: SJRRP_155
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 7.1
Perf Bottom (ft): 16.1
Top Model Layer: 1
Bottom Model Layer: 1



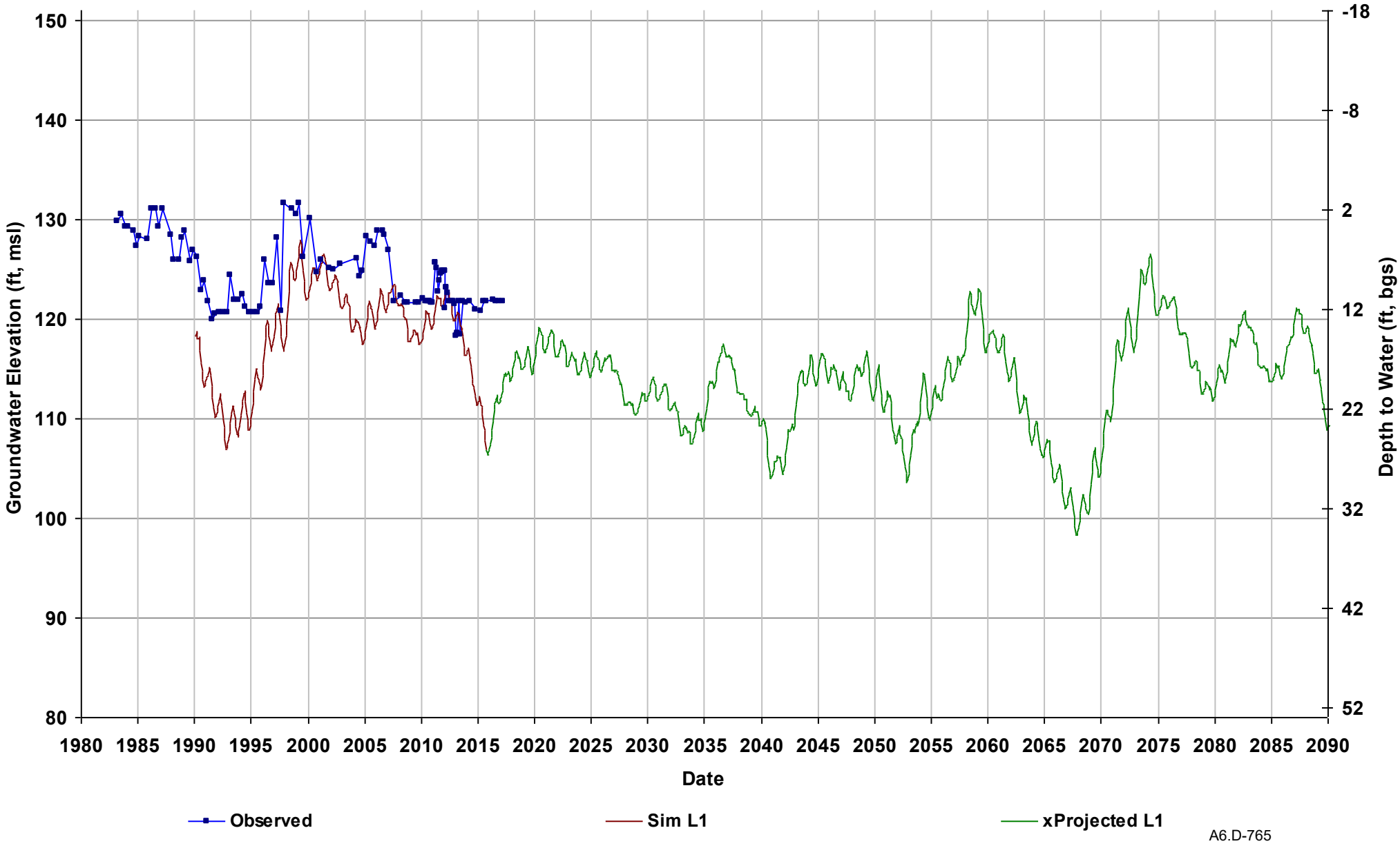
Well Name: SJRRP_156
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 135

Total Depth (ft):
Perf Top (ft): 7
Perf Bottom (ft): 16
Top Model Layer: 1
Bottom Model Layer: 1



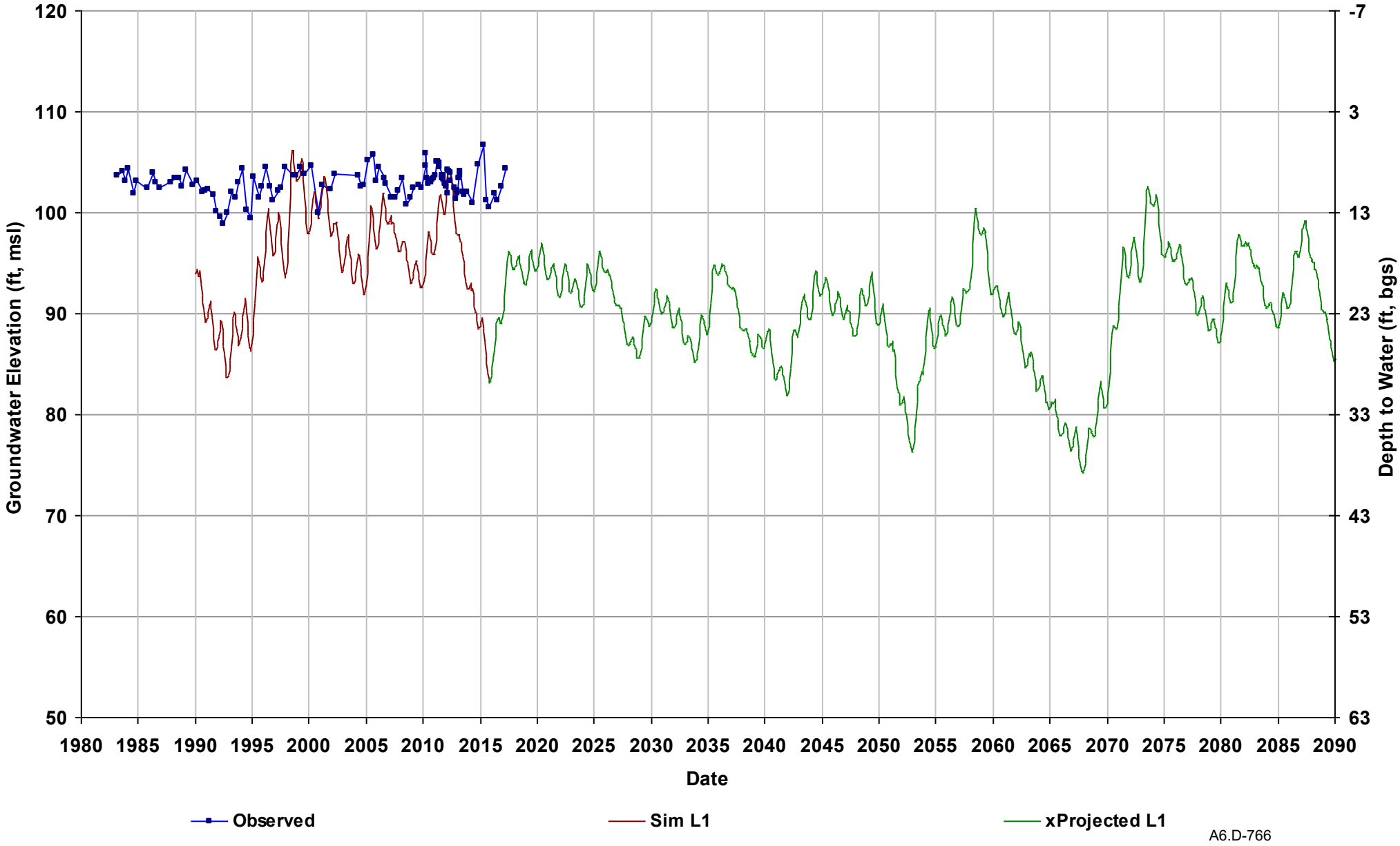
Well Name: SJRRP_166A
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



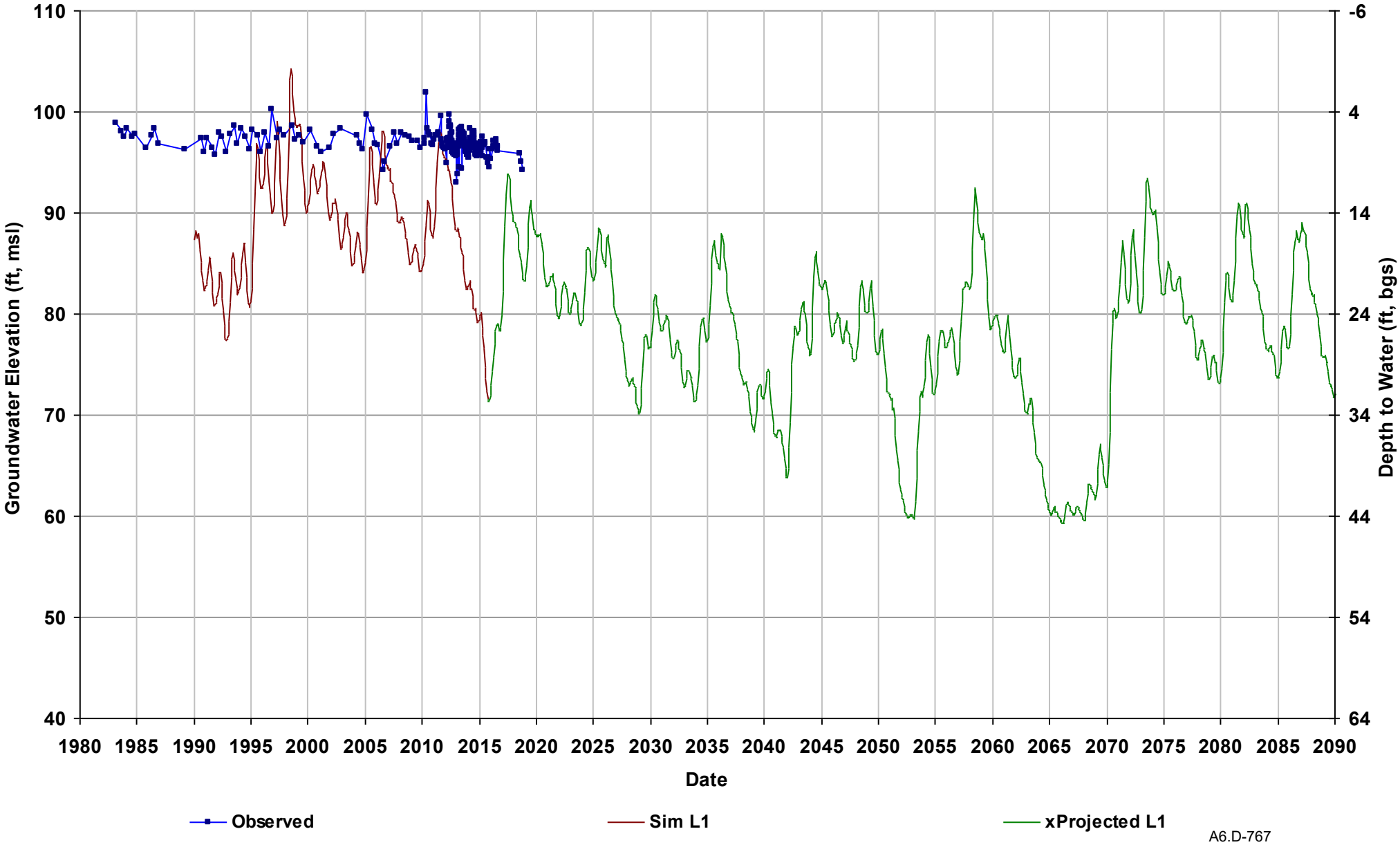
Well Name: SJRRP_181
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft):
Perf Top (ft): 9.2
Perf Bottom (ft): 18.2
Top Model Layer: 1
Bottom Model Layer: 1



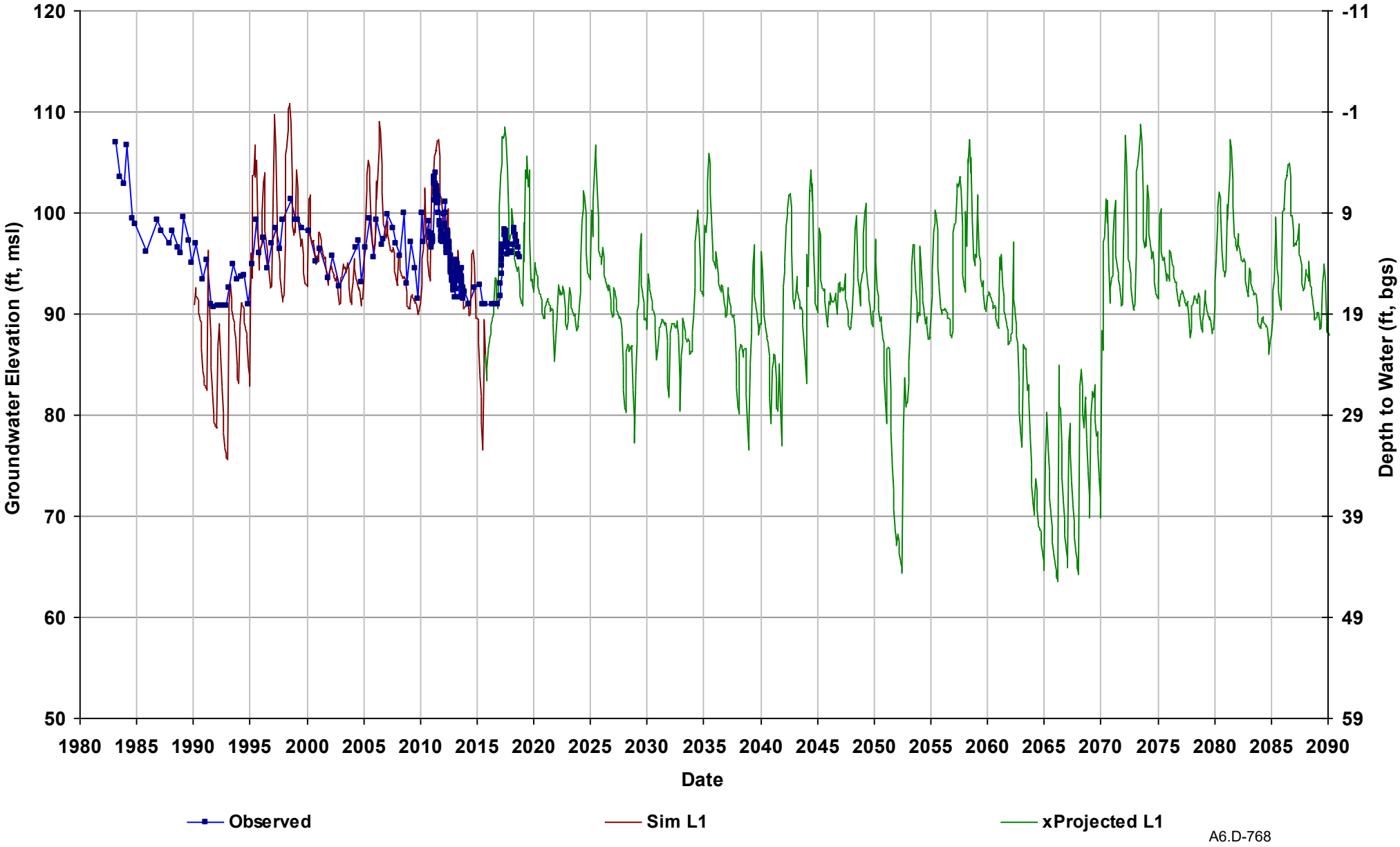
Well Name: SJRRP_184
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 104

Total Depth (ft):
Perf Top (ft): 6.7
Perf Bottom (ft): 15.7
Top Model Layer: 1
Bottom Model Layer: 1



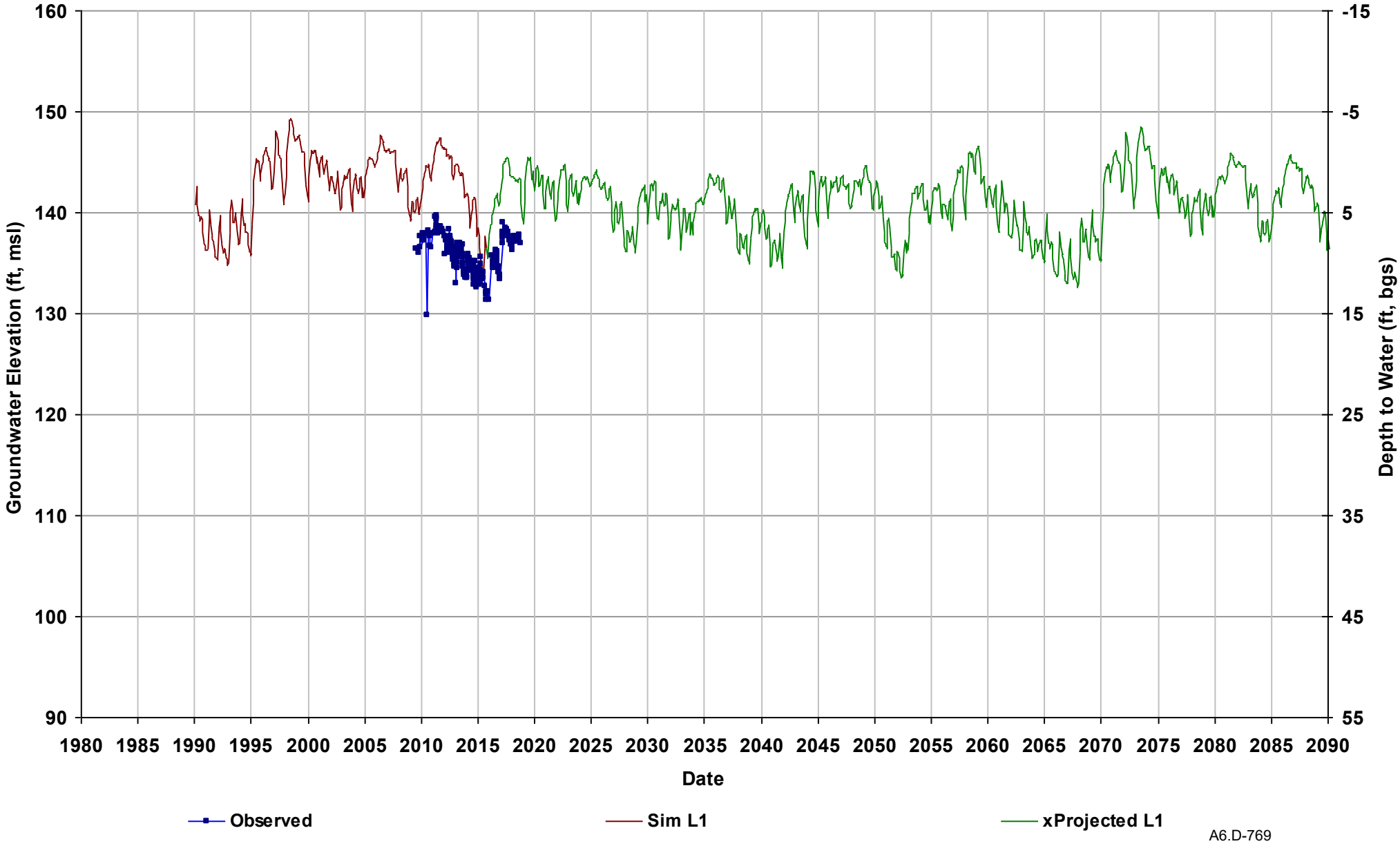
Well Name: SJRRP_191
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 108

Total Depth (ft):
Perf Top (ft): 7.9
Perf Bottom (ft): 16.9
Top Model Layer: 1
Bottom Model Layer: 1



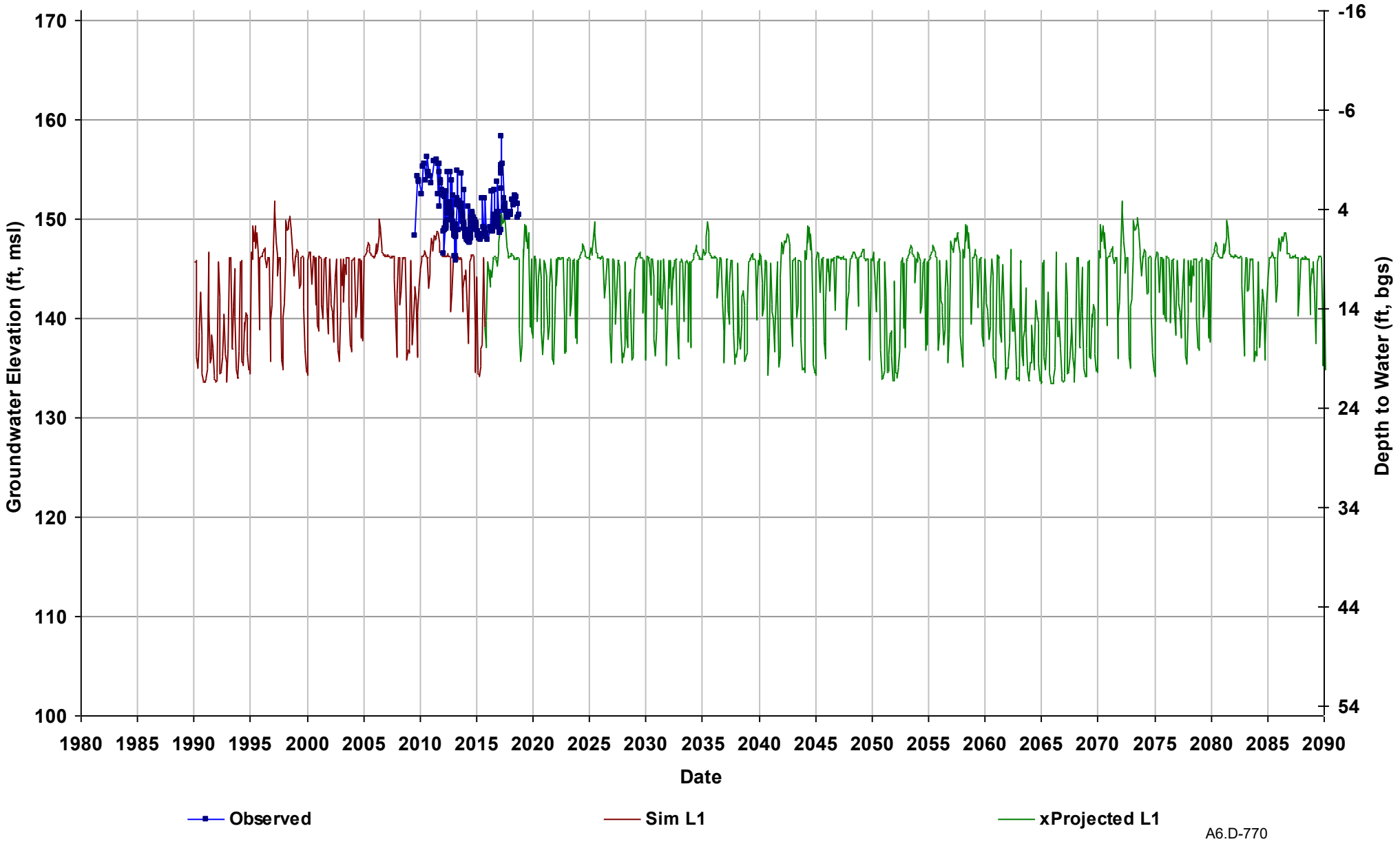
Well Name: SJRRP_355
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 145

Total Depth (ft):
Perf Top (ft): 7.7
Perf Bottom (ft): 16.7
Top Model Layer: 1
Bottom Model Layer: 1



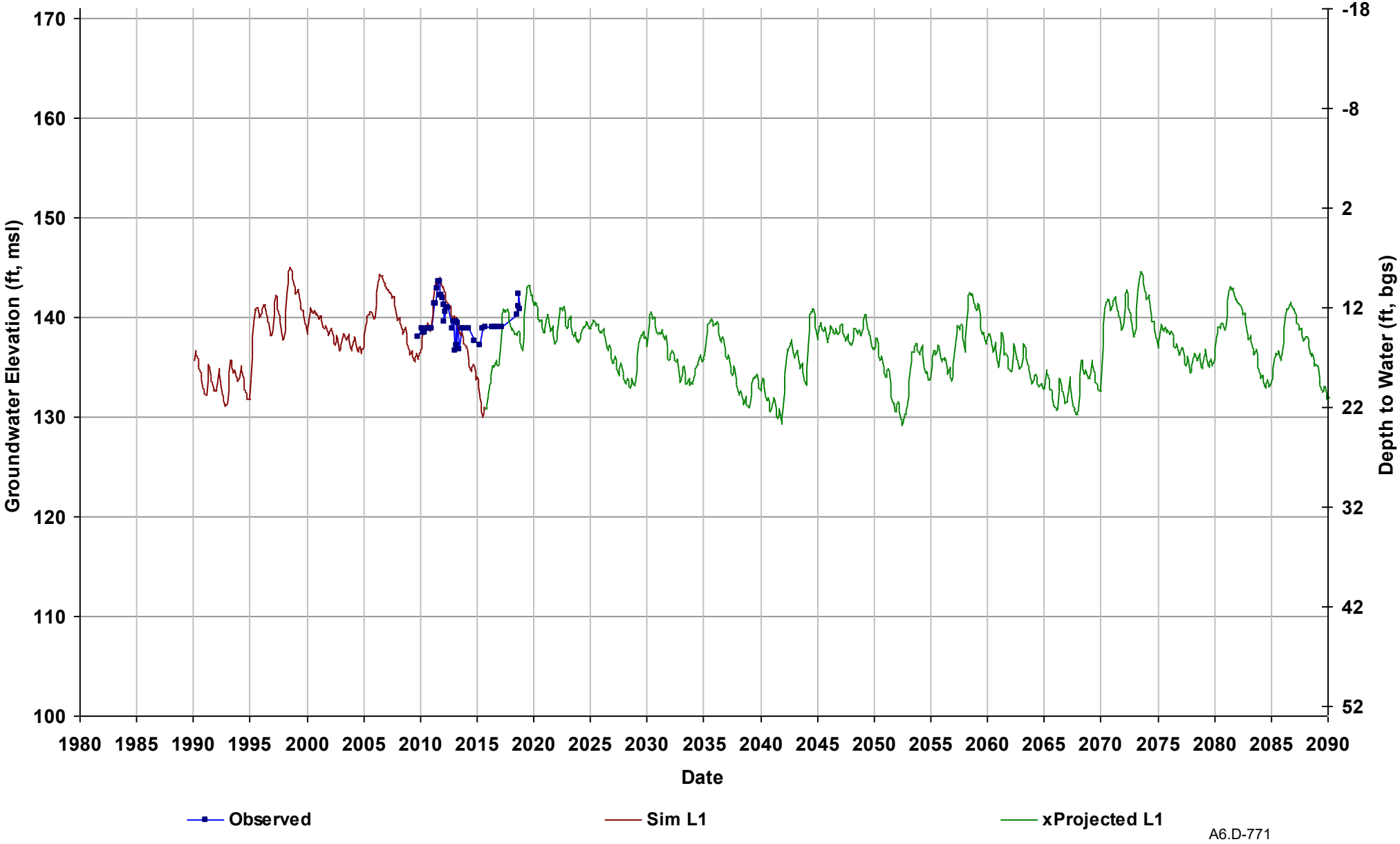
Well Name: SJRRP_364
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 154

Total Depth (ft):
Perf Top (ft): 4.4
Perf Bottom (ft): 13.4
Top Model Layer: 1
Bottom Model Layer: 1



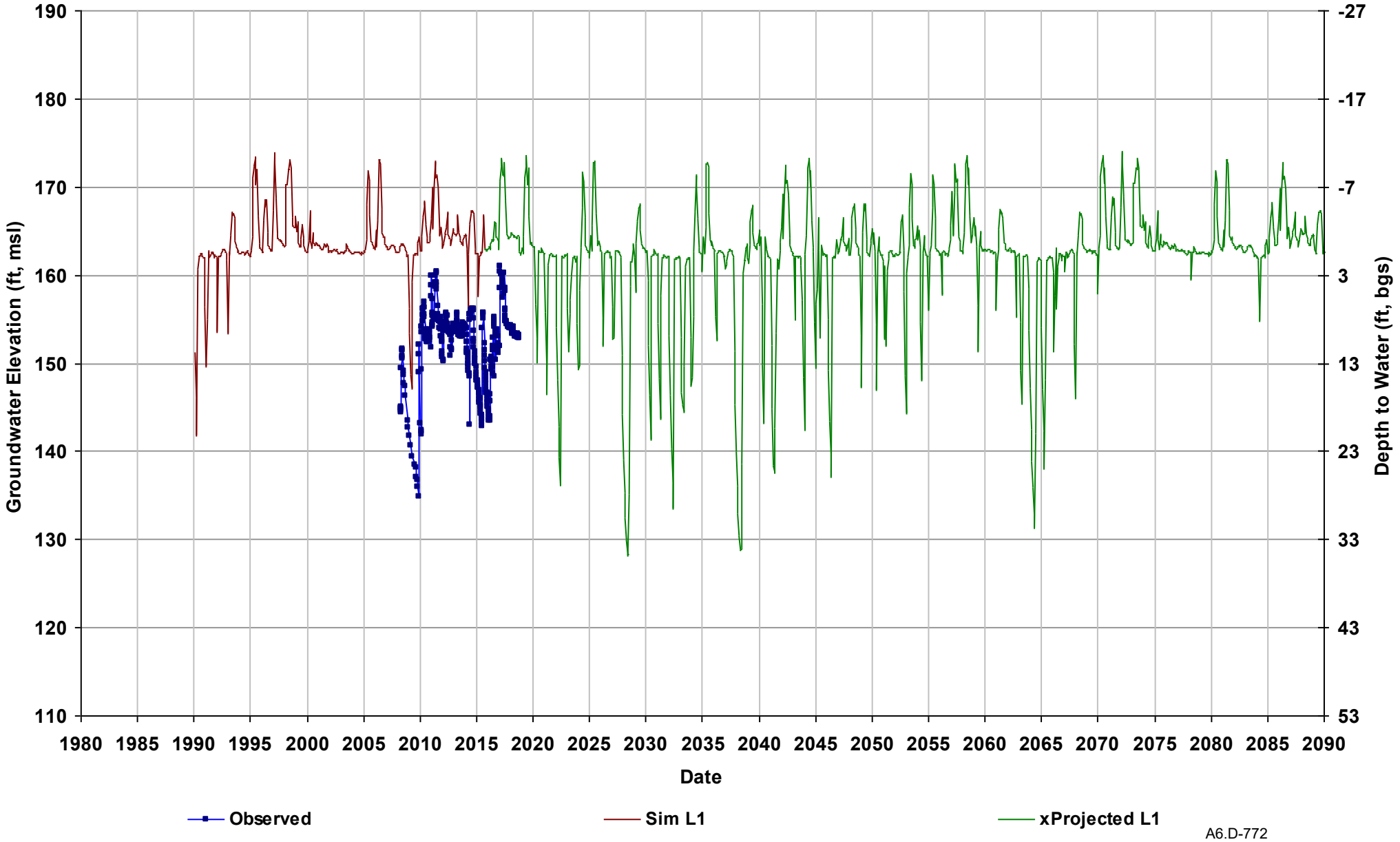
Well Name: SJRRP_366
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 152

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



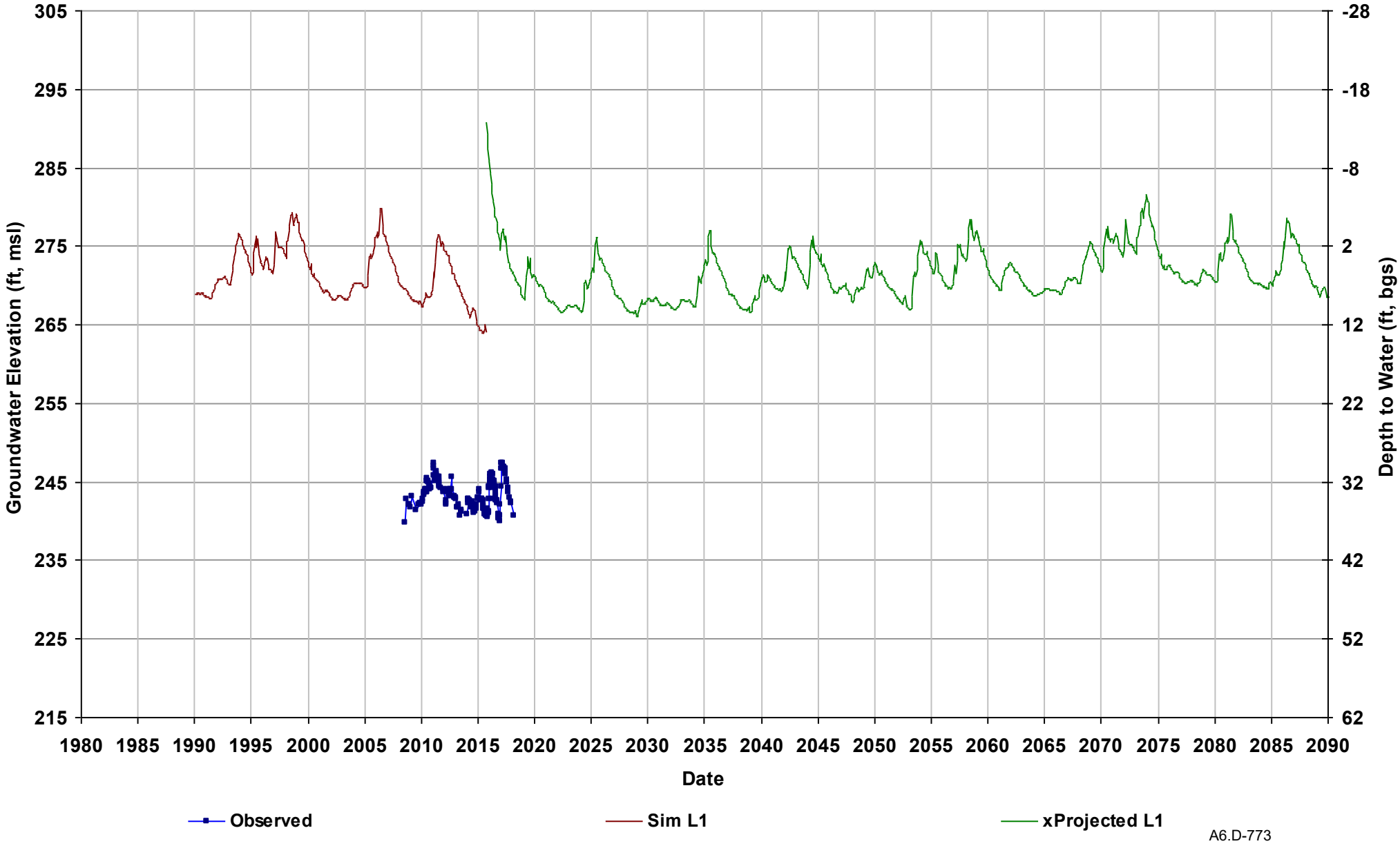
Well Name: SJRRP_FA-8
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 163

Total Depth (ft): 28
Perf Top (ft): 15
Perf Bottom (ft): 30
Top Model Layer: 1
Bottom Model Layer: 1



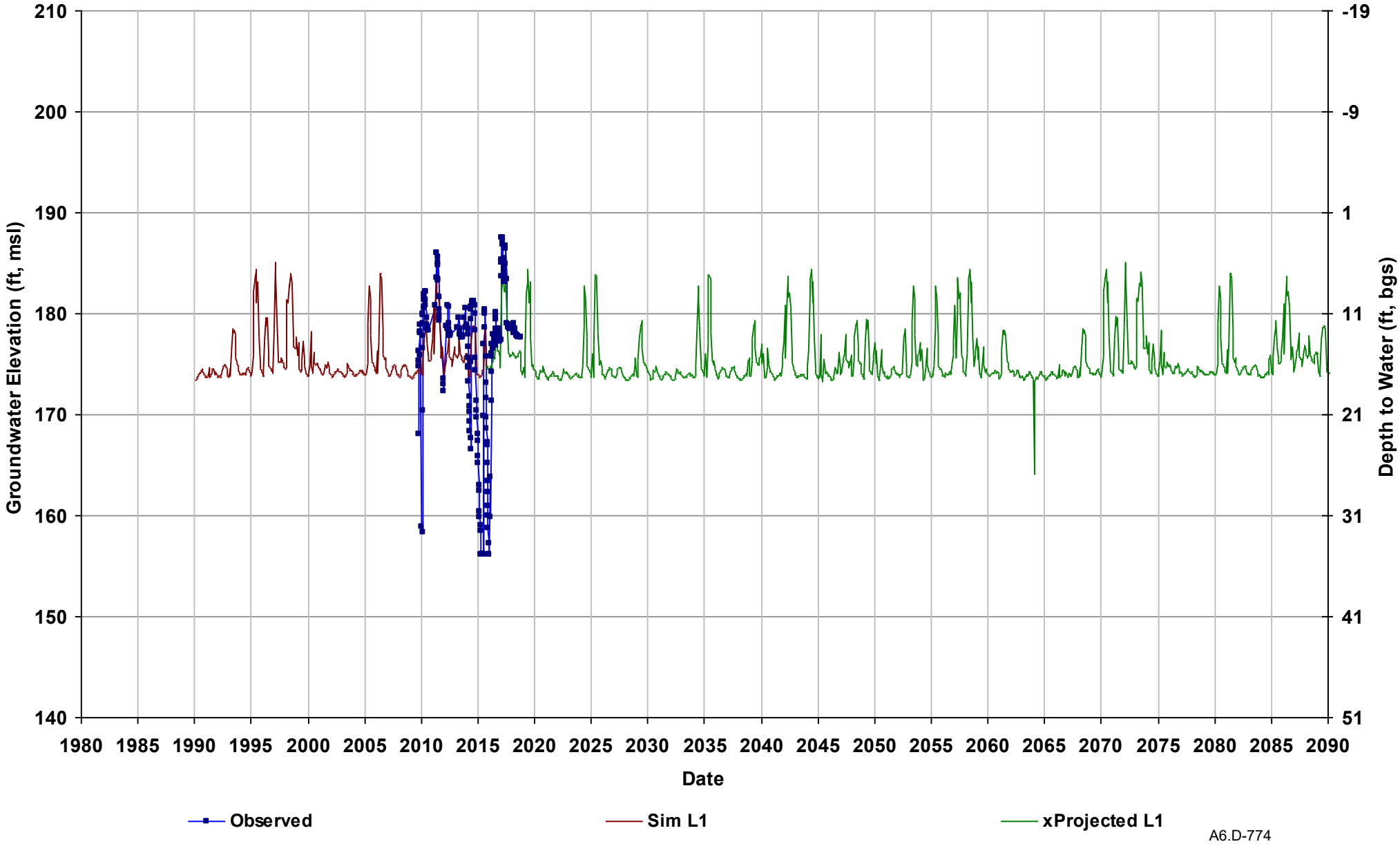
Well Name: SJRRP_JR-1
Depth Zone: Upper, Shallow GW; Ou
Subbasin: Kings
GSE (ft, msl): 277

Total Depth (ft): 38
Perf Top (ft): 37.5
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



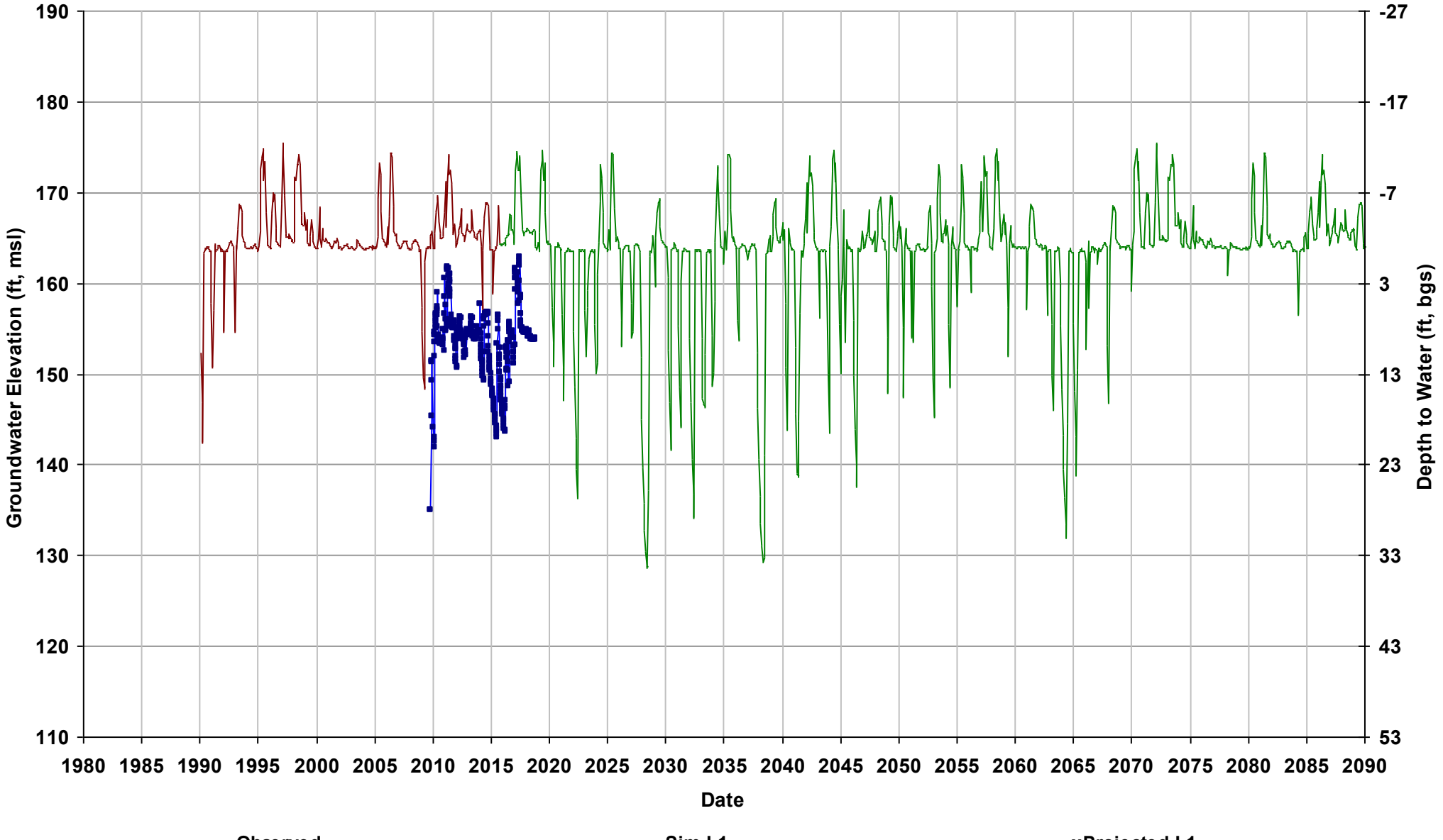
Well Name: SJRRP_MW-09-36
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 191

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



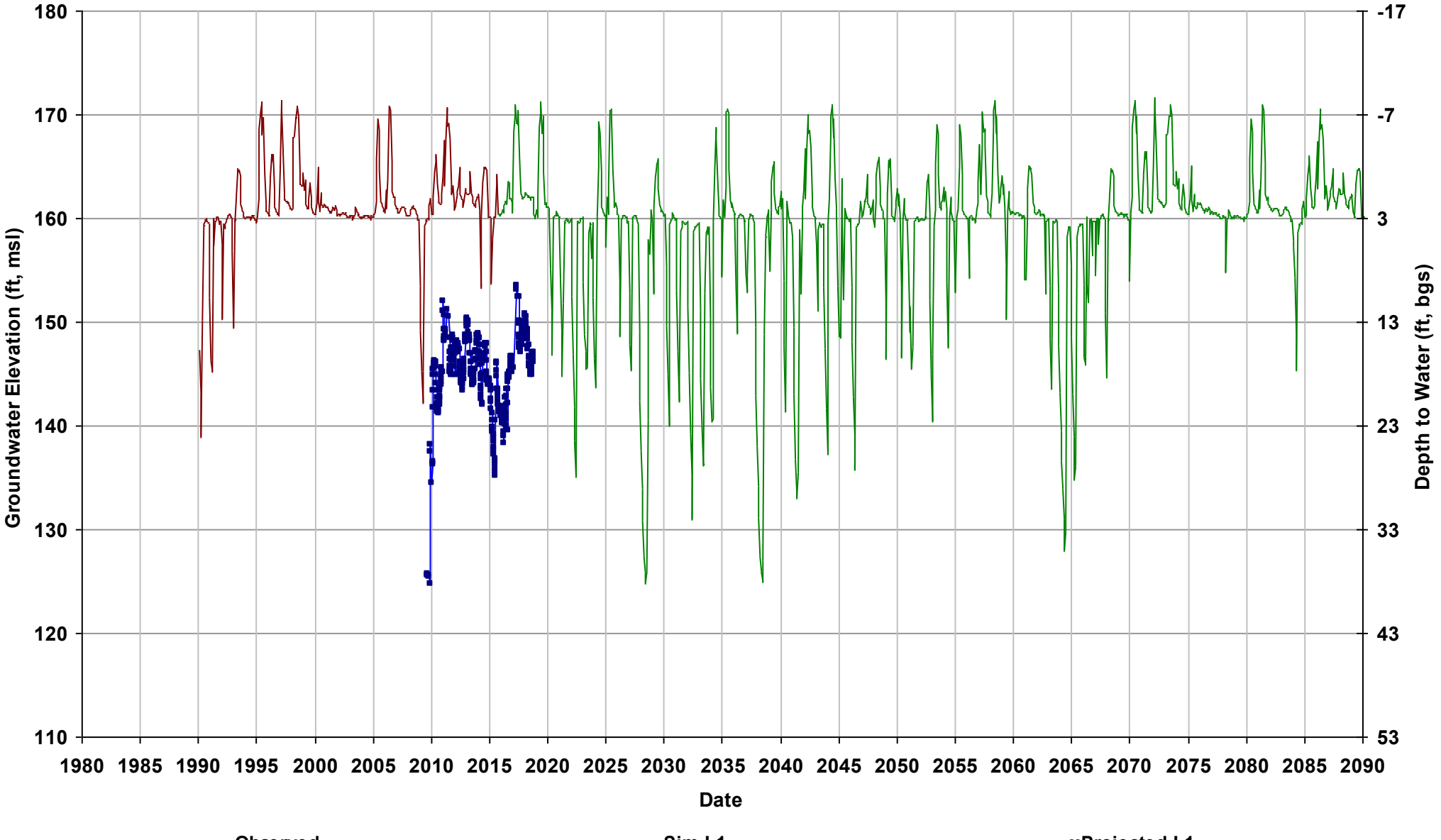
Well Name: SJRRP_MW-09-47
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 163

Total Depth (ft): 41
Perf Top (ft): 20
Perf Bottom (ft): 40
Top Model Layer: 1
Bottom Model Layer: 1



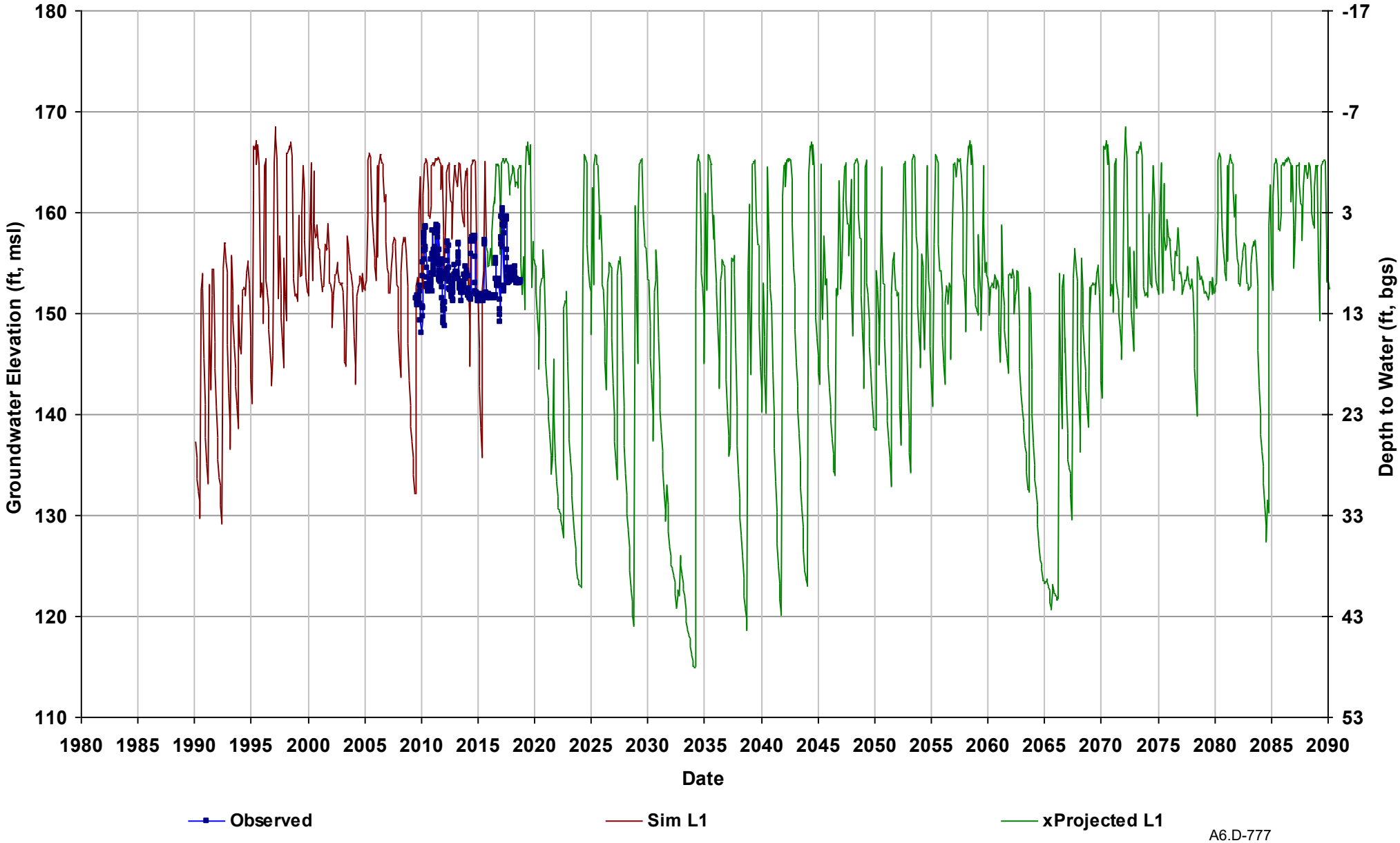
Well Name: SJRRP_MW-09-49
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 163

Total Depth (ft): 60
Perf Top (ft): 50
Perf Bottom (ft): 60
Top Model Layer: 1
Bottom Model Layer: 1



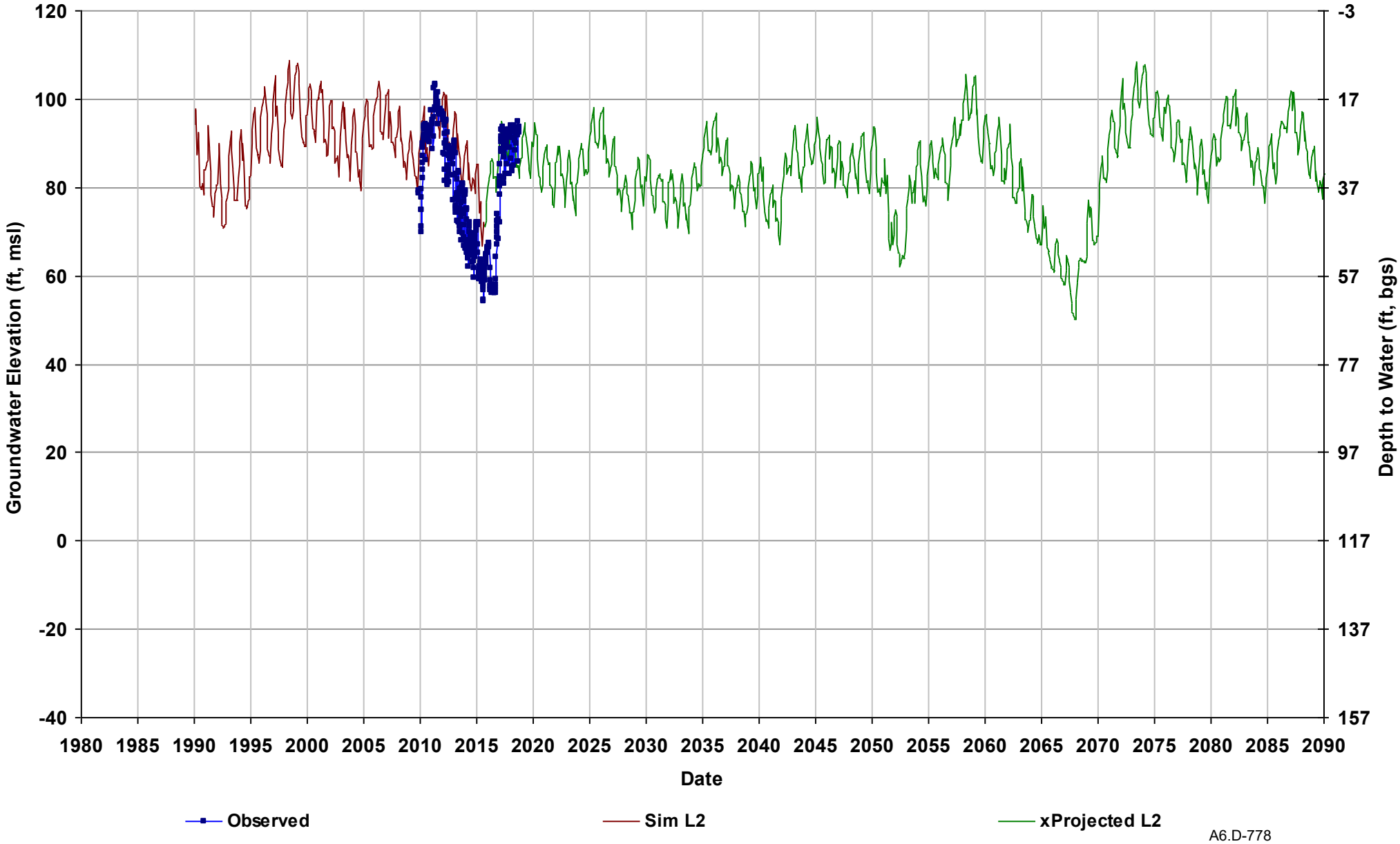
Well Name: SJRRP_MW-09-55B
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 163

Total Depth (ft): 15
Perf Top (ft): 10
Perf Bottom (ft): 15
Top Model Layer: 1
Bottom Model Layer: 1



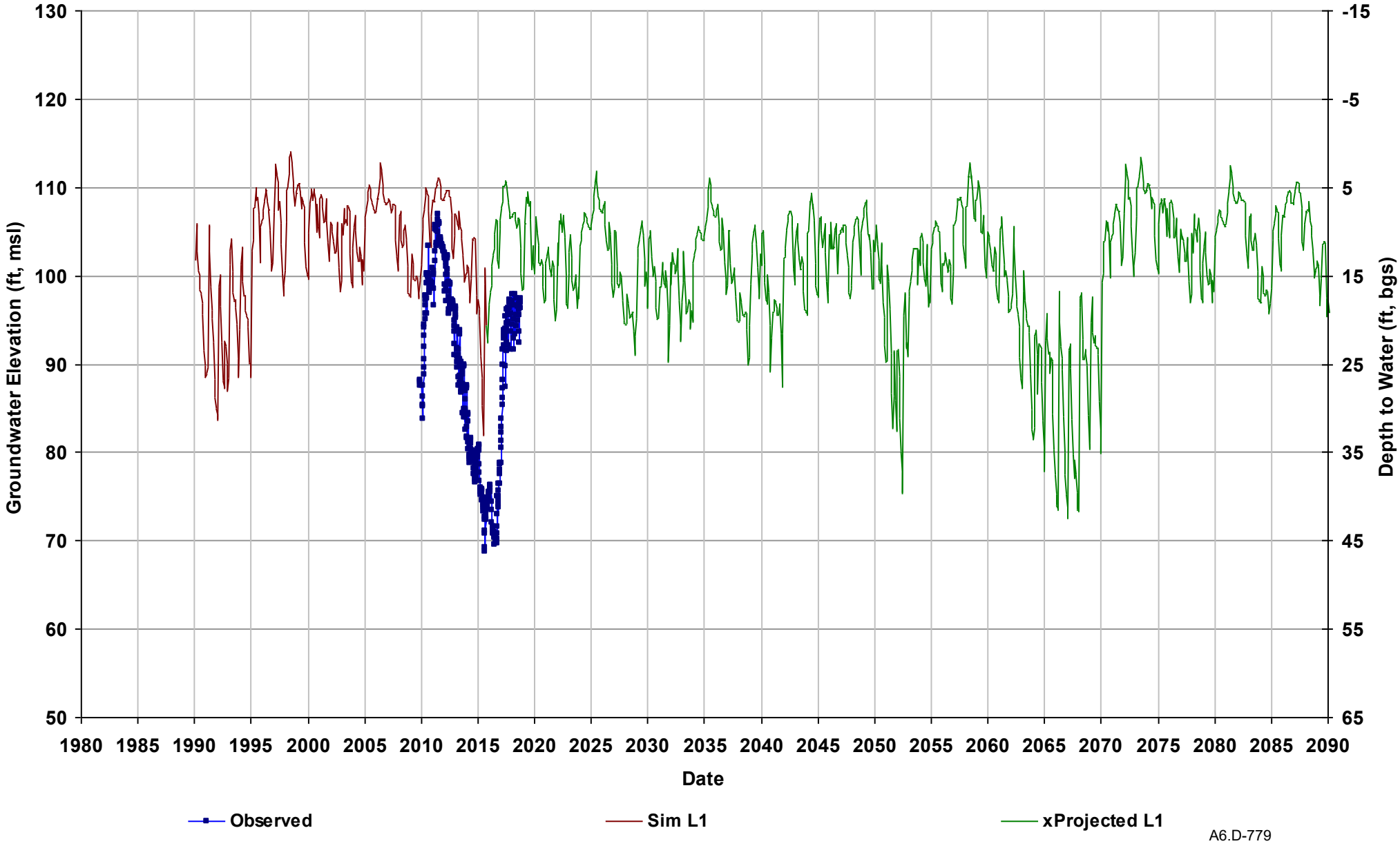
Well Name: SJRRP_MW-09-86
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 117

Total Depth (ft): 72
Perf Top (ft): 52
Perf Bottom (ft): 72
Top Model Layer: 2
Bottom Model Layer: 2



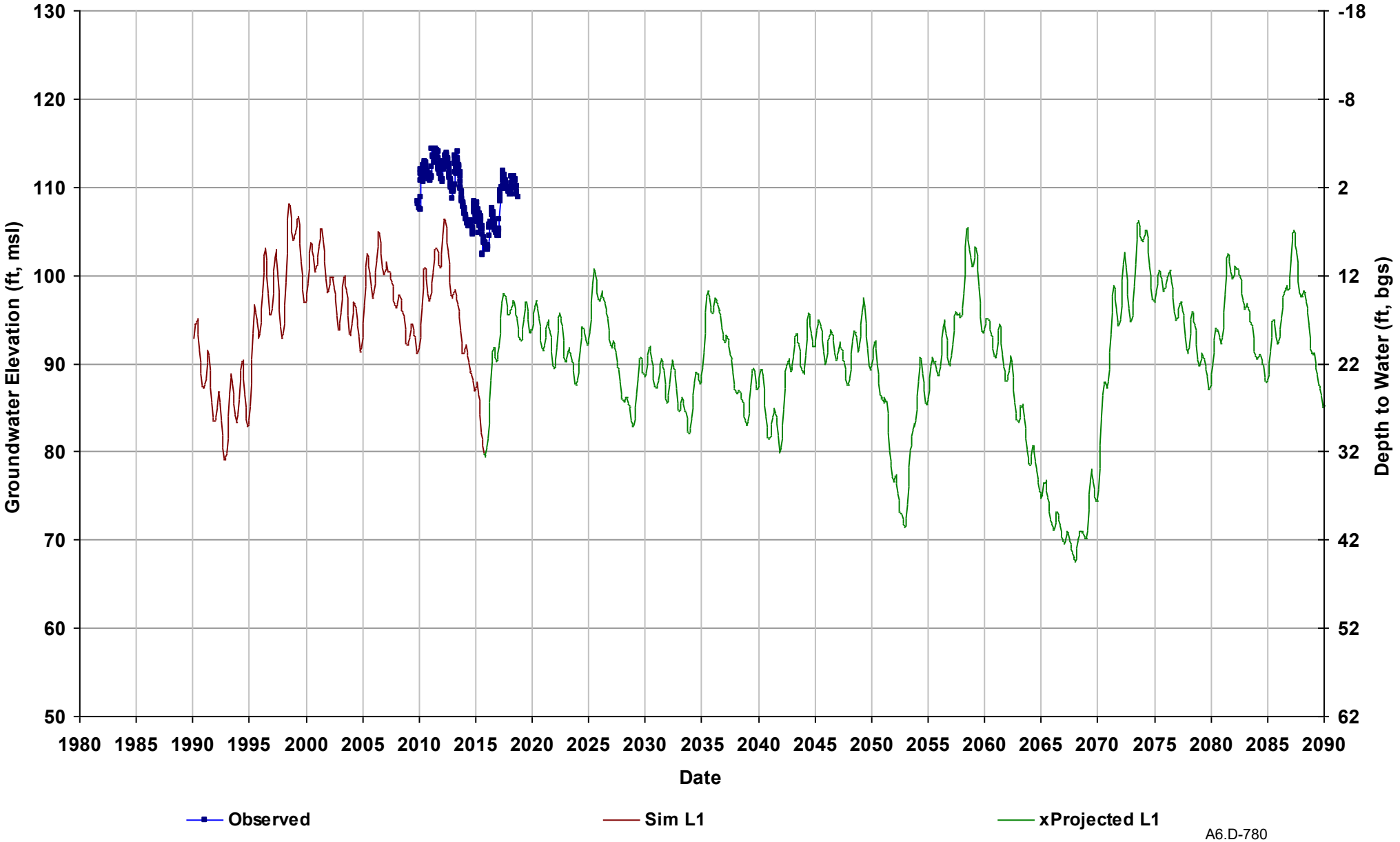
Well Name: SJRRP_MW-09-87
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 115

Total Depth (ft): 47
Perf Top (ft): 37
Perf Bottom (ft): 47
Top Model Layer: 1
Bottom Model Layer: 1



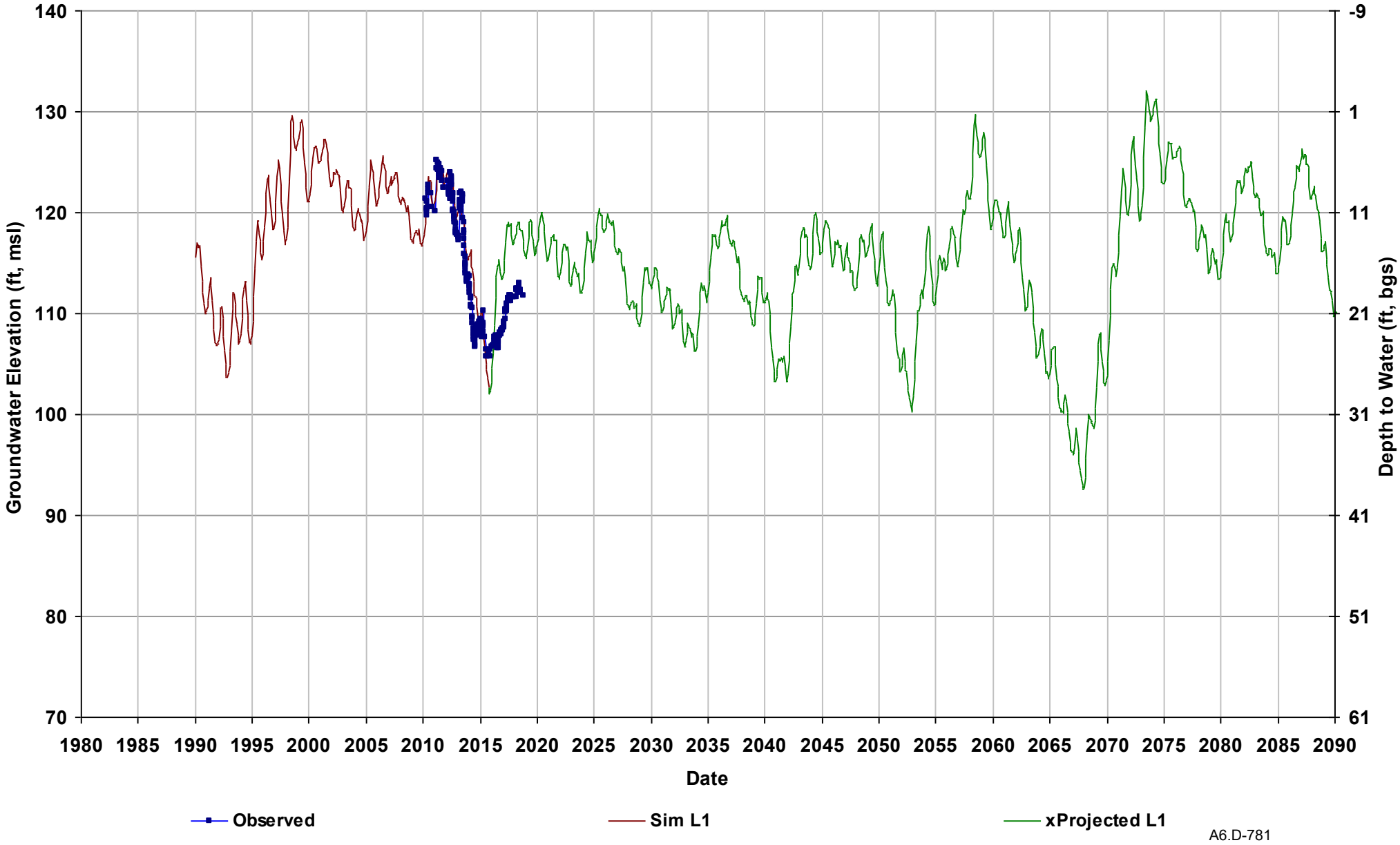
Well Name: SJRRP_MW-09-88
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 49
Perf Top (ft): 25
Perf Bottom (ft): 45
Top Model Layer: 1
Bottom Model Layer: 1



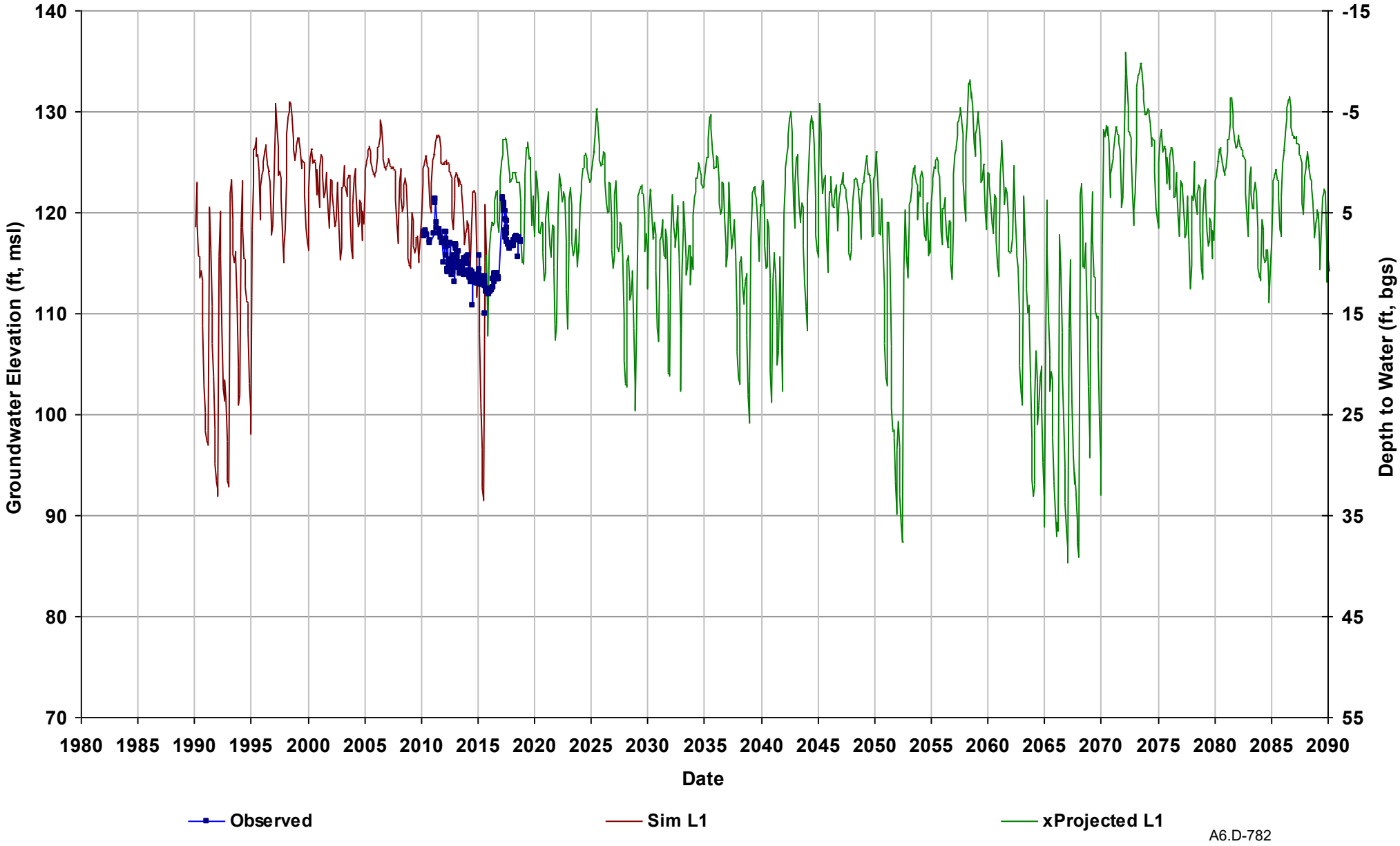
Well Name: SJRRP_MW-10-76
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 130

Total Depth (ft): 27
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



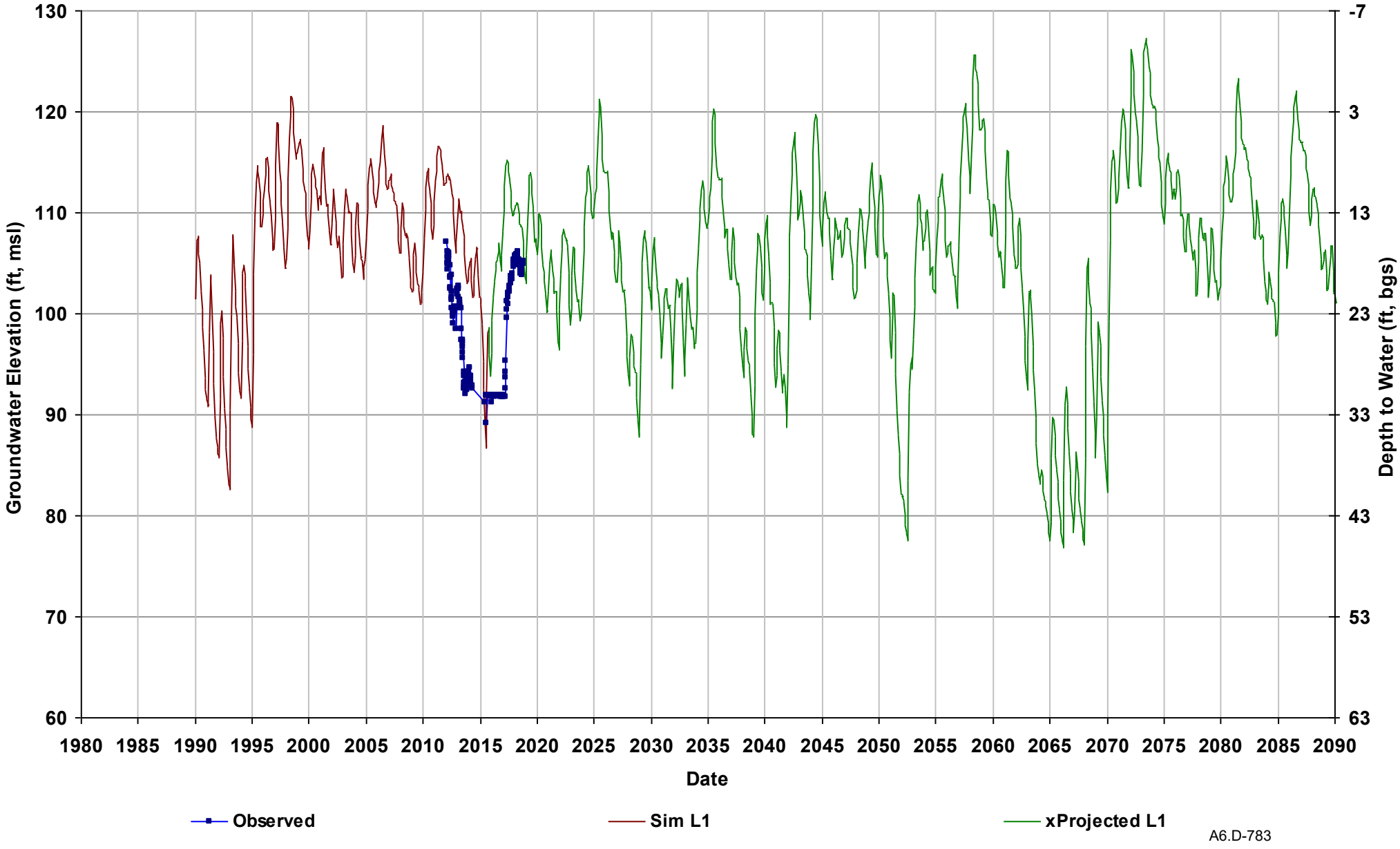
Well Name: SJRRP_MW-10-78
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 125

Total Depth (ft): 28
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



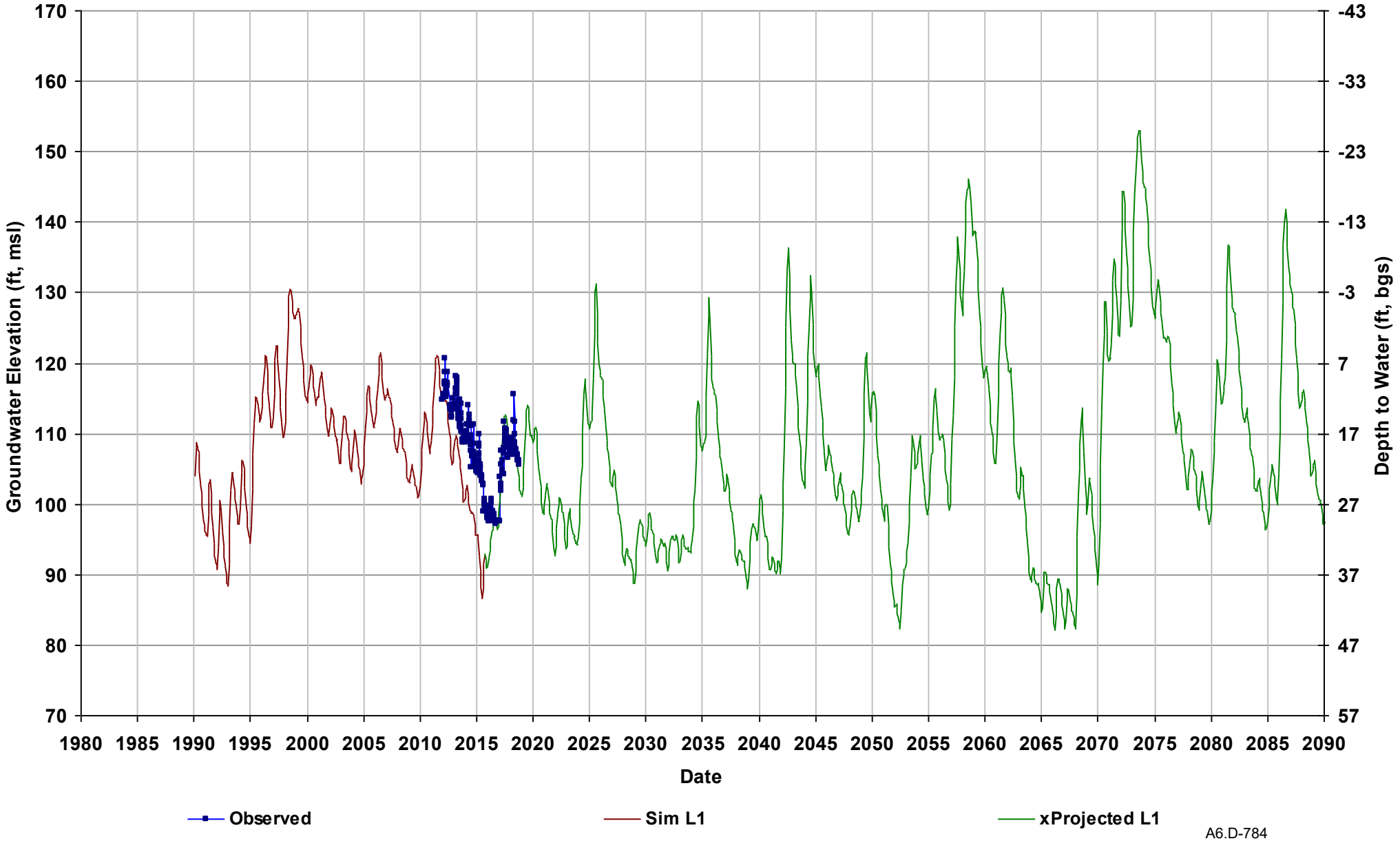
Well Name: SJRRP_MW-11-162
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 123

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



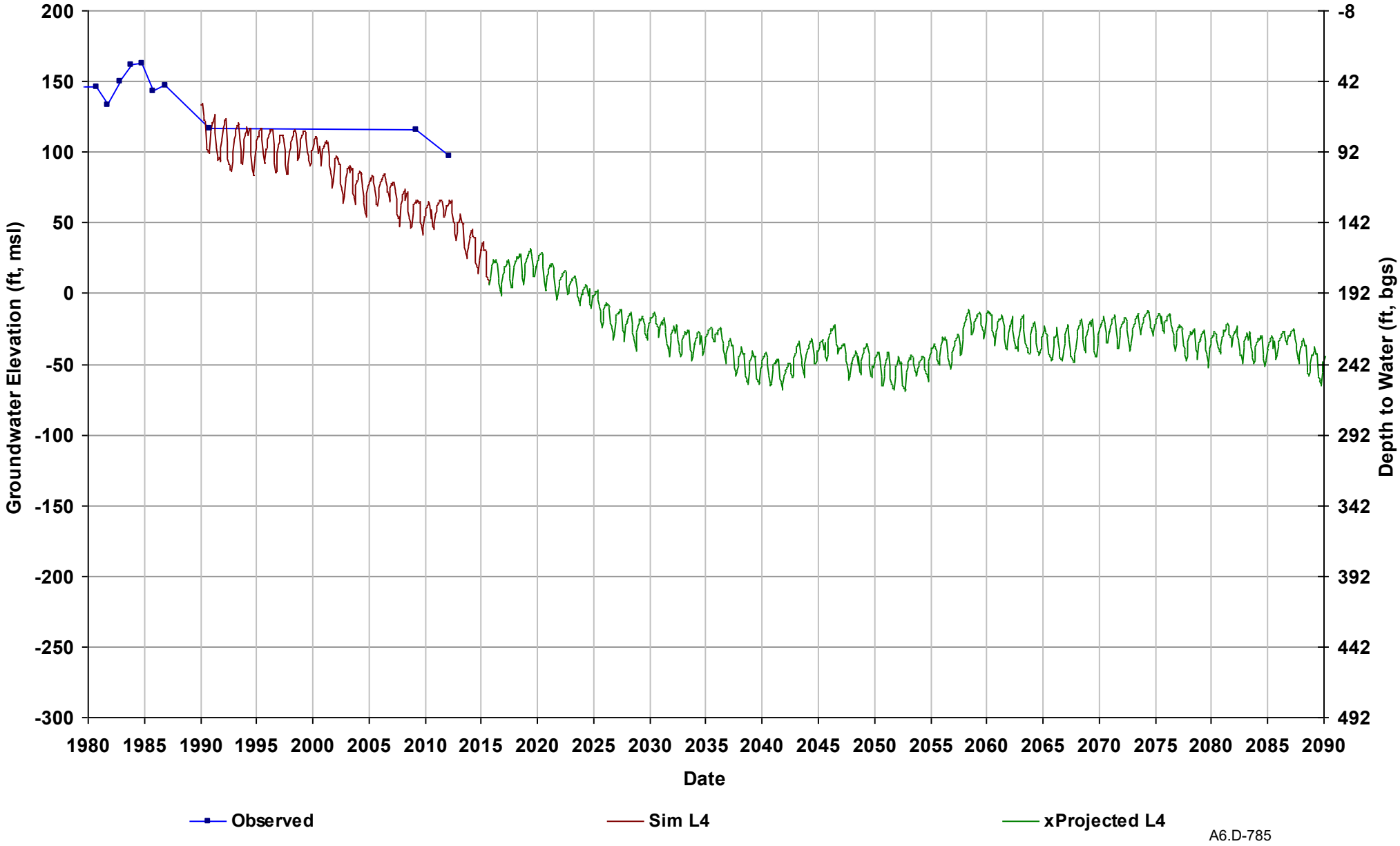
Well Name: SJRRP_MW-11-163
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 127

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



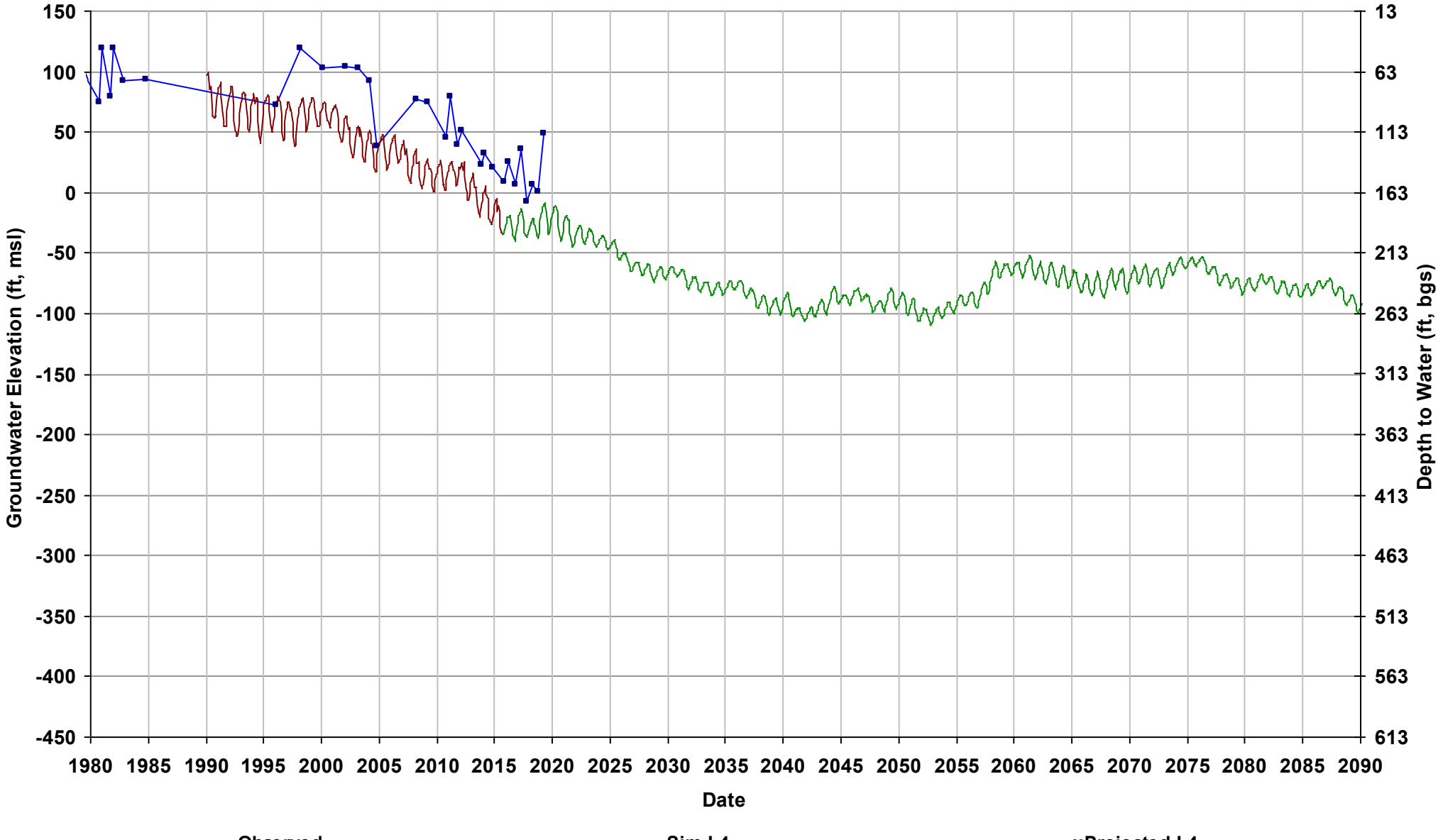
Well Name: 08S14E13L002M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 192

Total Depth (ft): 530
Perf Top (ft): 193
Perf Bottom (ft): 200
Top Model Layer: 4
Bottom Model Layer: 4



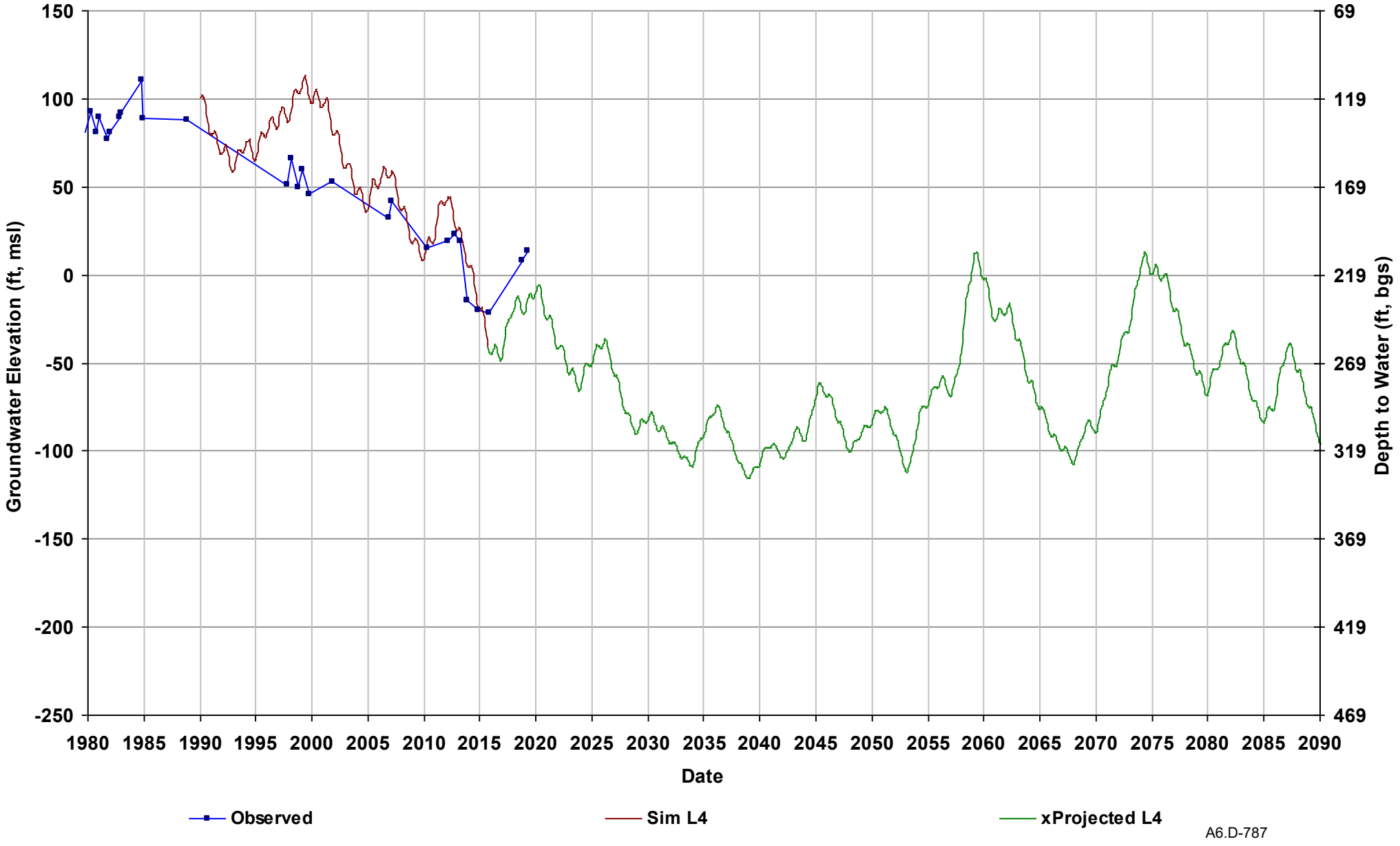
Well Name: 08S14E20J001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 435
Perf Top (ft): 150
Perf Bottom (ft): 430
Top Model Layer: 4
Bottom Model Layer: 4



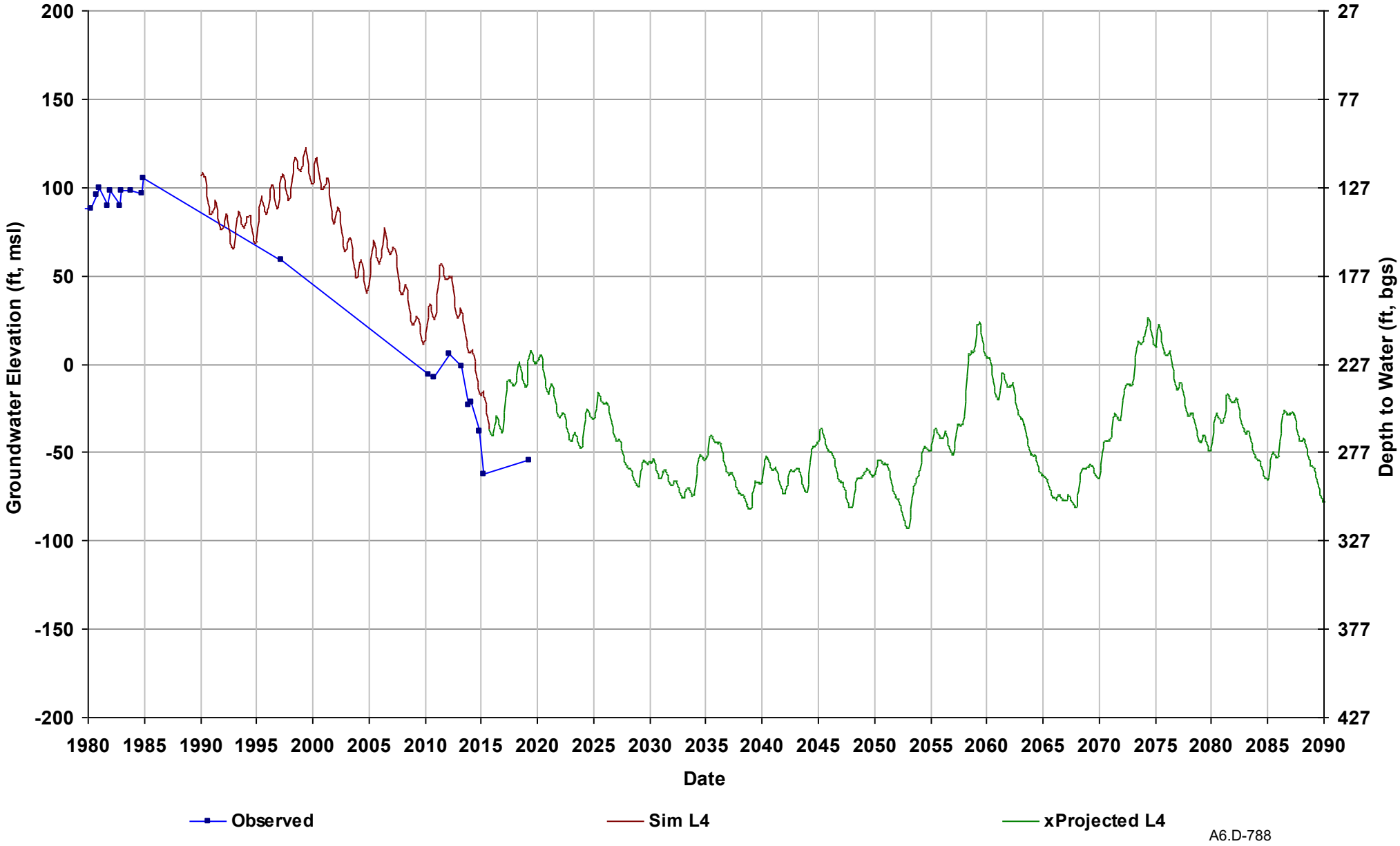
Well Name: 08S15E34L001M
Depth Zone: Composite or Lower; Wi
Subbasin: Merced
GSE (ft, msl): 219

Total Depth (ft): 247
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



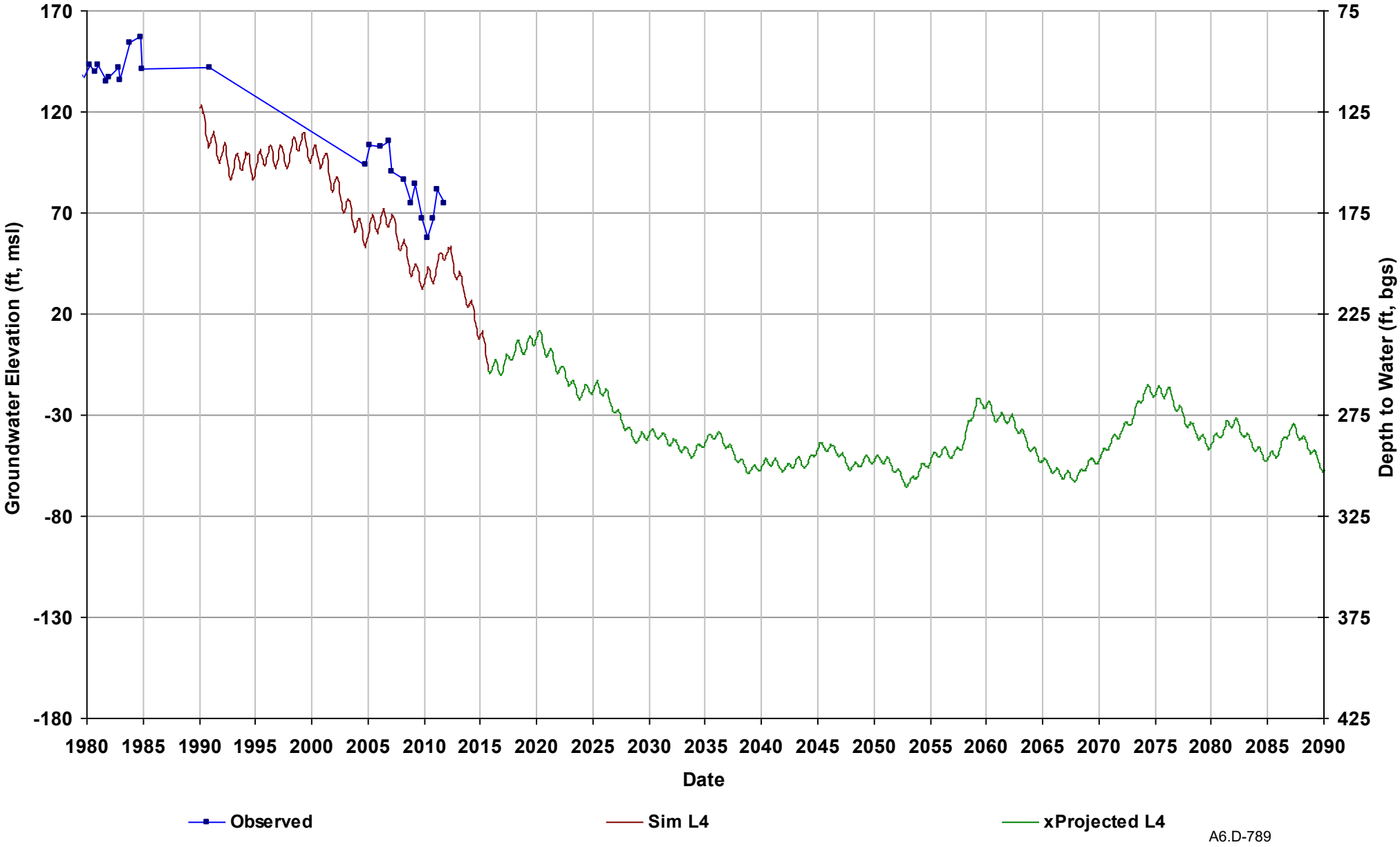
Well Name: 08S15E36G001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 227

Total Depth (ft): 509
Perf Top (ft): 176
Perf Bottom (ft): 376
Top Model Layer: 4
Bottom Model Layer: 4



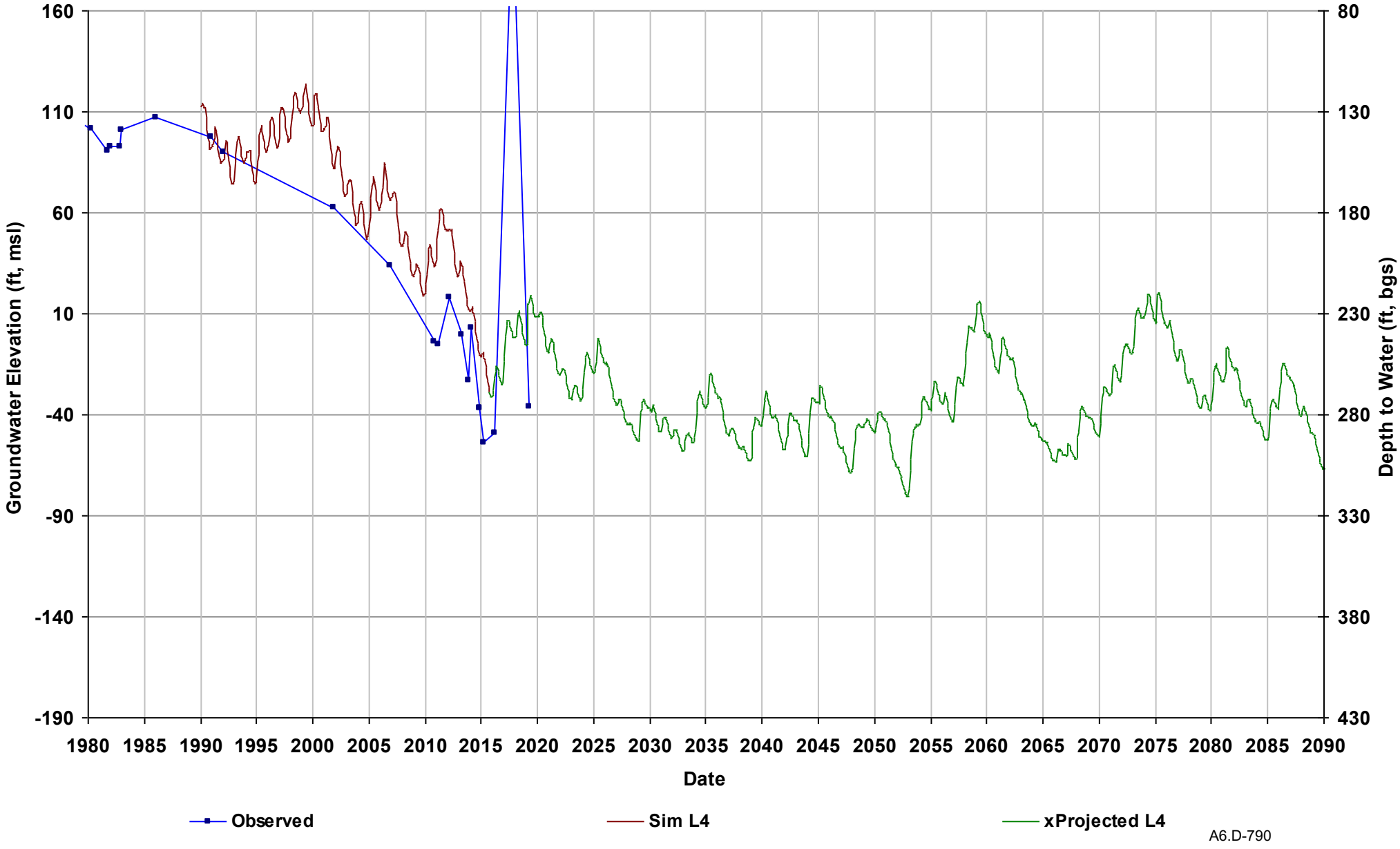
Well Name: 08S16E19D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 245

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



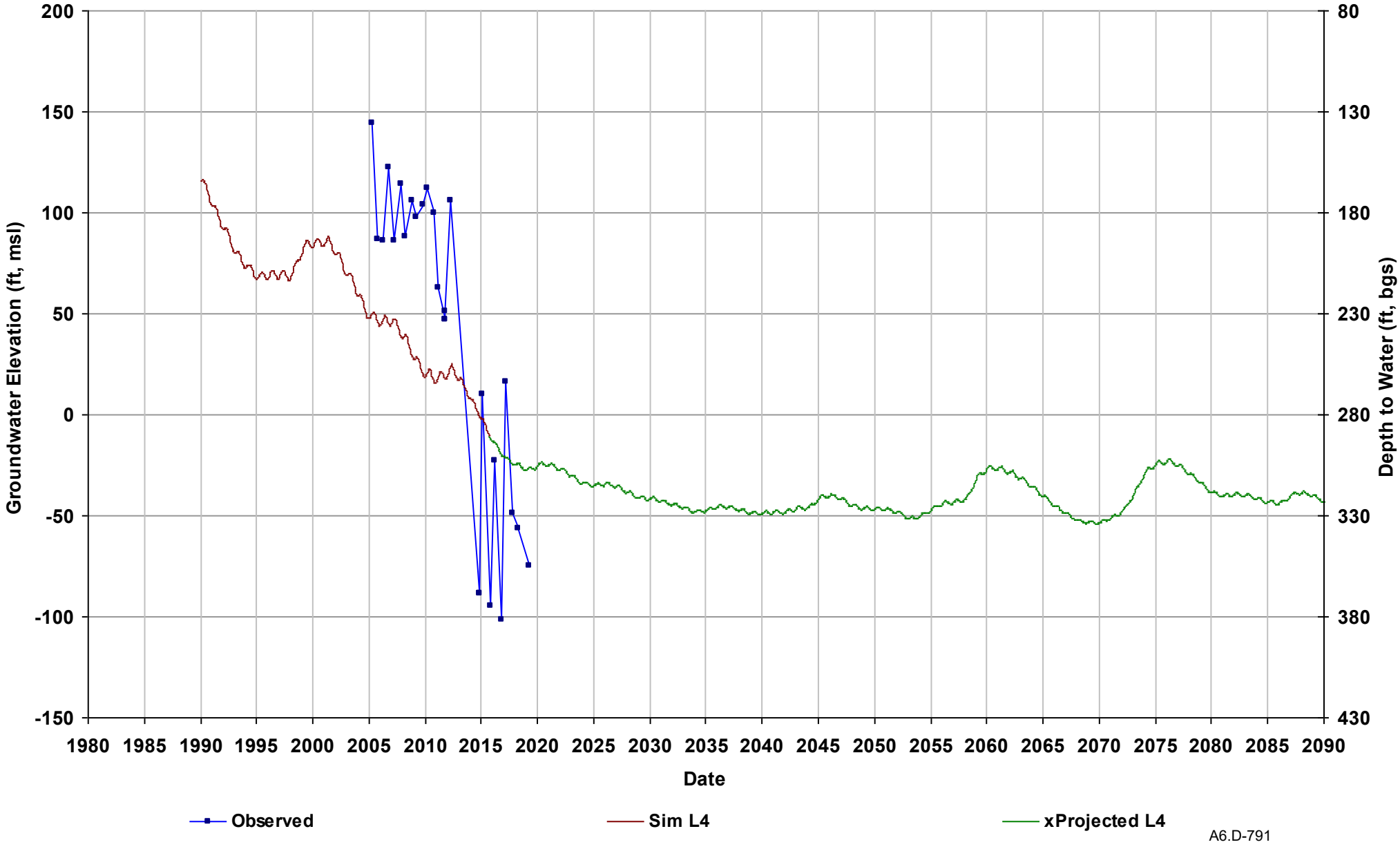
Well Name: 08S16E31C001M
Depth Zone: Composite or Lower; O
Subbasin: Merced
GSE (ft, msl): 240

Total Depth (ft): 412
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



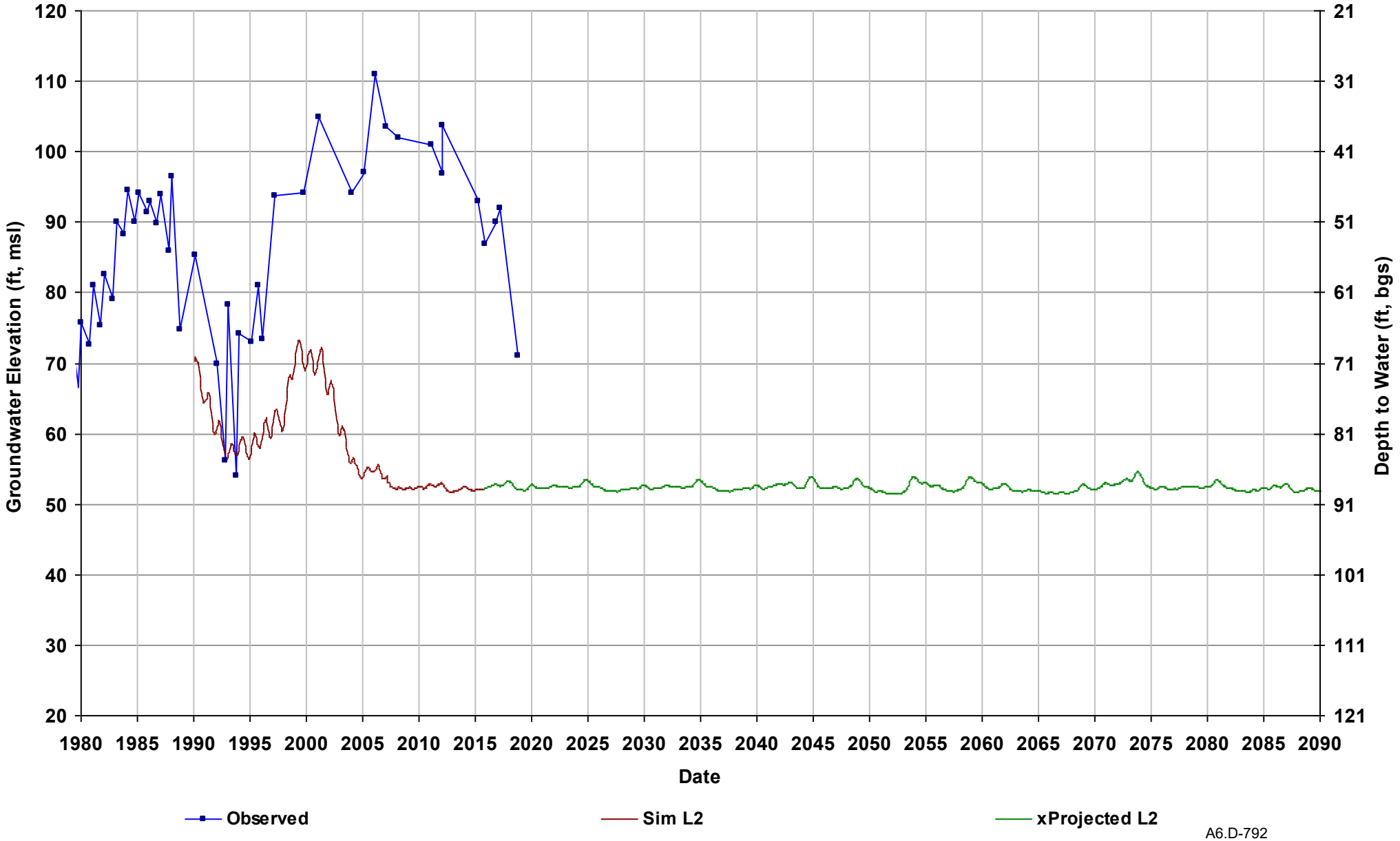
Well Name: 08S16E34J001M
Depth Zone: Lower; Outside CC
Subbasin: Merced
GSE (ft, msl): 280

Total Depth (ft): 639
Perf Top (ft): 180
Perf Bottom (ft): 639
Top Model Layer: 4
Bottom Model Layer: 4



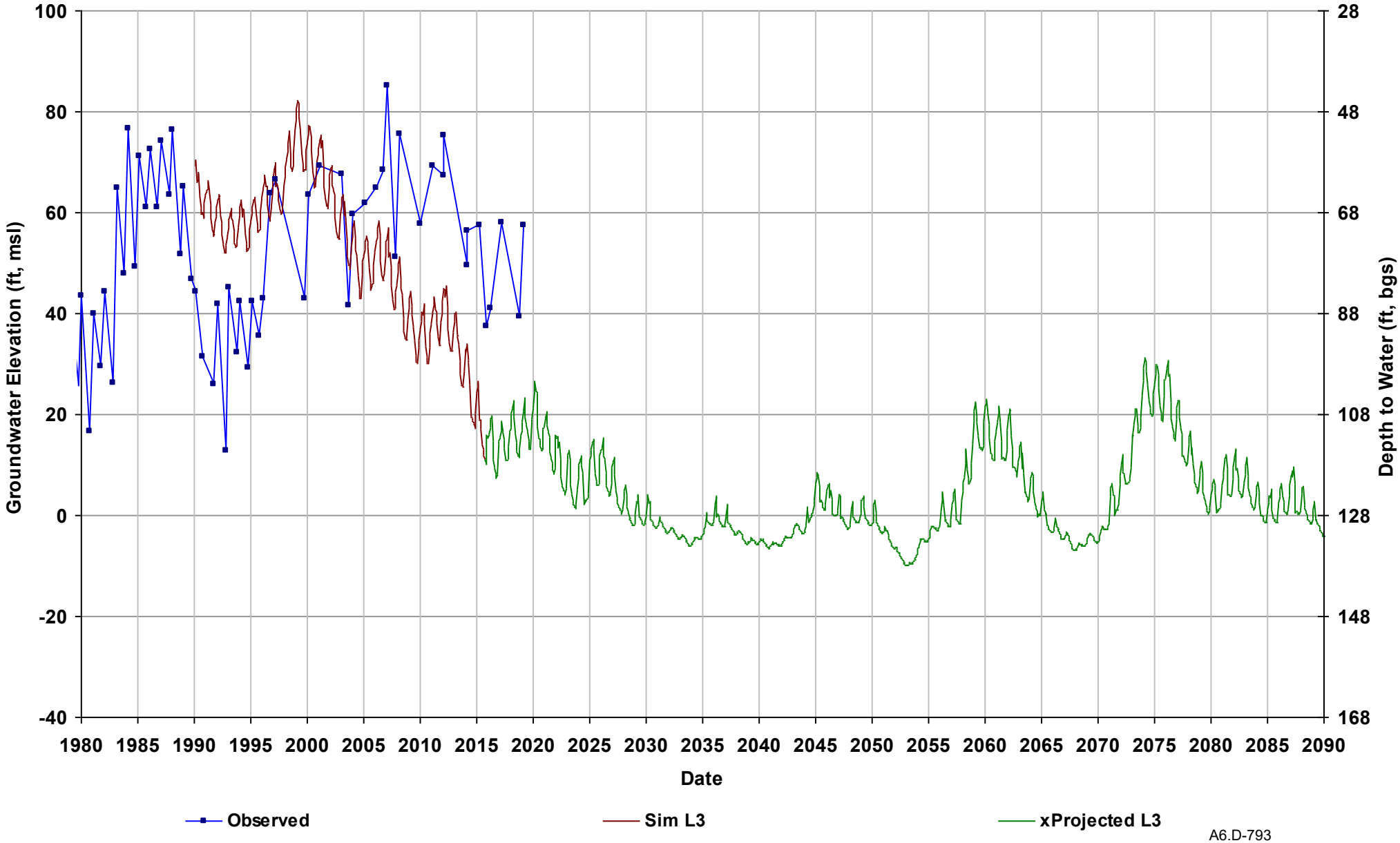
Well Name: 09S13E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 141

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



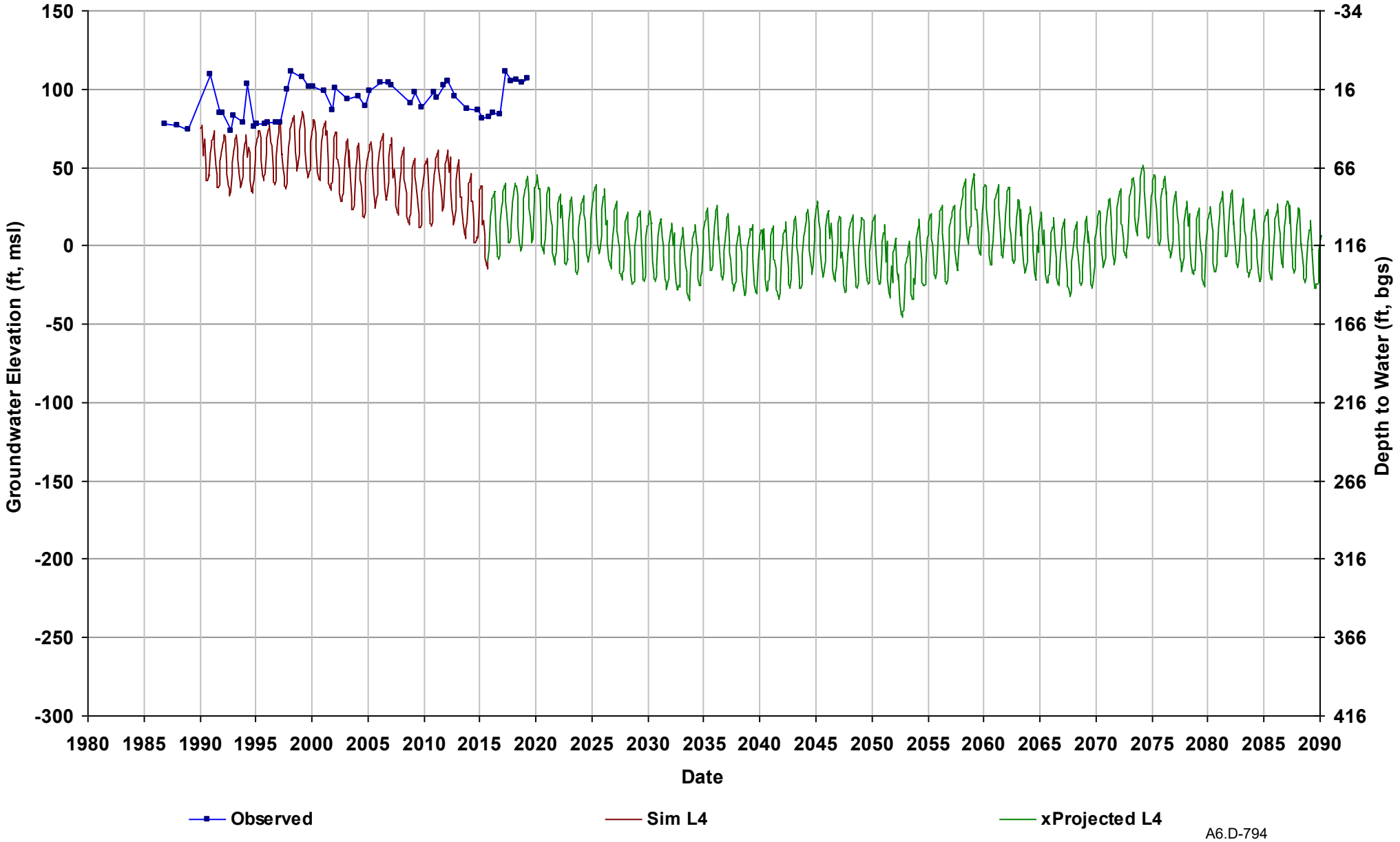
Well Name: 09S13E22H002M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 127

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



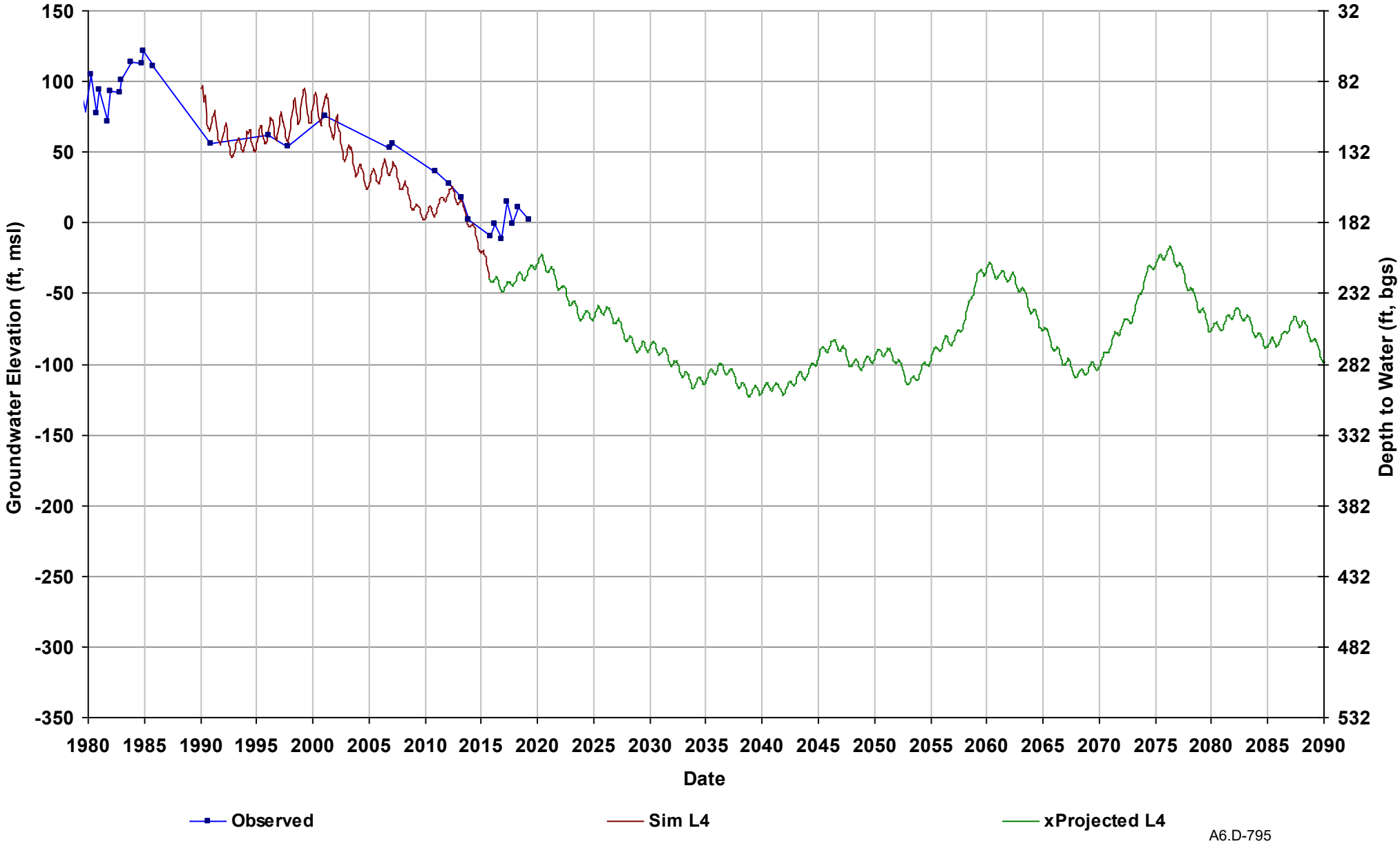
Well Name: 09S13E32A001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 116

Total Depth (ft): 616
Perf Top (ft): 150
Perf Bottom (ft): 509
Top Model Layer: 4
Bottom Model Layer: 4



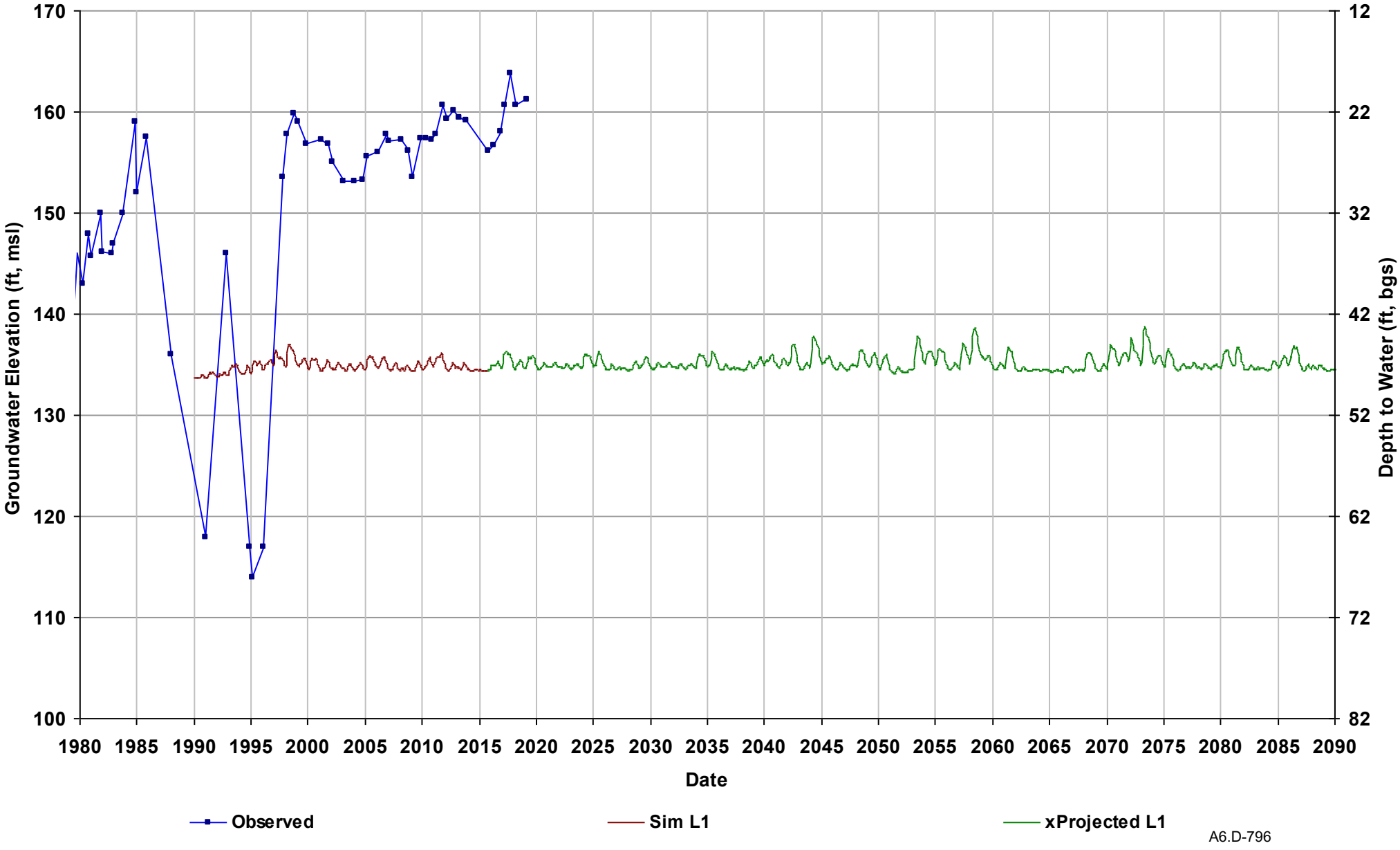
Well Name: 09S14E01B001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 345
Perf Top (ft): 225
Perf Bottom (ft): 345
Top Model Layer: 4
Bottom Model Layer: 4



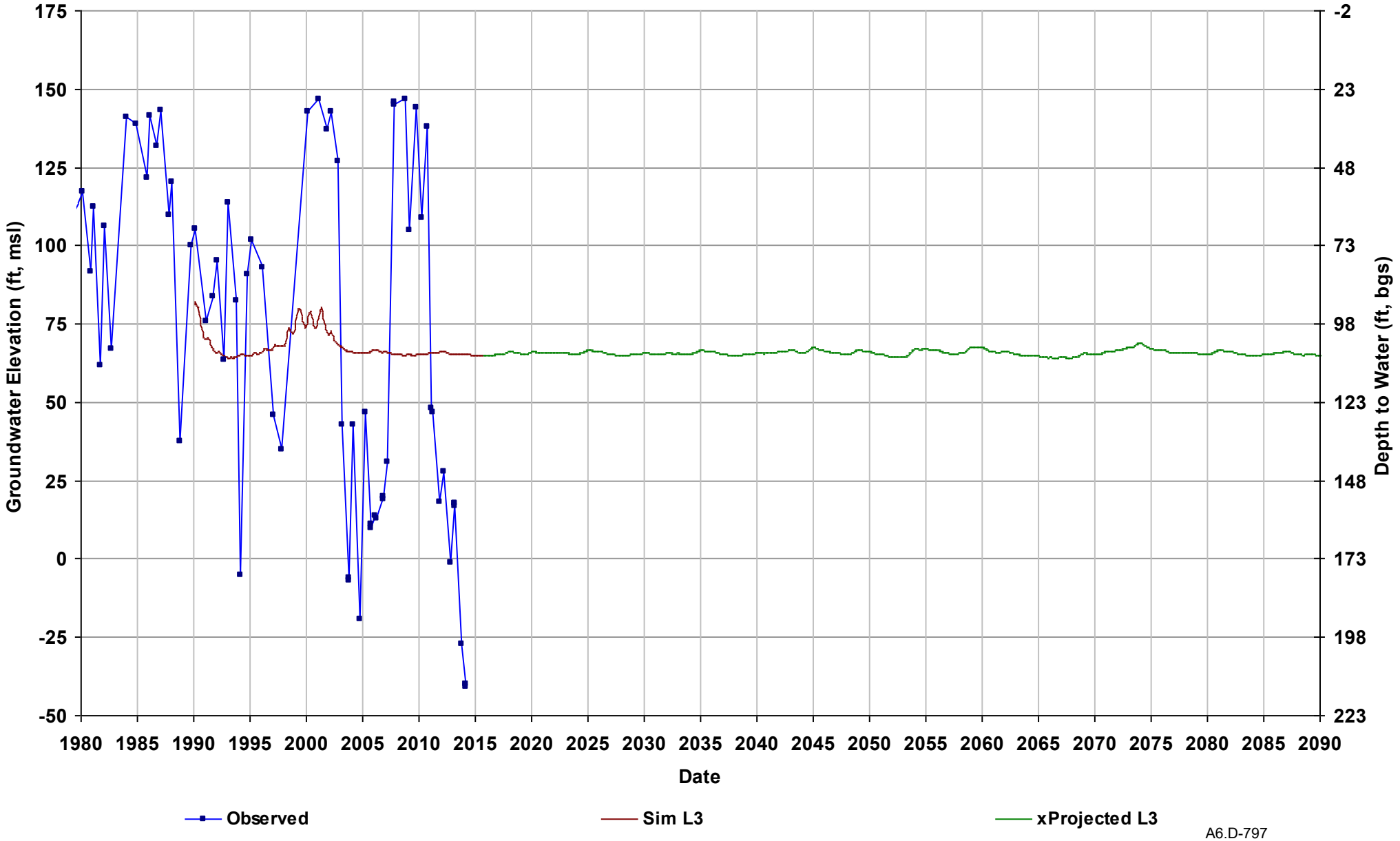
Well Name: 09S14E01B003M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 68
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



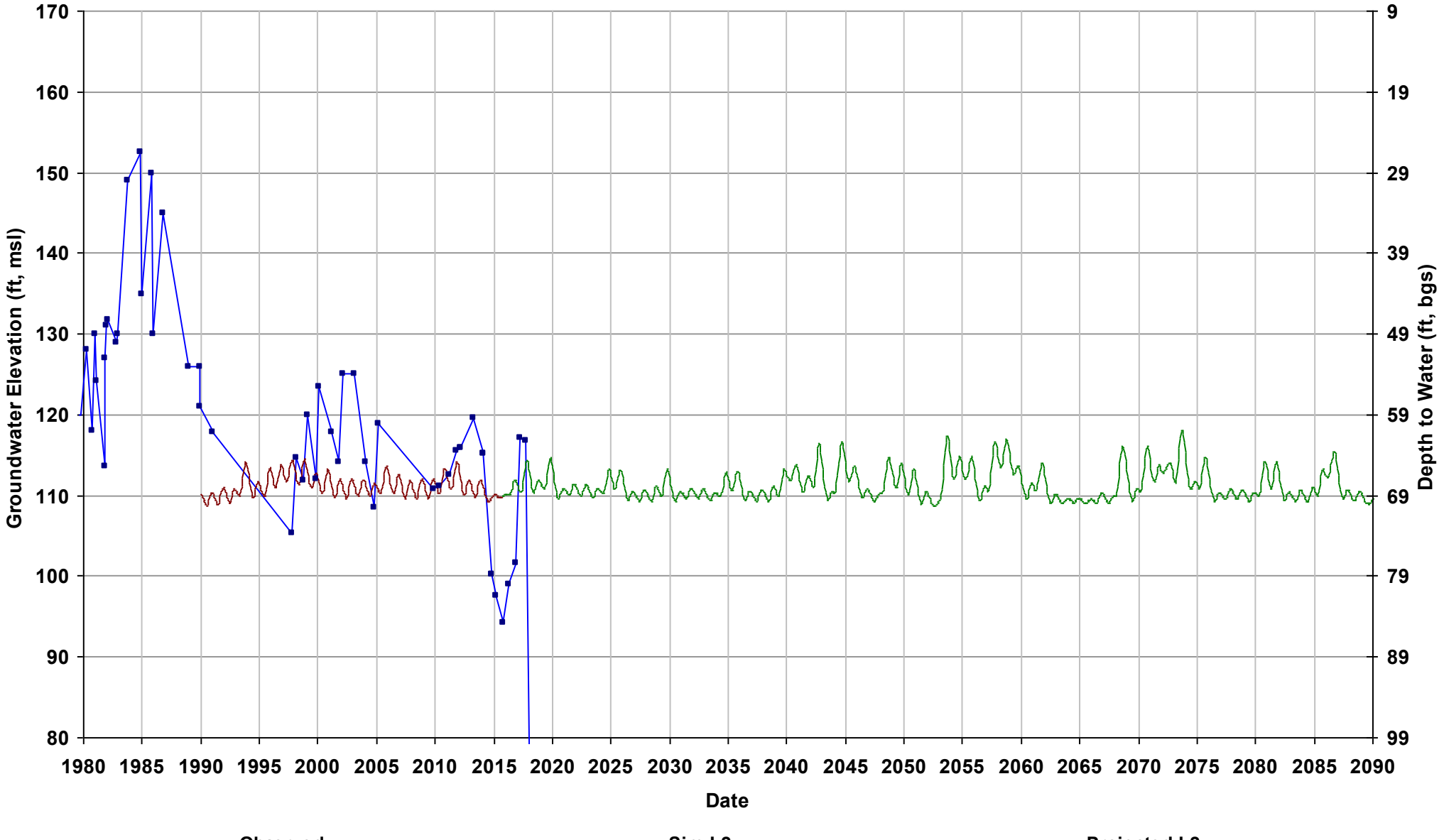
Well Name: 09S14E11F001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 173

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



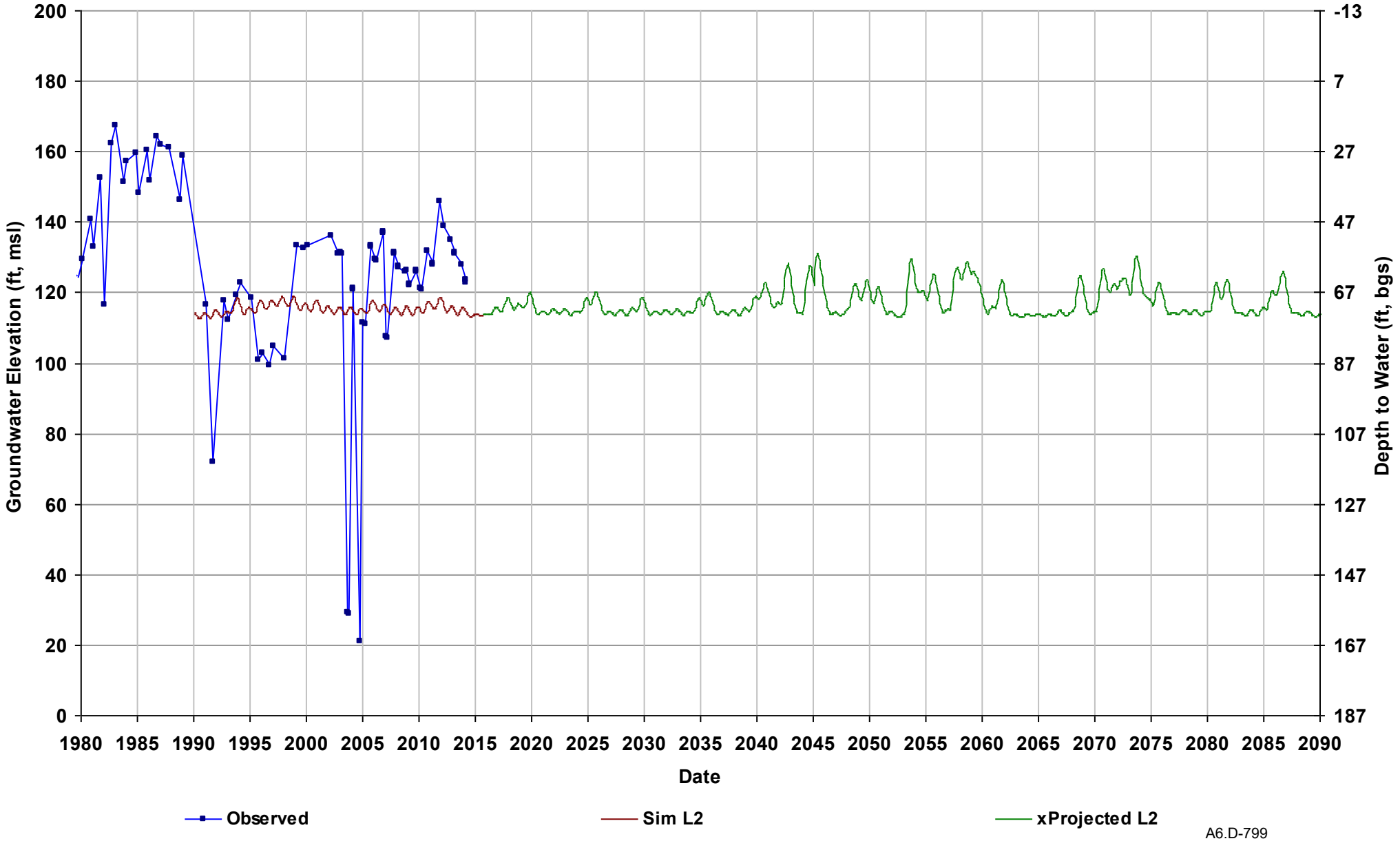
Well Name: 09S14E14R001M
Depth Zone: Composite or Lower; Wi
Subbasin: Chowchilla
GSE (ft, msl): 179

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



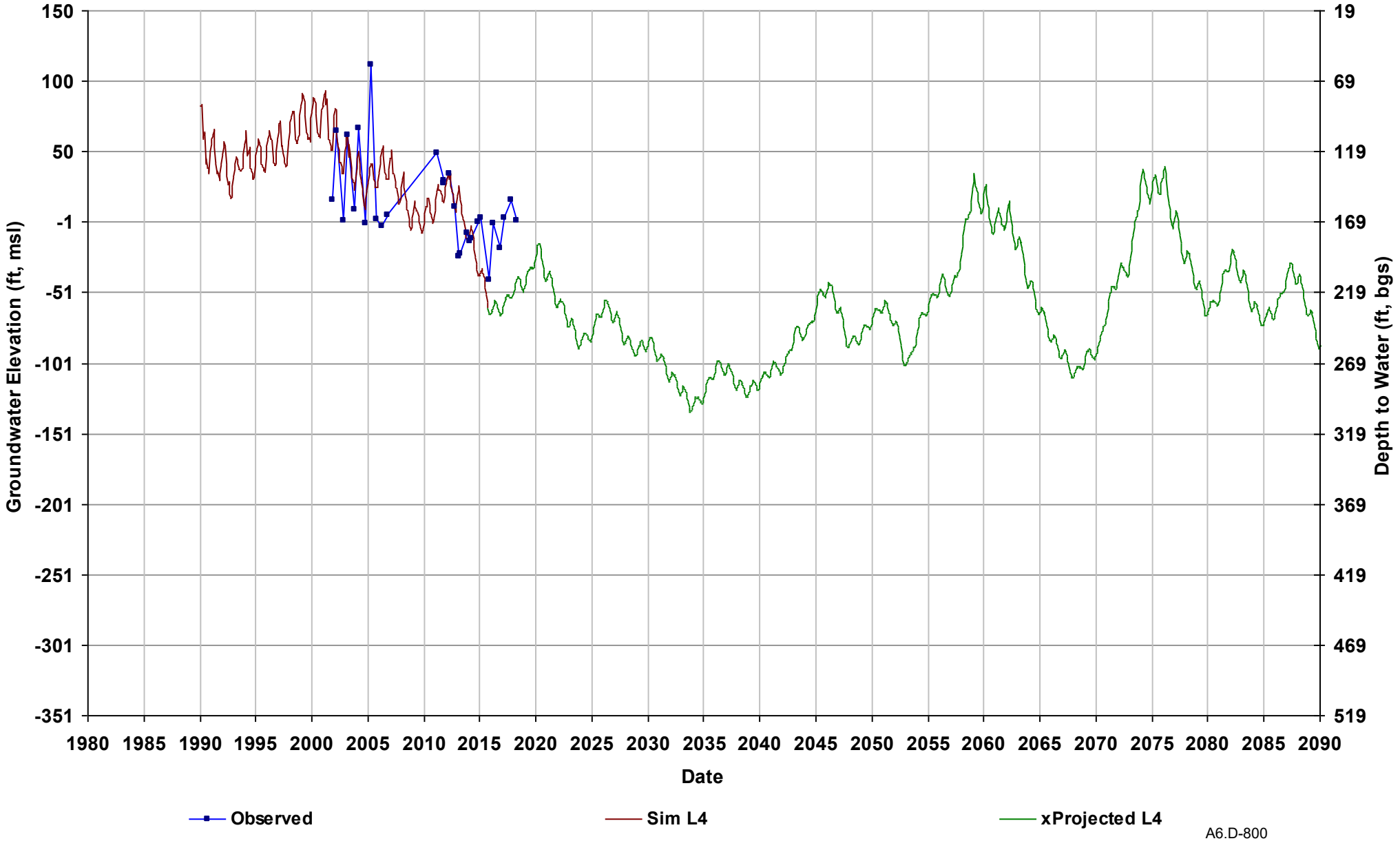
Well Name: 09S14E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



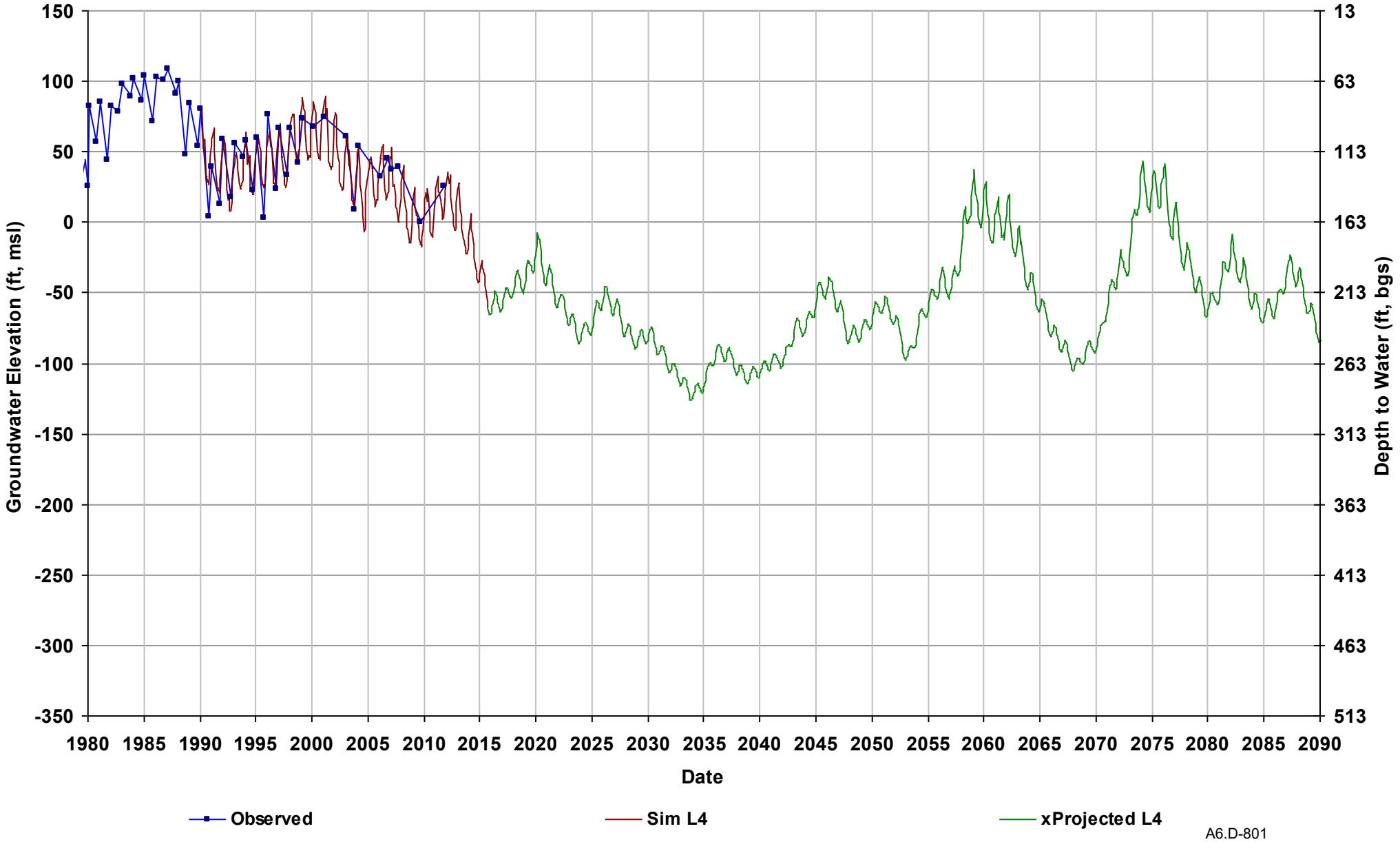
Well Name: 09S14E27R001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 168

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



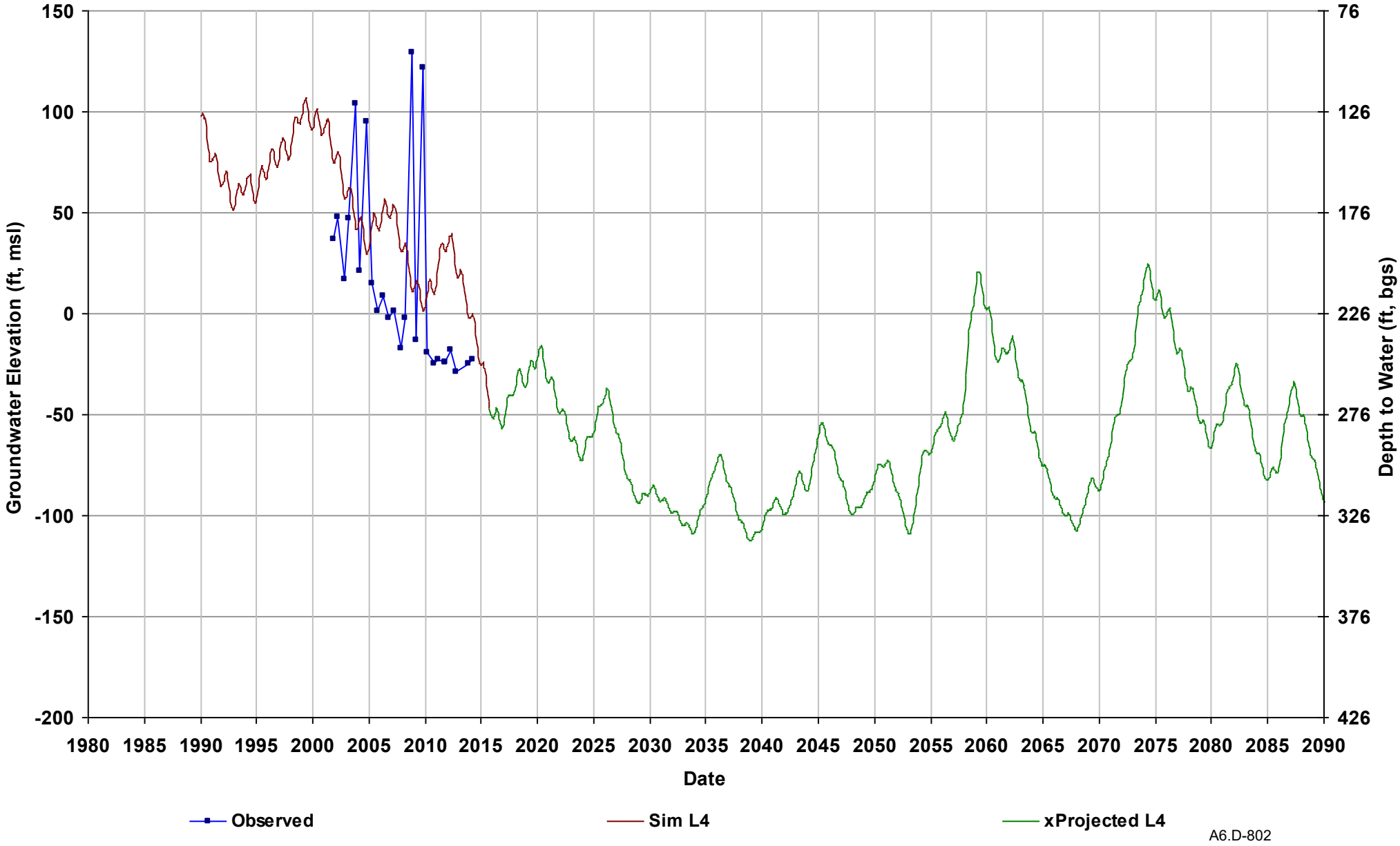
Well Name: 09S14E33A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 632
Perf Top (ft): 240
Perf Bottom (ft): 580
Top Model Layer: 4
Bottom Model Layer: 4



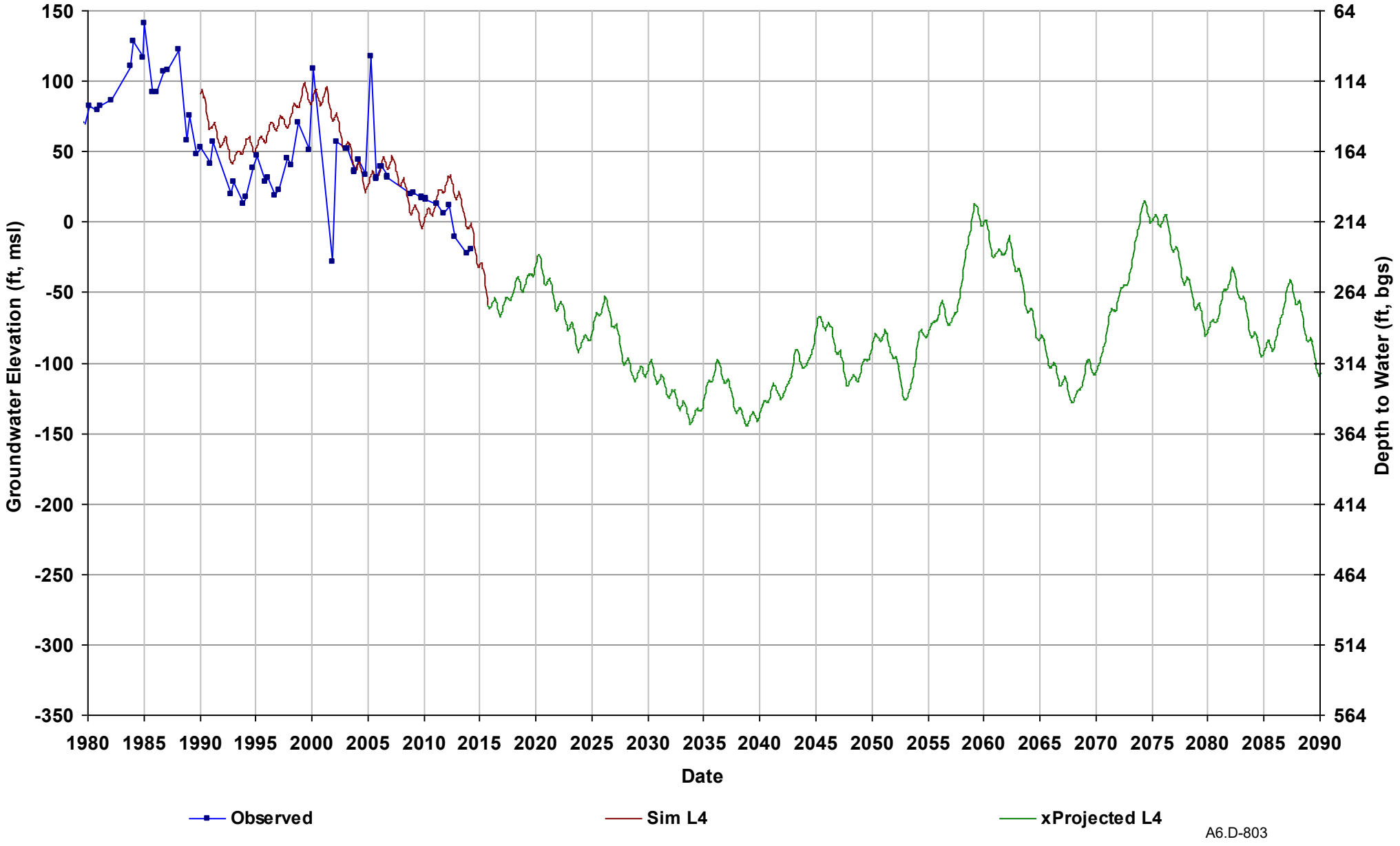
Well Name: 09S15E02A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 226

Total Depth (ft): 800
Perf Top (ft): 300
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



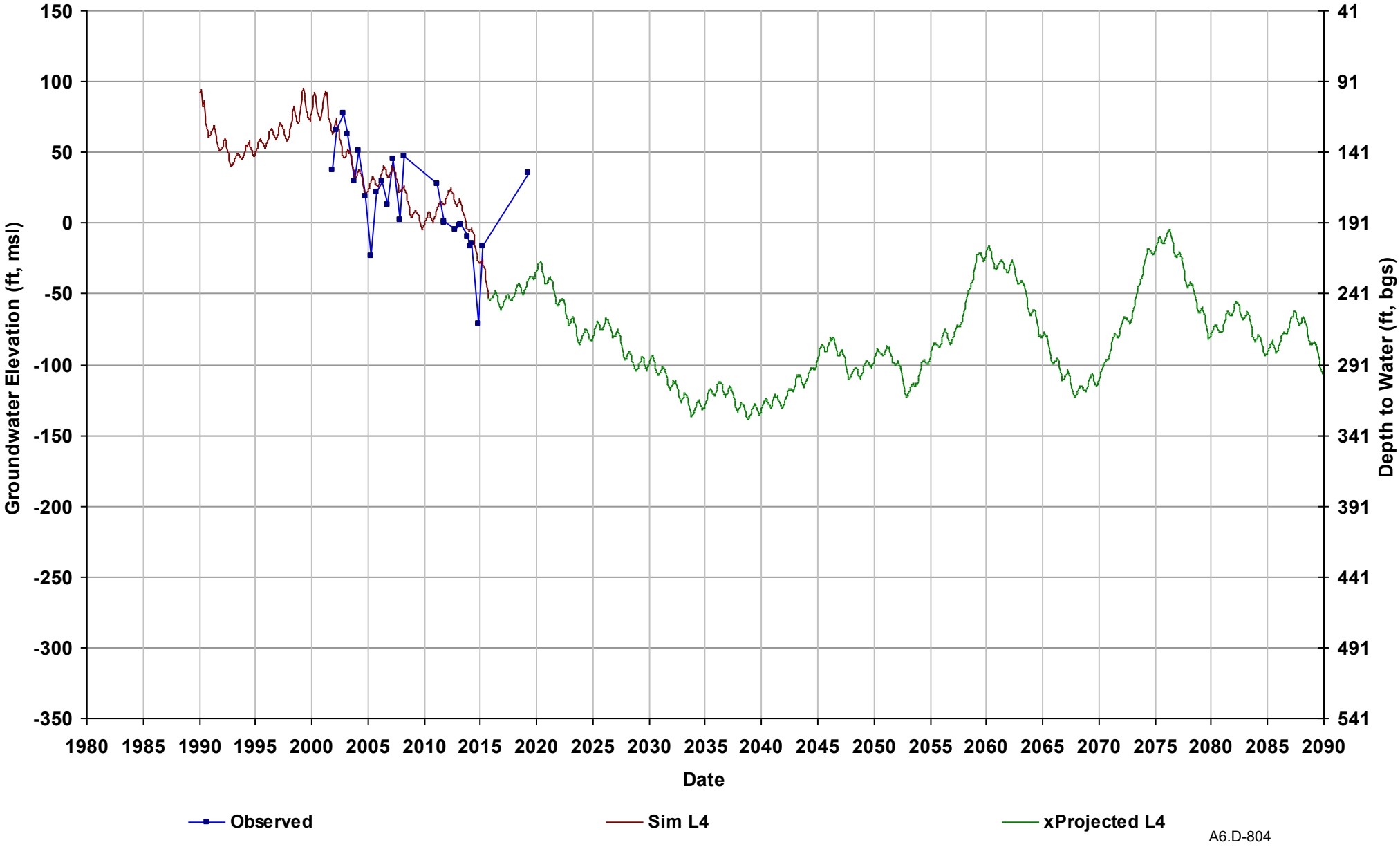
Well Name: 09S15E04R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



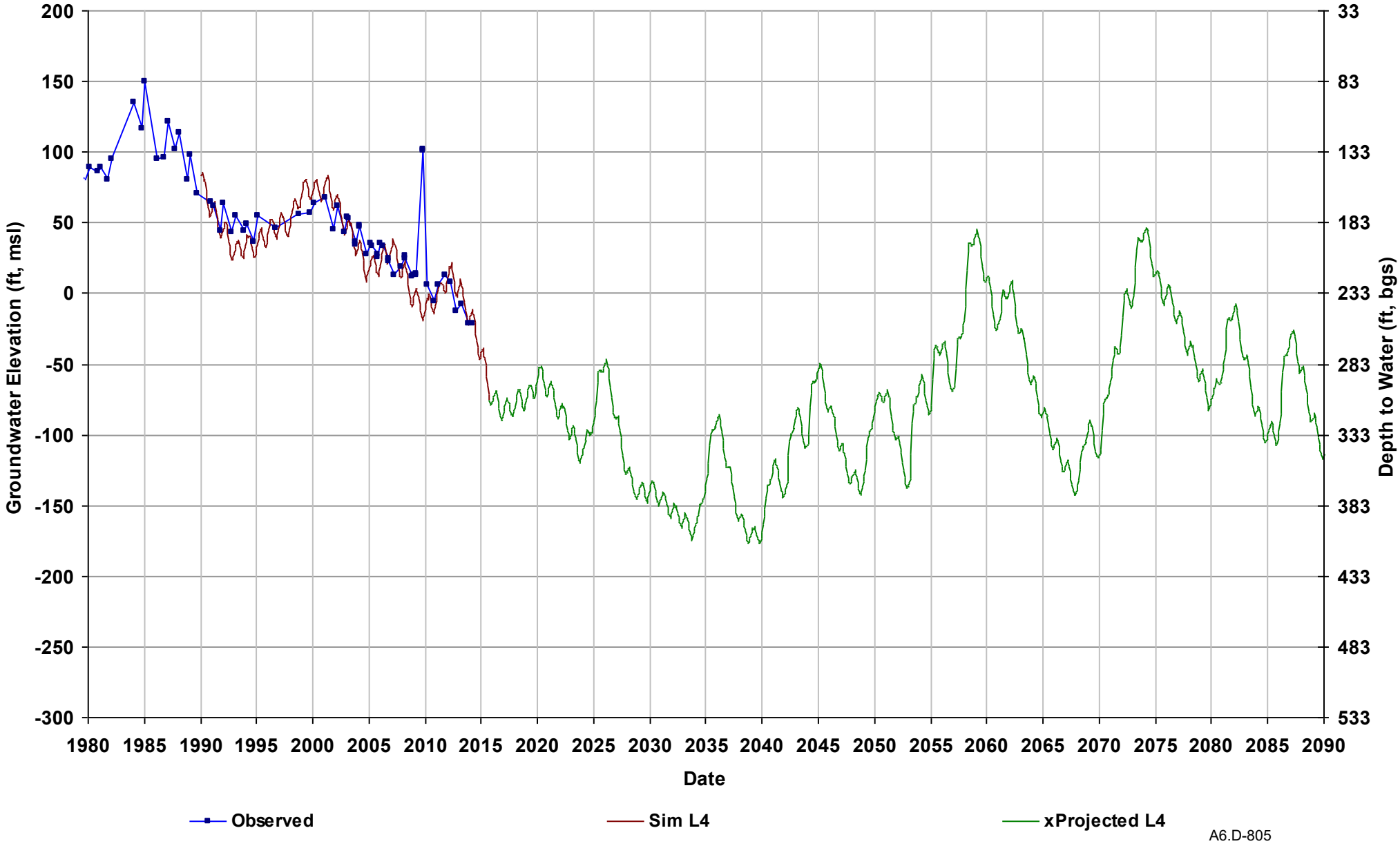
Well Name: 09S15E06P001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 4
Bottom Model Layer: 4



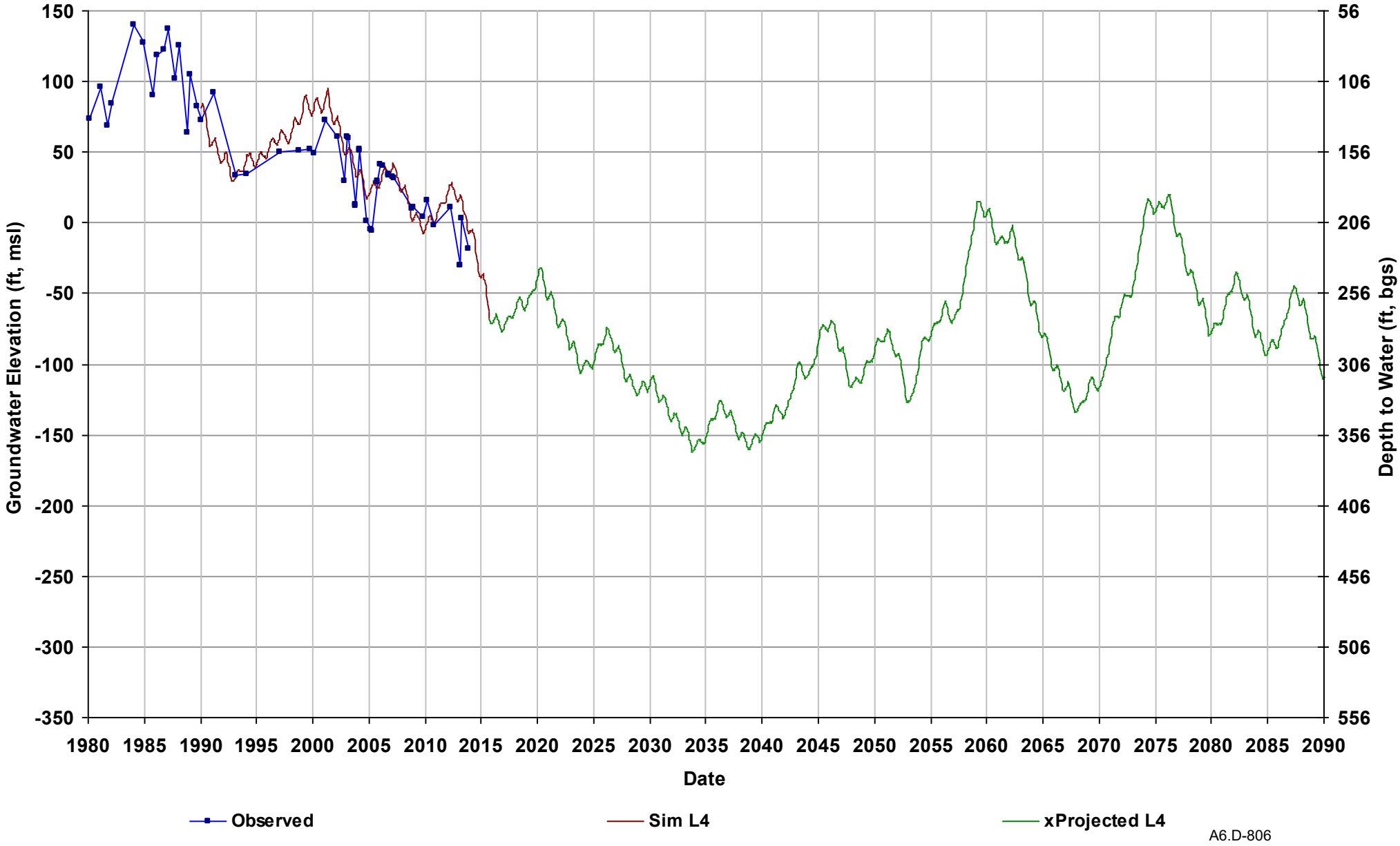
Well Name: 09S15E13E002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 232

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



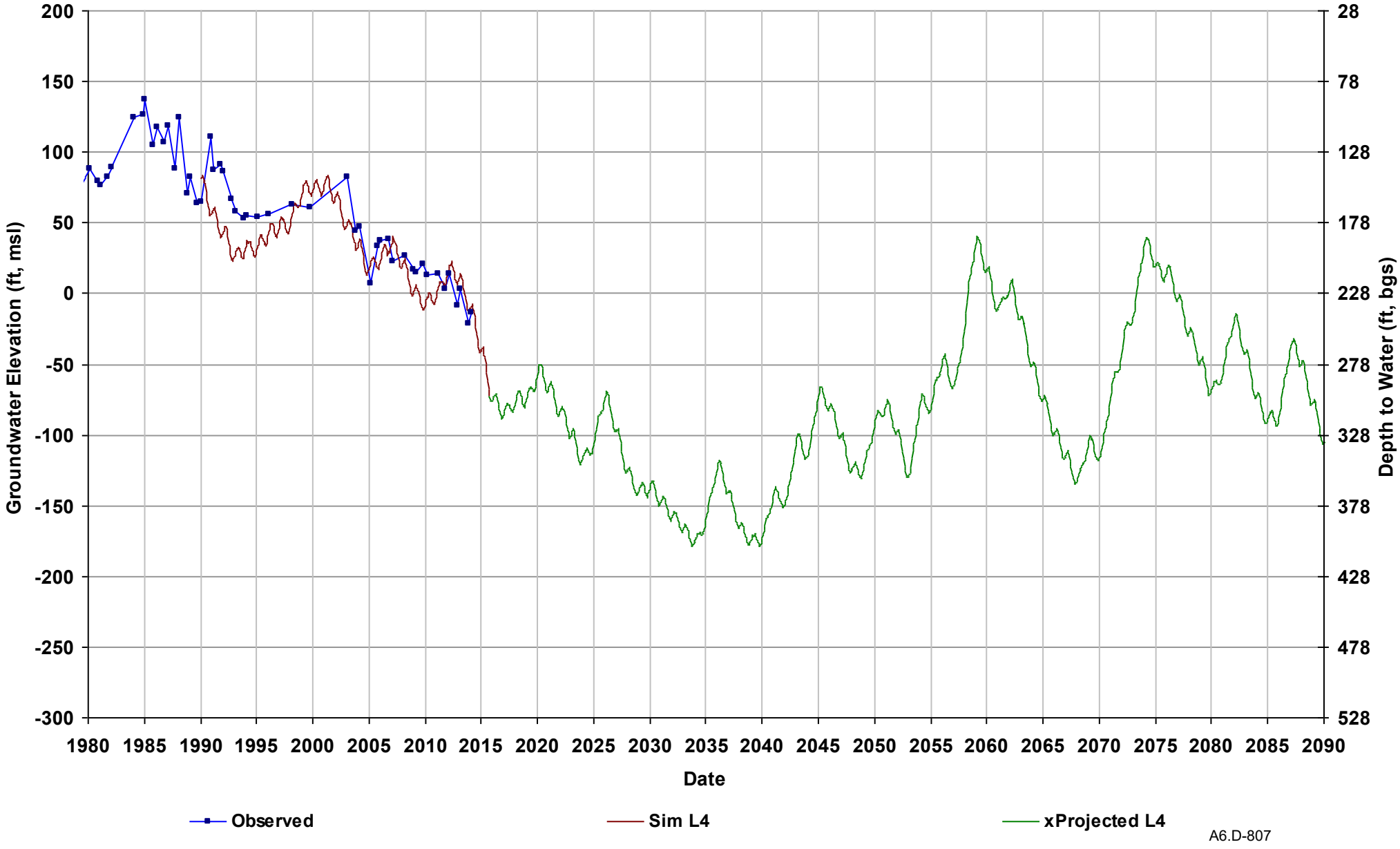
Well Name: 09S15E17R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 206

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



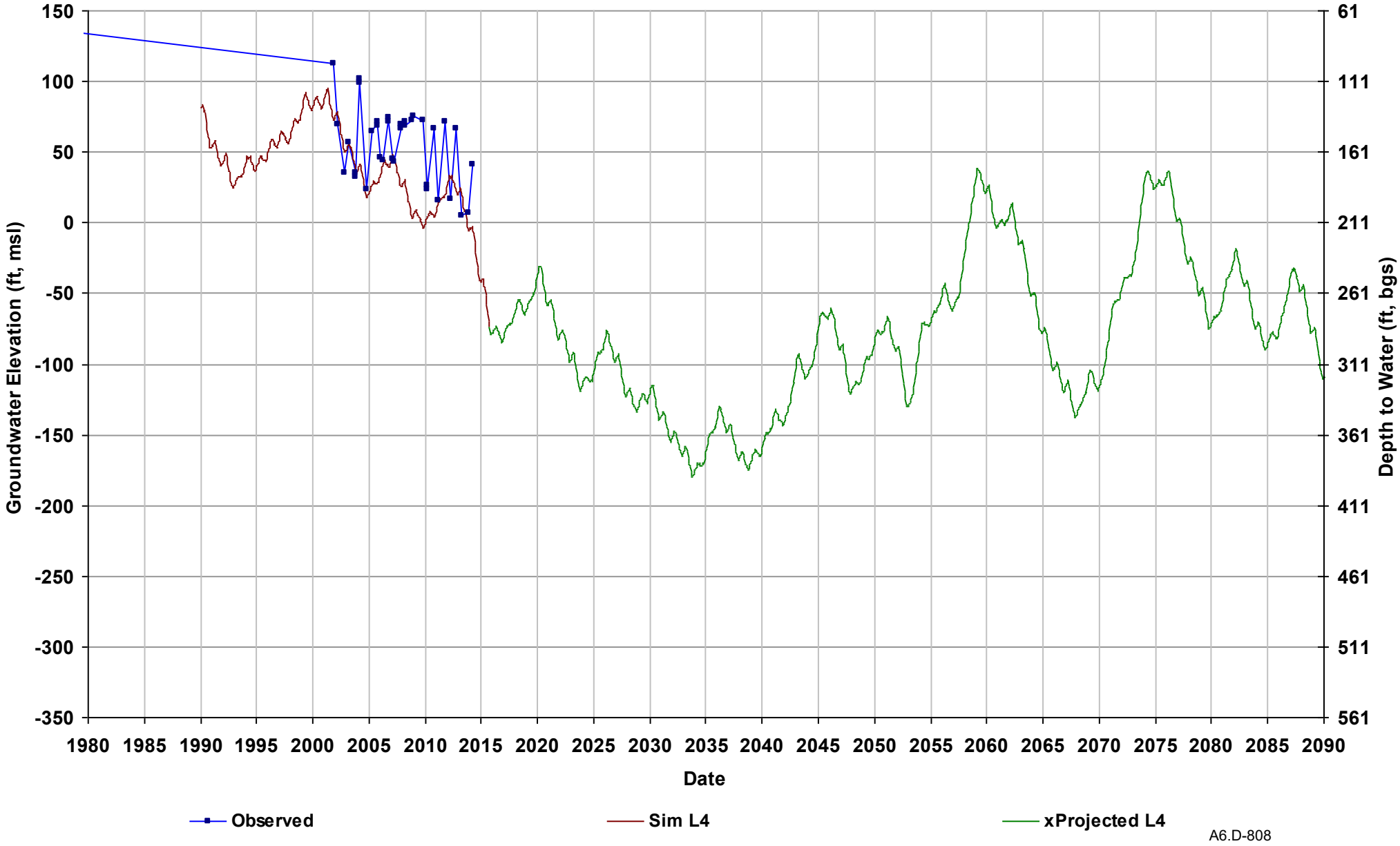
Well Name: 09S15E23J2
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 228

Total Depth (ft): 291
Perf Top (ft): 290.5
Perf Bottom (ft): 291
Top Model Layer: 4
Bottom Model Layer: 4



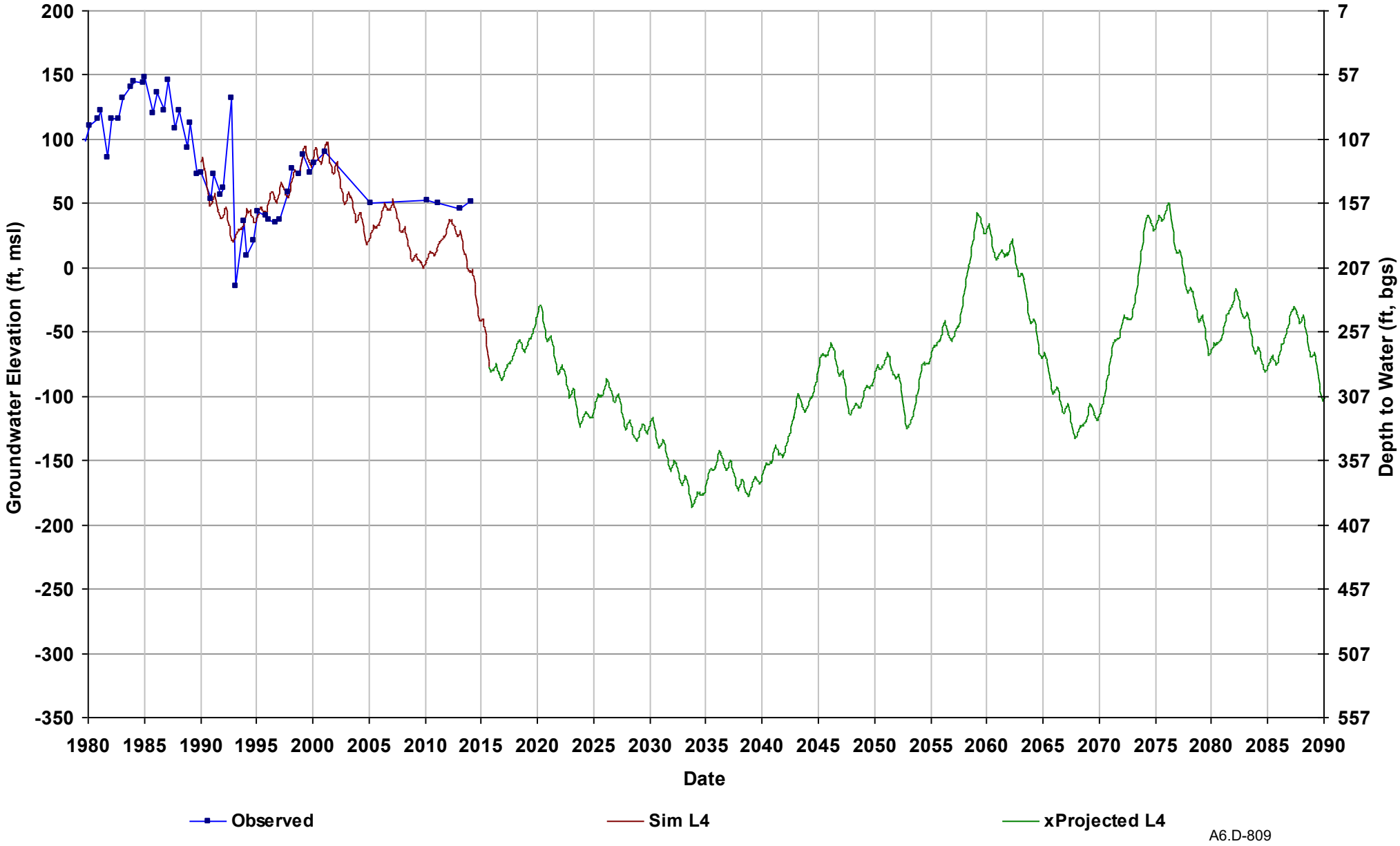
Well Name: 09S15E28A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 210

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



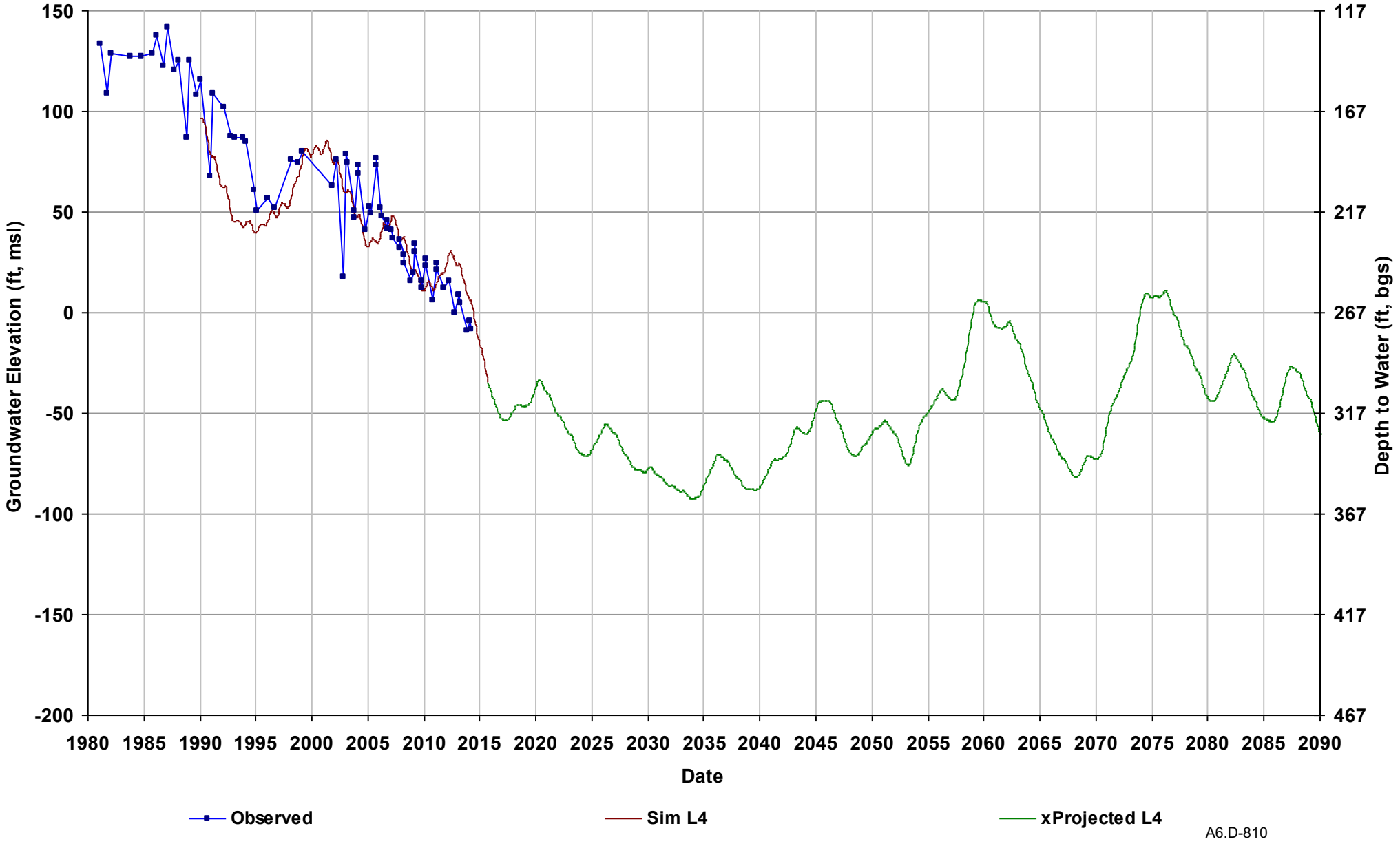
Well Name: 09S15E33J002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 207

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



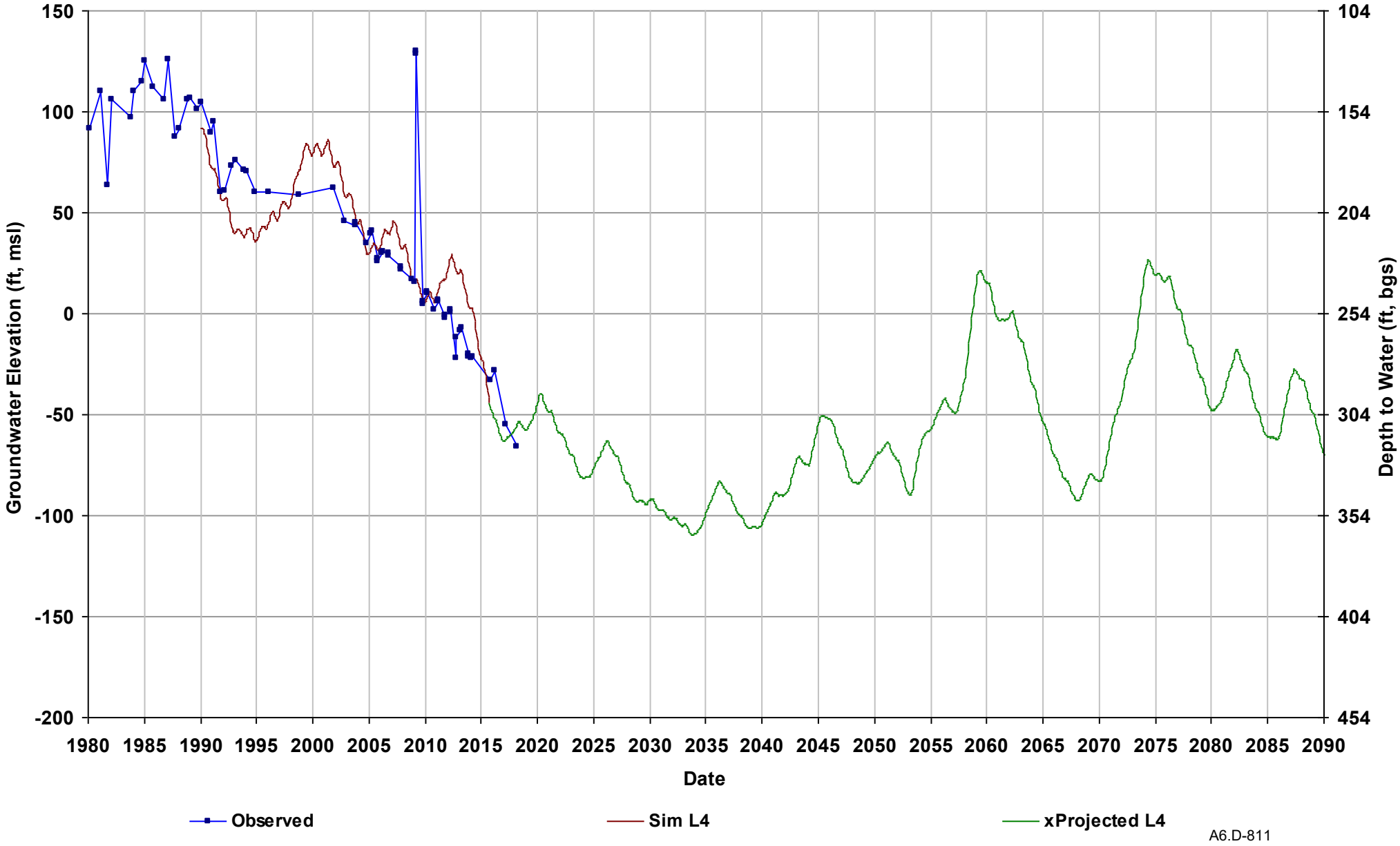
Well Name: 09S16E15Q001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 267

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



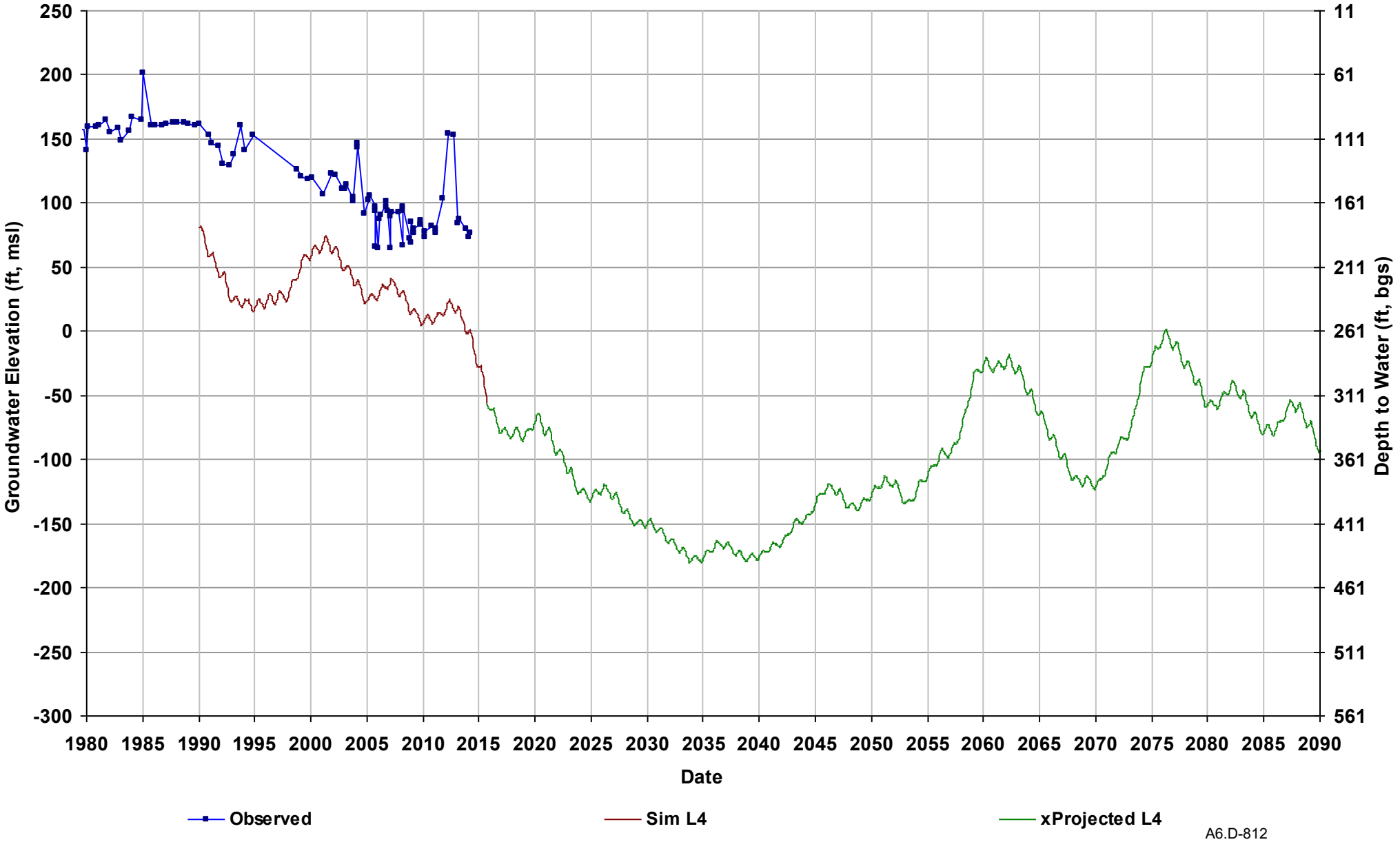
Well Name: 09S16E16N001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 254

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 4
Bottom Model Layer: 4



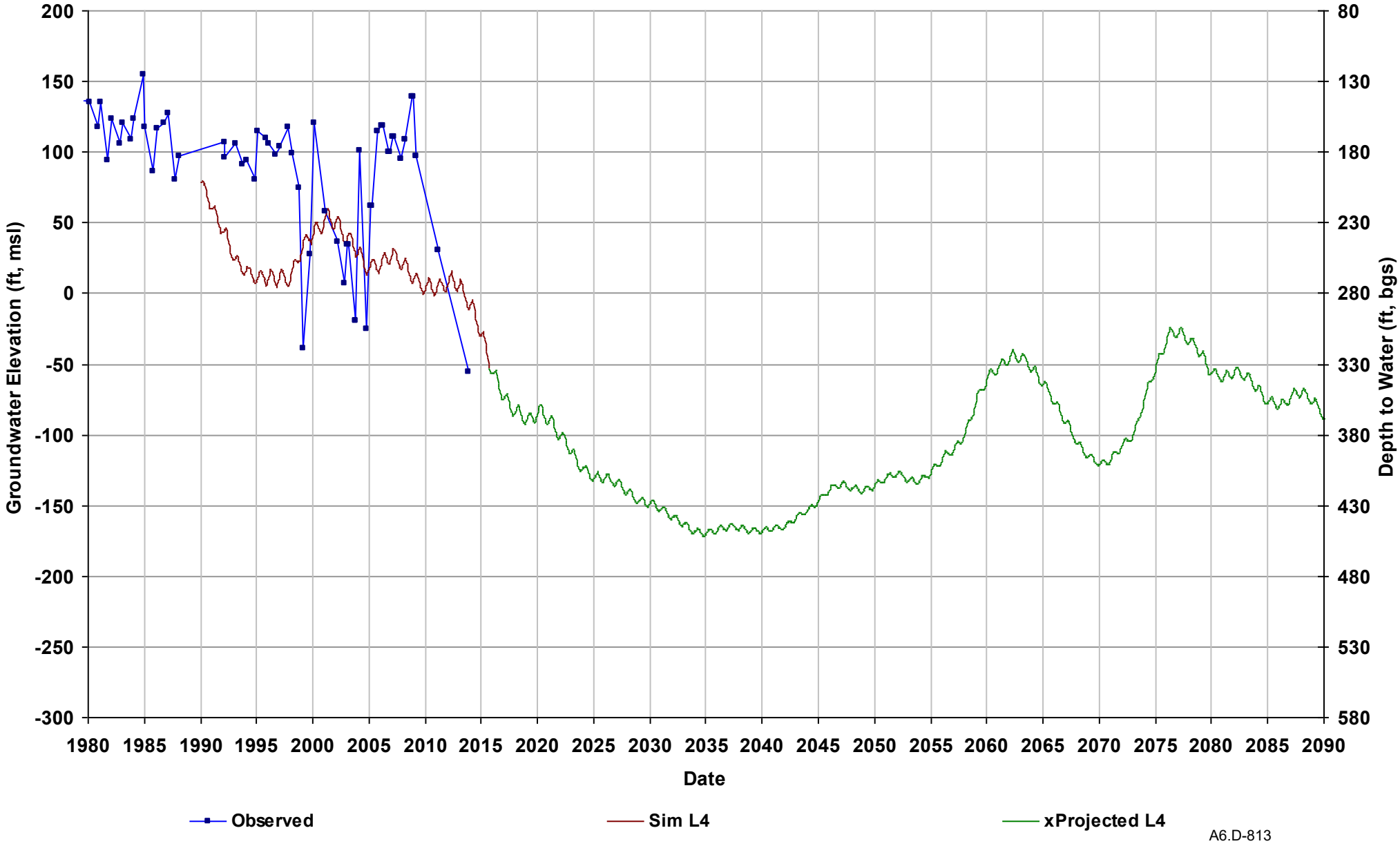
Well Name: 09S16E34J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 261

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



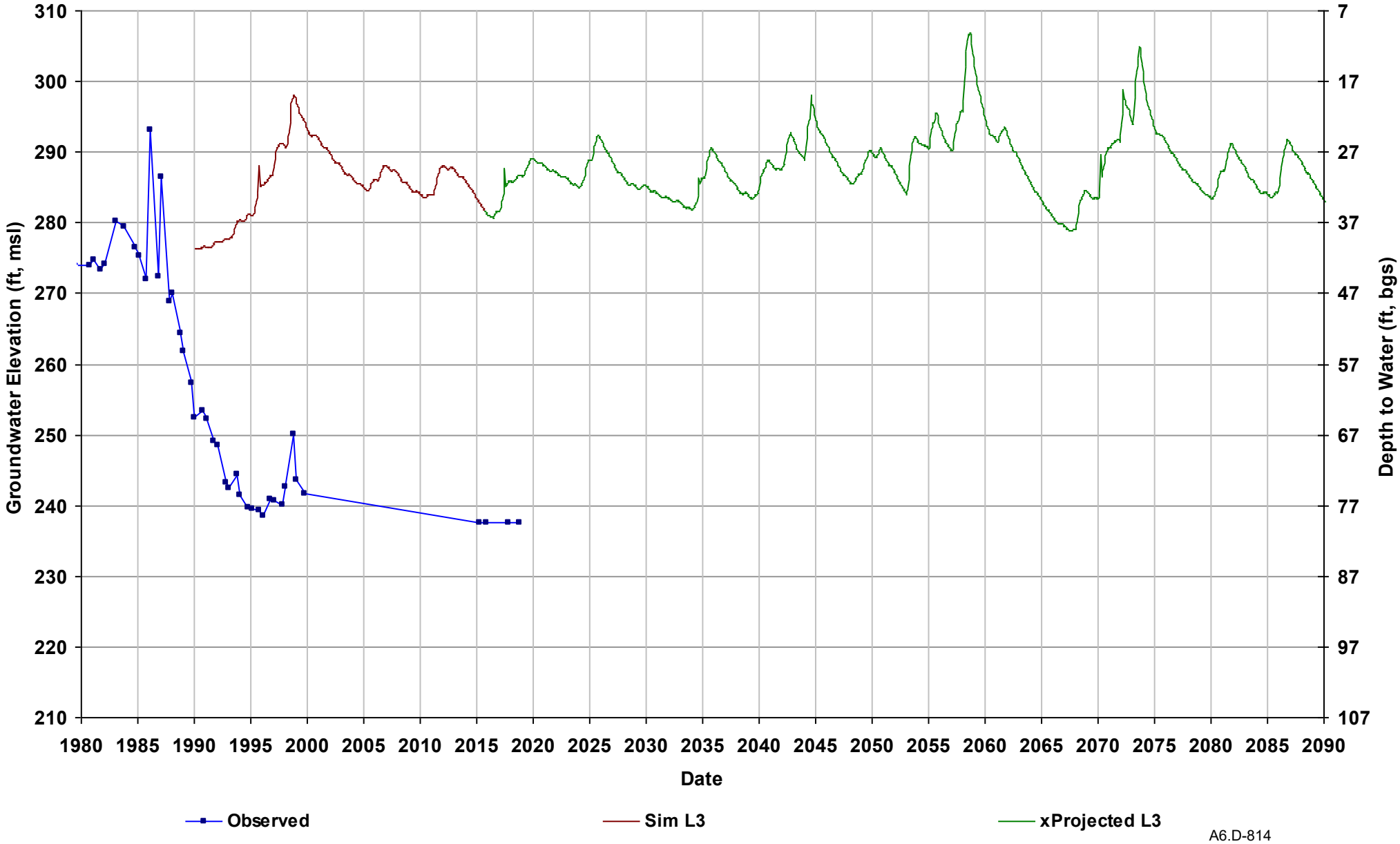
Well Name: 09S16E36J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 280

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



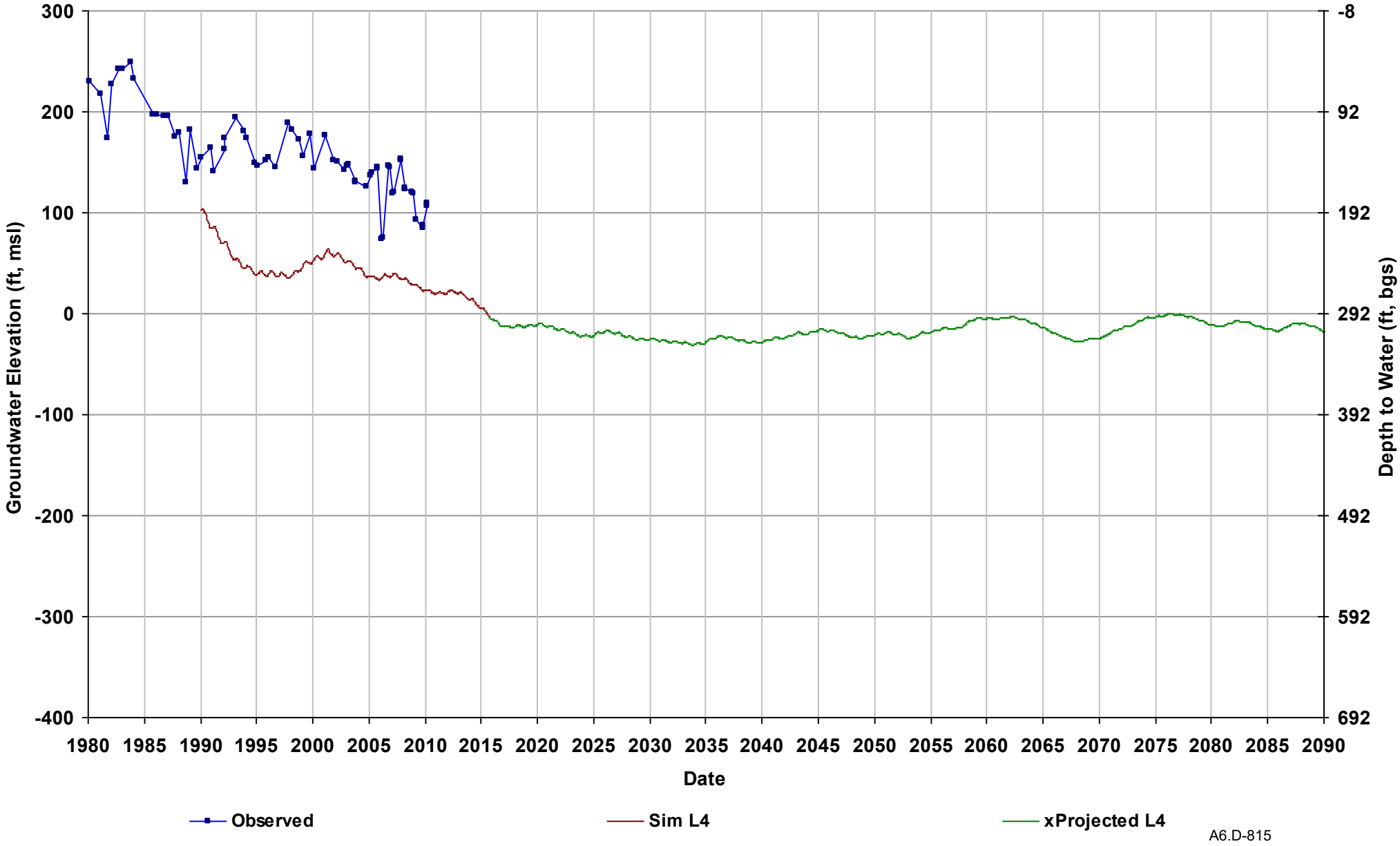
Well Name: 09S17E09D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 317

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



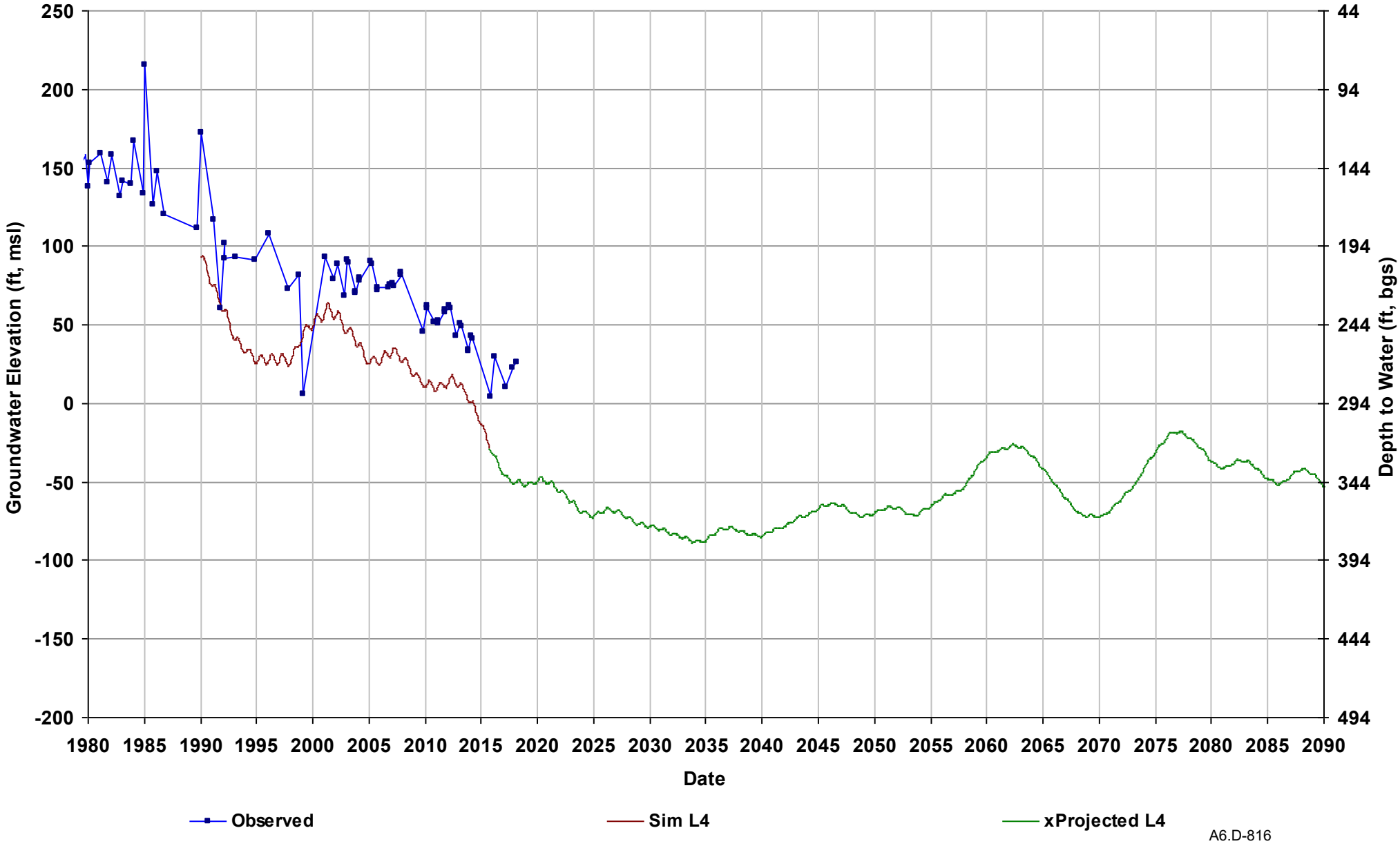
Well Name: 09S17E17F001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 292

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



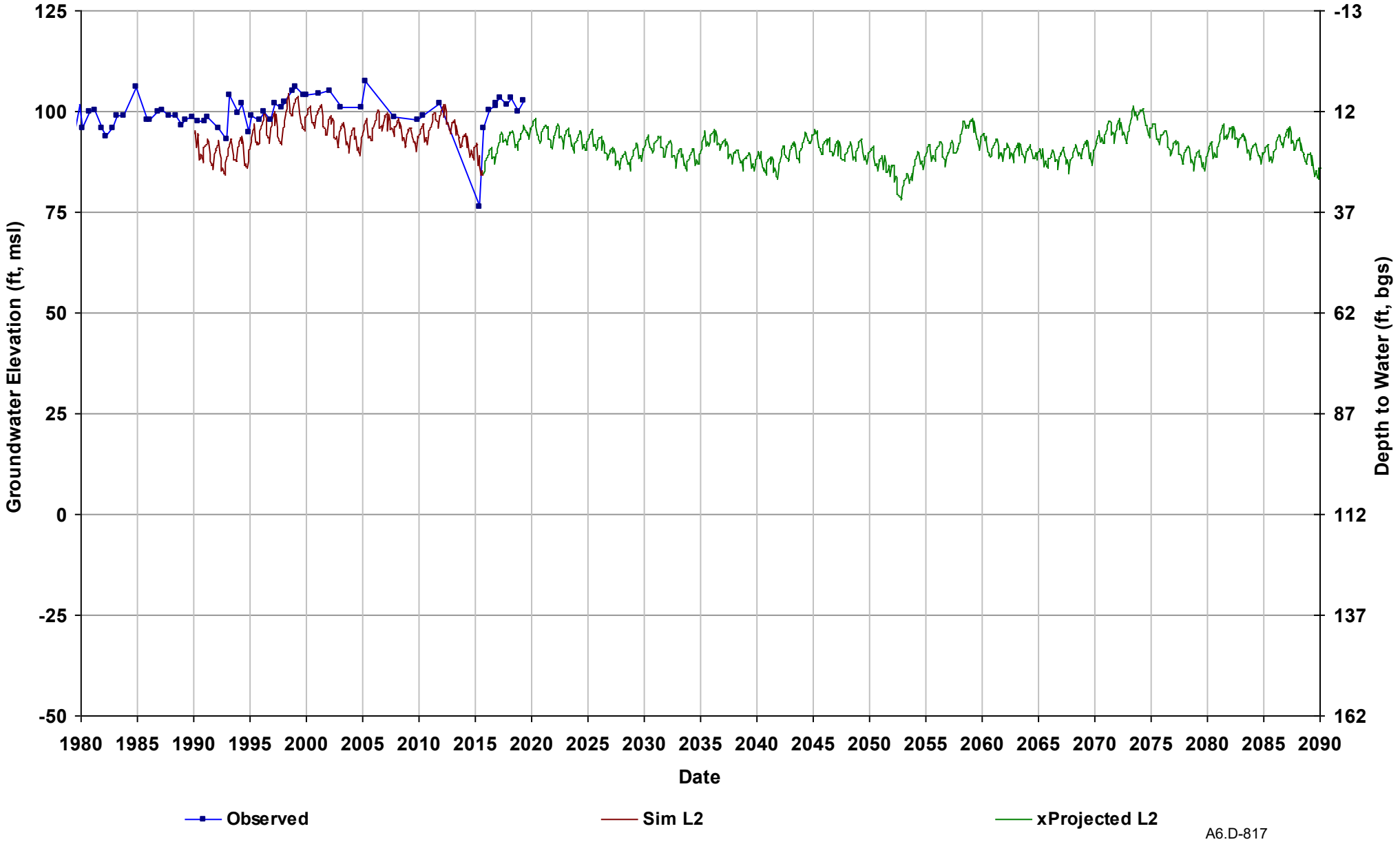
Well Name: 09S17E19L001M
Depth Zone: Lower; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 294

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



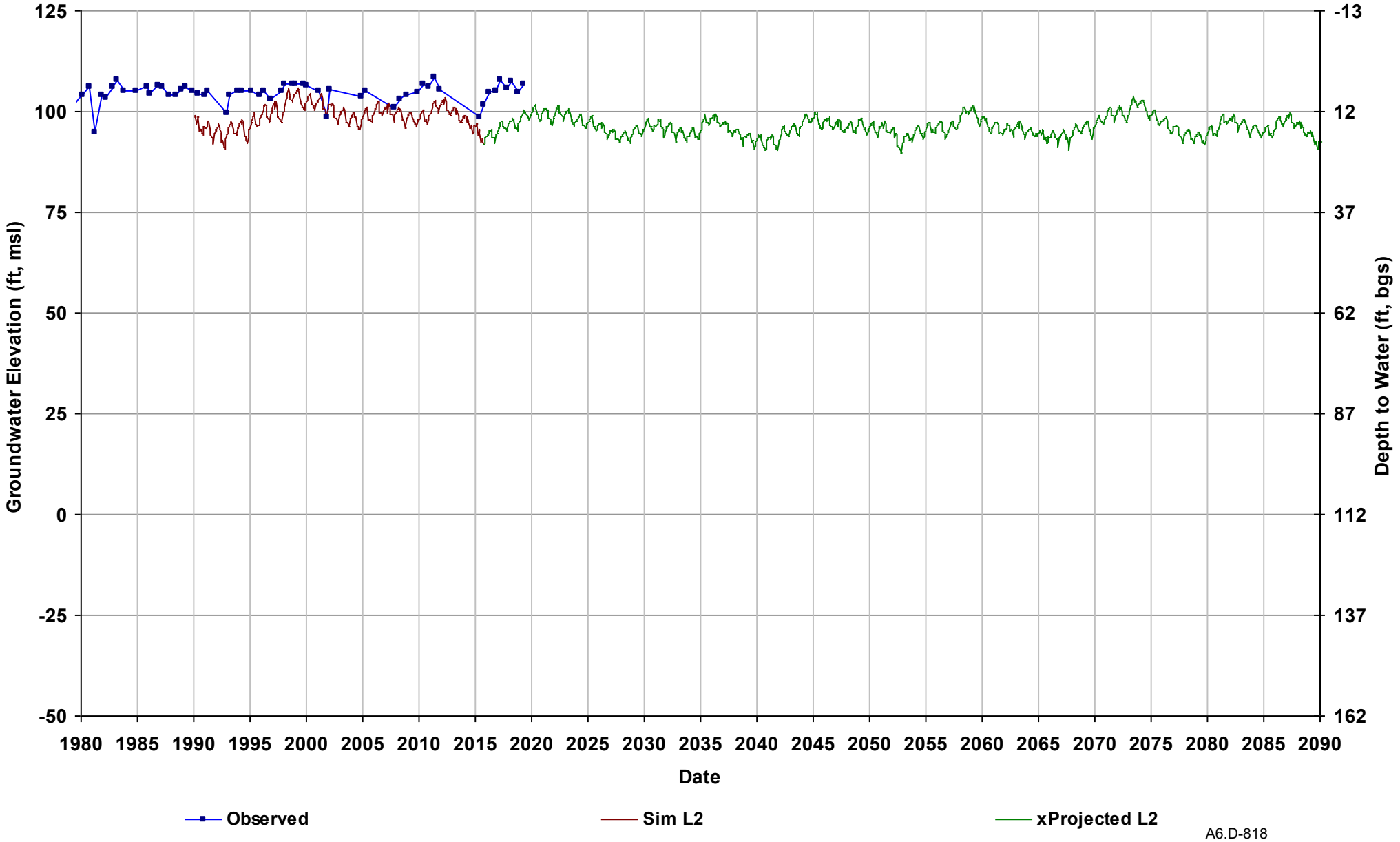
Well Name: 10S12E13L001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 200
Perf Top (ft): 80
Perf Bottom (ft): 180
Top Model Layer: 2
Bottom Model Layer: 2



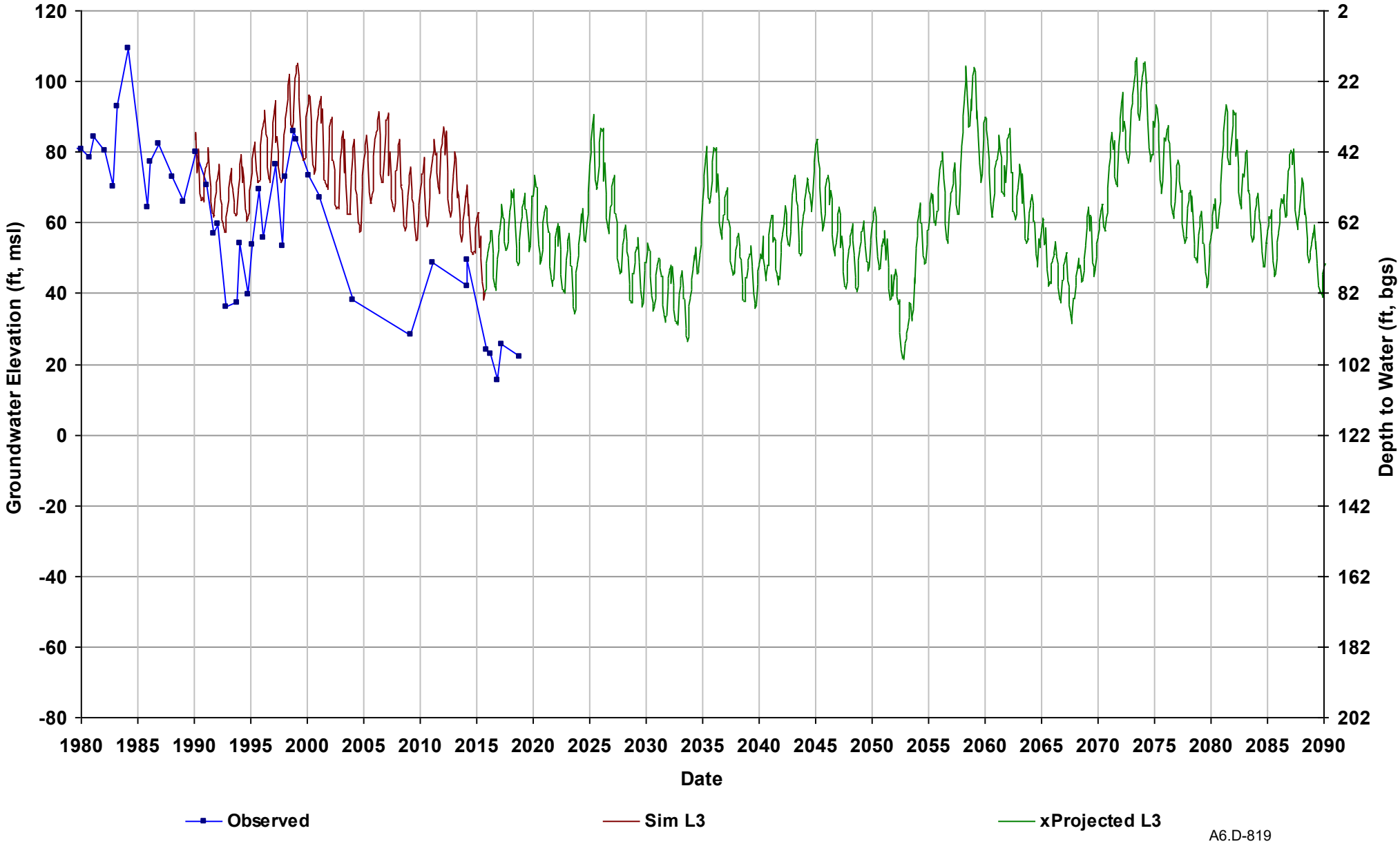
Well Name: 10S12E26H001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 158
Perf Top (ft): 60
Perf Bottom (ft): 150
Top Model Layer: 2
Bottom Model Layer: 2



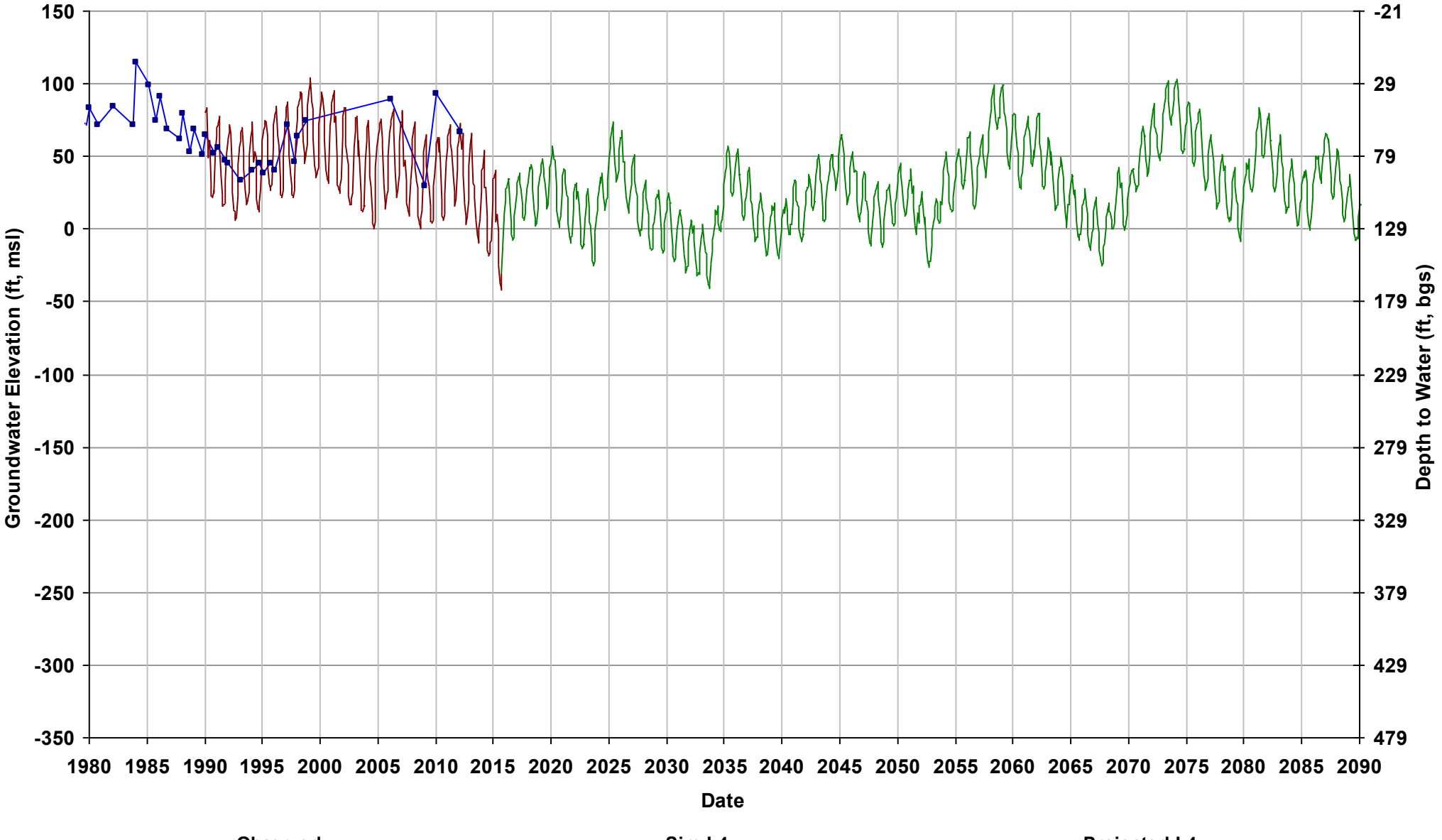
Well Name: 10S13E15A001M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 122

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



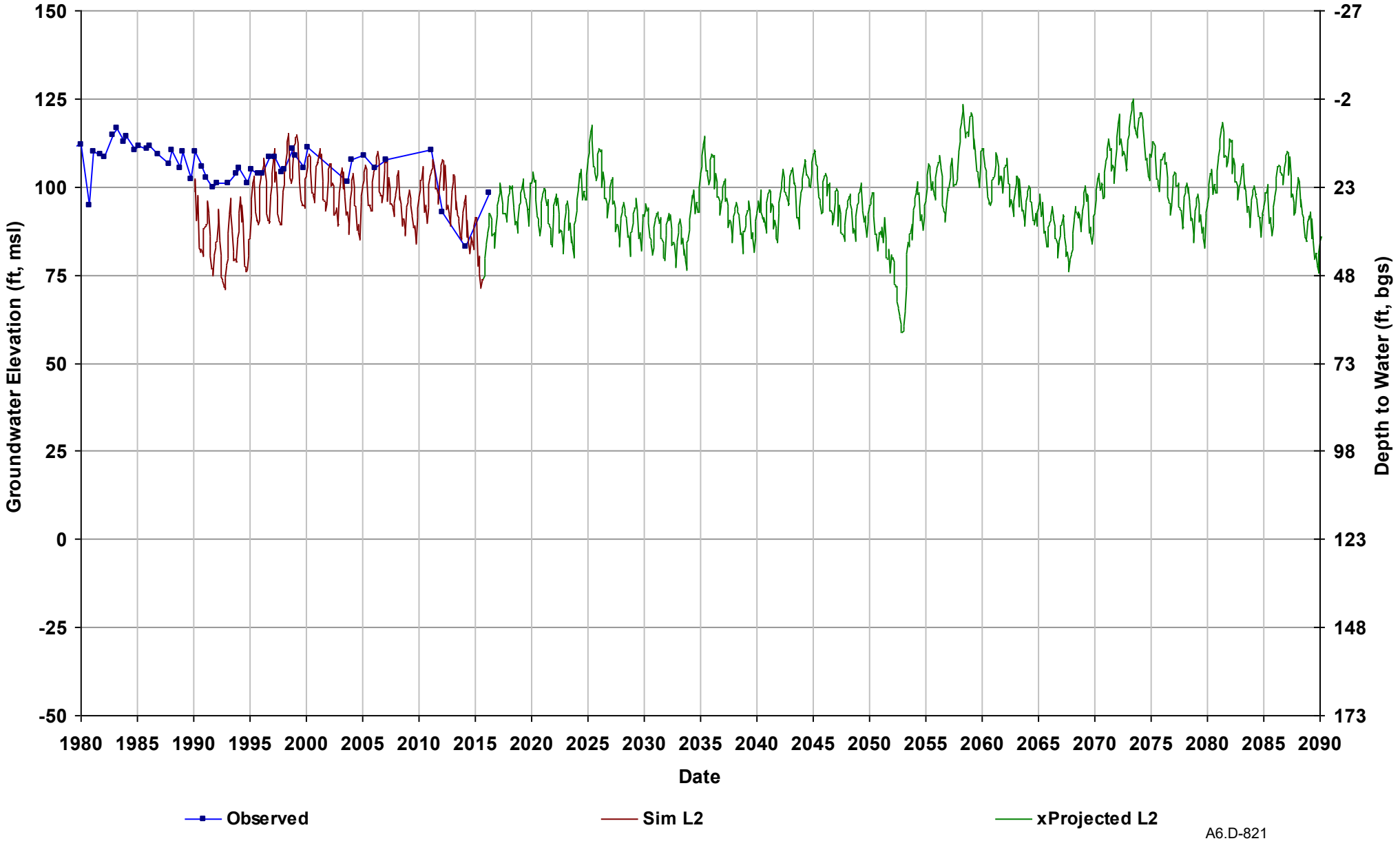
Well Name: 10S13E24L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 129

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



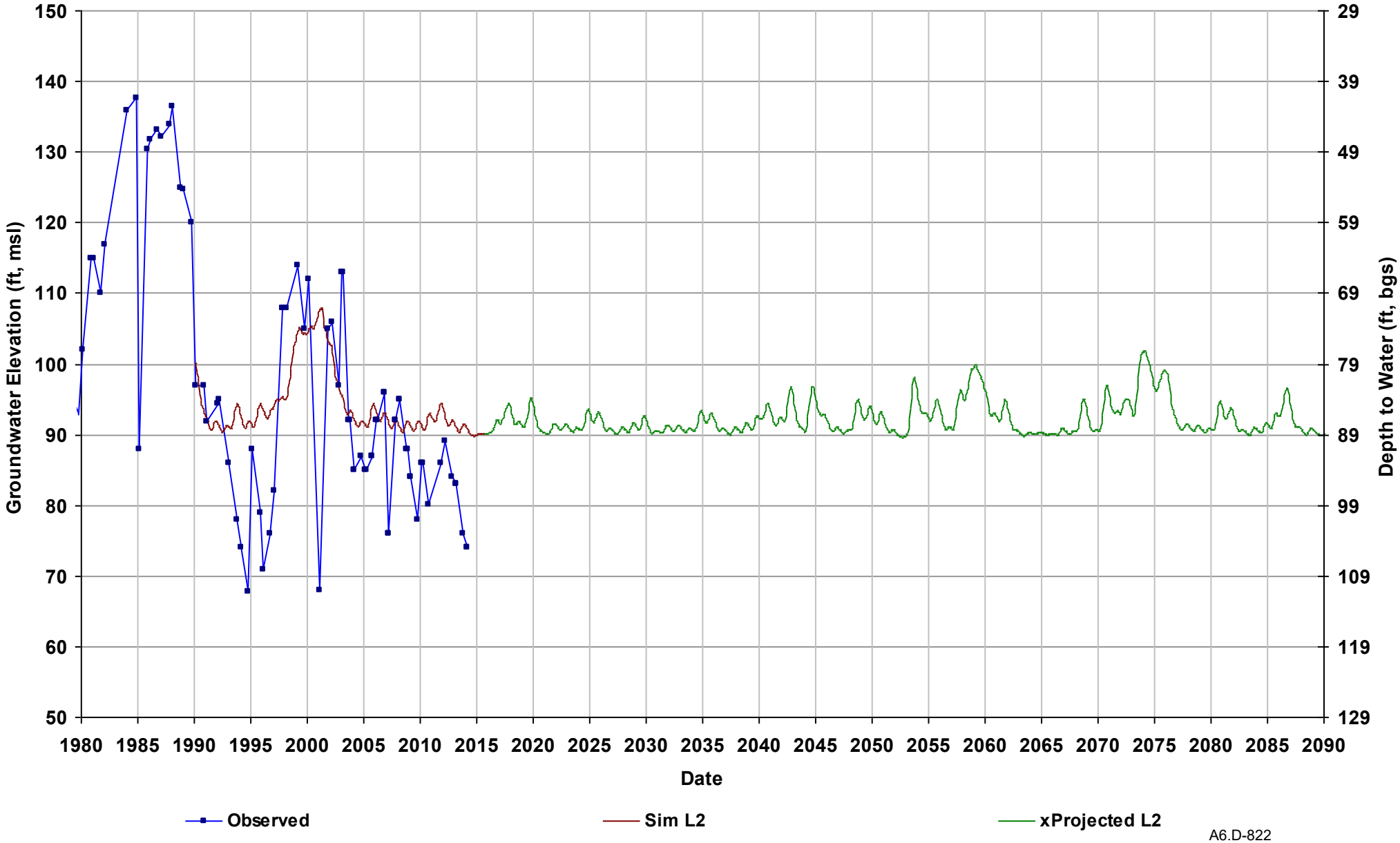
Well Name: 10S13E34G001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 123

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



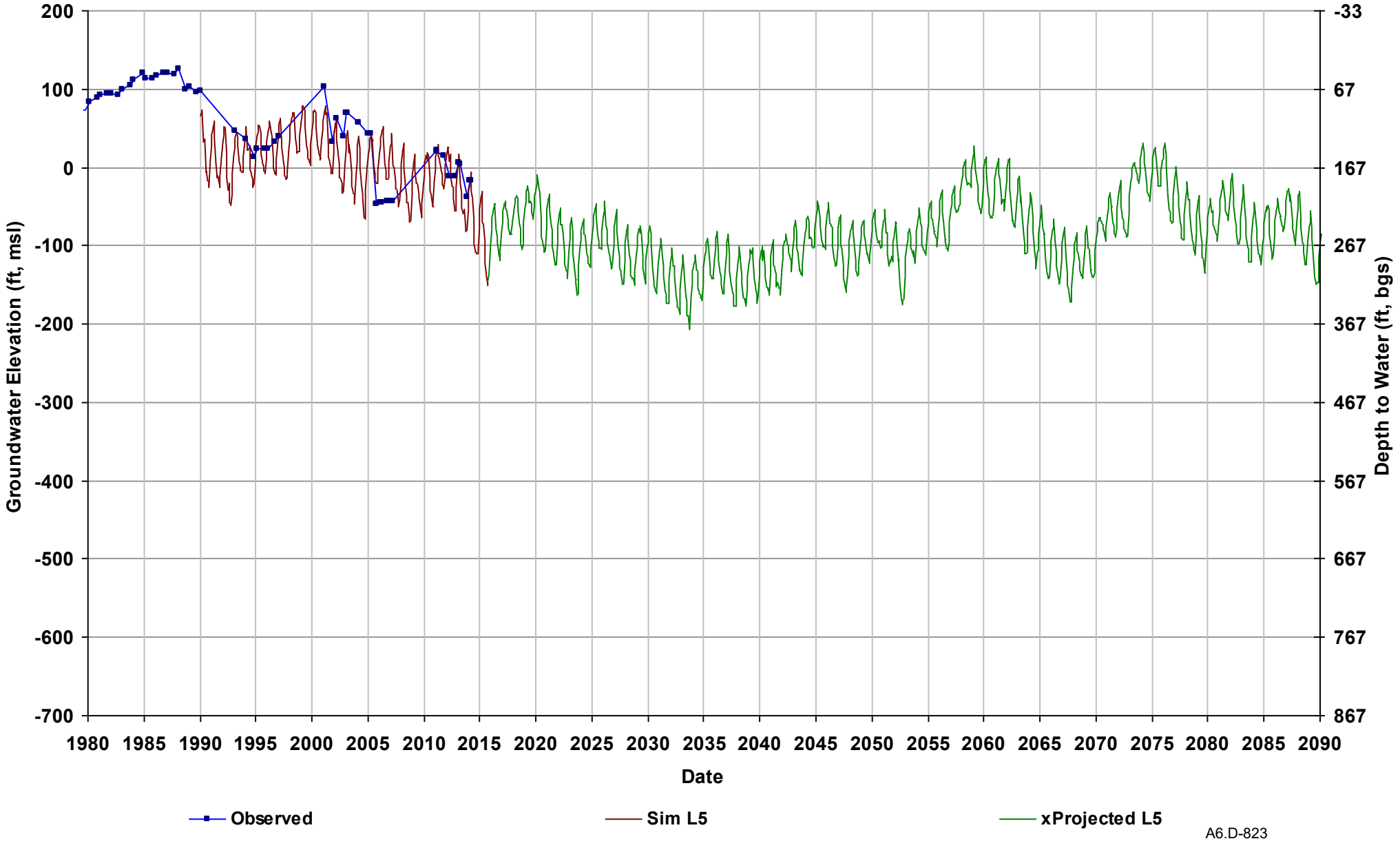
Well Name: 10S14E01R002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 179

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



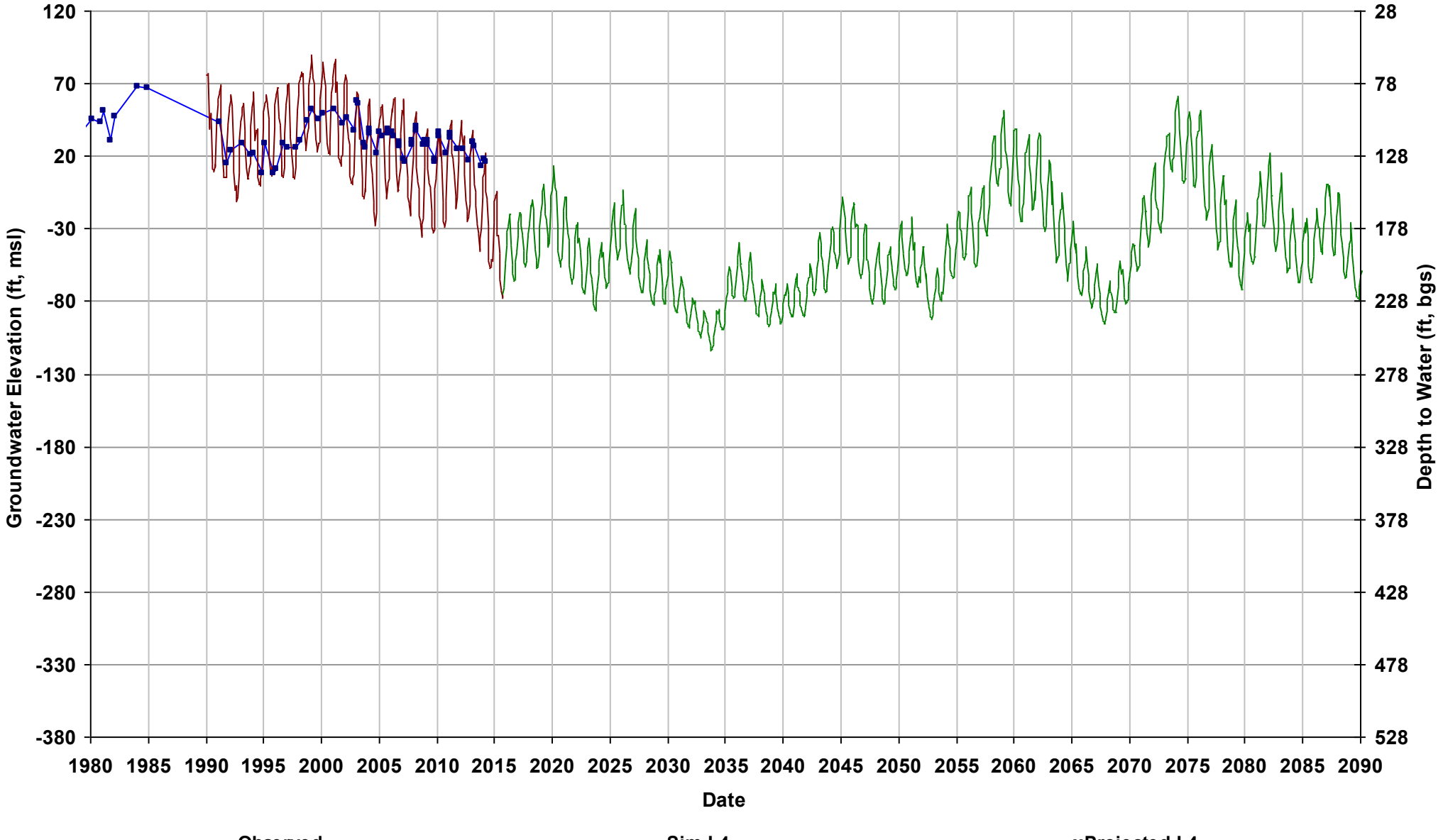
Well Name: 10S14E03A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 167

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



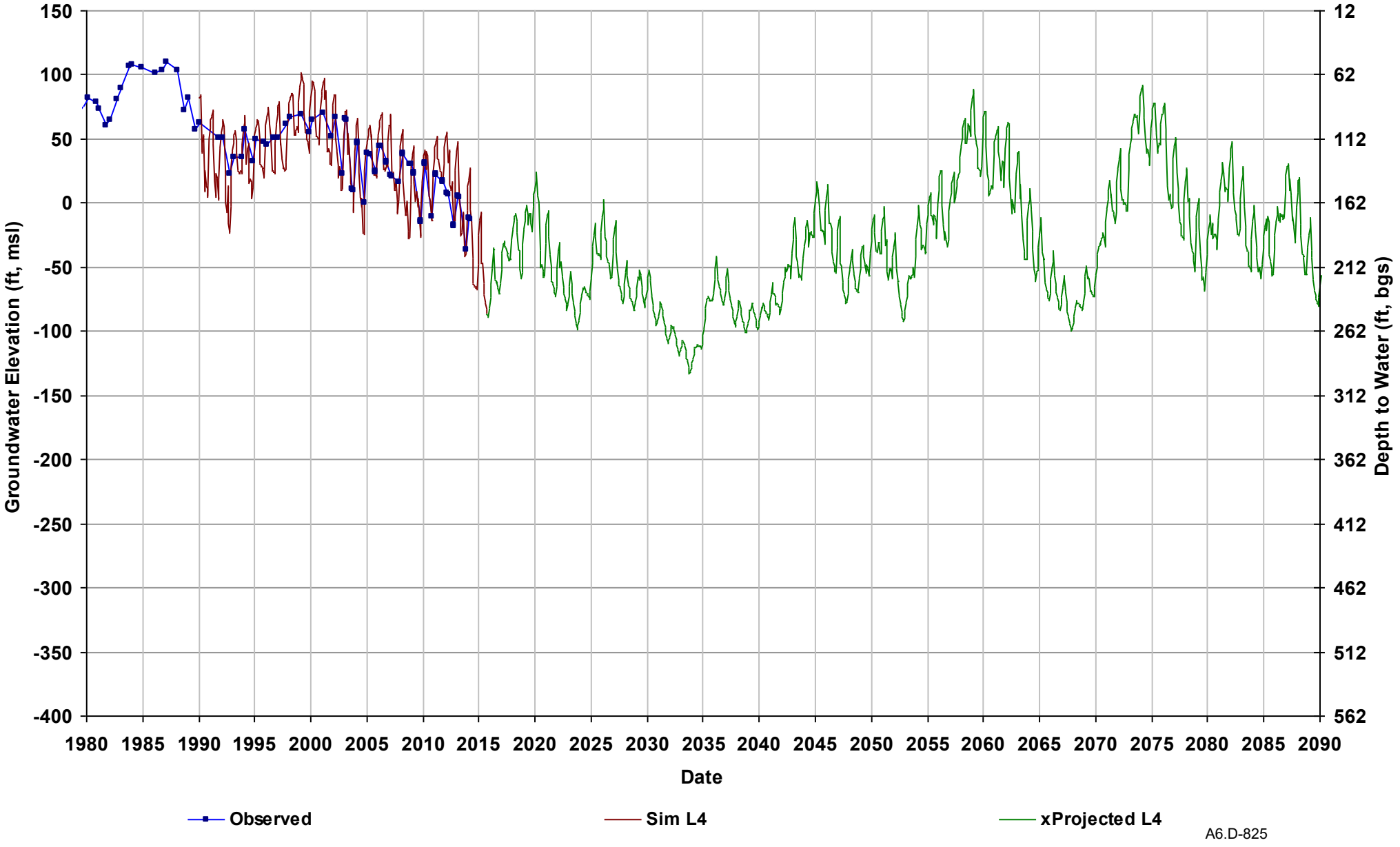
Well Name: 10S14E05C003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 148

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



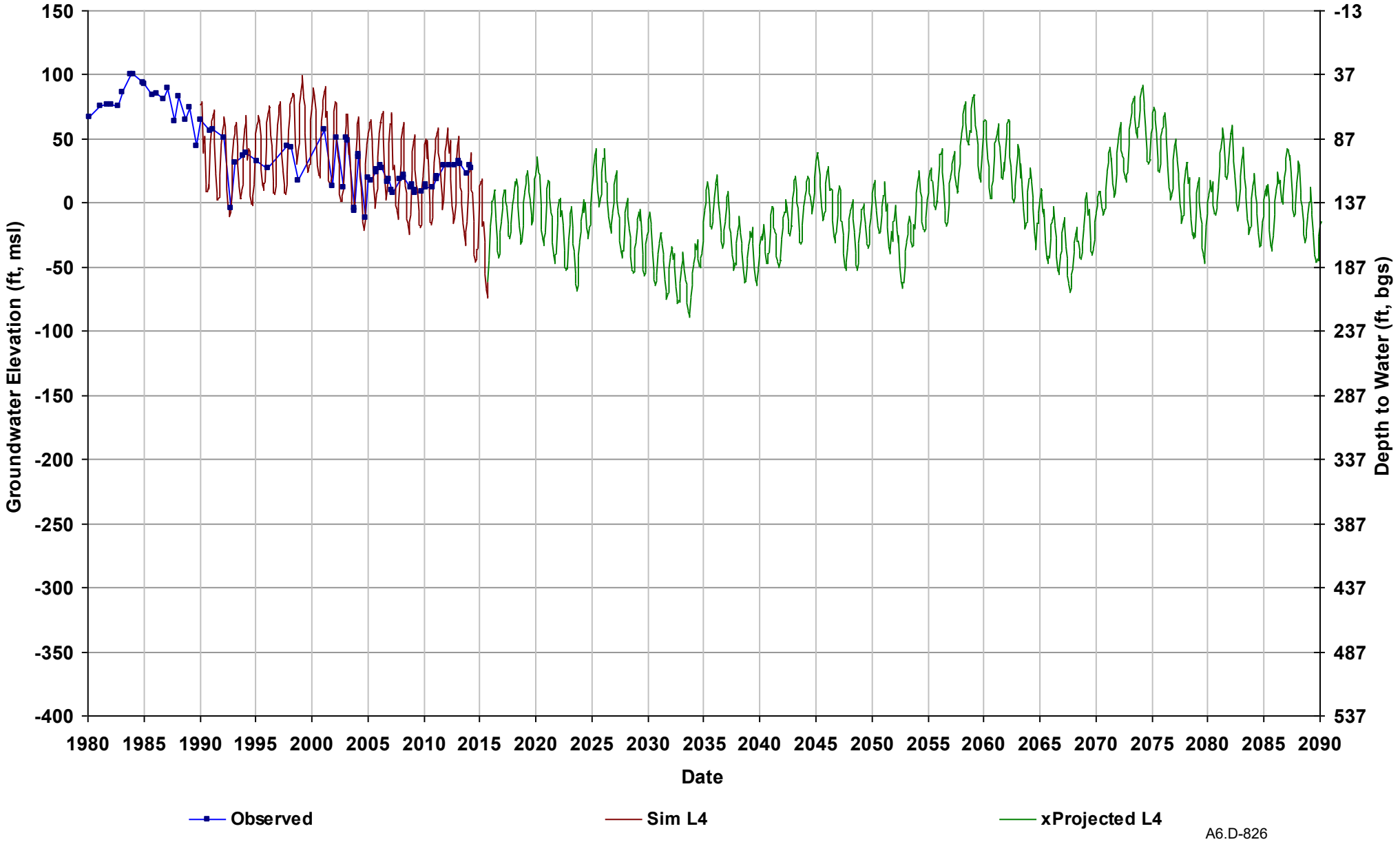
Well Name: 10S14E15H001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 162

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



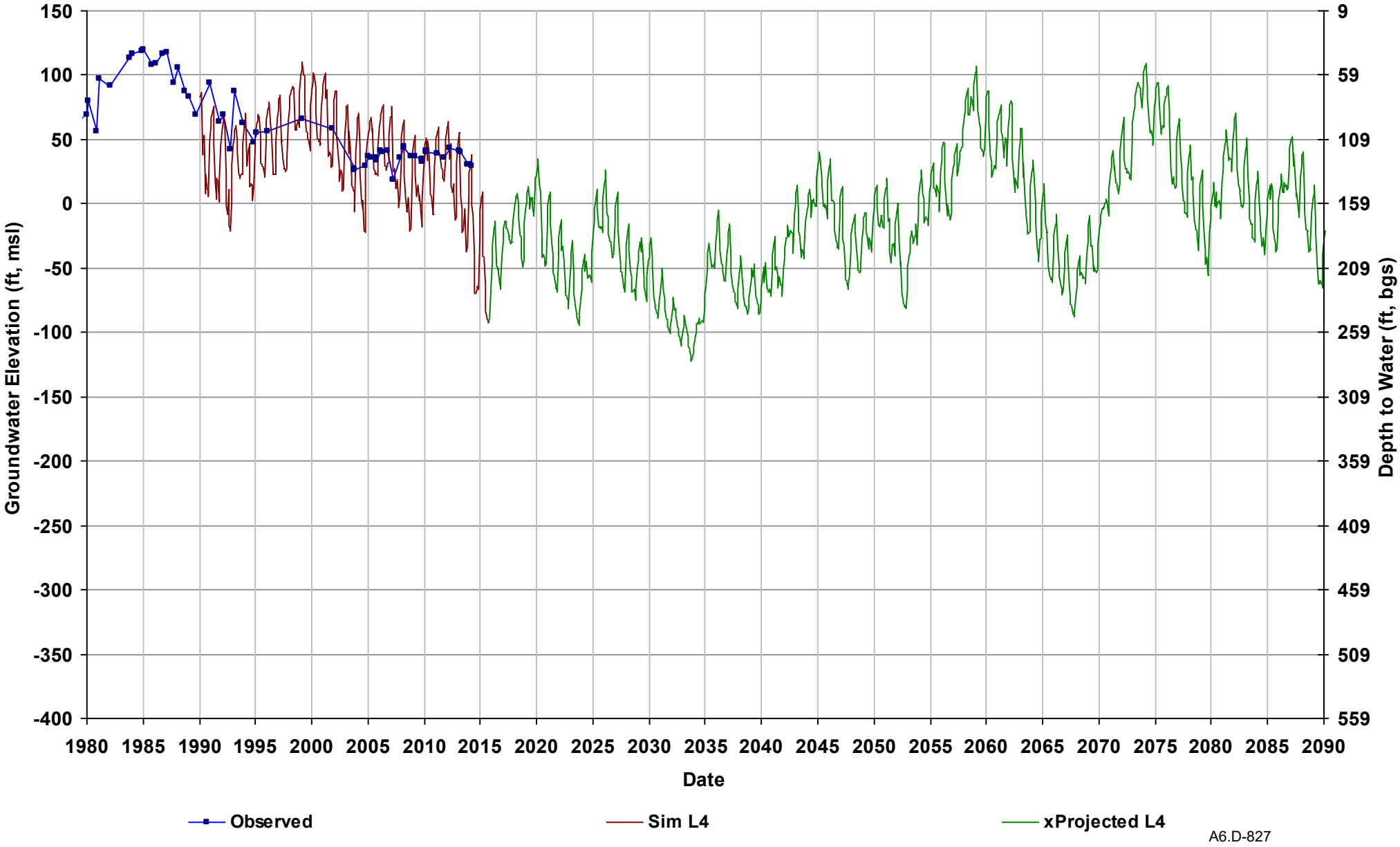
Well Name: 10S14E18K001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 137

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



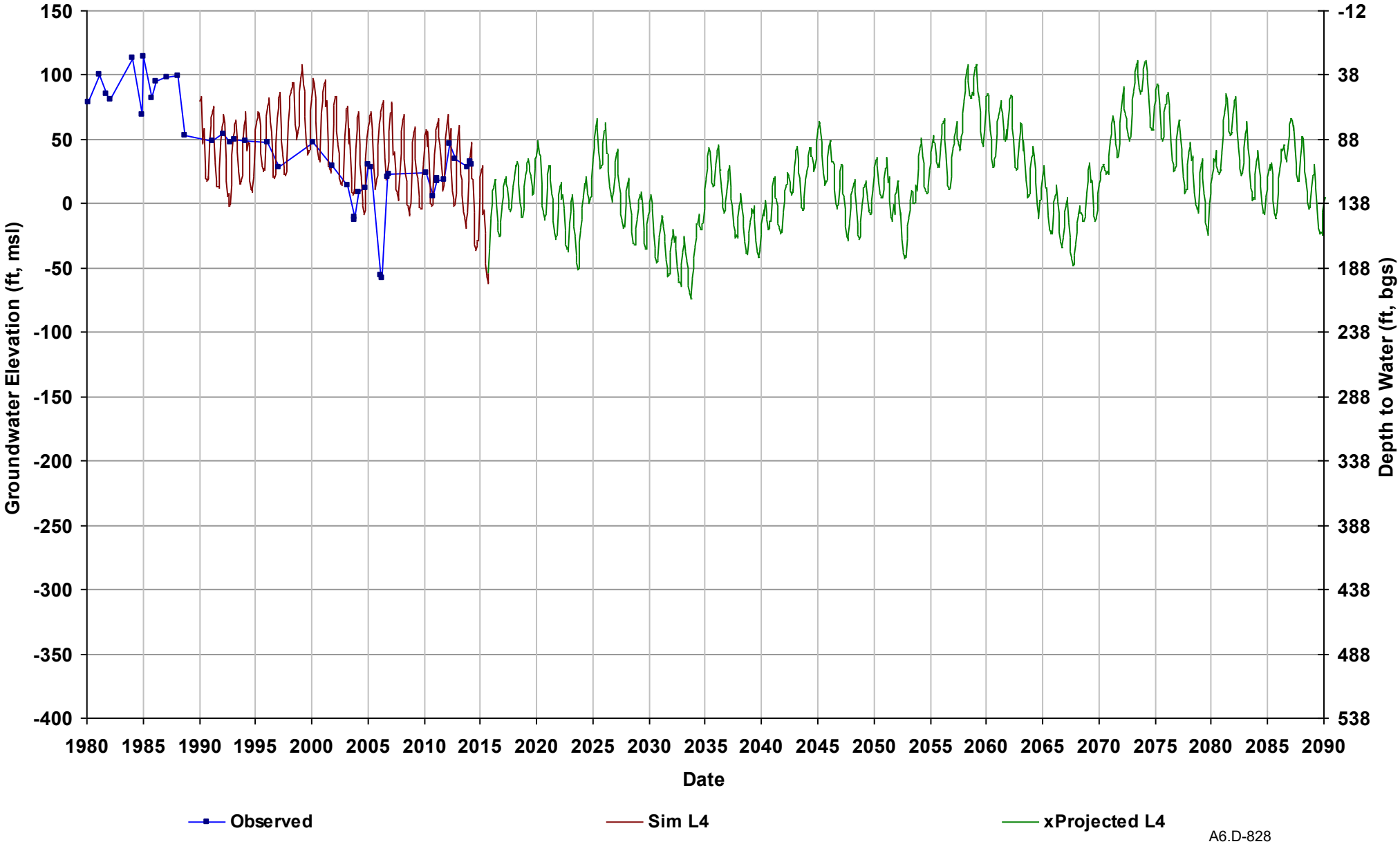
Well Name: 10S14E26C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 158

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



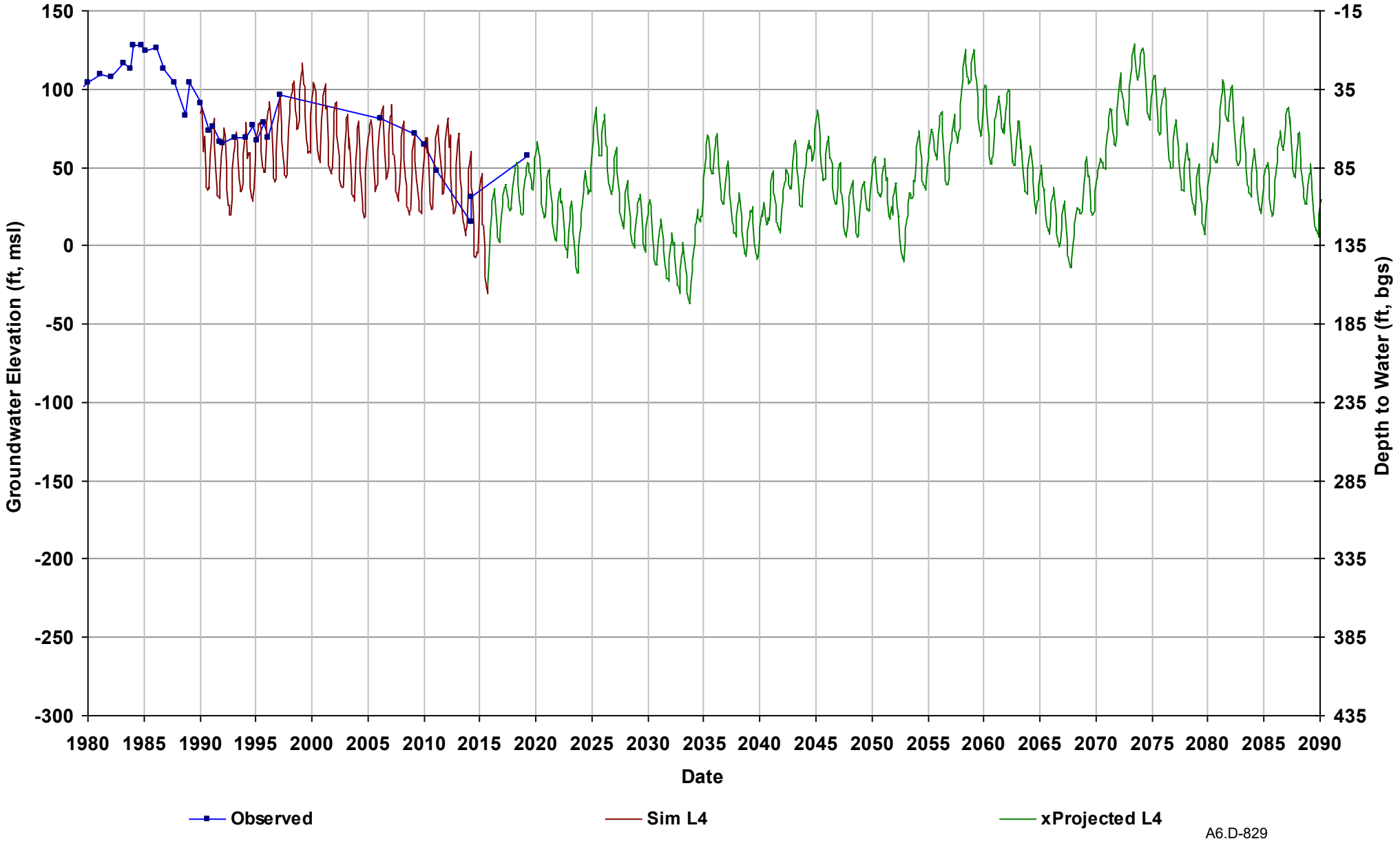
Well Name: 10S14E29C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



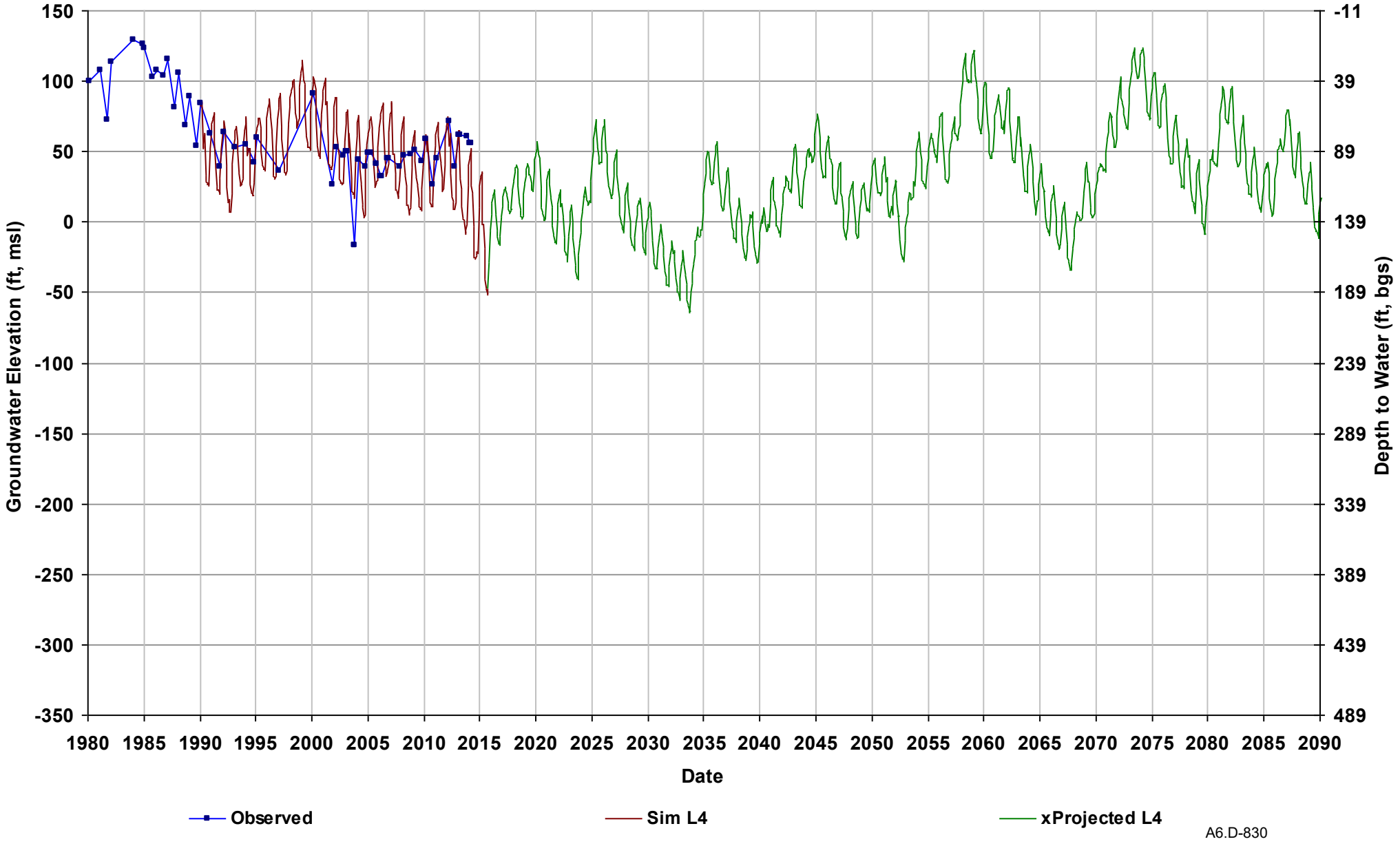
Well Name: 10S14E32Q001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 134

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



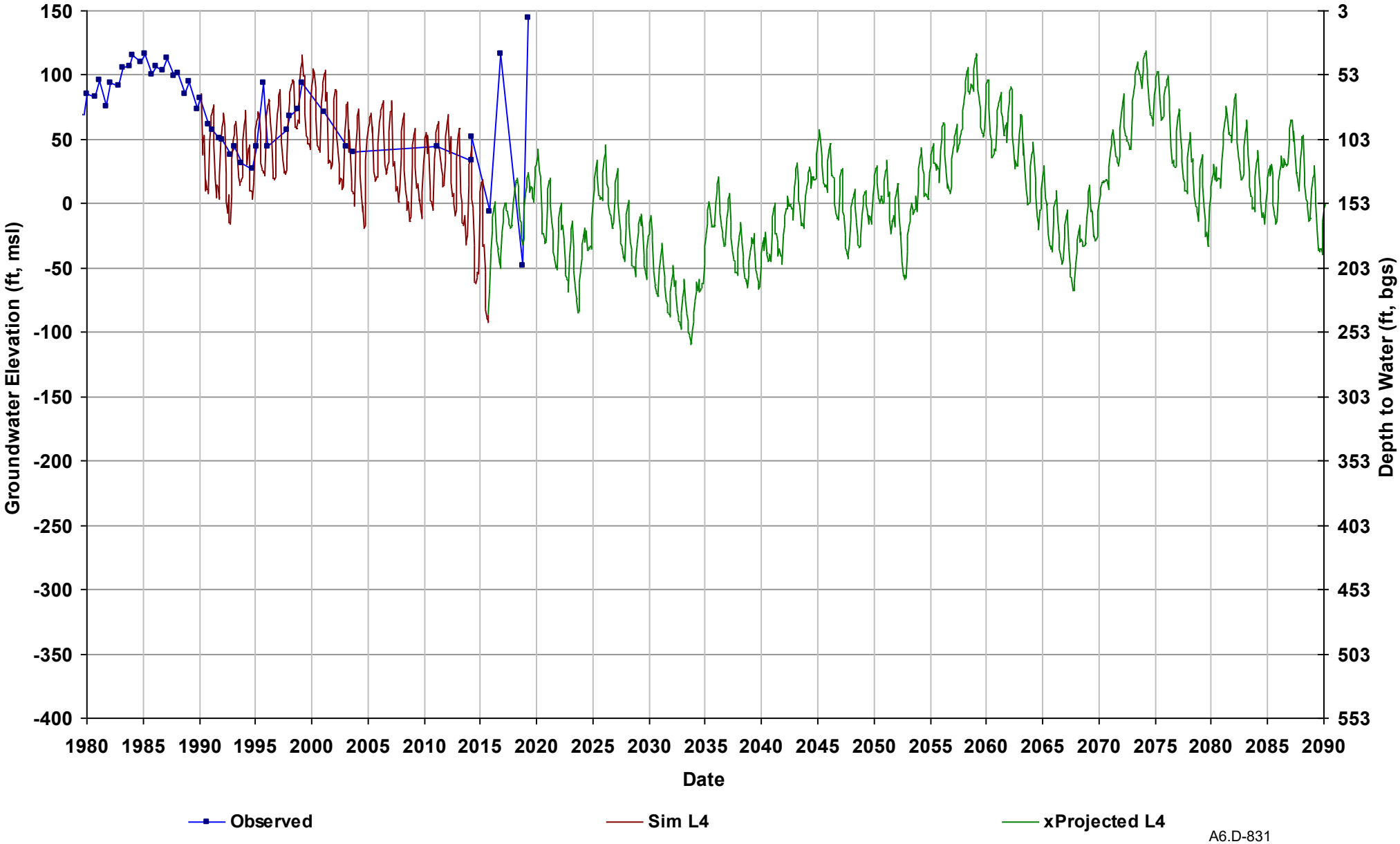
Well Name: 10S14E33L002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 139

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



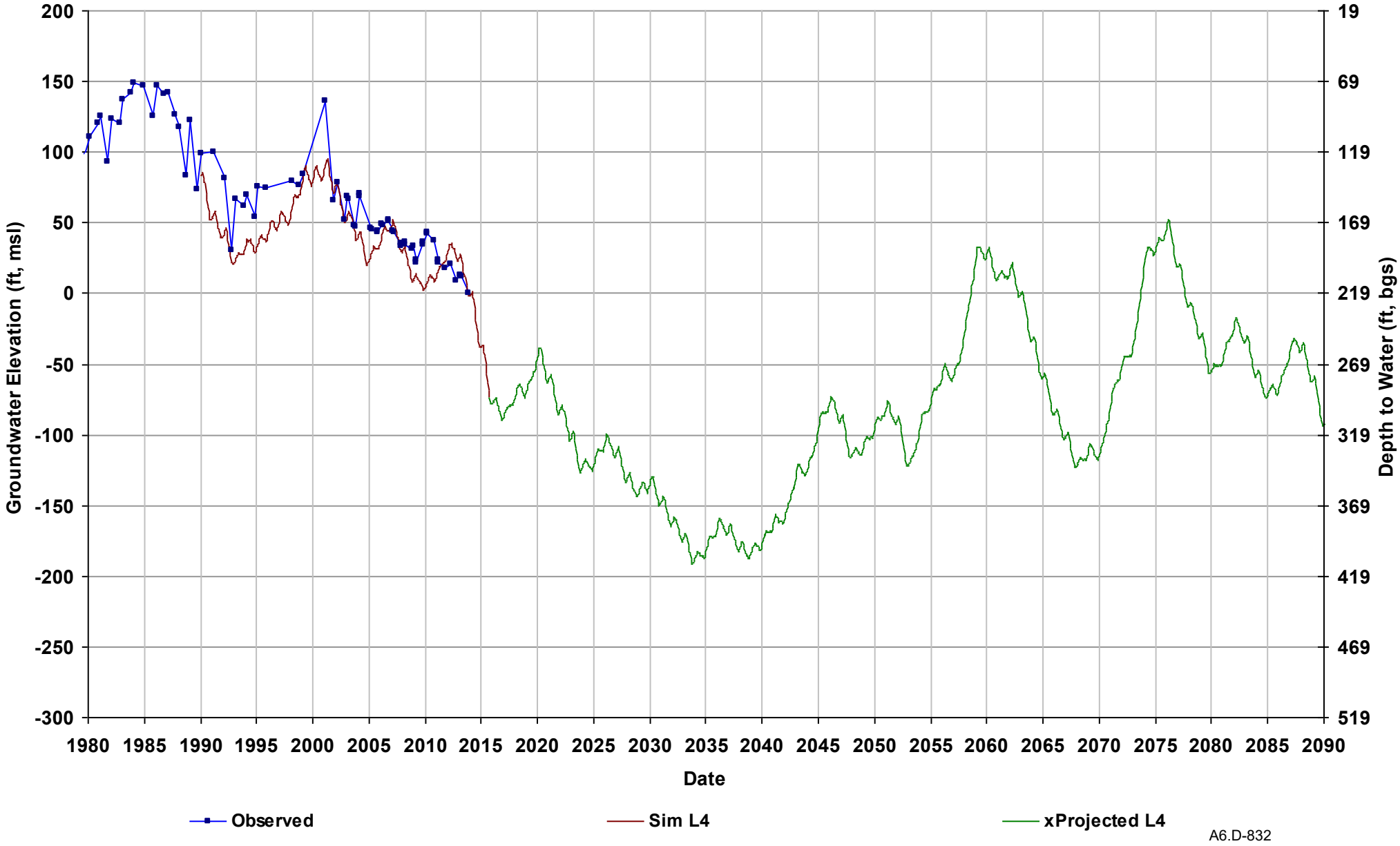
Well Name: 10S14E35F001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 153

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



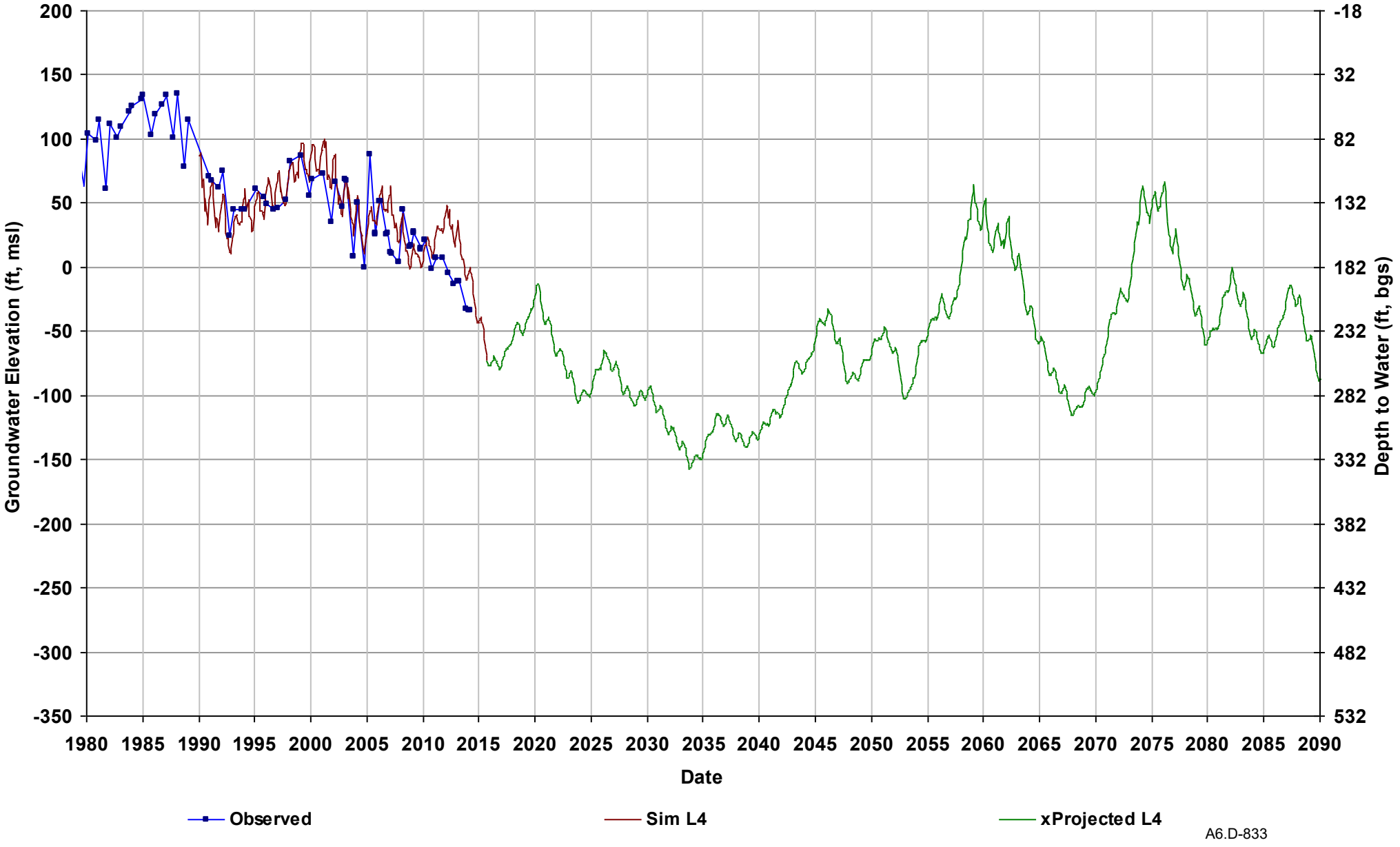
Well Name: 10S15E01E001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 218

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



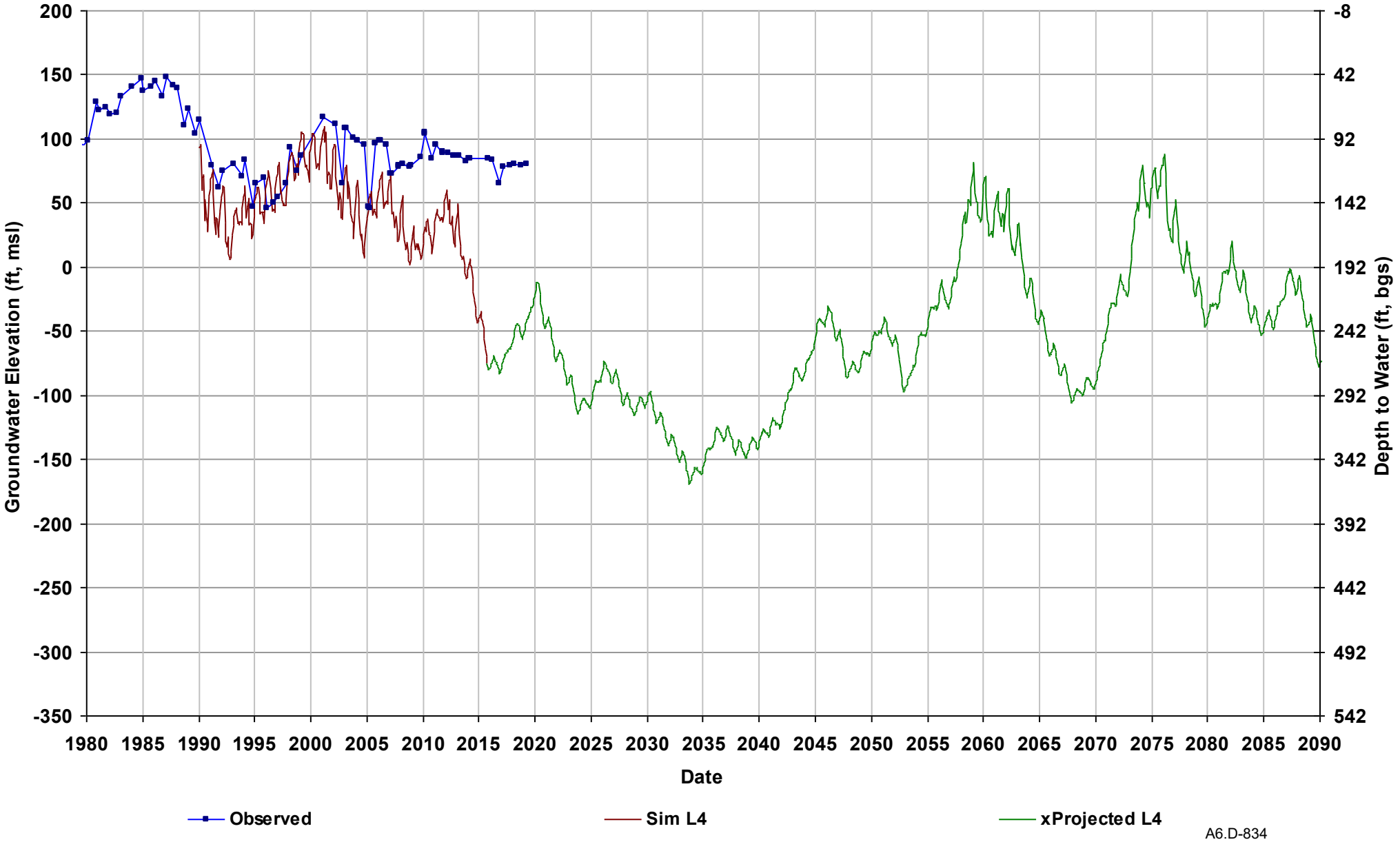
Well Name: 10S15E06L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 182

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



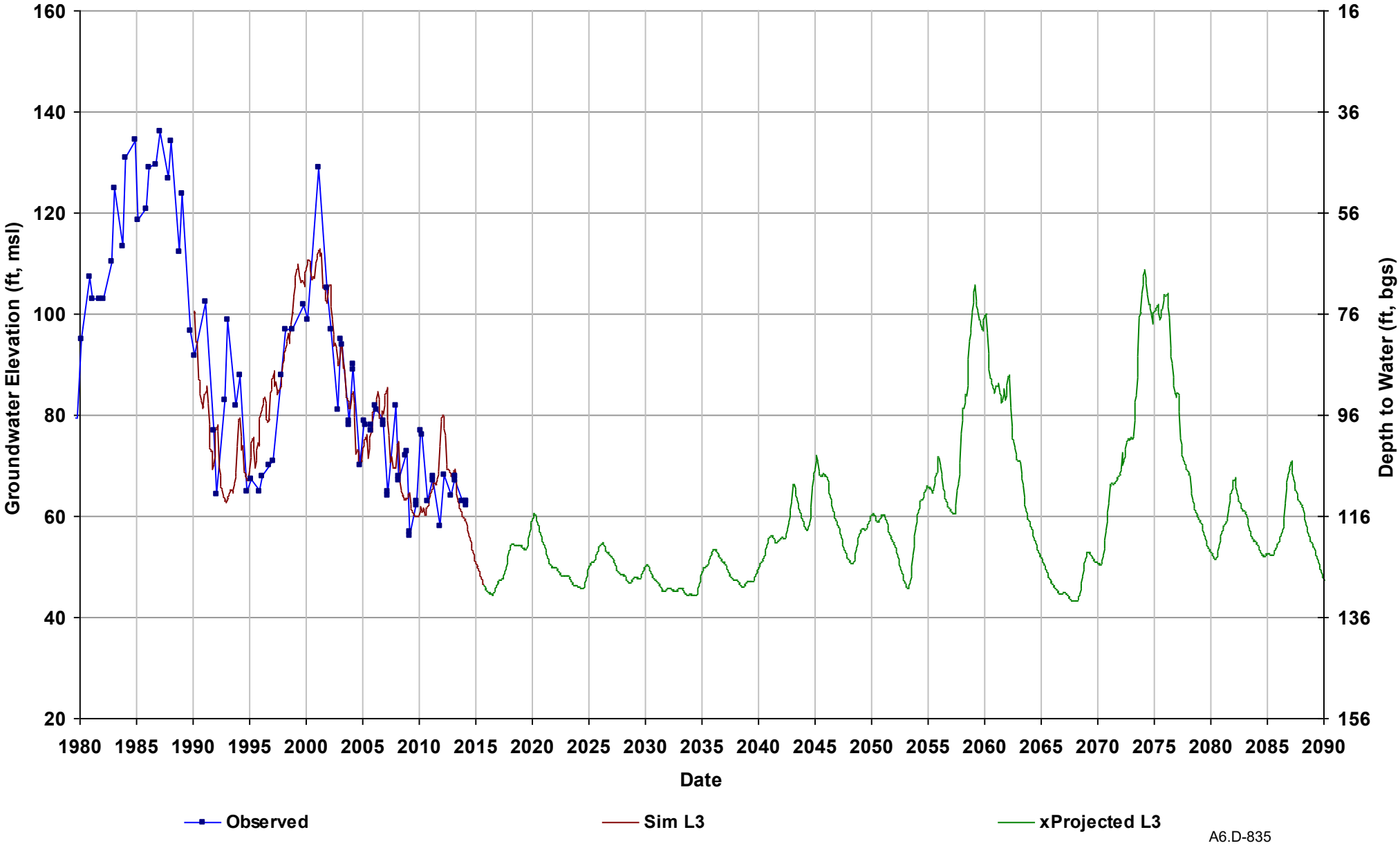
Well Name: 10S15E16R002M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



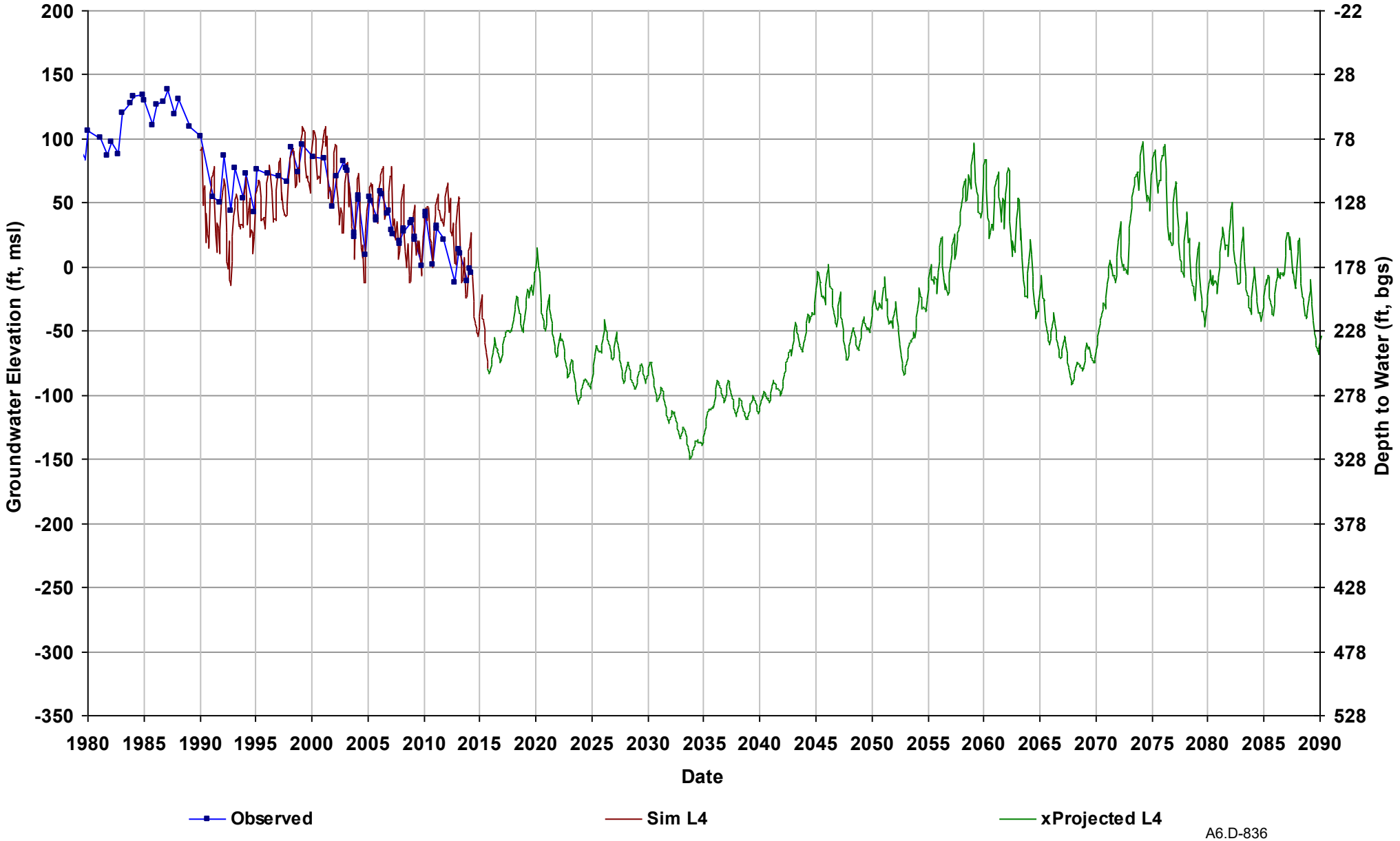
Well Name: 10S15E18L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 176

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



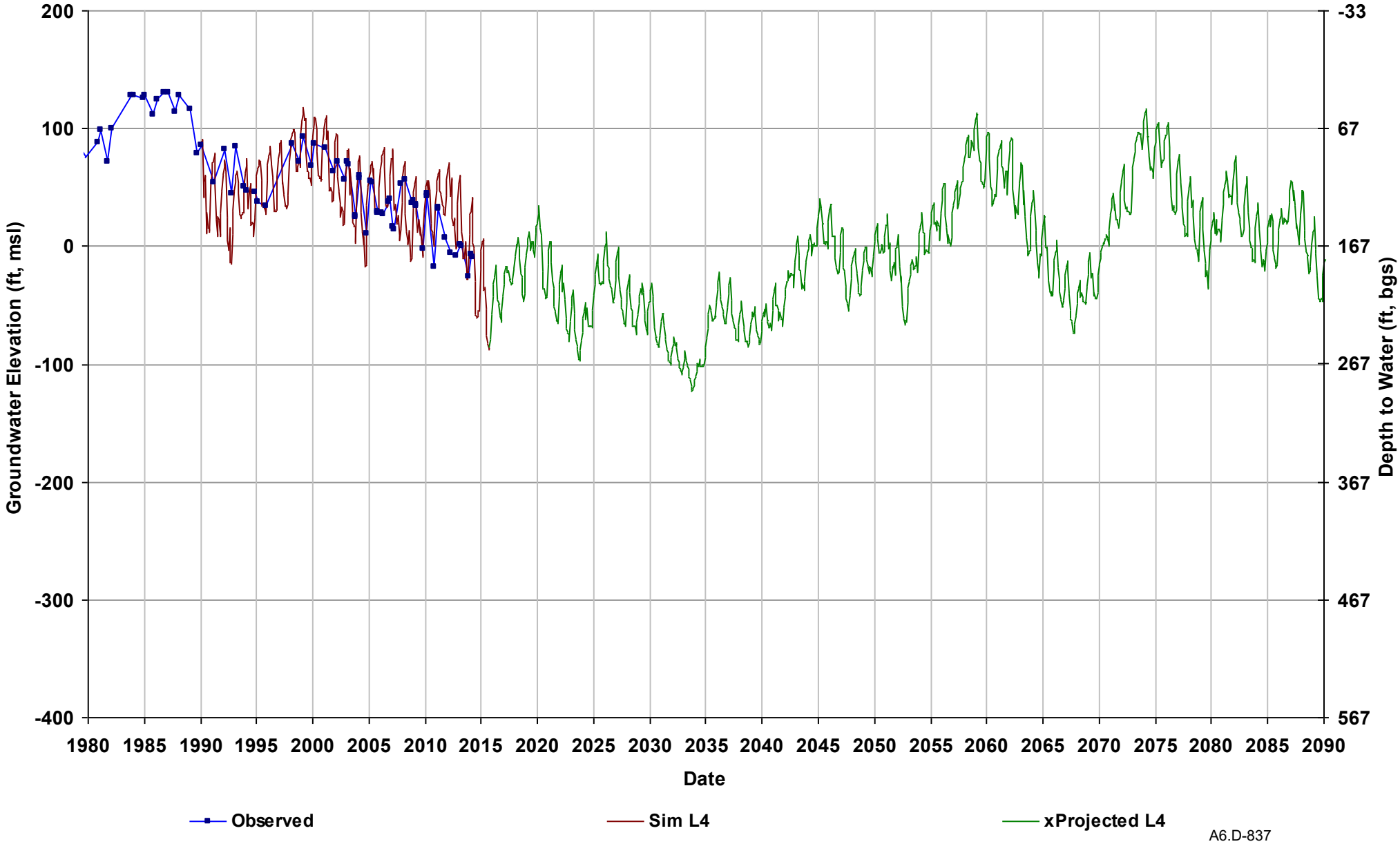
Well Name: 10S15E29A002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 178

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



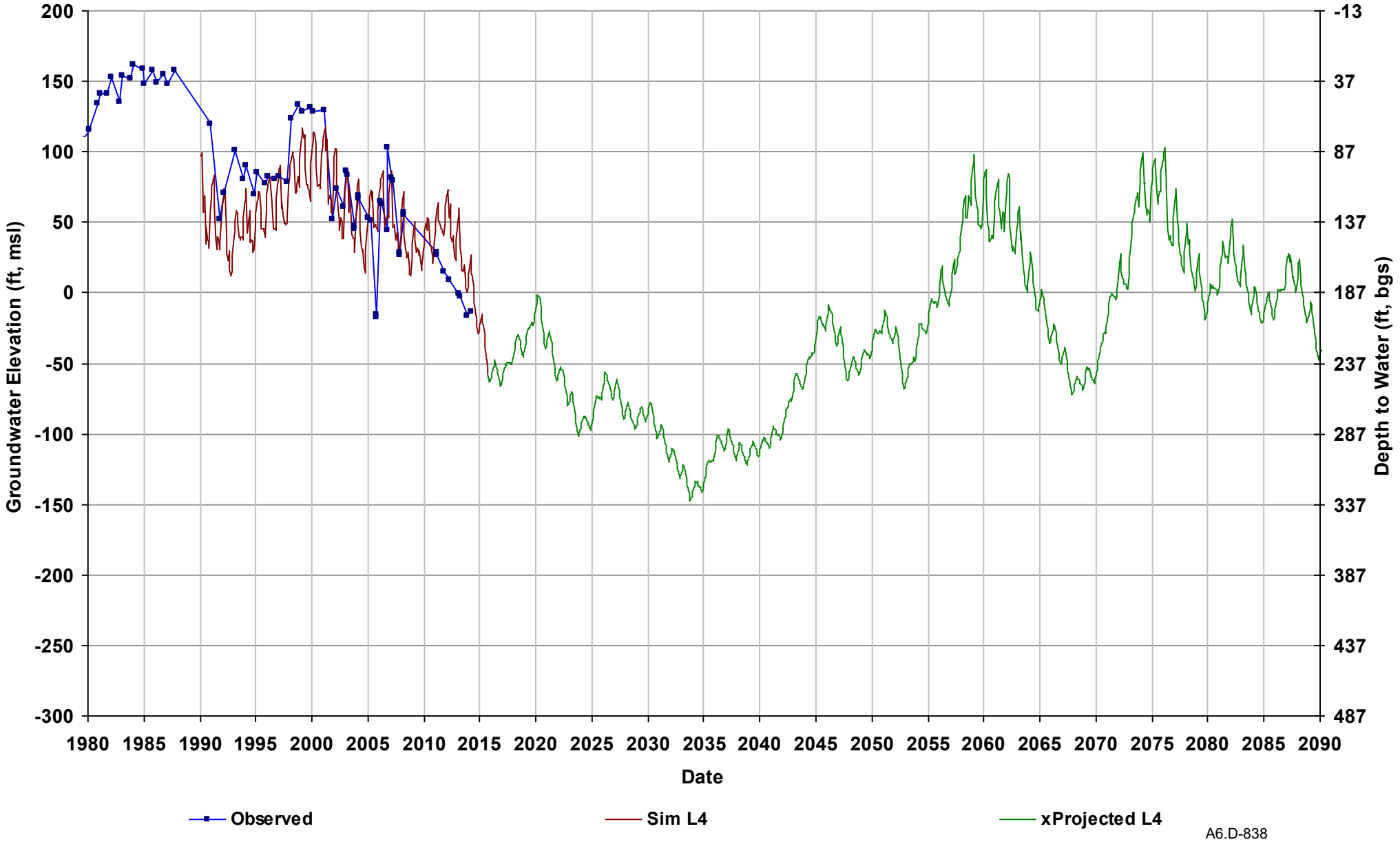
Well Name: 10S15E32L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



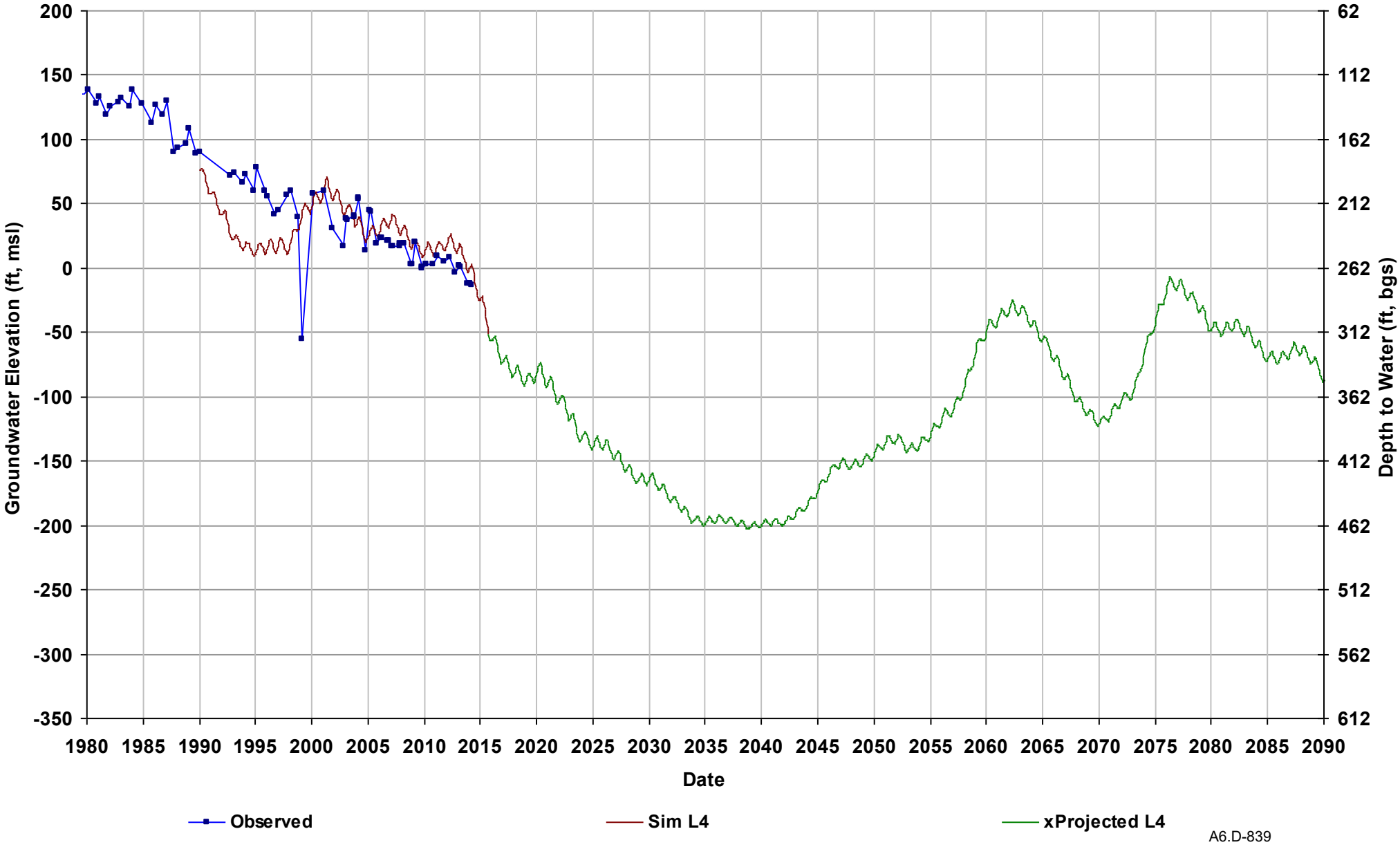
Well Name: 10S15E35A002M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



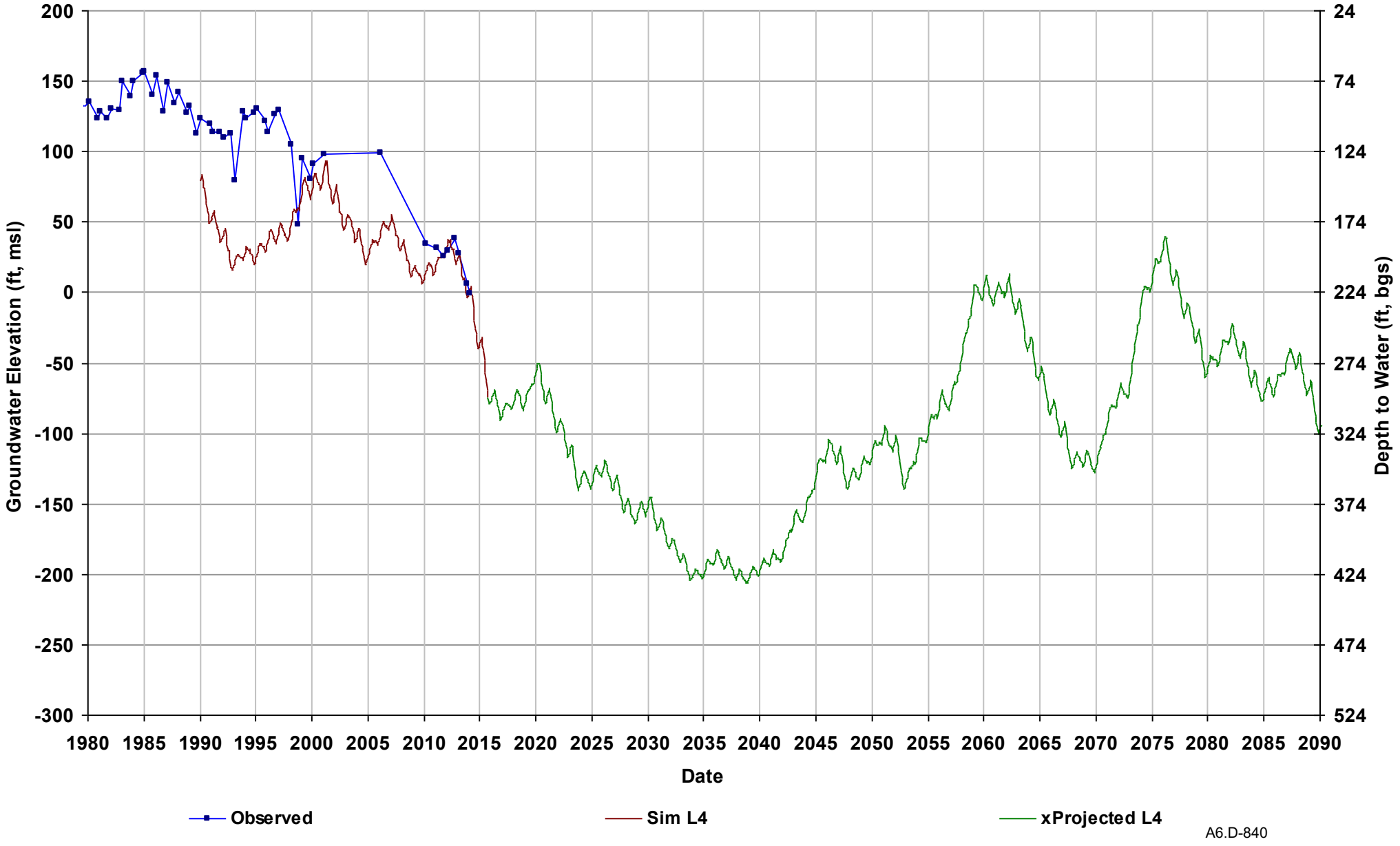
Well Name: 10S16E12K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 262

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



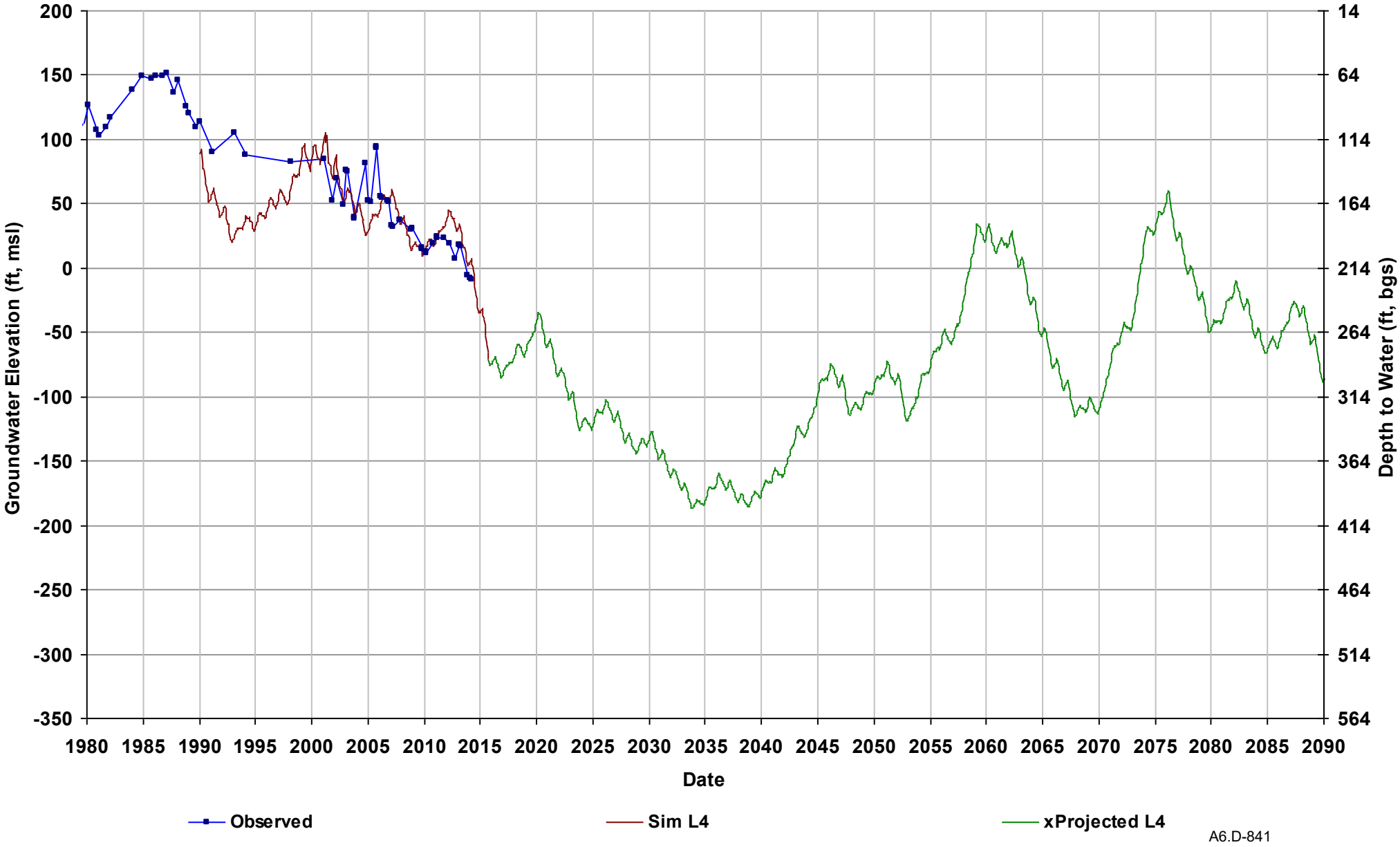
Well Name: 10S16E17C001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 224

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



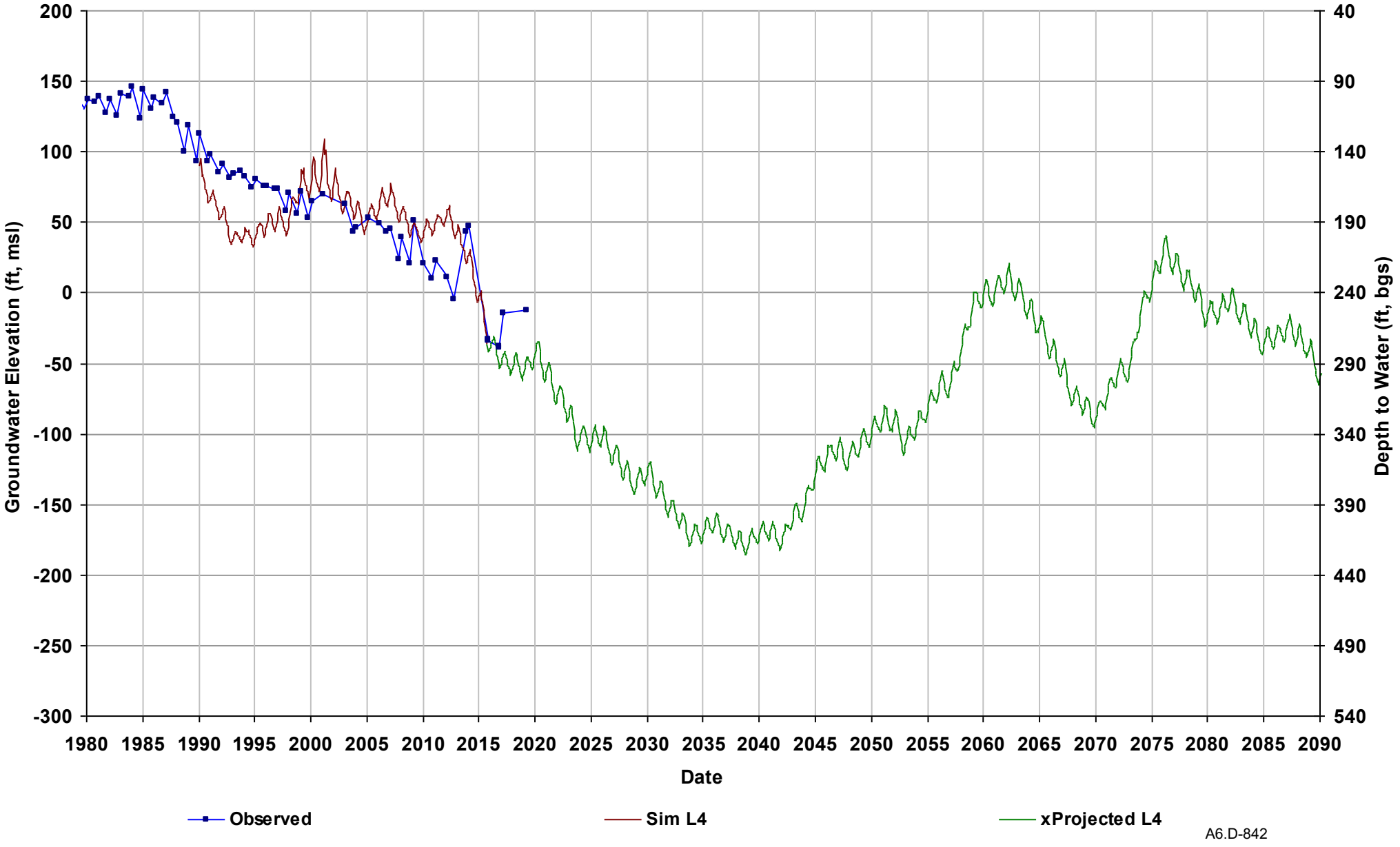
Well Name: 10S16E18D002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



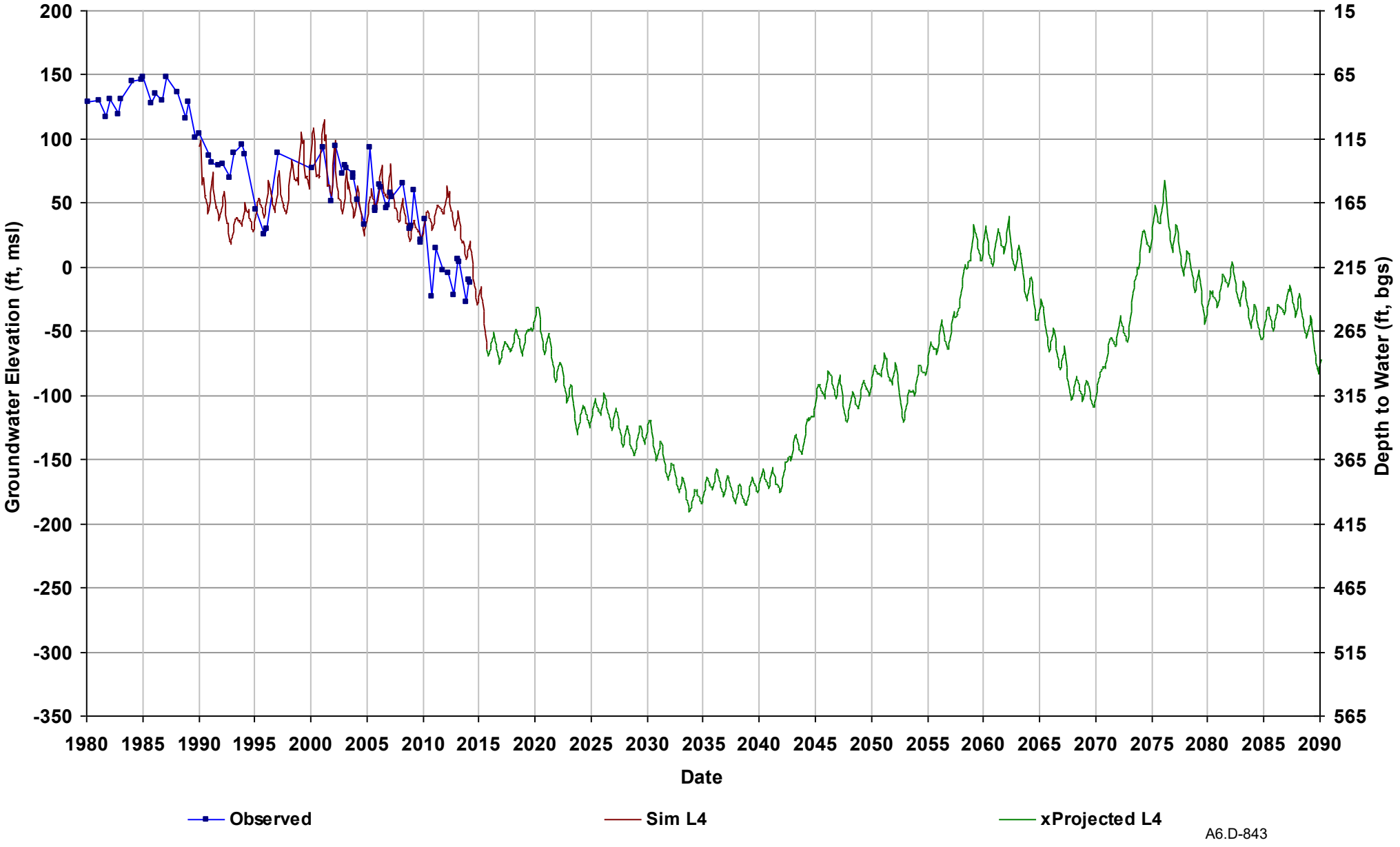
Well Name: 10S16E25F002M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 239

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



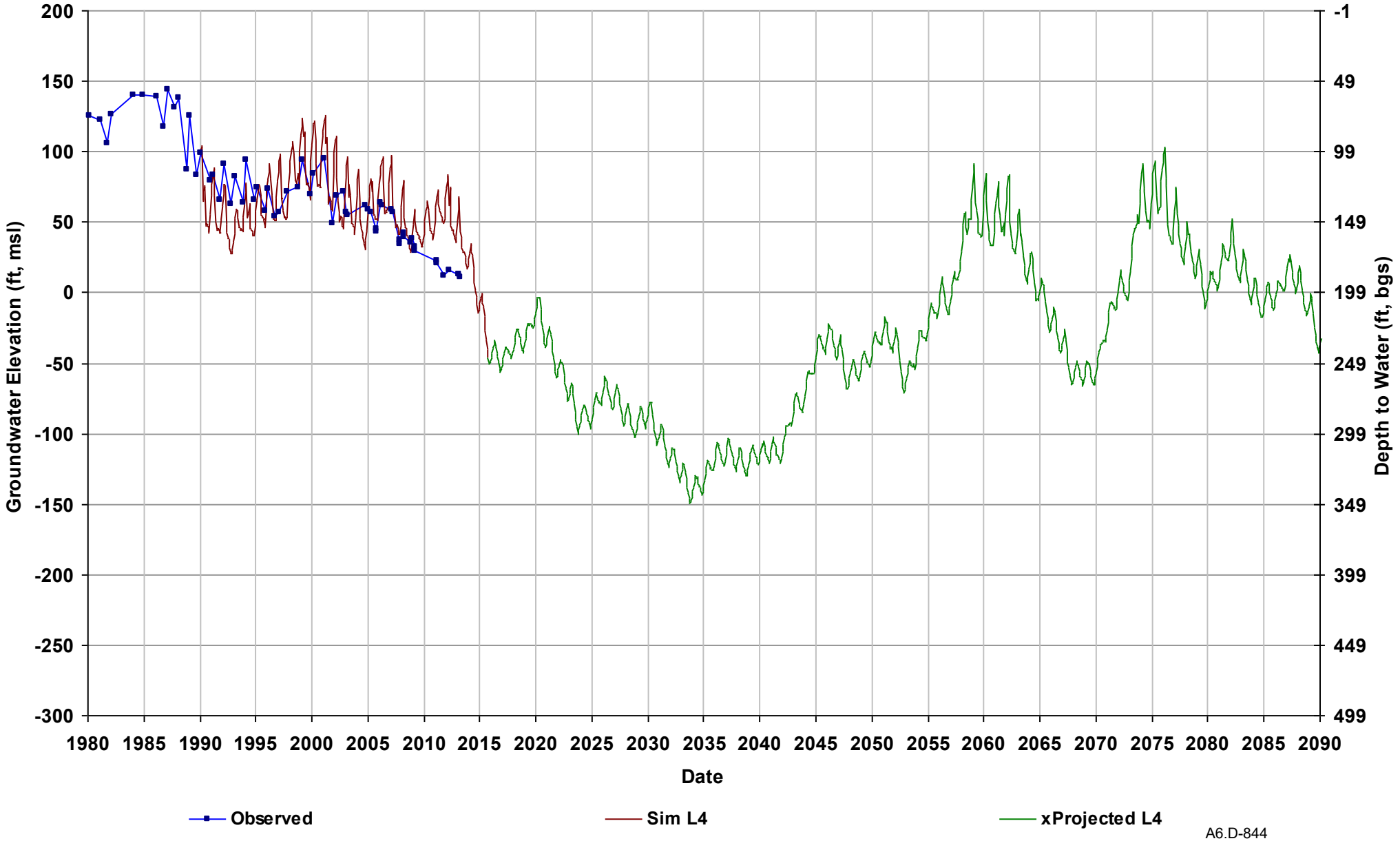
Well Name: 10S16E29A001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 215

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



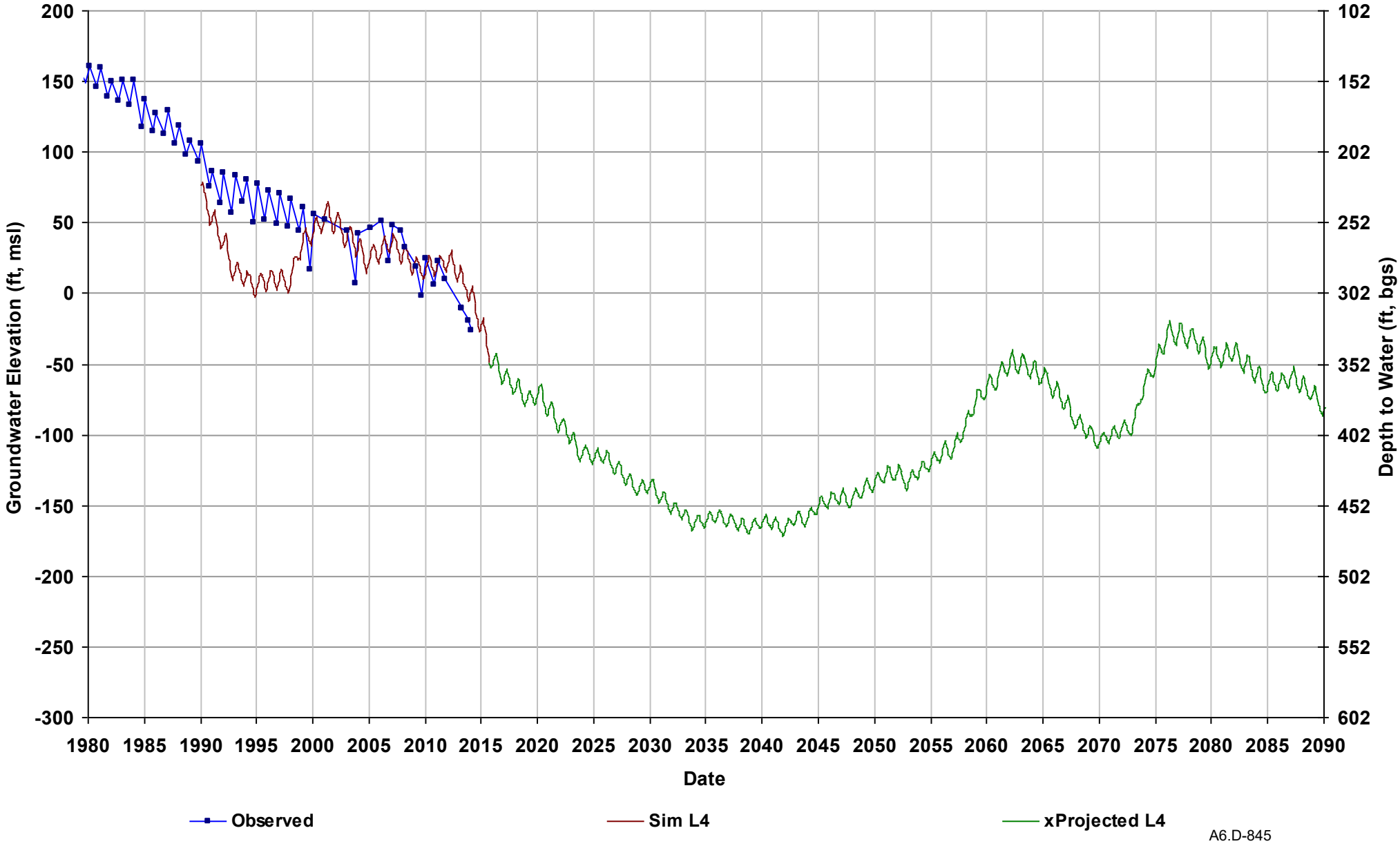
Well Name: 10S16E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 198

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



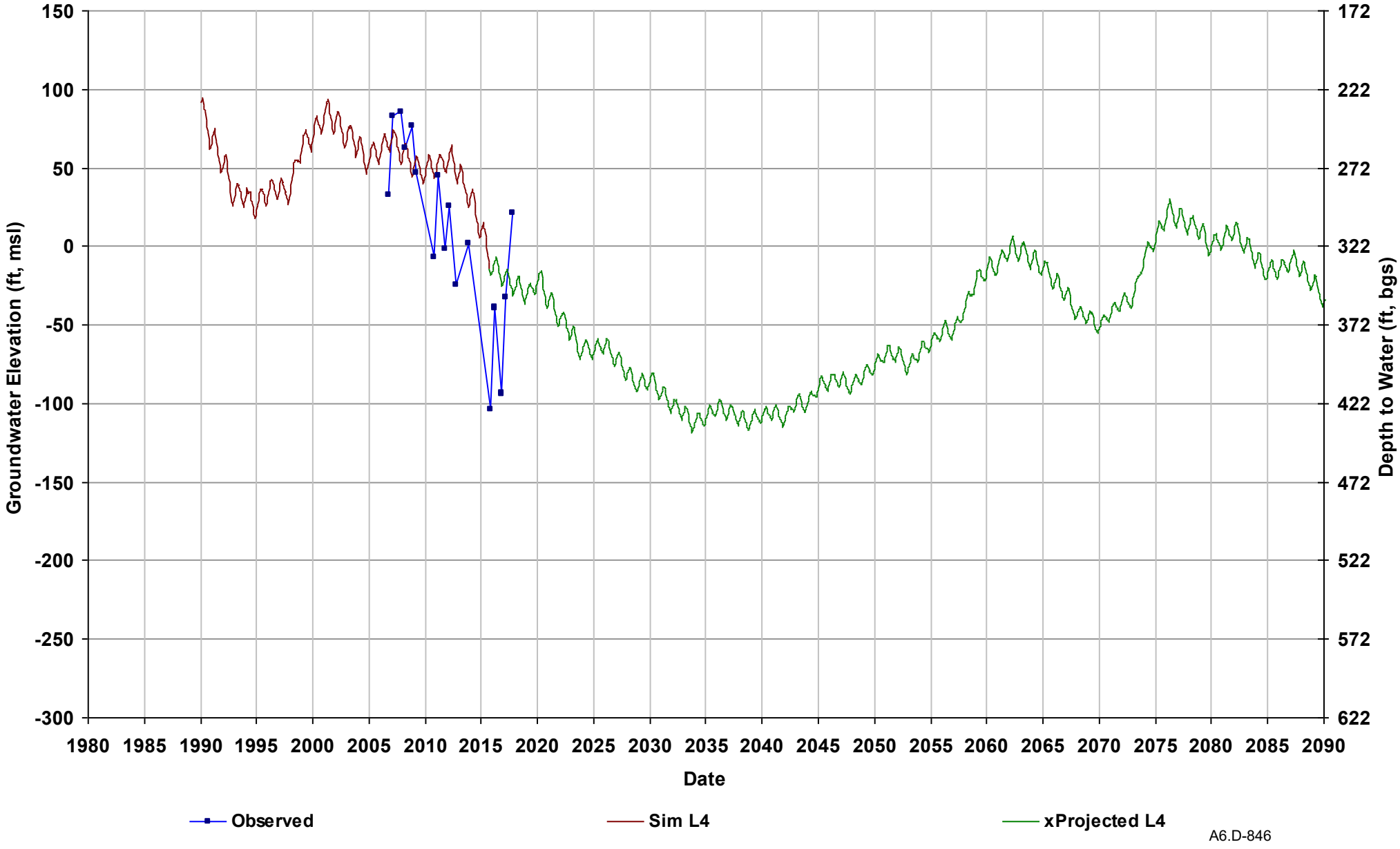
Well Name: 10S17E03F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



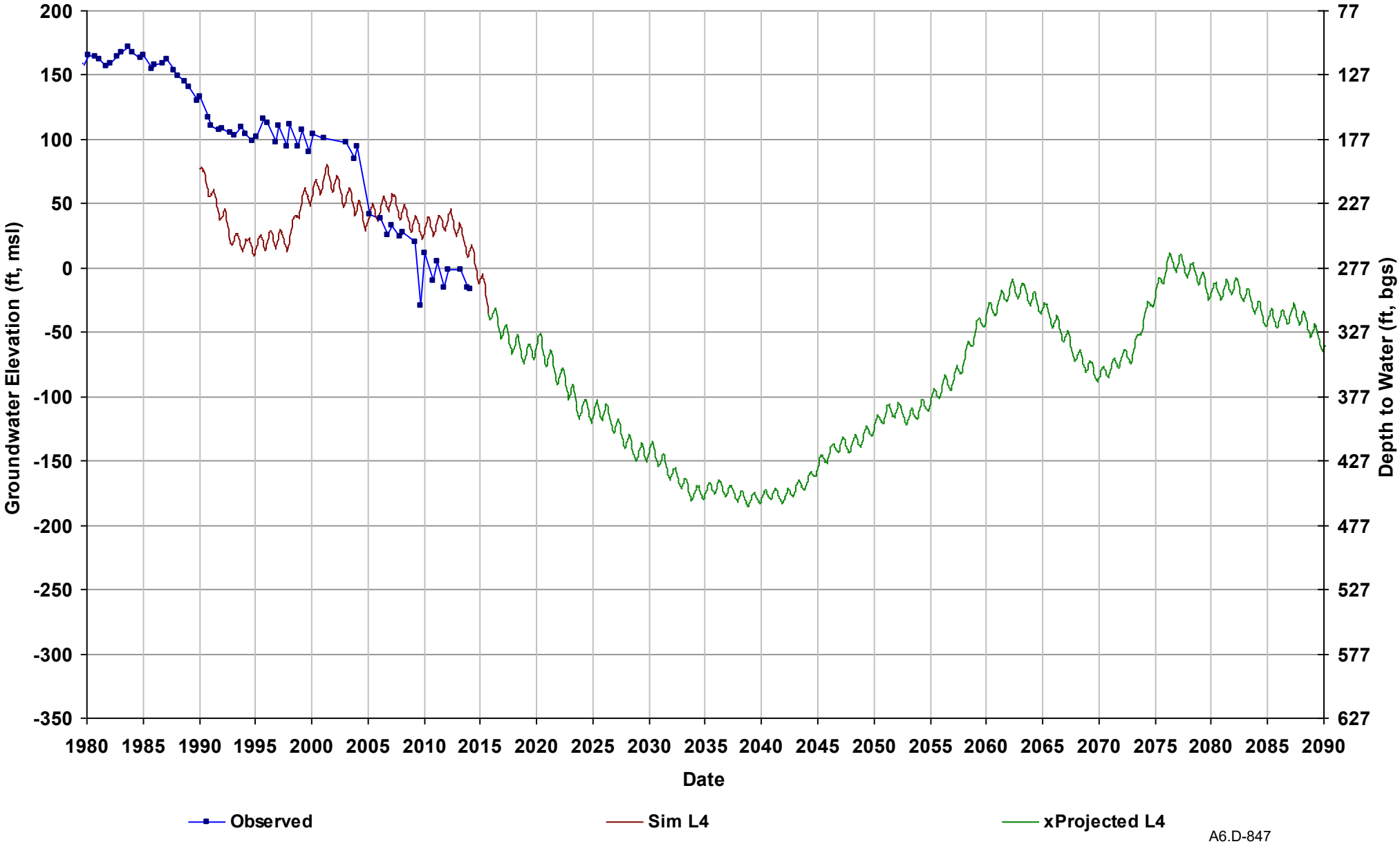
Well Name: 10S17E12C001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 321

Total Depth (ft): 640
Perf Top (ft): 140
Perf Bottom (ft): 502
Top Model Layer: 4
Bottom Model Layer: 4



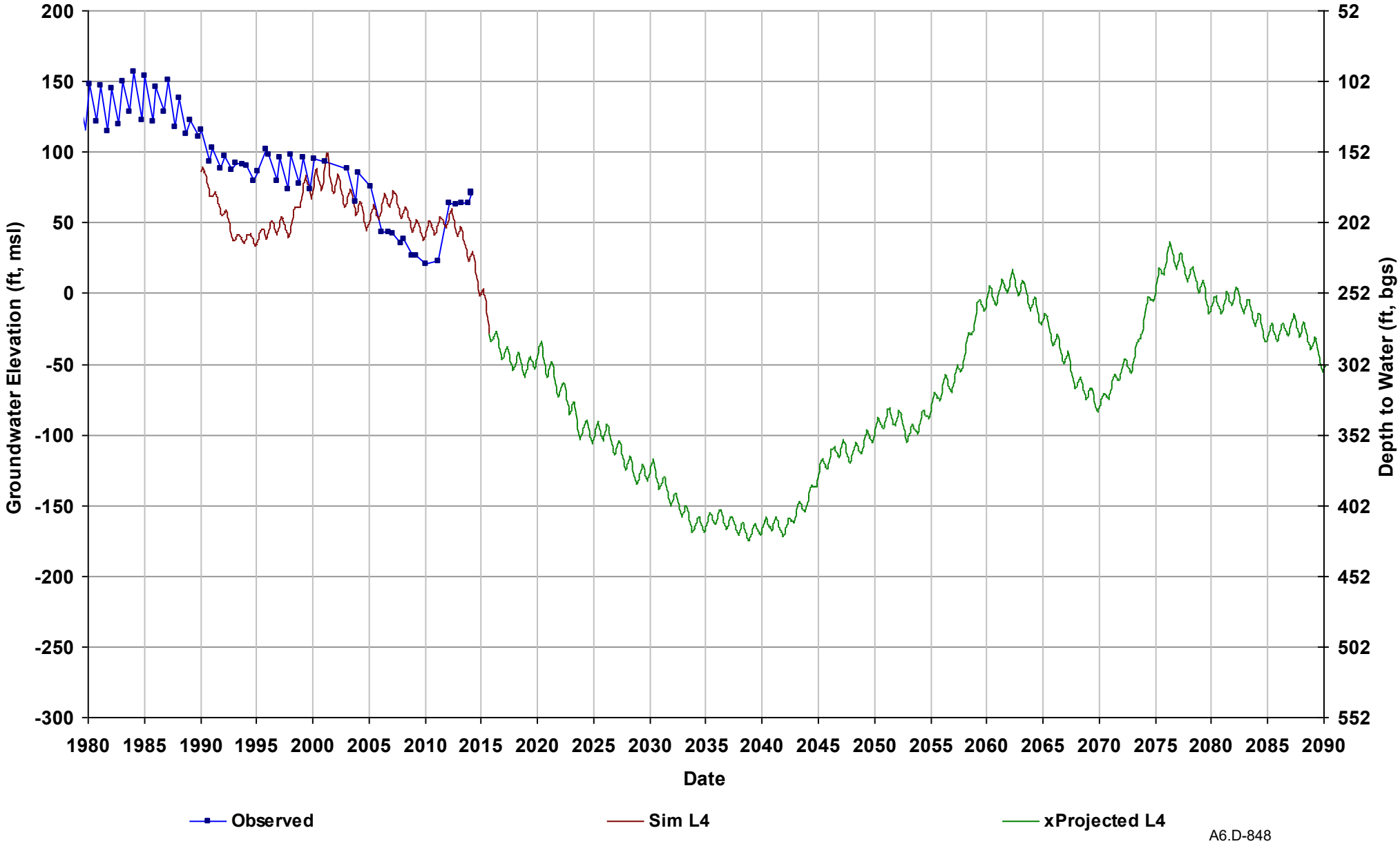
Well Name: 10S17E22D001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 277

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



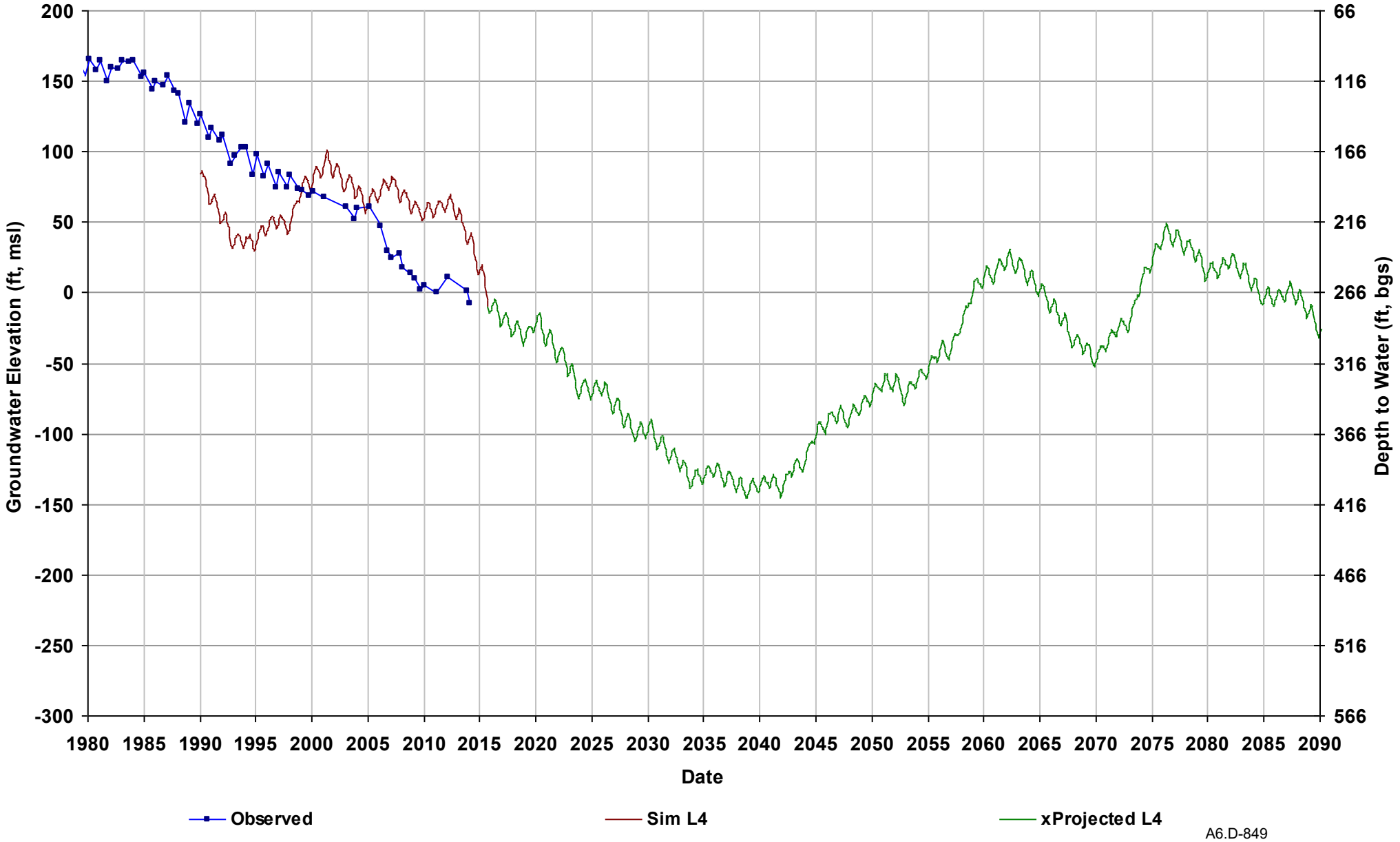
Well Name: 10S17E30B002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



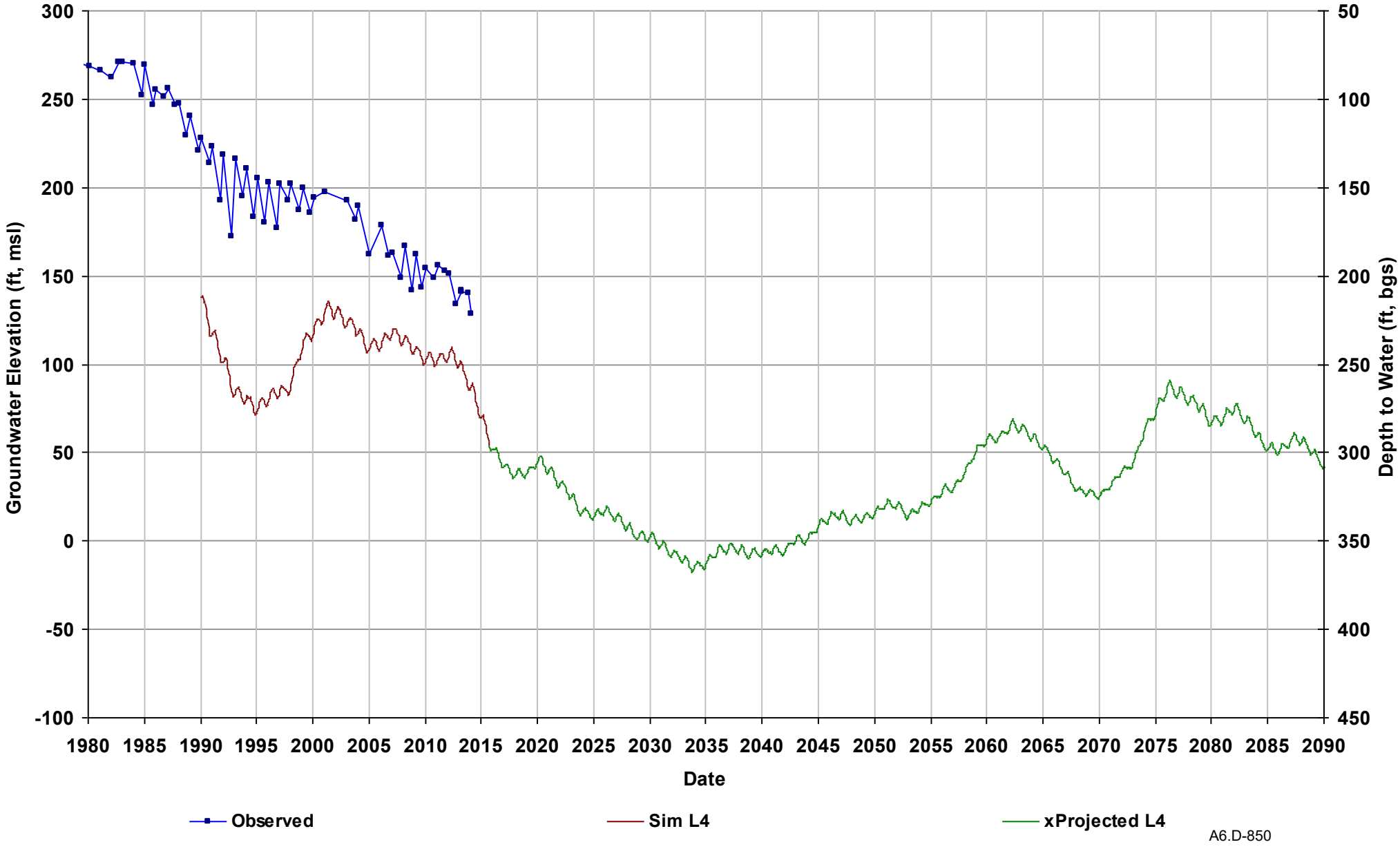
Well Name: 10S17E34A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 266

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



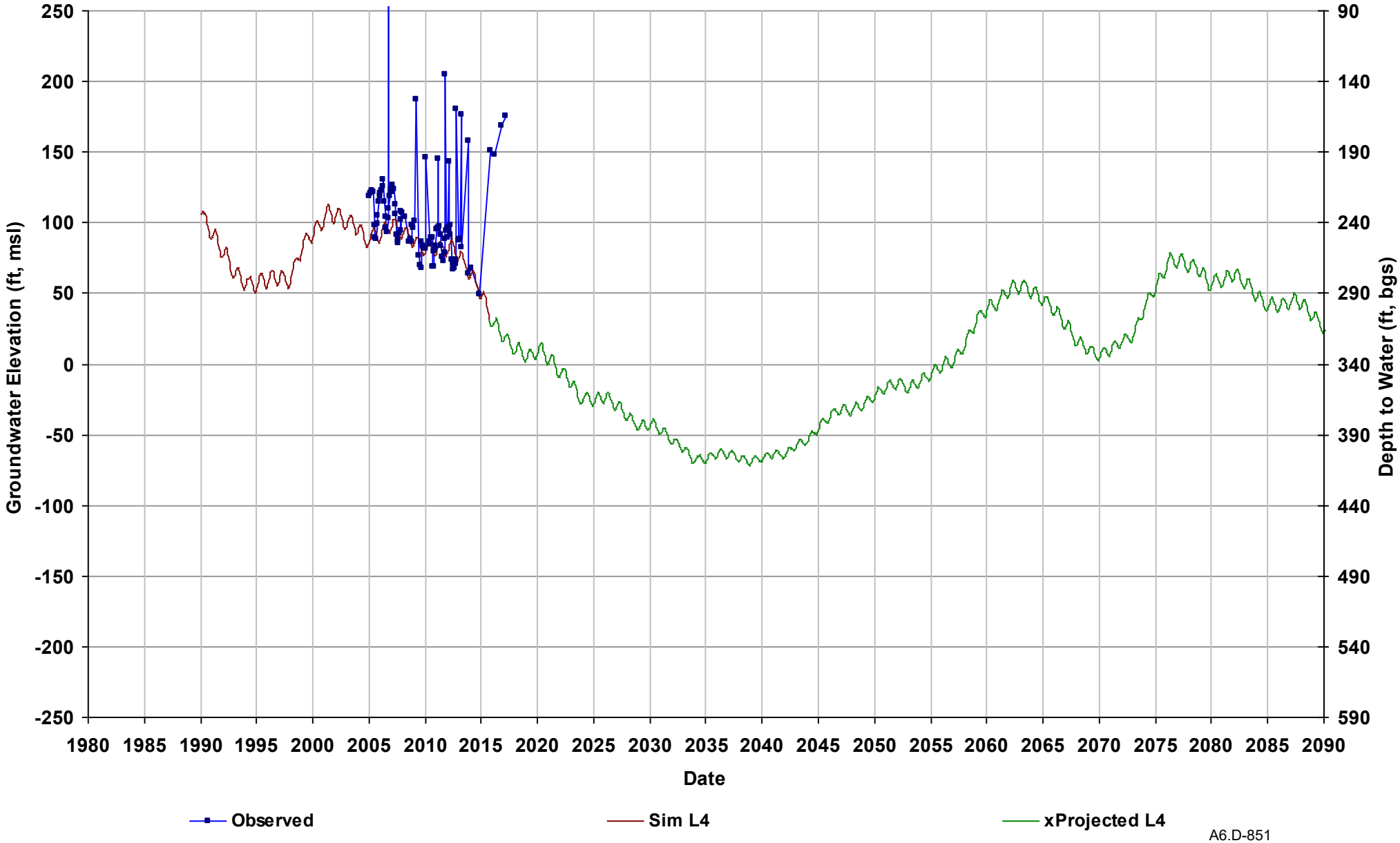
Well Name: 10S18E09C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 350

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



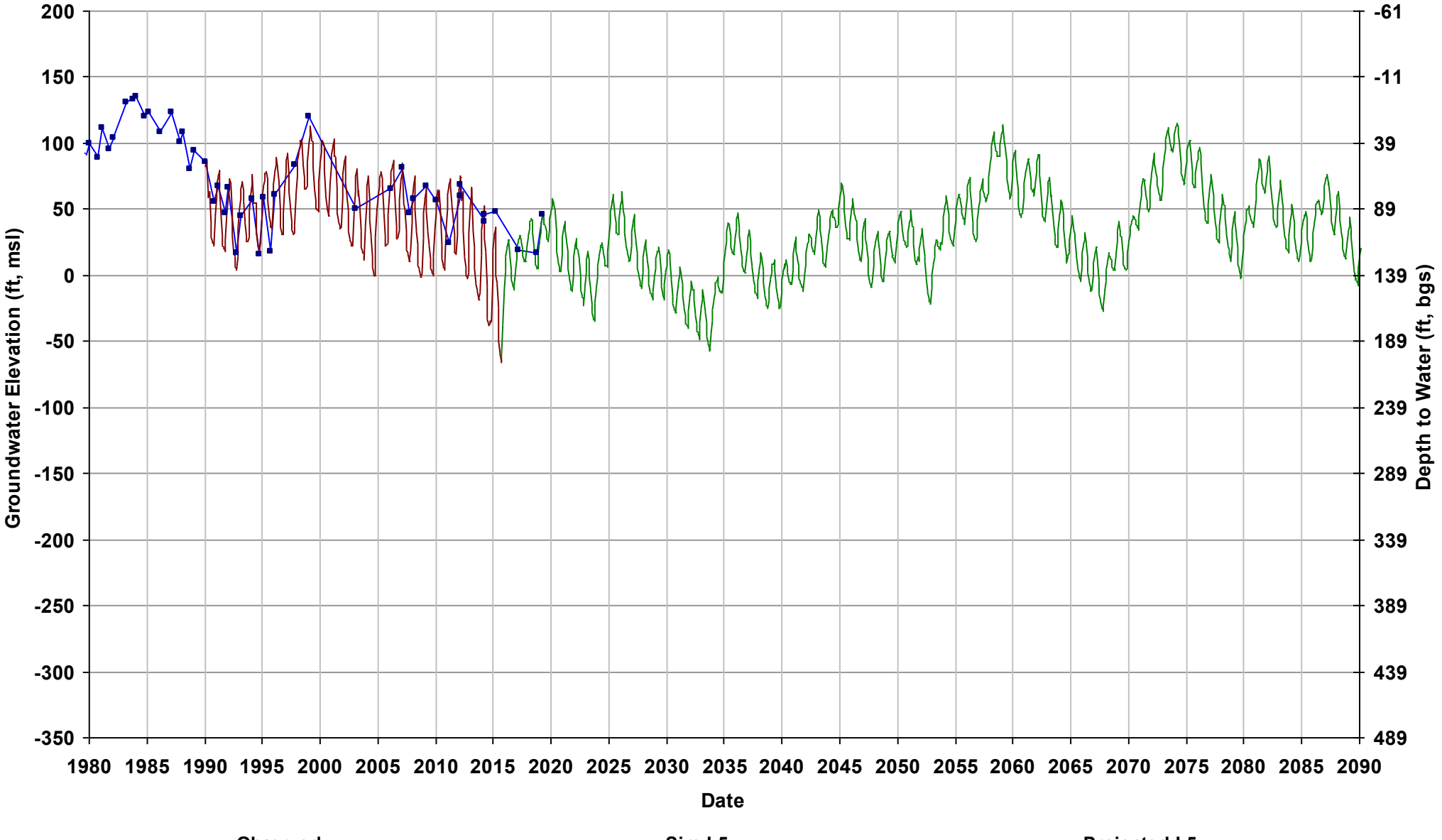
Well Name: 10S18E27N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 340

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



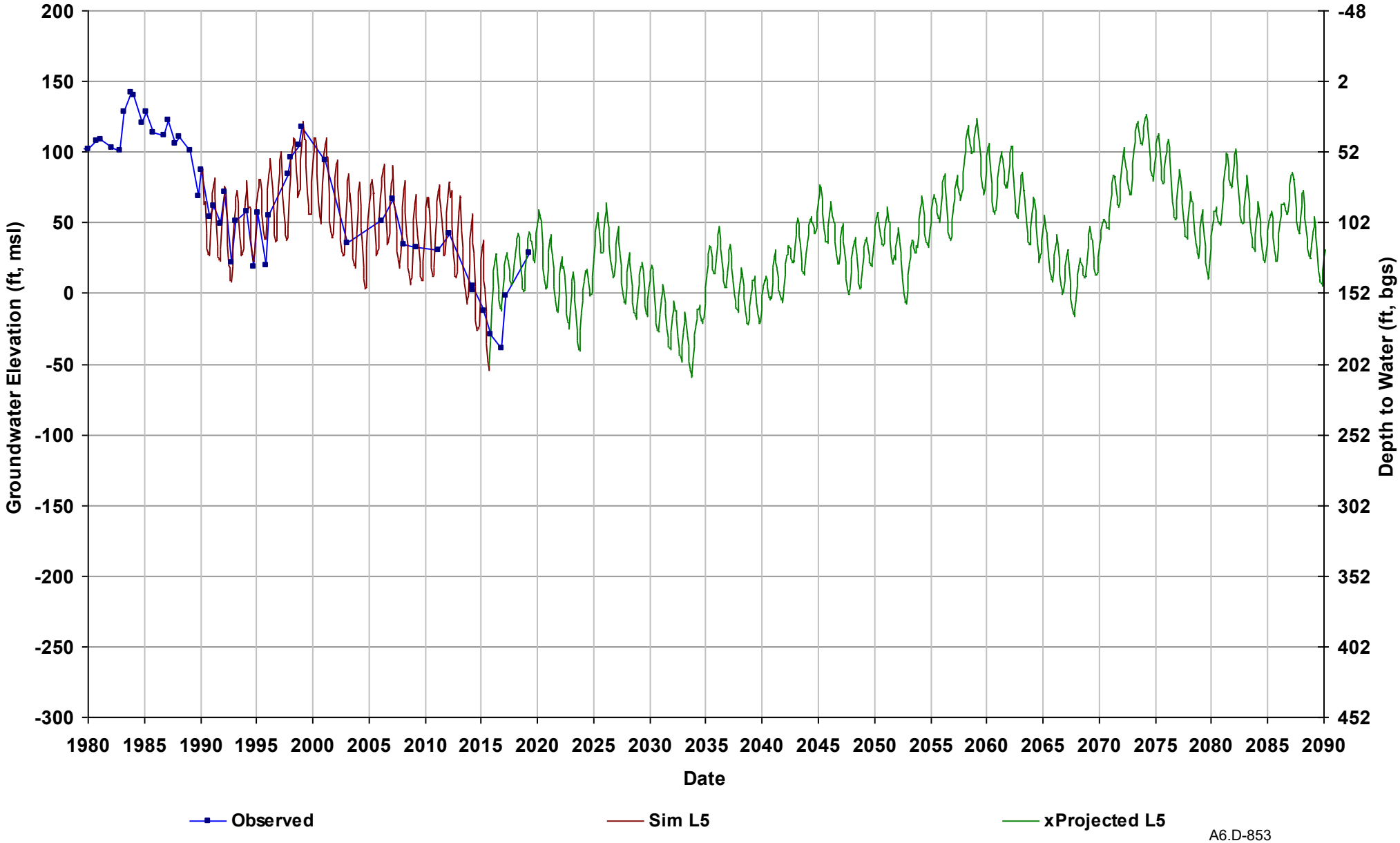
Well Name: 11S14E09A003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



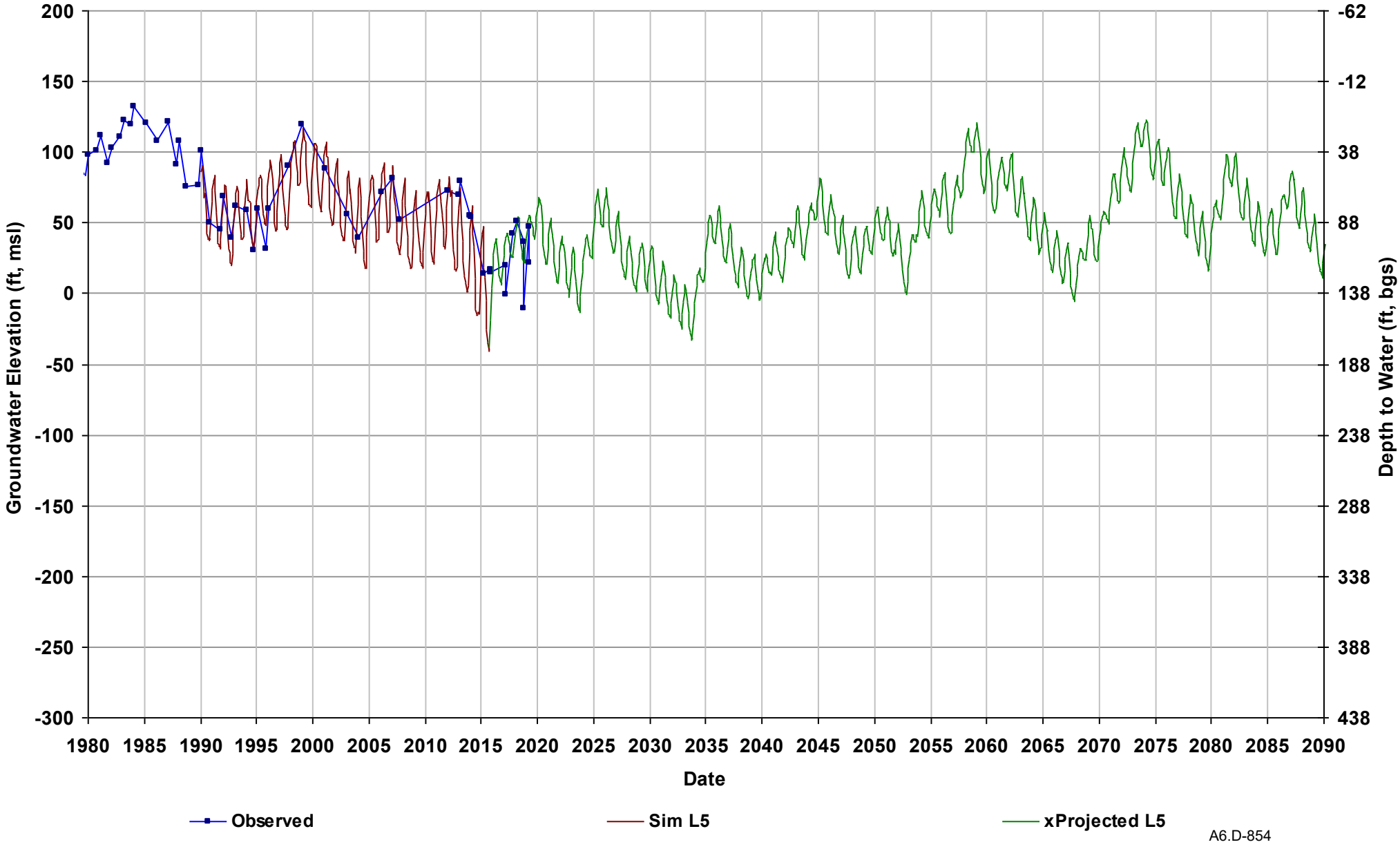
Well Name: 11S14E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 152

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



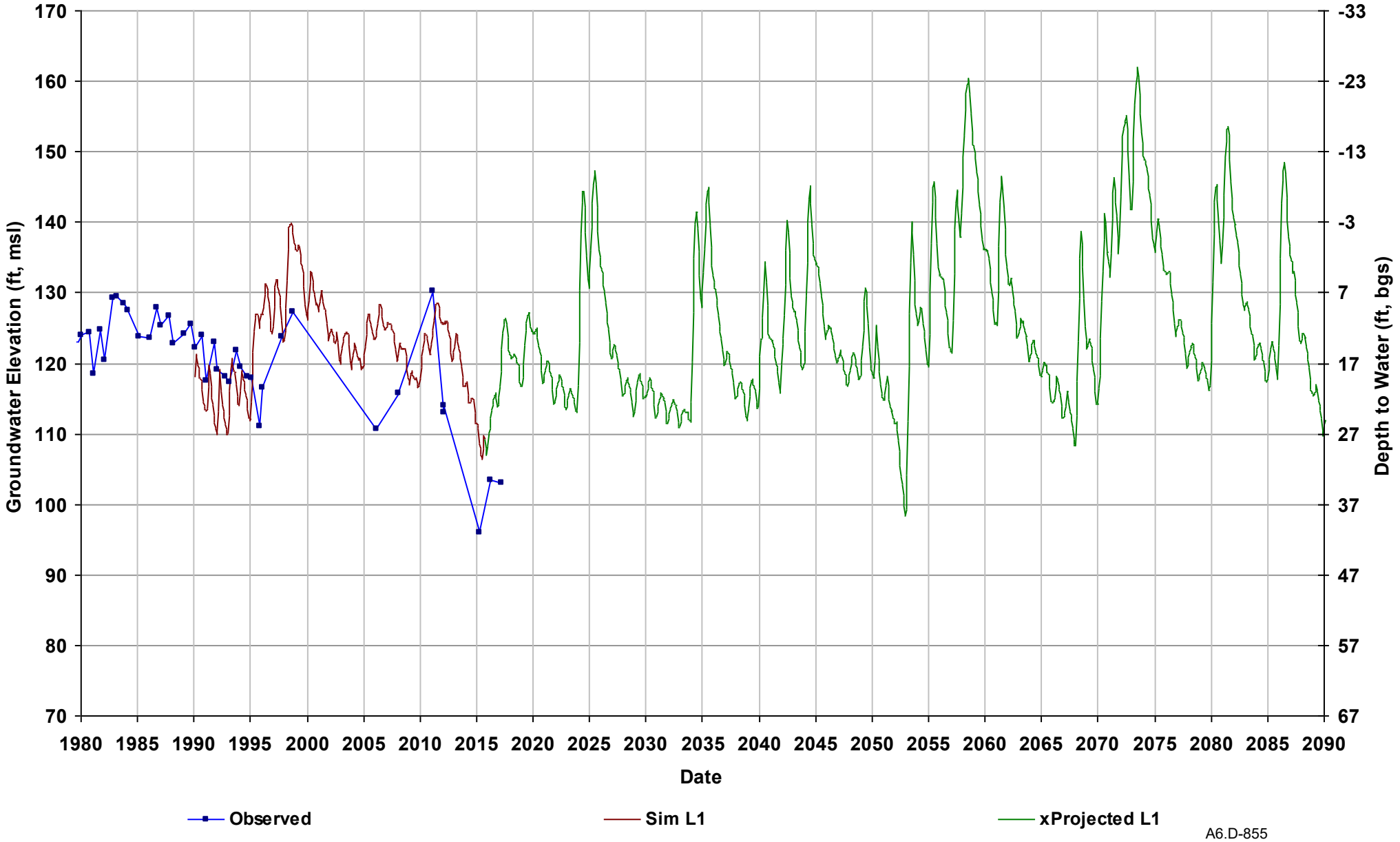
Well Name: 11S14E16A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 137

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



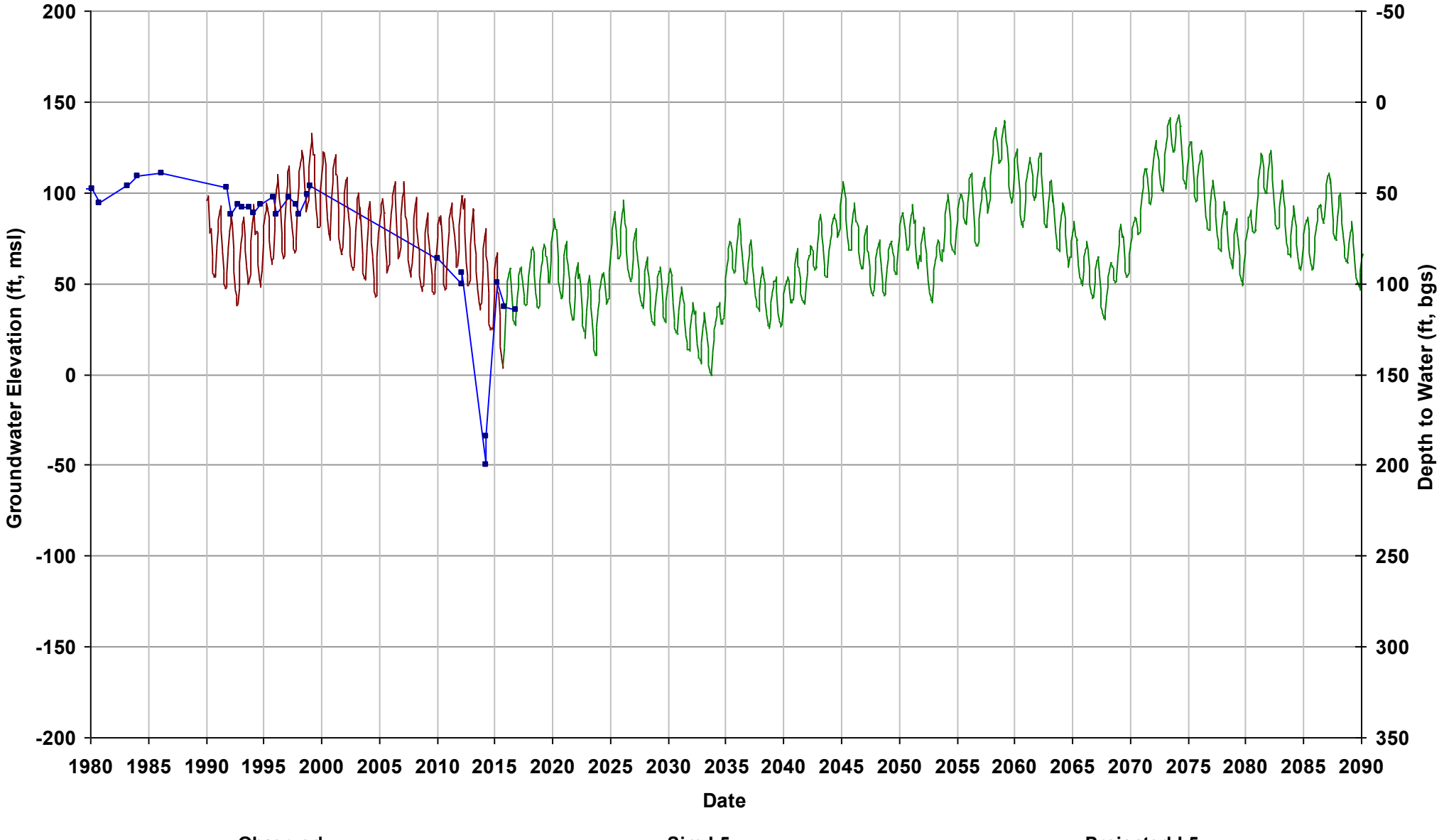
Well Name: 11S14E33L001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 137

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



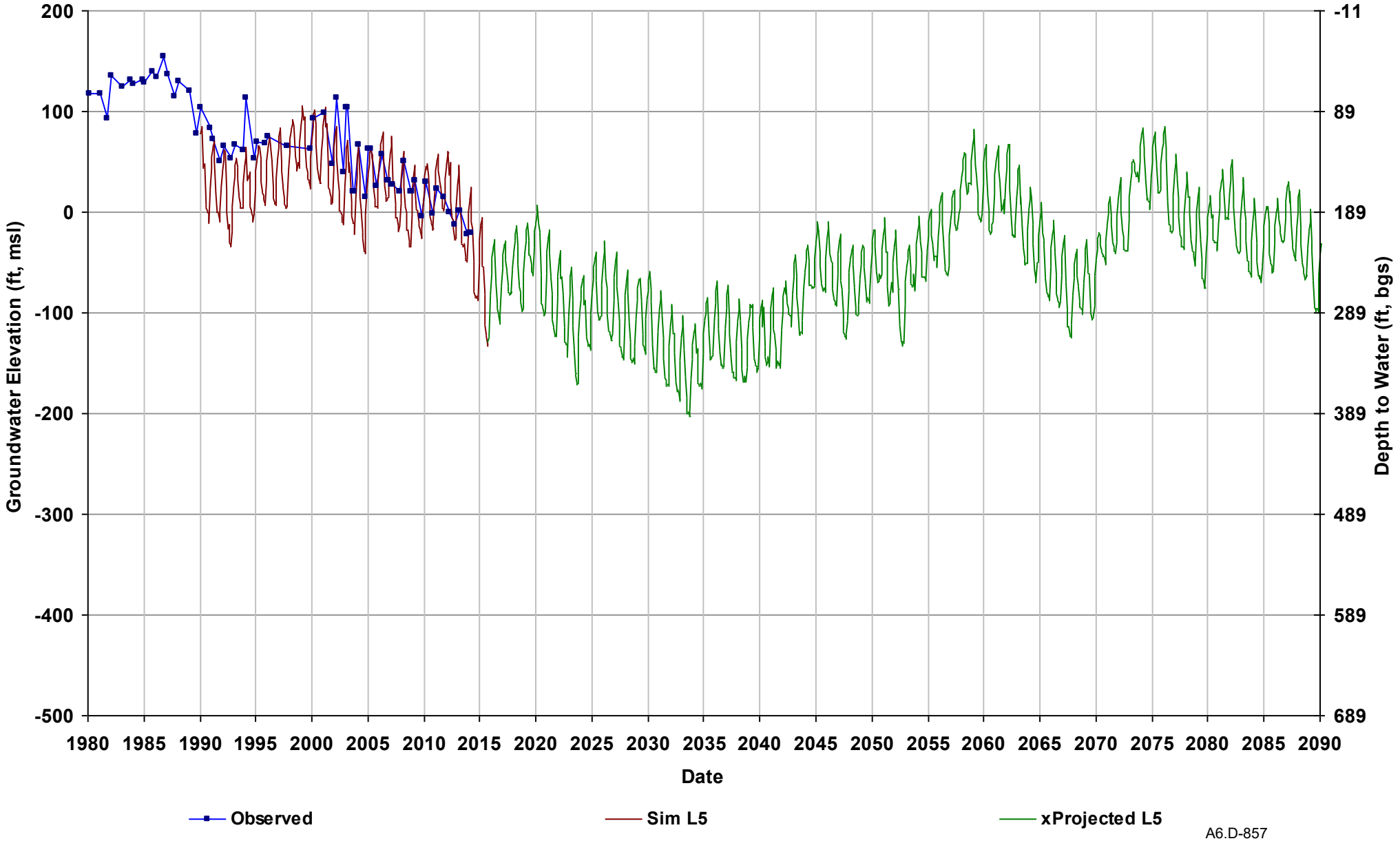
Well Name: 11S14E36R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 150

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



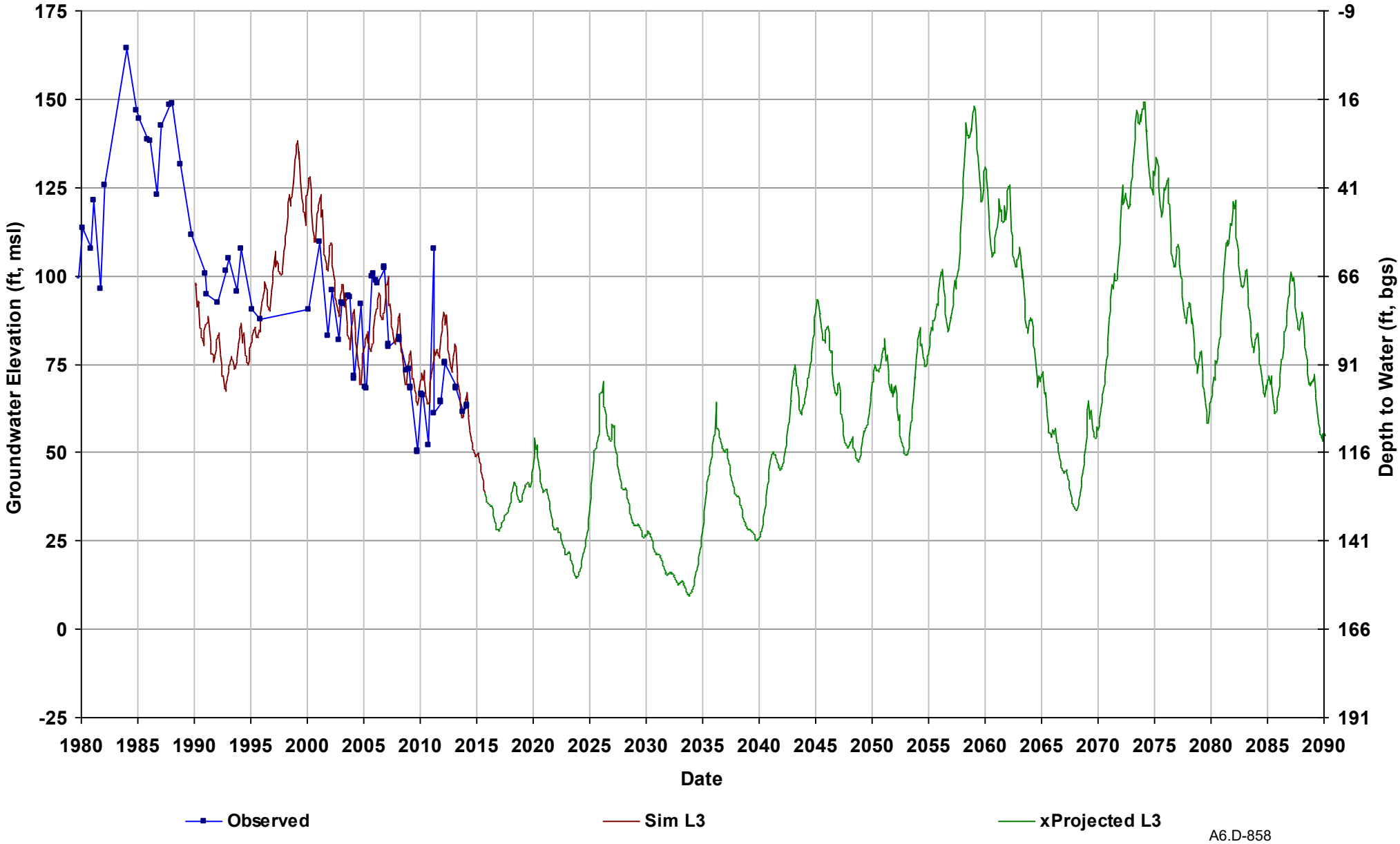
Well Name: 11S15E01H002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 189

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



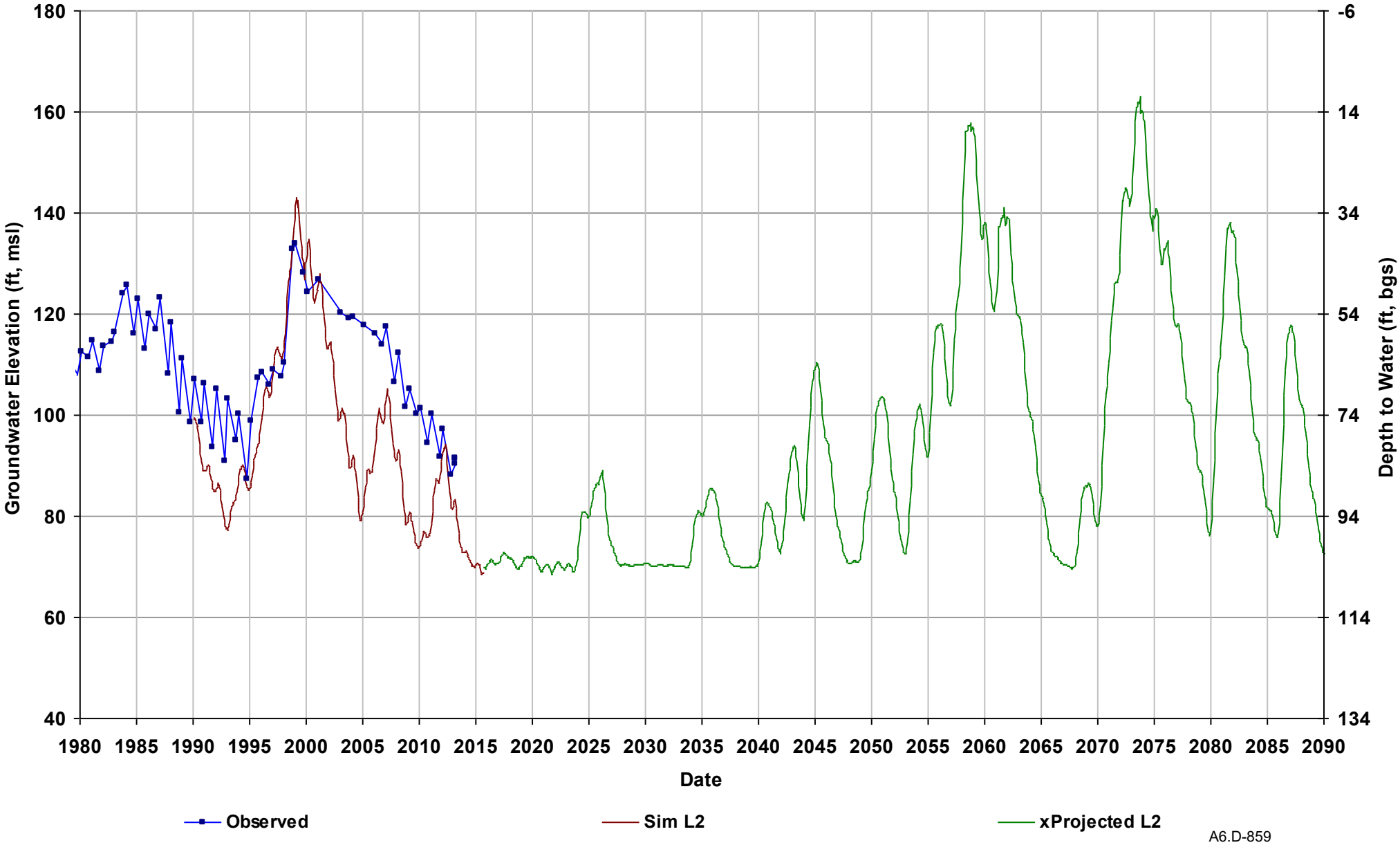
Well Name: 11S15E09C001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



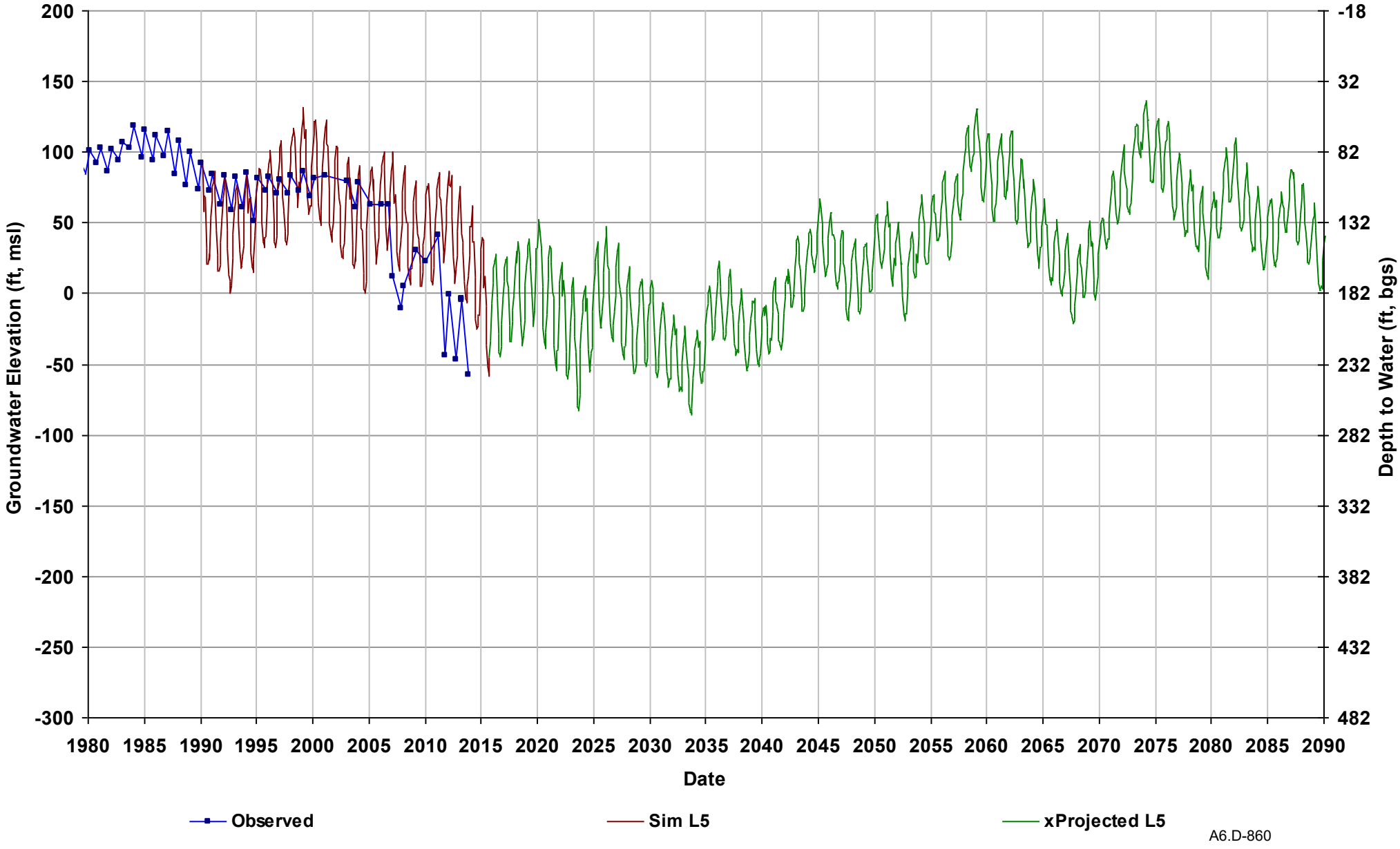
Well Name: 11S15E10J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 174

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



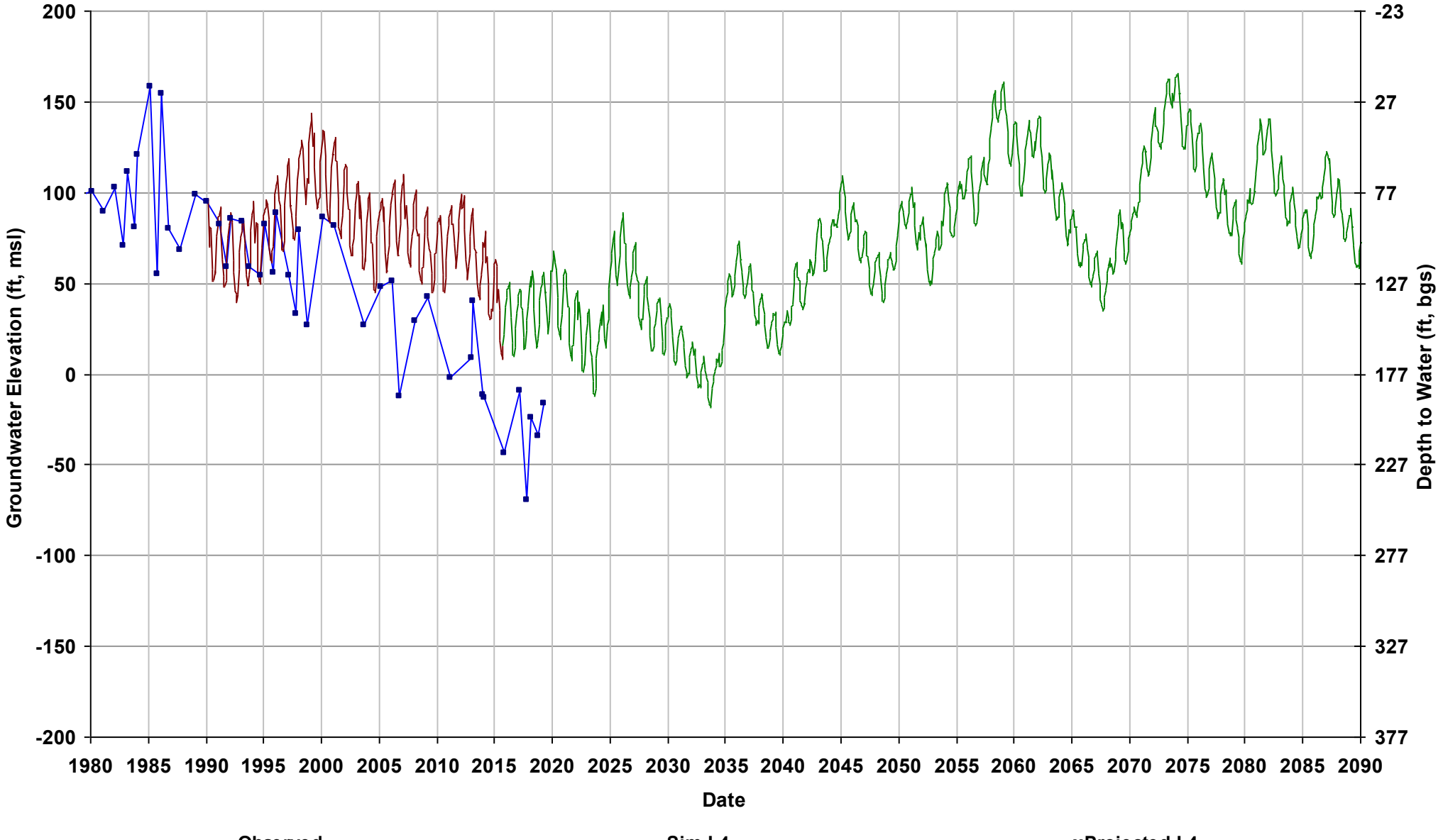
Well Name: 11S15E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 182

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



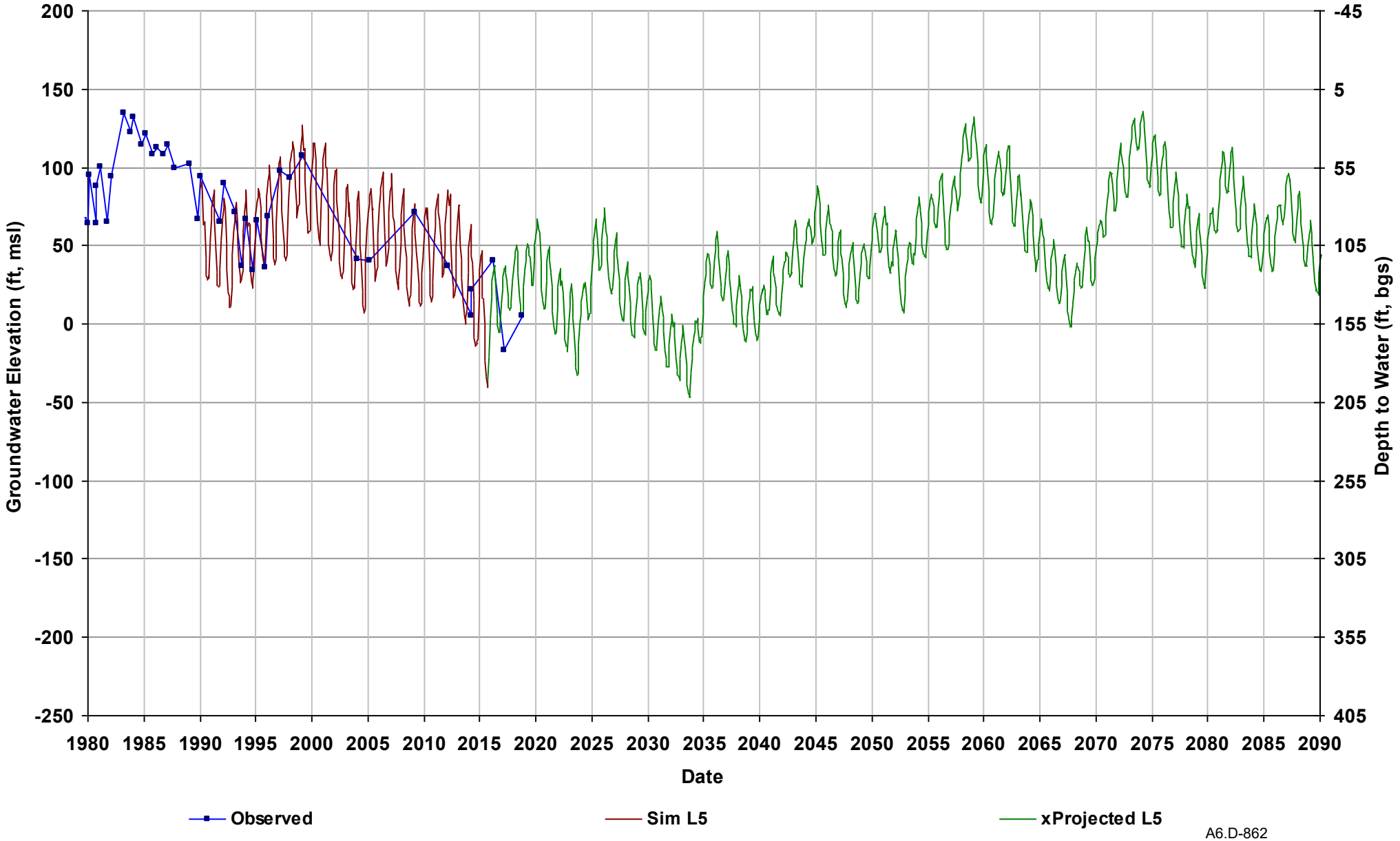
Well Name: 11S15E26R001M
Depth Zone: Composite; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



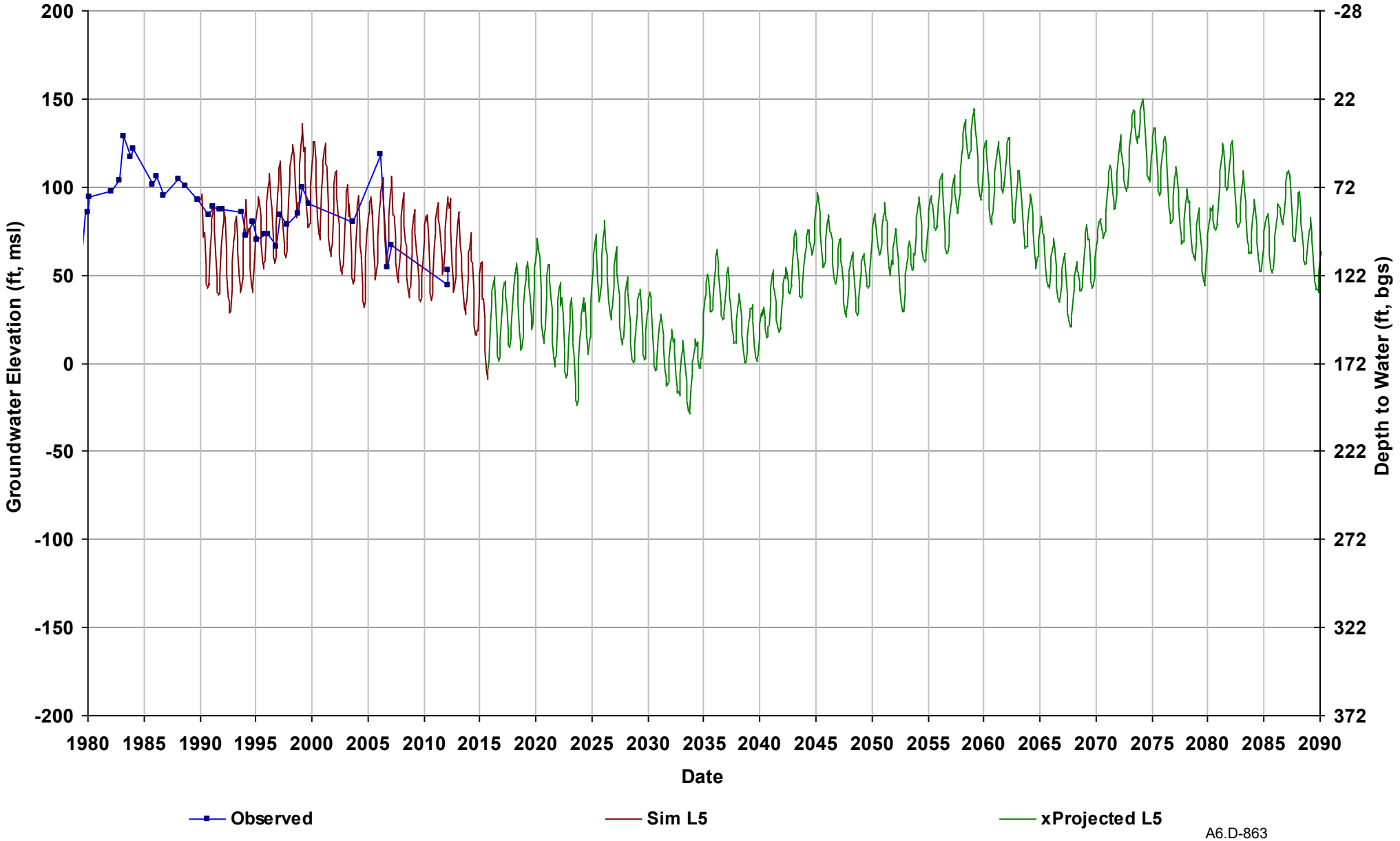
Well Name: 11S15E30A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 155

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



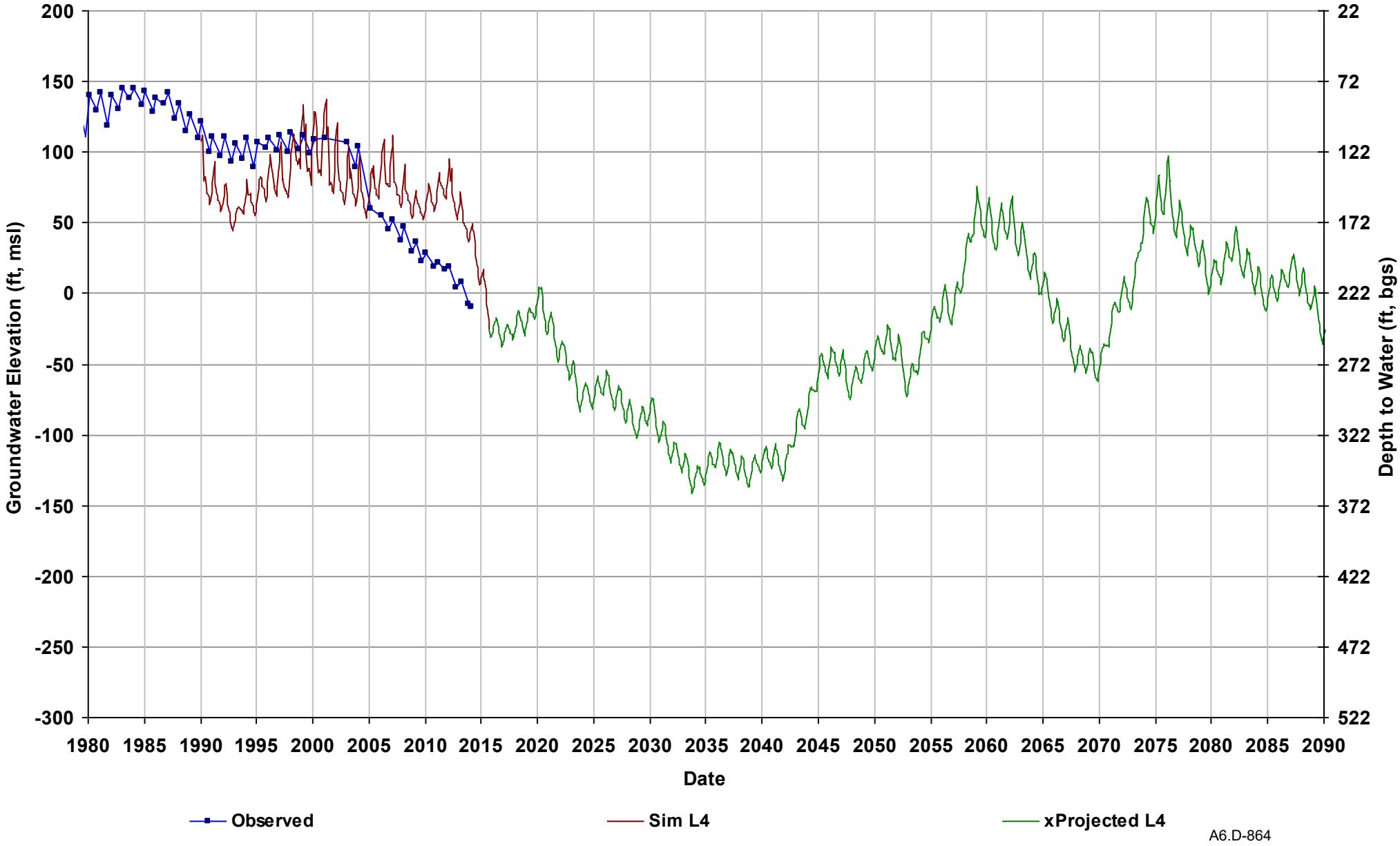
Well Name: 11S15E35P001M
Depth Zone: Unknown; Inside CC
Subbasin: Madera
GSE (ft, msl): 172

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



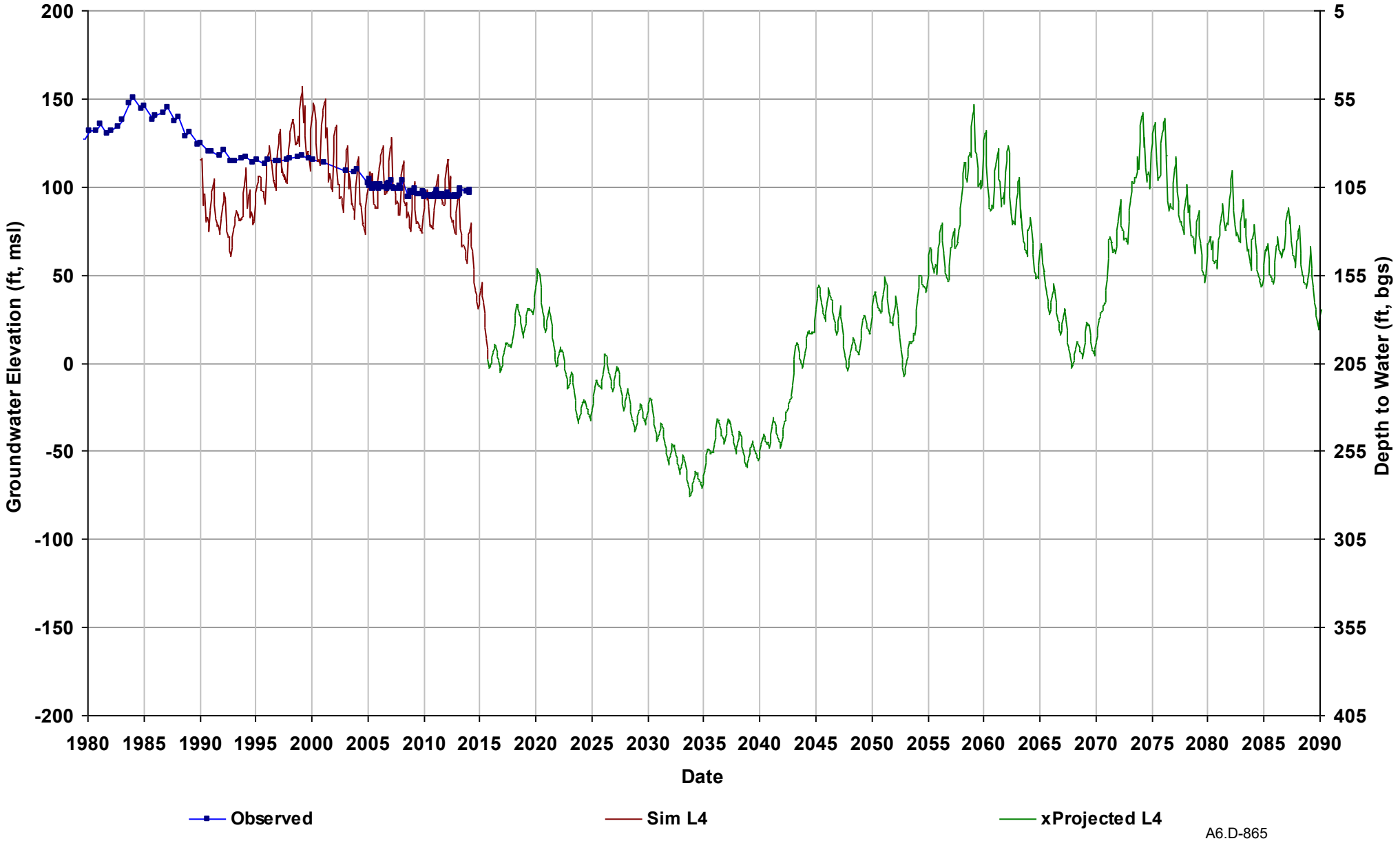
Well Name: 11S16E03A001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 222

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



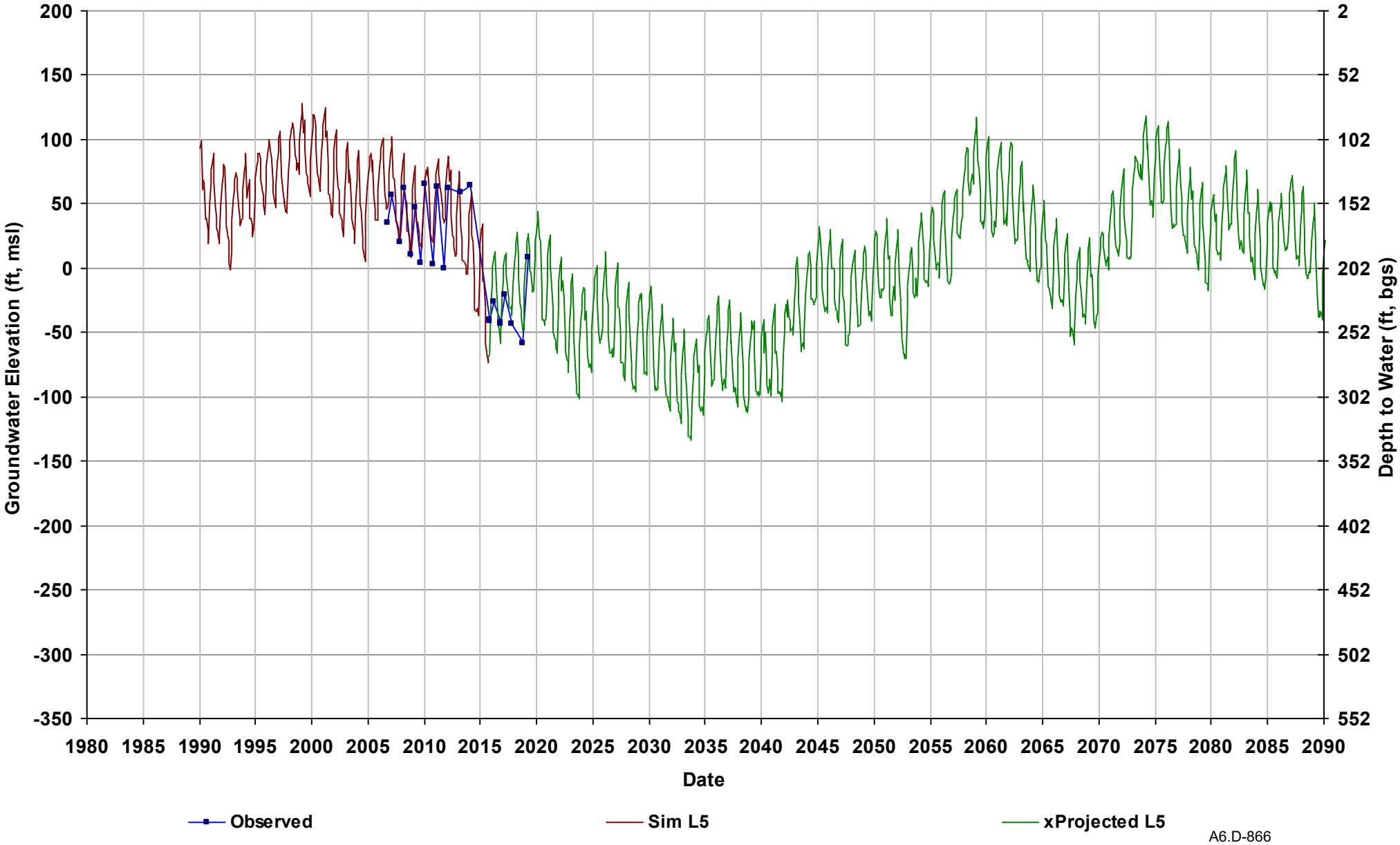
Well Name: 11S16E10N001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 204

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



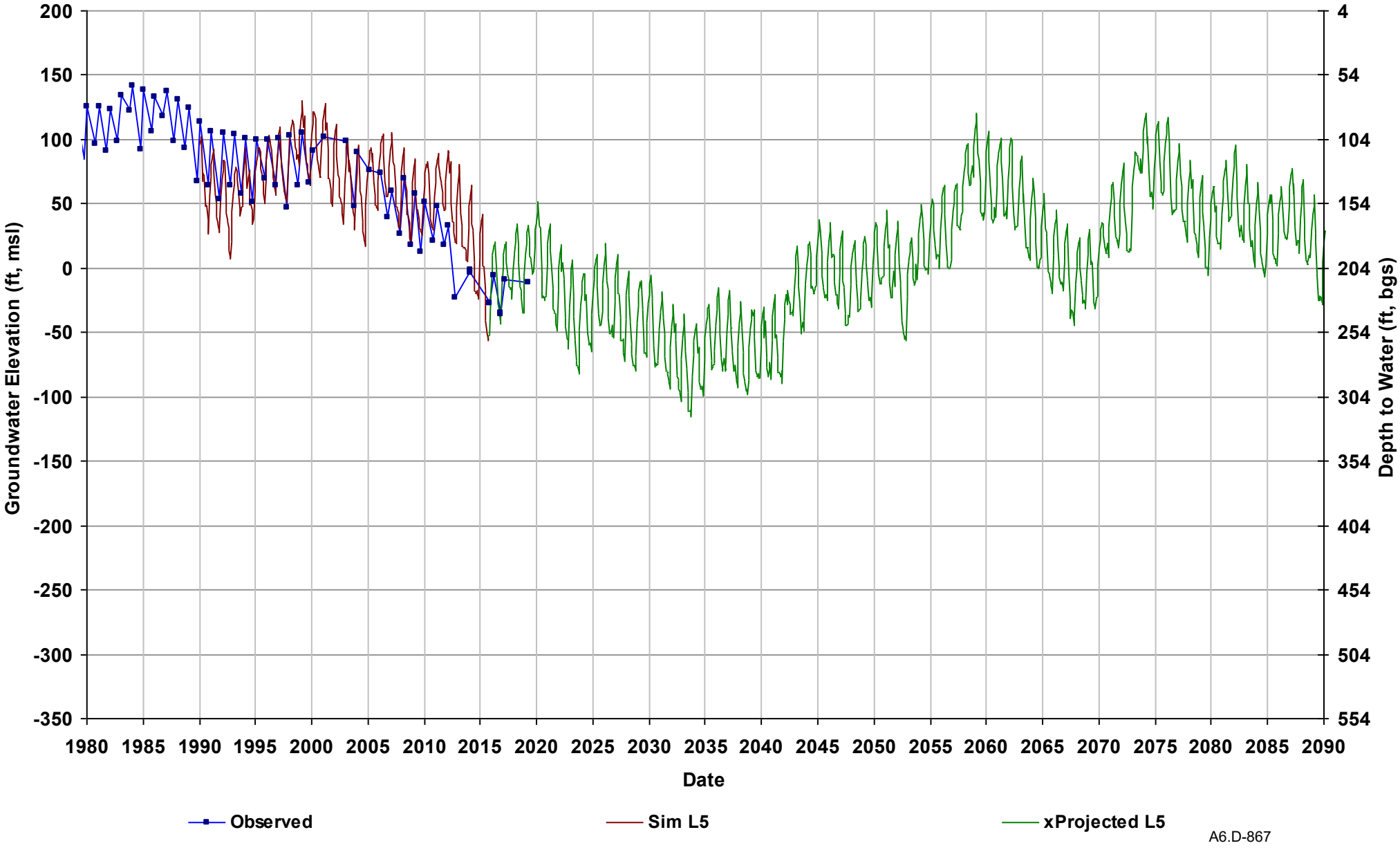
Well Name: 11S16E21A001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



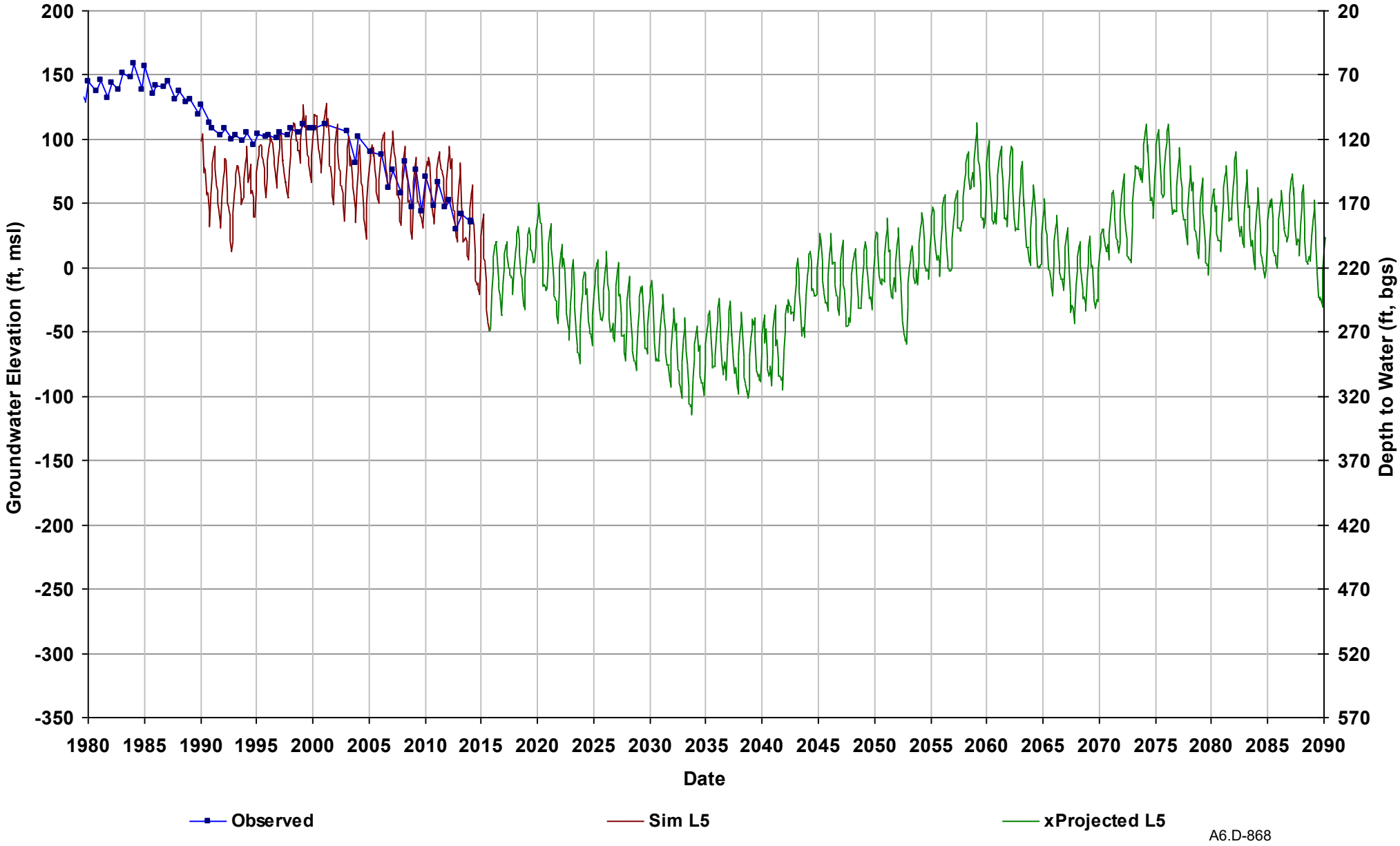
Well Name: 11S16E22K001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 204

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



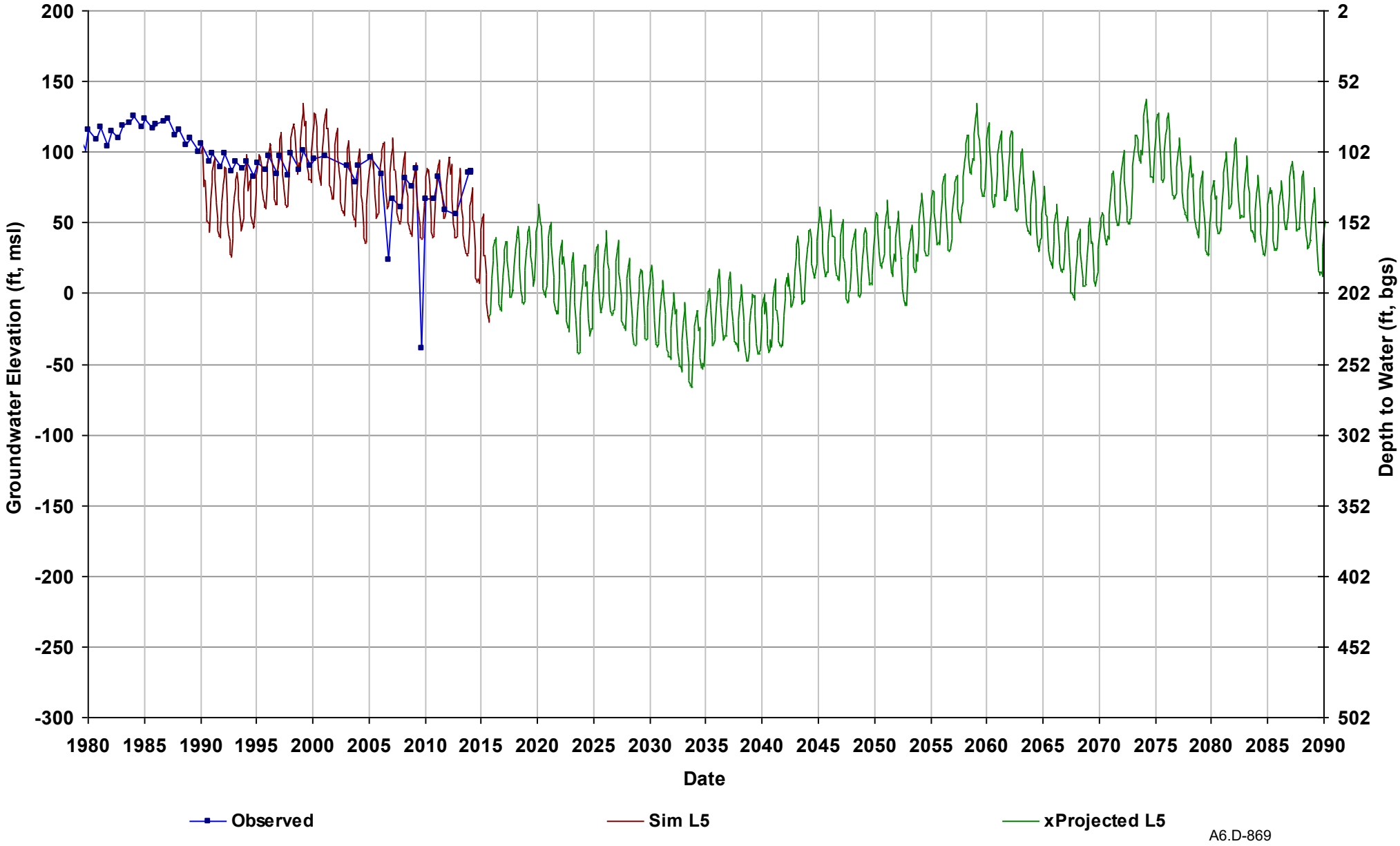
Well Name: 11S16E24M001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 219

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



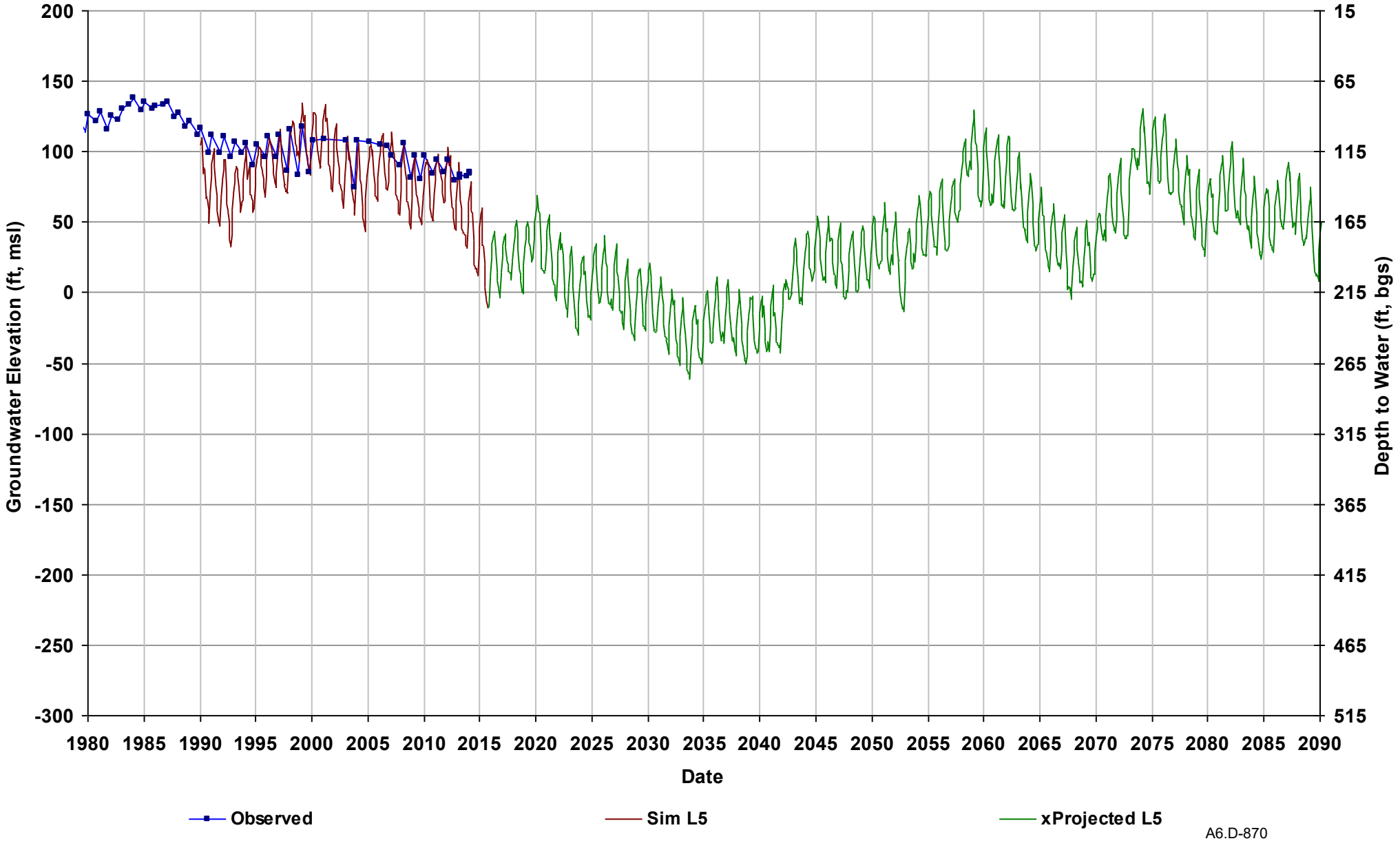
Well Name: 11S16E34D001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



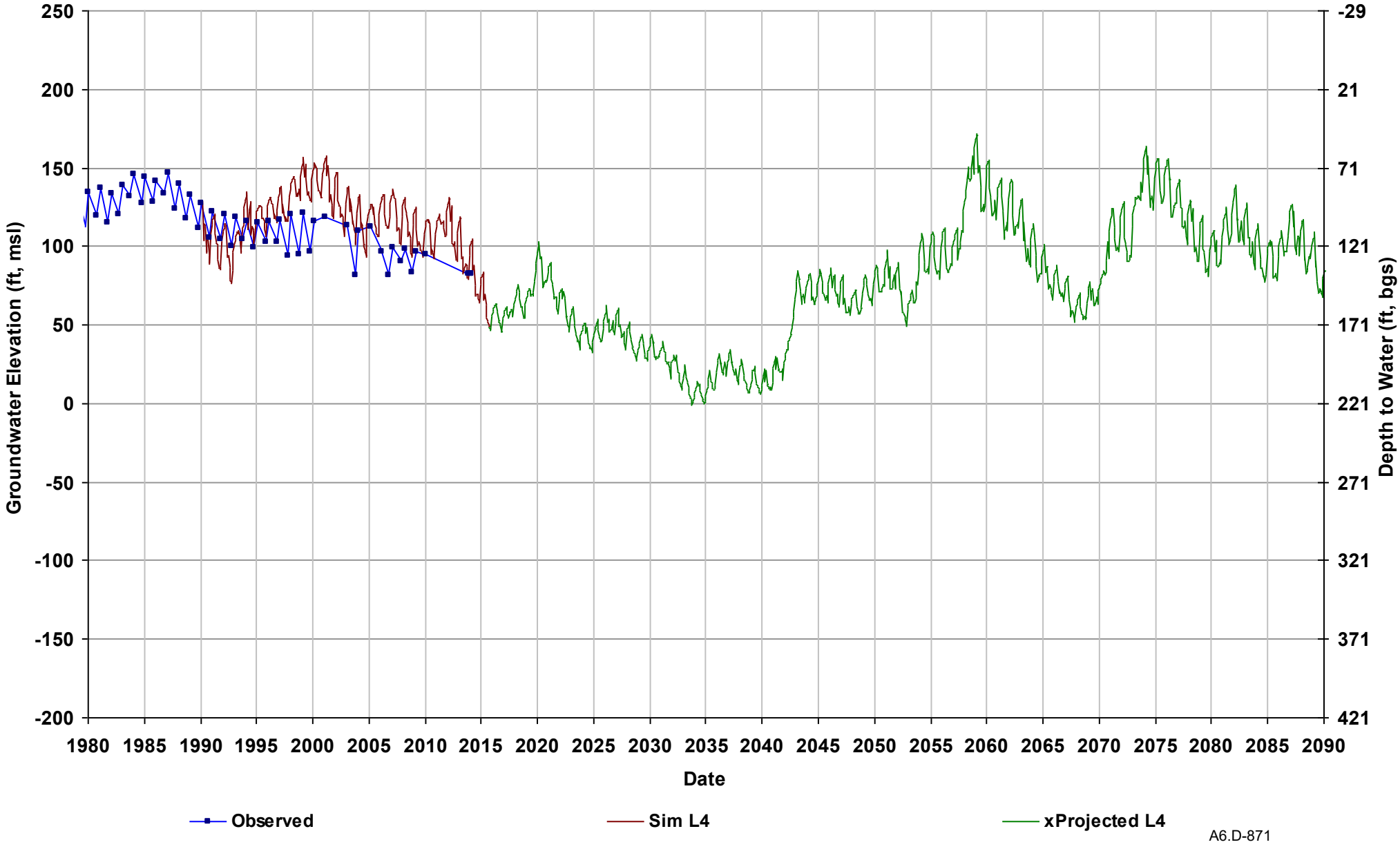
Well Name: 11S16E35H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 215

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



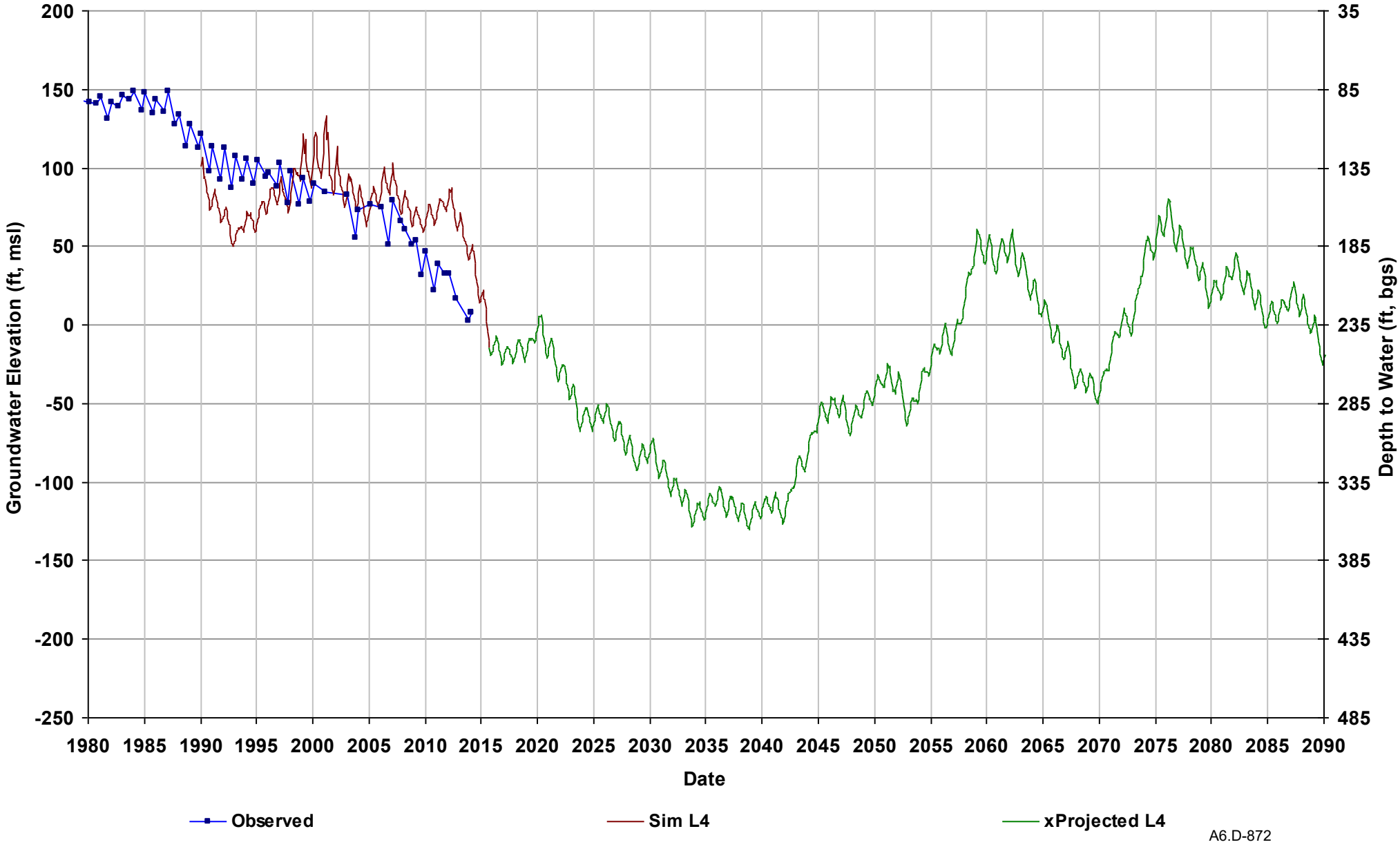
Well Name: 11S16E36J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 221

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



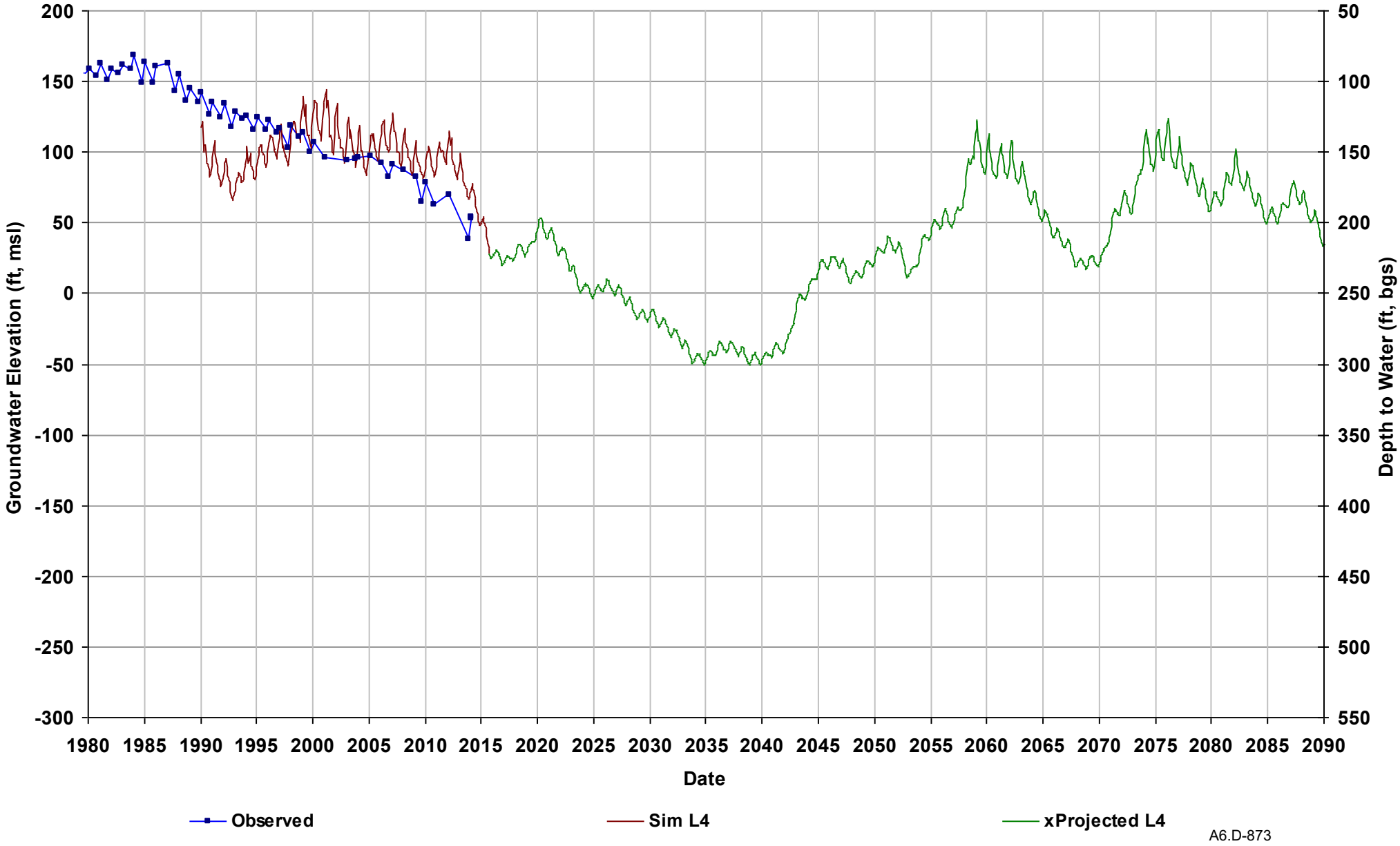
Well Name: 11S17E06C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 235

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



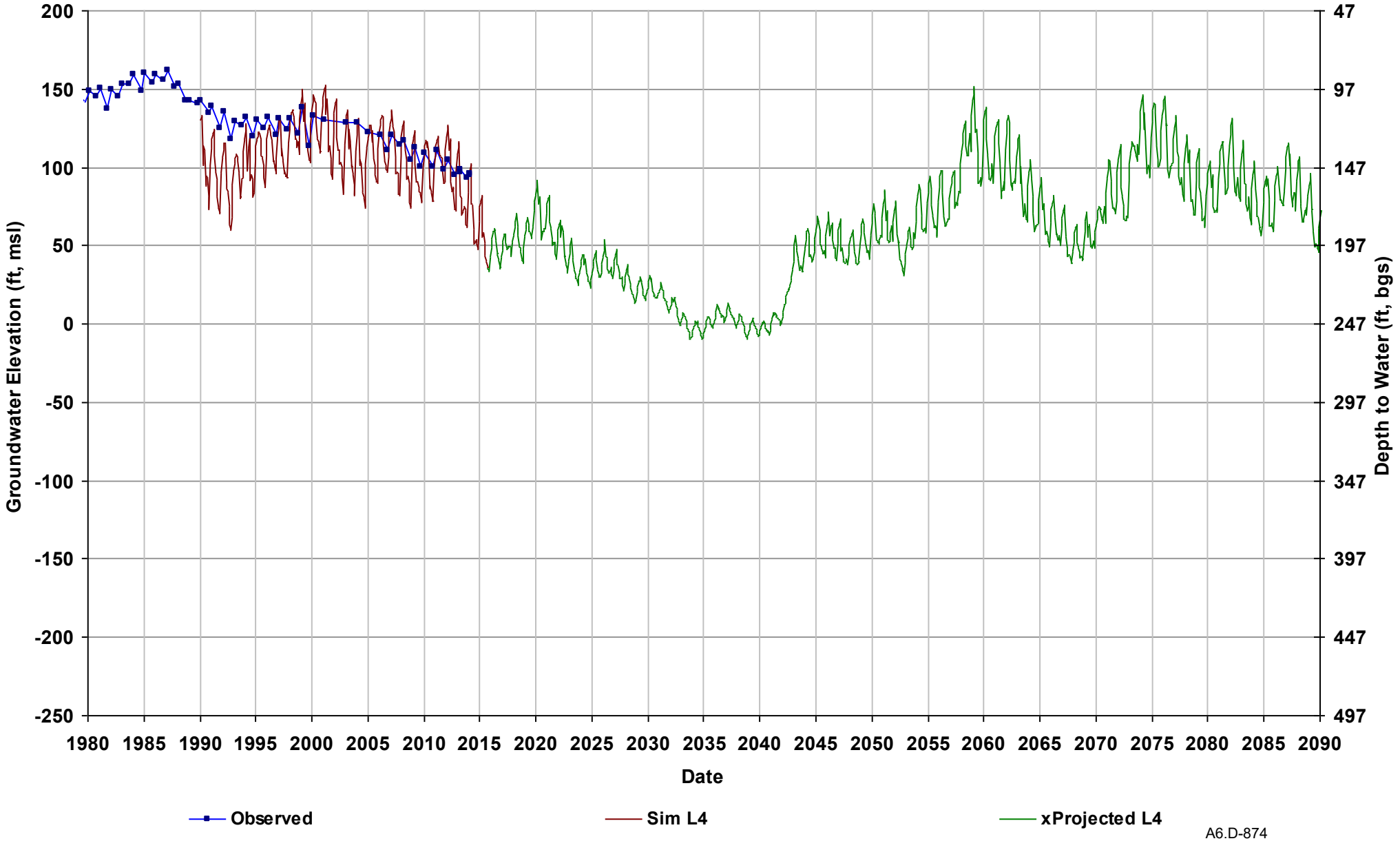
Well Name: 11S17E16H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 249

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



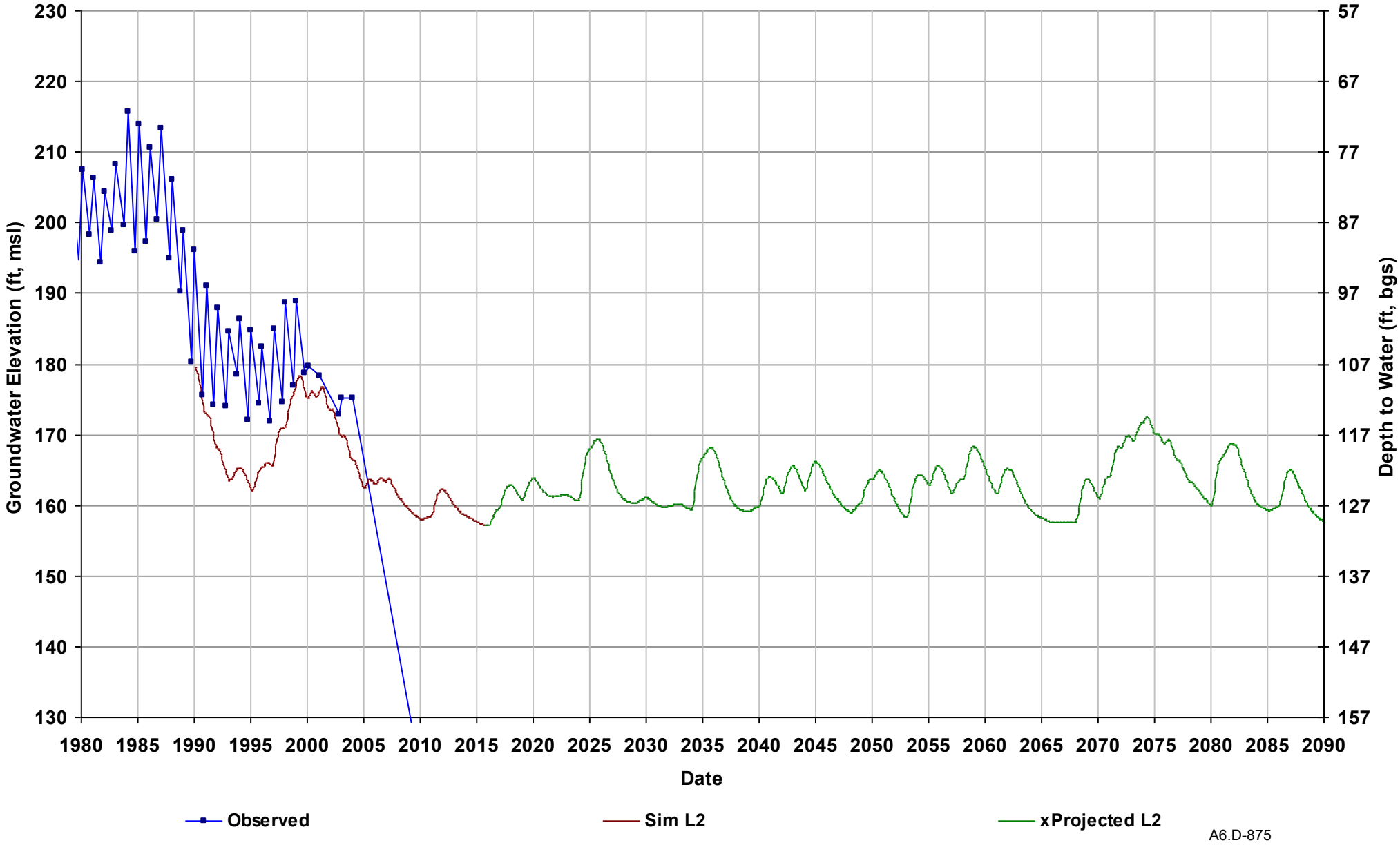
Well Name: 11S17E33H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 246

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



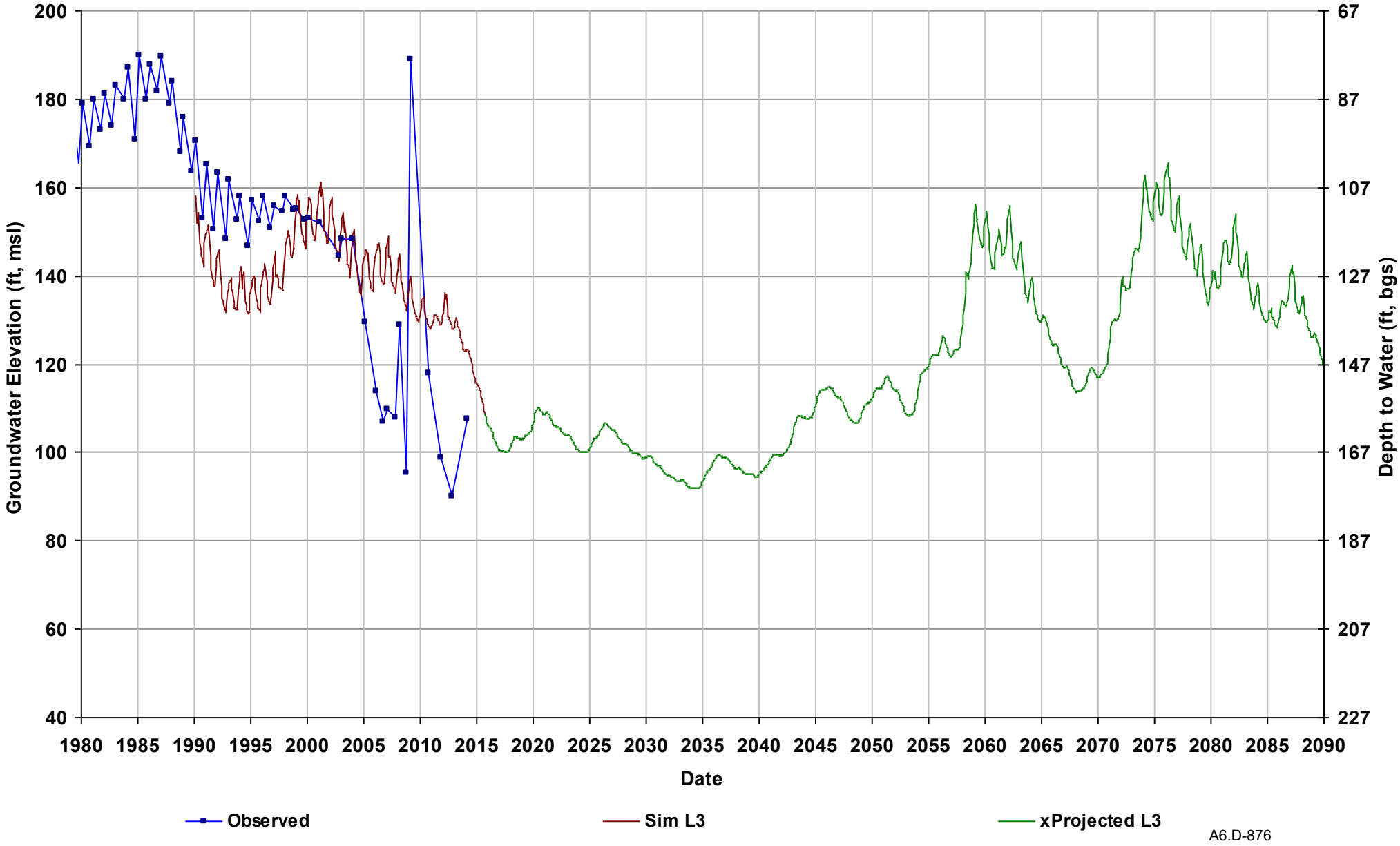
Well Name: 11S18E27F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 287

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



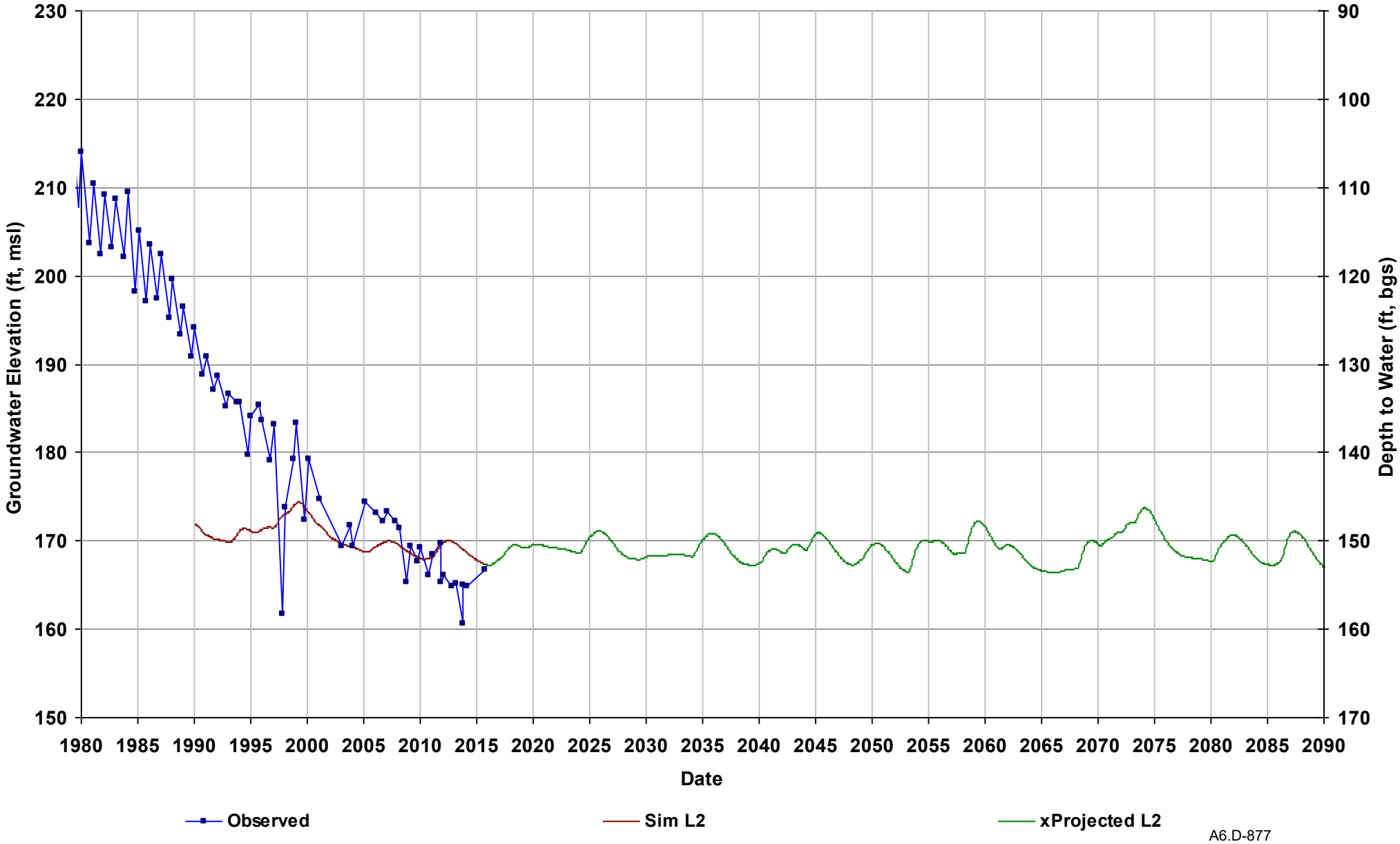
Well Name: 11S18E31A003M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



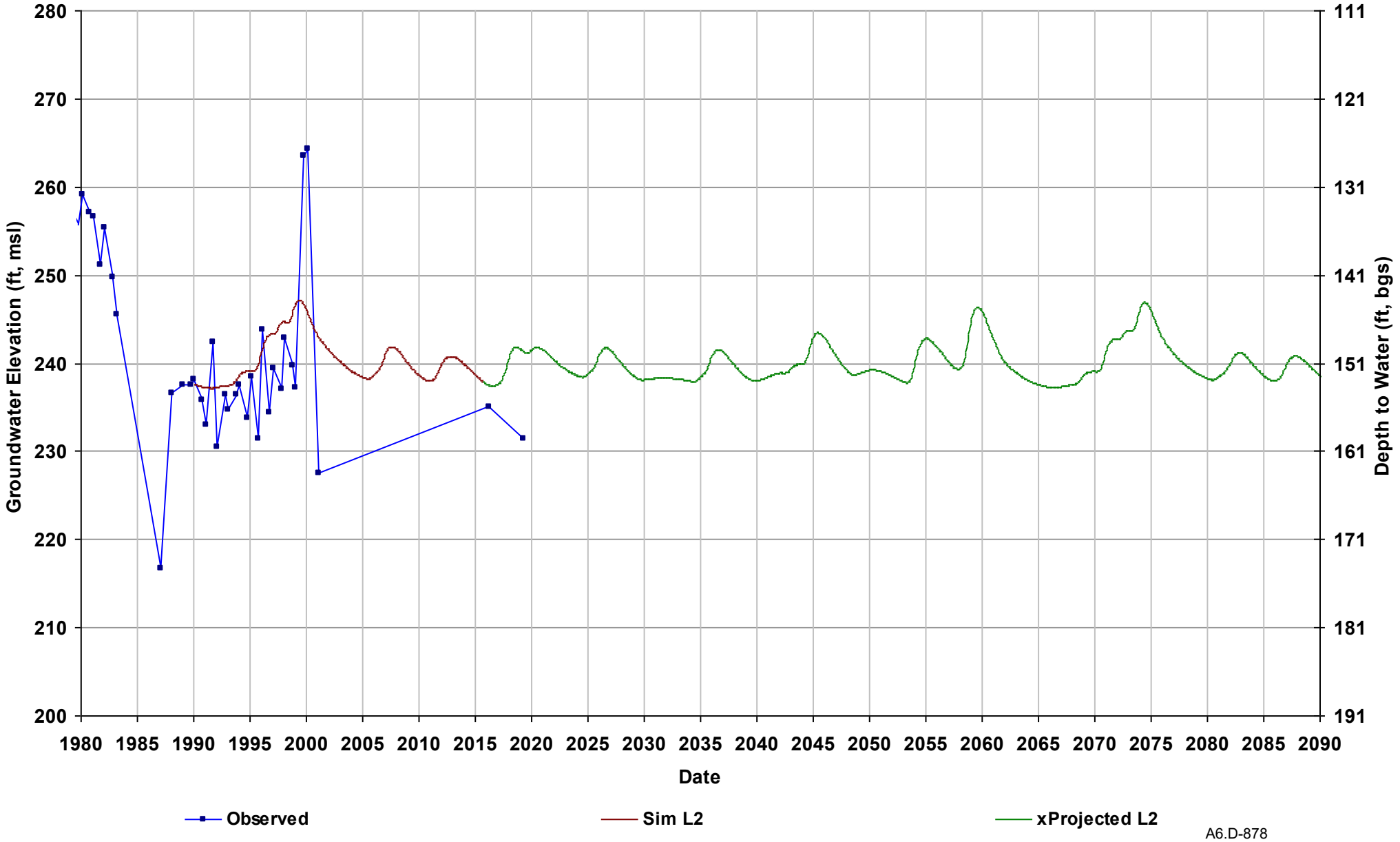
Well Name: 11S19E32R001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 320

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



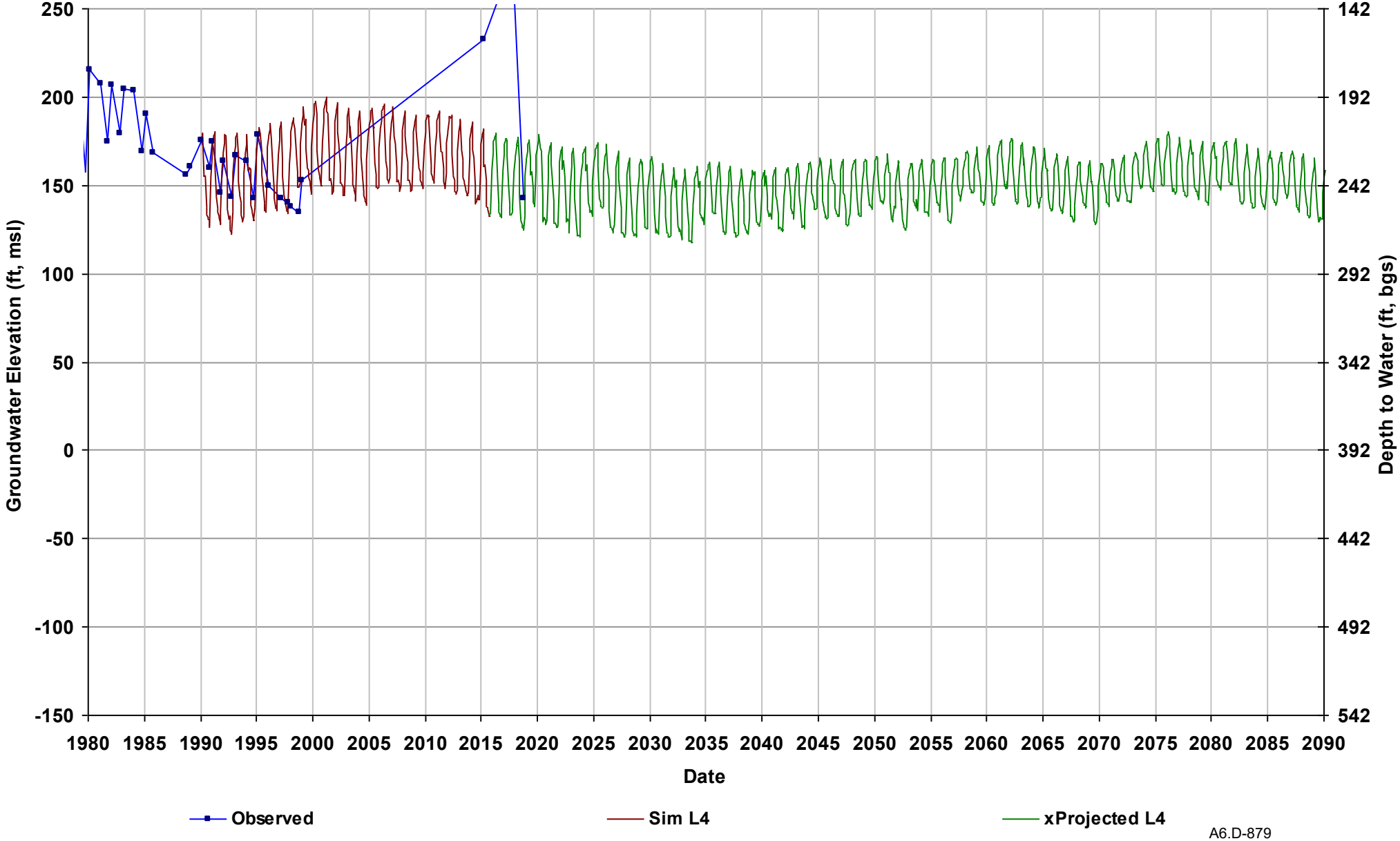
Well Name: 11S20E18L001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 391

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



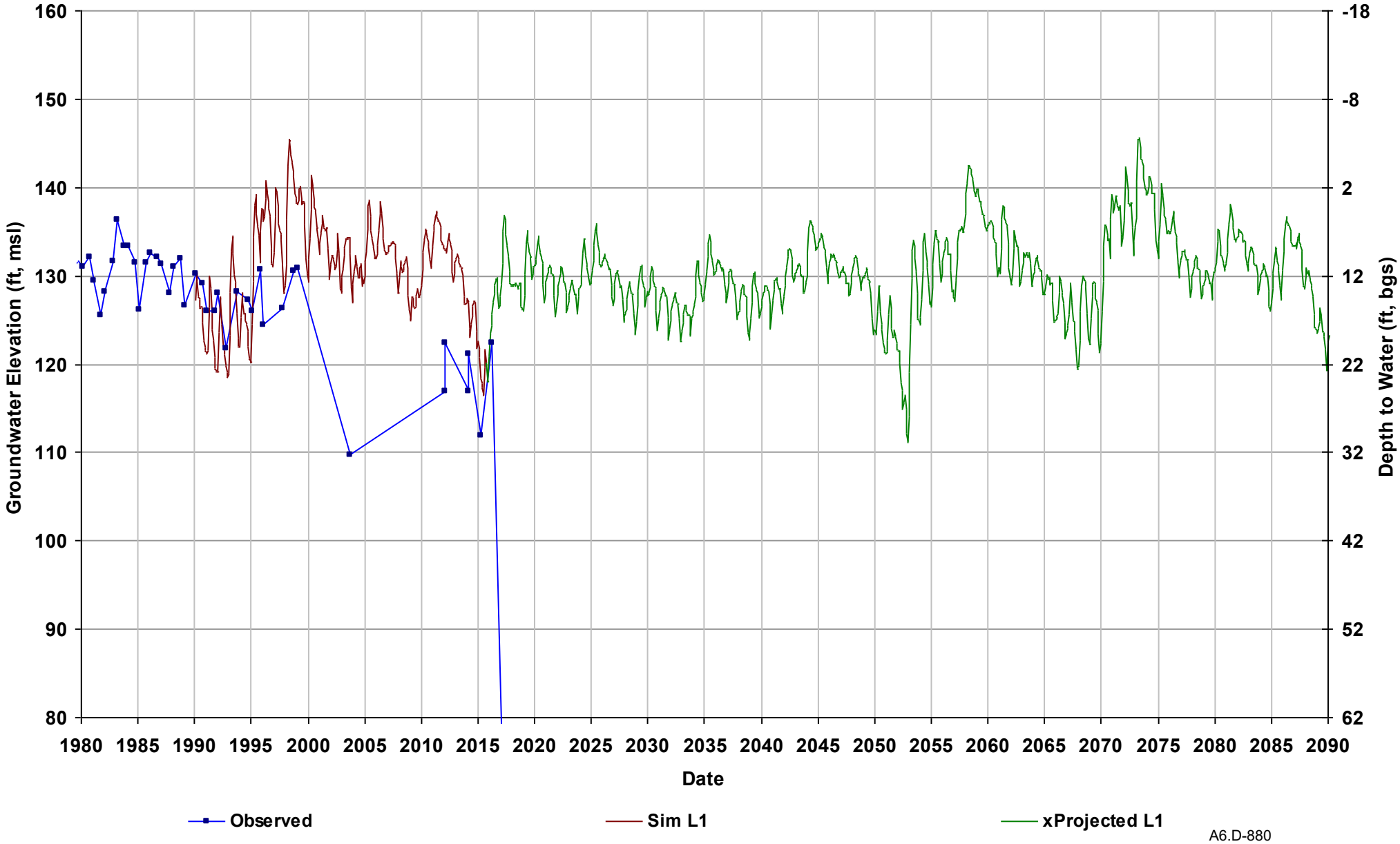
Well Name: 11S20E33K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 392

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



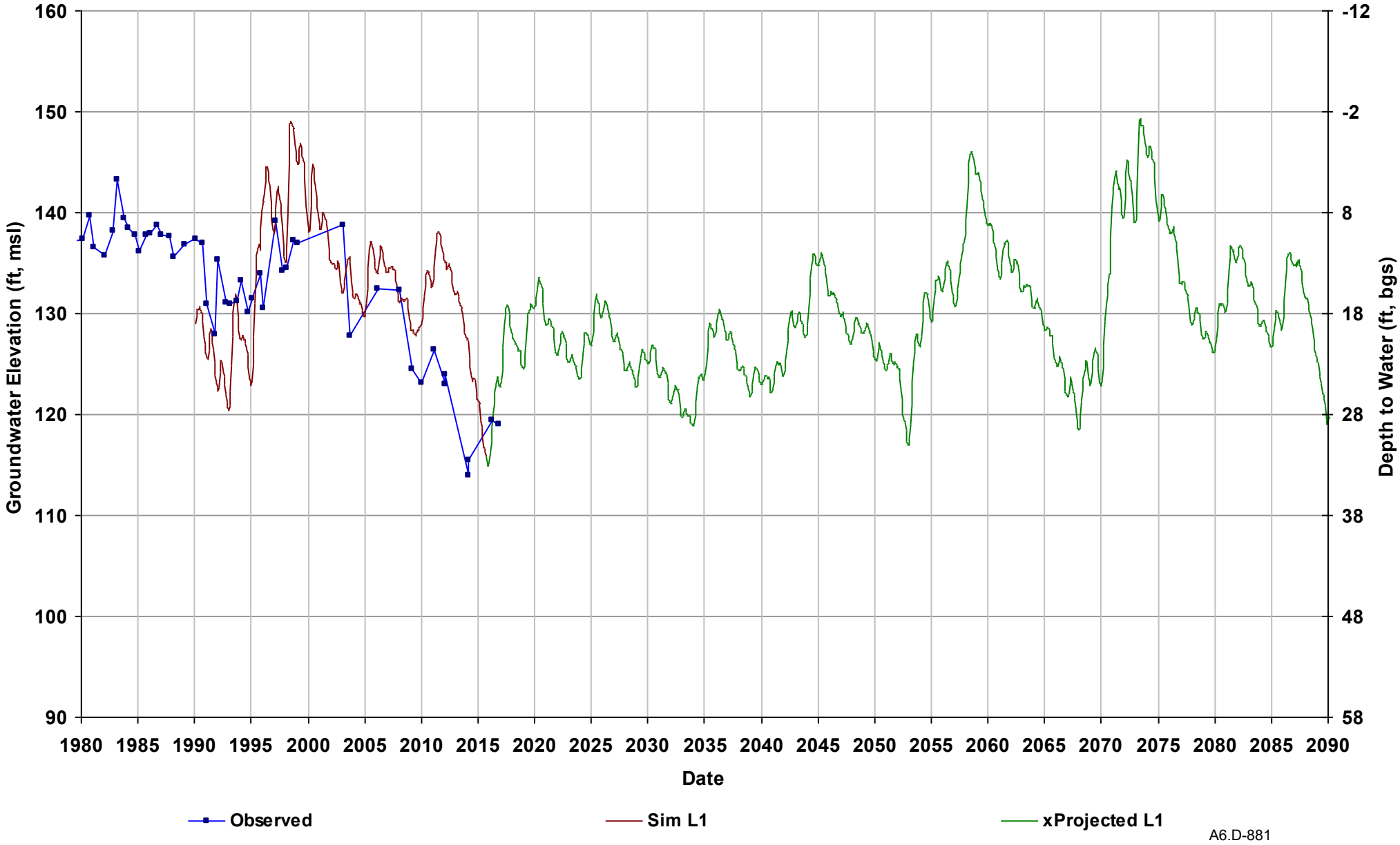
Well Name: 12S14E08R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 142

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



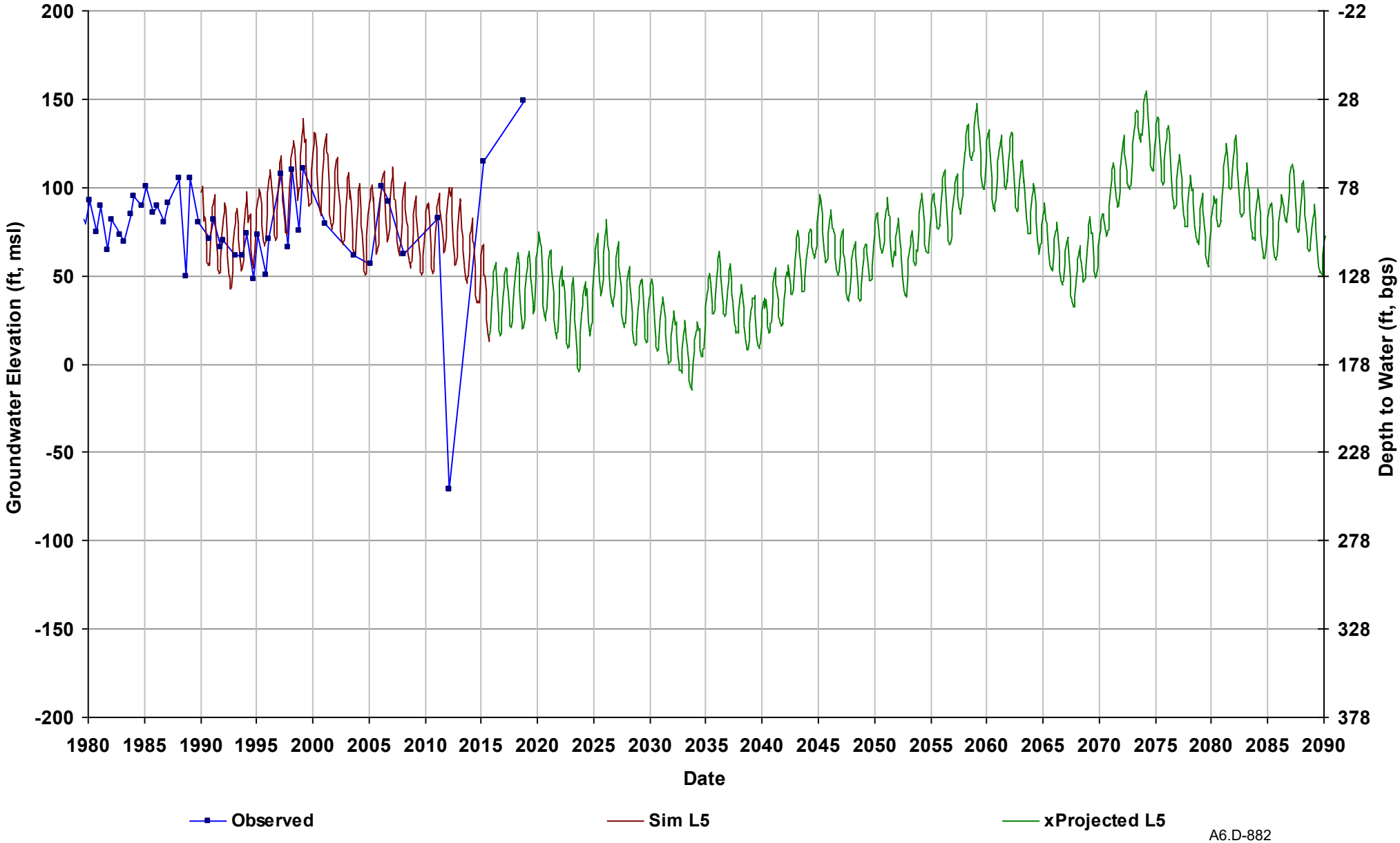
Well Name: 12S14E21H001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 148

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



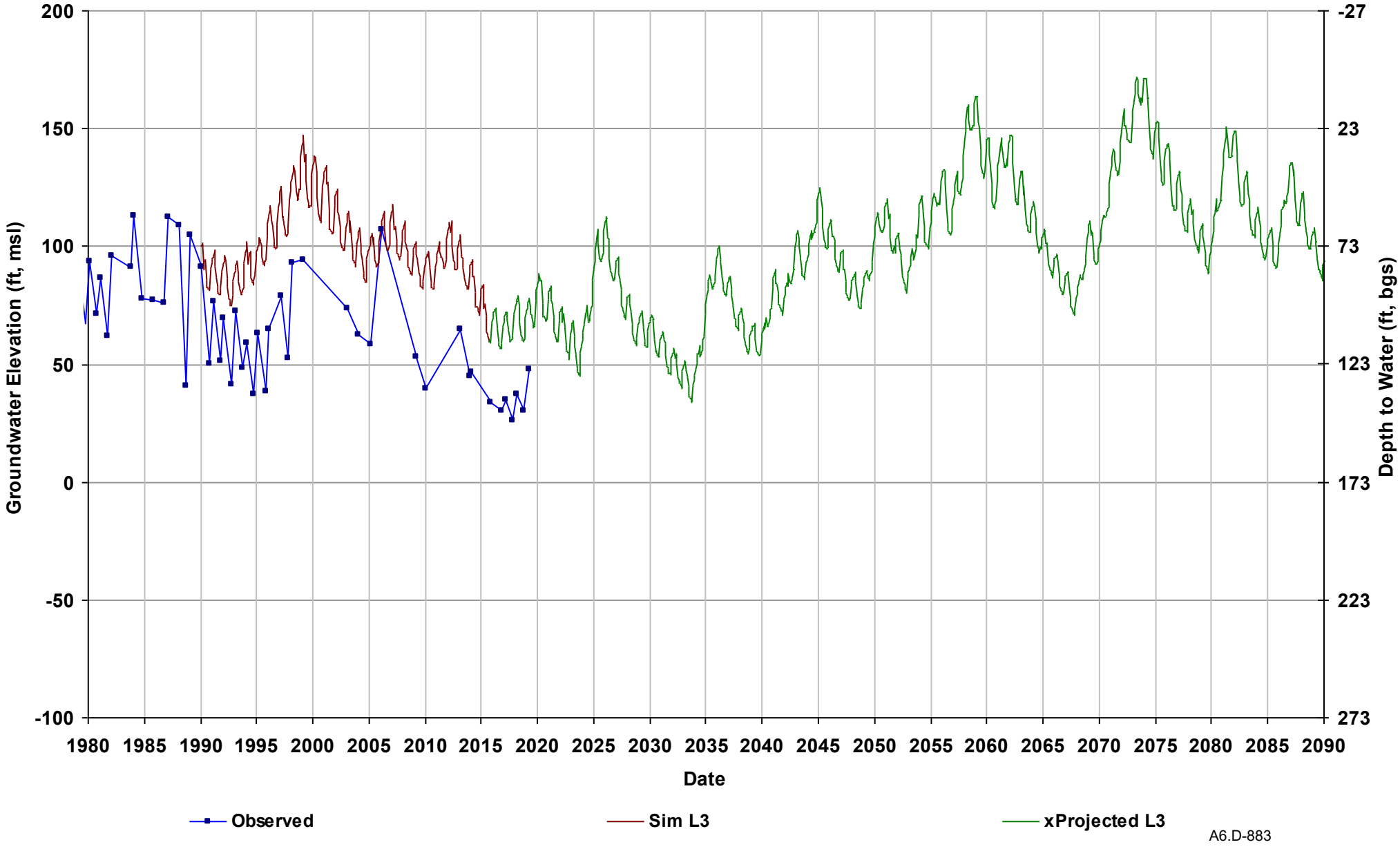
Well Name: 12S15E01R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



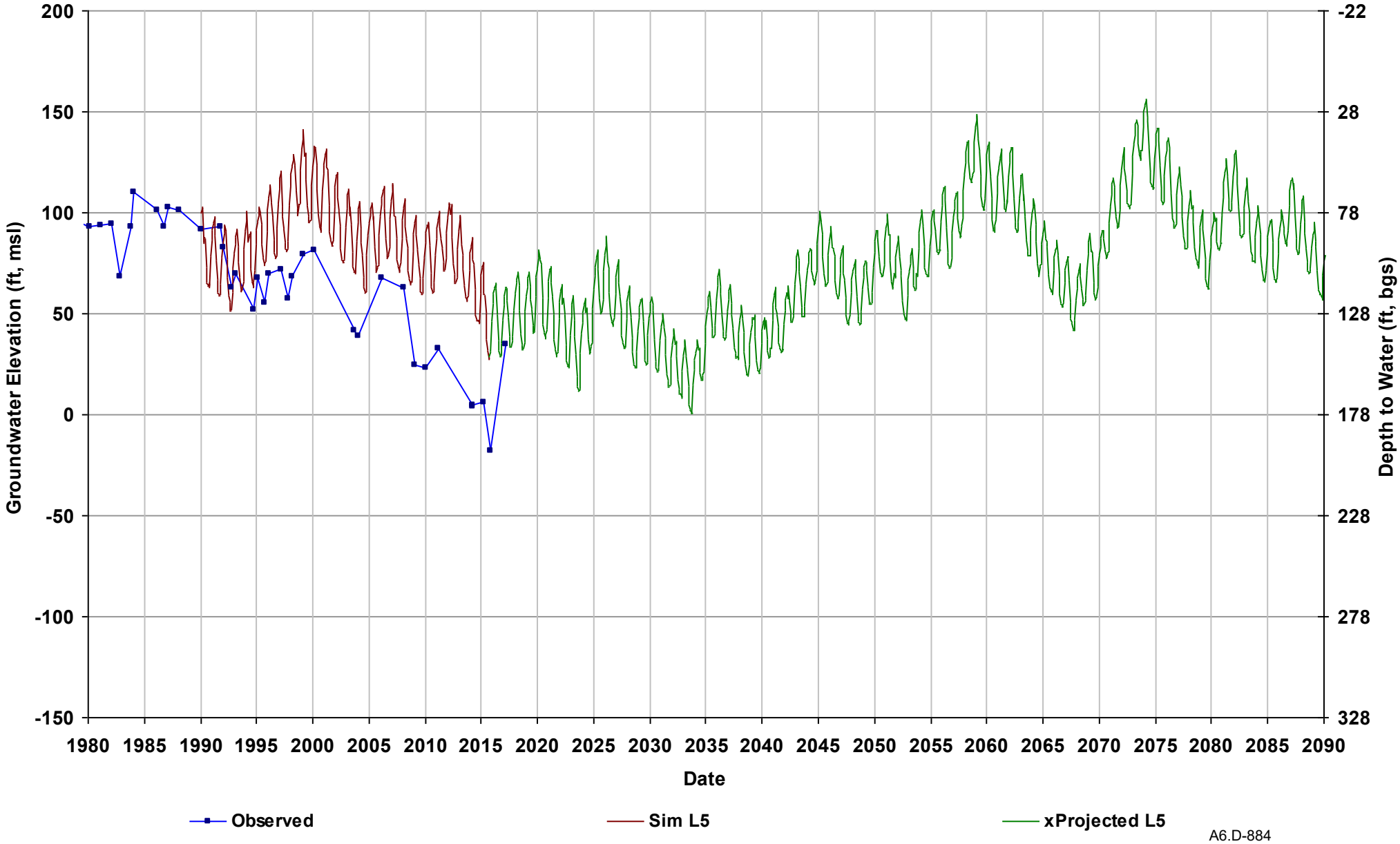
Well Name: 12S15E11R001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 172

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



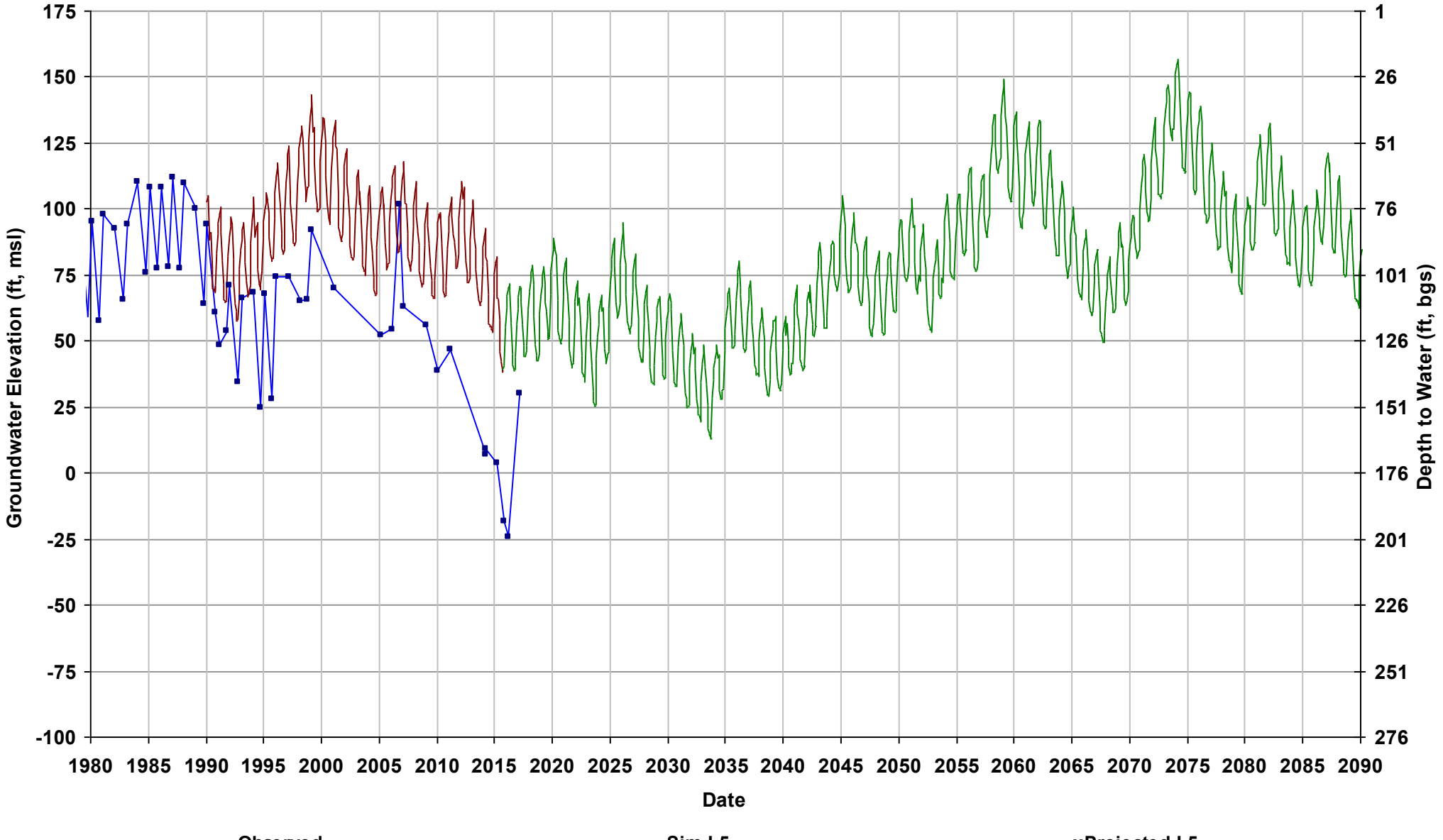
Well Name: 12S15E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 178

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



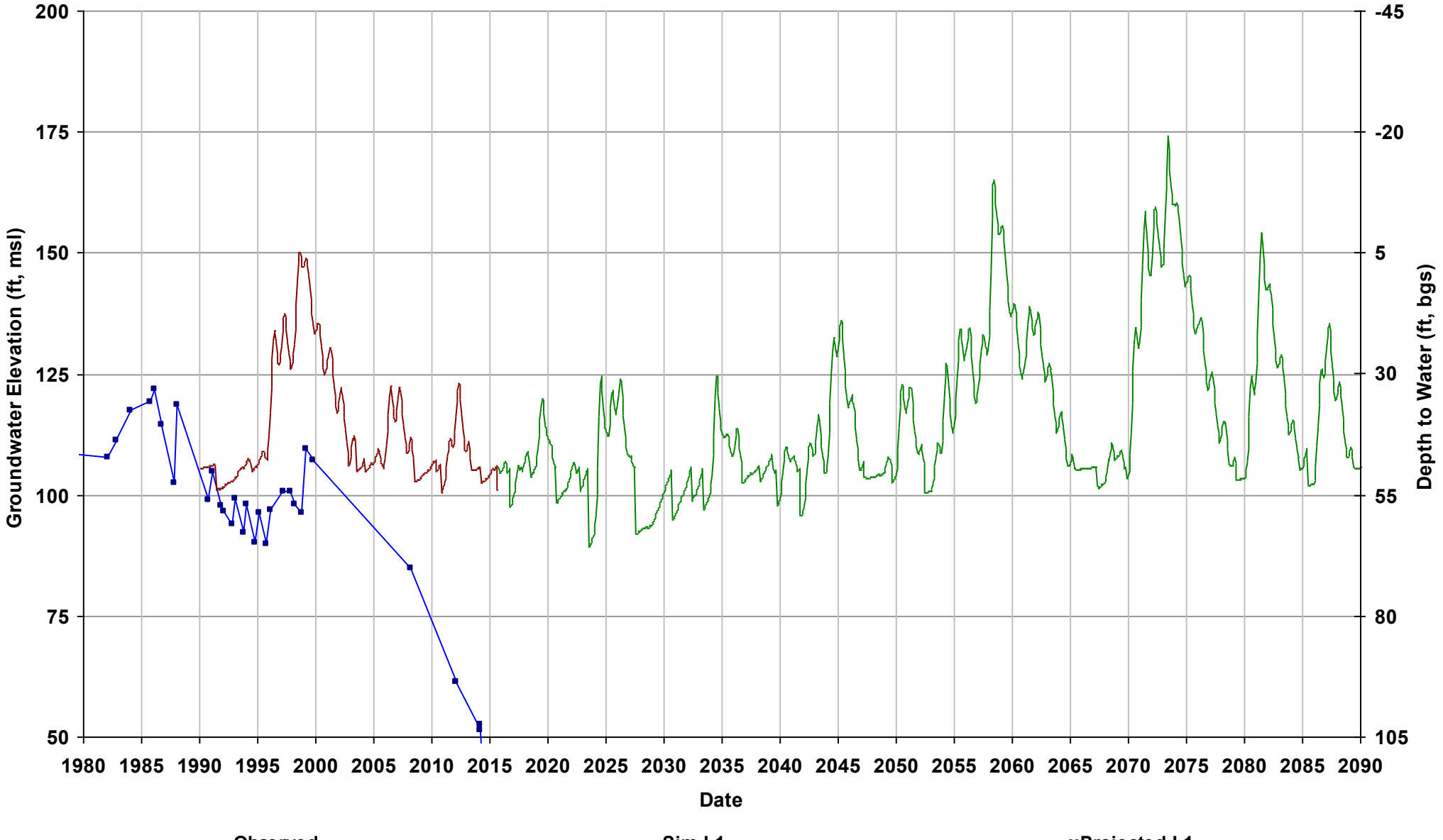
Well Name: 12S15E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 176

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



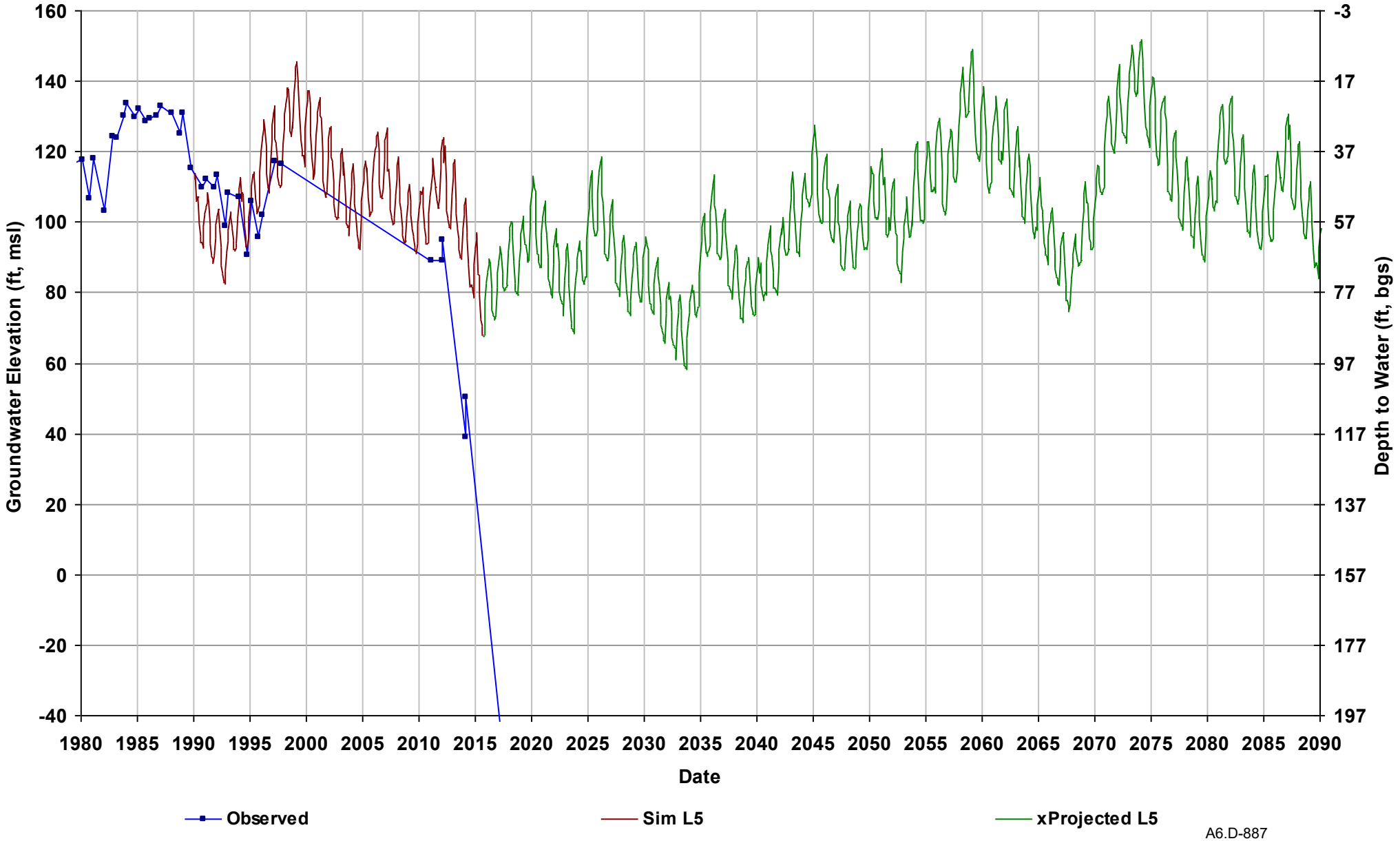
Well Name: 12S15E17E001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 154

Total Depth (ft): 57
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



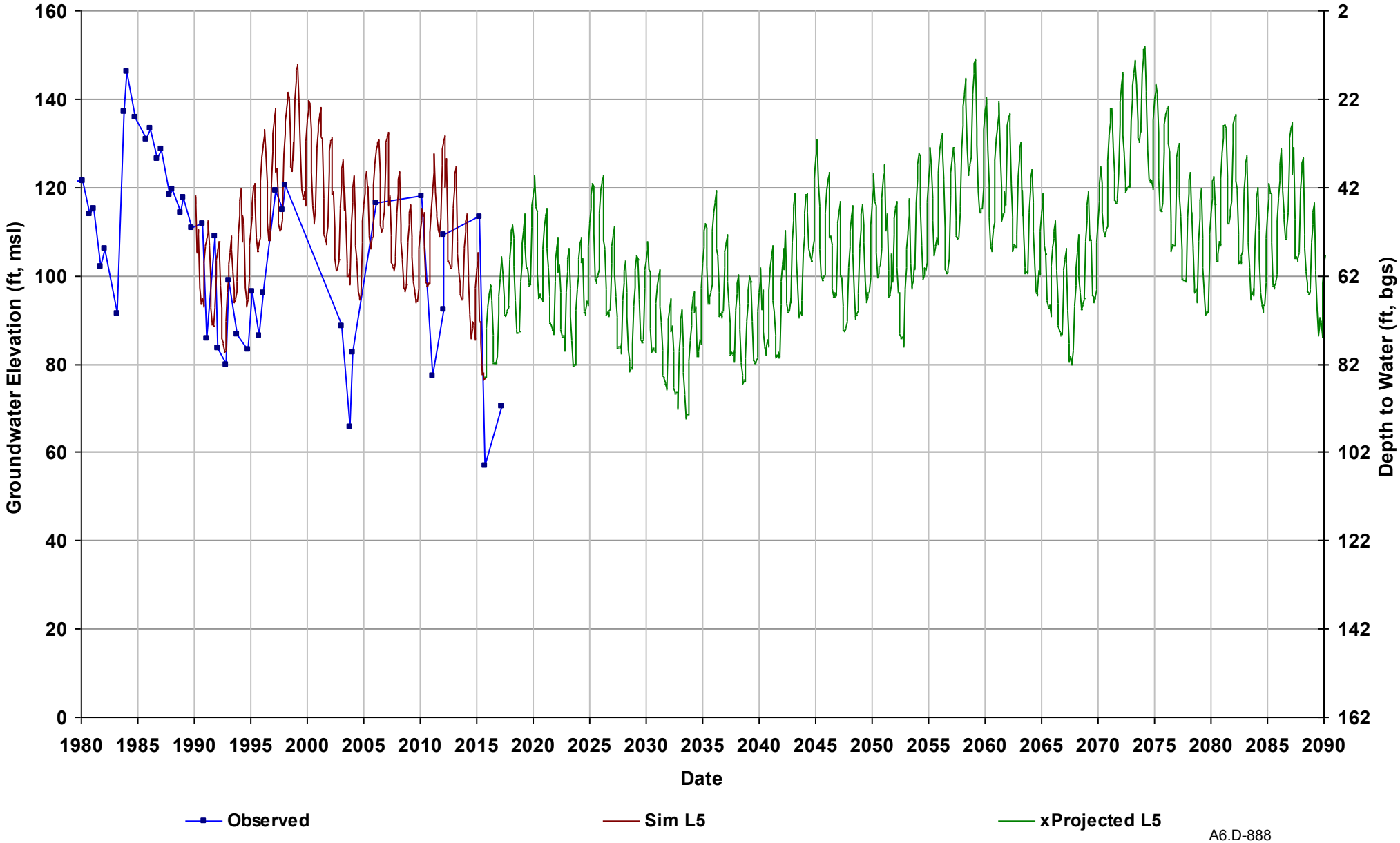
Well Name: 12S15E29C001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 156

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



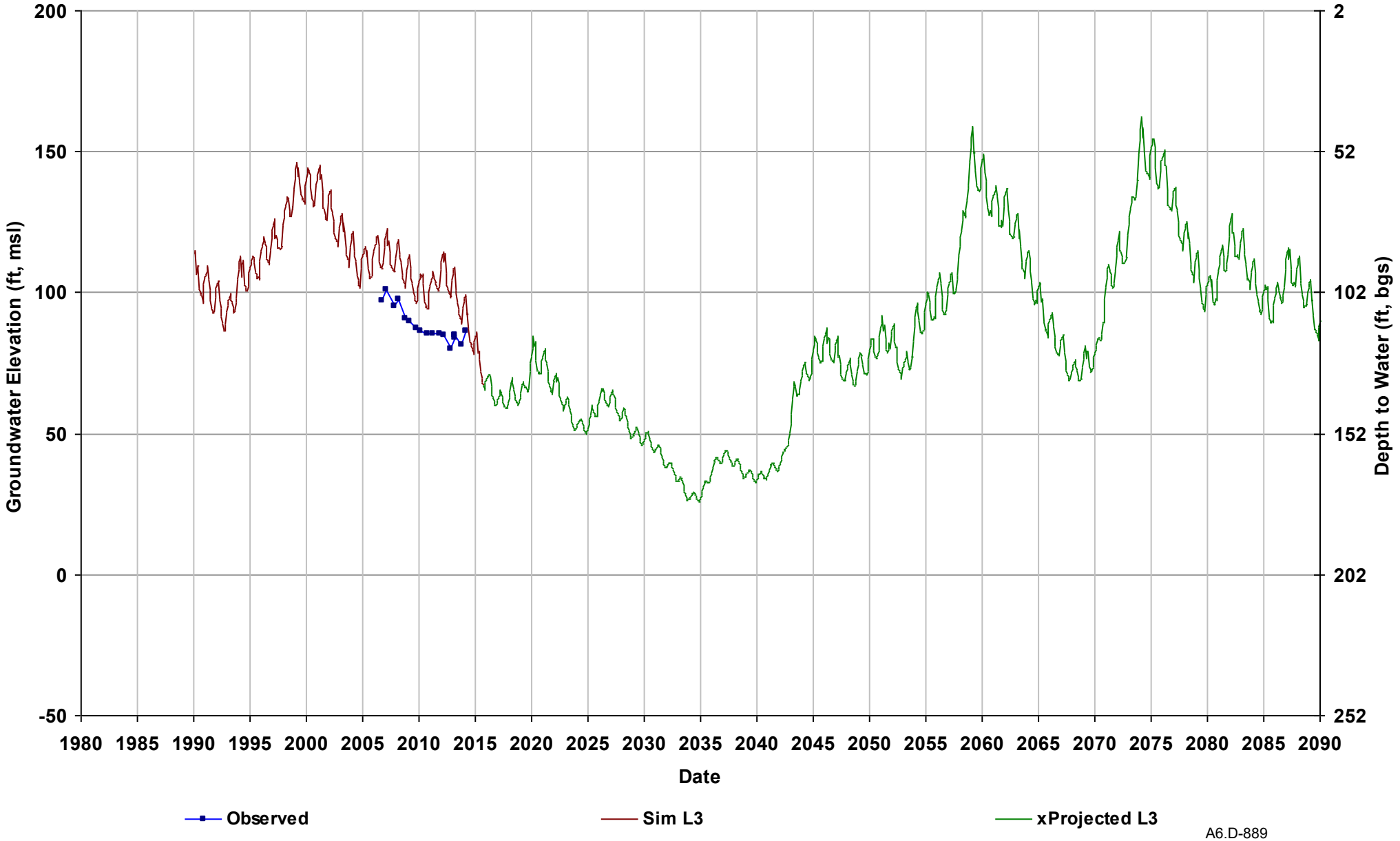
Well Name: 12S15E33R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



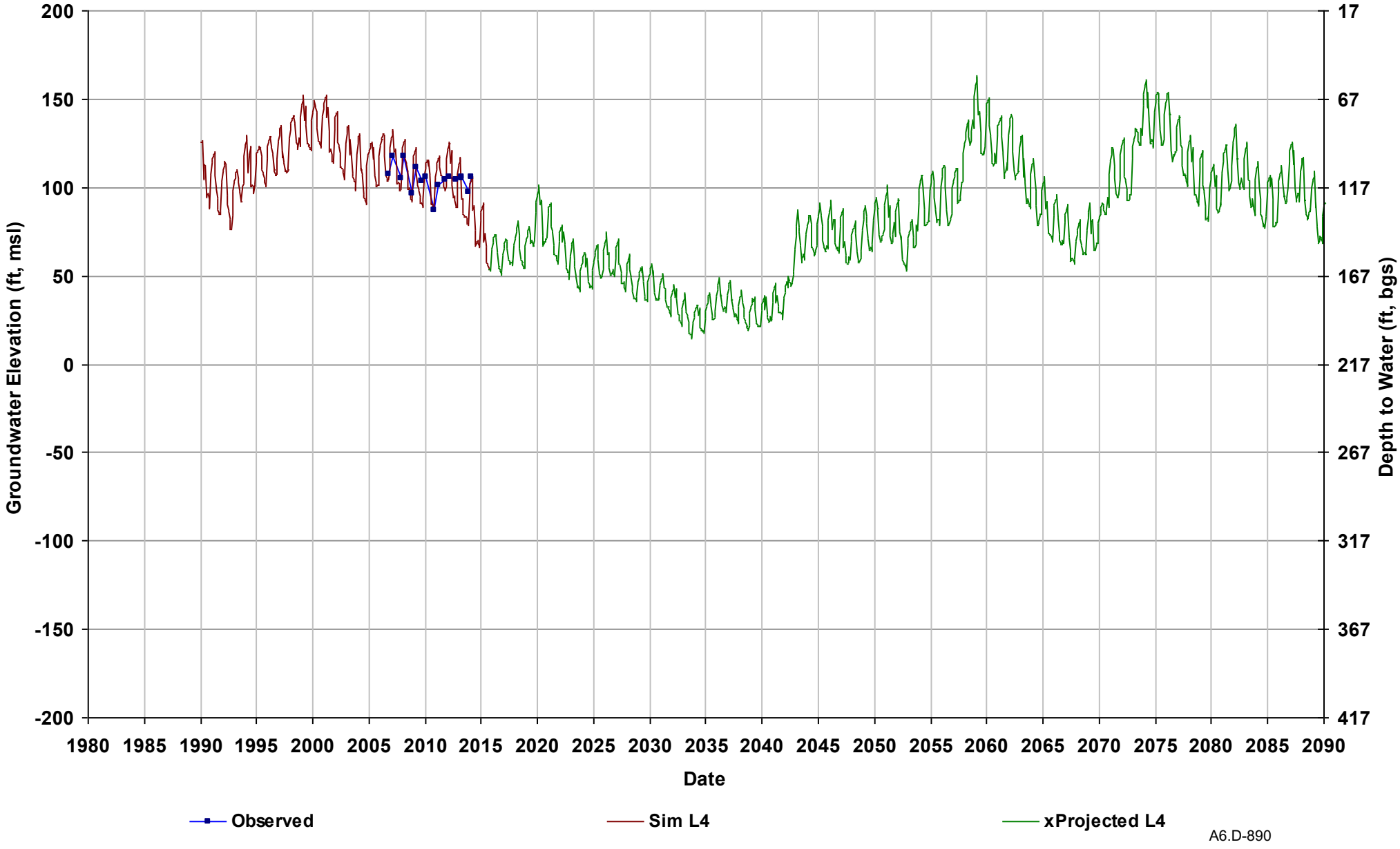
Well Name: 12S16E02N001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

Total Depth (ft): 144
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



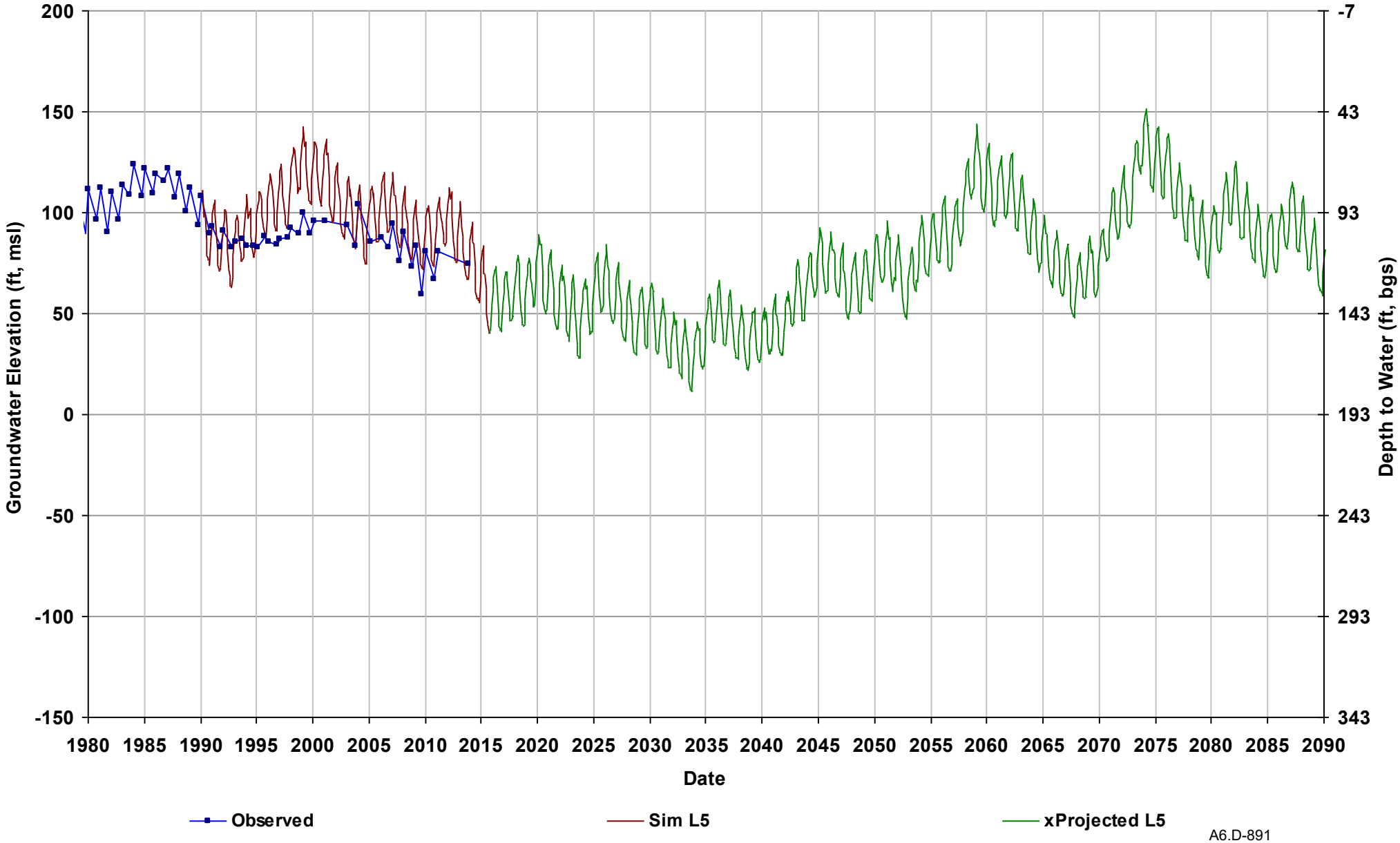
Well Name: 12S16E12H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 217

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



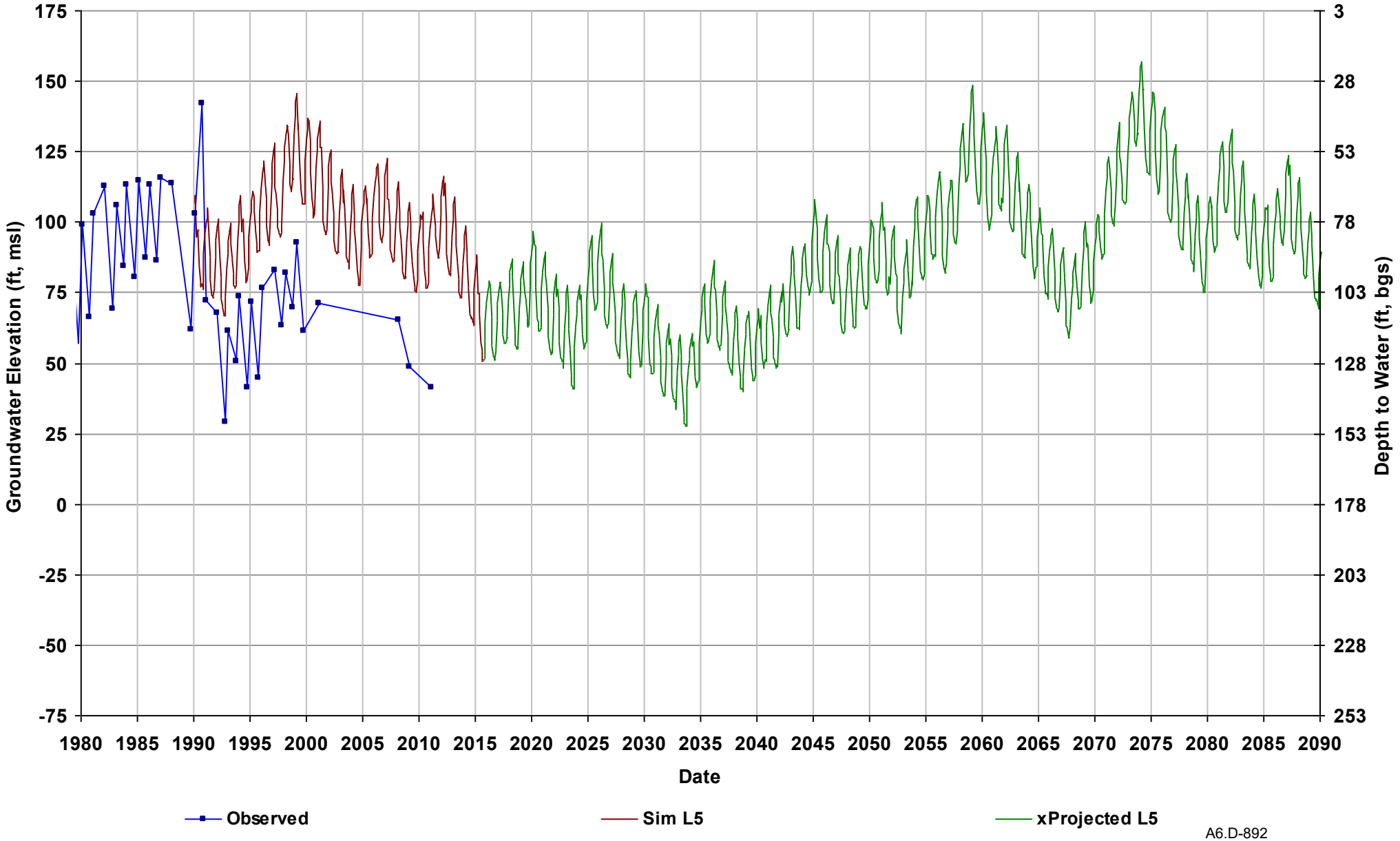
Well Name: 12S16E16R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 193

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



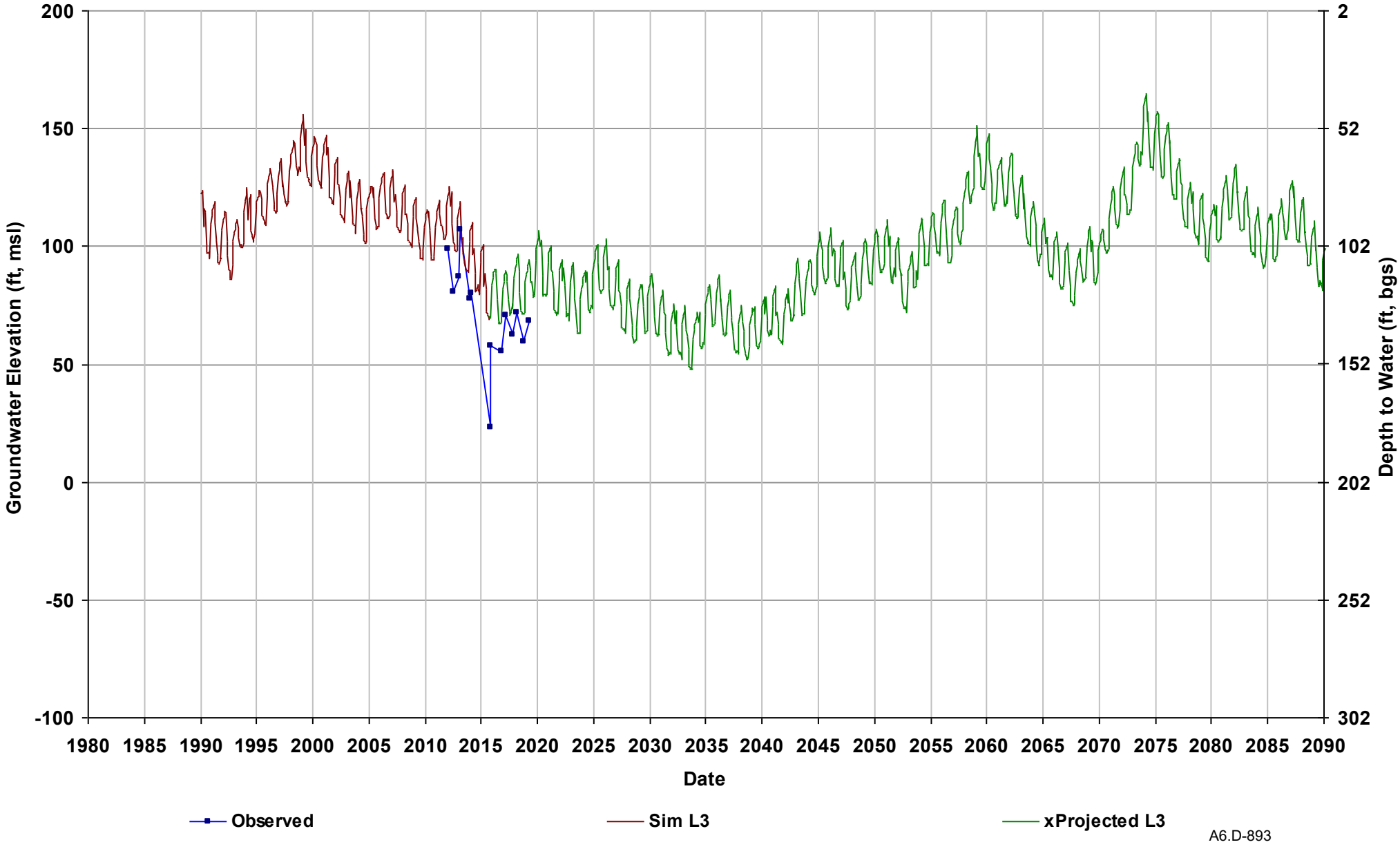
Well Name: 12S16E19P001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



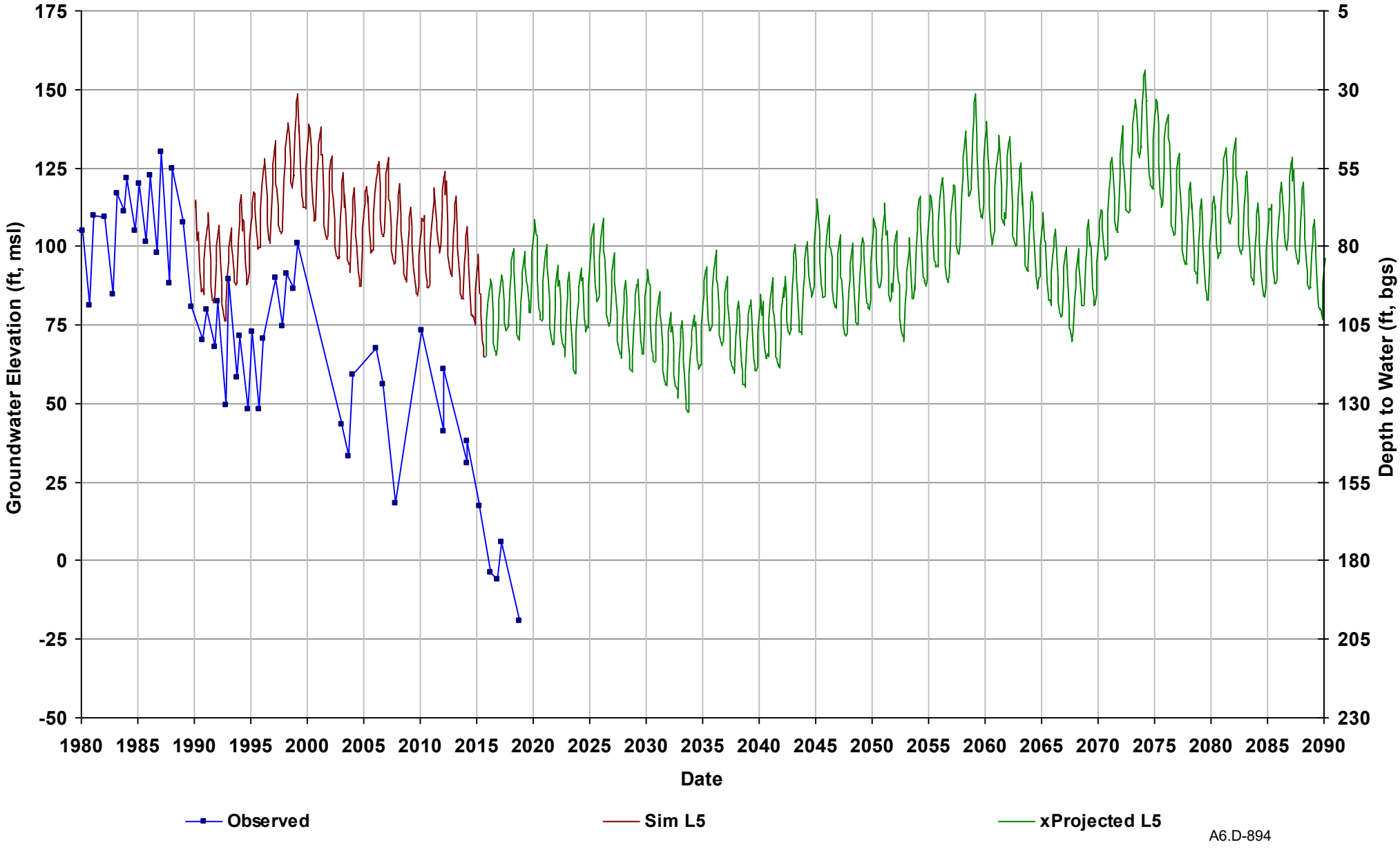
Well Name: 12S16E26H001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



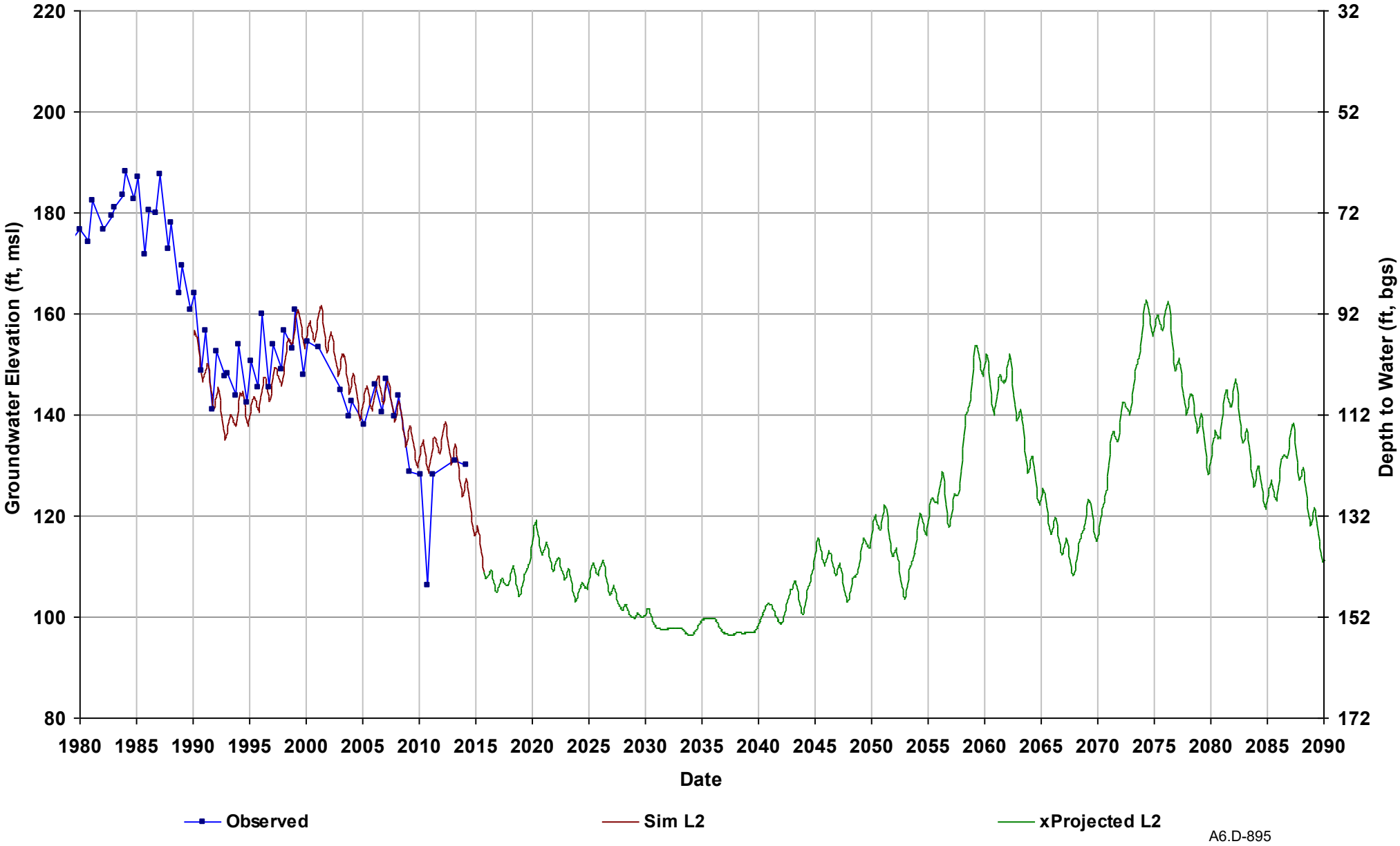
Well Name: 12S16E31G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 179

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



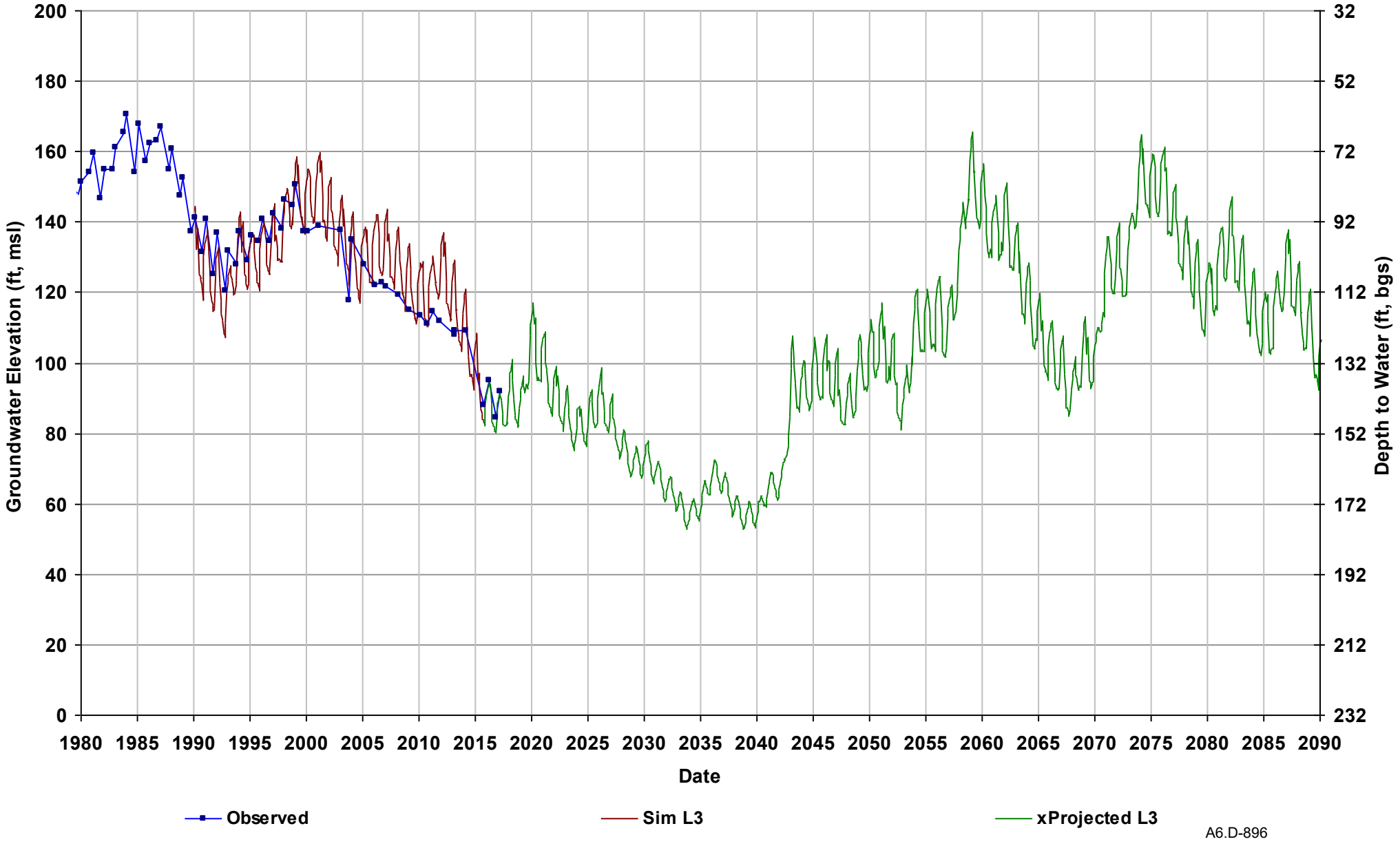
Well Name: 12S17E13J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



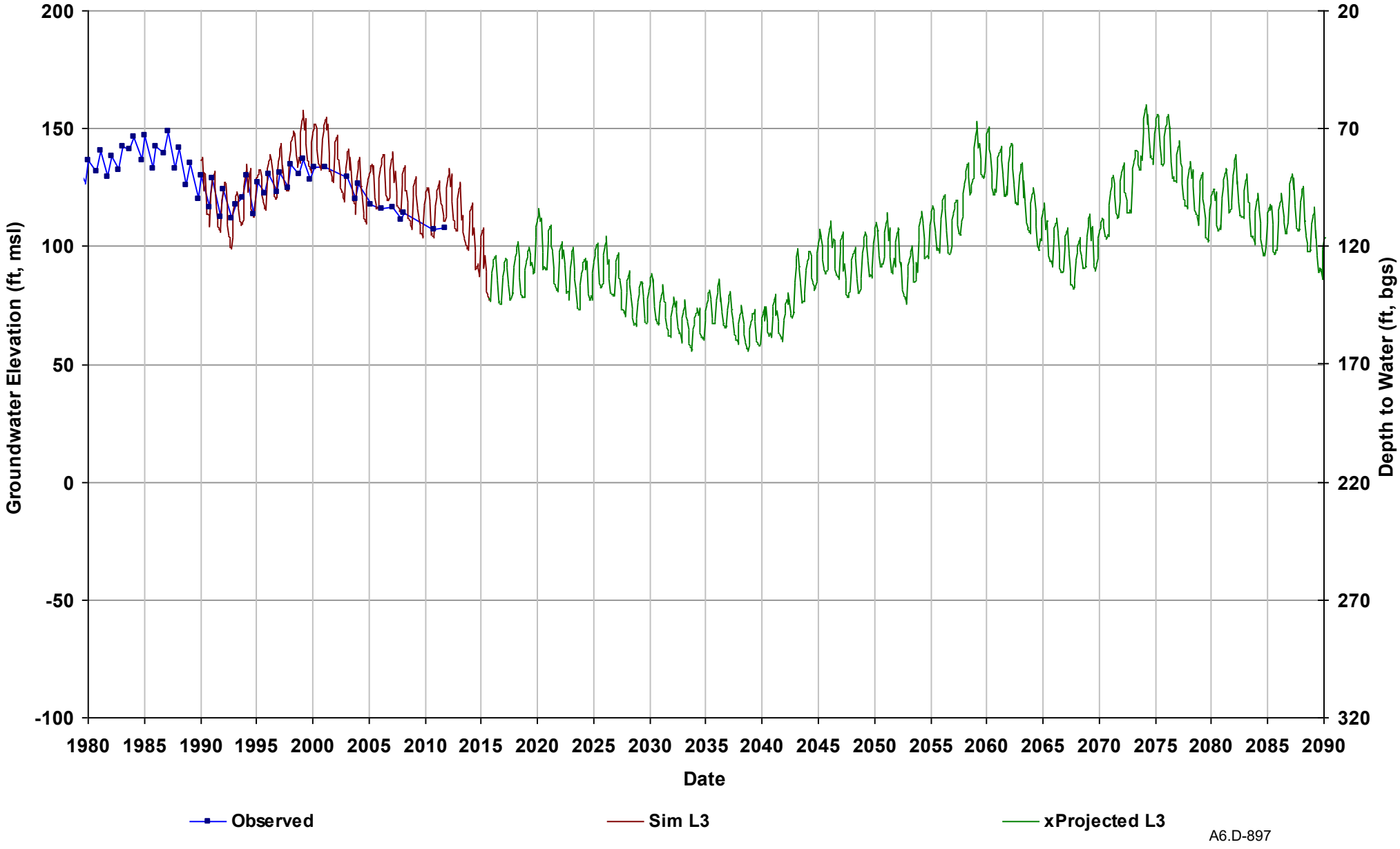
Well Name: 12S17E16A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 232

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



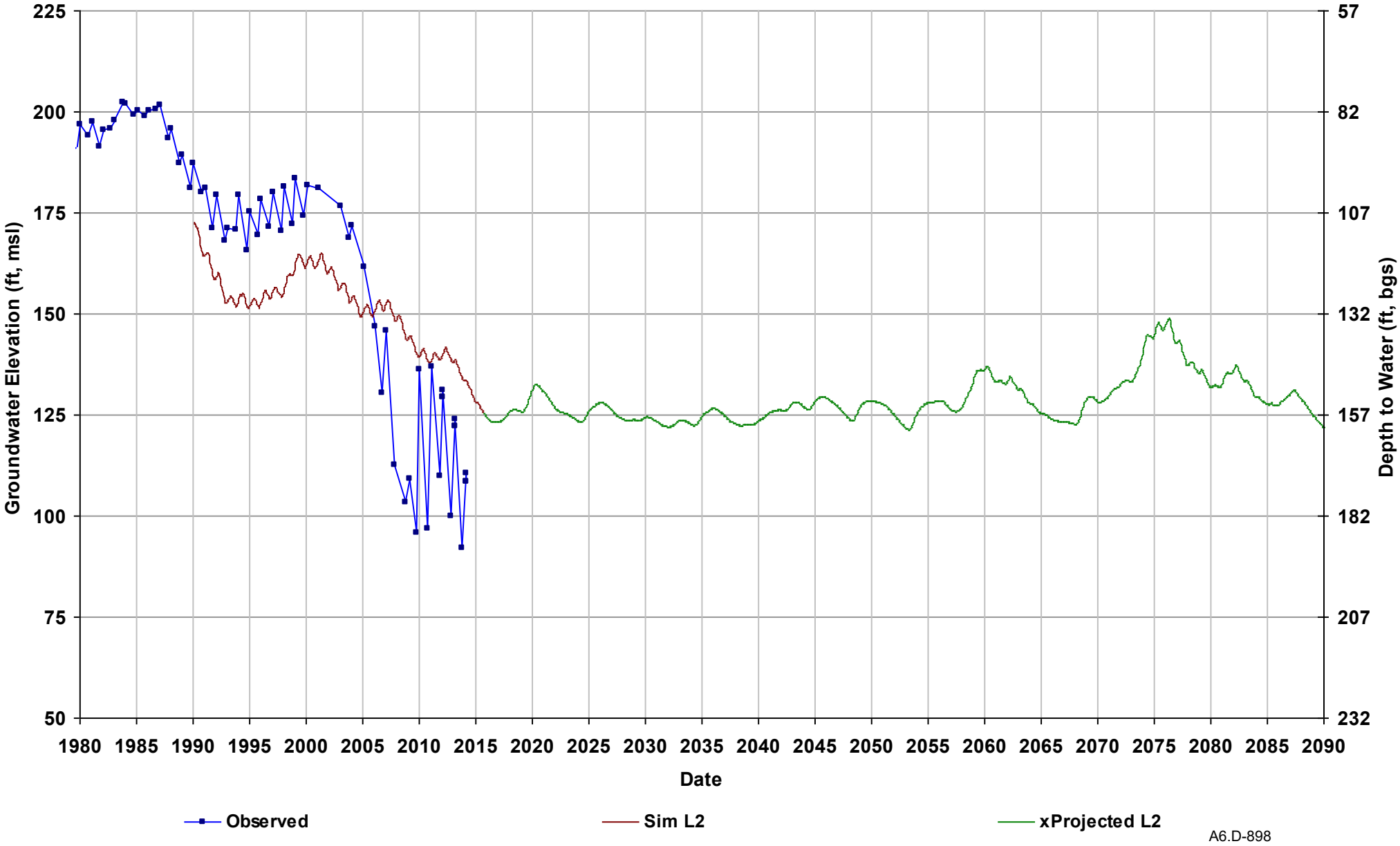
Well Name: 12S17E20P001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 220

Total Depth (ft): 252
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



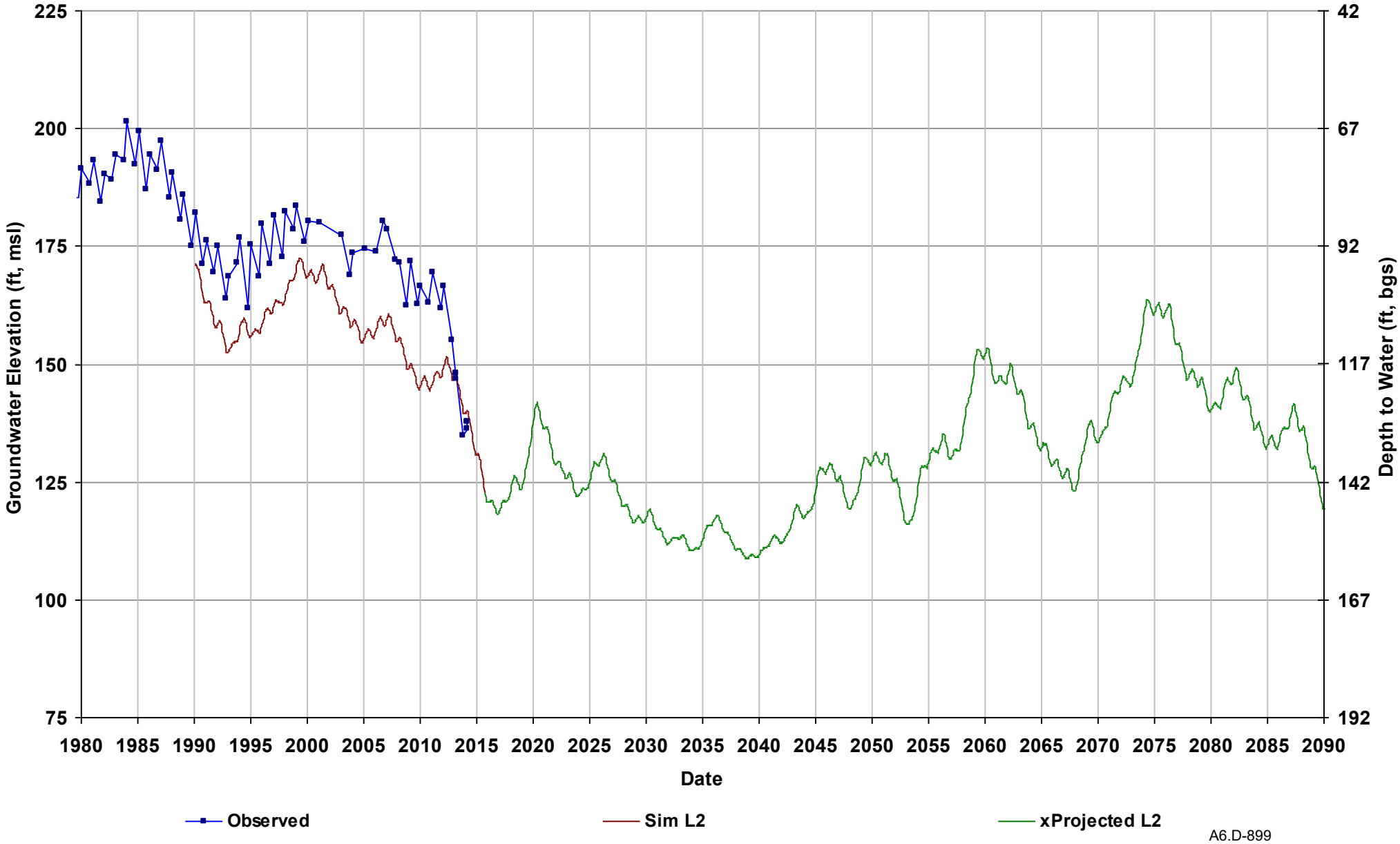
Well Name: 12S18E12N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 282

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



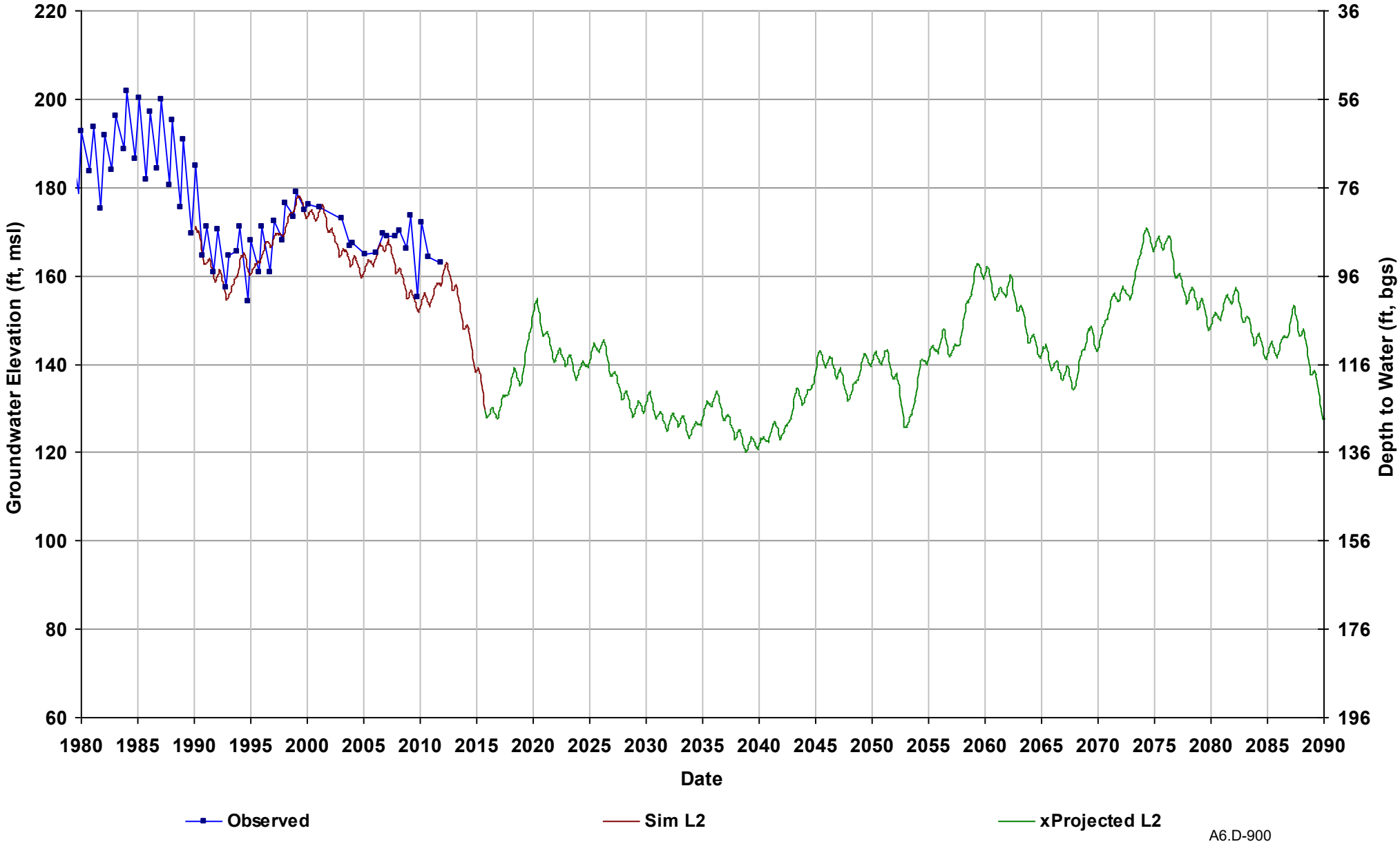
Well Name: 12S18E21G001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



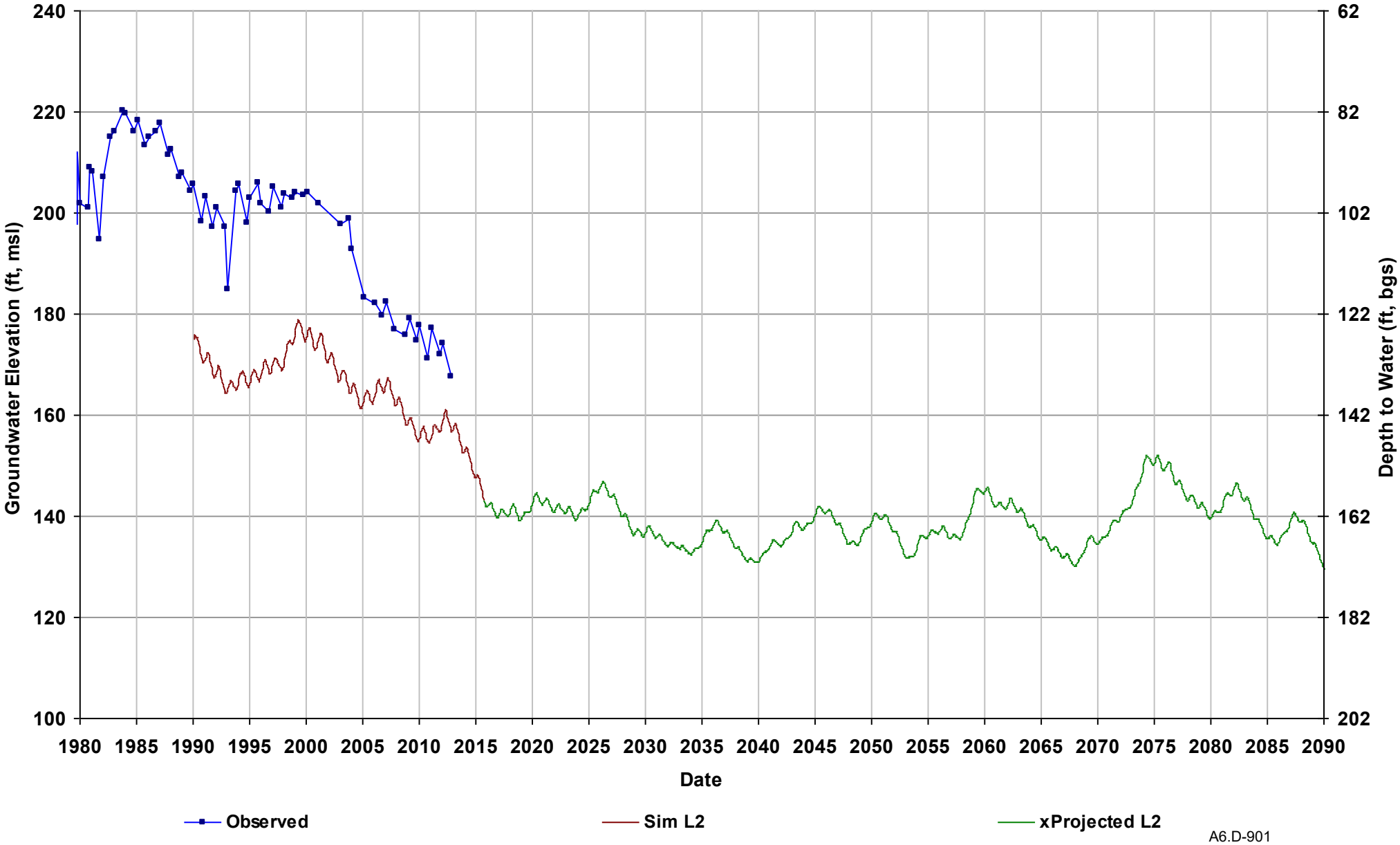
Well Name: 12S18E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 256

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



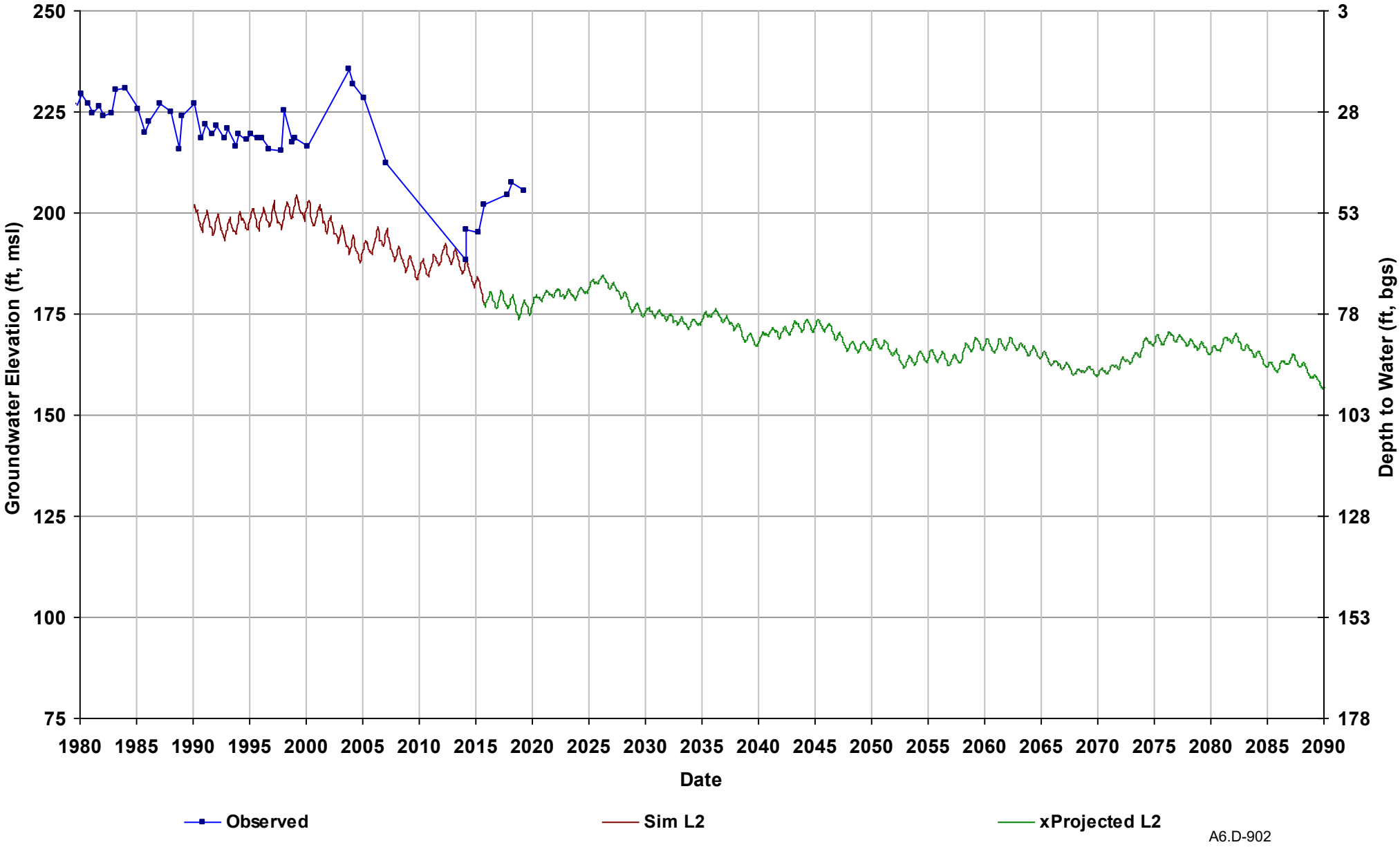
Well Name: 12S19E21B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



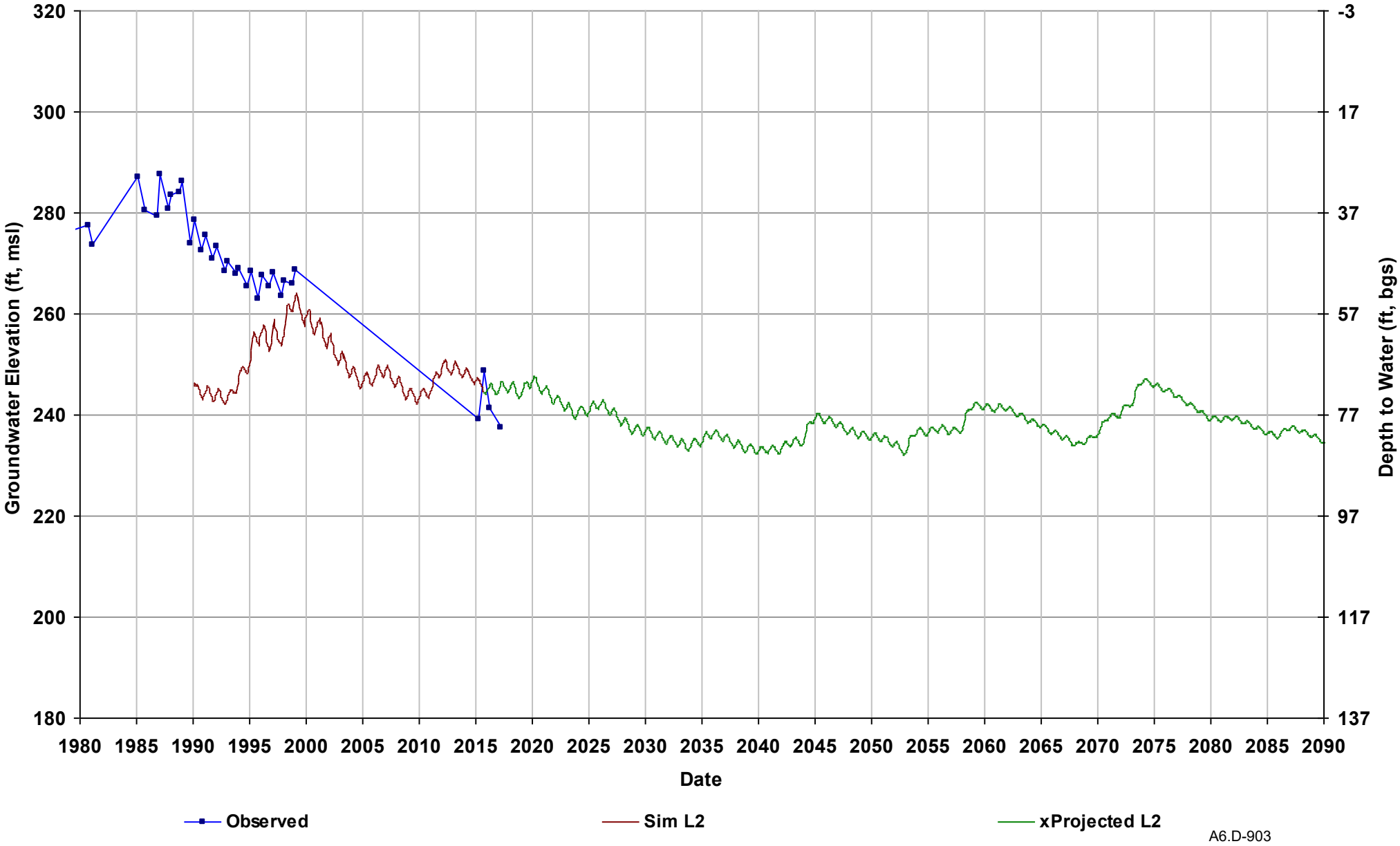
Well Name: 12S19E35A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 252

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



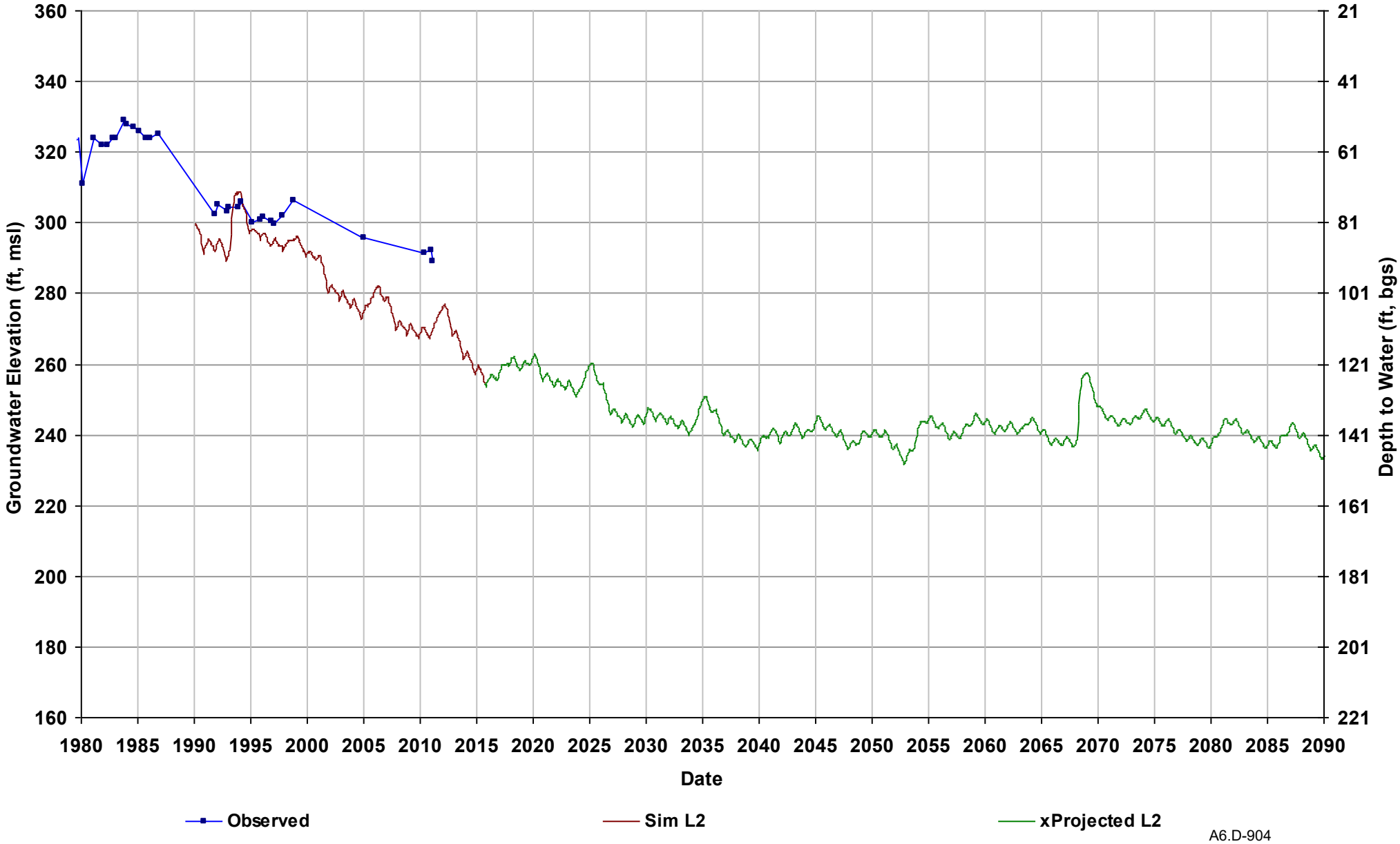
Well Name: 12S20E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 317

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



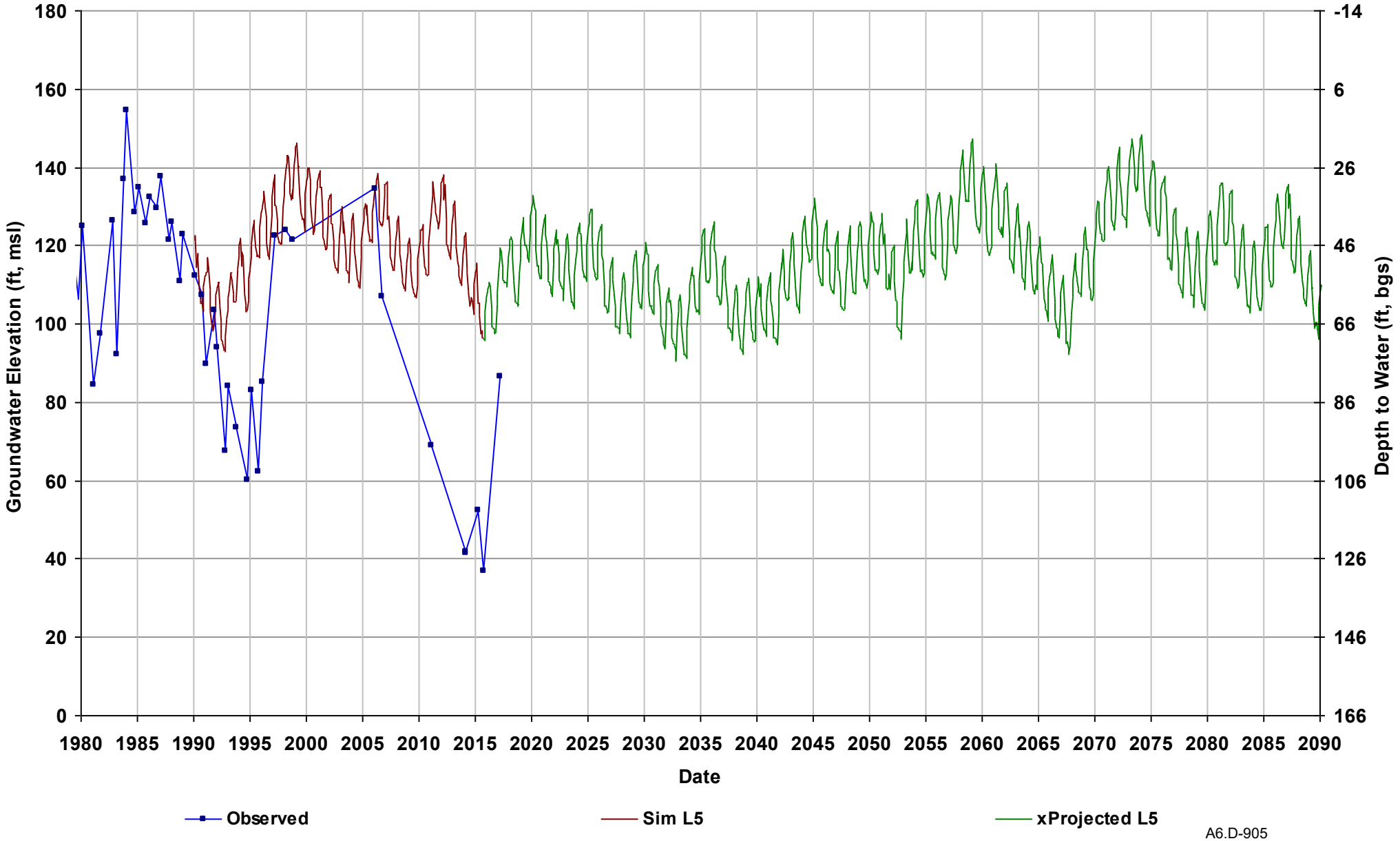
Well Name: 12S21E19J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 380

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



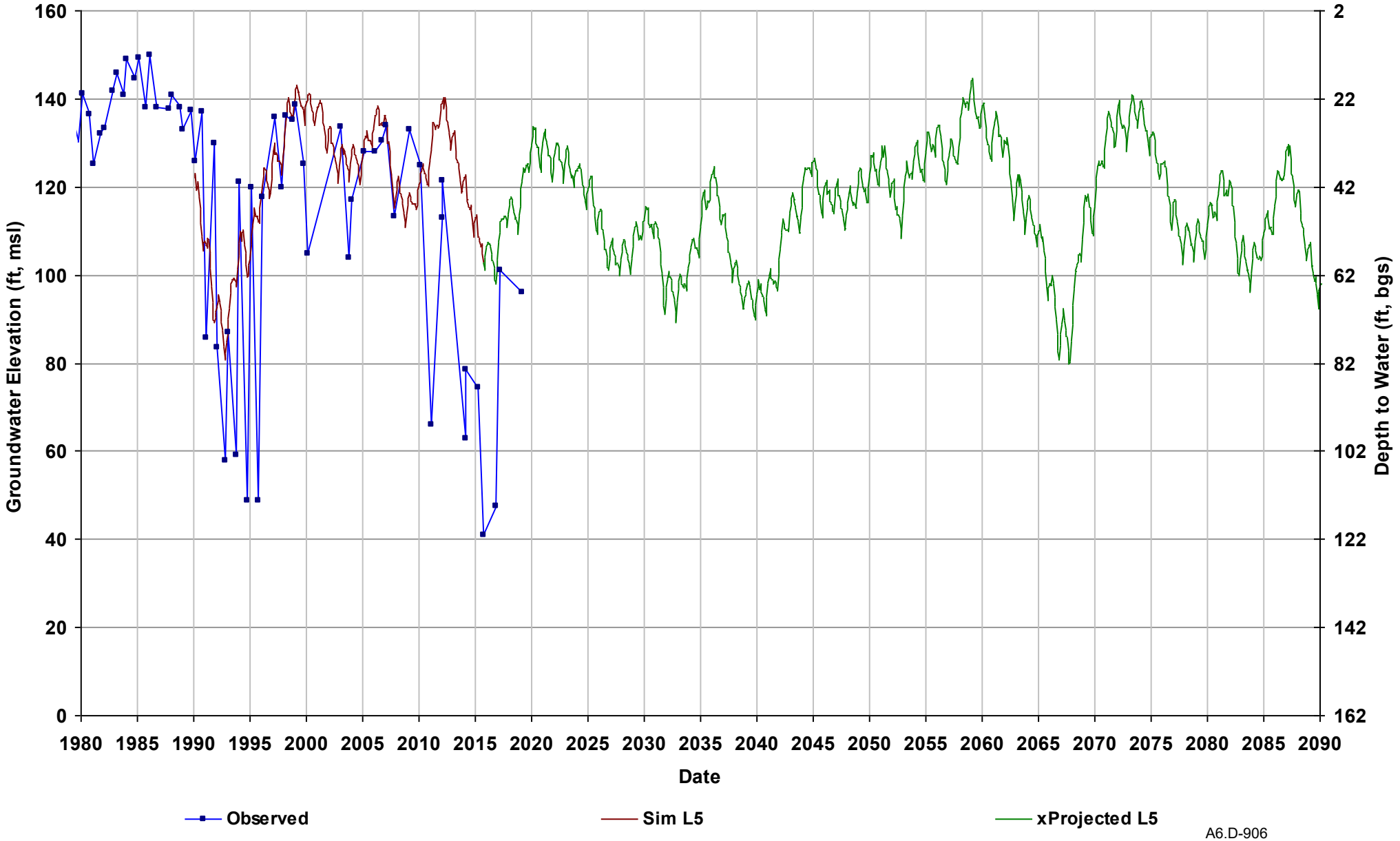
Well Name: 13S15E14M001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 166

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



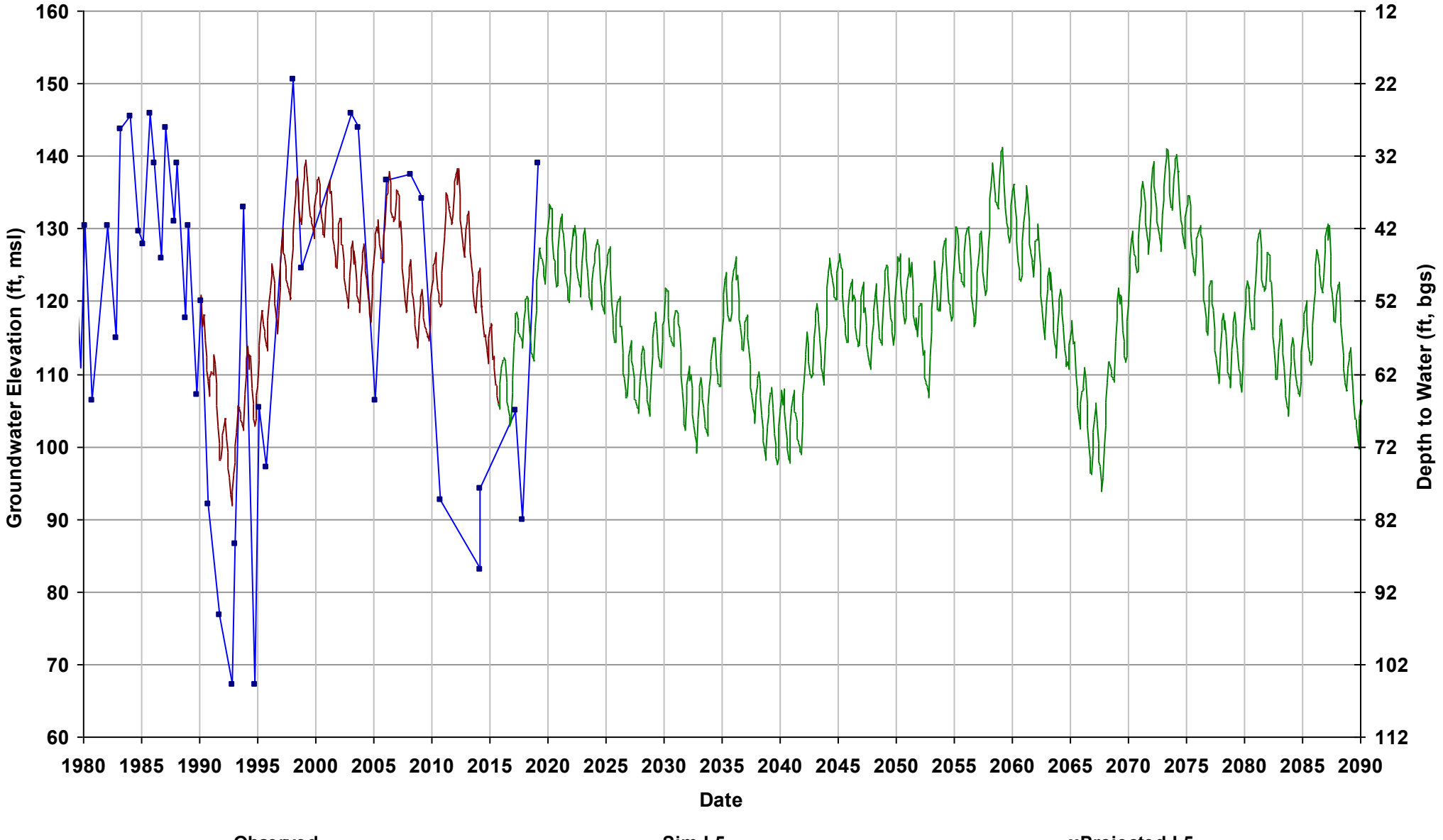
Well Name: 13S15E20G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



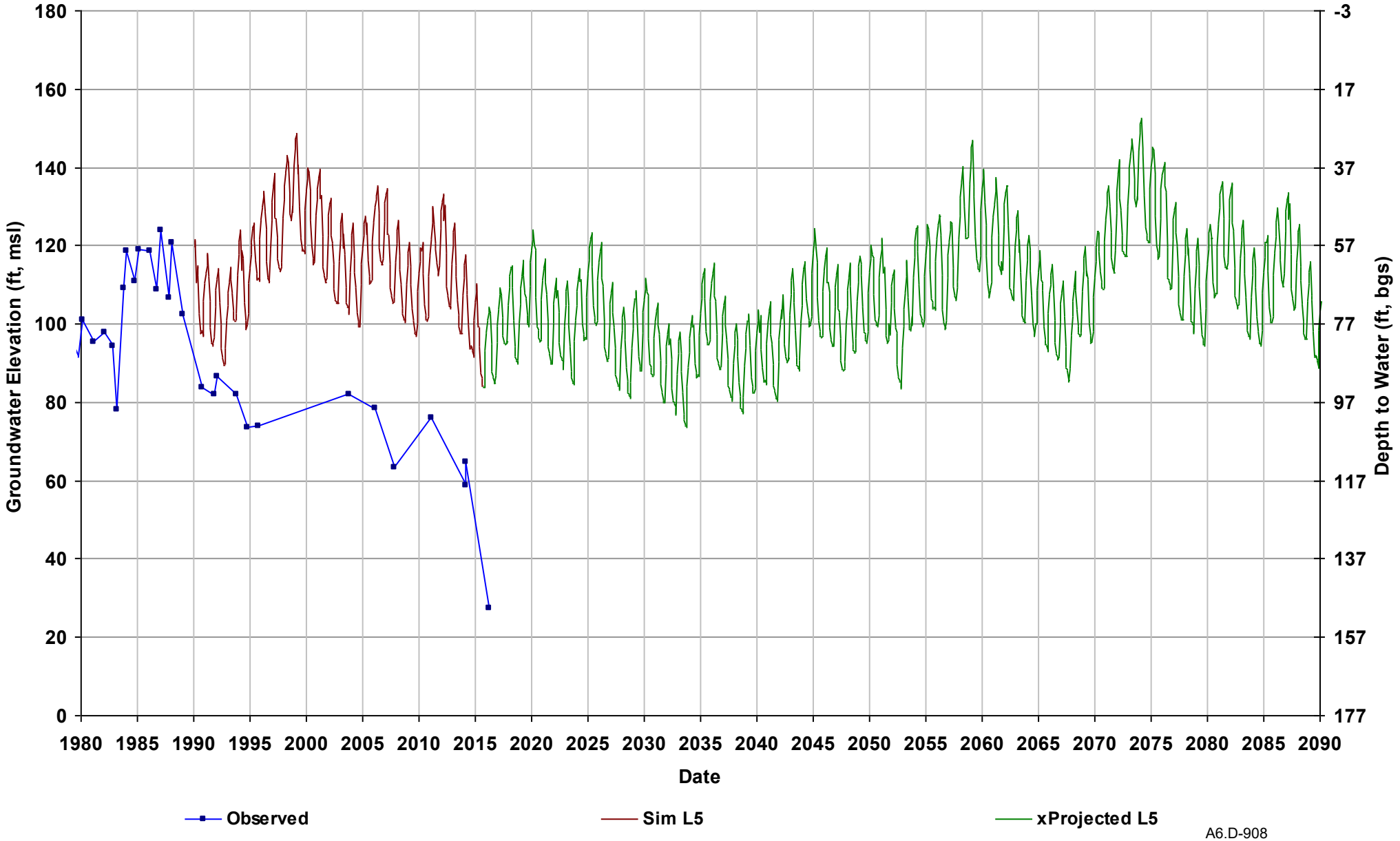
Well Name: 13S15E25N002M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 172

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



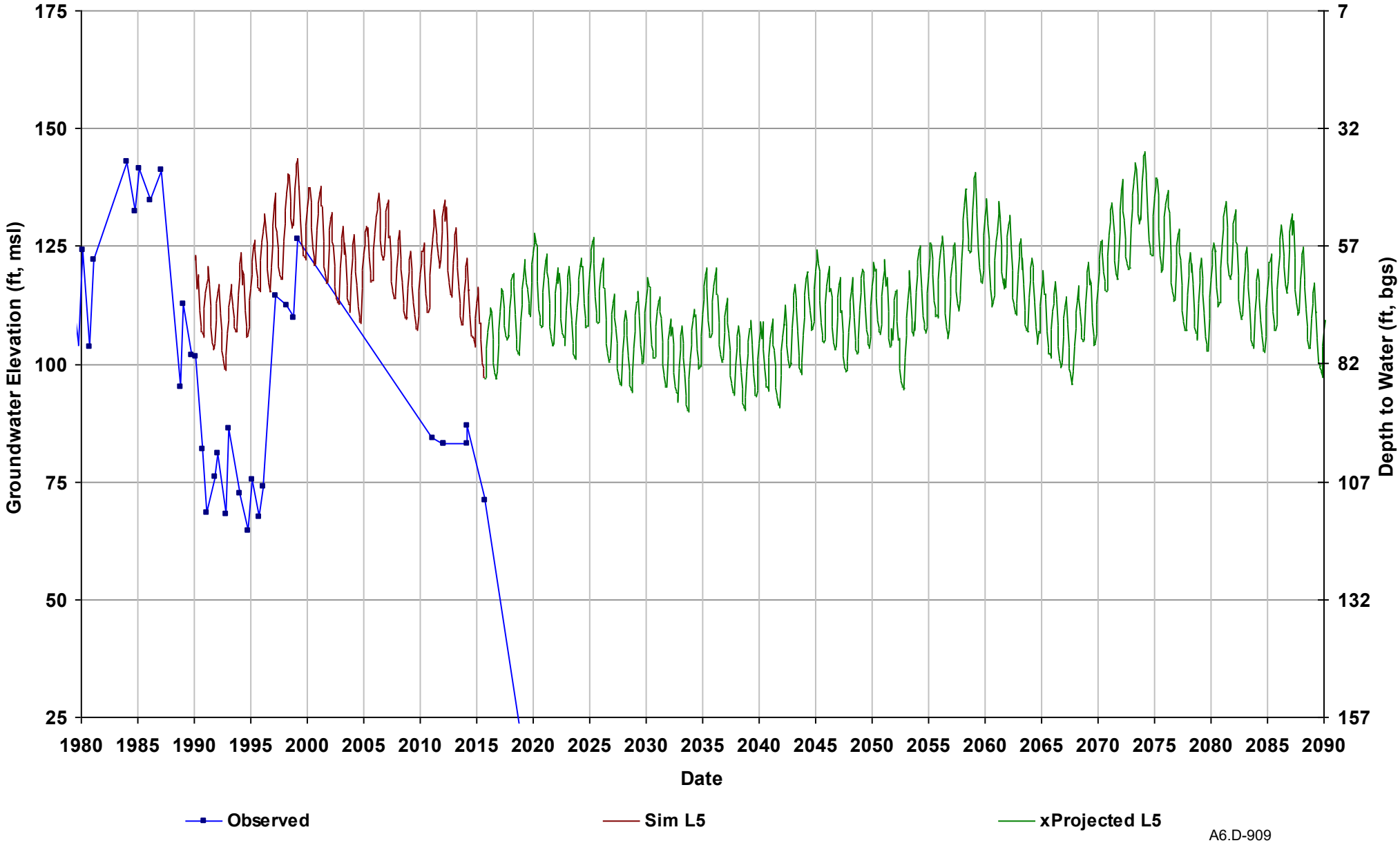
Well Name: 13S16E07R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 177

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



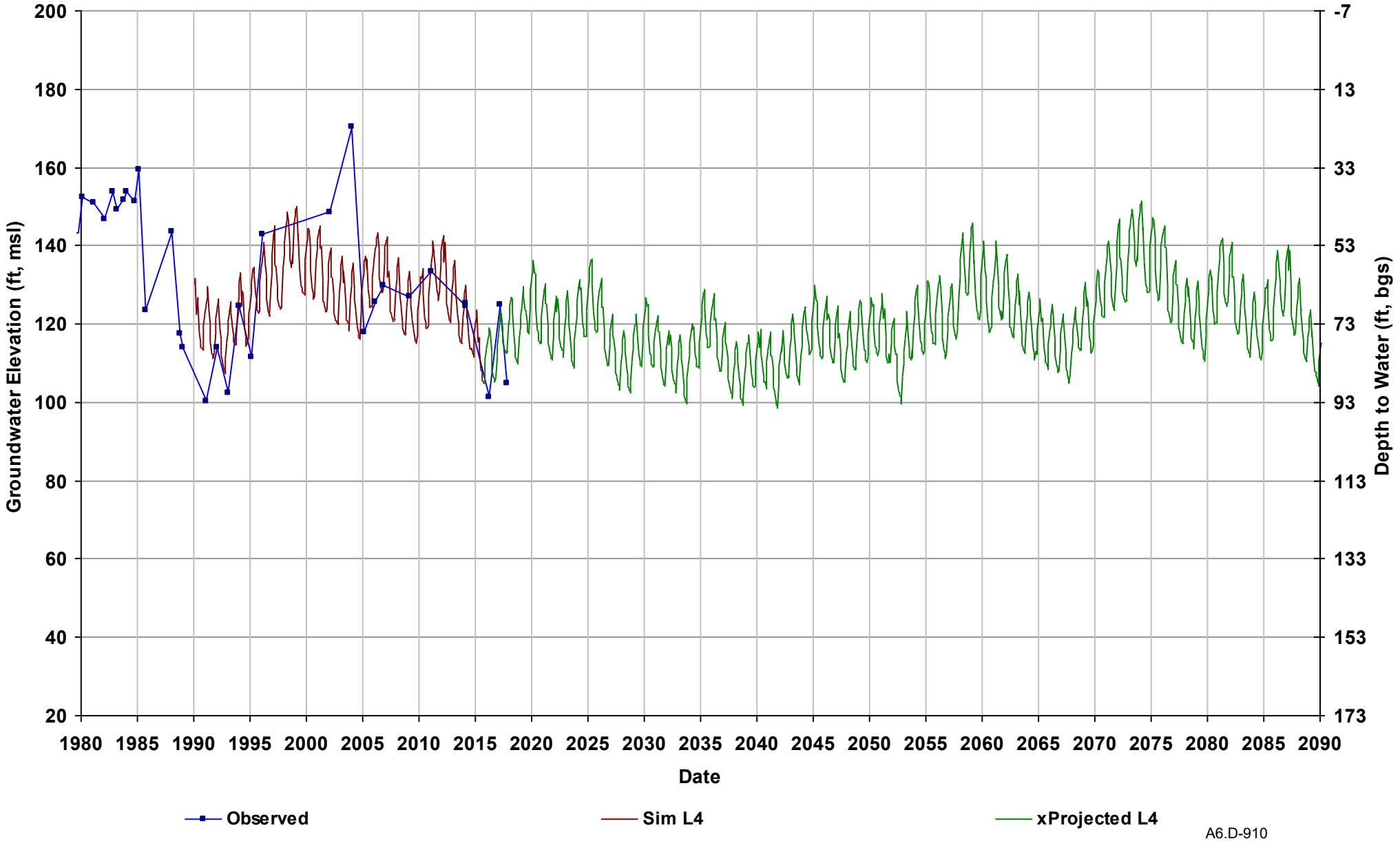
Well Name: 13S16E20J001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 182

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



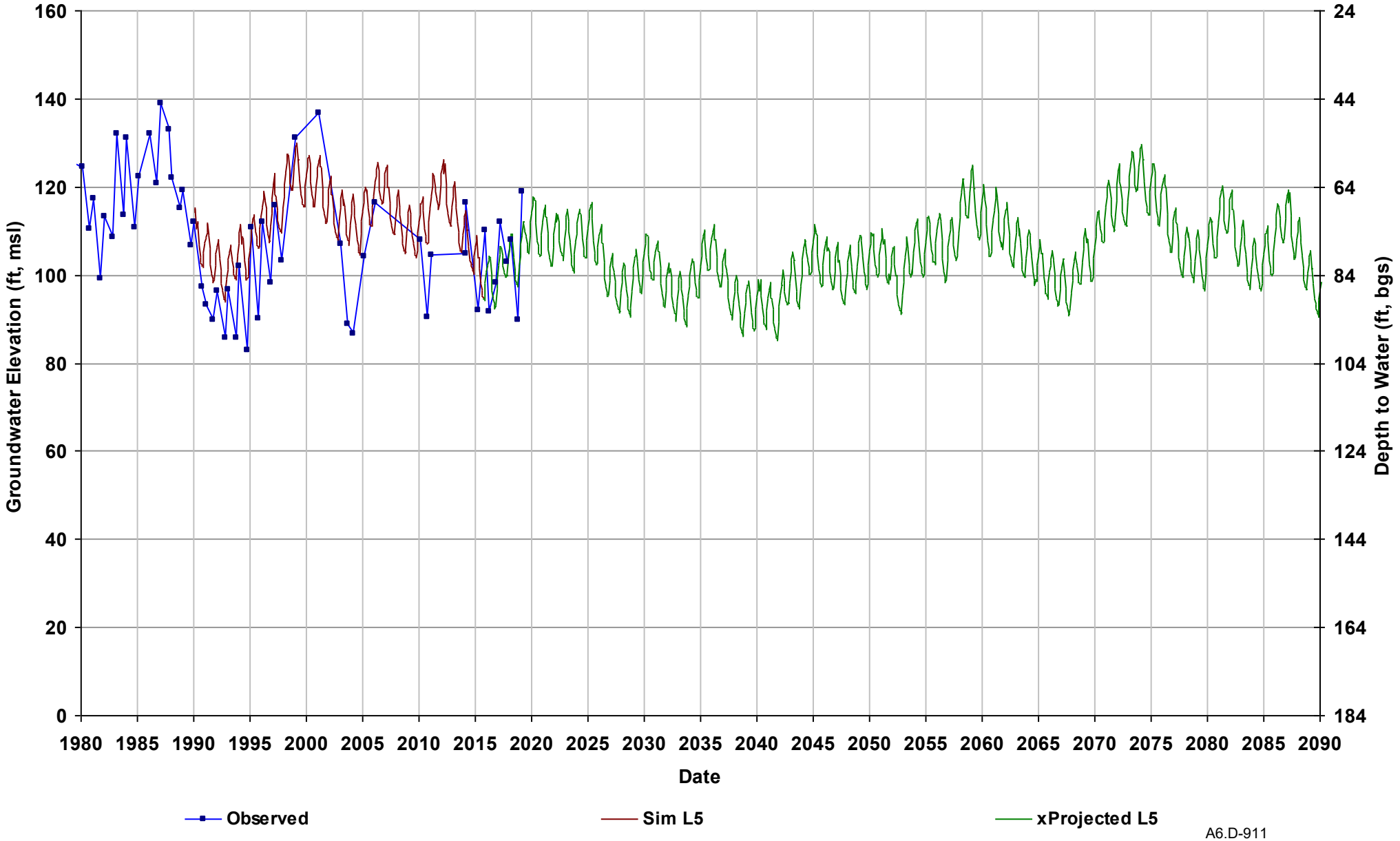
Well Name: 13S16E23N001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 192

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



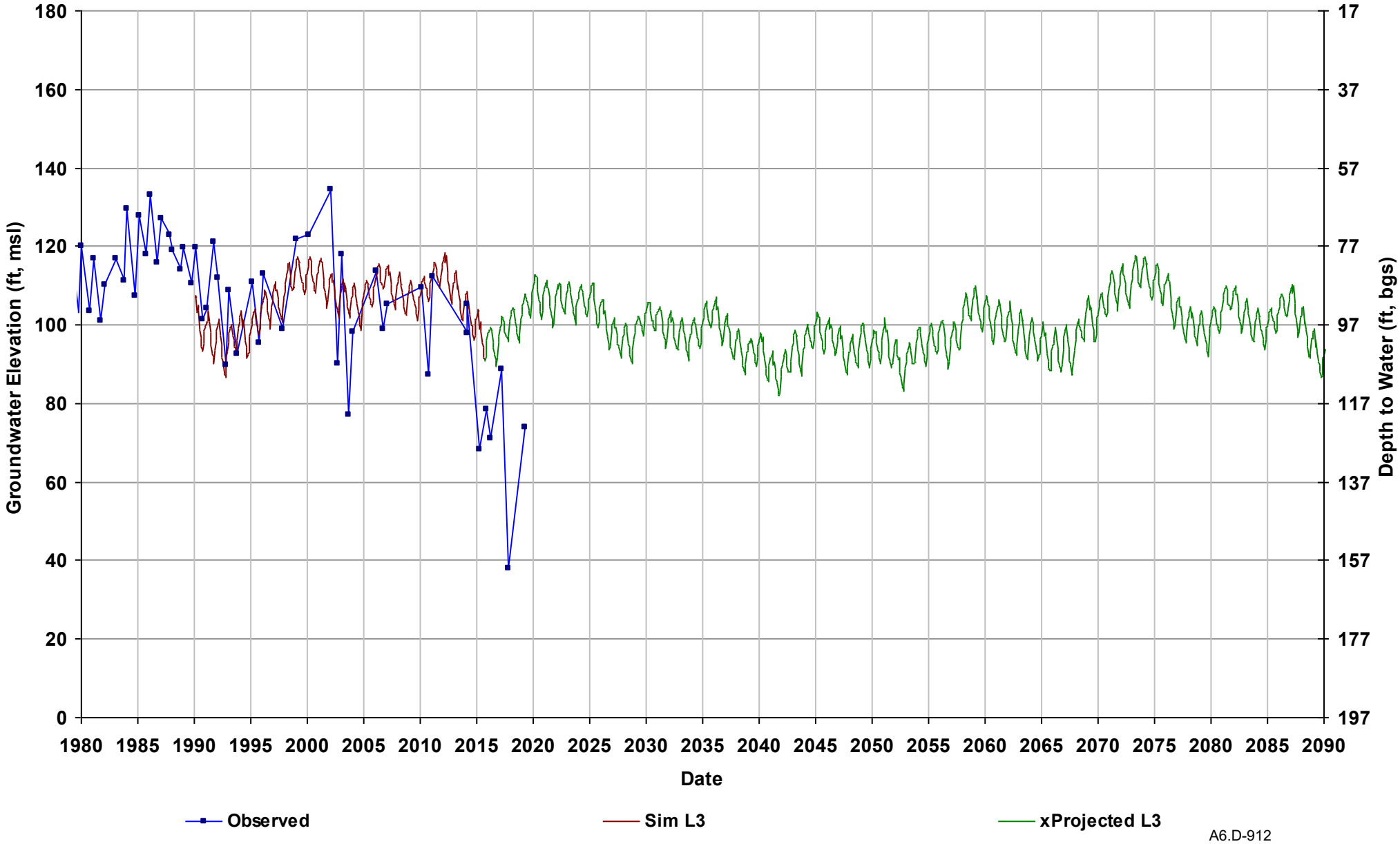
Well Name: 13S16E34C001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 184

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



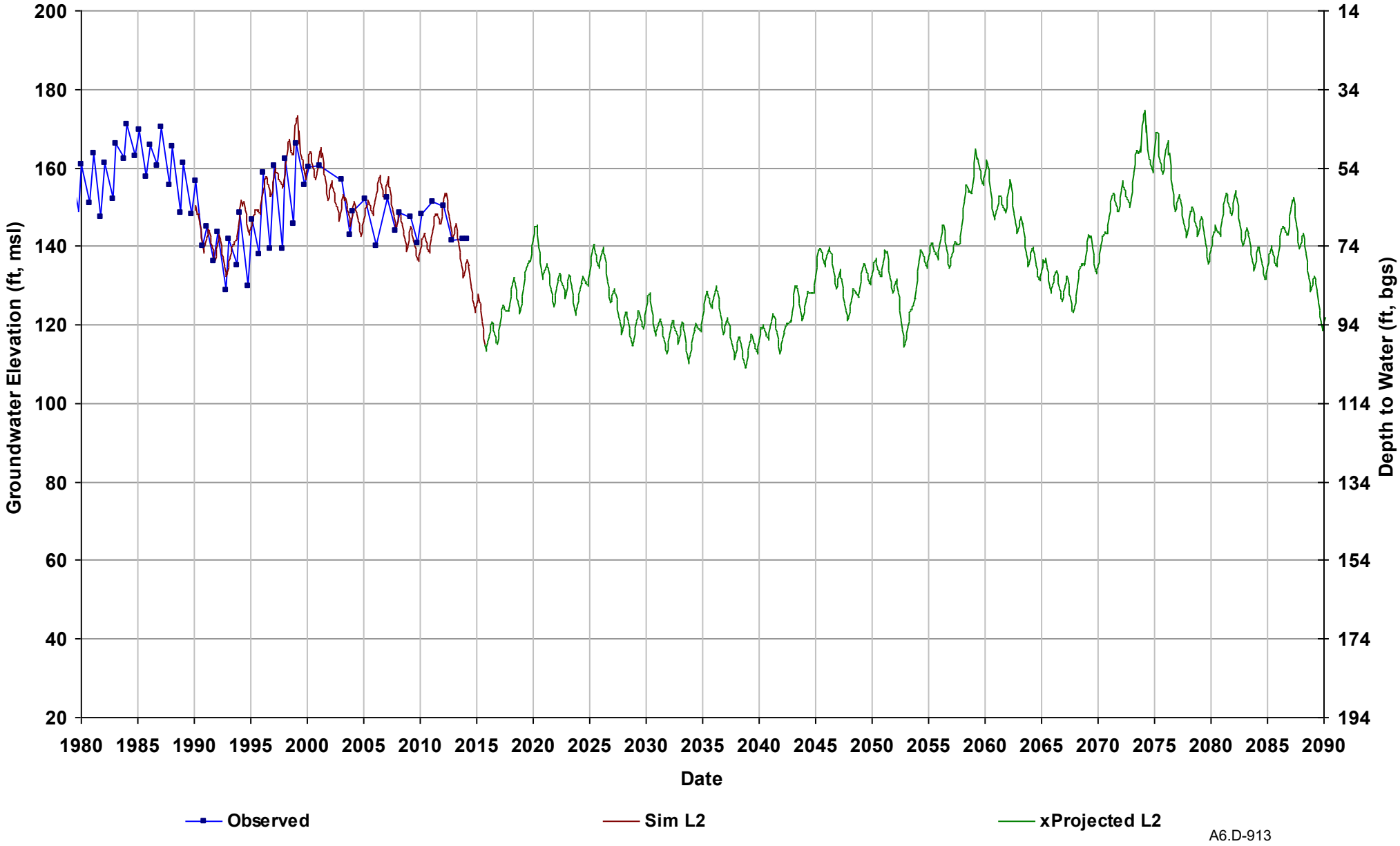
Well Name: 13S16E36R004M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



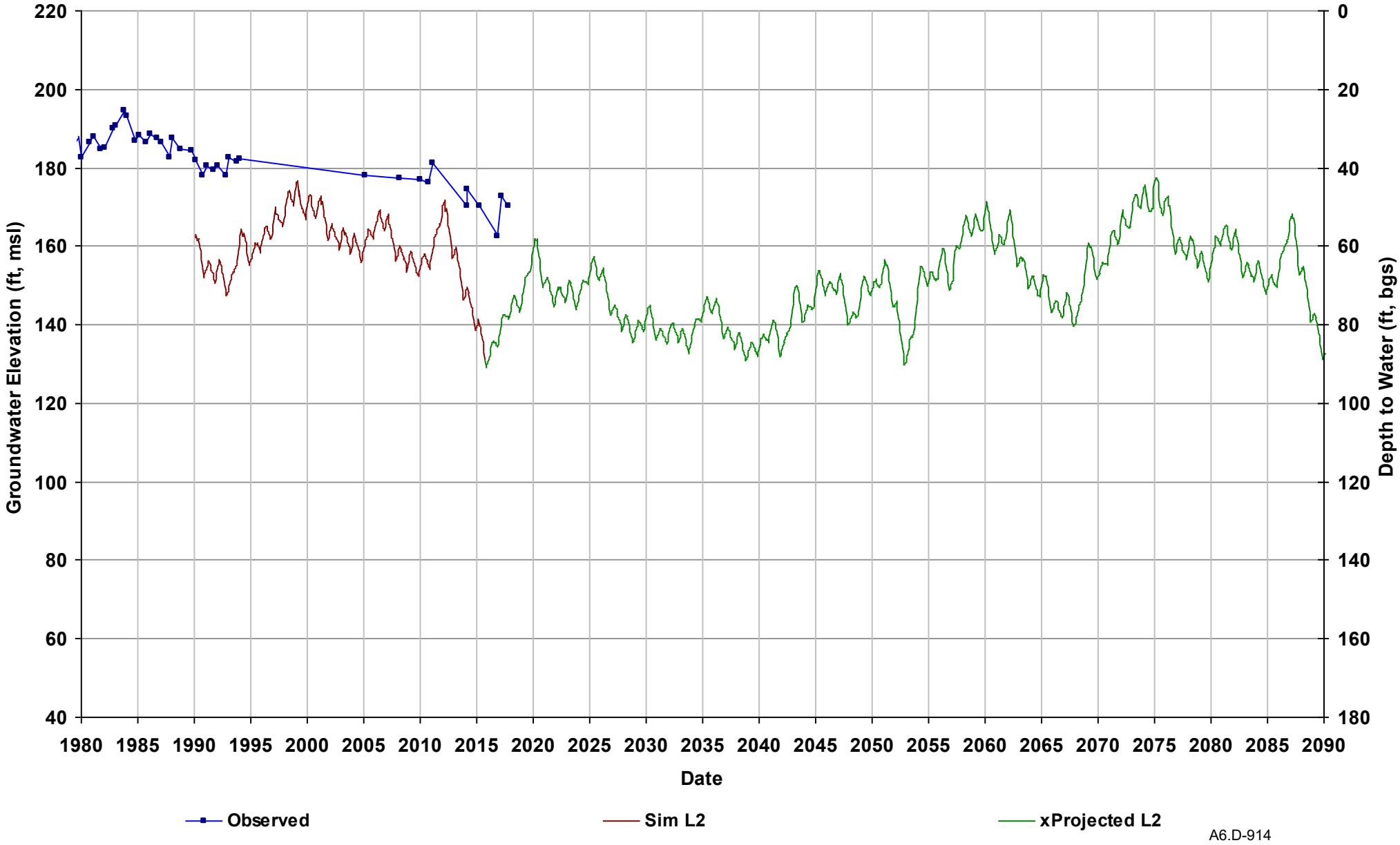
Well Name: 13S17E05P002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 214

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



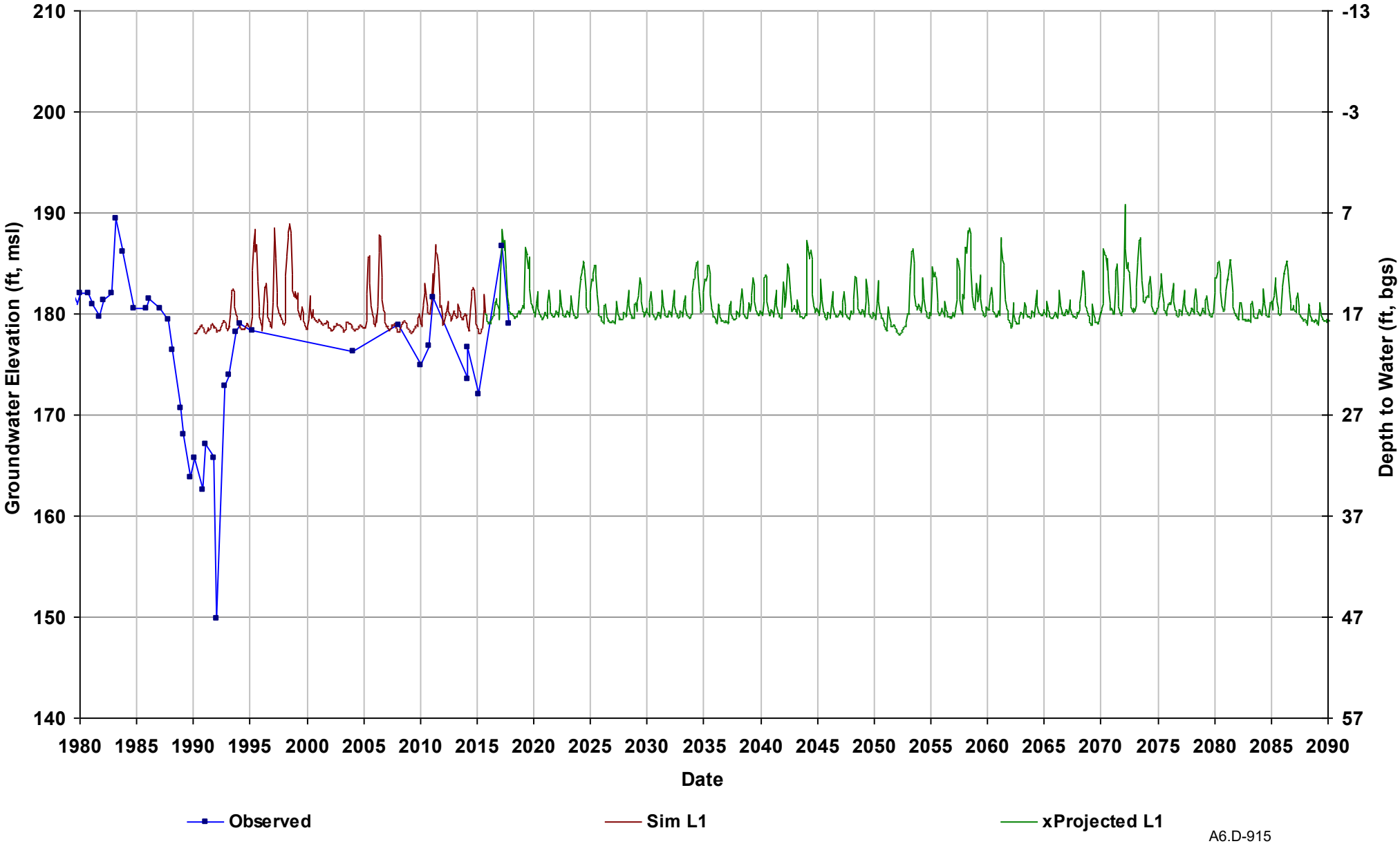
Well Name: 13S17E09R001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 220

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



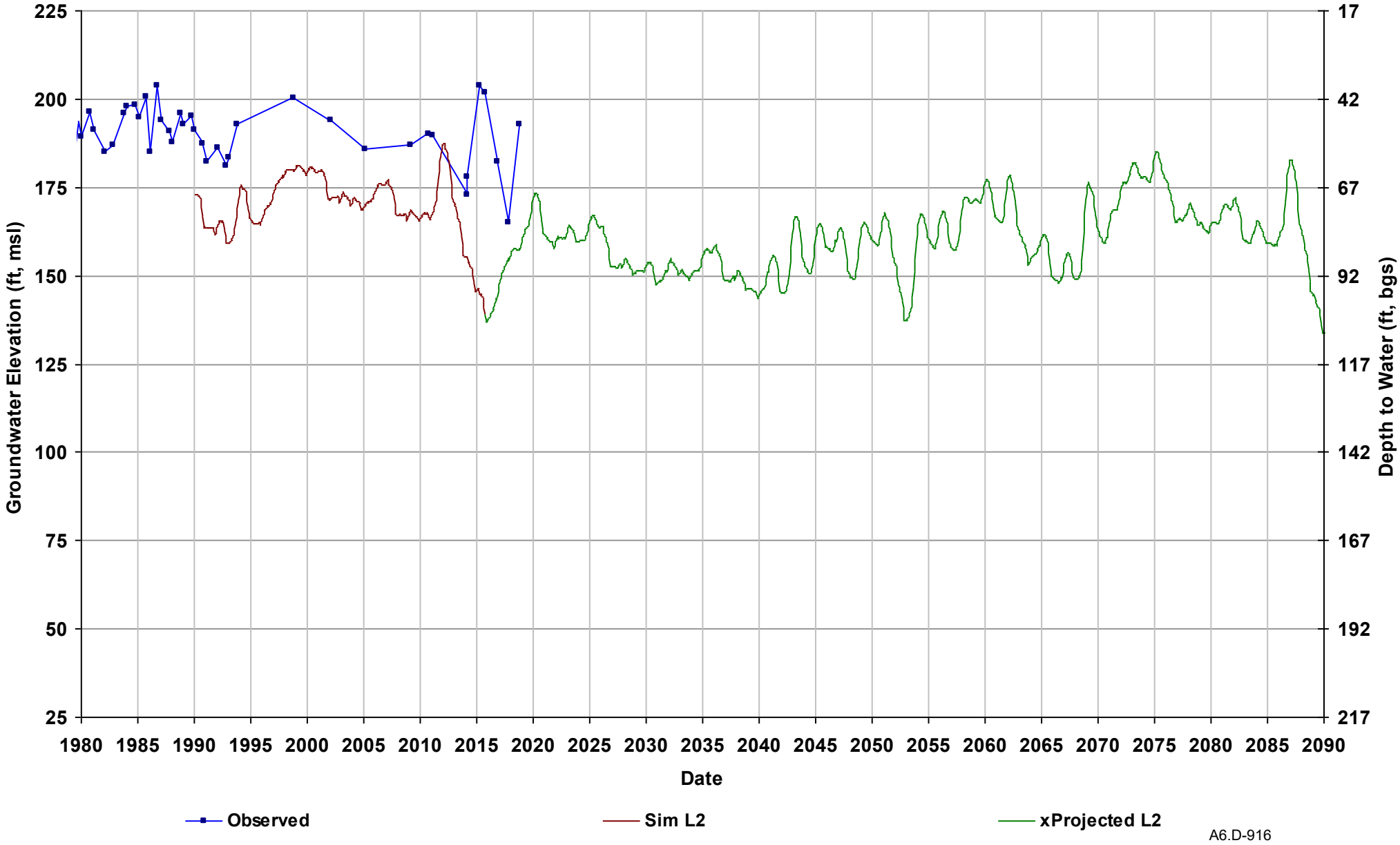
Well Name: 13S17E18M001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



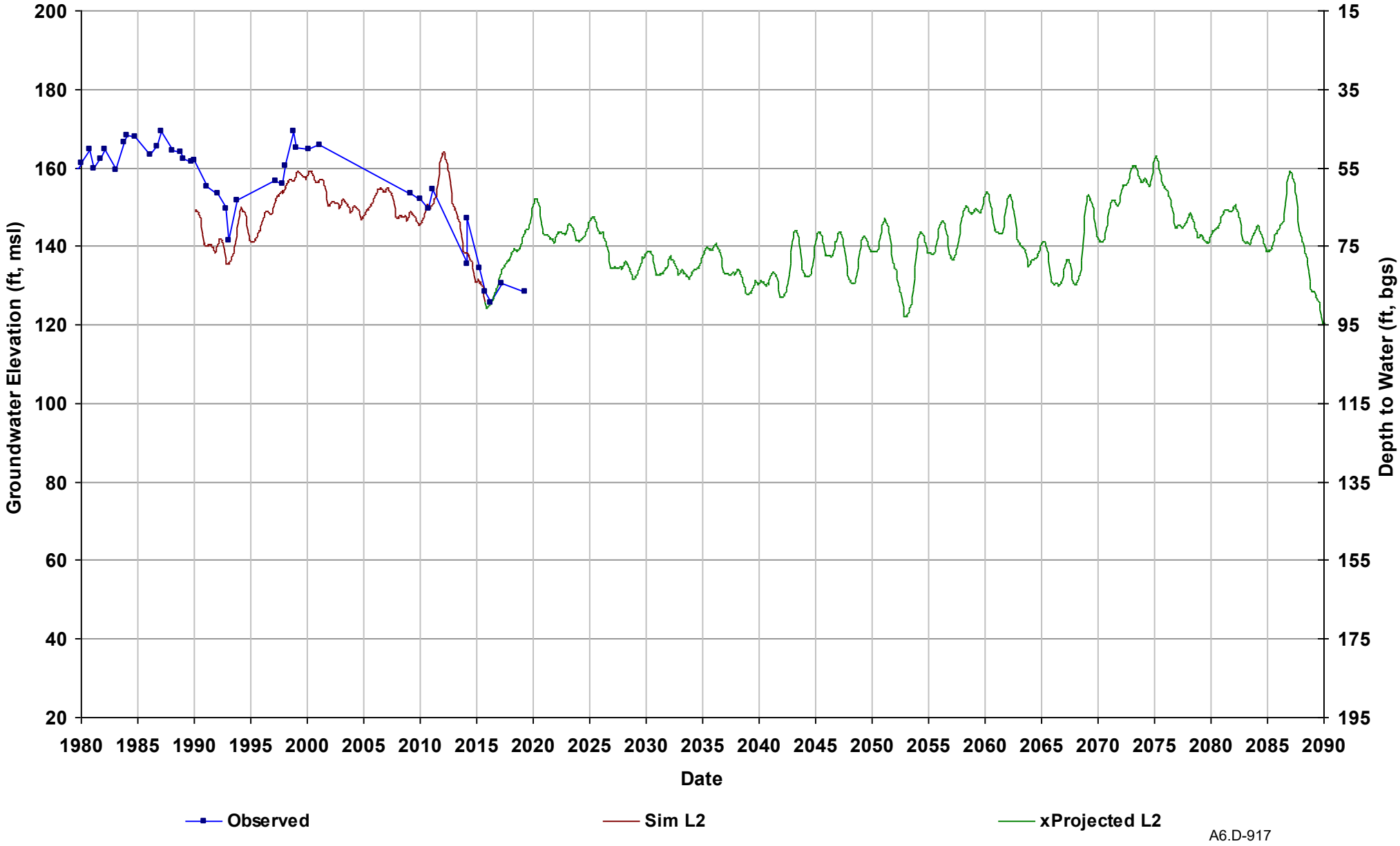
Well Name: 13S17E24A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 242

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



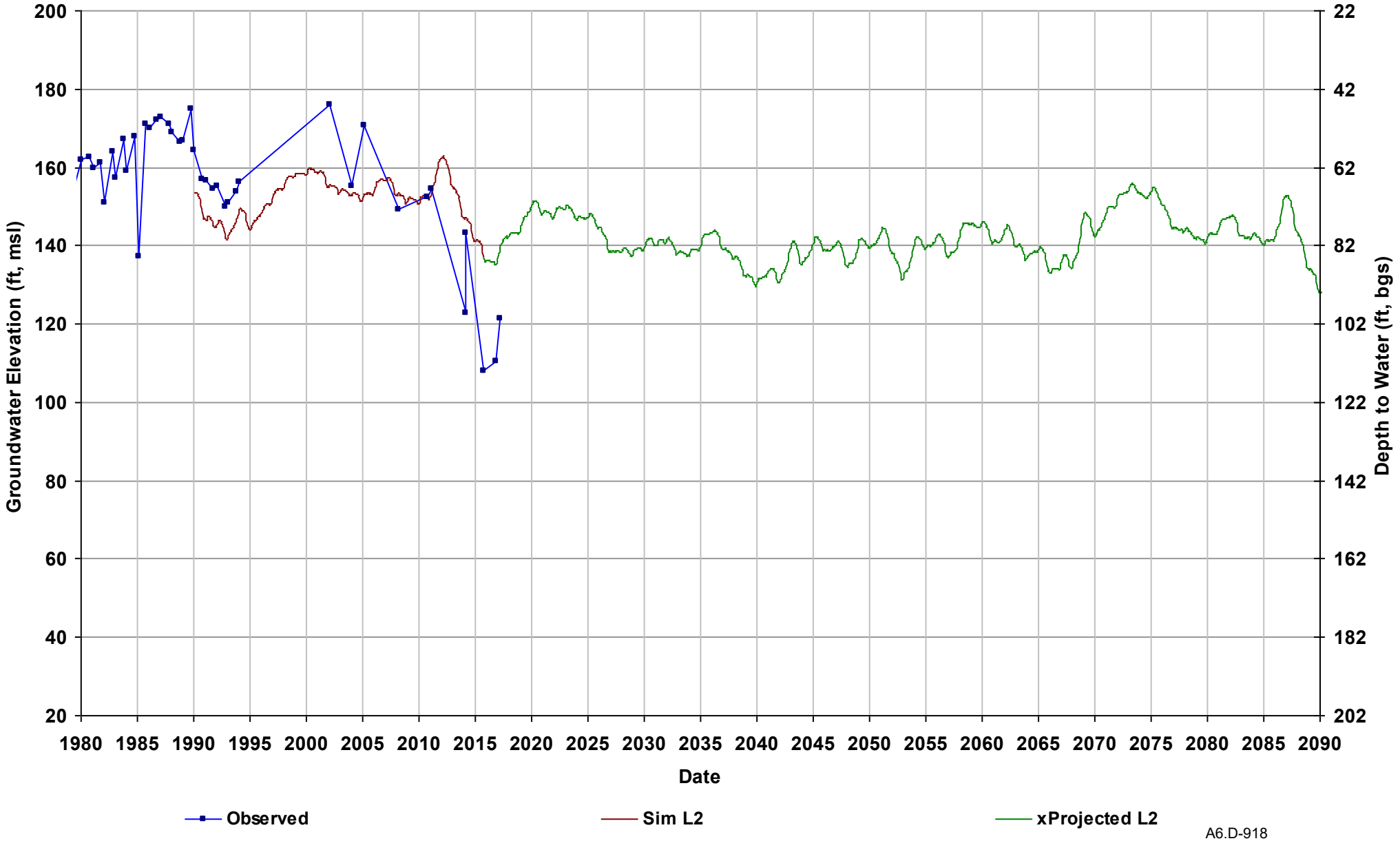
Well Name: 13S17E28H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 215

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



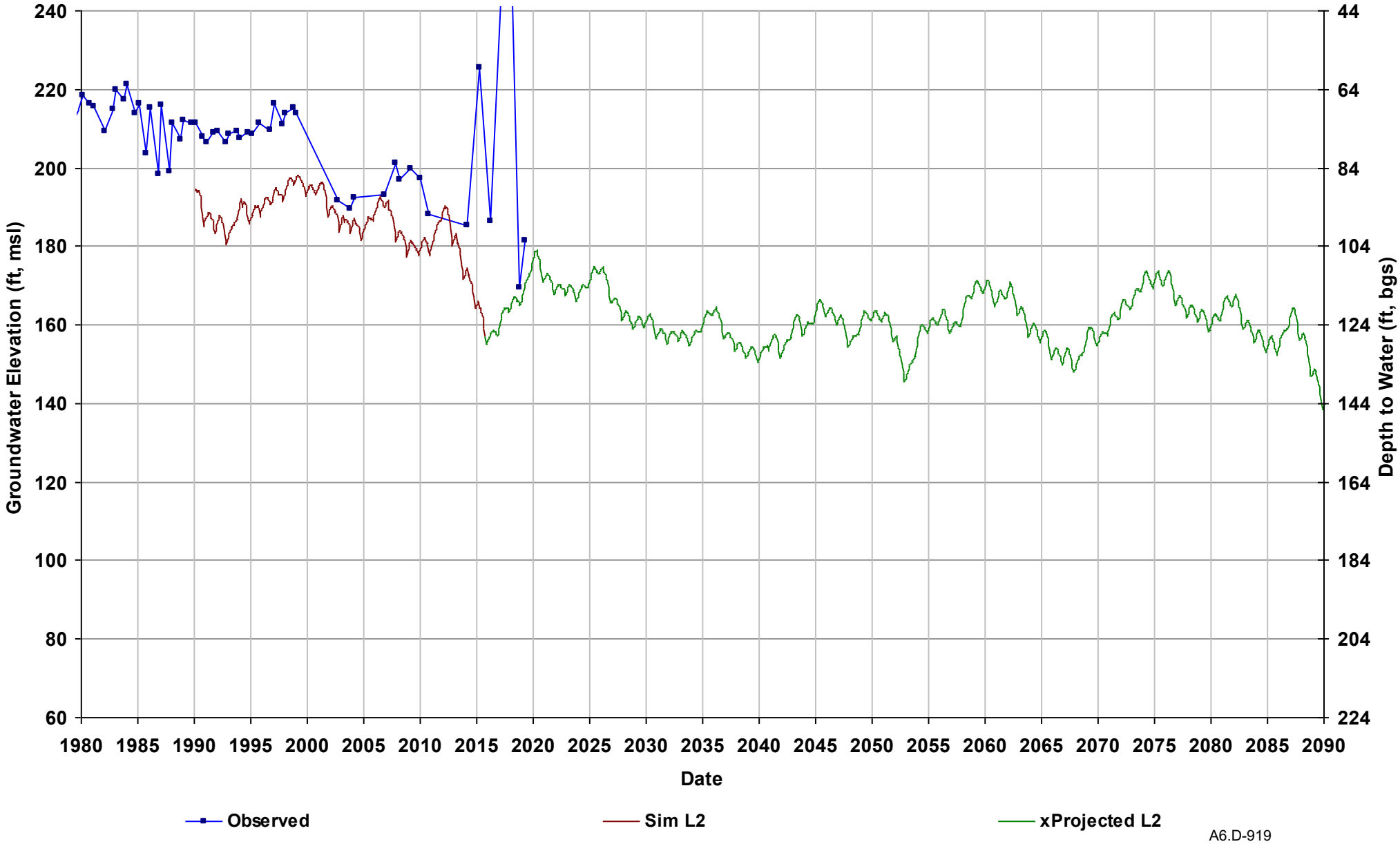
Well Name: 13S17E35L001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 222

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



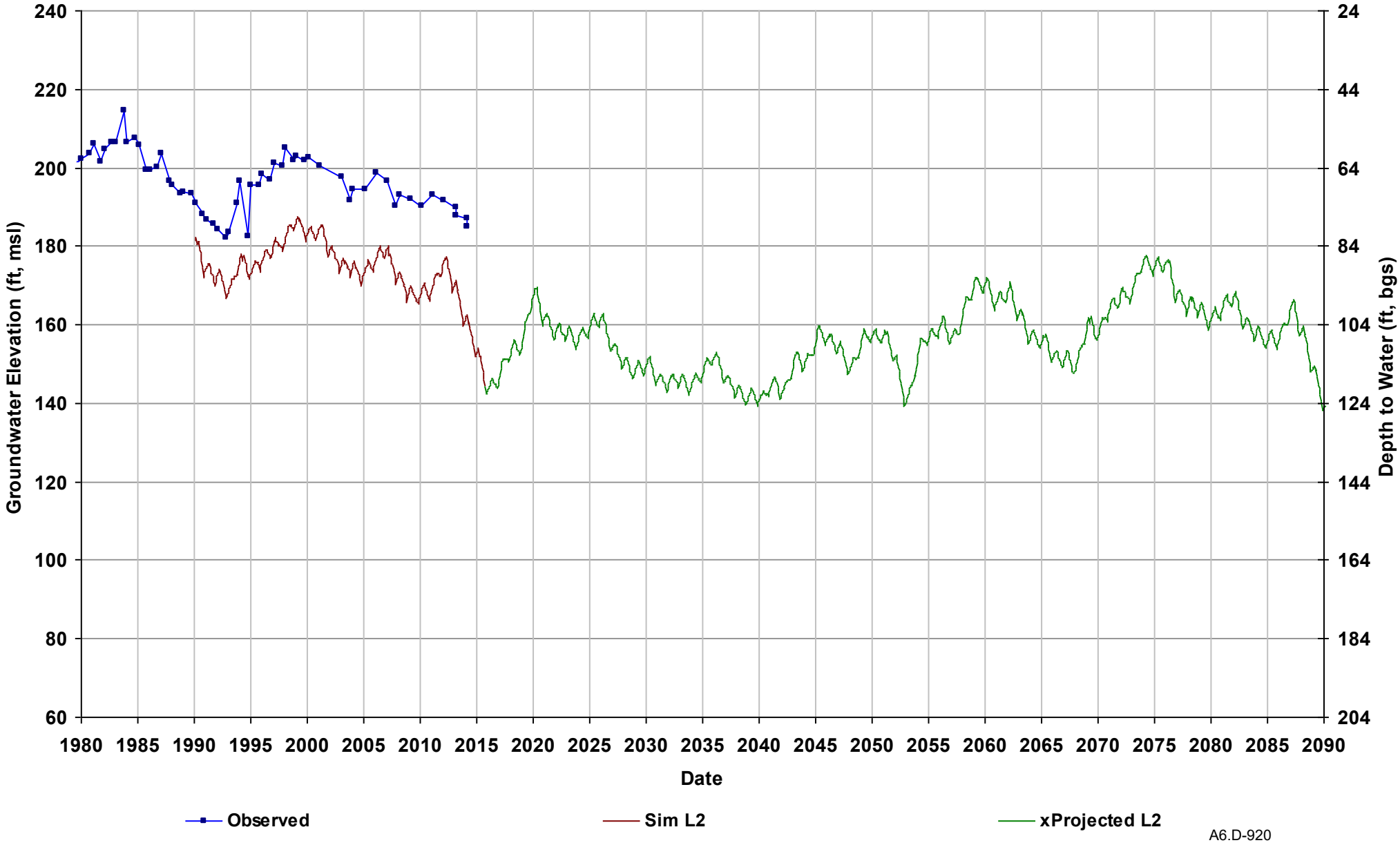
Well Name: 13S18E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 284

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



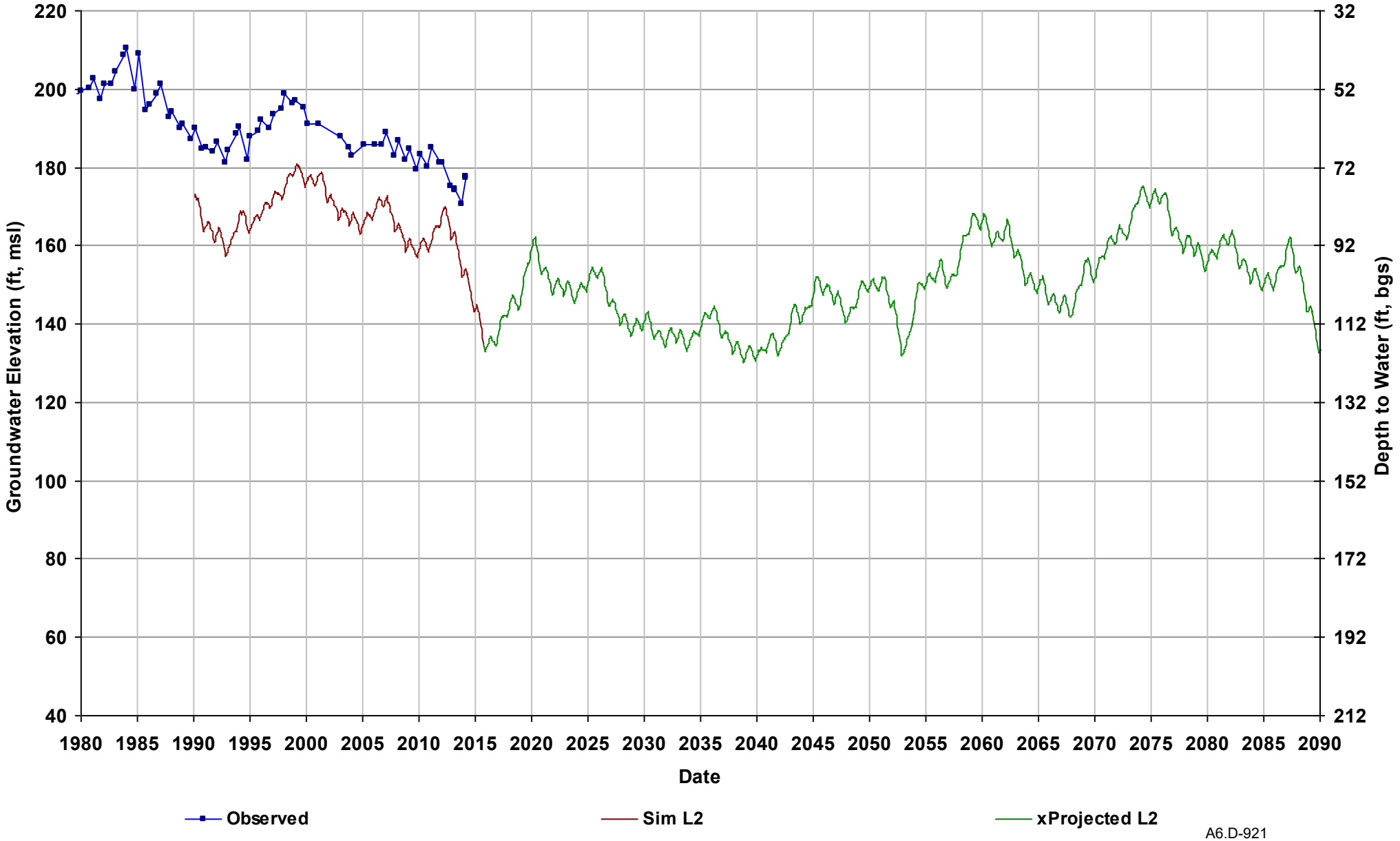
Well Name: 13S18E04B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 264

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



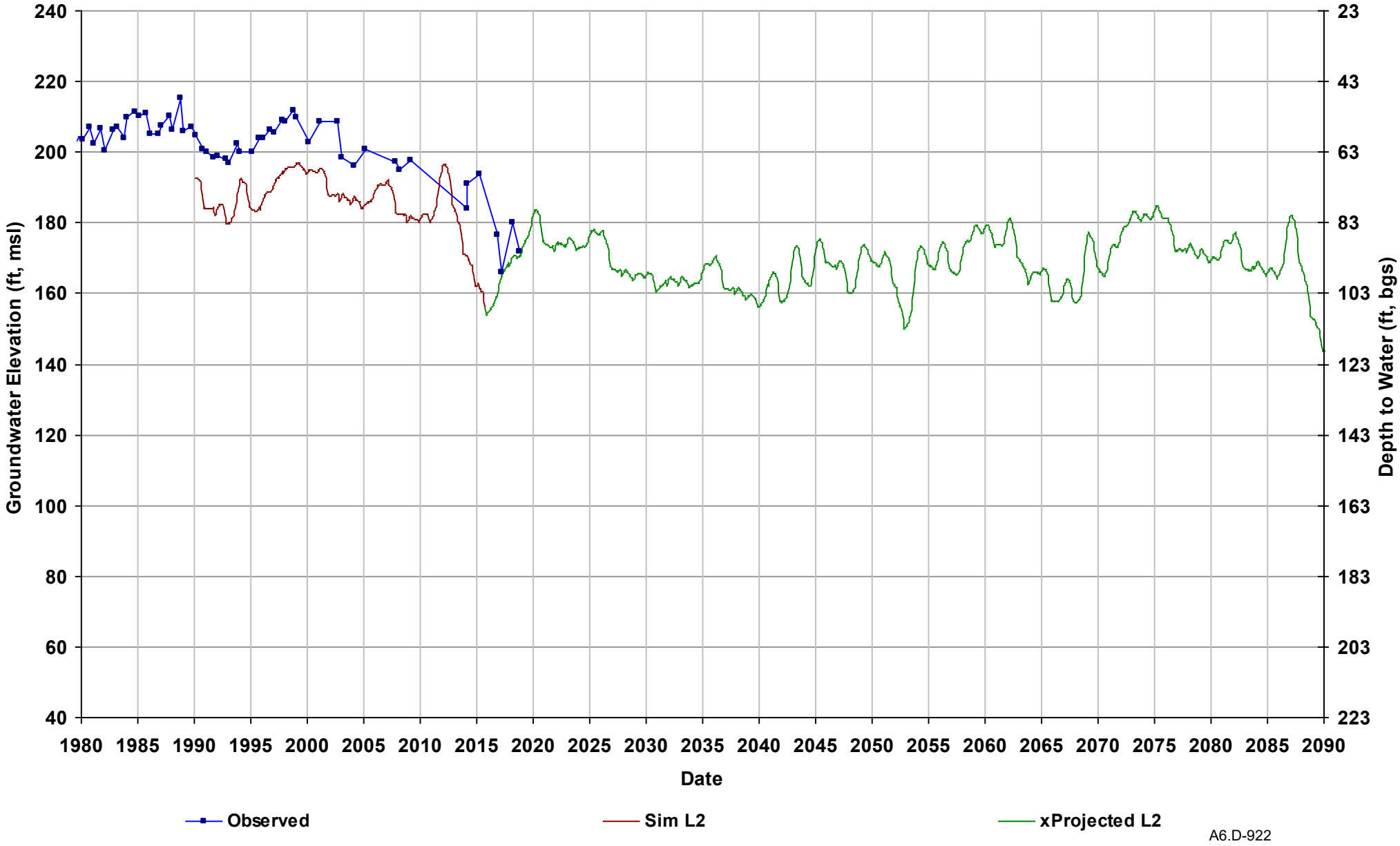
Well Name: 13S18E06K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



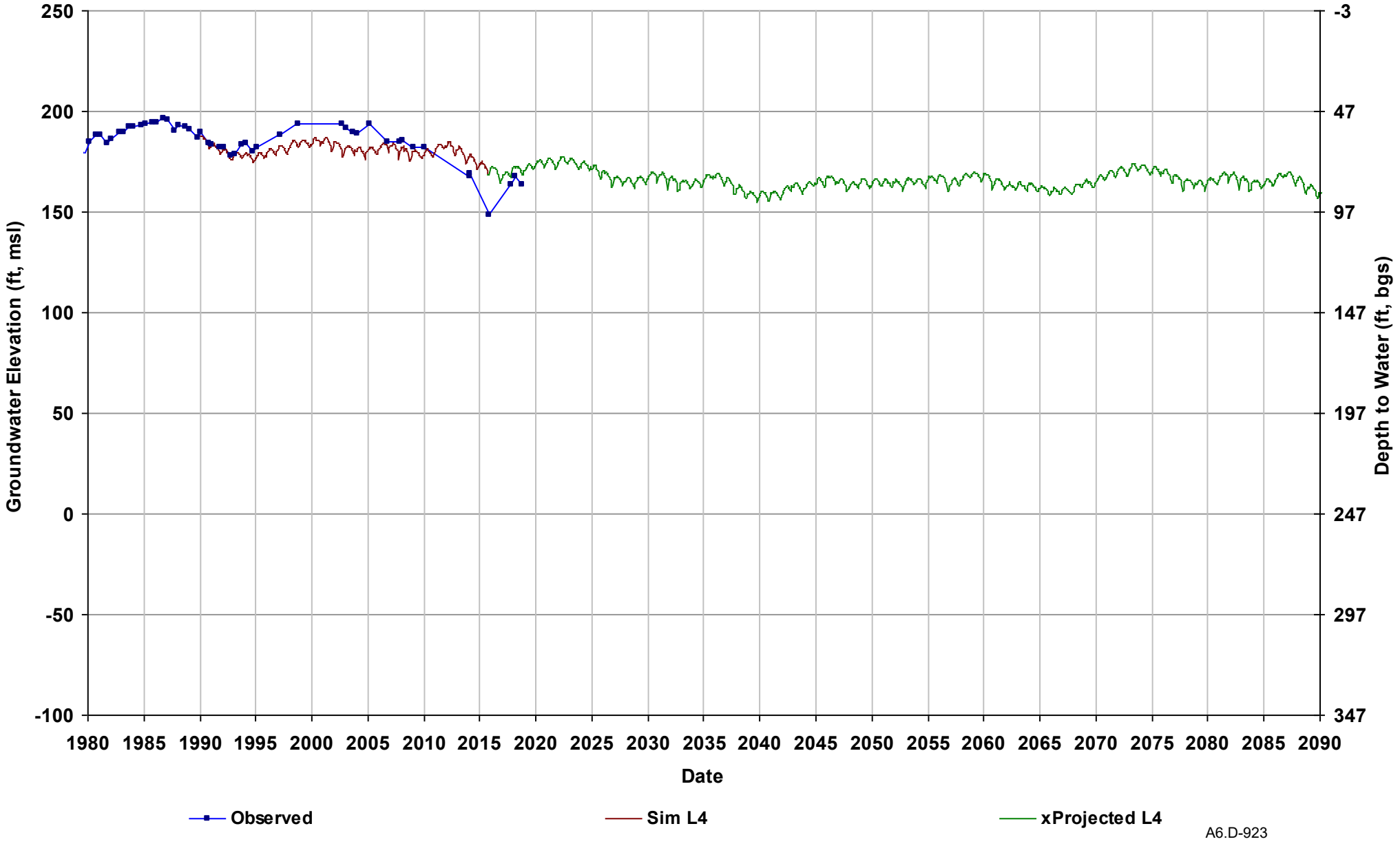
Well Name: 13S18E15J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 263

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



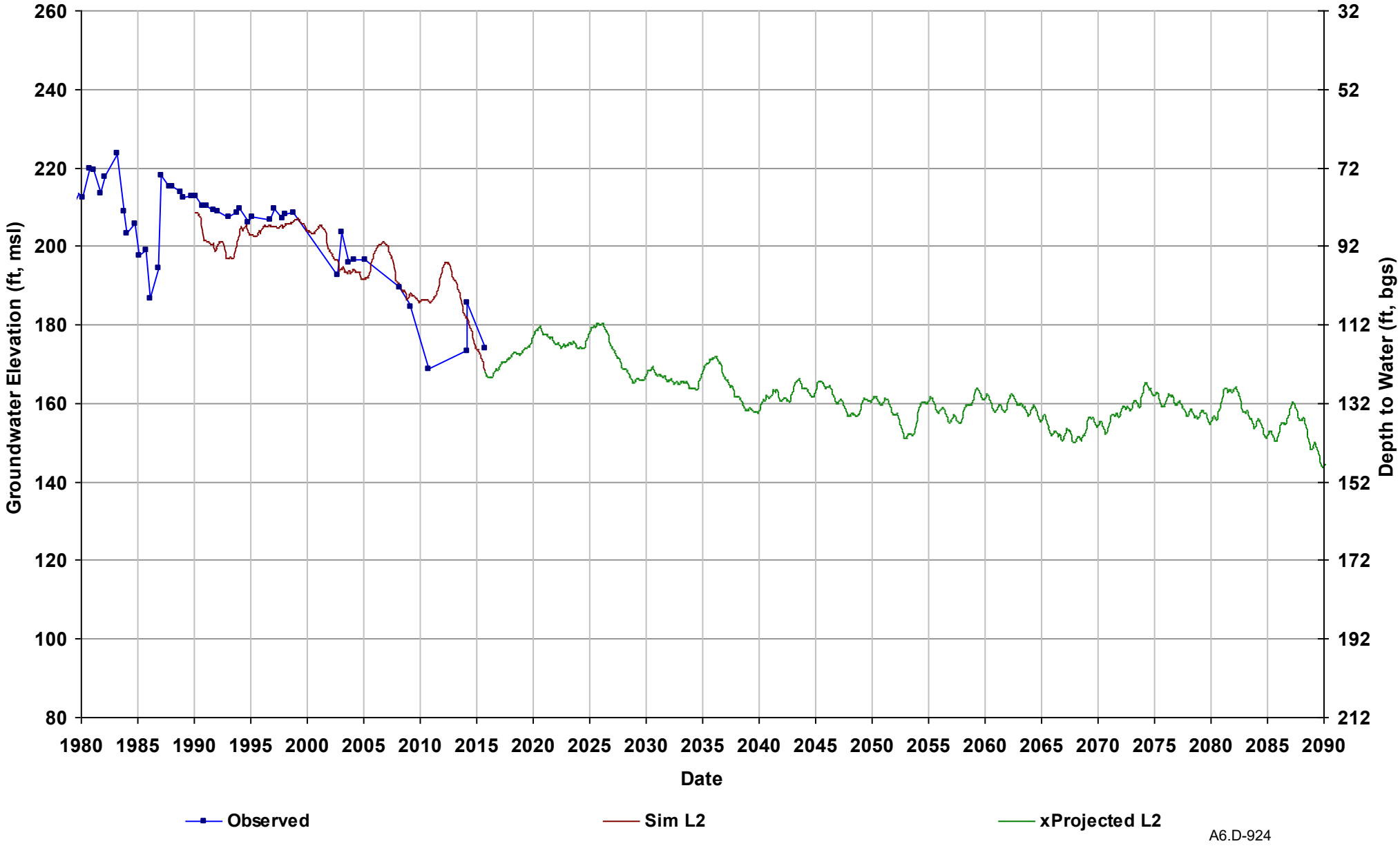
Well Name: 13S18E34D001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 247

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



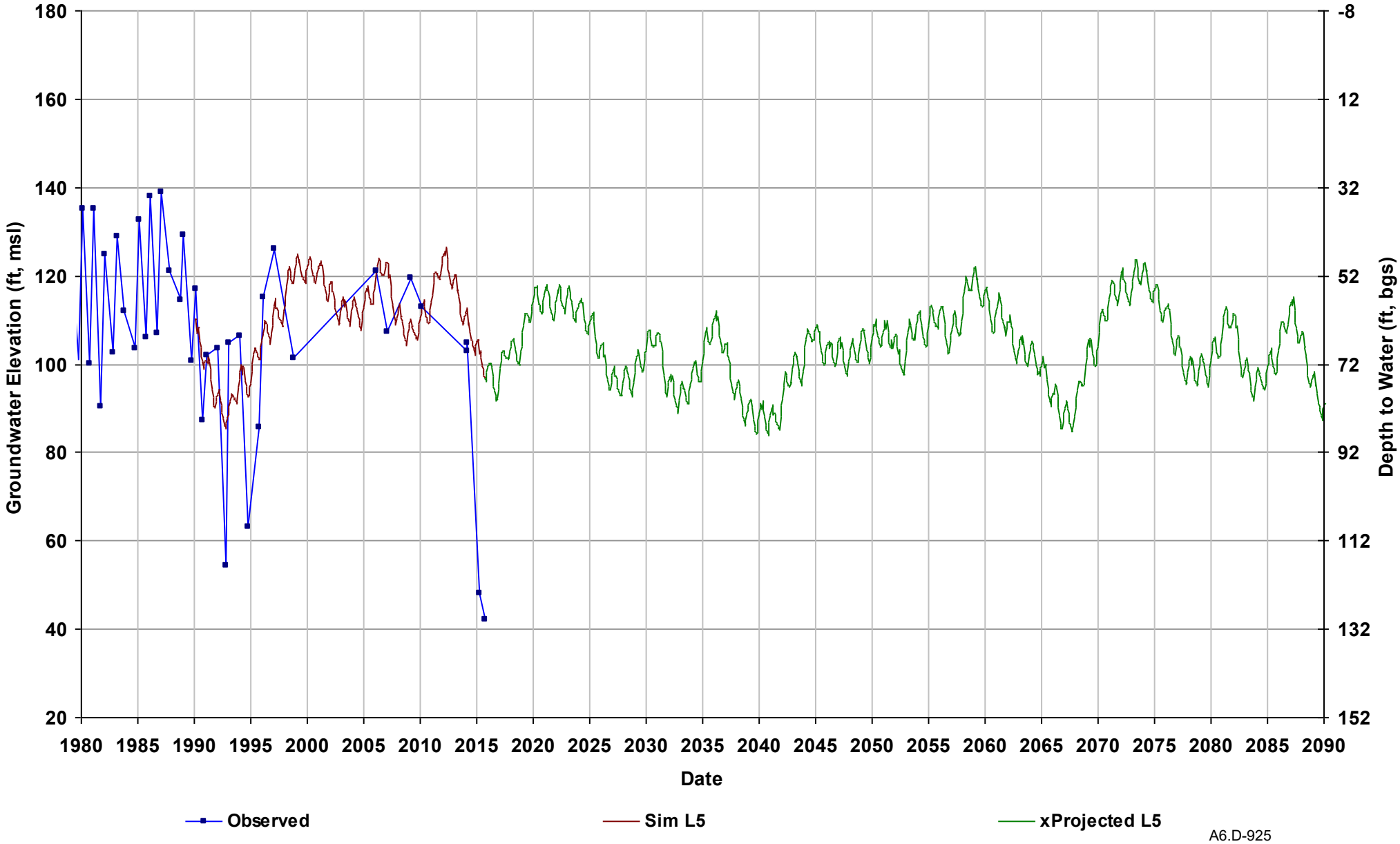
Well Name: 13S19E16K001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 292

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



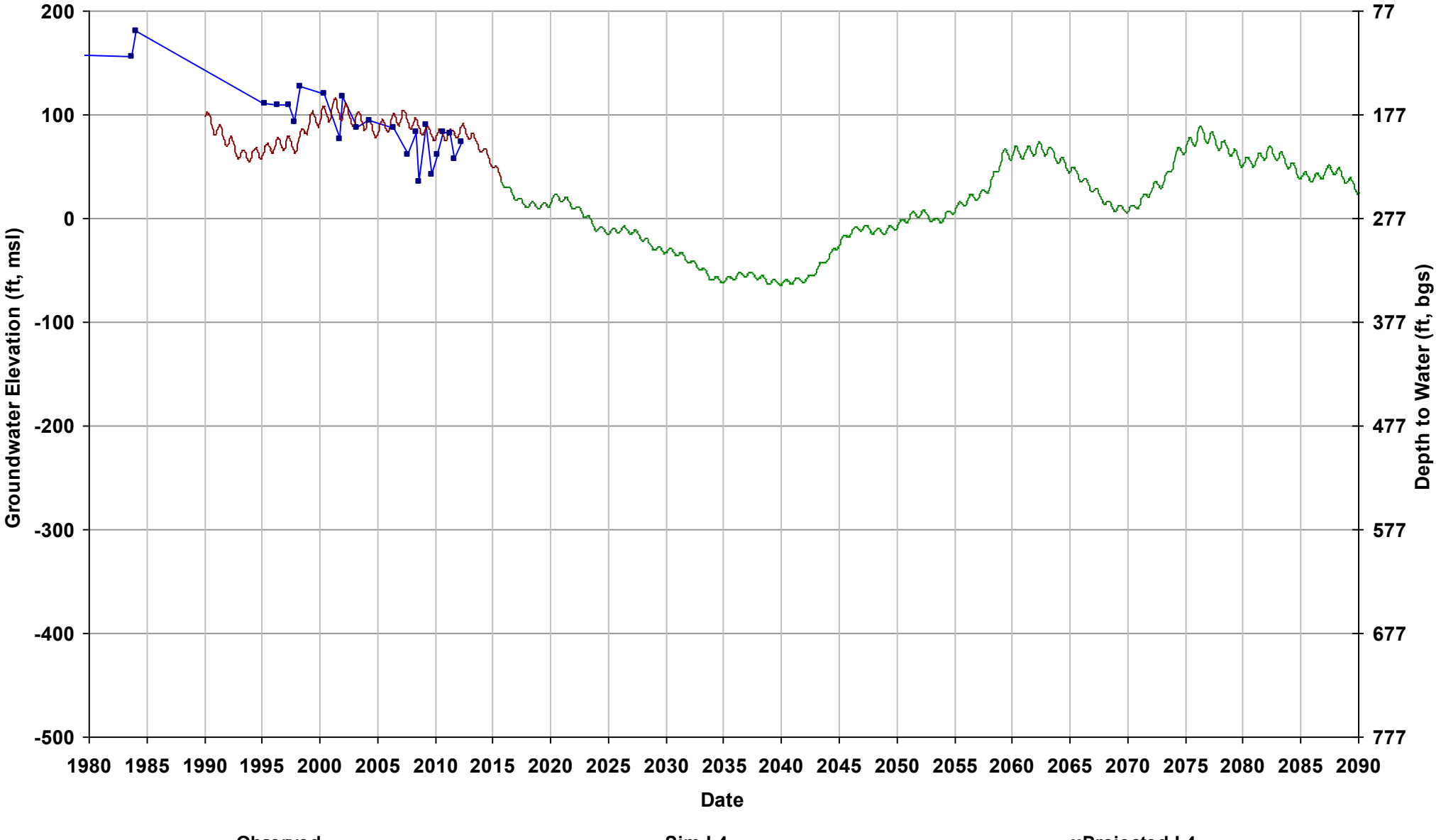
Well Name: 14S16E06A001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 172

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



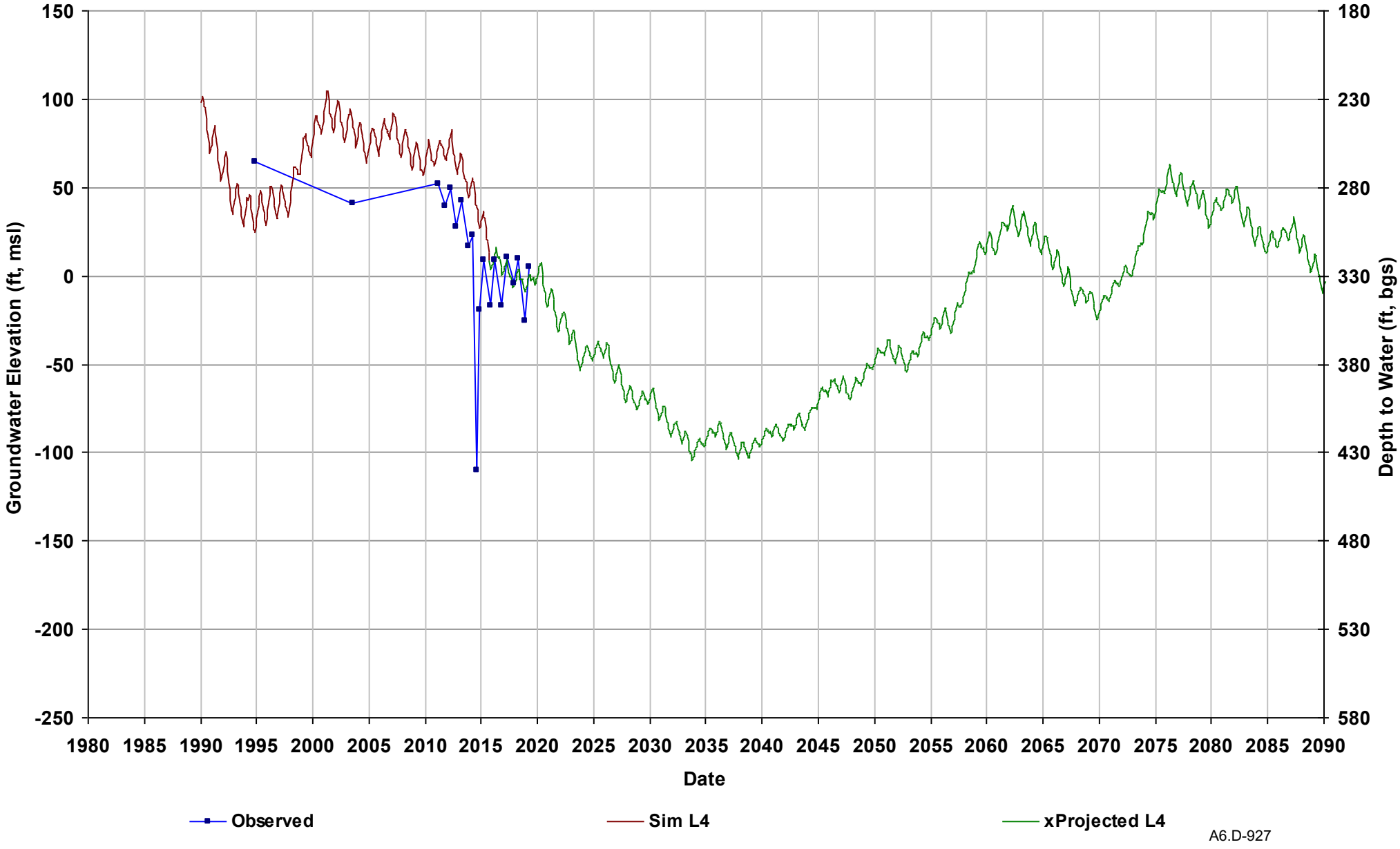
Well Name: City_of_Madera_16
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 276

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



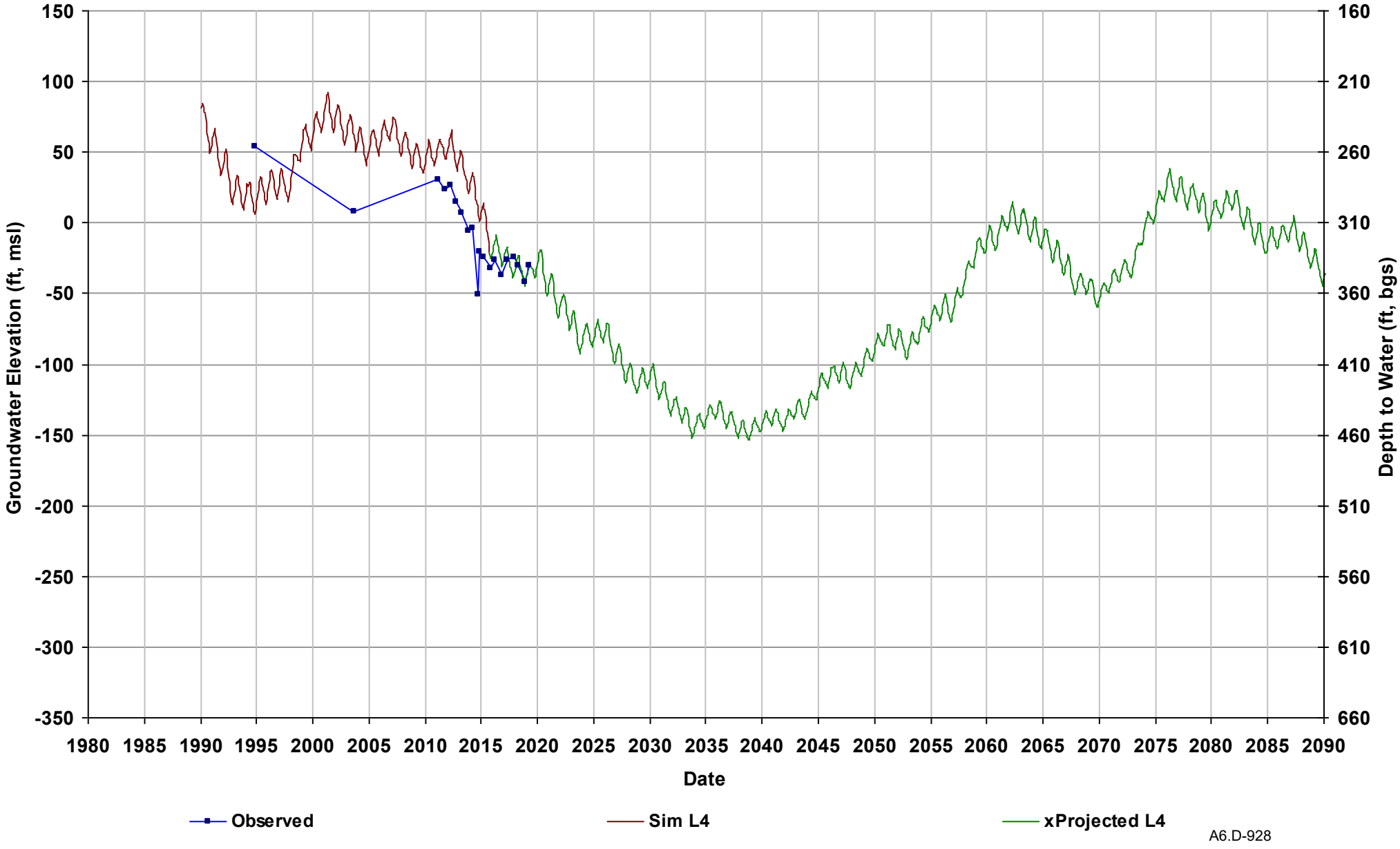
Well Name: MaderaWD-4
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 330

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



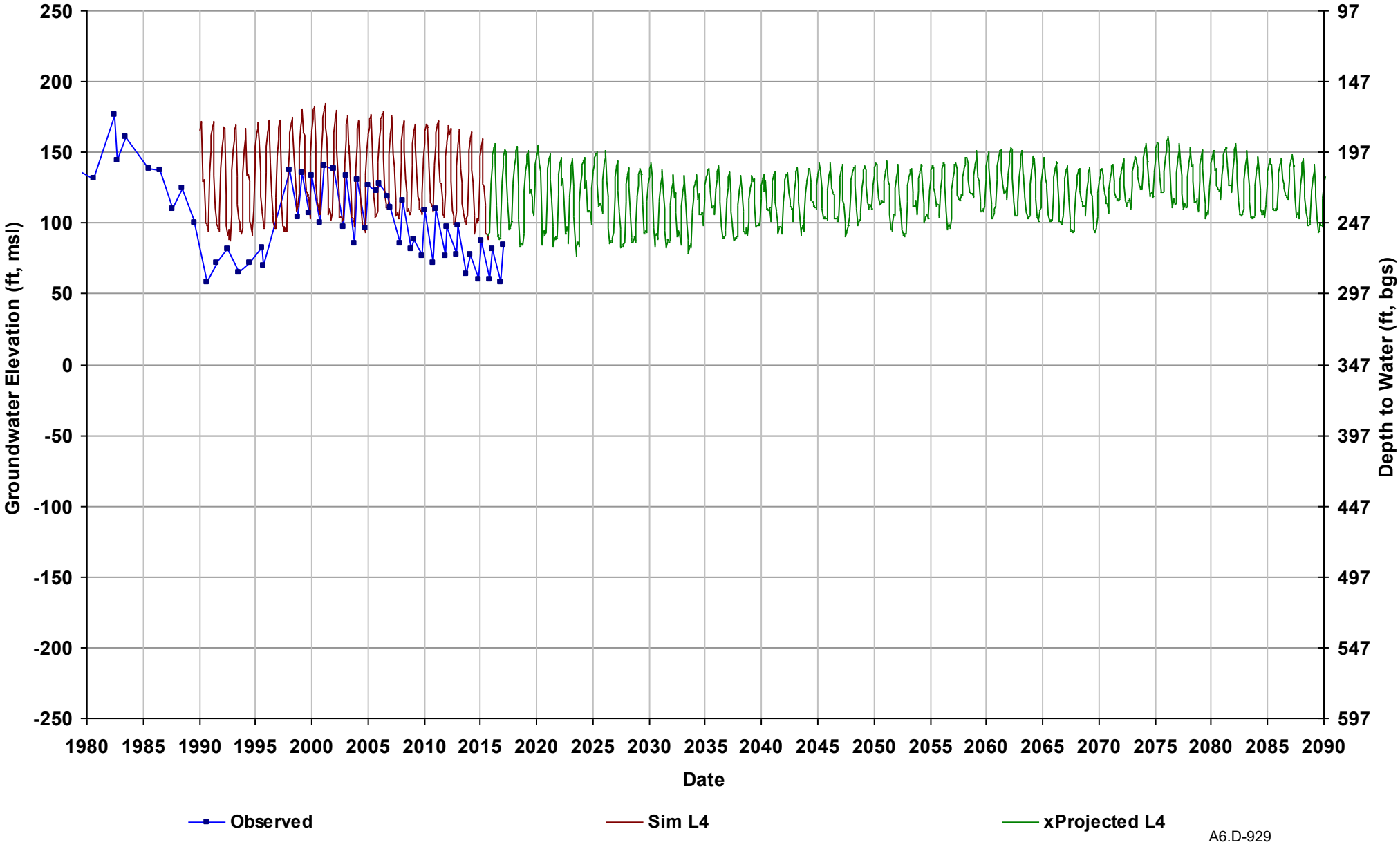
Well Name: MaderaWD-9
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 310

Total Depth (ft): 536
Perf Top (ft): 200
Perf Bottom (ft): 536
Top Model Layer: 4
Bottom Model Layer: 4



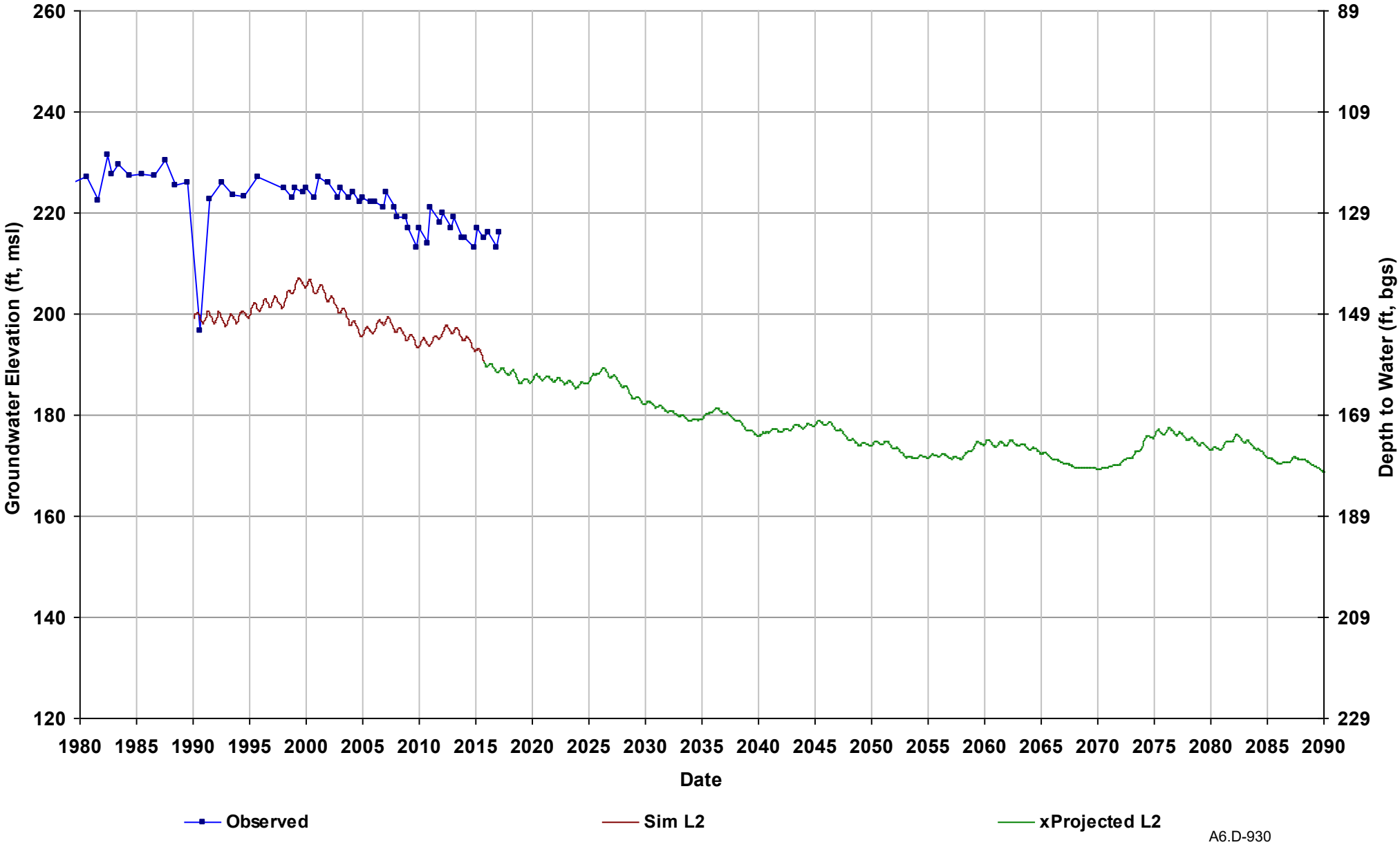
Well Name: RootCreekWD-113
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 346

Total Depth (ft): 495
Perf Top (ft): 240
Perf Bottom (ft): 492
Top Model Layer: 4
Bottom Model Layer: 4



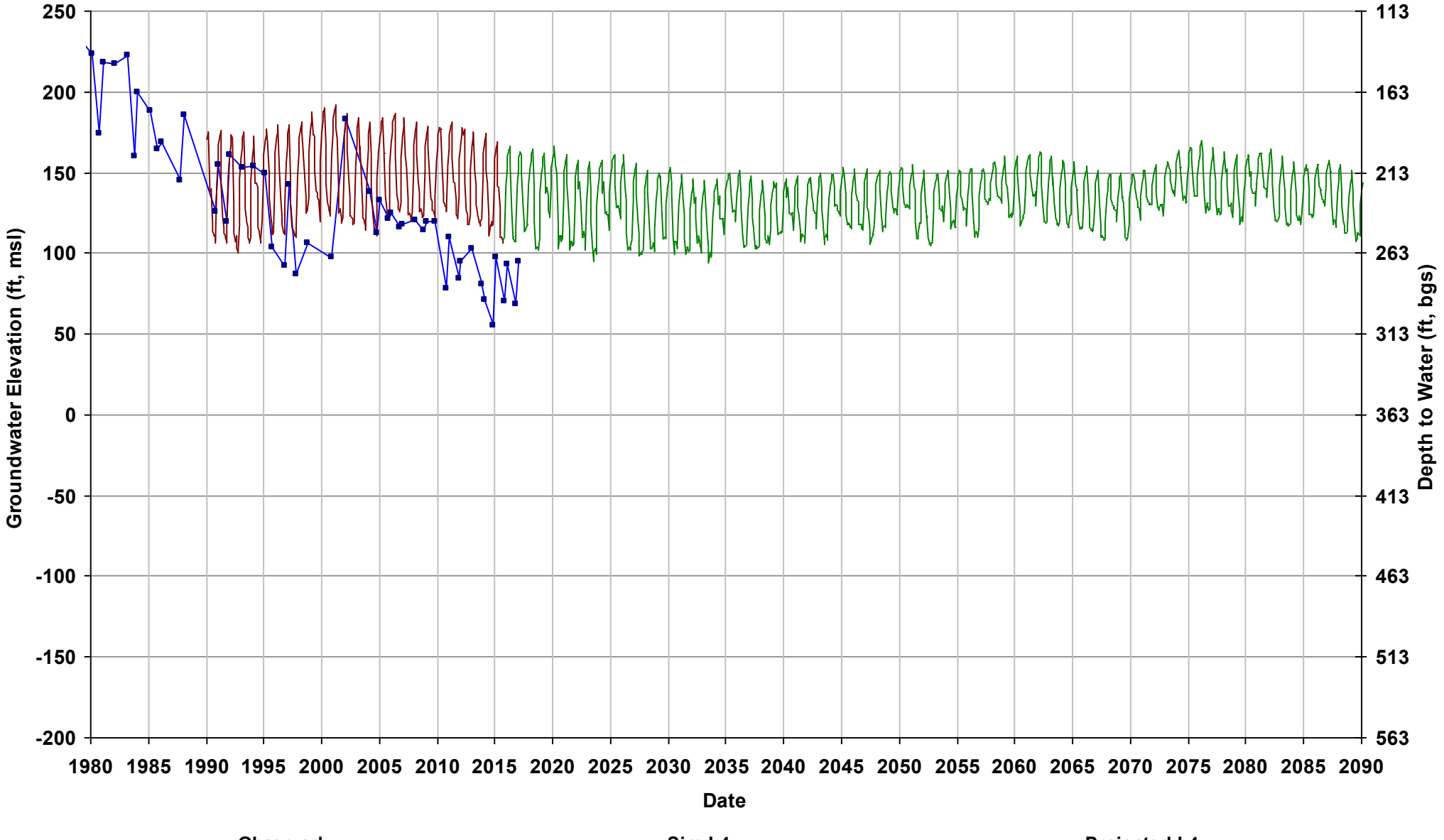
Well Name: RootCreekWD-22
Depth Zone: Upper; Outside CC
Subbasin: Madera
GSE (ft, msl): 348

Total Depth (ft): 236
Perf Top (ft): 160
Perf Bottom (ft): 228
Top Model Layer: 2
Bottom Model Layer: 2



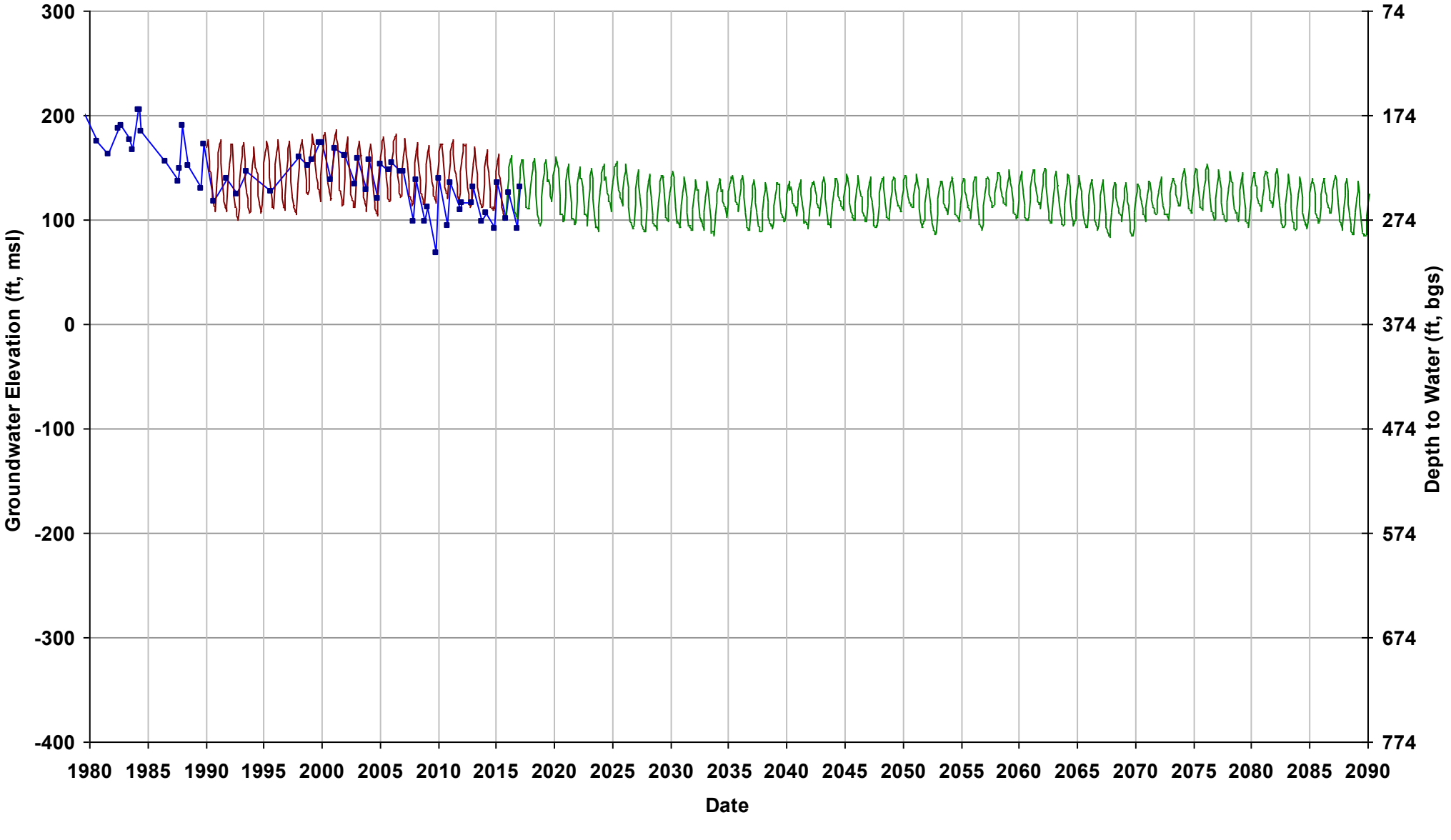
Well Name: RootCreekWD-65
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 363

Total Depth (ft): 407
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



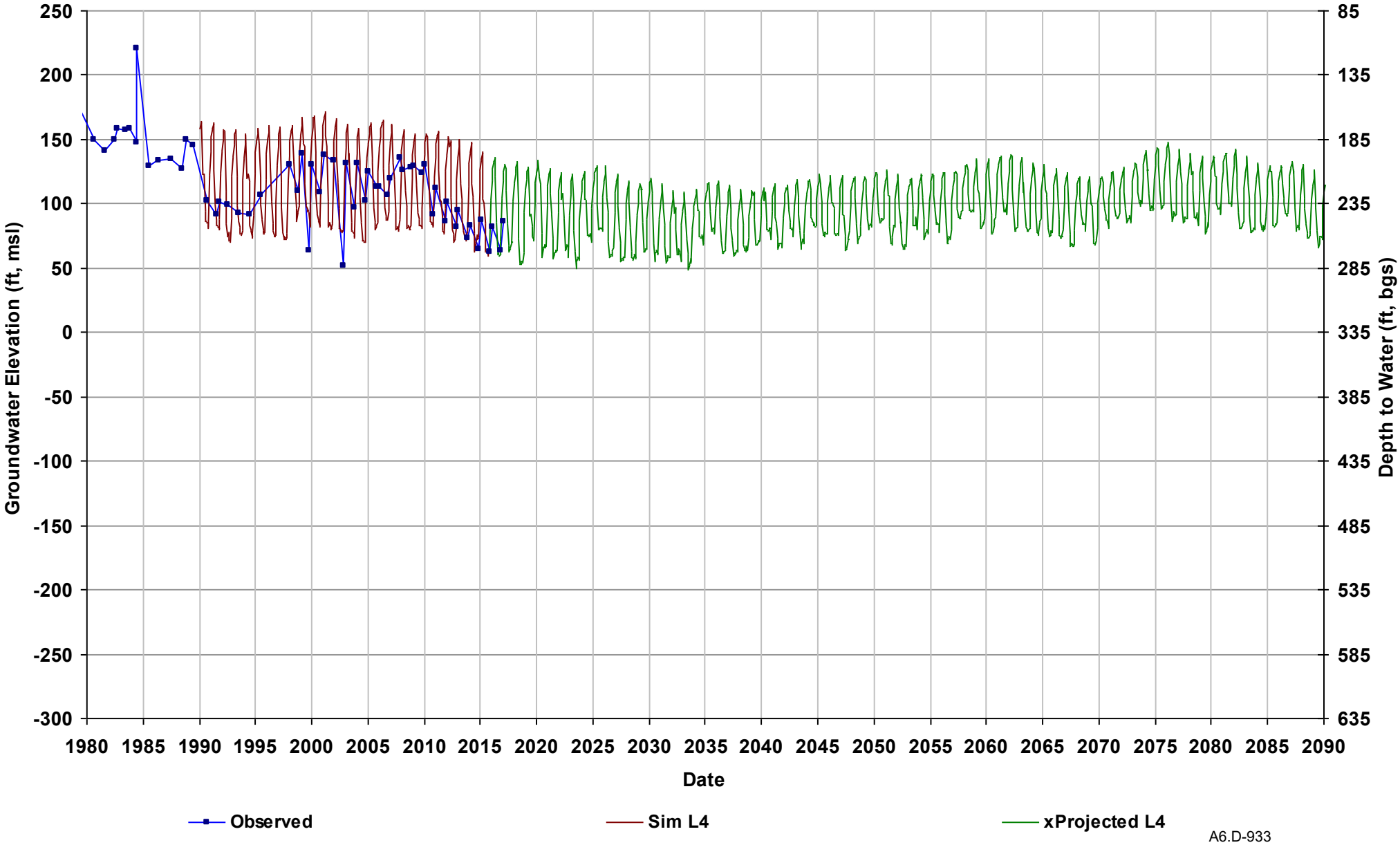
Well Name: RootCreekWD-66
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 373

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



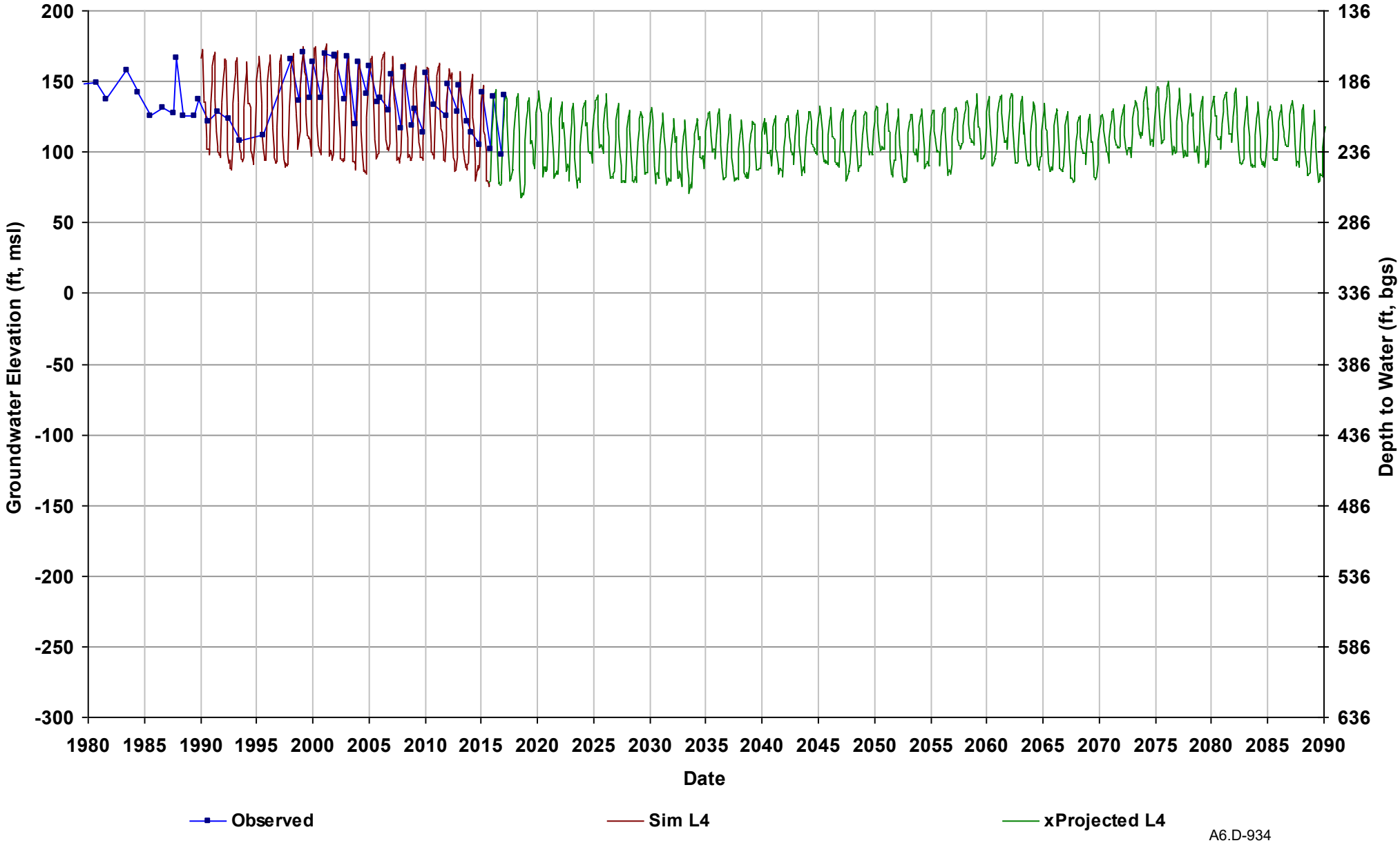
Well Name: RootCreekWD-85
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 335

Total Depth (ft): 412
Perf Top (ft): 250
Perf Bottom (ft): 408
Top Model Layer: 4
Bottom Model Layer: 4



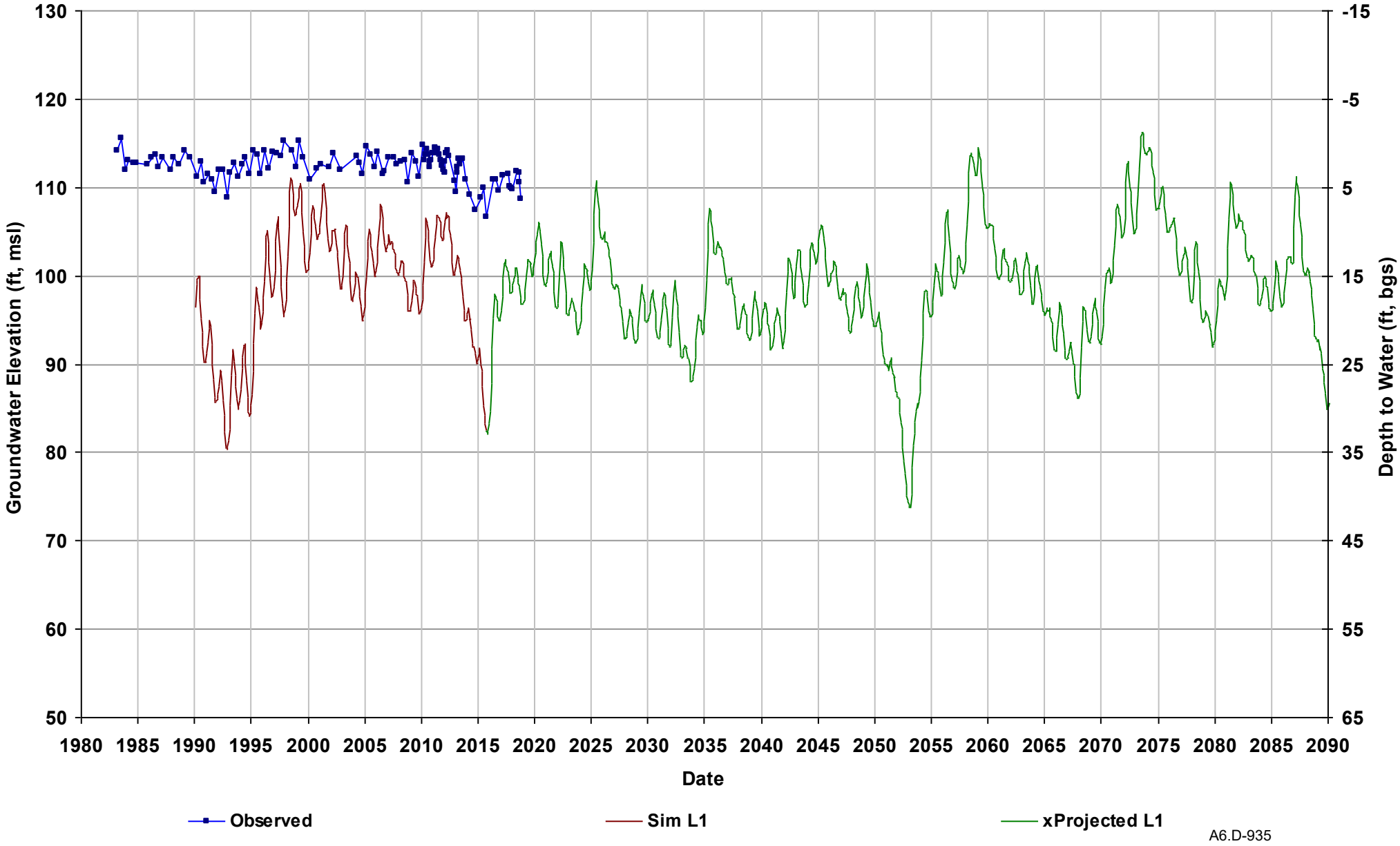
Well Name: RootCreekWD-88
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 336

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



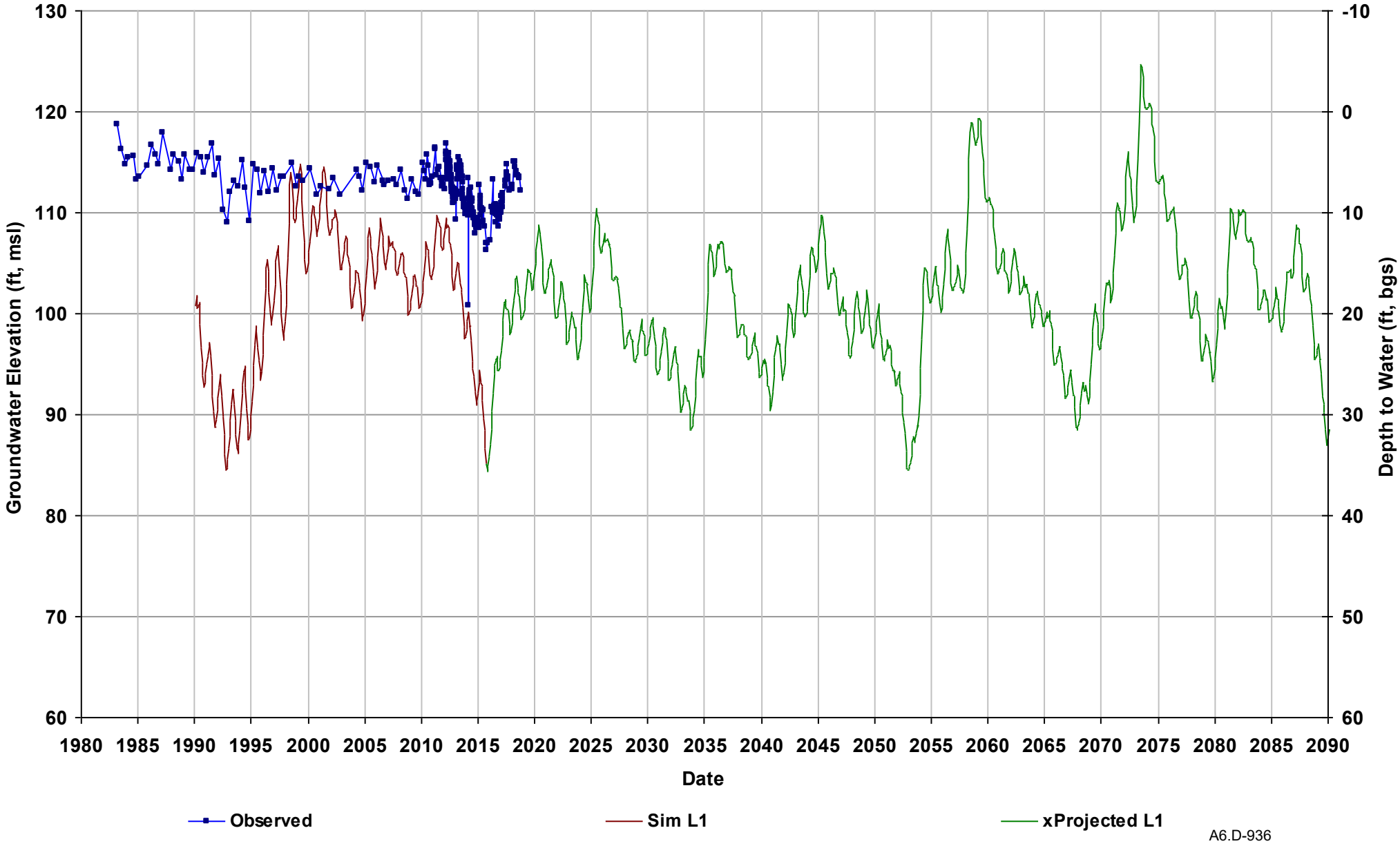
Well Name: SJRRP_129
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 114

Total Depth (ft):
Perf Top (ft): 8.2
Perf Bottom (ft): 17.2
Top Model Layer: 1
Bottom Model Layer: 1



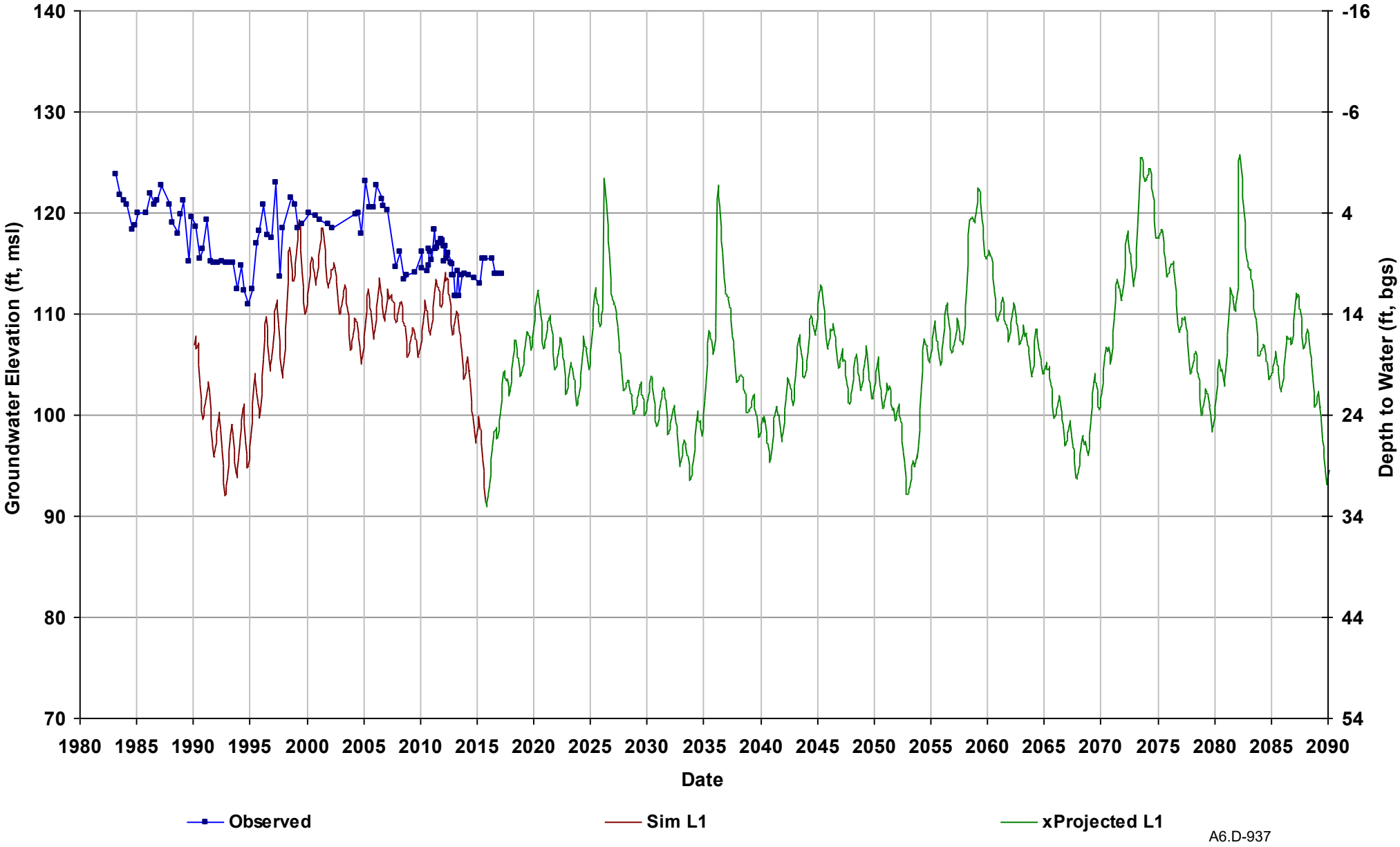
Well Name: SJRRP_135
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 120

Total Depth (ft):
Perf Top (ft): 8.4
Perf Bottom (ft): 17.4
Top Model Layer: 1
Bottom Model Layer: 1



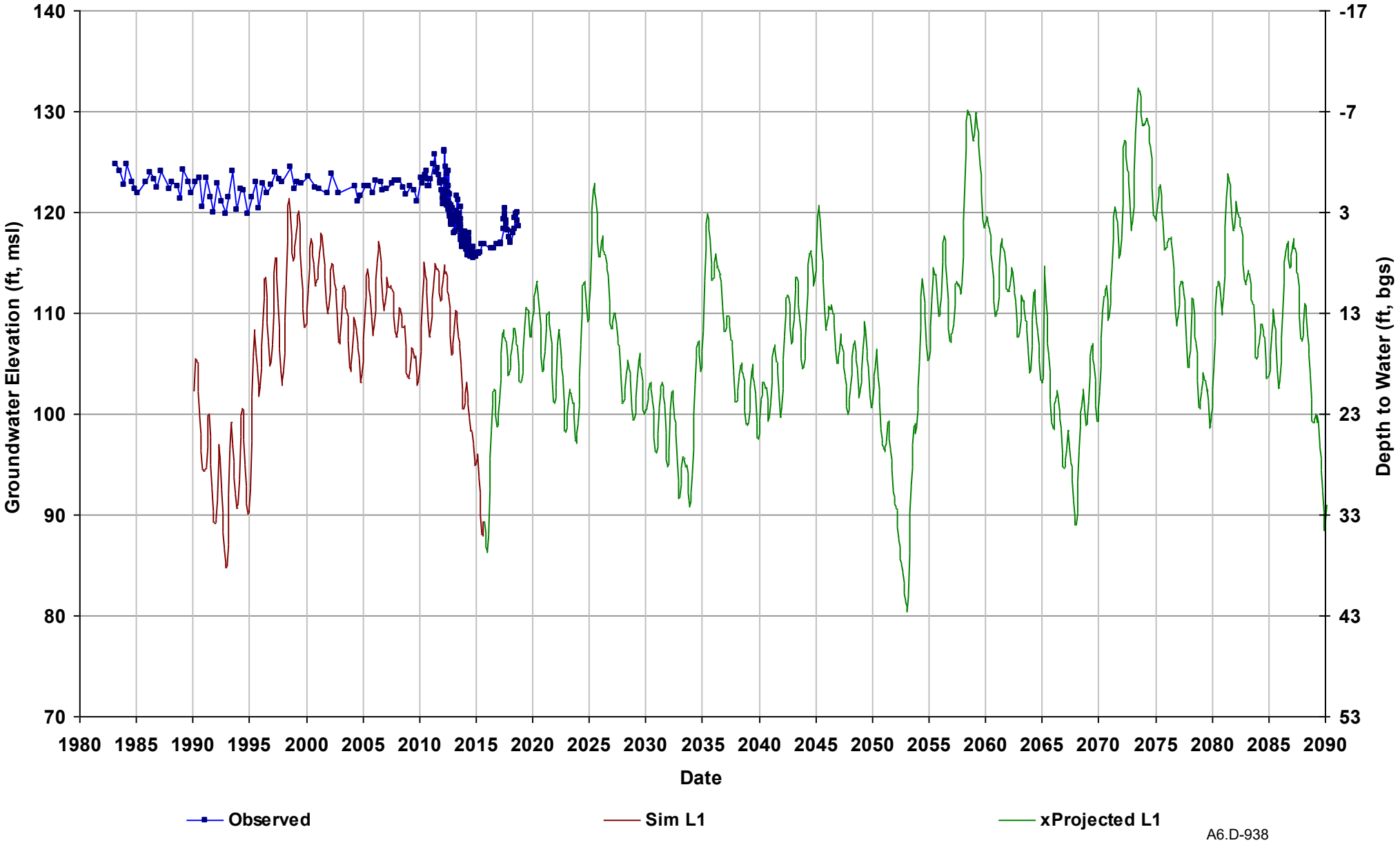
Well Name: SJRRP_140
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



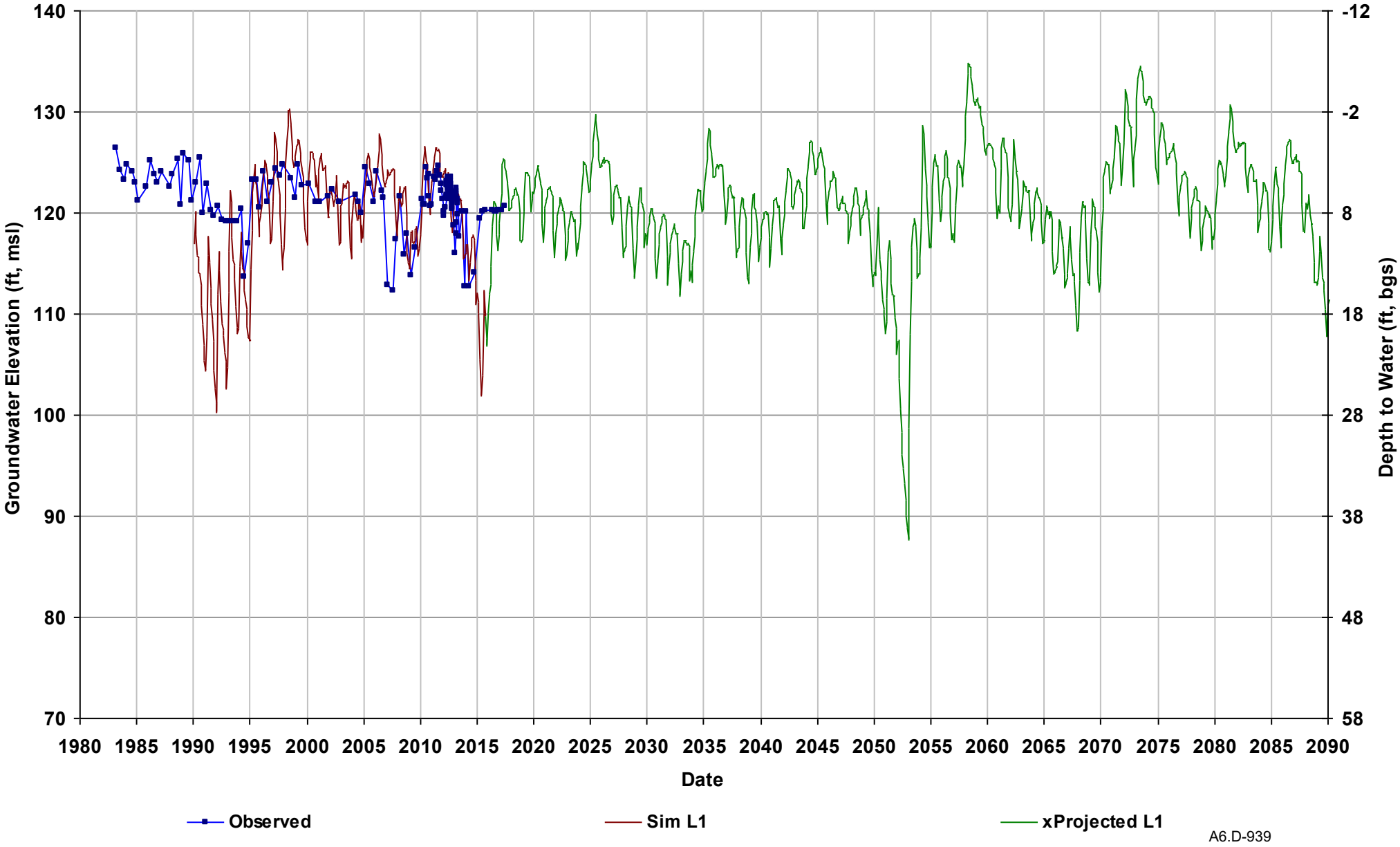
Well Name: SJRRP_145
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



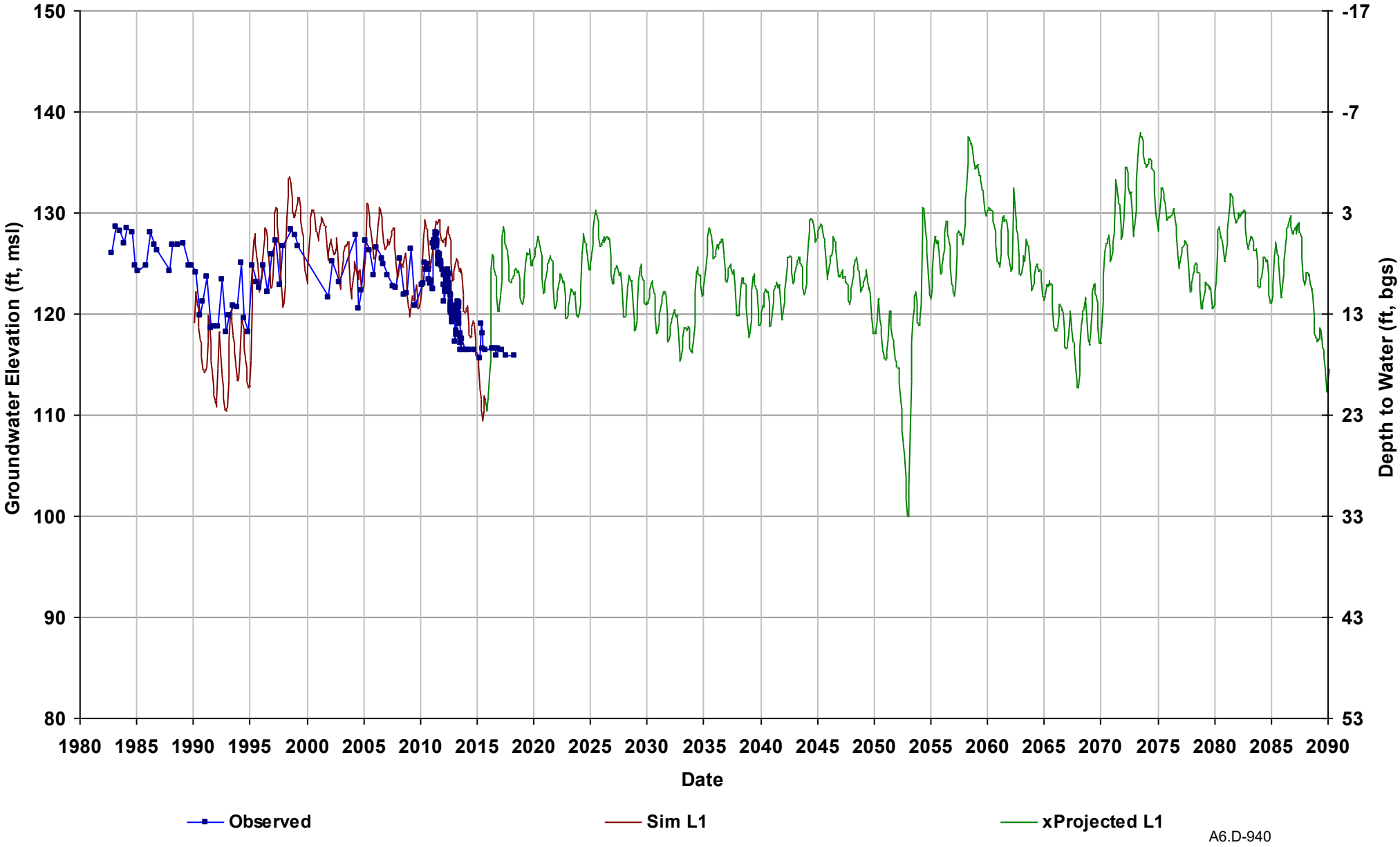
Well Name: SJRRP_151
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 127

Total Depth (ft):
Perf Top (ft): 7.5
Perf Bottom (ft): 16.5
Top Model Layer: 1
Bottom Model Layer: 1



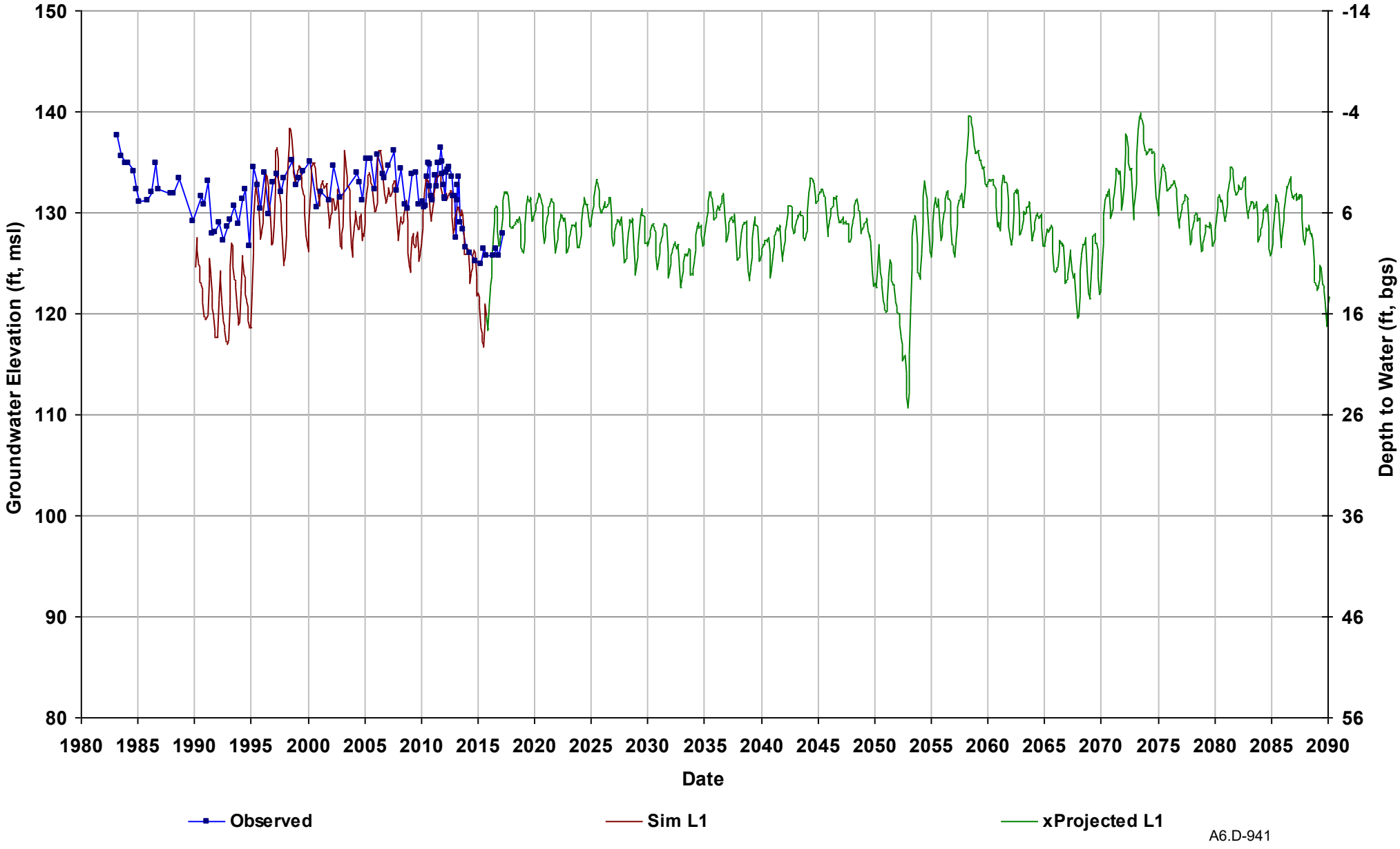
Well Name: SJRRP_155
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 7.1
Perf Bottom (ft): 16.1
Top Model Layer: 1
Bottom Model Layer: 1



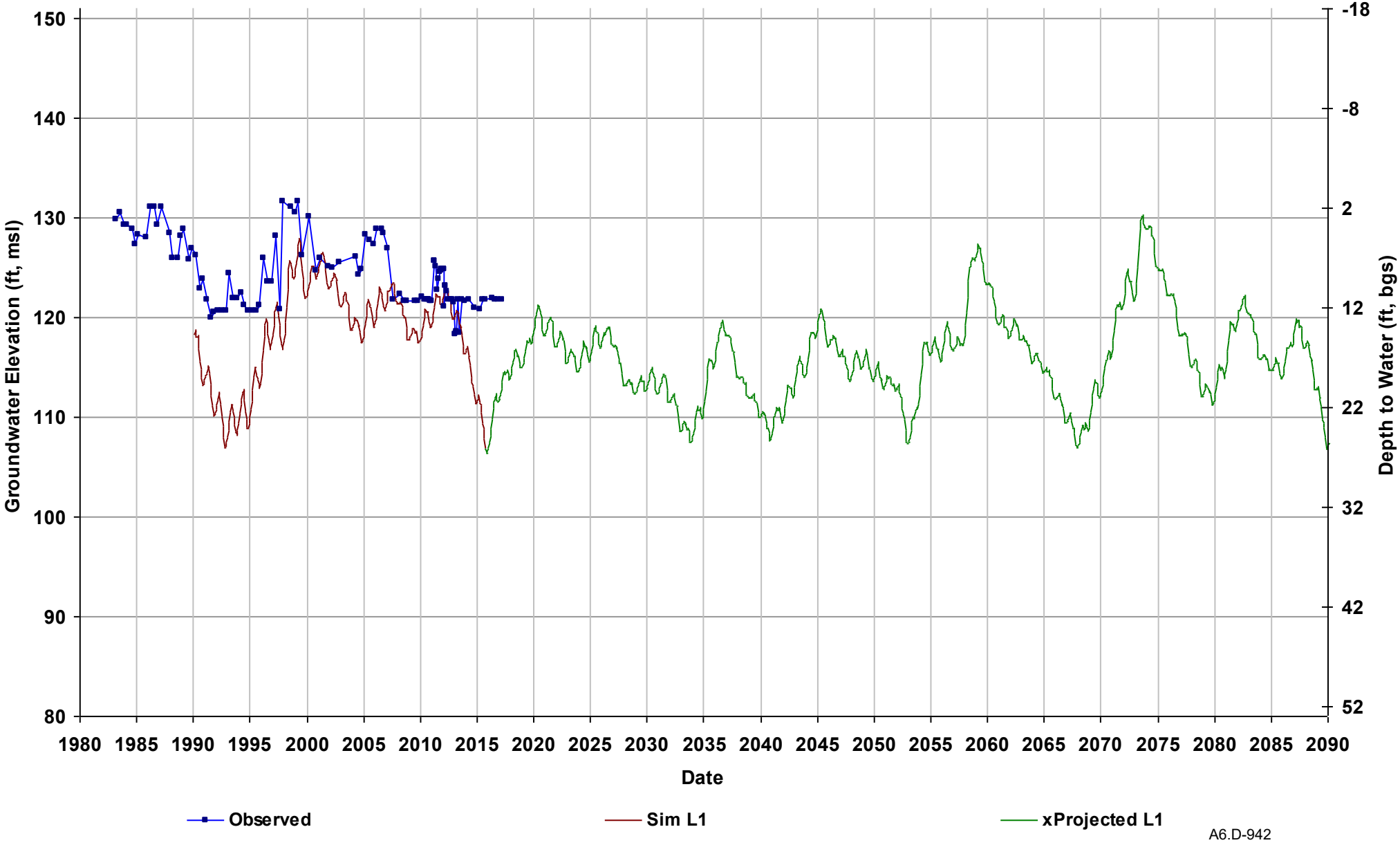
Well Name: SJRRP_156
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 135

Total Depth (ft):
Perf Top (ft): 7
Perf Bottom (ft): 16
Top Model Layer: 1
Bottom Model Layer: 1



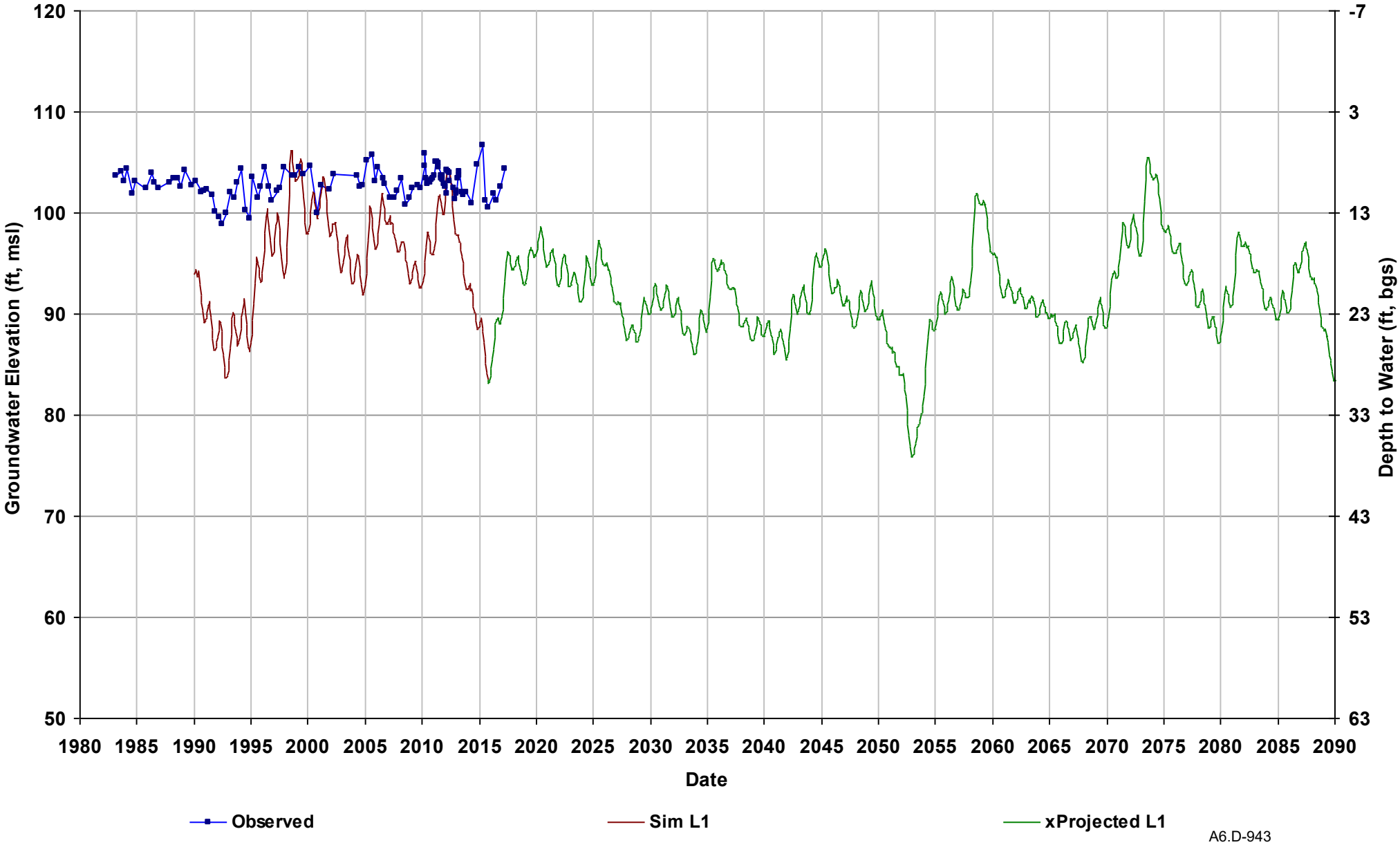
Well Name: SJRRP_166A
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



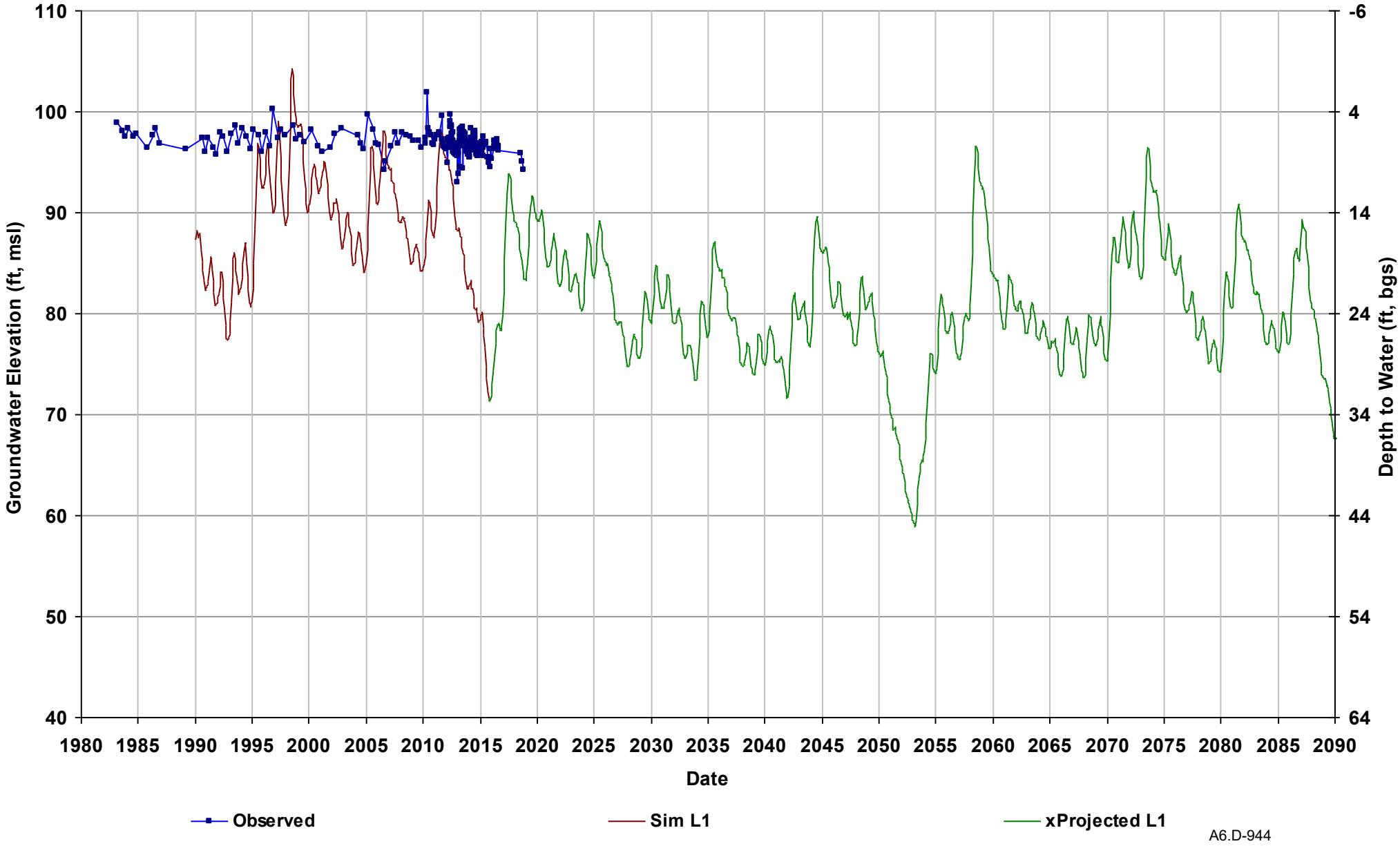
Well Name: SJRRP_181
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft):
Perf Top (ft): 9.2
Perf Bottom (ft): 18.2
Top Model Layer: 1
Bottom Model Layer: 1



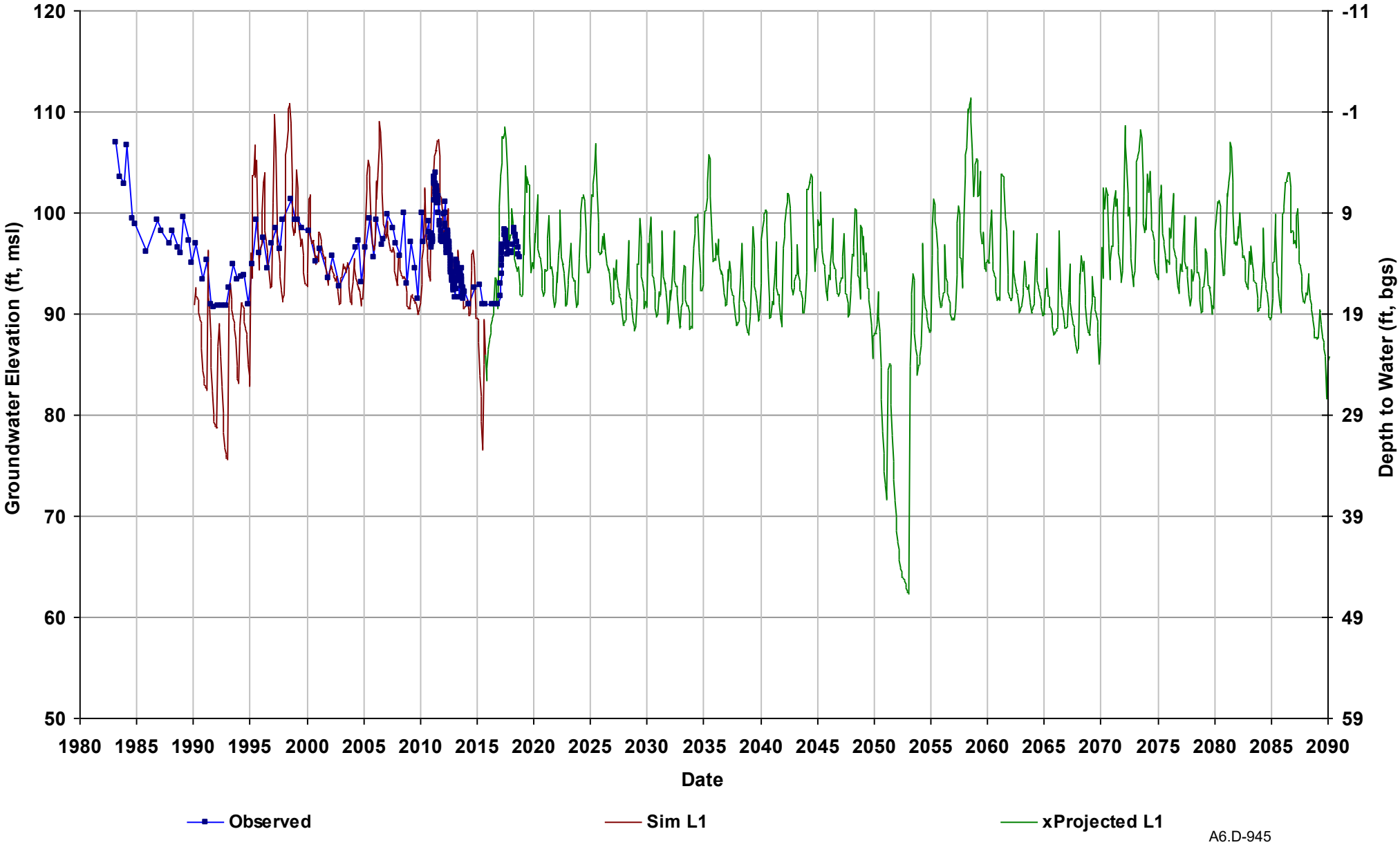
Well Name: SJRRP_184
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 104

Total Depth (ft):
Perf Top (ft): 6.7
Perf Bottom (ft): 15.7
Top Model Layer: 1
Bottom Model Layer: 1



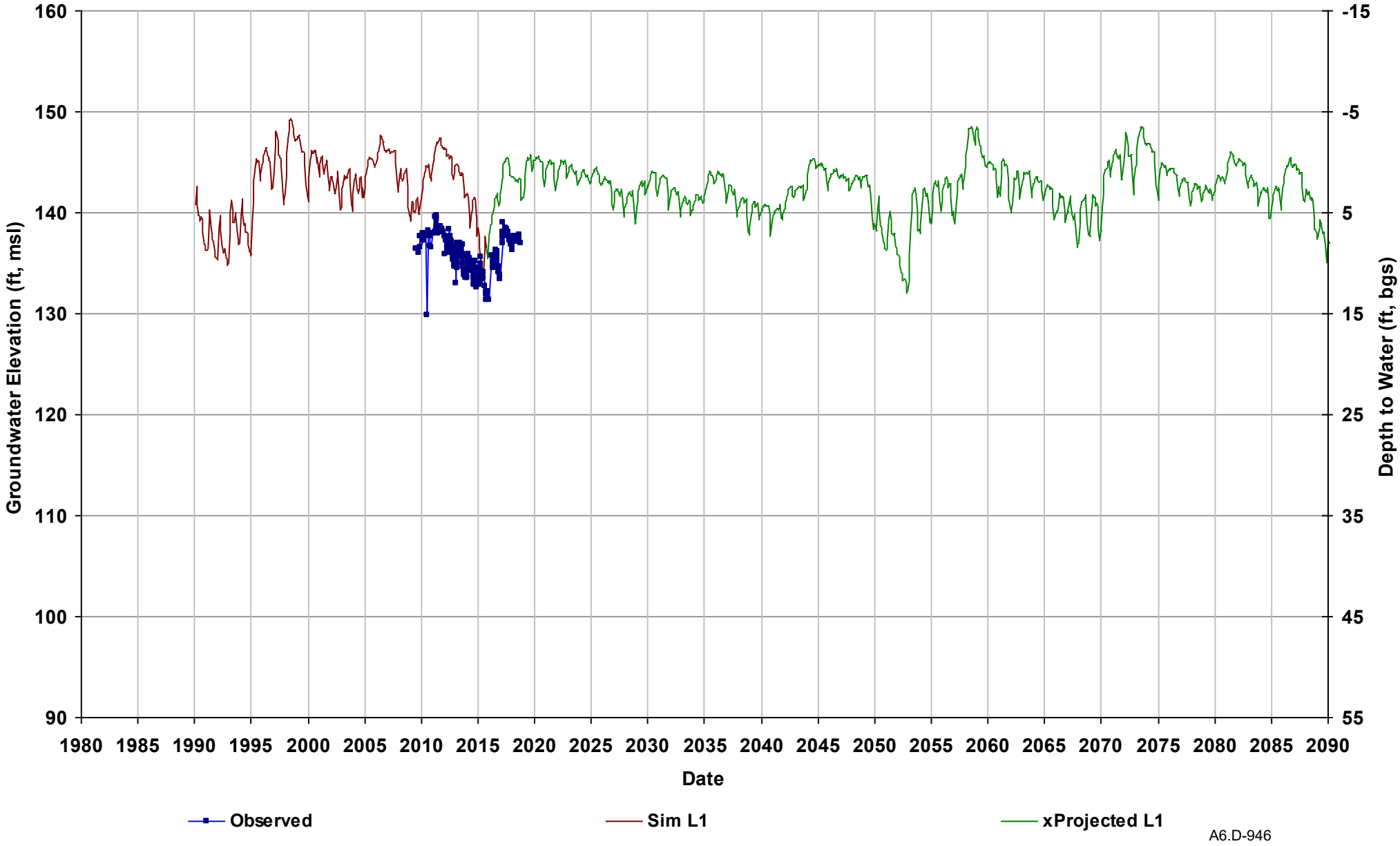
Well Name: SJRRP_191
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 108

Total Depth (ft):
Perf Top (ft): 7.9
Perf Bottom (ft): 16.9
Top Model Layer: 1
Bottom Model Layer: 1



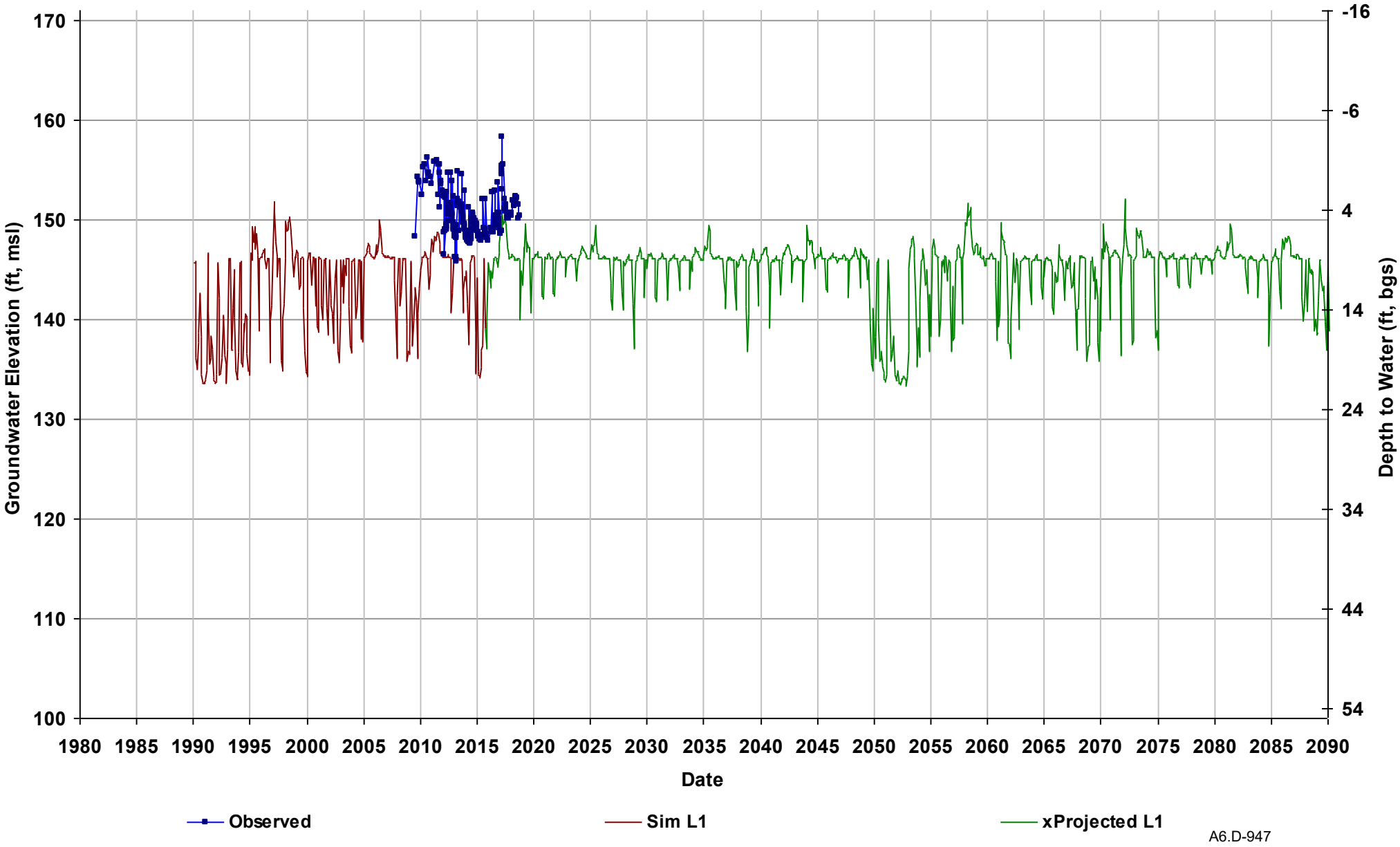
Well Name: SJRRP_355
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 145

Total Depth (ft):
Perf Top (ft): 7.7
Perf Bottom (ft): 16.7
Top Model Layer: 1
Bottom Model Layer: 1



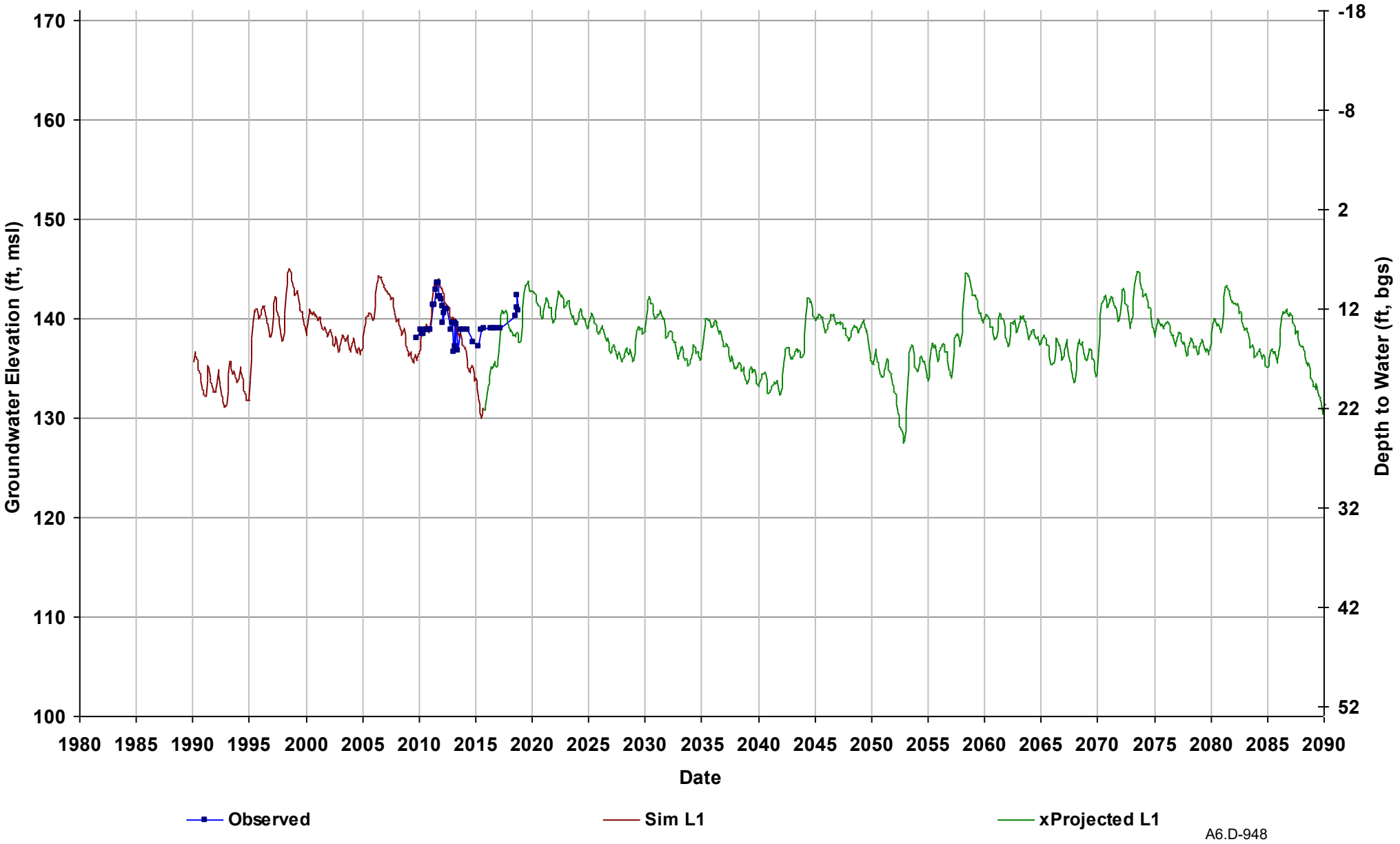
Well Name: SJRRP_364
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 154

Total Depth (ft):
Perf Top (ft): 4.4
Perf Bottom (ft): 13.4
Top Model Layer: 1
Bottom Model Layer: 1



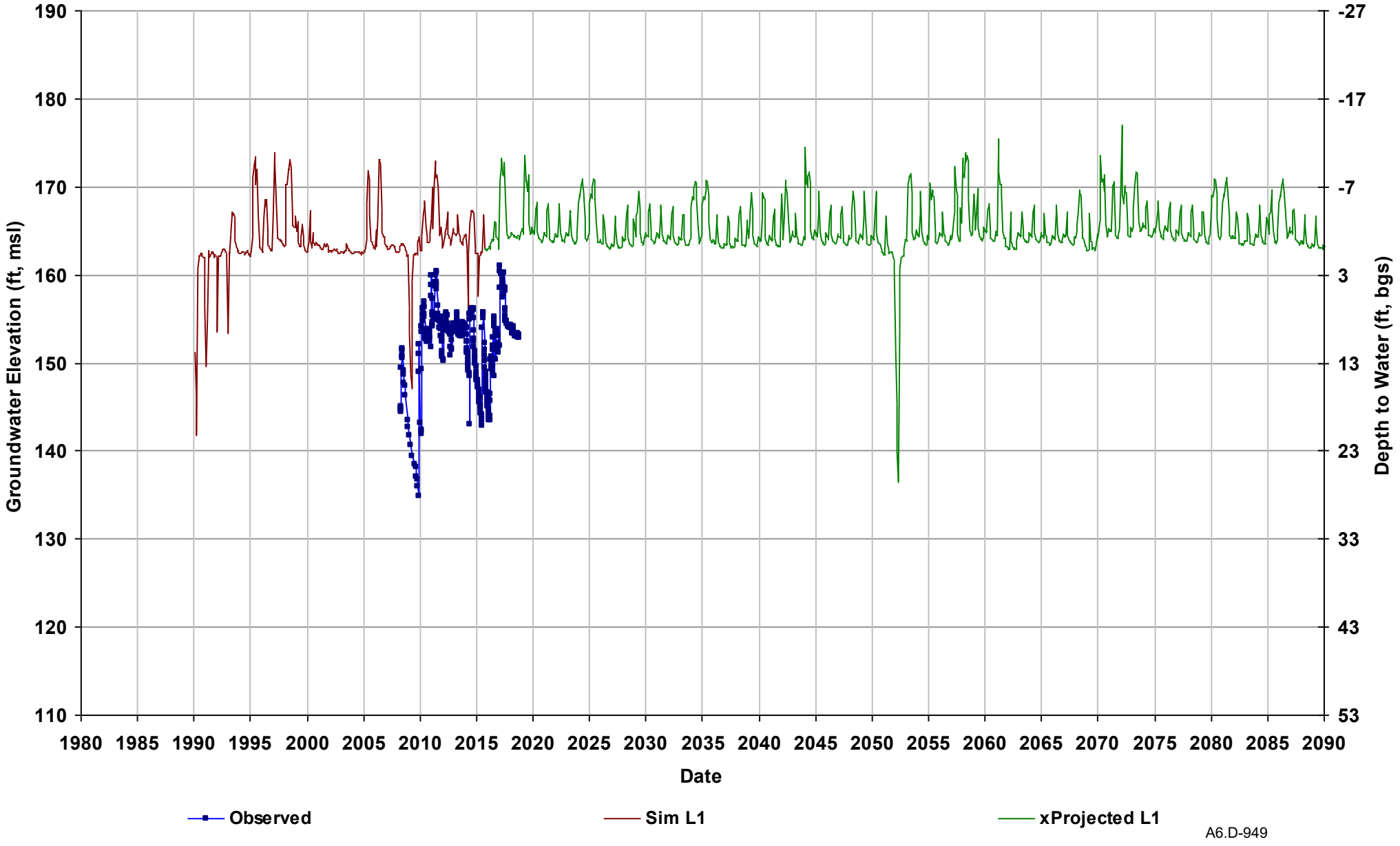
Well Name: SJRRP_366
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 152

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



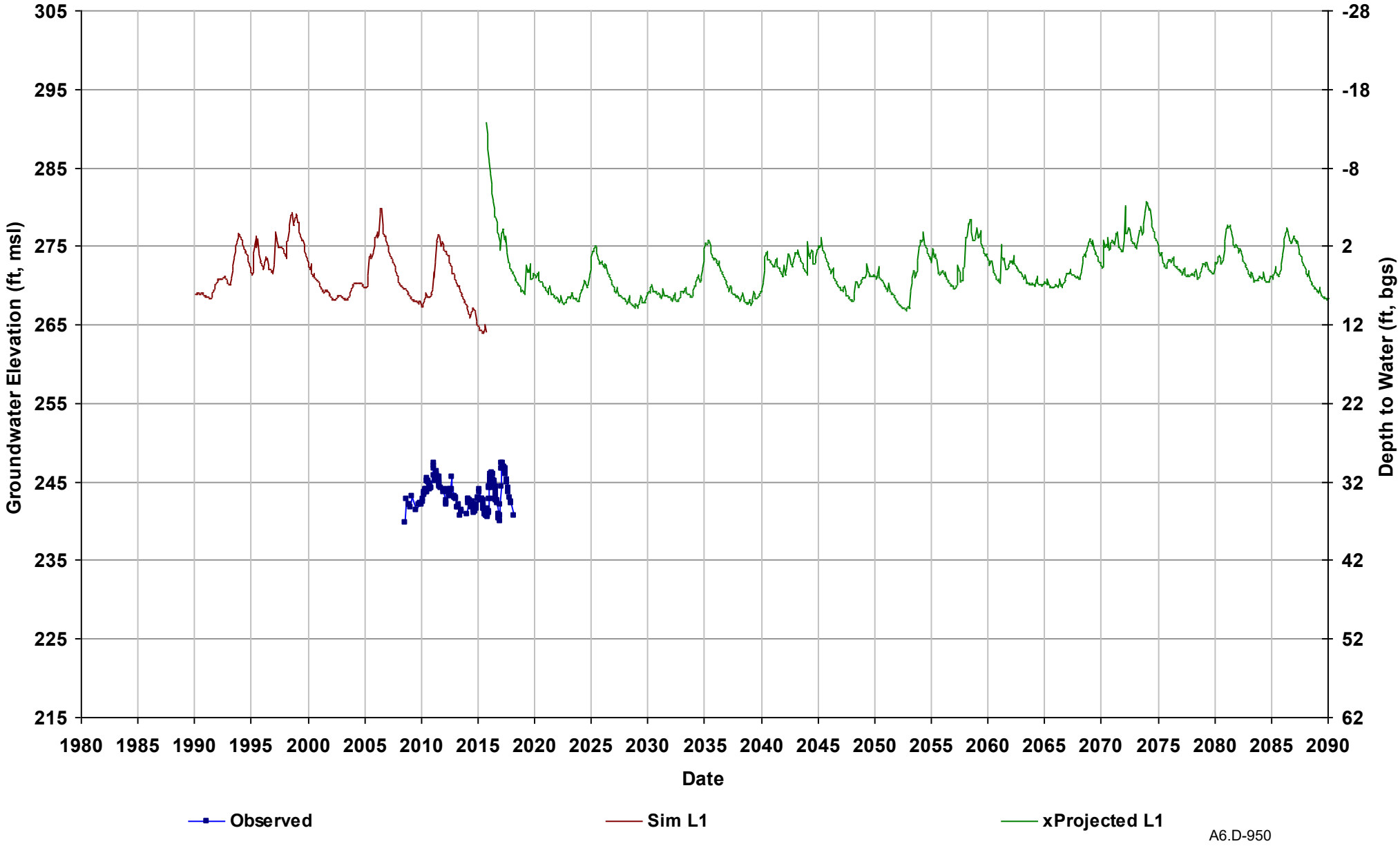
Well Name: SJRRP_FA-8
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 163

Total Depth (ft): 28
Perf Top (ft): 15
Perf Bottom (ft): 30
Top Model Layer: 1
Bottom Model Layer: 1



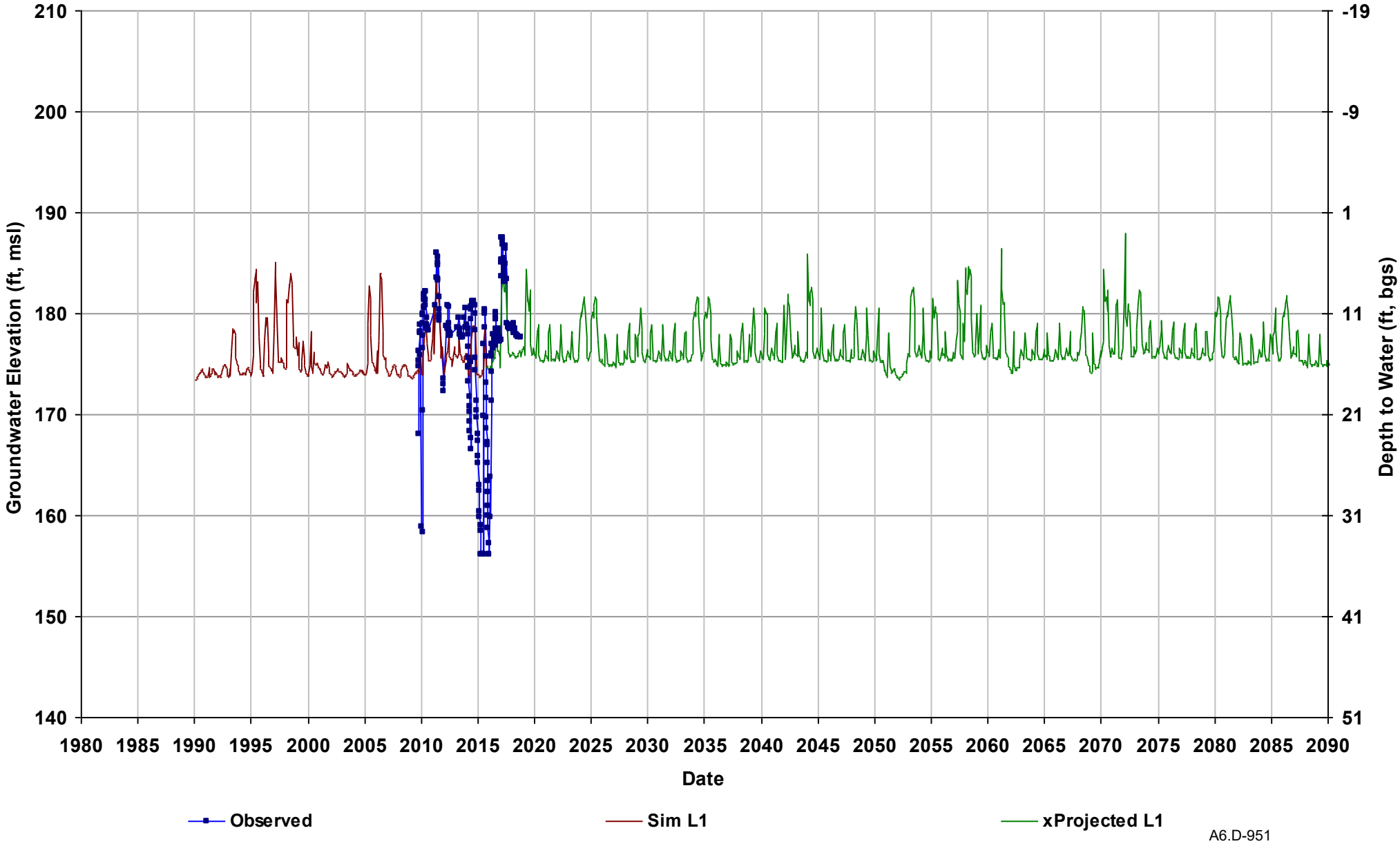
Well Name: SJRRP_JR-1
Depth Zone: Upper, Shallow GW; Ou
Subbasin: Kings
GSE (ft, msl): 277

Total Depth (ft): 38
Perf Top (ft): 37.5
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



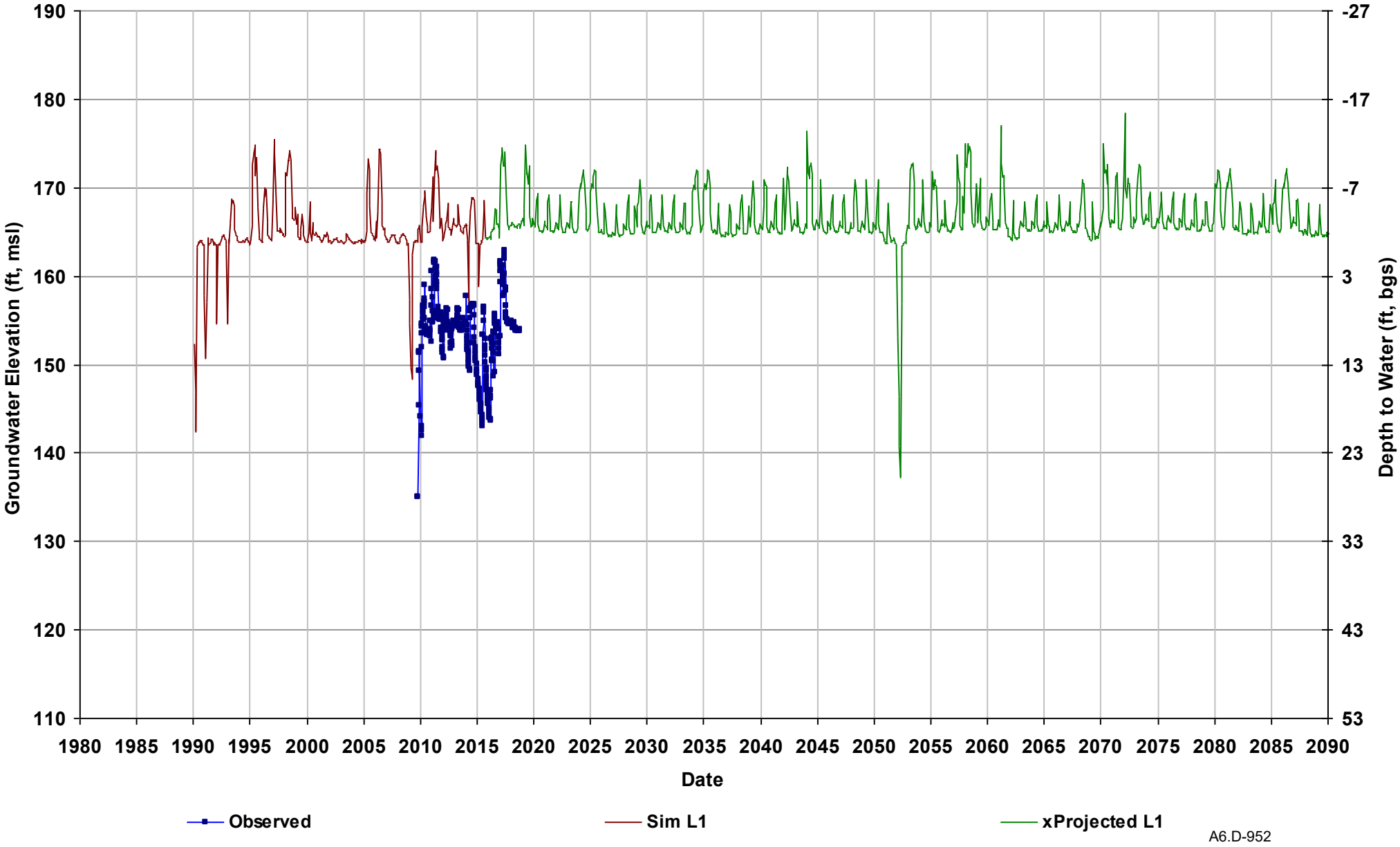
Well Name: SJRRP_MW-09-36
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 191

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



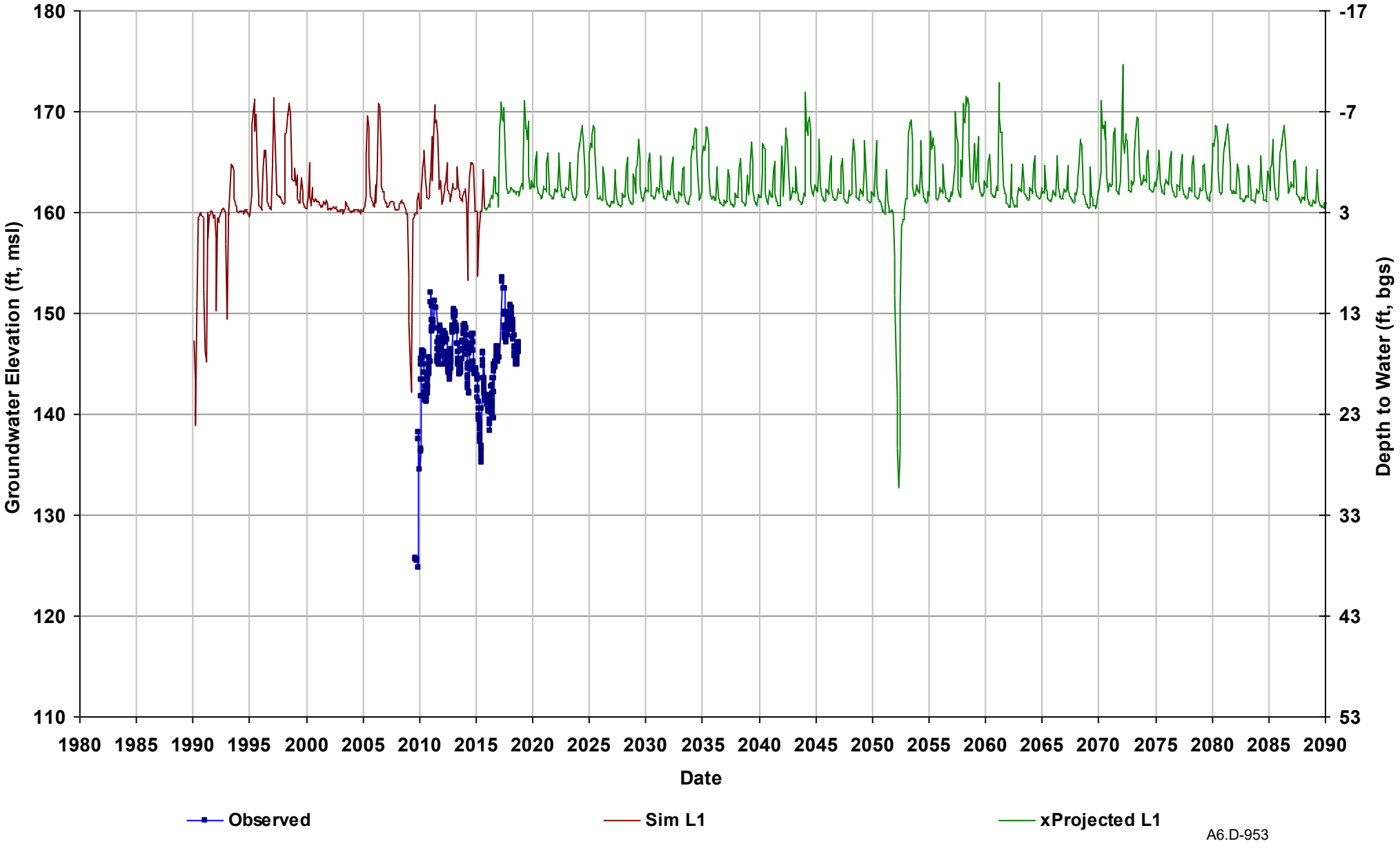
Well Name: SJRRP_MW-09-47
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 163

Total Depth (ft): 41
Perf Top (ft): 20
Perf Bottom (ft): 40
Top Model Layer: 1
Bottom Model Layer: 1



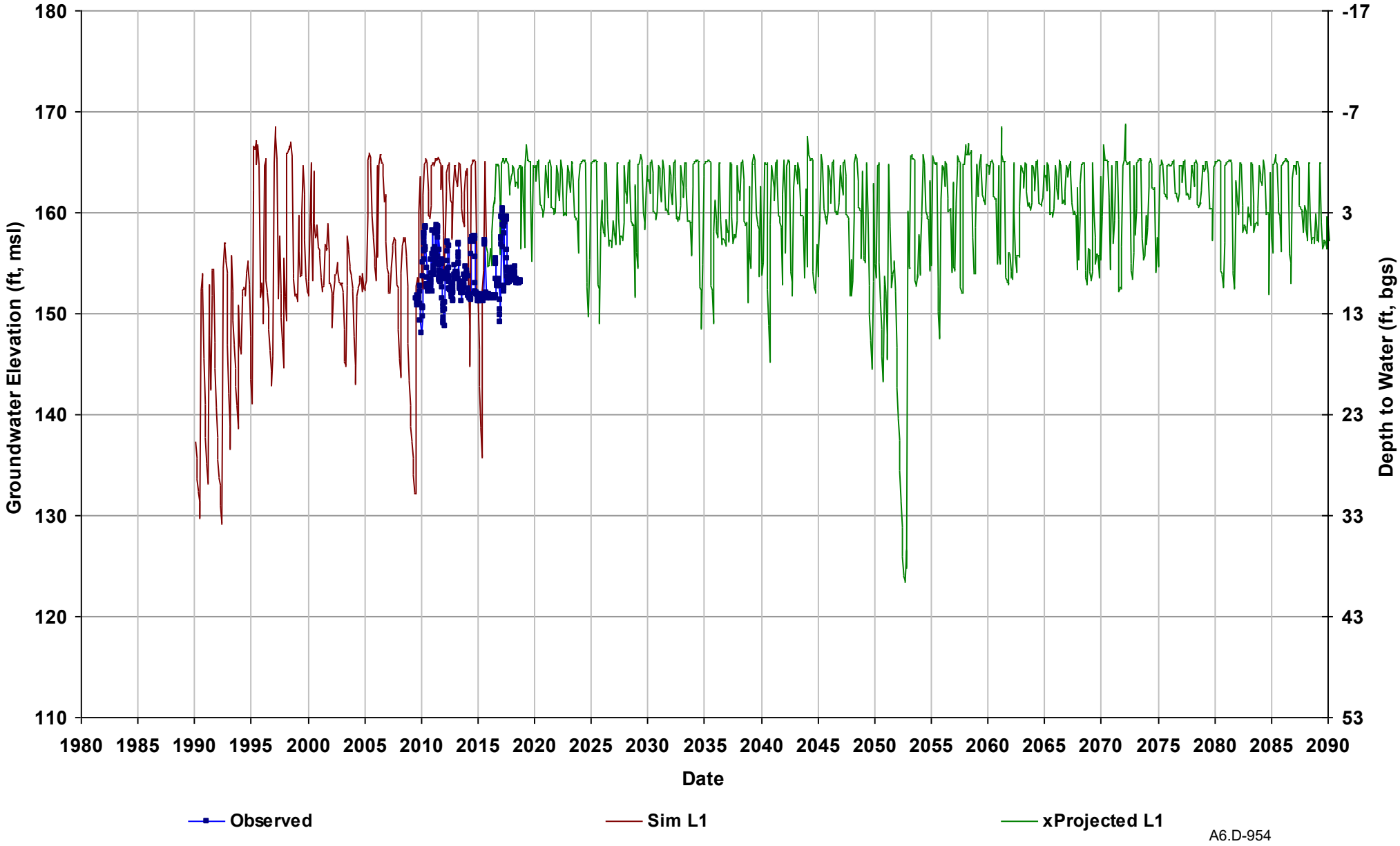
Well Name: SJRRP_MW-09-49
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 163

Total Depth (ft): 60
Perf Top (ft): 50
Perf Bottom (ft): 60
Top Model Layer: 1
Bottom Model Layer: 1



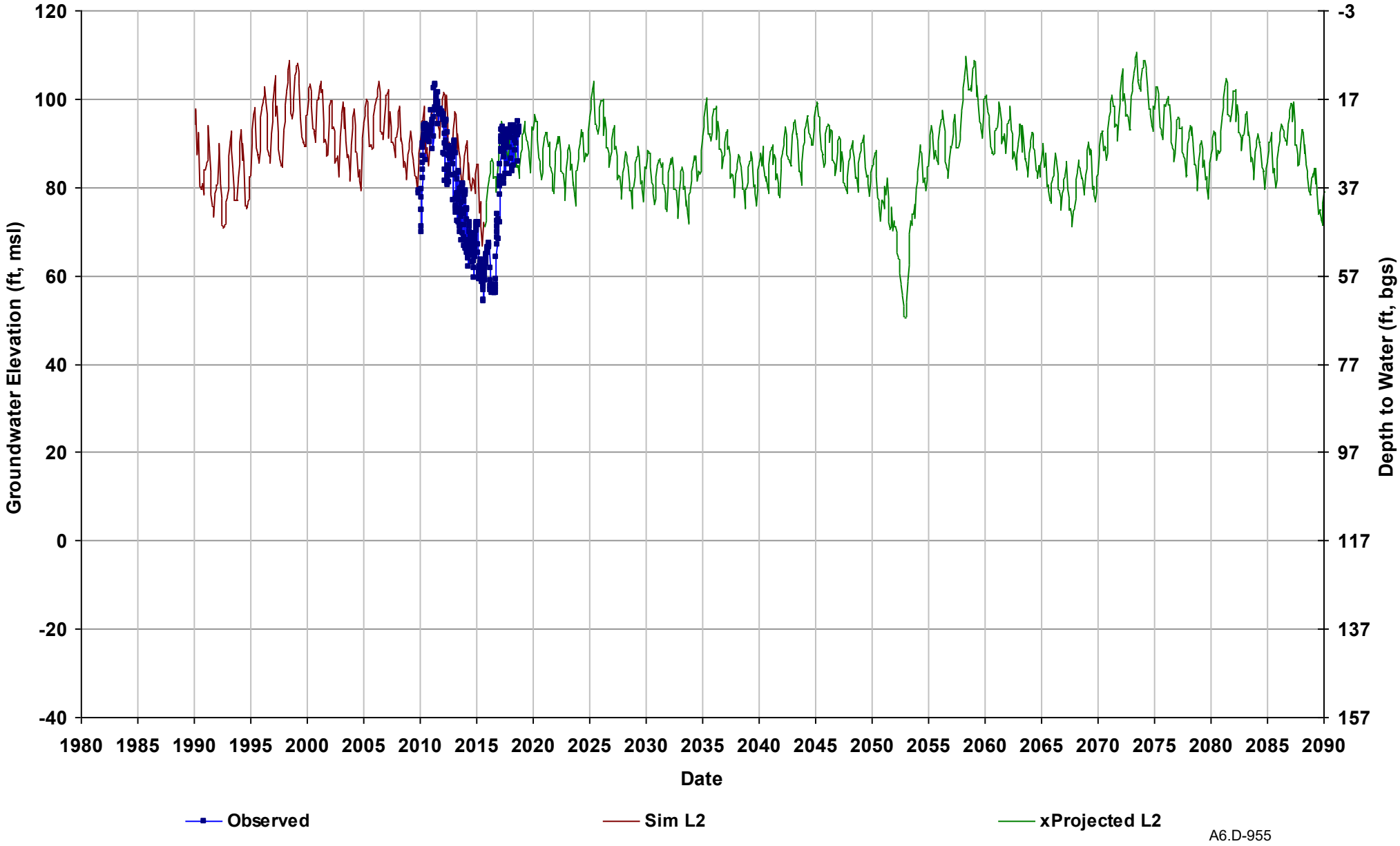
Well Name: SJRRP_MW-09-55B
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 163

Total Depth (ft): 15
Perf Top (ft): 10
Perf Bottom (ft): 15
Top Model Layer: 1
Bottom Model Layer: 1



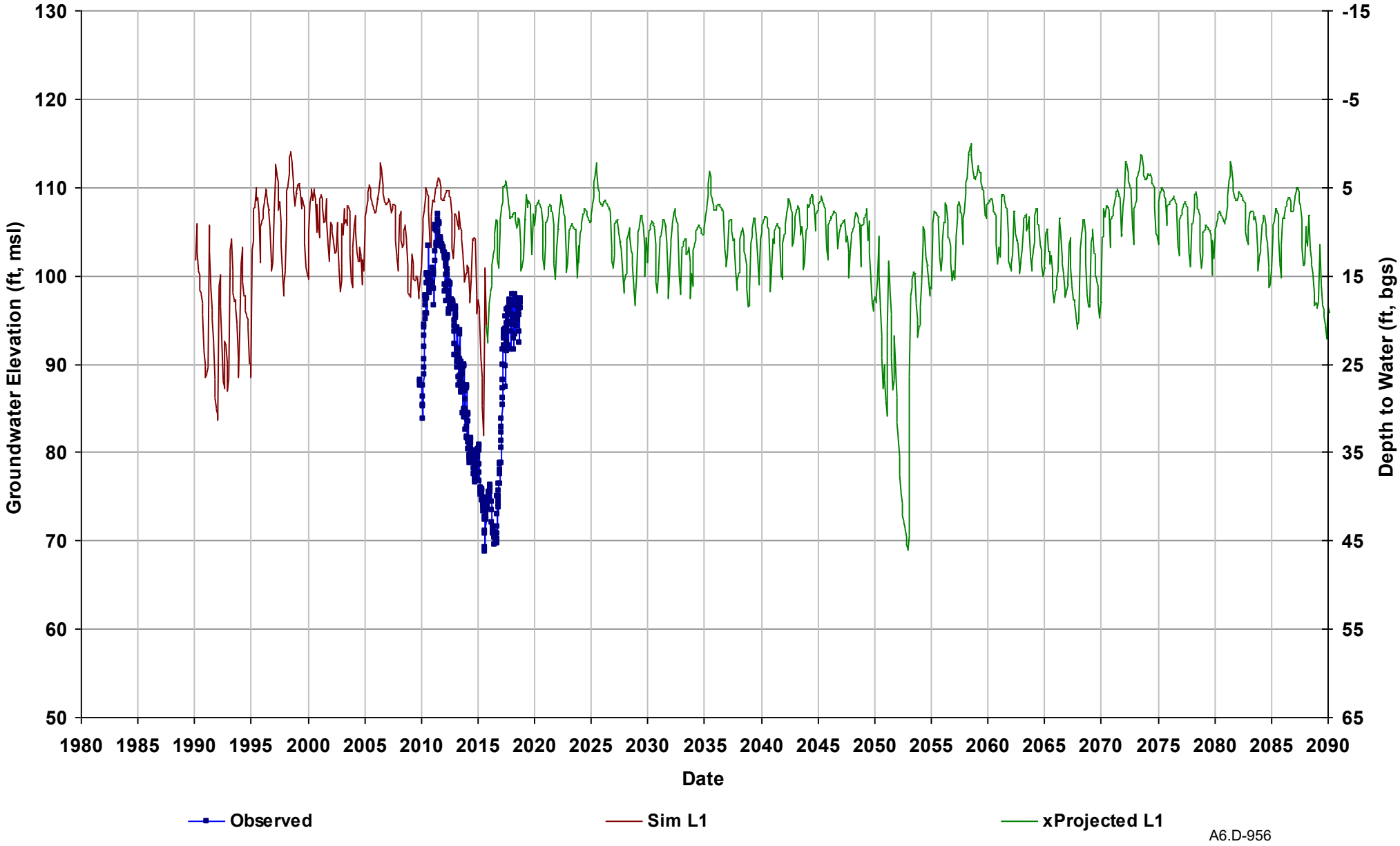
Well Name: SJRRP_MW-09-86
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 117

Total Depth (ft): 72
Perf Top (ft): 52
Perf Bottom (ft): 72
Top Model Layer: 2
Bottom Model Layer: 2



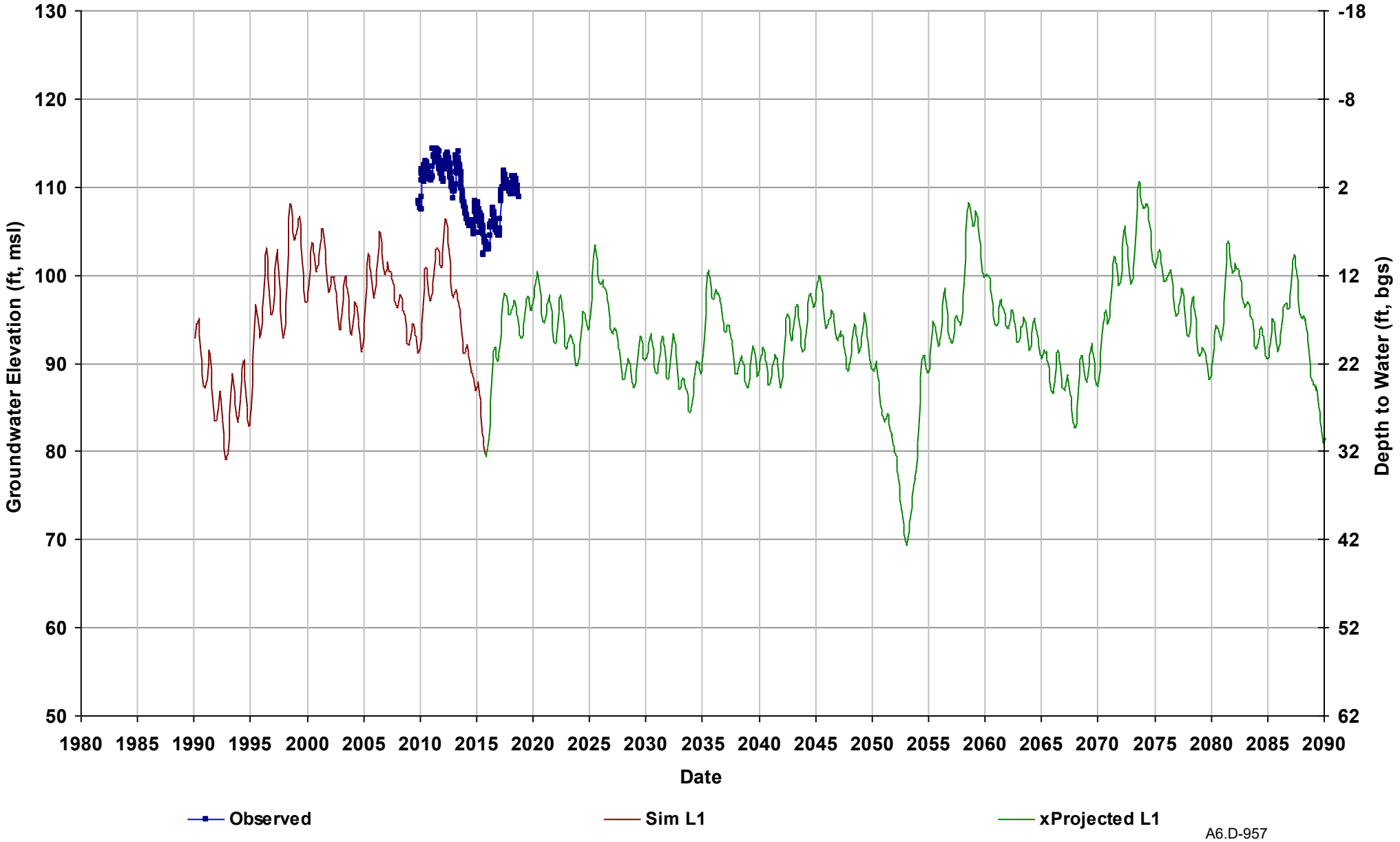
Well Name: SJRRP_MW-09-87
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 115

Total Depth (ft): 47
Perf Top (ft): 37
Perf Bottom (ft): 47
Top Model Layer: 1
Bottom Model Layer: 1



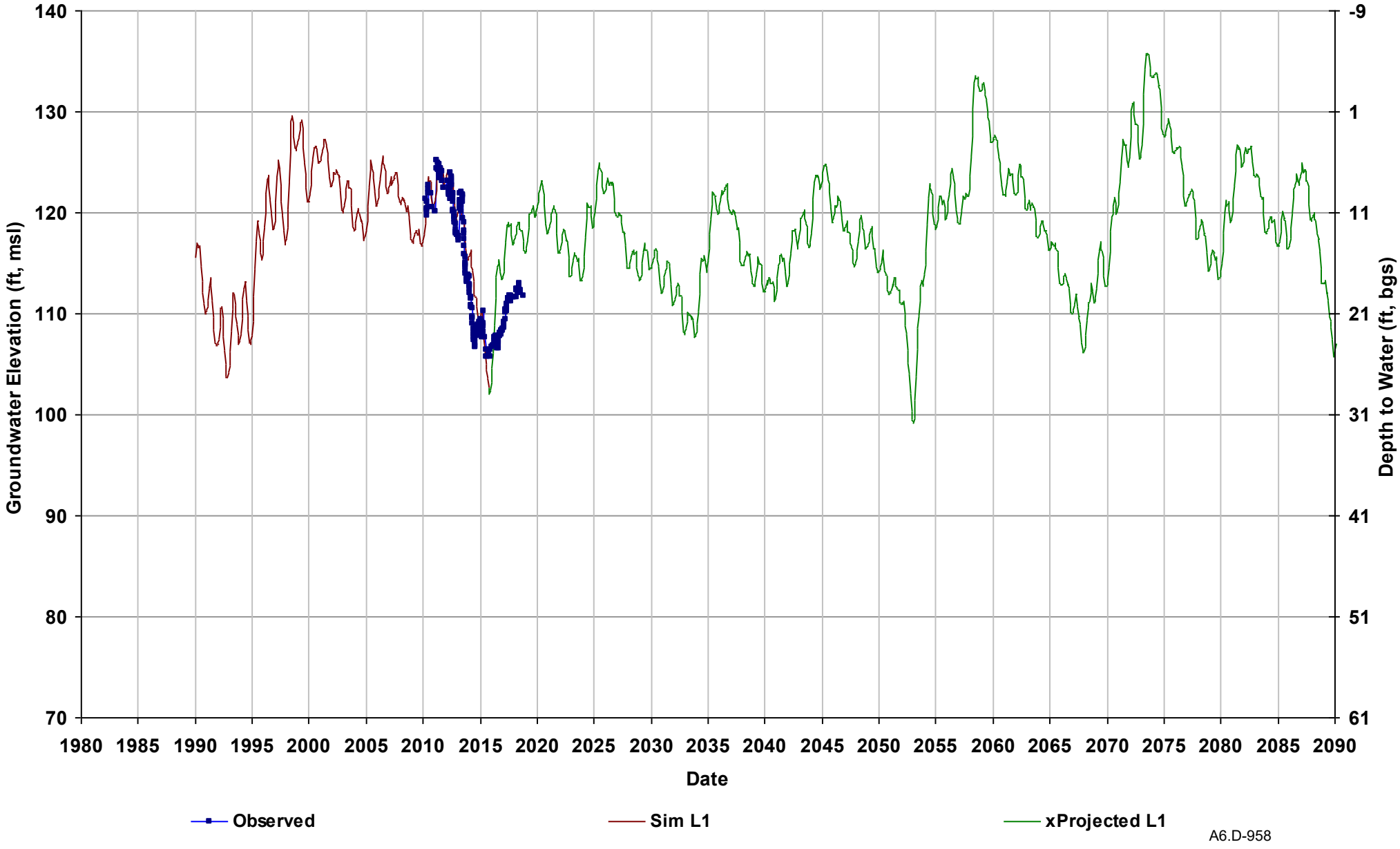
Well Name: SJRRP_MW-09-88
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 49
Perf Top (ft): 25
Perf Bottom (ft): 45
Top Model Layer: 1
Bottom Model Layer: 1



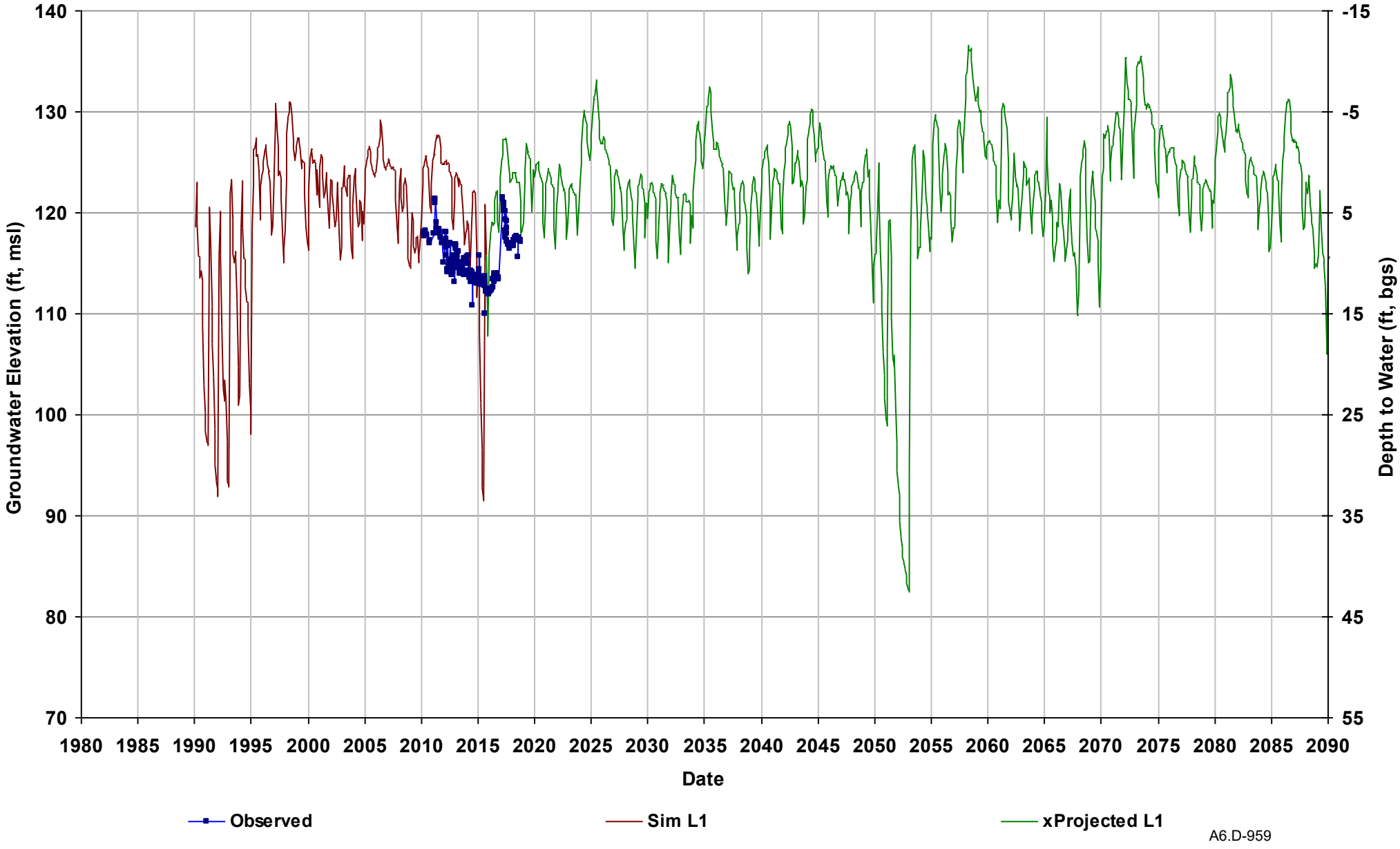
Well Name: SJRRP_MW-10-76
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 130

Total Depth (ft): 27
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



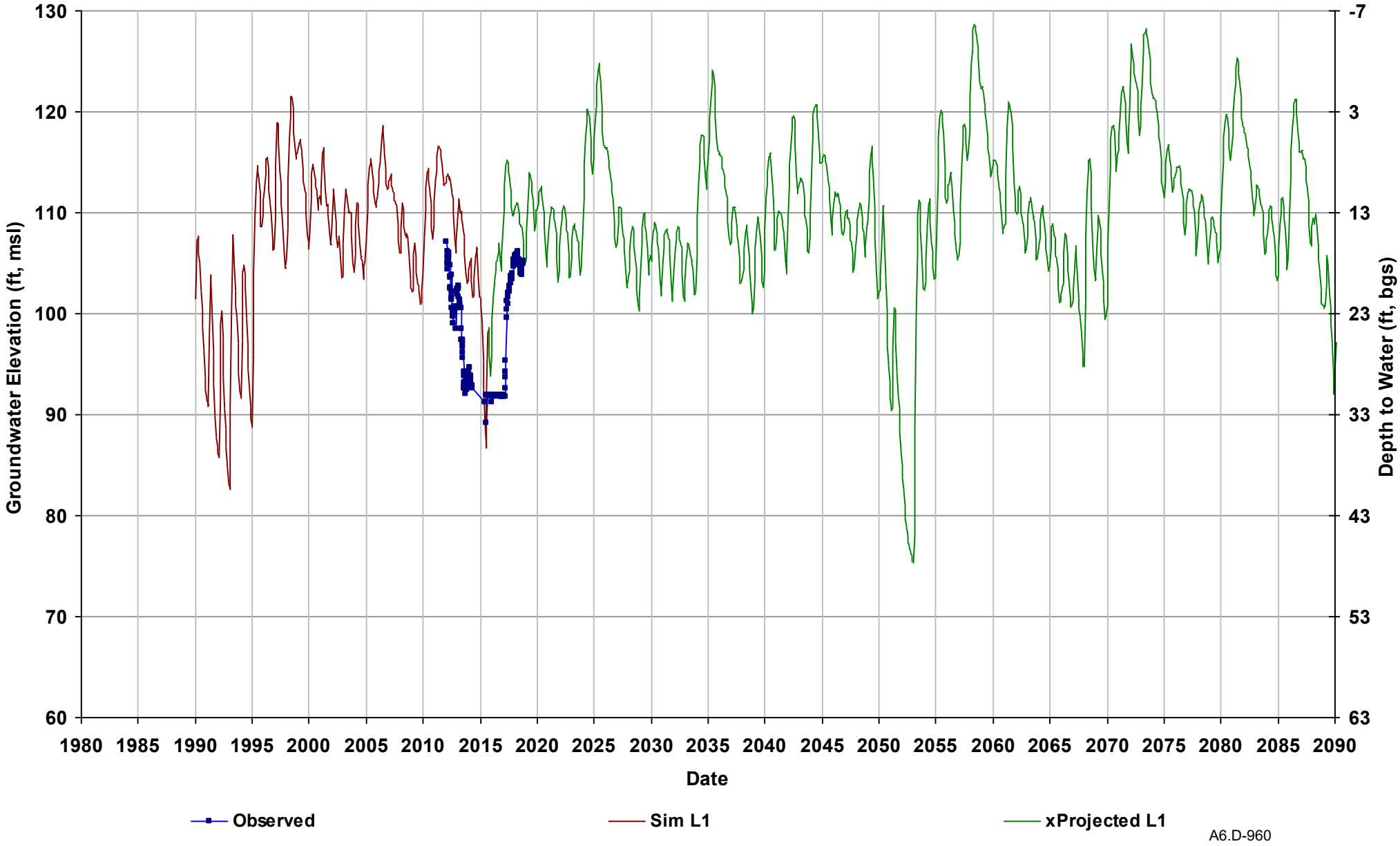
Well Name: SJRRP_MW-10-78
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 125

Total Depth (ft): 28
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



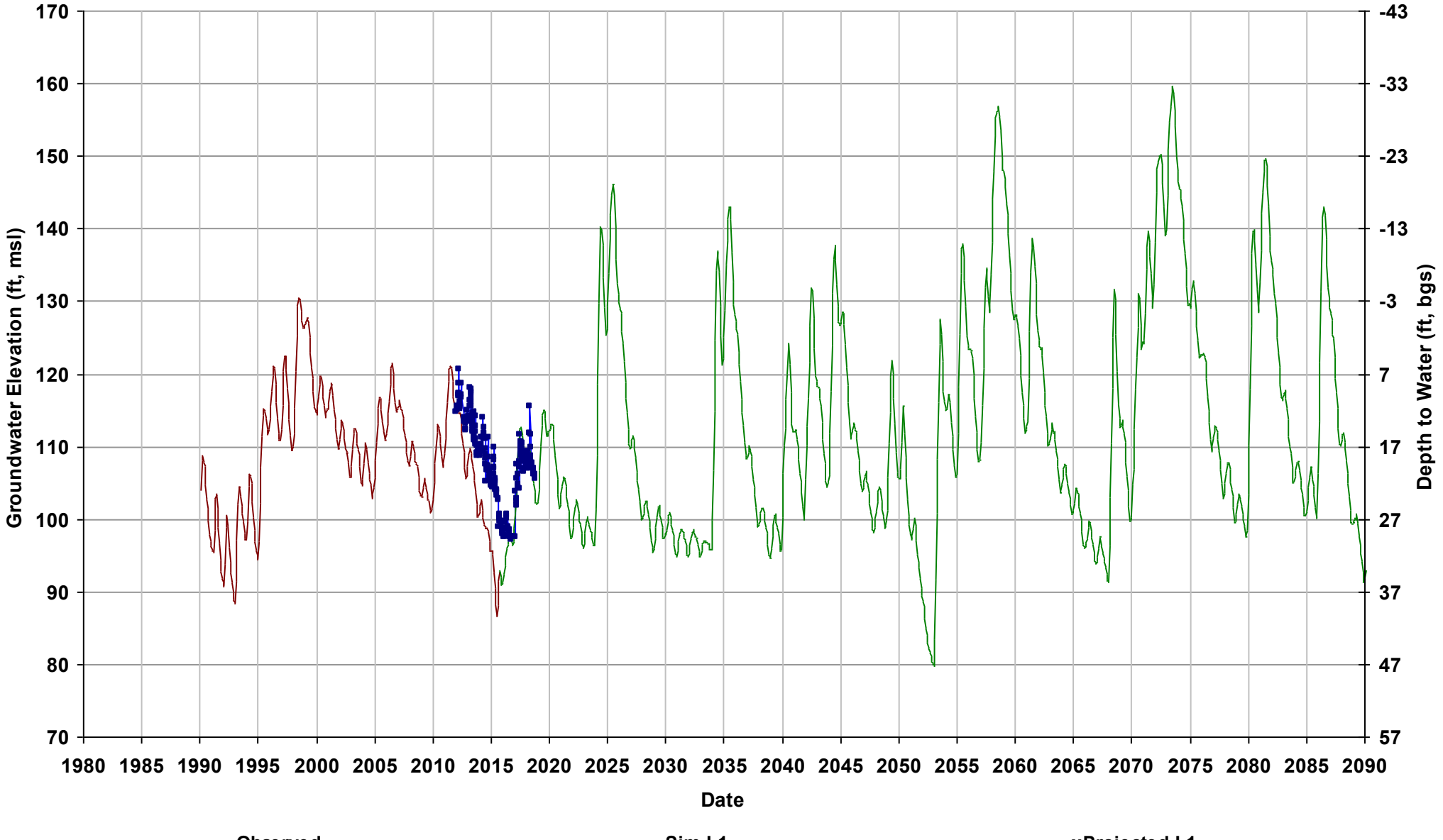
Well Name: SJRRP_MW-11-162
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 123

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



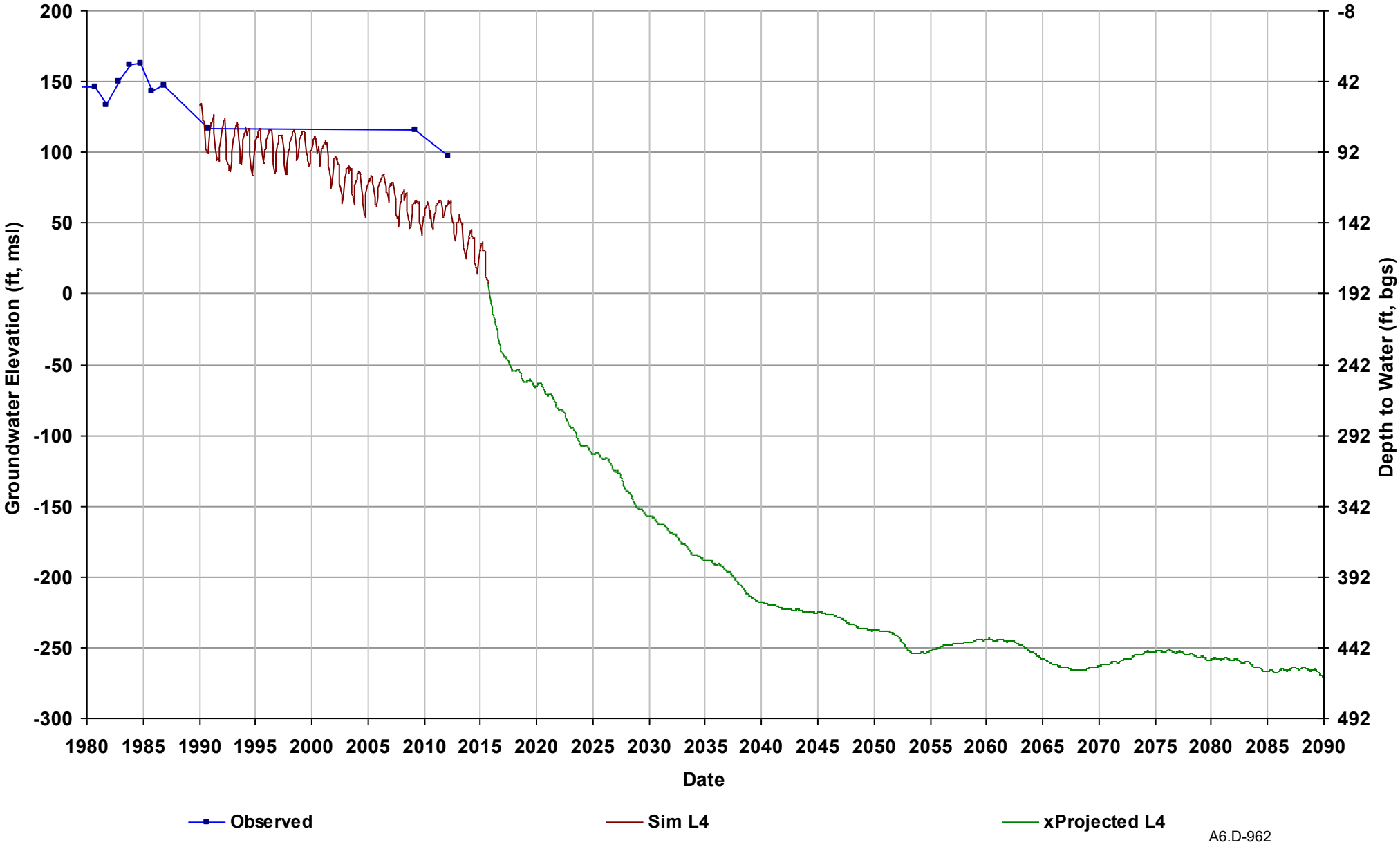
Well Name: SJRRP_MW-11-163
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 127

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



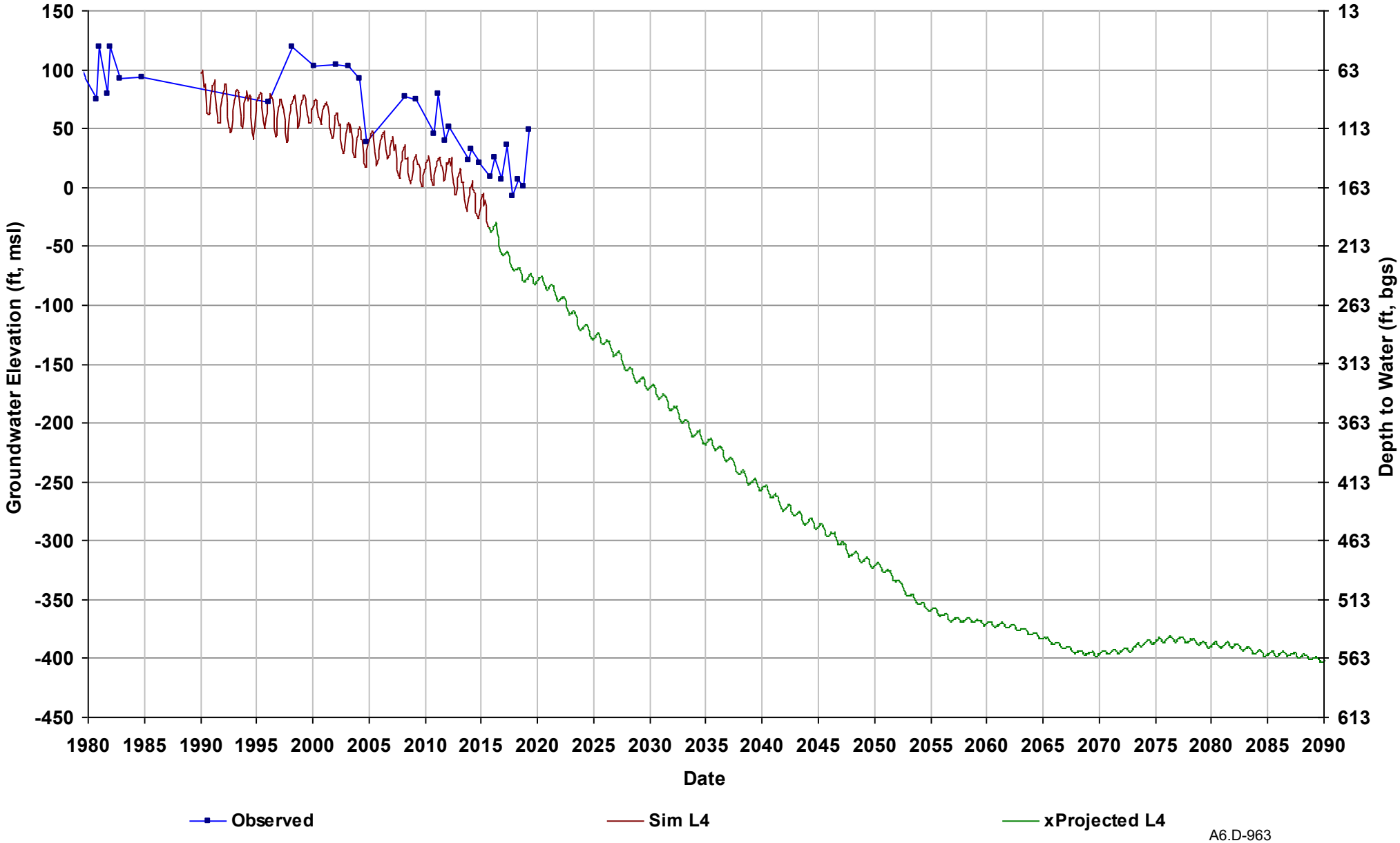
Well Name: 08S14E13L002M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 192

Total Depth (ft): 530
Perf Top (ft): 193
Perf Bottom (ft): 200
Top Model Layer: 4
Bottom Model Layer: 4



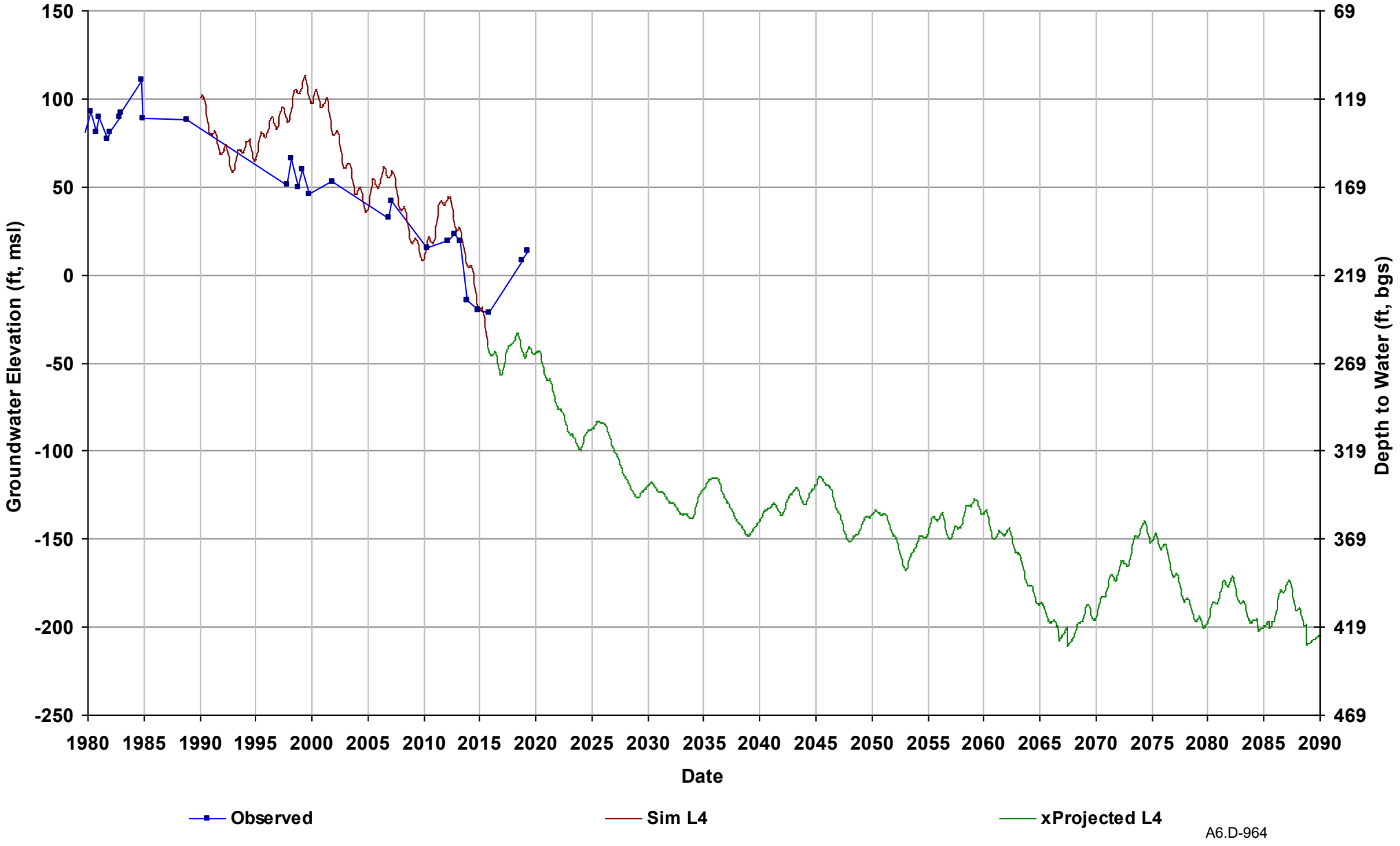
Well Name: 08S14E20J001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 435
Perf Top (ft): 150
Perf Bottom (ft): 430
Top Model Layer: 4
Bottom Model Layer: 4



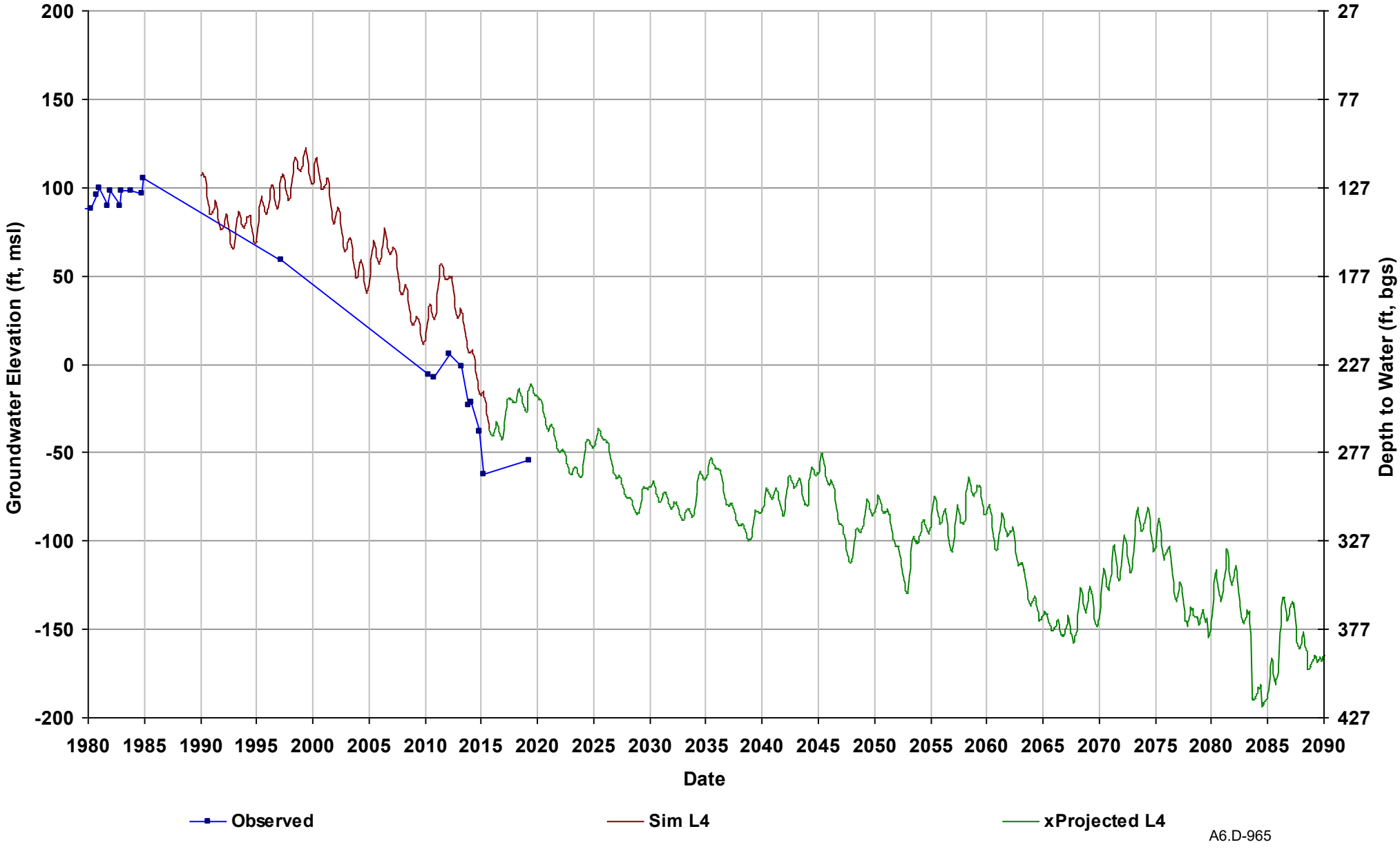
Well Name: 08S15E34L001M
Depth Zone: Composite or Lower; Wi
Subbasin: Merced
GSE (ft, msl): 219

Total Depth (ft): 247
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



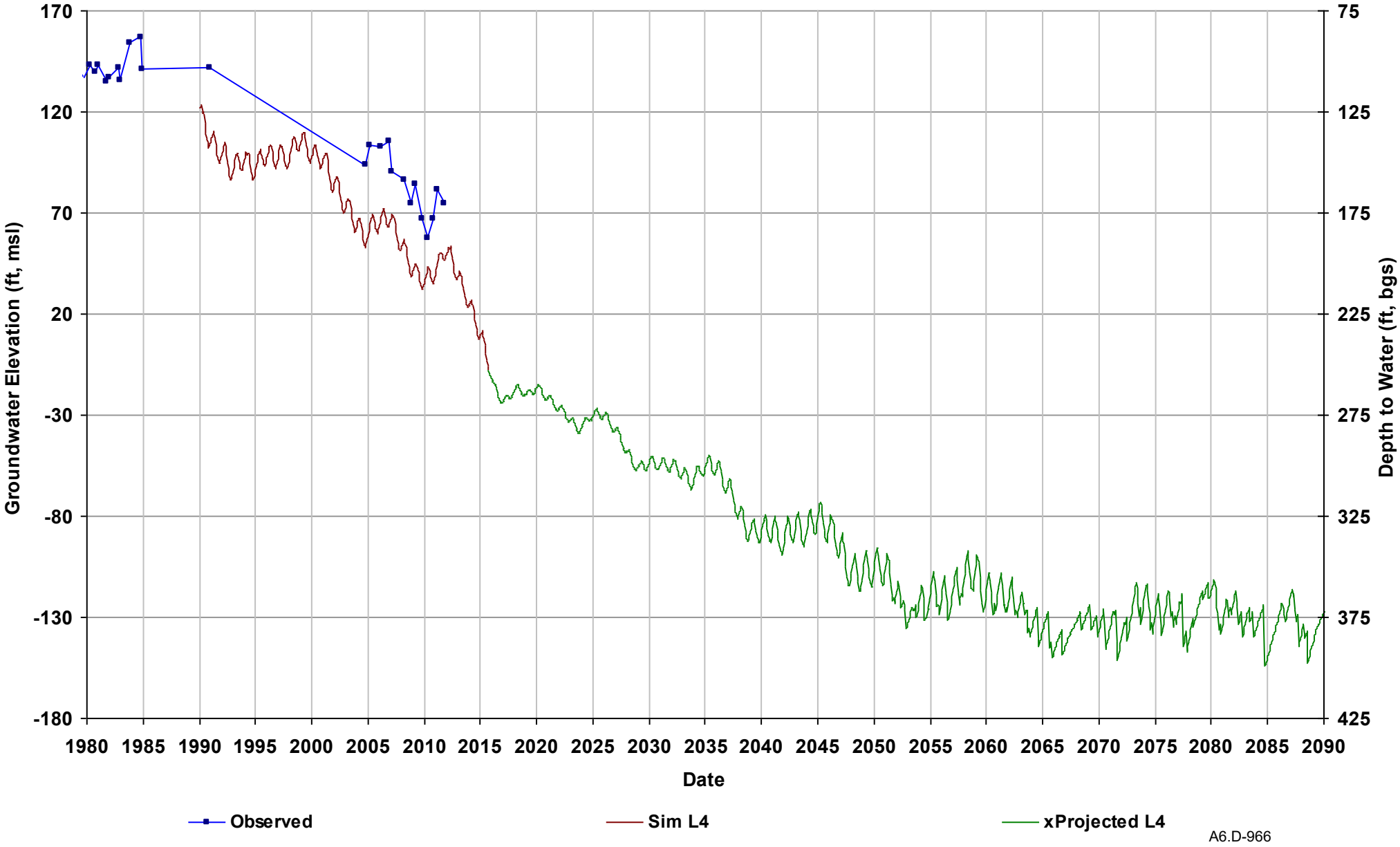
Well Name: 08S15E36G001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 227

Total Depth (ft): 509
Perf Top (ft): 176
Perf Bottom (ft): 376
Top Model Layer: 4
Bottom Model Layer: 4



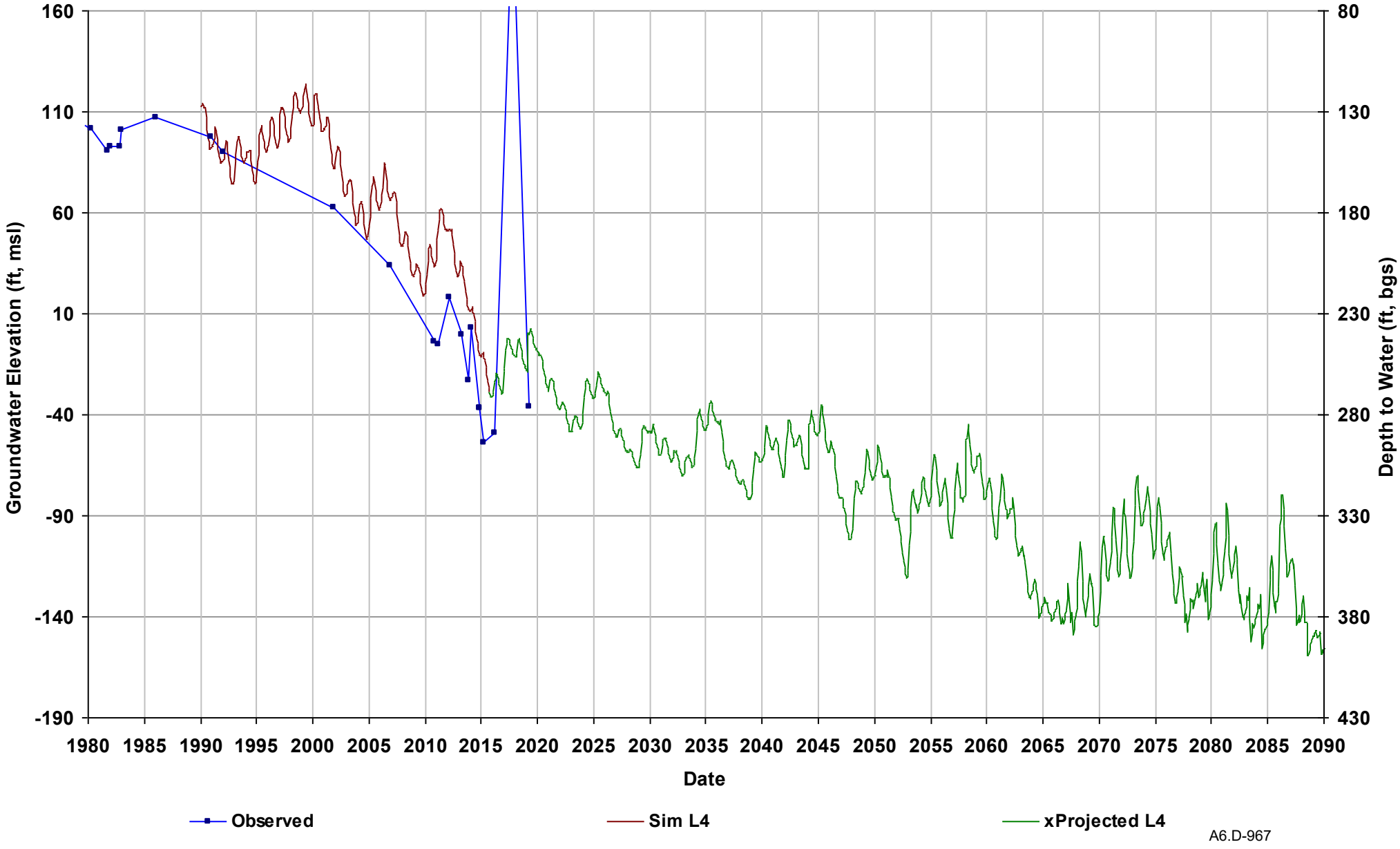
Well Name: 08S16E19D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 245

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



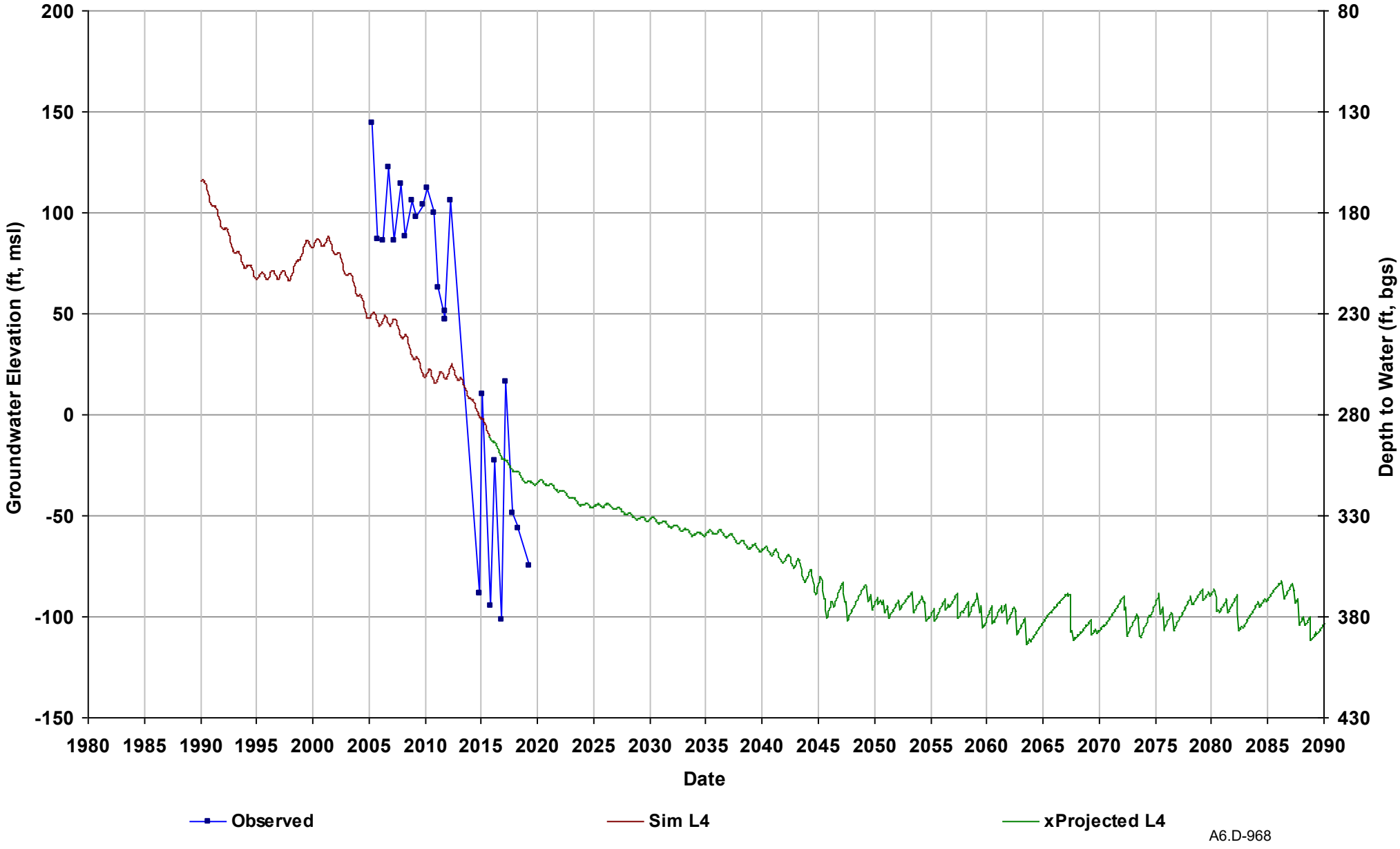
Well Name: 08S16E31C001M
Depth Zone: Composite or Lower; O
Subbasin: Merced
GSE (ft, msl): 240

Total Depth (ft): 412
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



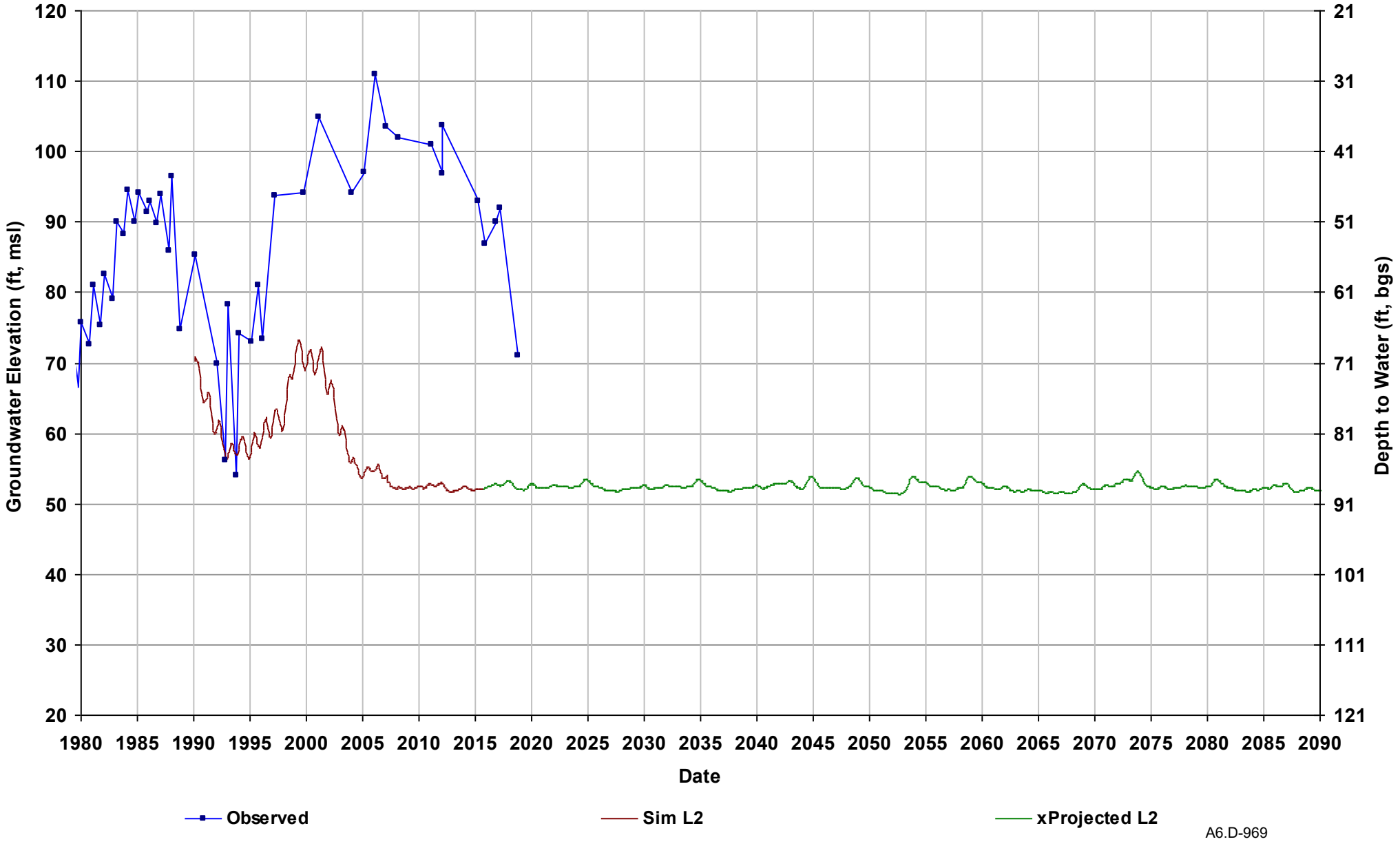
Well Name: 08S16E34J001M
Depth Zone: Lower; Outside CC
Subbasin: Merced
GSE (ft, msl): 280

Total Depth (ft): 639
Perf Top (ft): 180
Perf Bottom (ft): 639
Top Model Layer: 4
Bottom Model Layer: 4



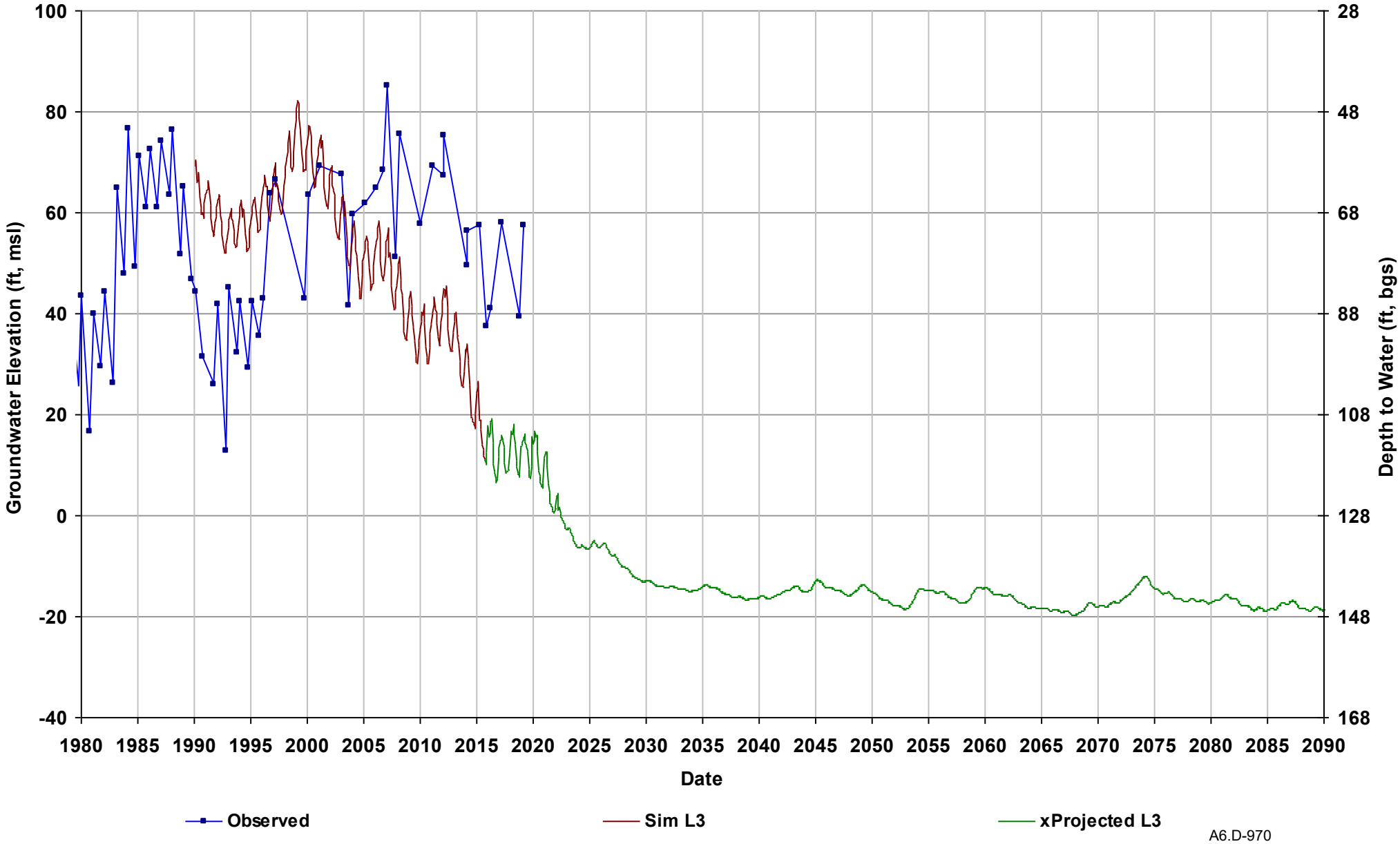
Well Name: 09S13E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 141

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



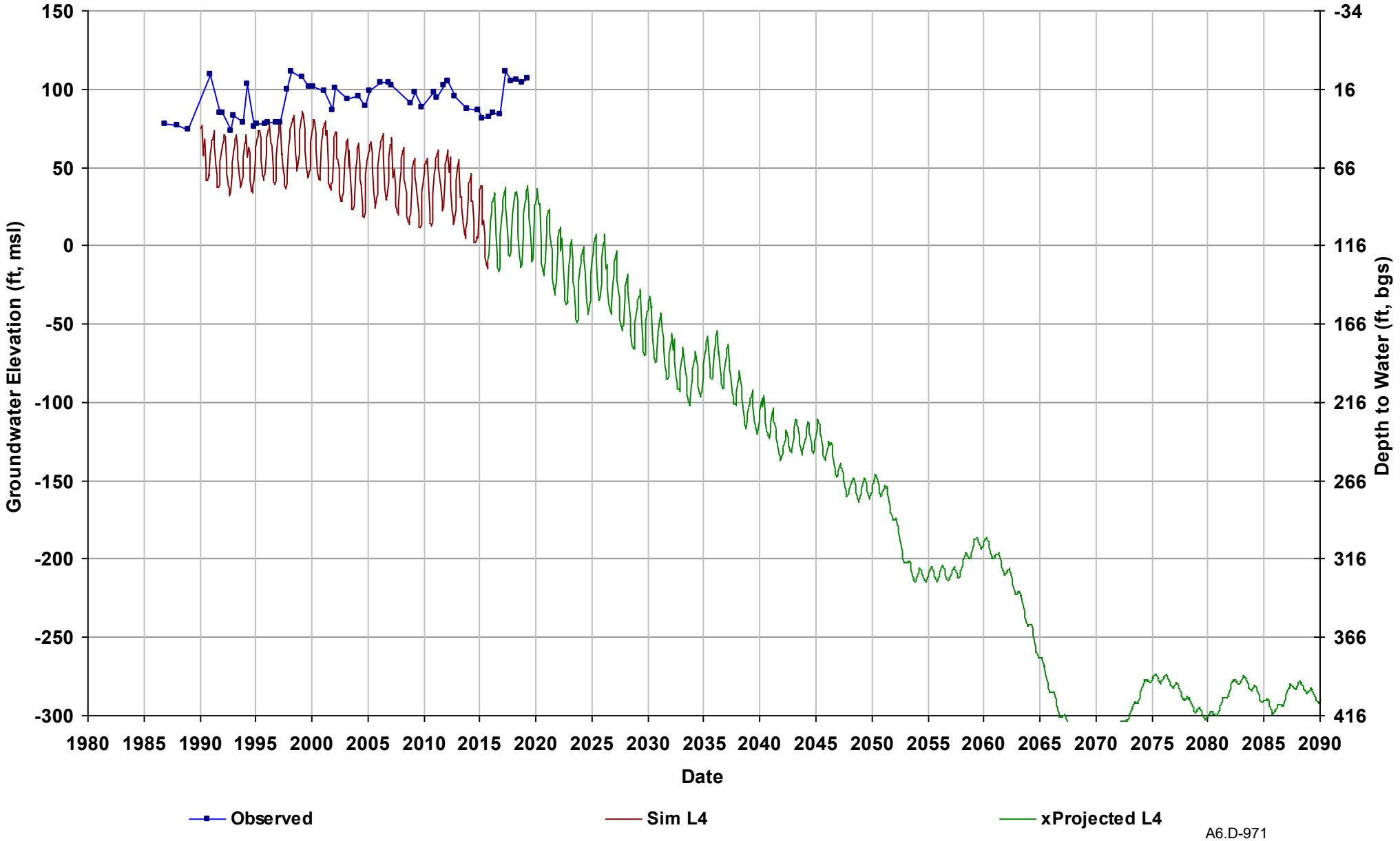
Well Name: 09S13E22H002M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 127

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



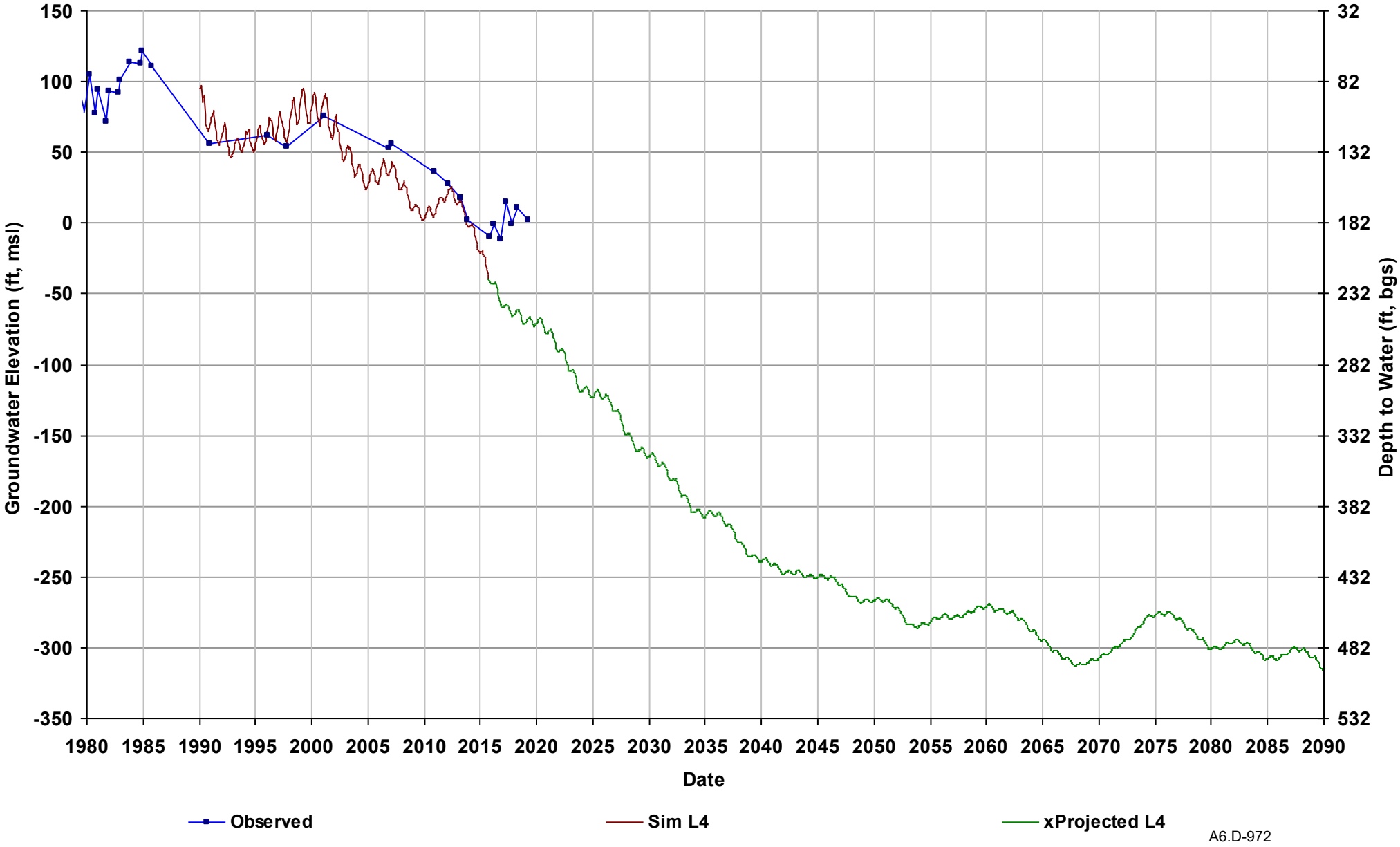
Well Name: 09S13E32A001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 116

Total Depth (ft): 616
Perf Top (ft): 150
Perf Bottom (ft): 509
Top Model Layer: 4
Bottom Model Layer: 4



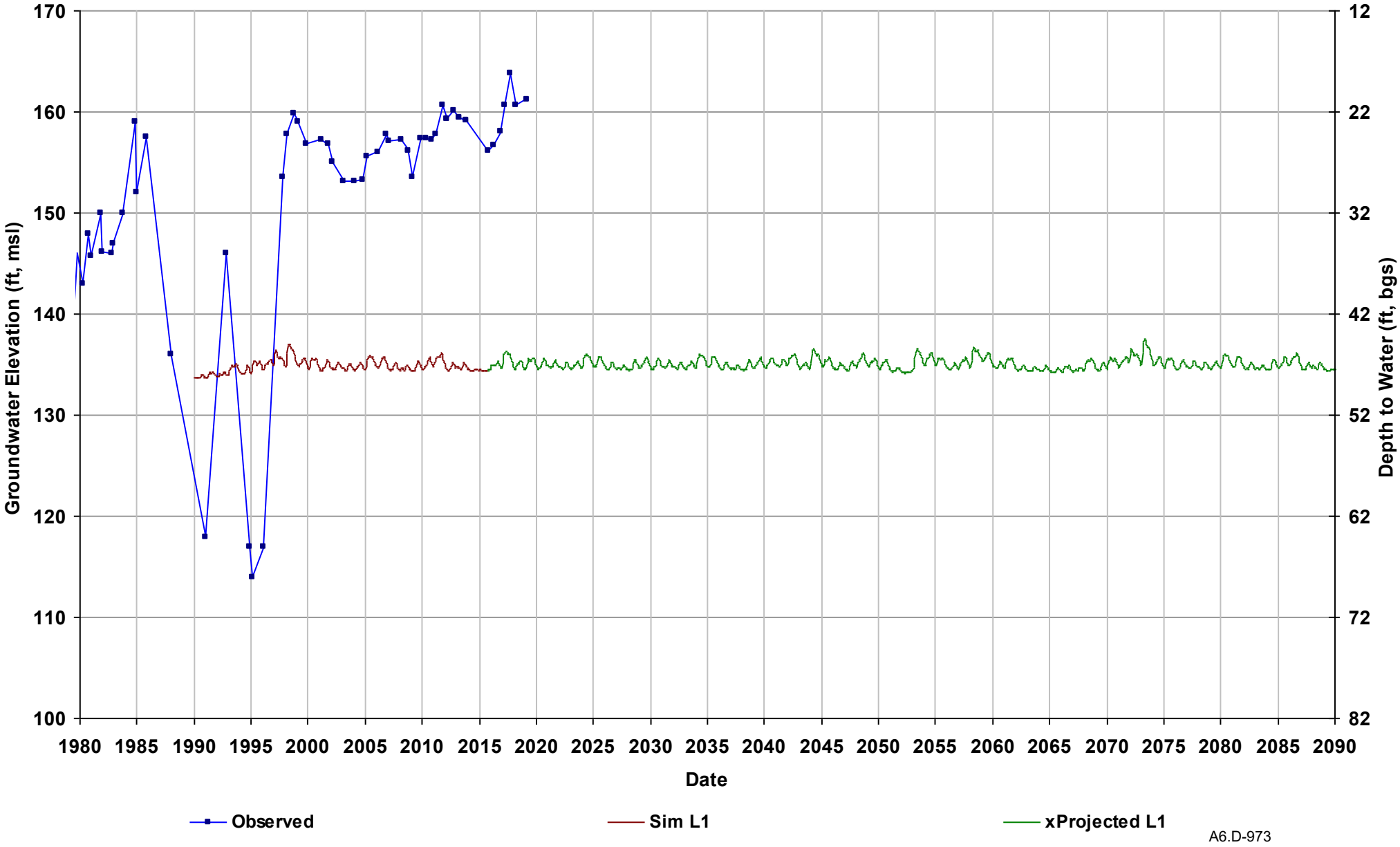
Well Name: 09S14E01B001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 345
Perf Top (ft): 225
Perf Bottom (ft): 345
Top Model Layer: 4
Bottom Model Layer: 4



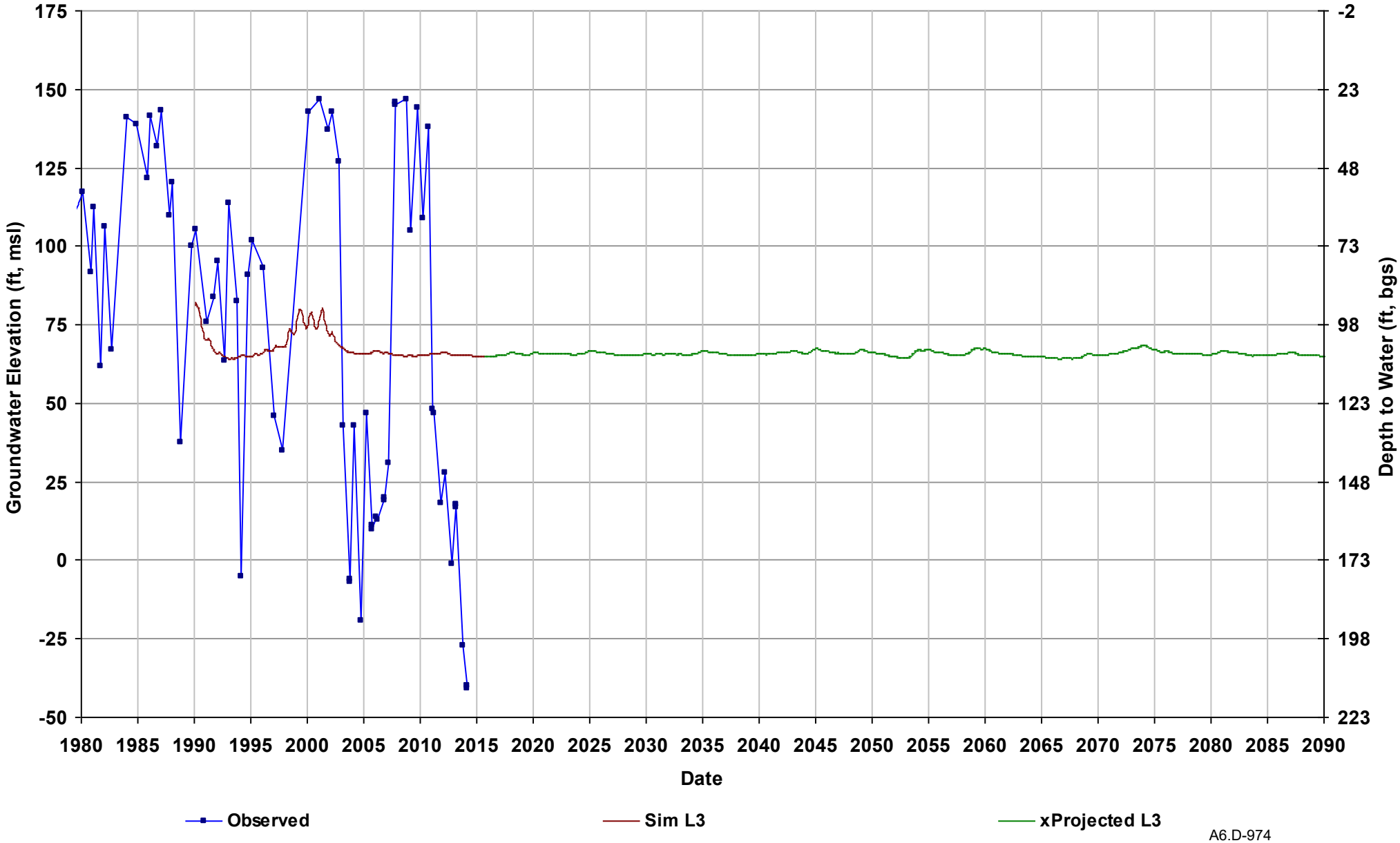
Well Name: 09S14E01B003M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 68
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



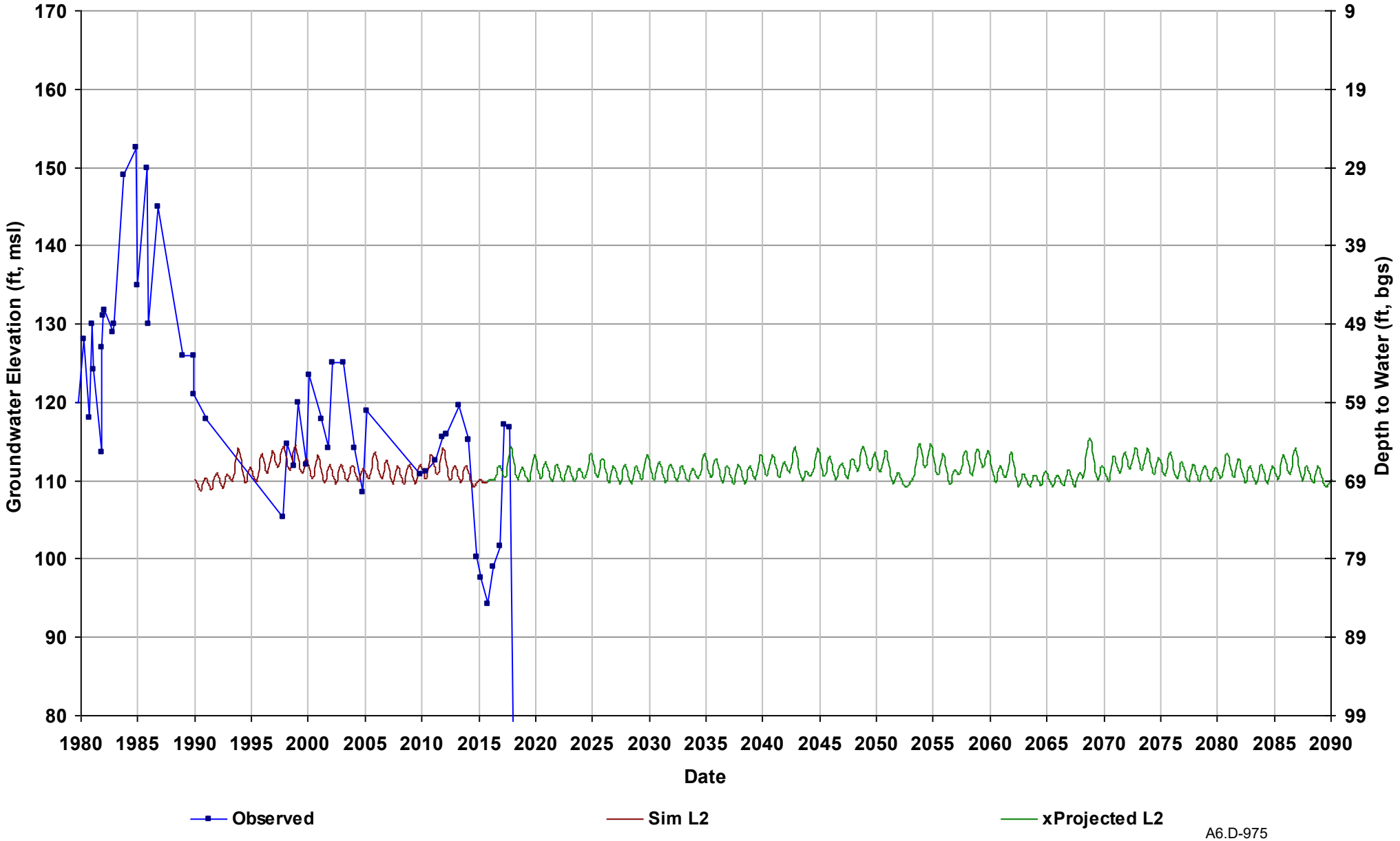
Well Name: 09S14E11F001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 173

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



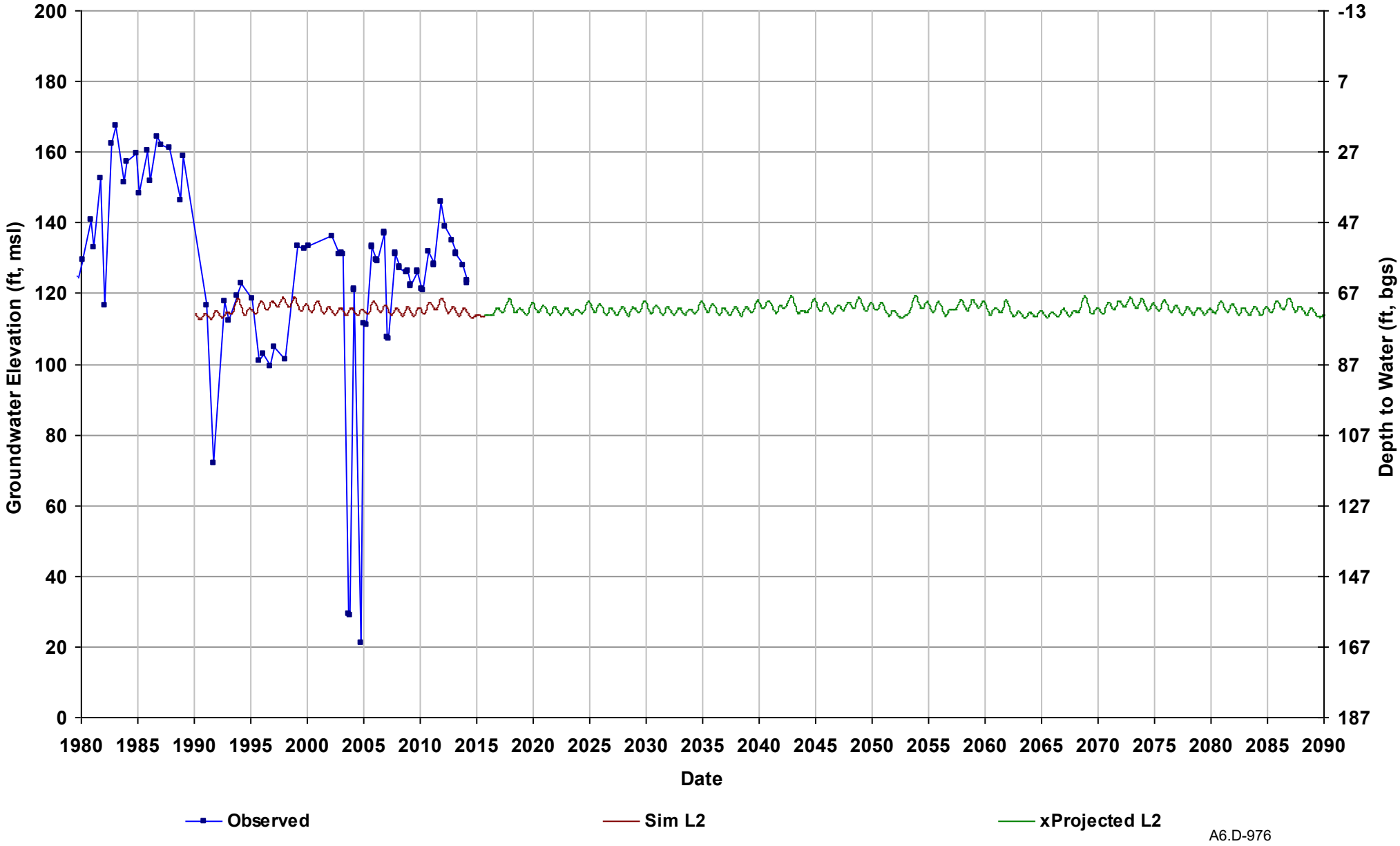
Well Name: 09S14E14R001M
Depth Zone: Composite or Lower; Wi
Subbasin: Chowchilla
GSE (ft, msl): 179

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



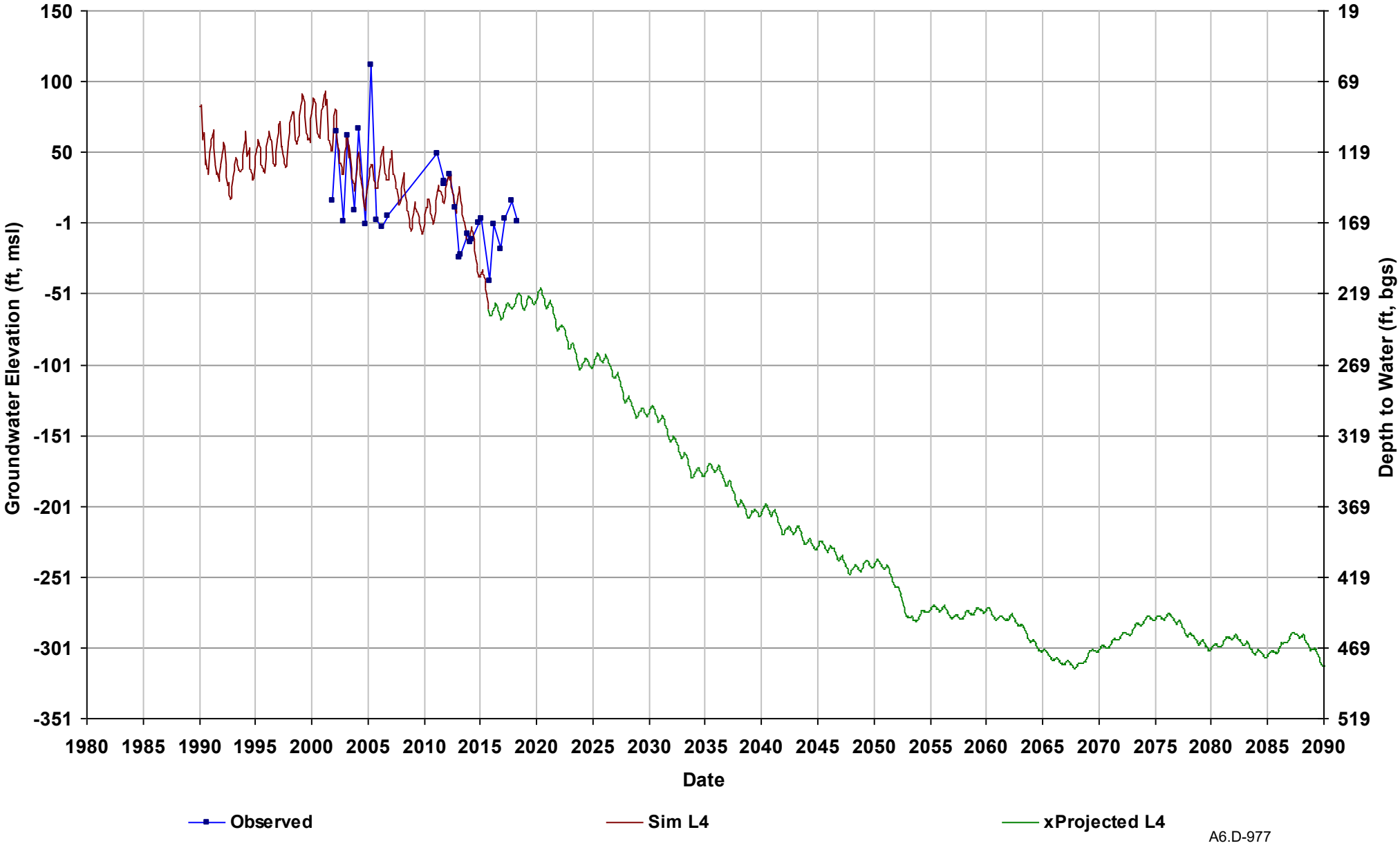
Well Name: 09S14E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



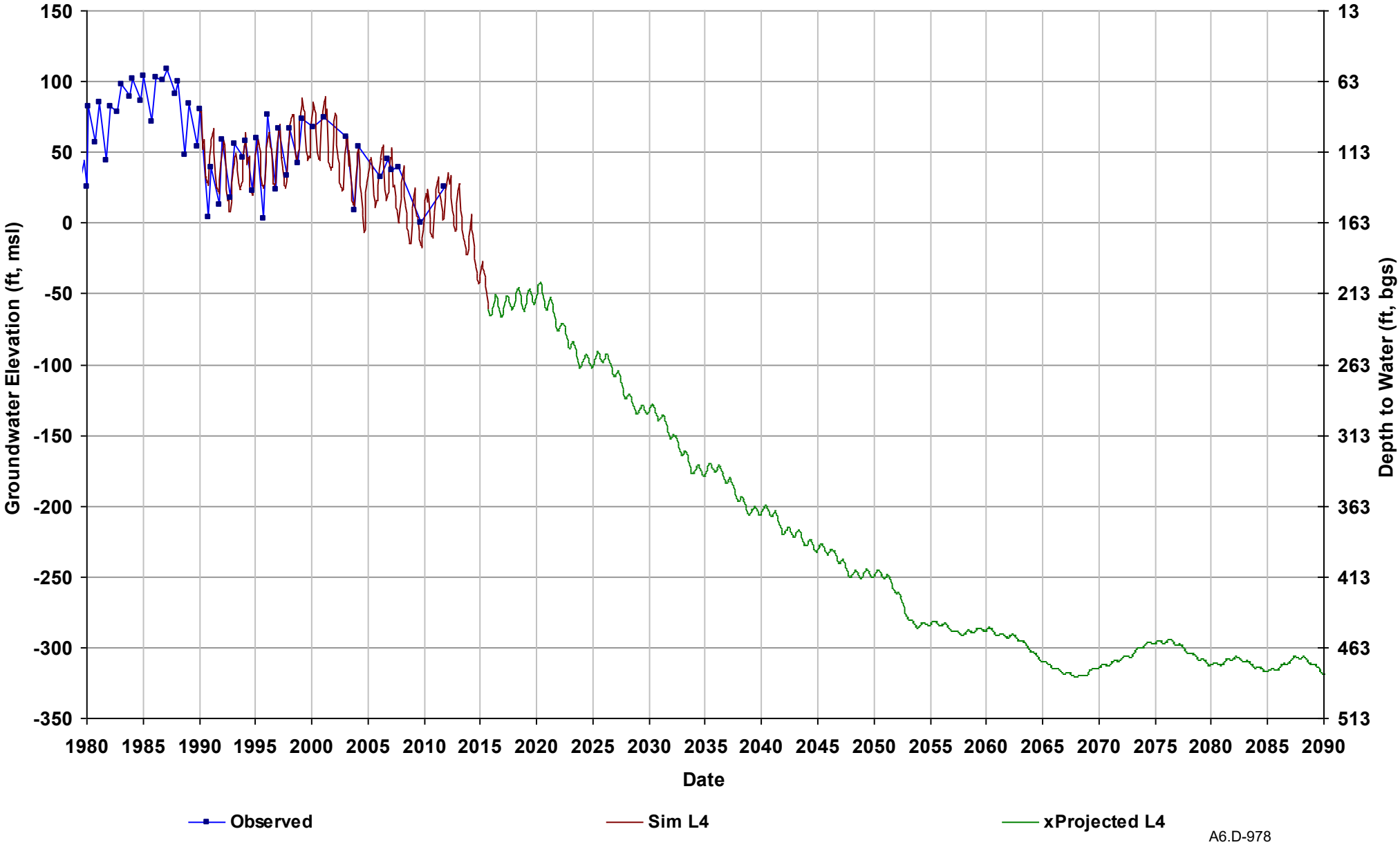
Well Name: 09S14E27R001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 168

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



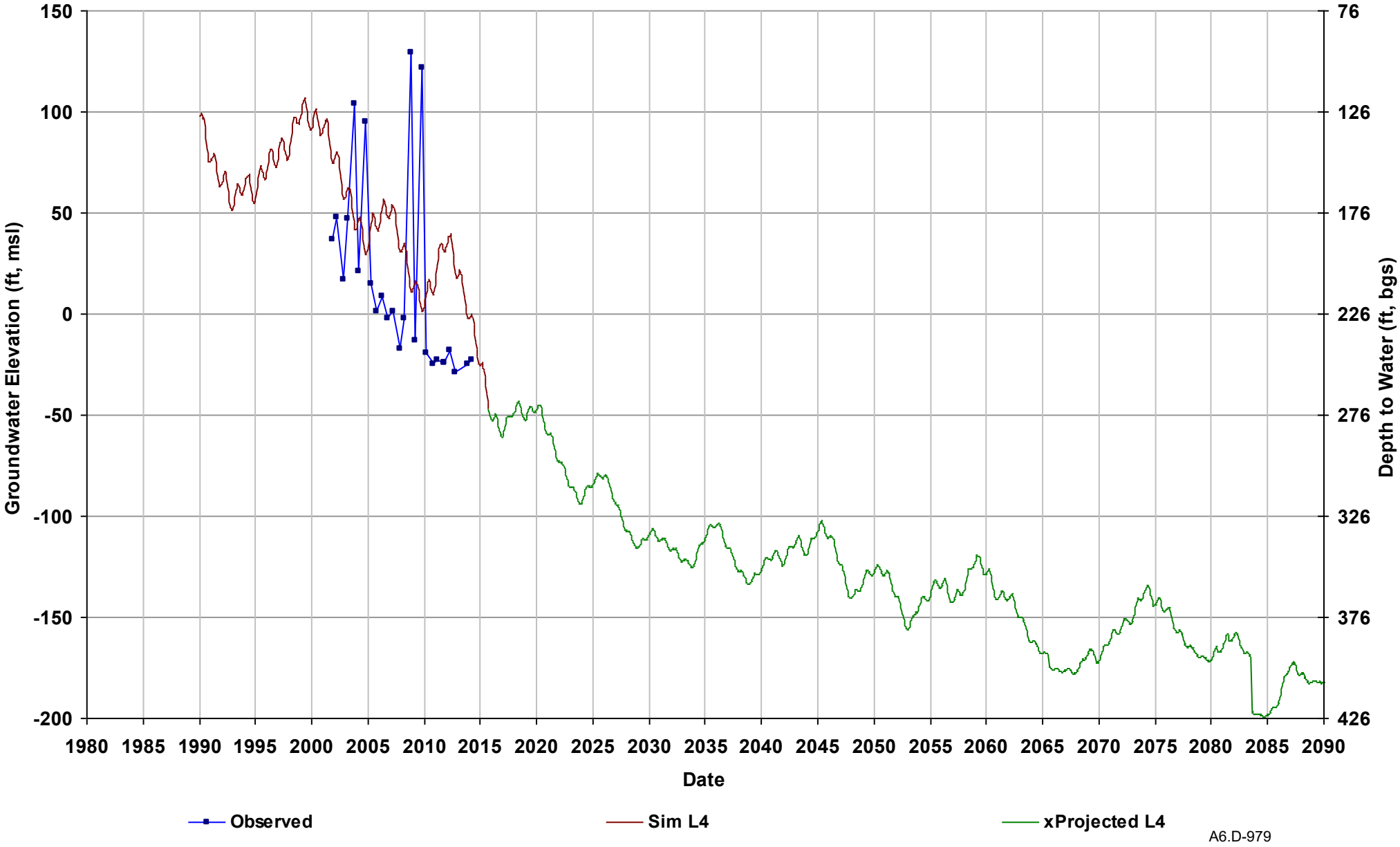
Well Name: 09S14E33A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 632
Perf Top (ft): 240
Perf Bottom (ft): 580
Top Model Layer: 4
Bottom Model Layer: 4



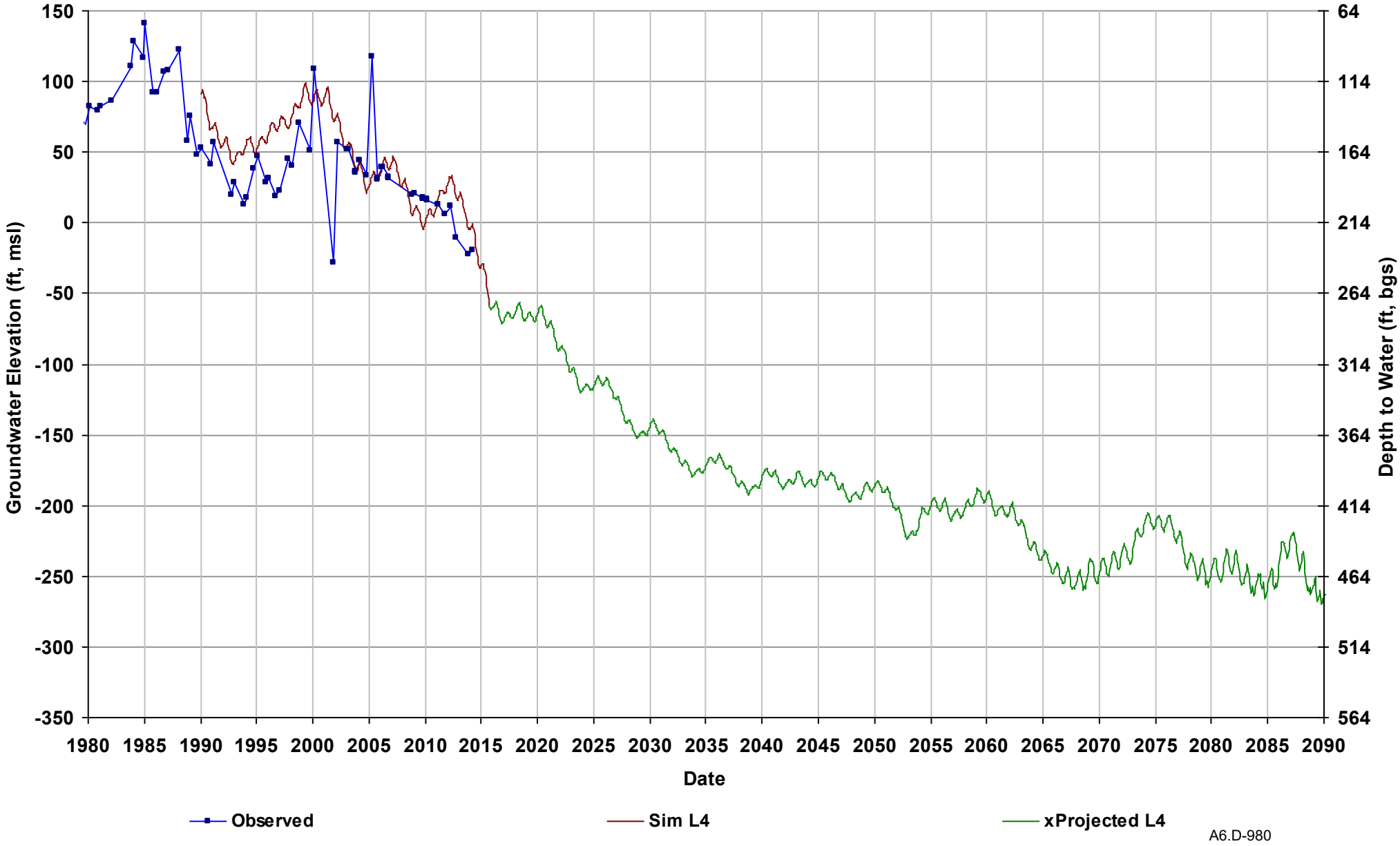
Well Name: 09S15E02A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 226

Total Depth (ft): 800
Perf Top (ft): 300
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



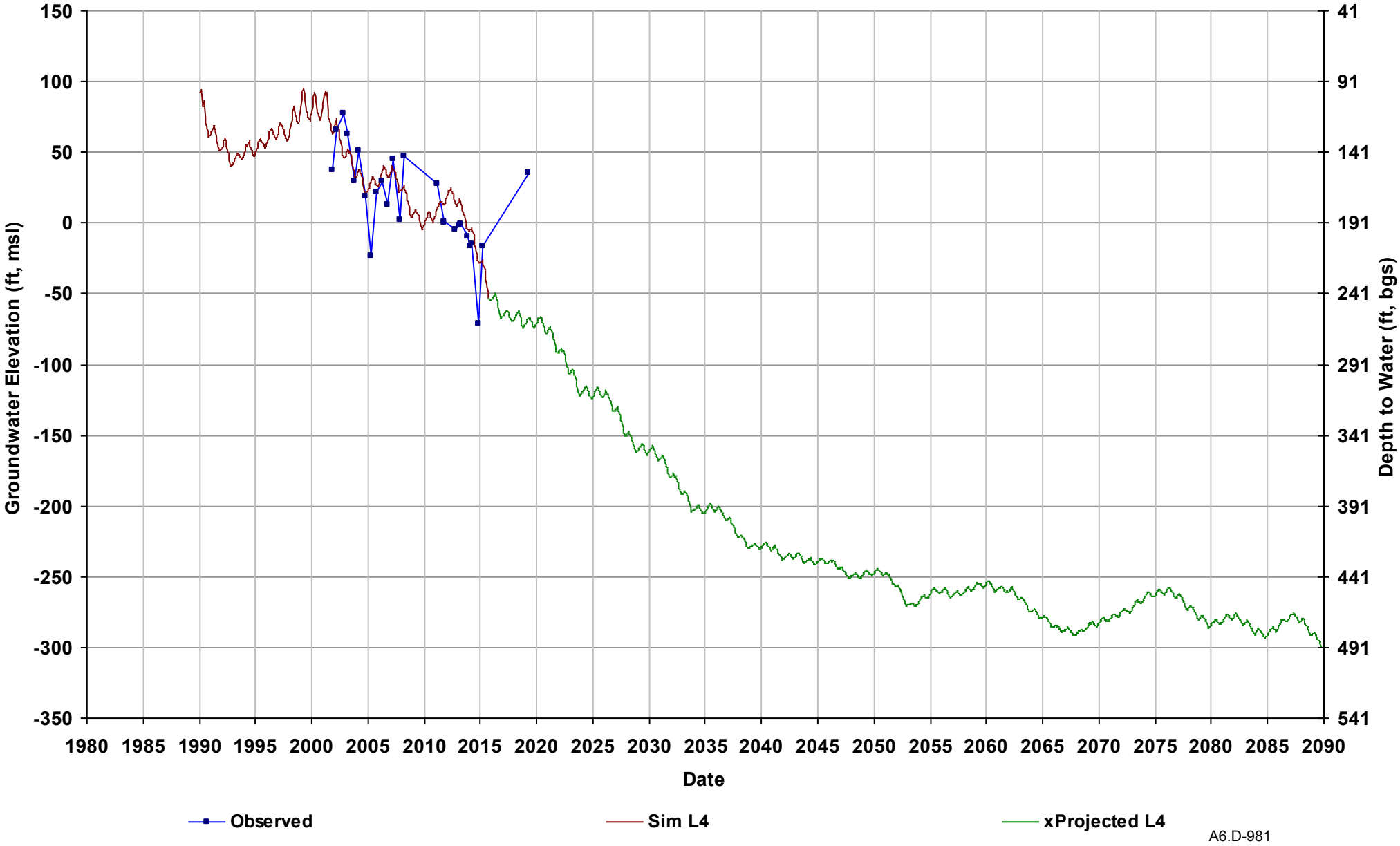
Well Name: 09S15E04R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



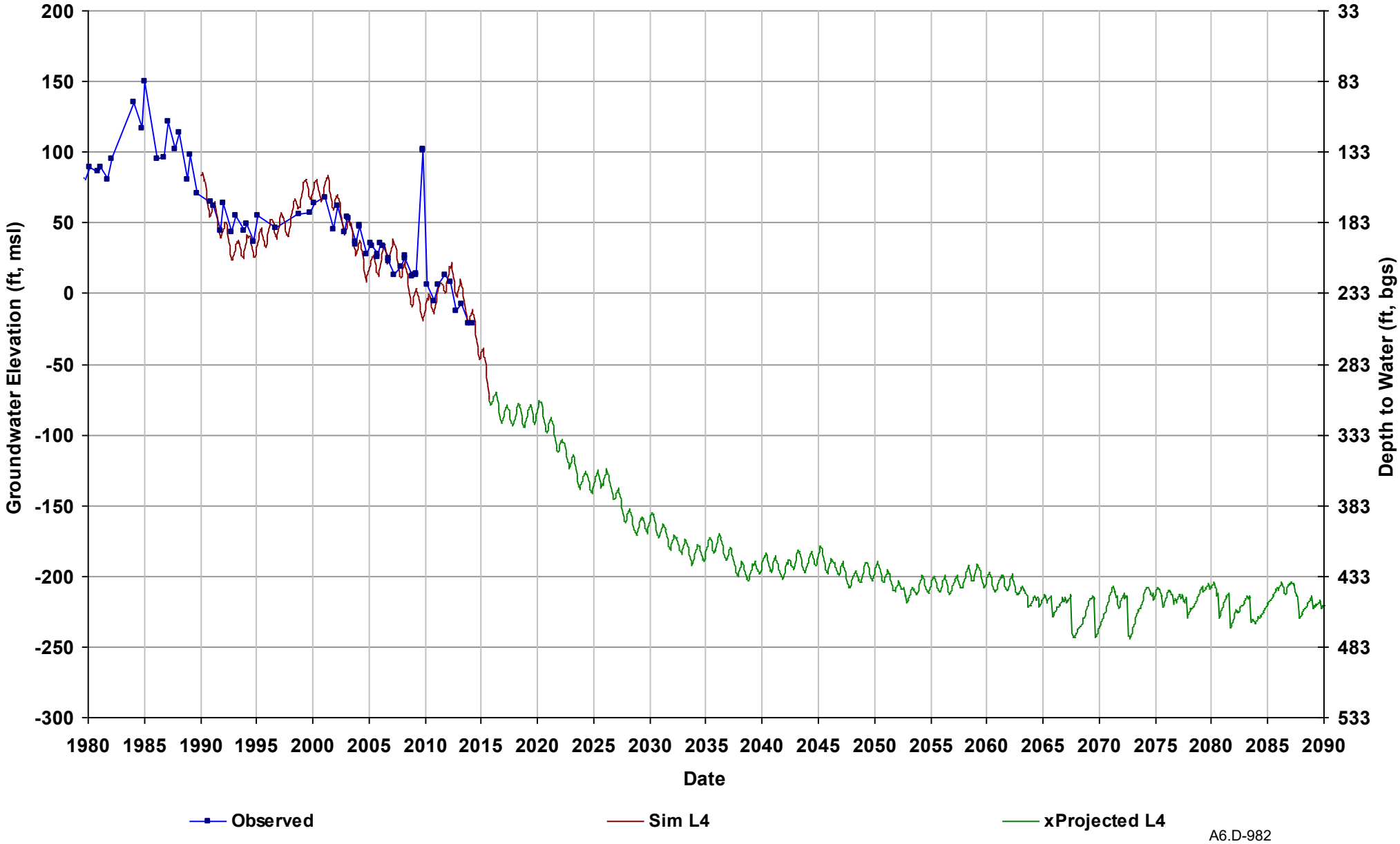
Well Name: 09S15E06P001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 4
Bottom Model Layer: 4



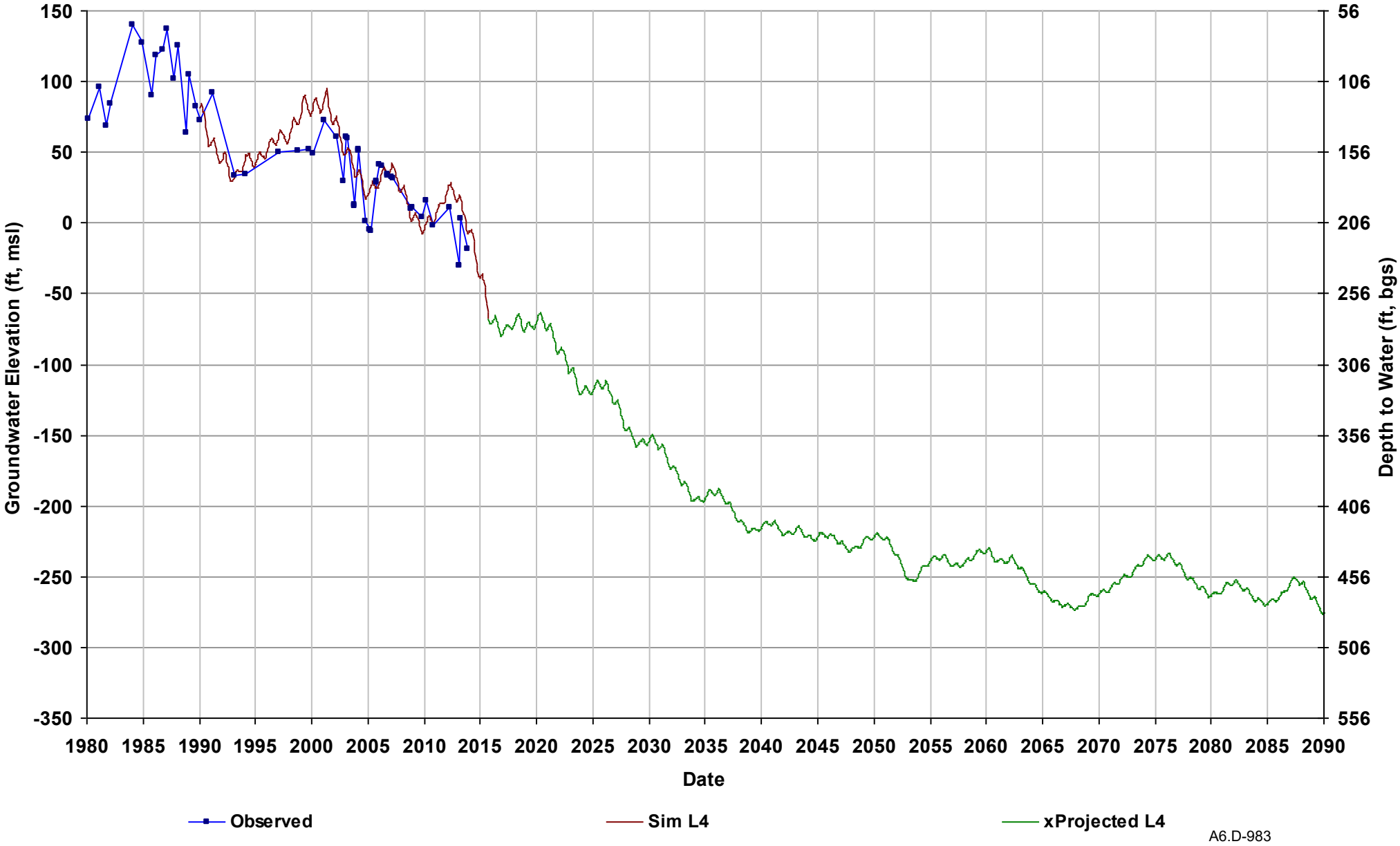
Well Name: 09S15E13E002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 232

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



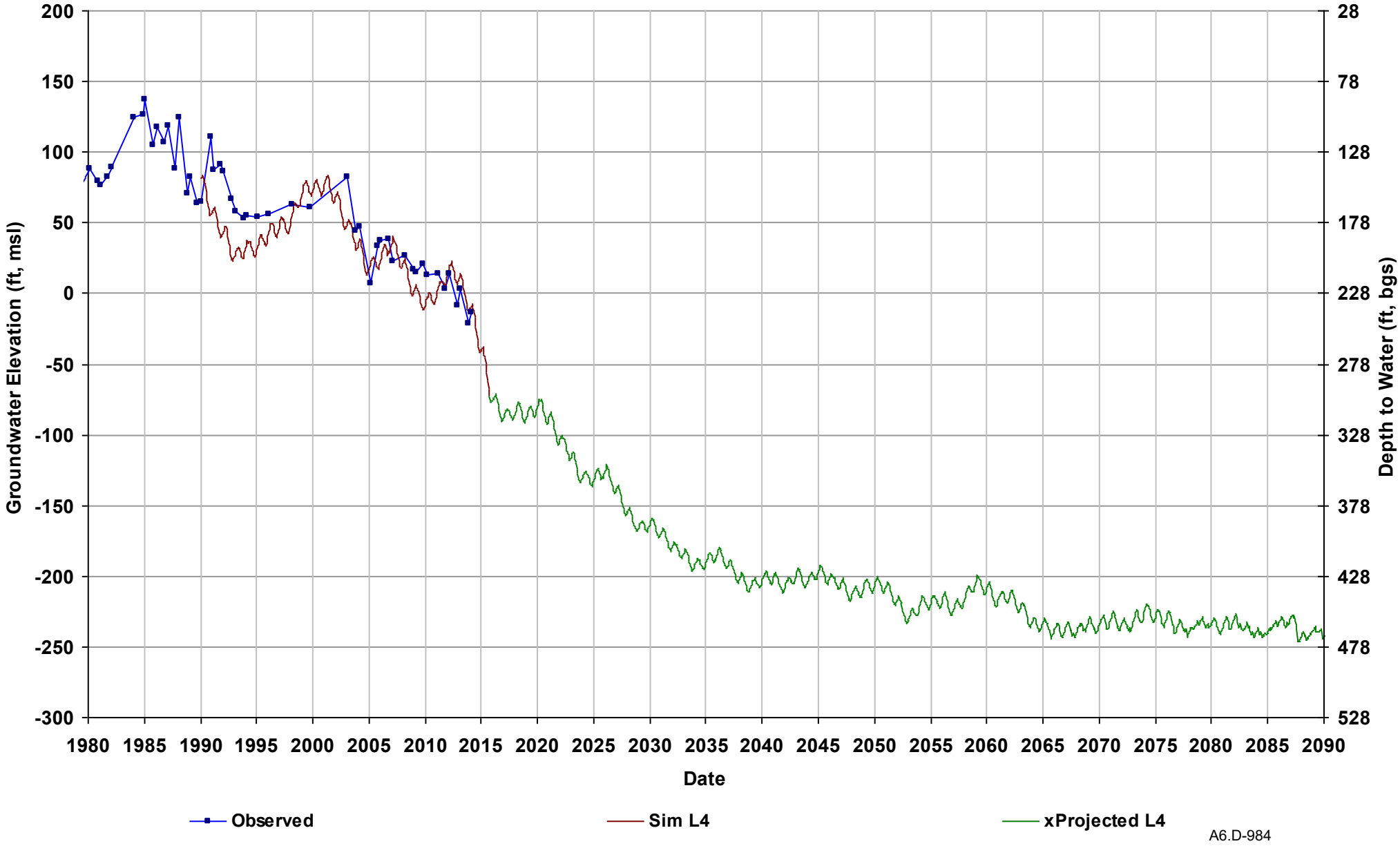
Well Name: 09S15E17R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 206

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



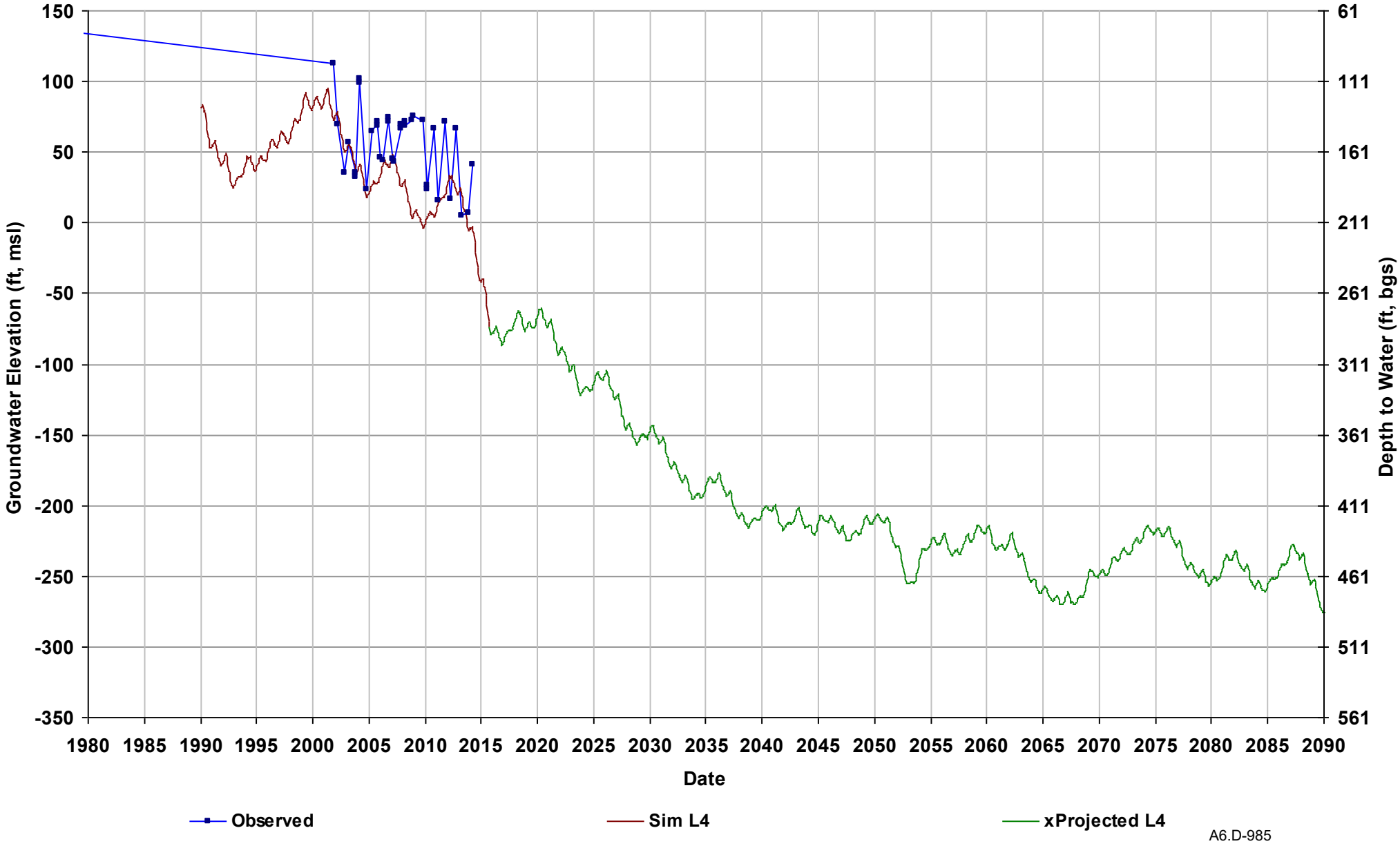
Well Name: 09S15E23J2
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 228

Total Depth (ft): 291
Perf Top (ft): 290.5
Perf Bottom (ft): 291
Top Model Layer: 4
Bottom Model Layer: 4



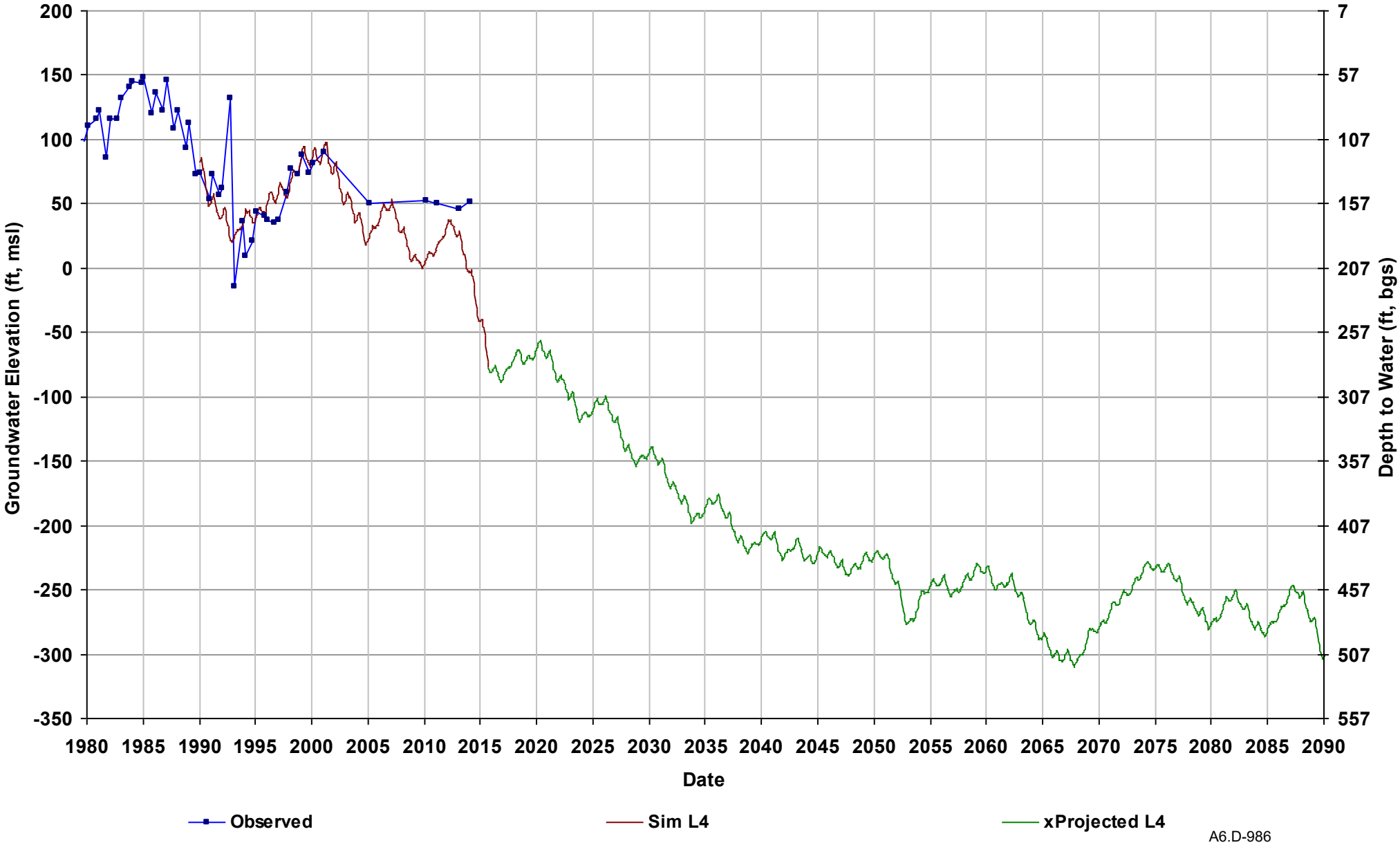
Well Name: 09S15E28A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 210

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



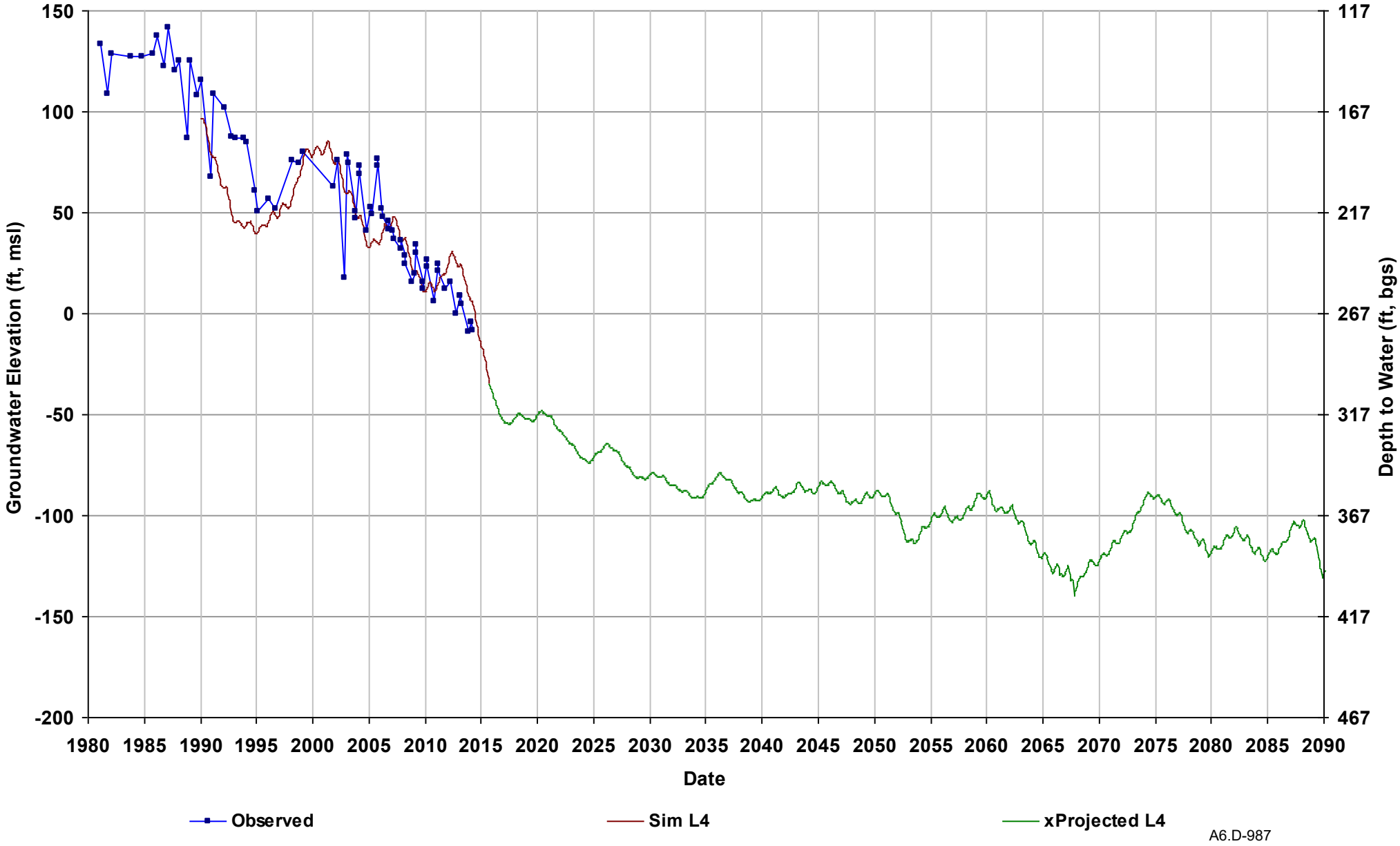
Well Name: 09S15E33J002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 207

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



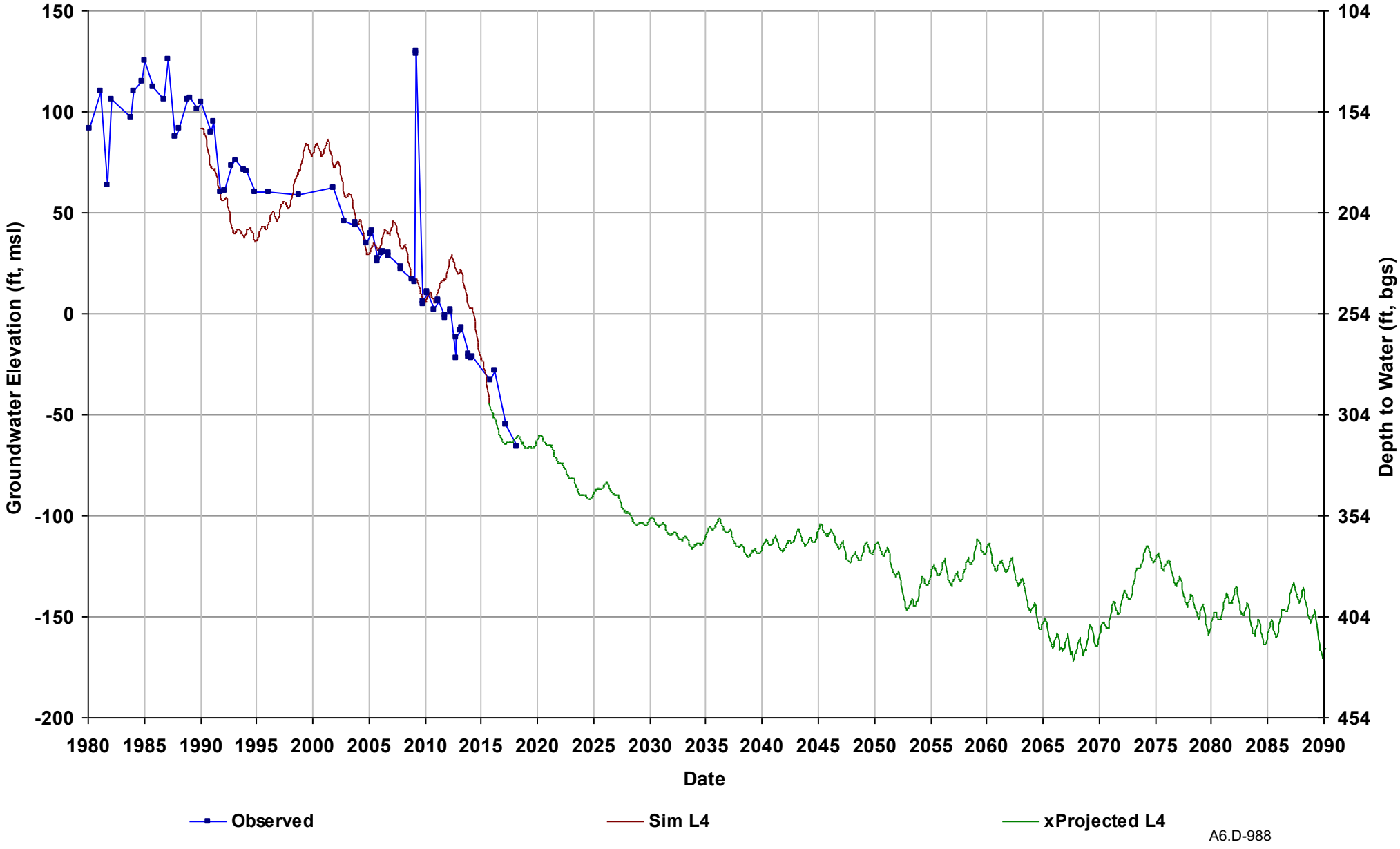
Well Name: 09S16E15Q001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 267

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



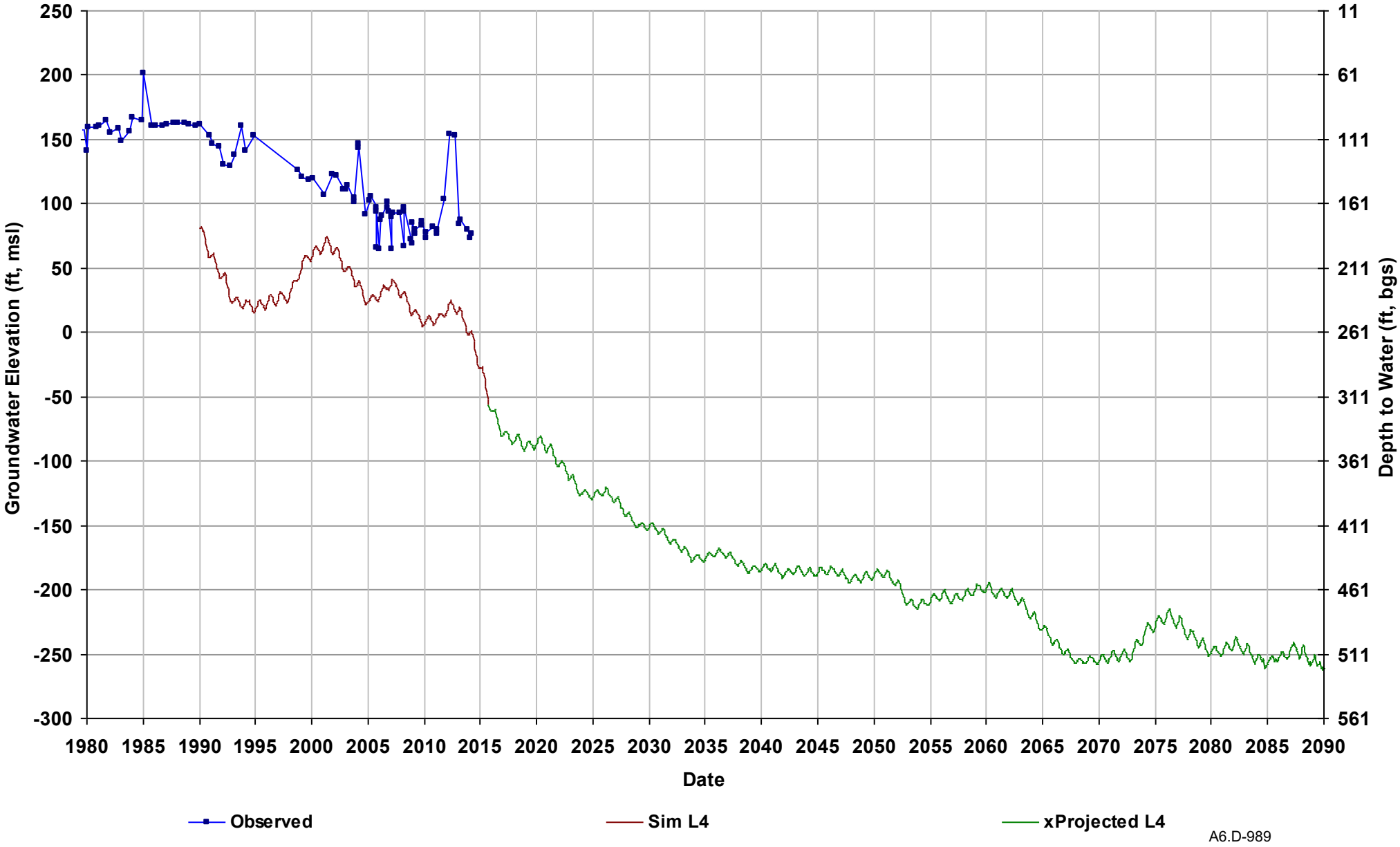
Well Name: 09S16E16N001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 254

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 4
Bottom Model Layer: 4



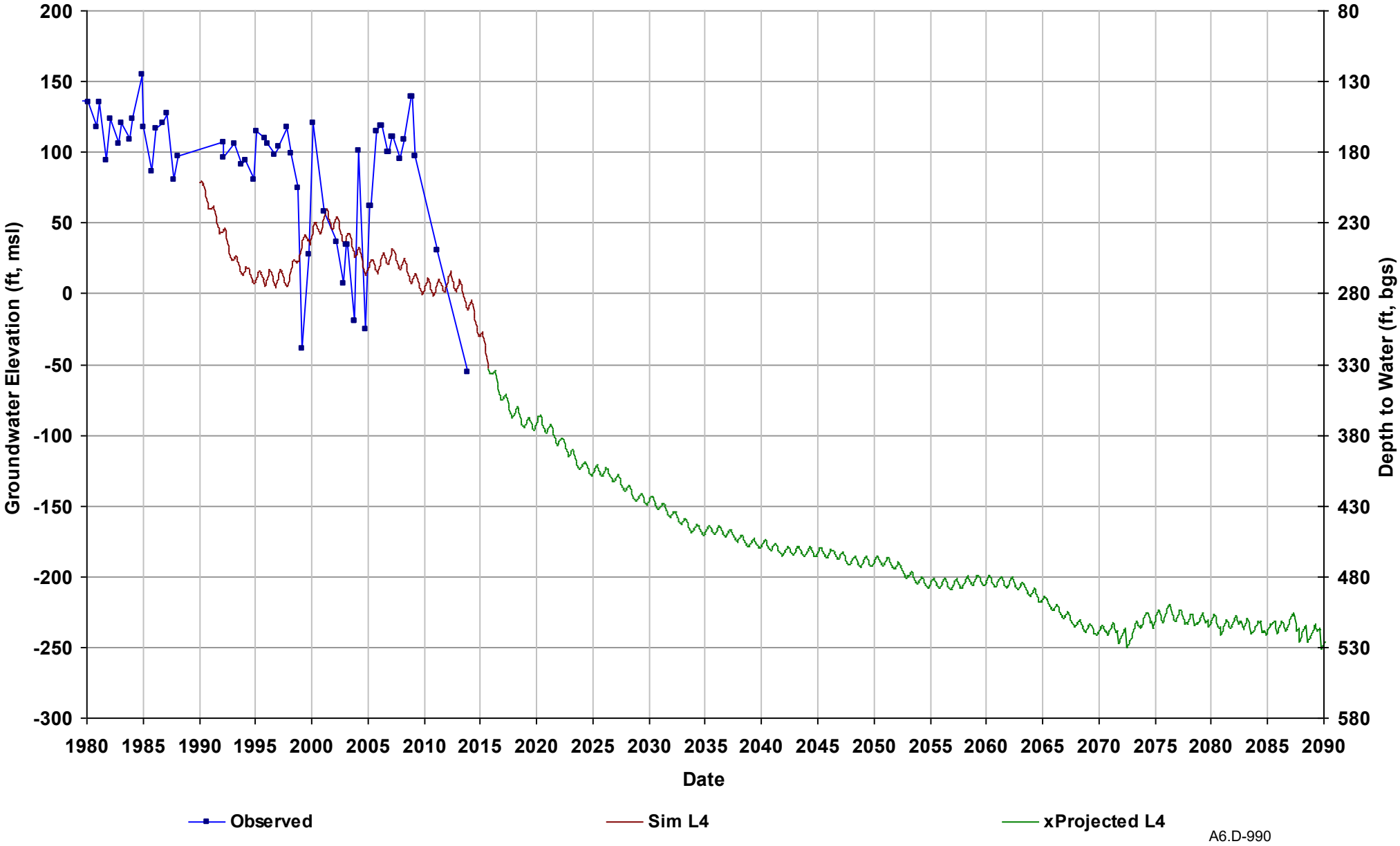
Well Name: 09S16E34J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 261

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



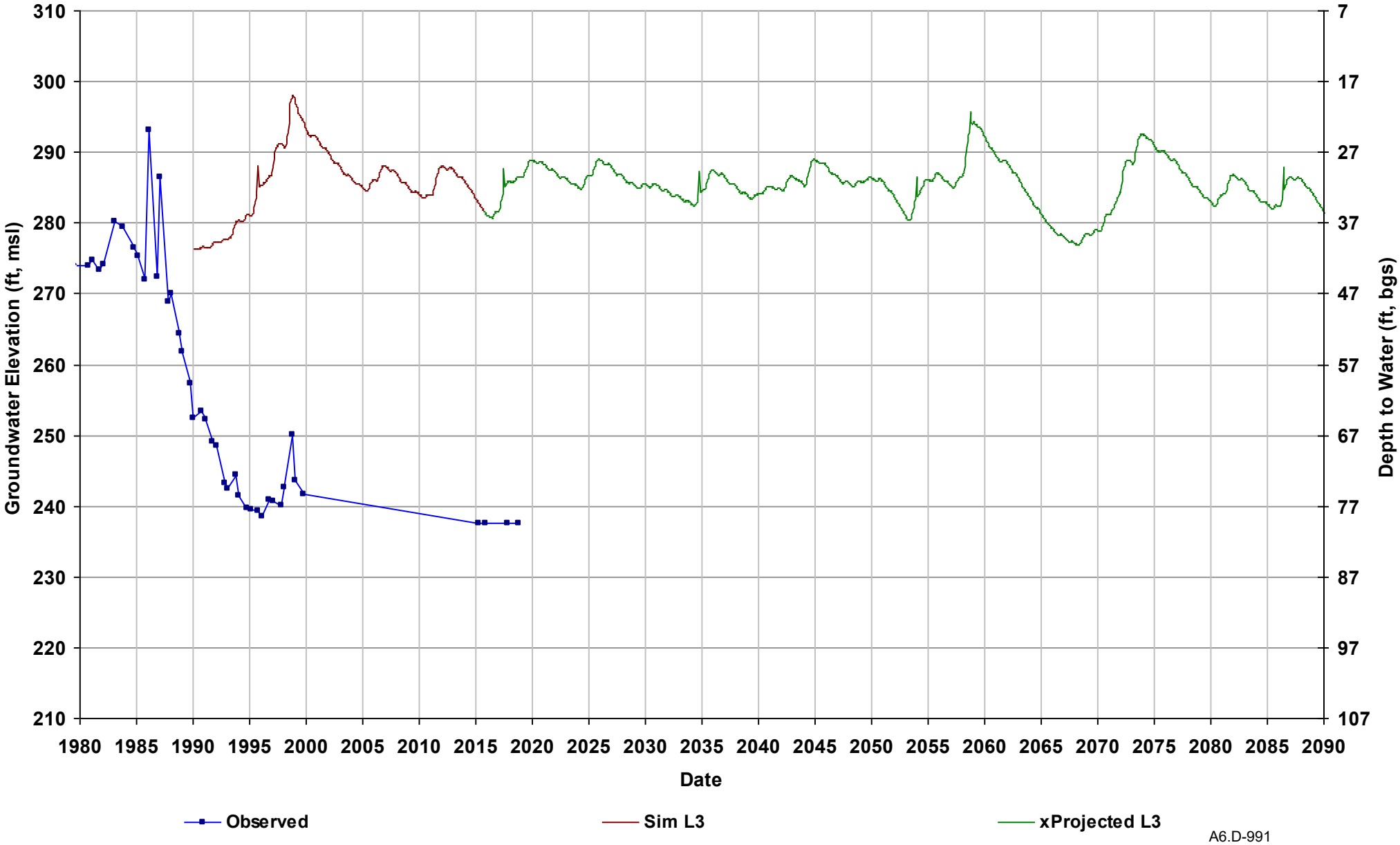
Well Name: 09S16E36J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 280

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



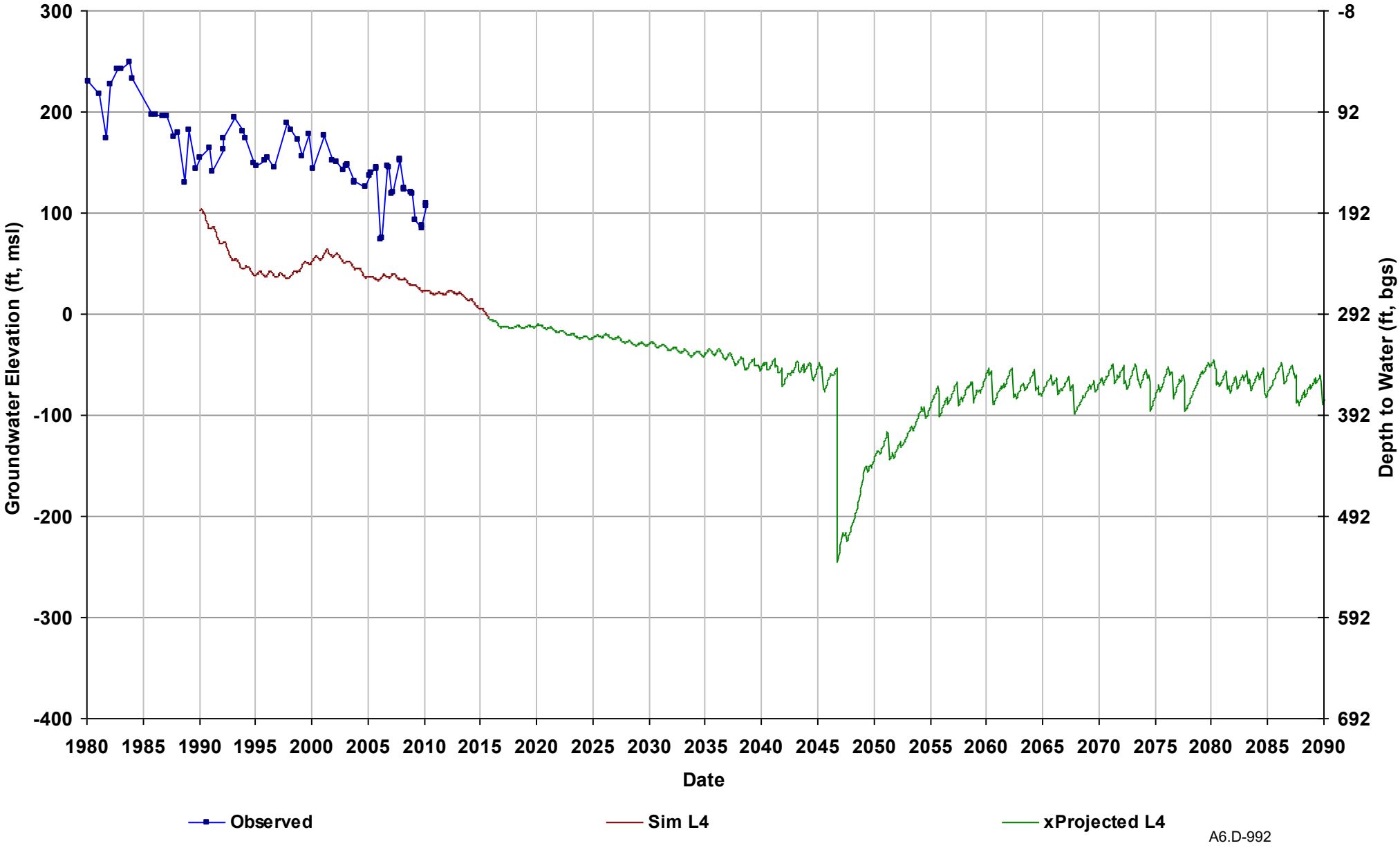
Well Name: 09S17E09D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 317

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



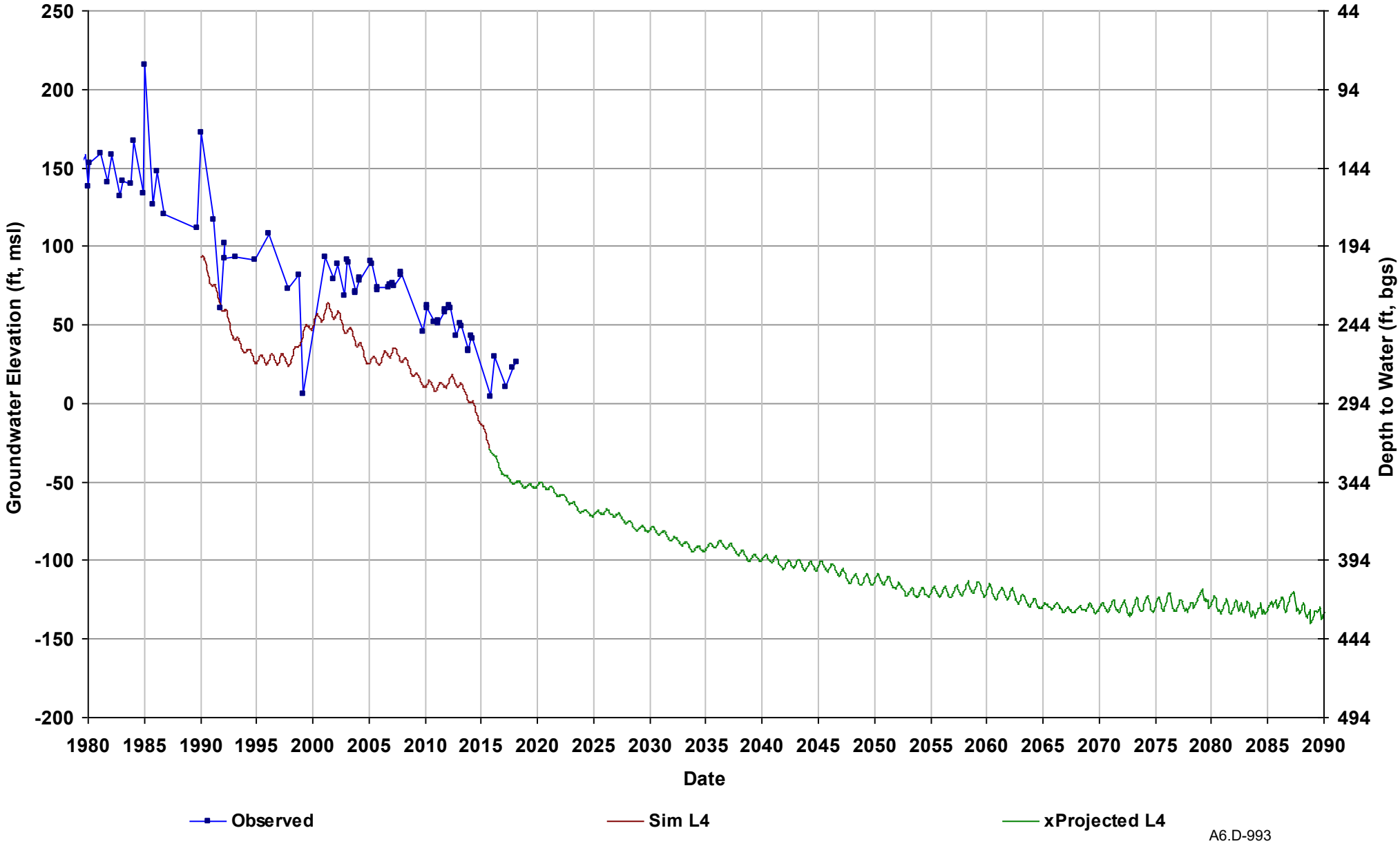
Well Name: 09S17E17F001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 292

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



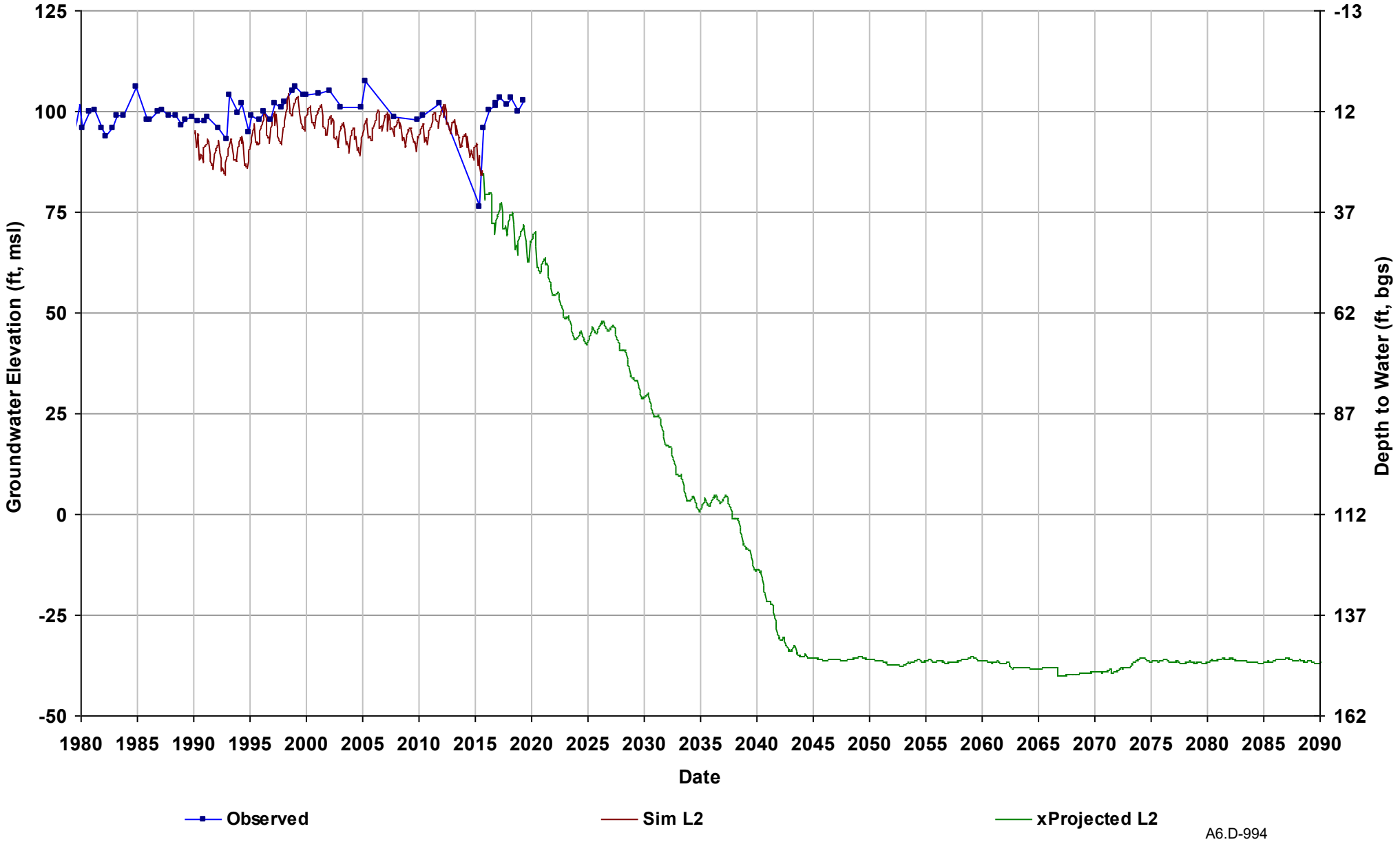
Well Name: 09S17E19L001M
Depth Zone: Lower; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 294

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



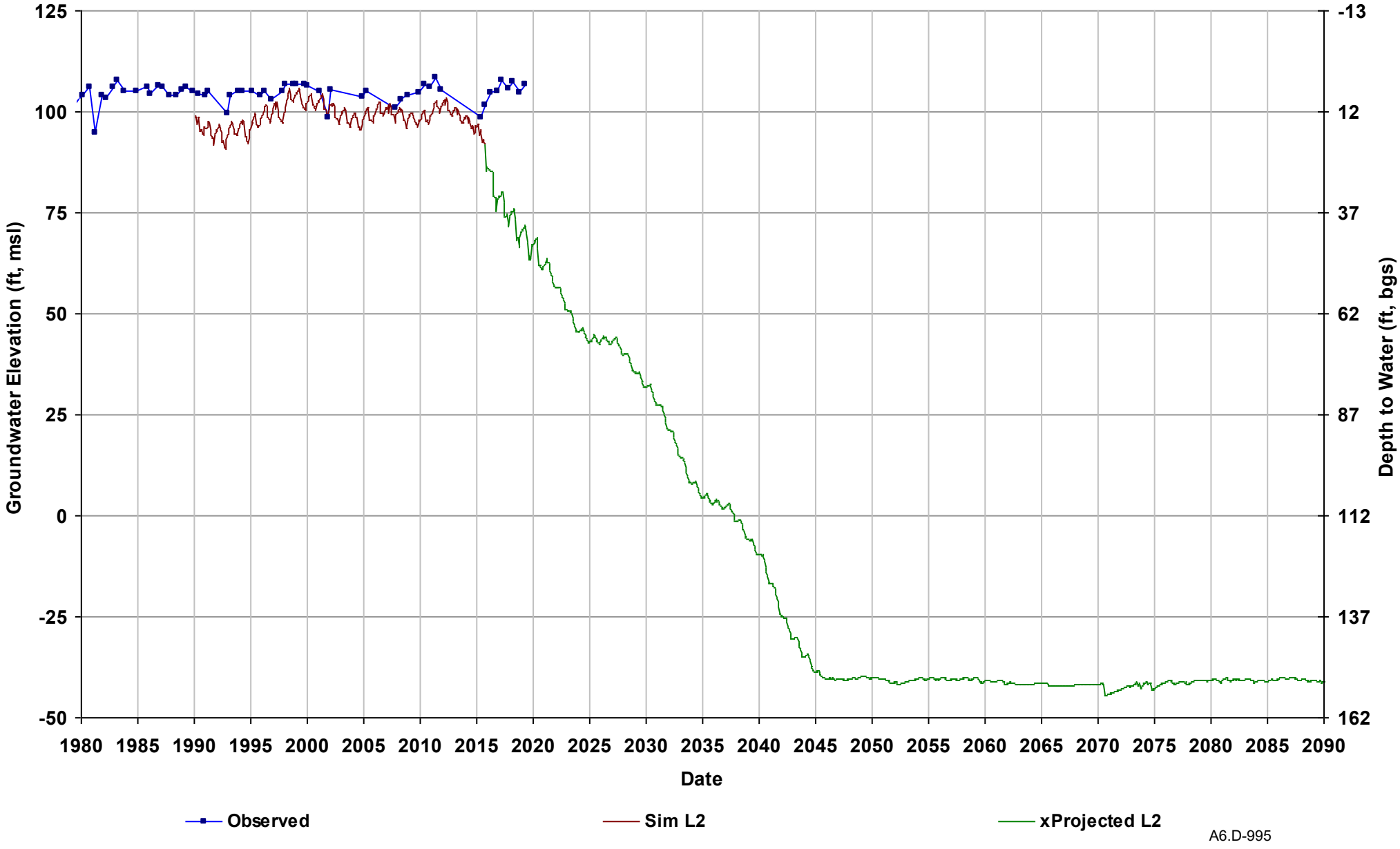
Well Name: 10S12E13L001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 200
Perf Top (ft): 80
Perf Bottom (ft): 180
Top Model Layer: 2
Bottom Model Layer: 2



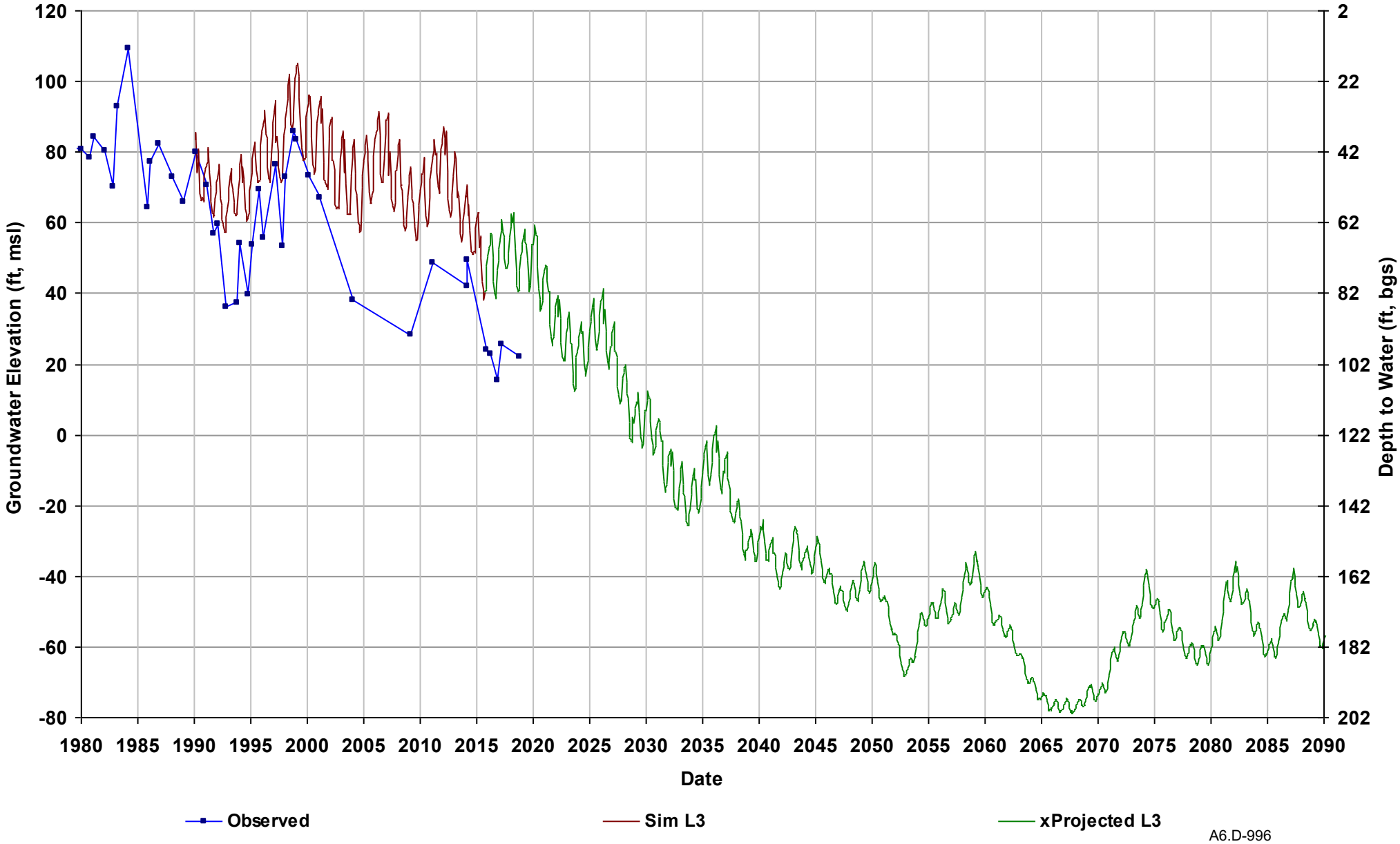
Well Name: 10S12E26H001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 158
Perf Top (ft): 60
Perf Bottom (ft): 150
Top Model Layer: 2
Bottom Model Layer: 2



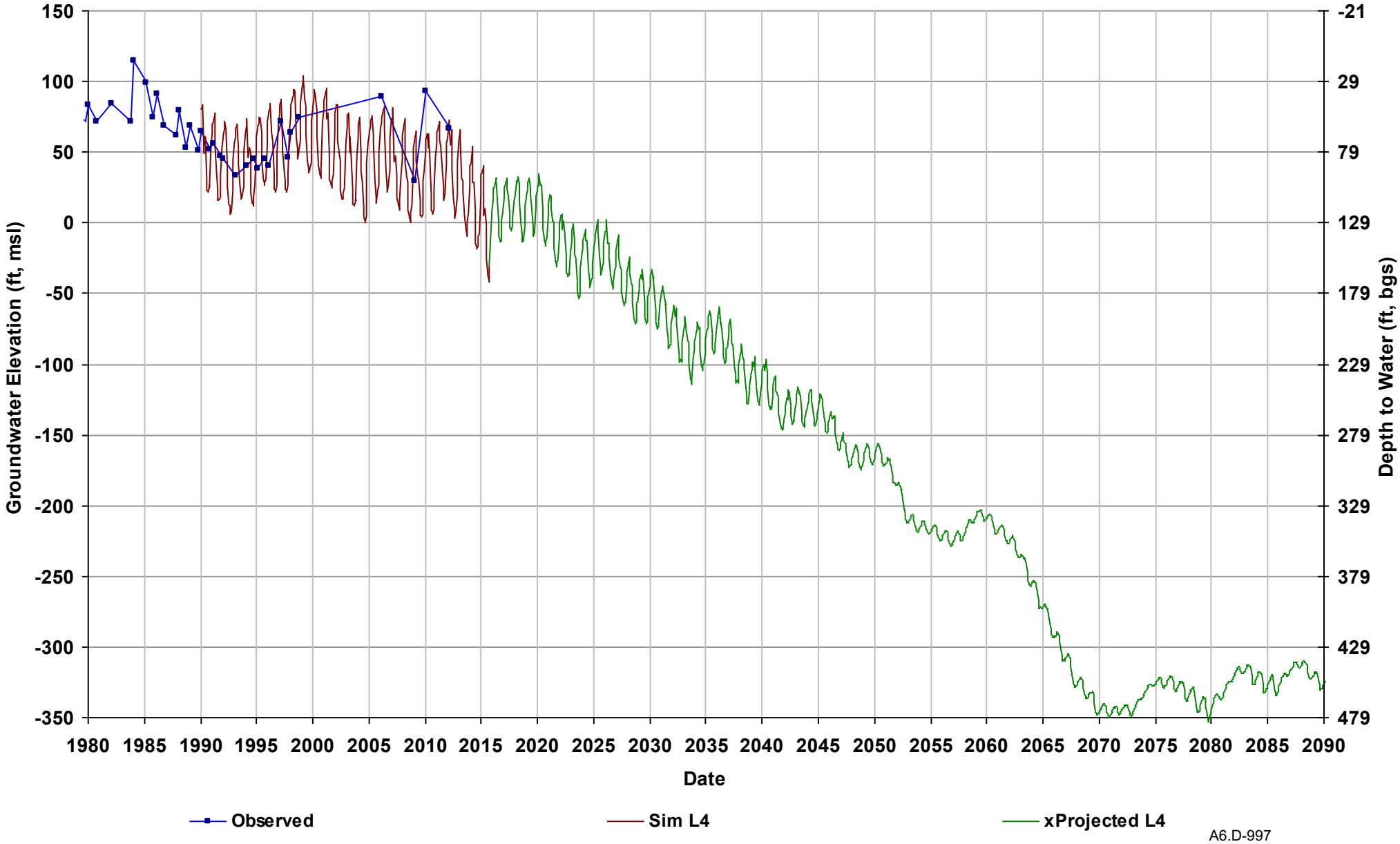
Well Name: 10S13E15A001M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 122

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



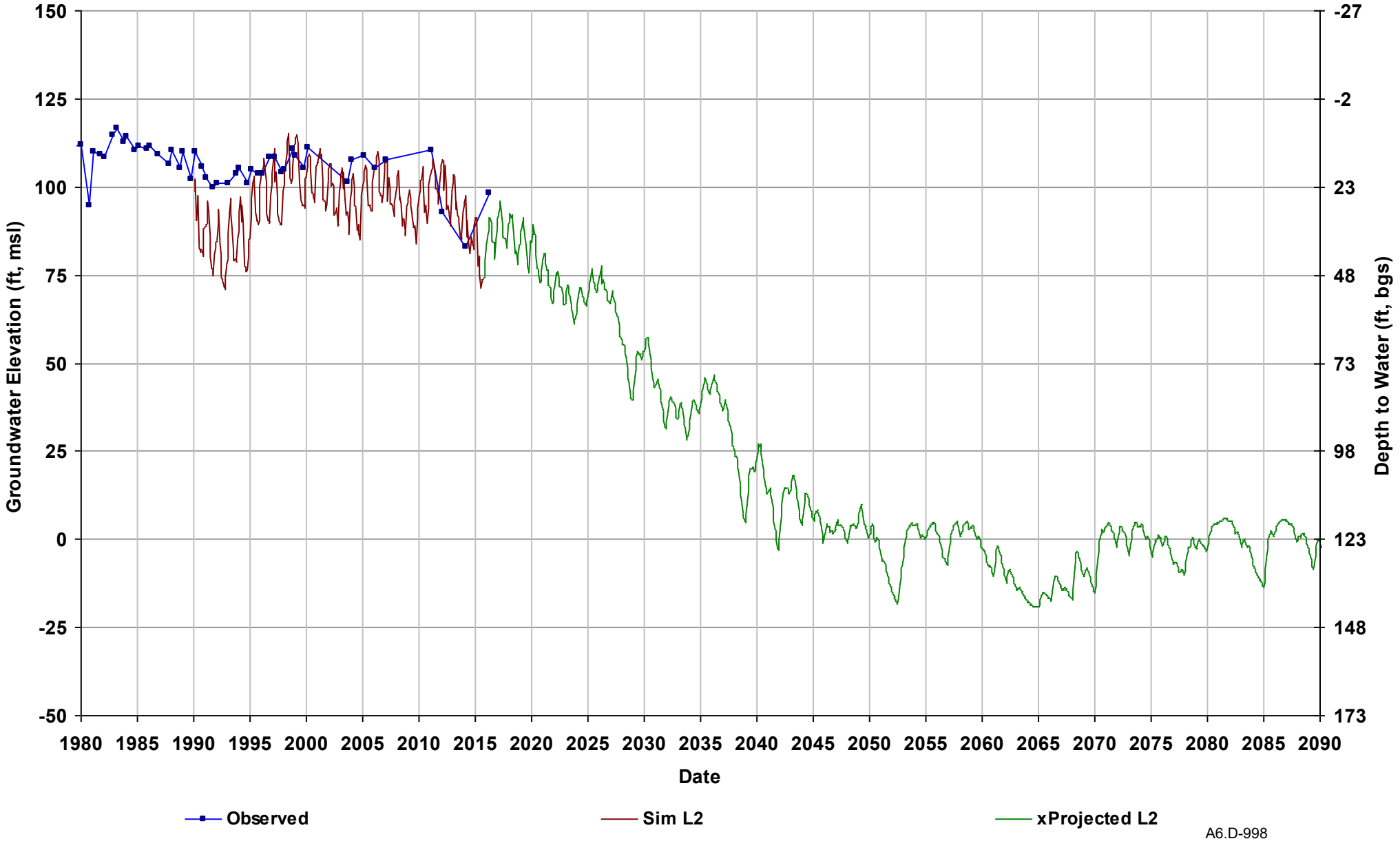
Well Name: 10S13E24L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 129

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



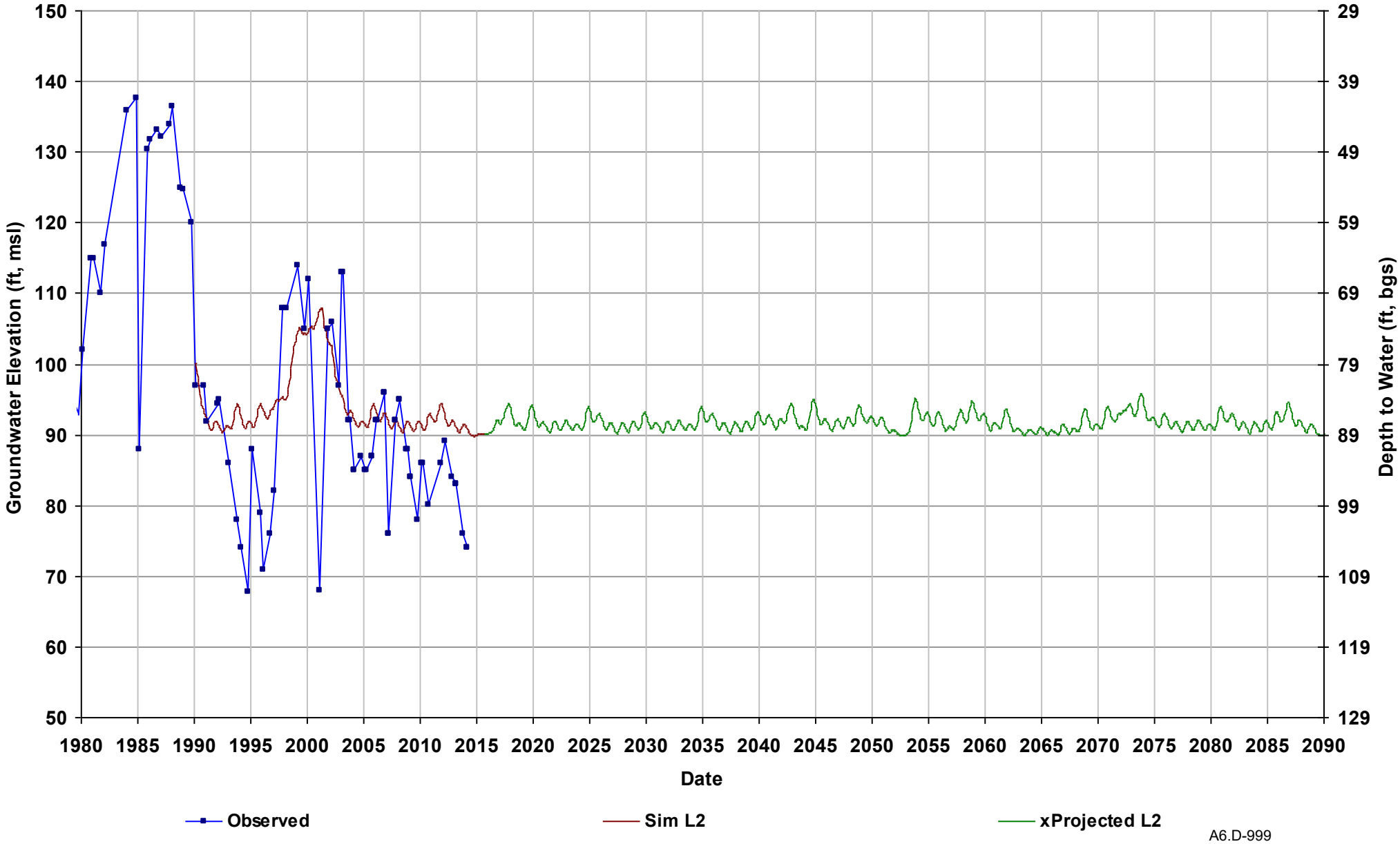
Well Name: 10S13E34G001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 123

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



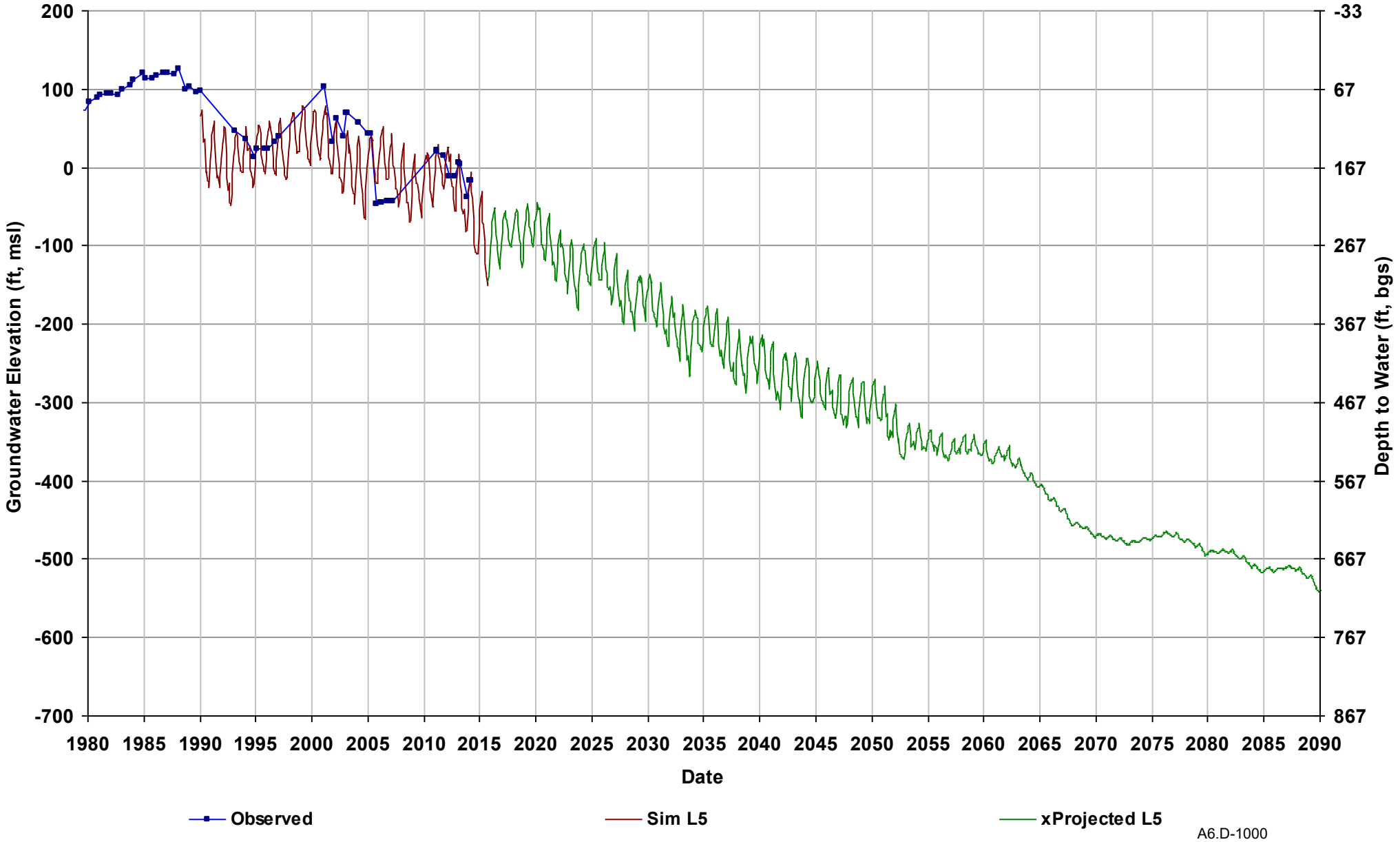
Well Name: 10S14E01R002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 179

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



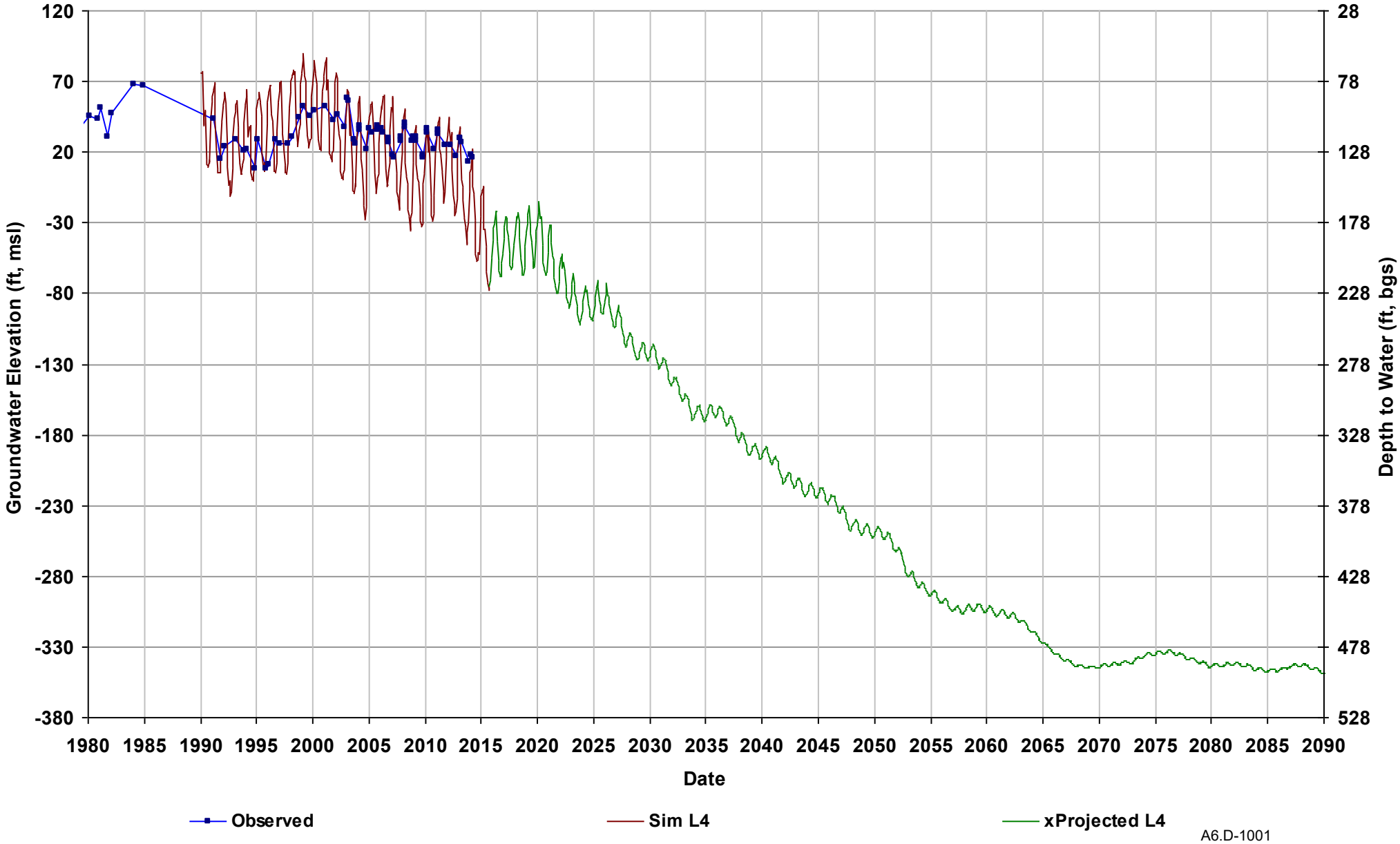
Well Name: 10S14E03A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 167

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



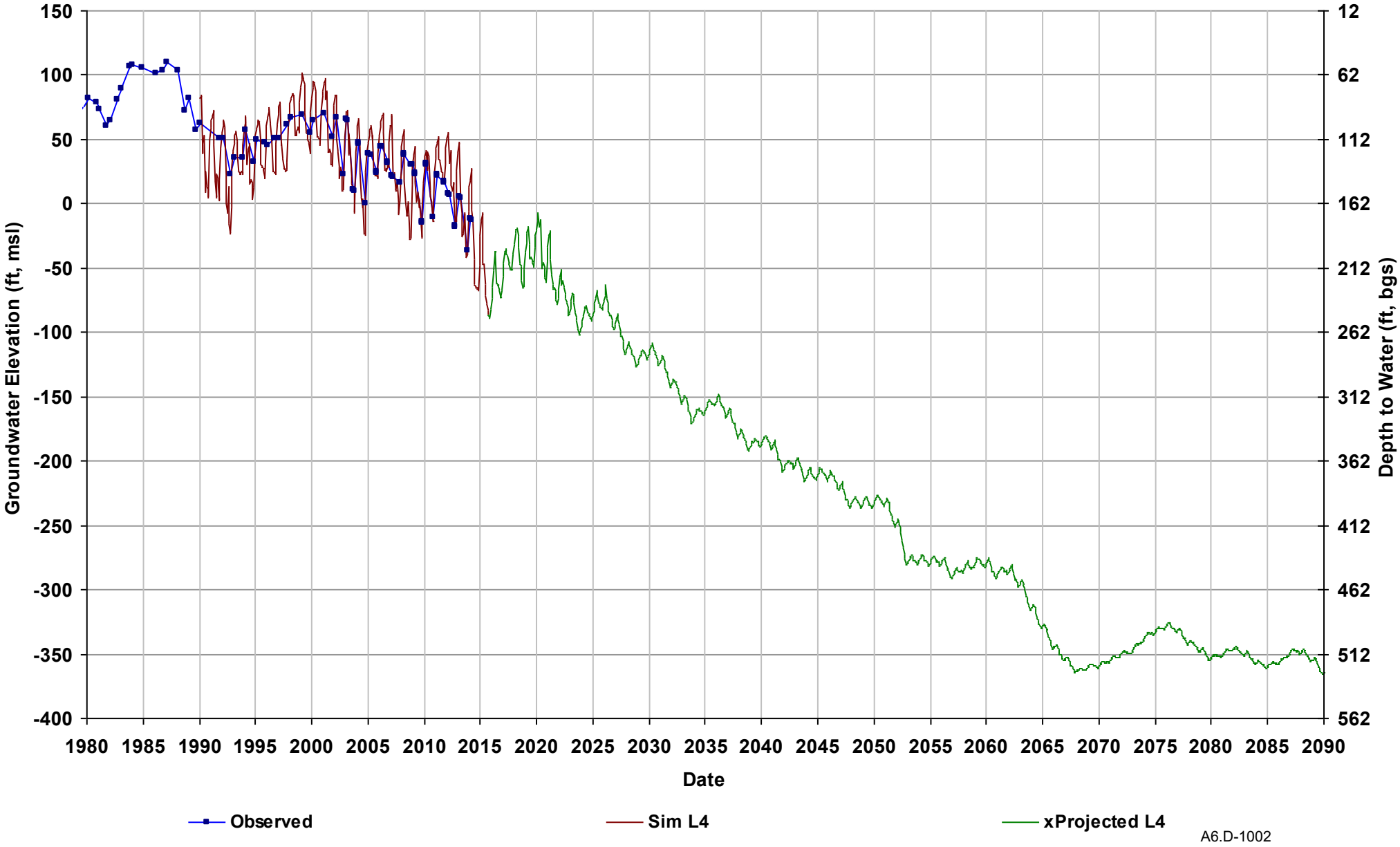
Well Name: 10S14E05C003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 148

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



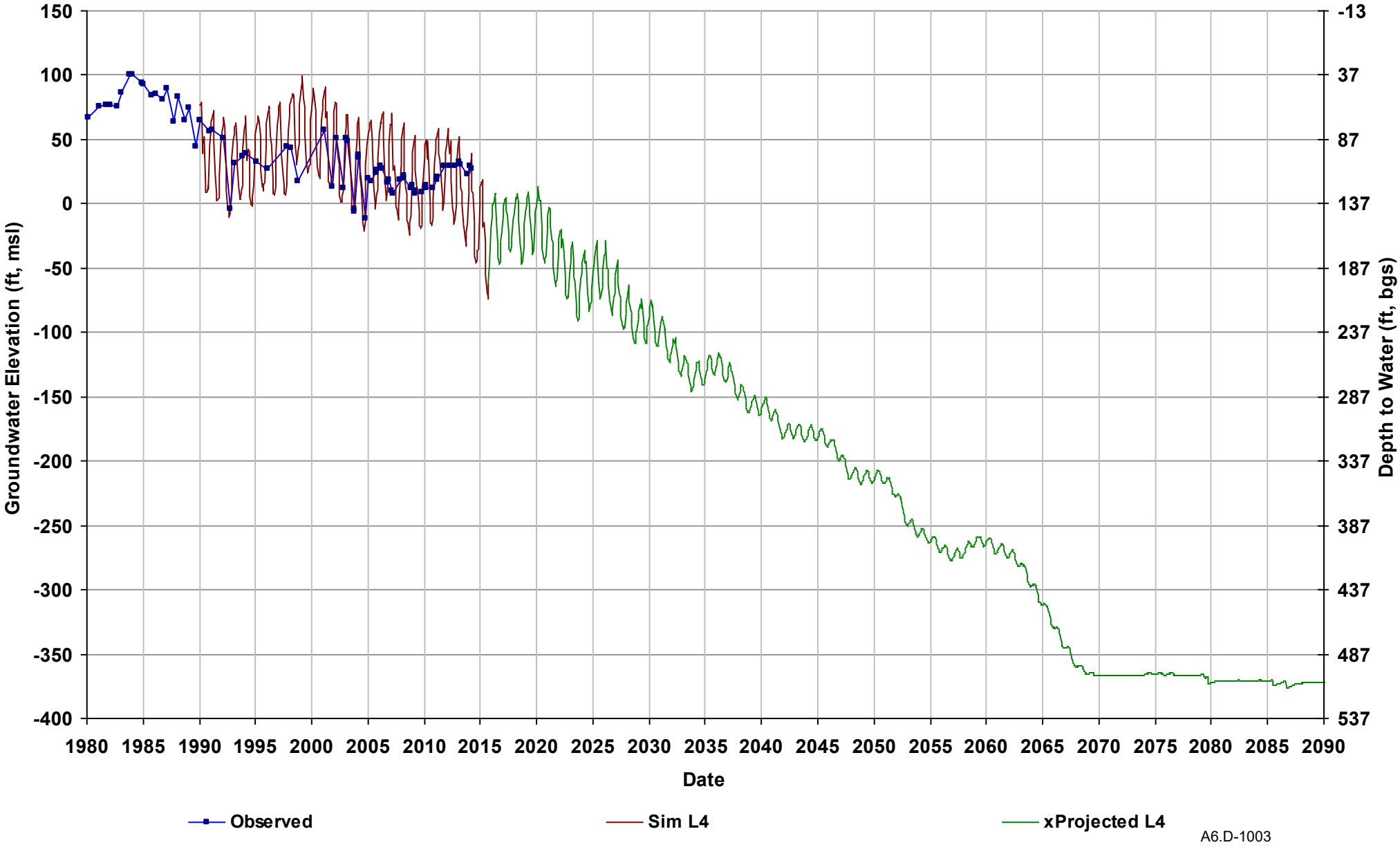
Well Name: 10S14E15H001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 162

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



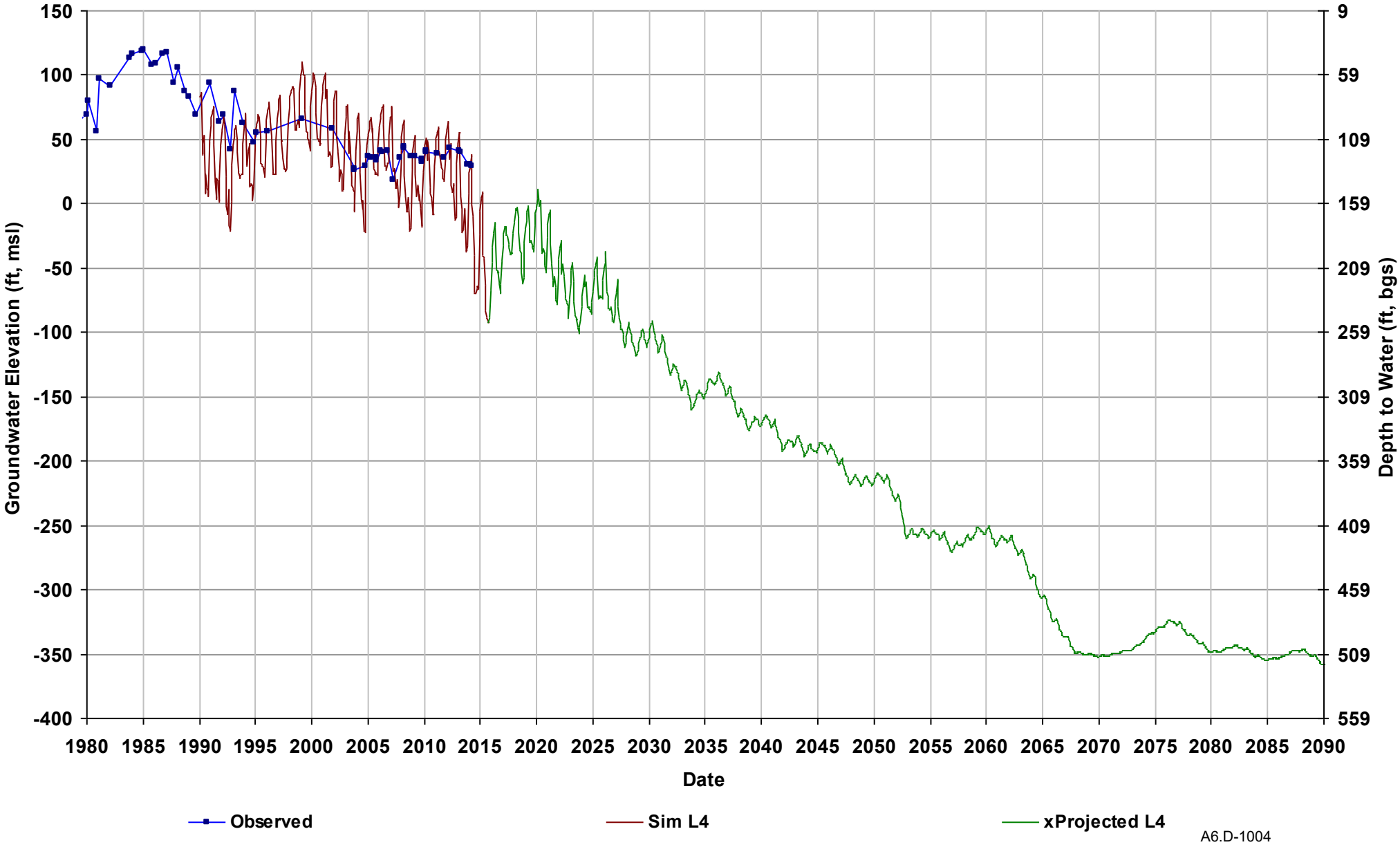
Well Name: 10S14E18K001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 137

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



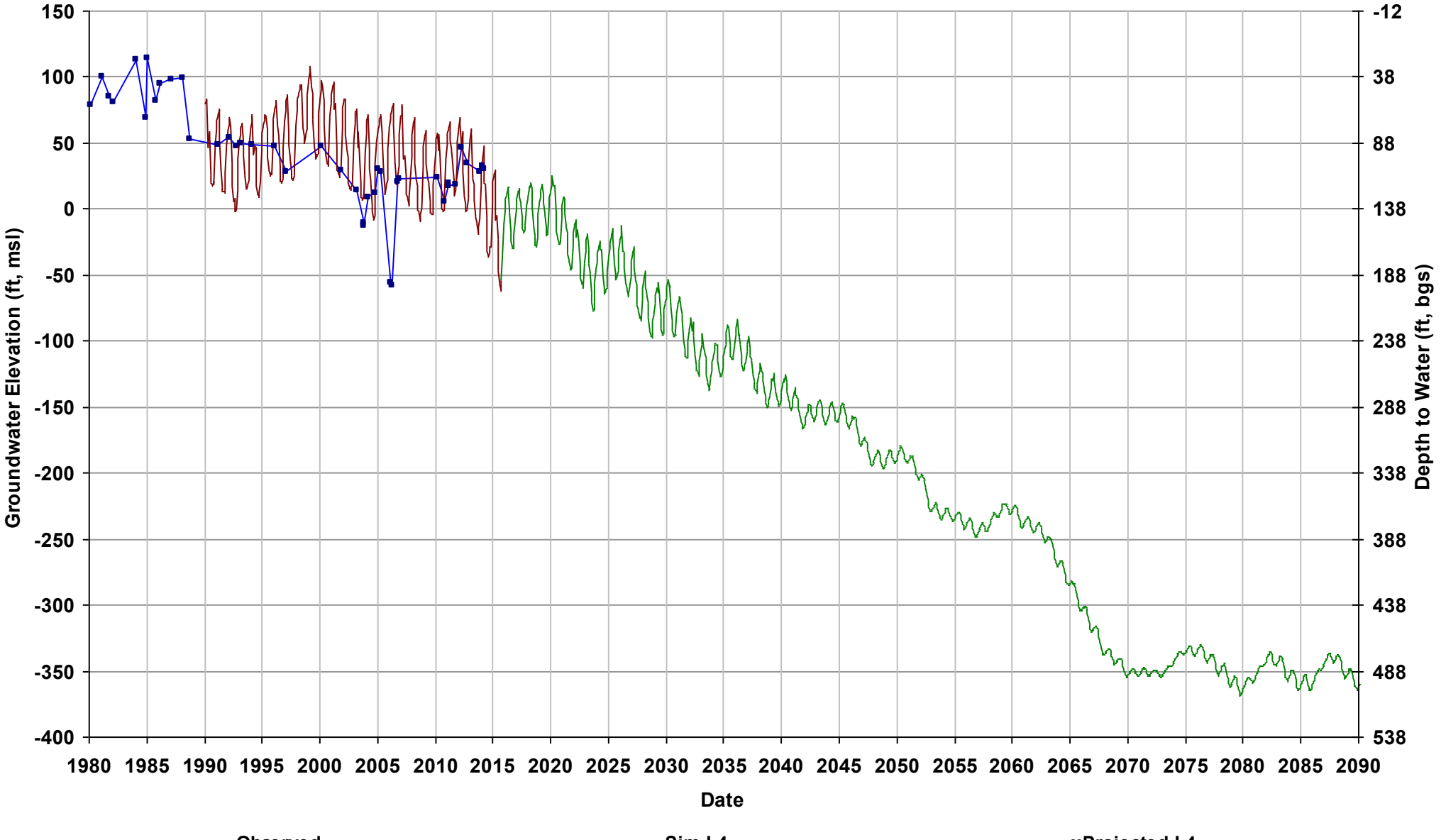
Well Name: 10S14E26C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 158

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



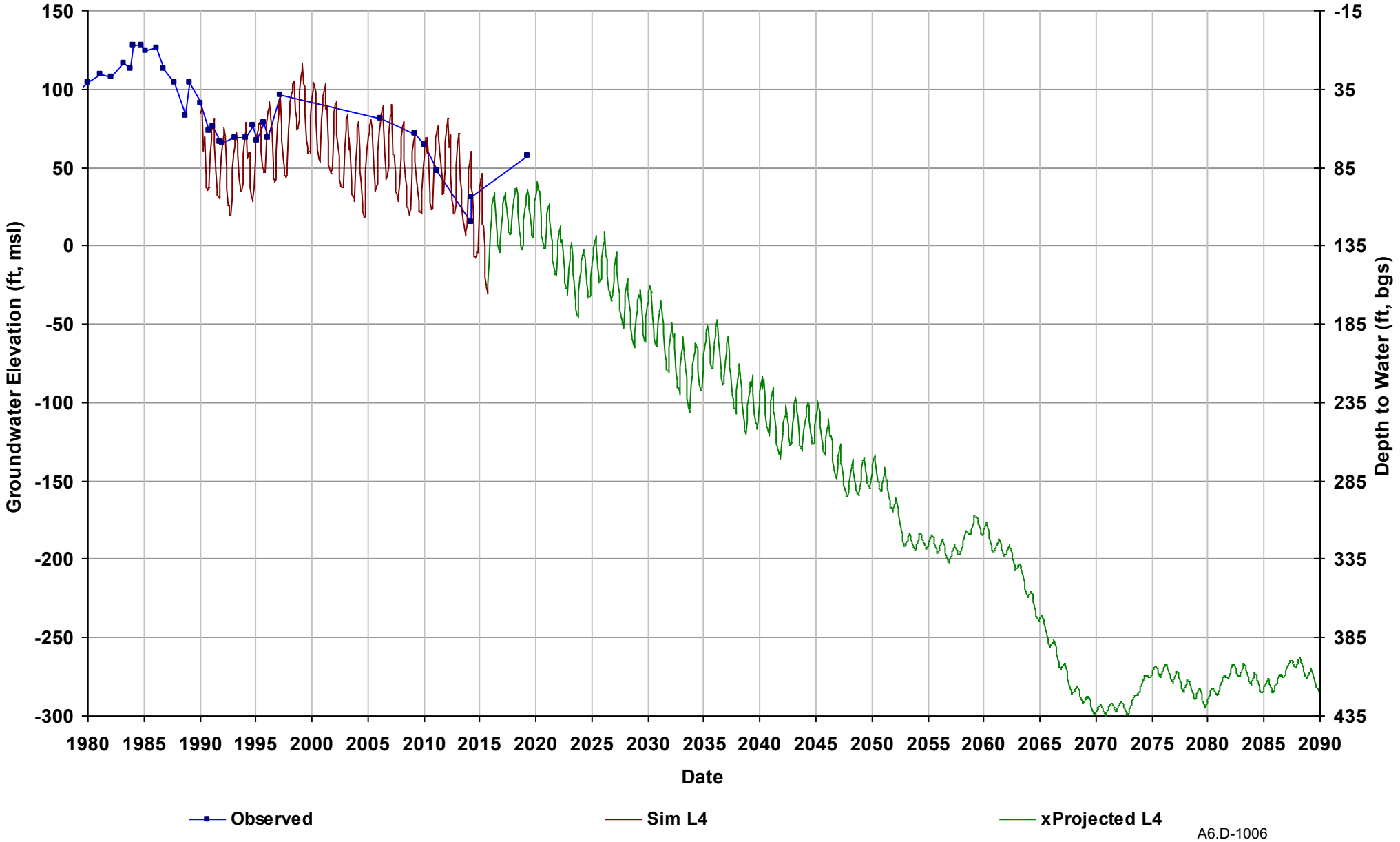
Well Name: 10S14E29C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



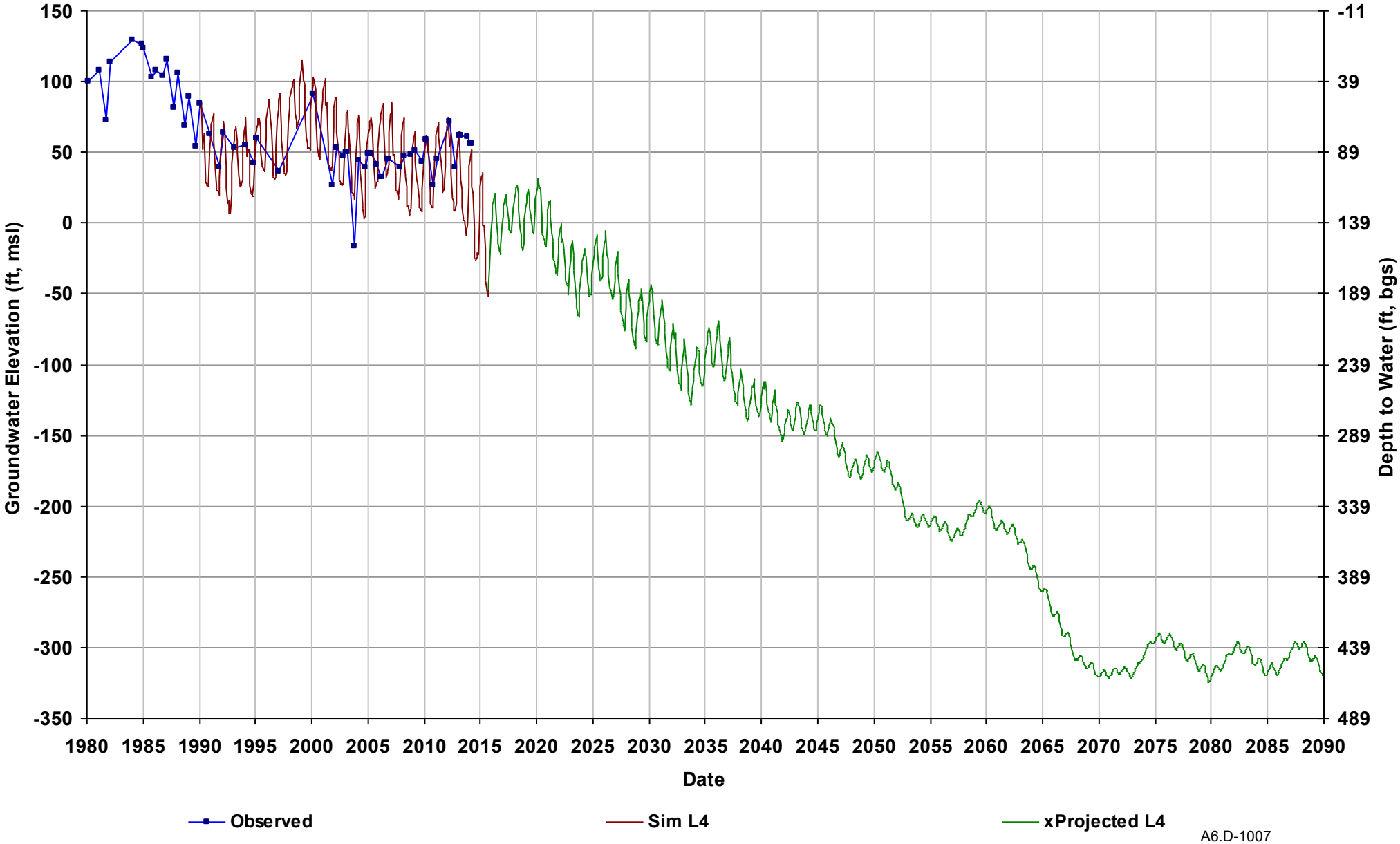
Well Name: 10S14E32Q001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 134

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



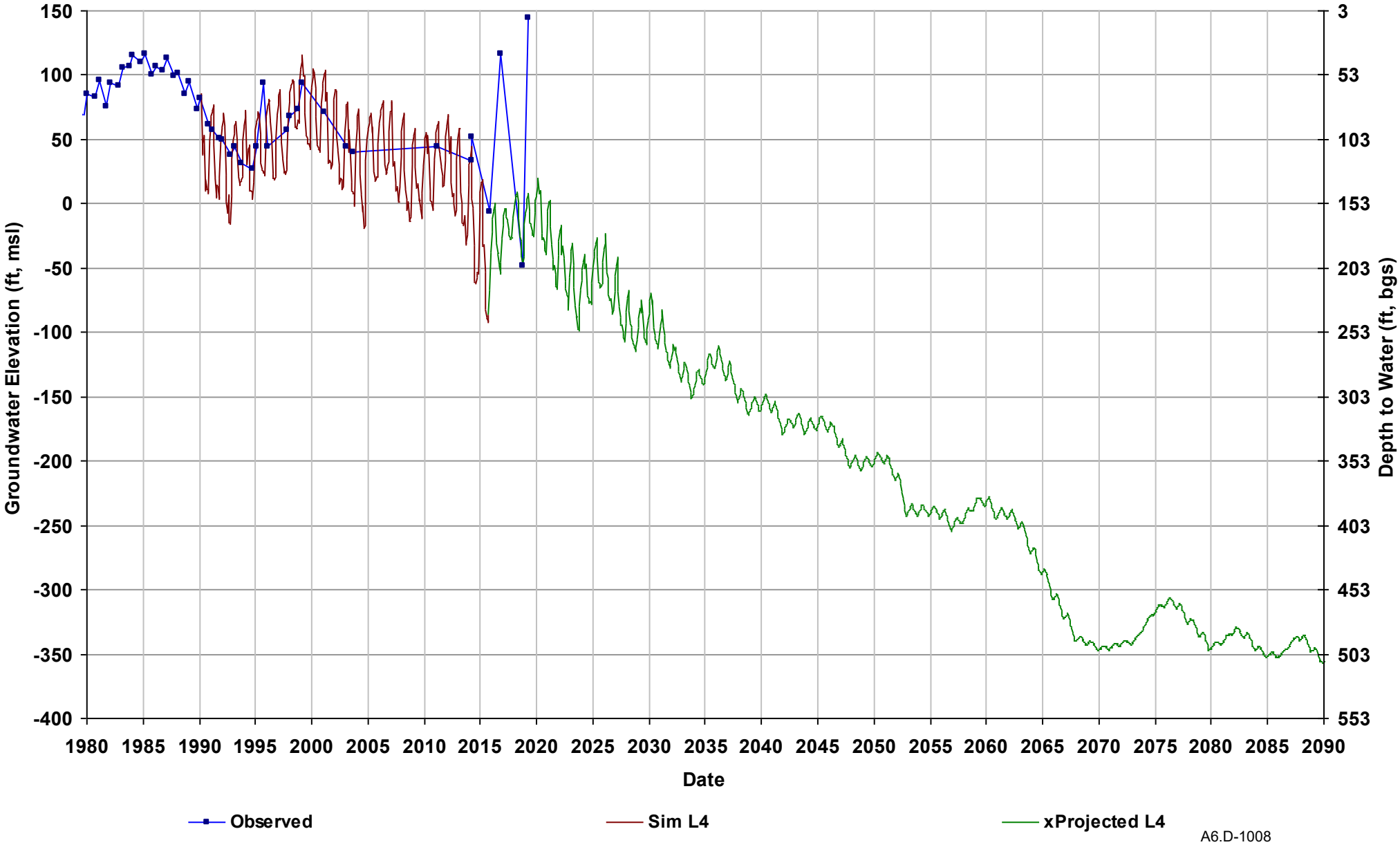
Well Name: 10S14E33L002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 139

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



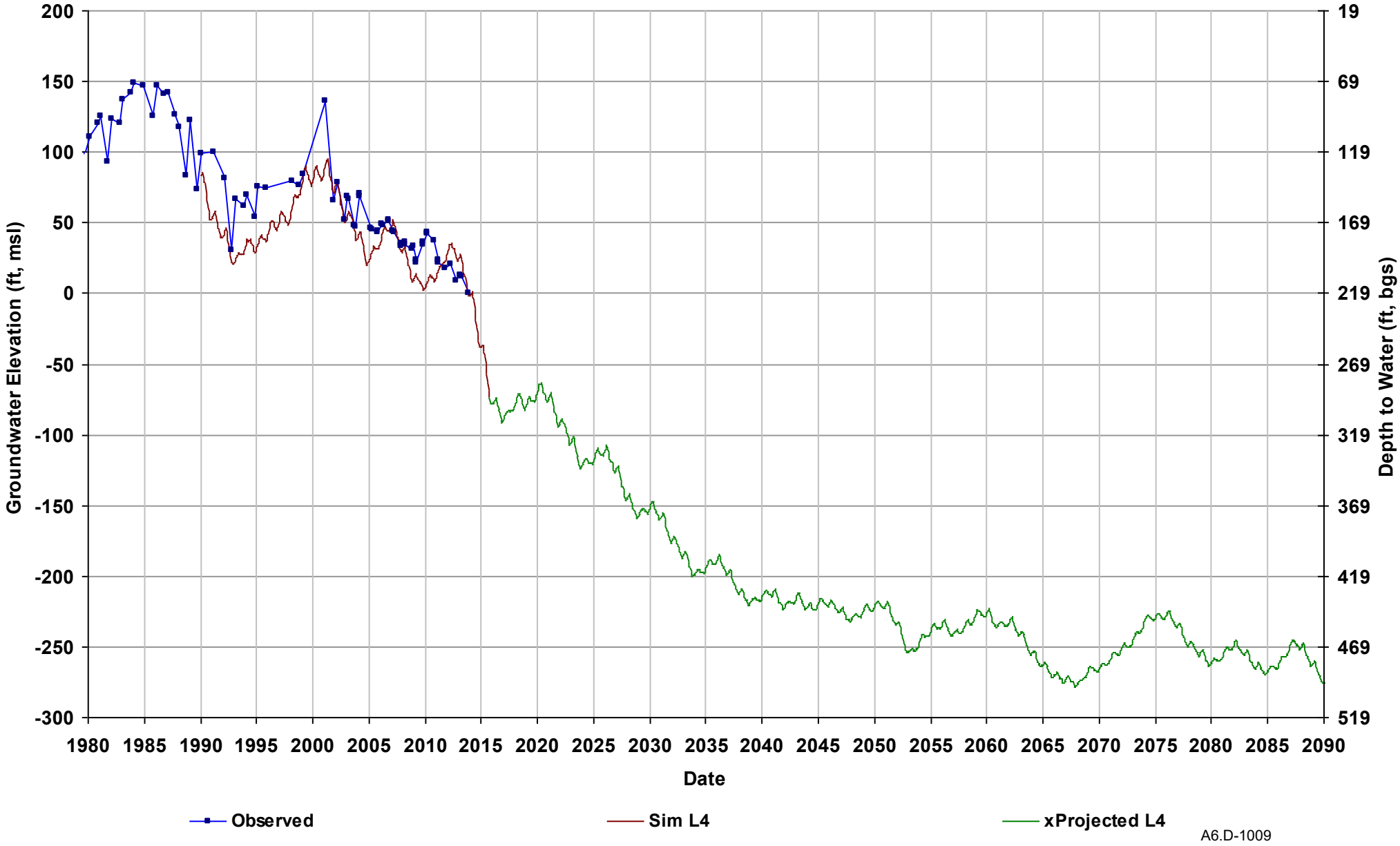
Well Name: 10S14E35F001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 153

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



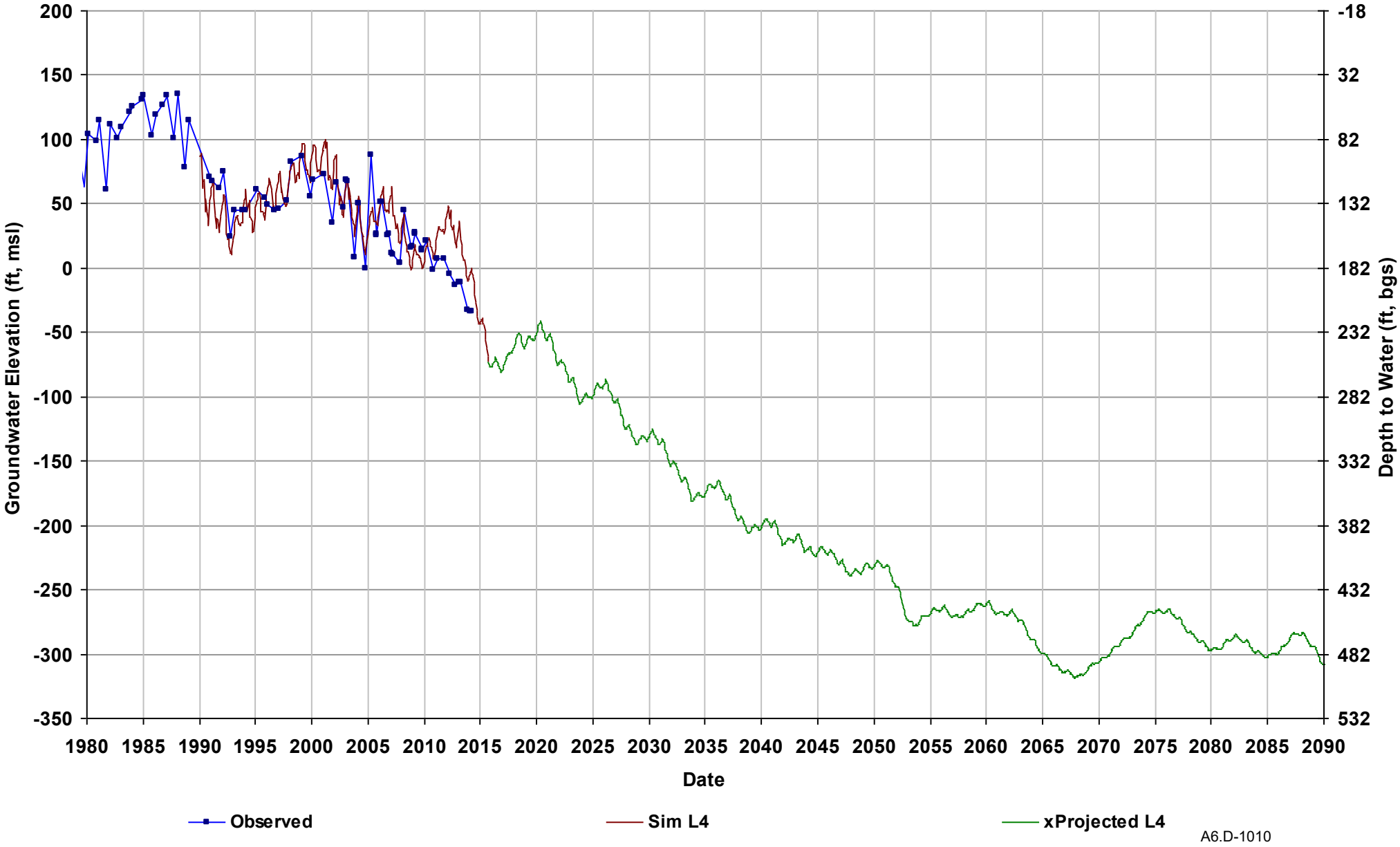
Well Name: 10S15E01E001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 218

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



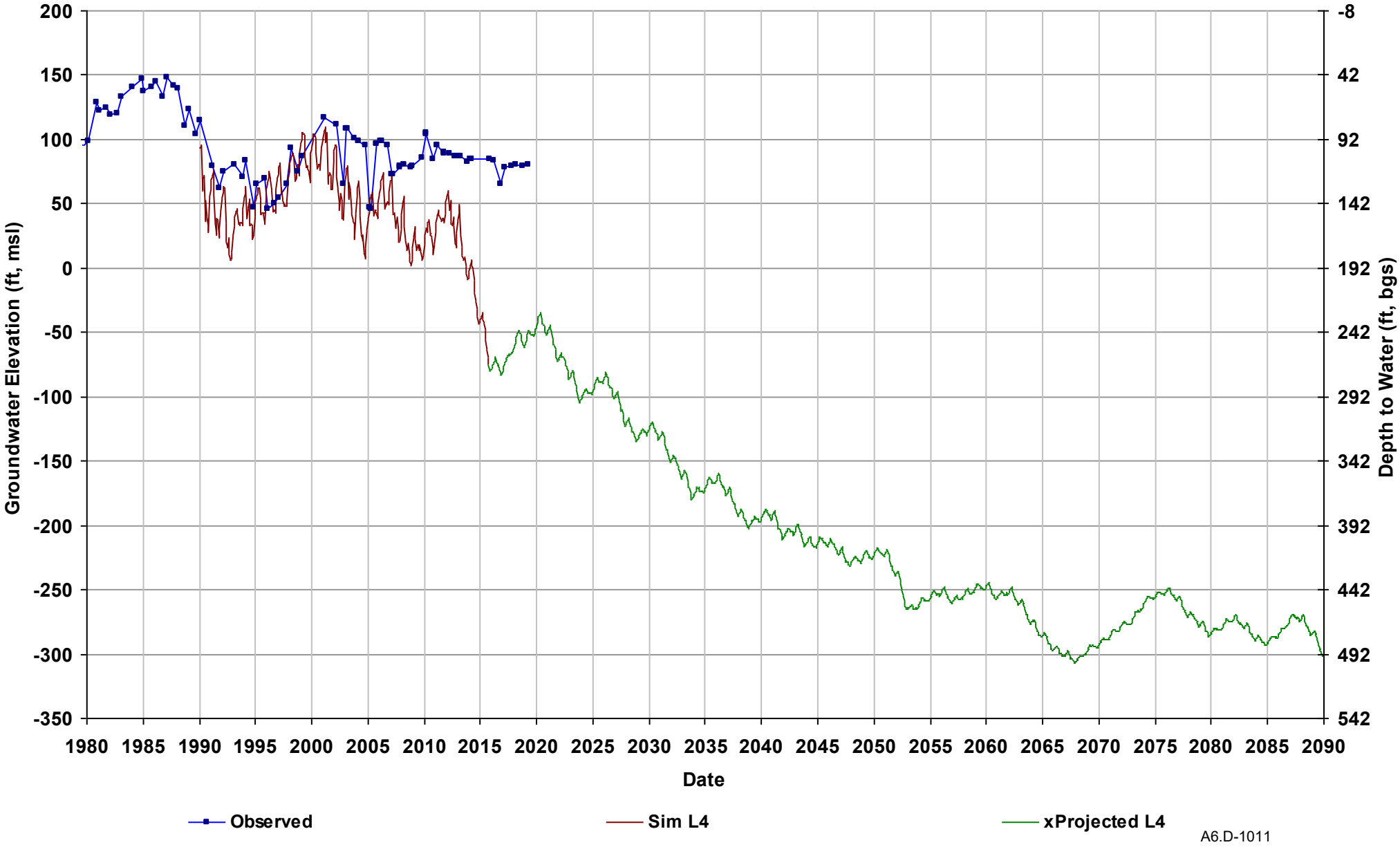
Well Name: 10S15E06L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 182

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



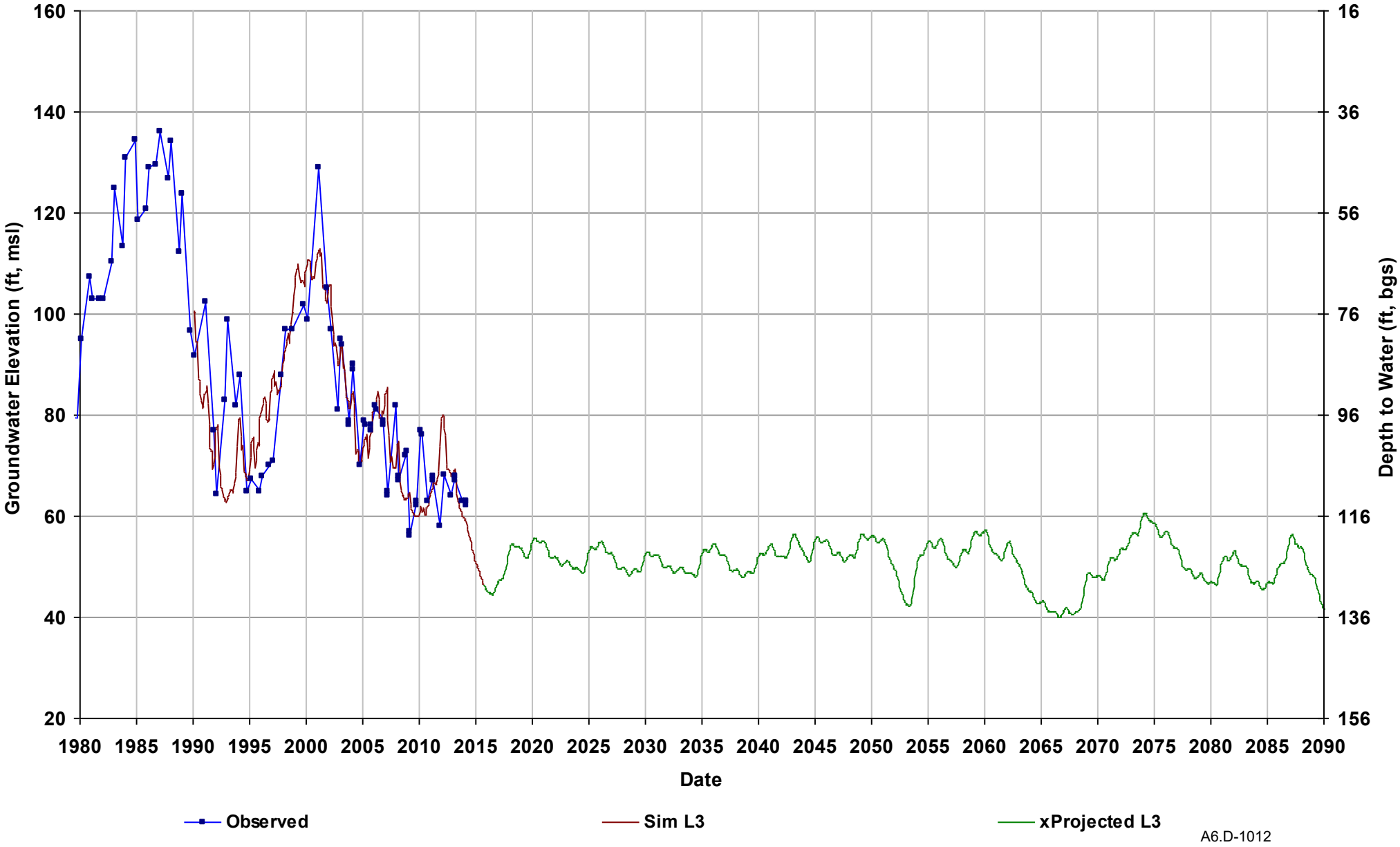
Well Name: 10S15E16R002M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



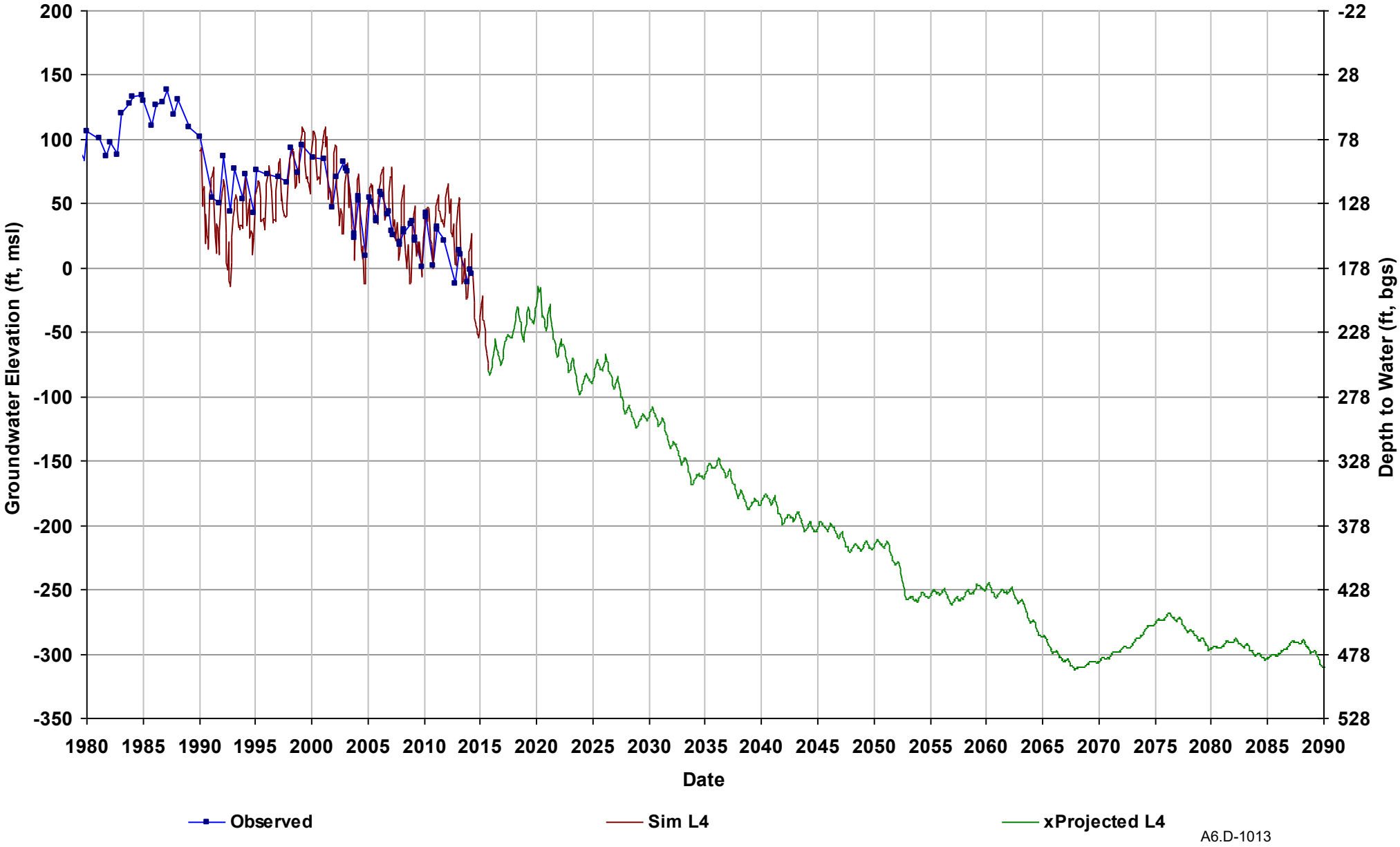
Well Name: 10S15E18L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 176

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



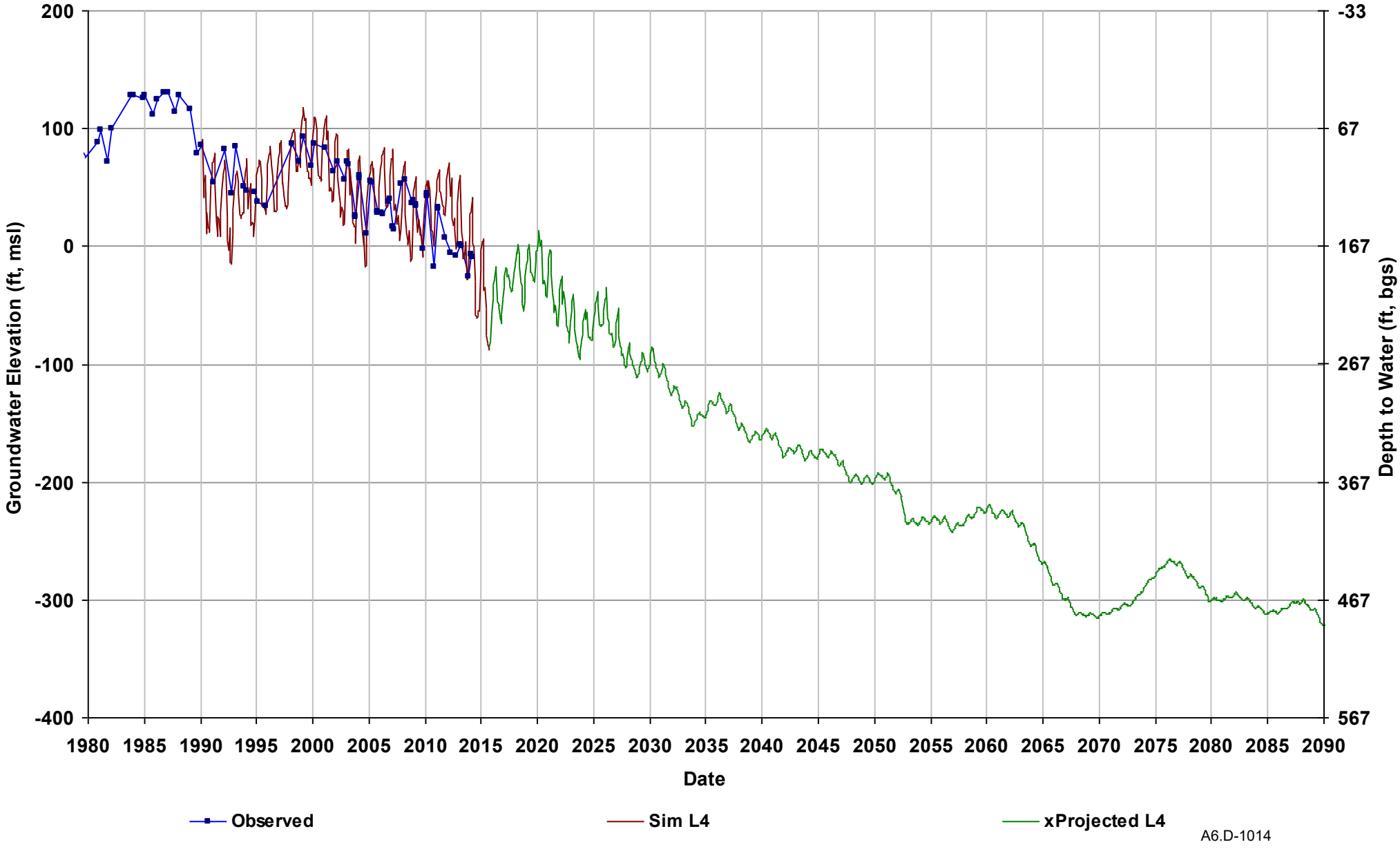
Well Name: 10S15E29A002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 178

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



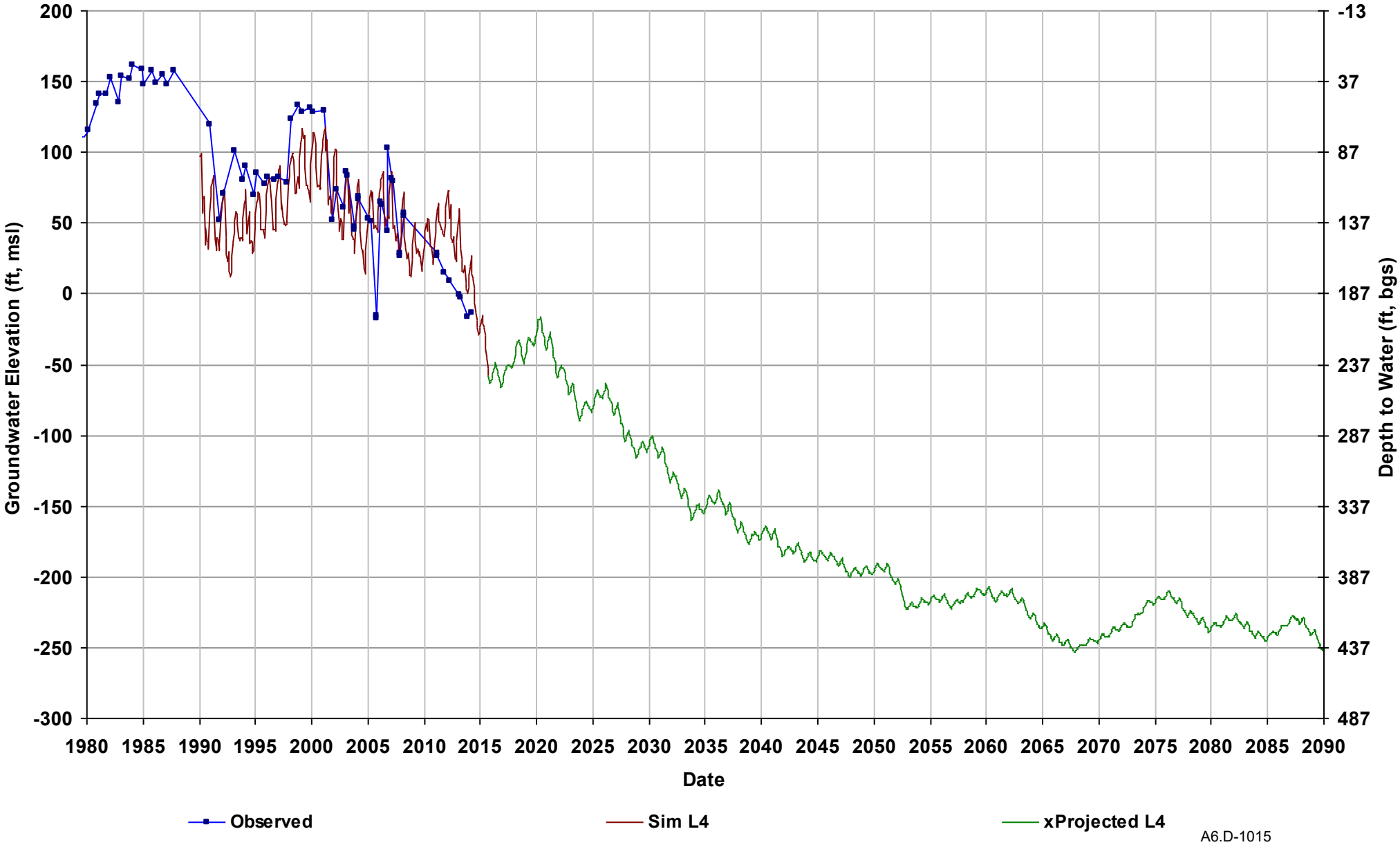
Well Name: 10S15E32L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



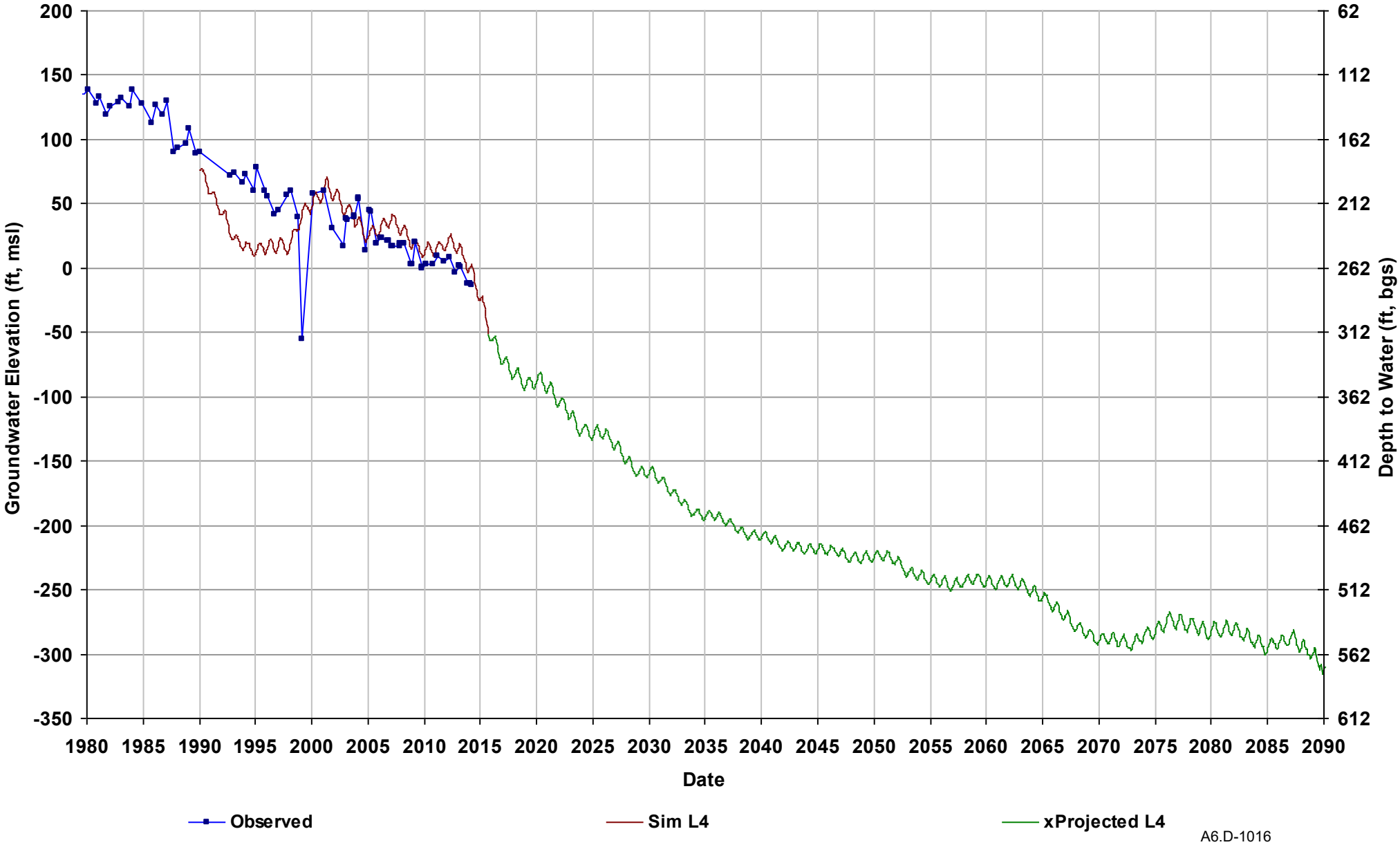
Well Name: 10S15E35A002M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



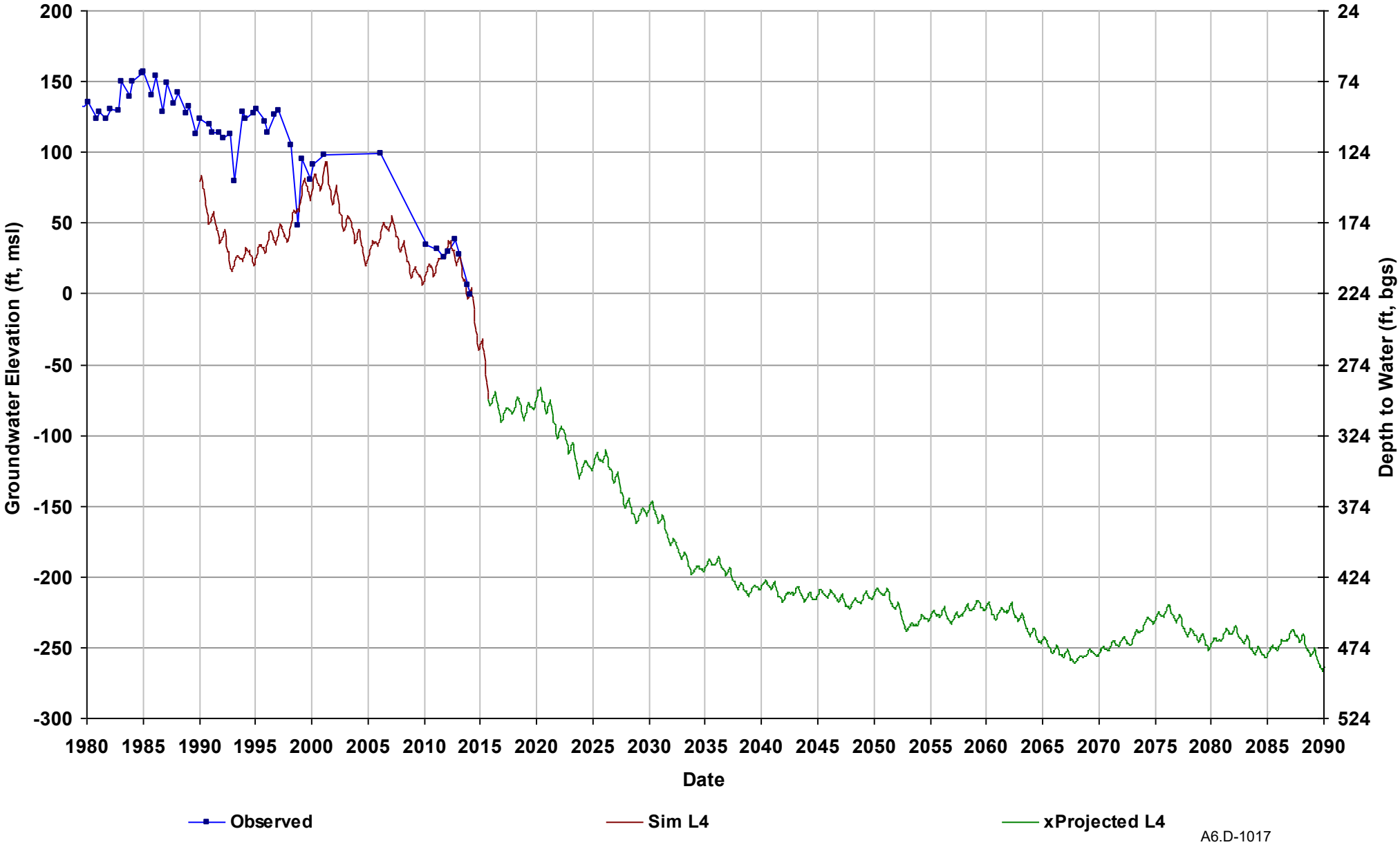
Well Name: 10S16E12K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 262

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



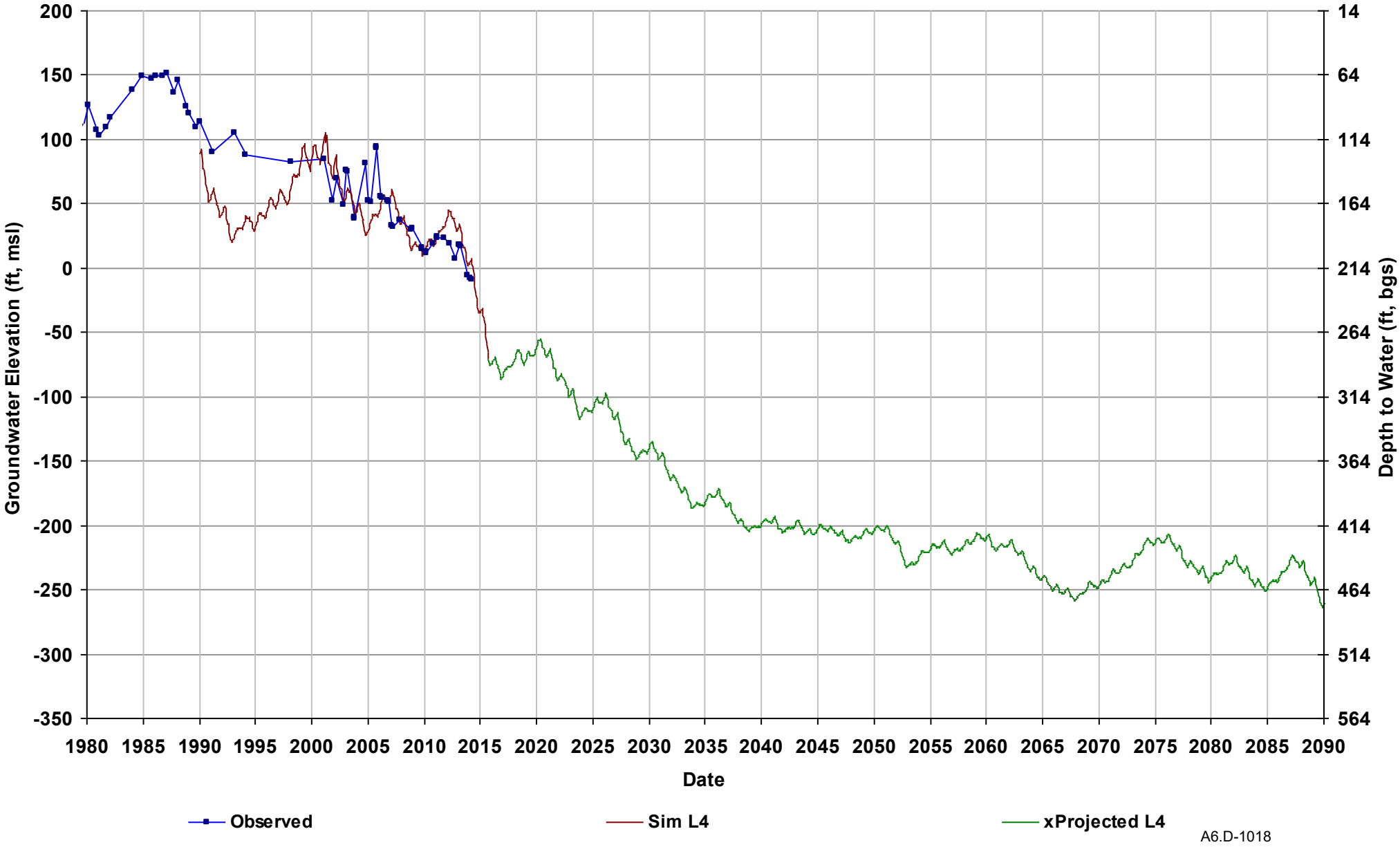
Well Name: 10S16E17C001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 224

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



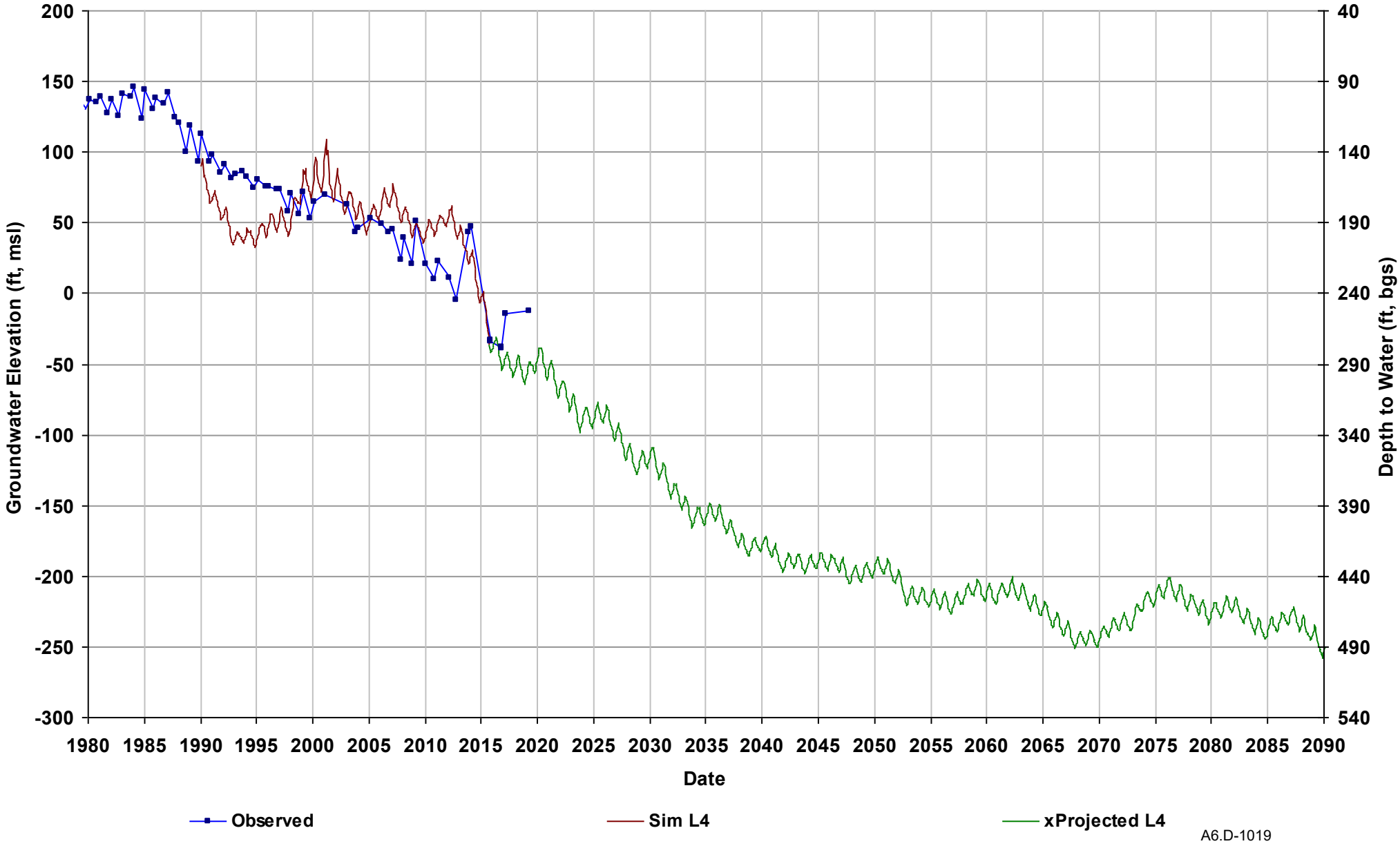
Well Name: 10S16E18D002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



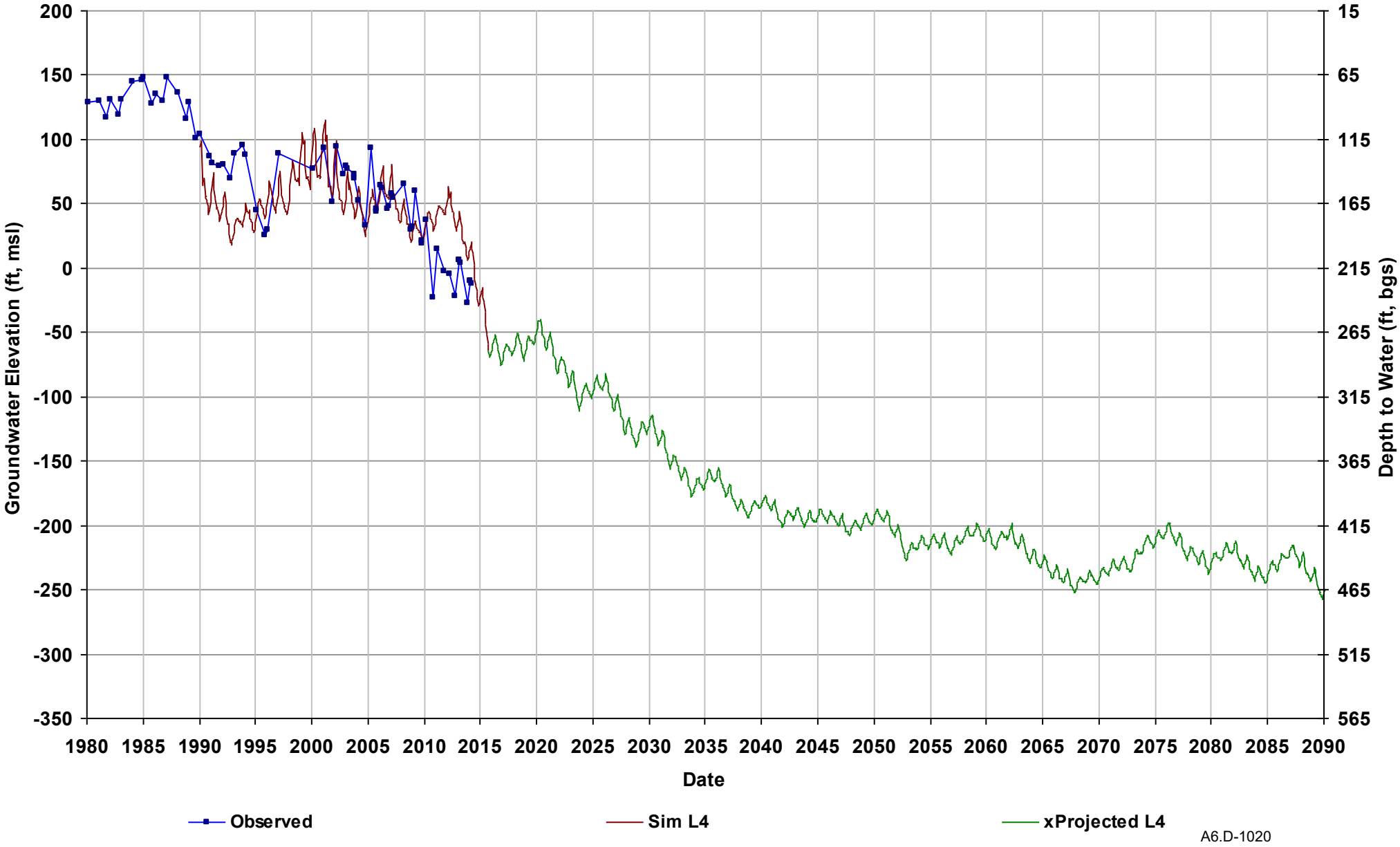
Well Name: 10S16E25F002M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 239

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



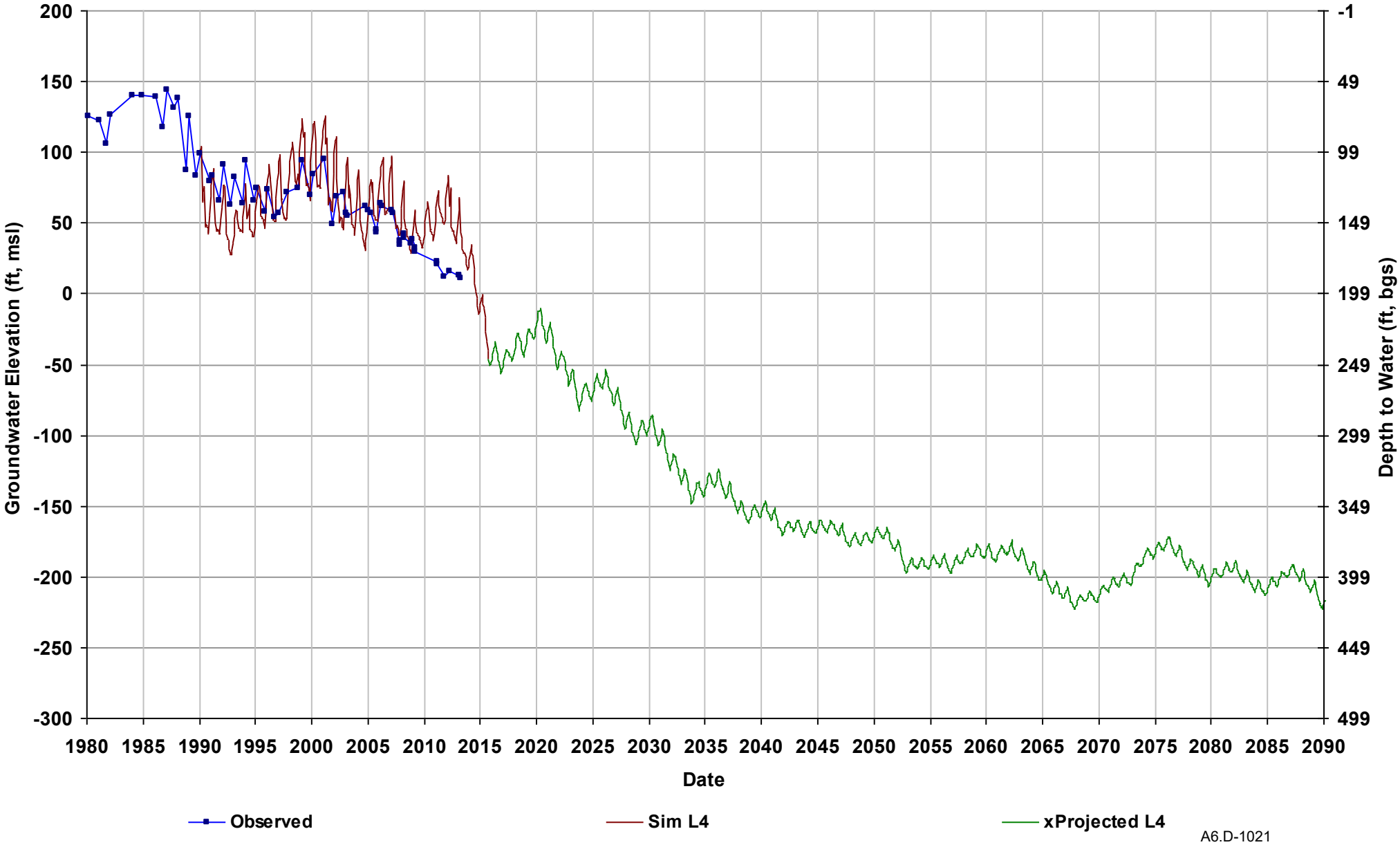
Well Name: 10S16E29A001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 215

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



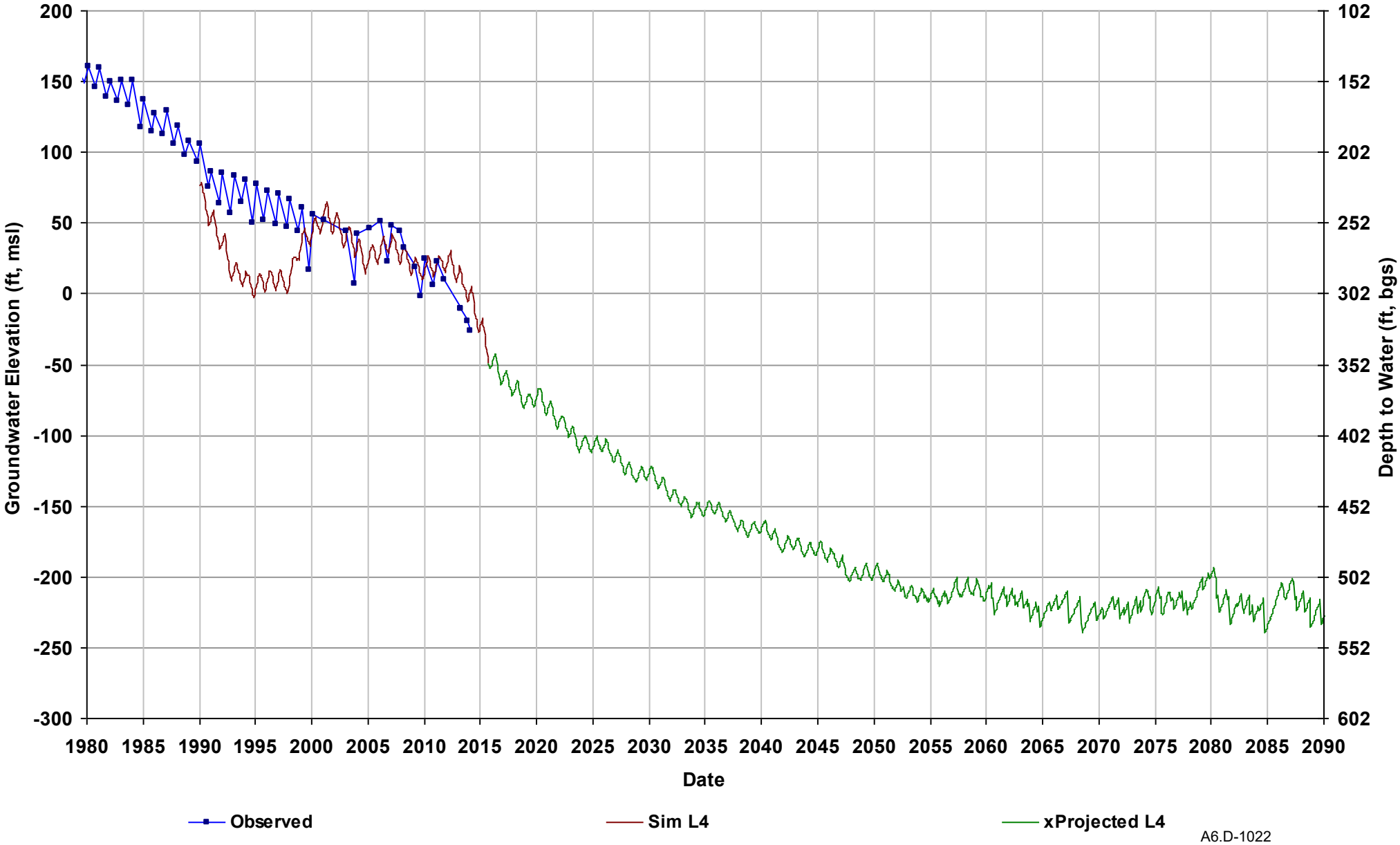
Well Name: 10S16E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 198

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



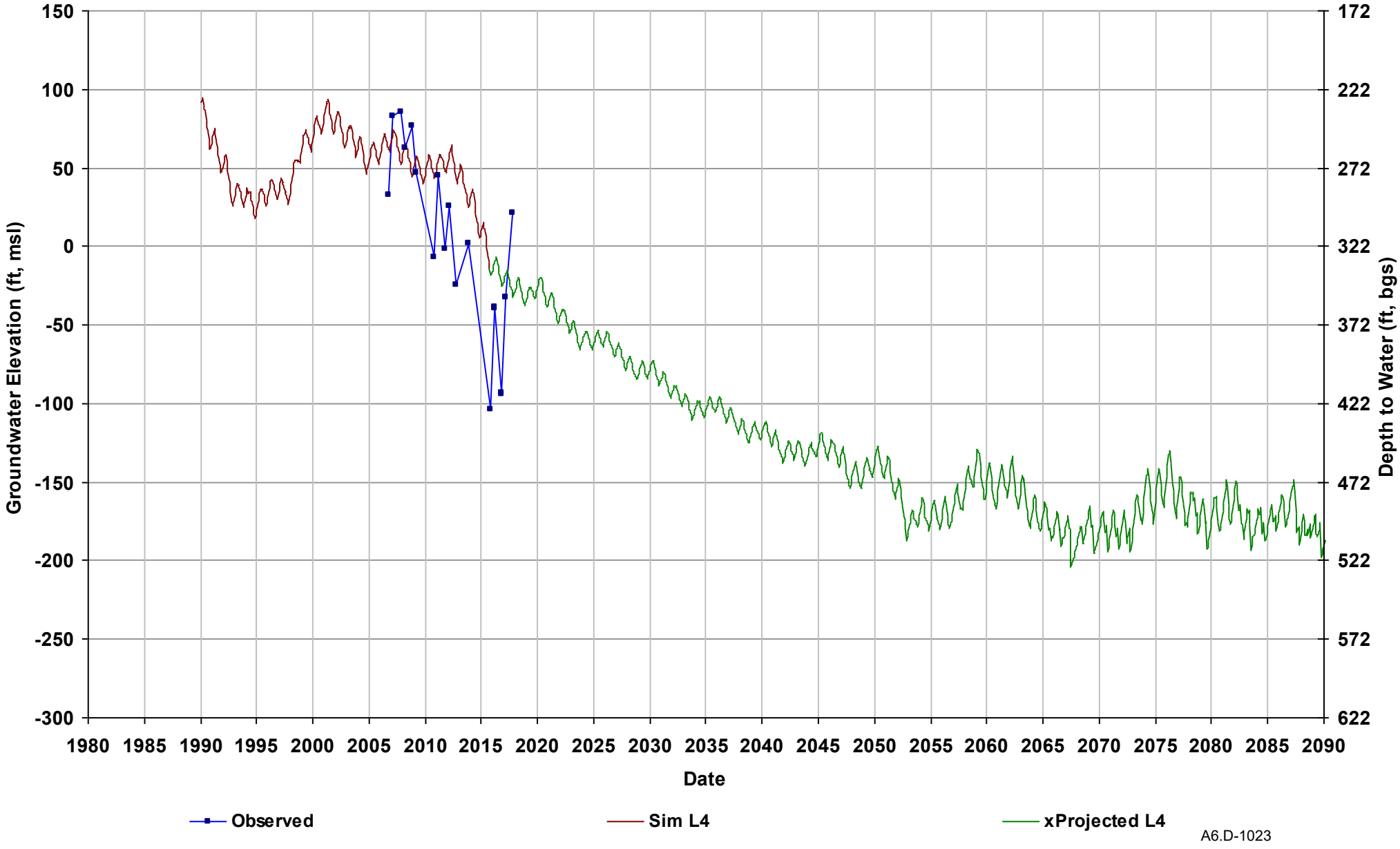
Well Name: 10S17E03F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



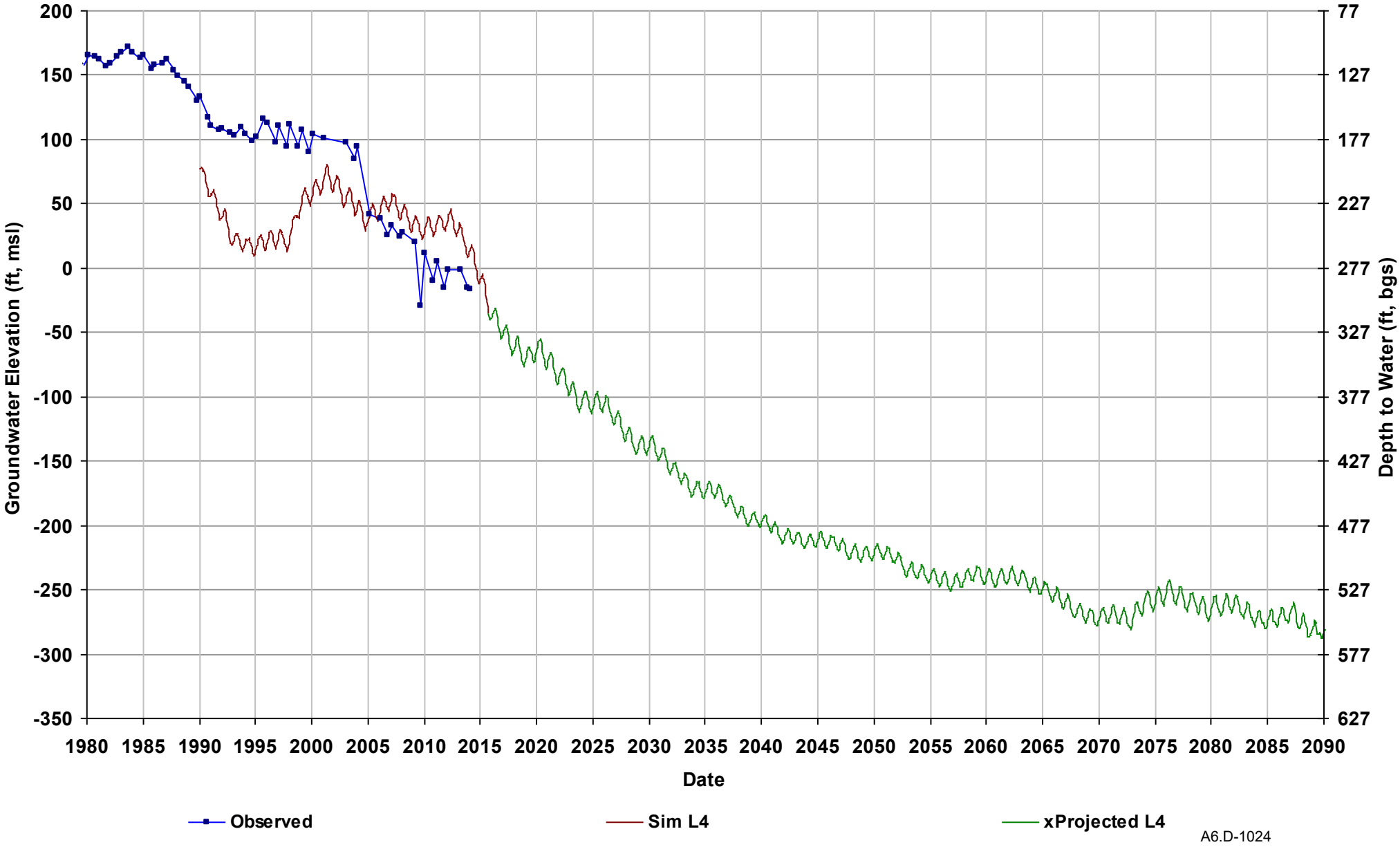
Well Name: 10S17E12C001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 321

Total Depth (ft): 640
Perf Top (ft): 140
Perf Bottom (ft): 502
Top Model Layer: 4
Bottom Model Layer: 4



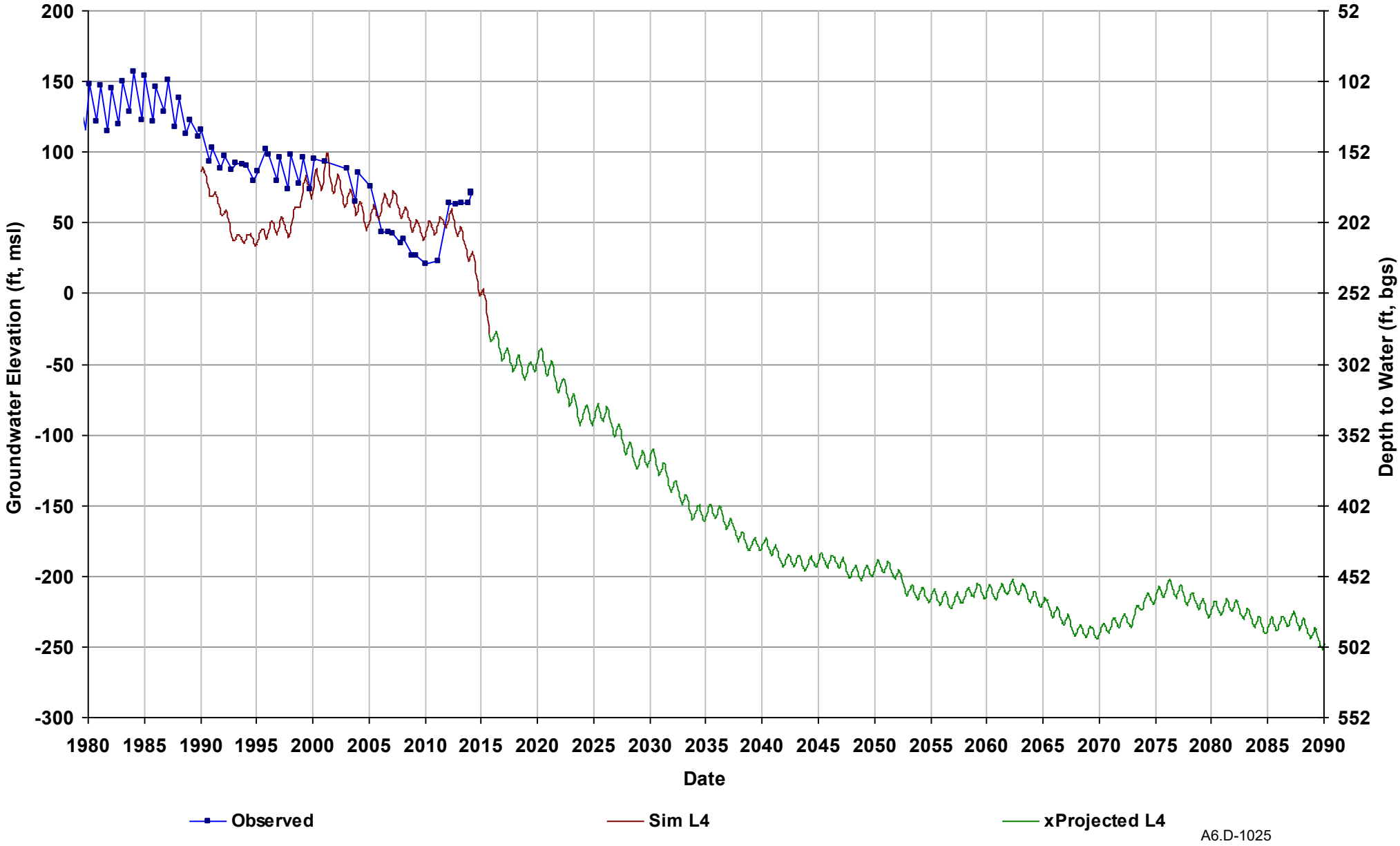
Well Name: 10S17E22D001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 277

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



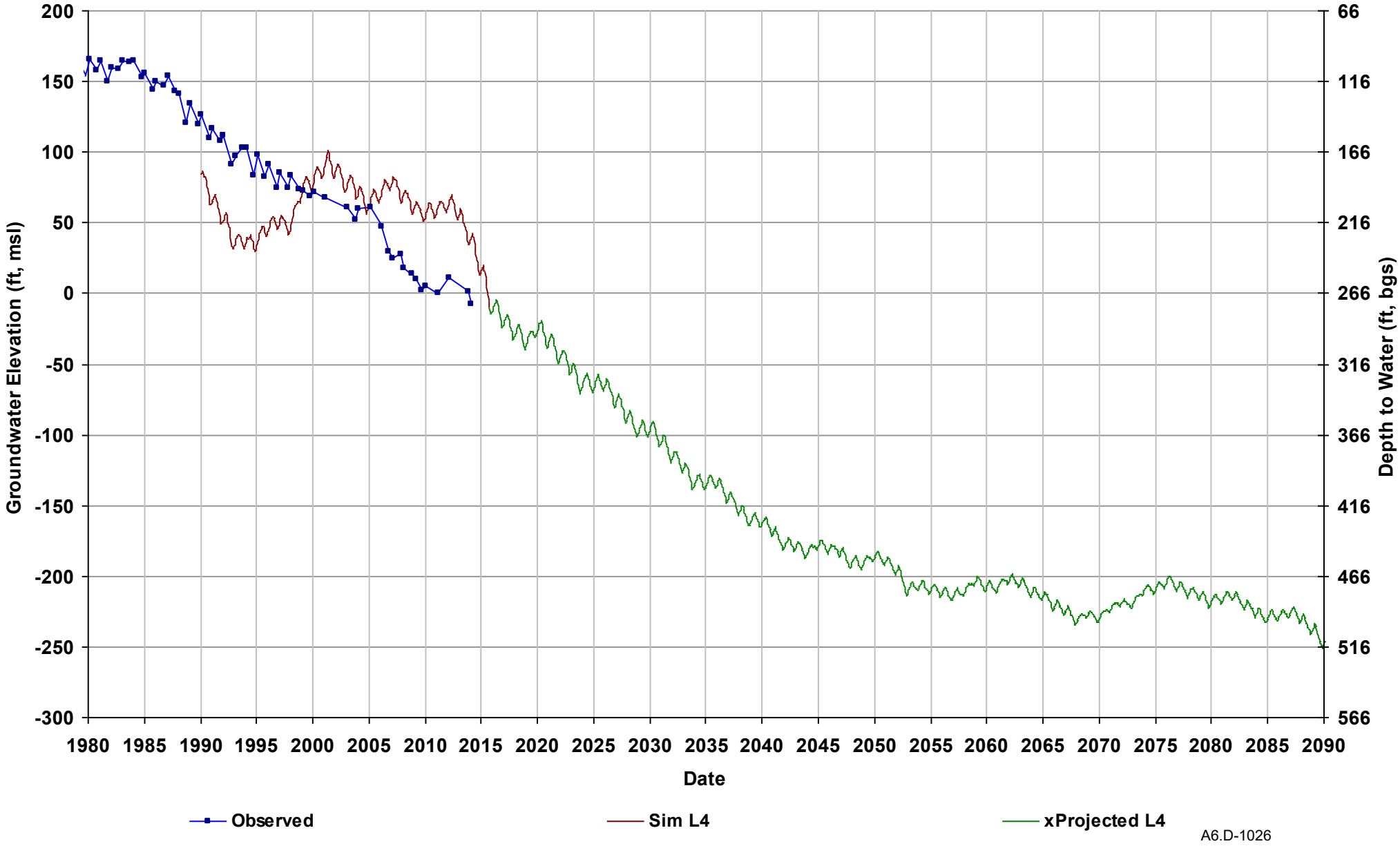
Well Name: 10S17E30B002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



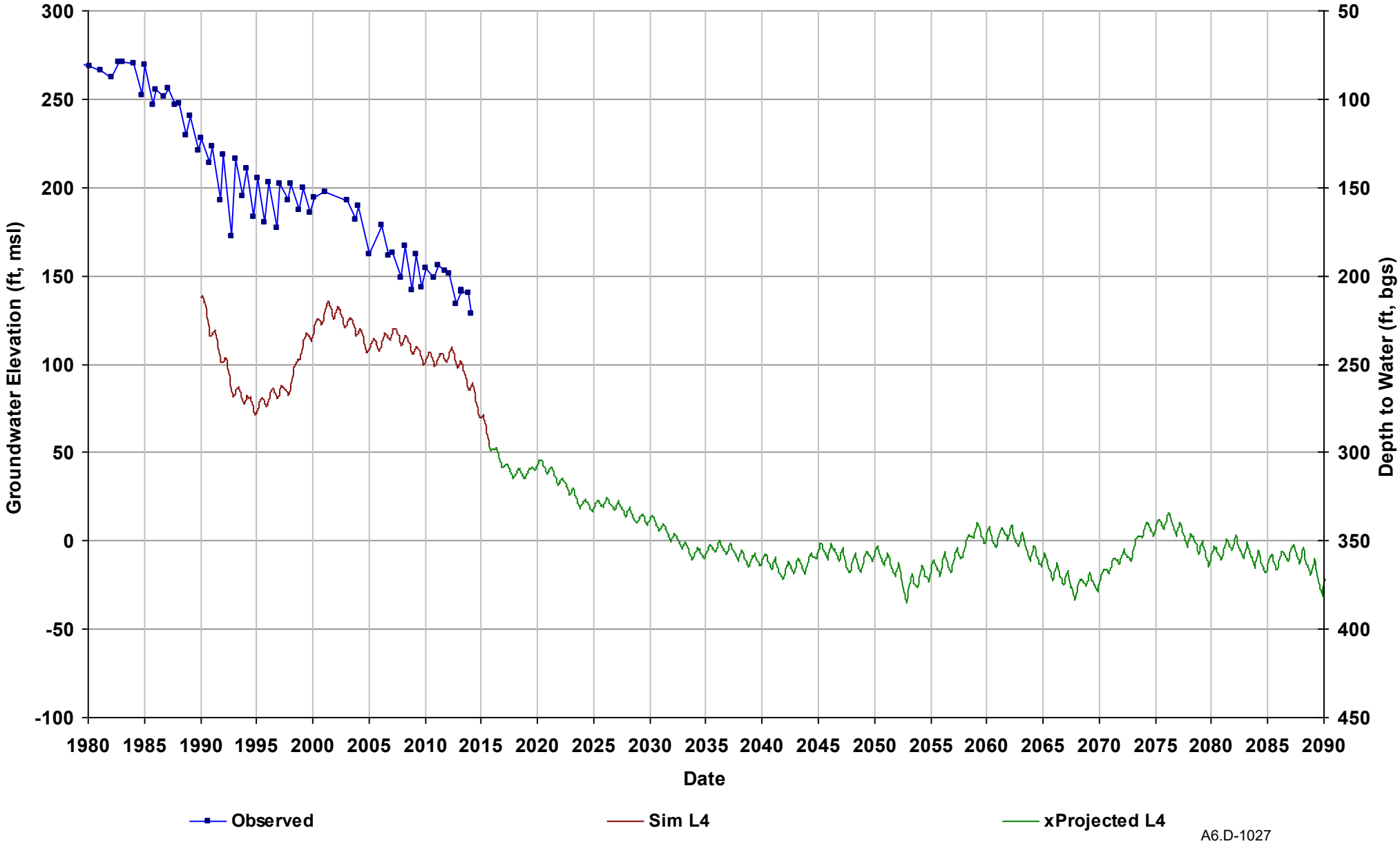
Well Name: 10S17E34A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 266

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



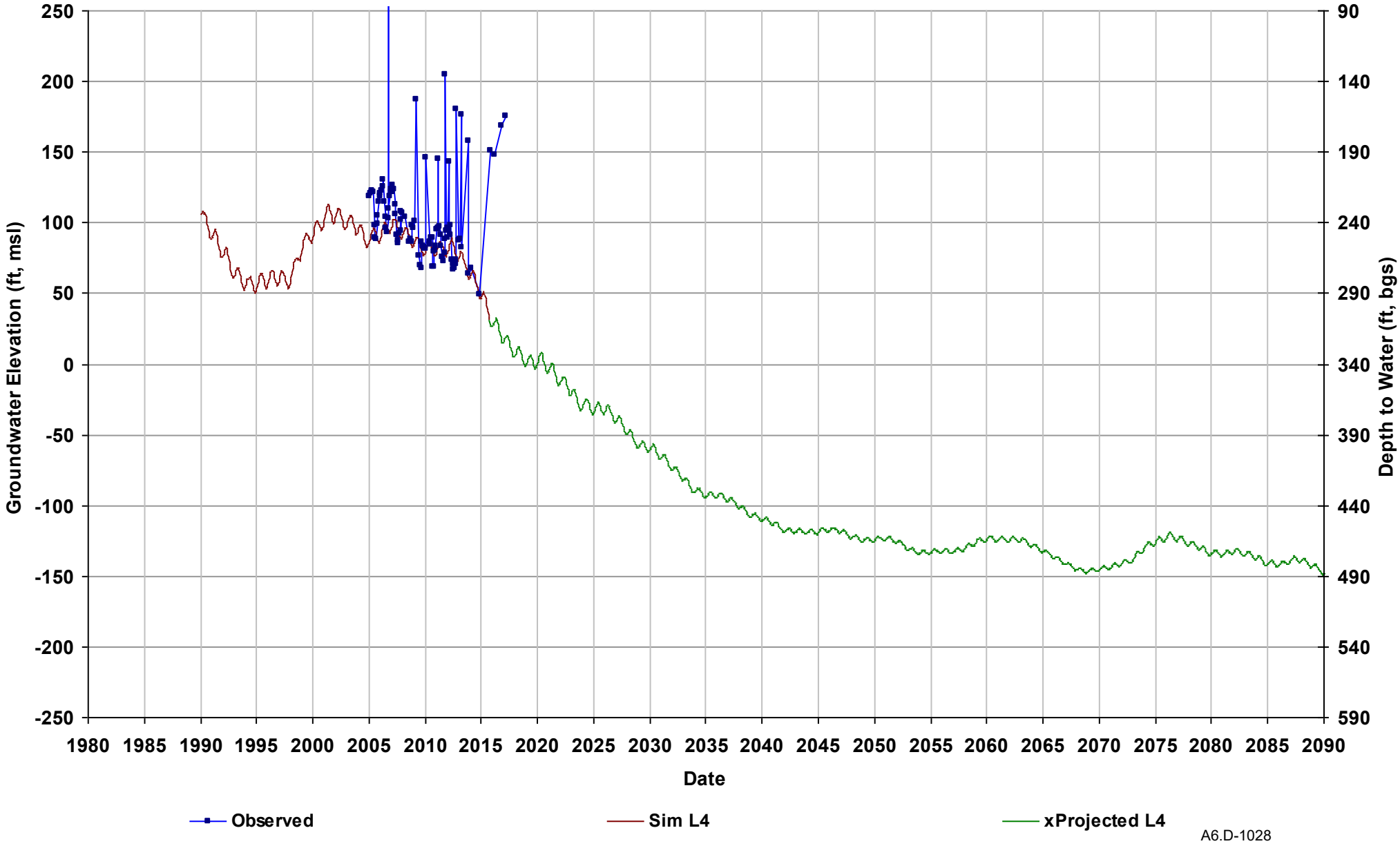
Well Name: 10S18E09C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 350

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



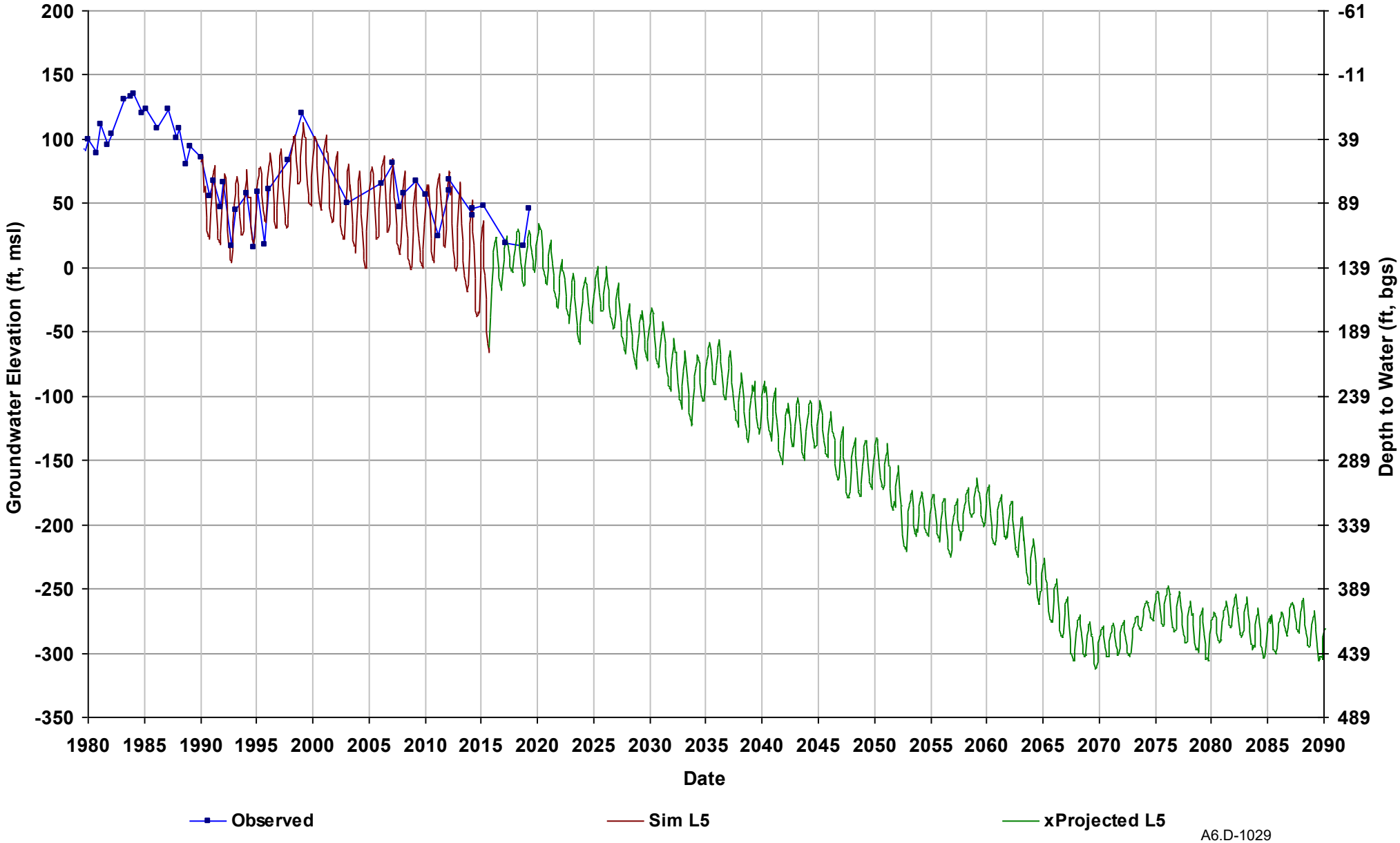
Well Name: 10S18E27N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 340

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



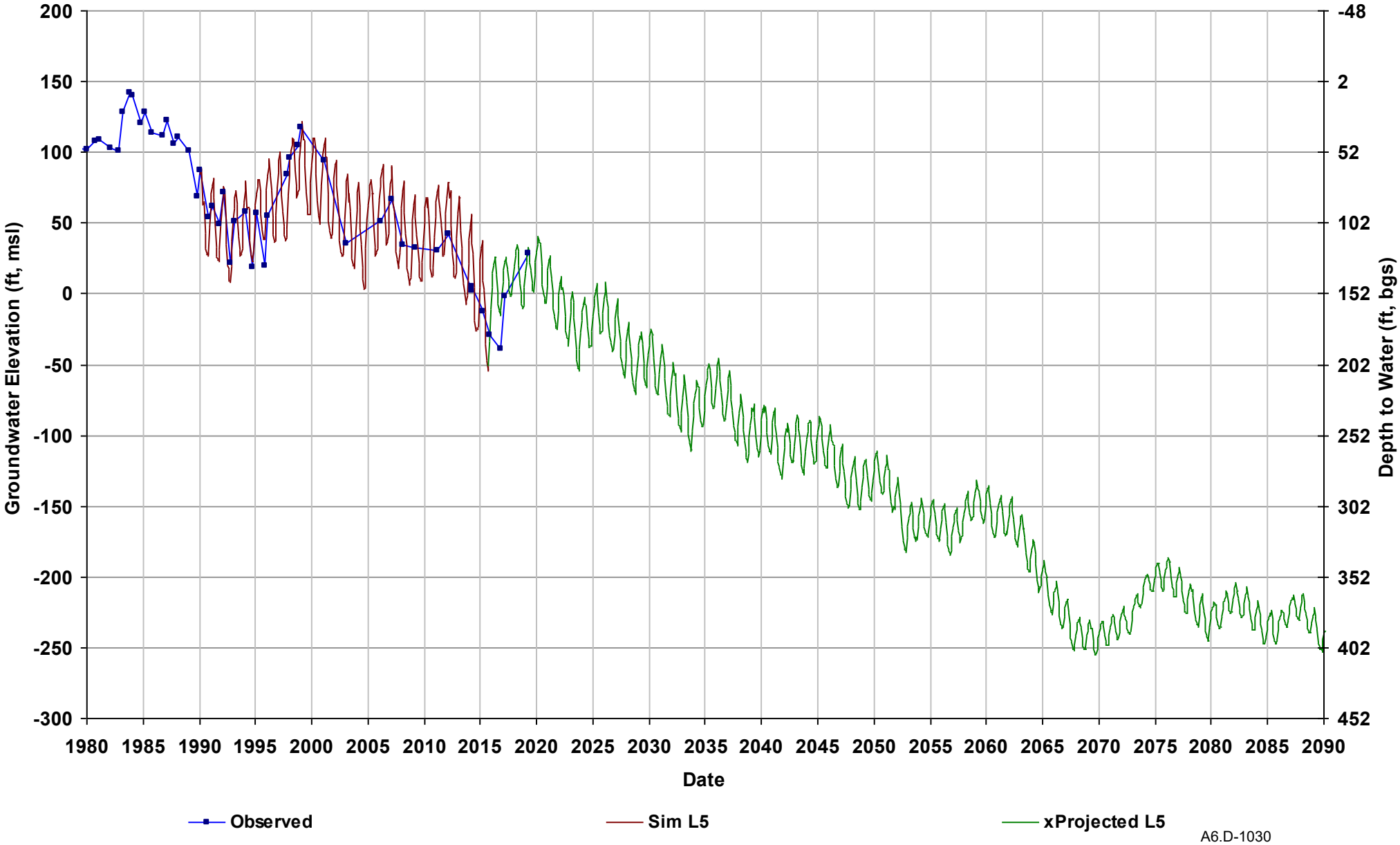
Well Name: 11S14E09A003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



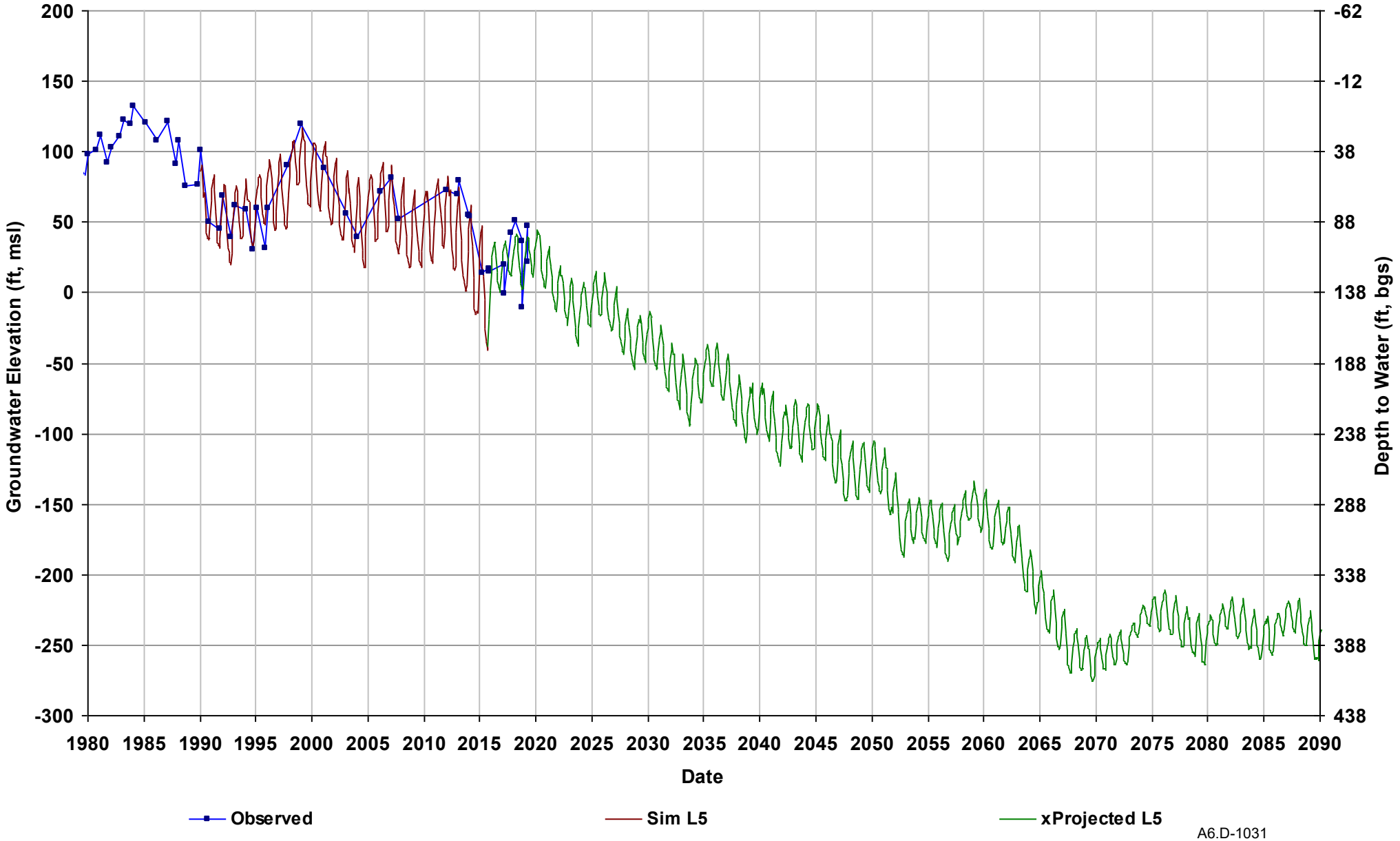
Well Name: 11S14E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 152

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



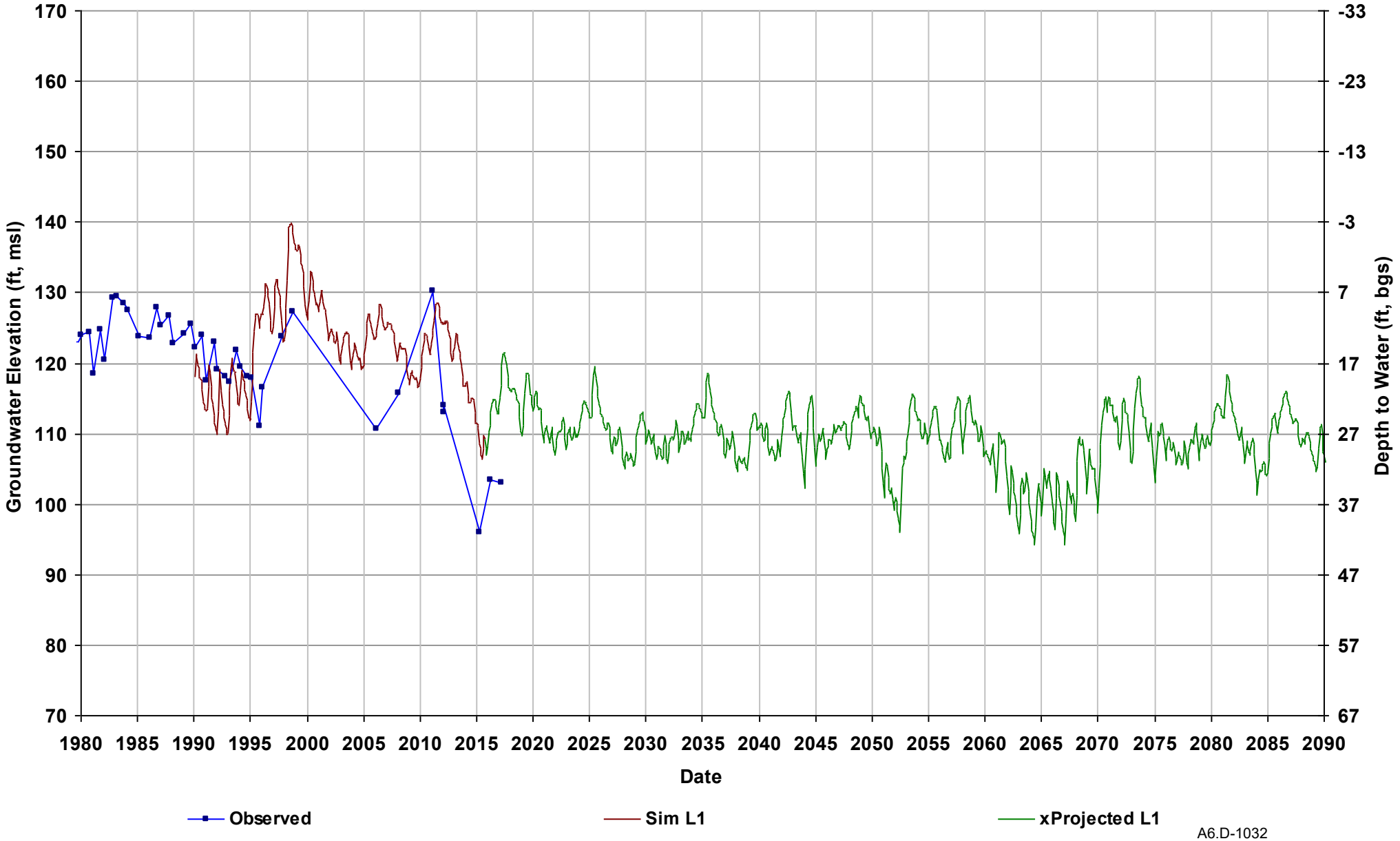
Well Name: 11S14E16A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 137

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



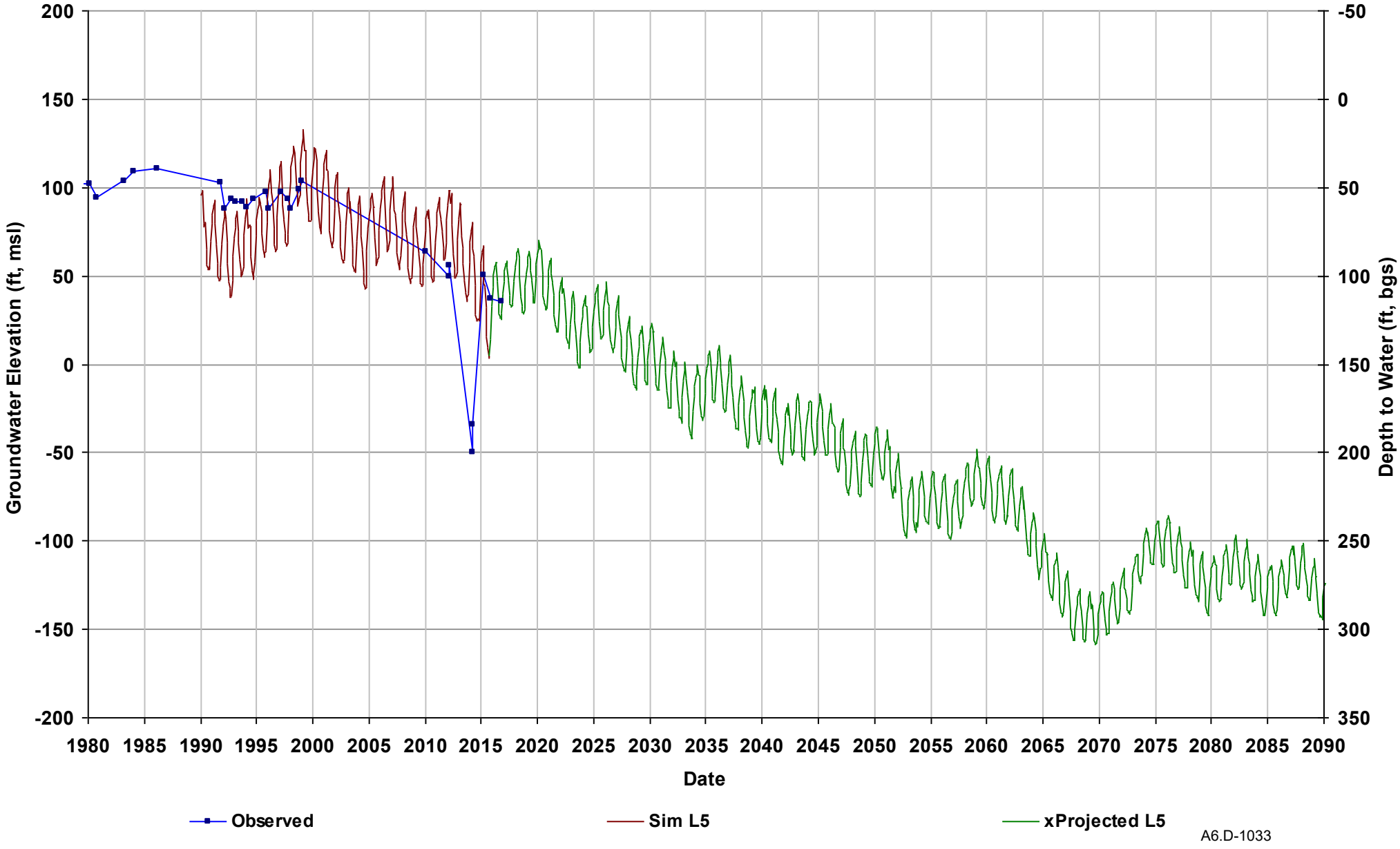
Well Name: 11S14E33L001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 137

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



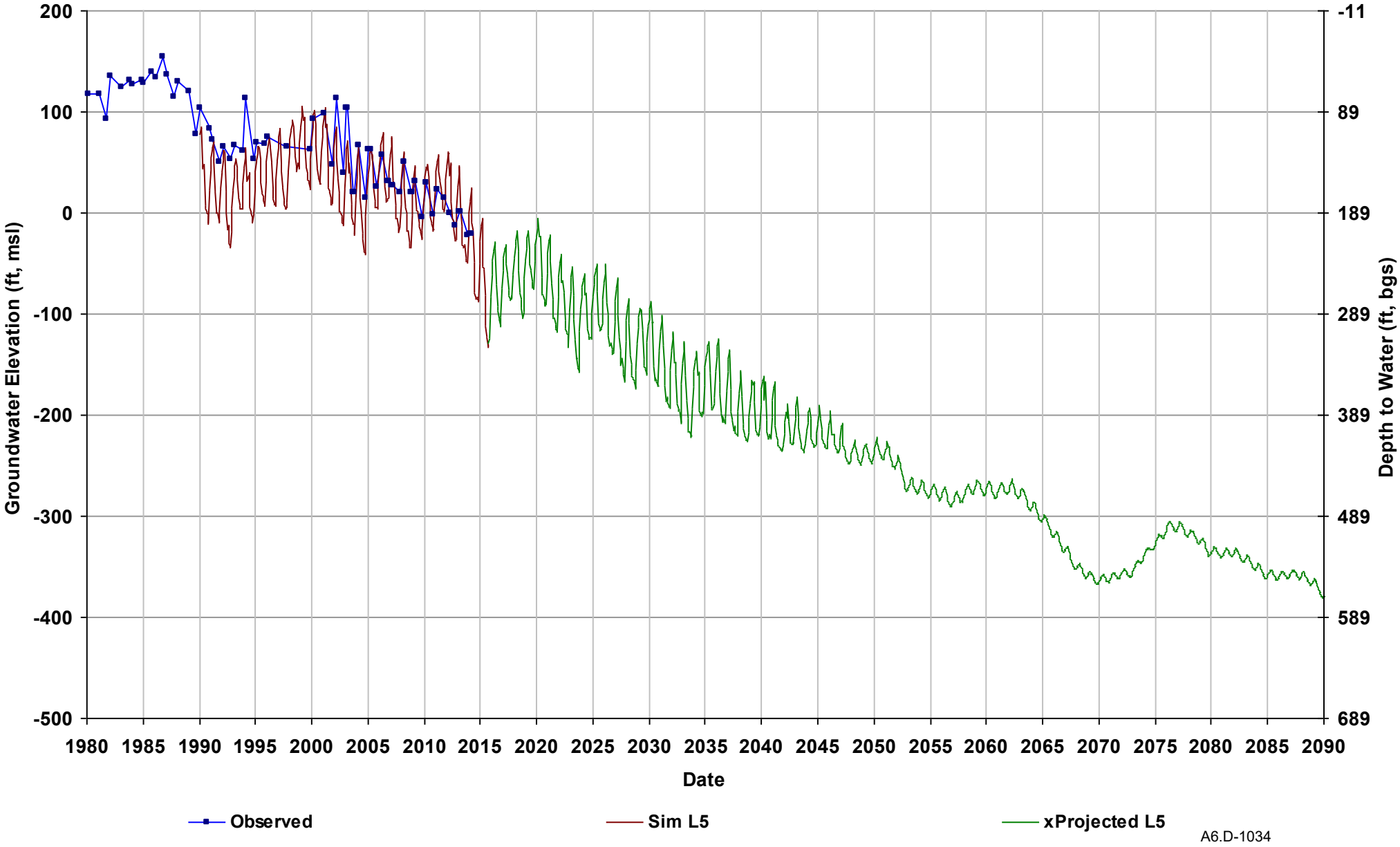
Well Name: 11S14E36R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 150

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



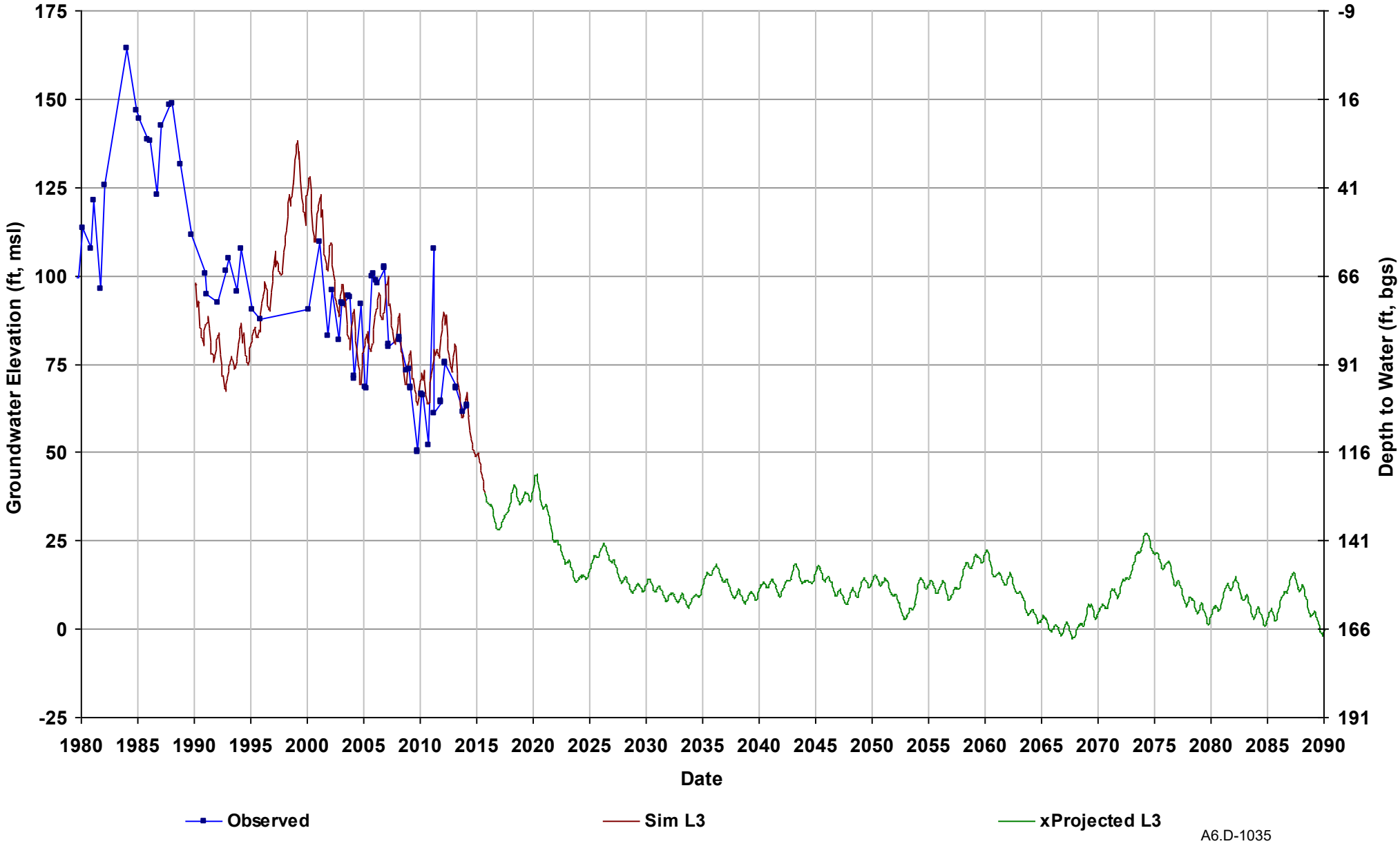
Well Name: 11S15E01H002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 189

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



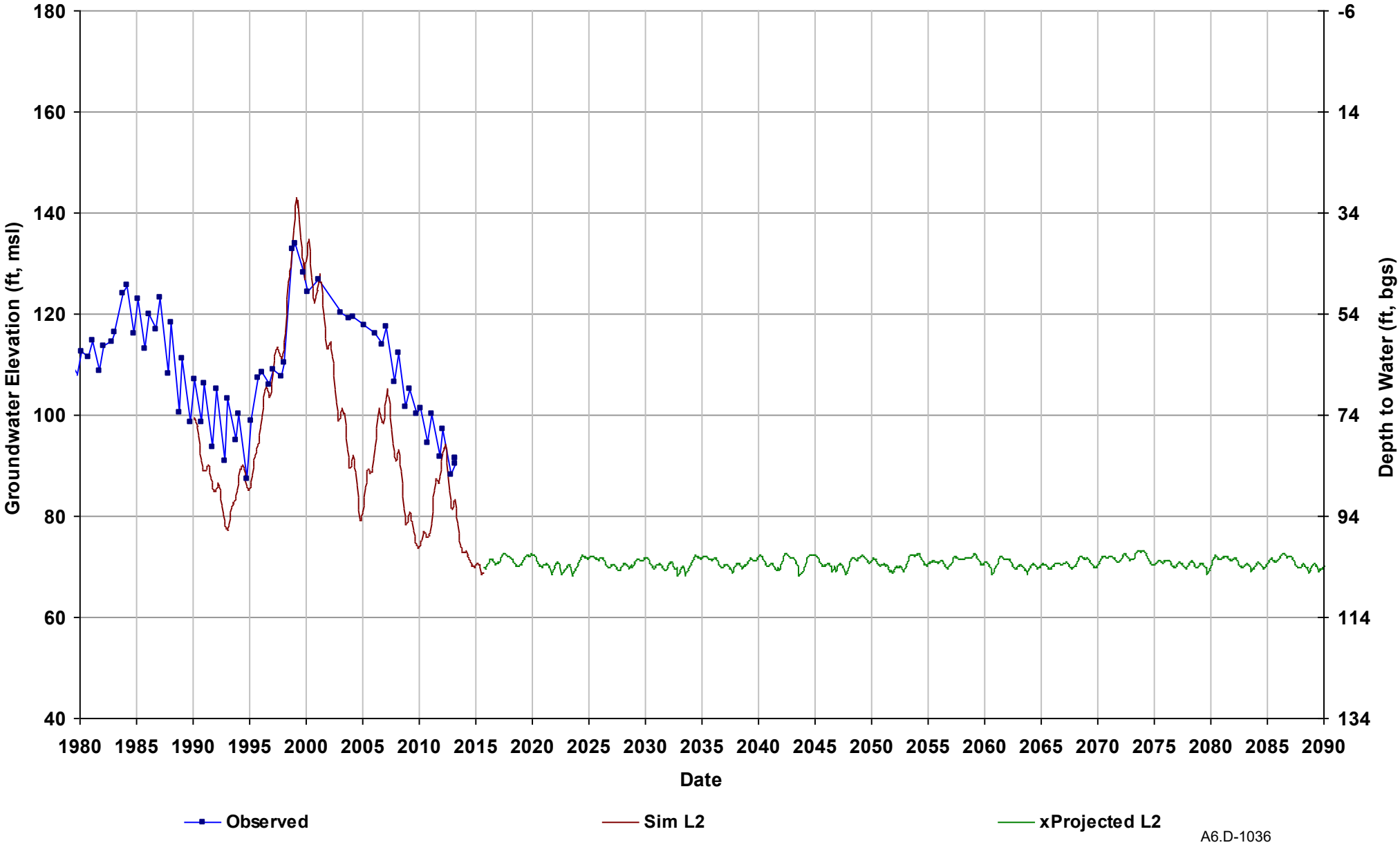
Well Name: 11S15E09C001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



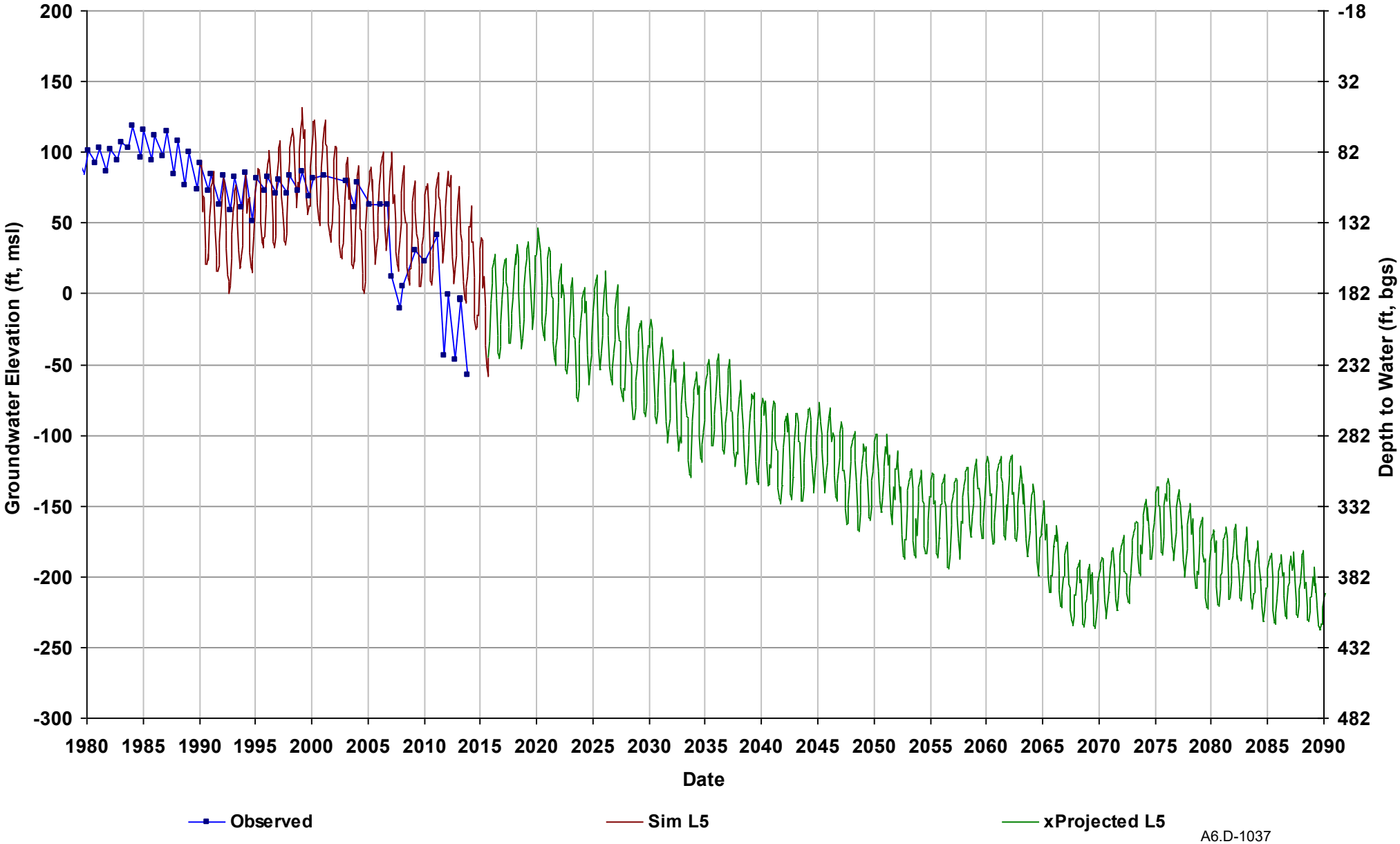
Well Name: 11S15E10J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 174

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



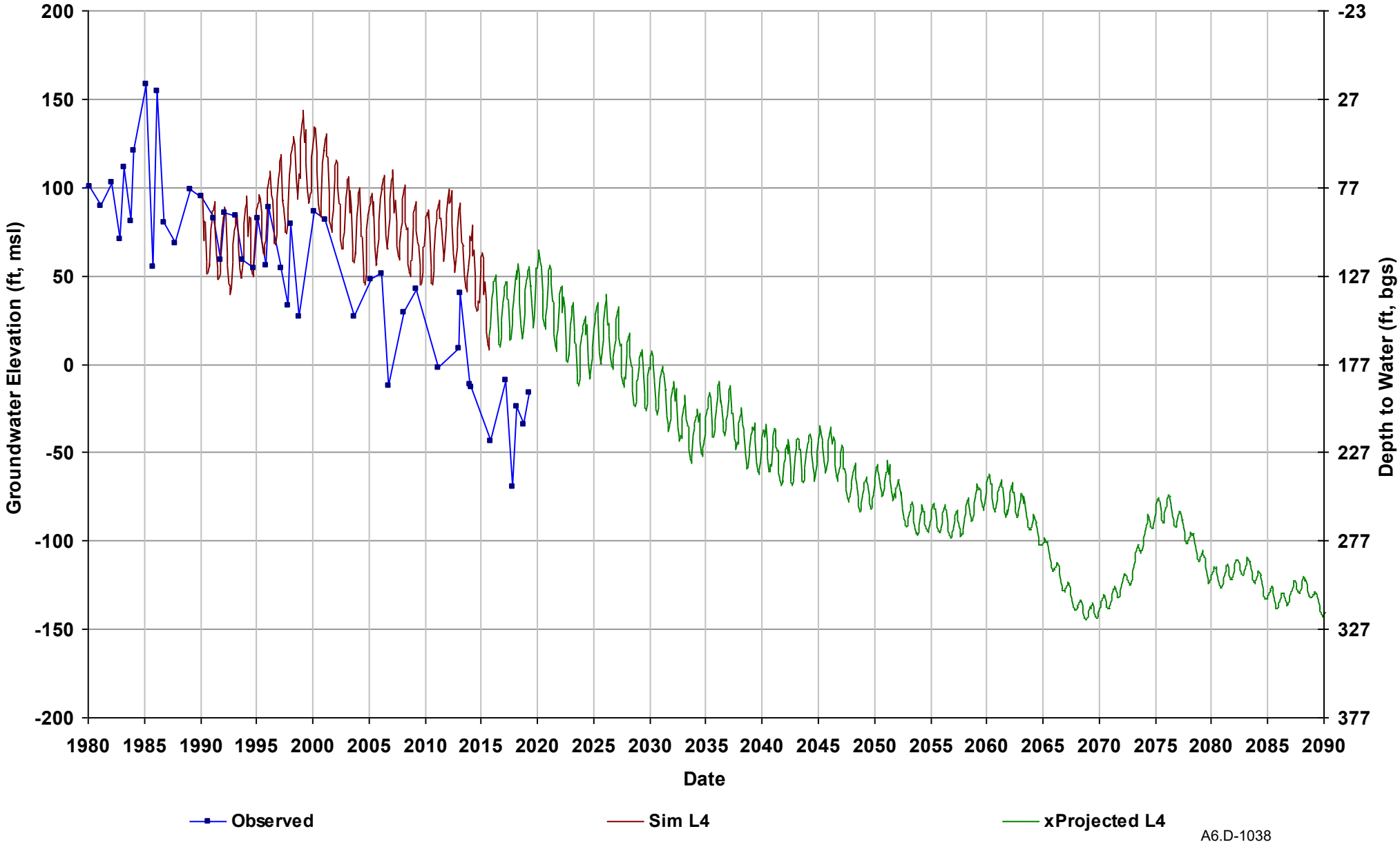
Well Name: 11S15E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 182

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



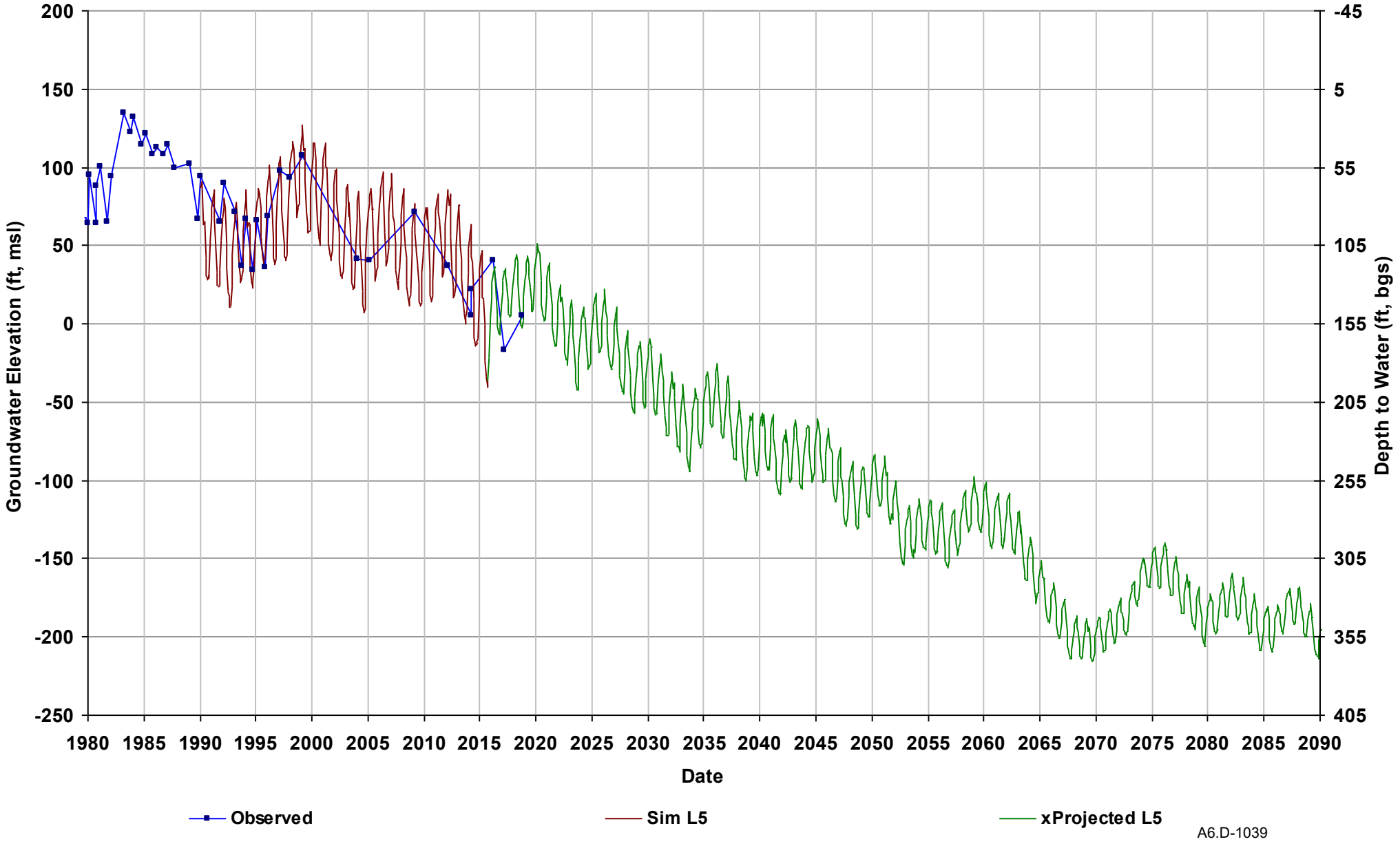
Well Name: 11S15E26R001M
Depth Zone: Composite; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



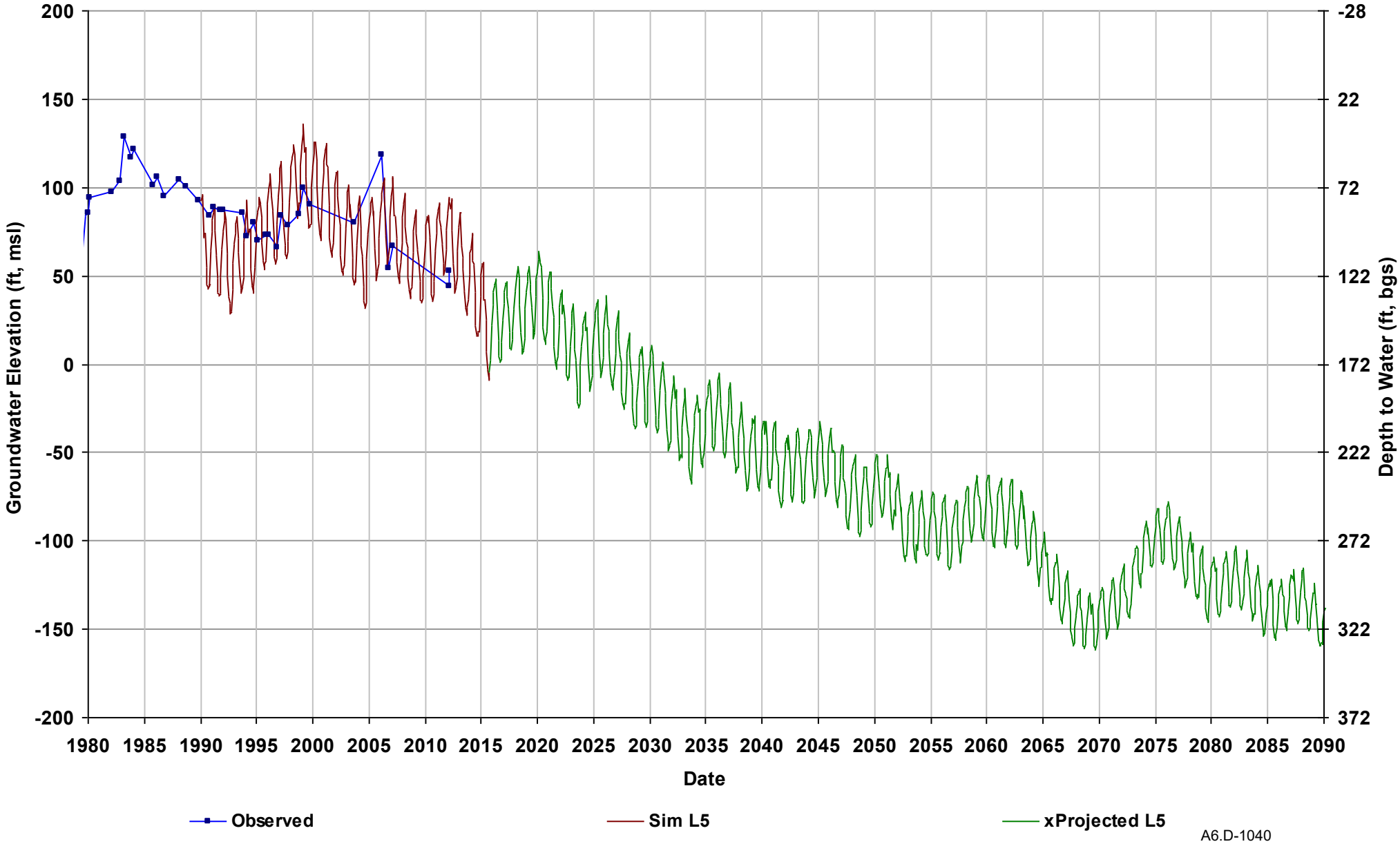
Well Name: 11S15E30A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 155

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



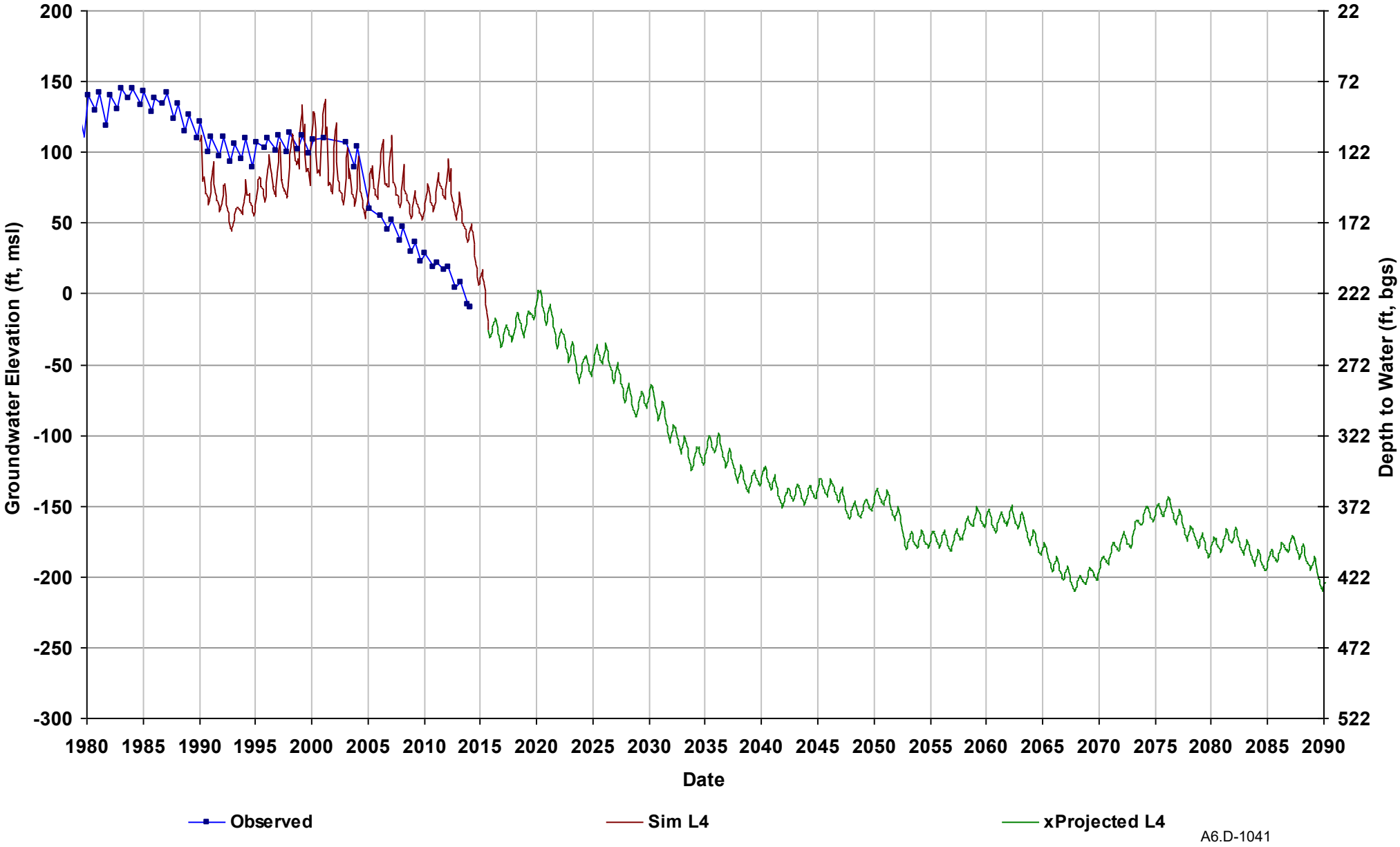
Well Name: 11S15E35P001M
Depth Zone: Unknown; Inside CC
Subbasin: Madera
GSE (ft, msl): 172

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



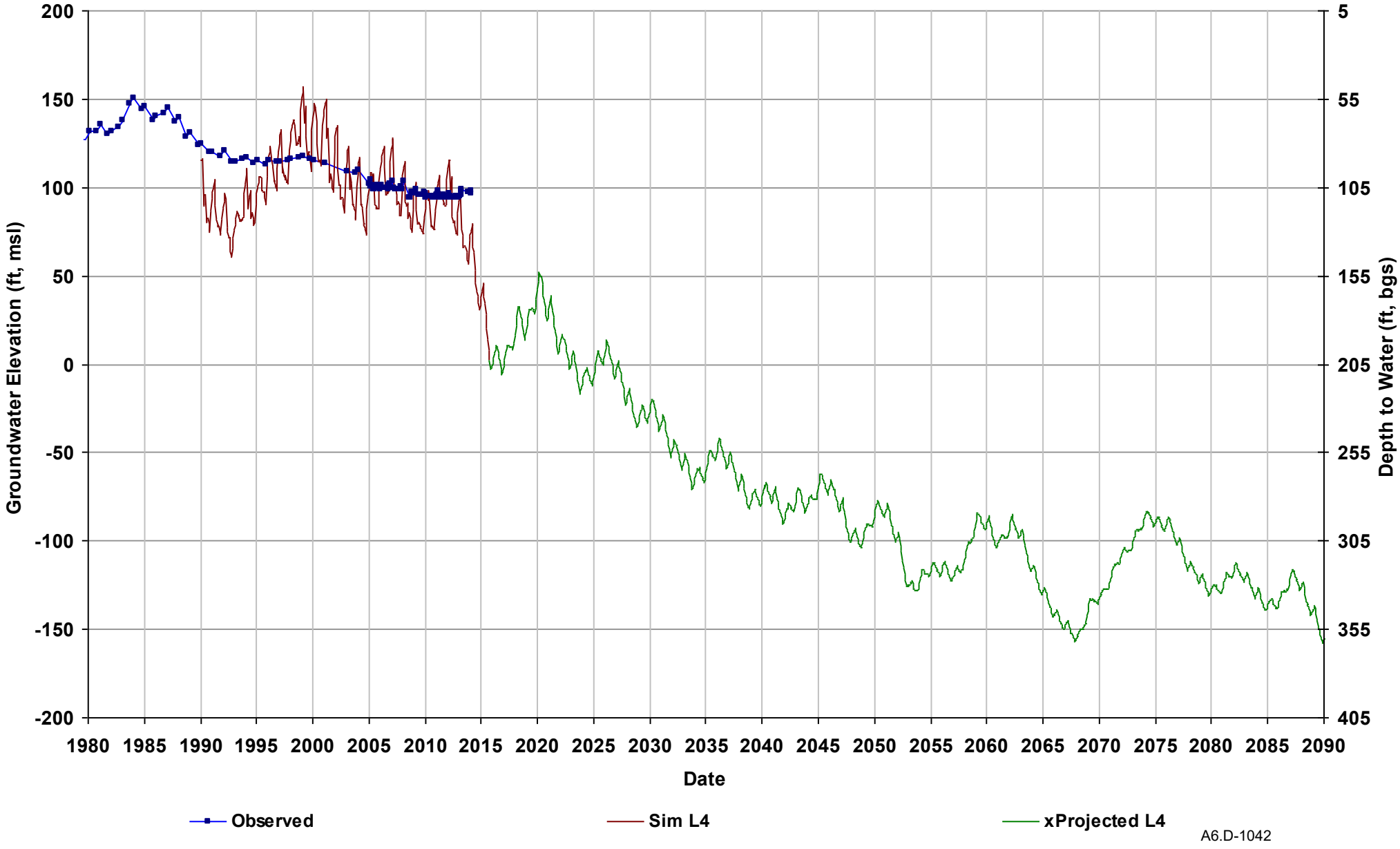
Well Name: 11S16E03A001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 222

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



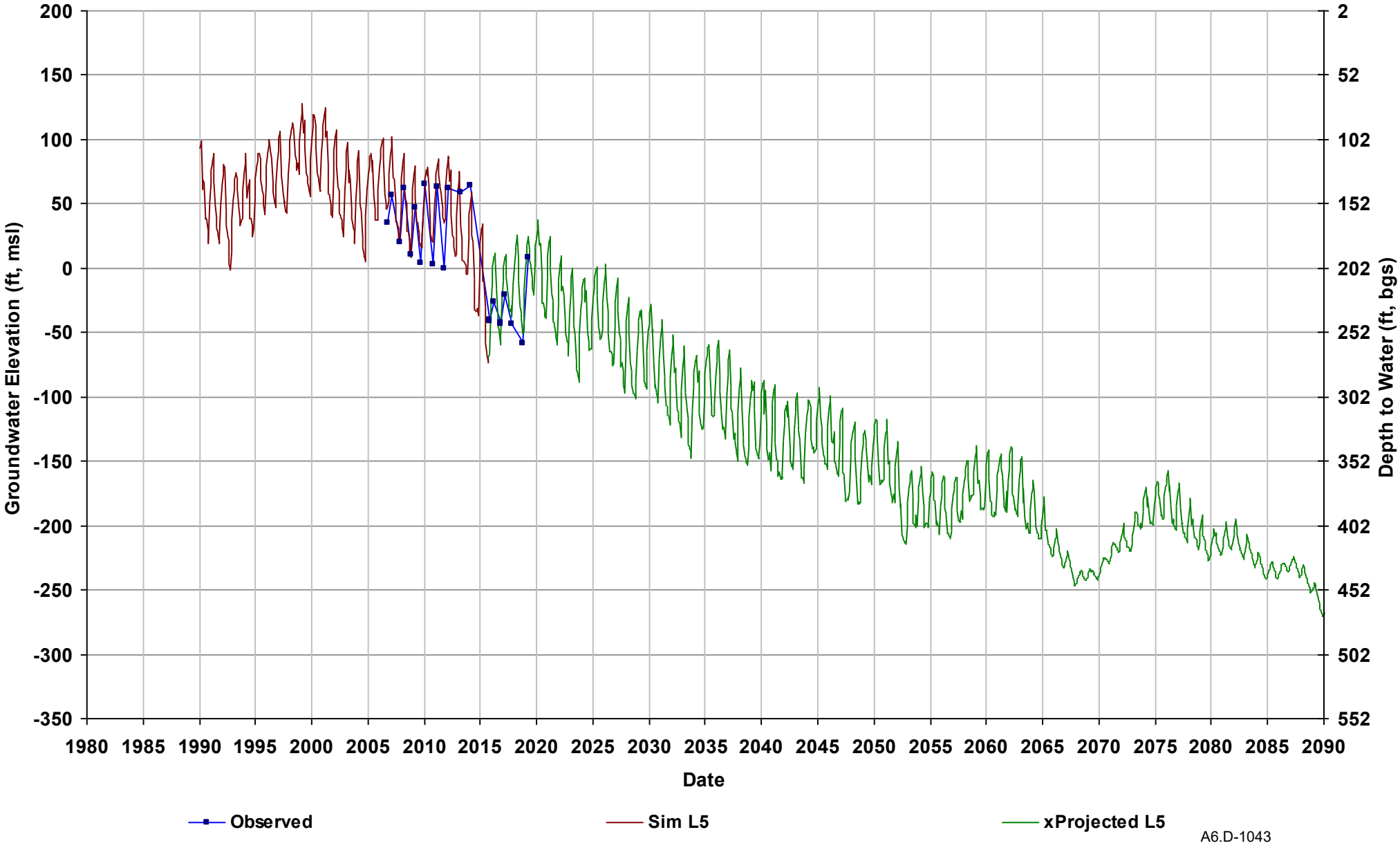
Well Name: 11S16E10N001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 204

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



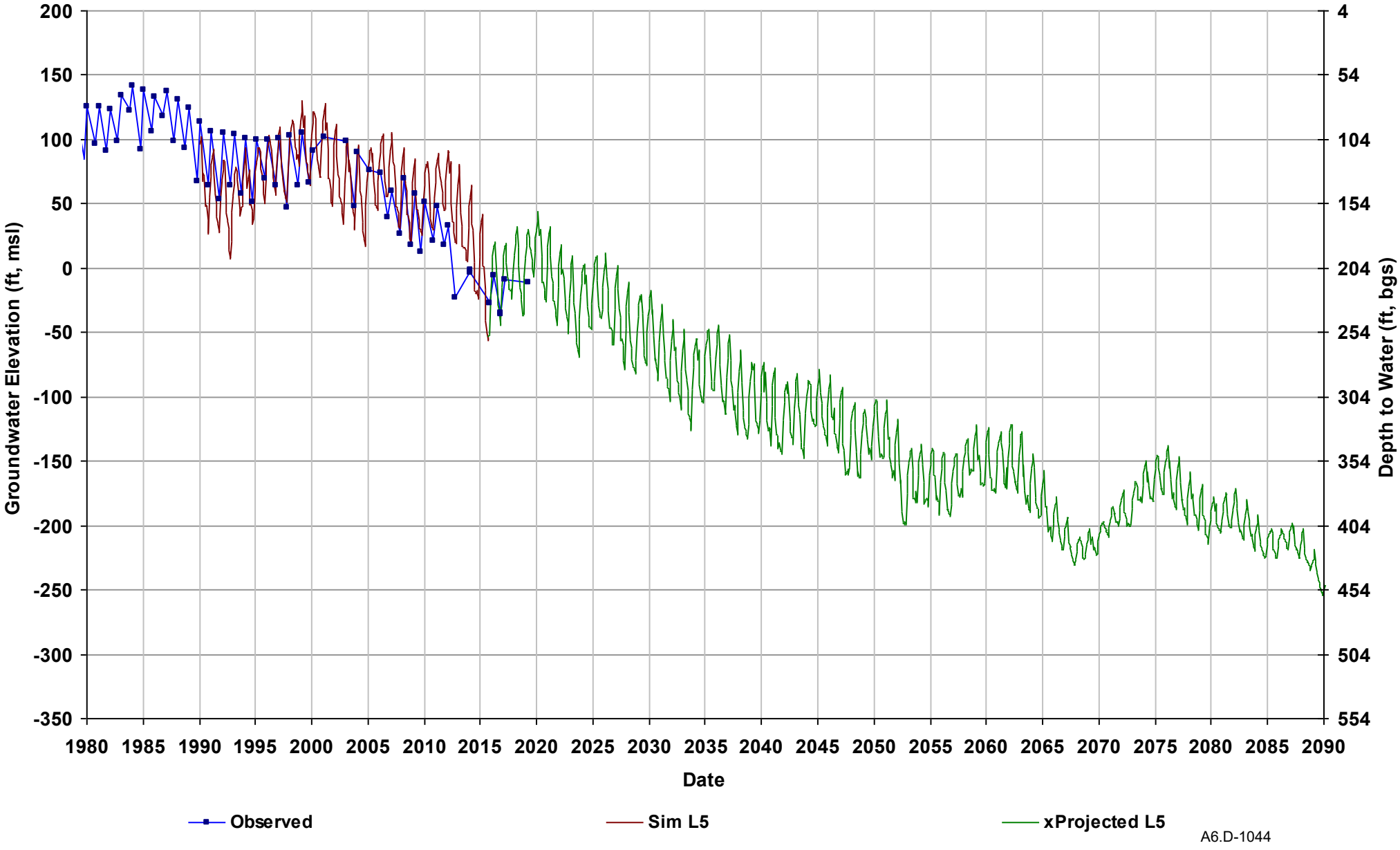
Well Name: 11S16E21A001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



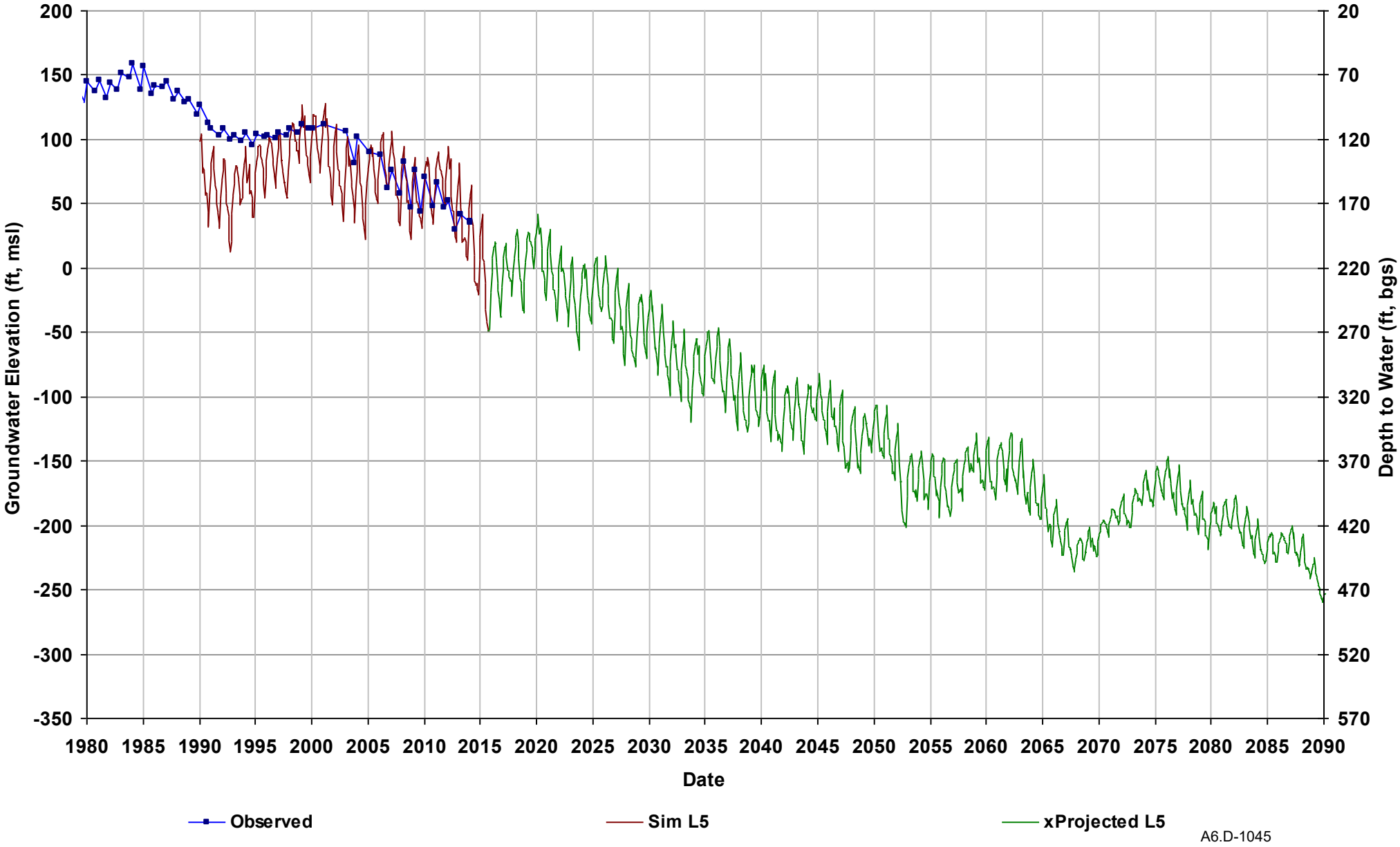
Well Name: 11S16E22K001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 204

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



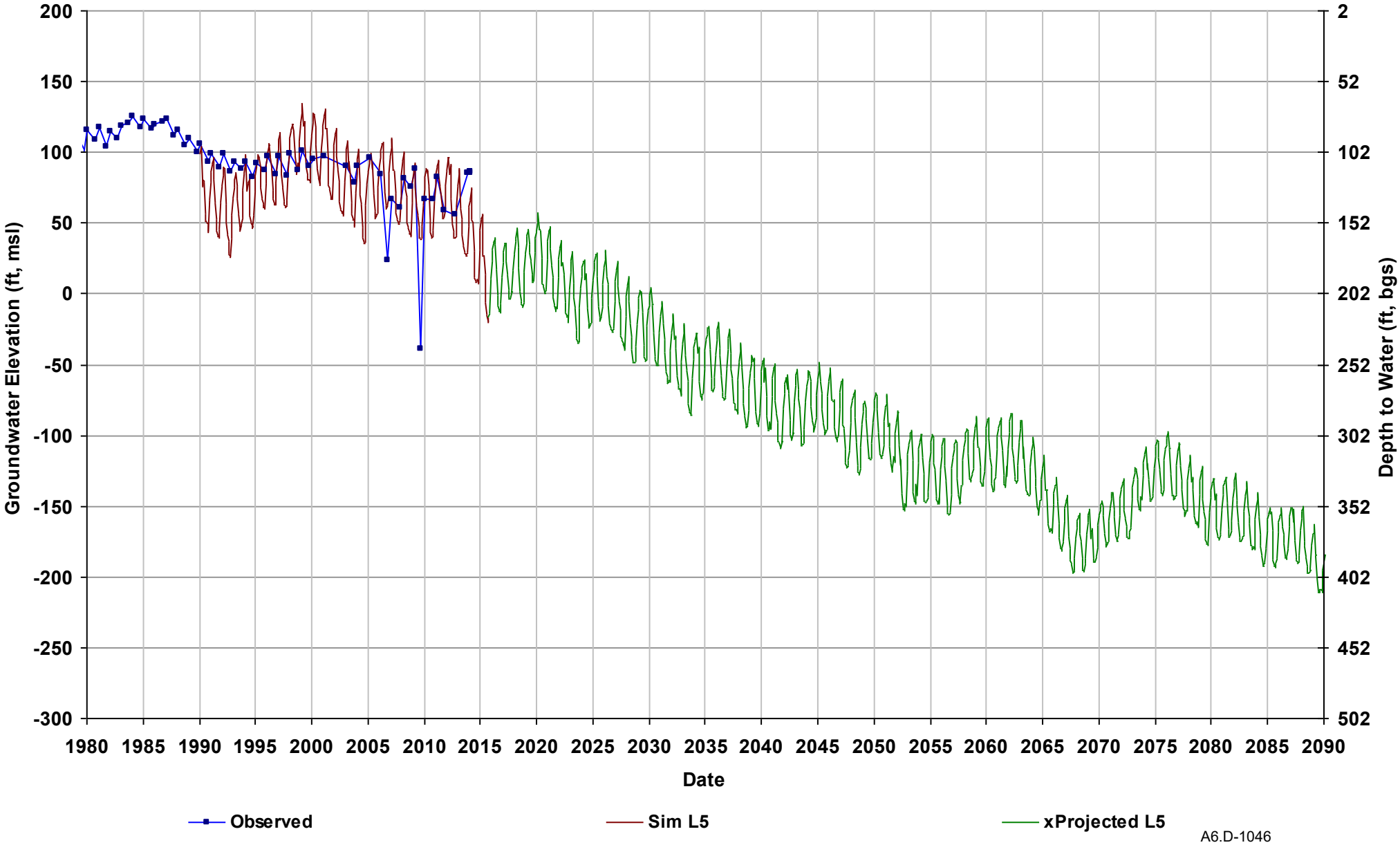
Well Name: 11S16E24M001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 219

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



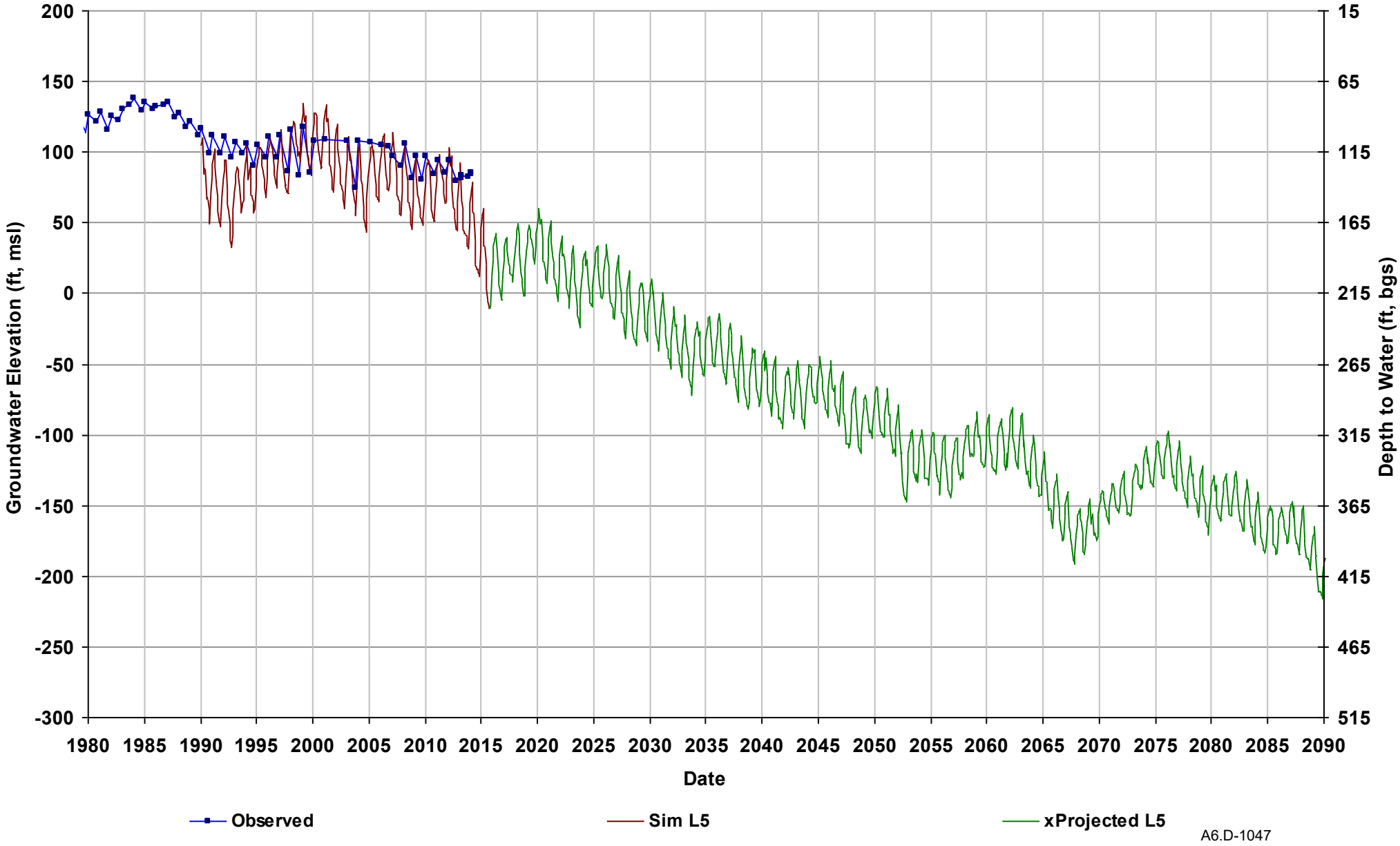
Well Name: 11S16E34D001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



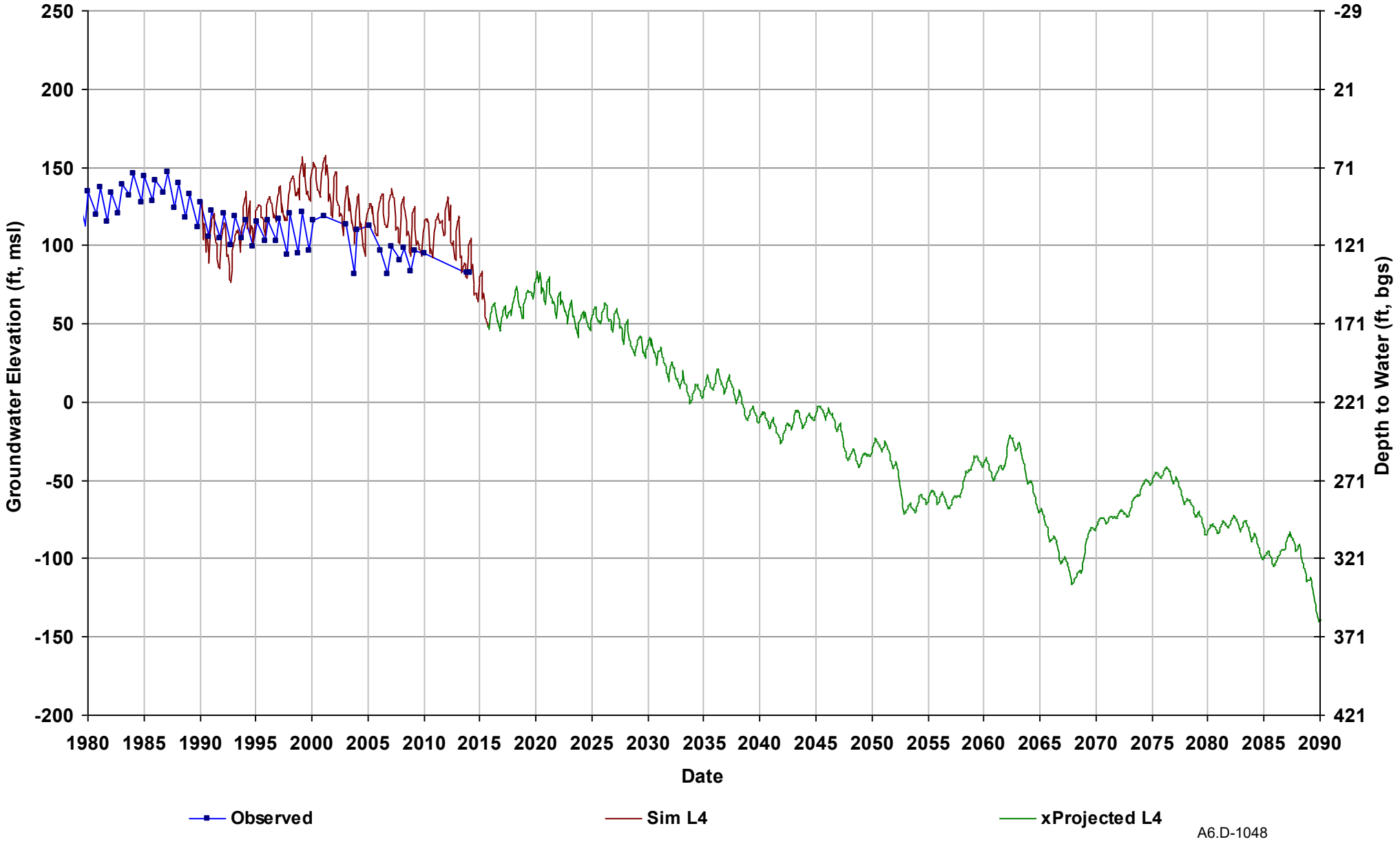
Well Name: 11S16E35H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 215

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



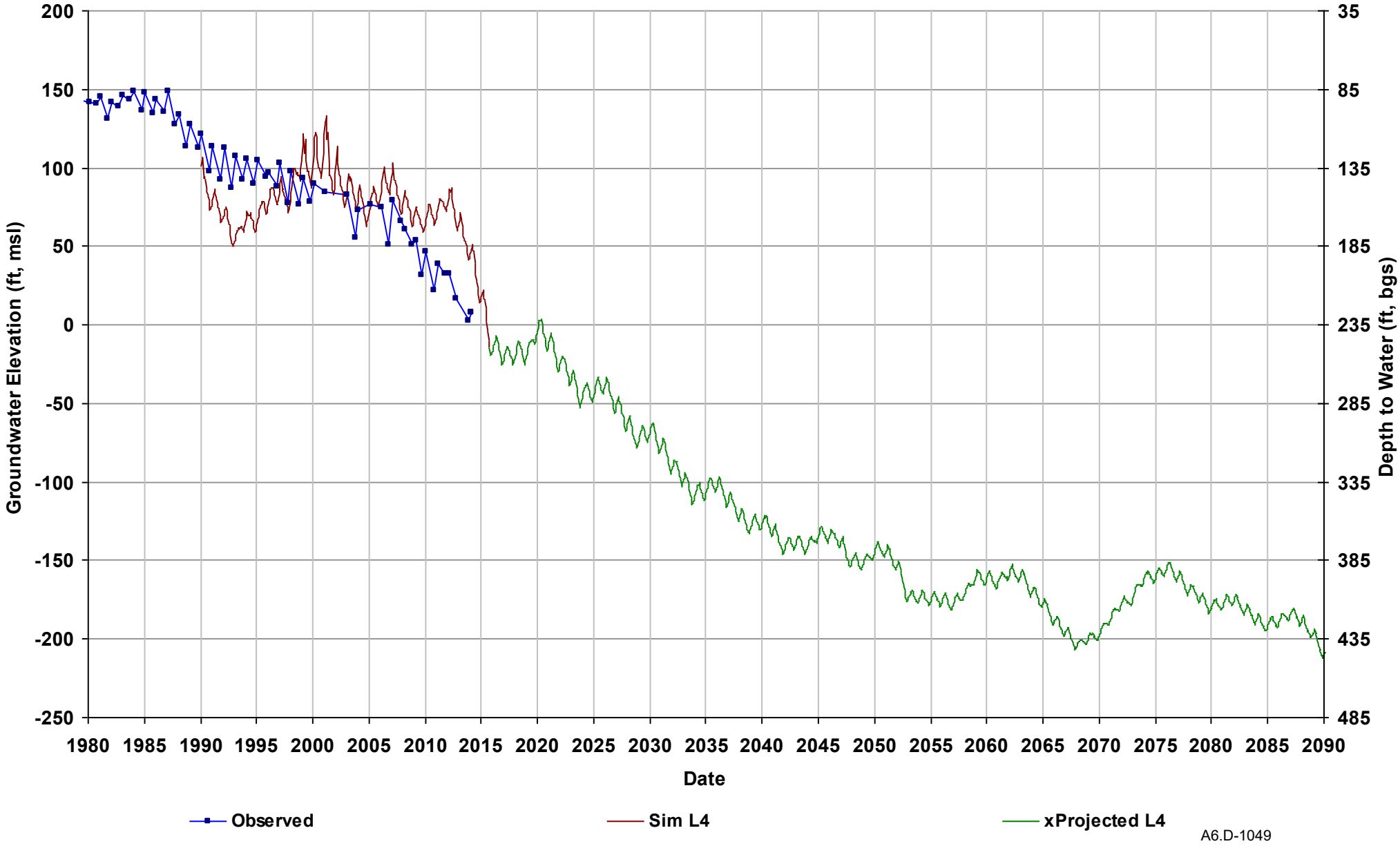
Well Name: 11S16E36J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 221

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



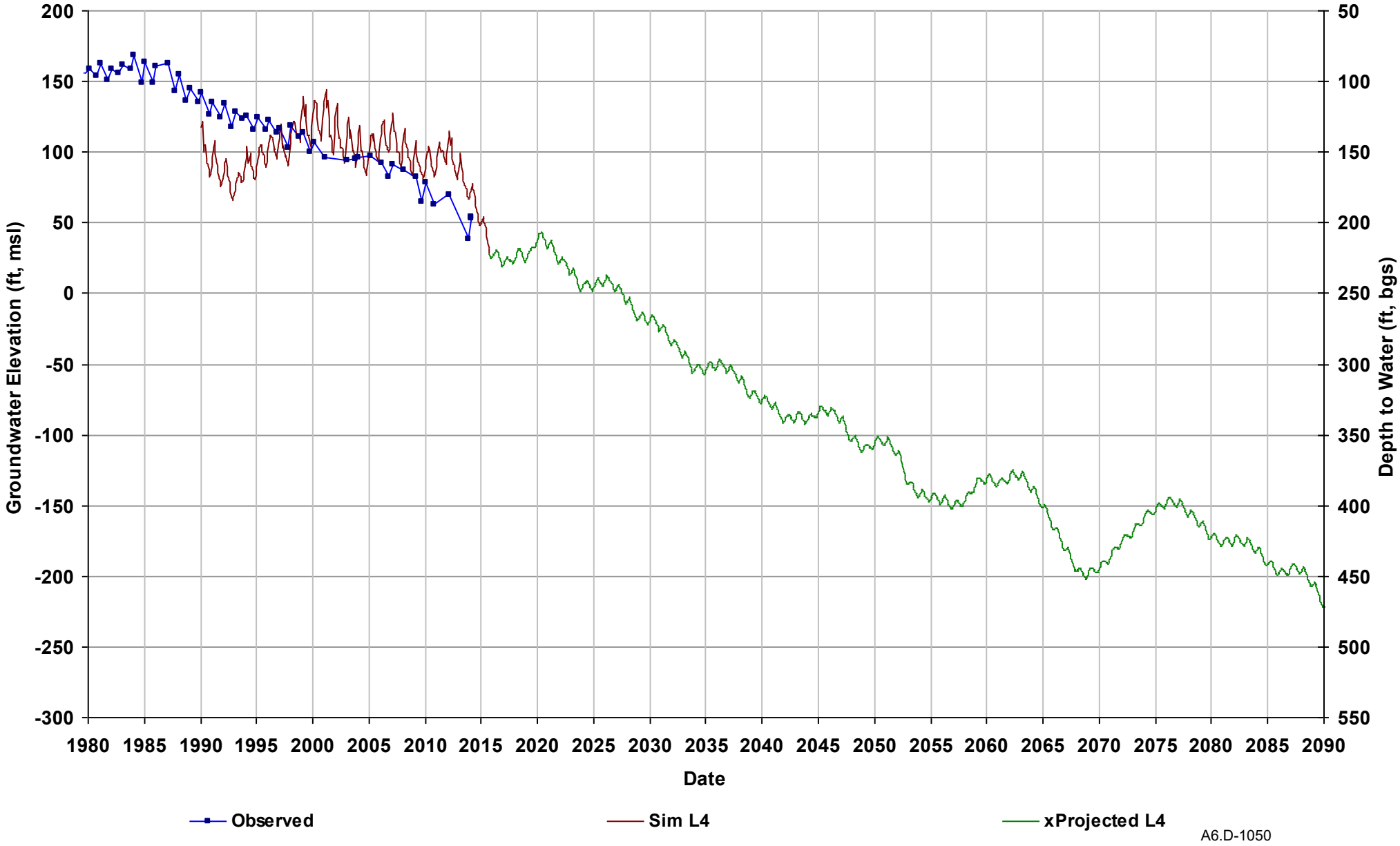
Well Name: 11S17E06C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 235

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



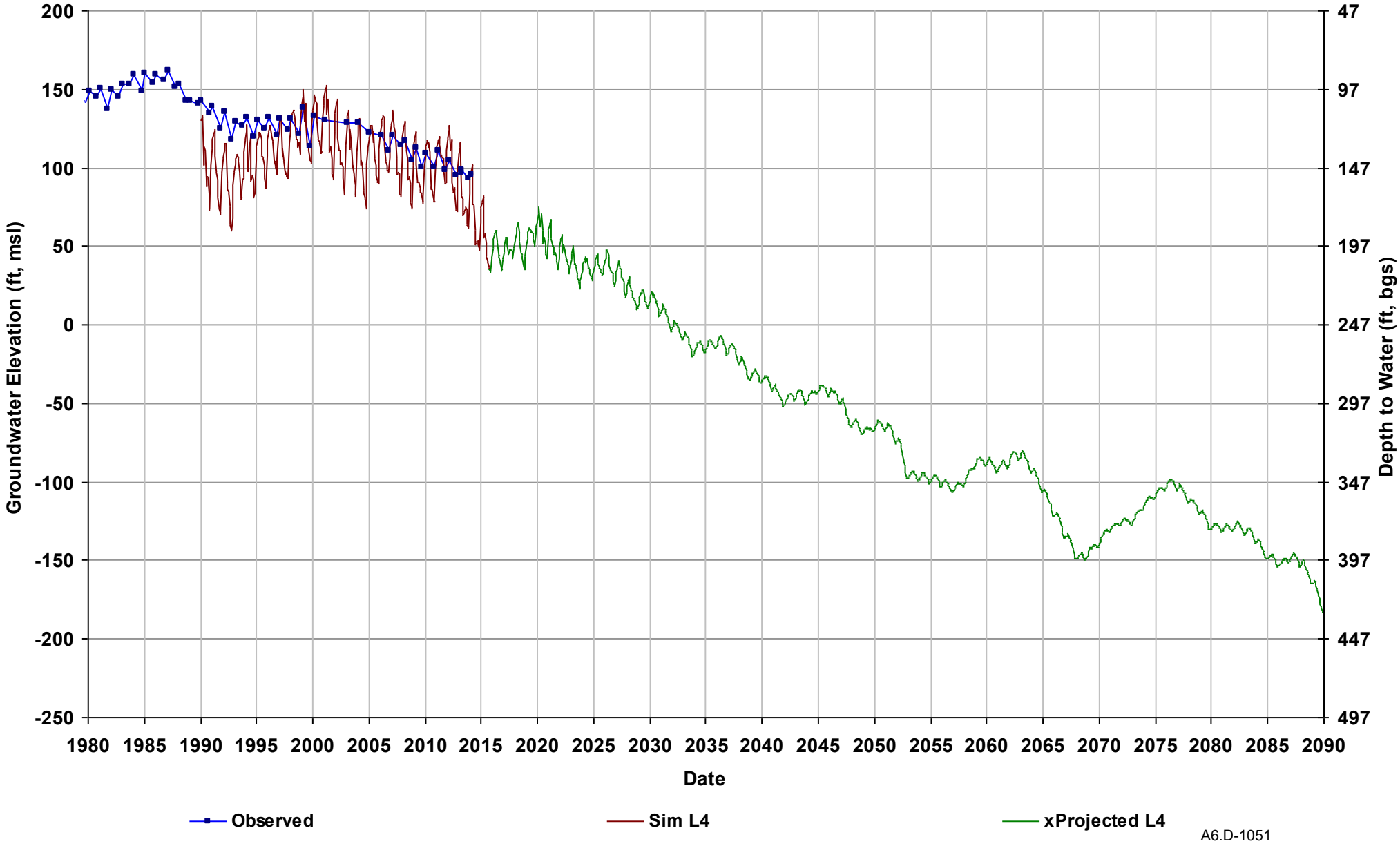
Well Name: 11S17E16H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 249

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



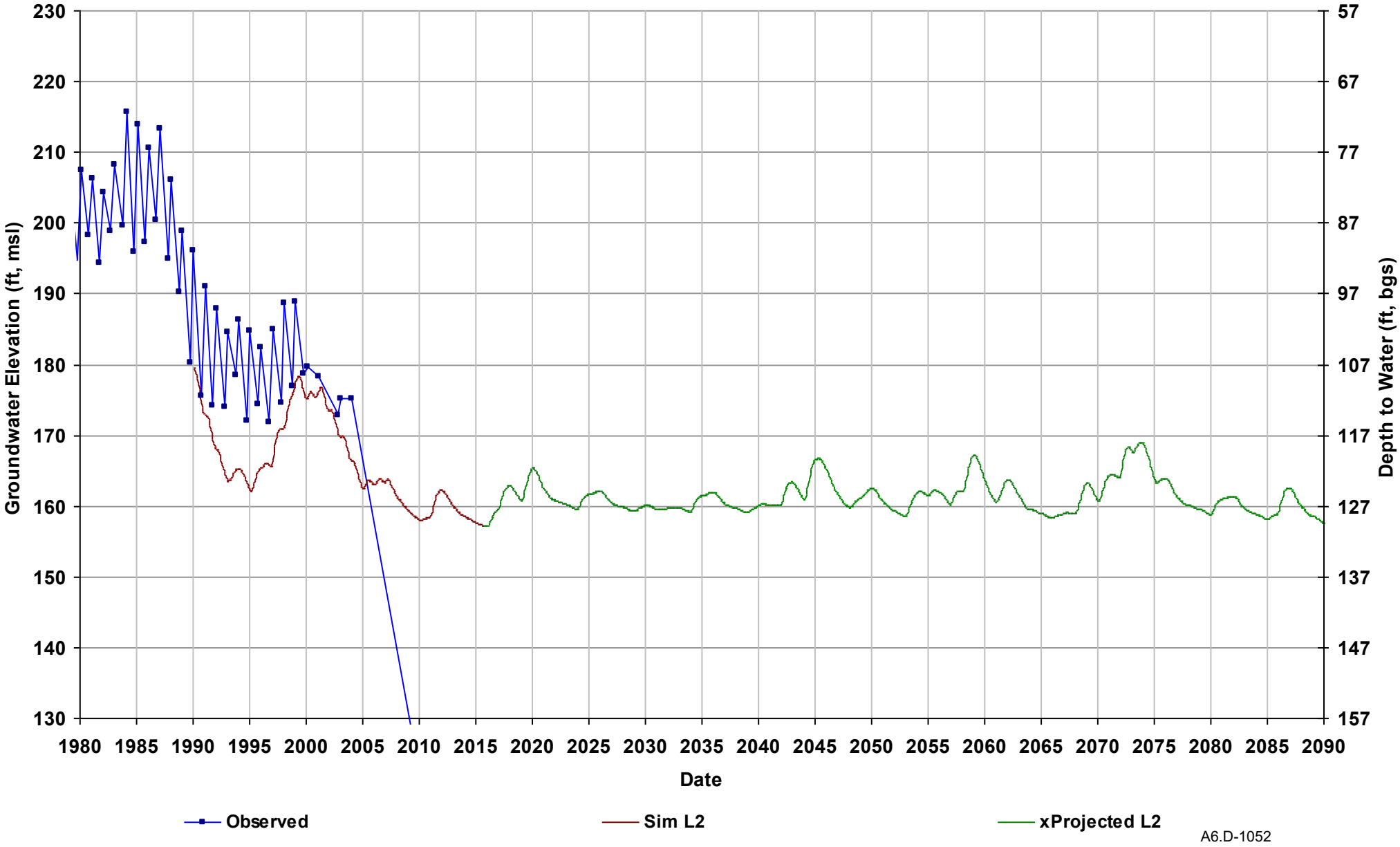
Well Name: 11S17E33H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 246

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



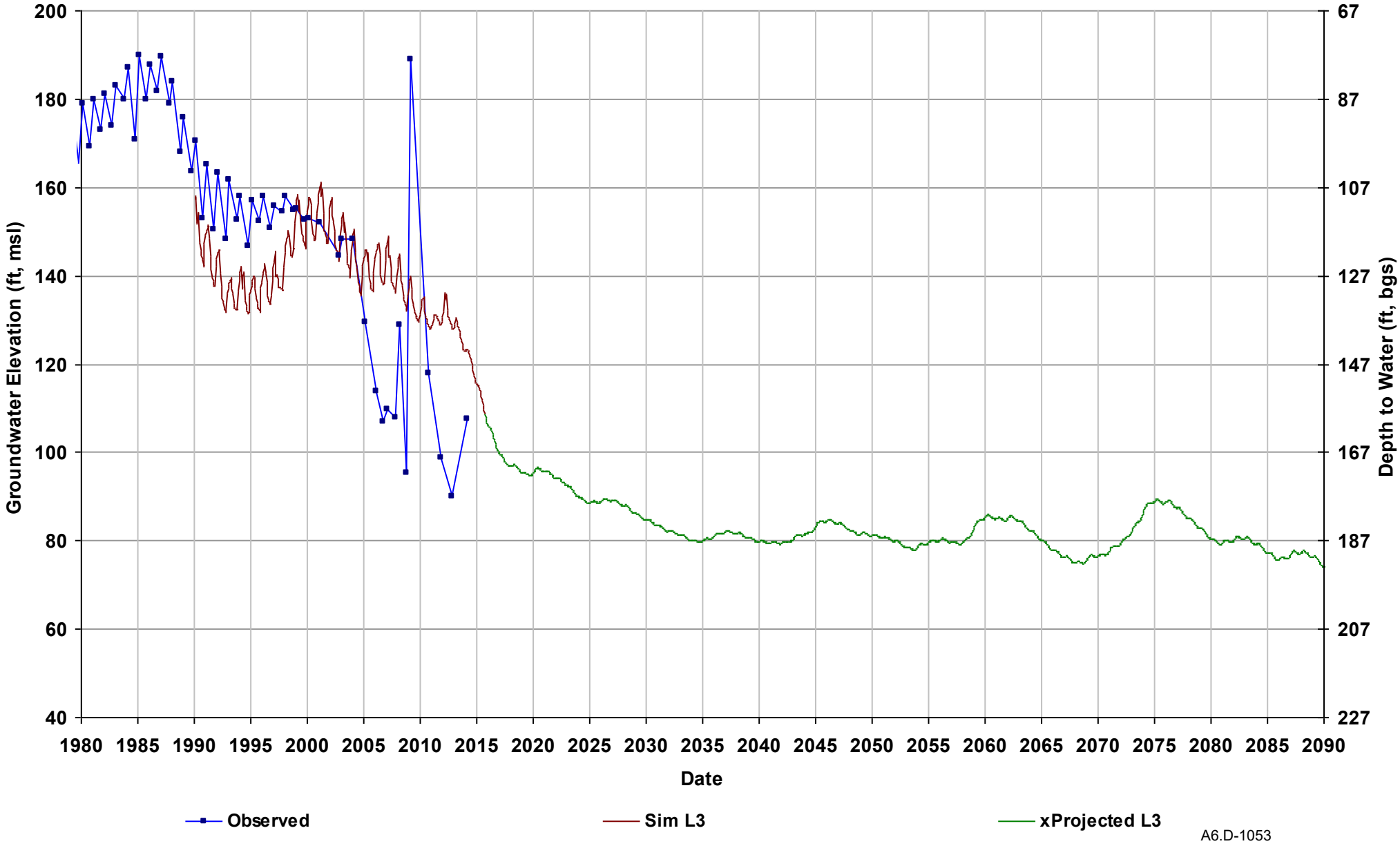
Well Name: 11S18E27F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 287

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



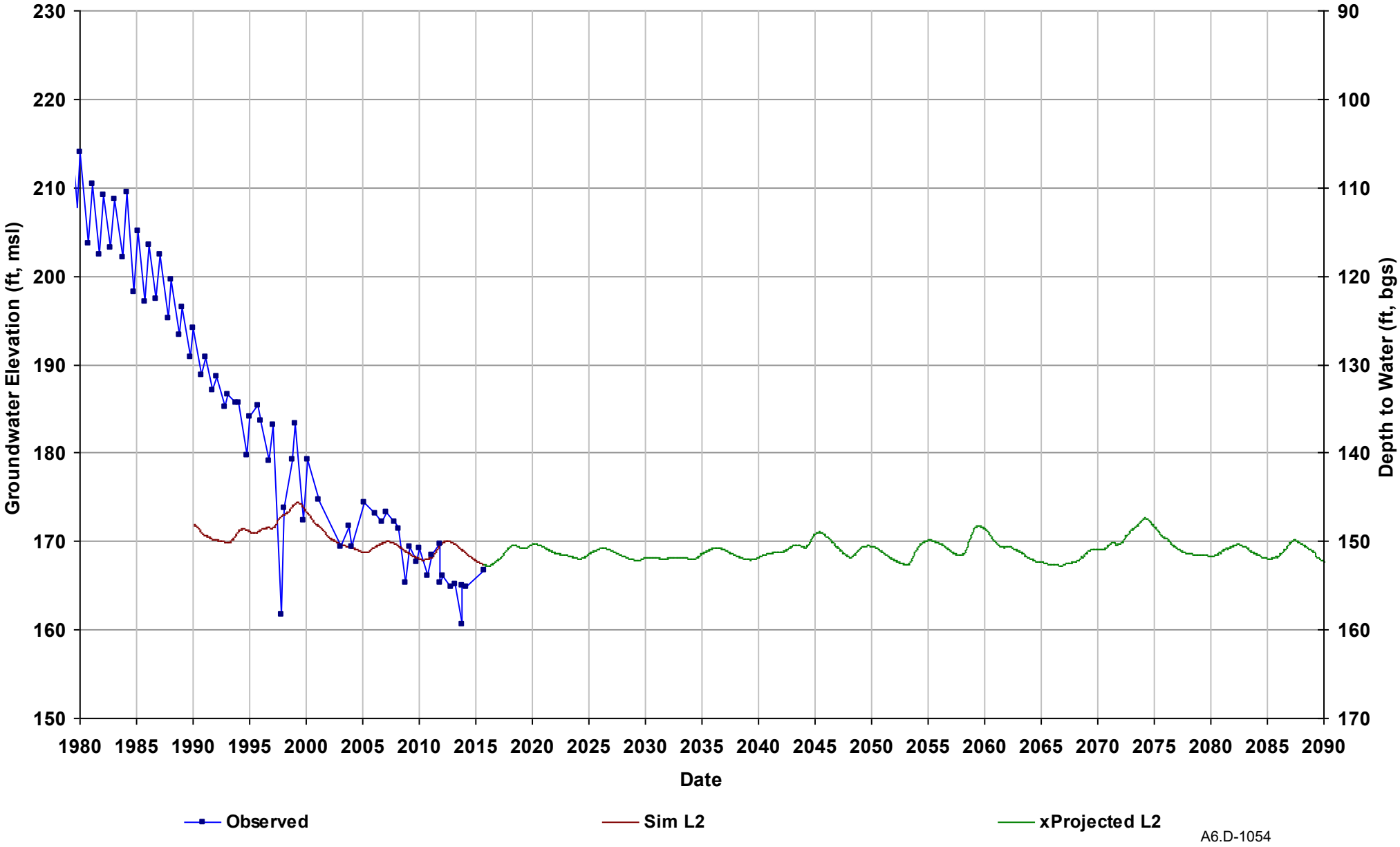
Well Name: 11S18E31A003M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



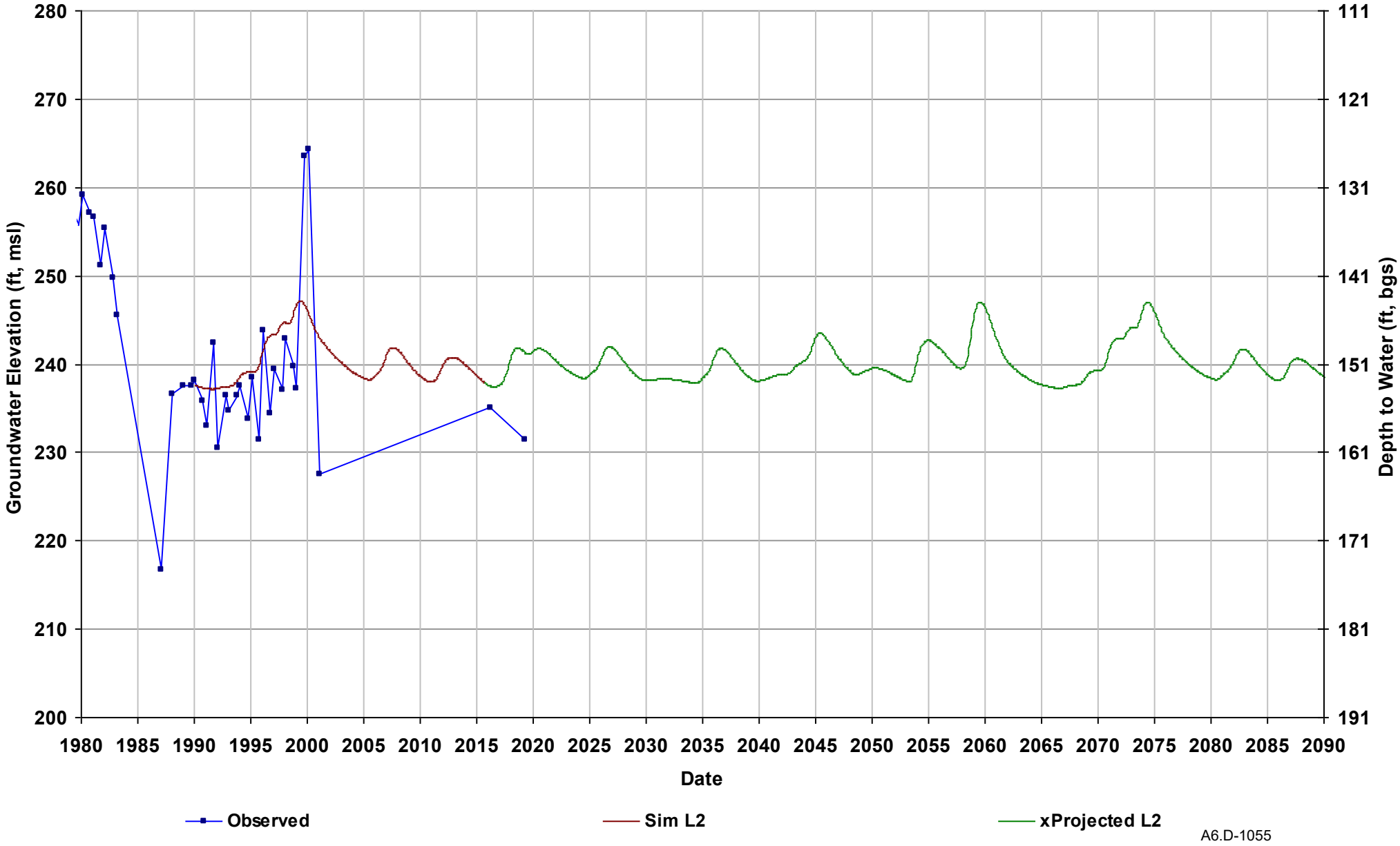
Well Name: 11S19E32R001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 320

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



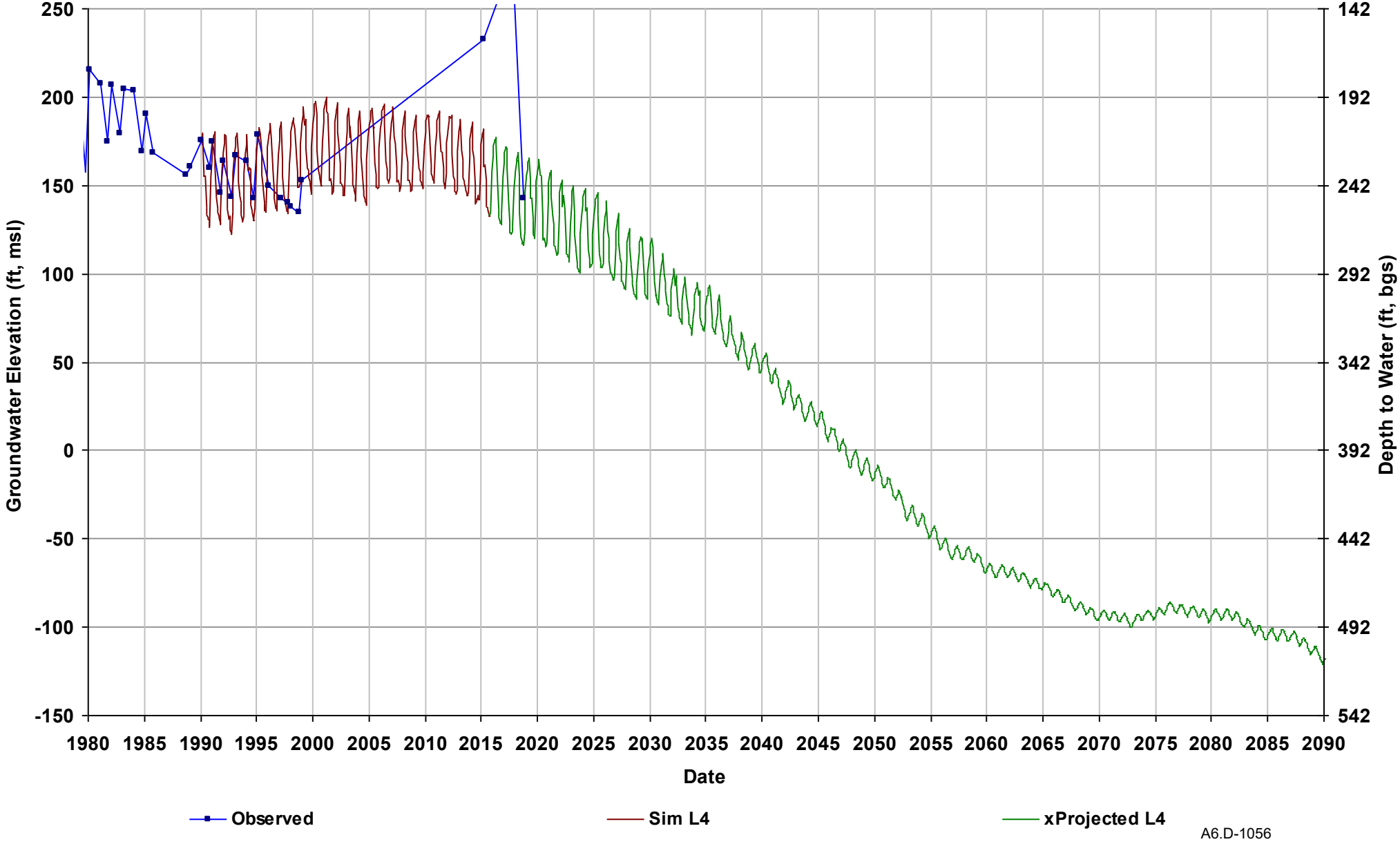
Well Name: 11S20E18L001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 391

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



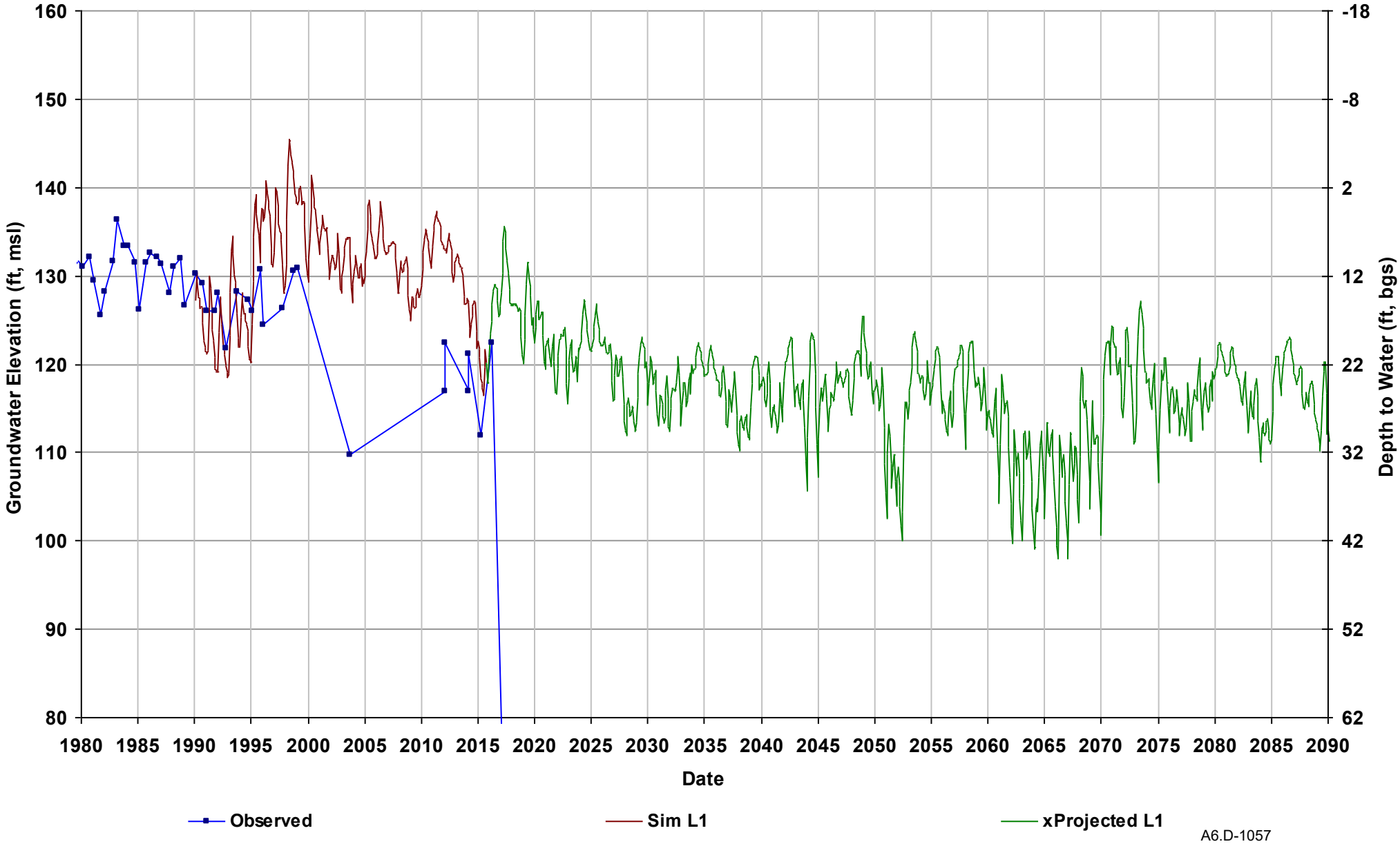
Well Name: 11S20E33K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 392

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



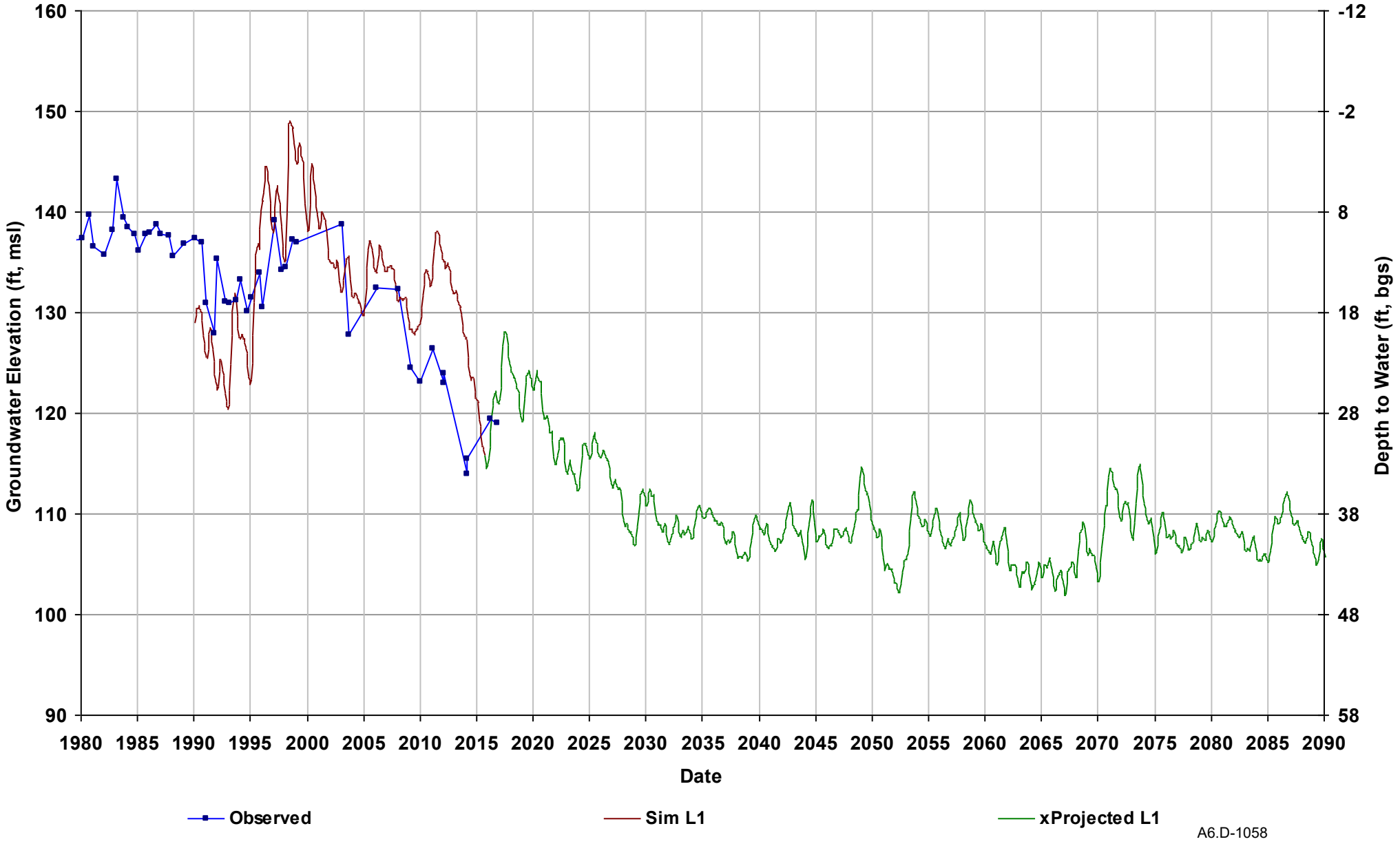
Well Name: 12S14E08R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 142

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



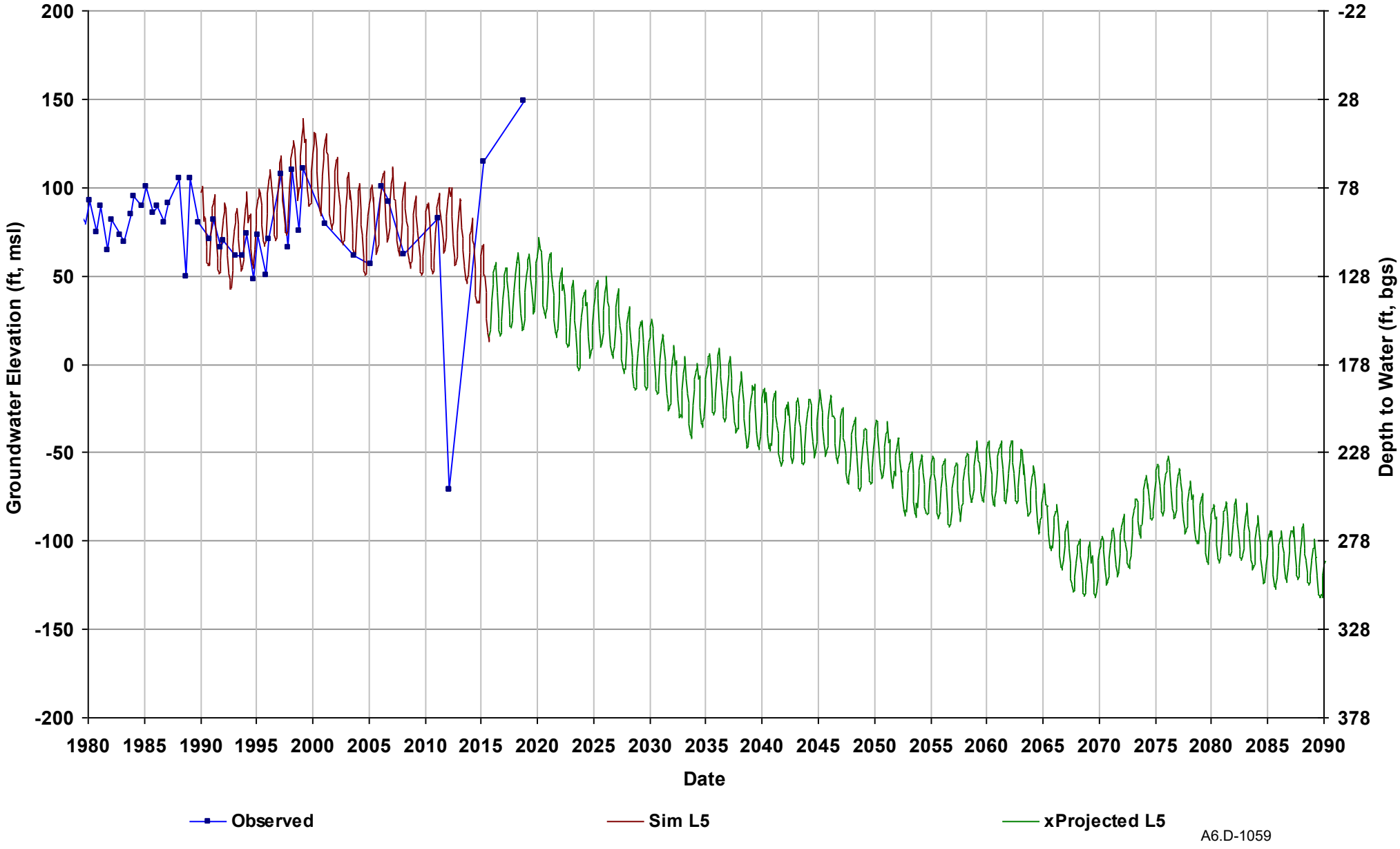
Well Name: 12S14E21H001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 148

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



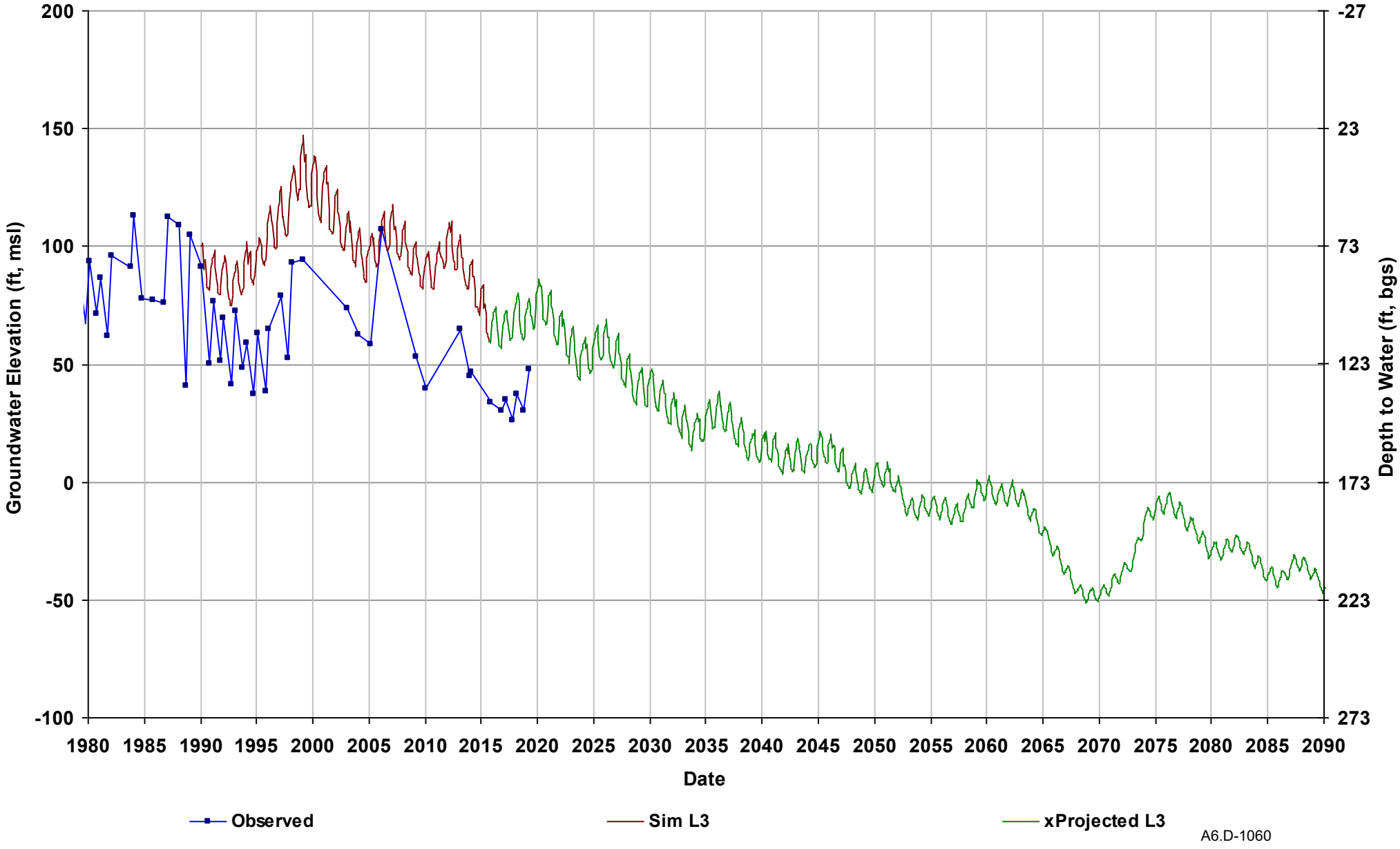
Well Name: 12S15E01R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



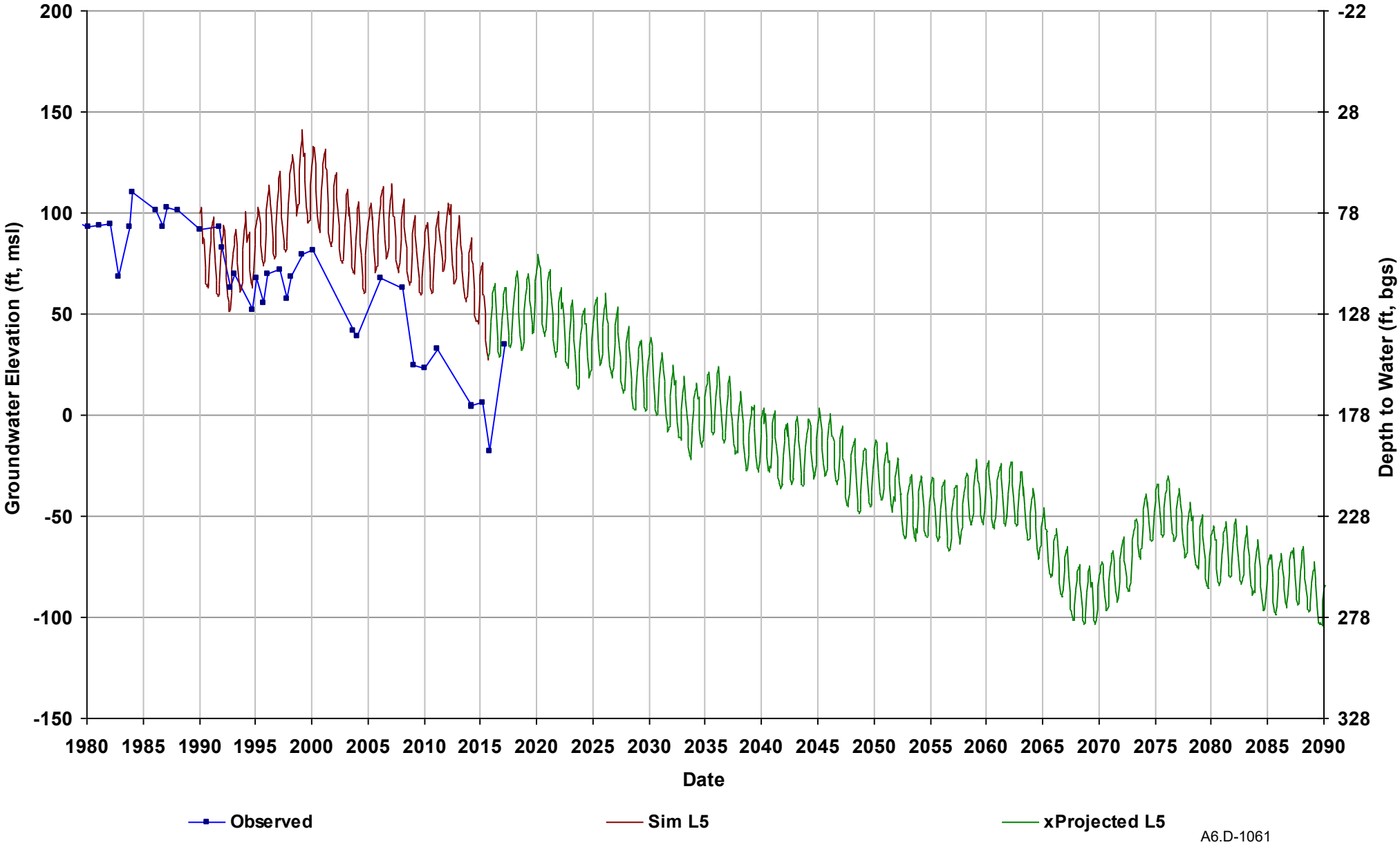
Well Name: 12S15E11R001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 172

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



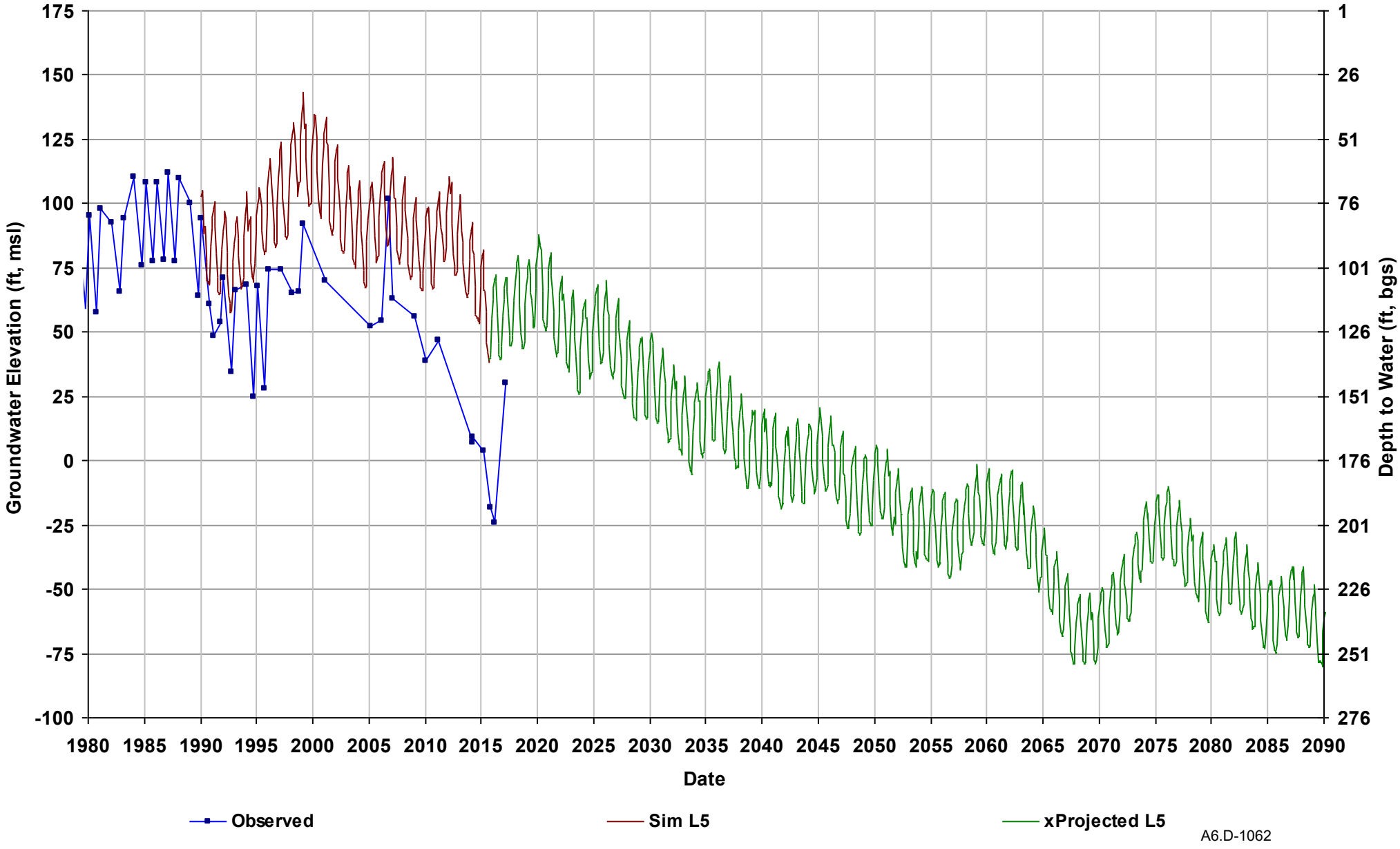
Well Name: 12S15E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 178

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



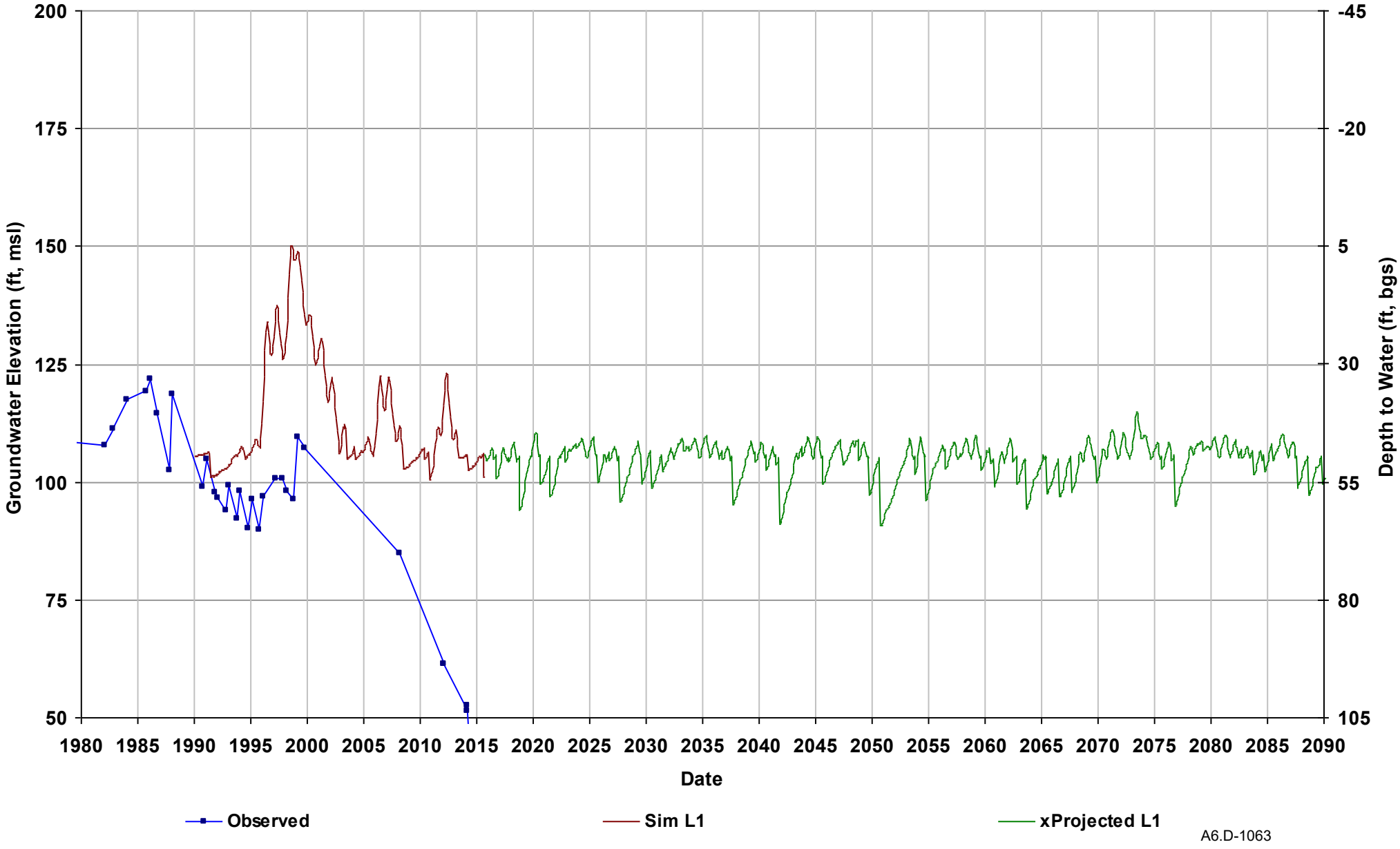
Well Name: 12S15E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 176

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



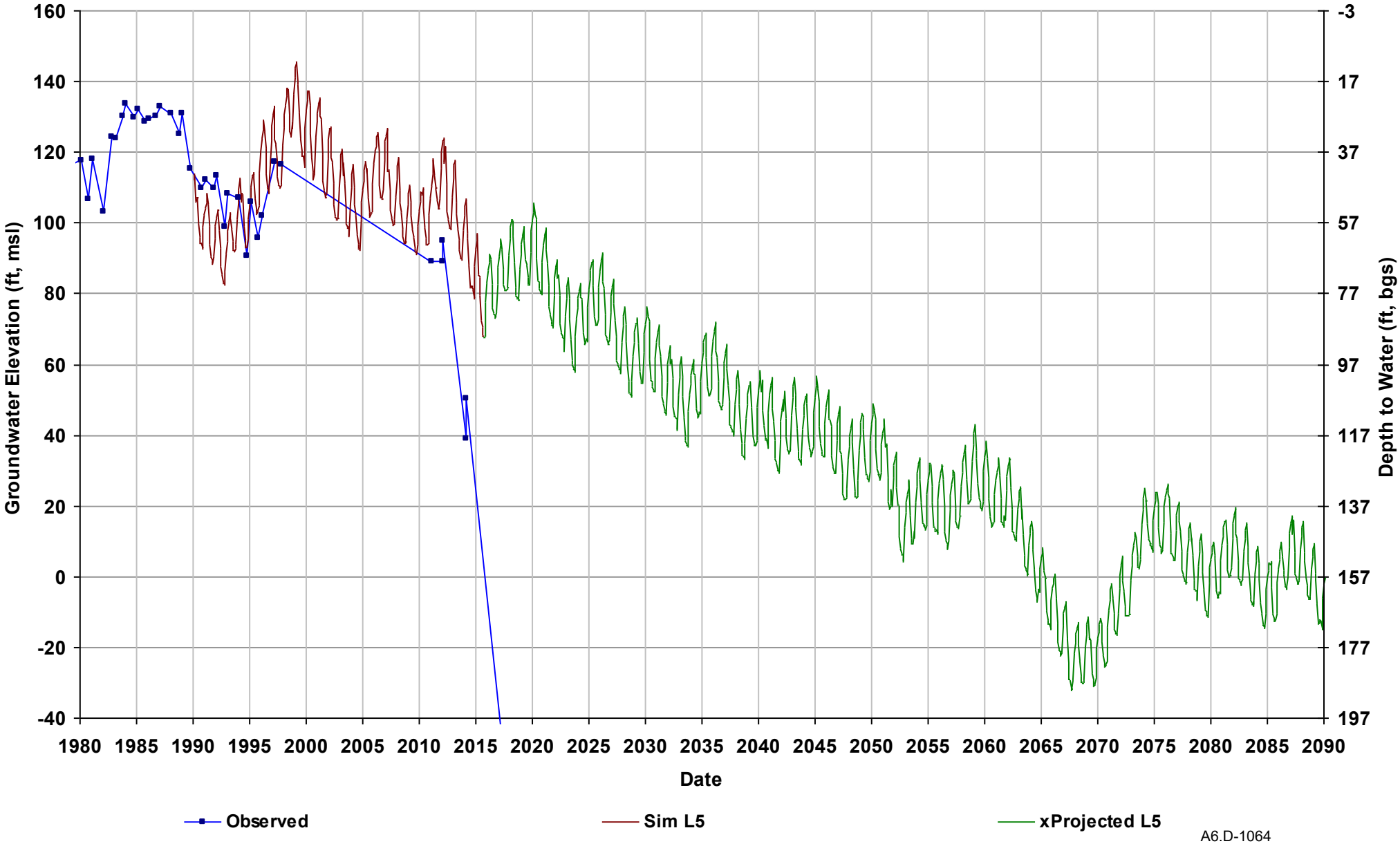
Well Name: 12S15E17E001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 154

Total Depth (ft): 57
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



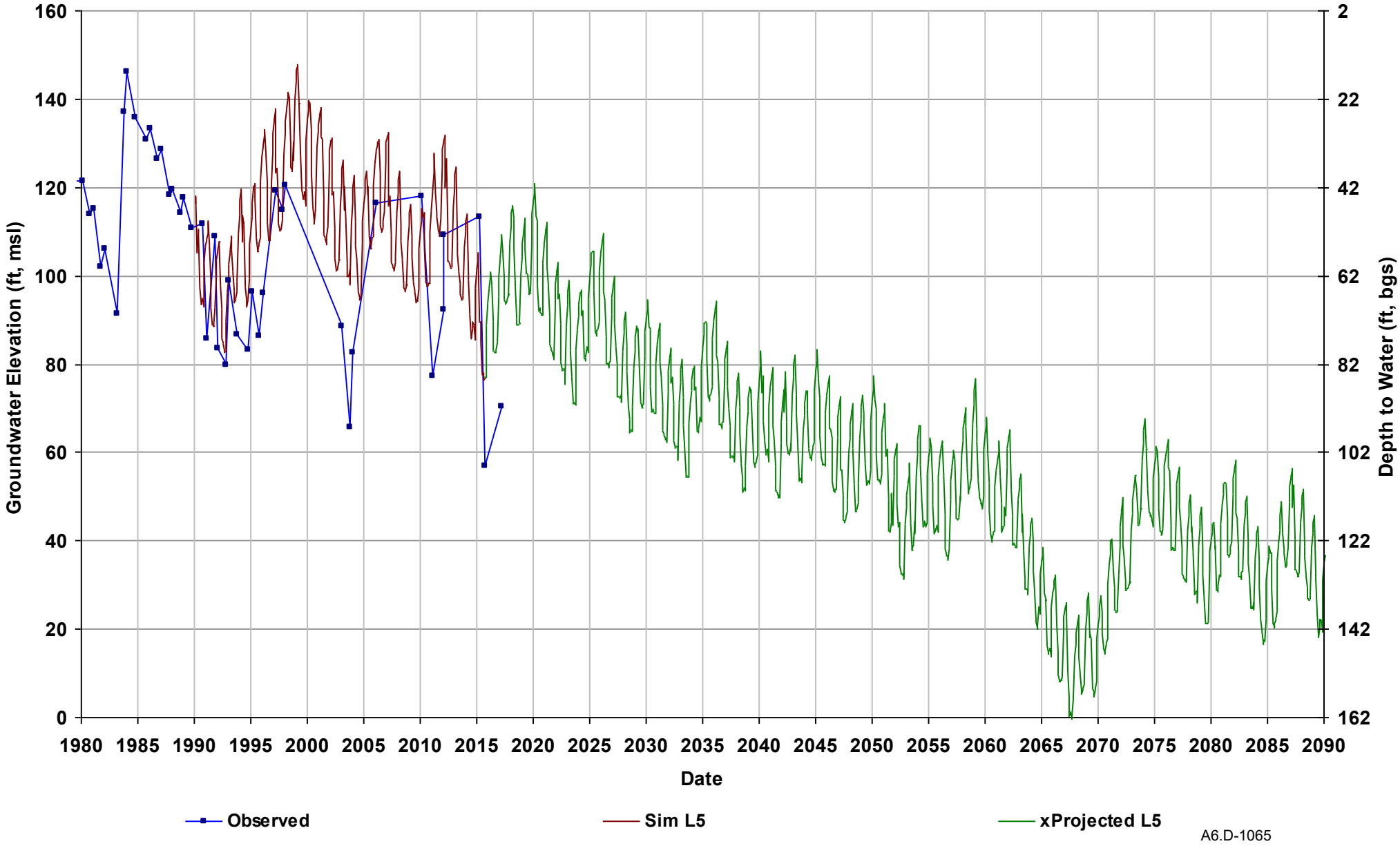
Well Name: 12S15E29C001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 156

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



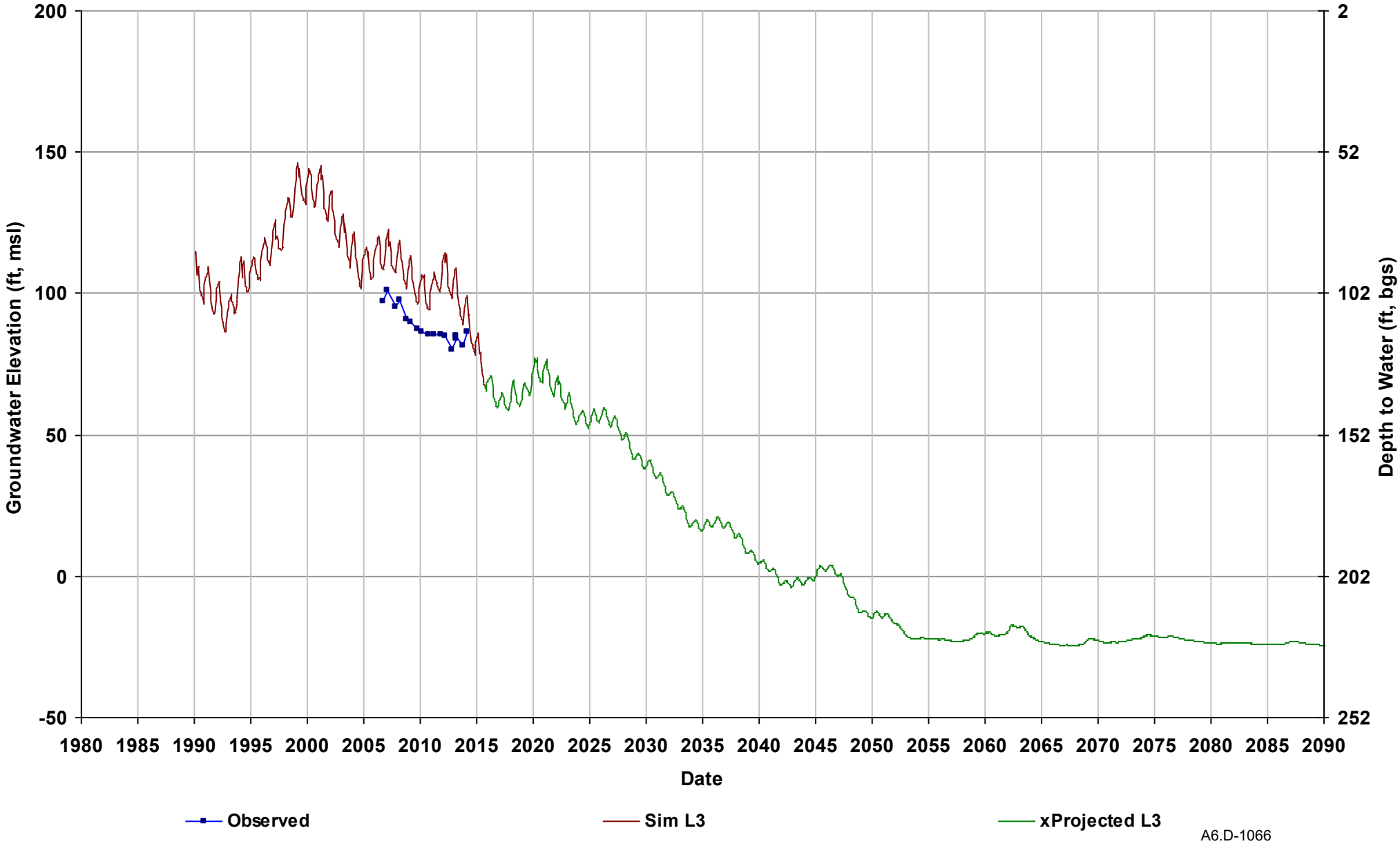
Well Name: 12S15E33R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



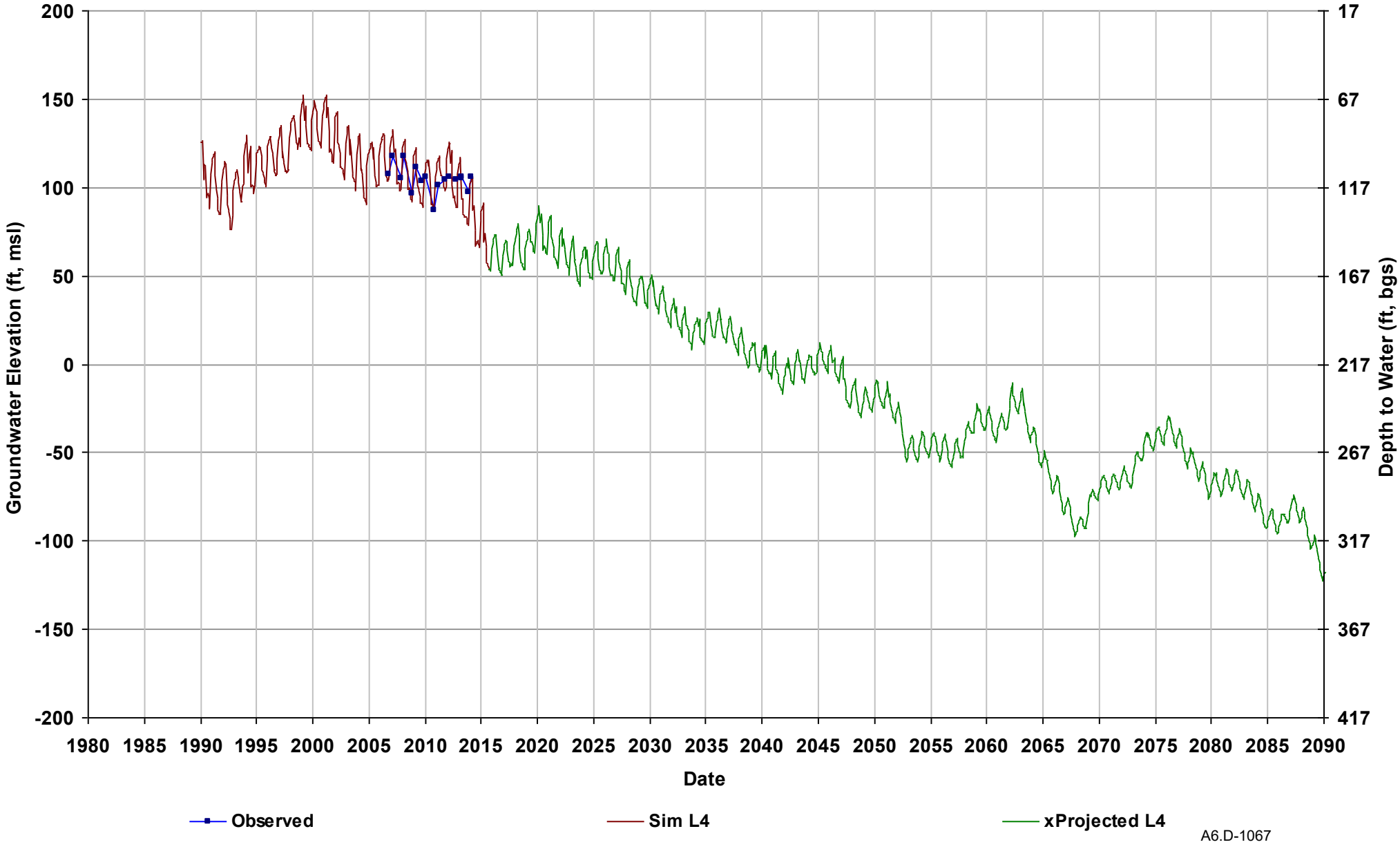
Well Name: 12S16E02N001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

Total Depth (ft): 144
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



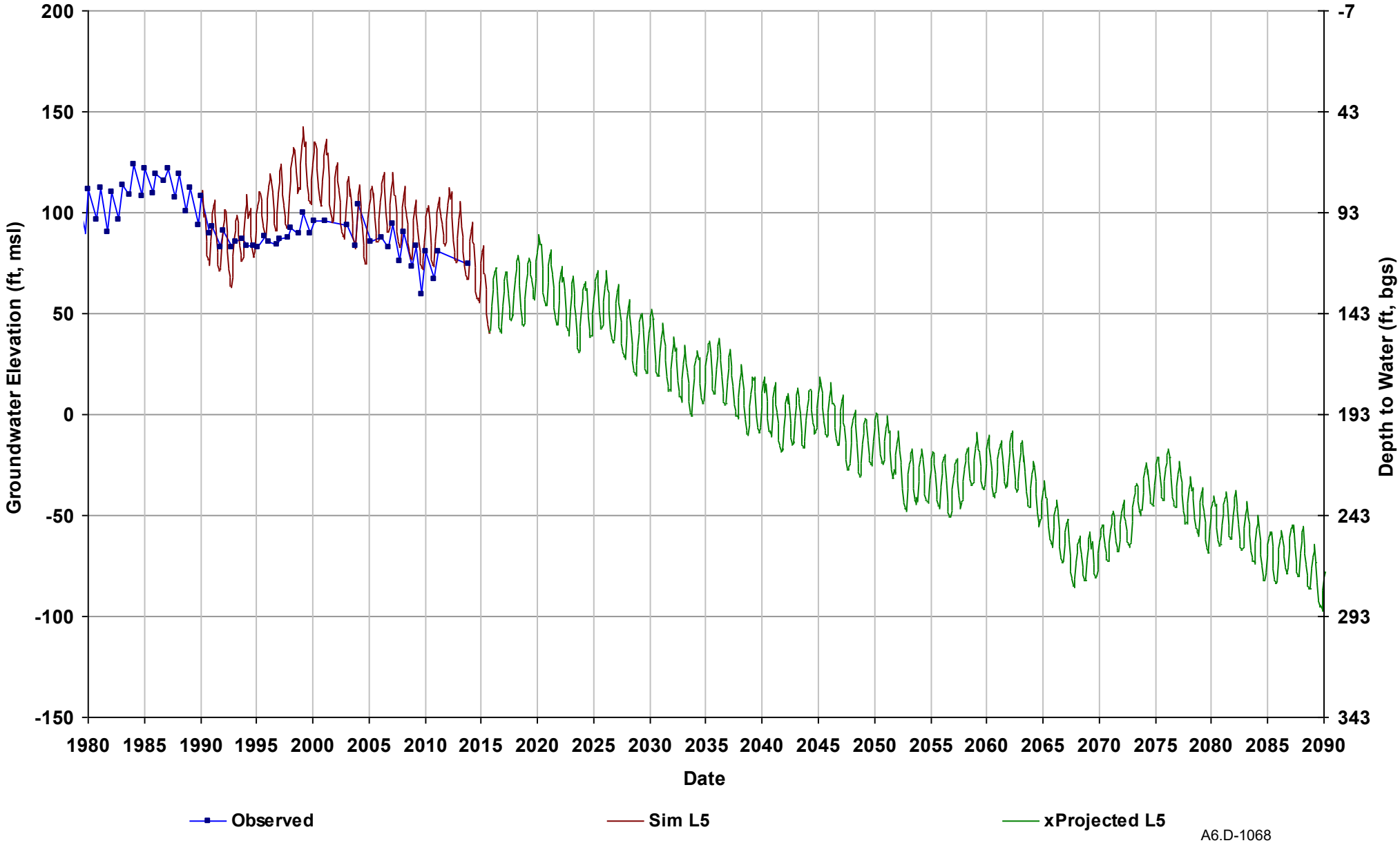
Well Name: 12S16E12H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 217

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



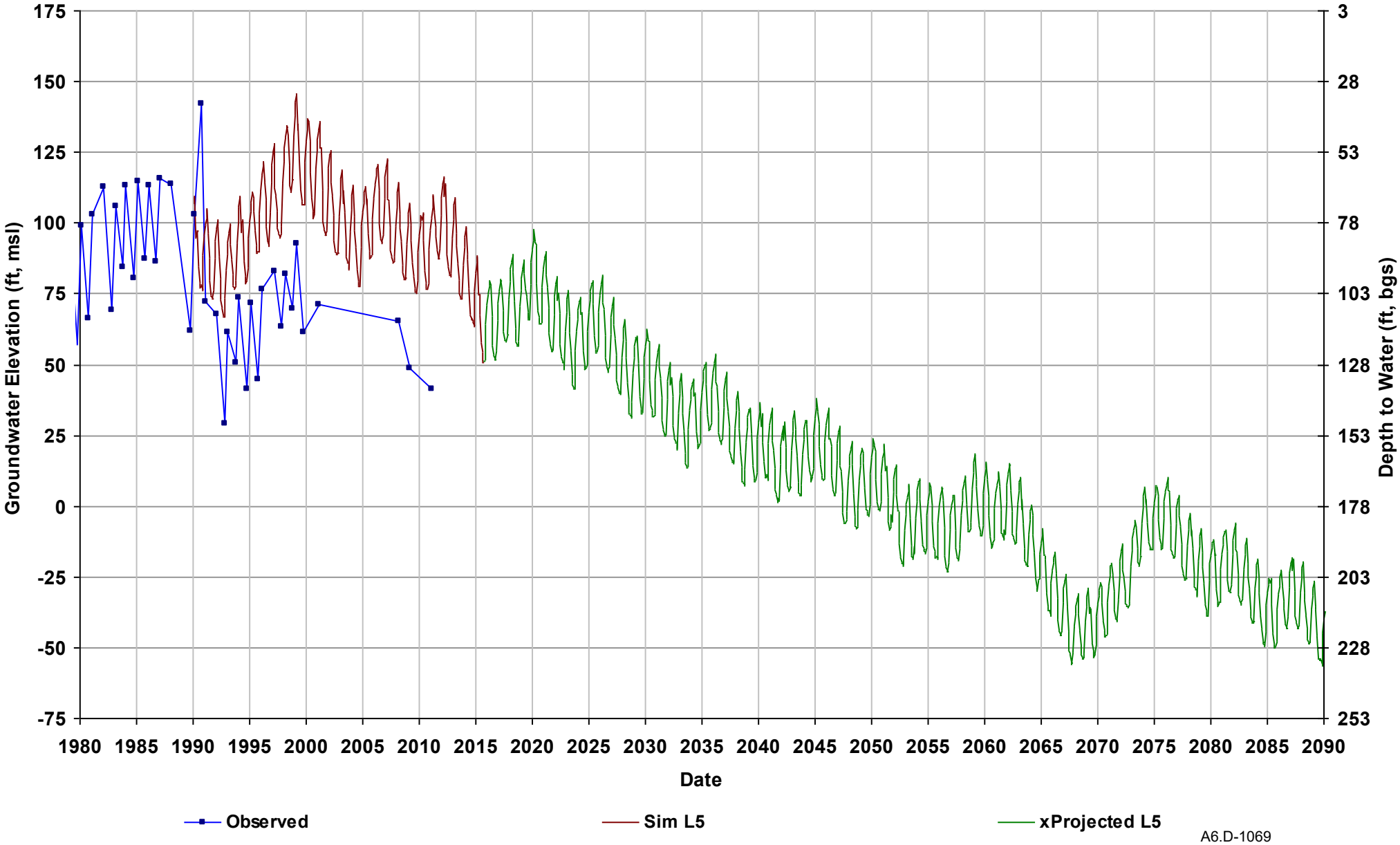
Well Name: 12S16E16R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 193

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



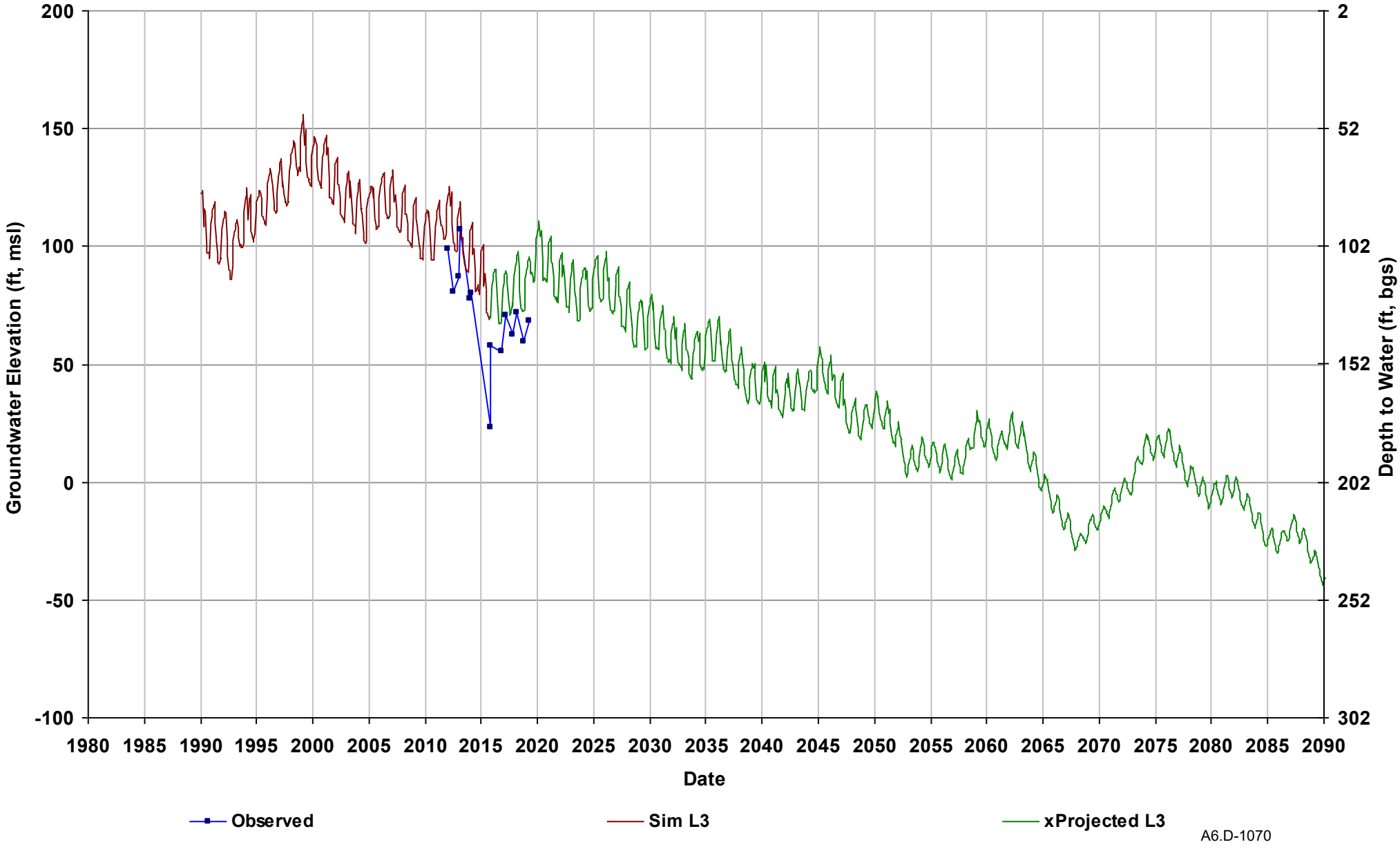
Well Name: 12S16E19P001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



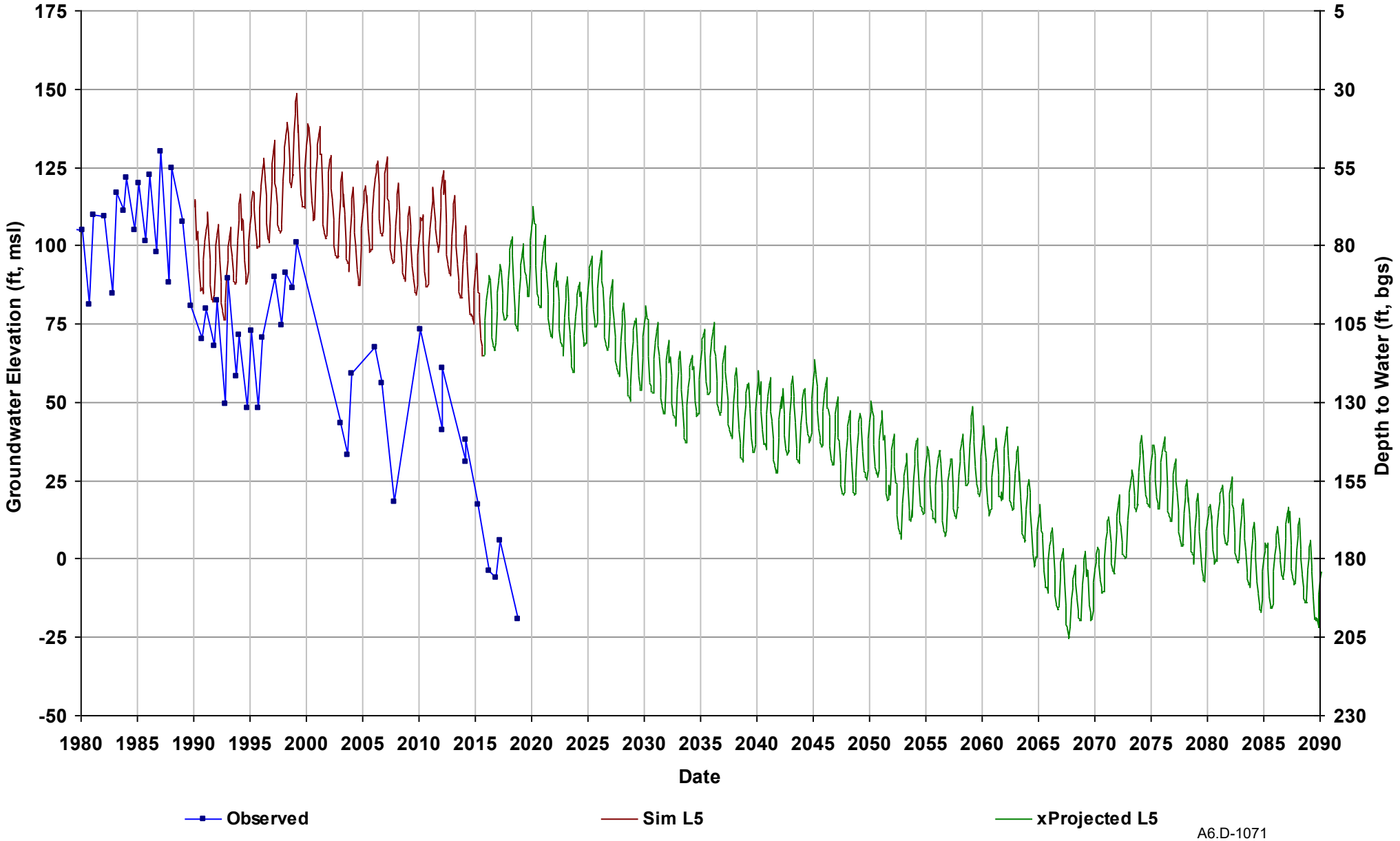
Well Name: 12S16E26H001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



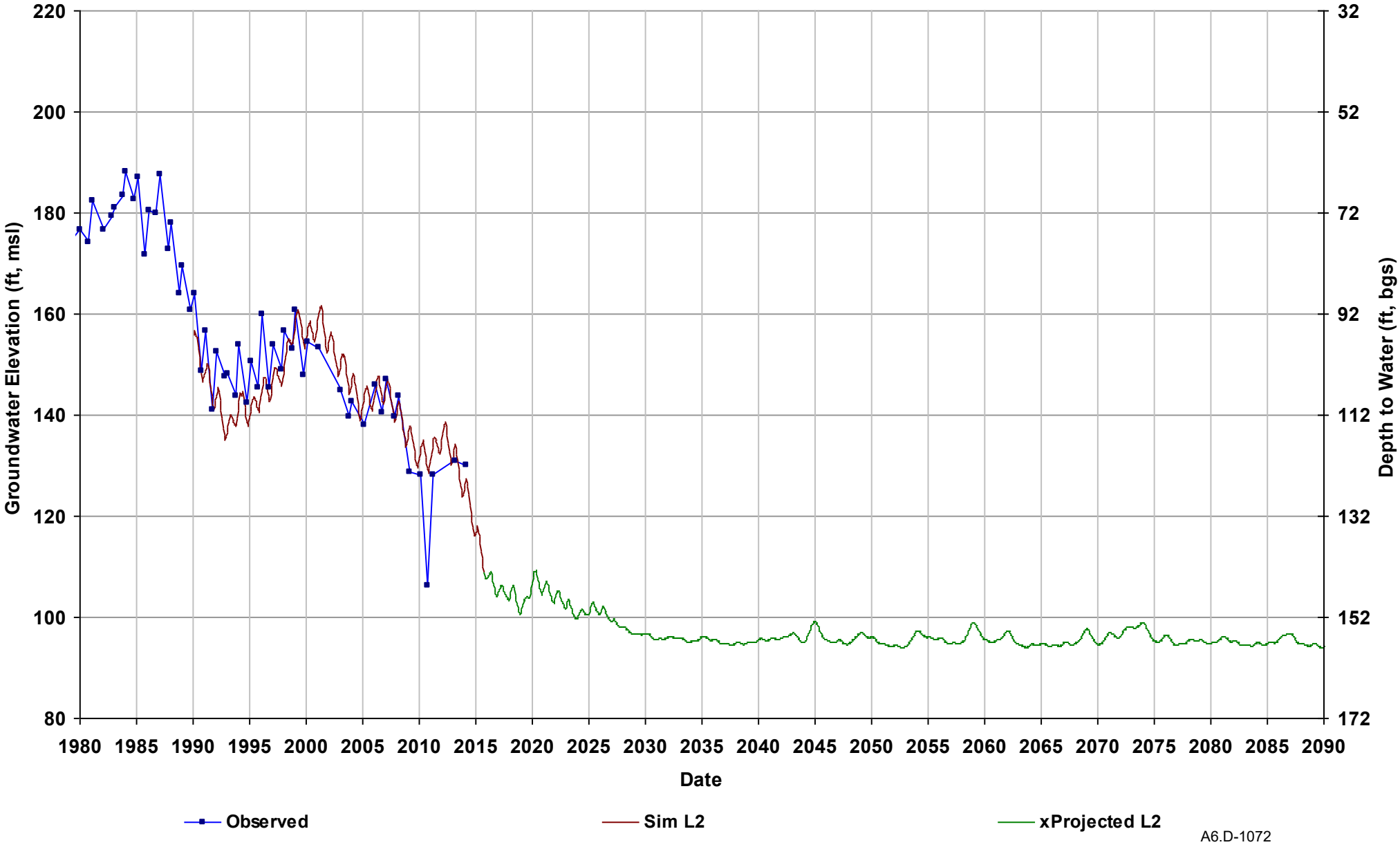
Well Name: 12S16E31G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 179

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



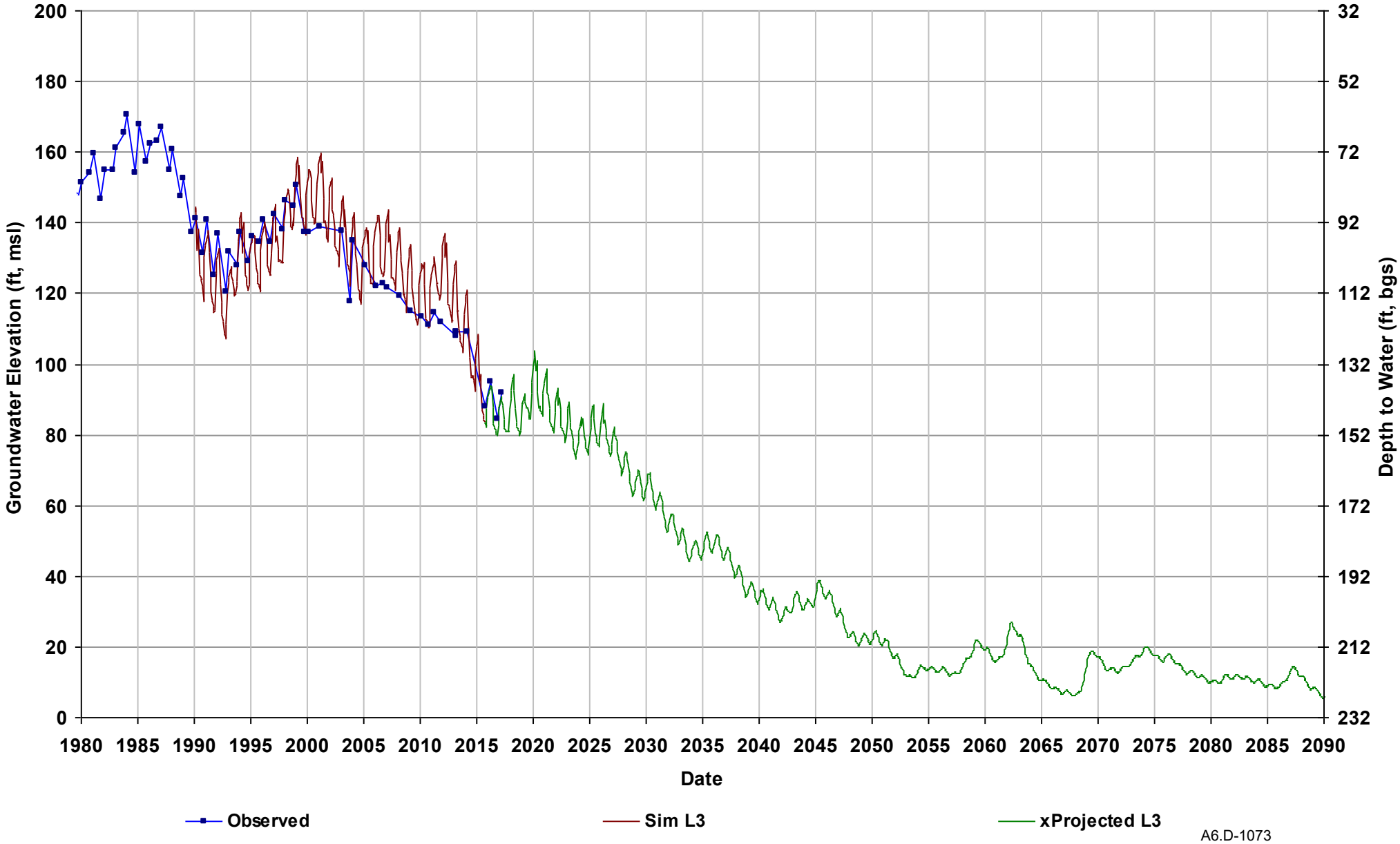
Well Name: 12S17E13J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



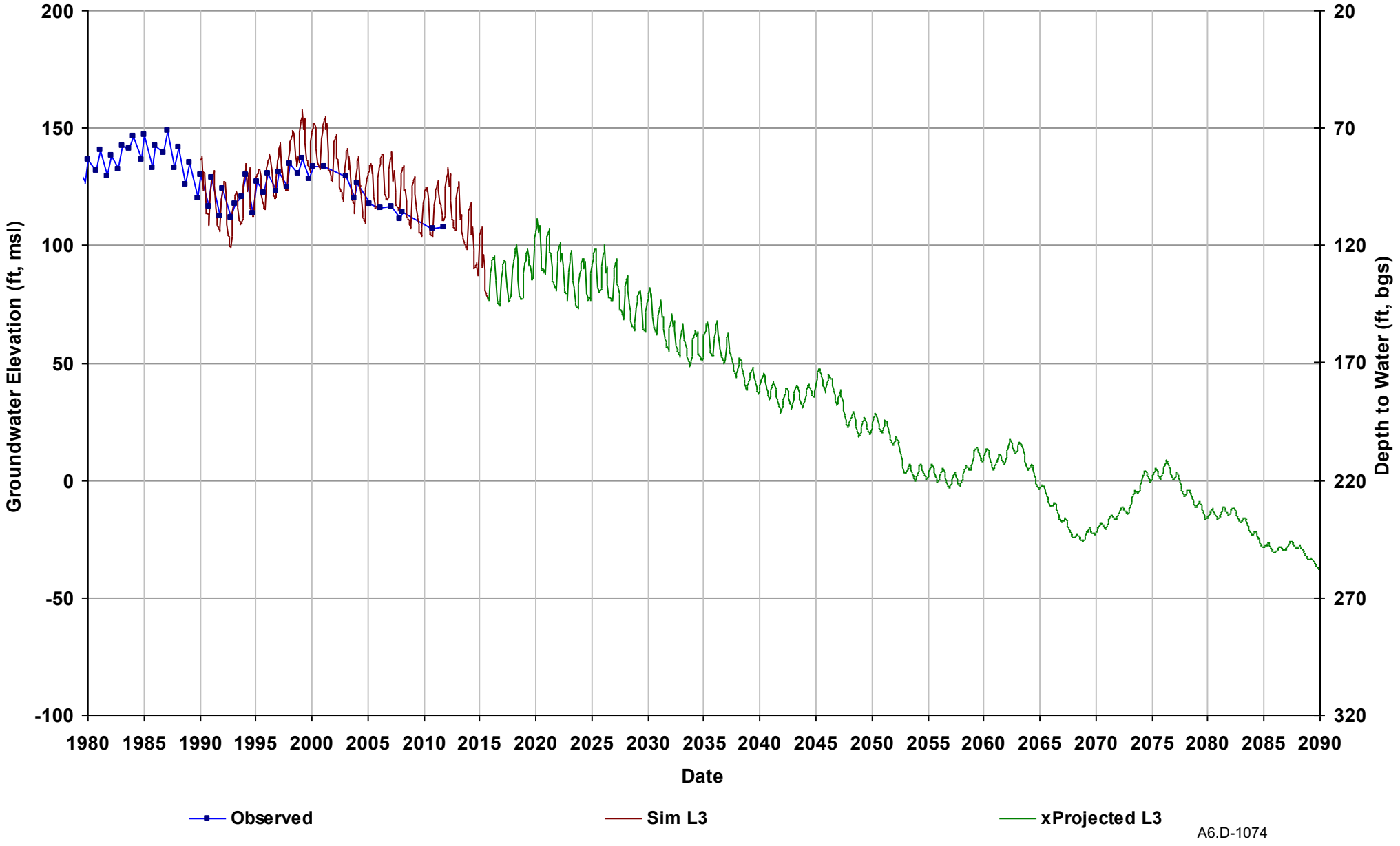
Well Name: 12S17E16A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 232

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



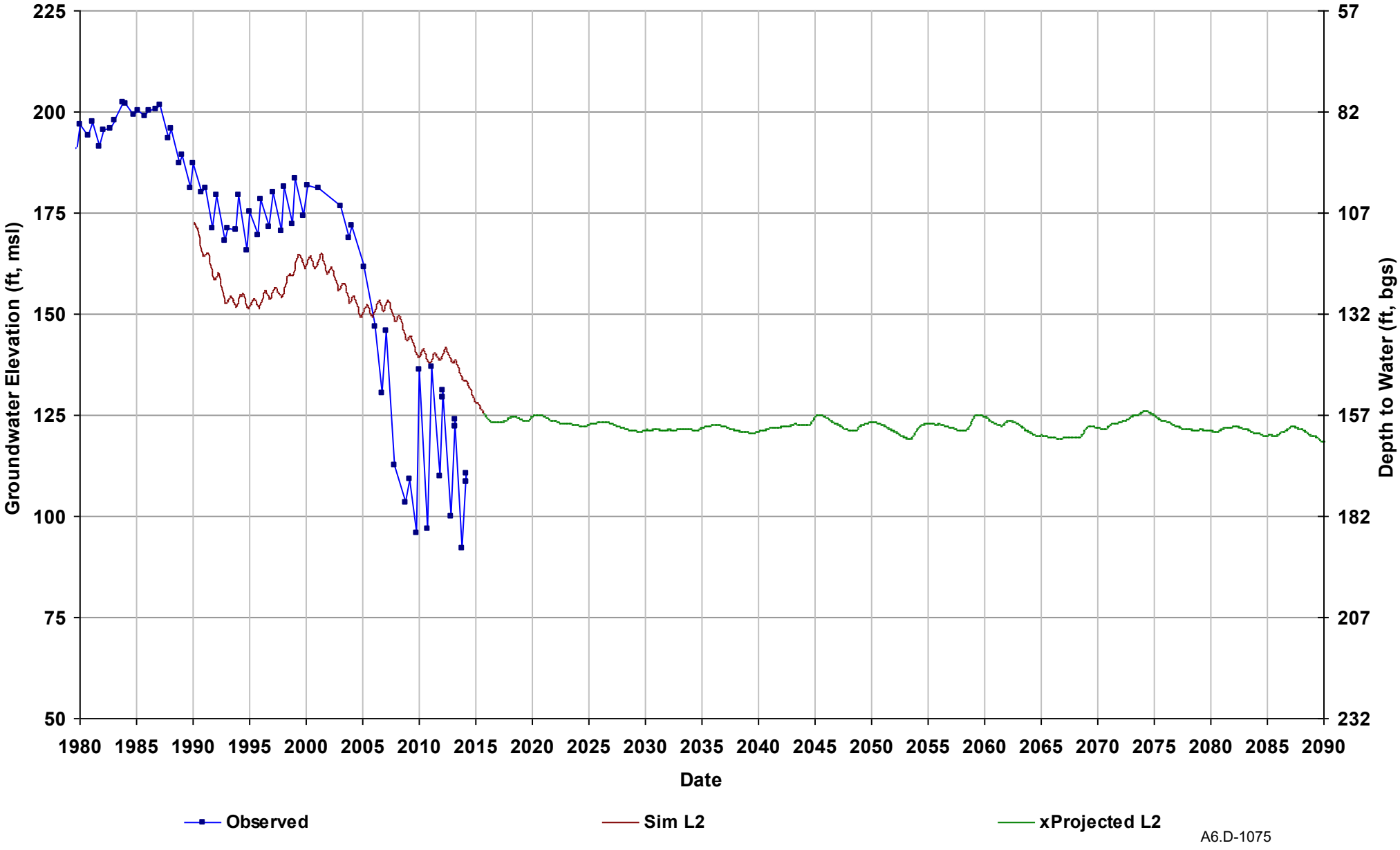
Well Name: 12S17E20P001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 220

Total Depth (ft): 252
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



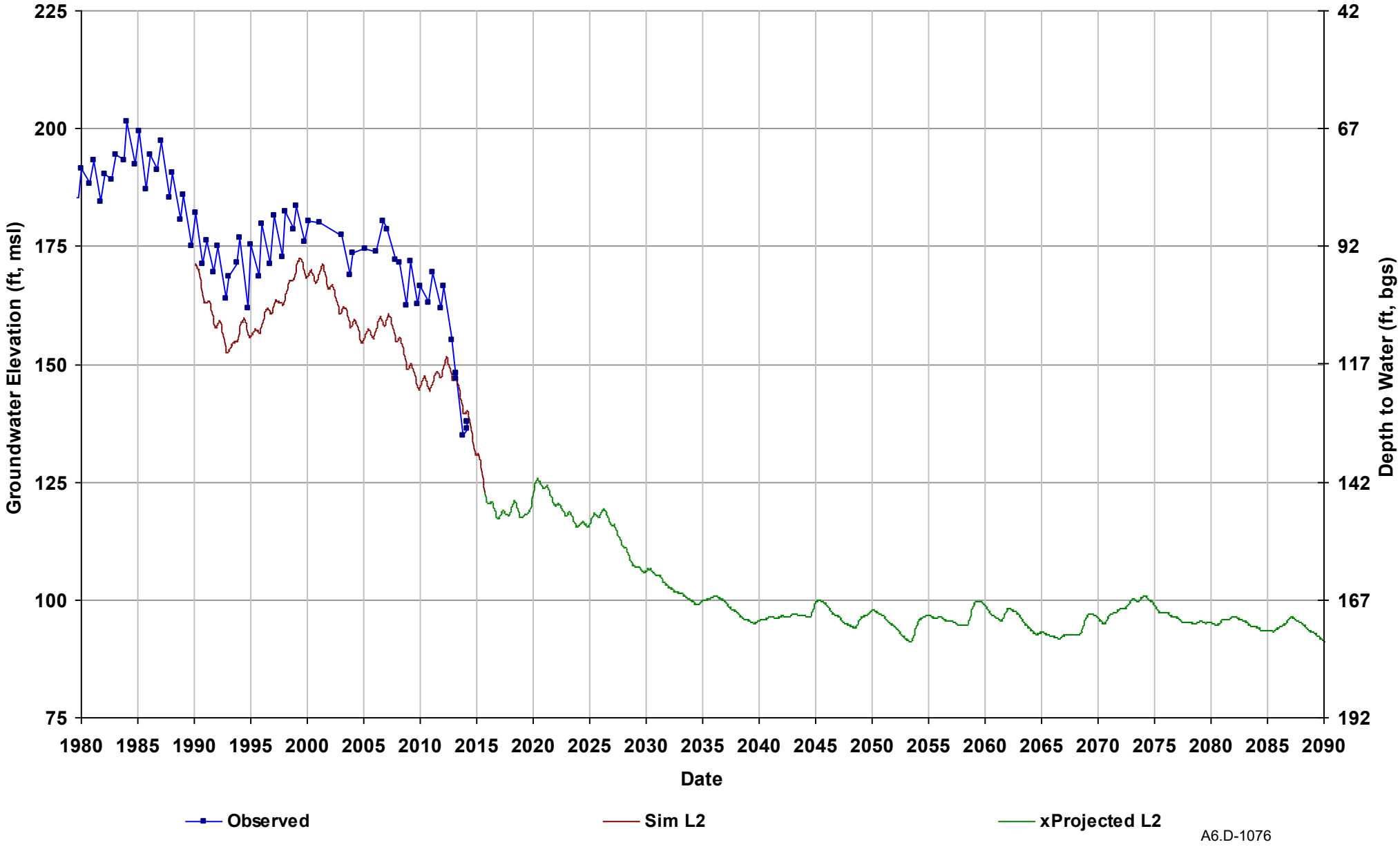
Well Name: 12S18E12N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 282

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



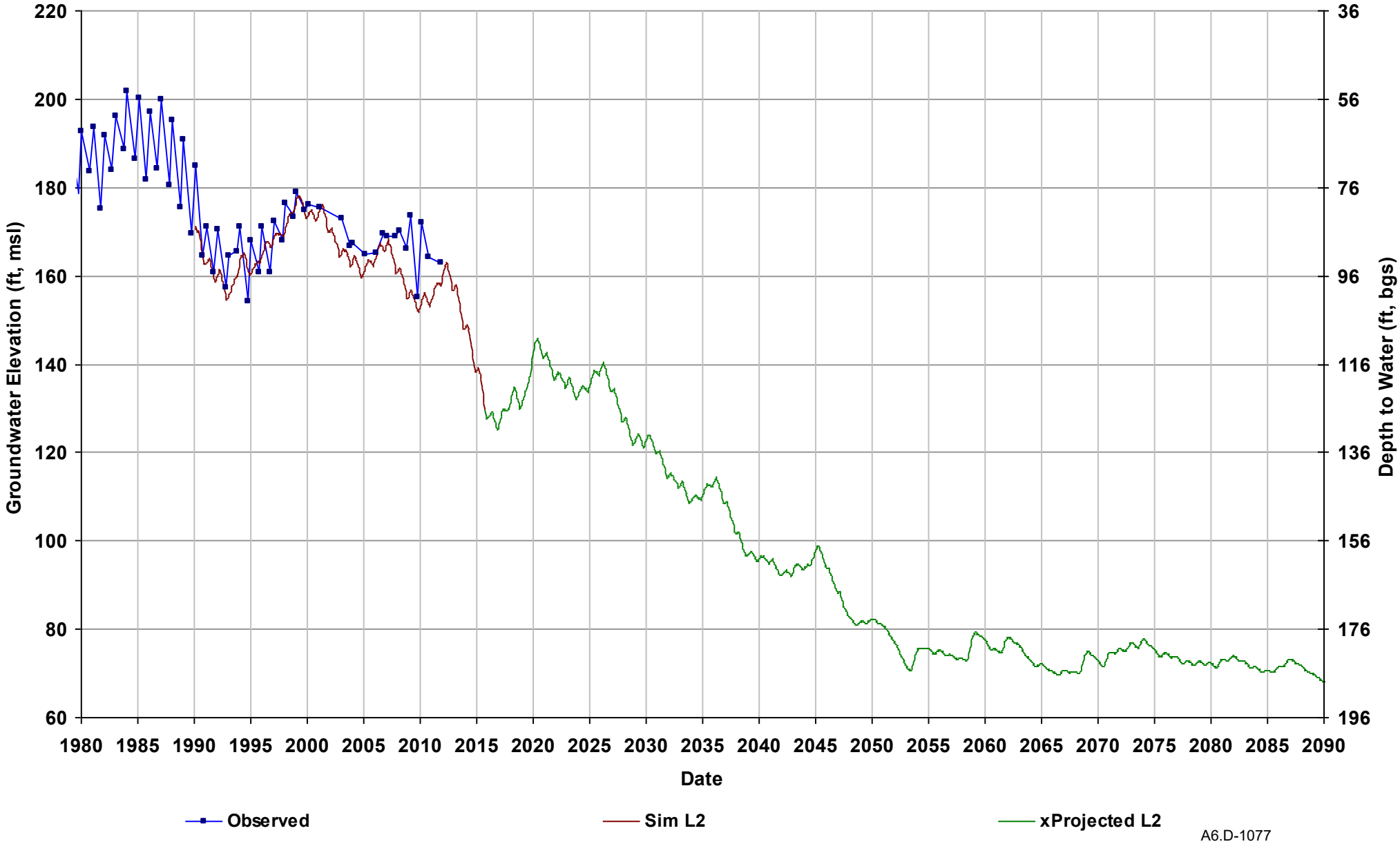
Well Name: 12S18E21G001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



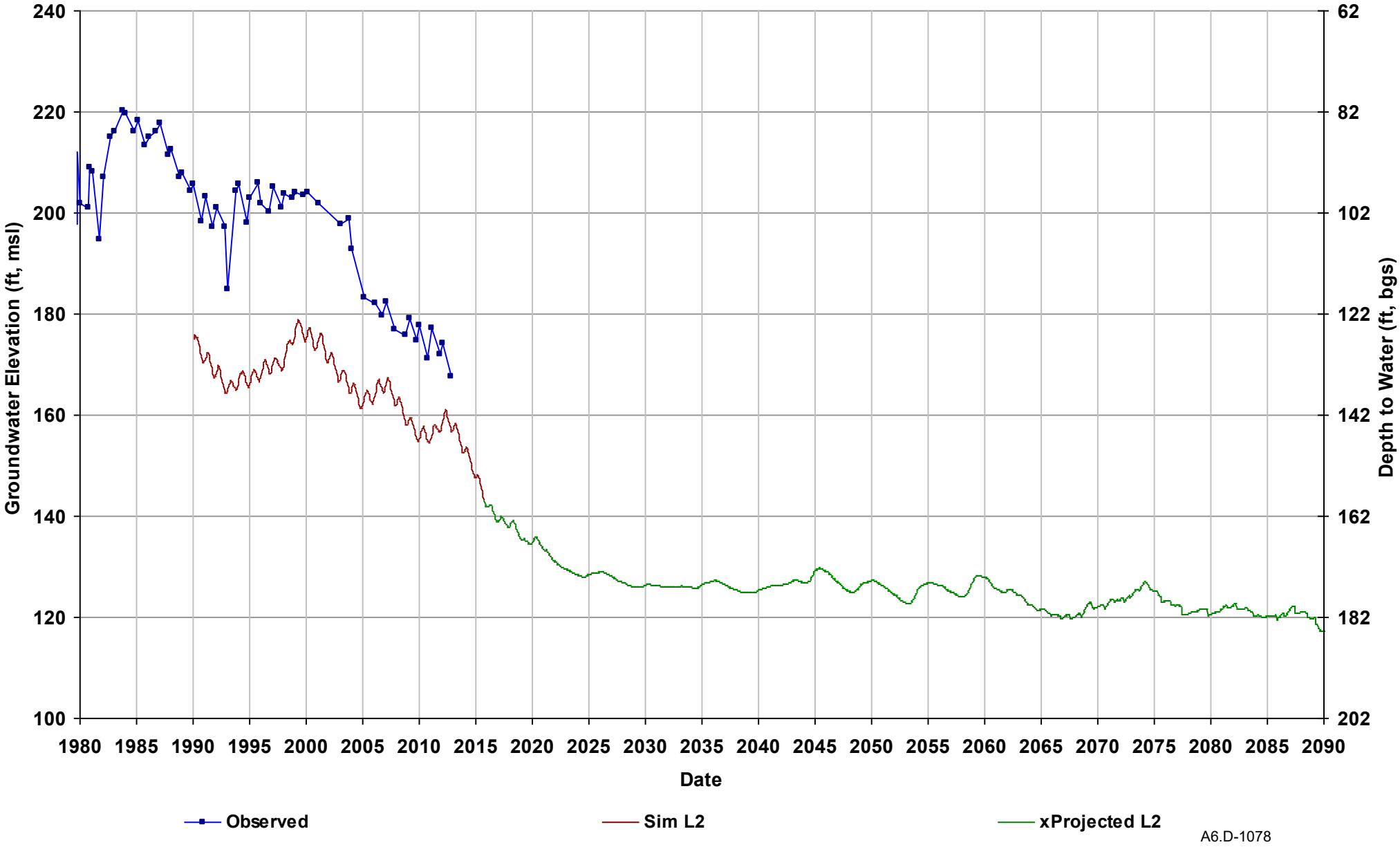
Well Name: 12S18E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 256

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



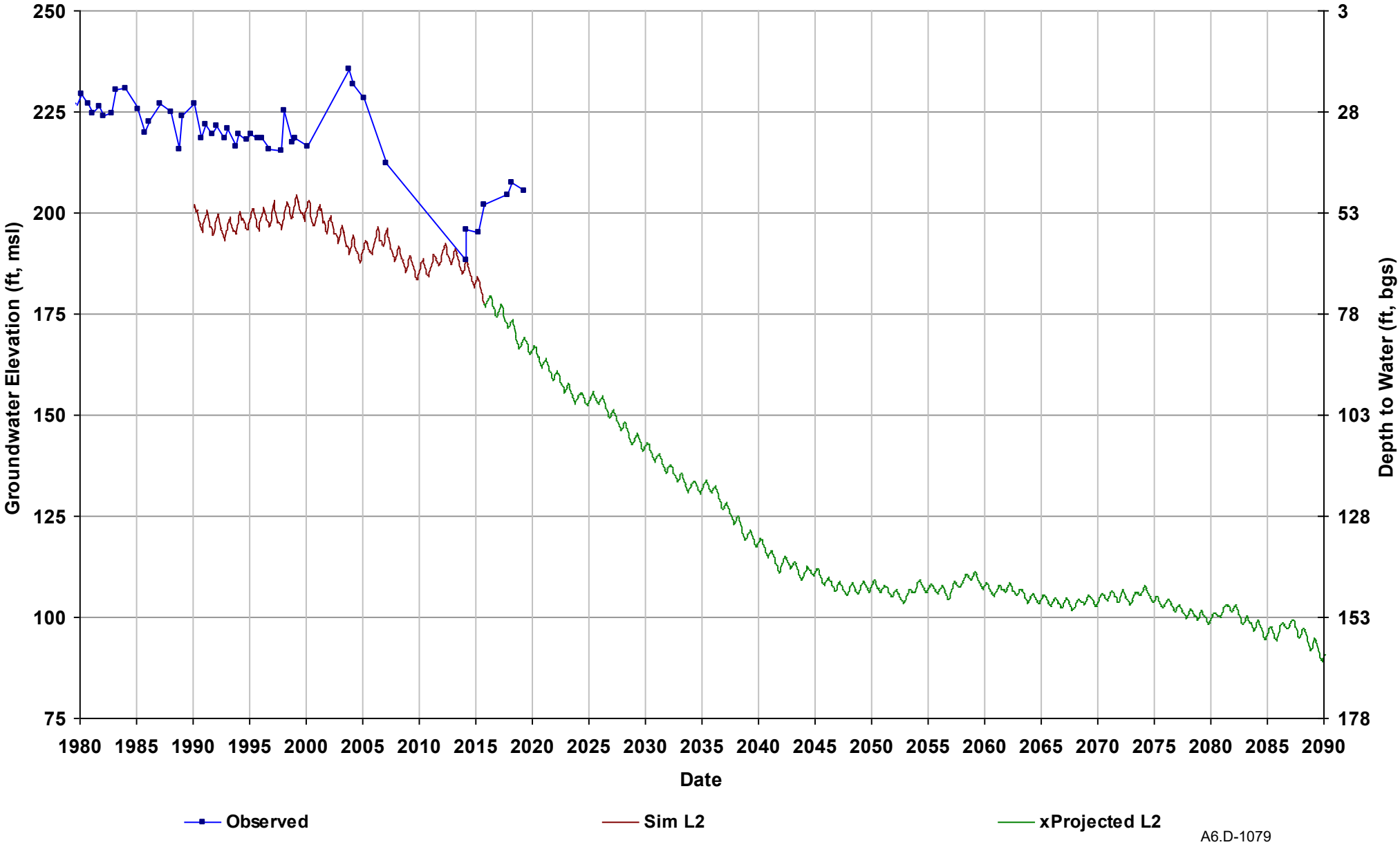
Well Name: 12S19E21B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



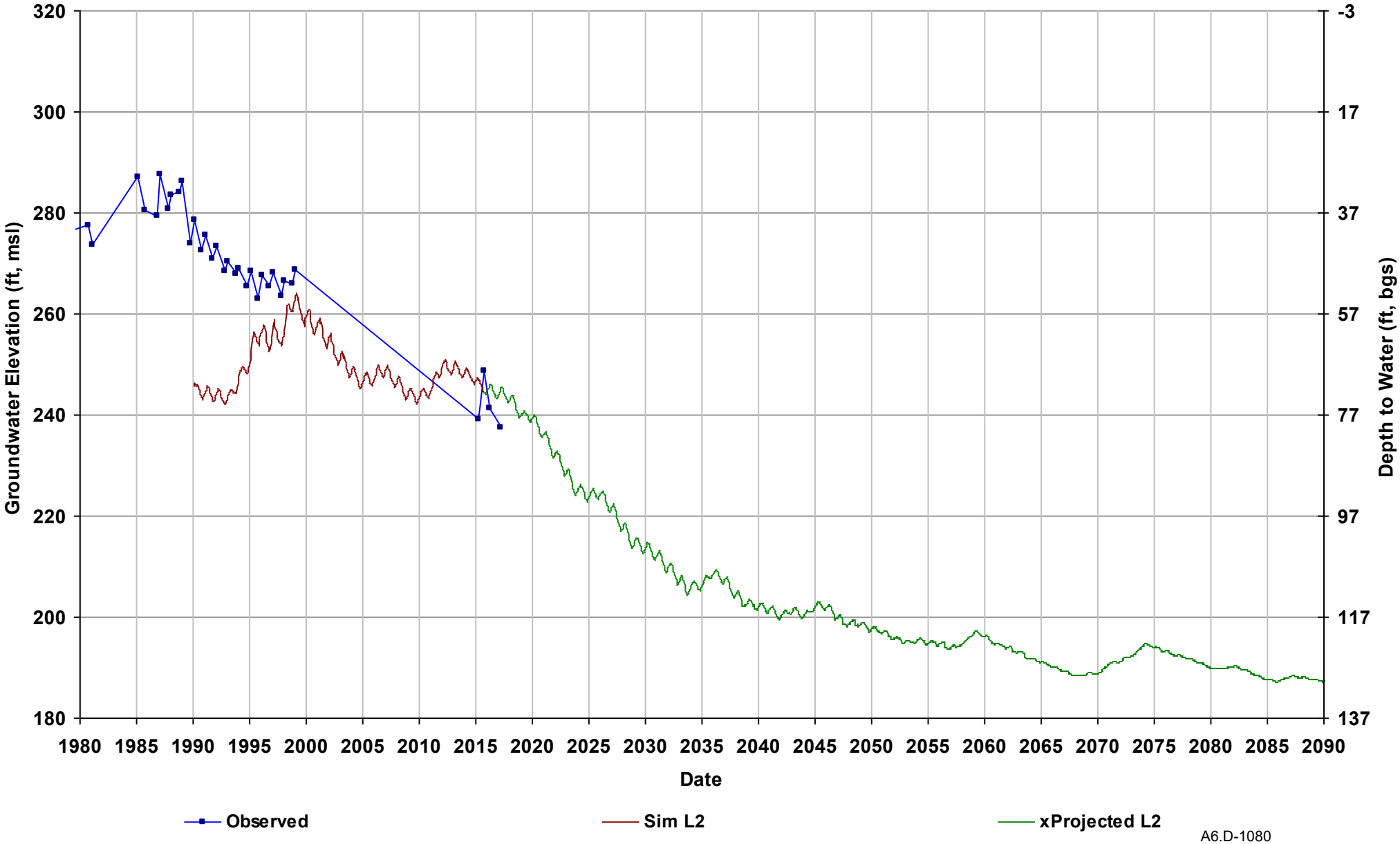
Well Name: 12S19E35A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 252

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



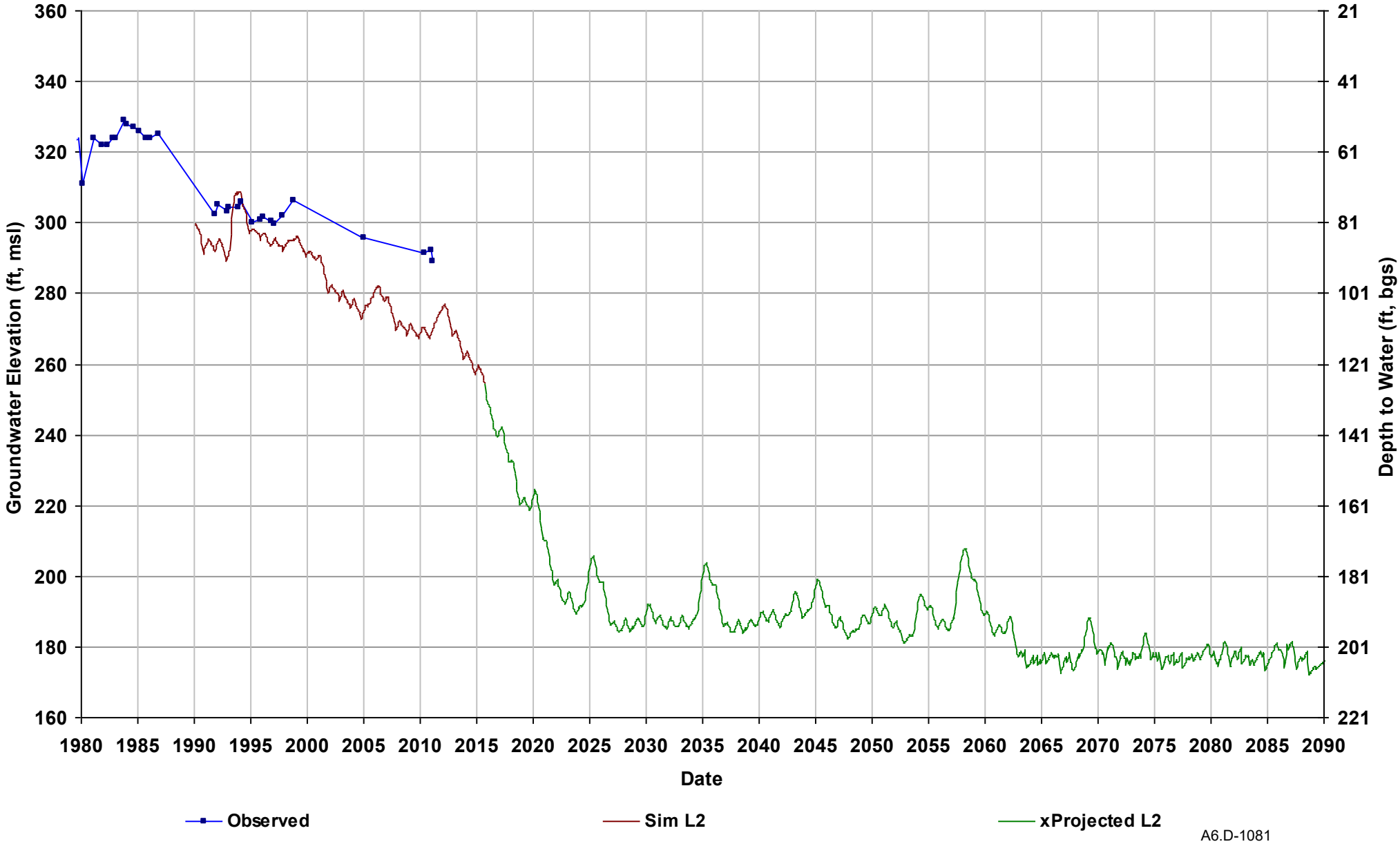
Well Name: 12S20E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 317

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



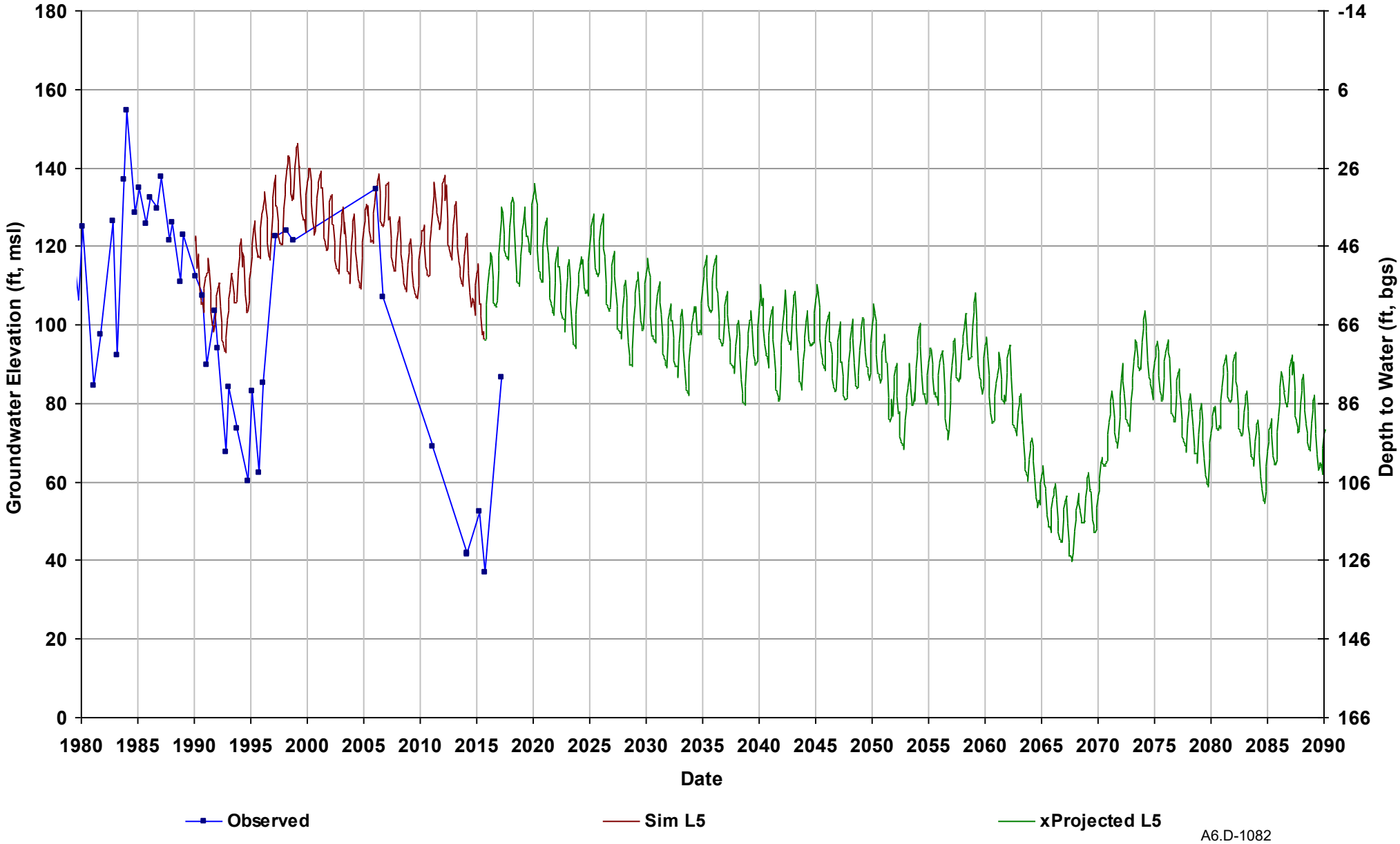
Well Name: 12S21E19J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 380

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



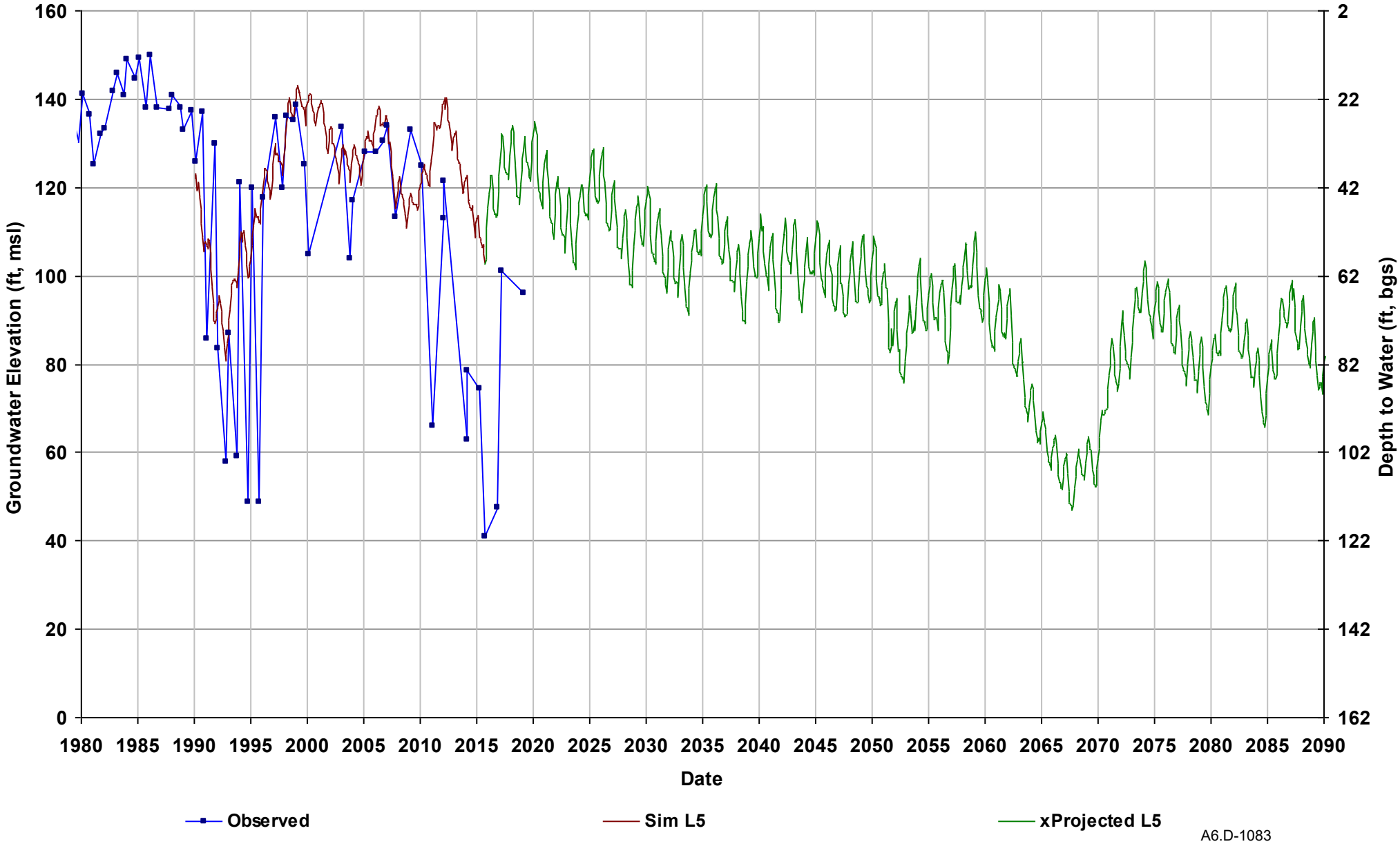
Well Name: 13S15E14M001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 166

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



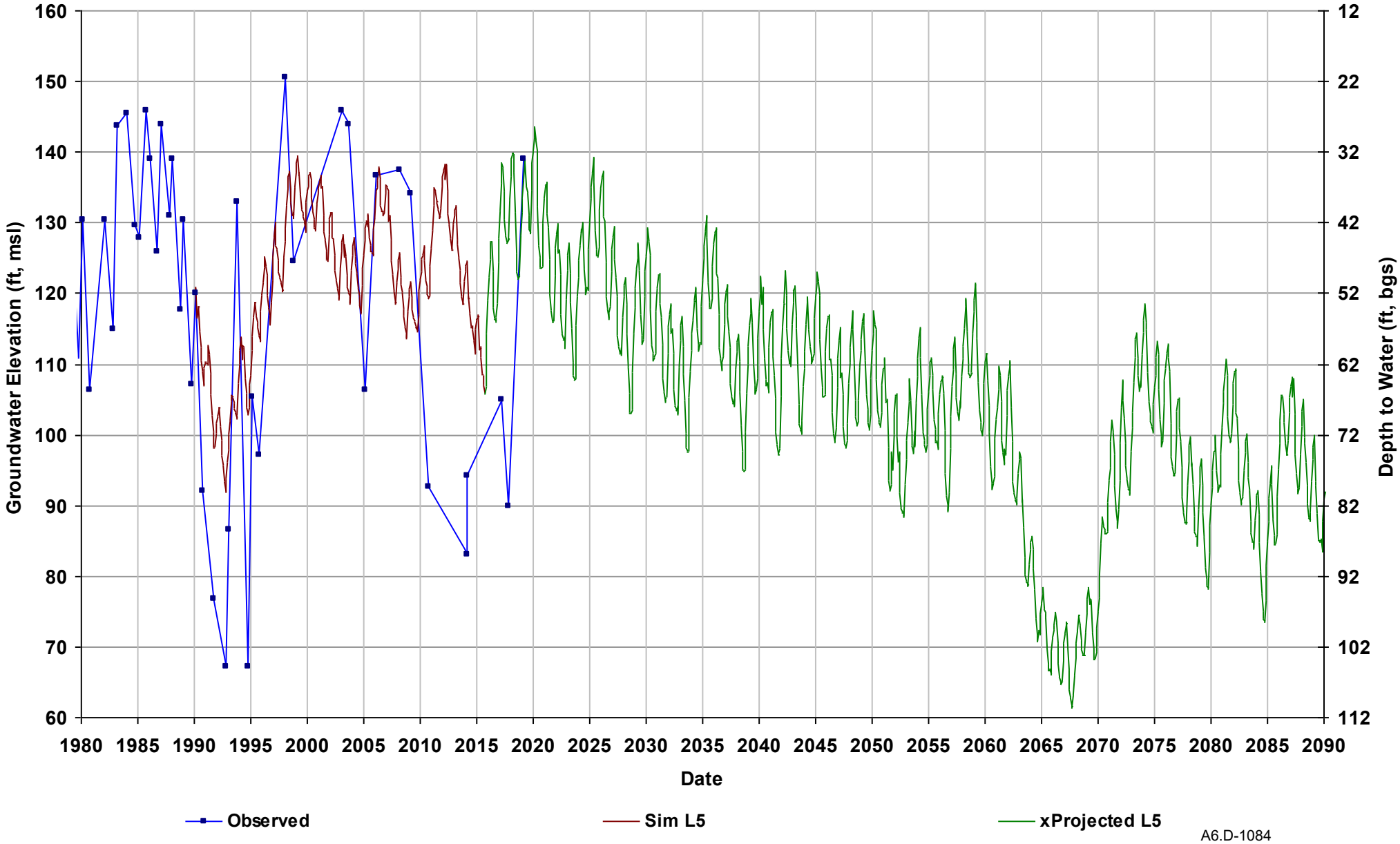
Well Name: 13S15E20G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



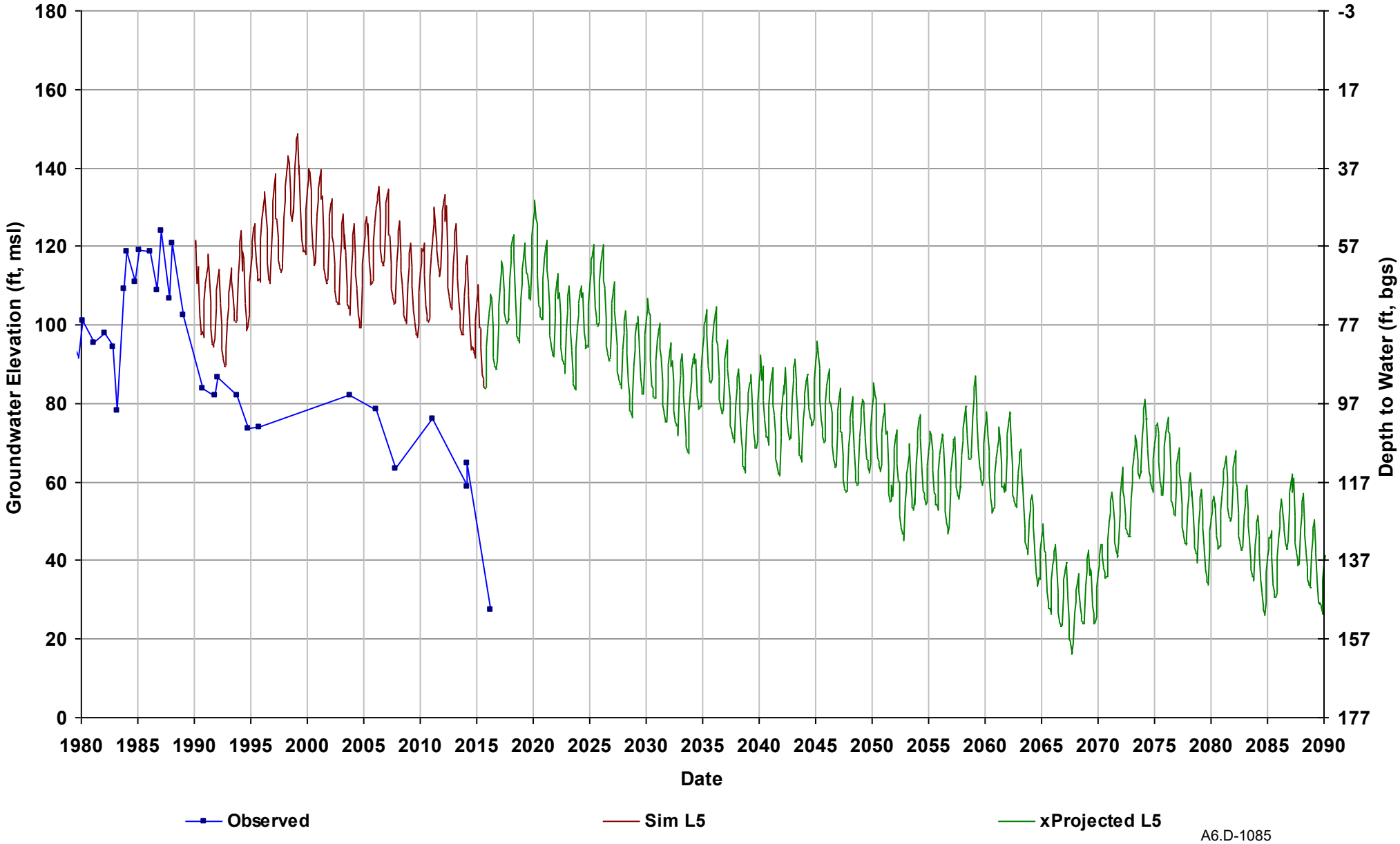
Well Name: 13S15E25N002M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 172

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



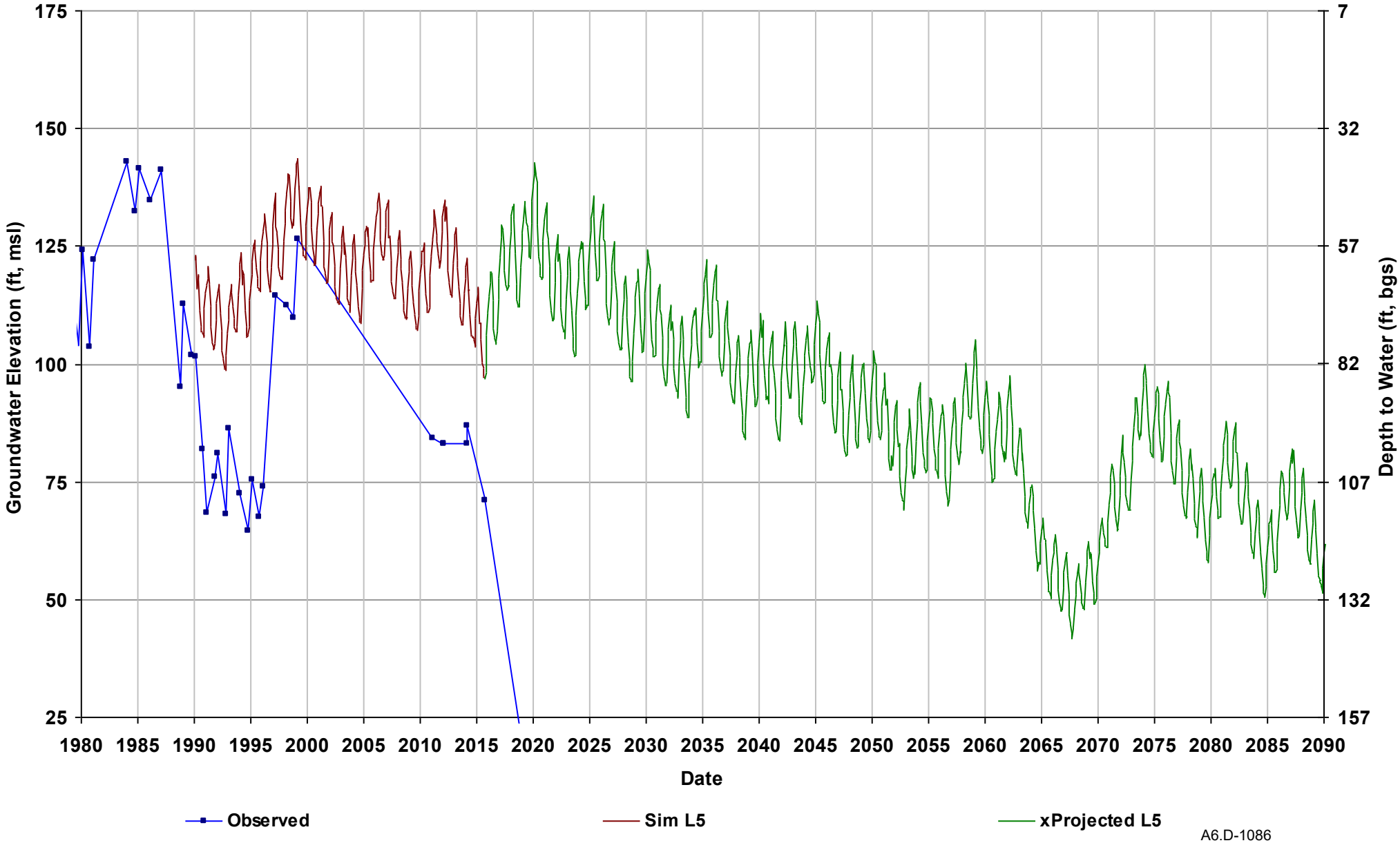
Well Name: 13S16E07R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 177

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



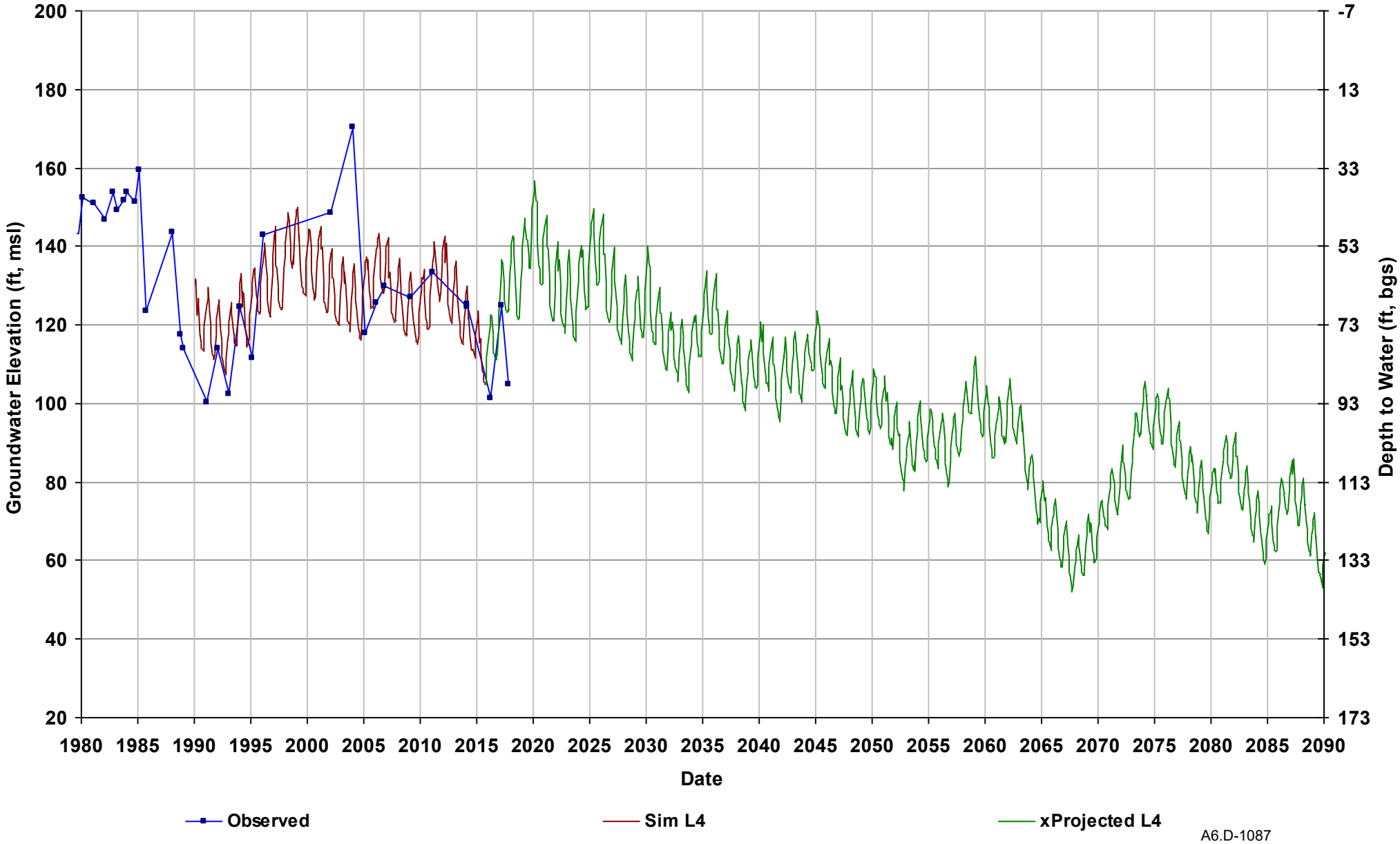
Well Name: 13S16E20J001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 182

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



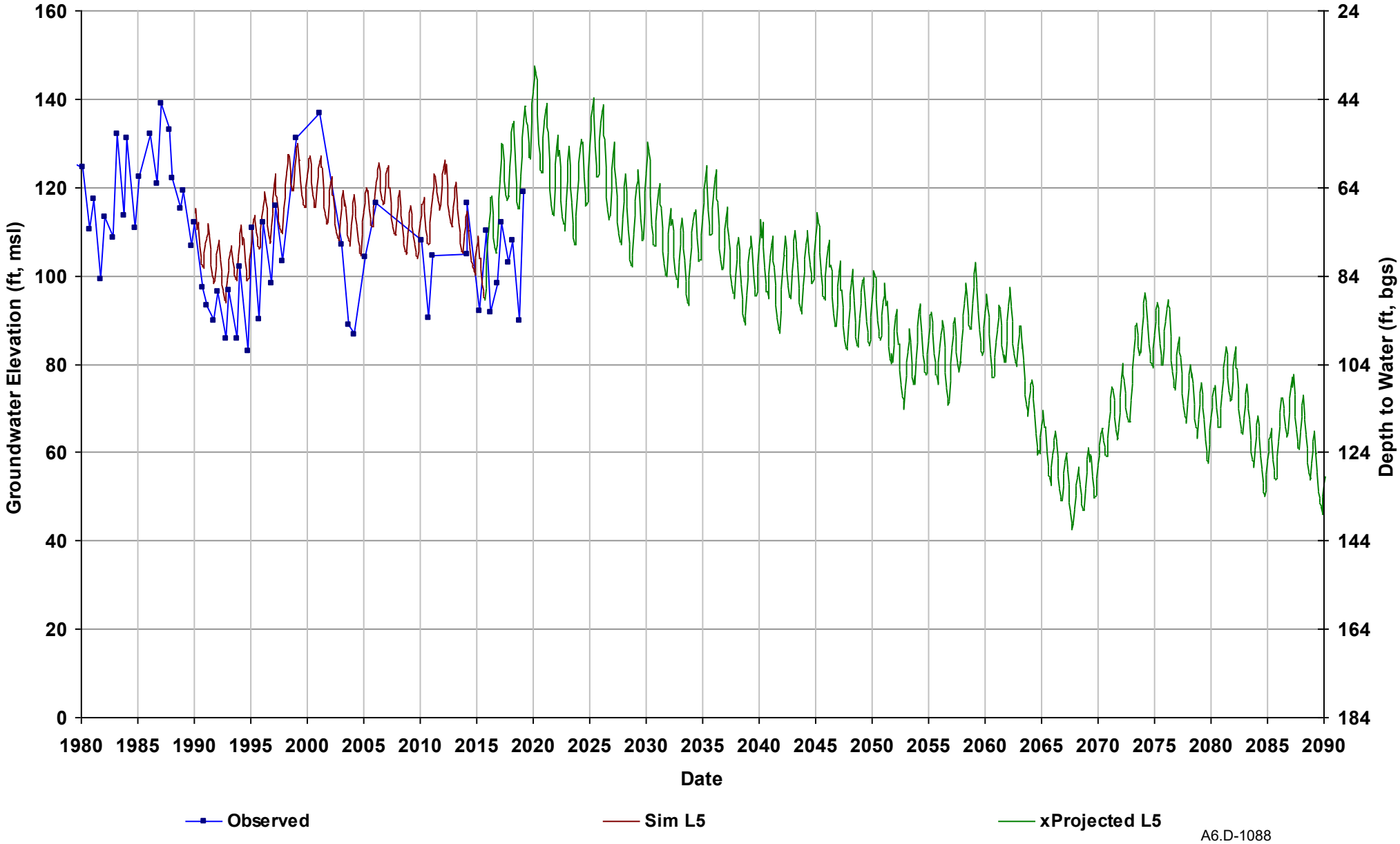
Well Name: 13S16E23N001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 192

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



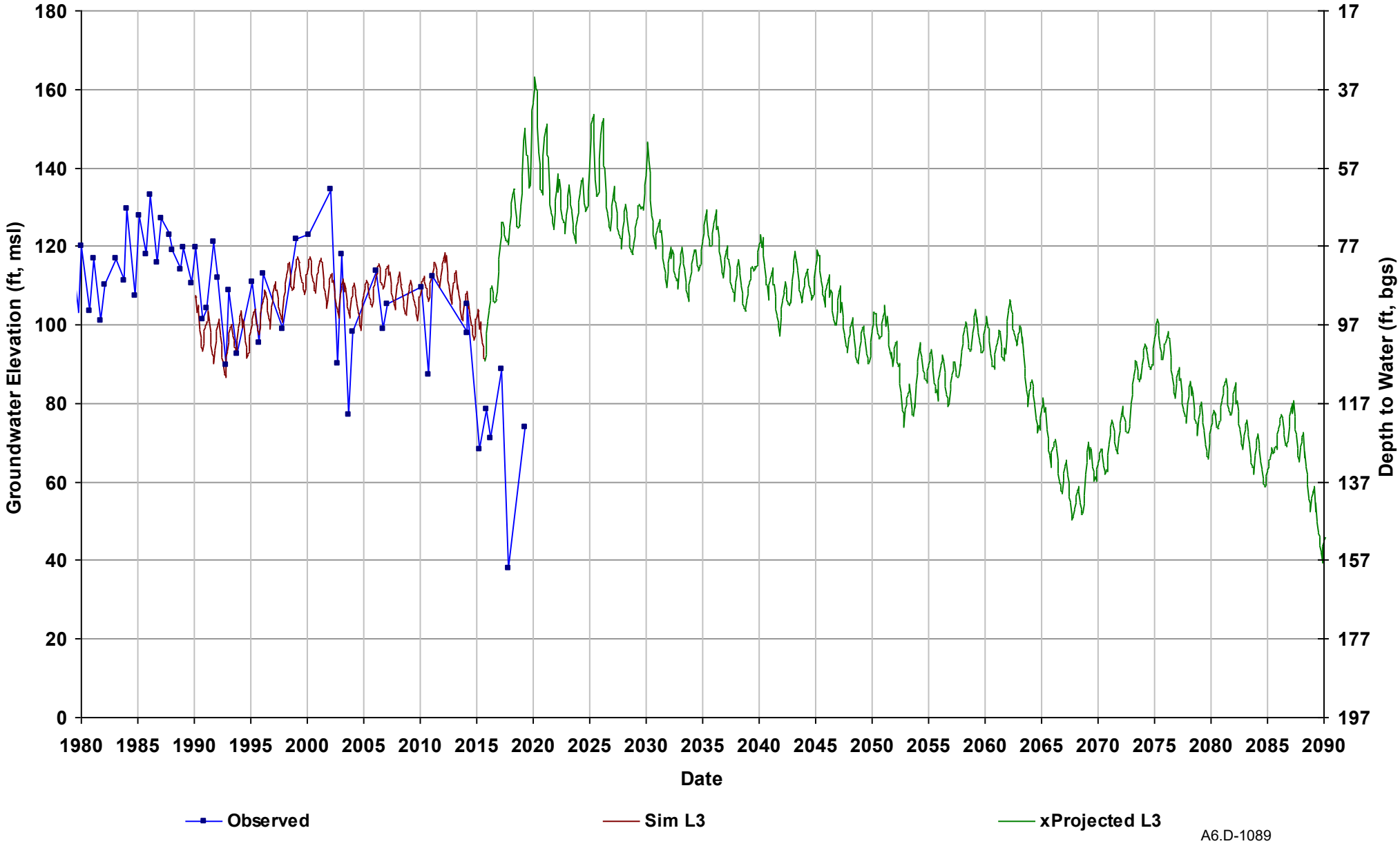
Well Name: 13S16E34C001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 184

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



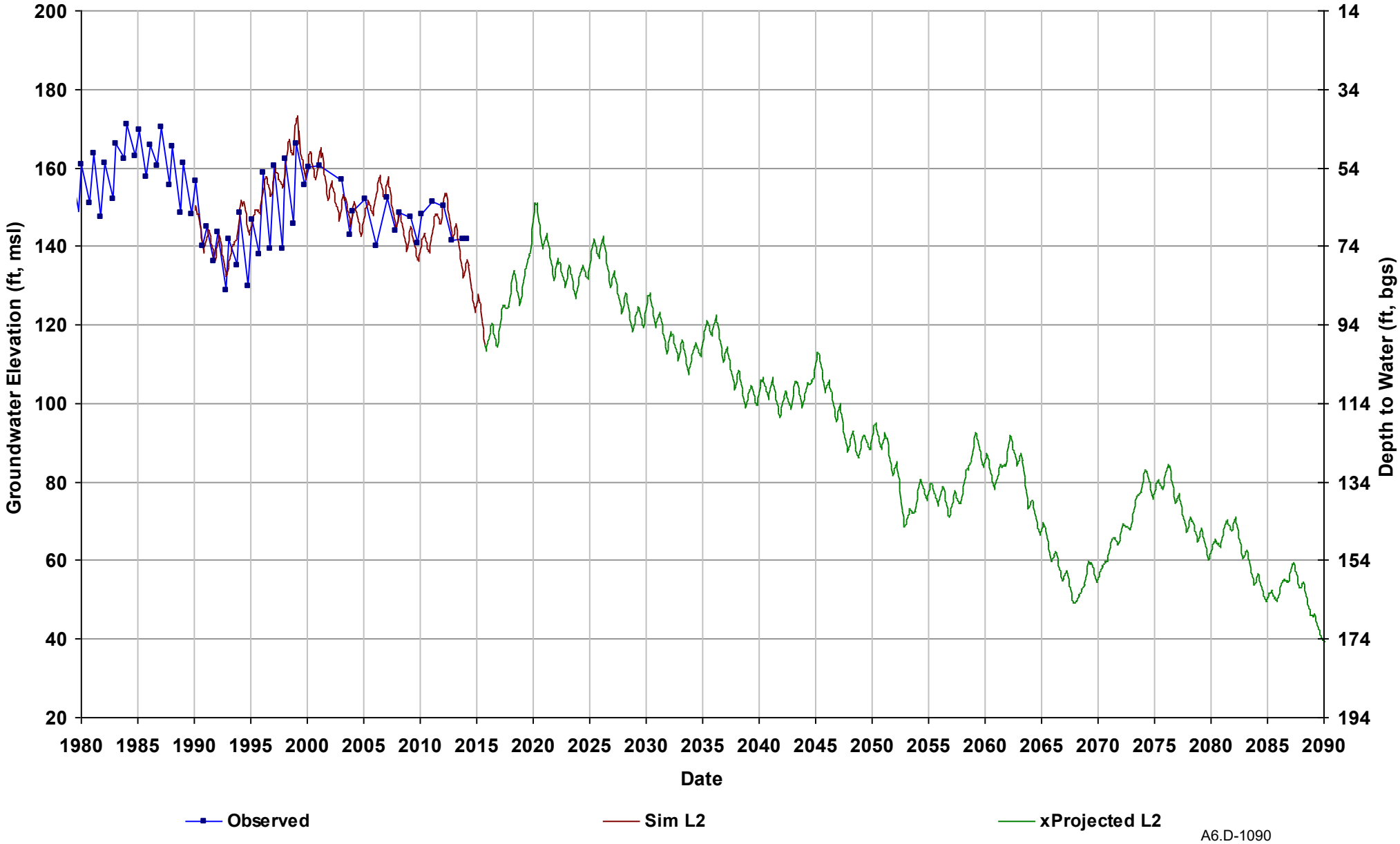
Well Name: 13S16E36R004M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



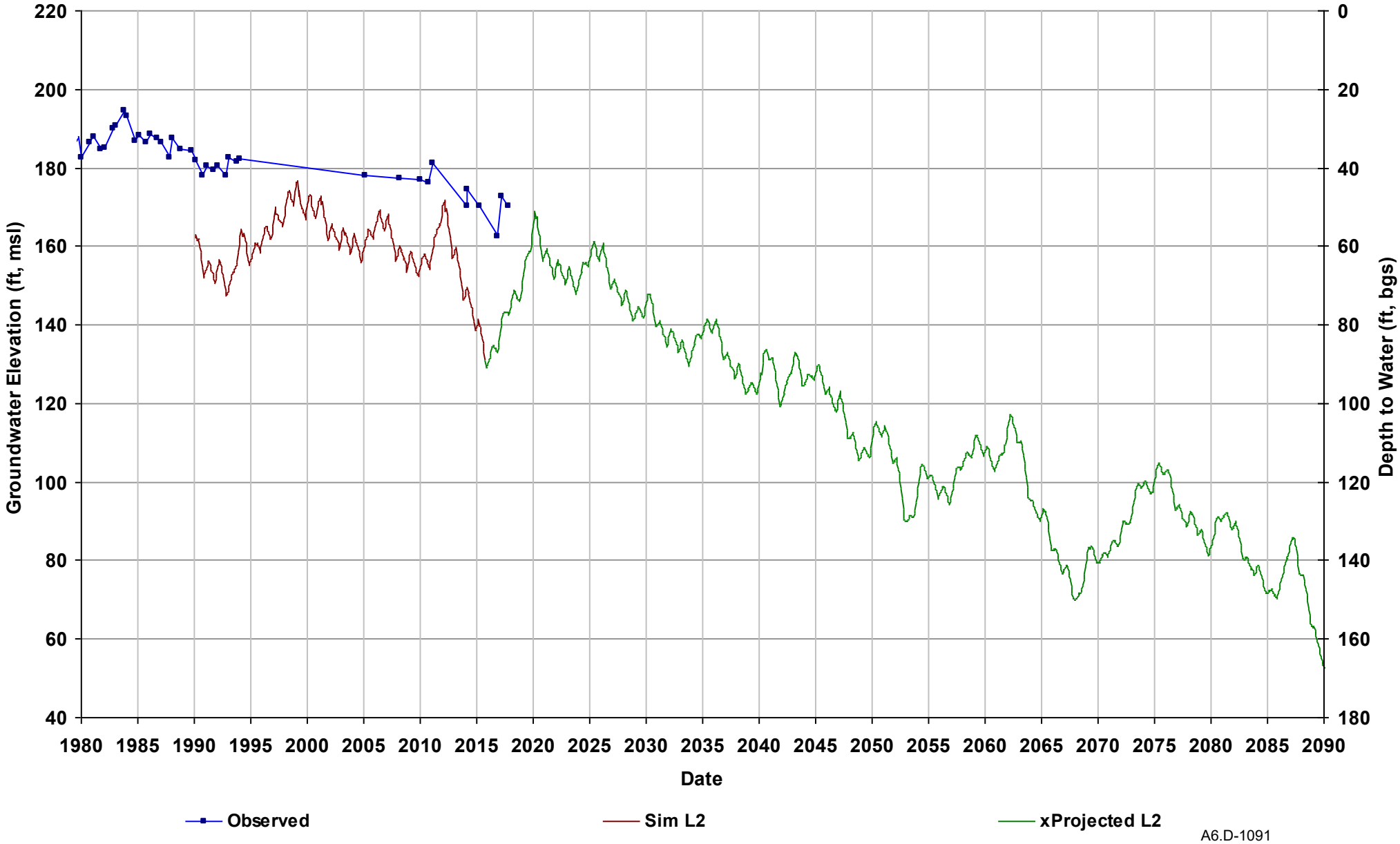
Well Name: 13S17E05P002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 214

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



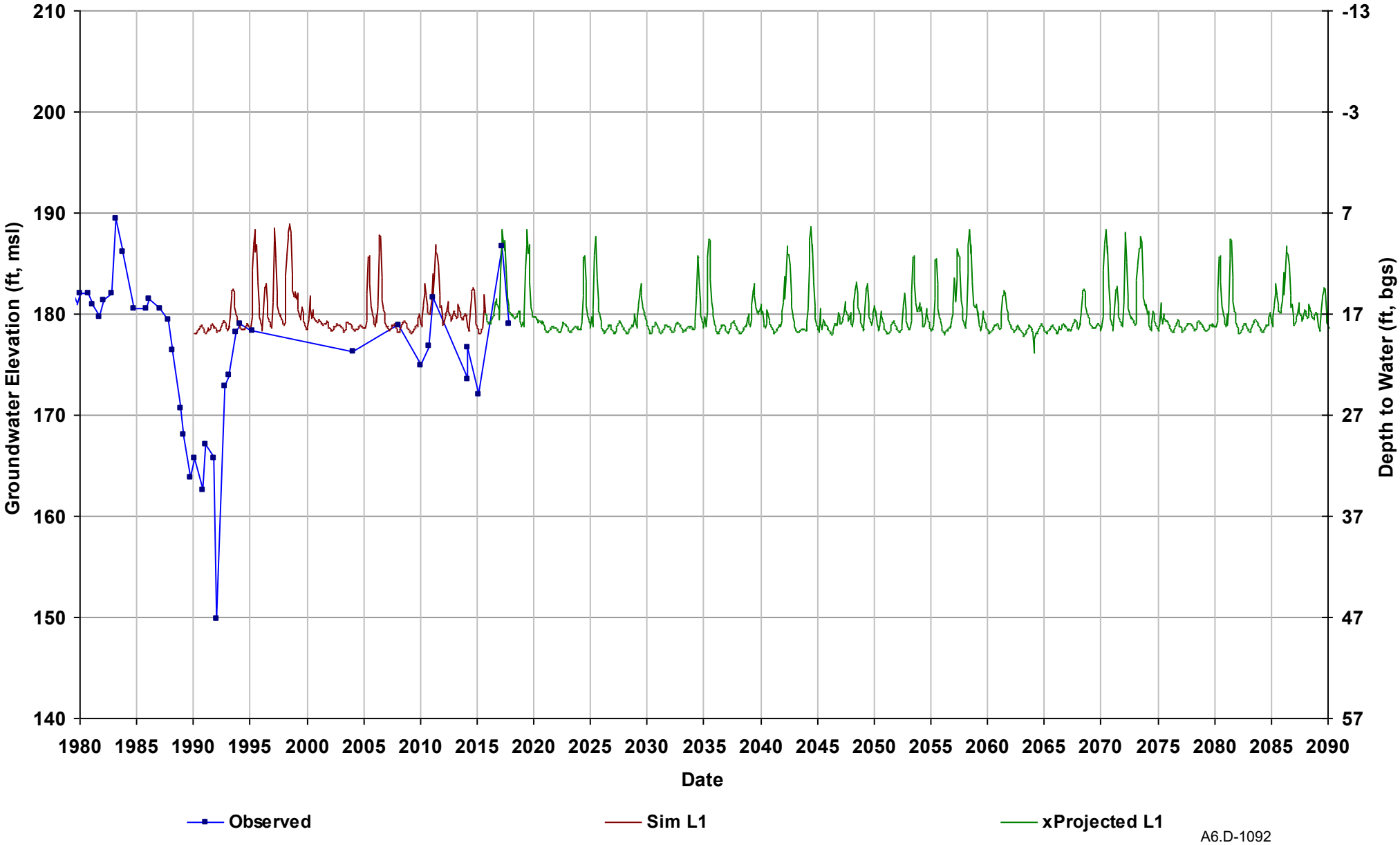
Well Name: 13S17E09R001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 220

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



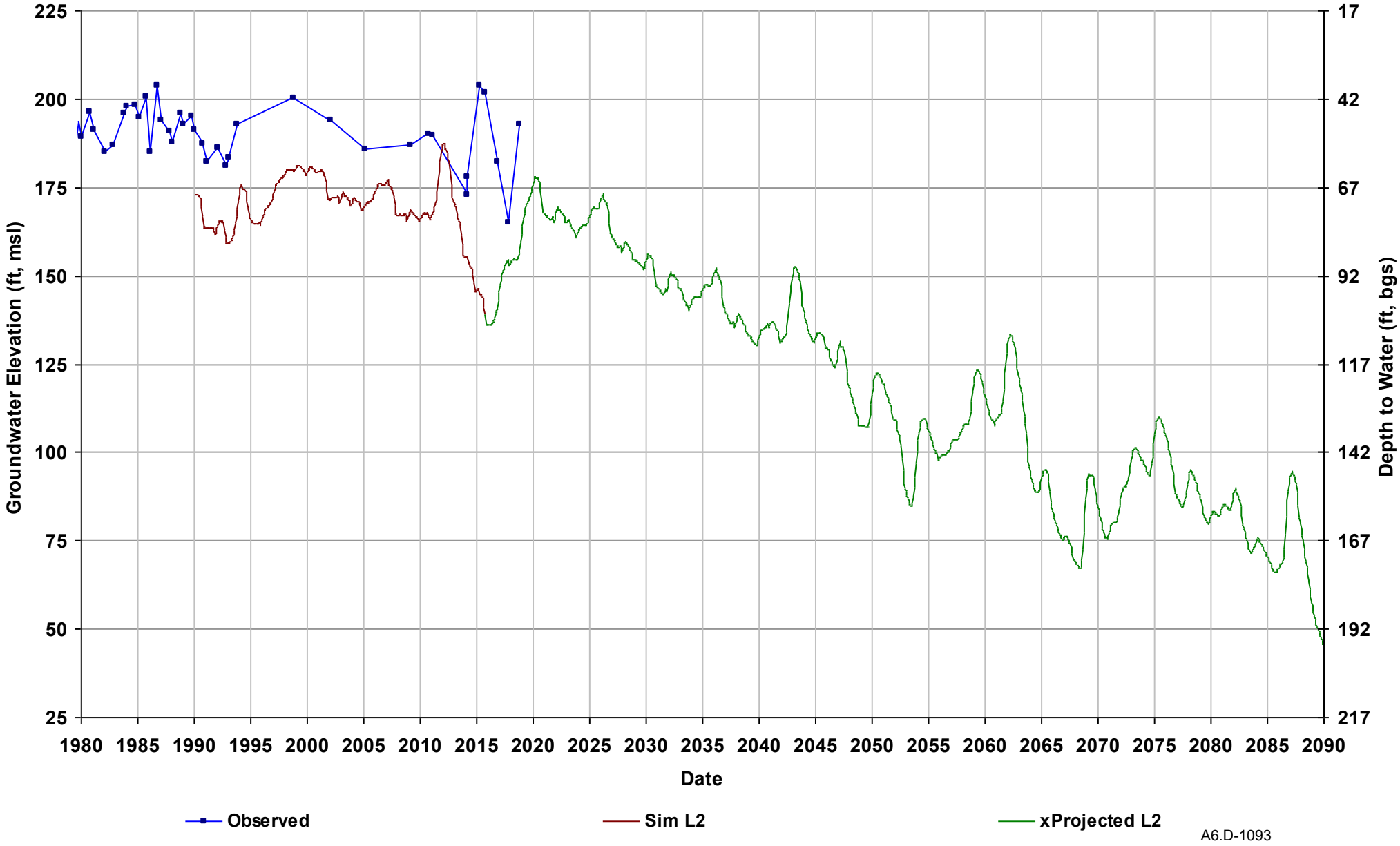
Well Name: 13S17E18M001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



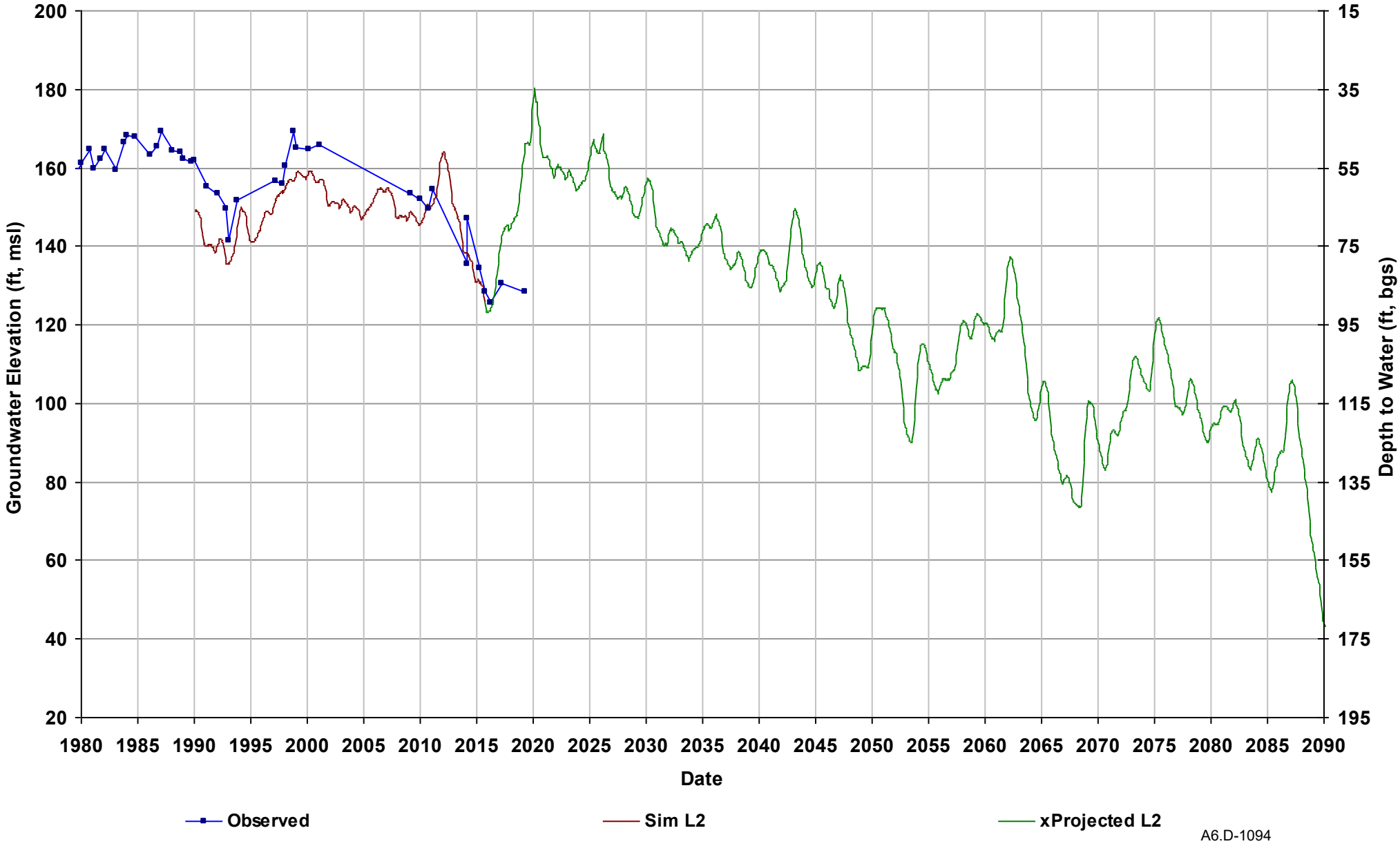
Well Name: 13S17E24A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 242

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



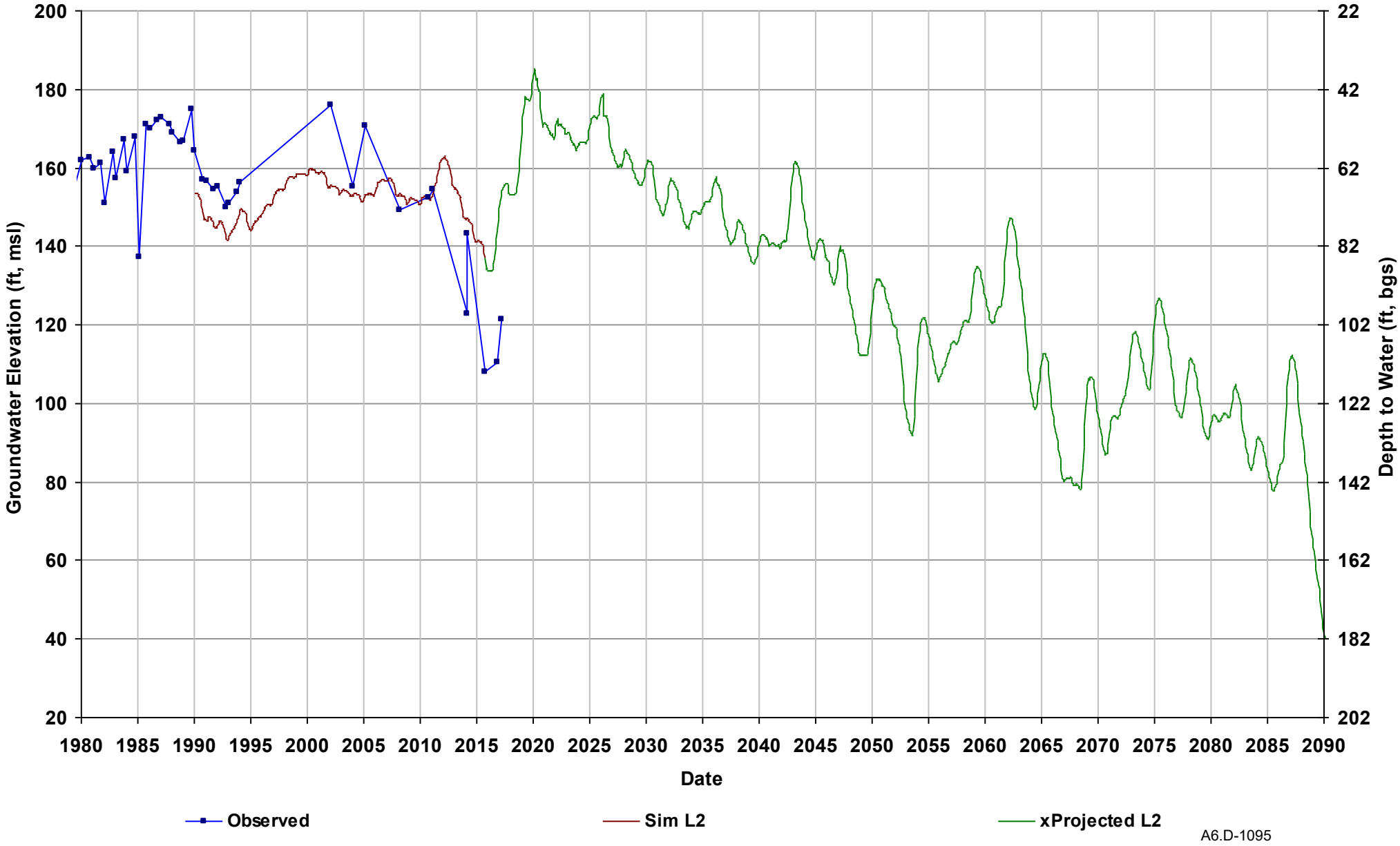
Well Name: 13S17E28H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 215

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



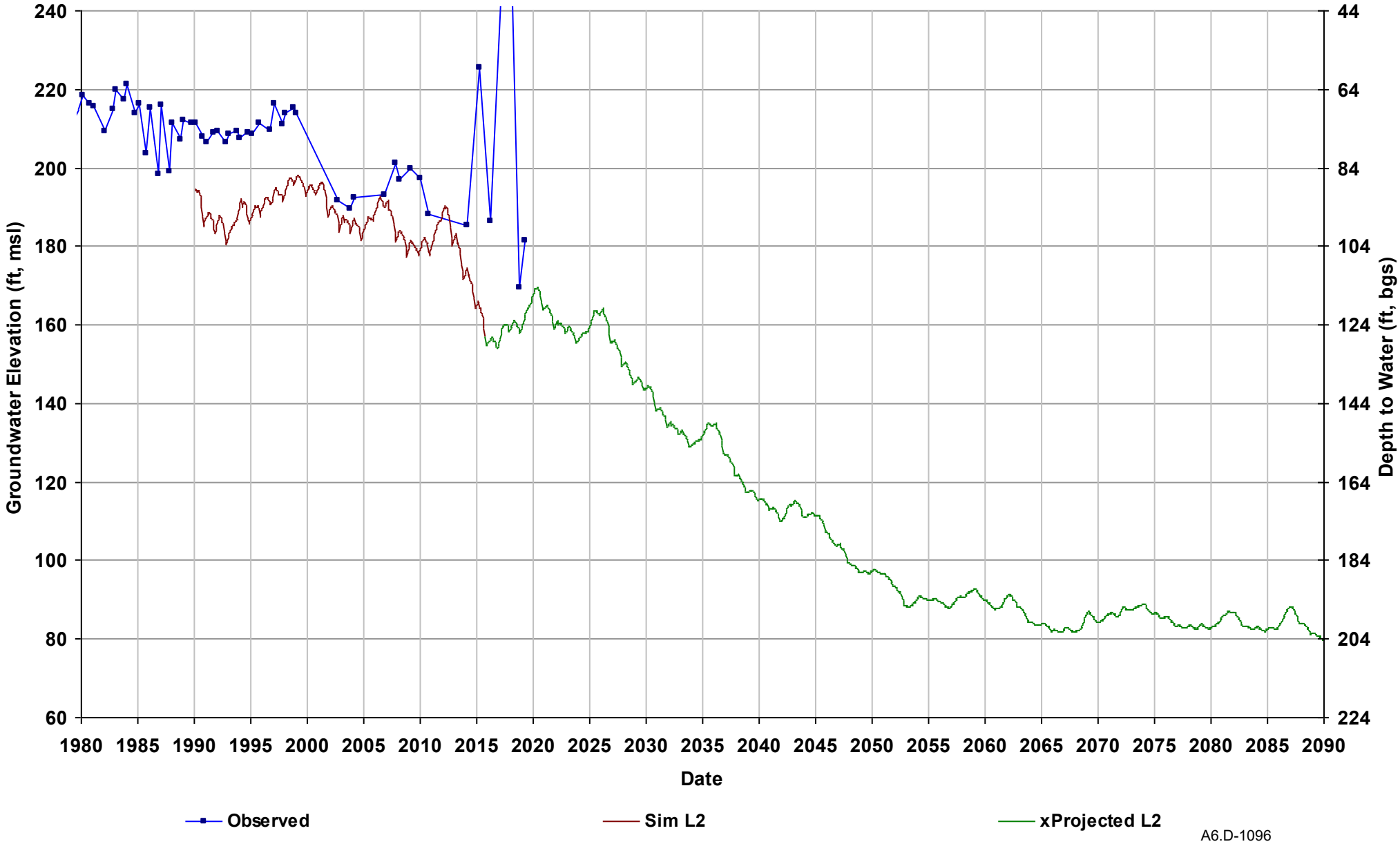
Well Name: 13S17E35L001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 222

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



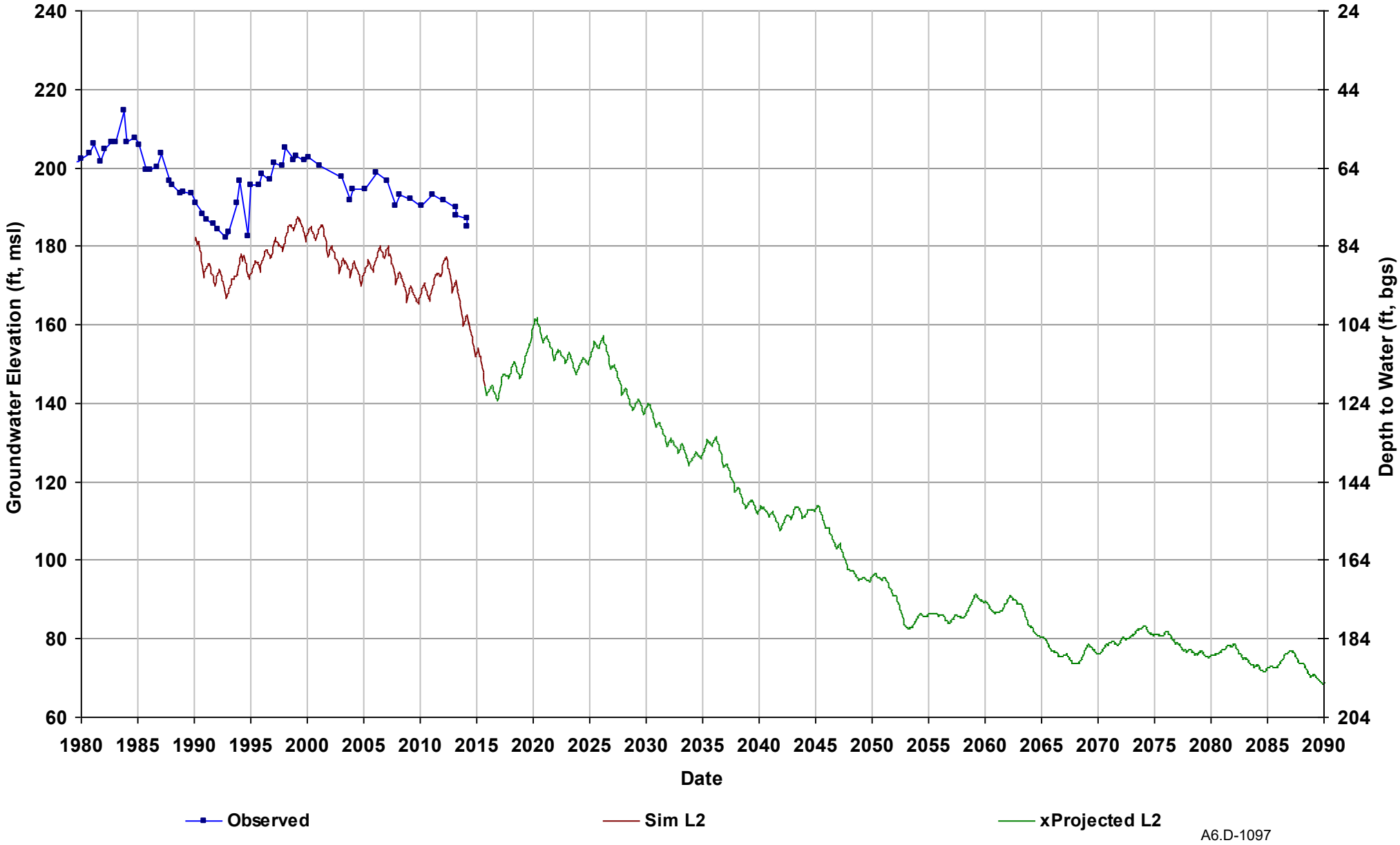
Well Name: 13S18E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 284

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



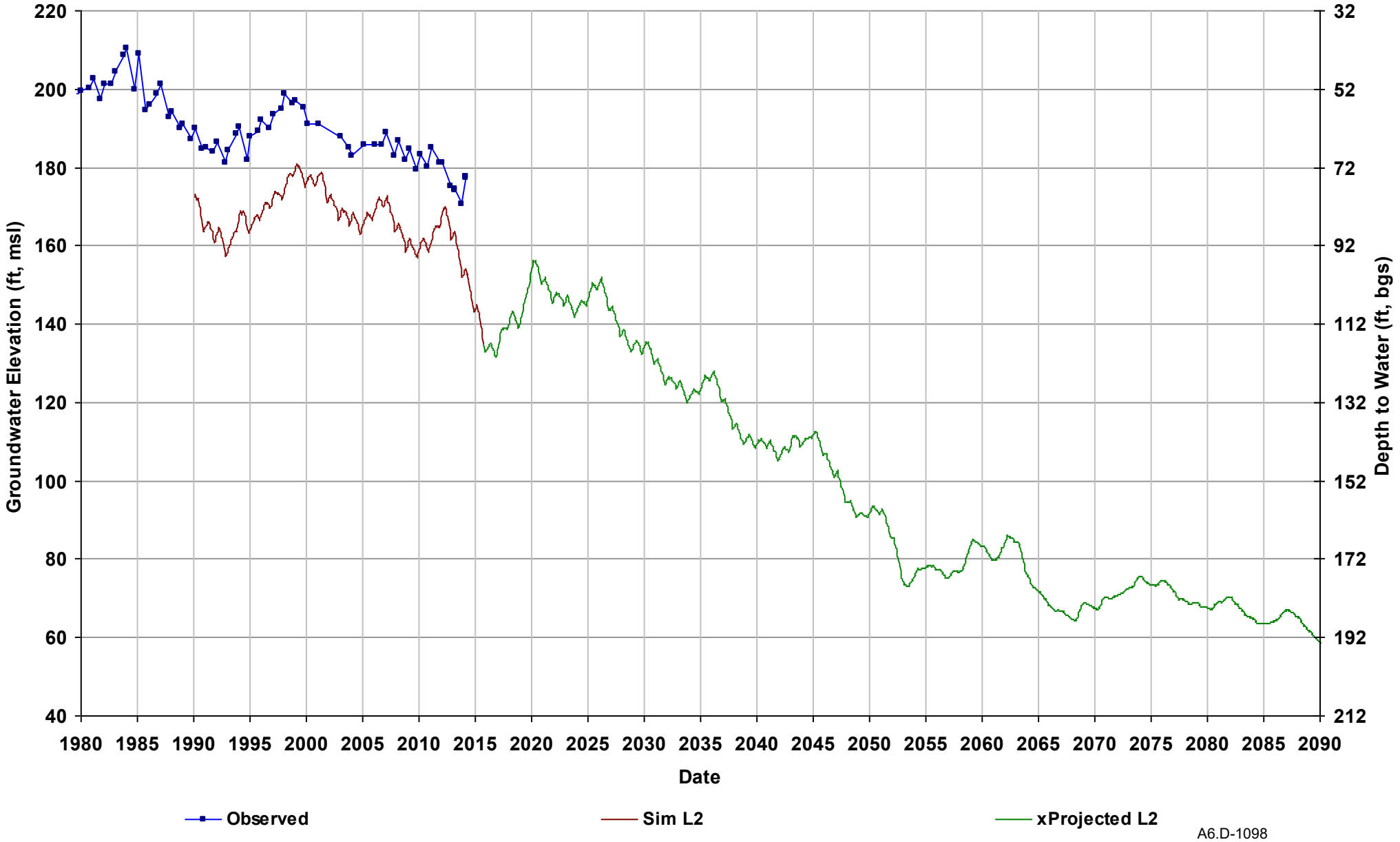
Well Name: 13S18E04B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 264

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



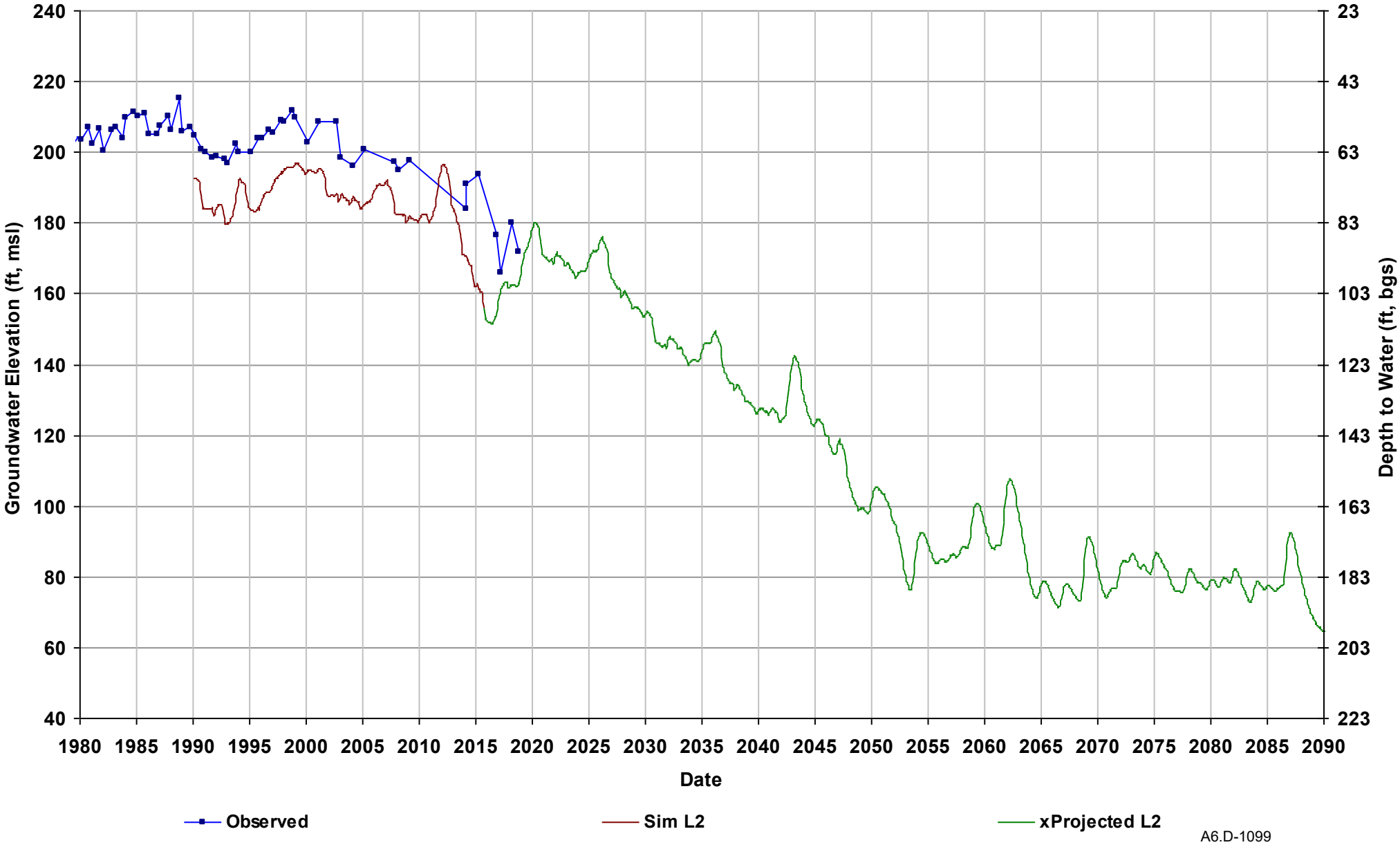
Well Name: 13S18E06K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



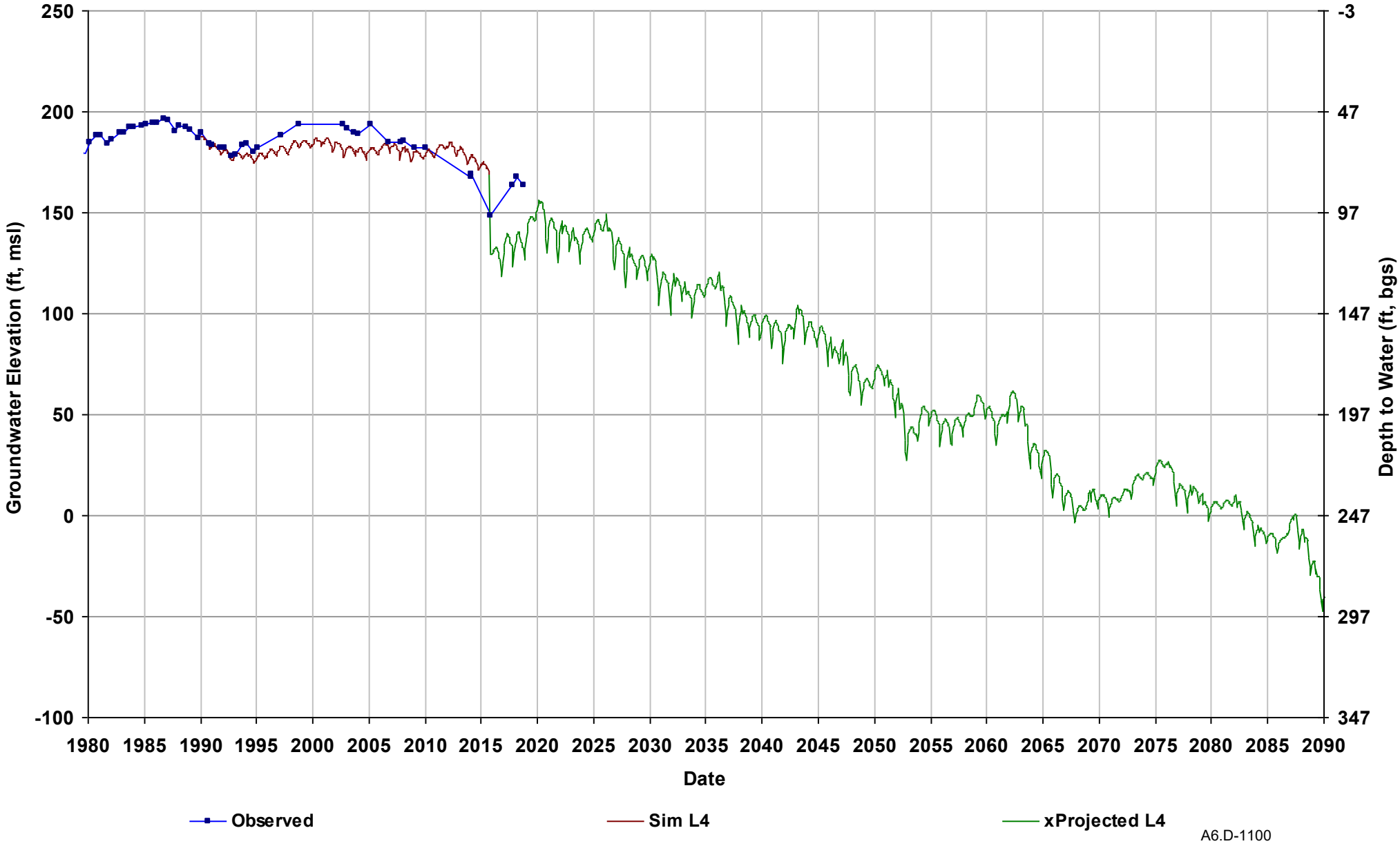
Well Name: 13S18E15J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 263

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



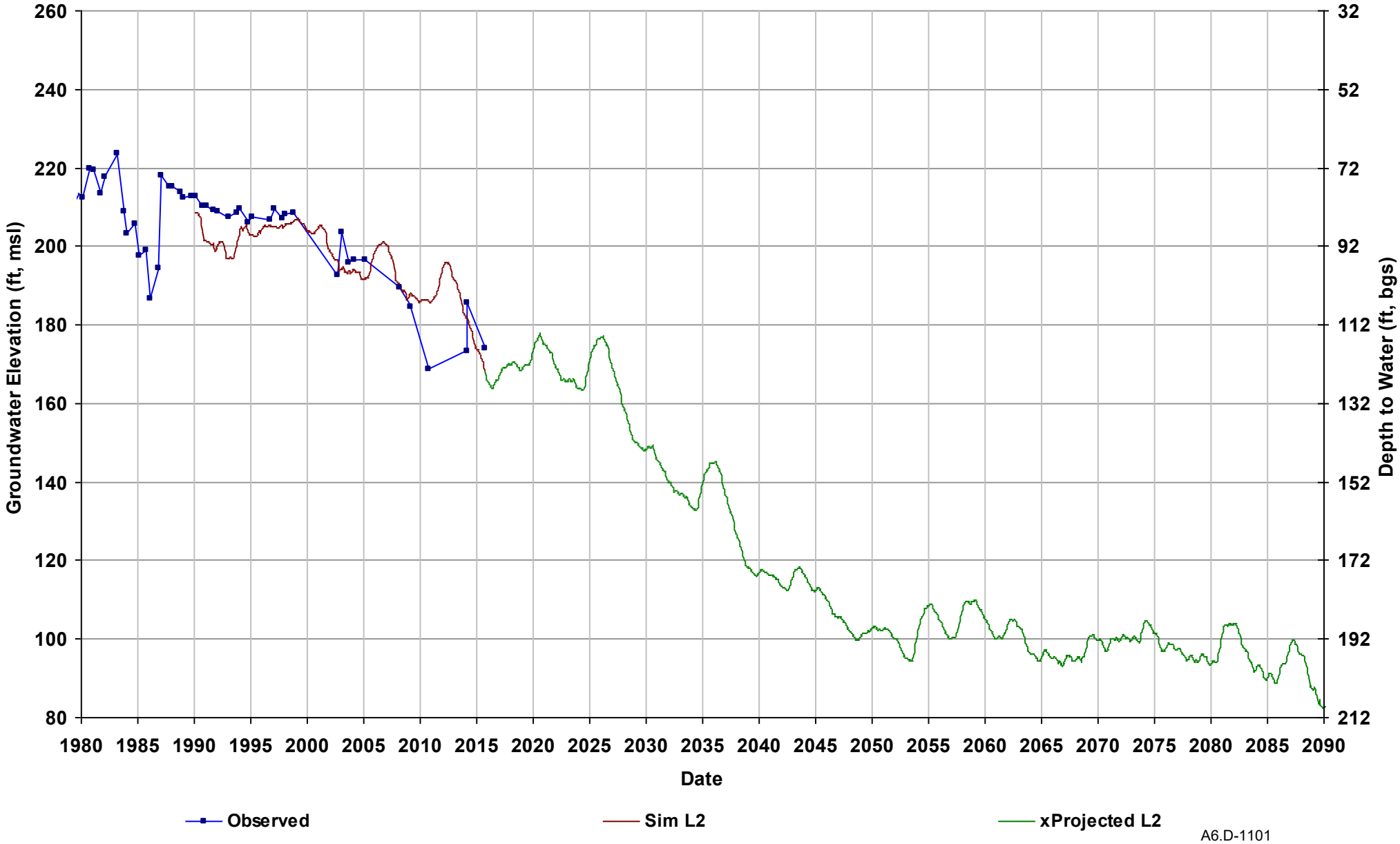
Well Name: 13S18E34D001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 247

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



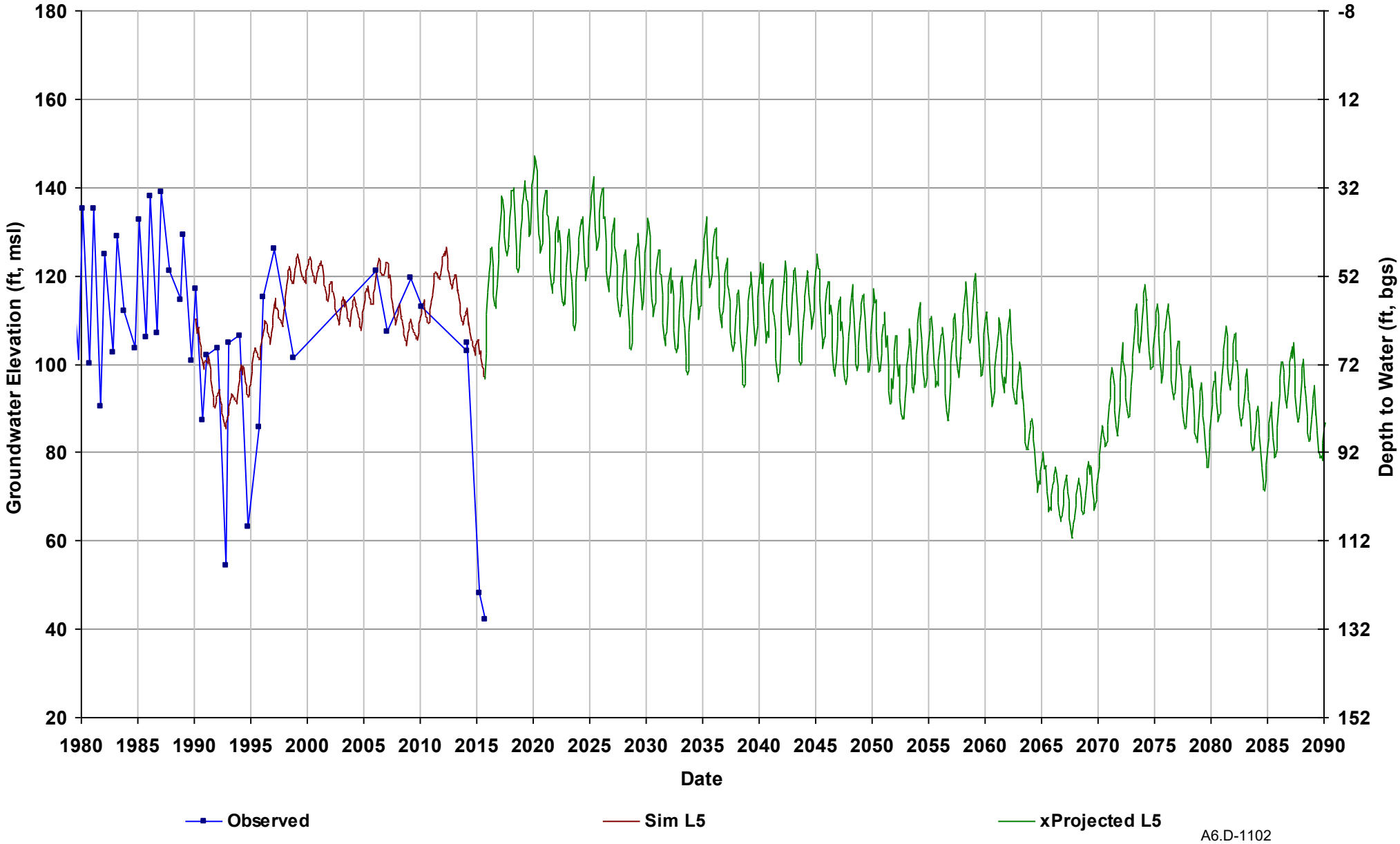
Well Name: 13S19E16K001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 292

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



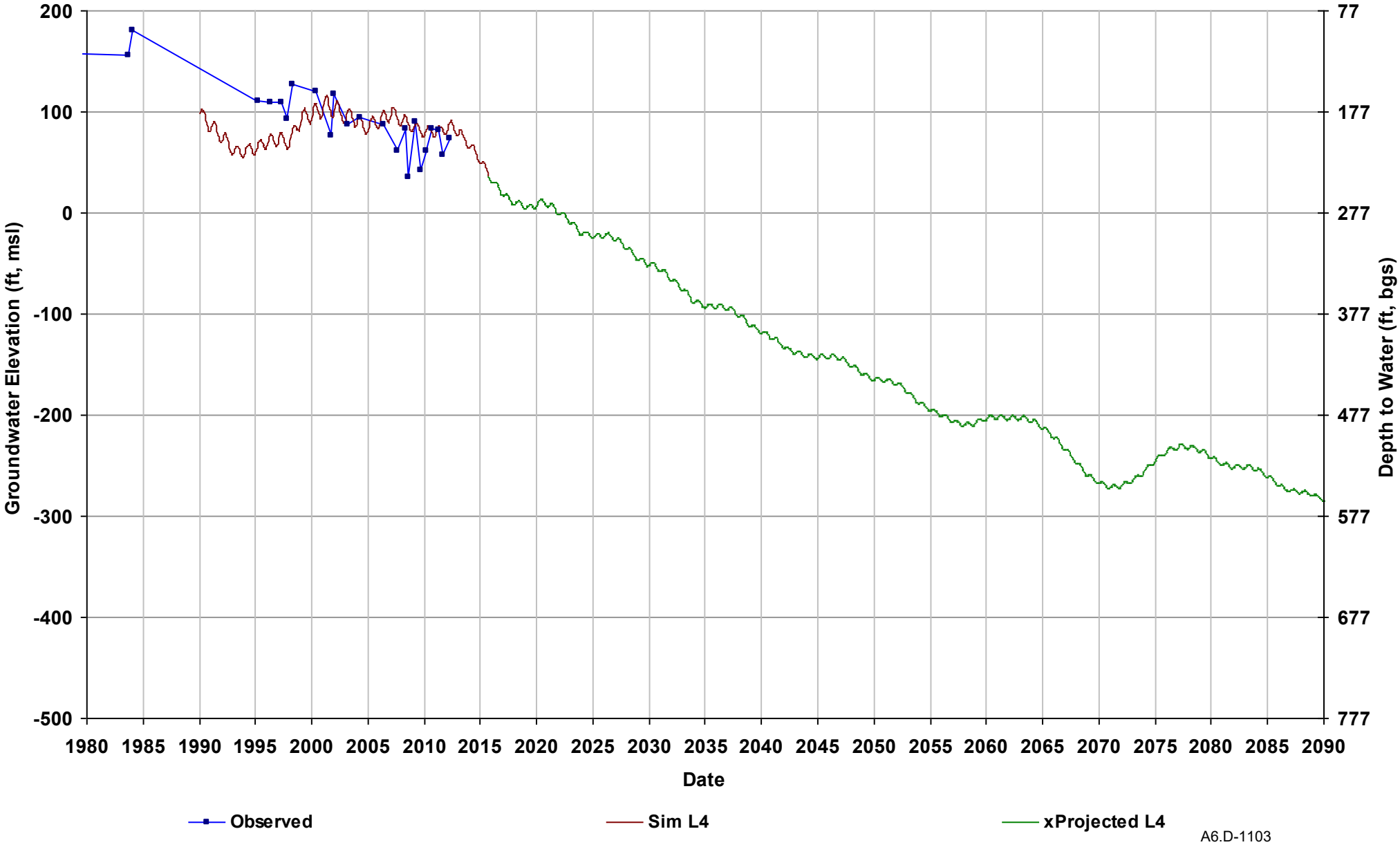
Well Name: 14S16E06A001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 172

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



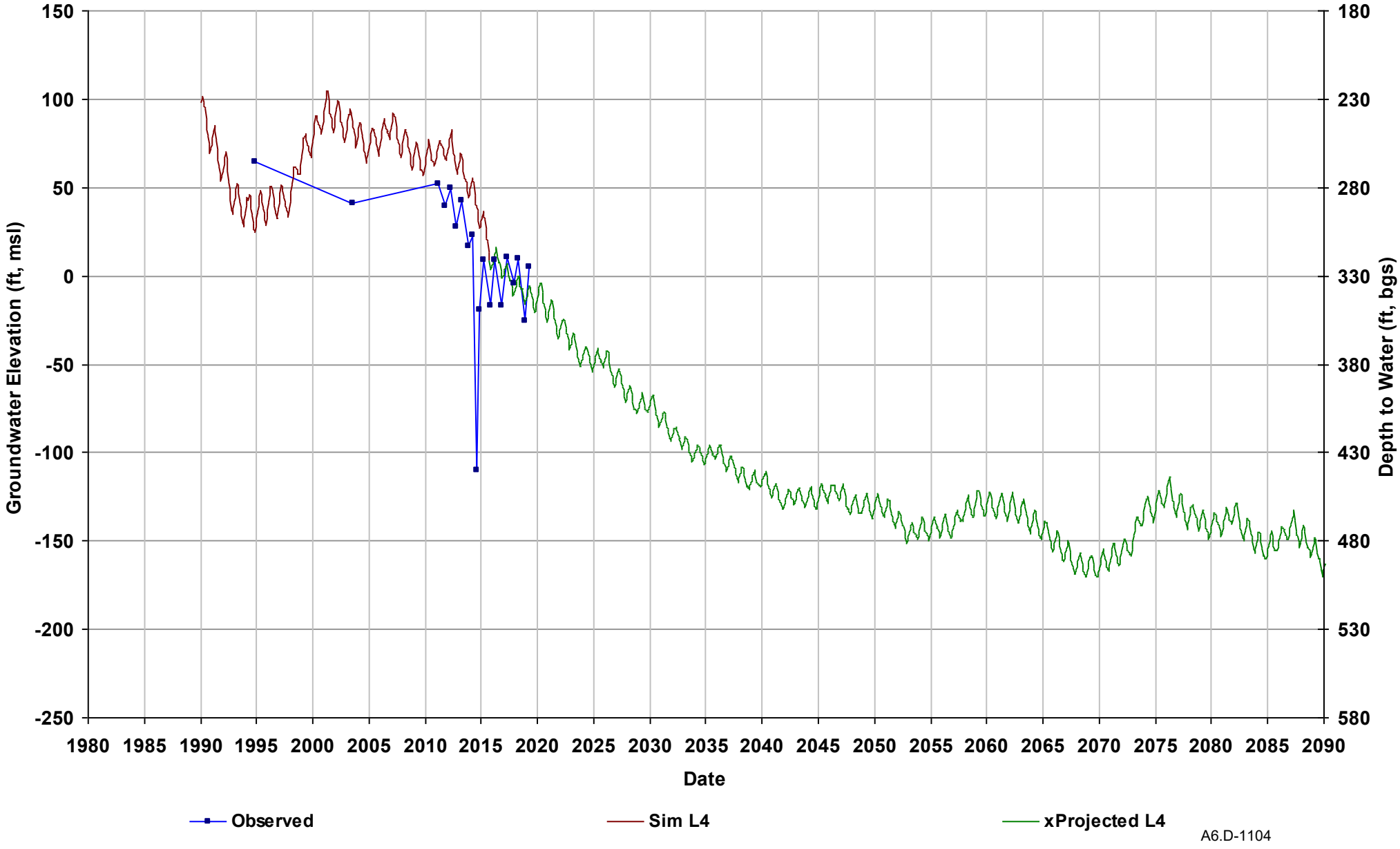
Well Name: City_of_Madera_16
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 276

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



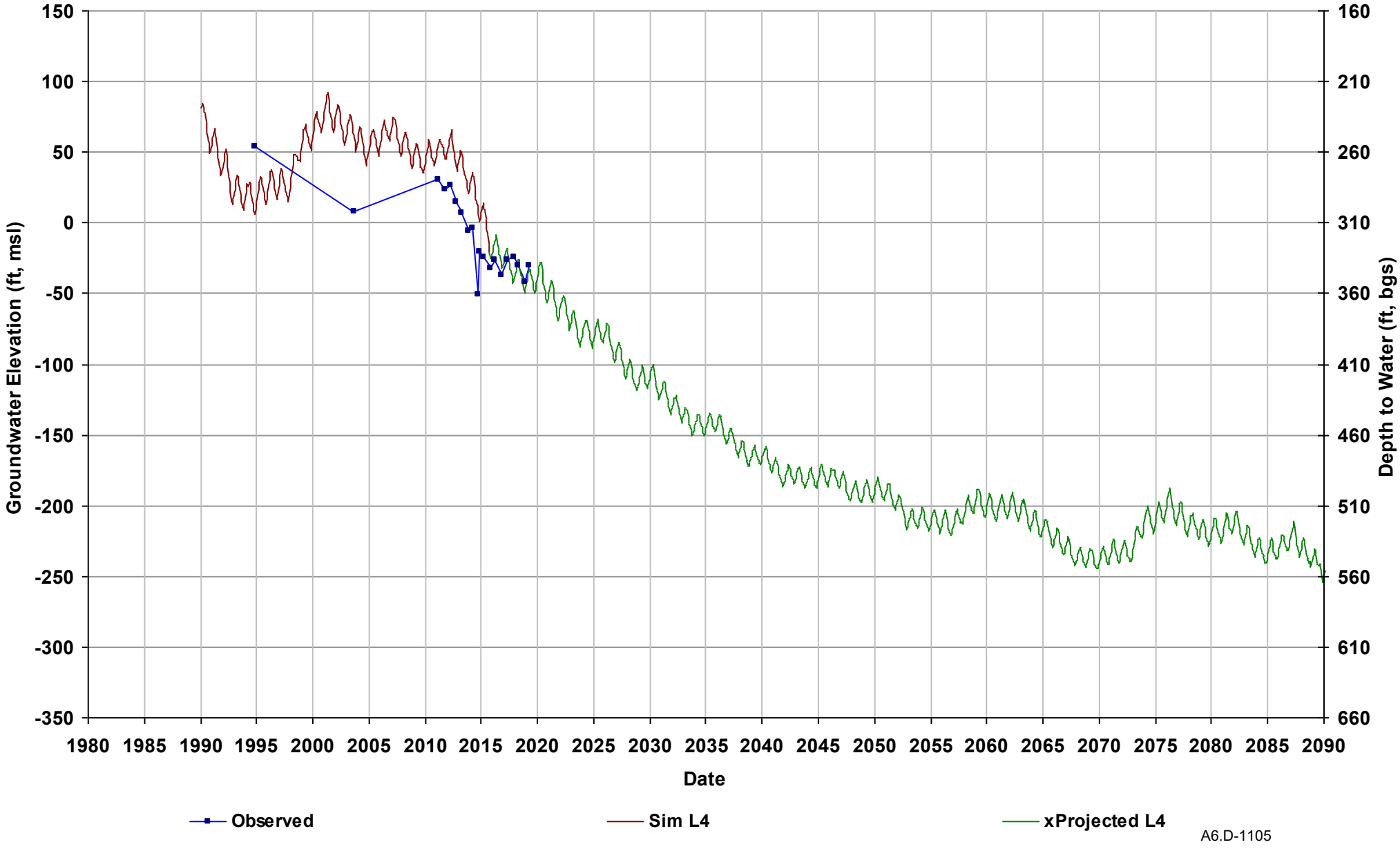
Well Name: MaderaWD-4
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 330

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



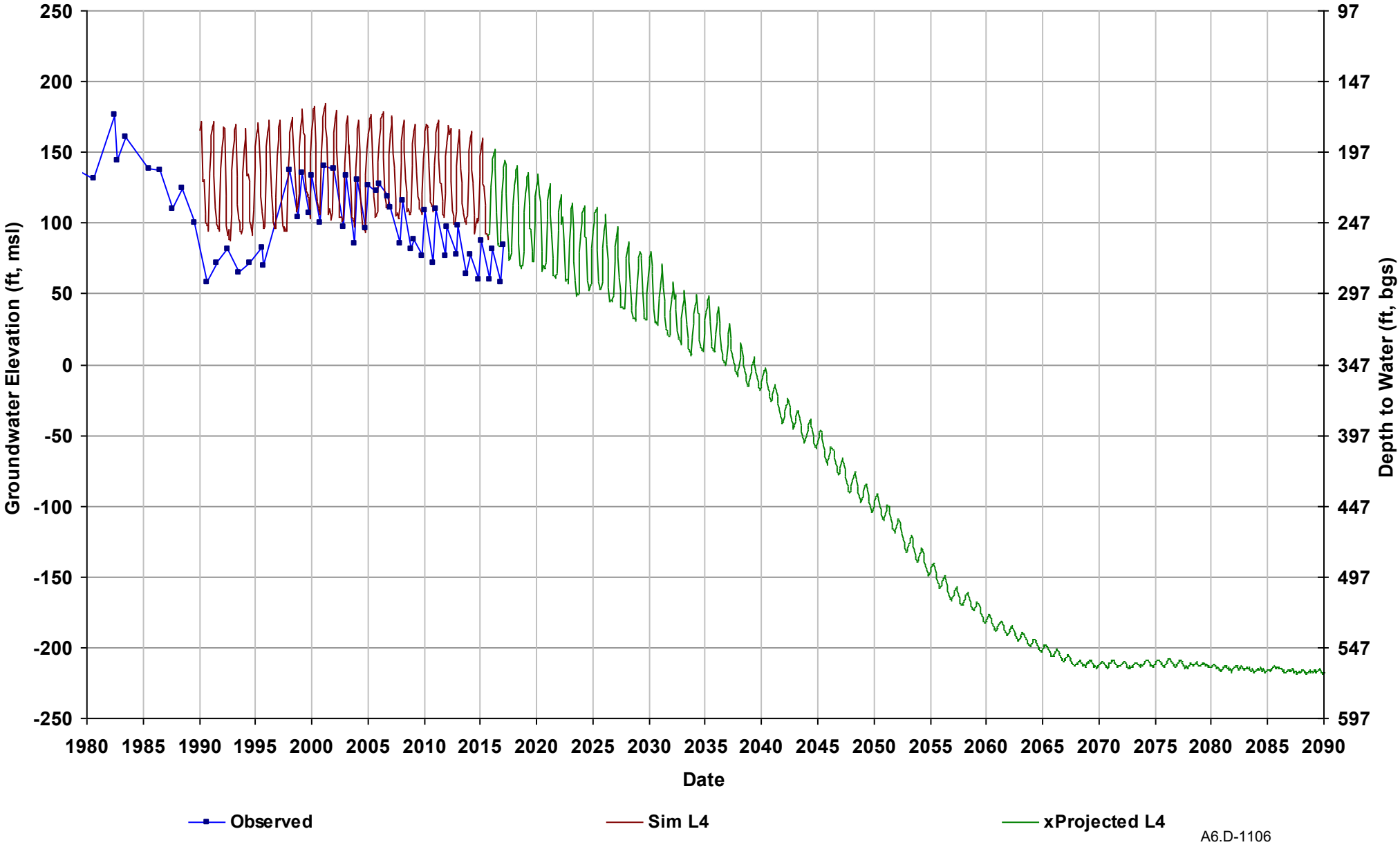
Well Name: MaderaWD-9
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 310

Total Depth (ft): 536
Perf Top (ft): 200
Perf Bottom (ft): 536
Top Model Layer: 4
Bottom Model Layer: 4



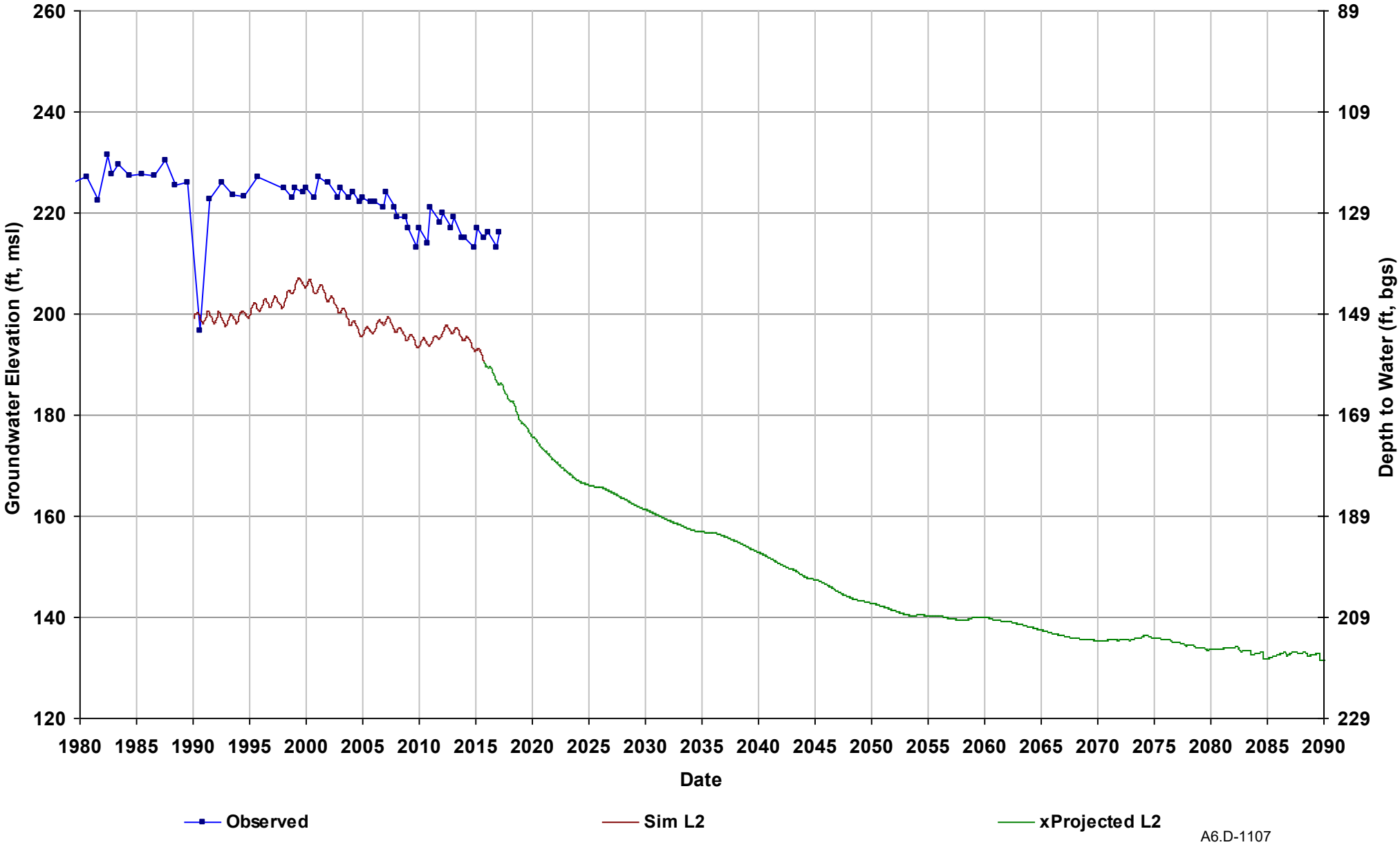
Well Name: RootCreekWD-113
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 346

Total Depth (ft): 495
Perf Top (ft): 240
Perf Bottom (ft): 492
Top Model Layer: 4
Bottom Model Layer: 4



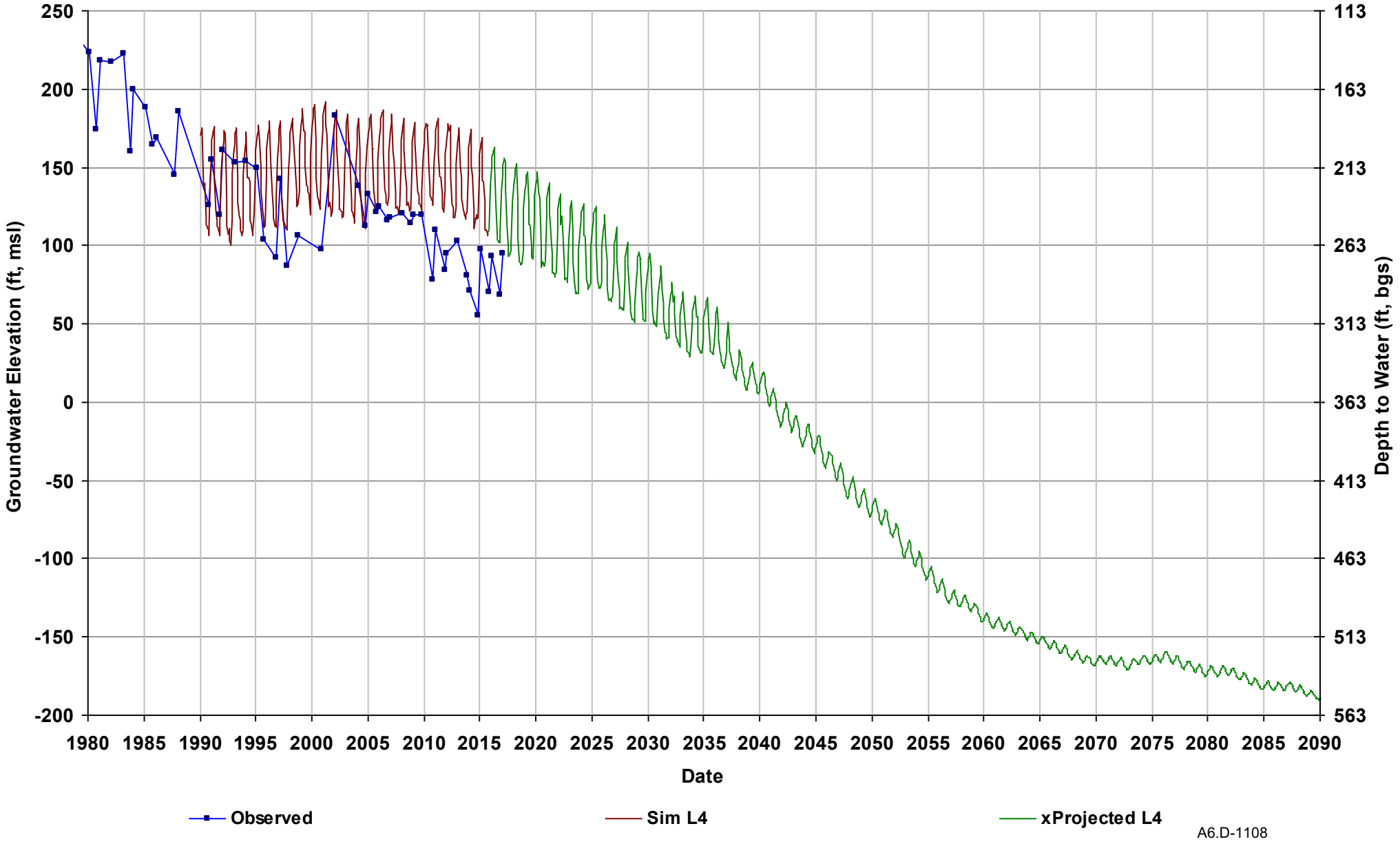
Well Name: RootCreekWD-22
Depth Zone: Upper; Outside CC
Subbasin: Madera
GSE (ft, msl): 348

Total Depth (ft): 236
Perf Top (ft): 160
Perf Bottom (ft): 228
Top Model Layer: 2
Bottom Model Layer: 2



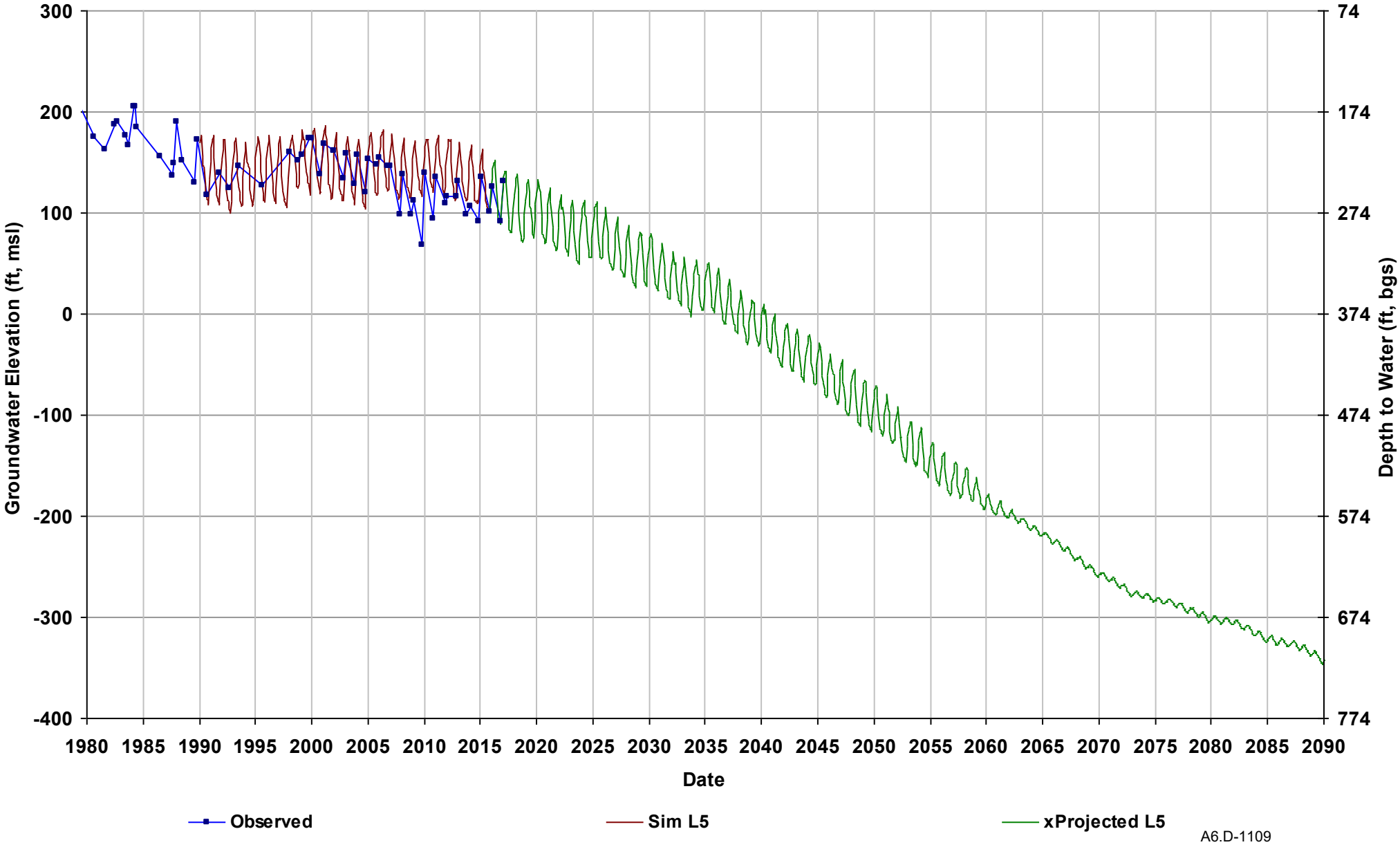
Well Name: RootCreekWD-65
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 363

Total Depth (ft): 407
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



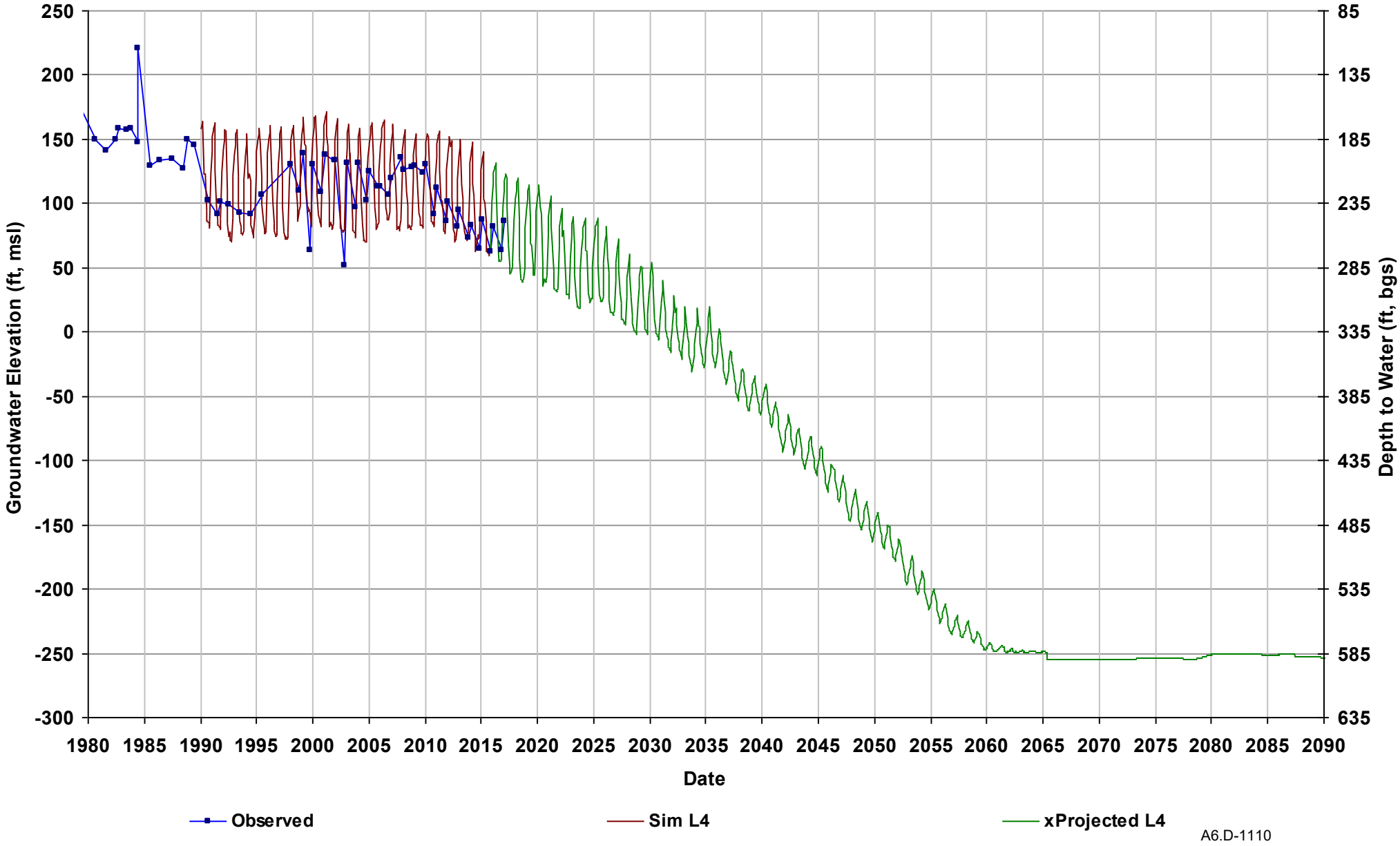
Well Name: RootCreekWD-66
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 373

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



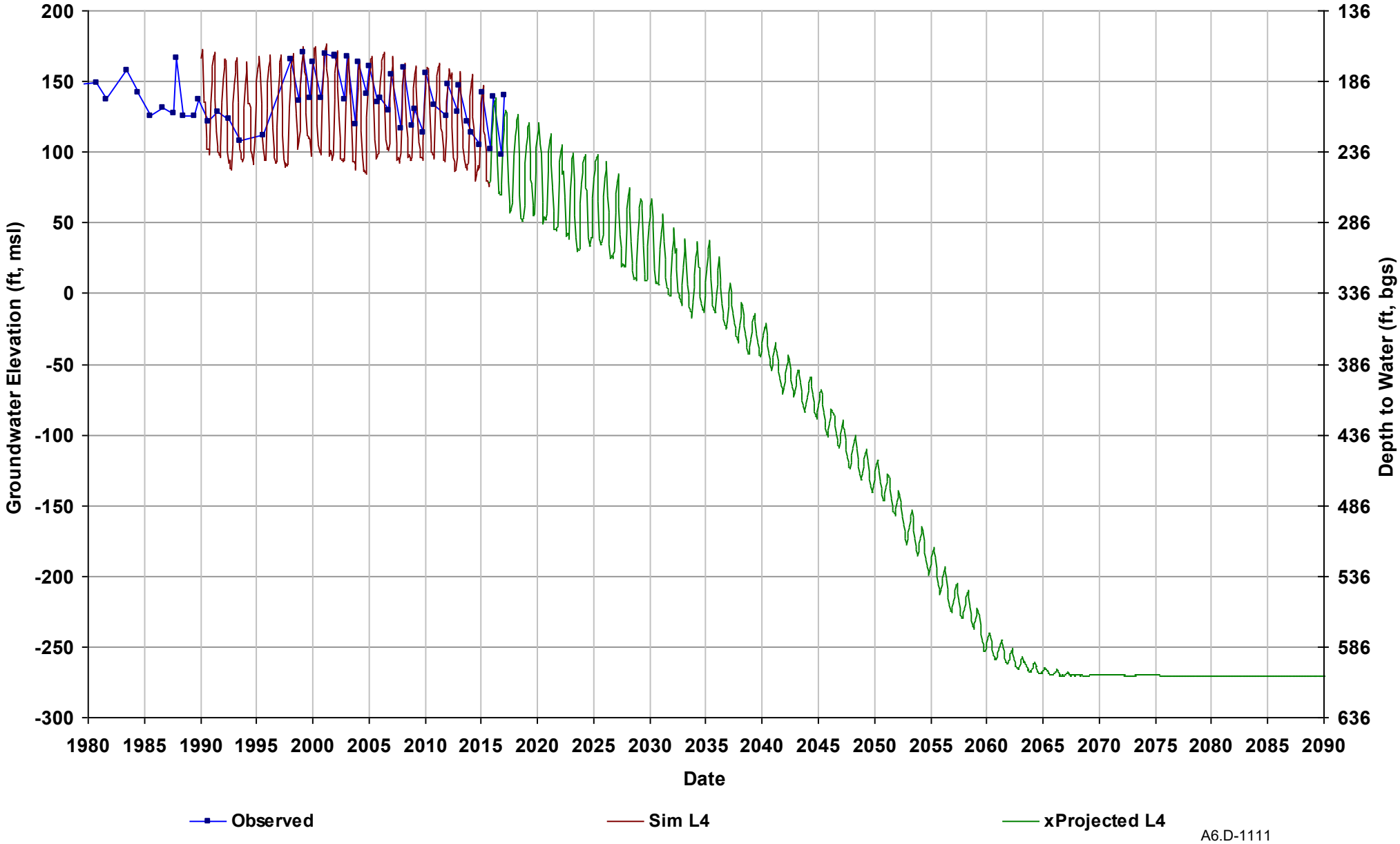
Well Name: RootCreekWD-85
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 335

Total Depth (ft): 412
Perf Top (ft): 250
Perf Bottom (ft): 408
Top Model Layer: 4
Bottom Model Layer: 4



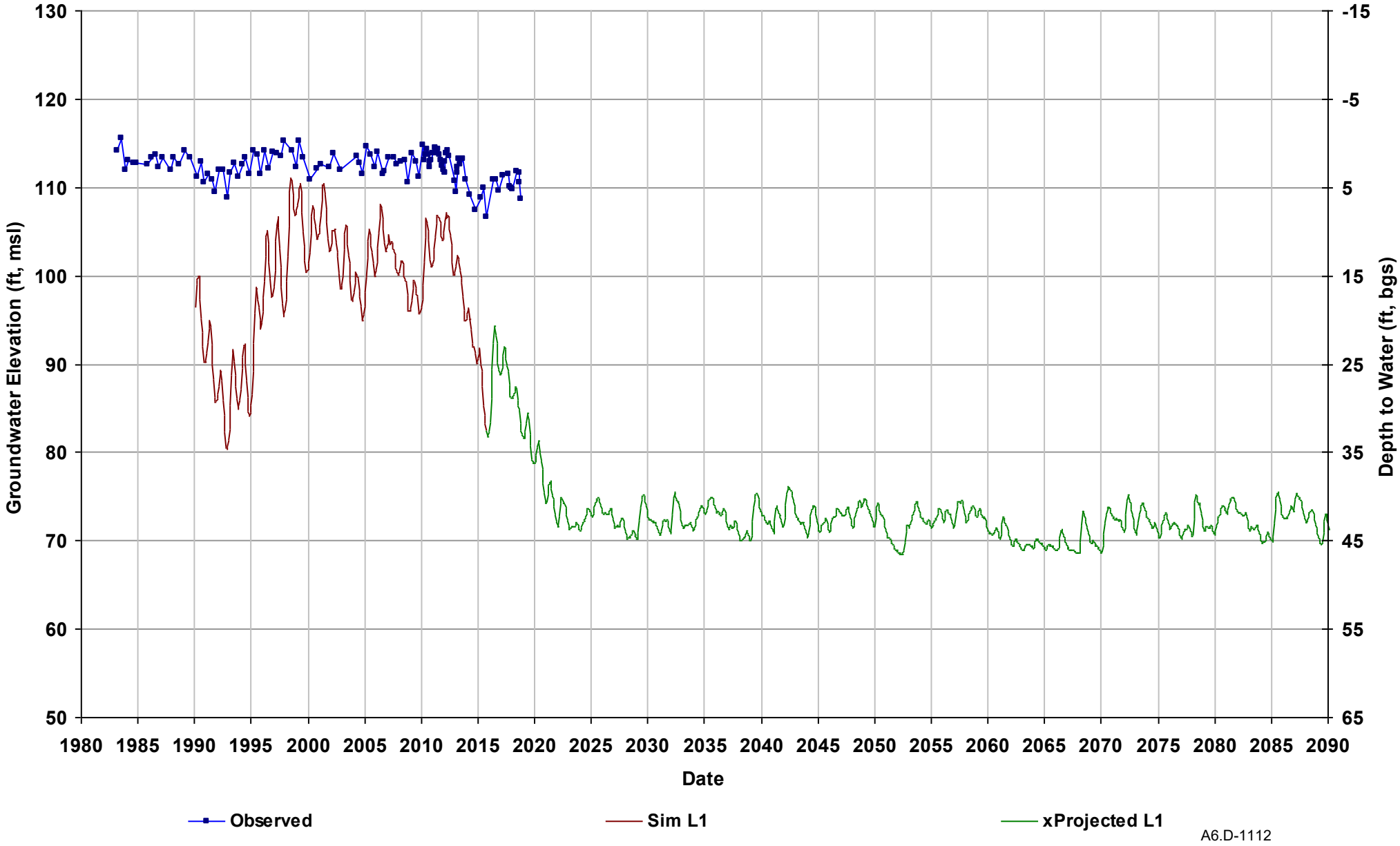
Well Name: RootCreekWD-88
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 336

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



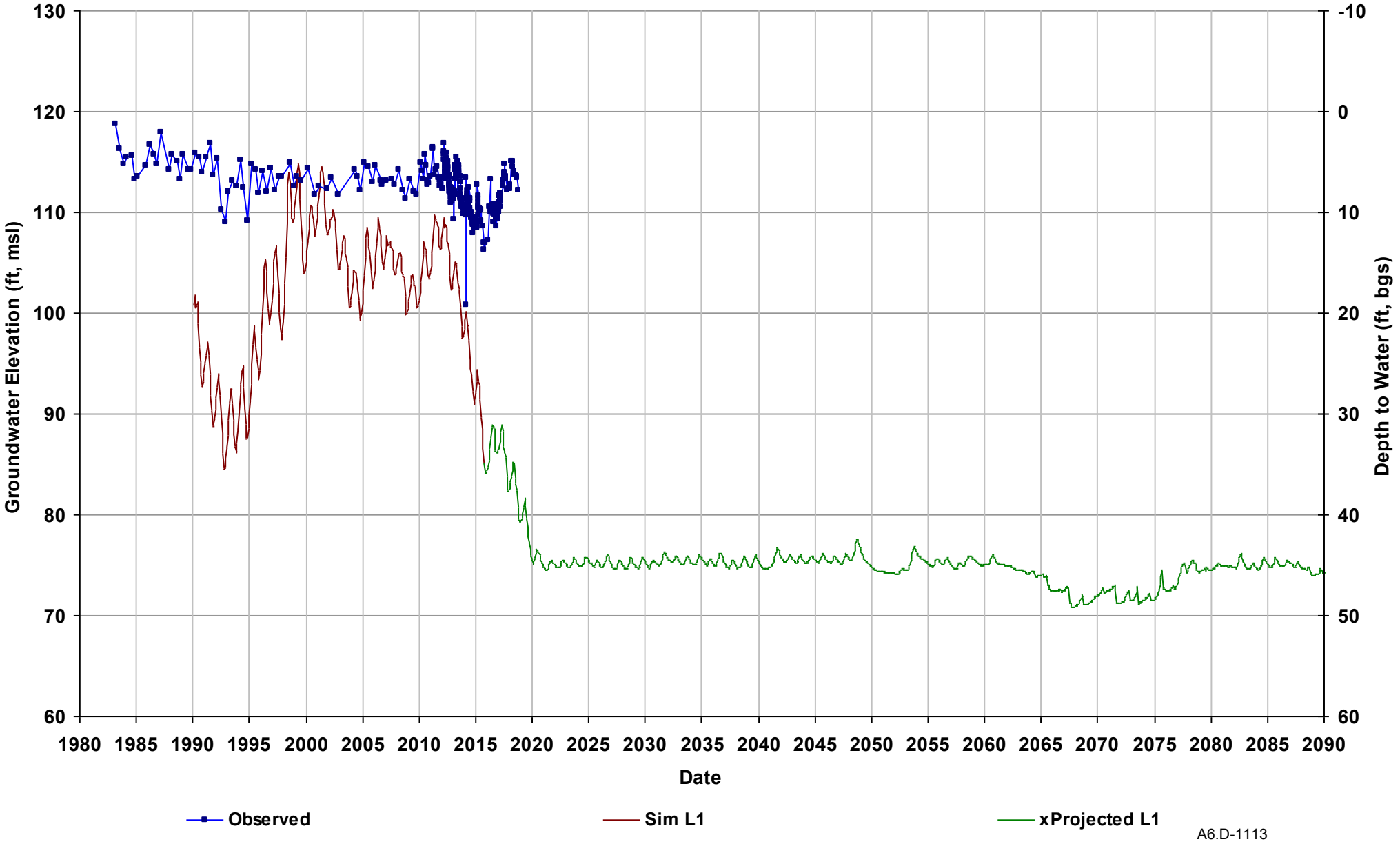
Well Name: SJRRP_129
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 114

Total Depth (ft):
Perf Top (ft): 8.2
Perf Bottom (ft): 17.2
Top Model Layer: 1
Bottom Model Layer: 1



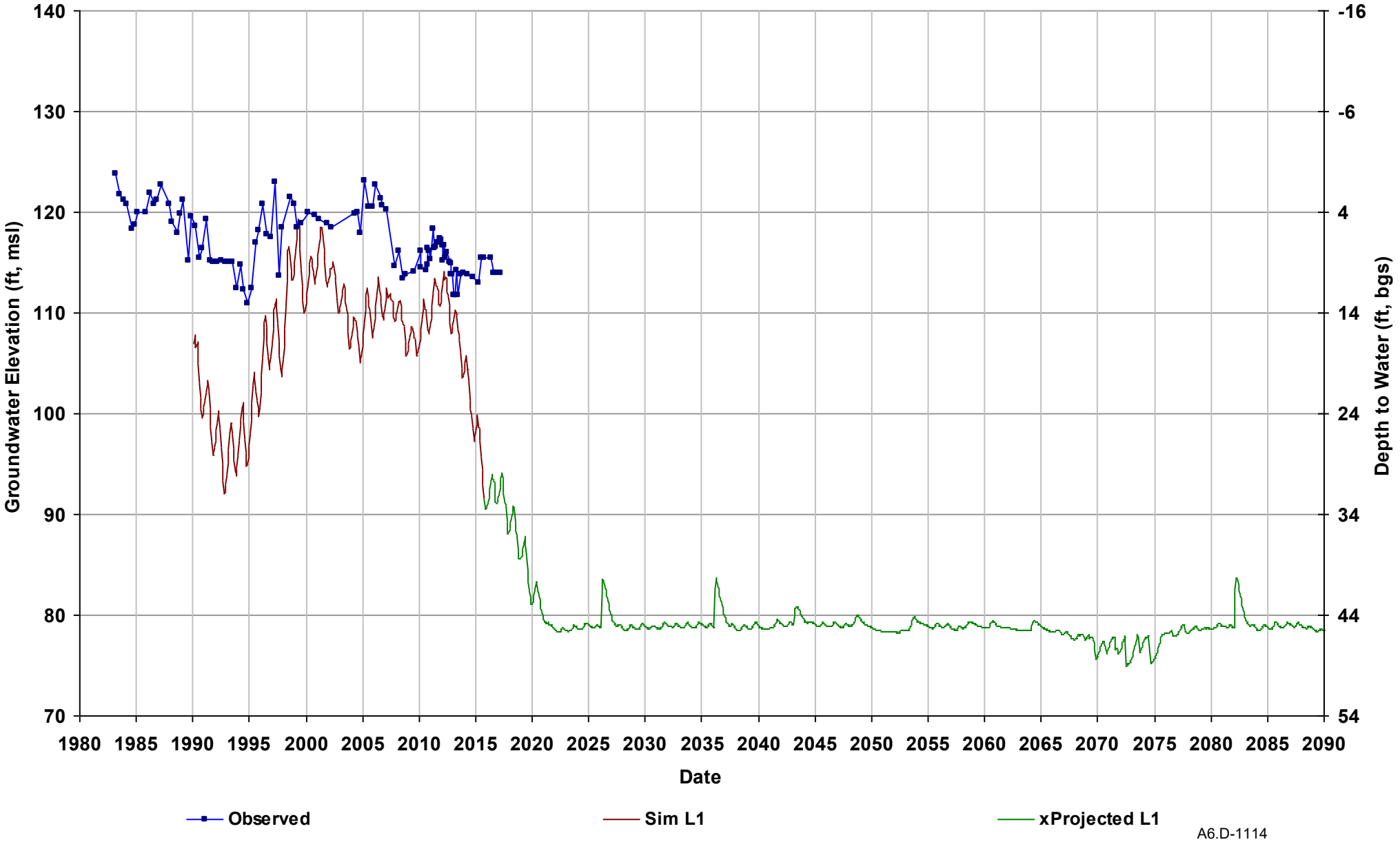
Well Name: SJRRP_135
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 120

Total Depth (ft):
Perf Top (ft): 8.4
Perf Bottom (ft): 17.4
Top Model Layer: 1
Bottom Model Layer: 1



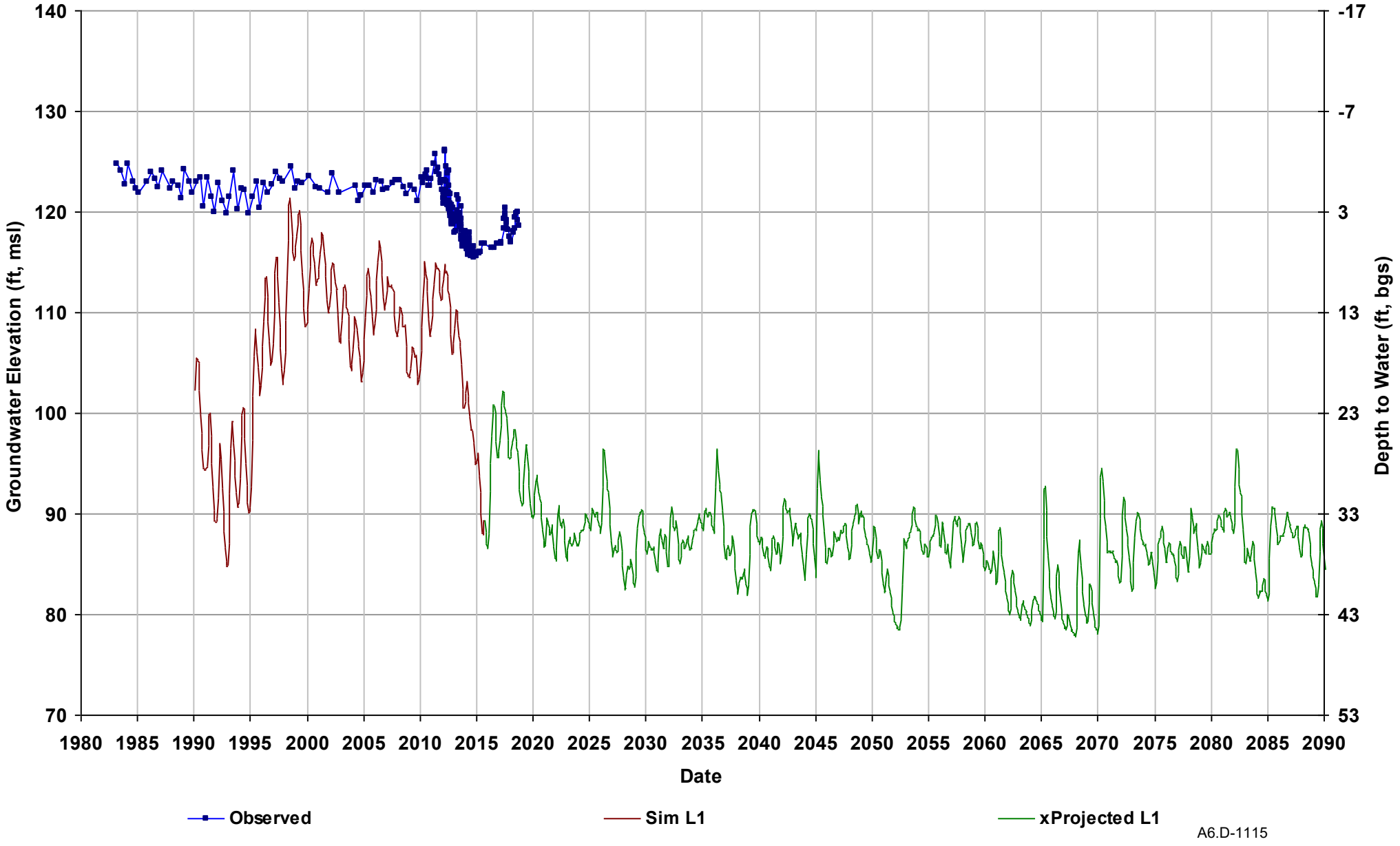
Well Name: SJRRP_140
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



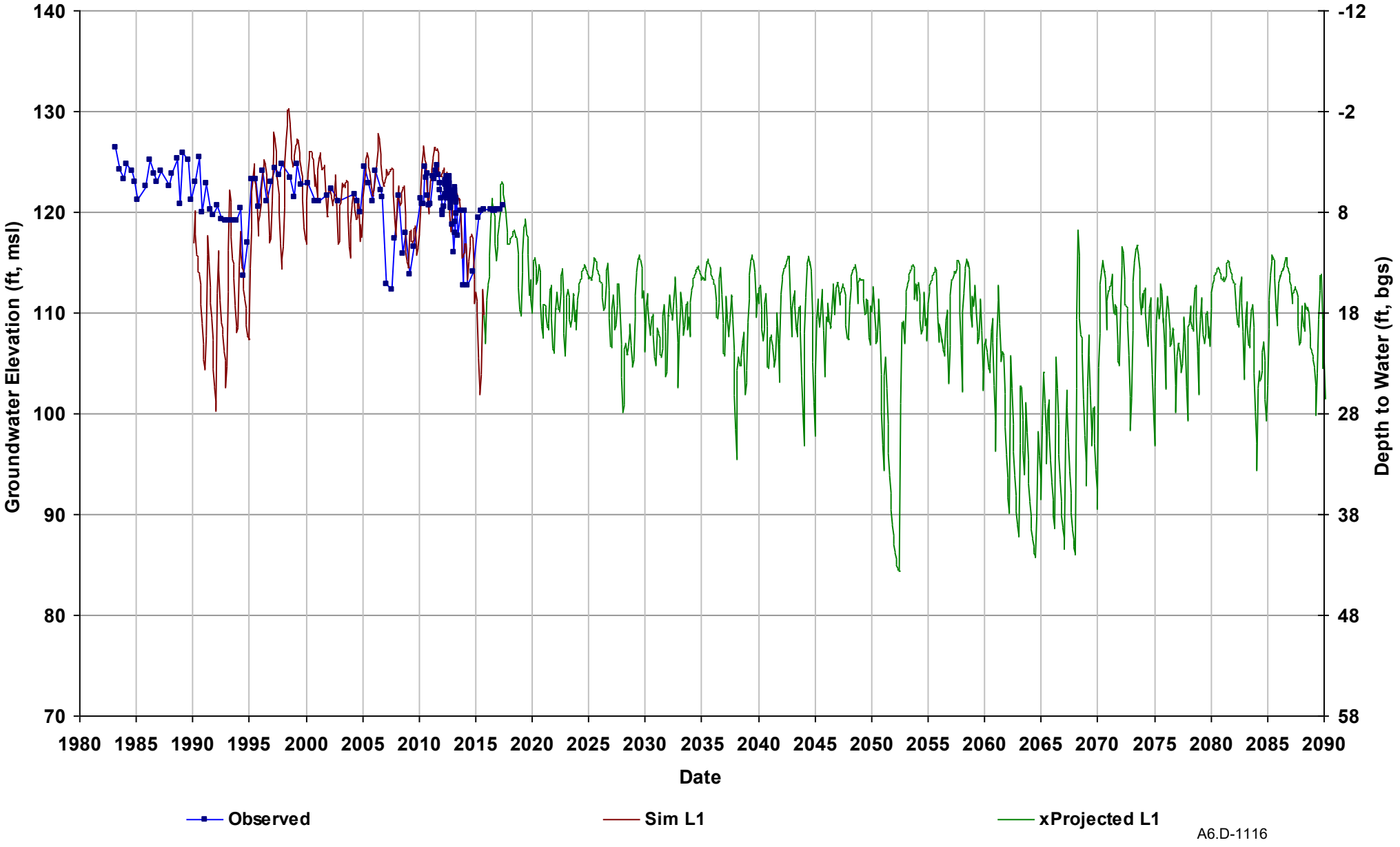
Well Name: SJRRP_145
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



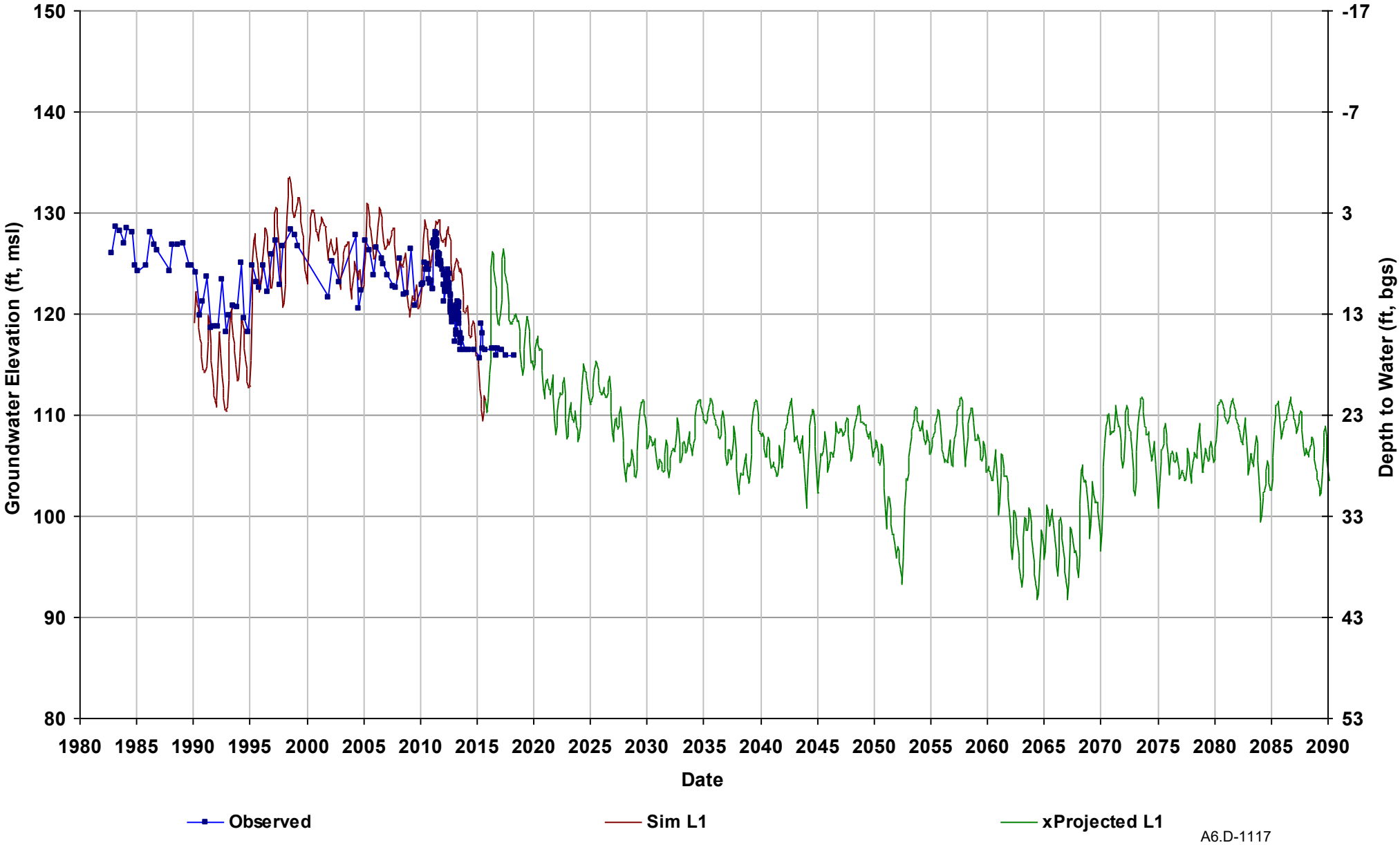
Well Name: SJRRP_151
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 127

Total Depth (ft):
Perf Top (ft): 7.5
Perf Bottom (ft): 16.5
Top Model Layer: 1
Bottom Model Layer: 1



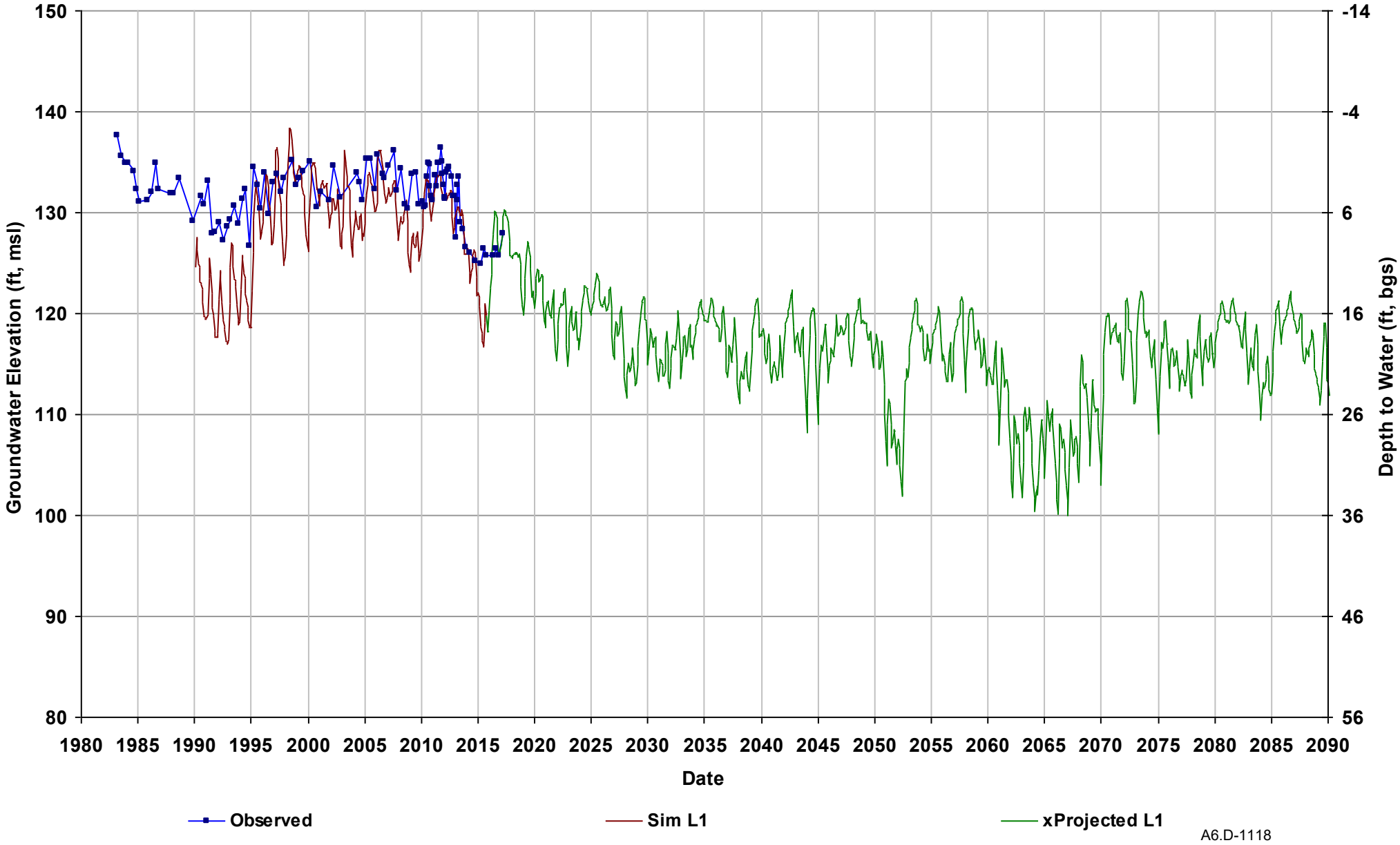
Well Name: SJRRP_155
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 7.1
Perf Bottom (ft): 16.1
Top Model Layer: 1
Bottom Model Layer: 1



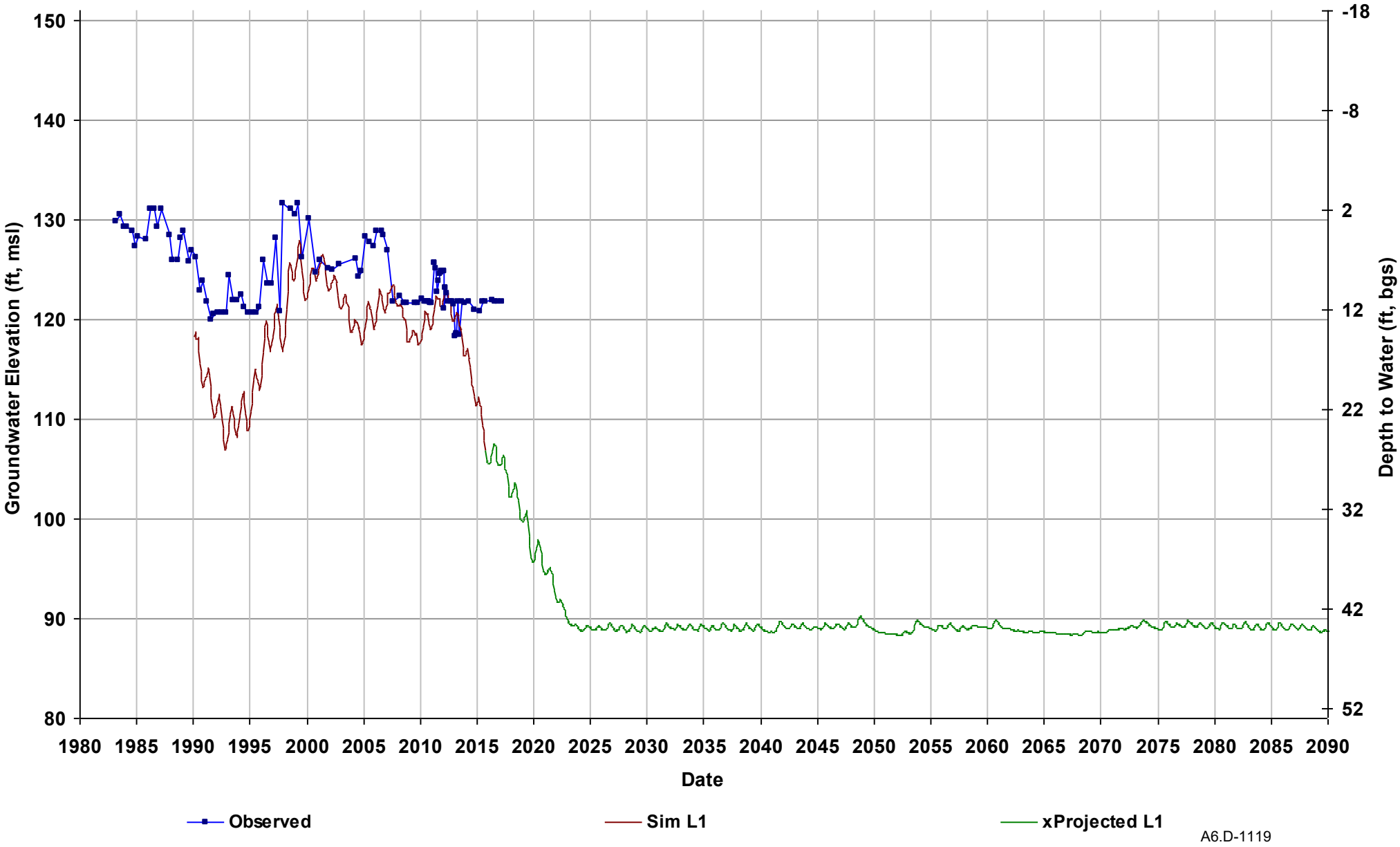
Well Name: SJRRP_156
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 135

Total Depth (ft):
Perf Top (ft): 7
Perf Bottom (ft): 16
Top Model Layer: 1
Bottom Model Layer: 1



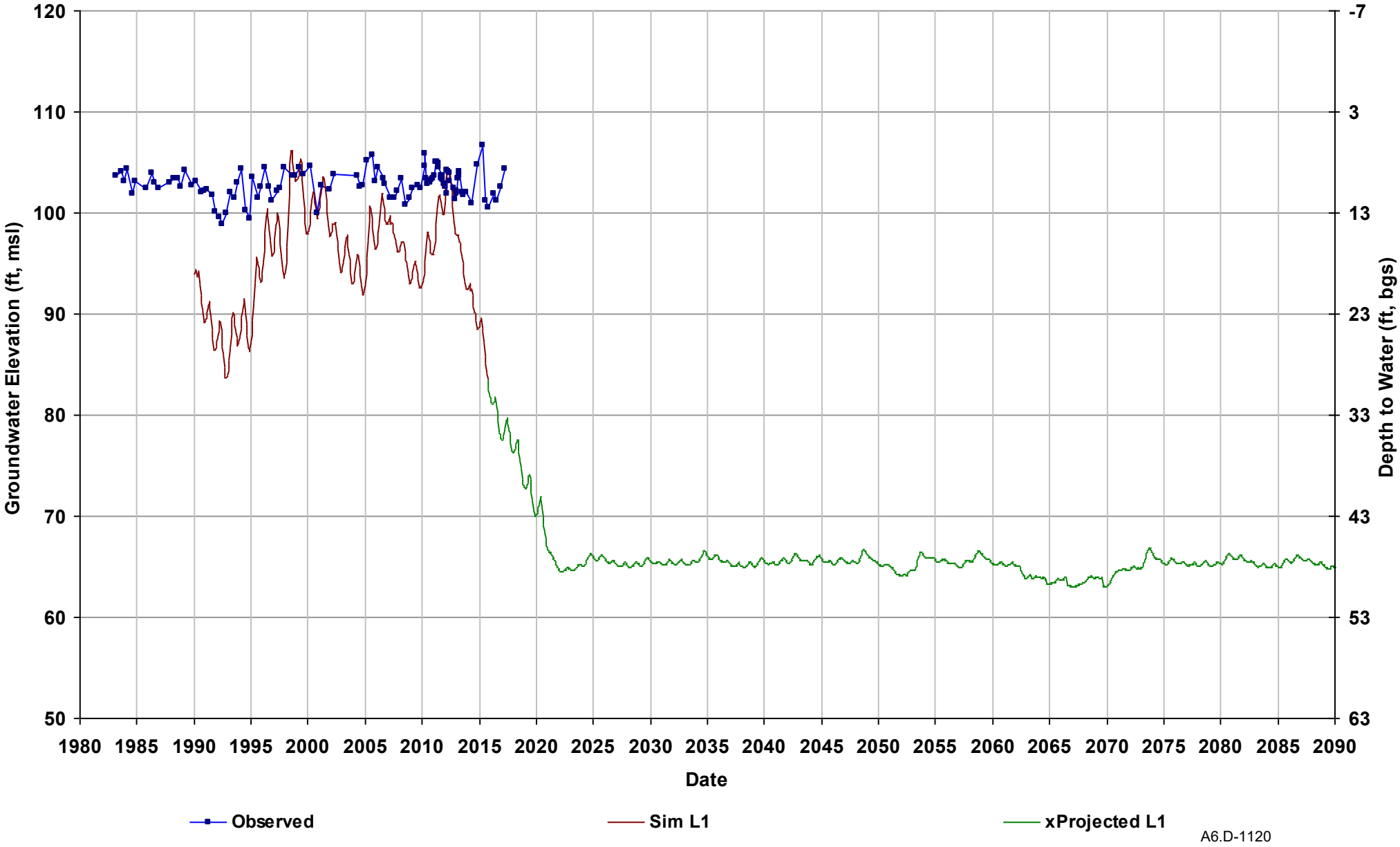
Well Name: SJRRP_166A
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



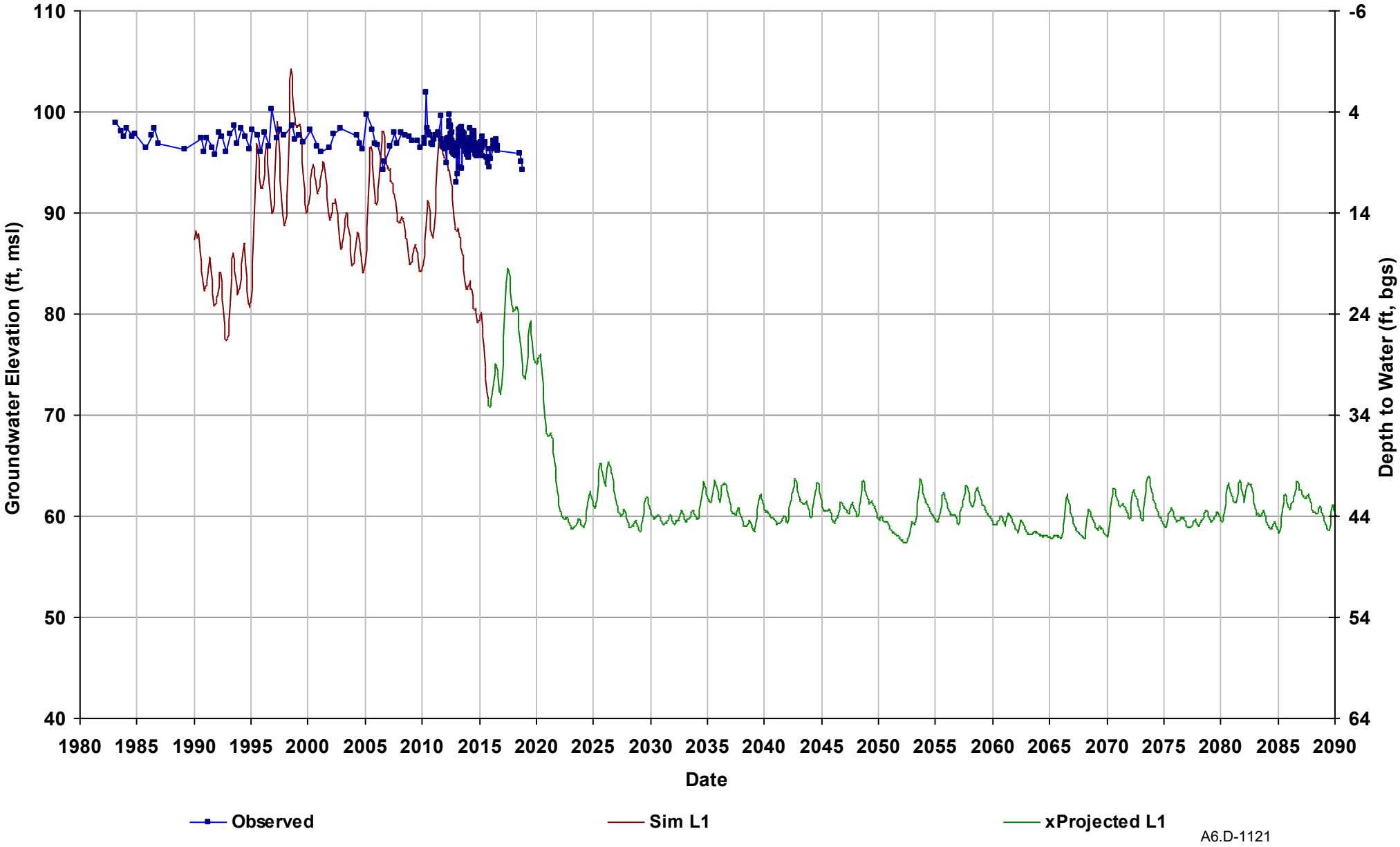
Well Name: SJRRP_181
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft):
Perf Top (ft): 9.2
Perf Bottom (ft): 18.2
Top Model Layer: 1
Bottom Model Layer: 1



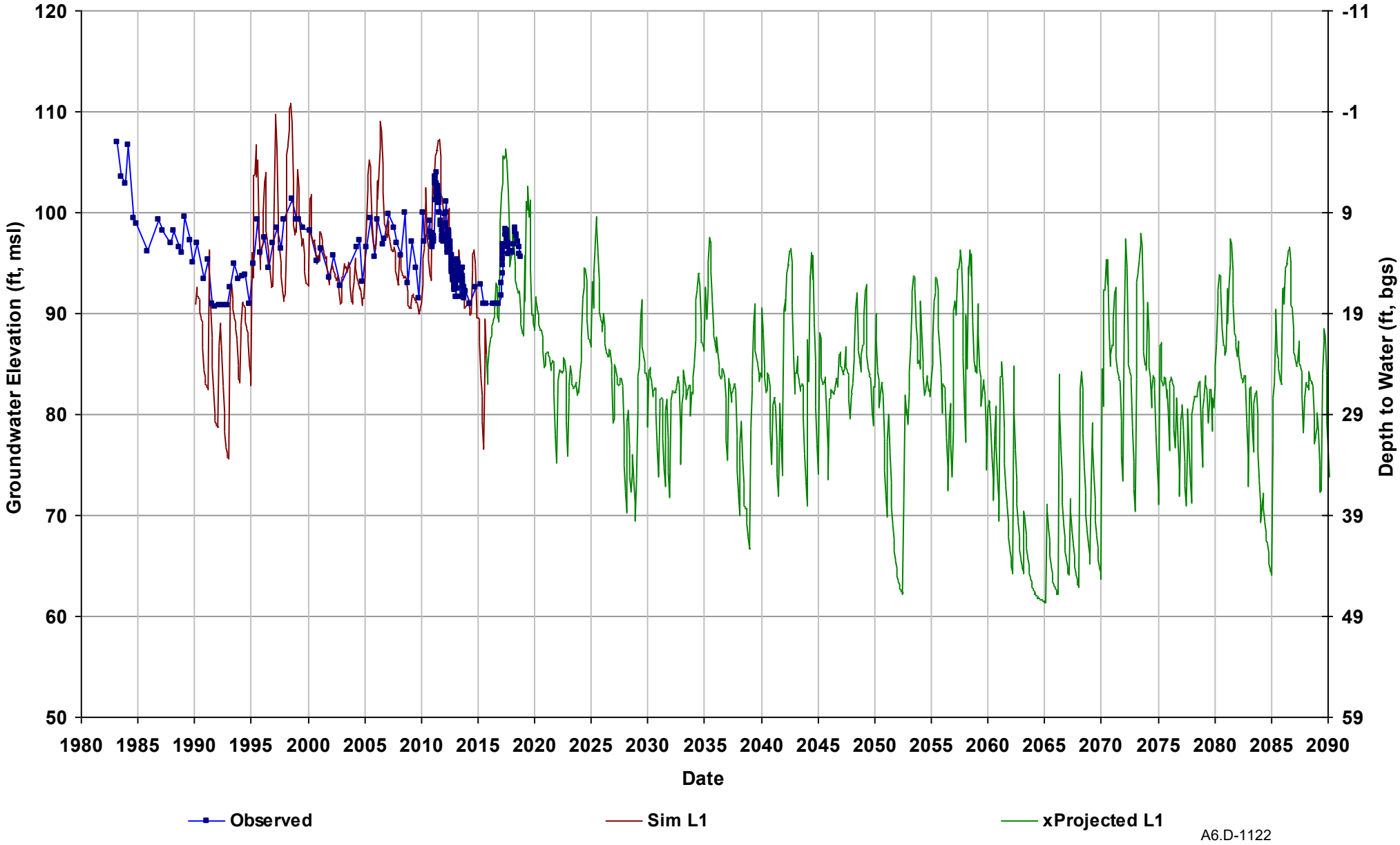
Well Name: SJRRP_184
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 104

Total Depth (ft):
Perf Top (ft): 6.7
Perf Bottom (ft): 15.7
Top Model Layer: 1
Bottom Model Layer: 1



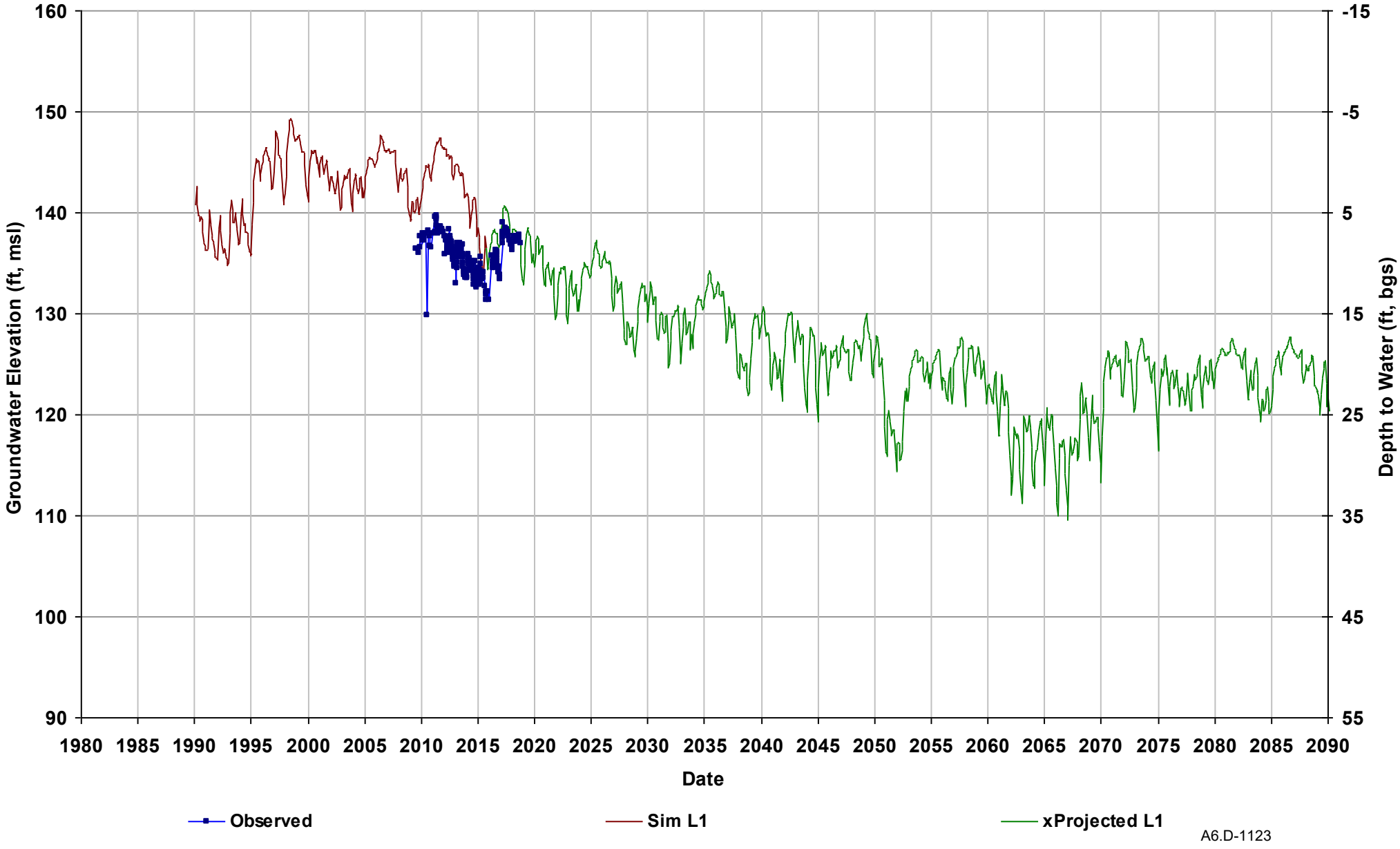
Well Name: SJRRP_191
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 108

Total Depth (ft):
Perf Top (ft): 7.9
Perf Bottom (ft): 16.9
Top Model Layer: 1
Bottom Model Layer: 1



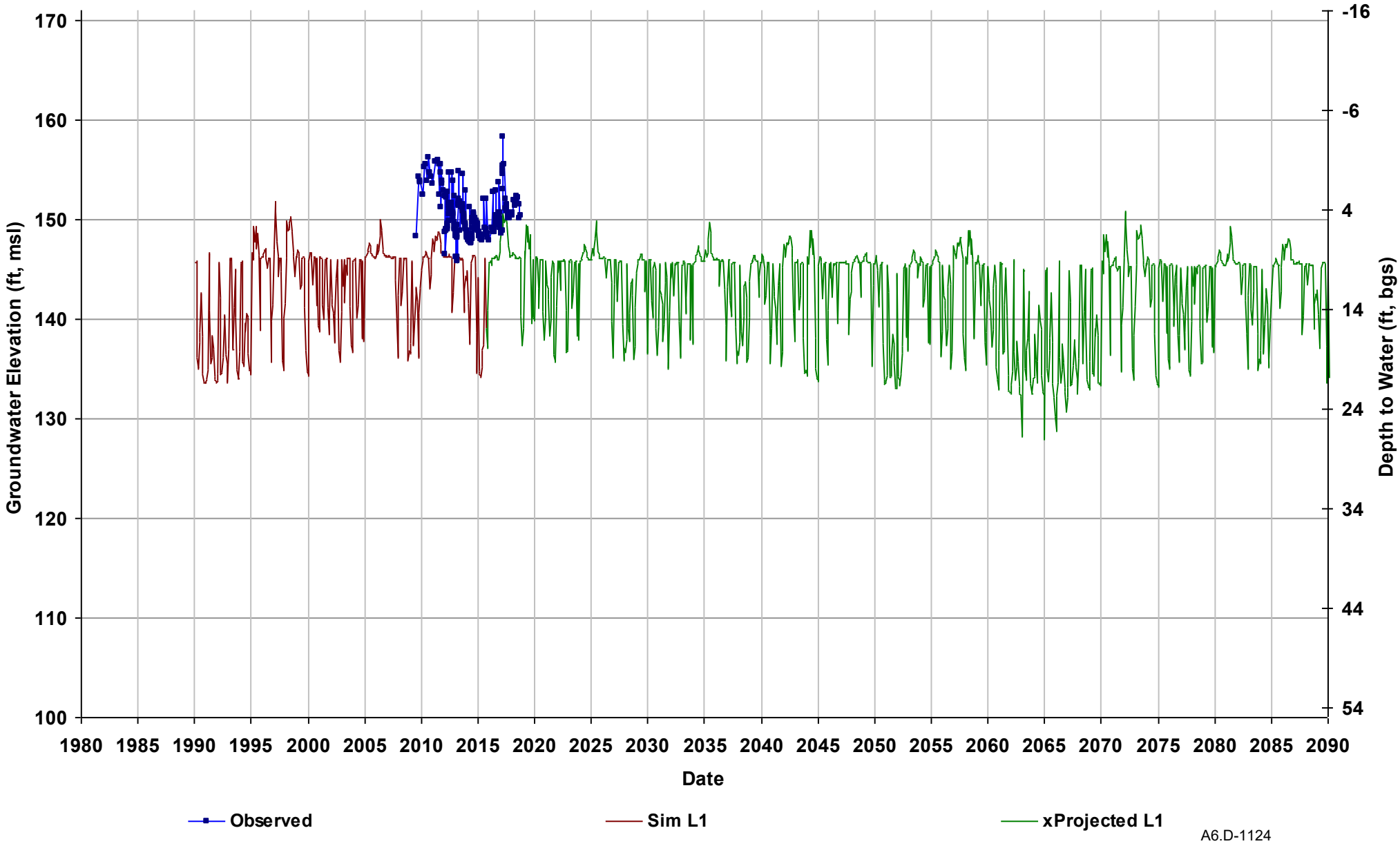
Well Name: SJRRP_355
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 145

Total Depth (ft):
Perf Top (ft): 7.7
Perf Bottom (ft): 16.7
Top Model Layer: 1
Bottom Model Layer: 1



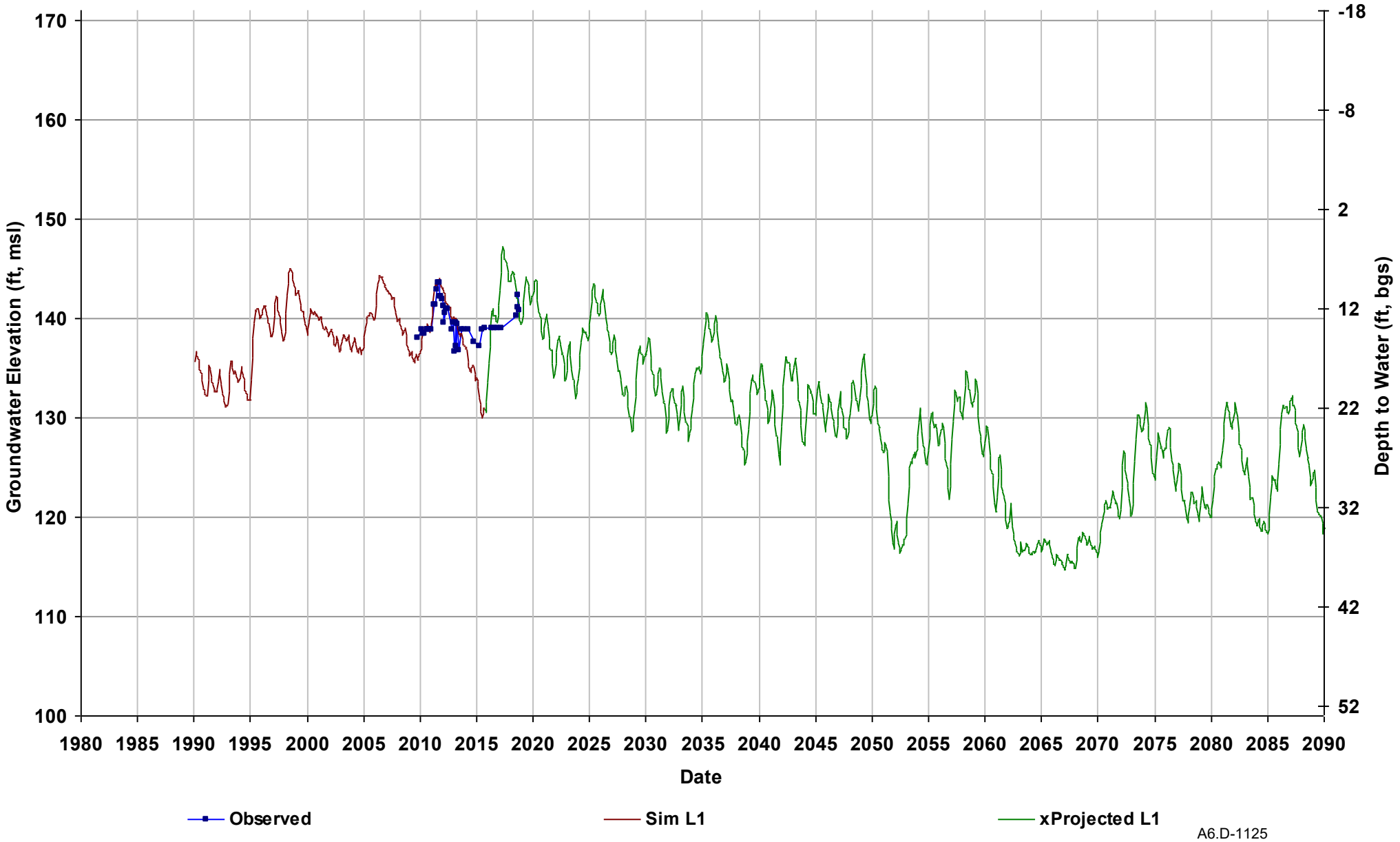
Well Name: SJRRP_364
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 154

Total Depth (ft):
Perf Top (ft): 4.4
Perf Bottom (ft): 13.4
Top Model Layer: 1
Bottom Model Layer: 1



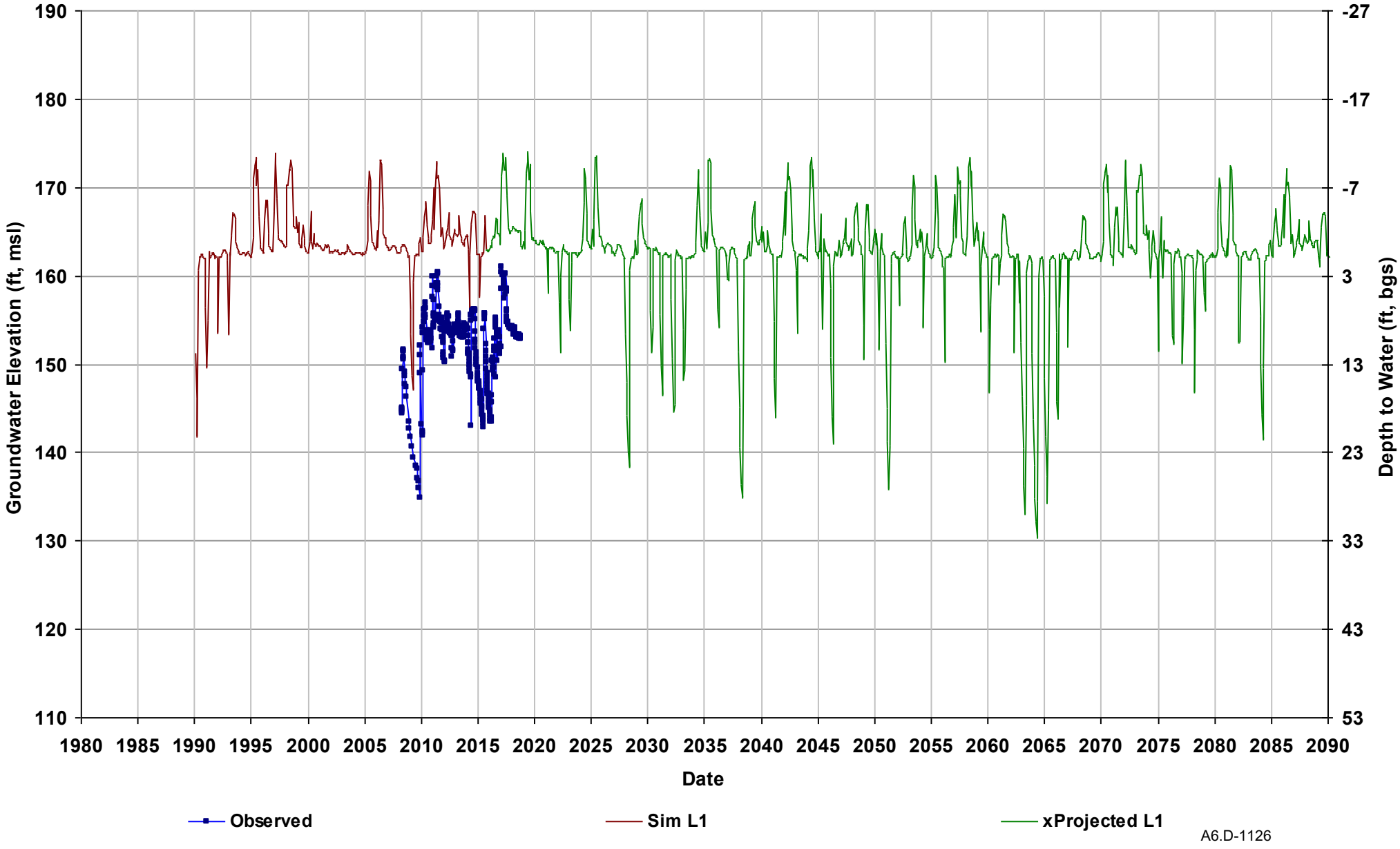
Well Name: SJRRP_366
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 152

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



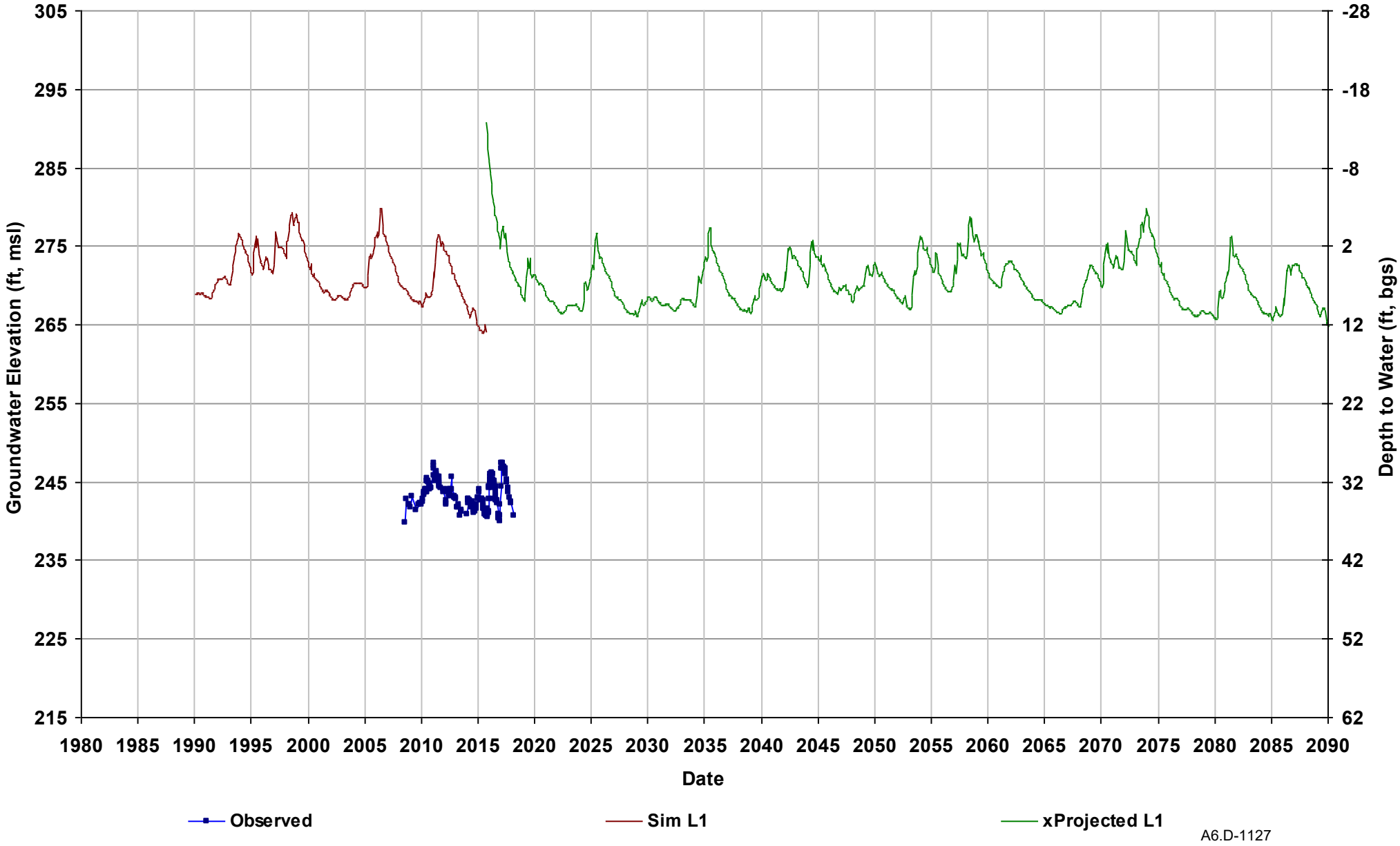
Well Name: SJRRP_FA-8
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 163

Total Depth (ft): 28
Perf Top (ft): 15
Perf Bottom (ft): 30
Top Model Layer: 1
Bottom Model Layer: 1



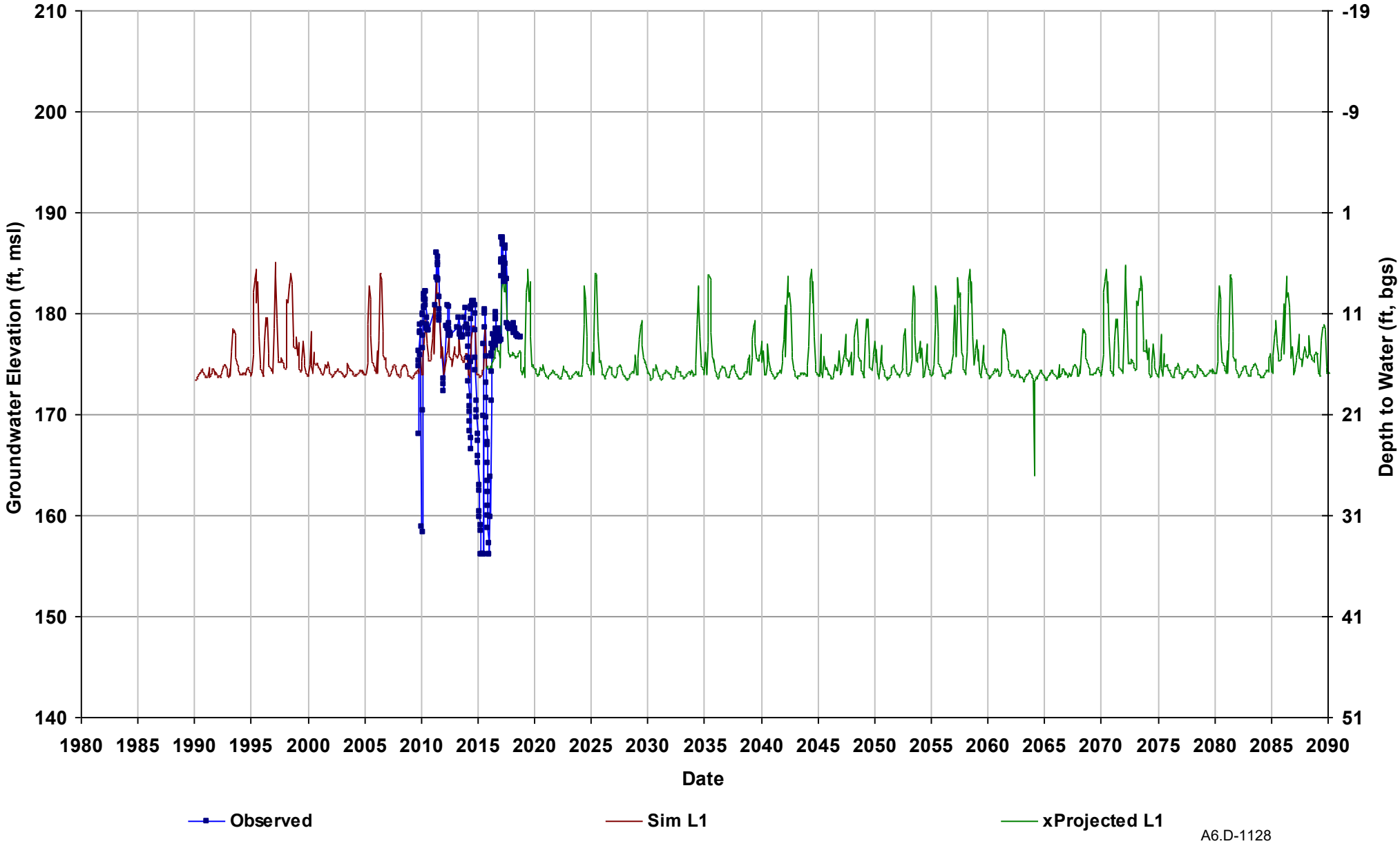
Well Name: SJRRP_JR-1
Depth Zone: Upper, Shallow GW; Ou
Subbasin: Kings
GSE (ft, msl): 277

Total Depth (ft): 38
Perf Top (ft): 37.5
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



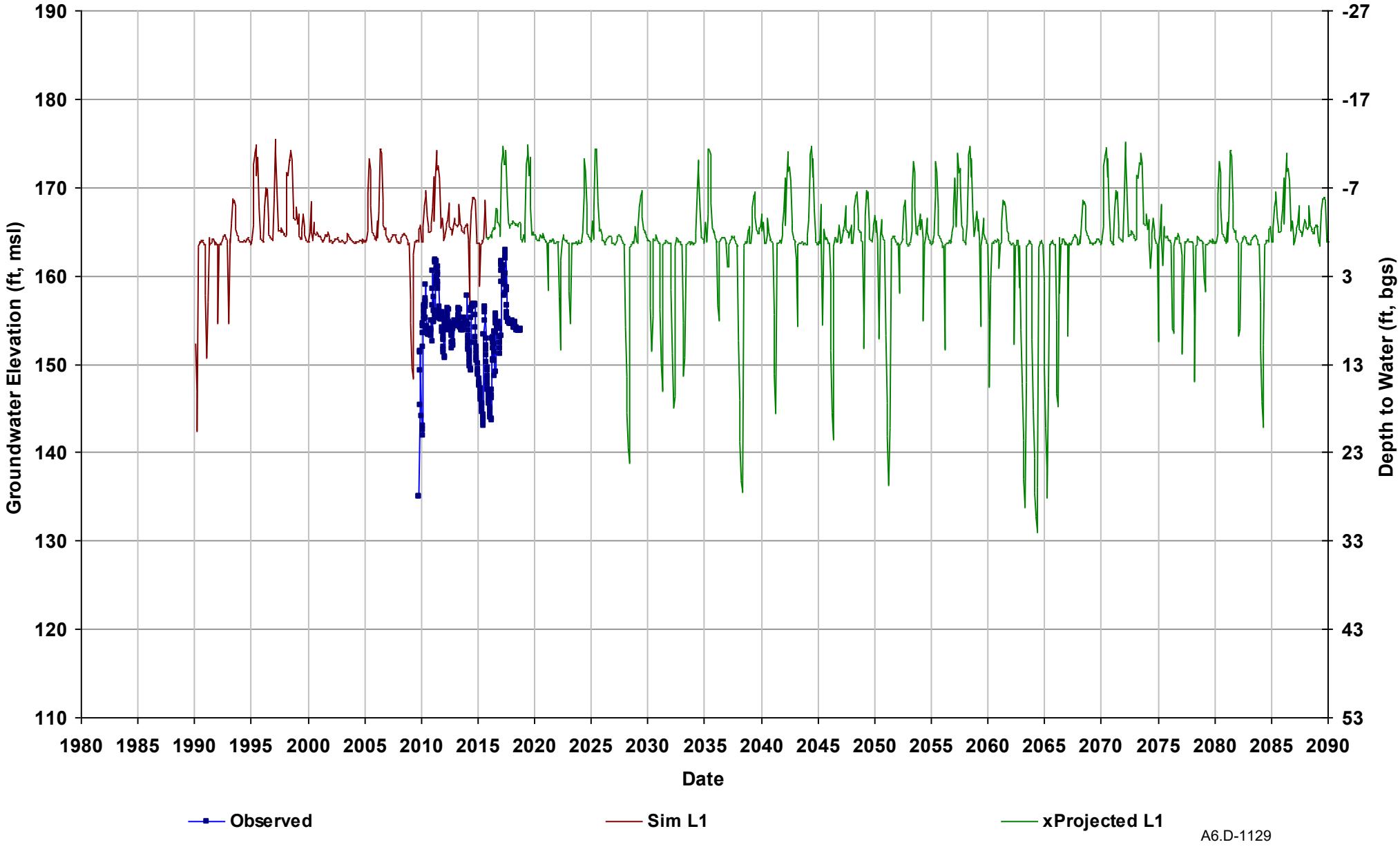
Well Name: SJRRP_MW-09-36
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 191

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



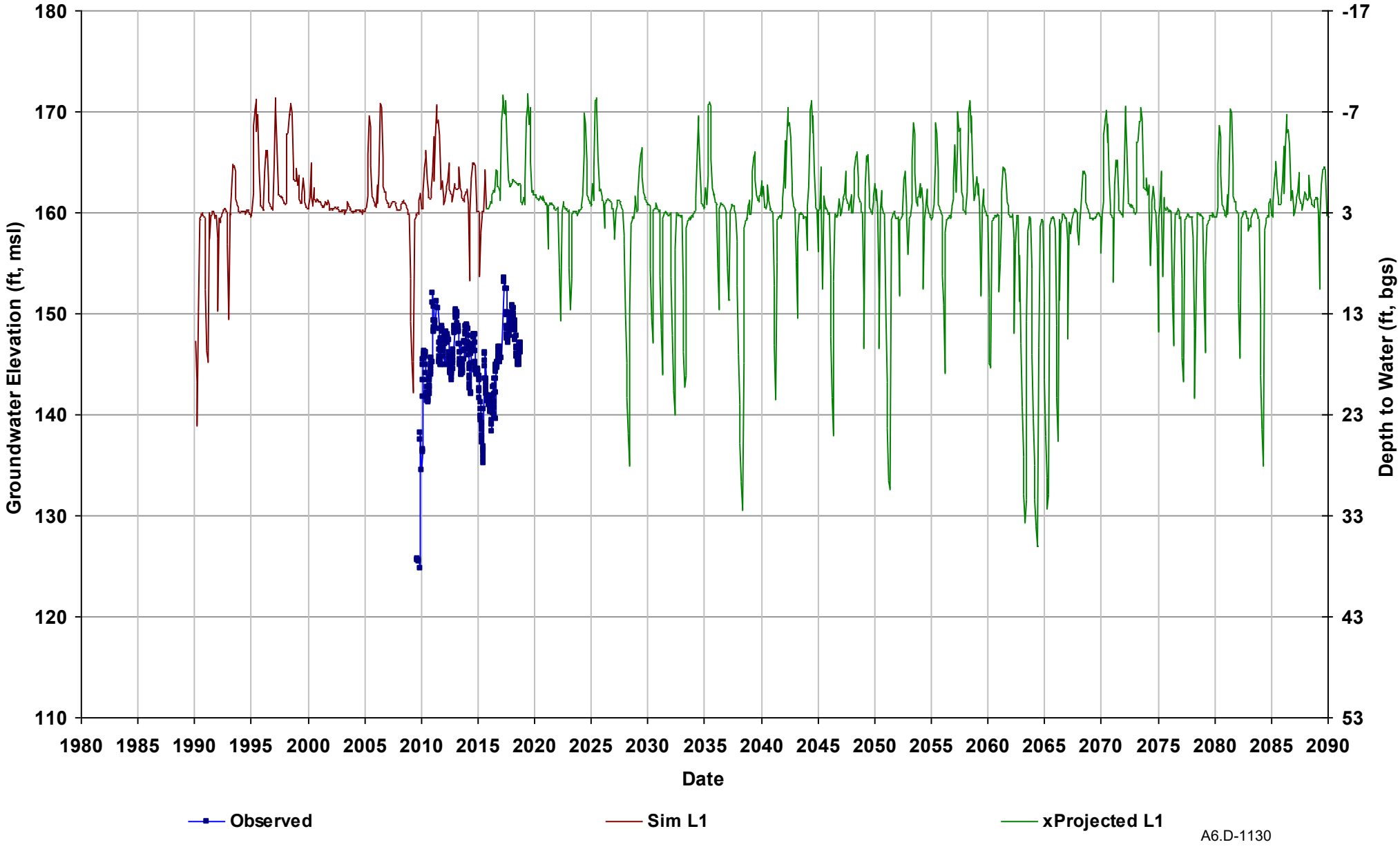
Well Name: SJRRP_MW-09-47
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 163

Total Depth (ft): 41
Perf Top (ft): 20
Perf Bottom (ft): 40
Top Model Layer: 1
Bottom Model Layer: 1



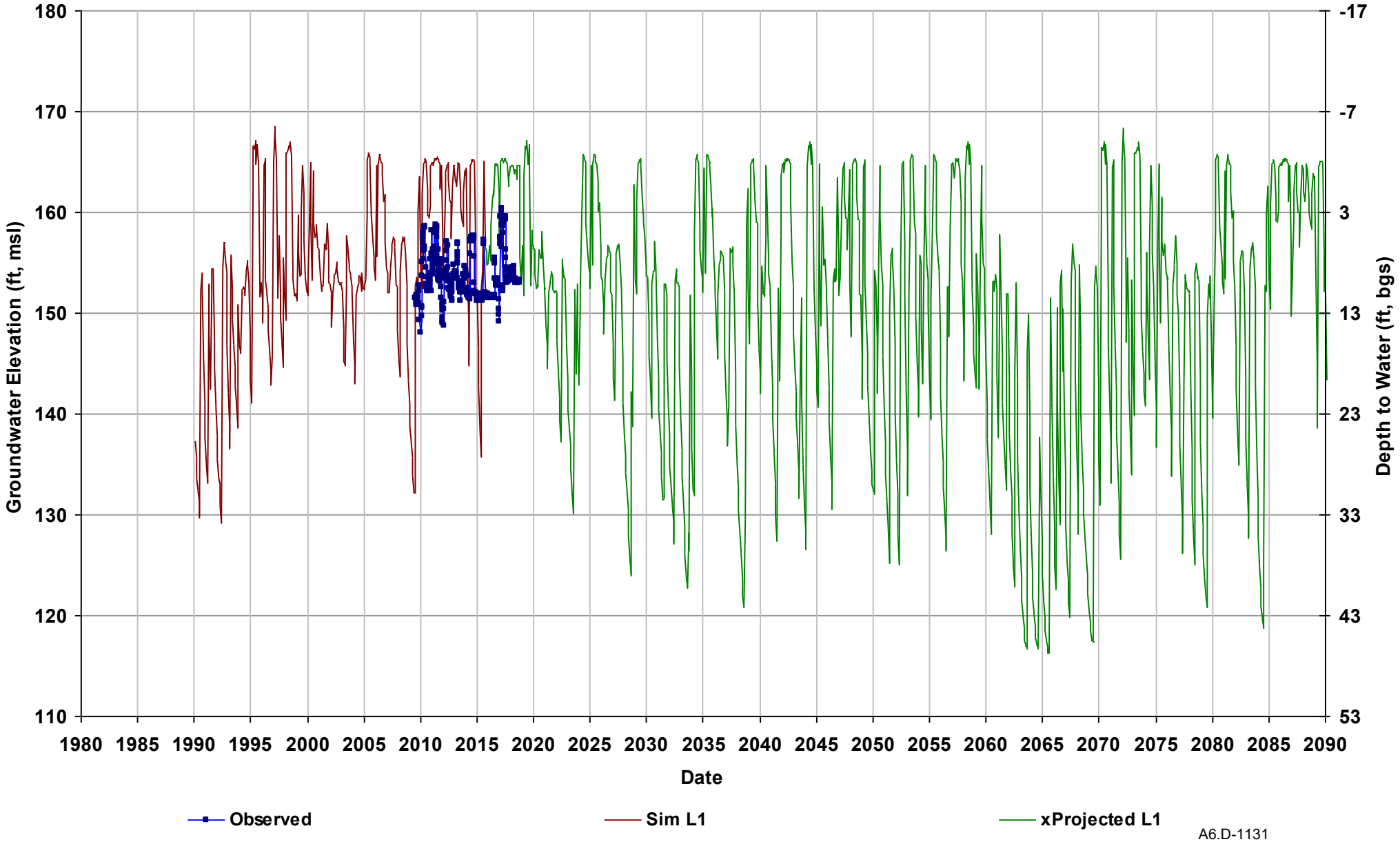
Well Name: SJRRP_MW-09-49
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 163

Total Depth (ft): 60
Perf Top (ft): 50
Perf Bottom (ft): 60
Top Model Layer: 1
Bottom Model Layer: 1



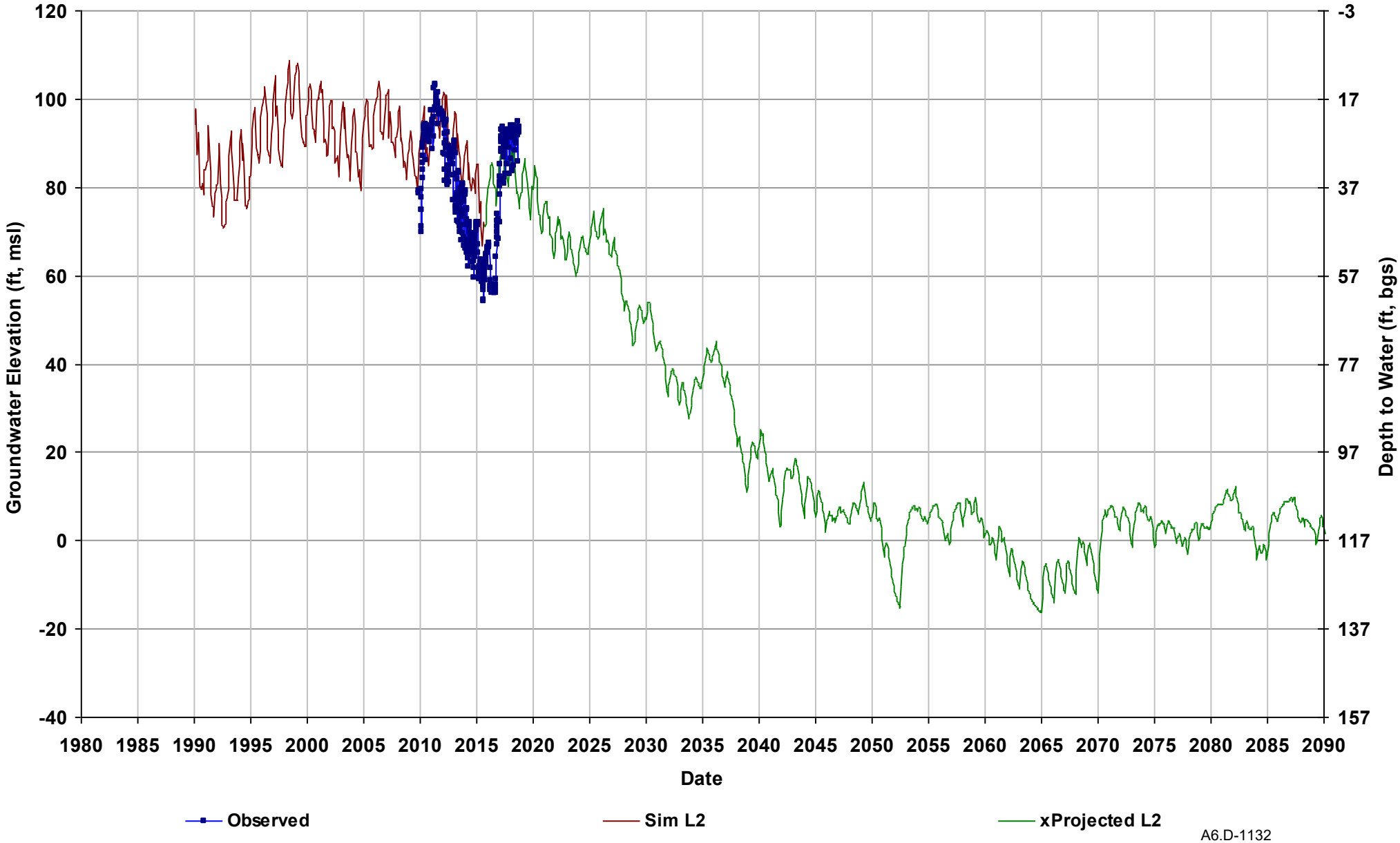
Well Name: SJRRP_MW-09-55B
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 163

Total Depth (ft): 15
Perf Top (ft): 10
Perf Bottom (ft): 15
Top Model Layer: 1
Bottom Model Layer: 1



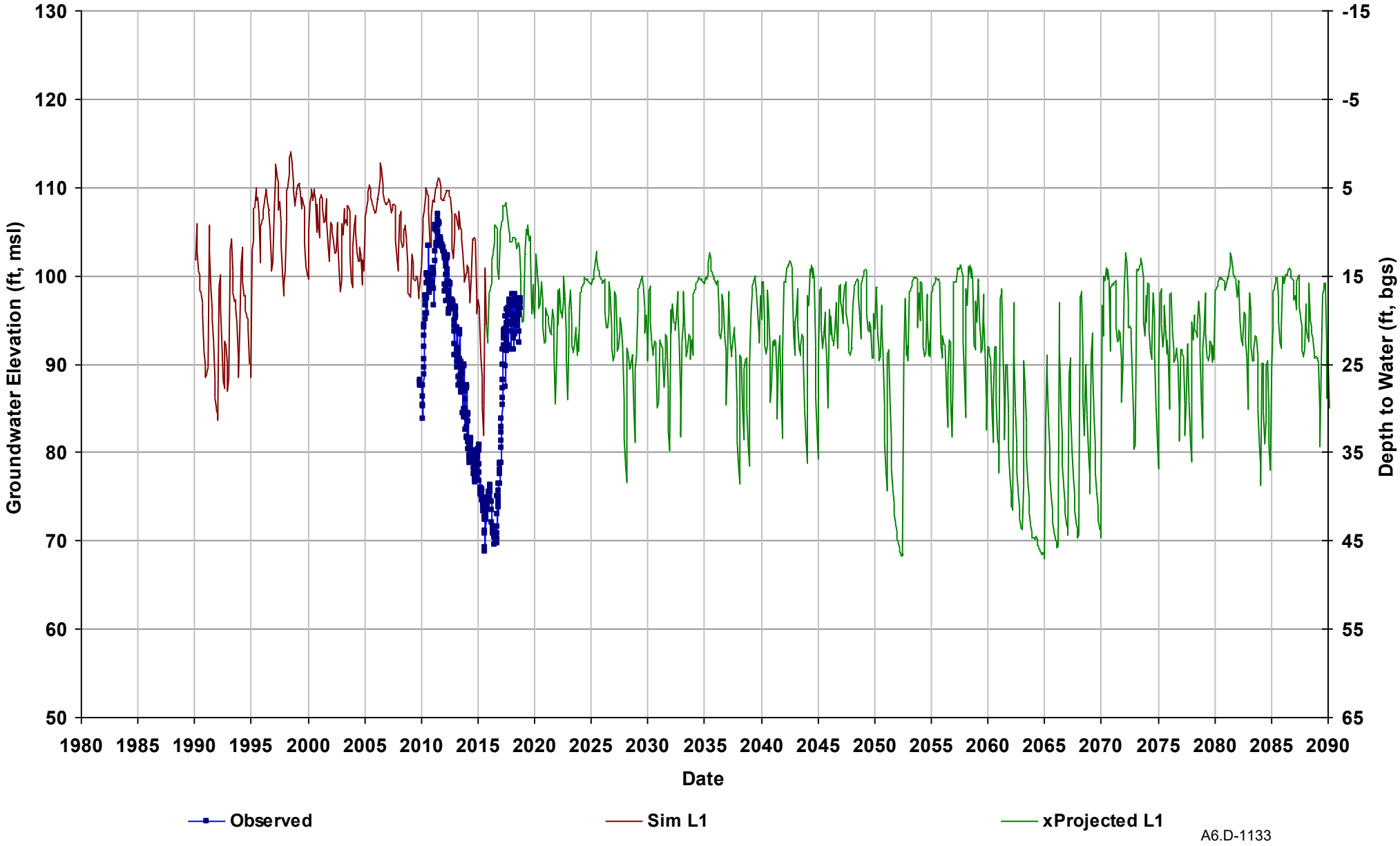
Well Name: SJRRP_MW-09-86
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 117

Total Depth (ft): 72
Perf Top (ft): 52
Perf Bottom (ft): 72
Top Model Layer: 2
Bottom Model Layer: 2



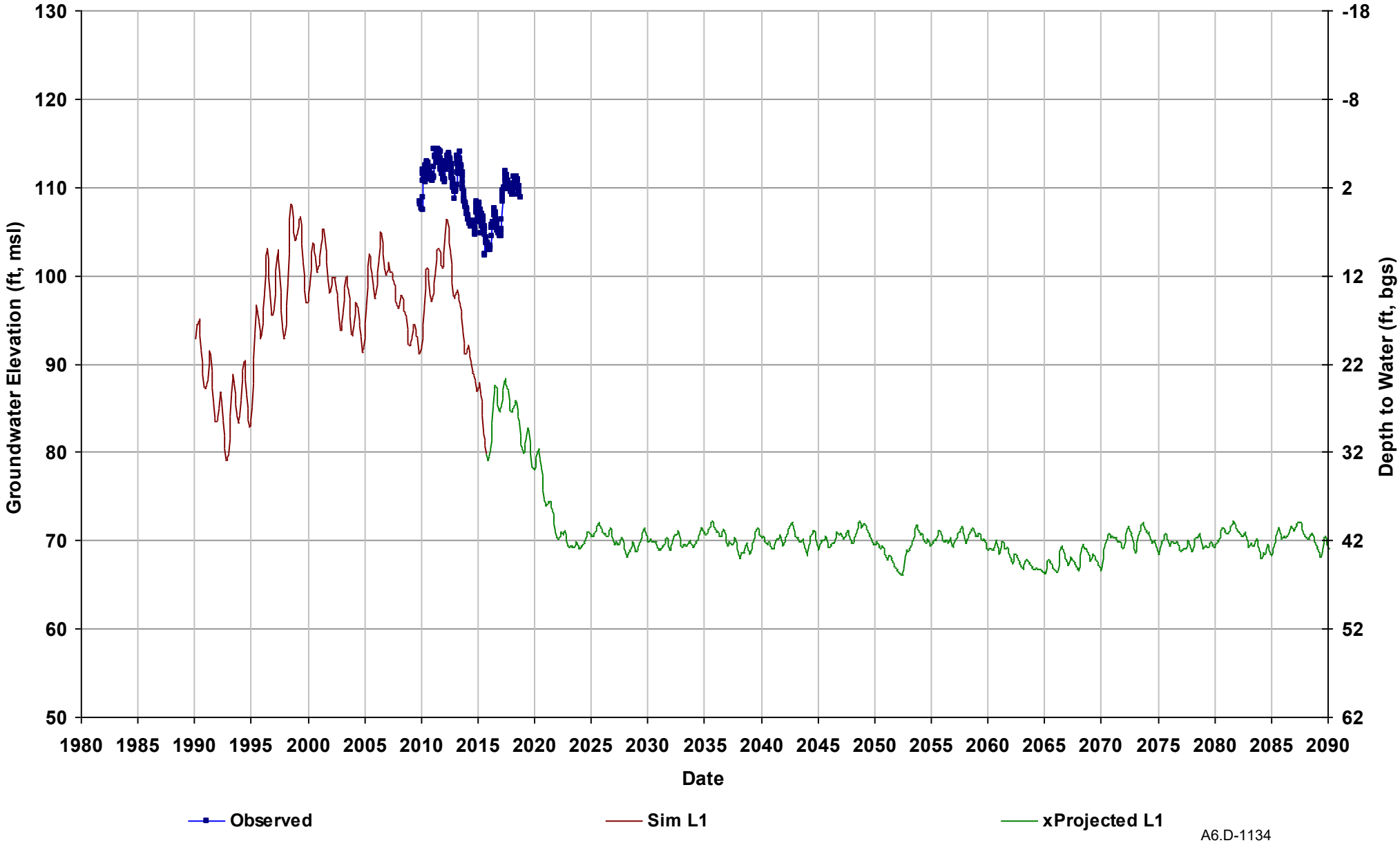
Well Name: SJRRP_MW-09-87
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 115

Total Depth (ft): 47
Perf Top (ft): 37
Perf Bottom (ft): 47
Top Model Layer: 1
Bottom Model Layer: 1



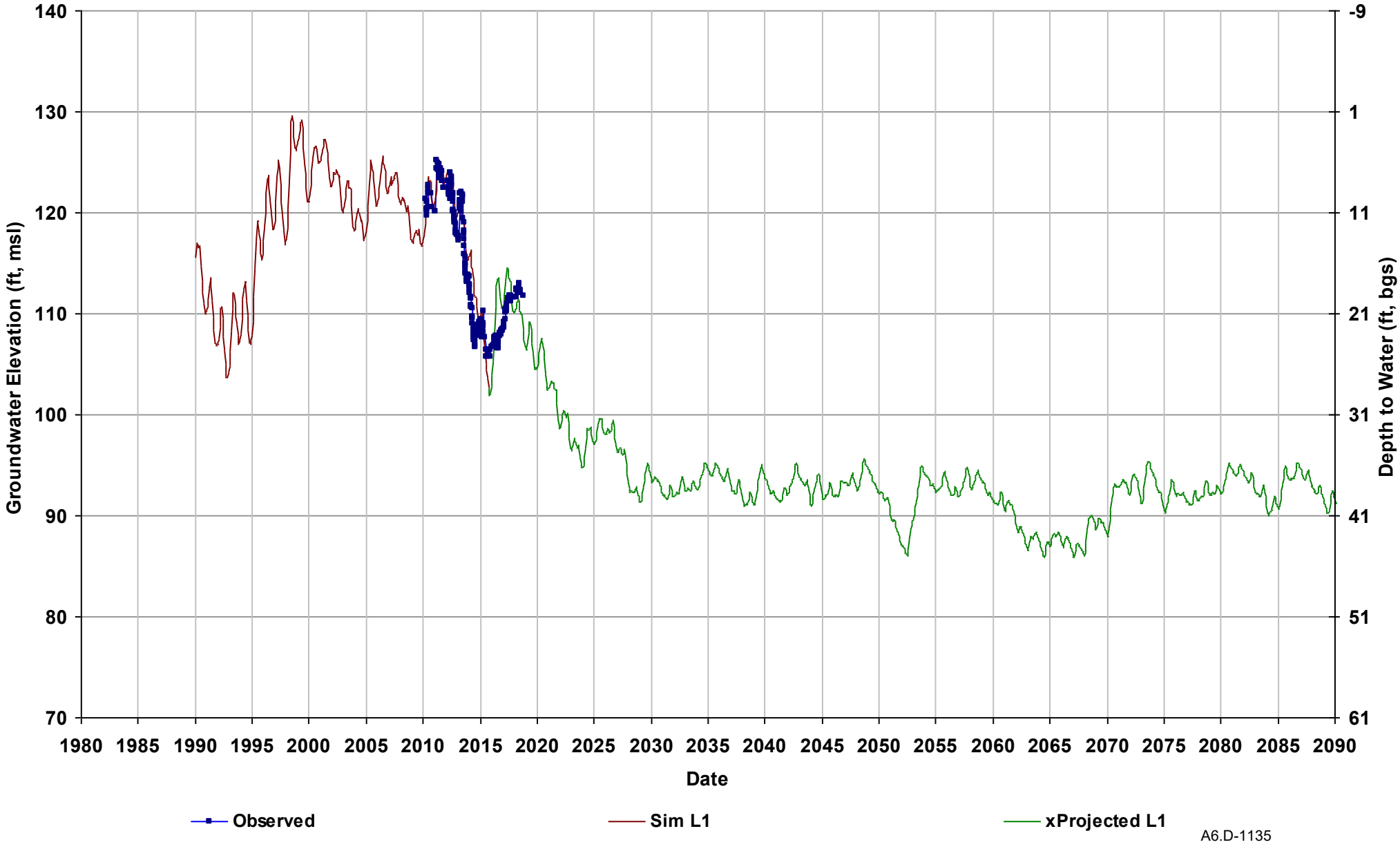
Well Name: SJRRP_MW-09-88
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 49
Perf Top (ft): 25
Perf Bottom (ft): 45
Top Model Layer: 1
Bottom Model Layer: 1



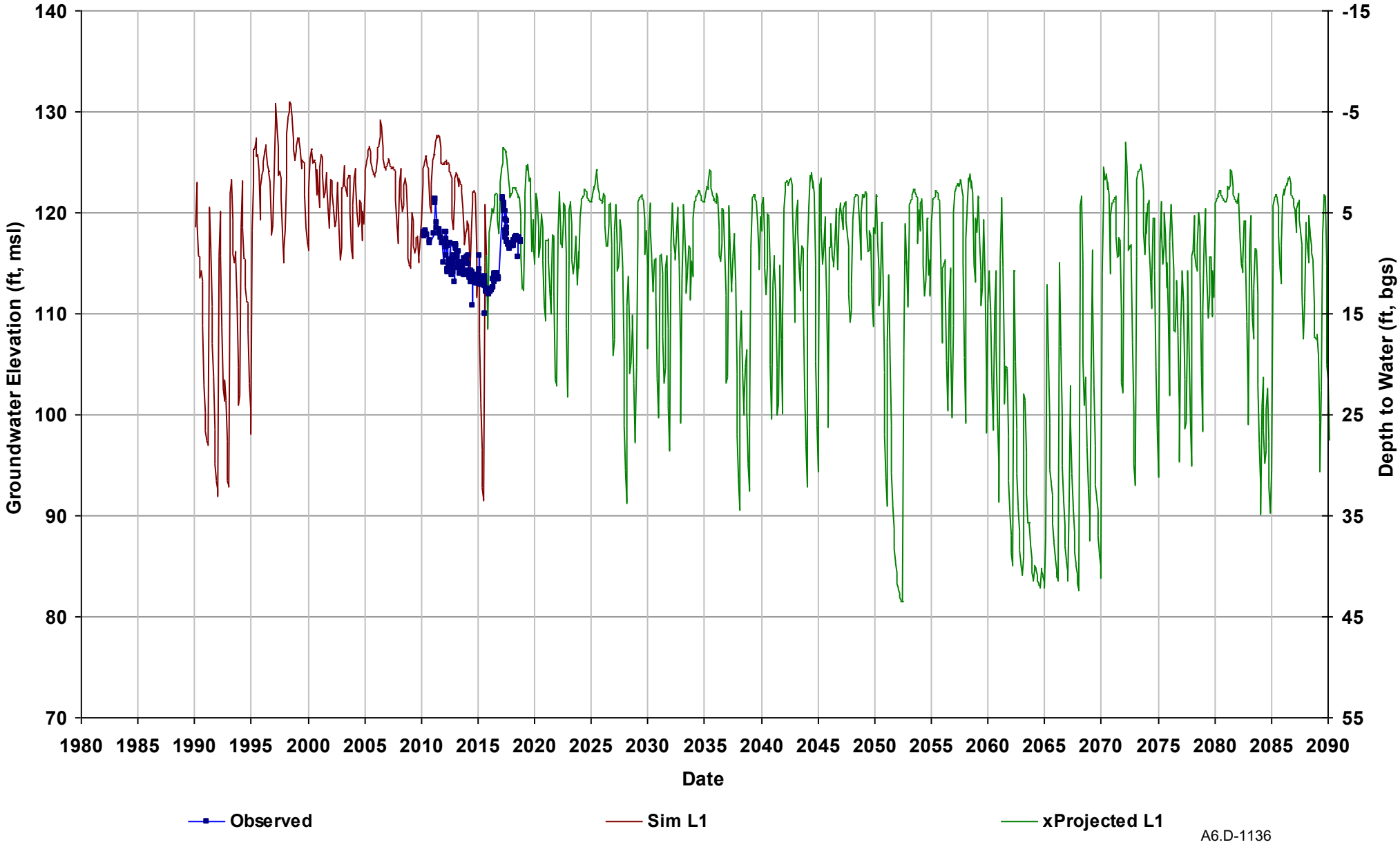
Well Name: SJRRP_MW-10-76
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 130

Total Depth (ft): 27
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



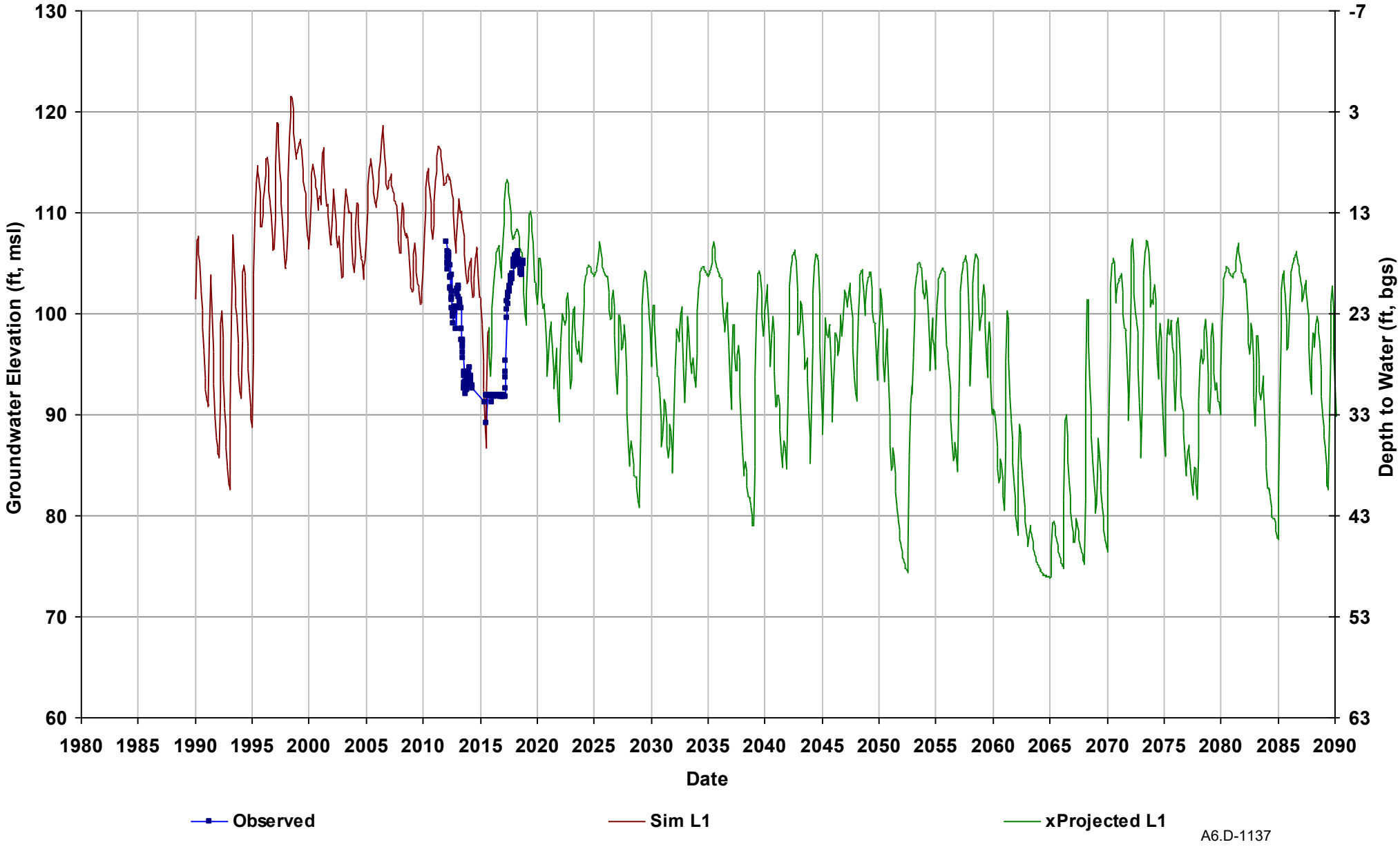
Well Name: SJRRP_MW-10-78
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 125

Total Depth (ft): 28
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



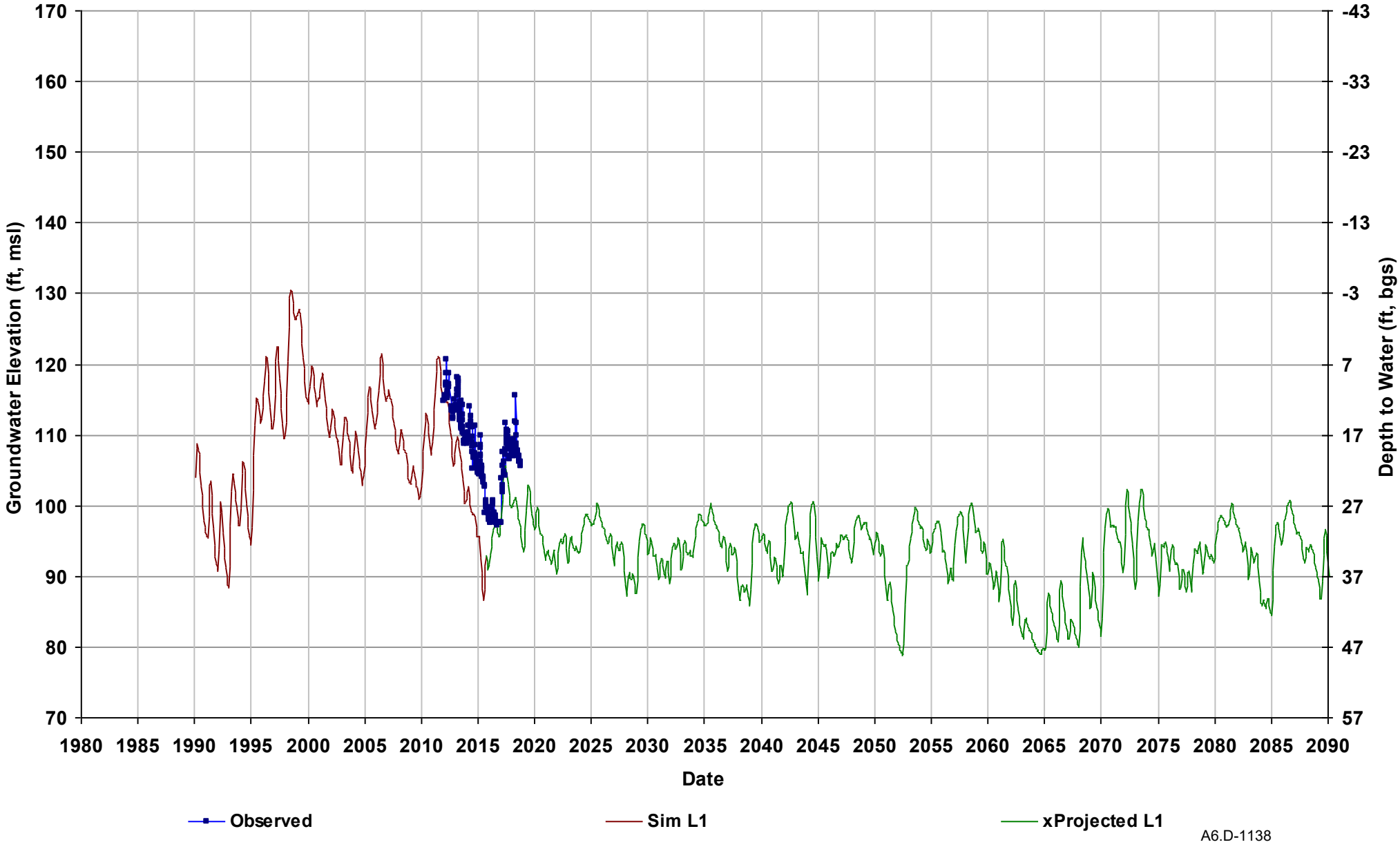
Well Name: SJRRP_MW-11-162
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 123

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



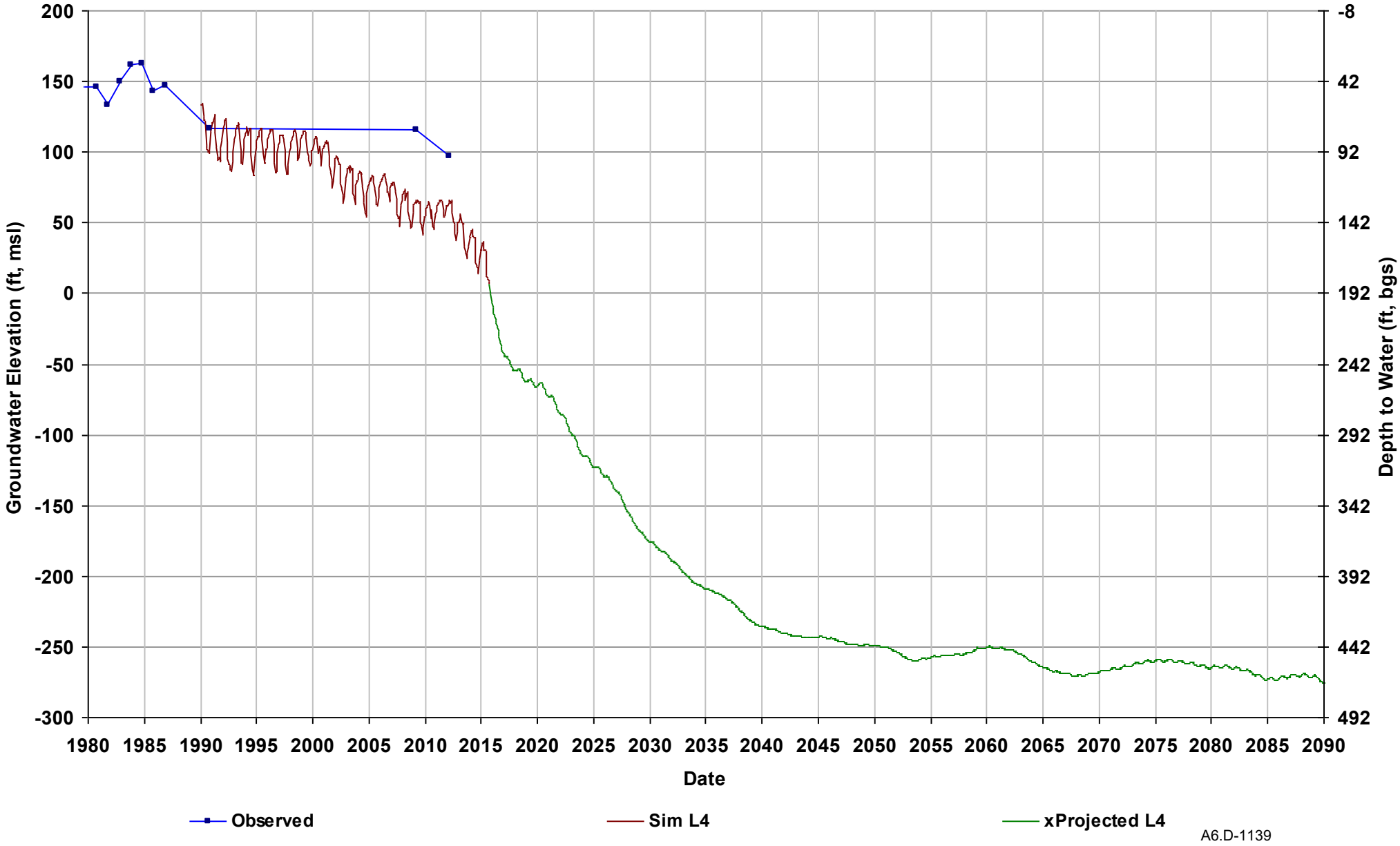
Well Name: SJRRP_MW-11-163
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 127

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



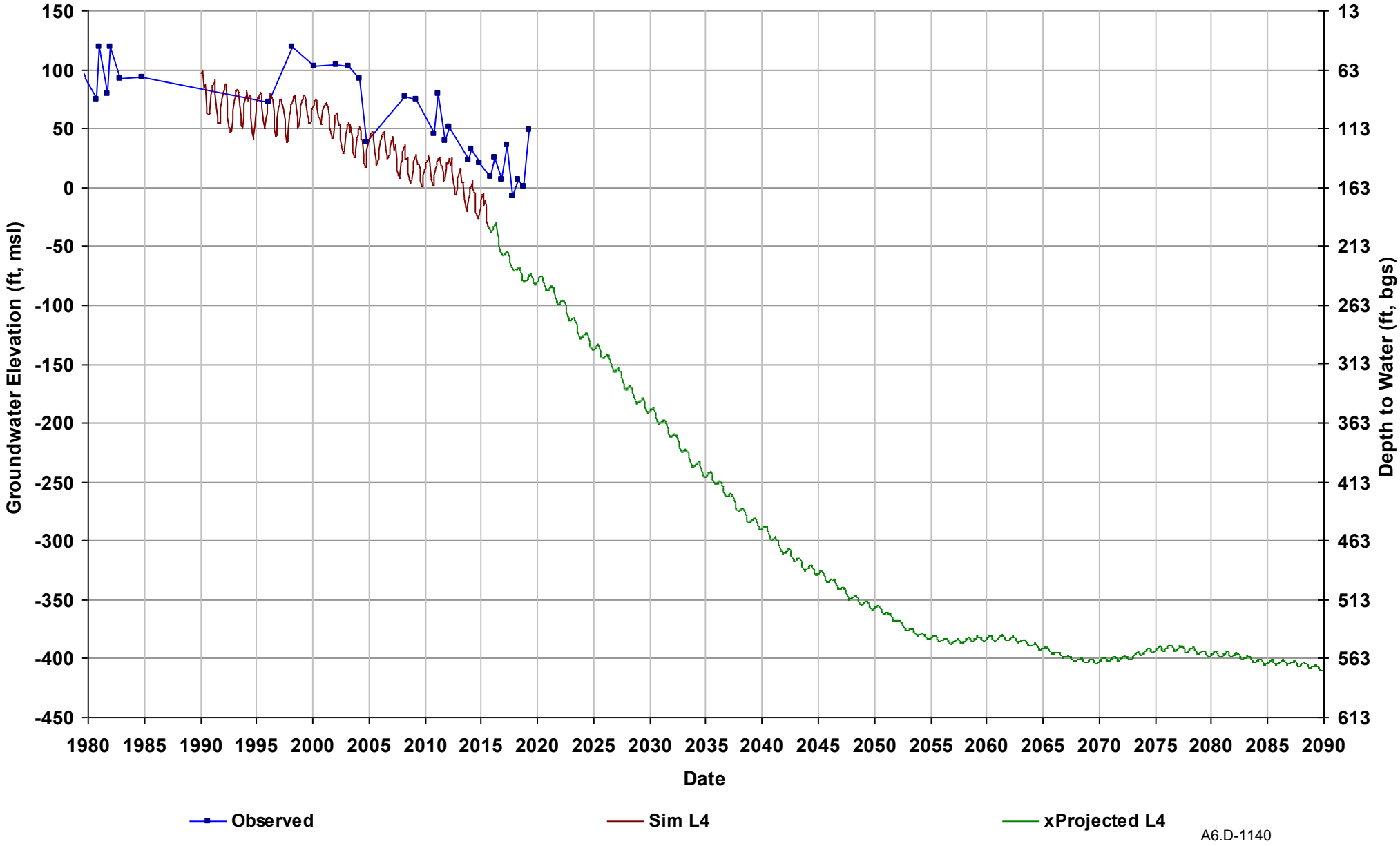
Well Name: 08S14E13L002M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 192

Total Depth (ft): 530
Perf Top (ft): 193
Perf Bottom (ft): 200
Top Model Layer: 4
Bottom Model Layer: 4



Well Name: 08S14E20J001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 435
Perf Top (ft): 150
Perf Bottom (ft): 430
Top Model Layer: 4
Bottom Model Layer: 4

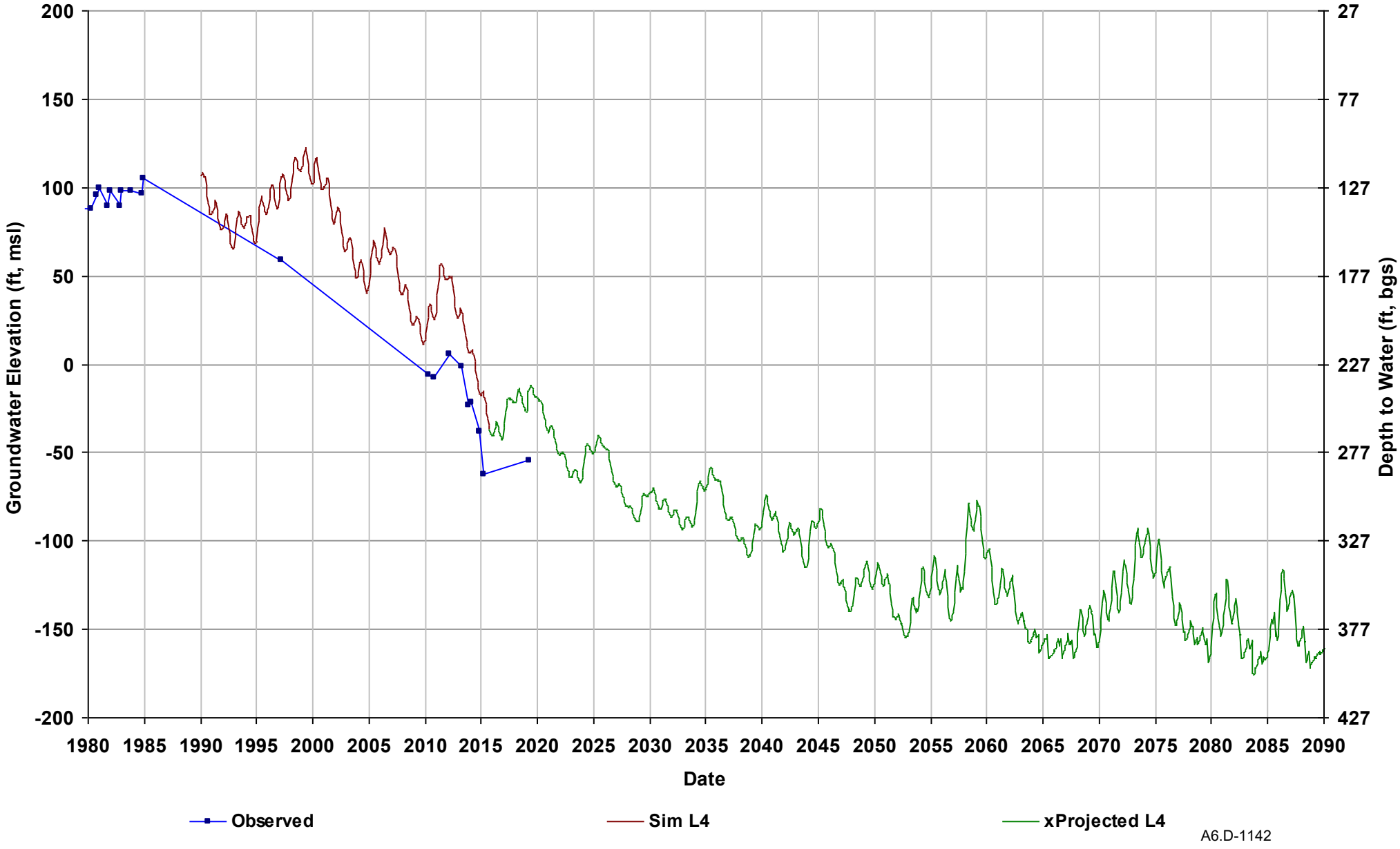


Well Name: 08S15E34L001M
Depth Zone: Composite or Lower; Wi
Subbasin: Merced
GSE (ft, msl): 219

Total Depth (ft): 247
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4

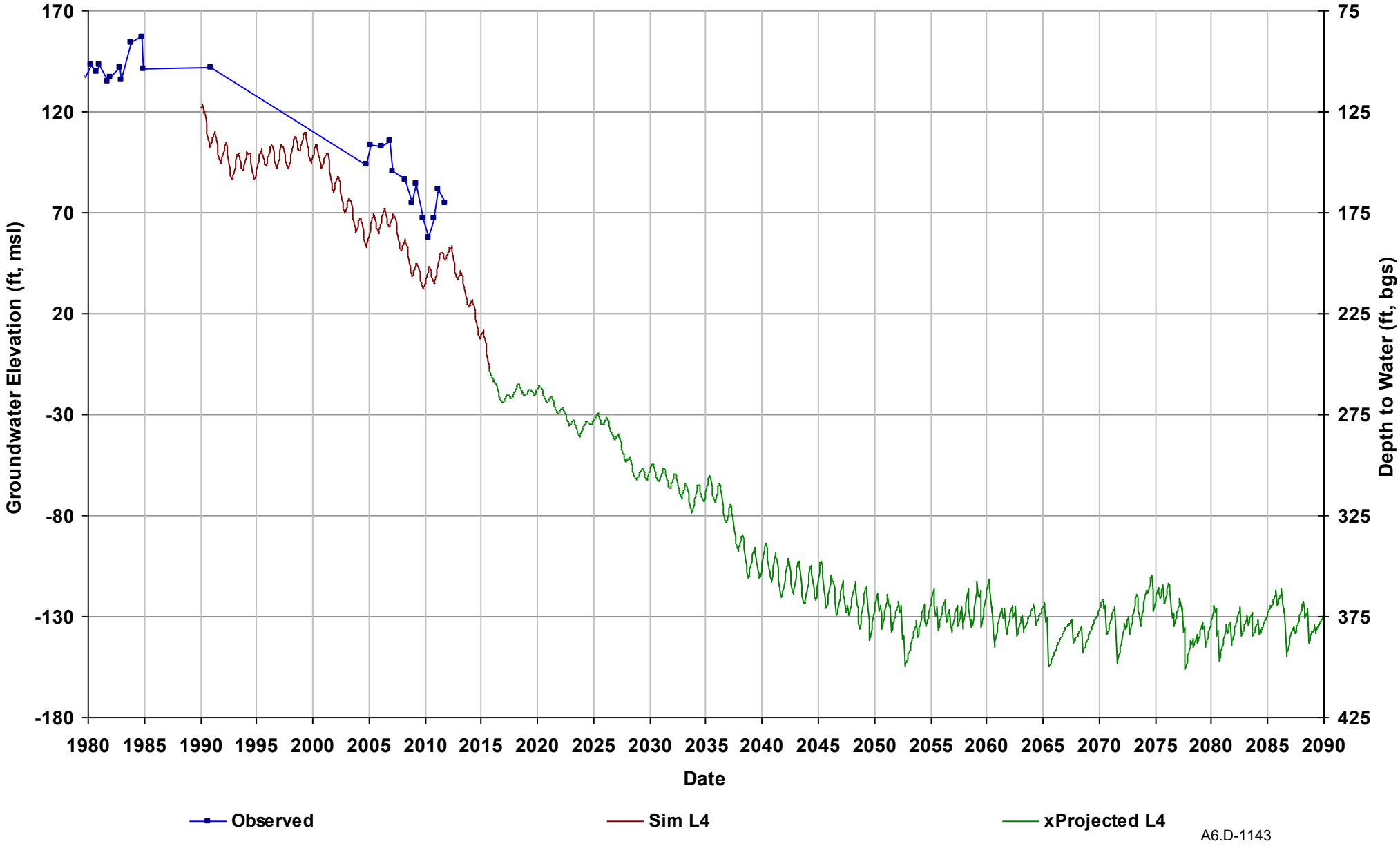
Well Name: 08S15E36G001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 227

Total Depth (ft): 509
Perf Top (ft): 176
Perf Bottom (ft): 376
Top Model Layer: 4
Bottom Model Layer: 4



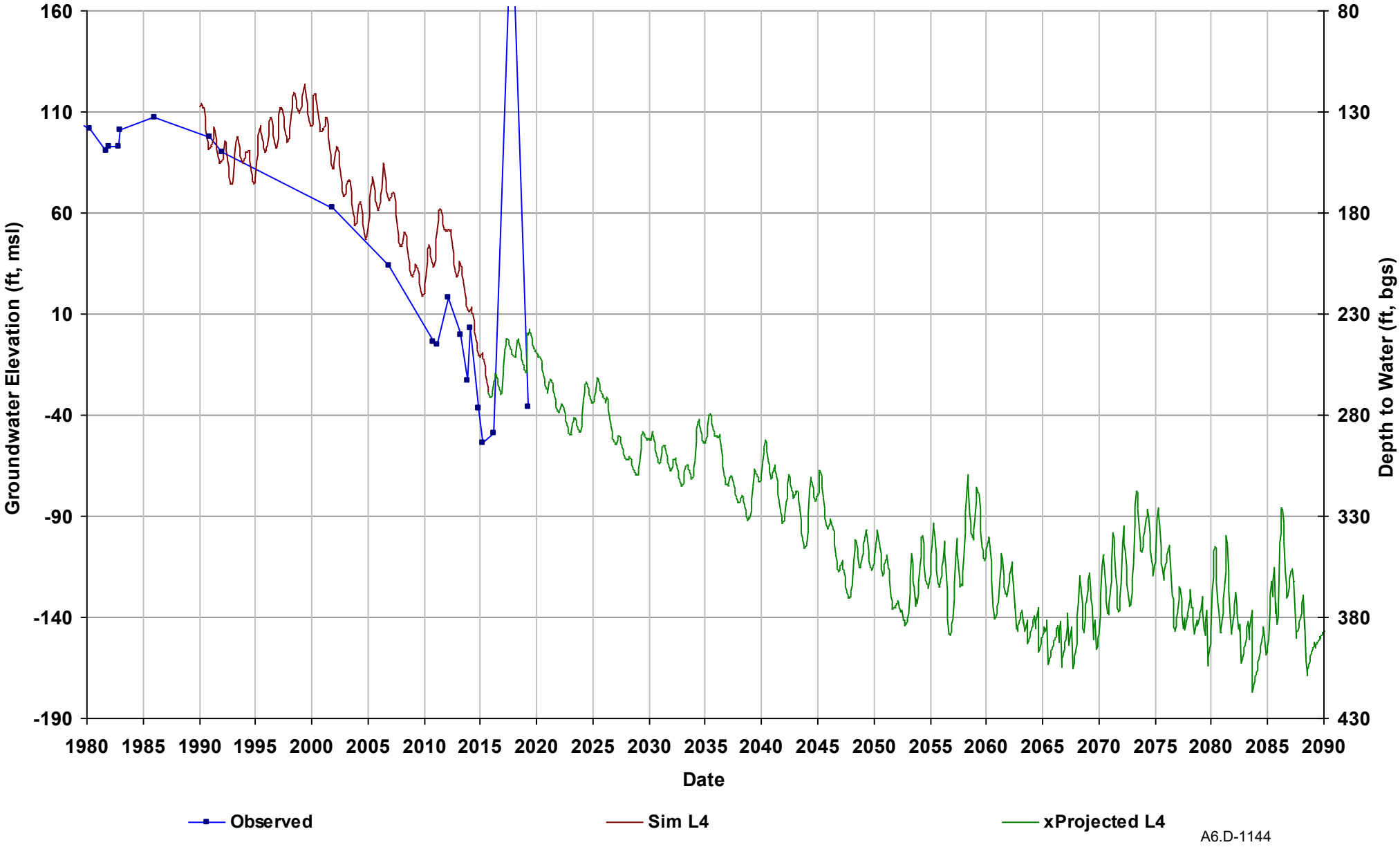
Well Name: 08S16E19D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 245

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



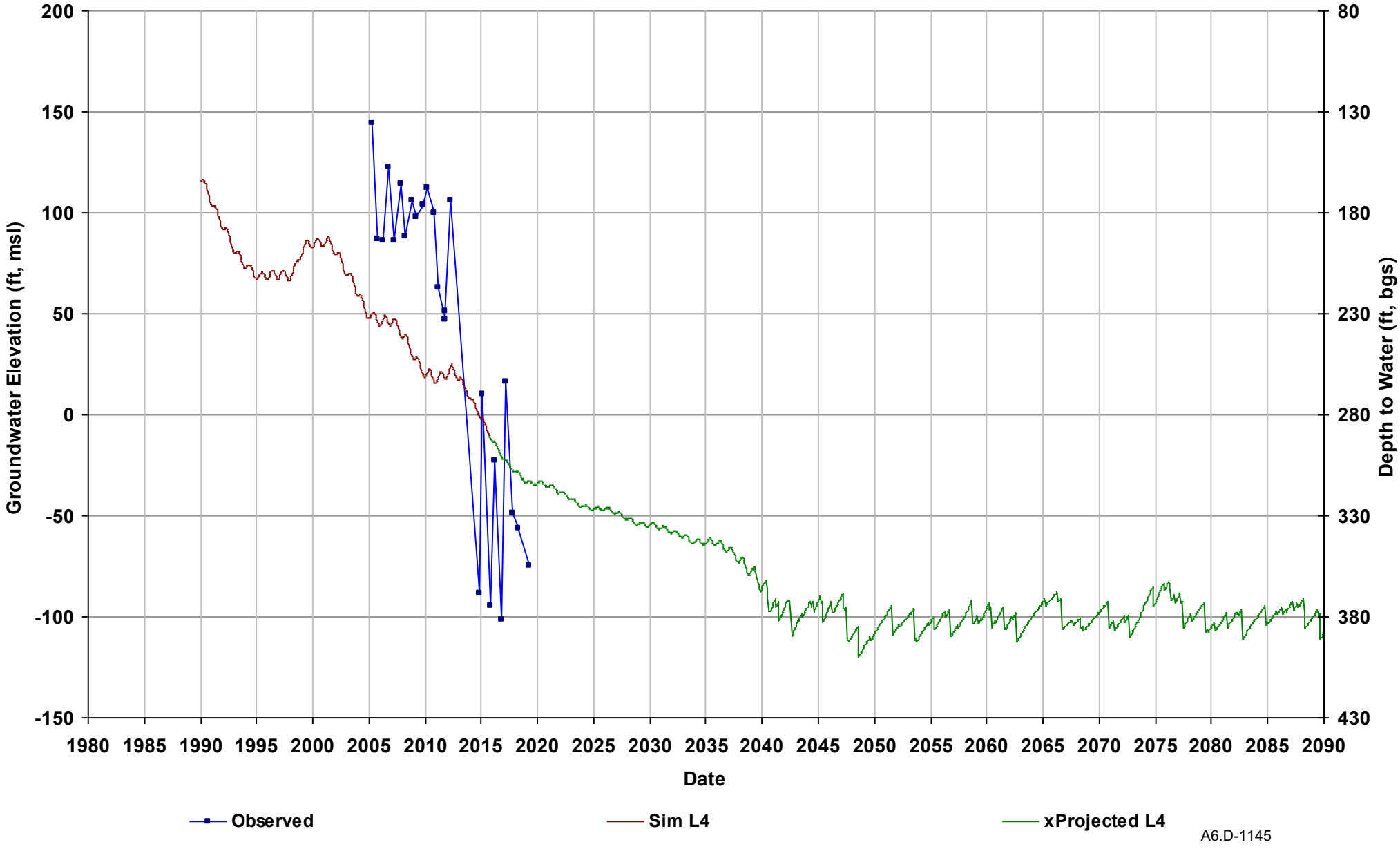
Well Name: 08S16E31C001M
Depth Zone: Composite or Lower; O
Subbasin: Merced
GSE (ft, msl): 240

Total Depth (ft): 412
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 4
Bottom Model Layer: 4



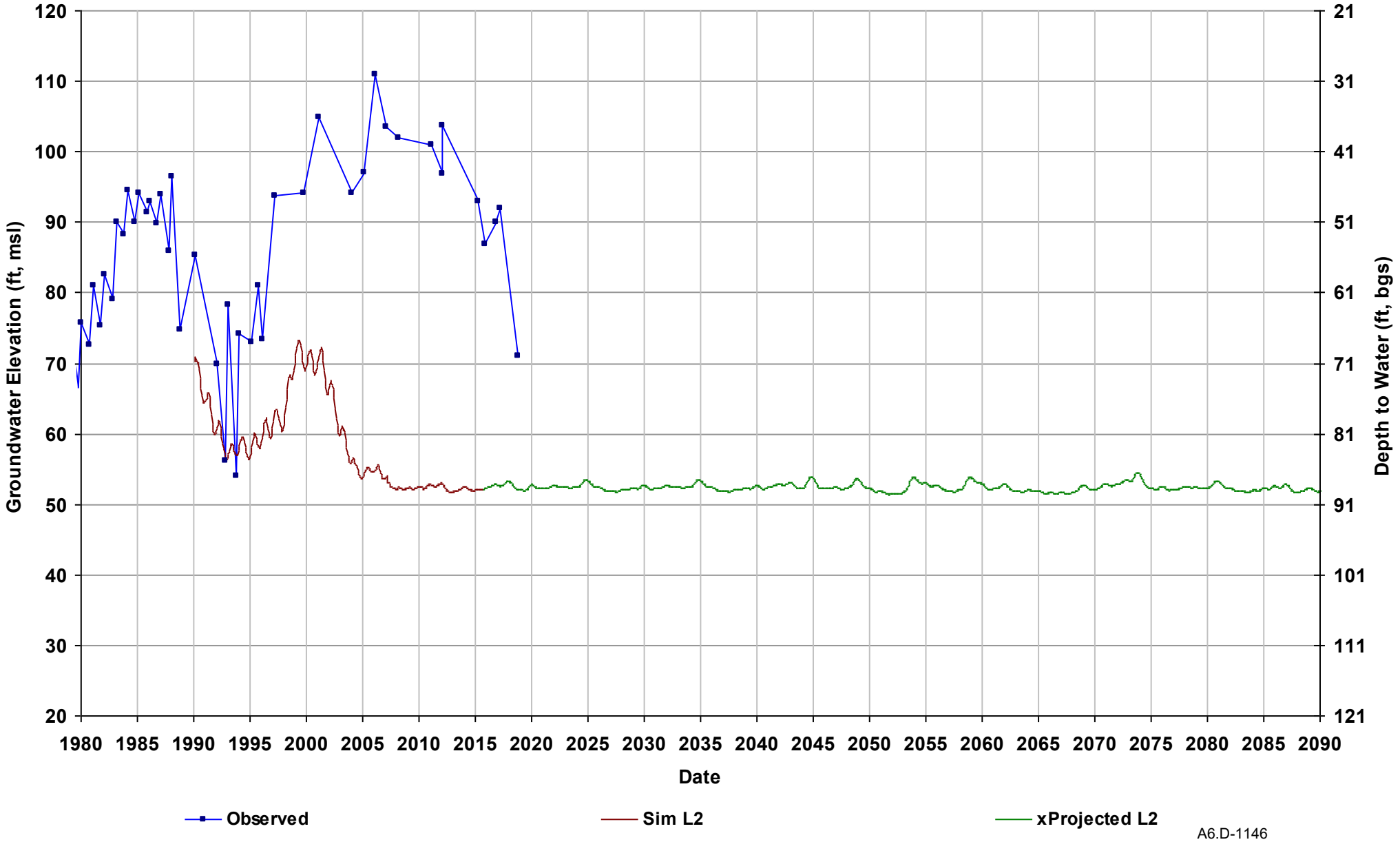
Well Name: 08S16E34J001M
Depth Zone: Lower; Outside CC
Subbasin: Merced
GSE (ft, msl): 280

Total Depth (ft): 639
Perf Top (ft): 180
Perf Bottom (ft): 639
Top Model Layer: 4
Bottom Model Layer: 4



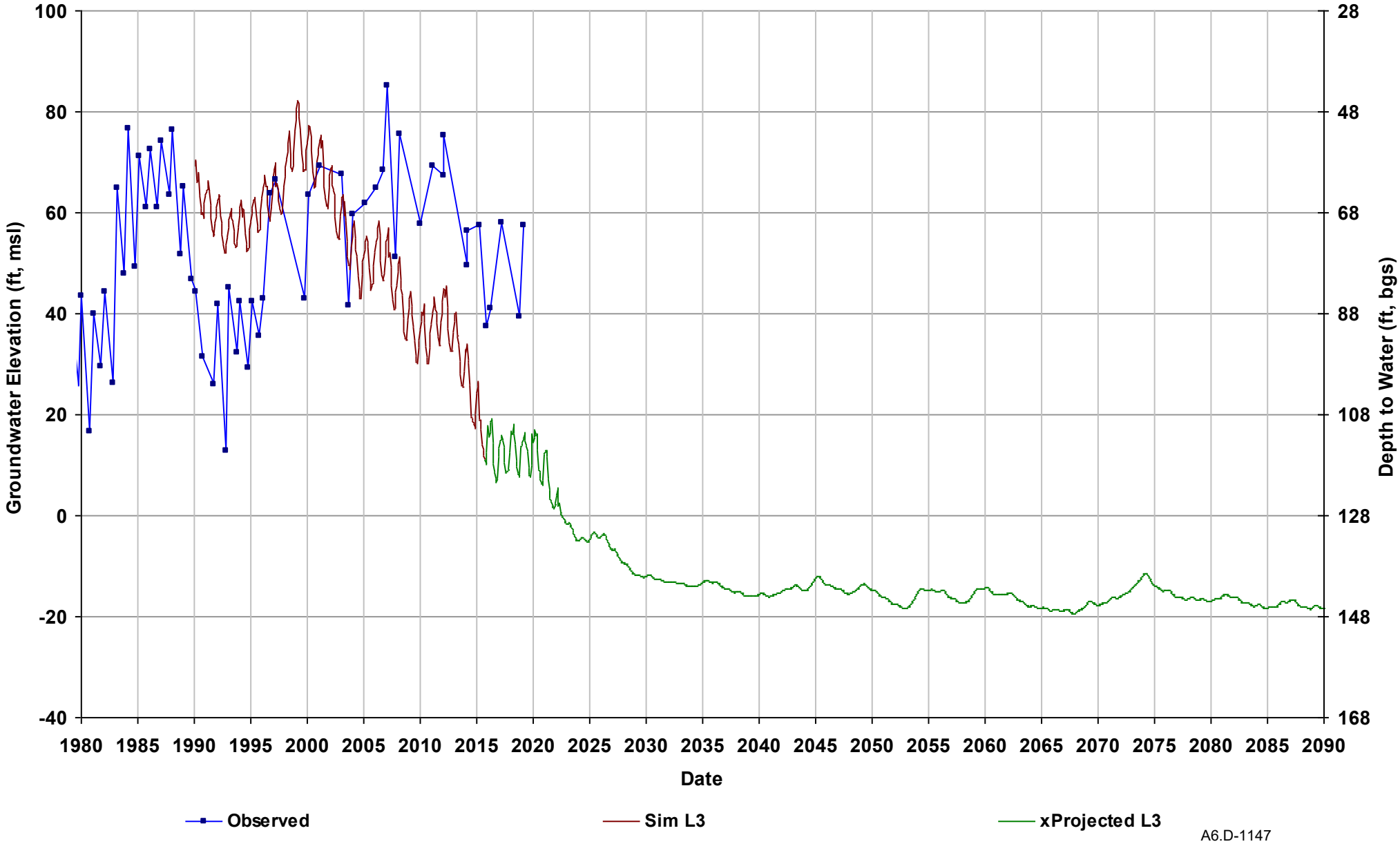
Well Name: 09S13E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 141

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



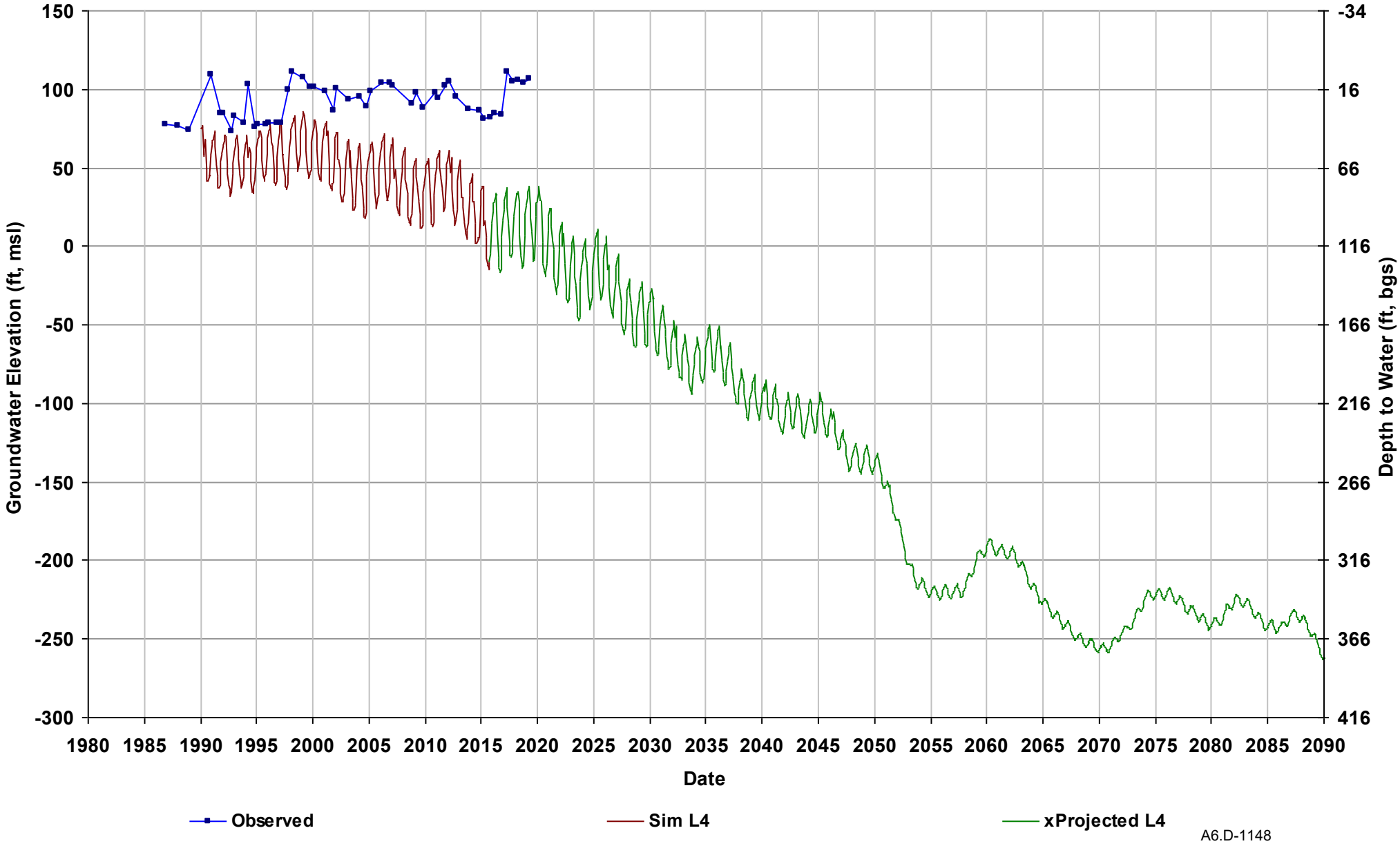
Well Name: 09S13E22H002M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 127

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



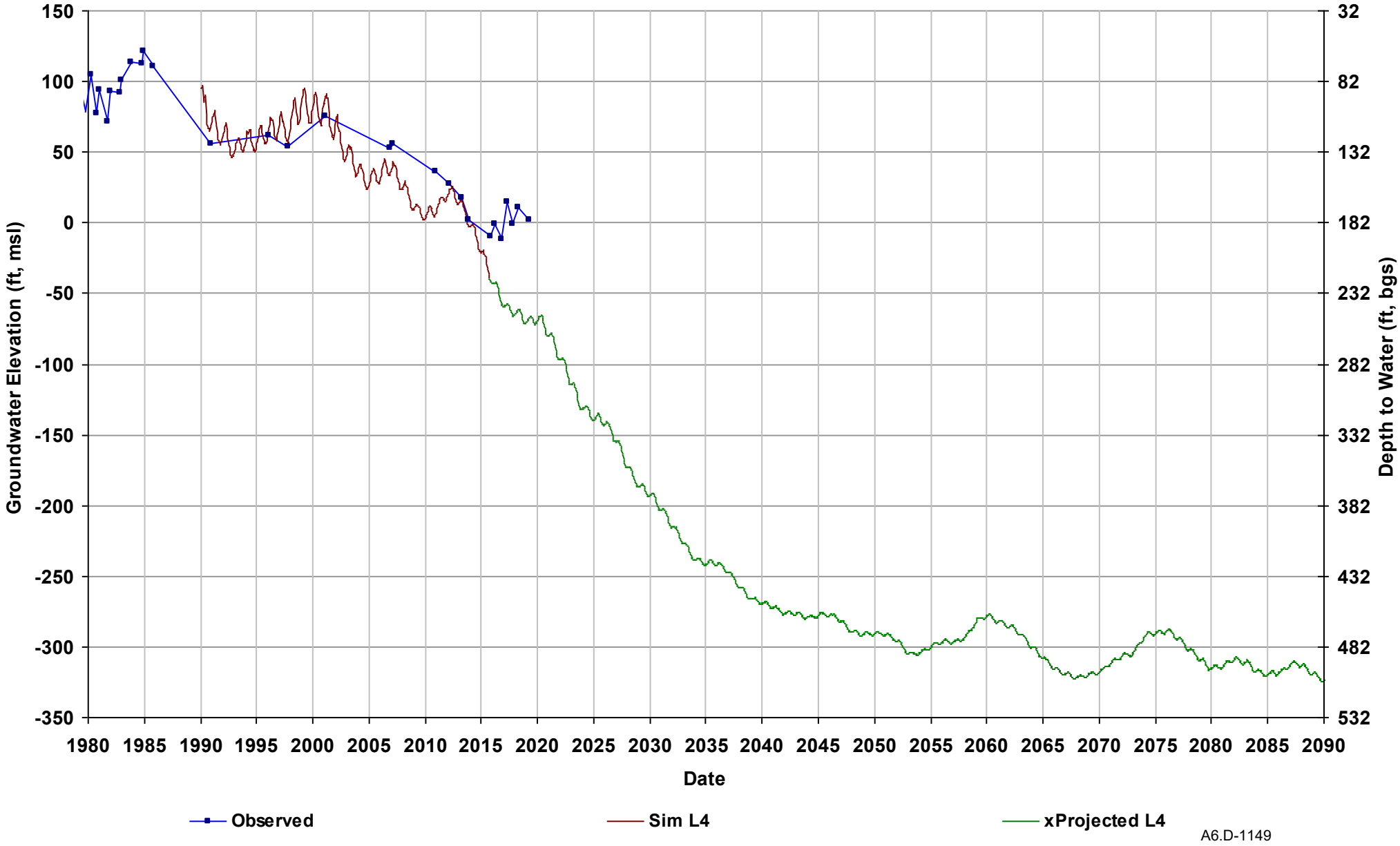
Well Name: 09S13E32A001M
Depth Zone: Composite; Within CC
Subbasin: Merced
GSE (ft, msl): 116

Total Depth (ft): 616
Perf Top (ft): 150
Perf Bottom (ft): 509
Top Model Layer: 4
Bottom Model Layer: 4



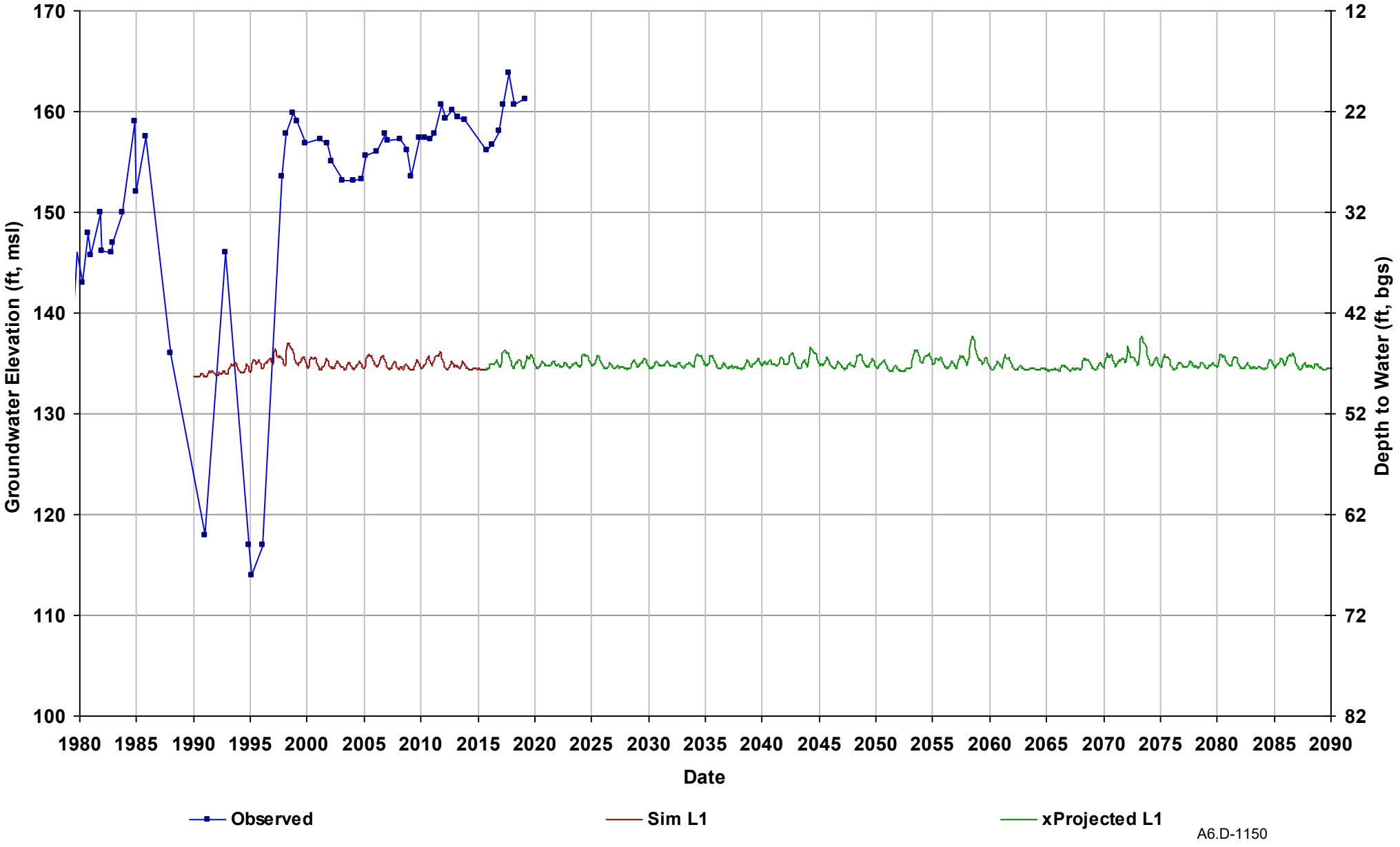
Well Name: 09S14E01B001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 345
Perf Top (ft): 225
Perf Bottom (ft): 345
Top Model Layer: 4
Bottom Model Layer: 4



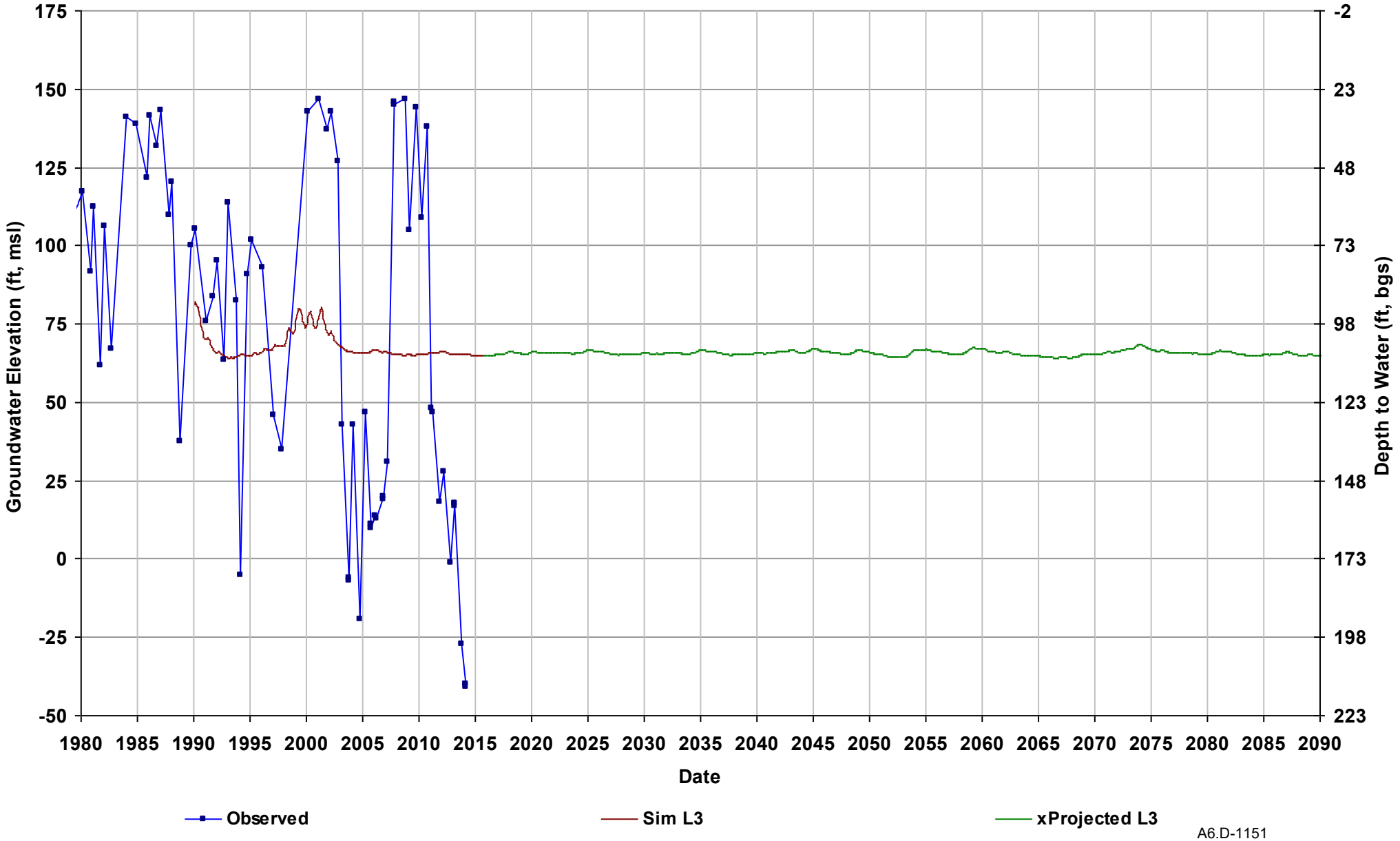
Well Name: 09S14E01B003M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 182

Total Depth (ft): 68
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



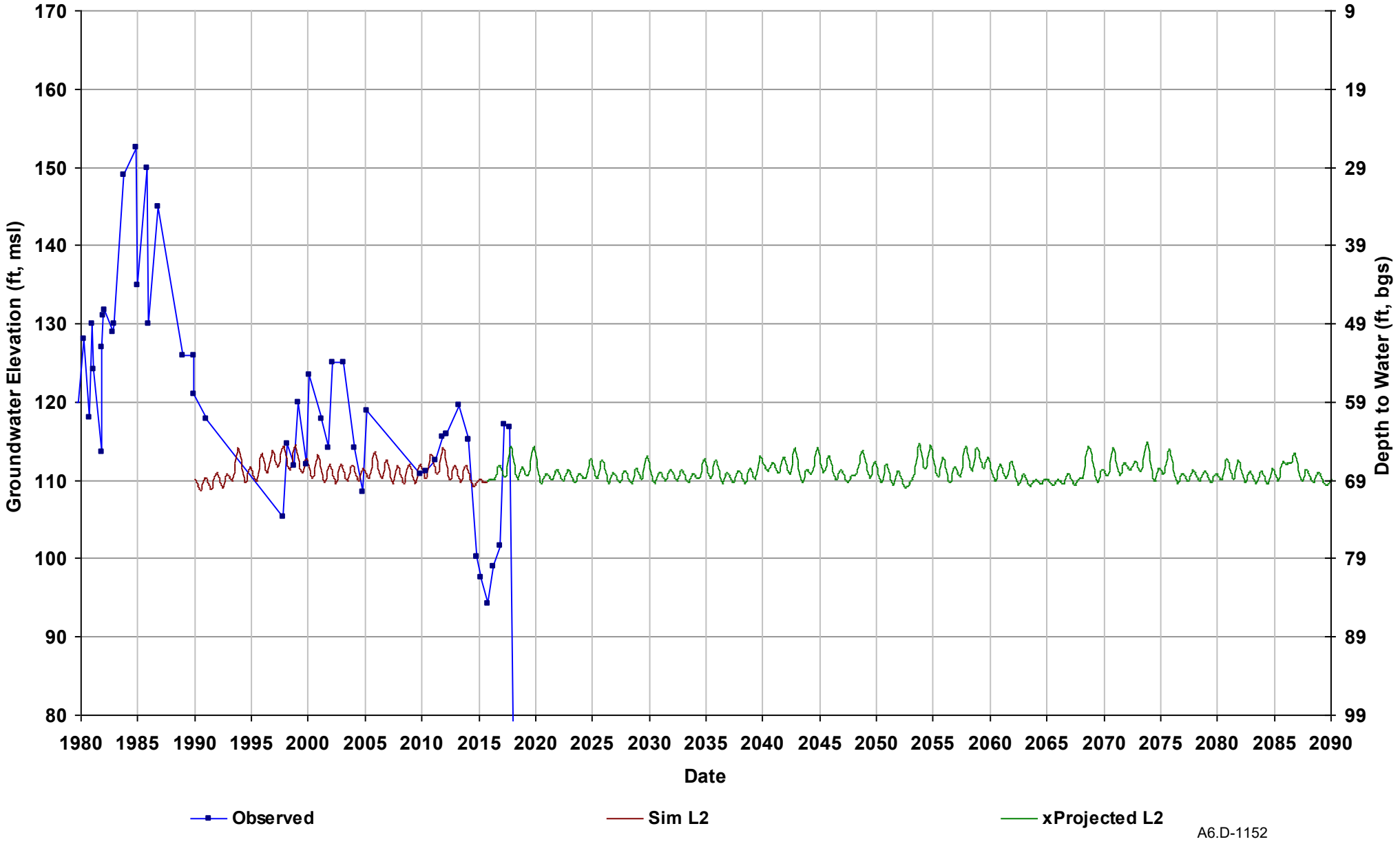
Well Name: 09S14E11F001M
Depth Zone: Unknown; Within CC
Subbasin: Merced
GSE (ft, msl): 173

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



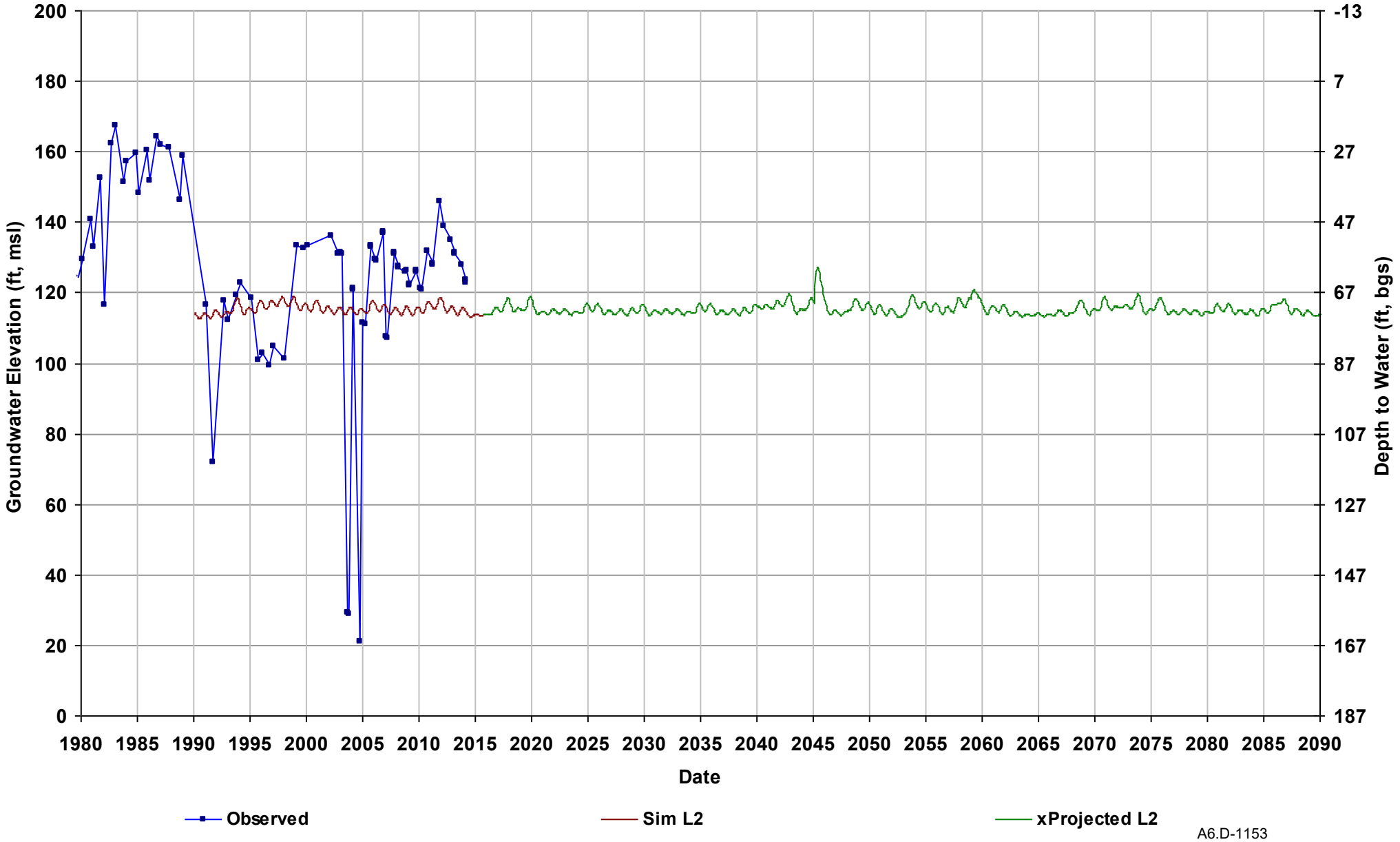
Well Name: 09S14E14R001M
Depth Zone: Composite or Lower; Wi
Subbasin: Chowchilla
GSE (ft, msl): 179

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



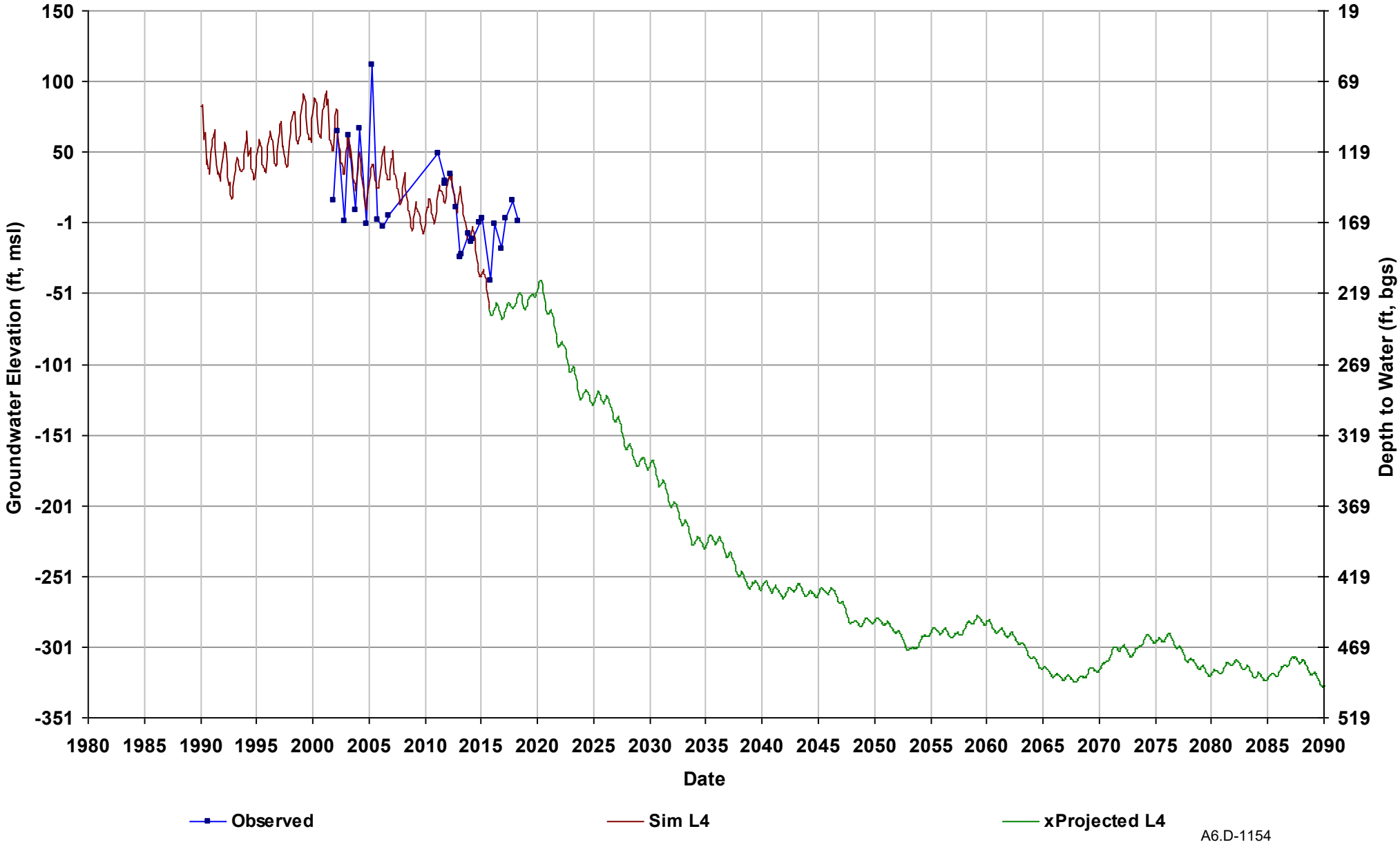
Well Name: 09S14E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



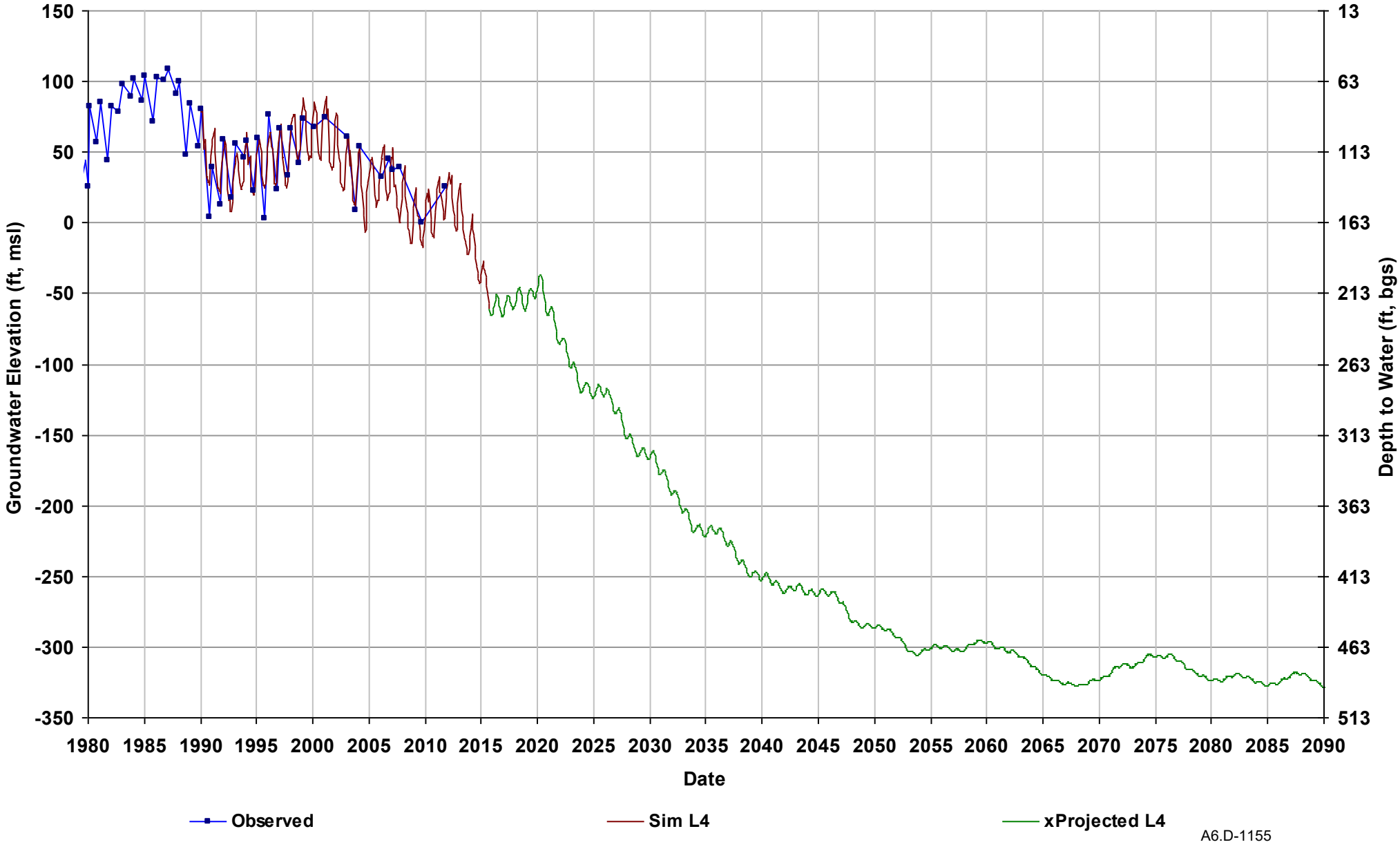
Well Name: 09S14E27R001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 168

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



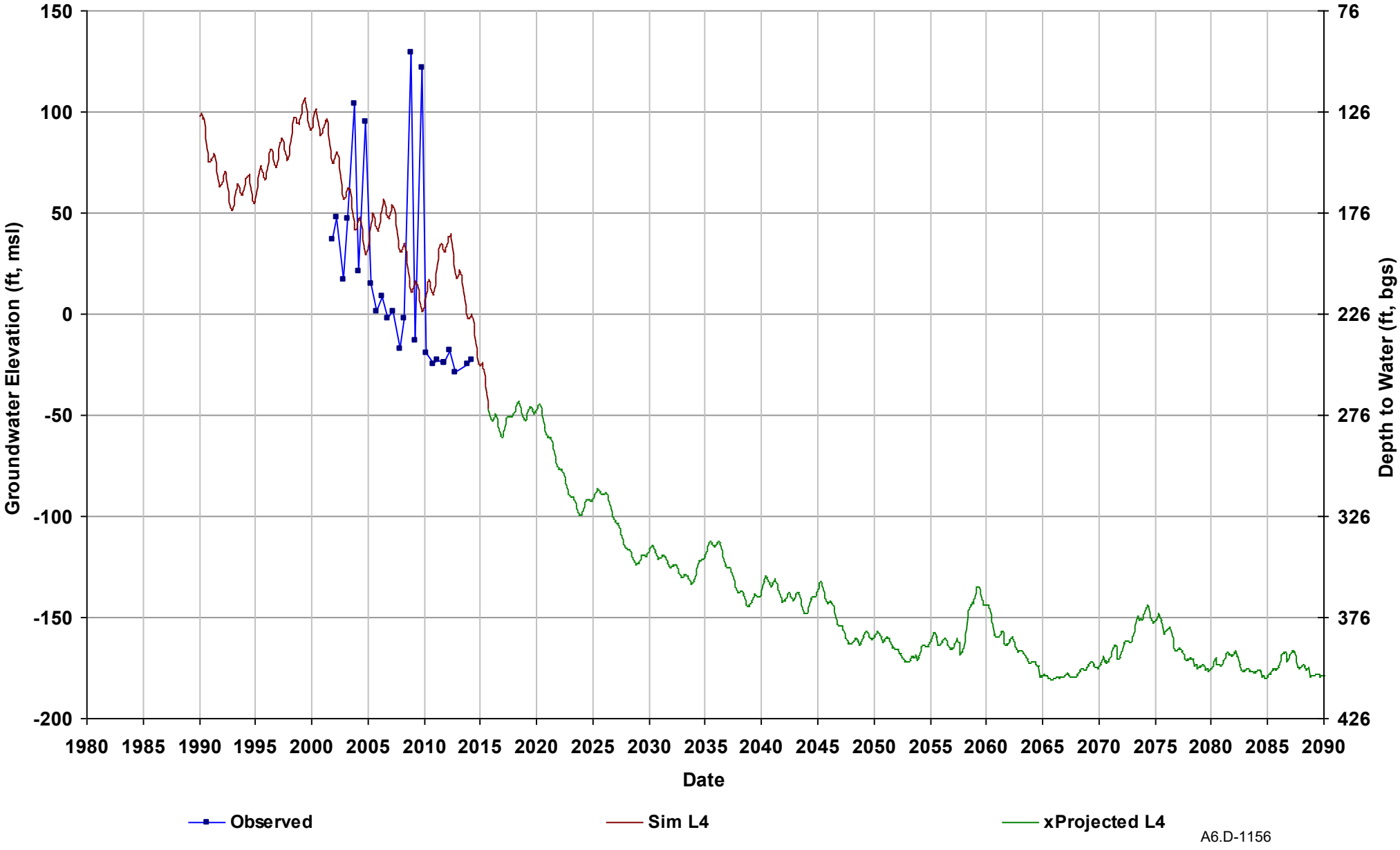
Well Name: 09S14E33A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 163

Total Depth (ft): 632
Perf Top (ft): 240
Perf Bottom (ft): 580
Top Model Layer: 4
Bottom Model Layer: 4



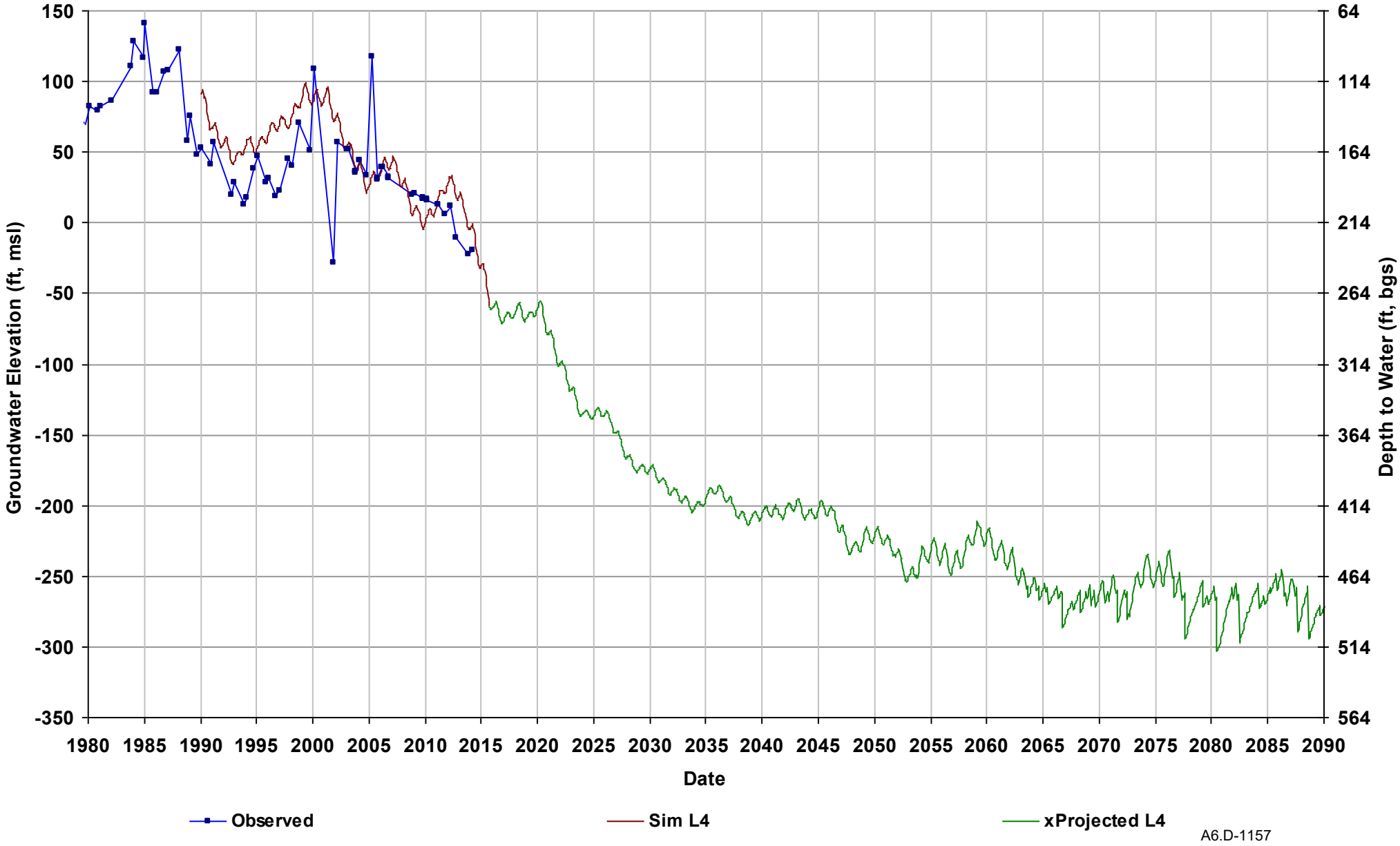
Well Name: 09S15E02A001M
Depth Zone: Lower; Within CC
Subbasin: Merced
GSE (ft, msl): 226

Total Depth (ft): 800
Perf Top (ft): 300
Perf Bottom (ft): 800
Top Model Layer: 4
Bottom Model Layer: 4



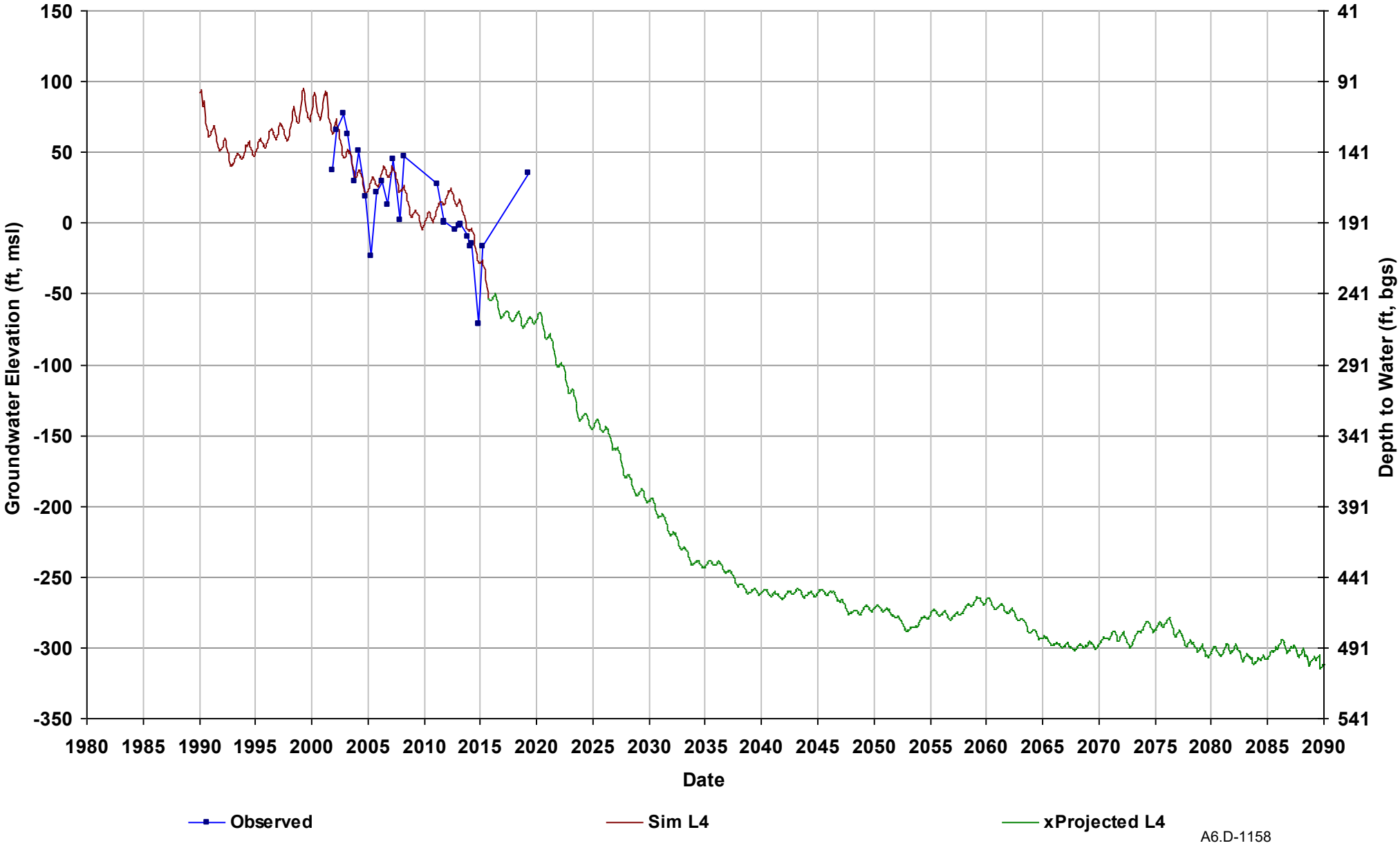
Well Name: 09S15E04R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



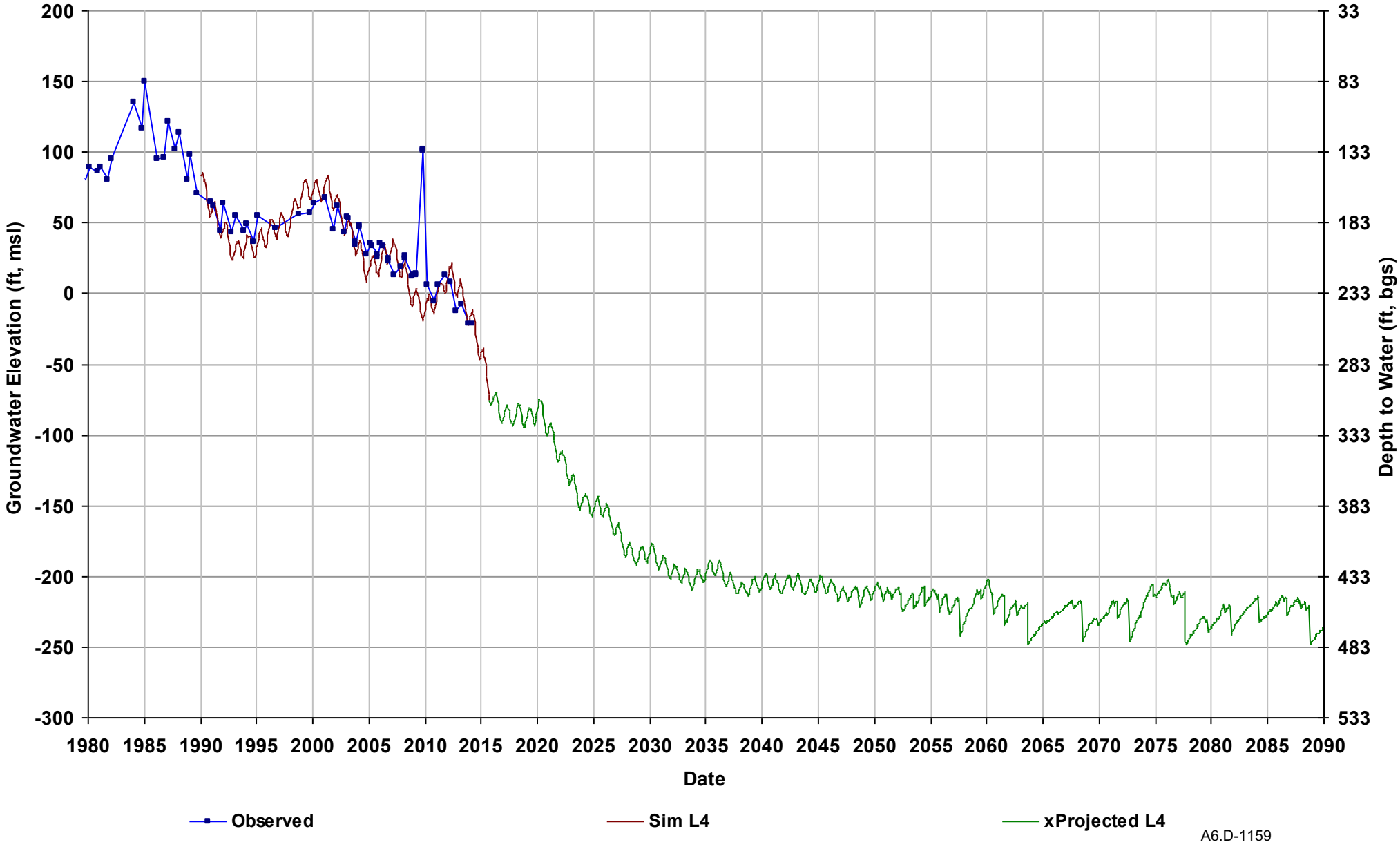
Well Name: 09S15E06P001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 780
Perf Top (ft): 230
Perf Bottom (ft): 775
Top Model Layer: 4
Bottom Model Layer: 4



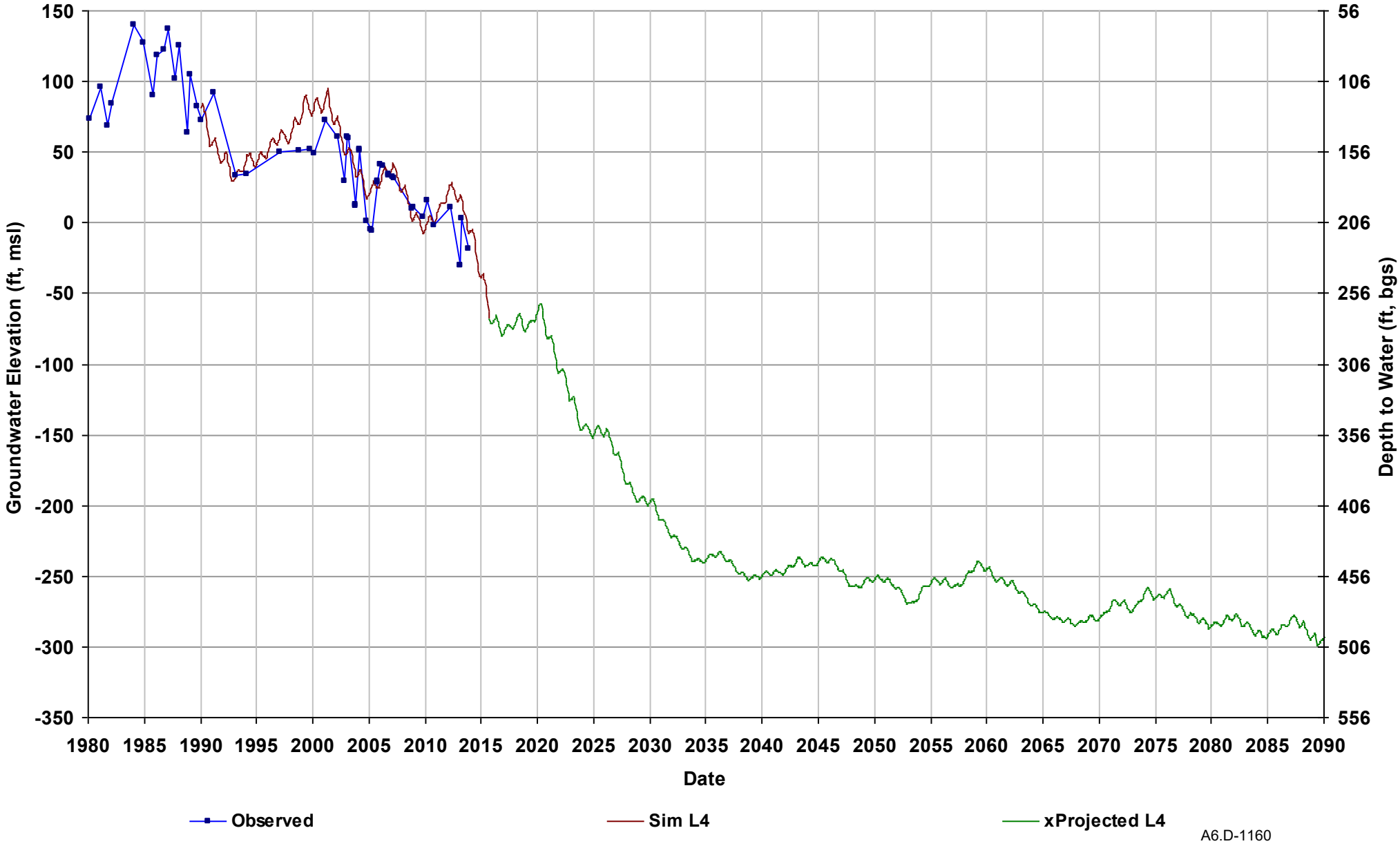
Well Name: 09S15E13E002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 232

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



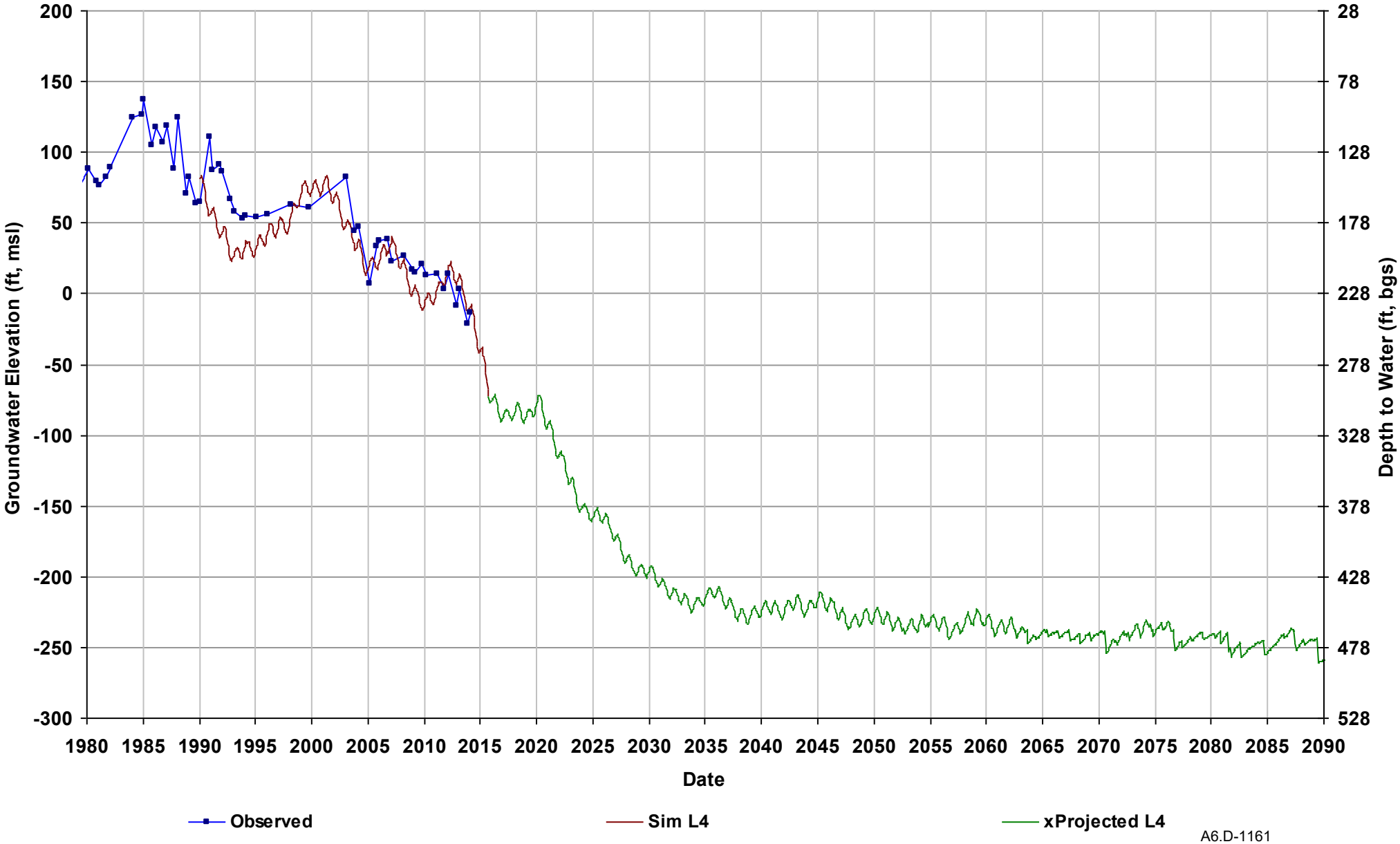
Well Name: 09S15E17R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 206

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



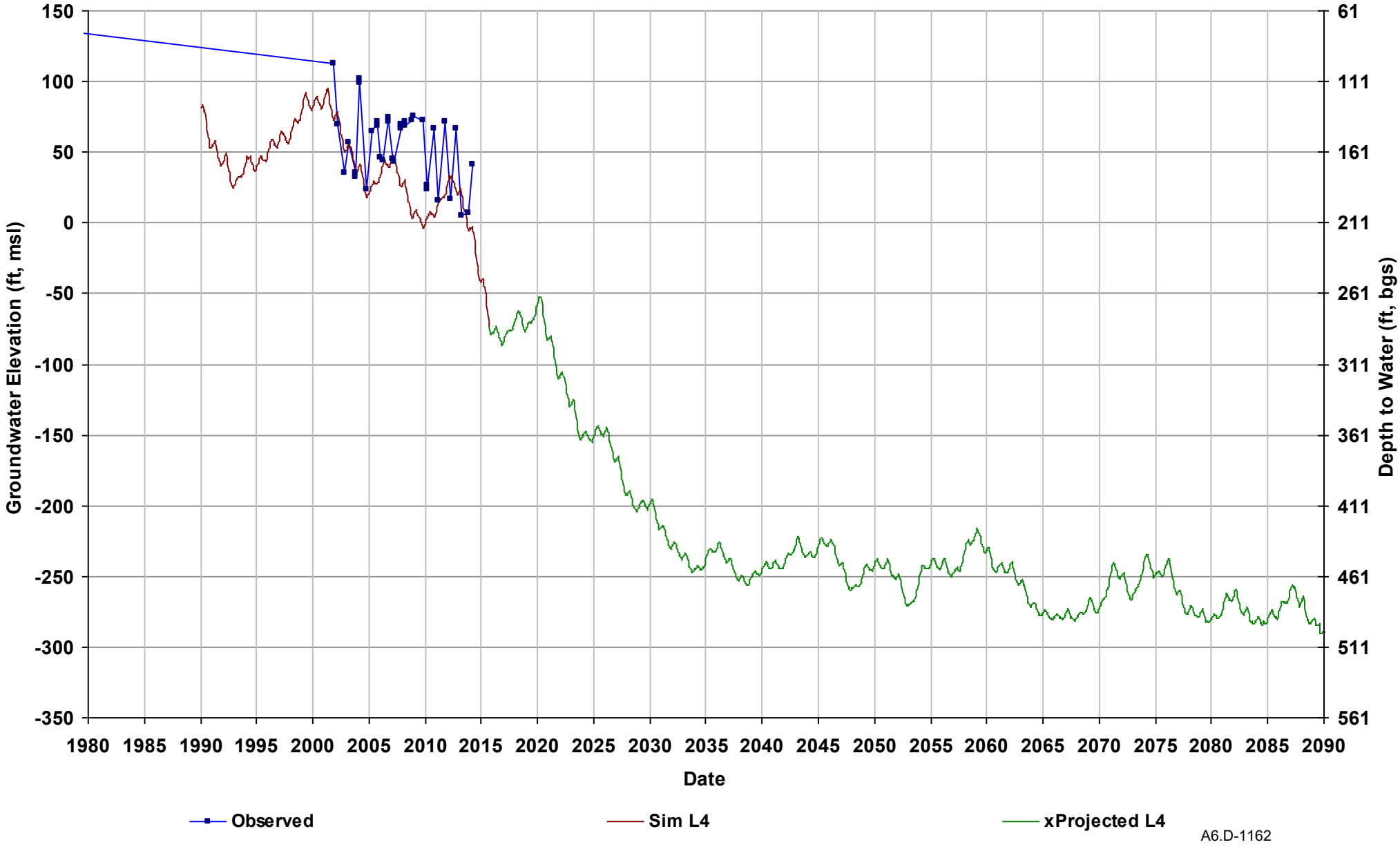
Well Name: 09S15E23J2
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 228

Total Depth (ft): 291
Perf Top (ft): 290.5
Perf Bottom (ft): 291
Top Model Layer: 4
Bottom Model Layer: 4



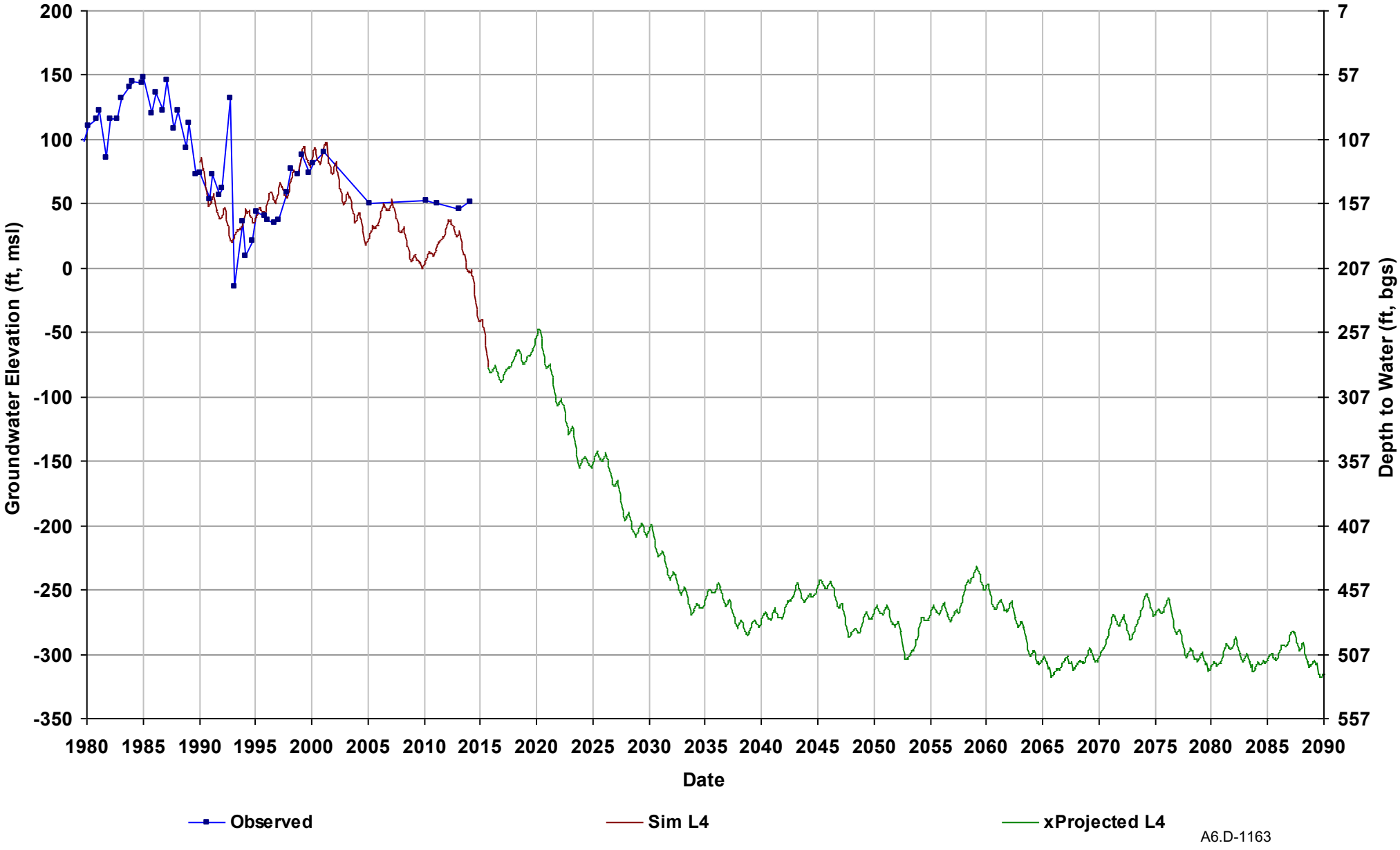
Well Name: 09S15E28A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 210

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



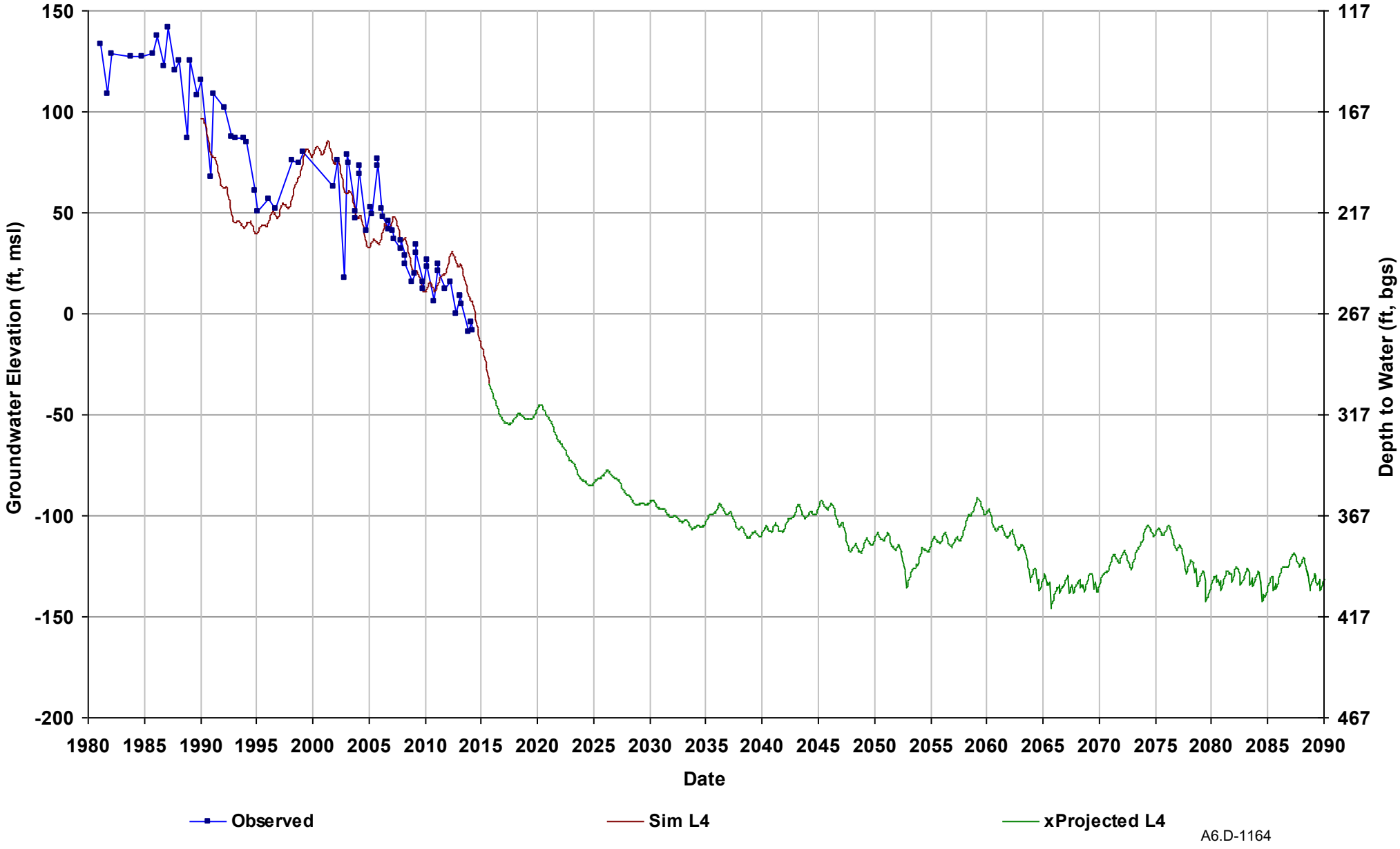
Well Name: 09S15E33J002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 207

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



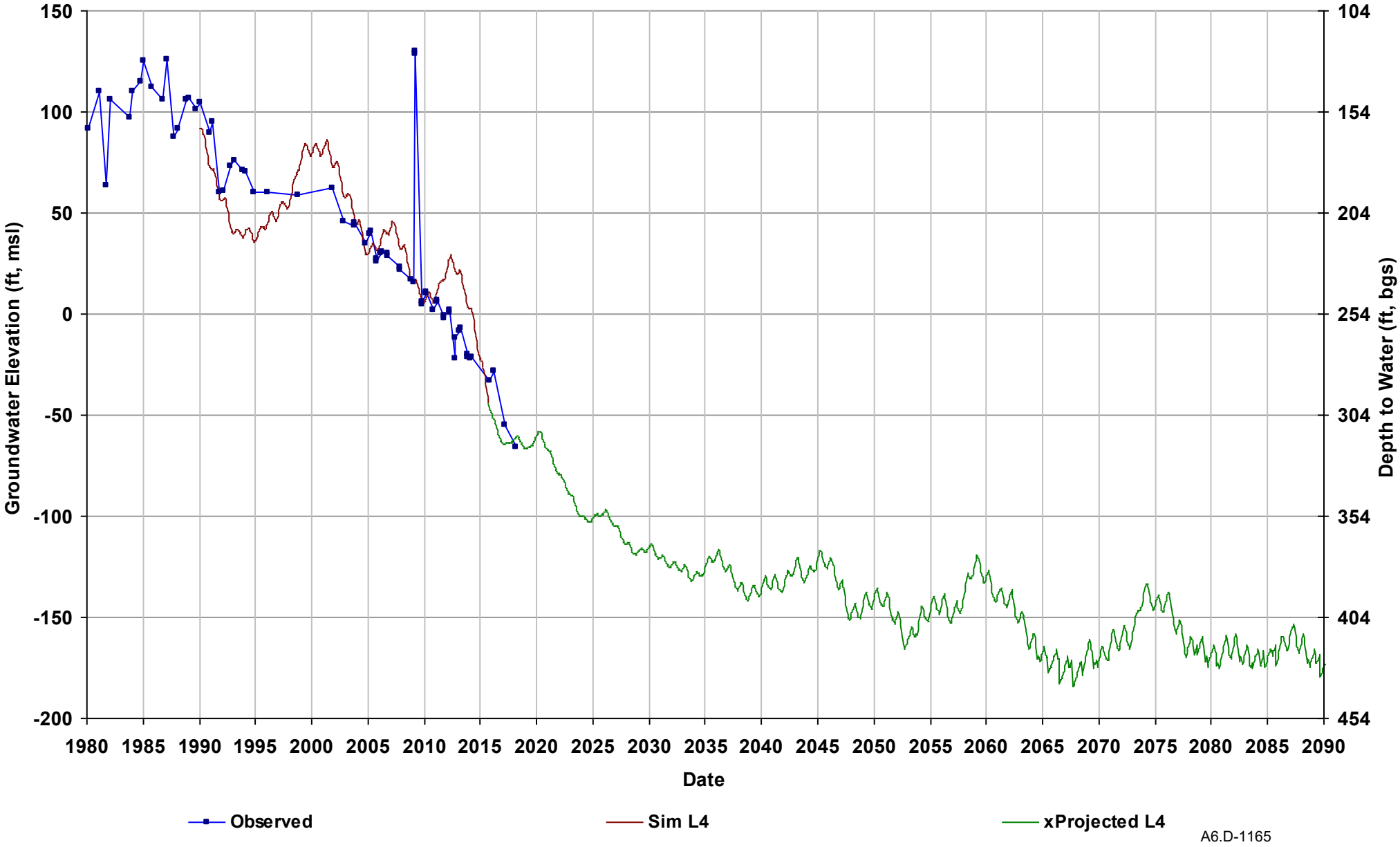
Well Name: 09S16E15Q001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 267

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



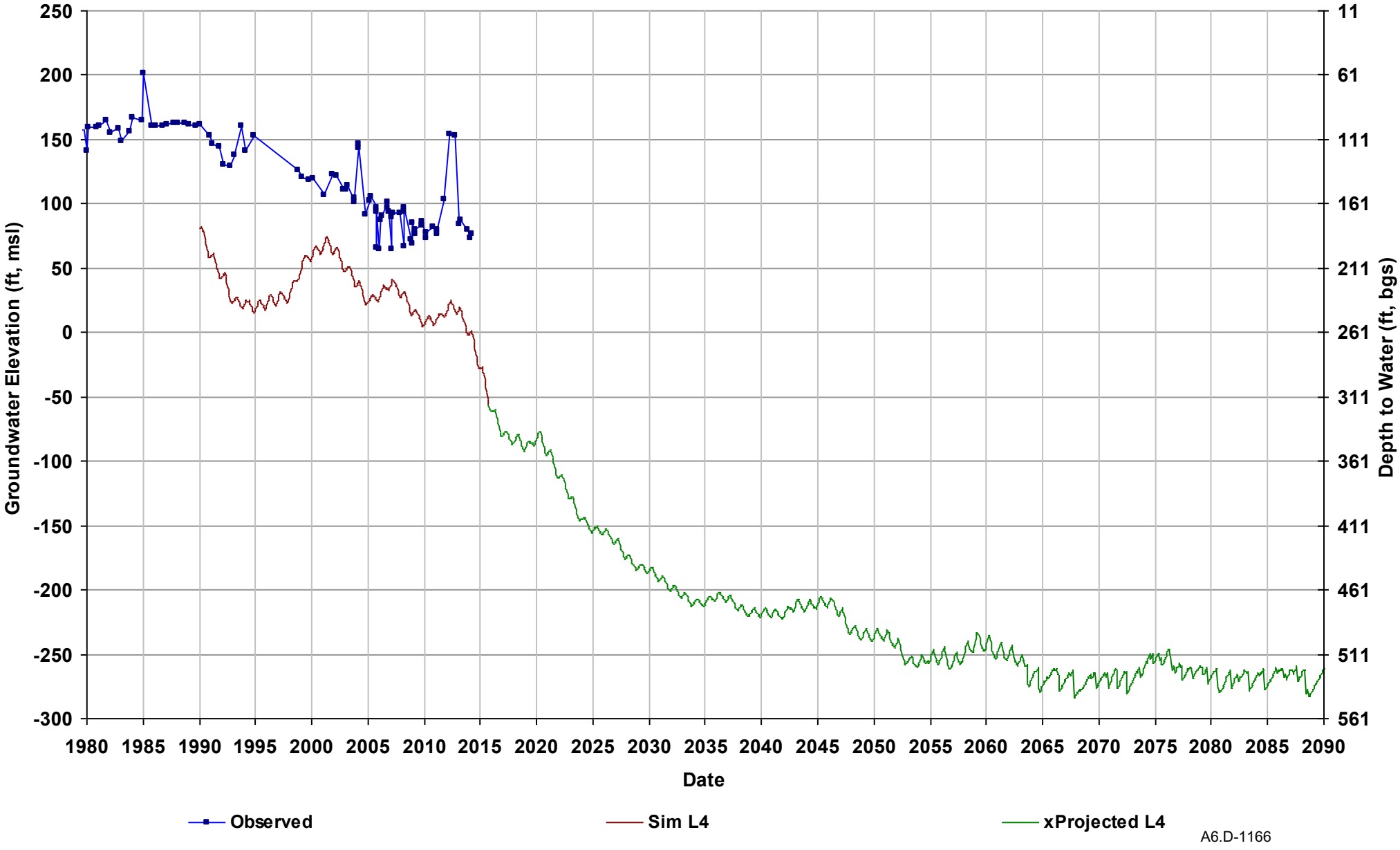
Well Name: 09S16E16N001M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 254

Total Depth (ft): 466
Perf Top (ft): 218
Perf Bottom (ft): 464
Top Model Layer: 4
Bottom Model Layer: 4



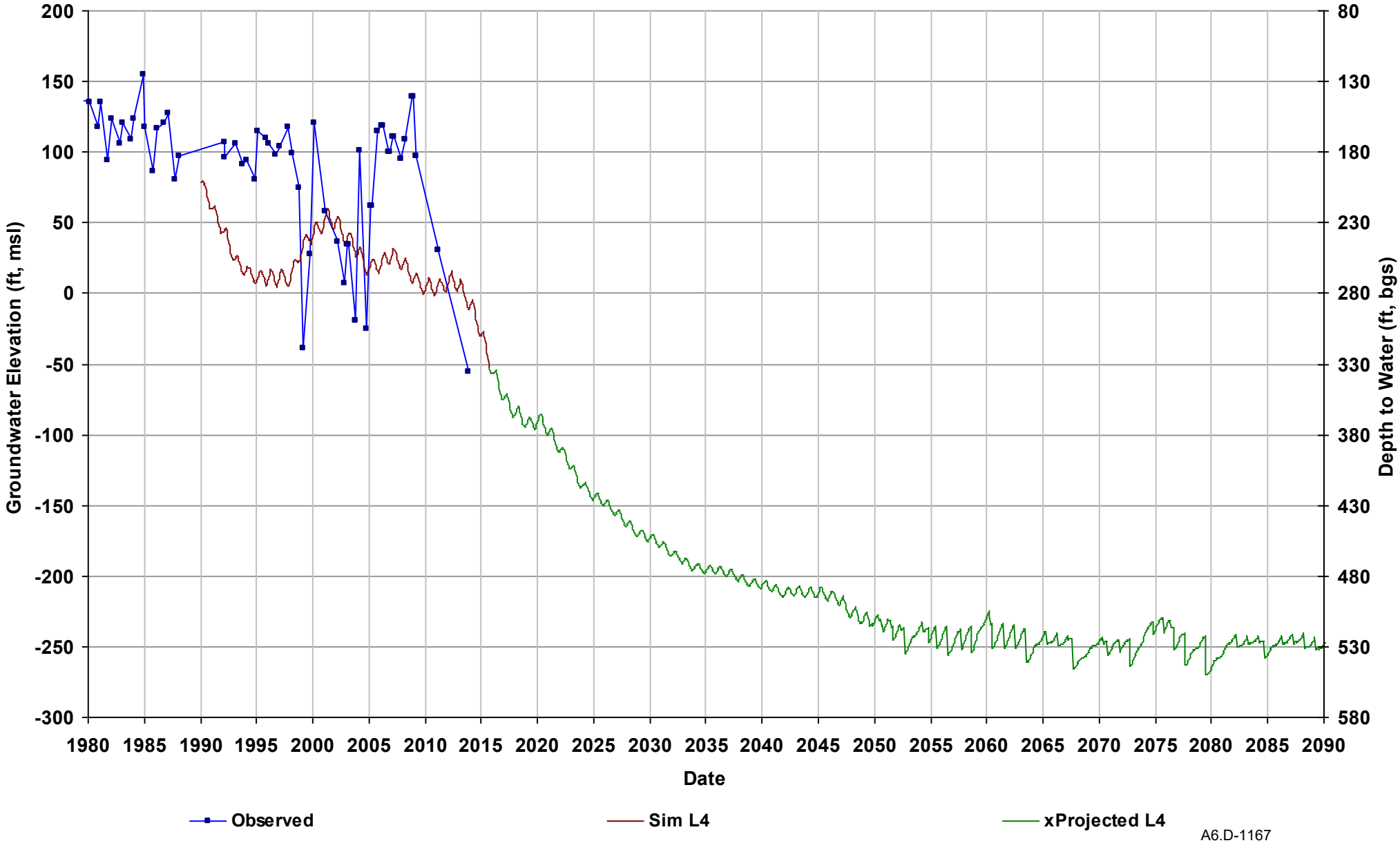
Well Name: 09S16E34J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 261

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



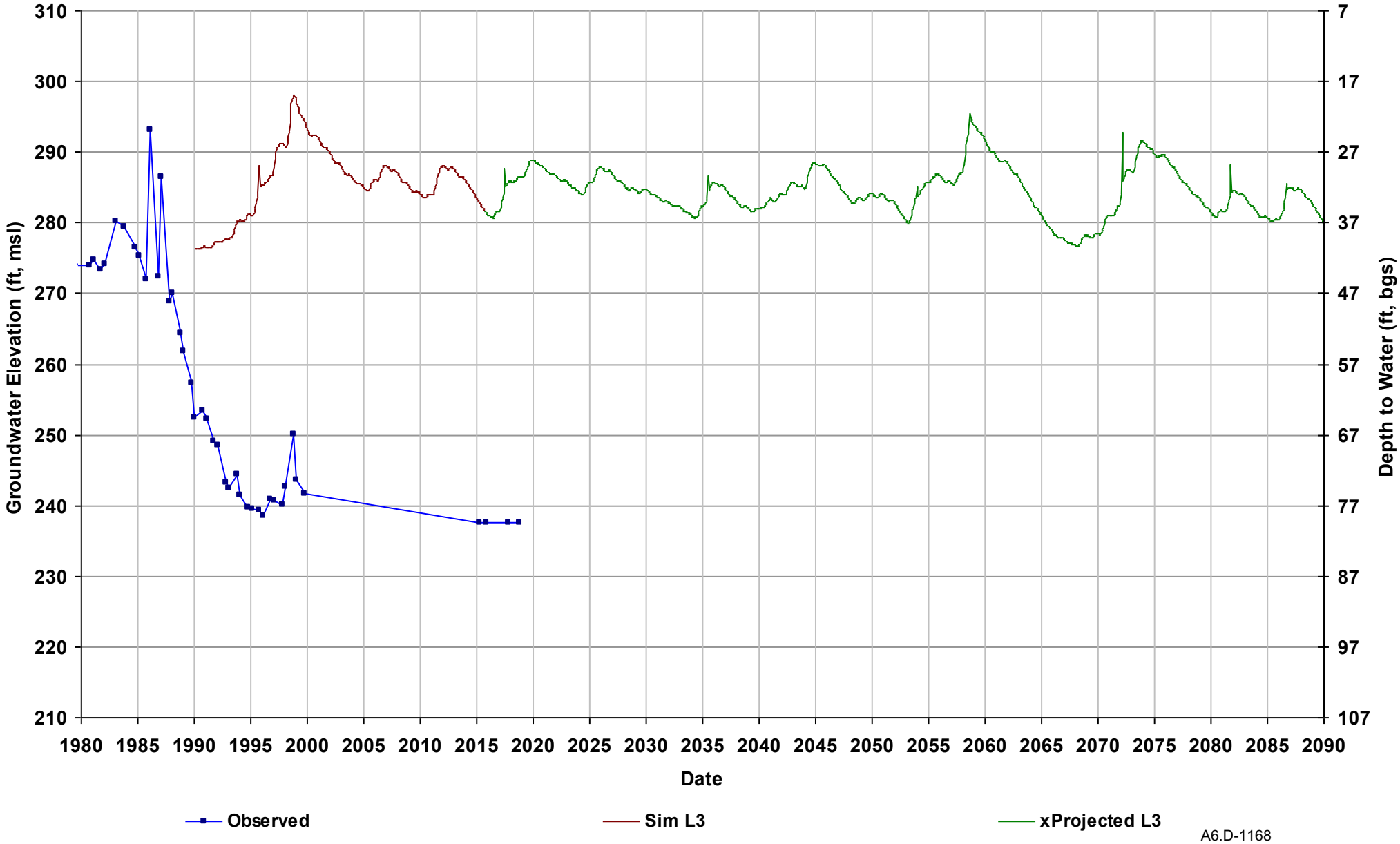
Well Name: 09S16E36J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 280

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



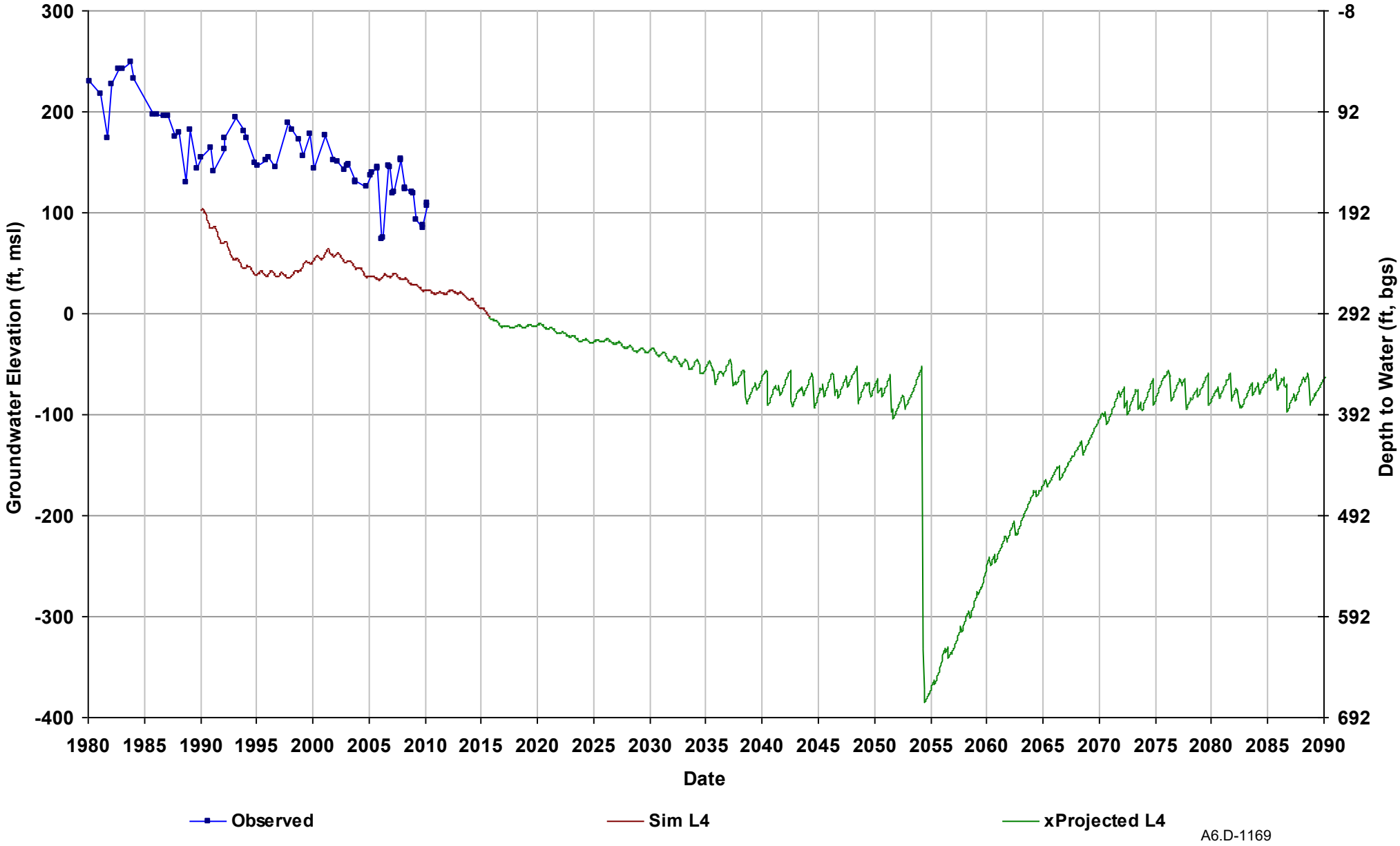
Well Name: 09S17E09D001M
Depth Zone: Unknown; Outside CC
Subbasin: Merced
GSE (ft, msl): 317

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



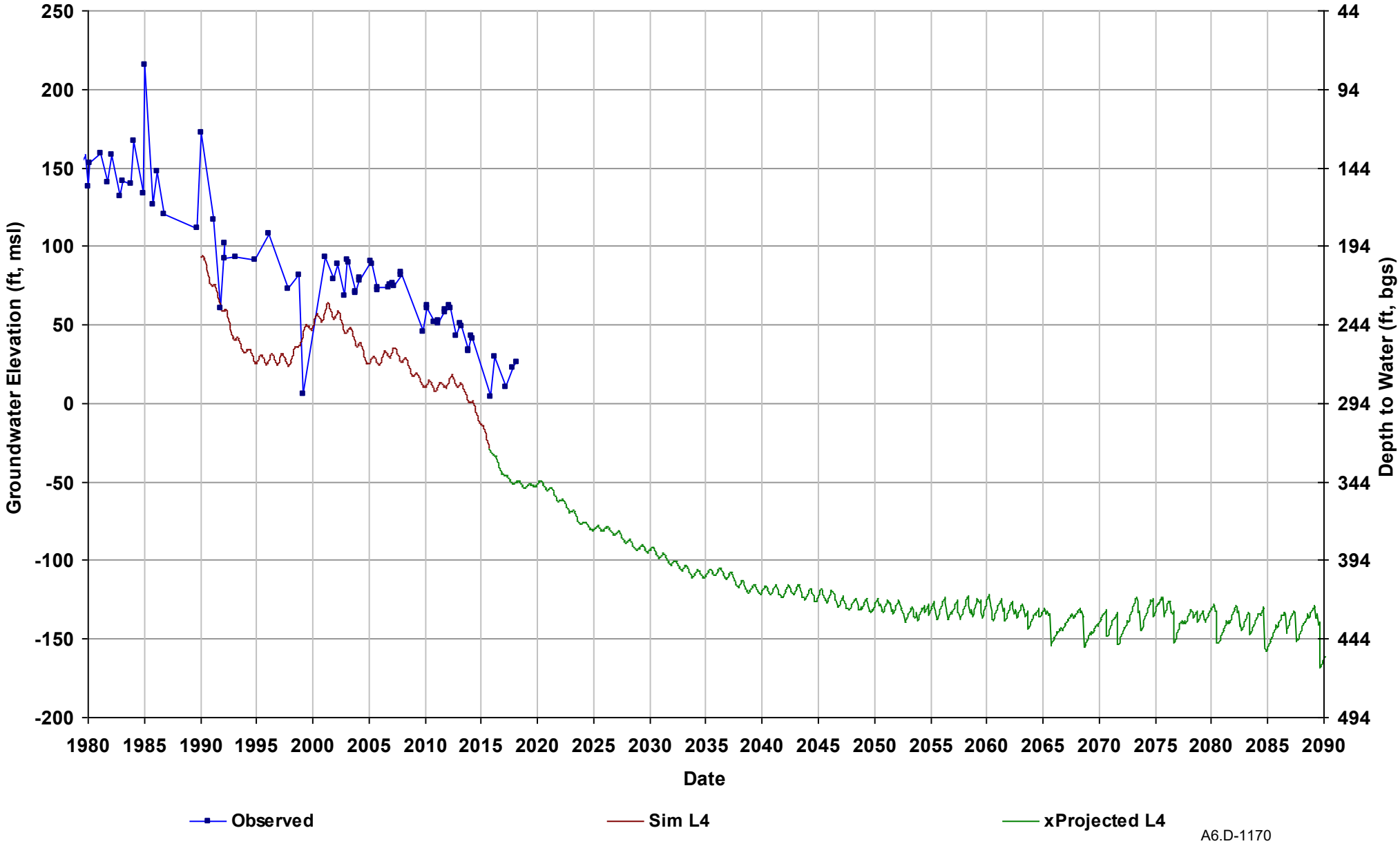
Well Name: 09S17E17F001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 292

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



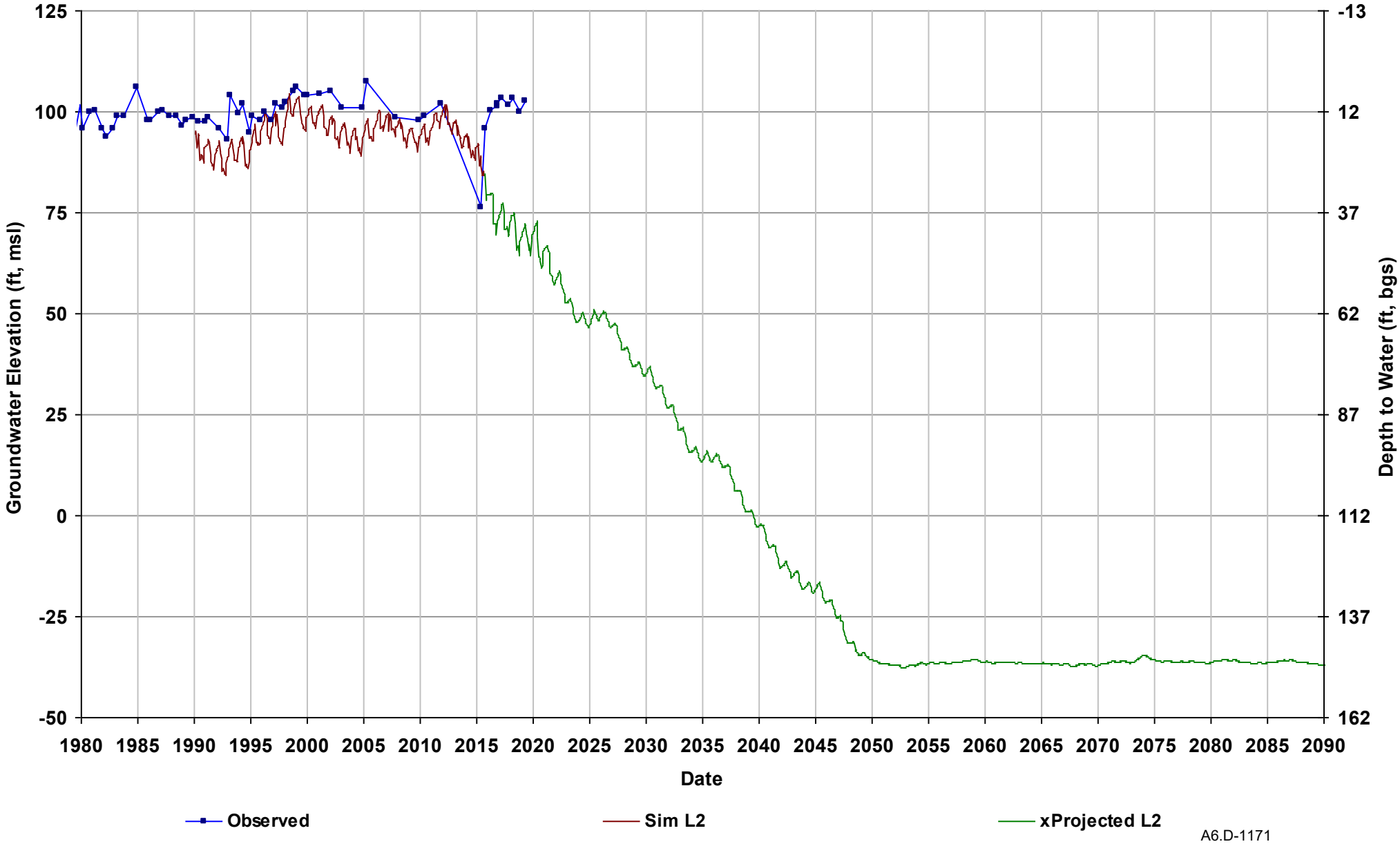
Well Name: 09S17E19L001M
Depth Zone: Lower; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 294

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



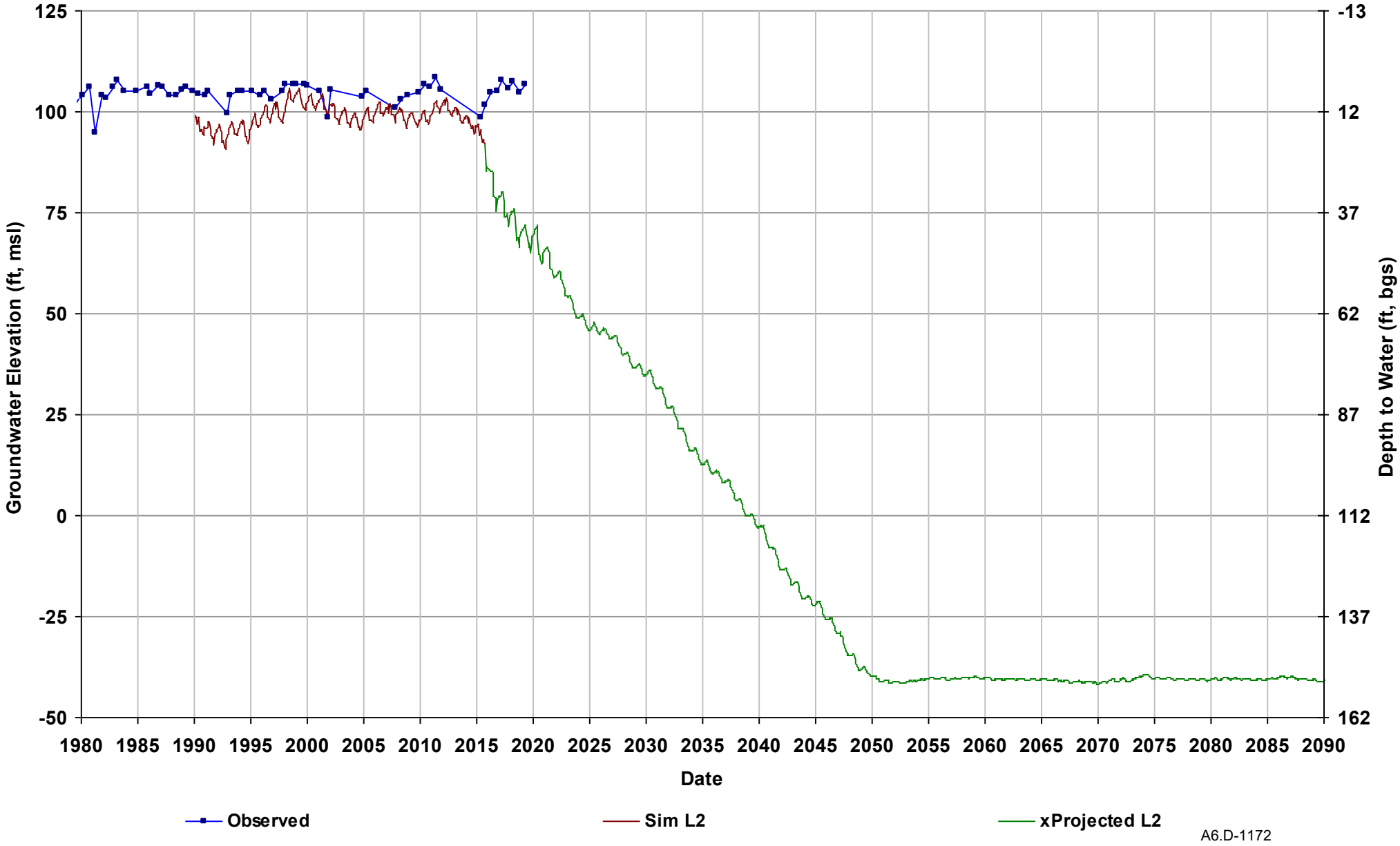
Well Name: 10S12E13L001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 200
Perf Top (ft): 80
Perf Bottom (ft): 180
Top Model Layer: 2
Bottom Model Layer: 2



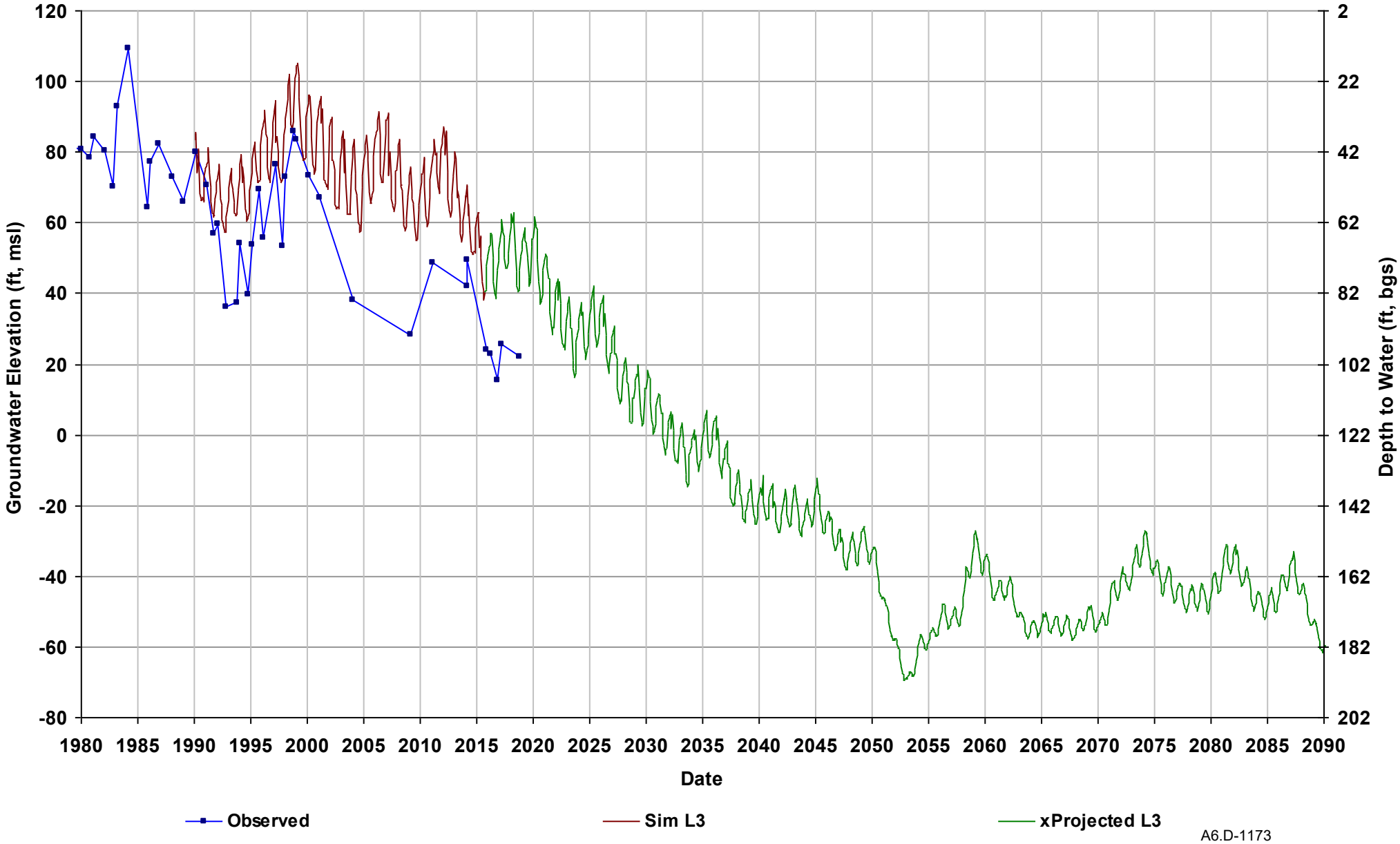
Well Name: 10S12E26H001M
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 158
Perf Top (ft): 60
Perf Bottom (ft): 150
Top Model Layer: 2
Bottom Model Layer: 2



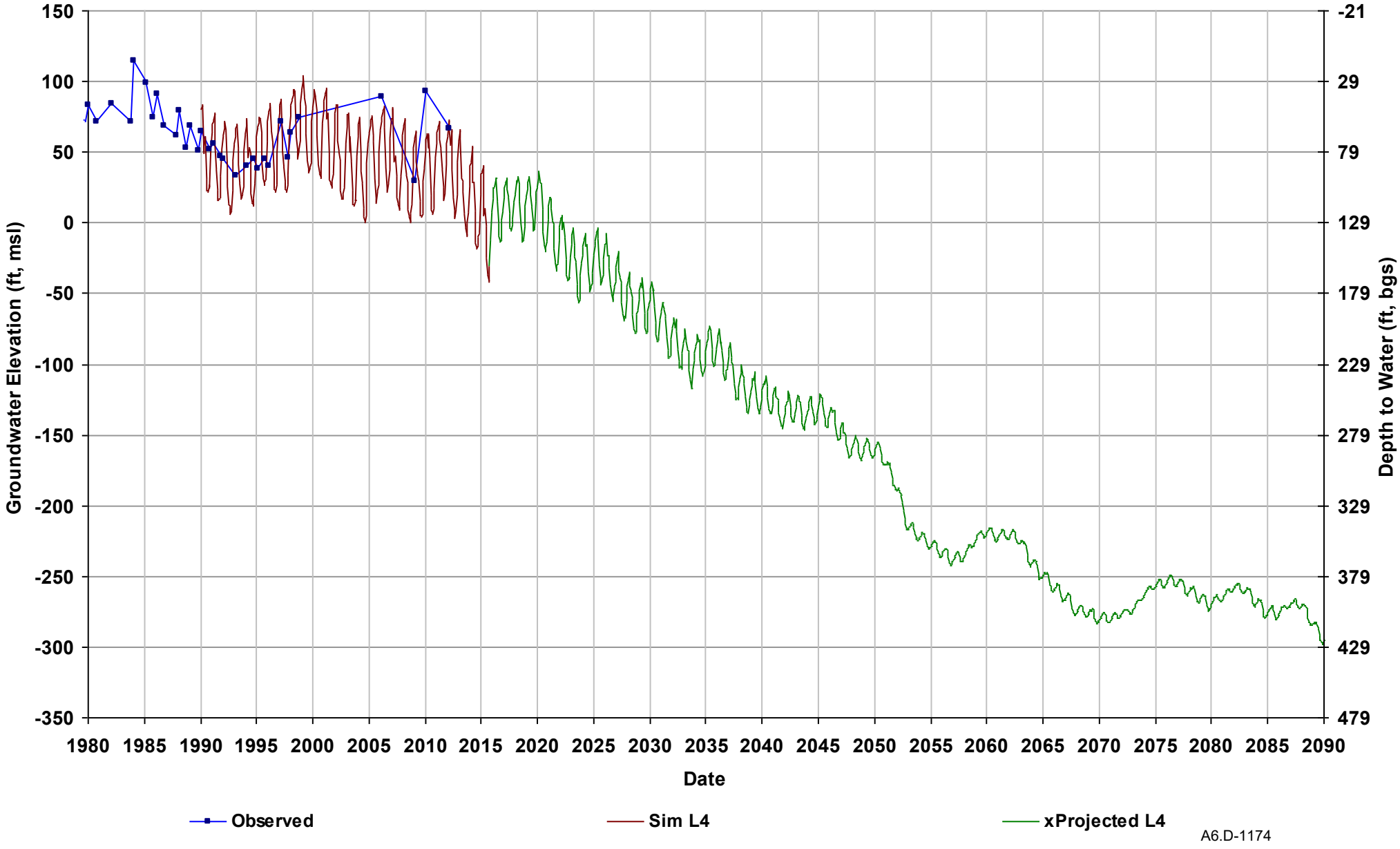
Well Name: 10S13E15A001M
Depth Zone: Upper; Within CC
Subbasin: Merced
GSE (ft, msl): 122

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



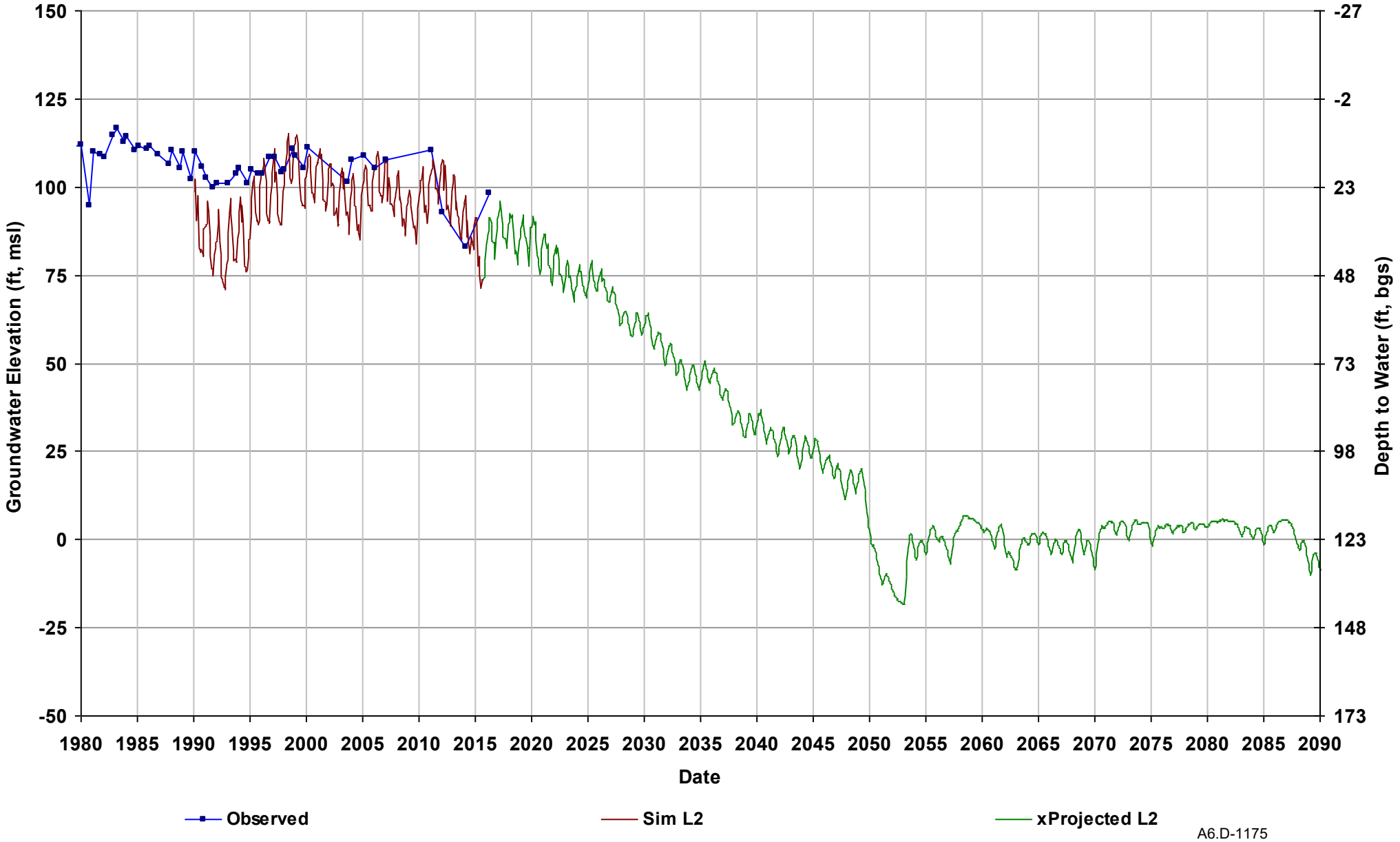
Well Name: 10S13E24L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 129

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



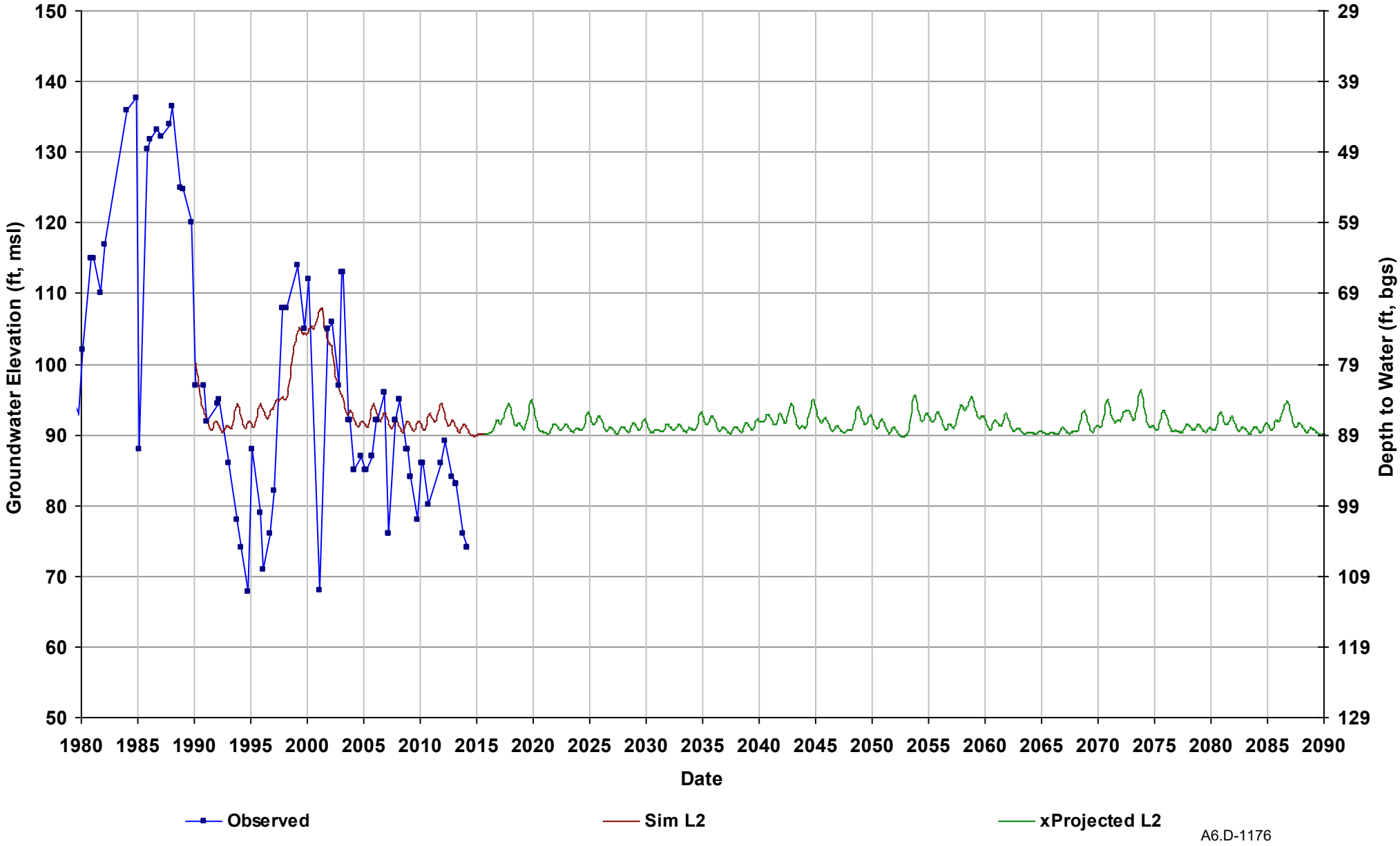
Well Name: 10S13E34G001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 123

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



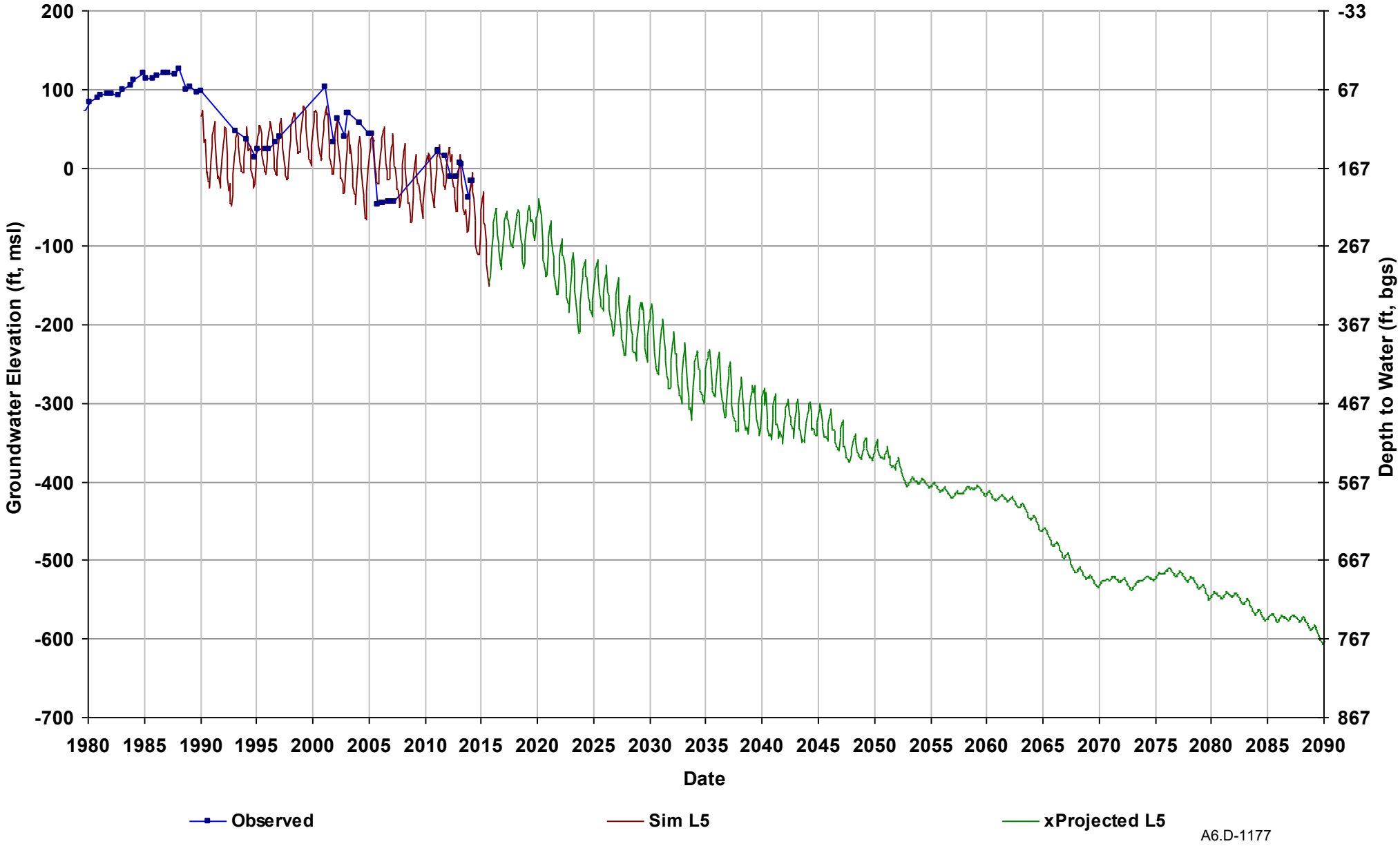
Well Name: 10S14E01R002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 179

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



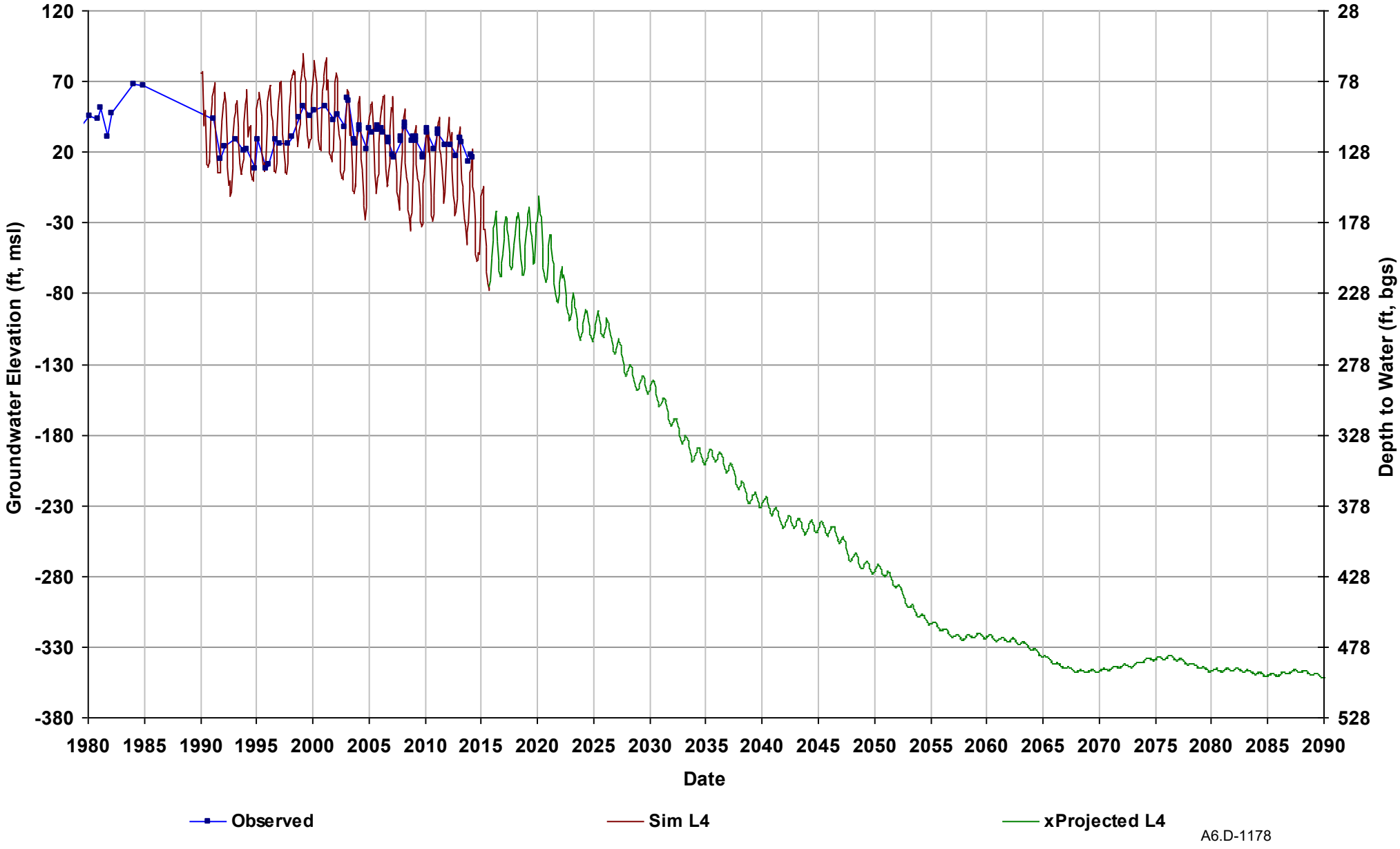
Well Name: 10S14E03A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 167

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



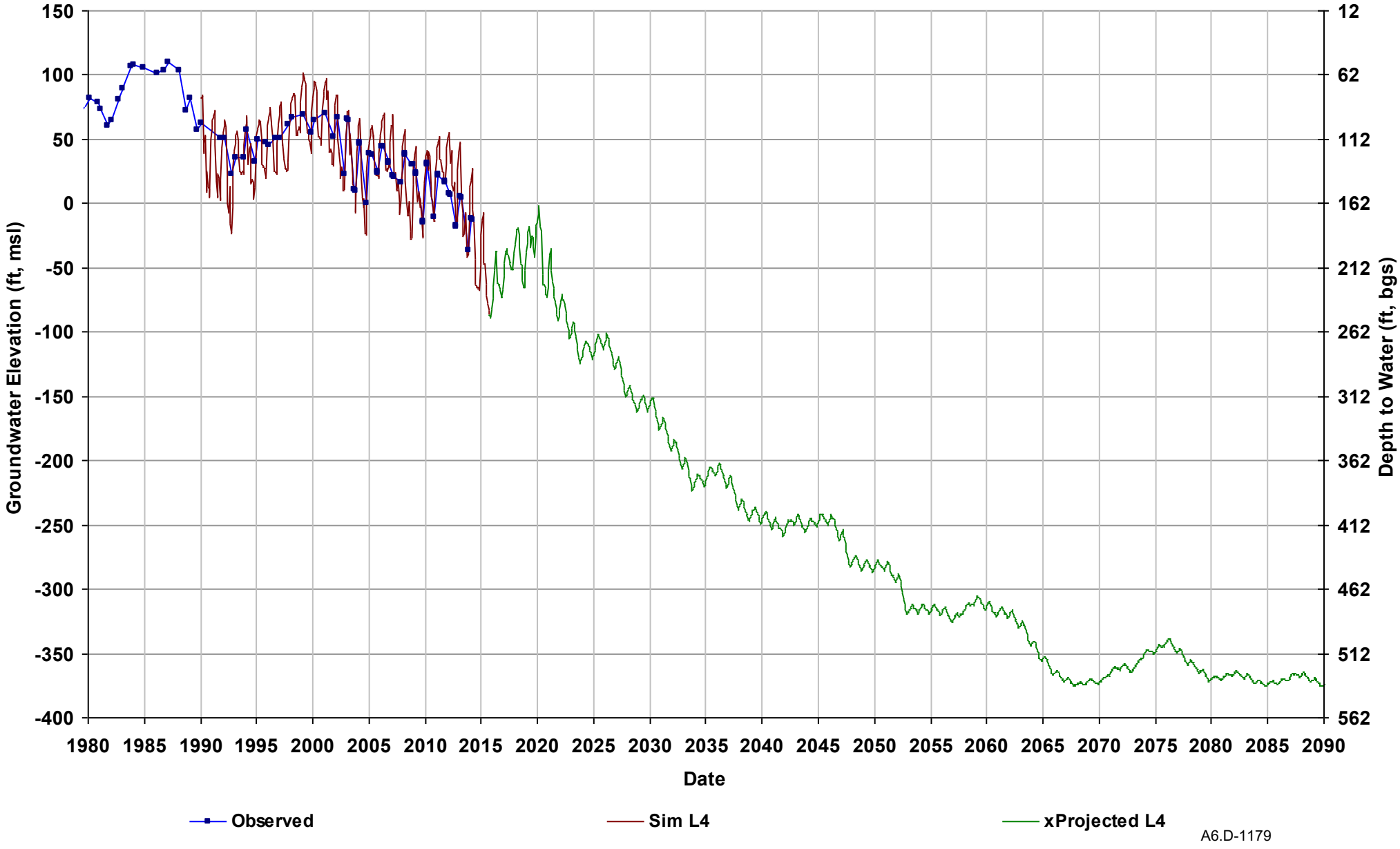
Well Name: 10S14E05C003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 148

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



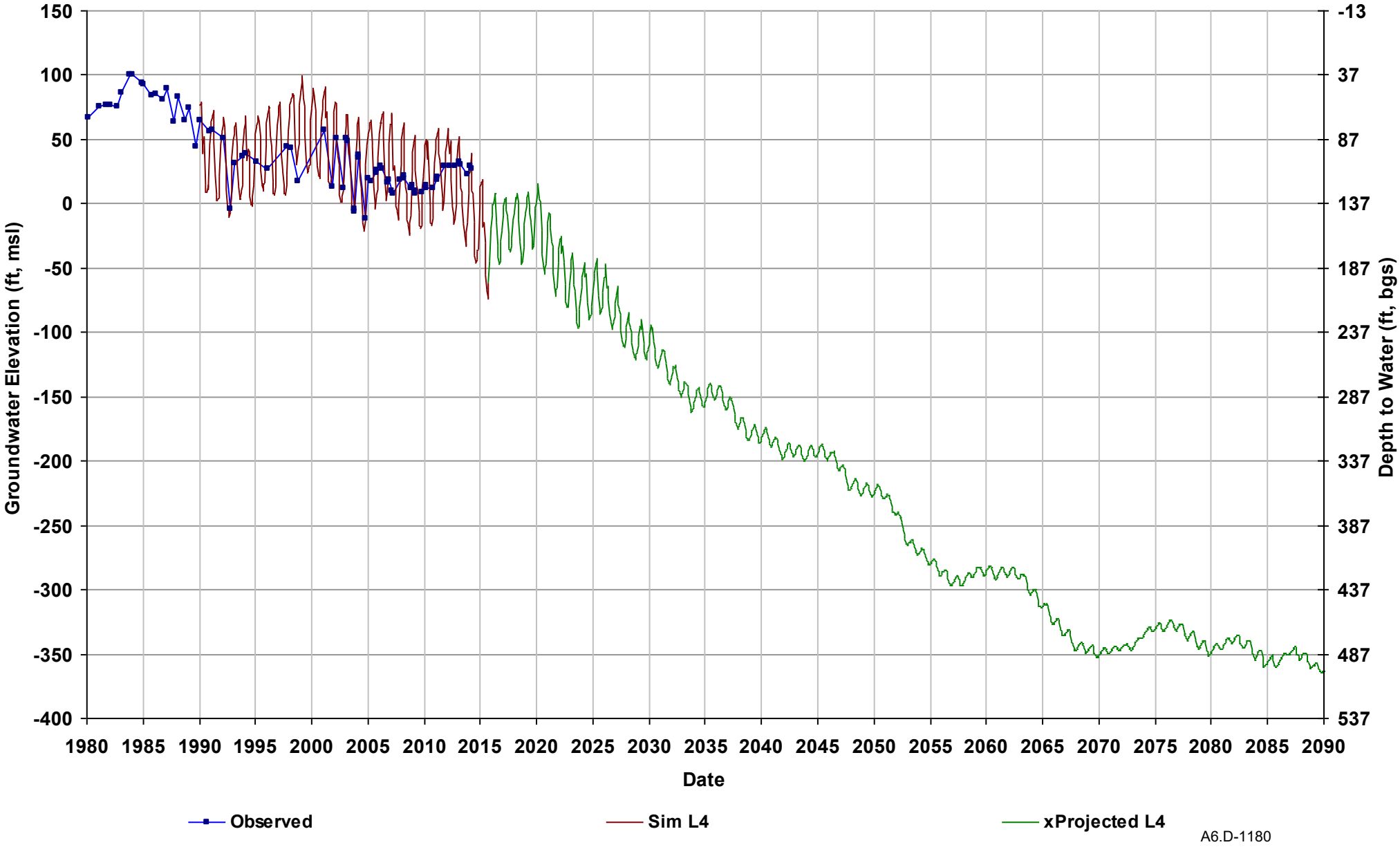
Well Name: 10S14E15H001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 162

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



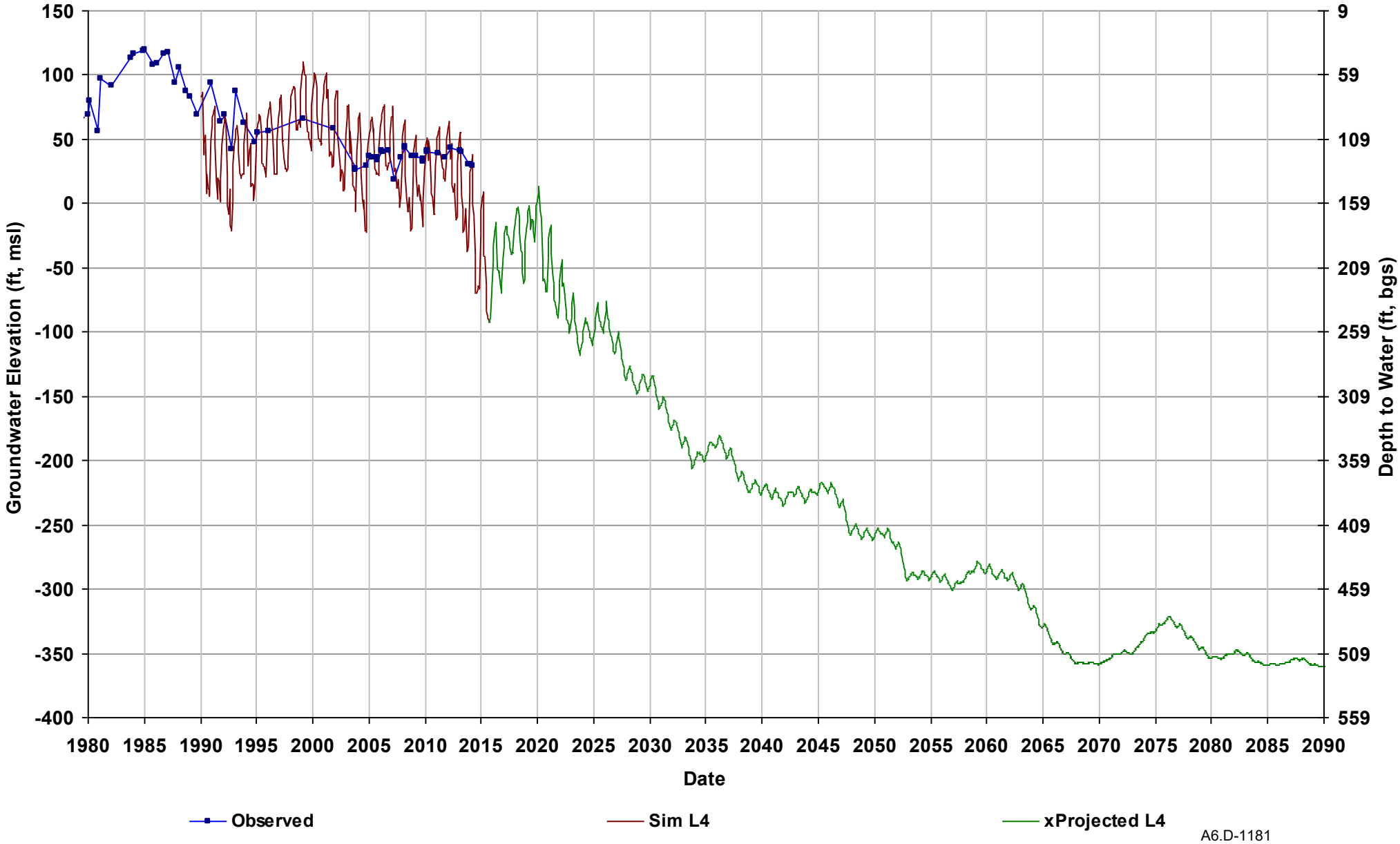
Well Name: 10S14E18K001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 137

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



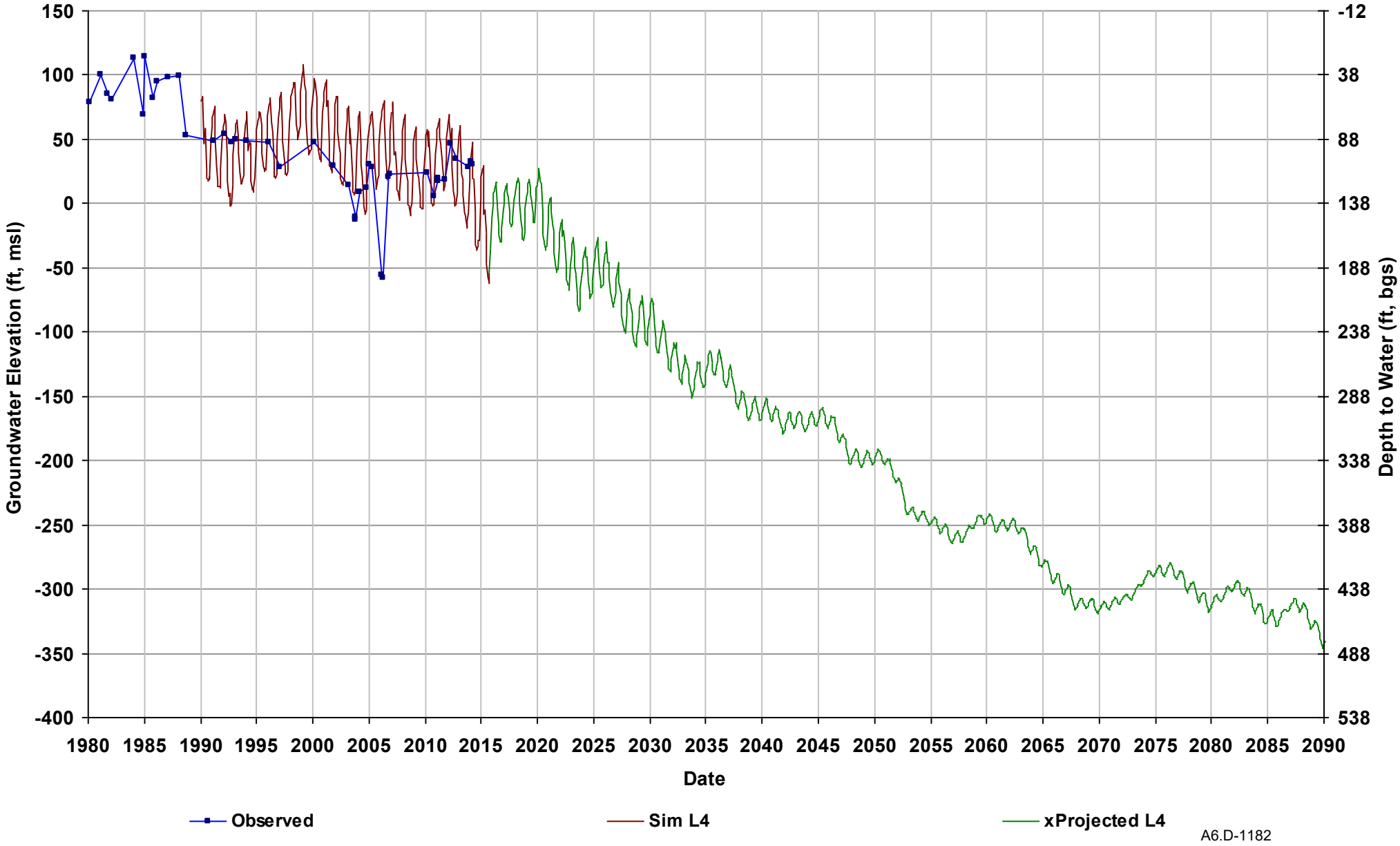
Well Name: 10S14E26C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 158

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



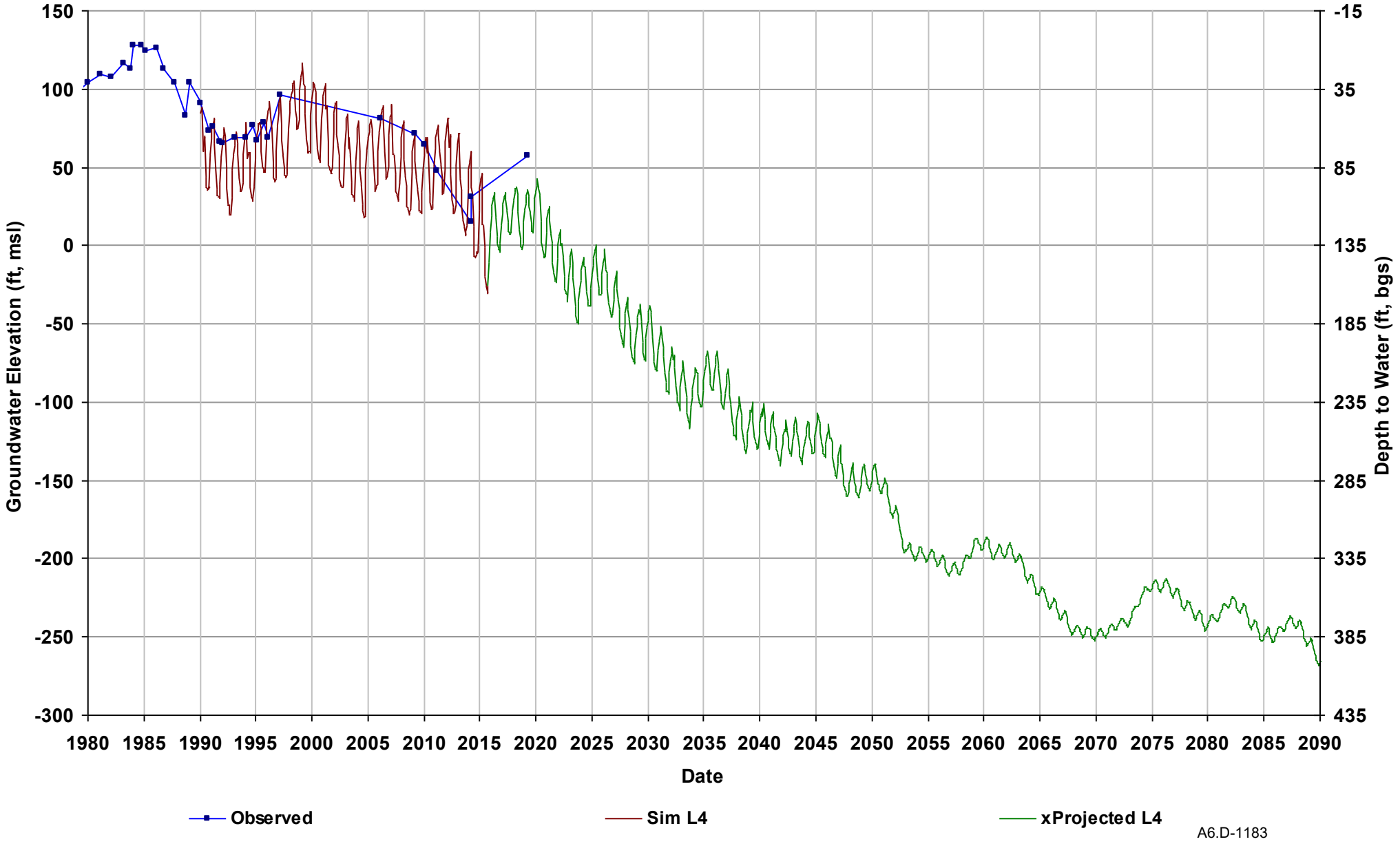
Well Name: 10S14E29C002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



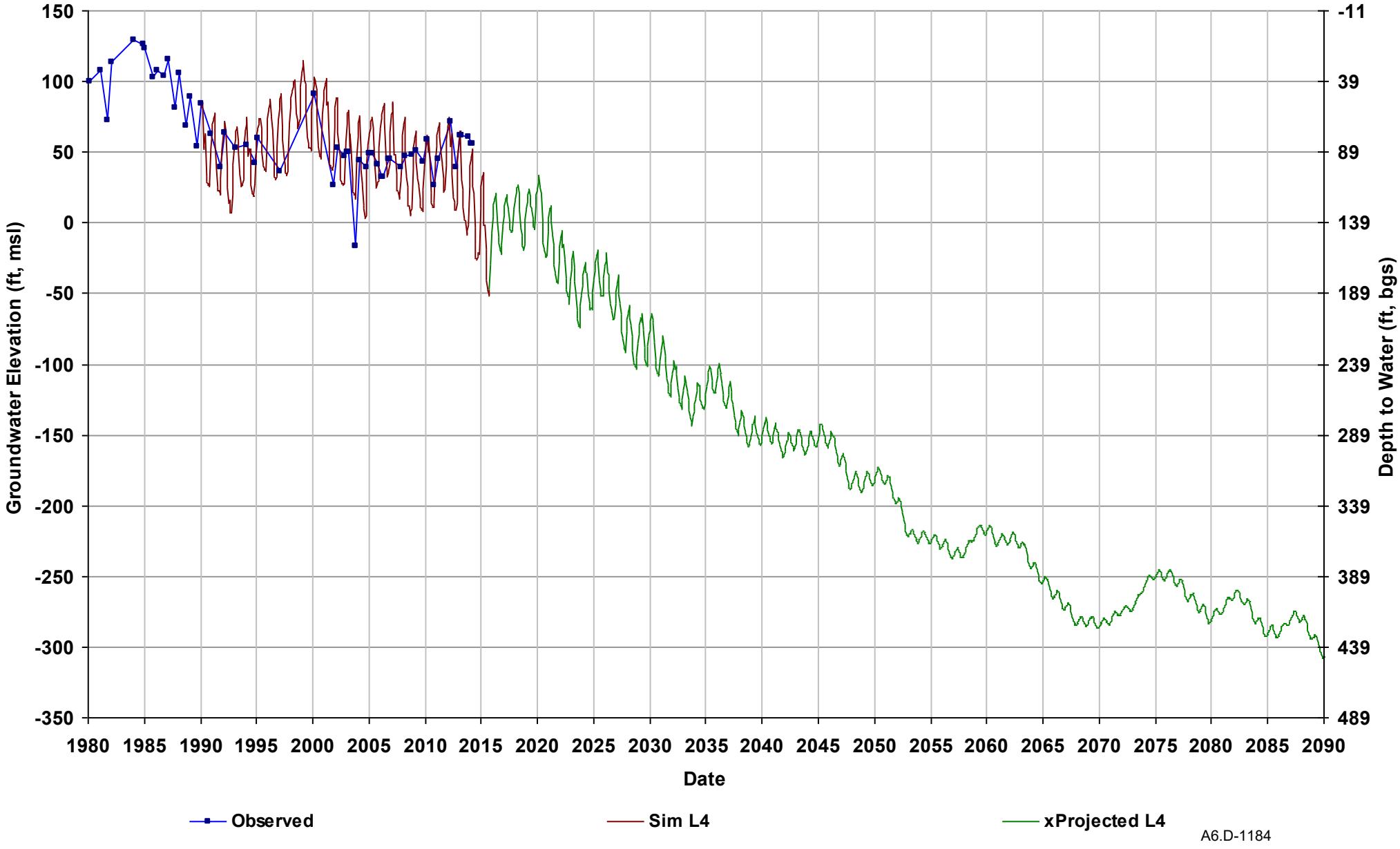
Well Name: 10S14E32Q001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 134

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



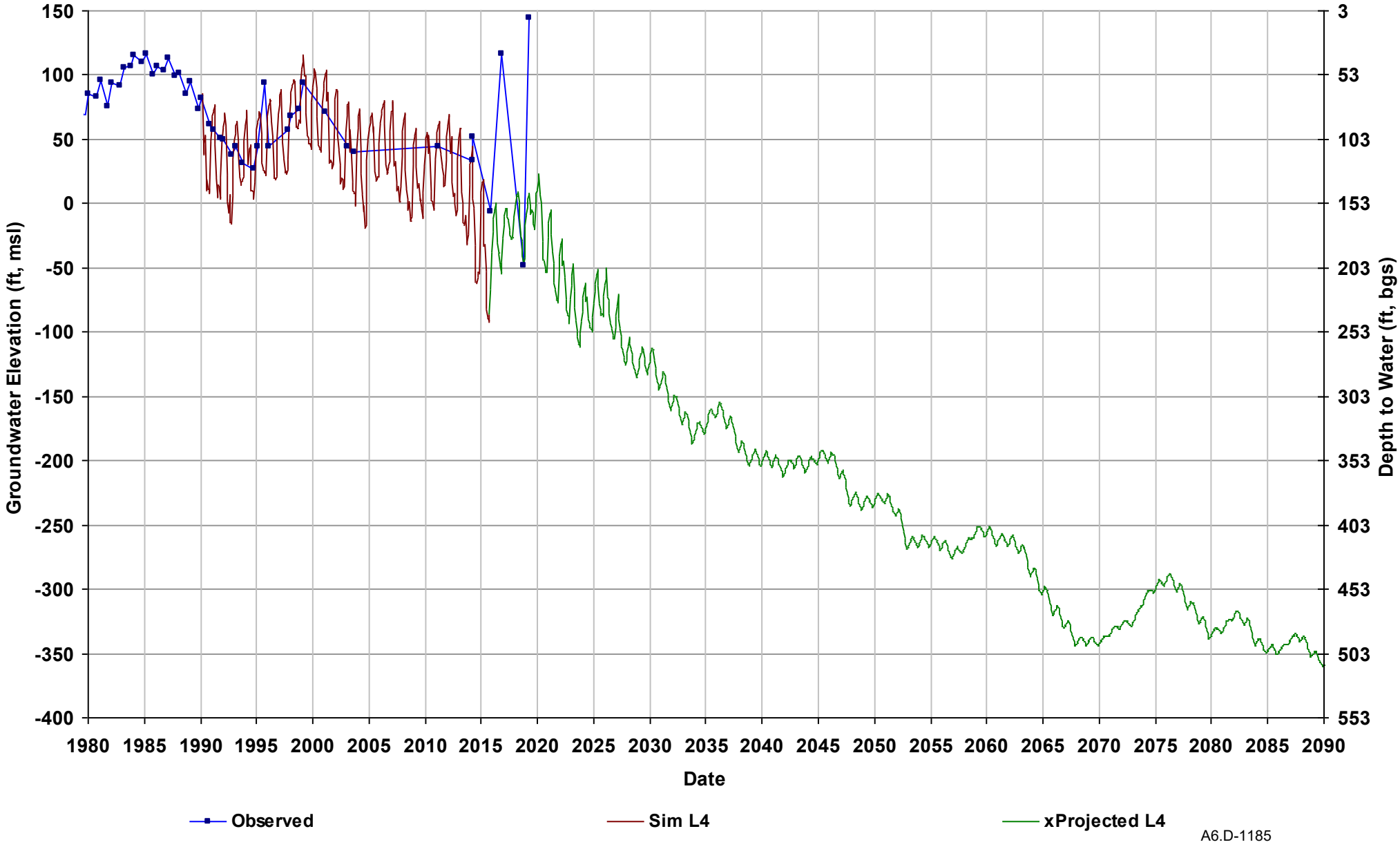
Well Name: 10S14E33L002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 139

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



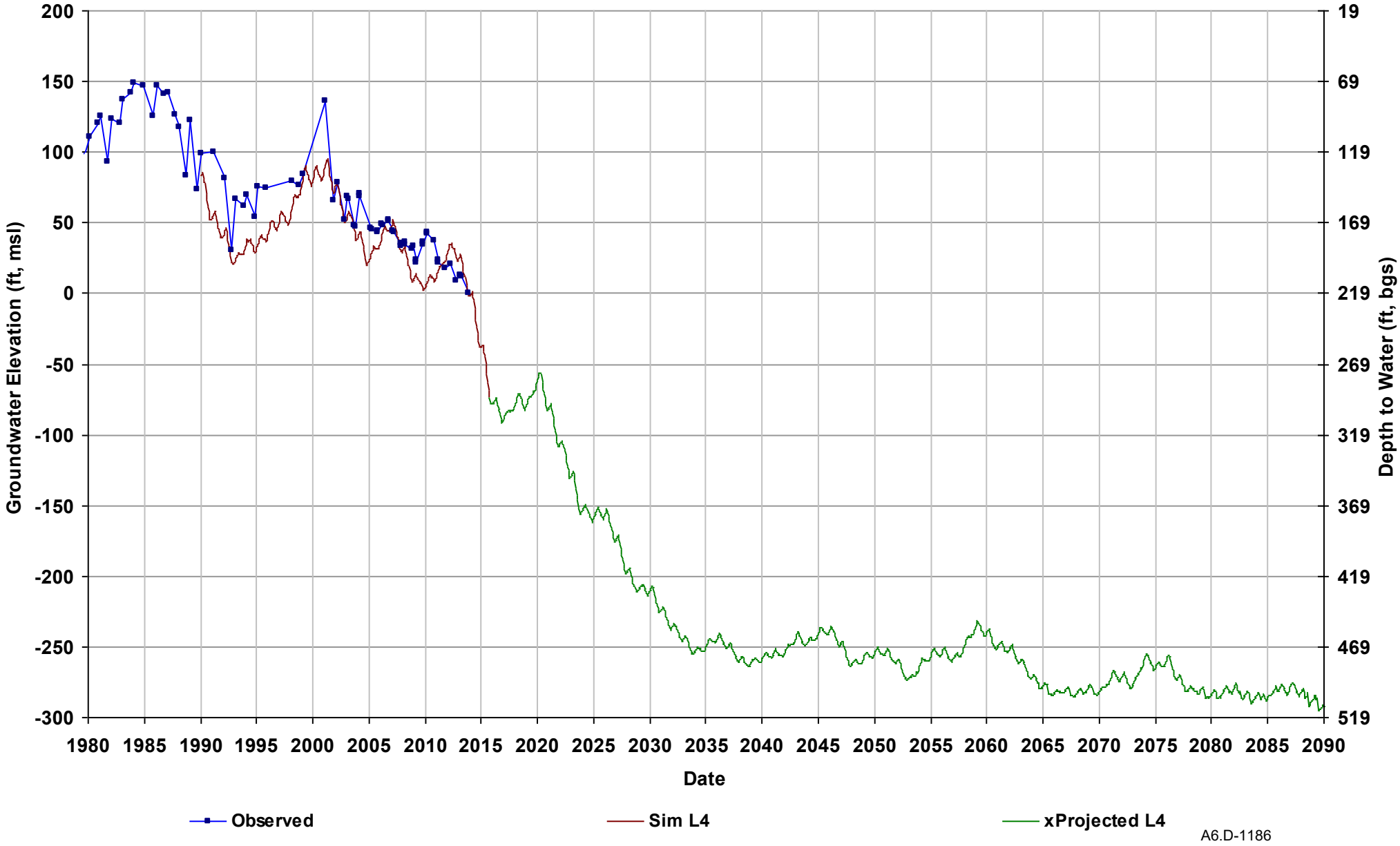
Well Name: 10S14E35F001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 153

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



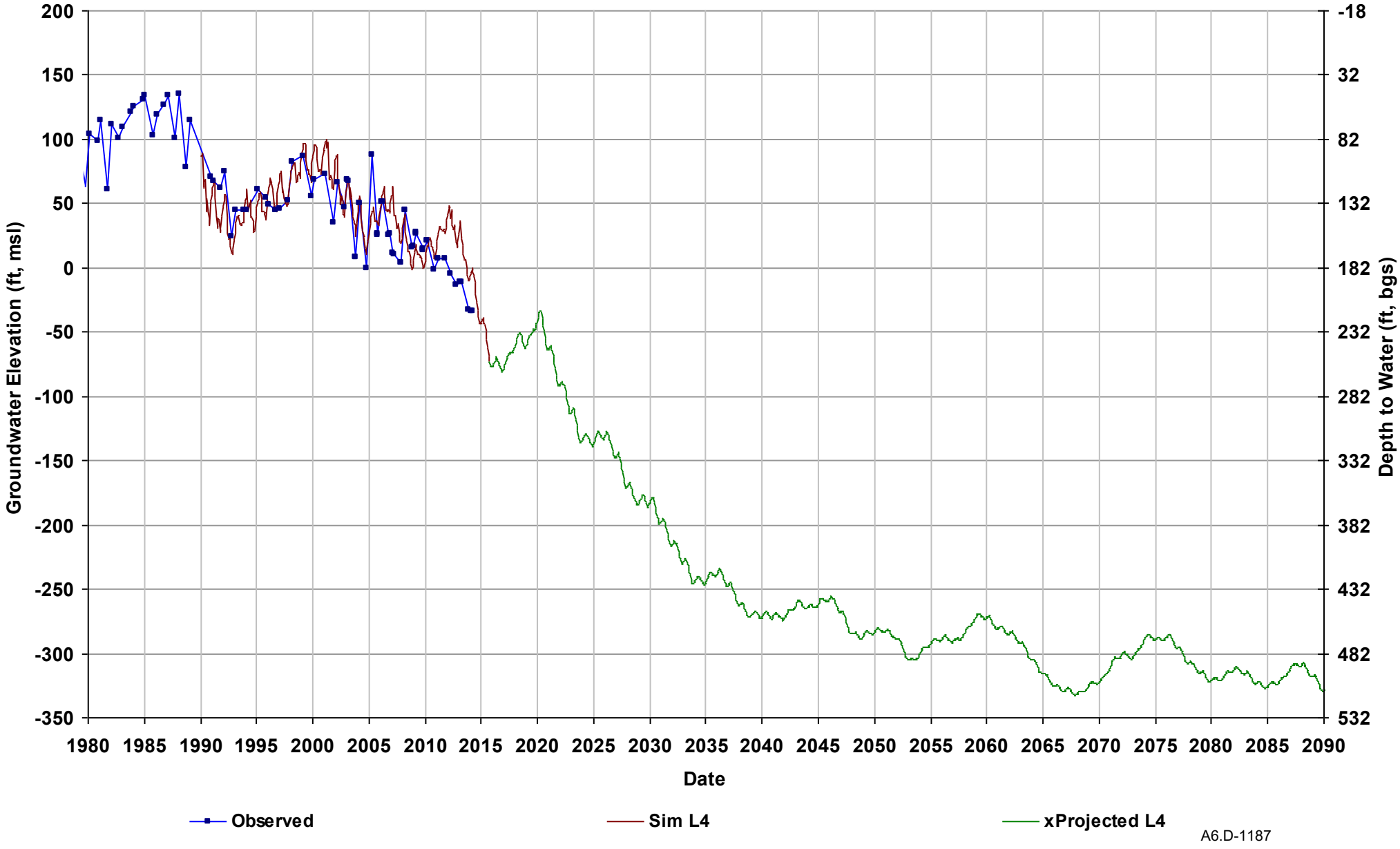
Well Name: 10S15E01E001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 218

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



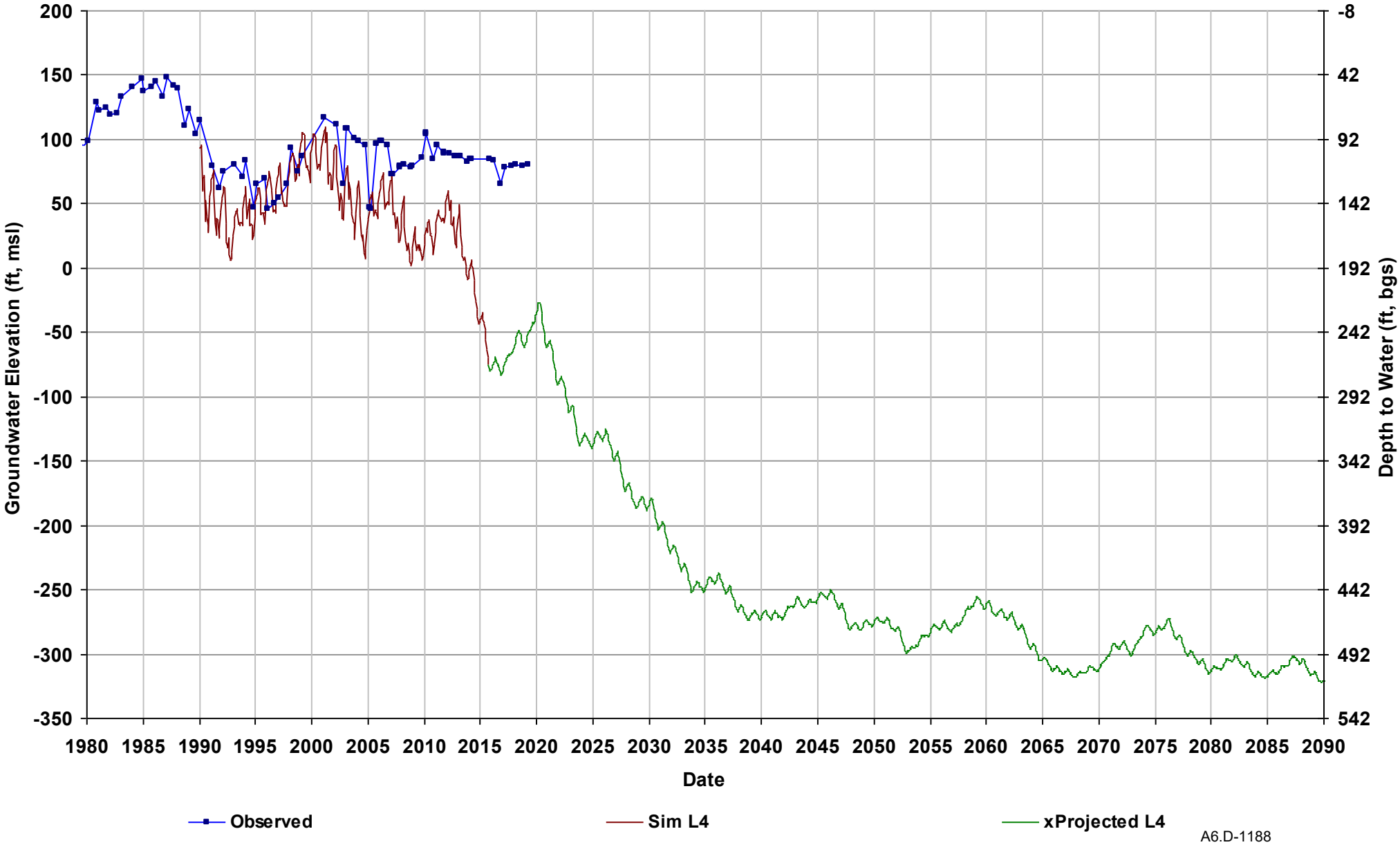
Well Name: 10S15E06L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 182

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



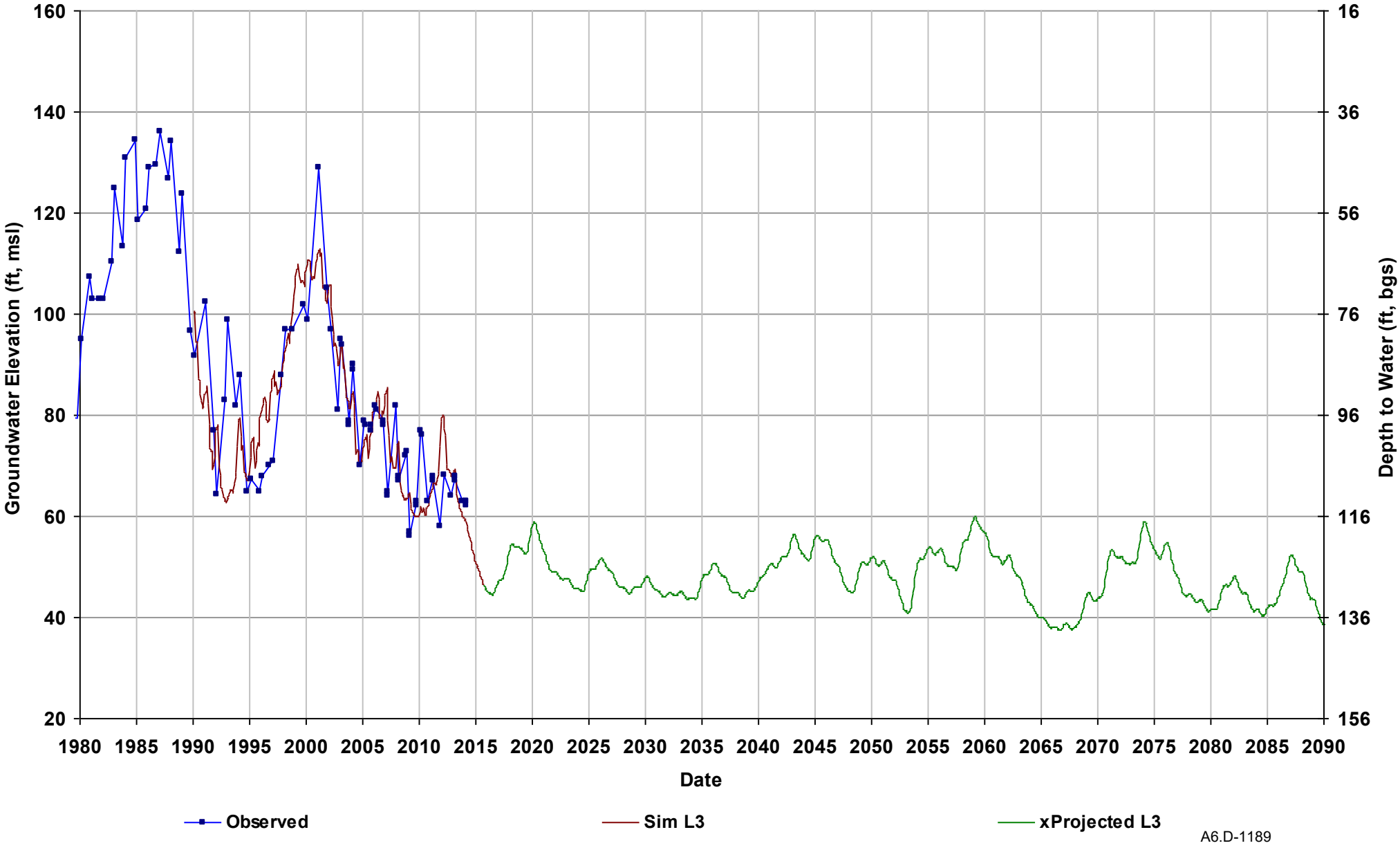
Well Name: 10S15E16R002M
Depth Zone: Lower; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 191

Total Depth (ft): 529
Perf Top (ft): 187
Perf Bottom (ft): 529
Top Model Layer: 4
Bottom Model Layer: 4



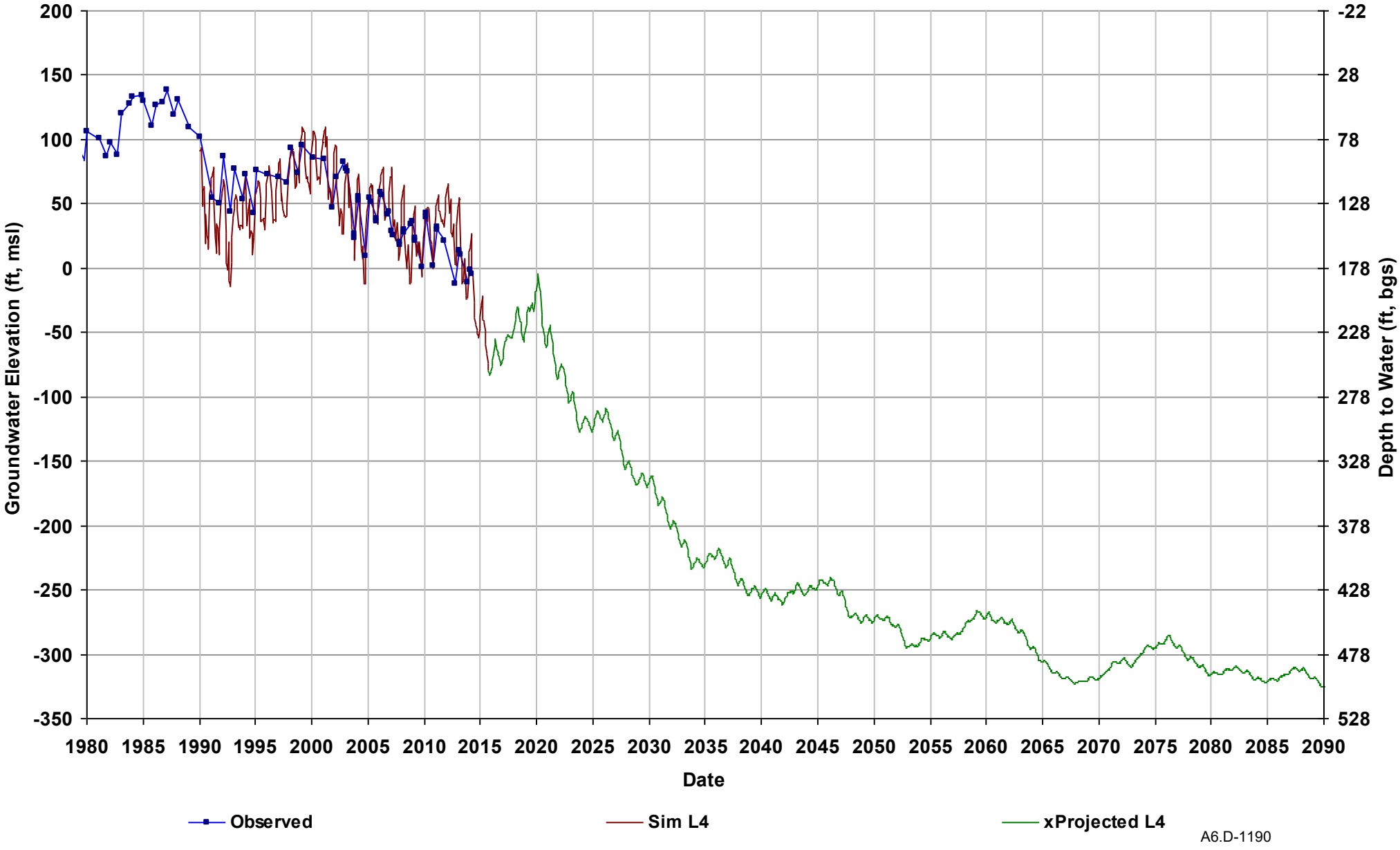
Well Name: 10S15E18L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 176

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



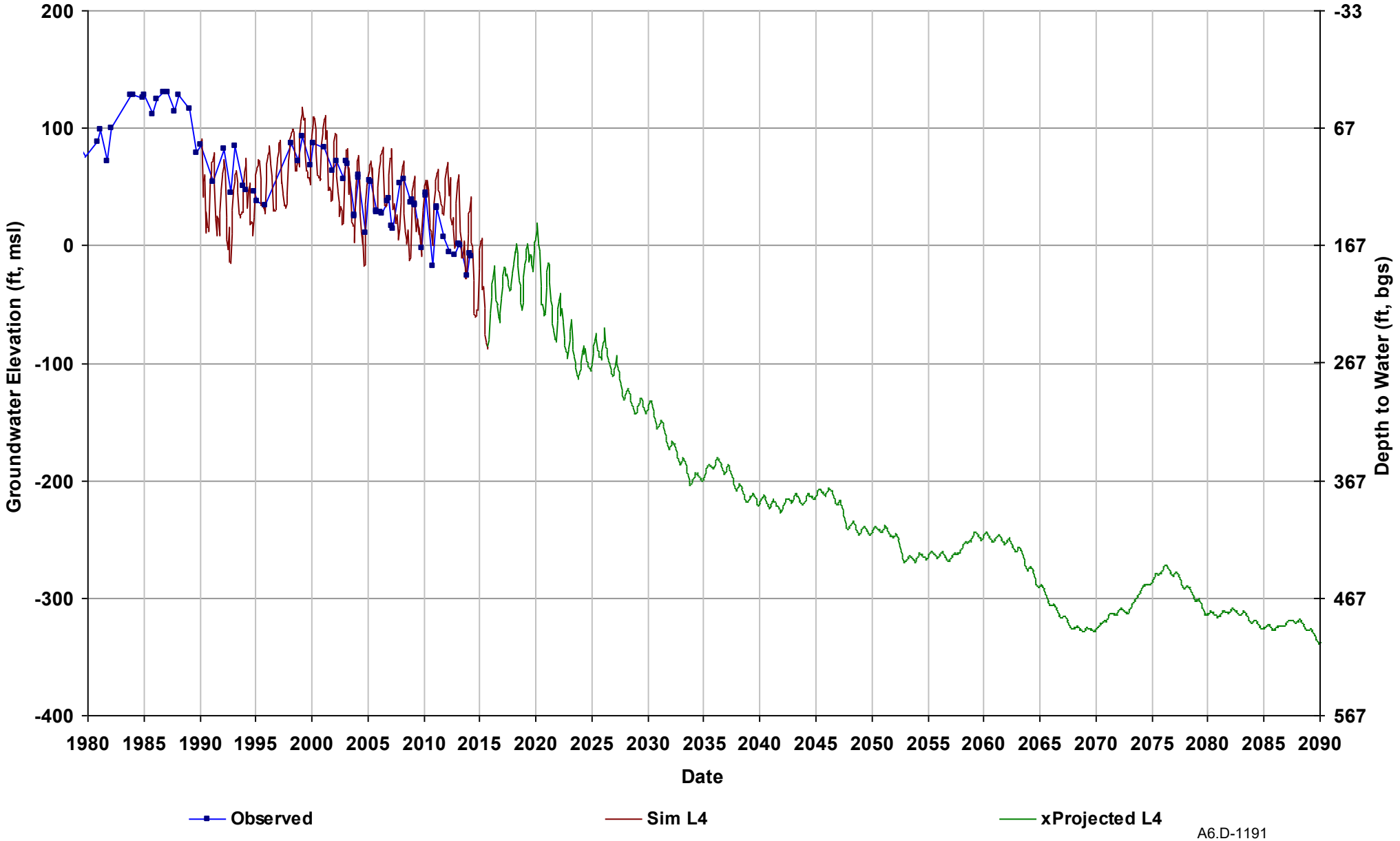
Well Name: 10S15E29A002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 178

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



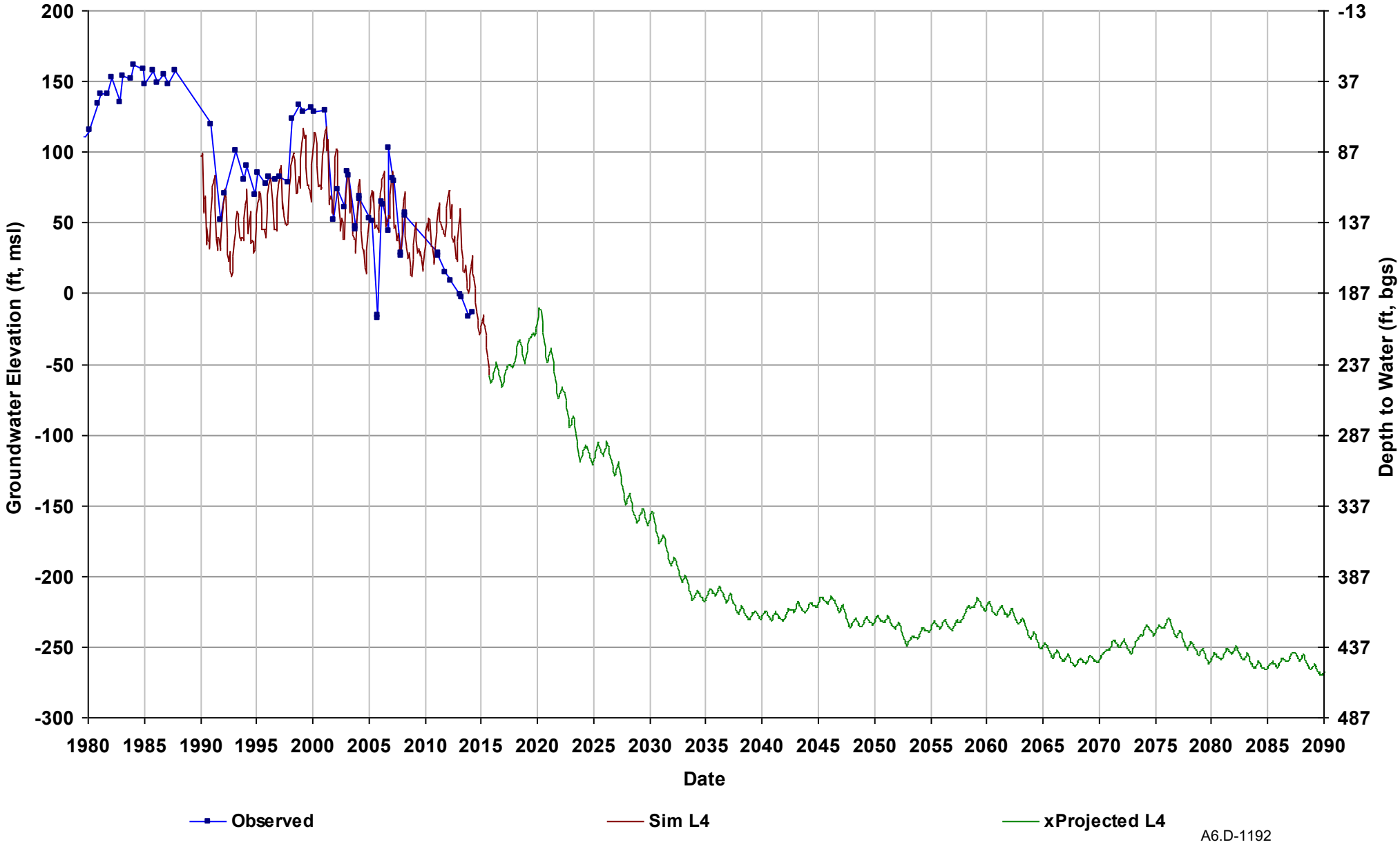
Well Name: 10S15E32L001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



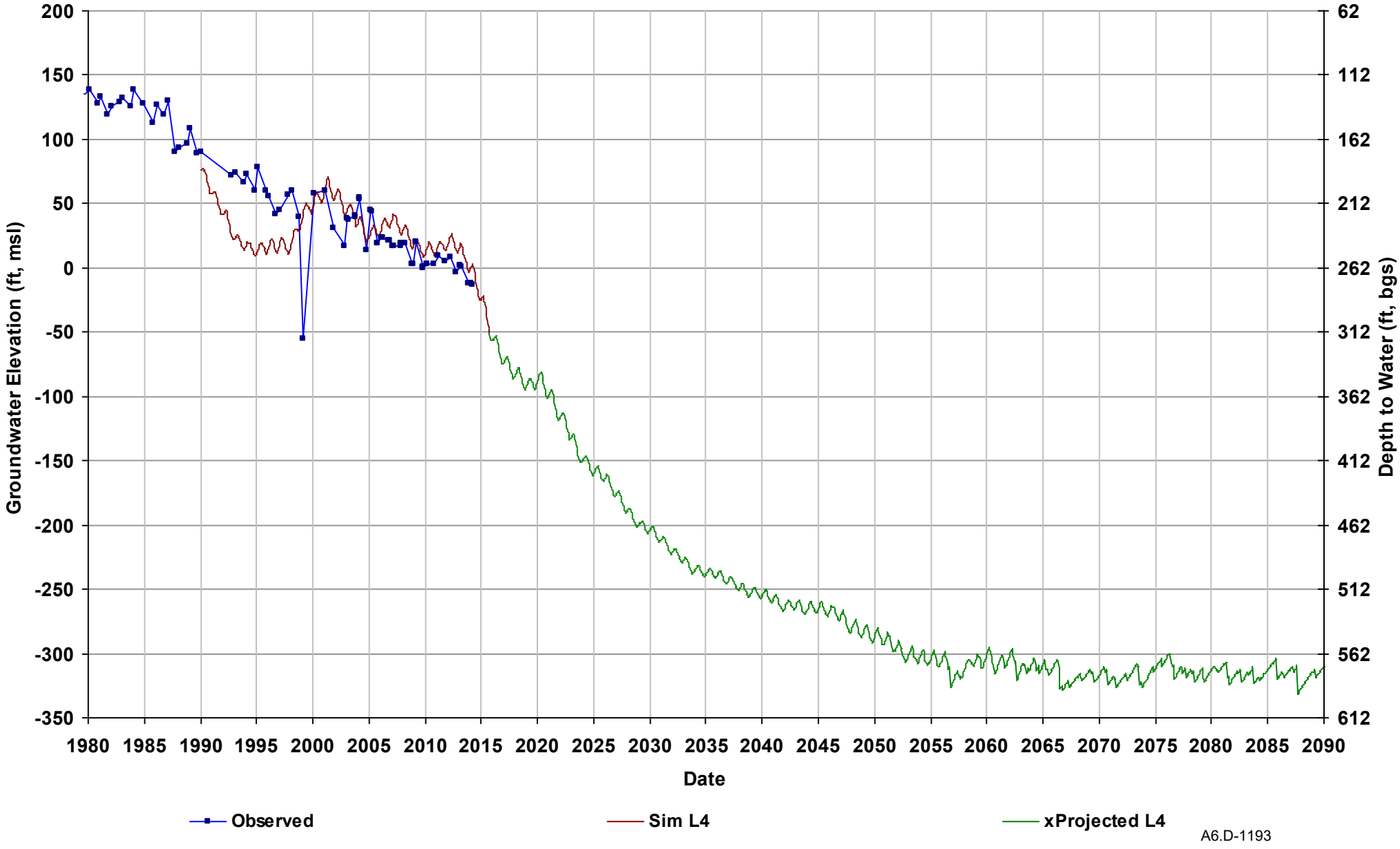
Well Name: 10S15E35A002M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 187

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



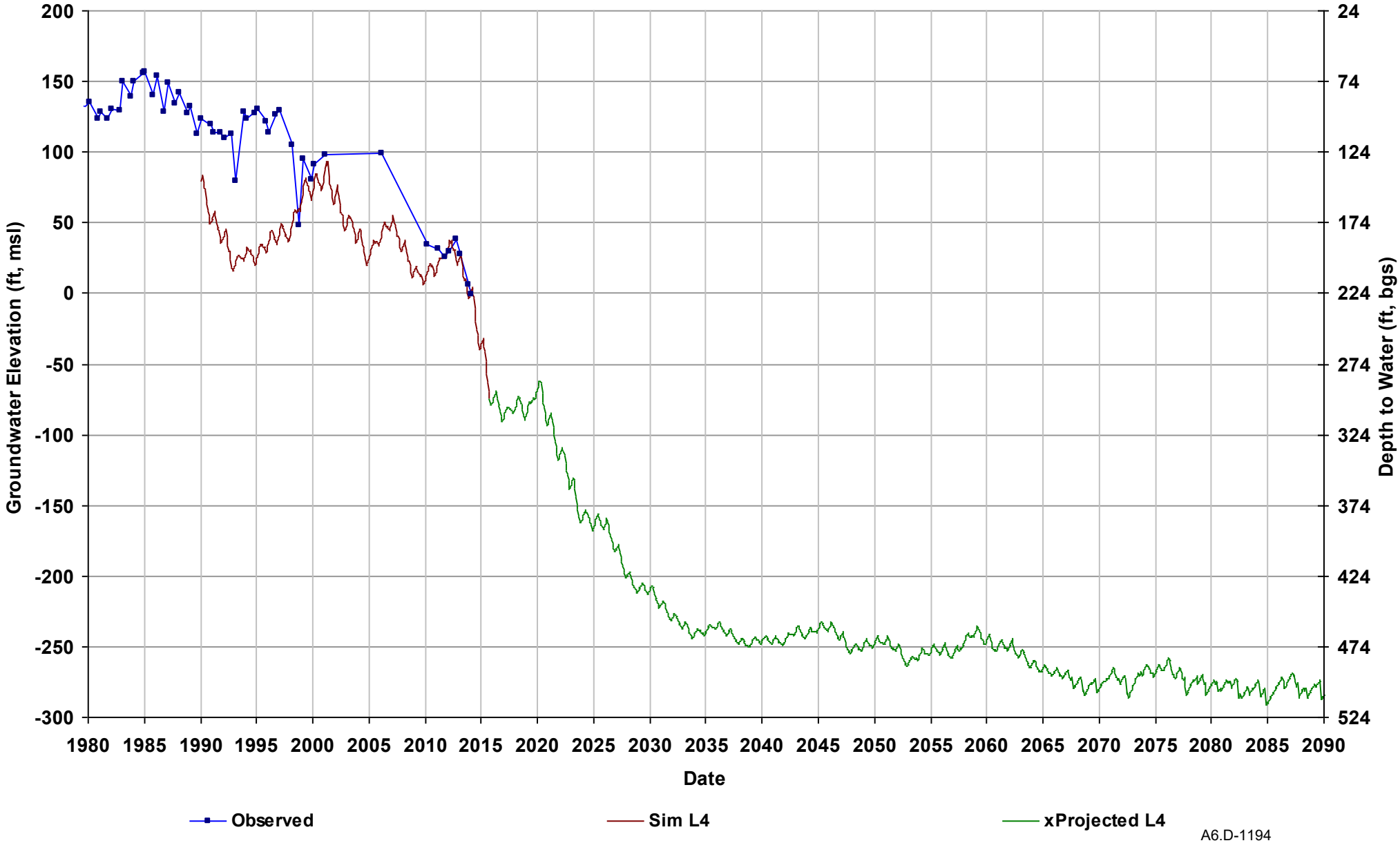
Well Name: 10S16E12K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 262

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



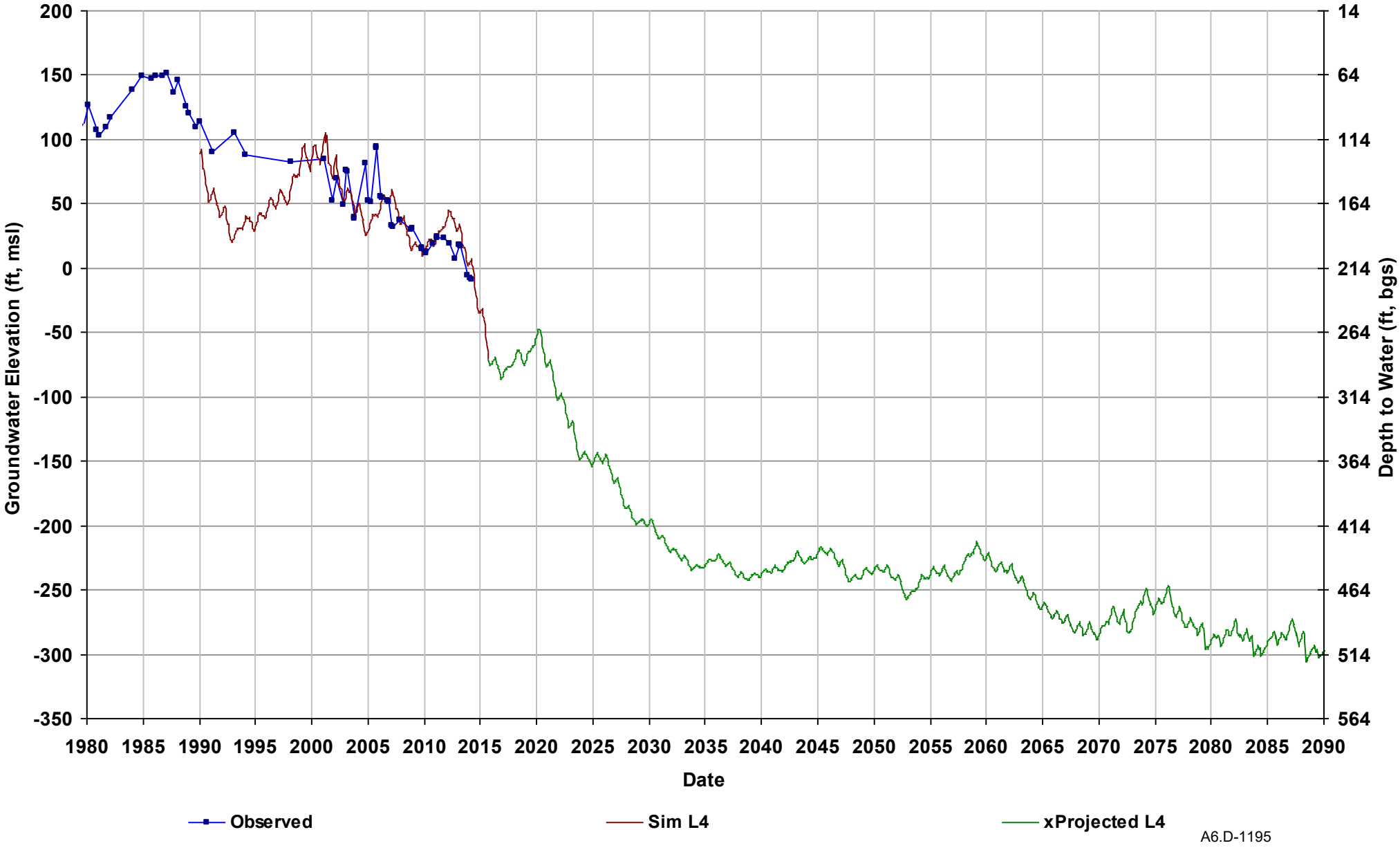
Well Name: 10S16E17C001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 224

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



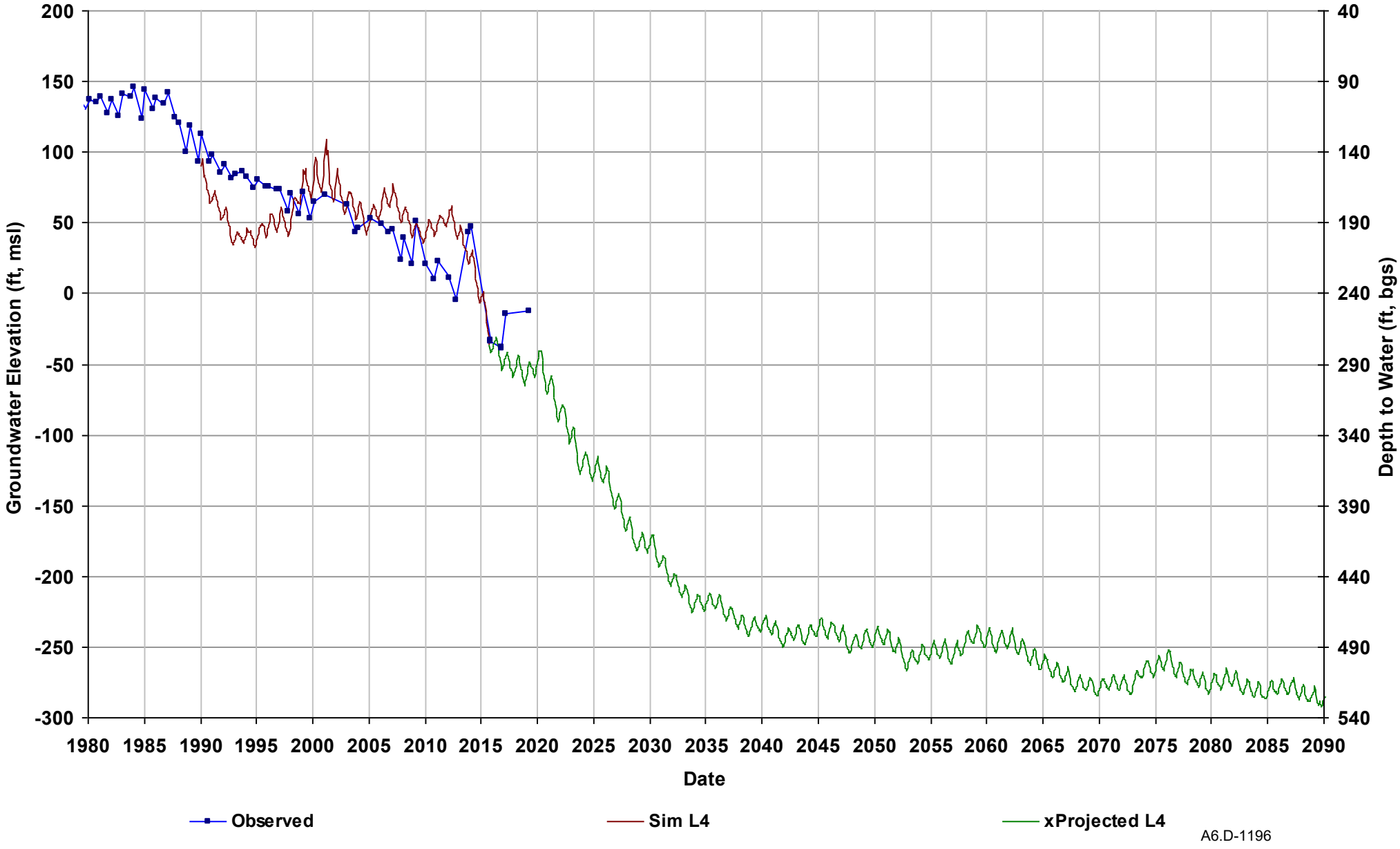
Well Name: 10S16E18D002M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 214

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



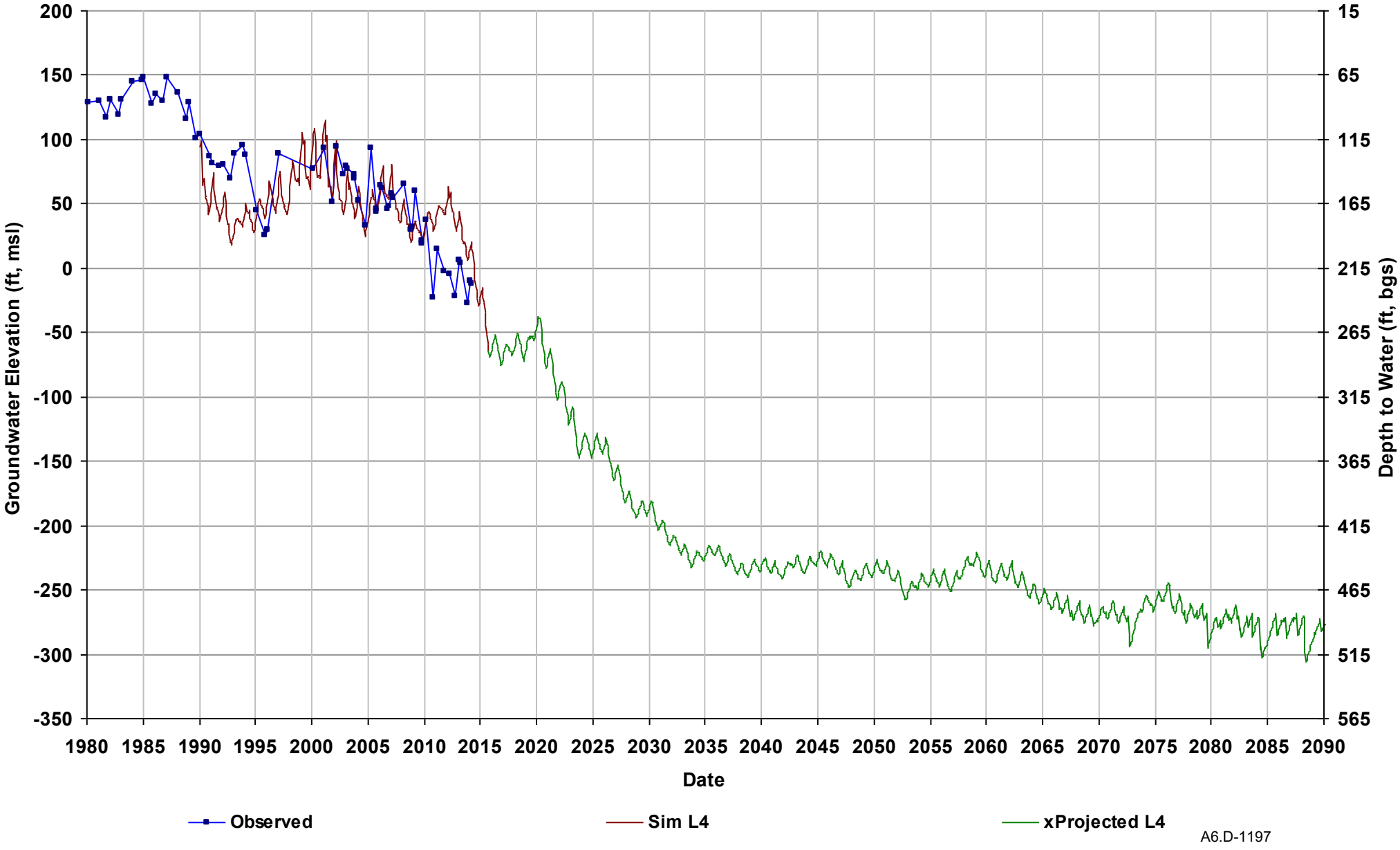
Well Name: 10S16E25F002M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 239

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



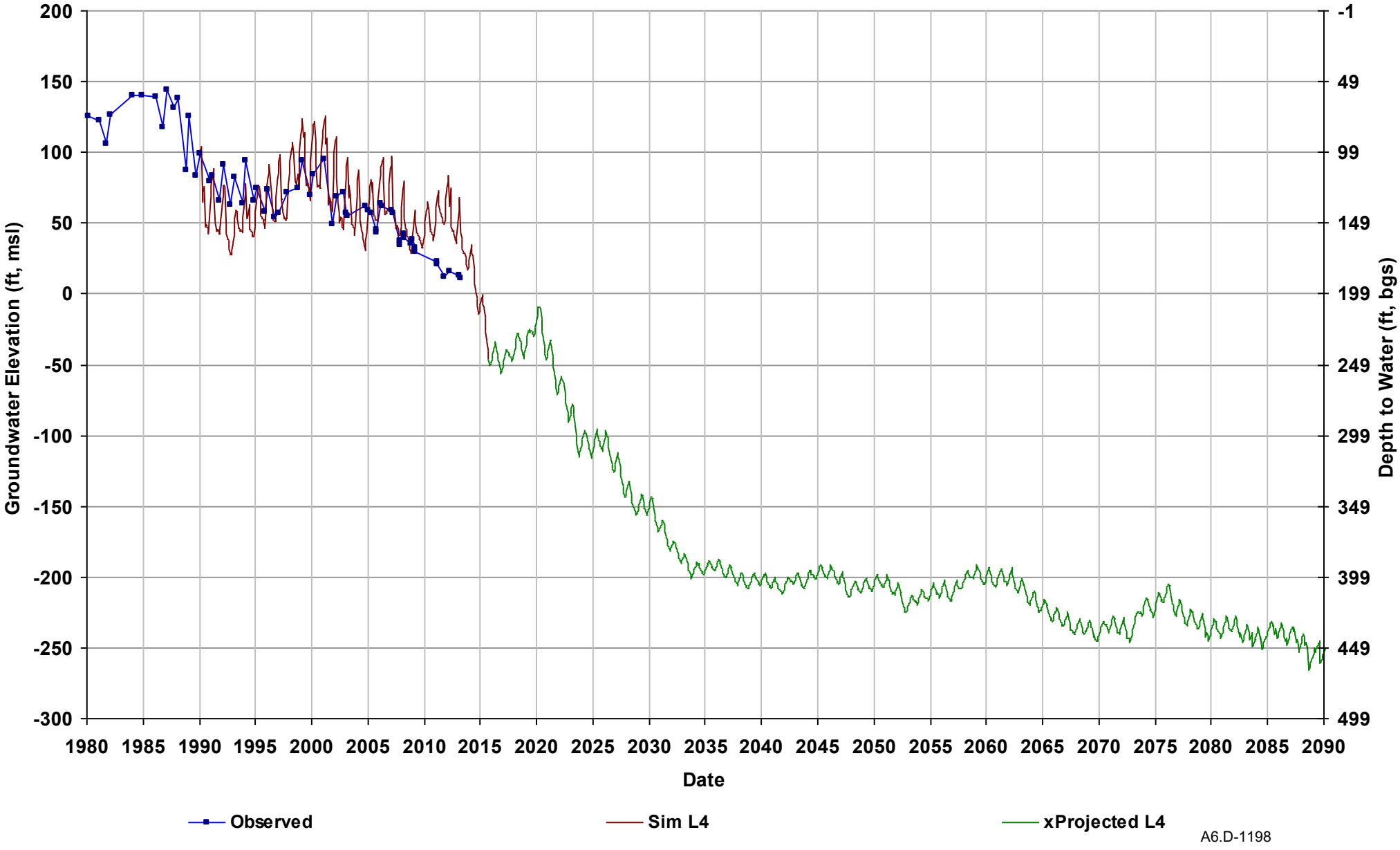
Well Name: 10S16E29A001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 215

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



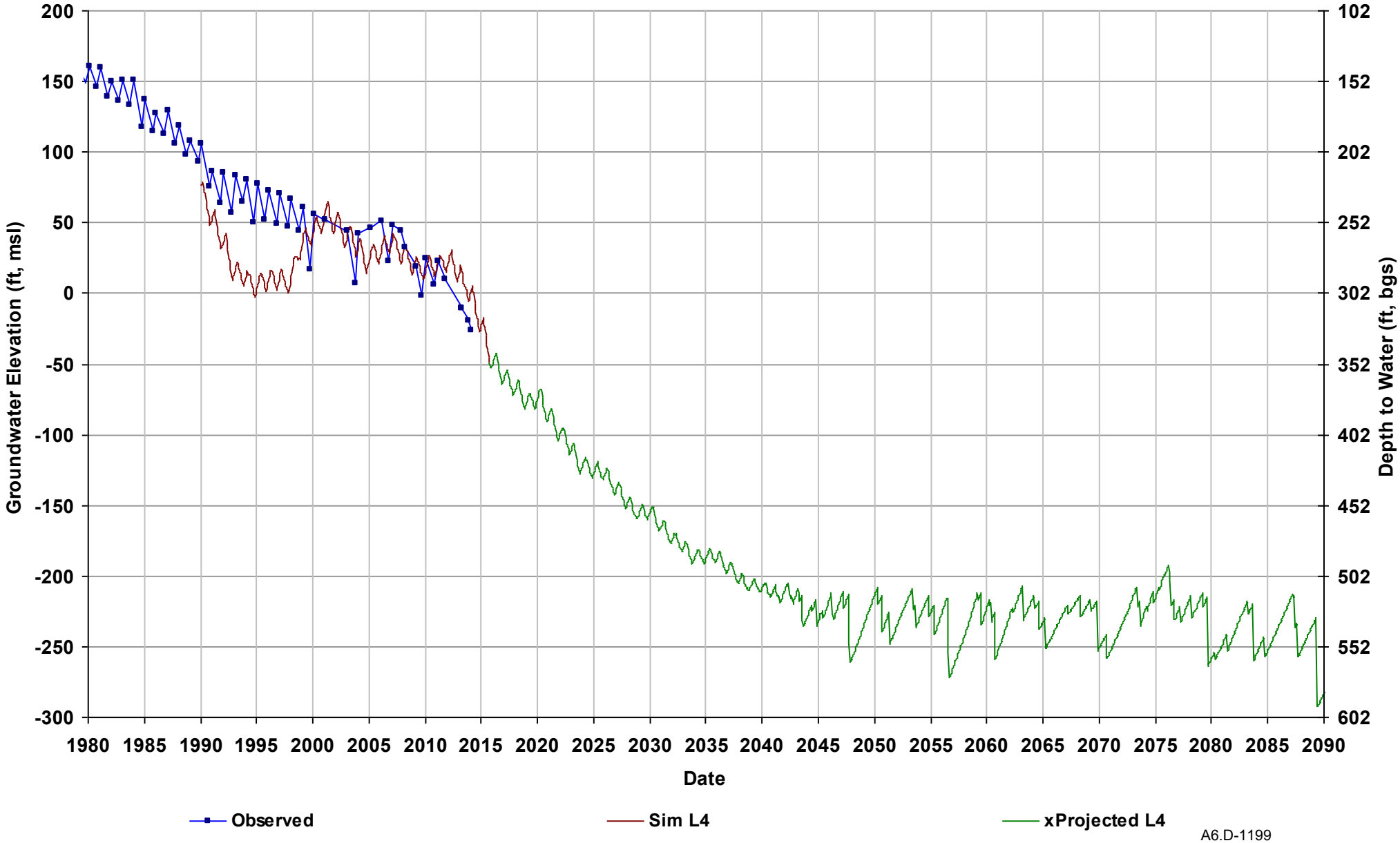
Well Name: 10S16E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Chowchilla
GSE (ft, msl): 198

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



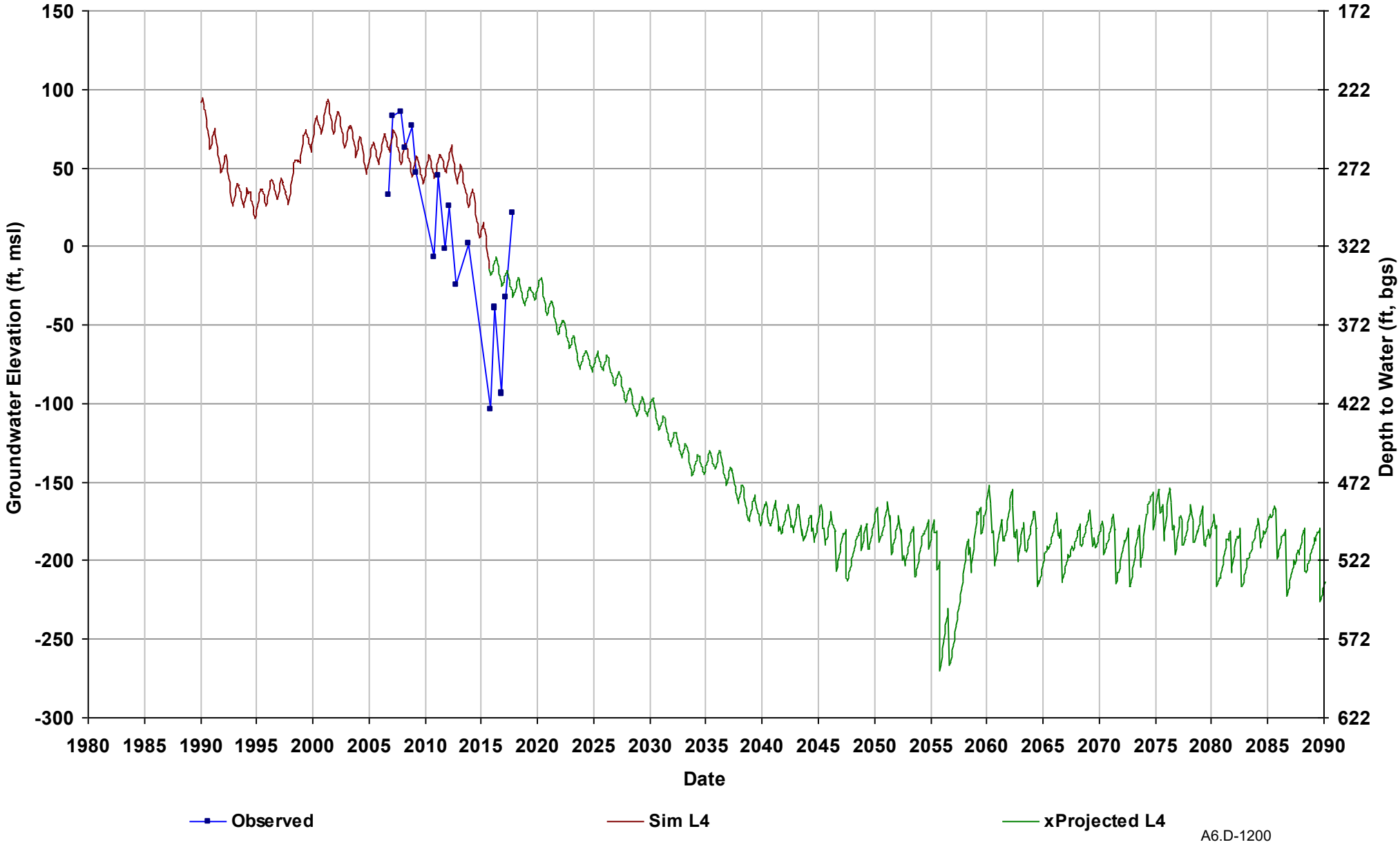
Well Name: 10S17E03F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



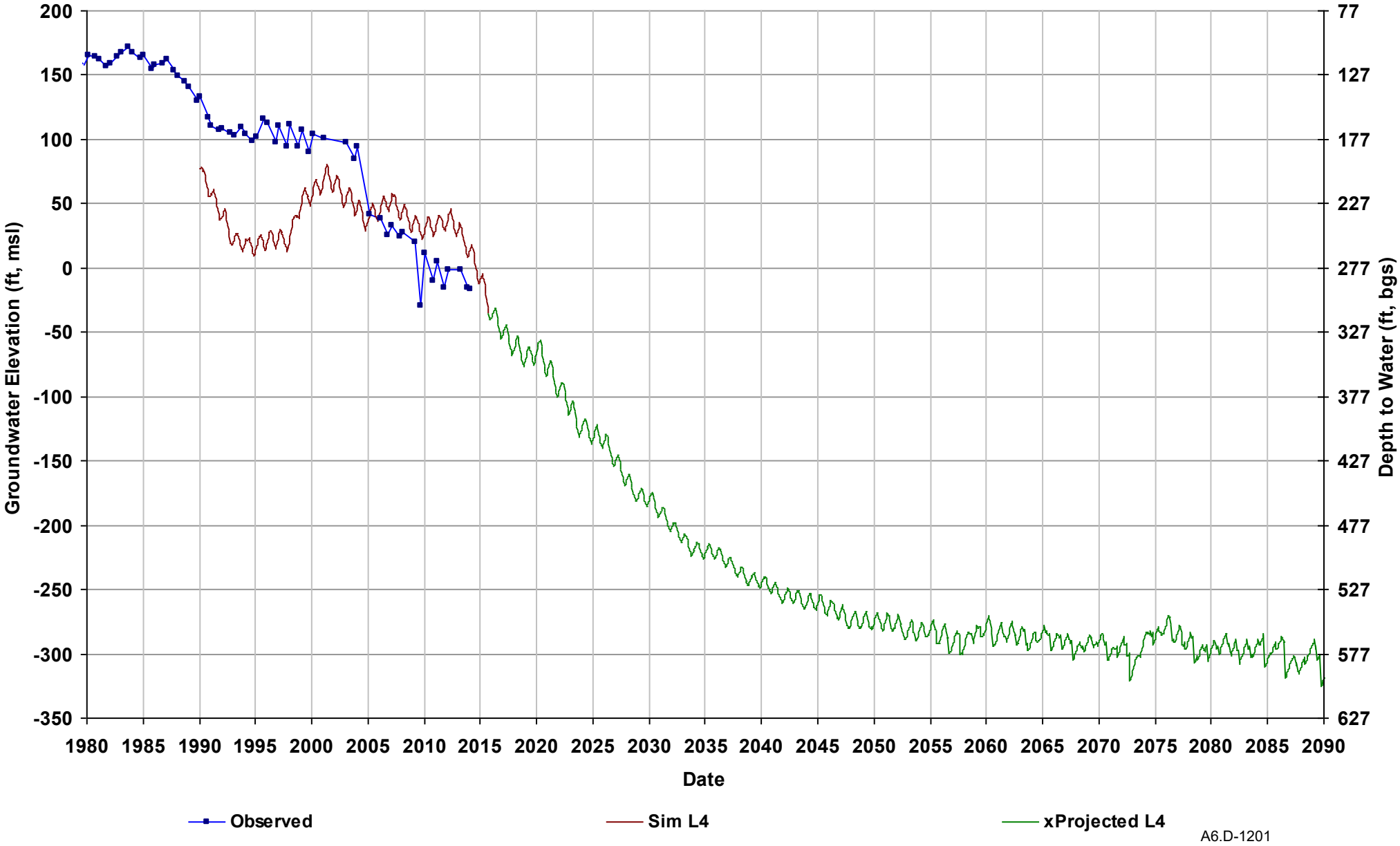
Well Name: 10S17E12C001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 321

Total Depth (ft): 640
Perf Top (ft): 140
Perf Bottom (ft): 502
Top Model Layer: 4
Bottom Model Layer: 4



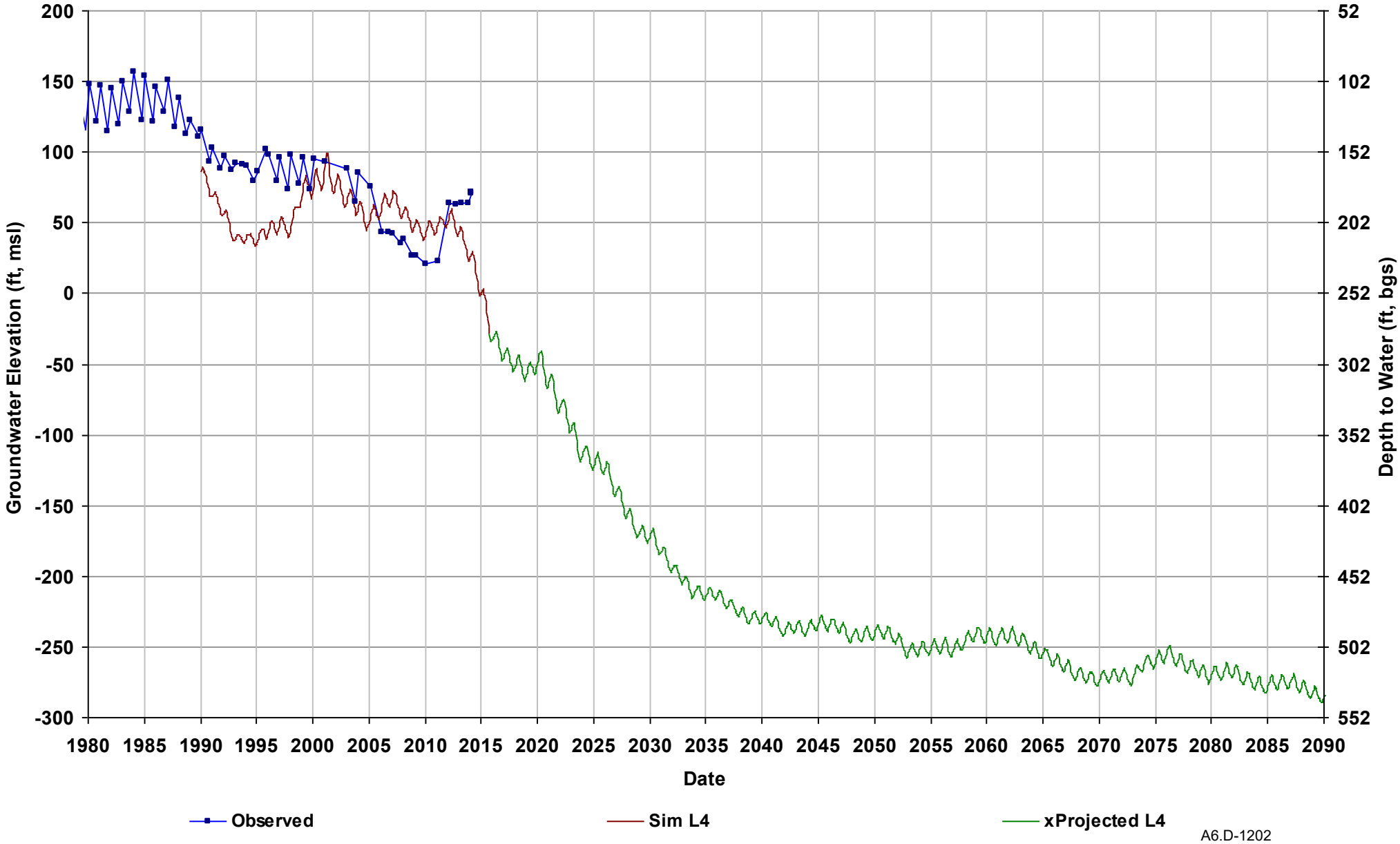
Well Name: 10S17E22D001M
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 277

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



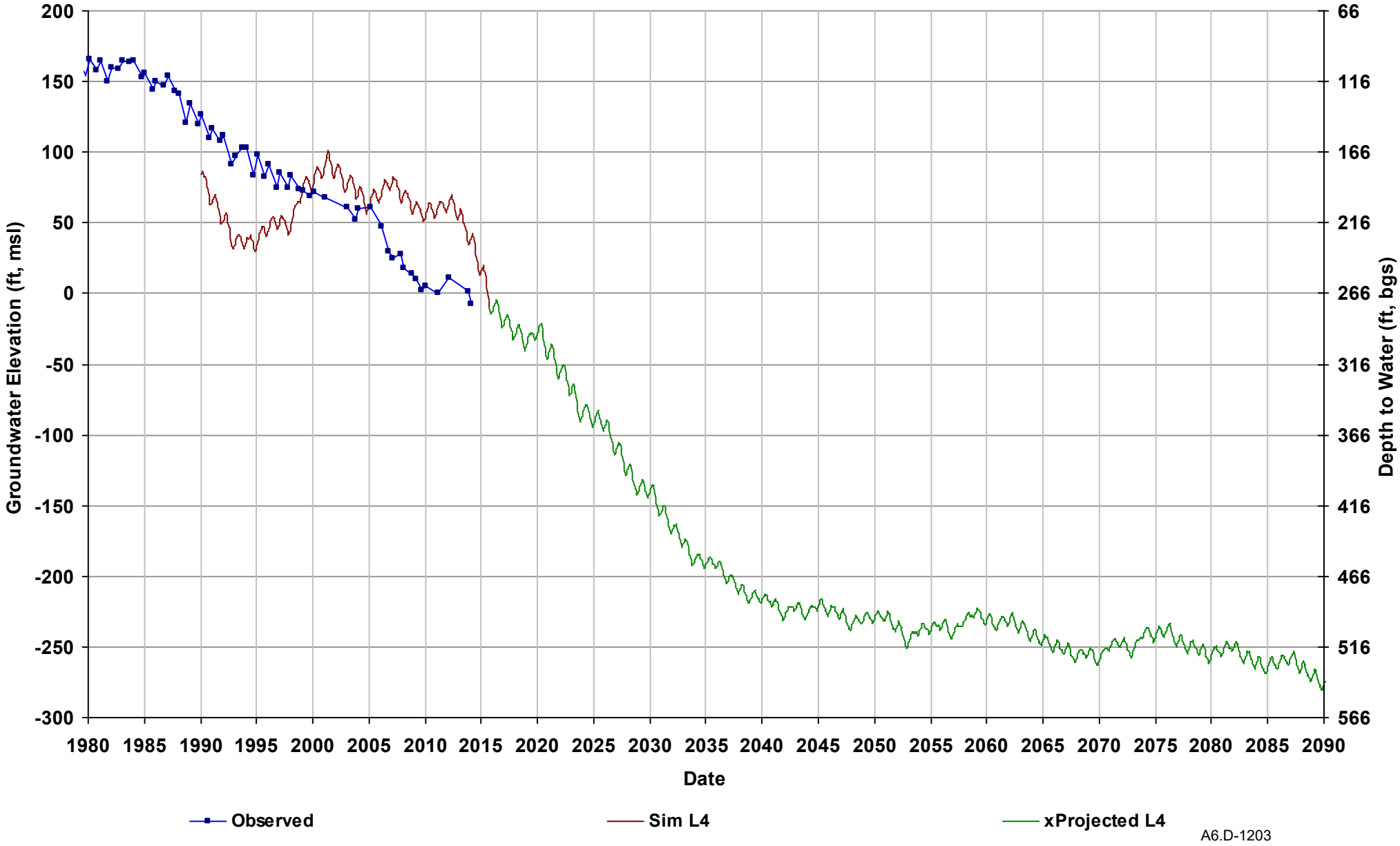
Well Name: 10S17E30B002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



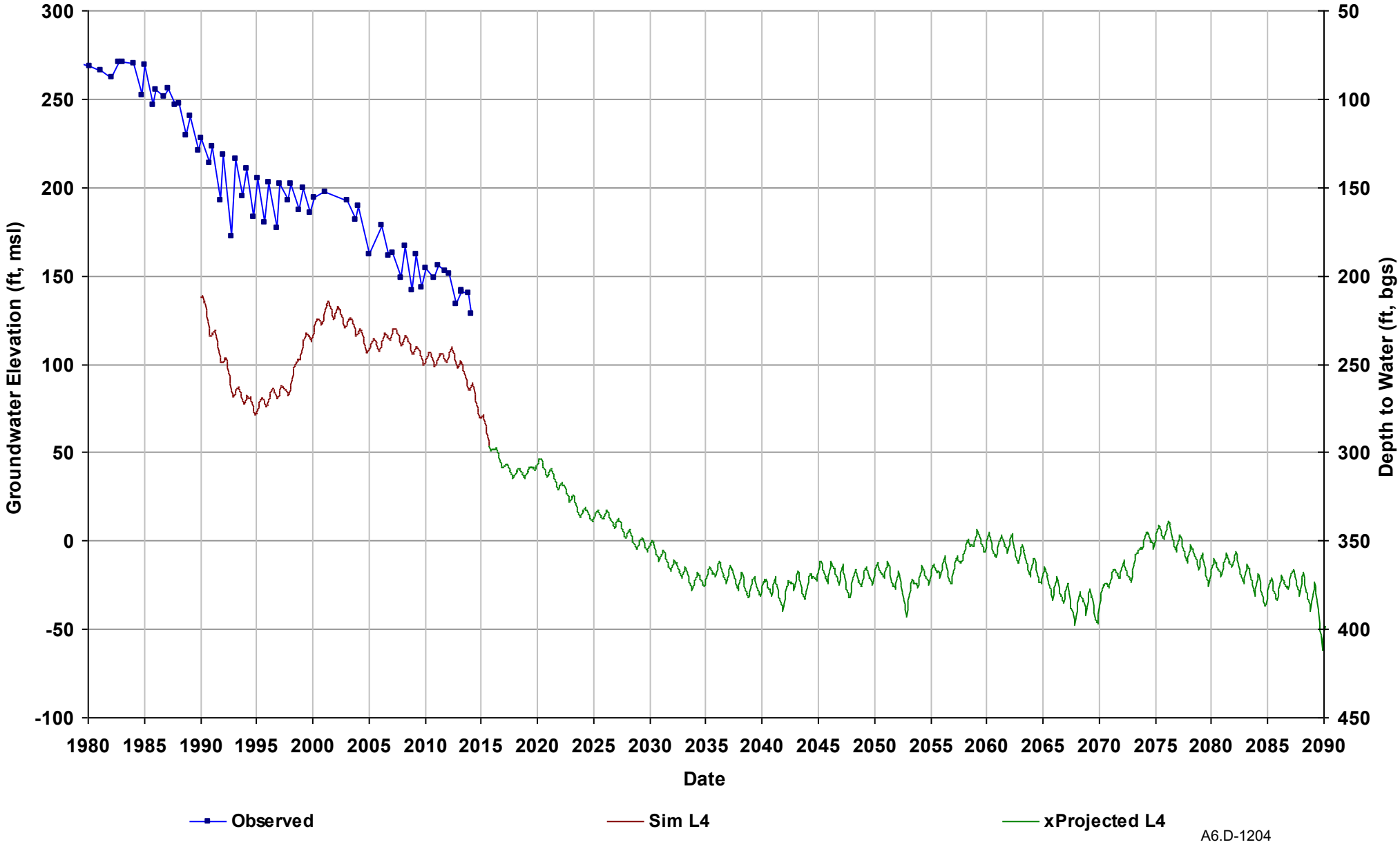
Well Name: 10S17E34A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 266

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



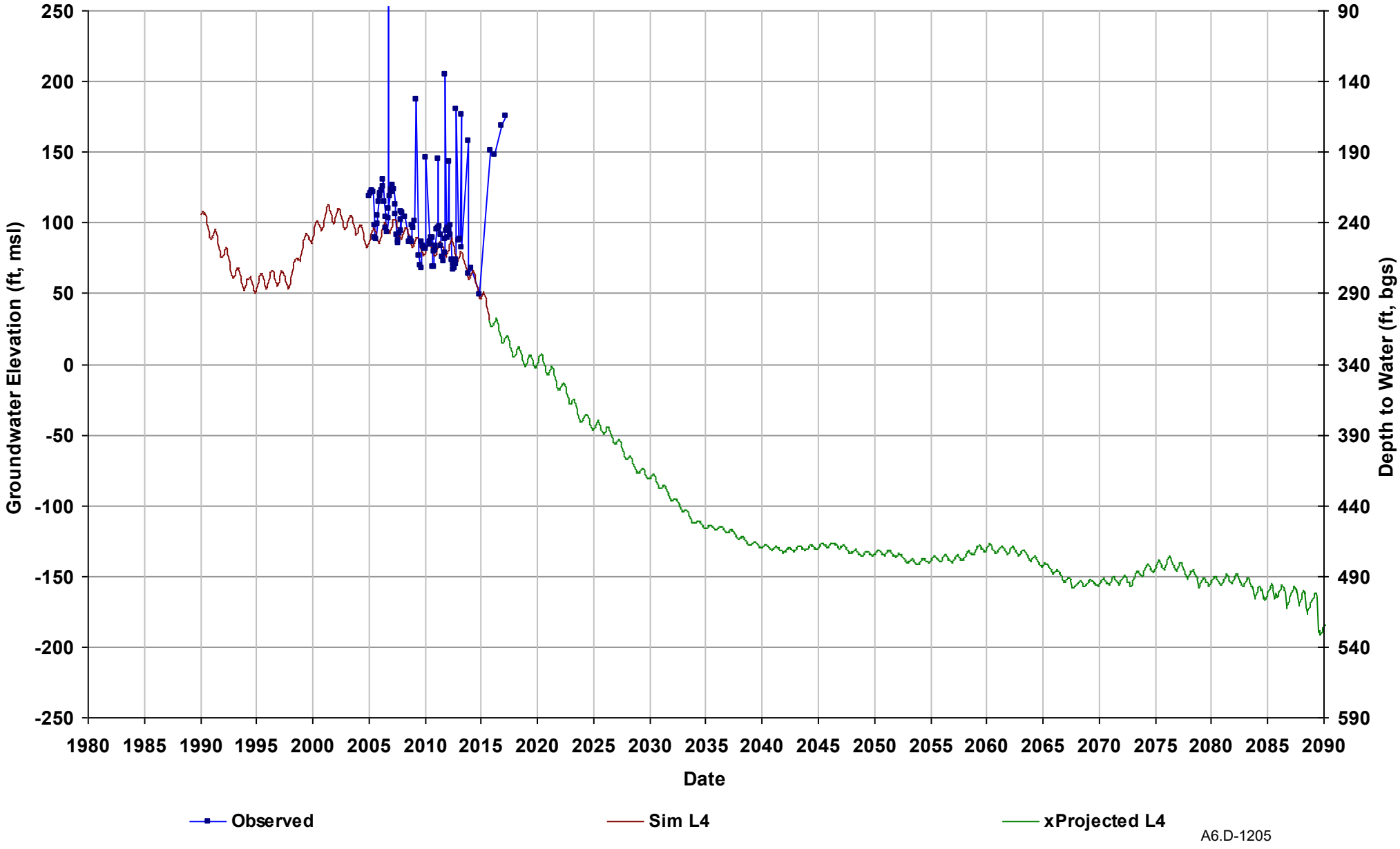
Well Name: 10S18E09C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 350

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



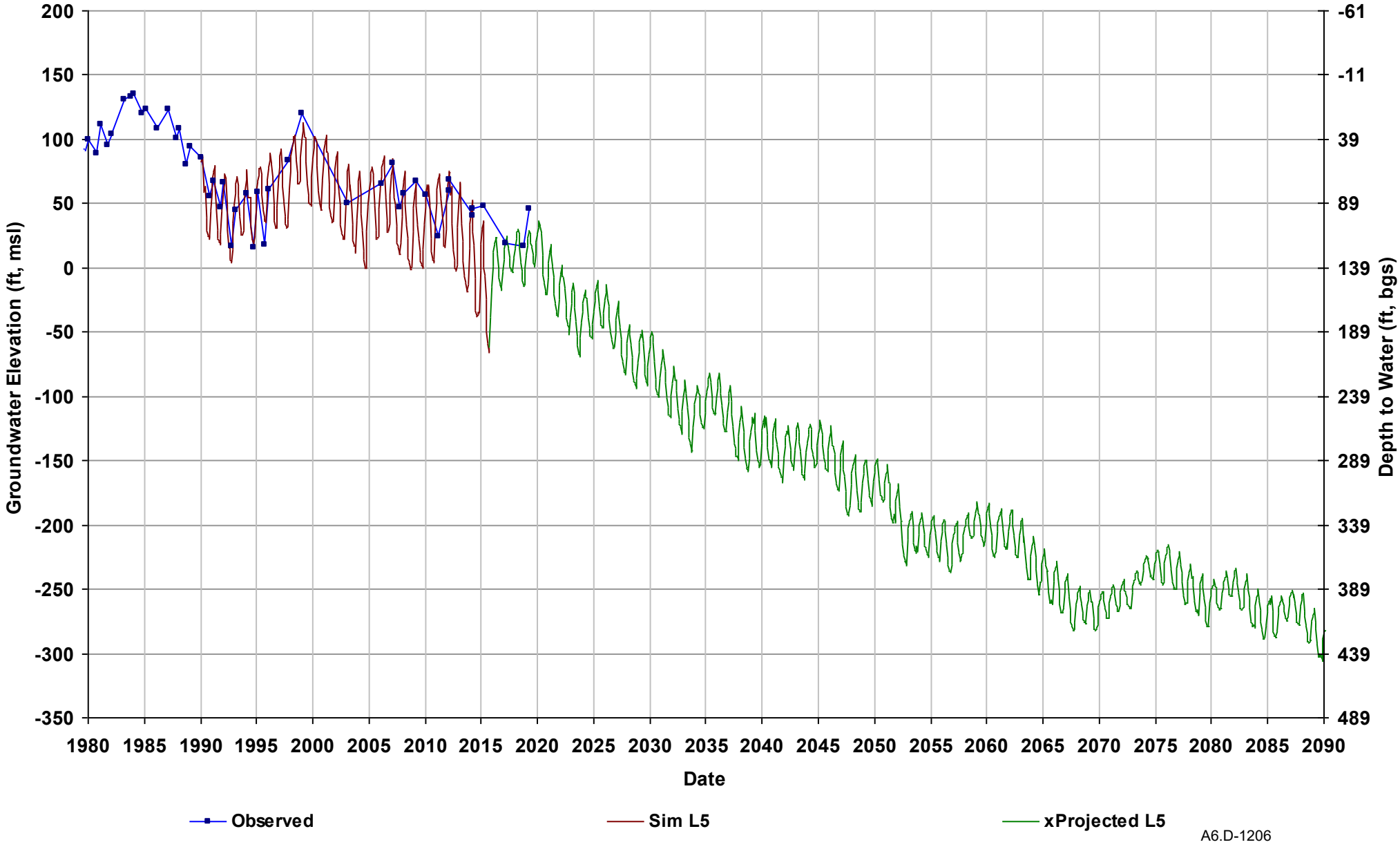
Well Name: 10S18E27N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 340

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



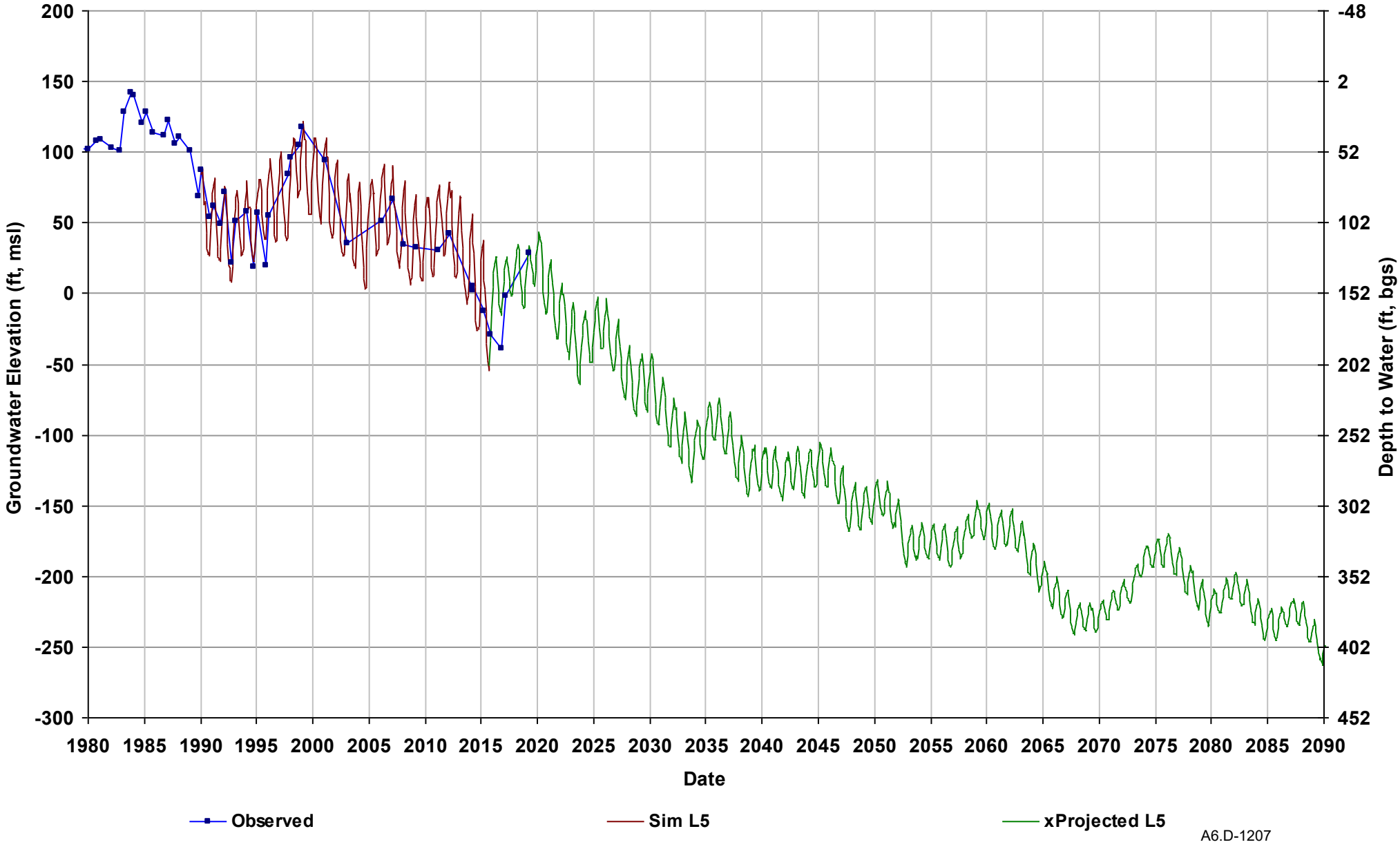
Well Name: 11S14E09A003M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 138

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



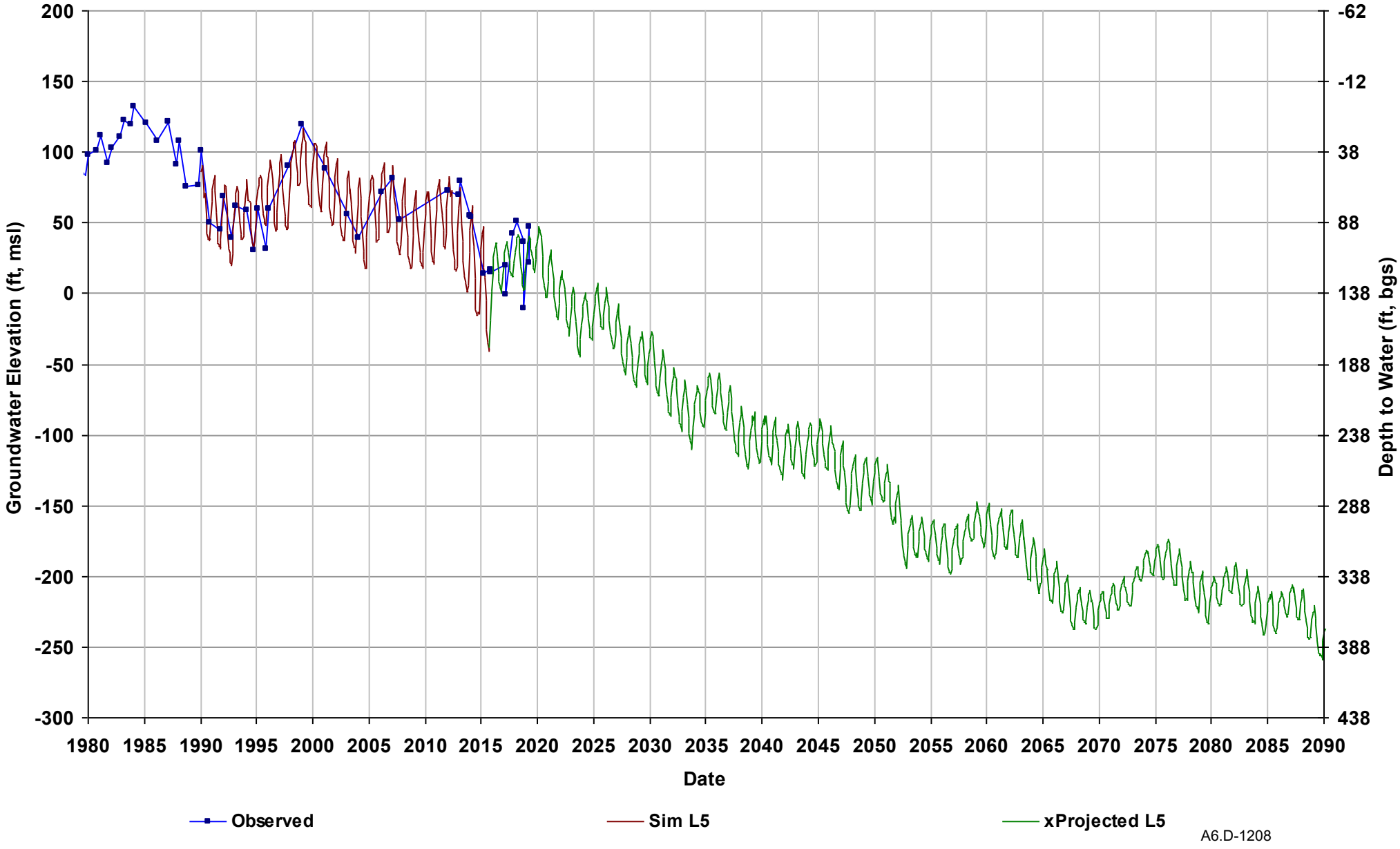
Well Name: 11S14E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 152

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



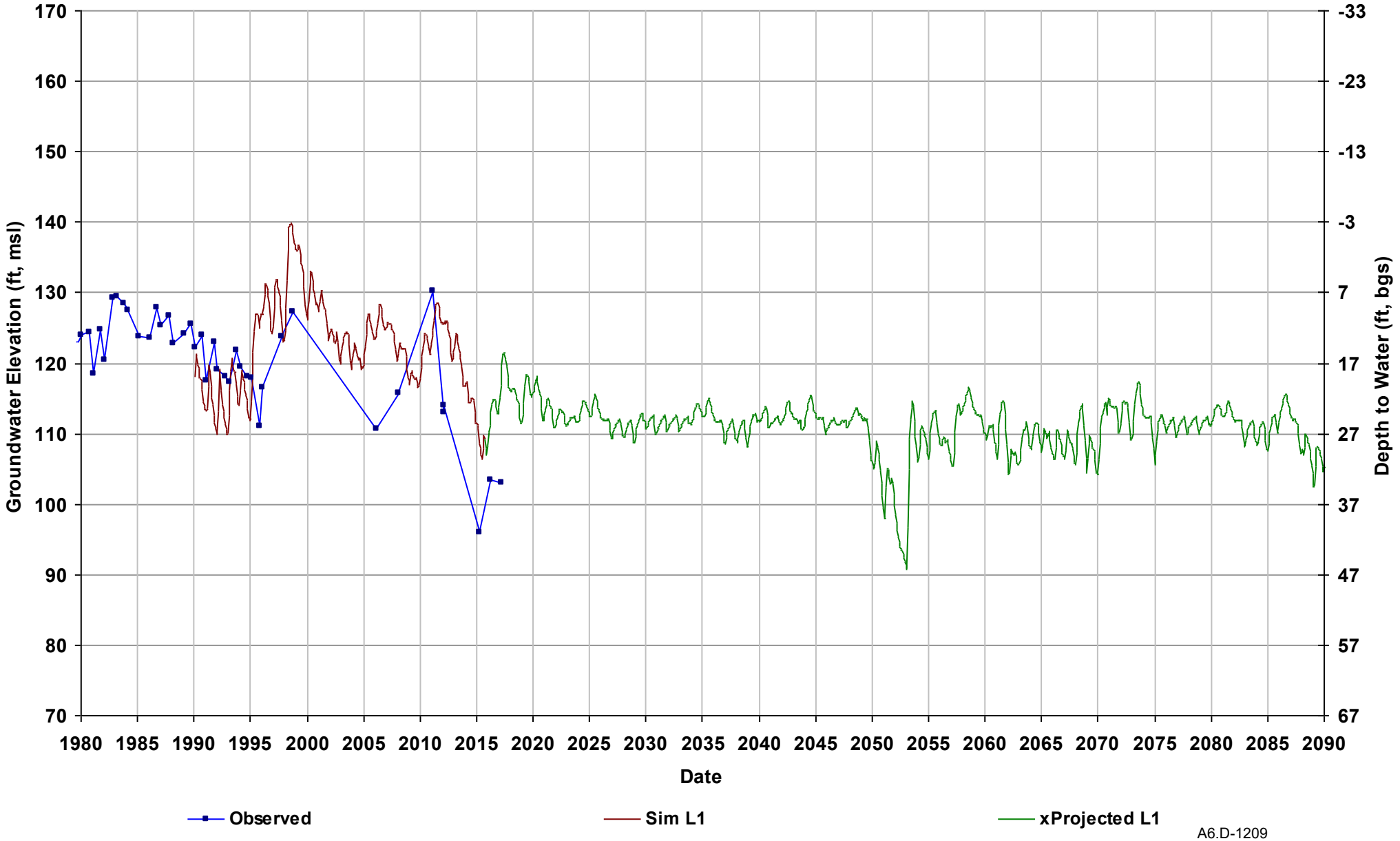
Well Name: 11S14E16A001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 137

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



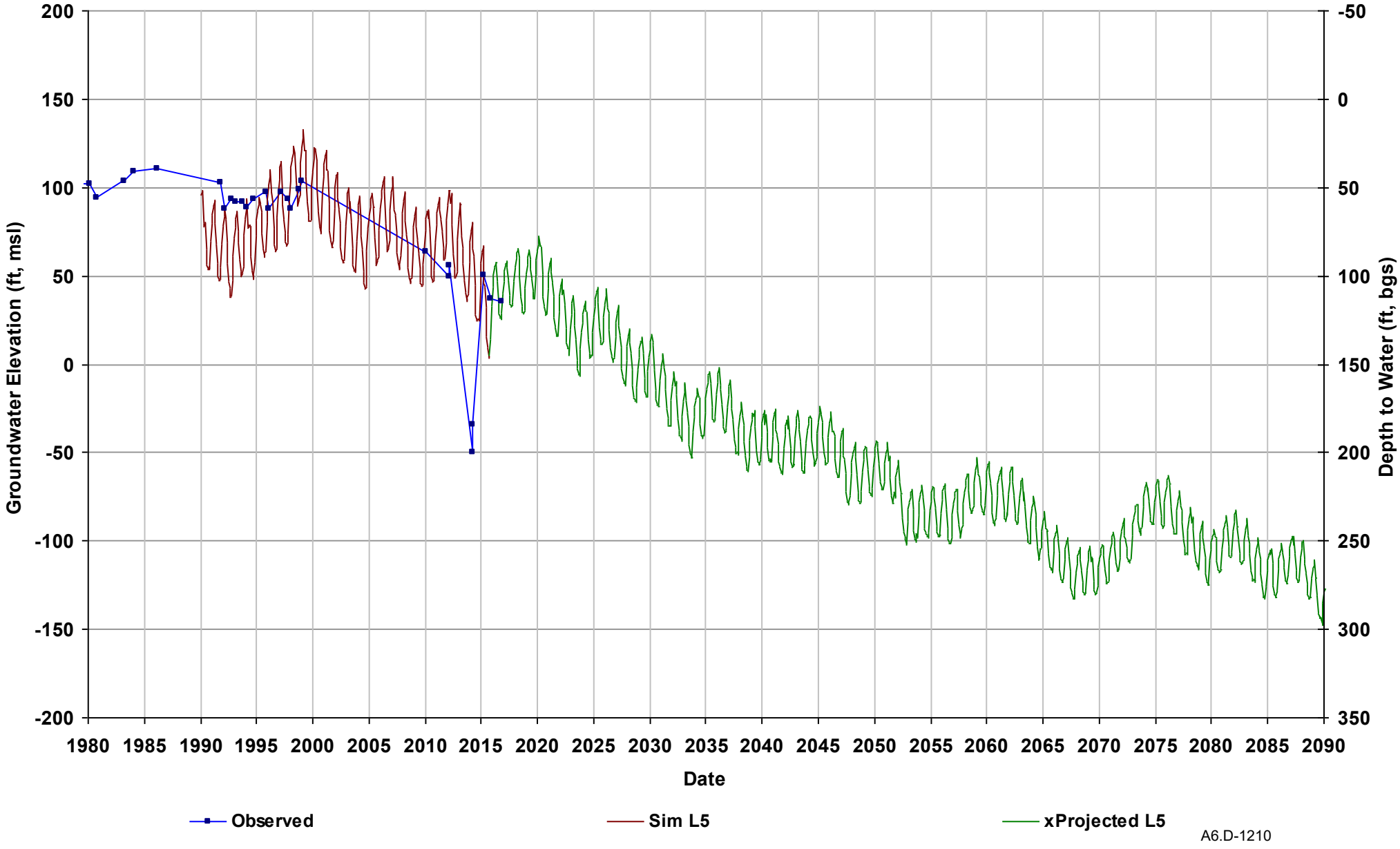
Well Name: 11S14E33L001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 137

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



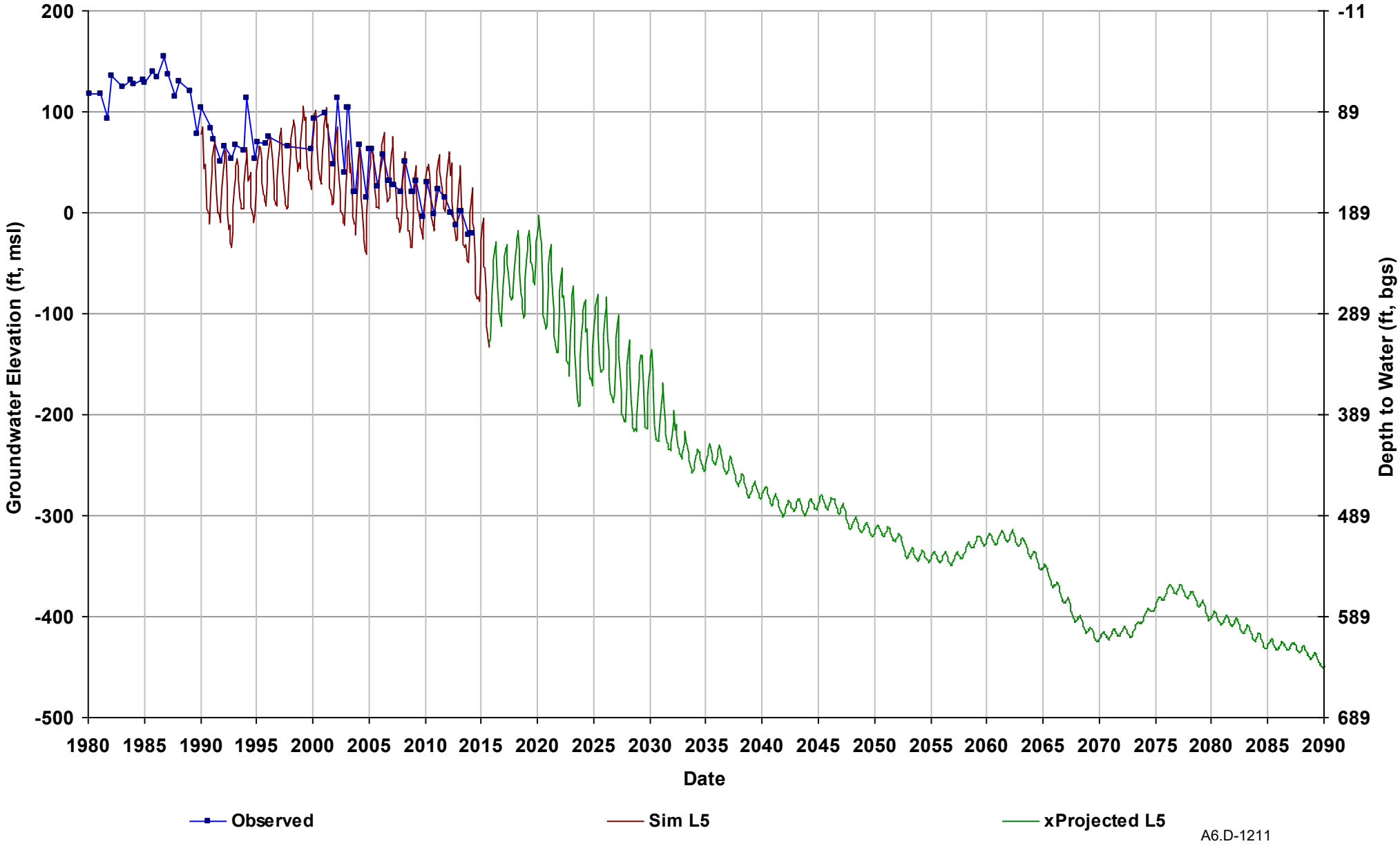
Well Name: 11S14E36R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 150

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



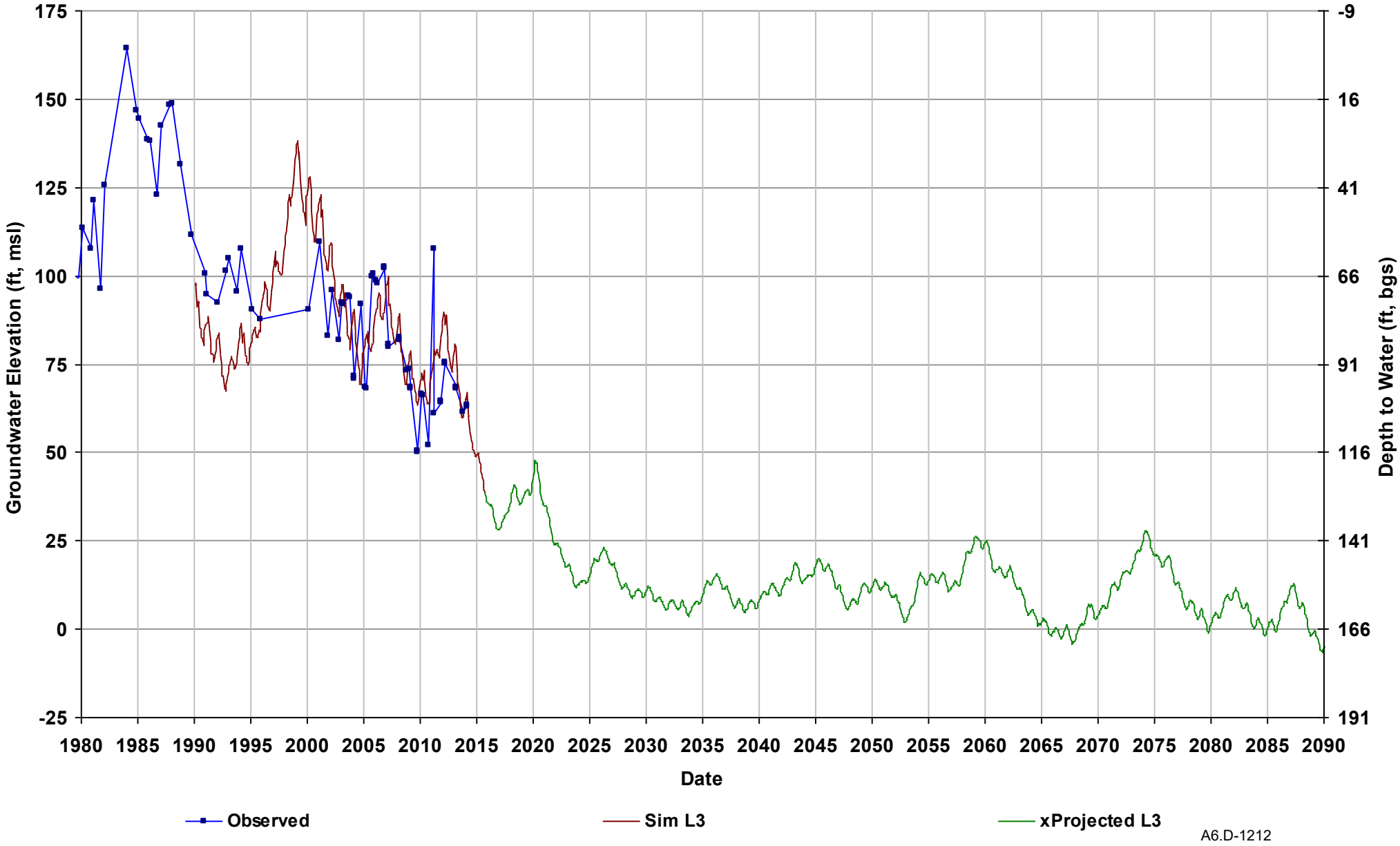
Well Name: 11S15E01H002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 189

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



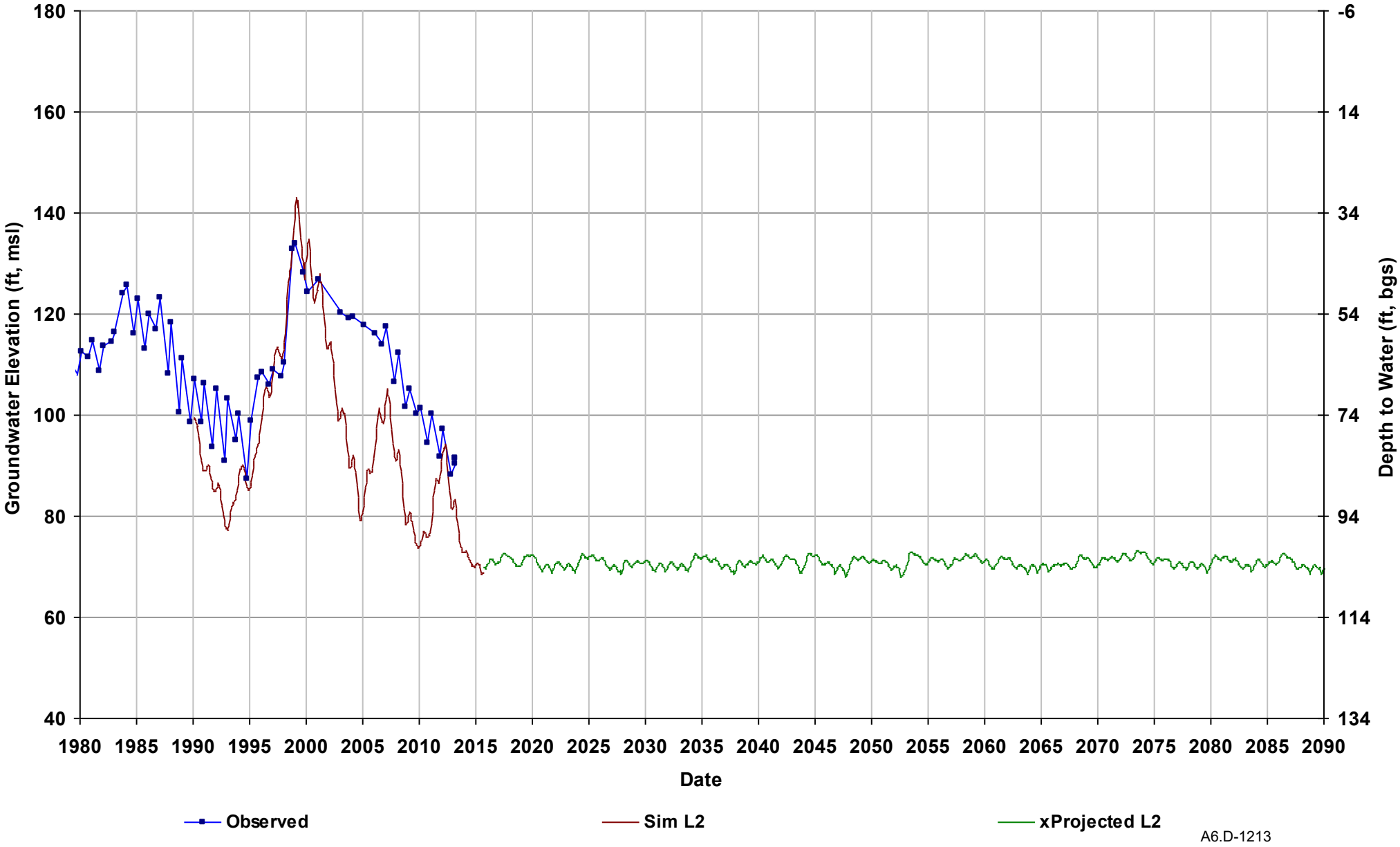
Well Name: 11S15E09C001M
Depth Zone: Unknown; Within CC
Subbasin: Chowchilla
GSE (ft, msl): 166

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



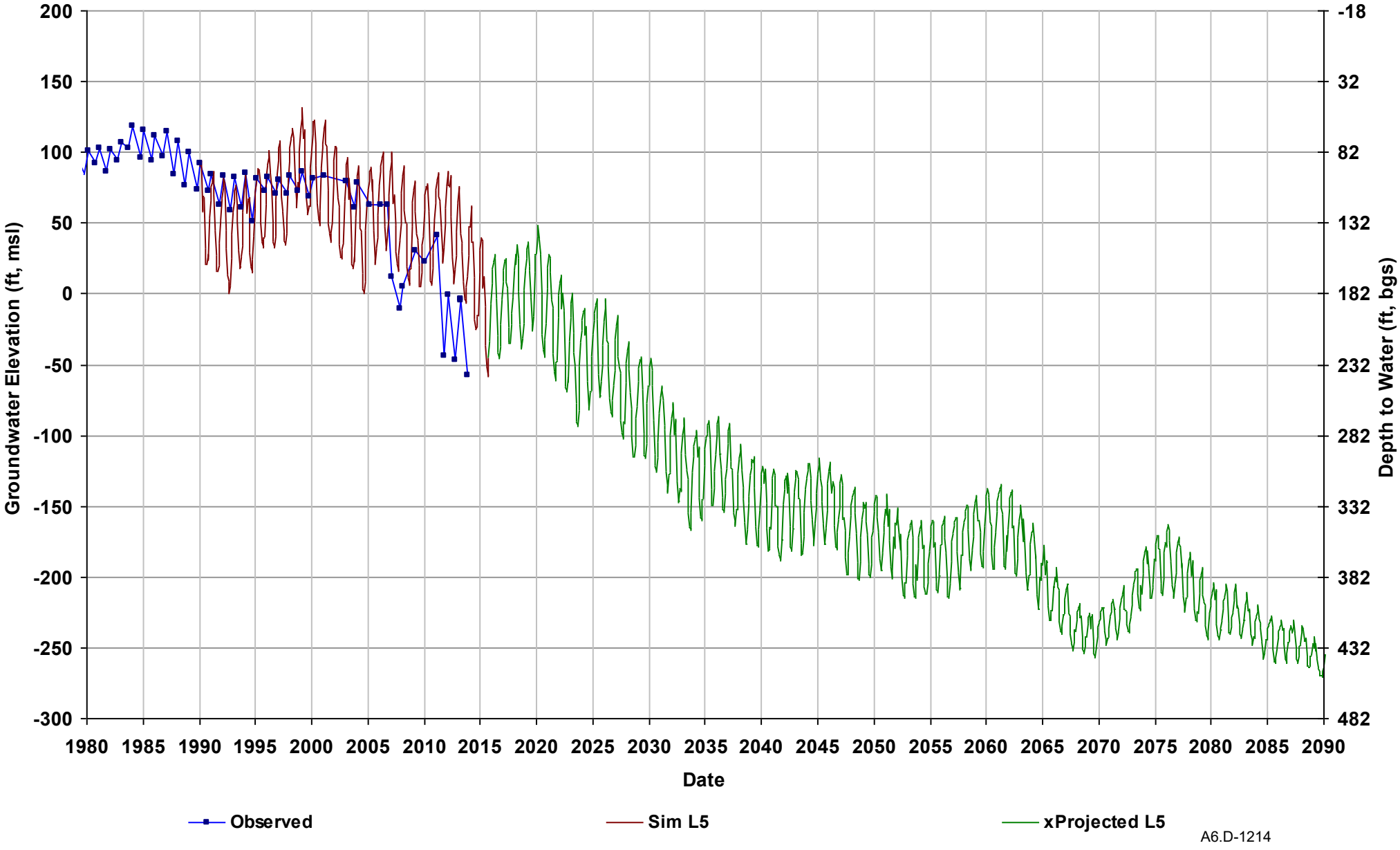
Well Name: 11S15E10J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 174

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



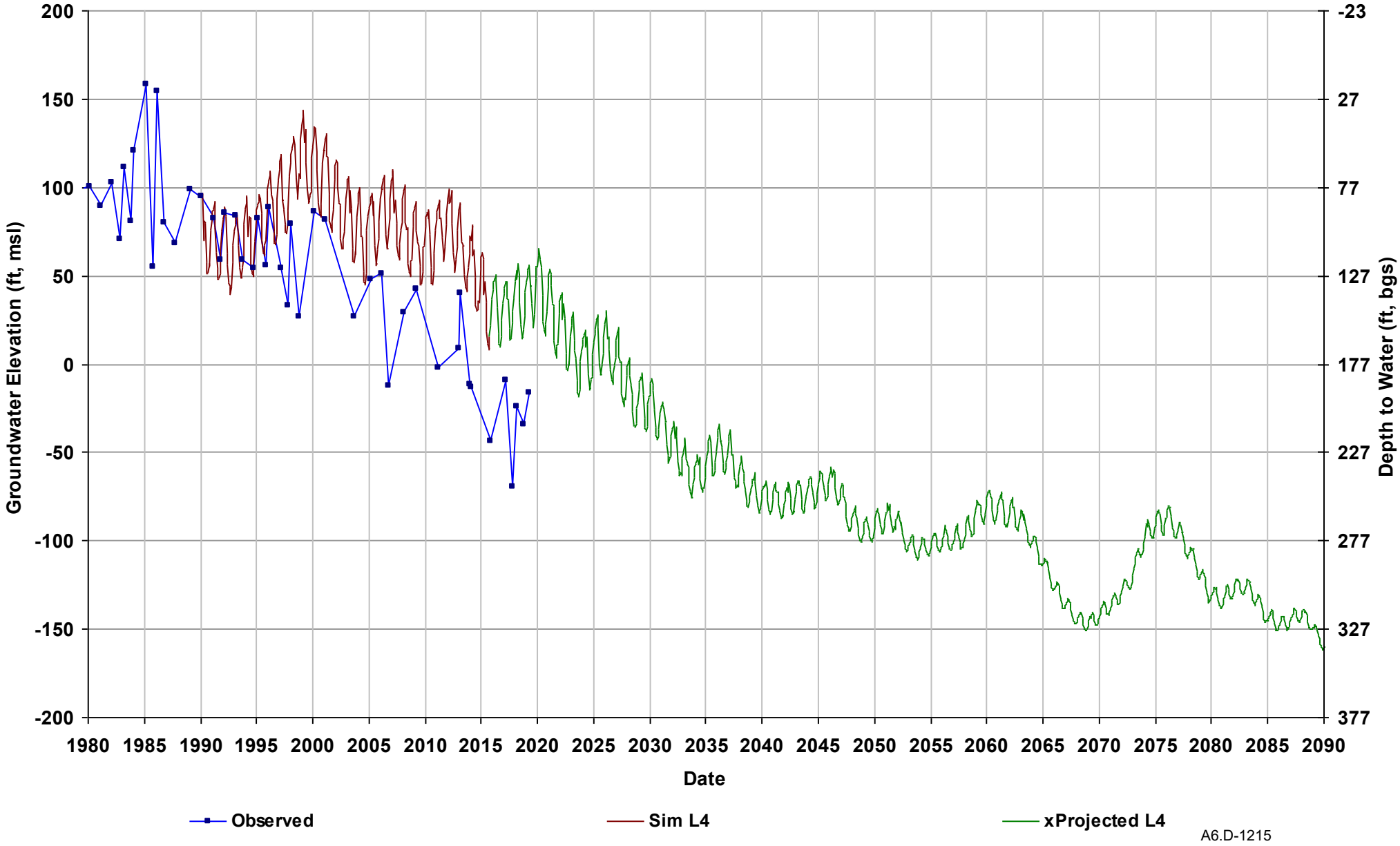
Well Name: 11S15E25A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 182

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



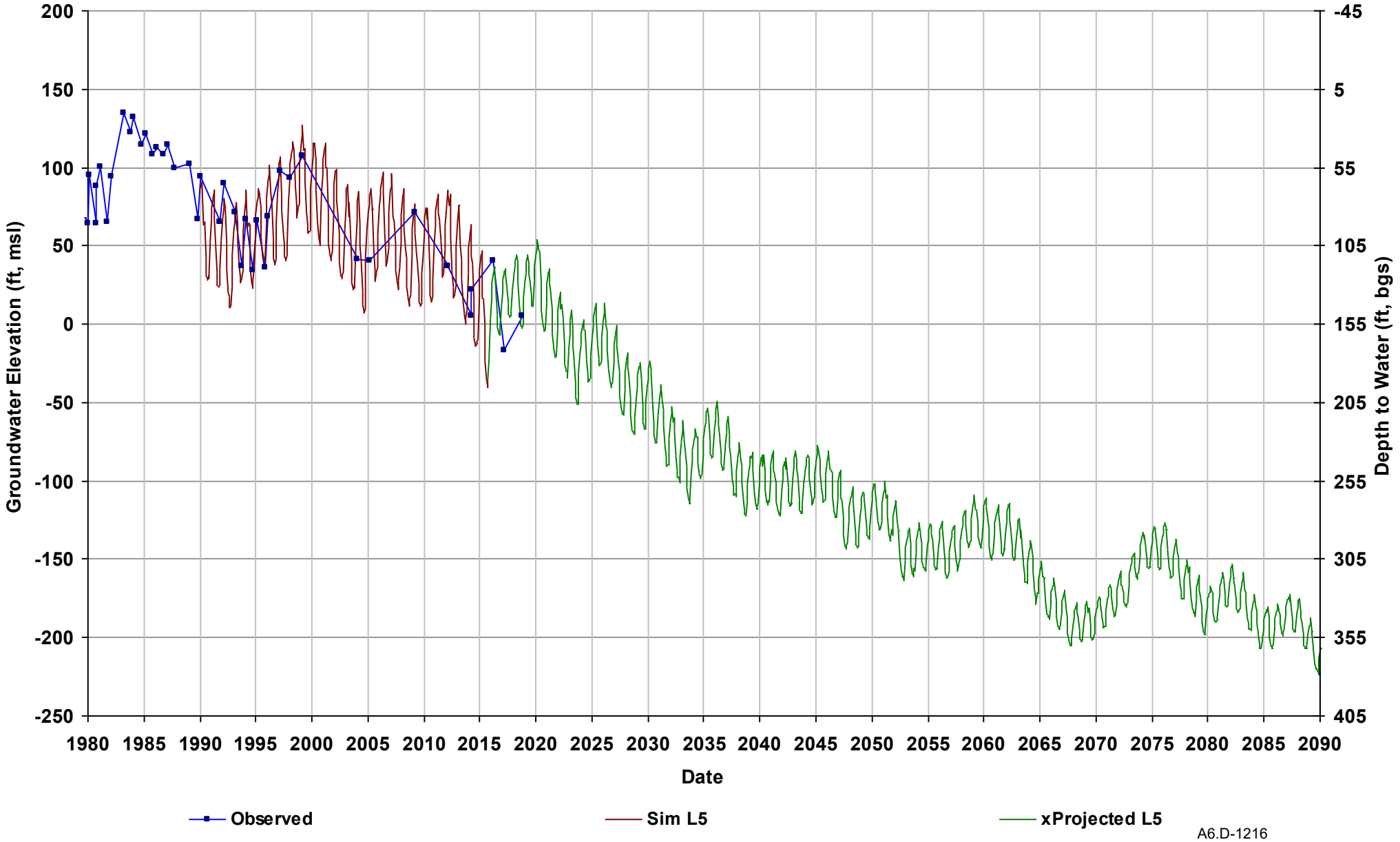
Well Name: 11S15E26R001M
Depth Zone: Composite; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



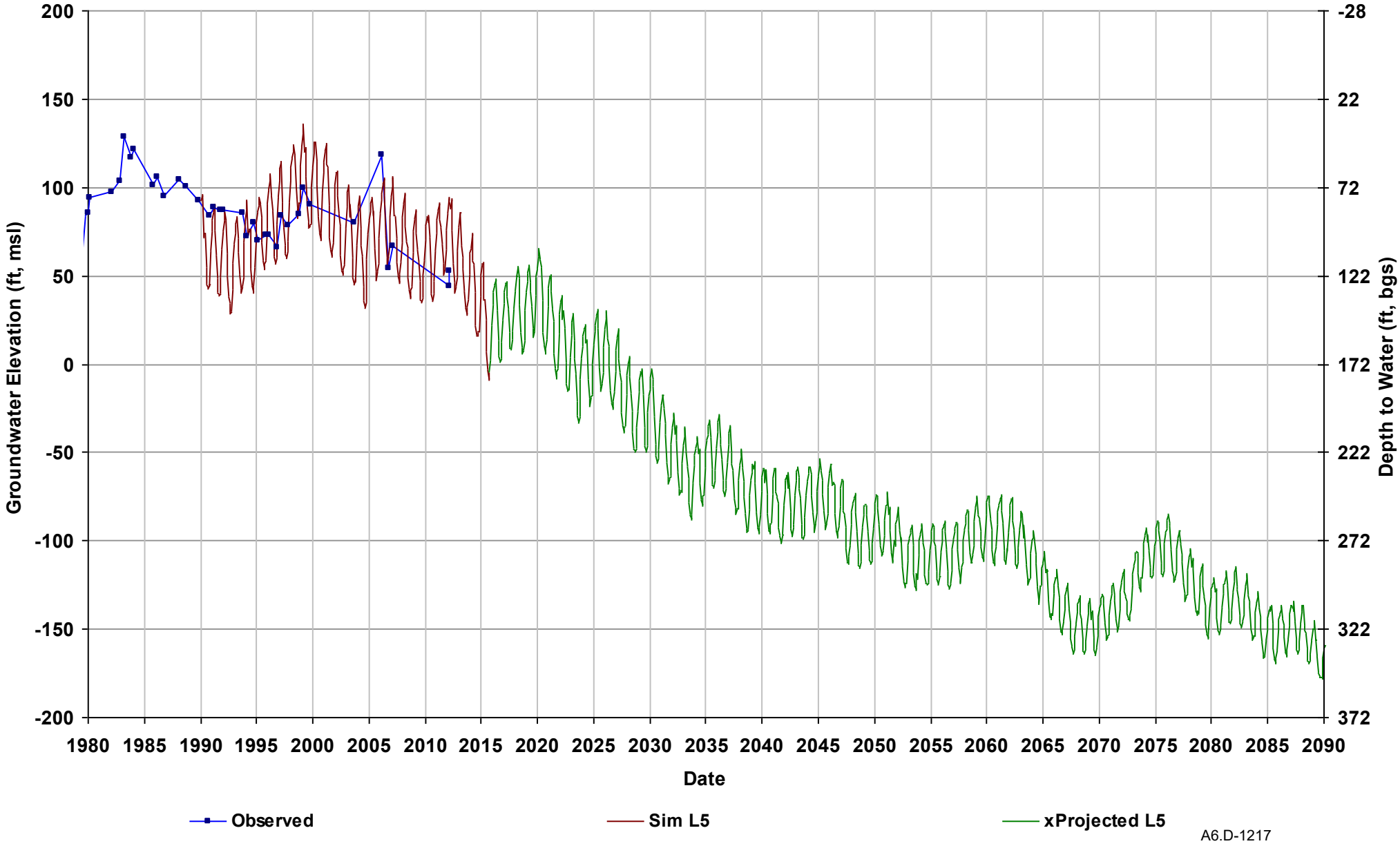
Well Name: 11S15E30A001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 155

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



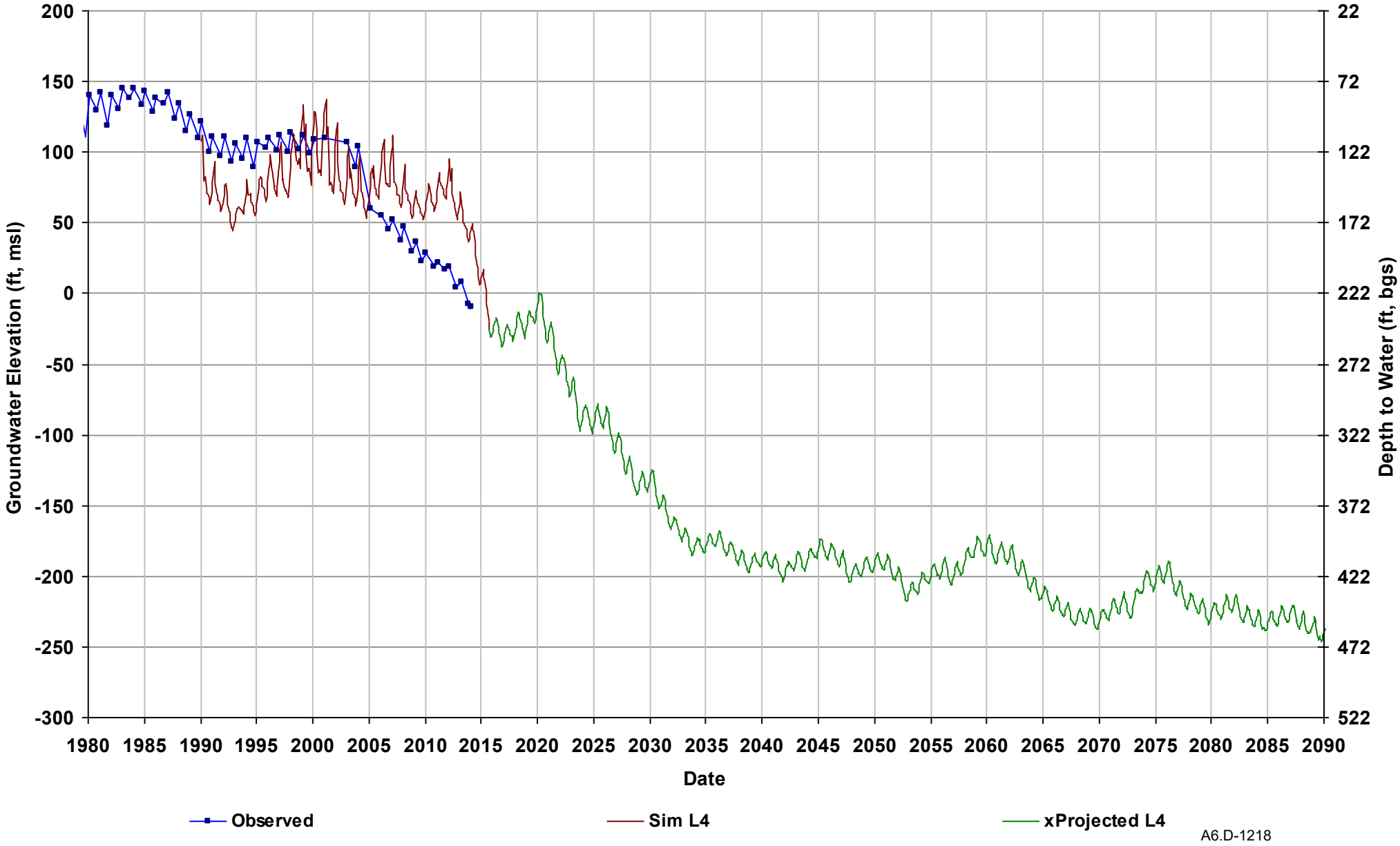
Well Name: 11S15E35P001M
Depth Zone: Unknown; Inside CC
Subbasin: Madera
GSE (ft, msl): 172

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



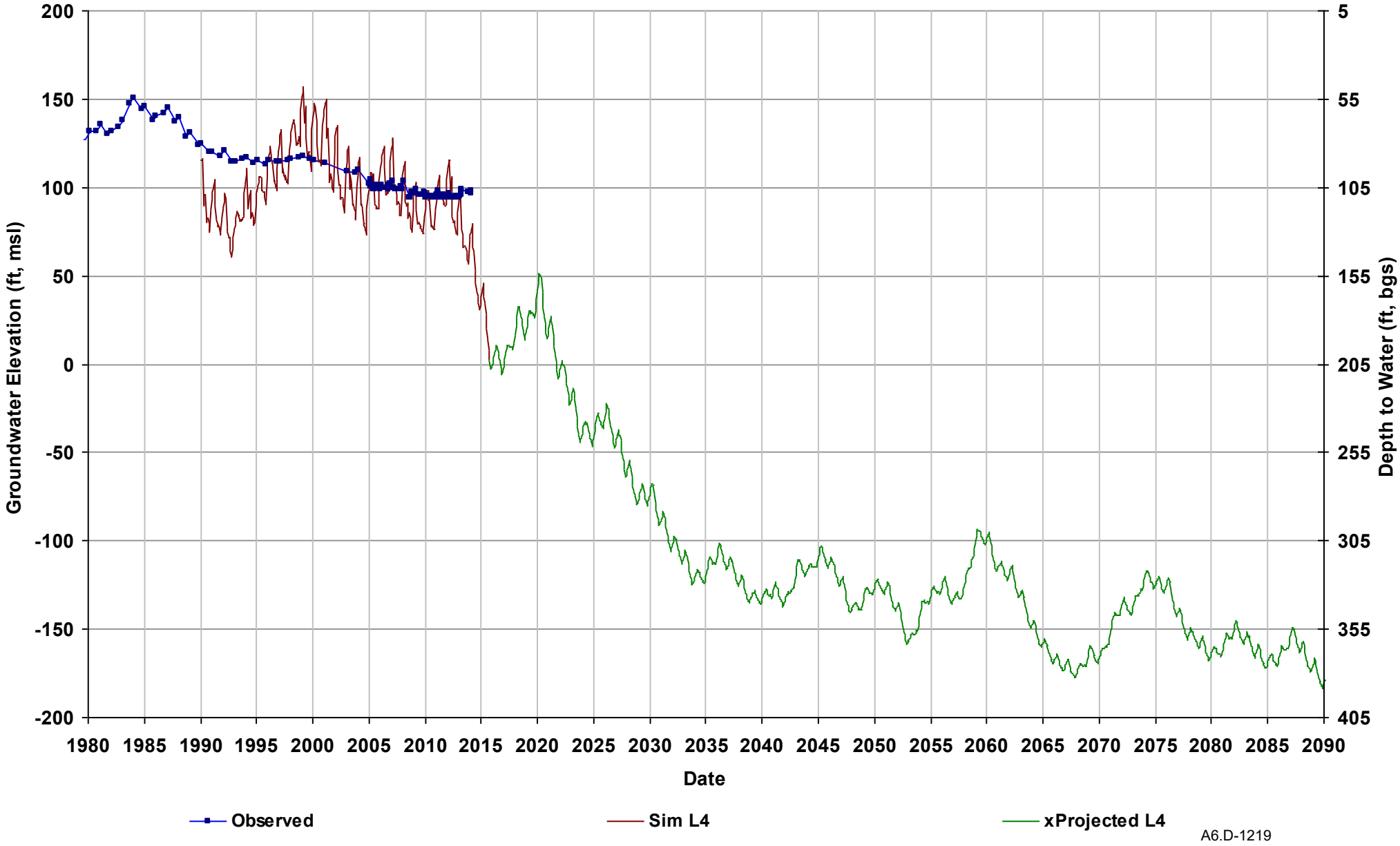
Well Name: 11S16E03A001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 222

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



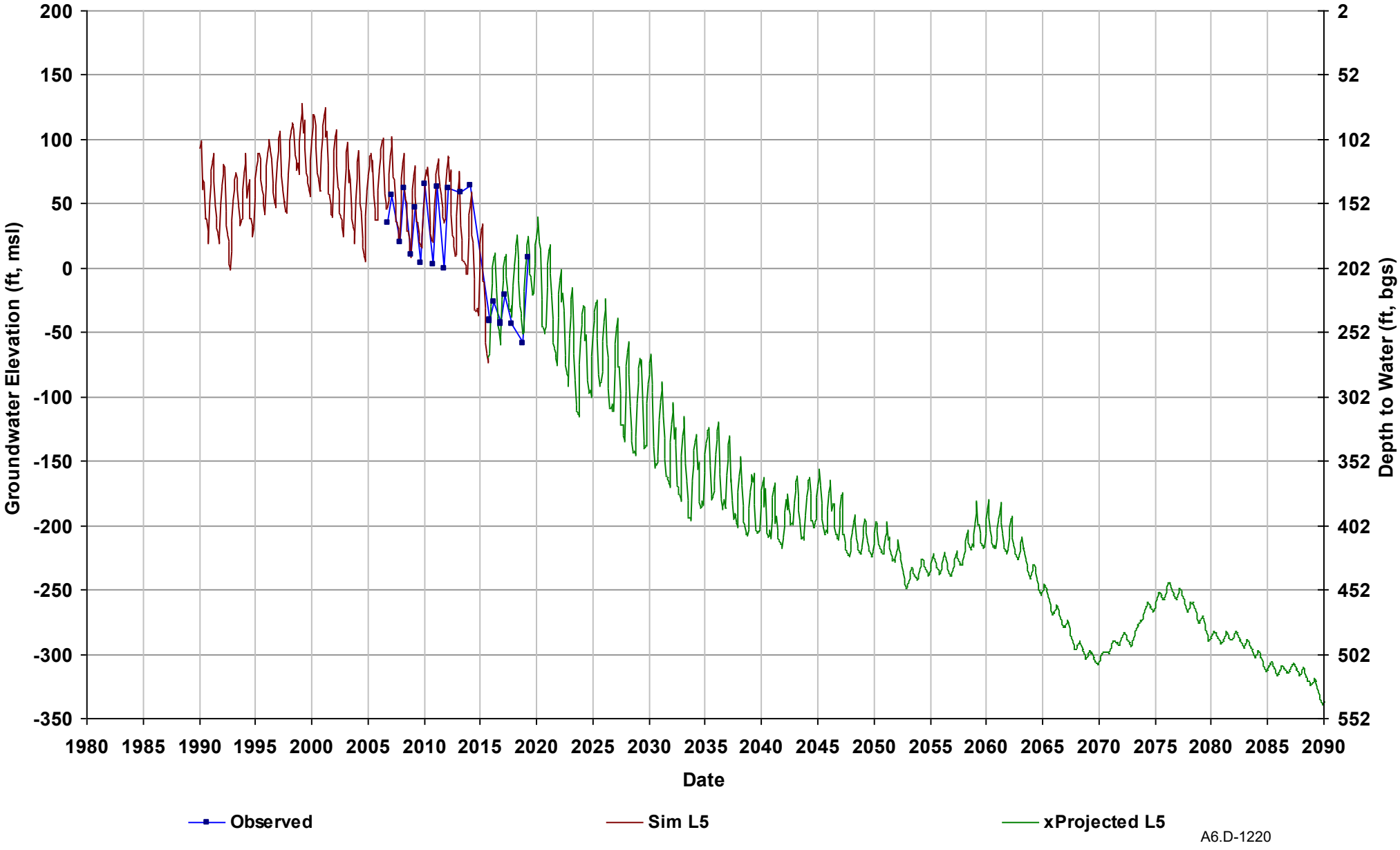
Well Name: 11S16E10N001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 204

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



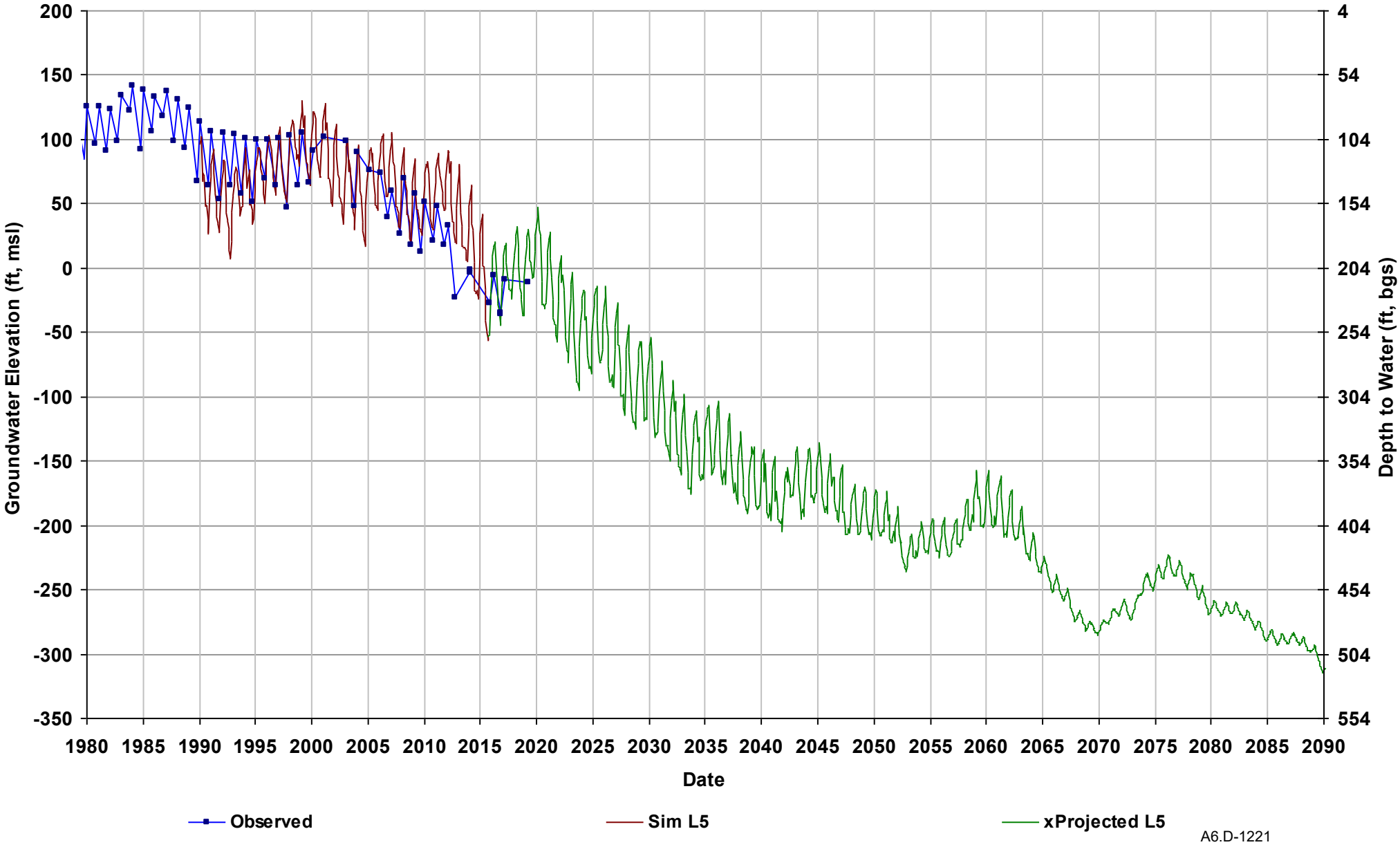
Well Name: 11S16E21A001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



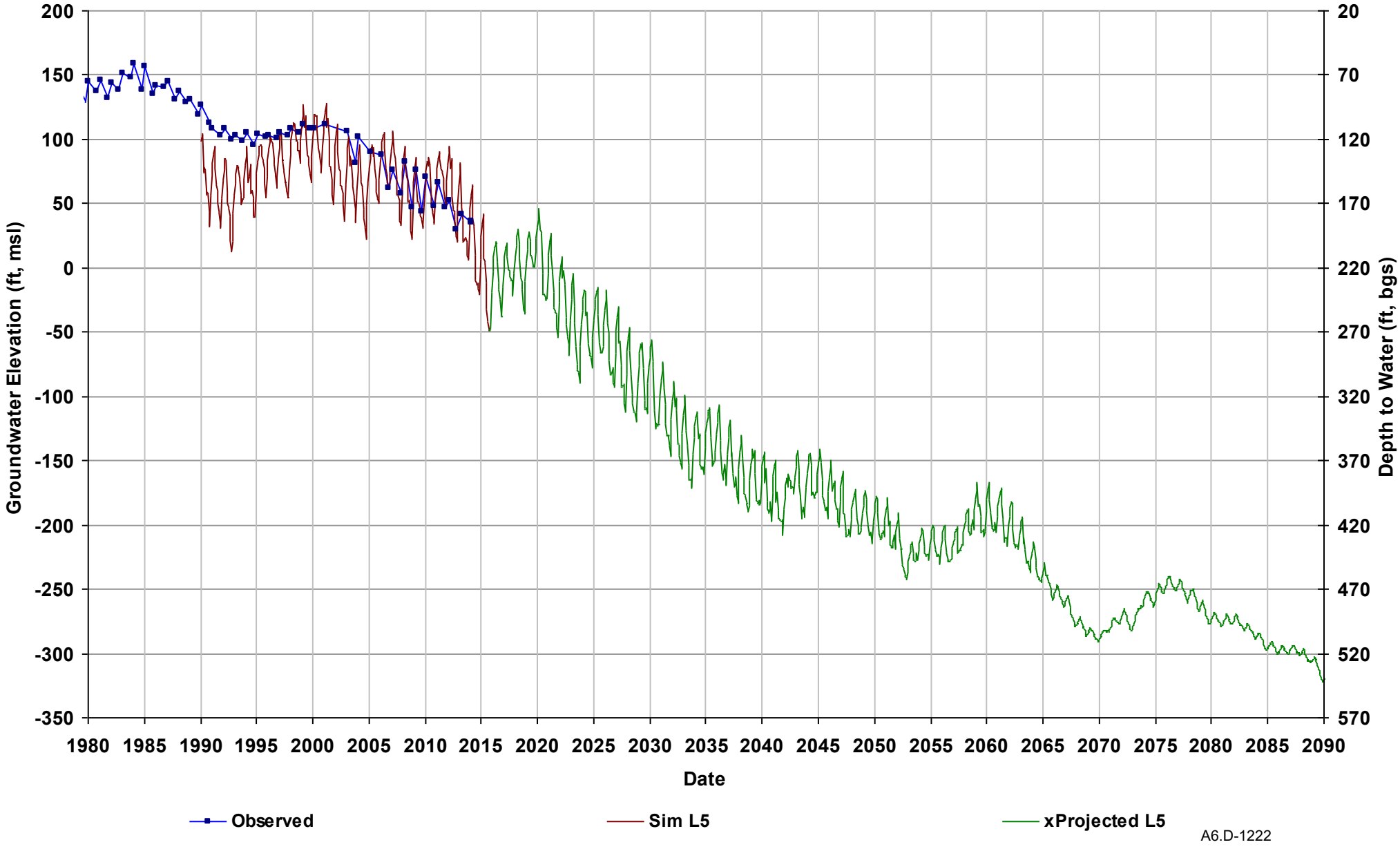
Well Name: 11S16E22K001M
Depth Zone: Lower; Within CC
Subbasin: Madera
GSE (ft, msl): 204

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



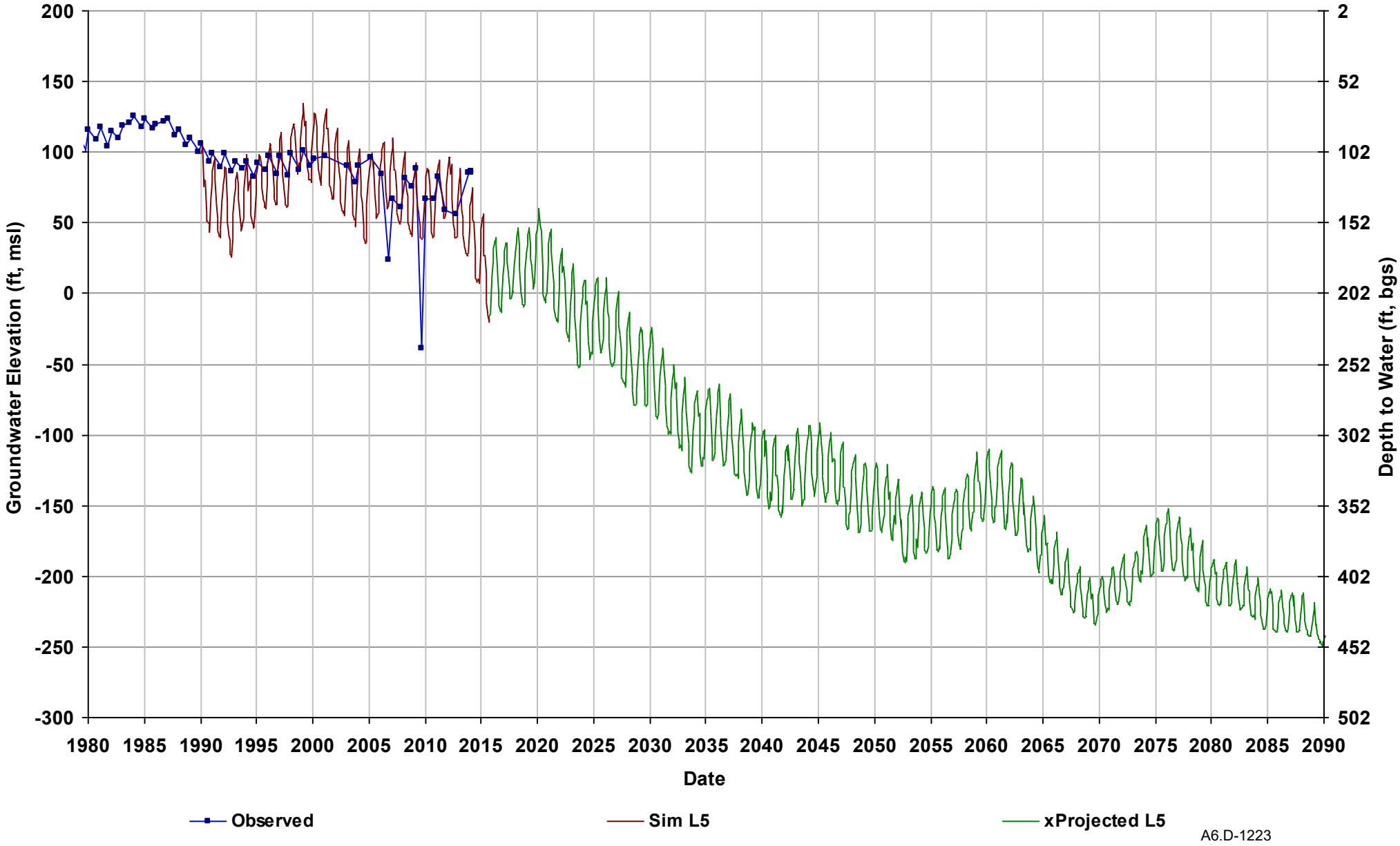
Well Name: 11S16E24M001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 219

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



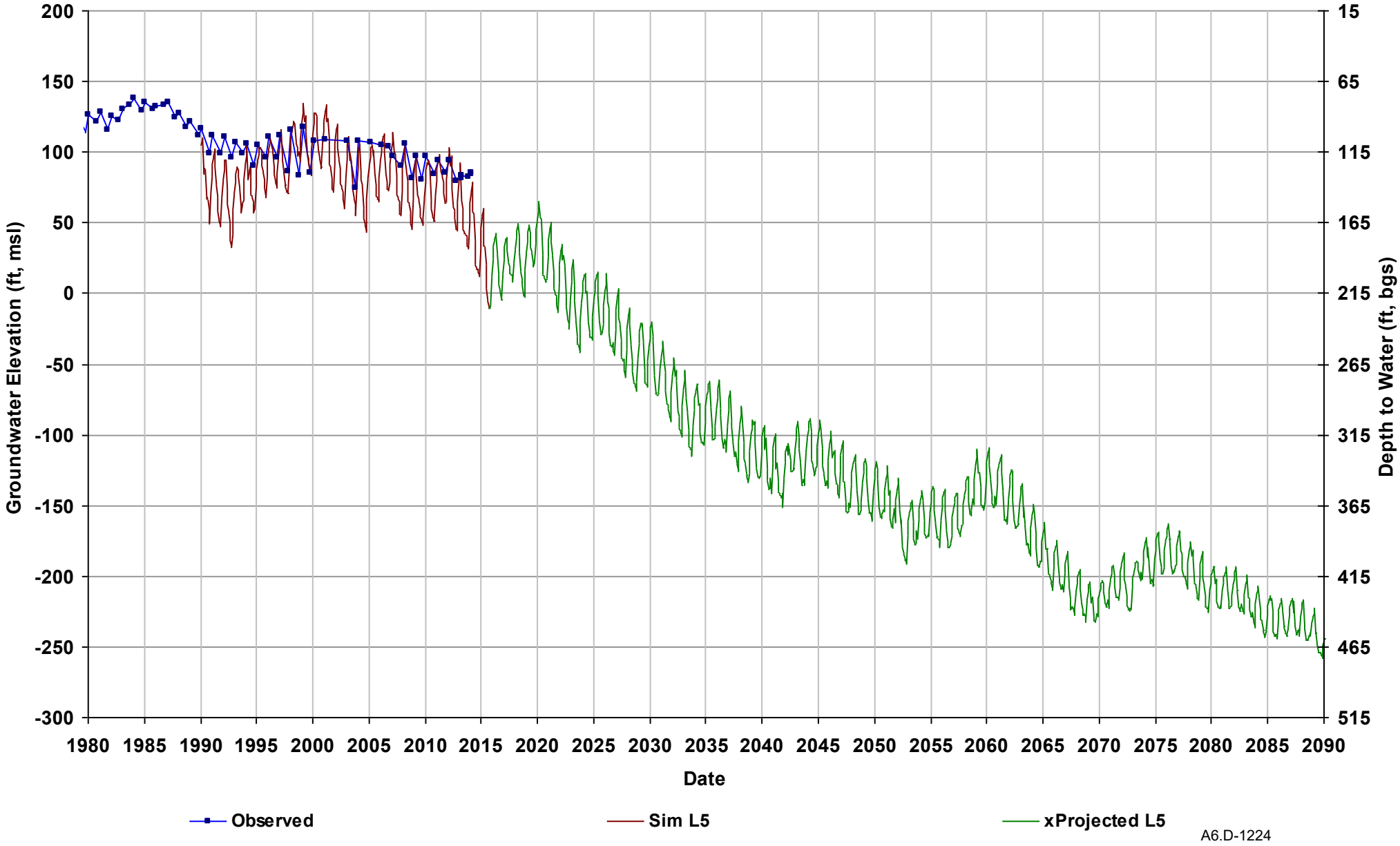
Well Name: 11S16E34D001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



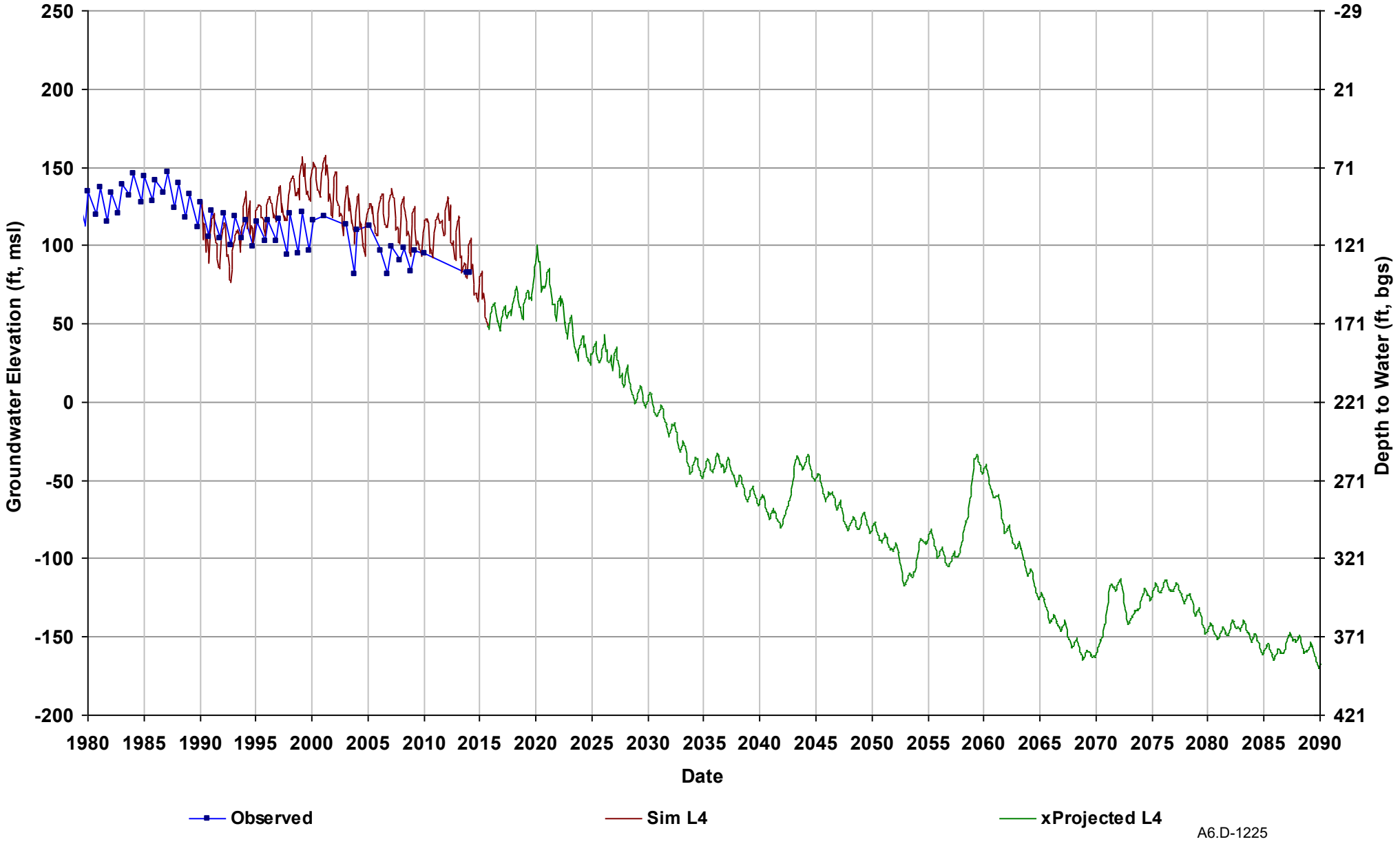
Well Name: 11S16E35H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 215

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



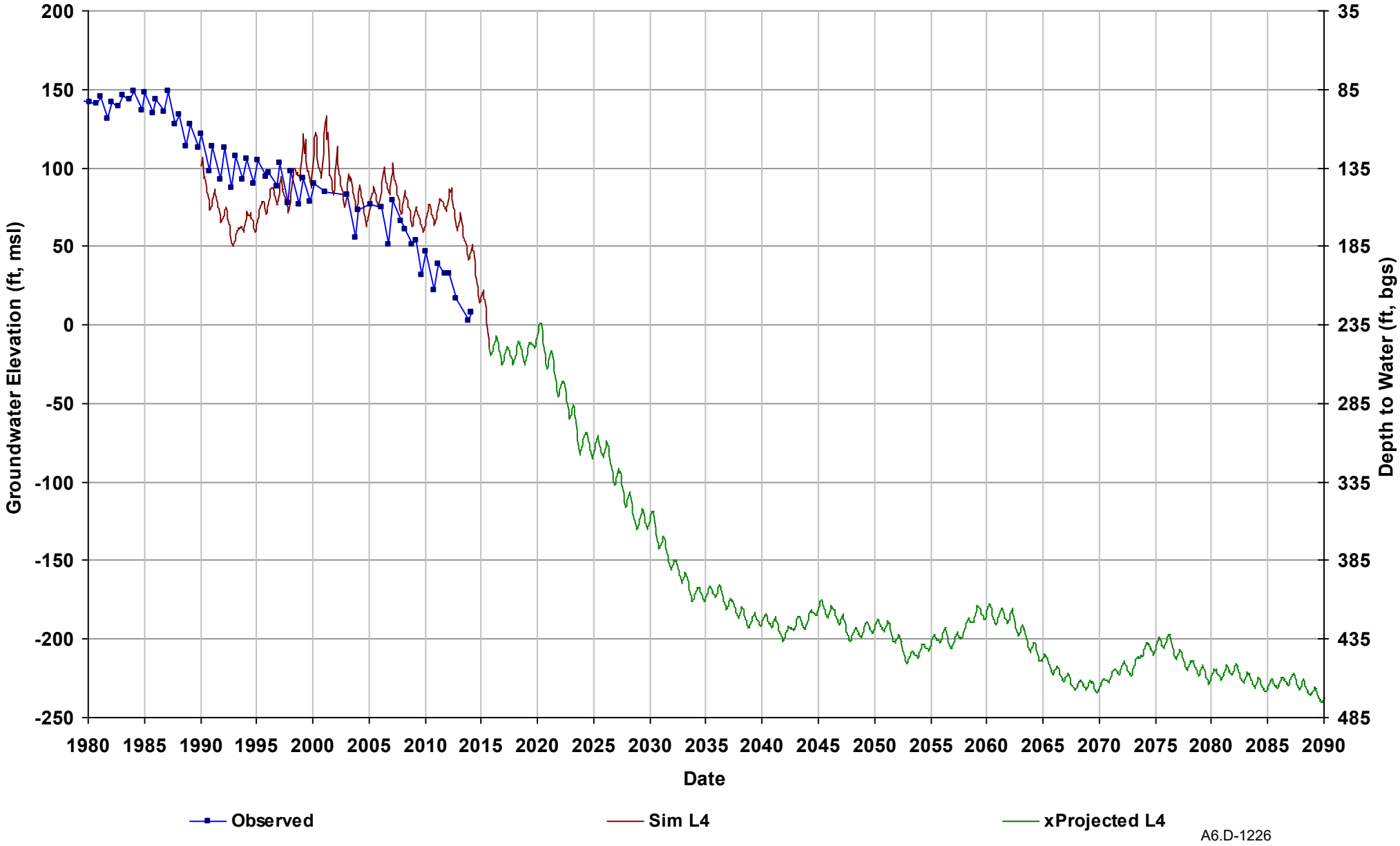
Well Name: 11S16E36J001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 221

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



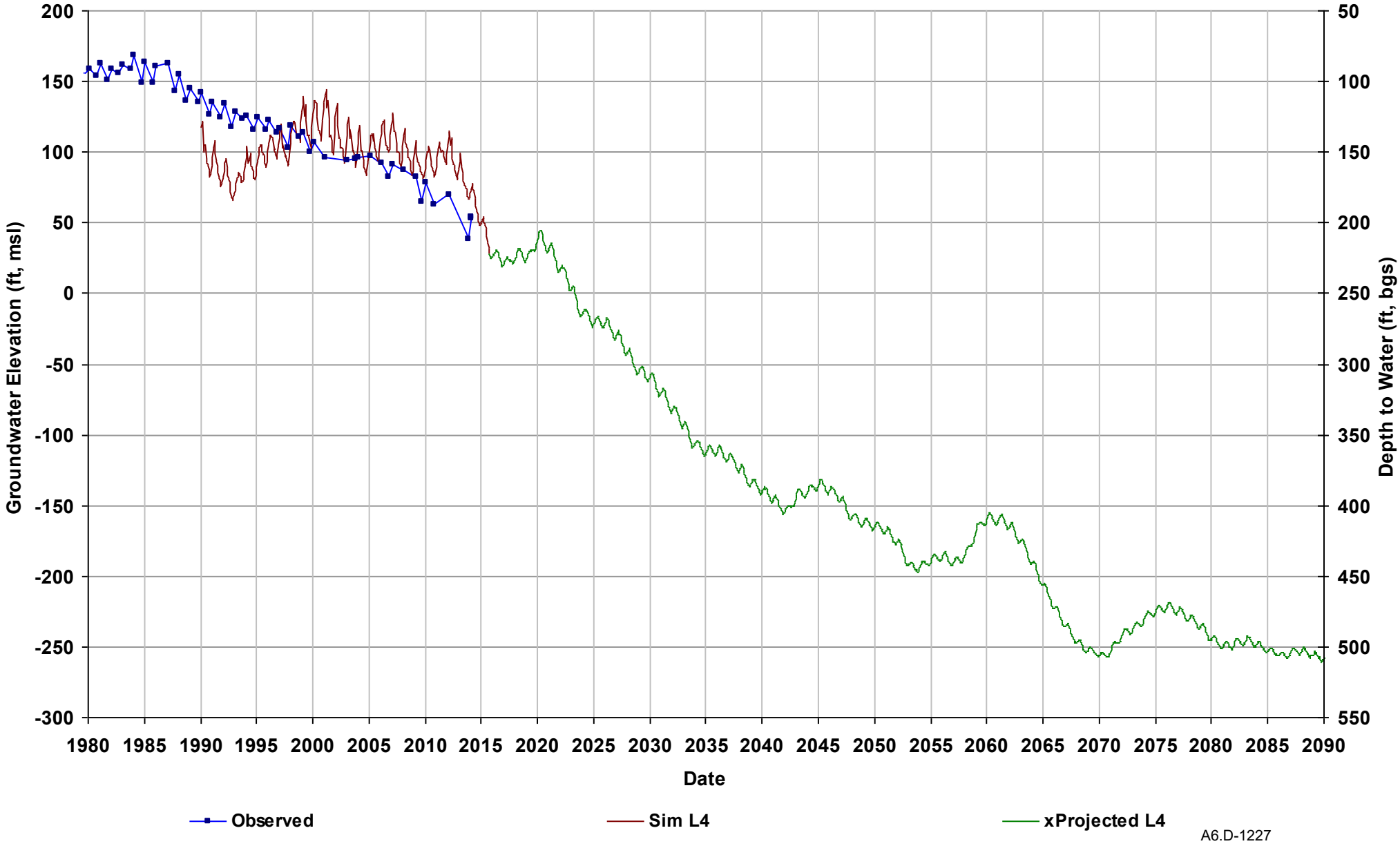
Well Name: 11S17E06C001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 235

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



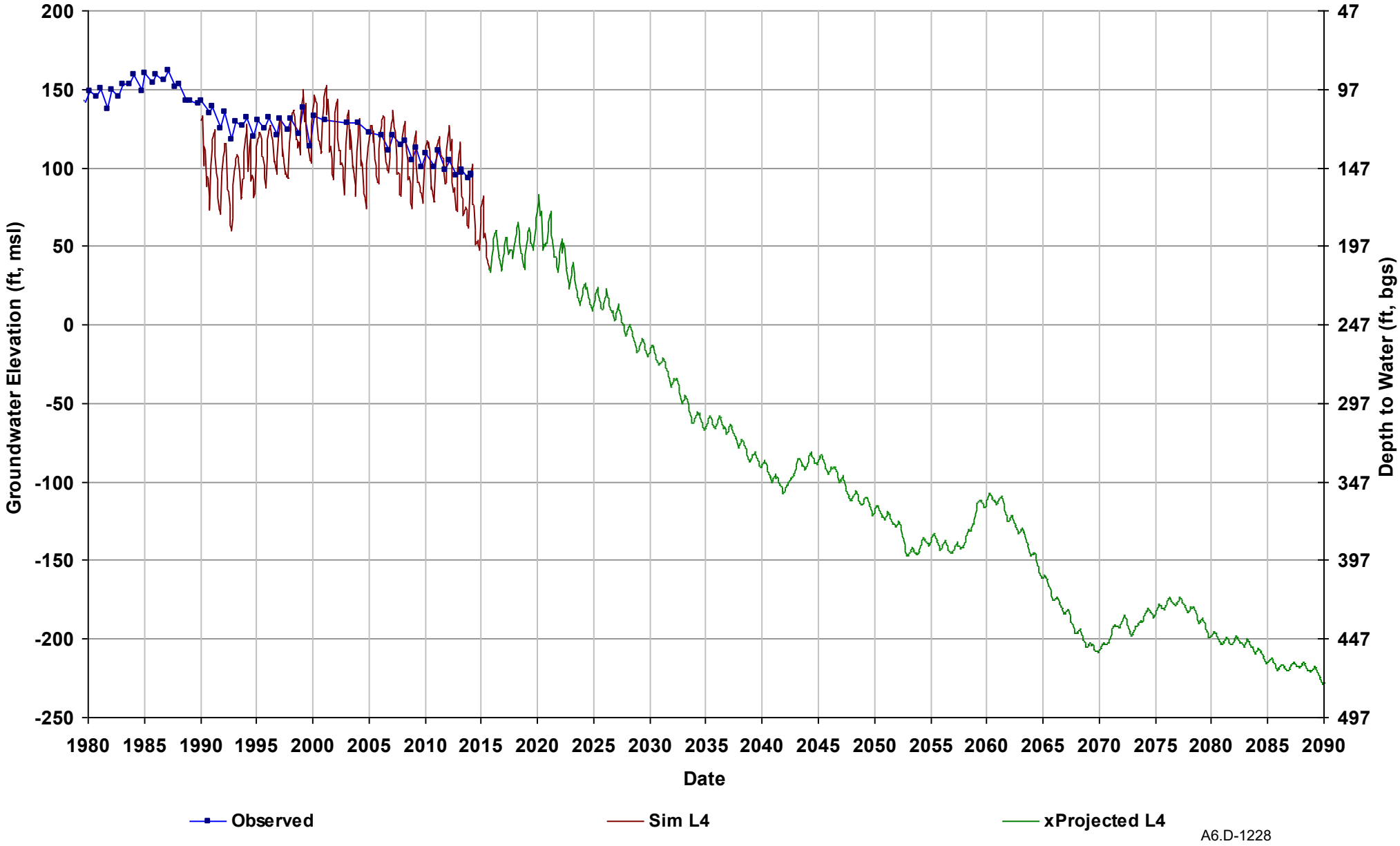
Well Name: 11S17E16H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 249

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



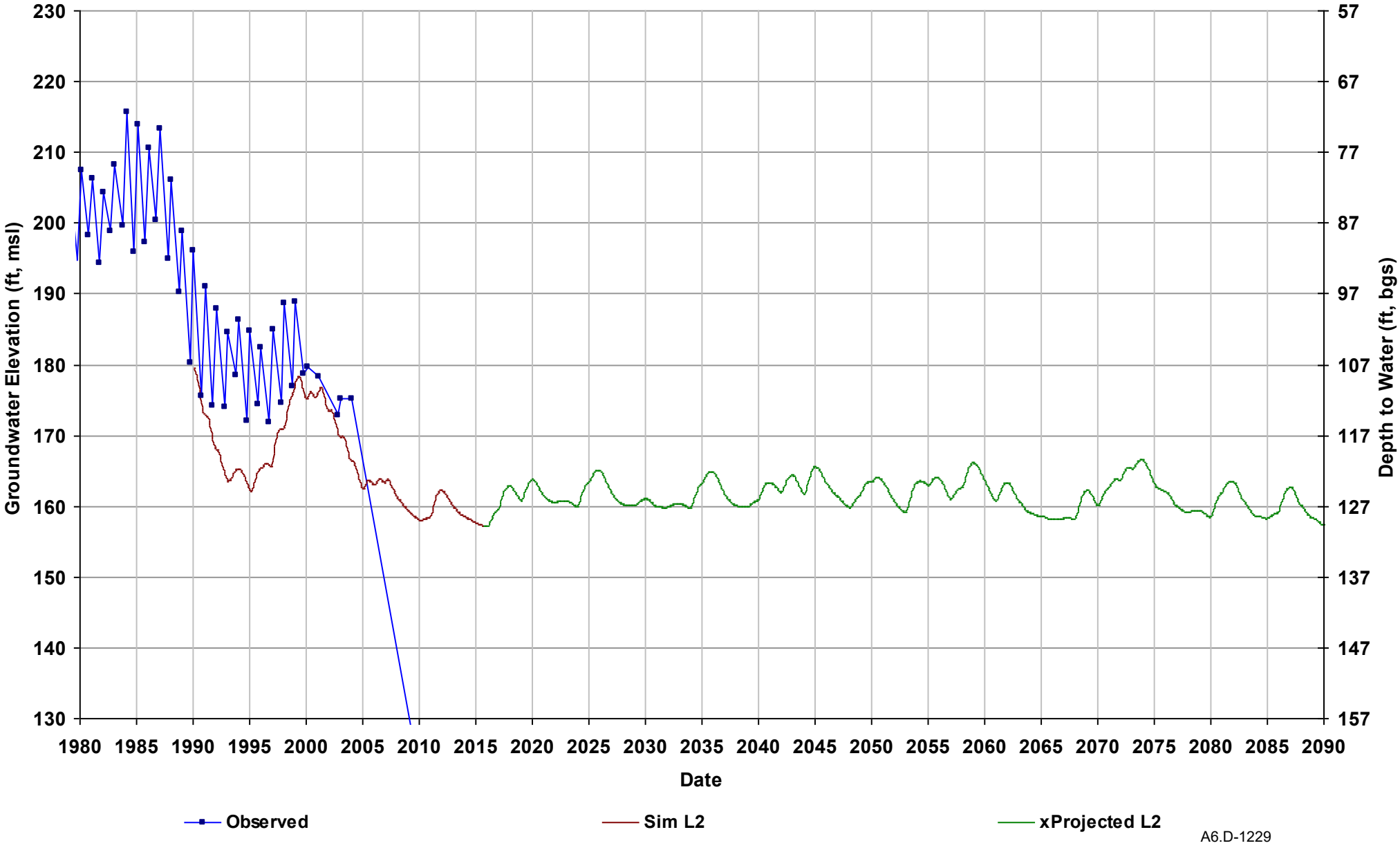
Well Name: 11S17E33H001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 246

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



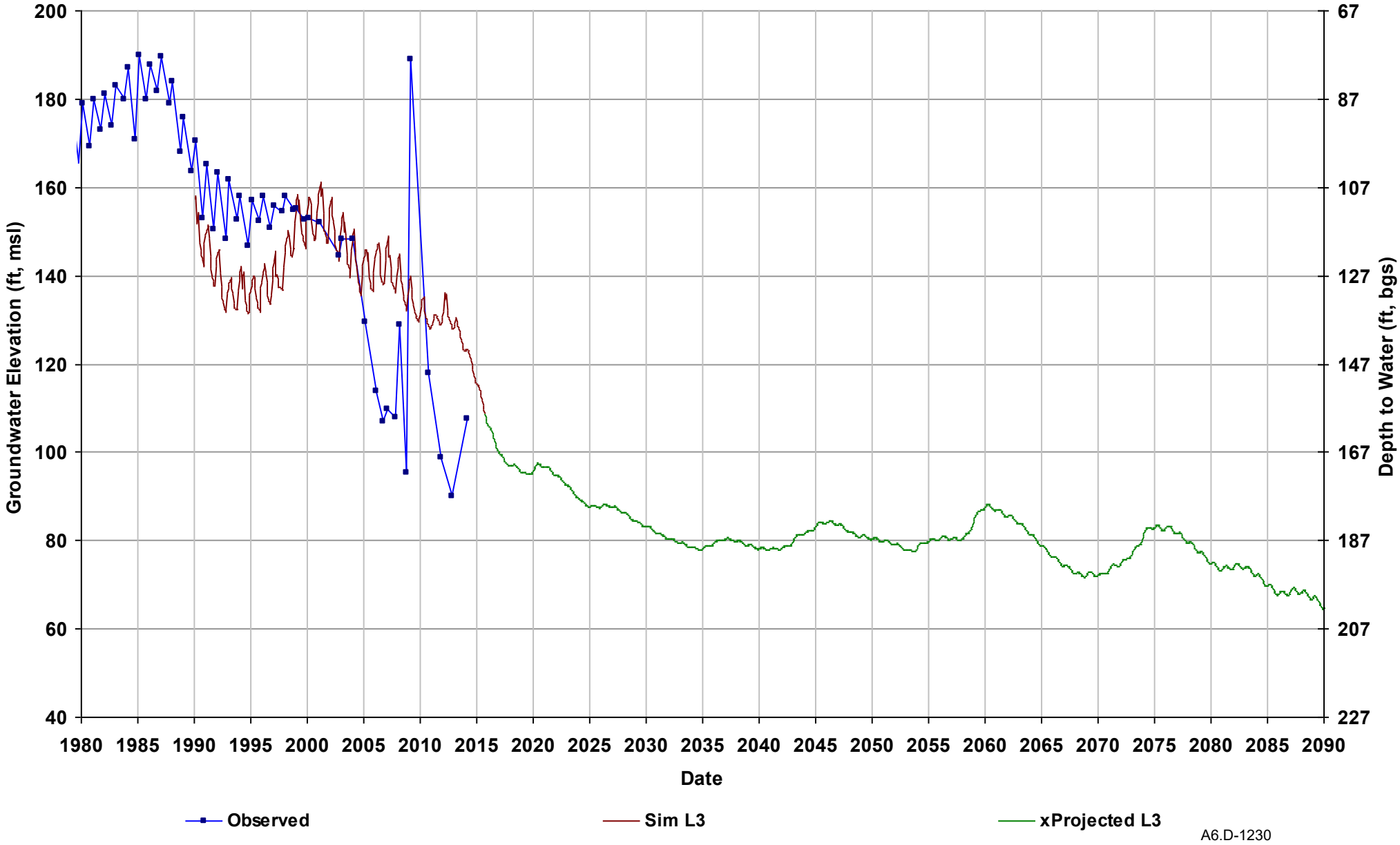
Well Name: 11S18E27F001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 287

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



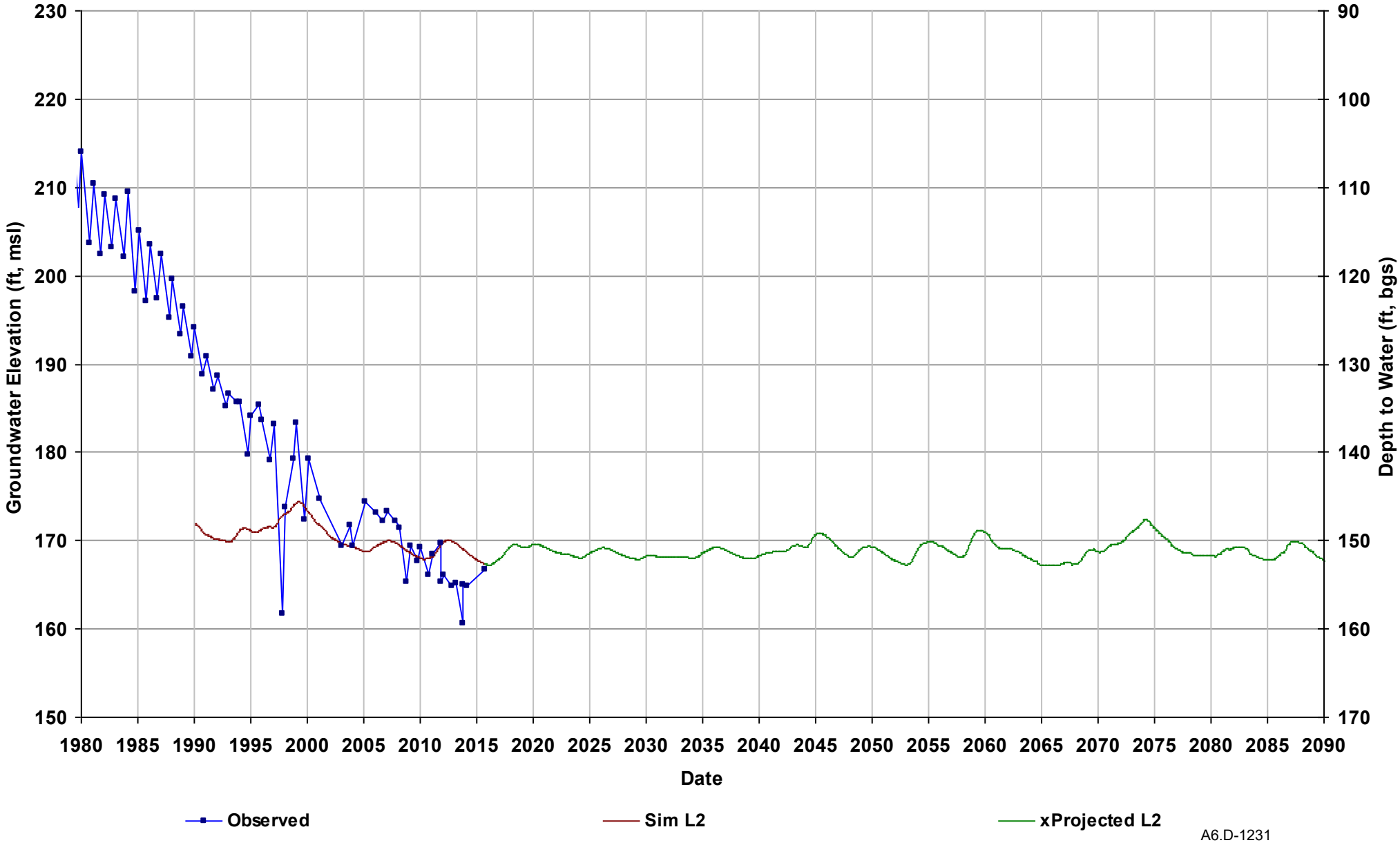
Well Name: 11S18E31A003M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



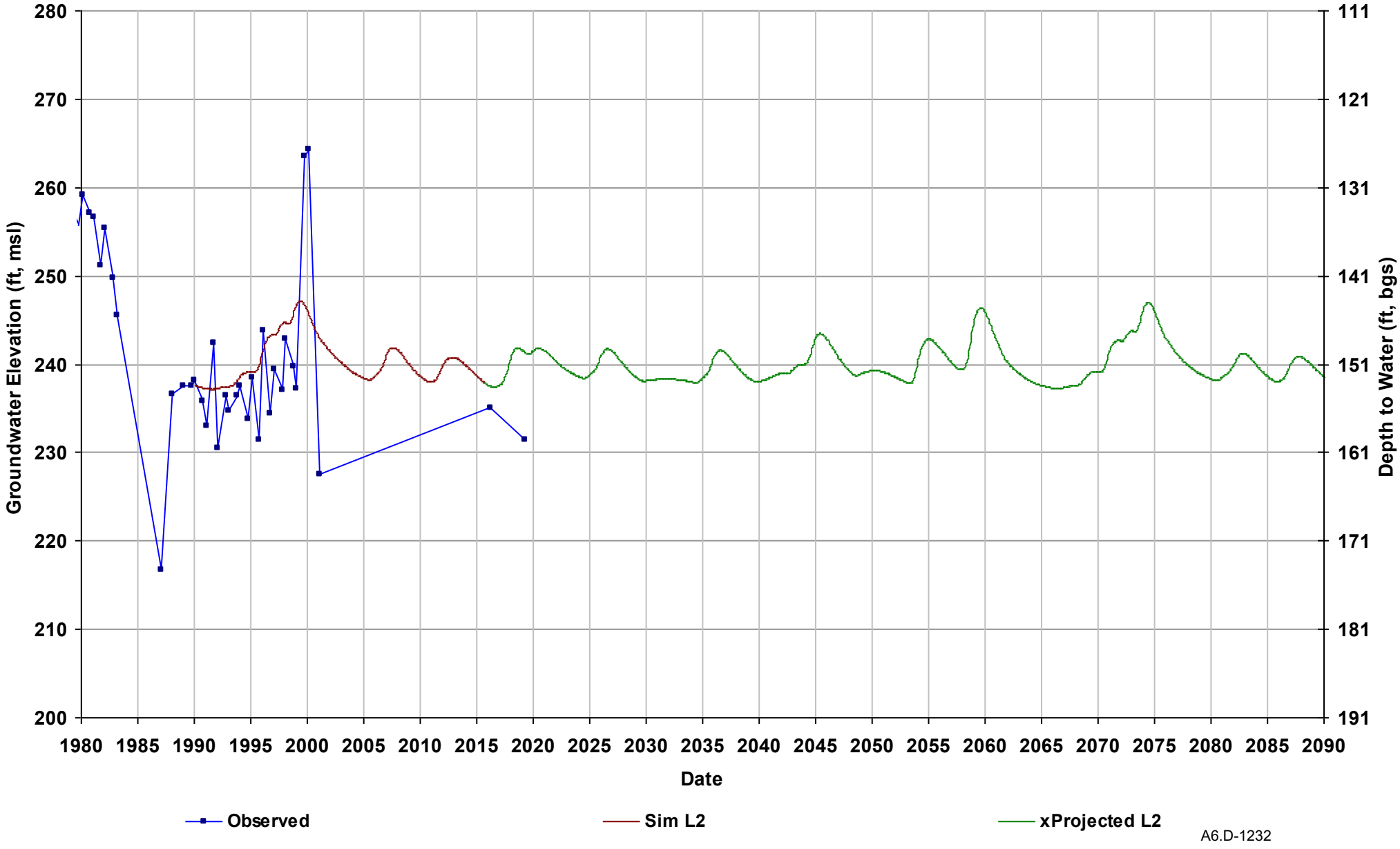
Well Name: 11S19E32R001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 320

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



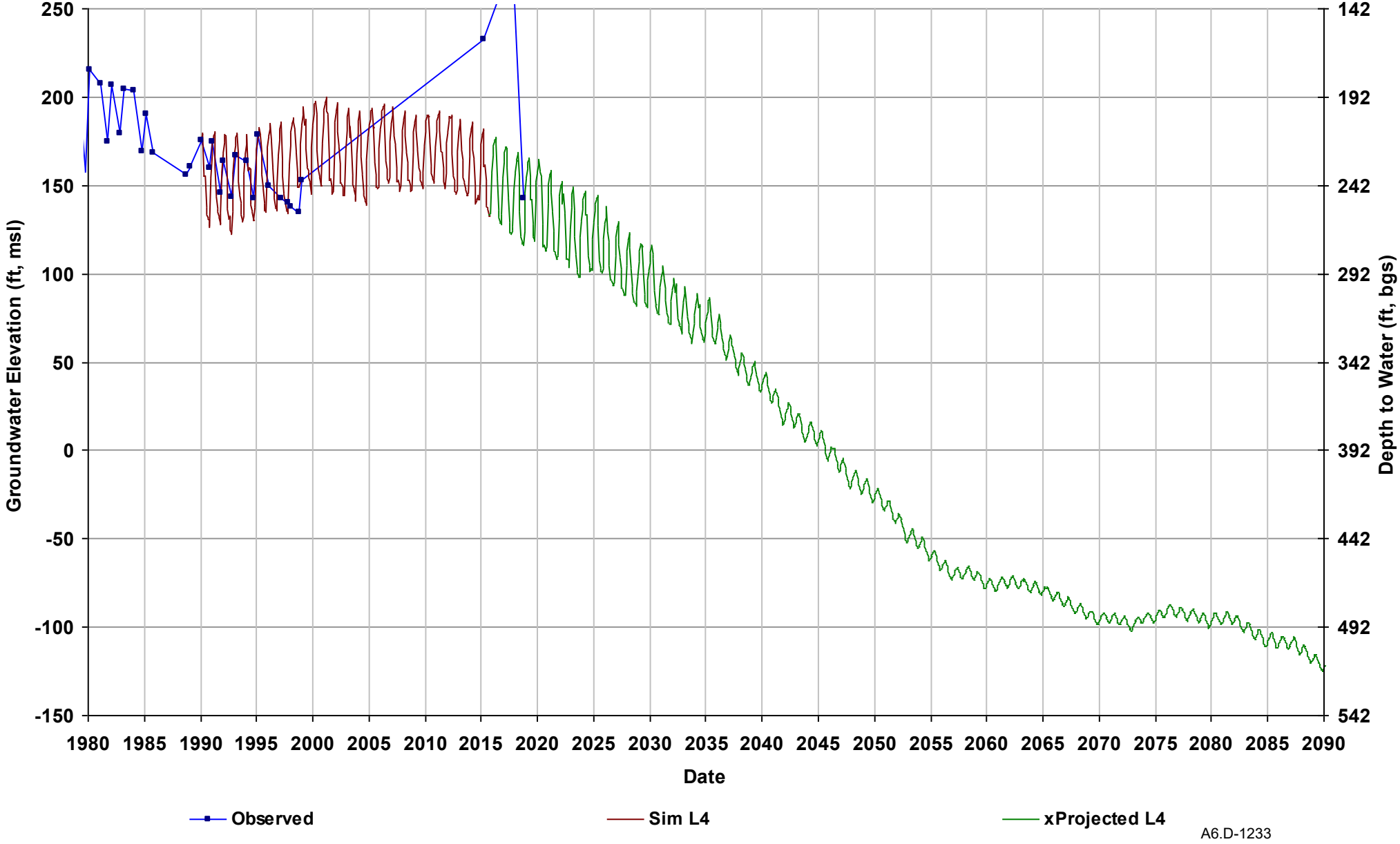
Well Name: 11S20E18L001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 391

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



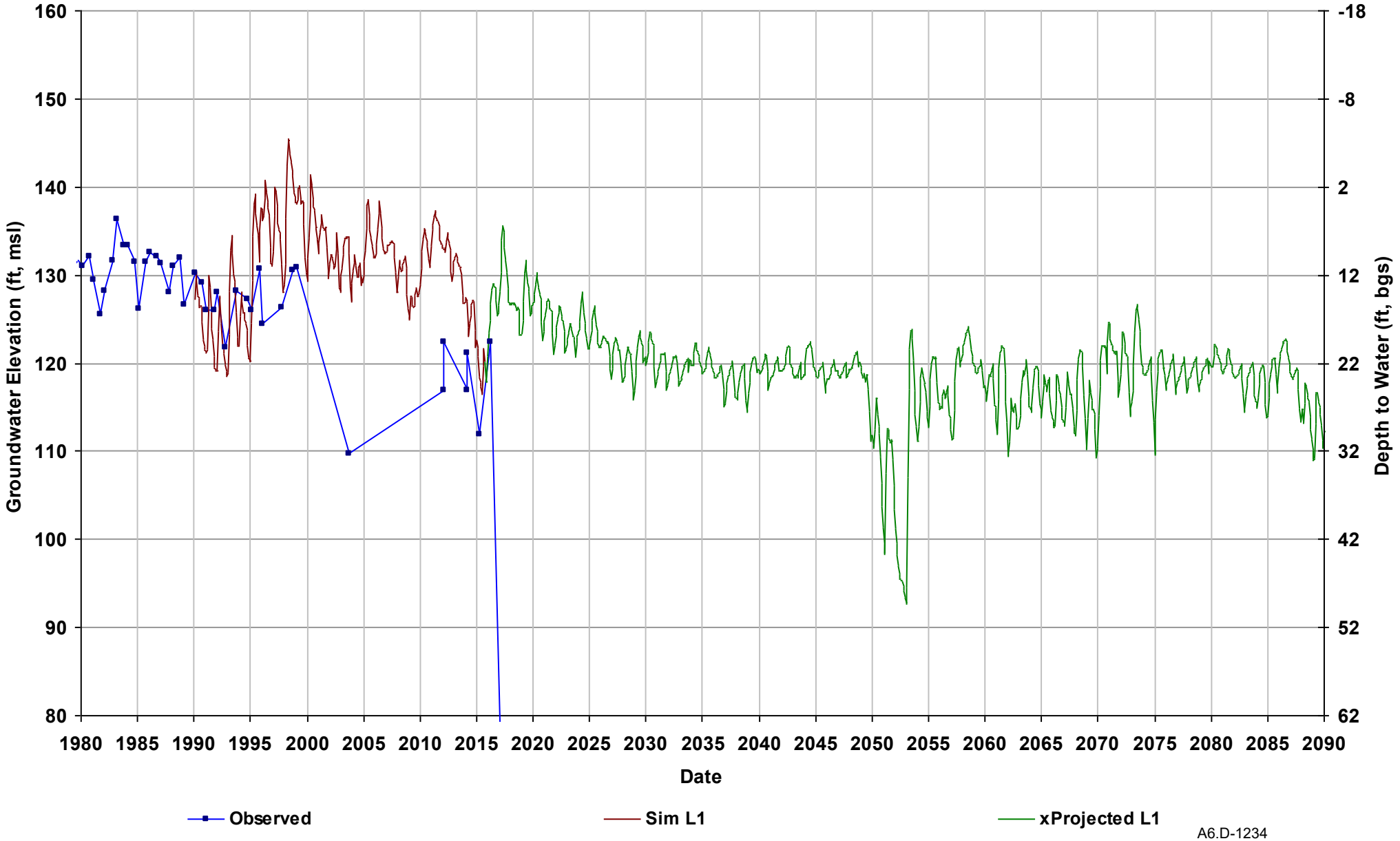
Well Name: 11S20E33K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 392

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



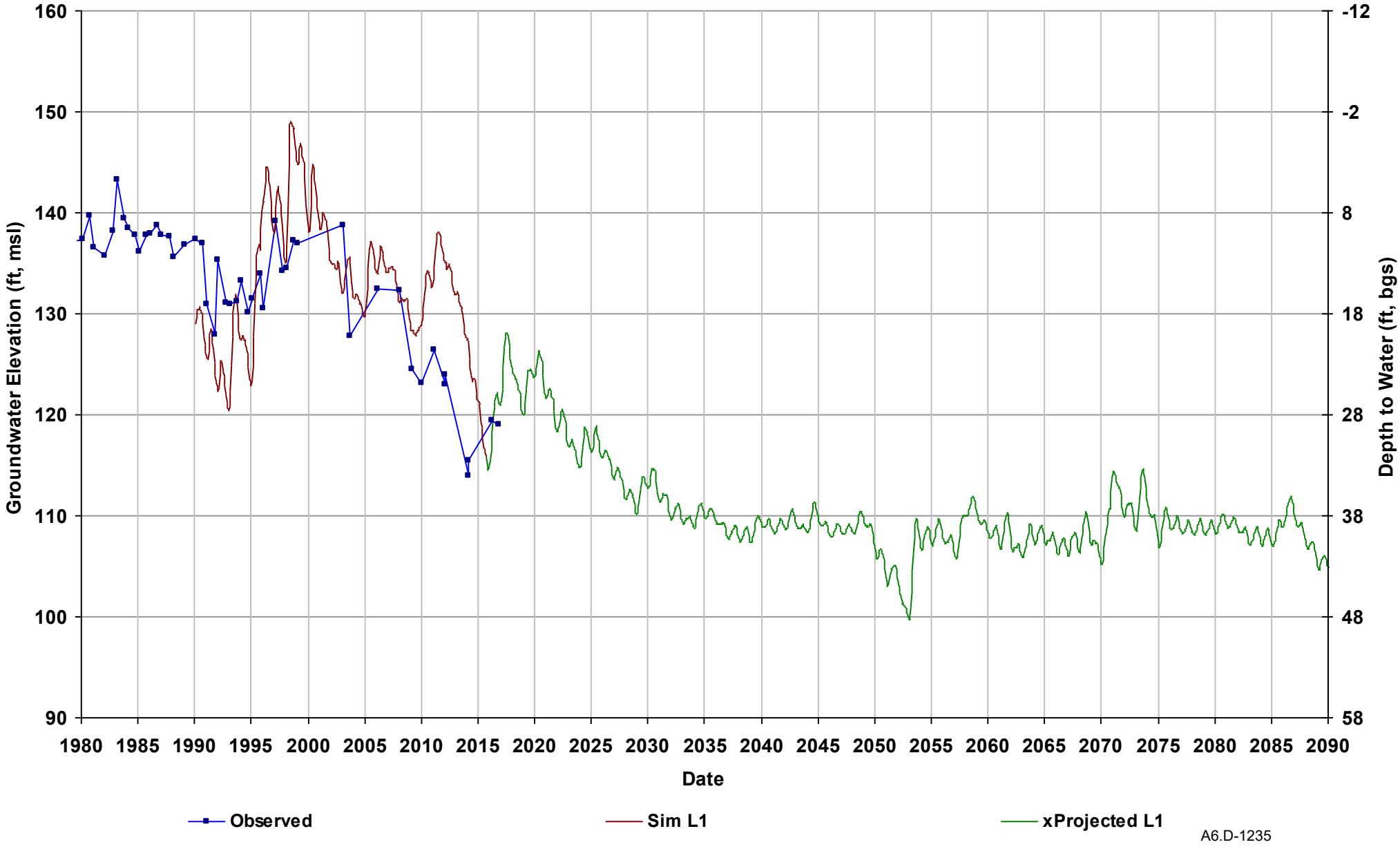
Well Name: 12S14E08R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 142

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



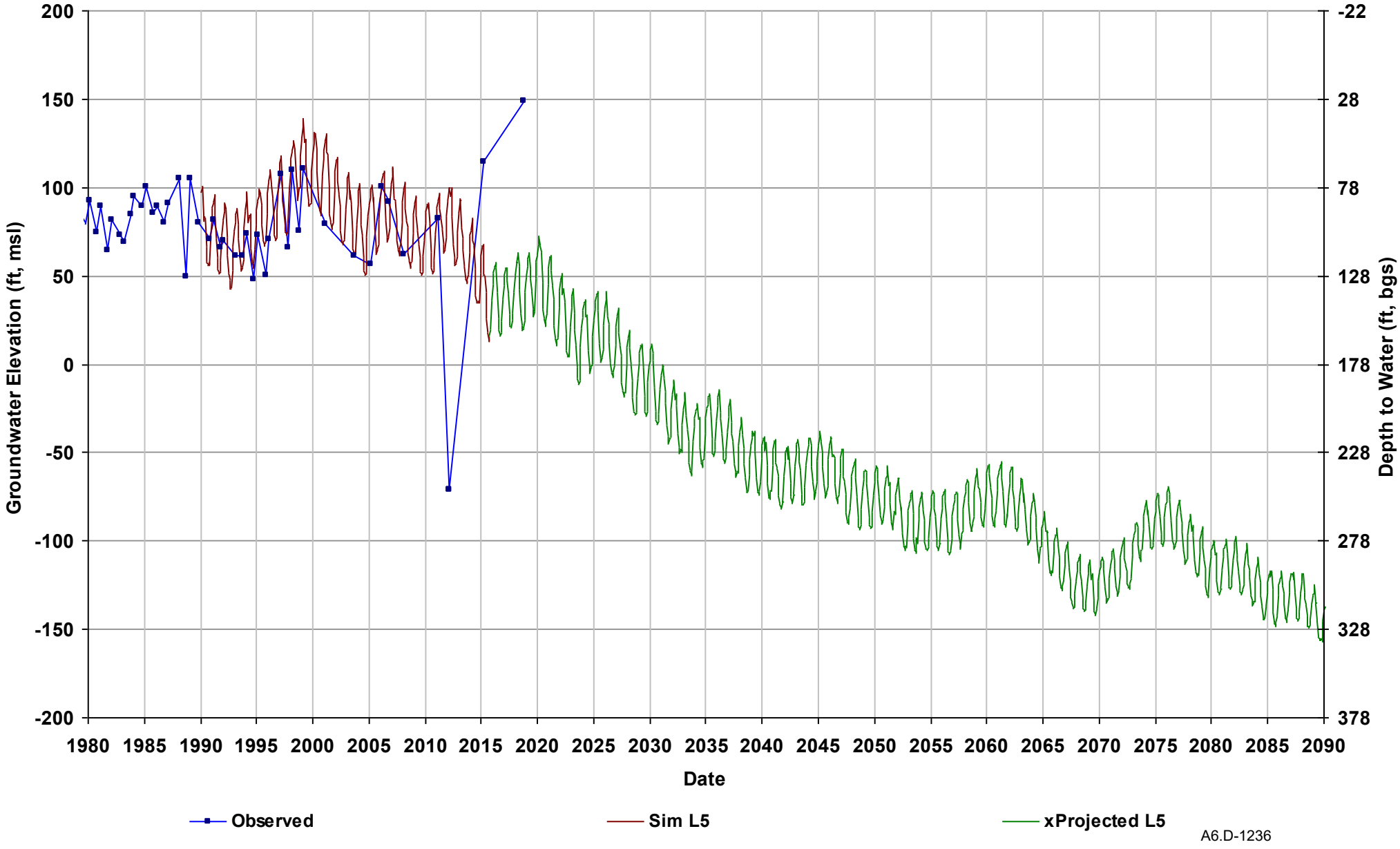
Well Name: 12S14E21H001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 148

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



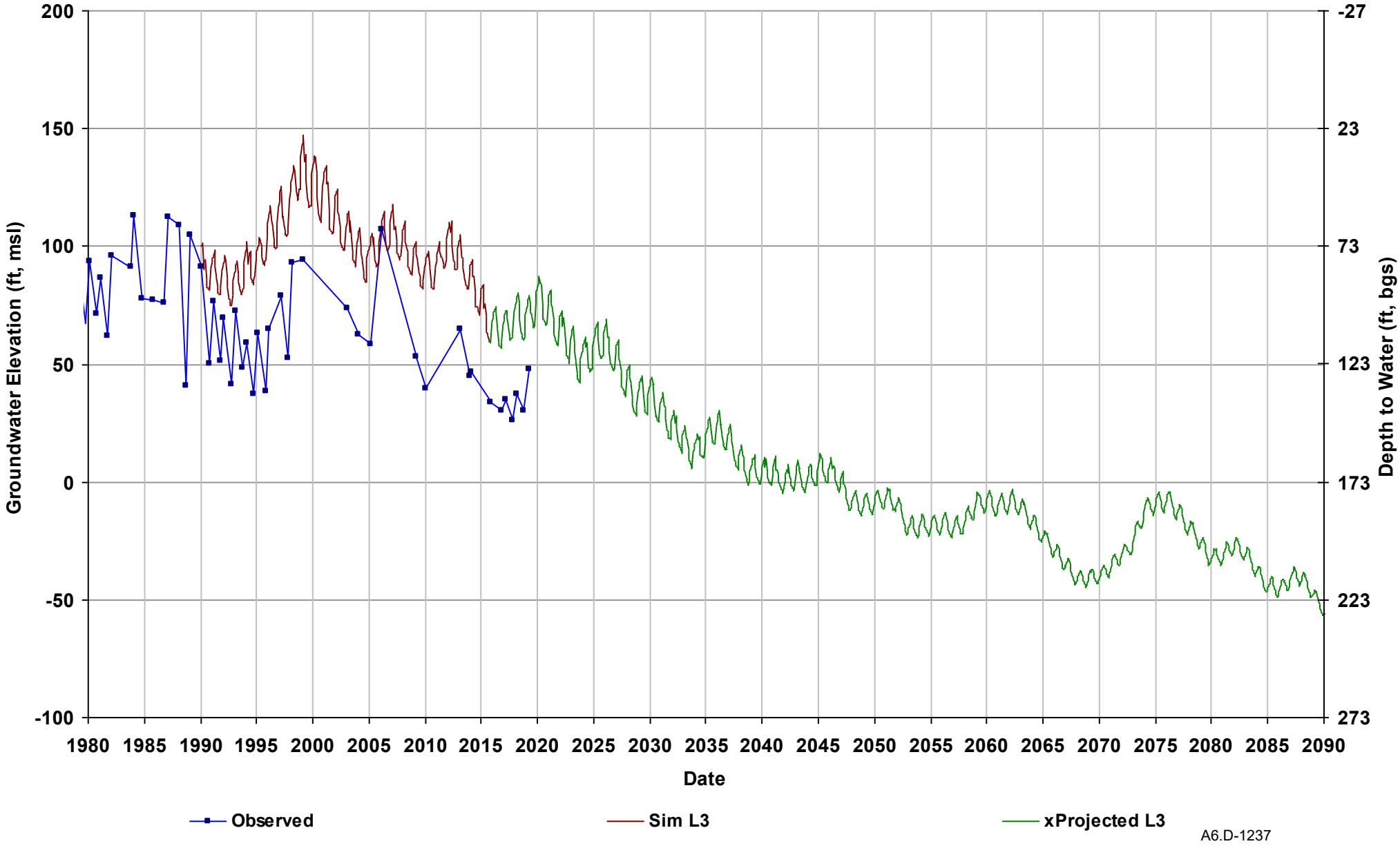
Well Name: 12S15E01R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



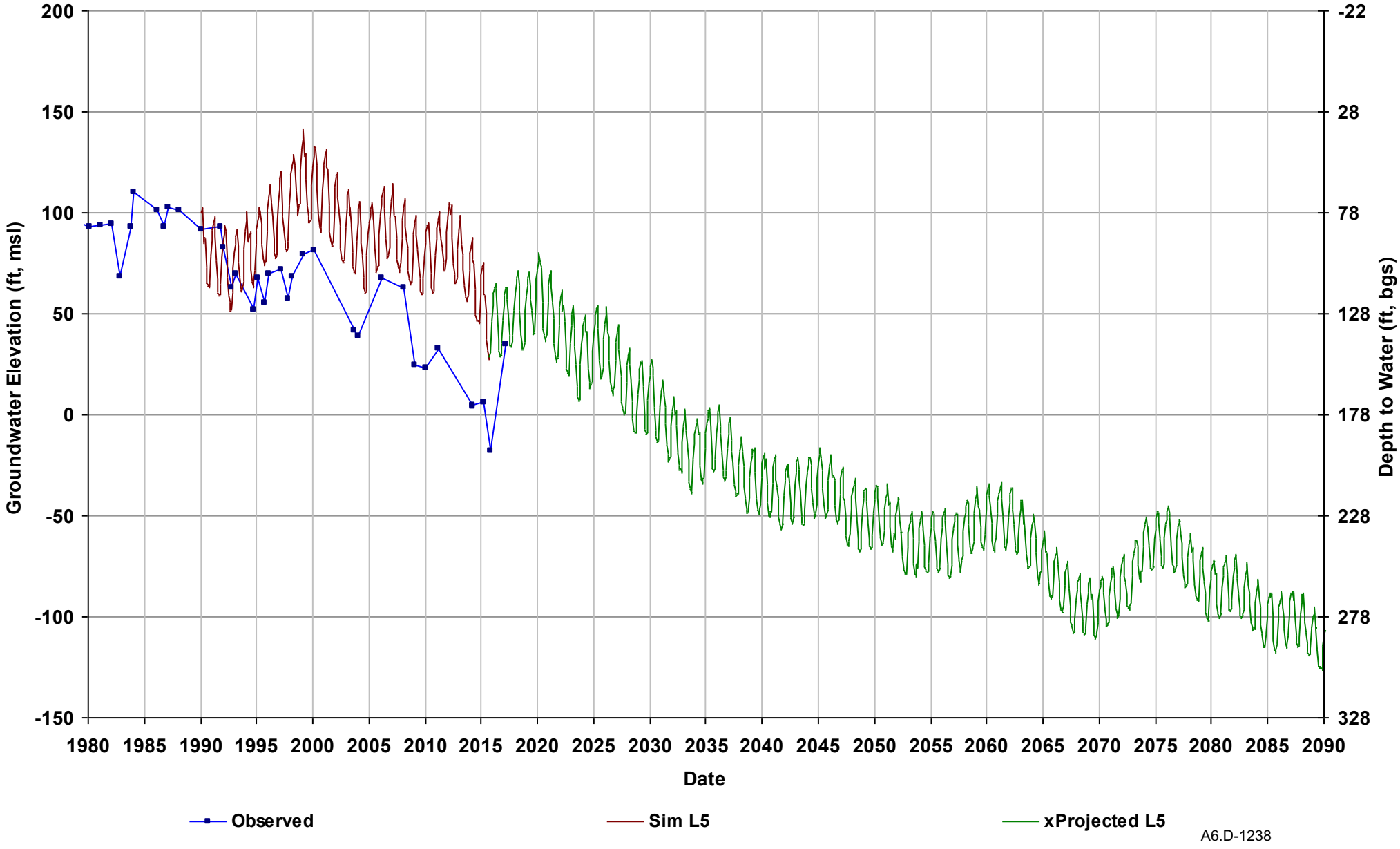
Well Name: 12S15E11R001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 172

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



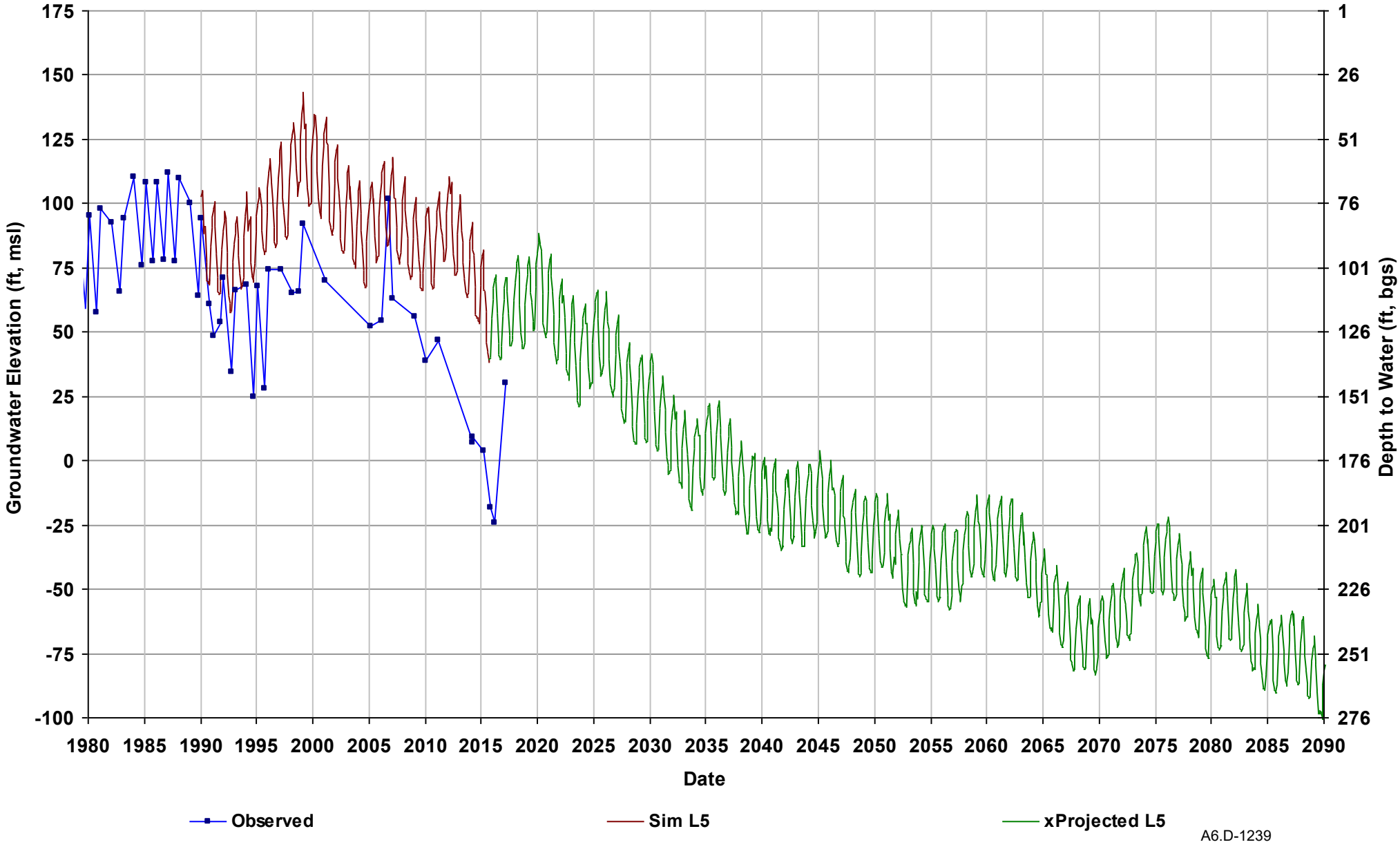
Well Name: 12S15E12R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 178

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



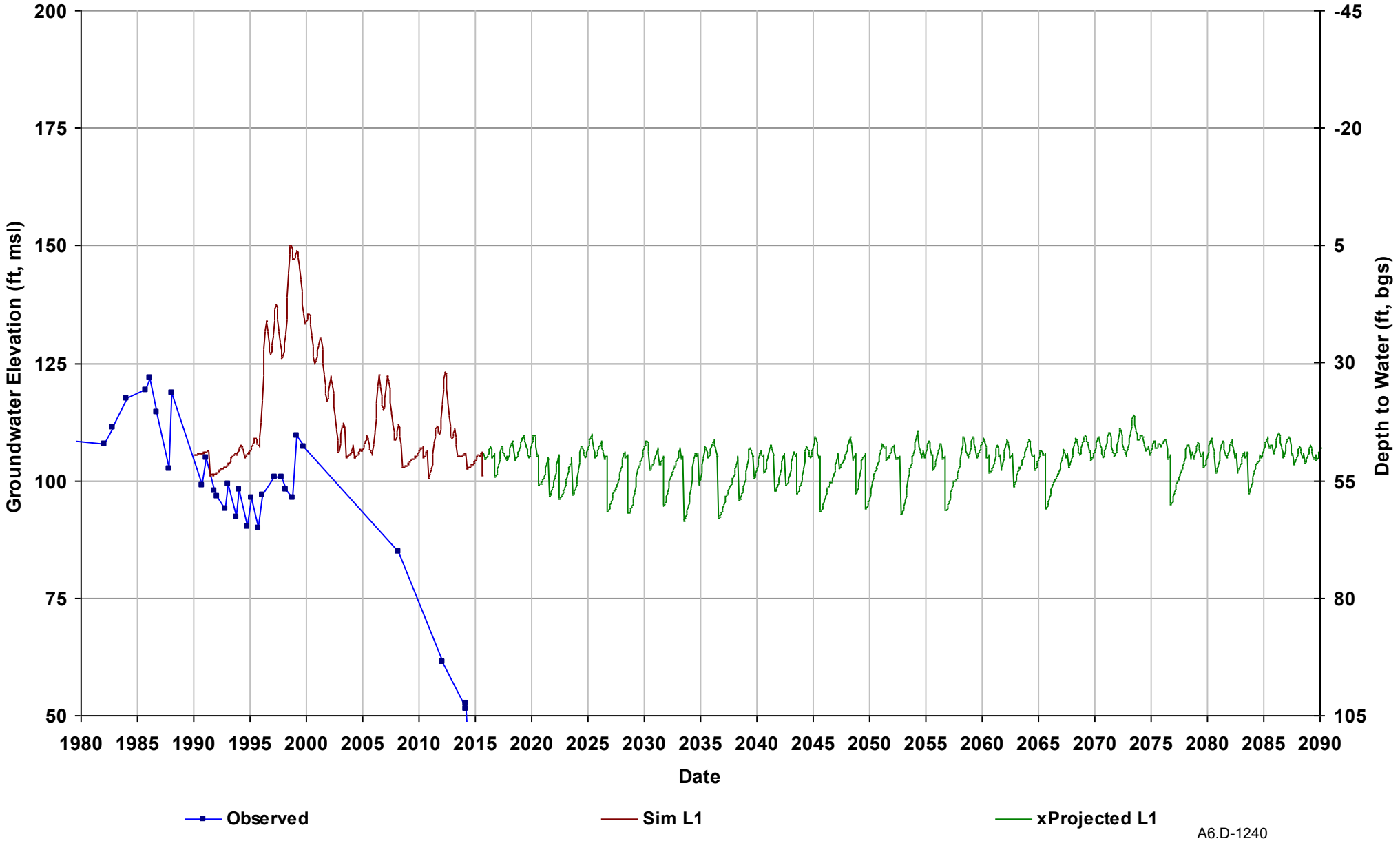
Well Name: 12S15E13R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 176

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



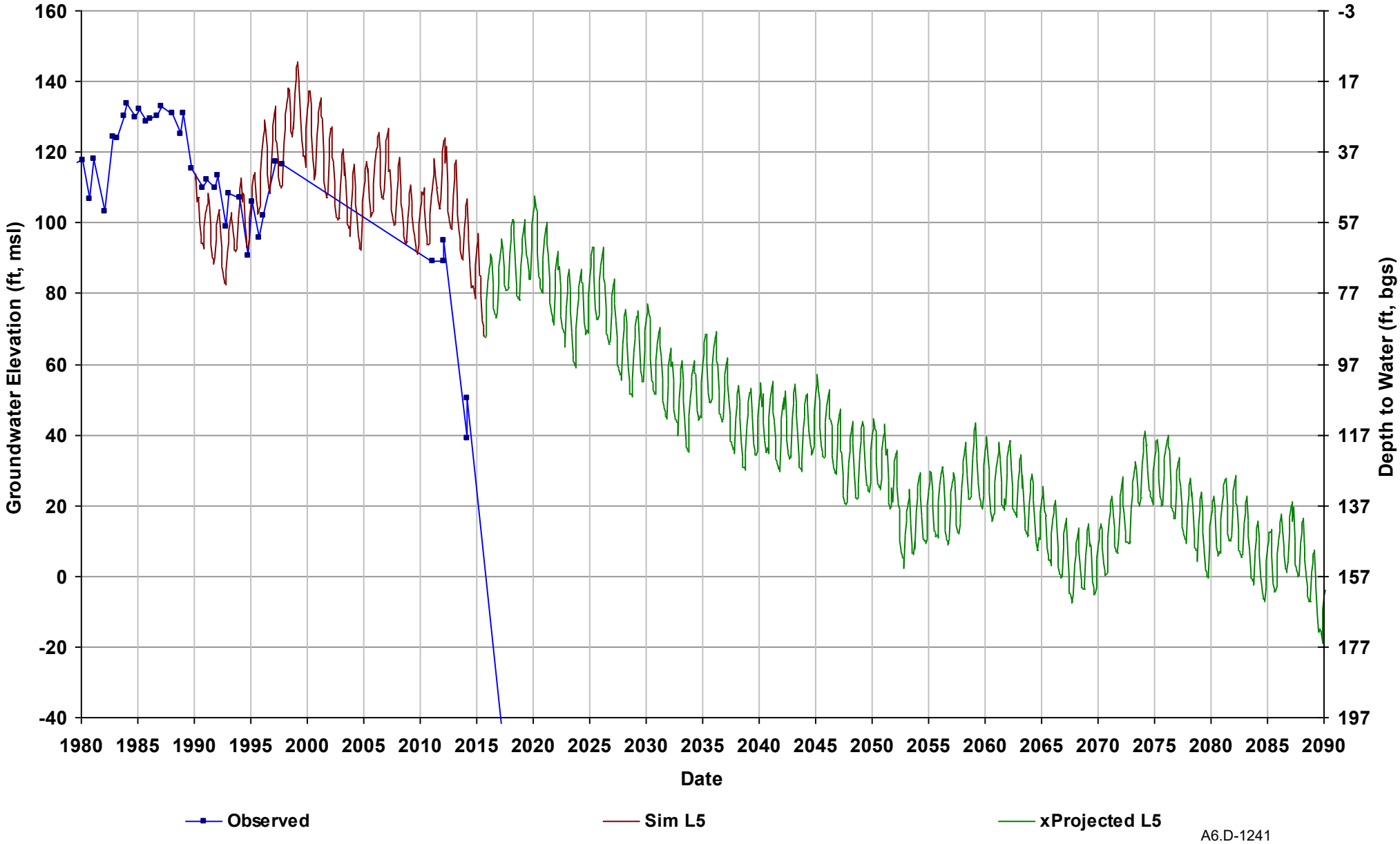
Well Name: 12S15E17E001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 154

Total Depth (ft): 57
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



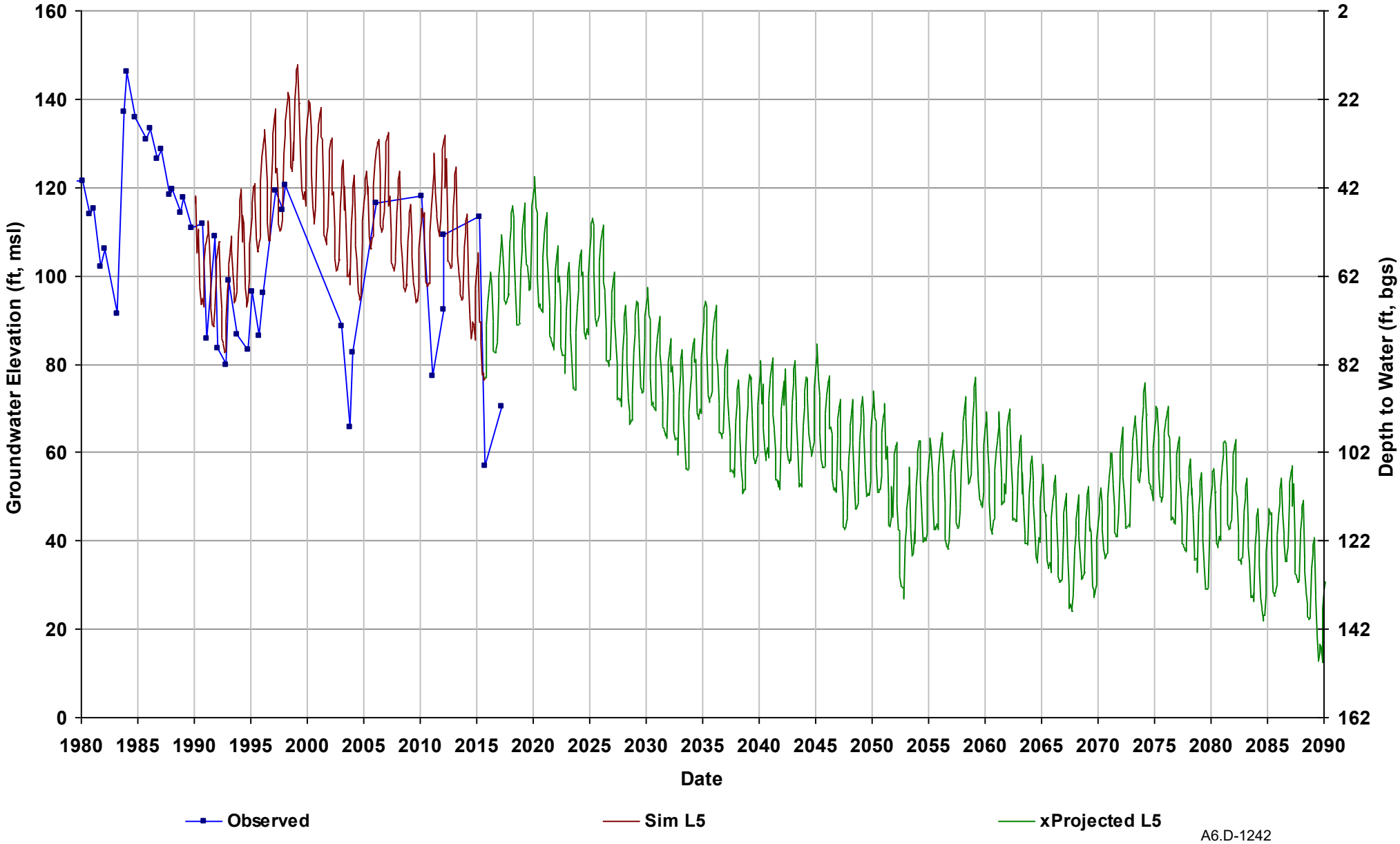
Well Name: 12S15E29C001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 156

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



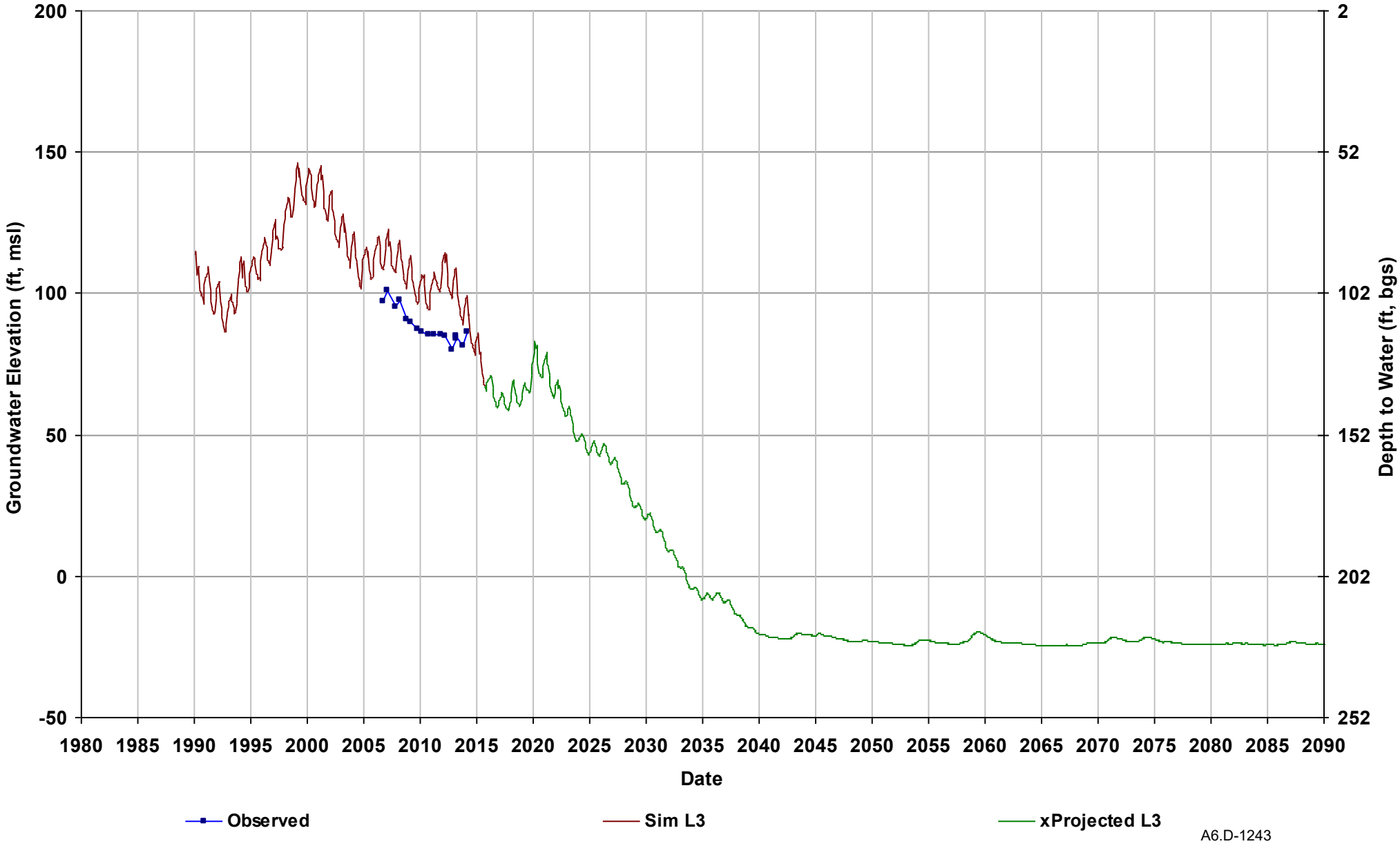
Well Name: 12S15E33R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



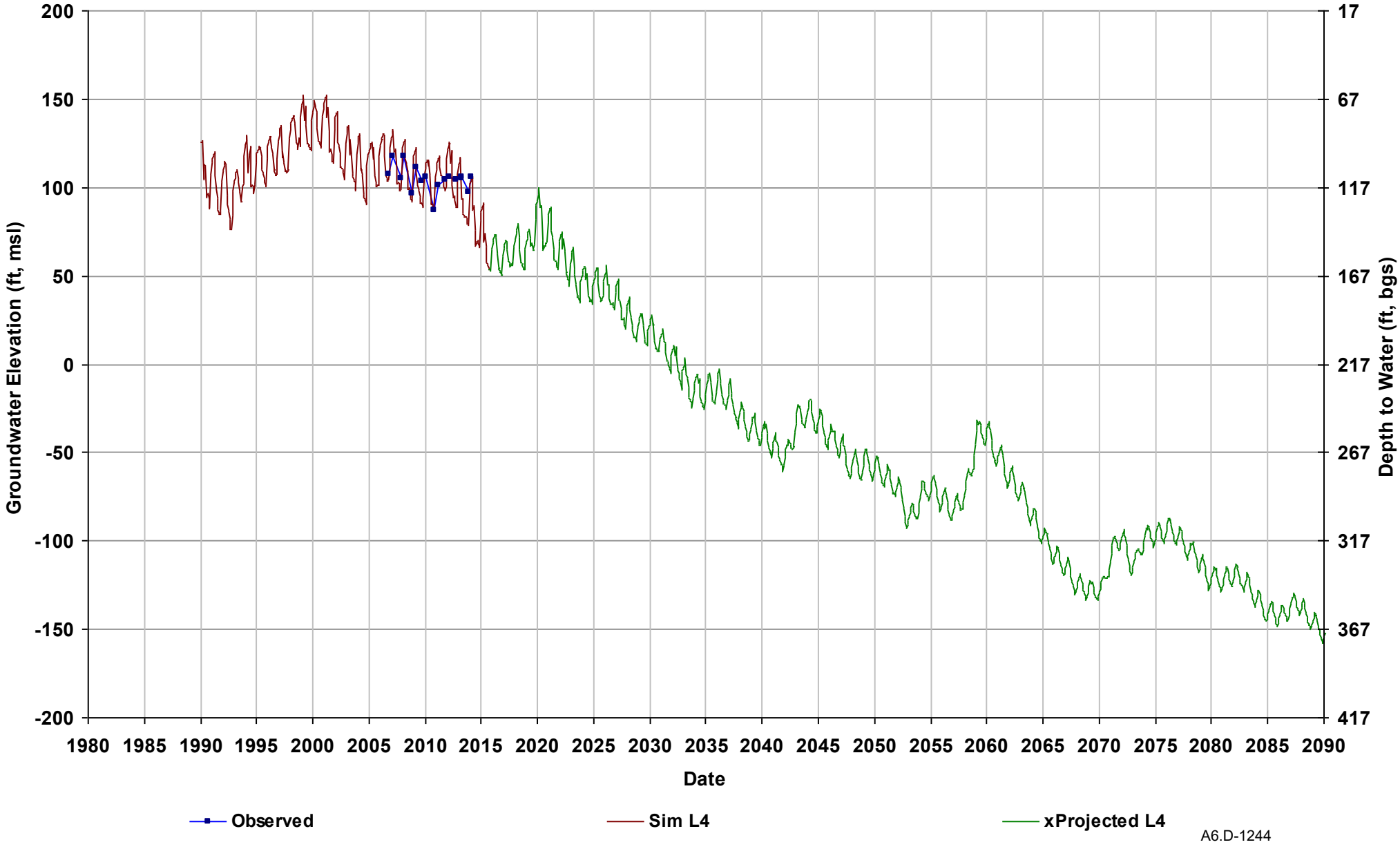
Well Name: 12S16E02N001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

Total Depth (ft): 144
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



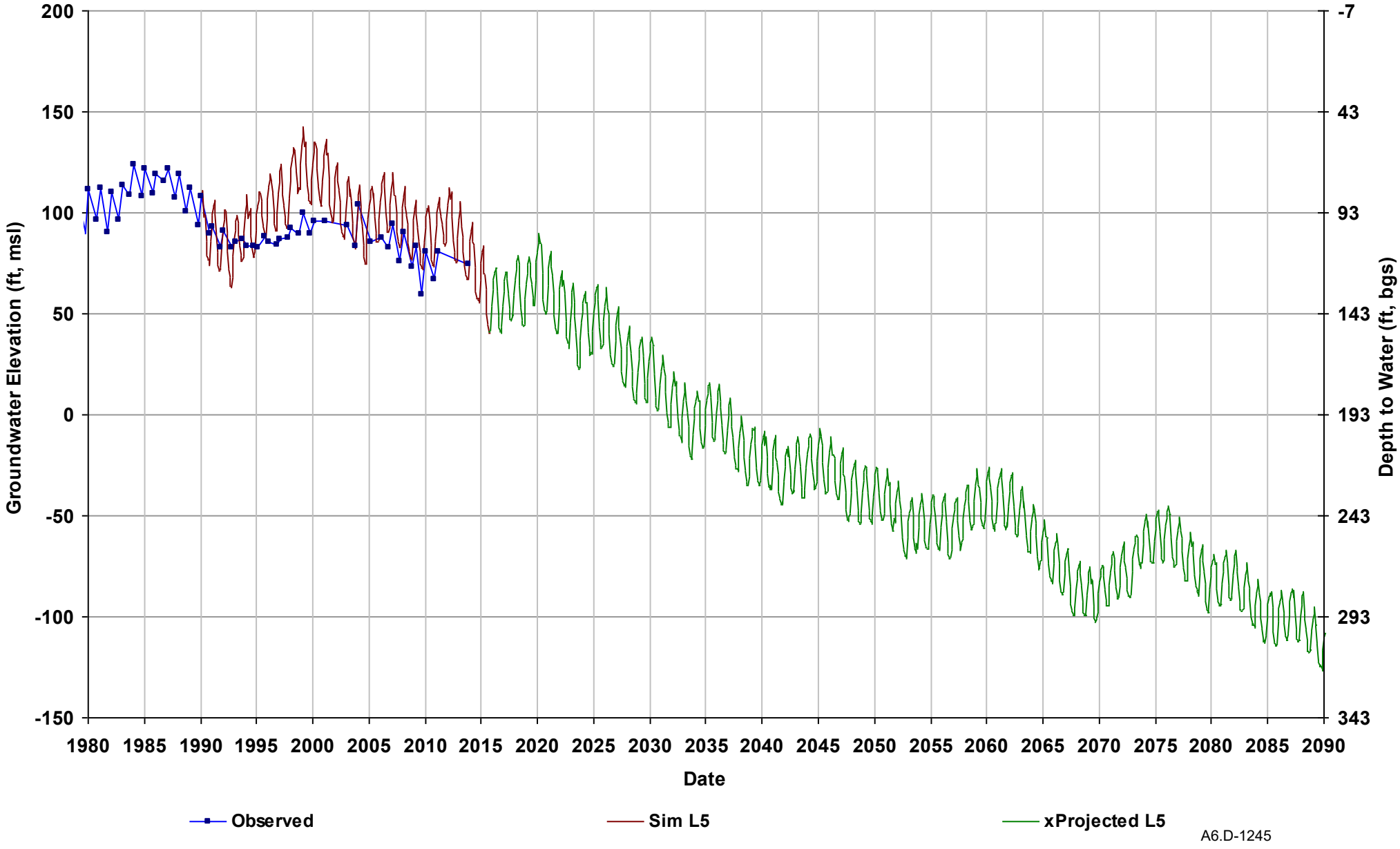
Well Name: 12S16E12H001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 217

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



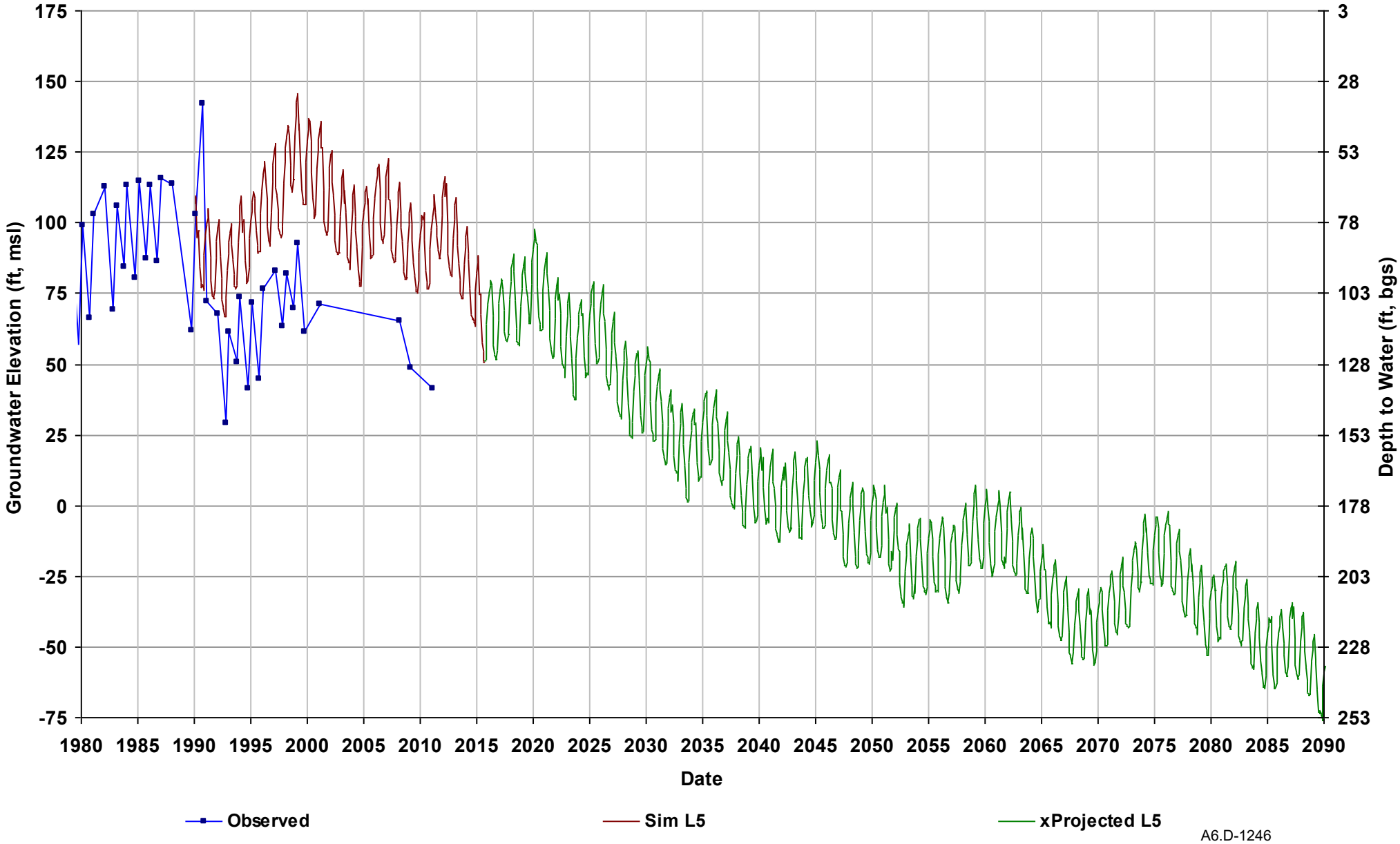
Well Name: 12S16E16R001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 193

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



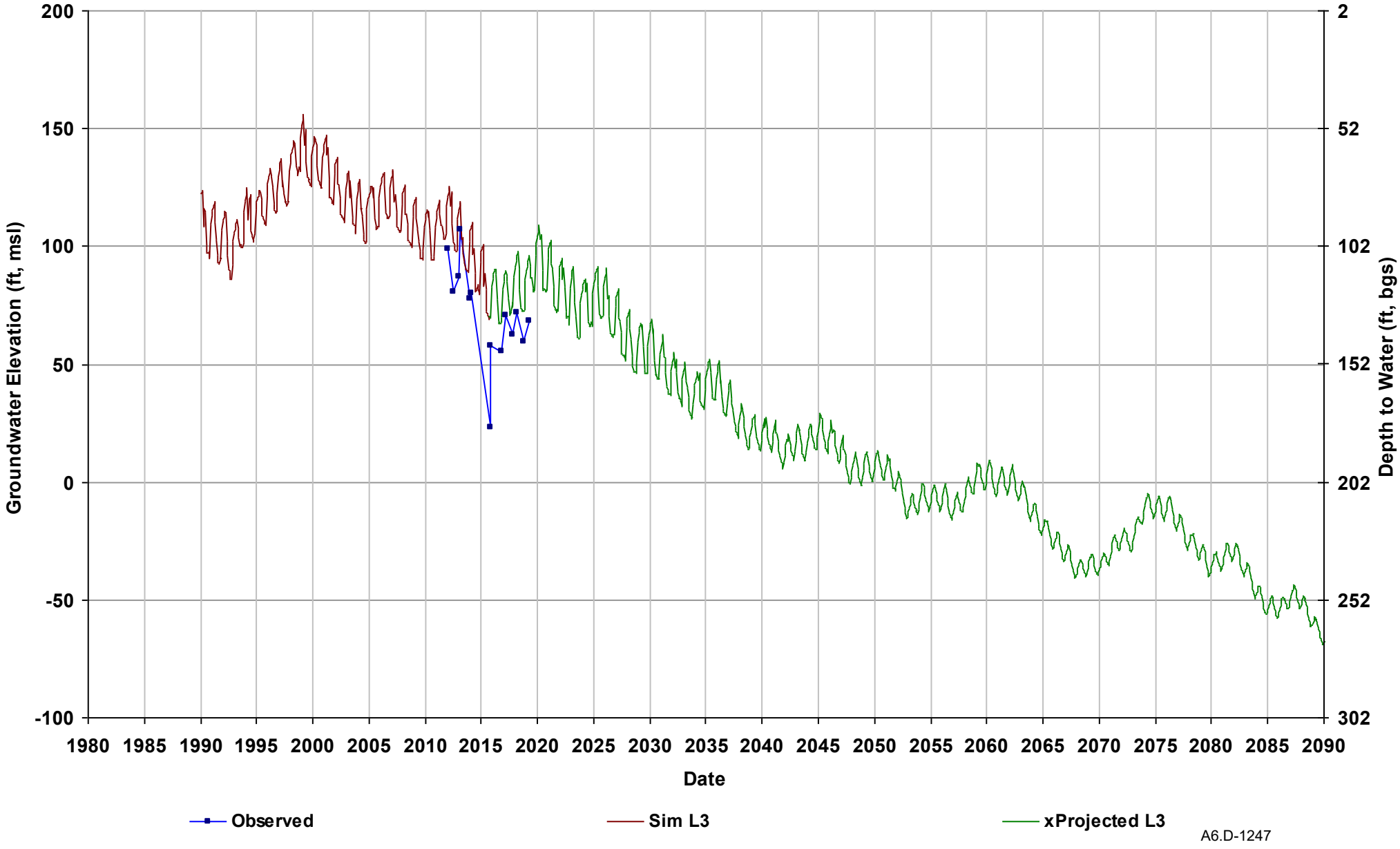
Well Name: 12S16E19P001M
Depth Zone: Unknown; Within CC
Subbasin: Madera
GSE (ft, msl): 177

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



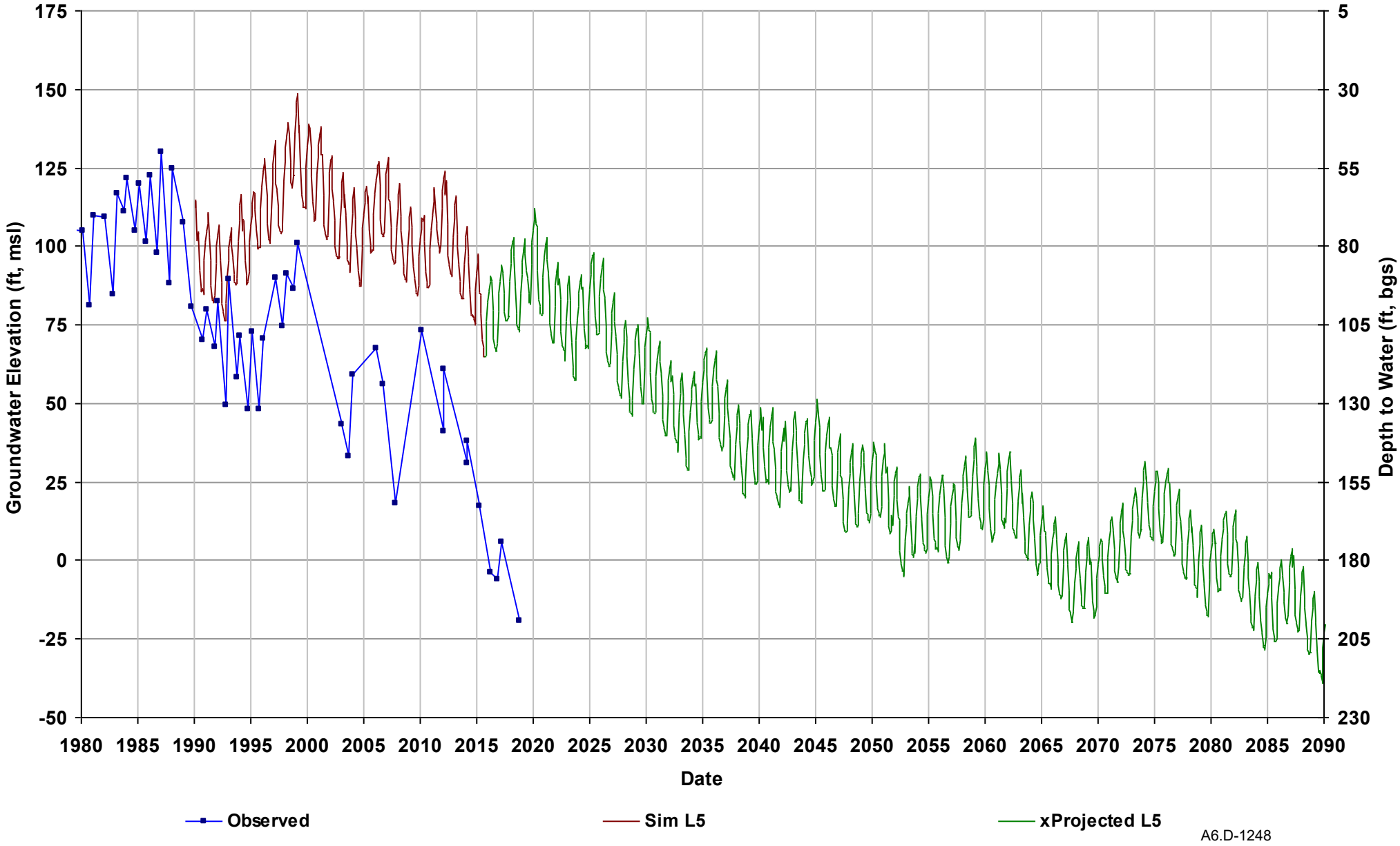
Well Name: 12S16E26H001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 202

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



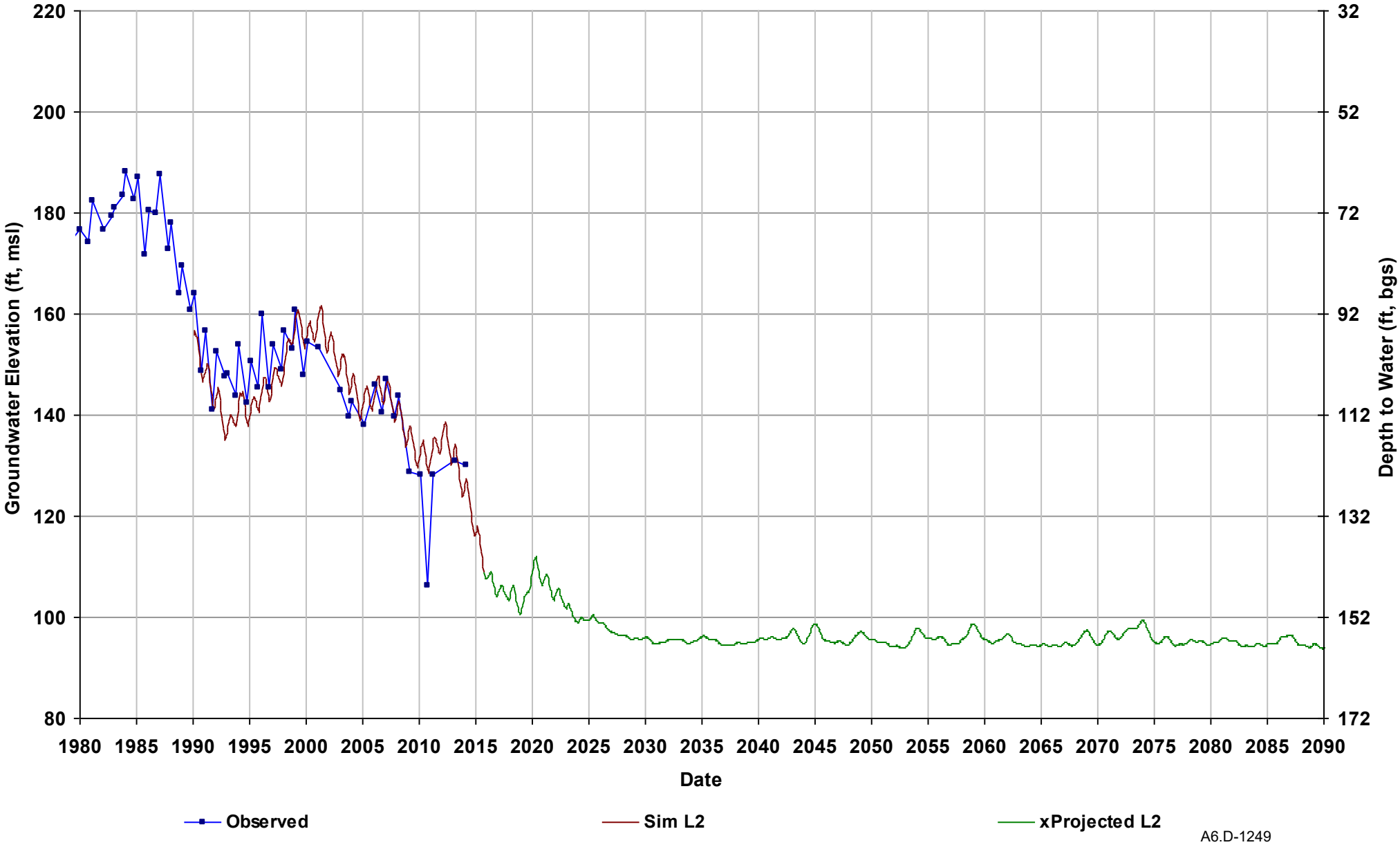
Well Name: 12S16E31G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 179

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



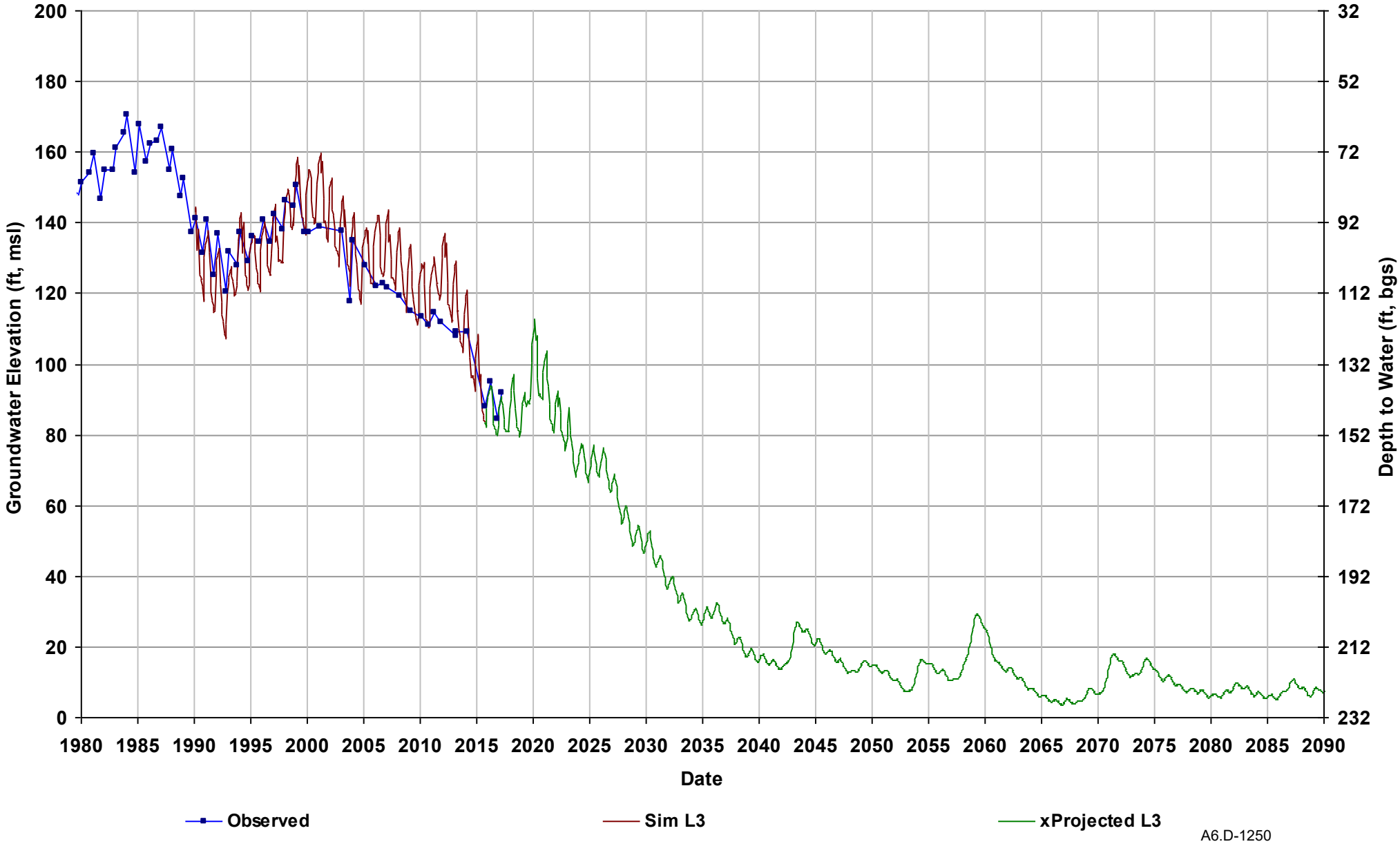
Well Name: 12S17E13J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



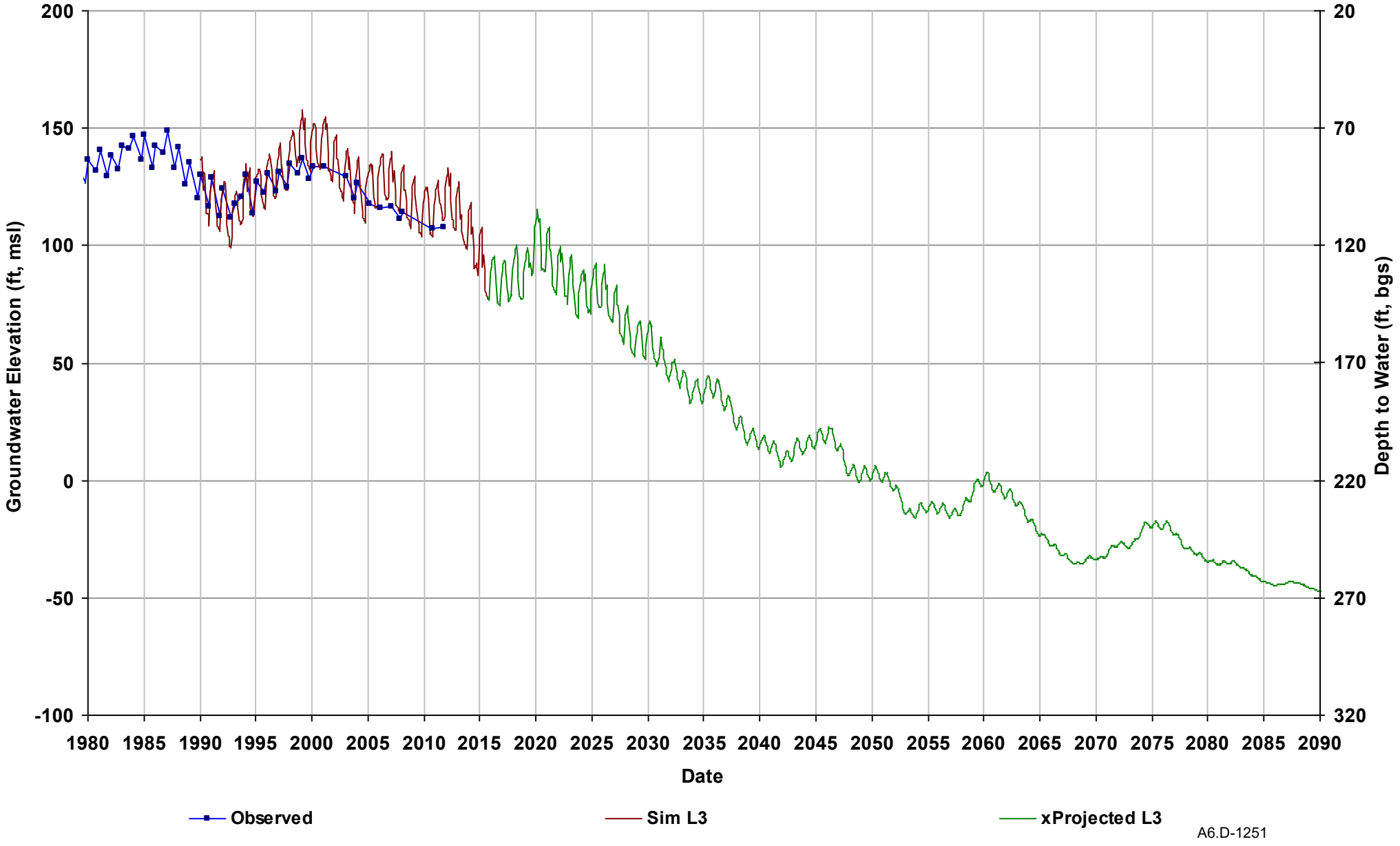
Well Name: 12S17E16A002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 232

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



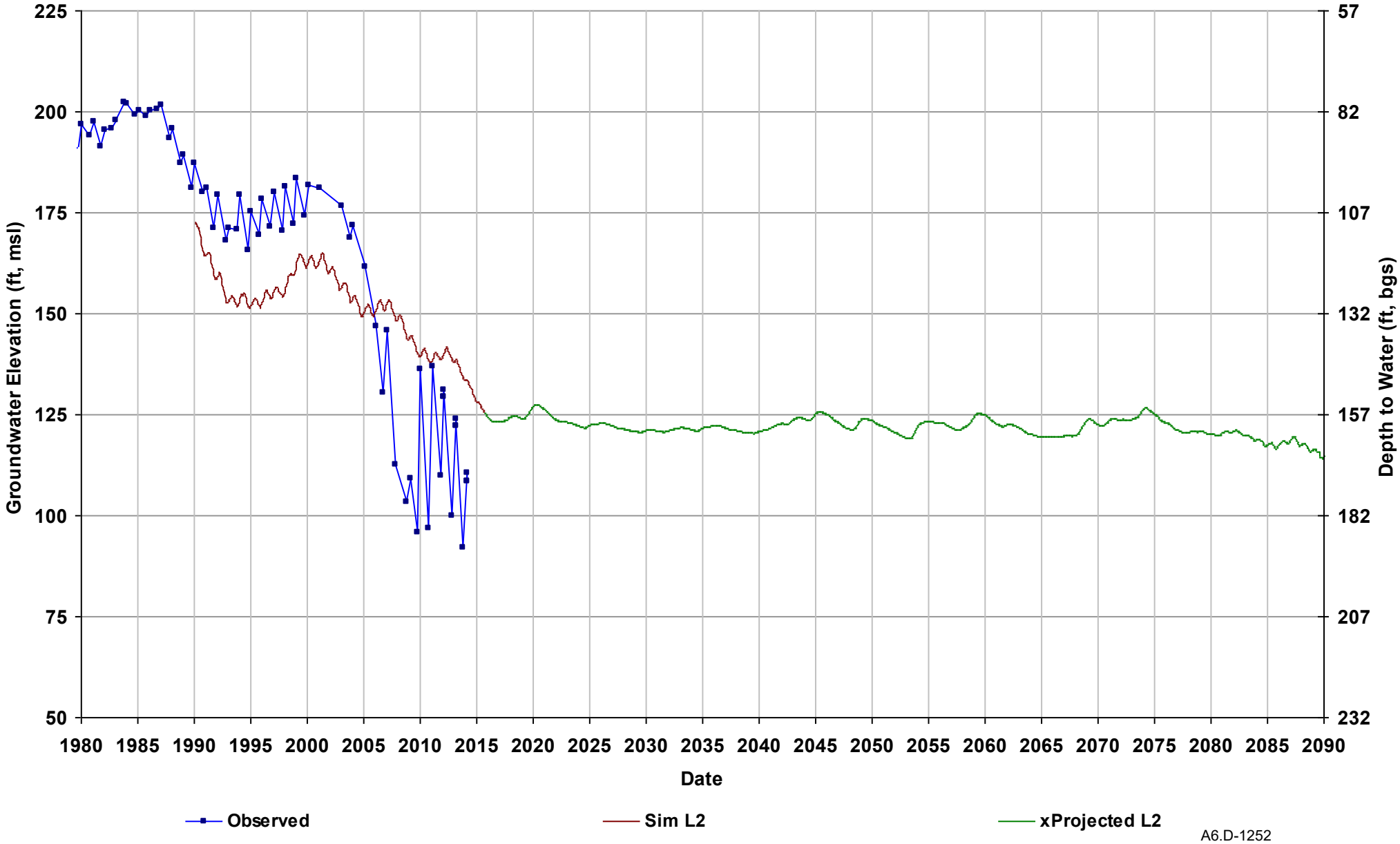
Well Name: 12S17E20P001M
Depth Zone: Upper; Within CC
Subbasin: Madera
GSE (ft, msl): 220

Total Depth (ft): 252
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 3
Bottom Model Layer: 3



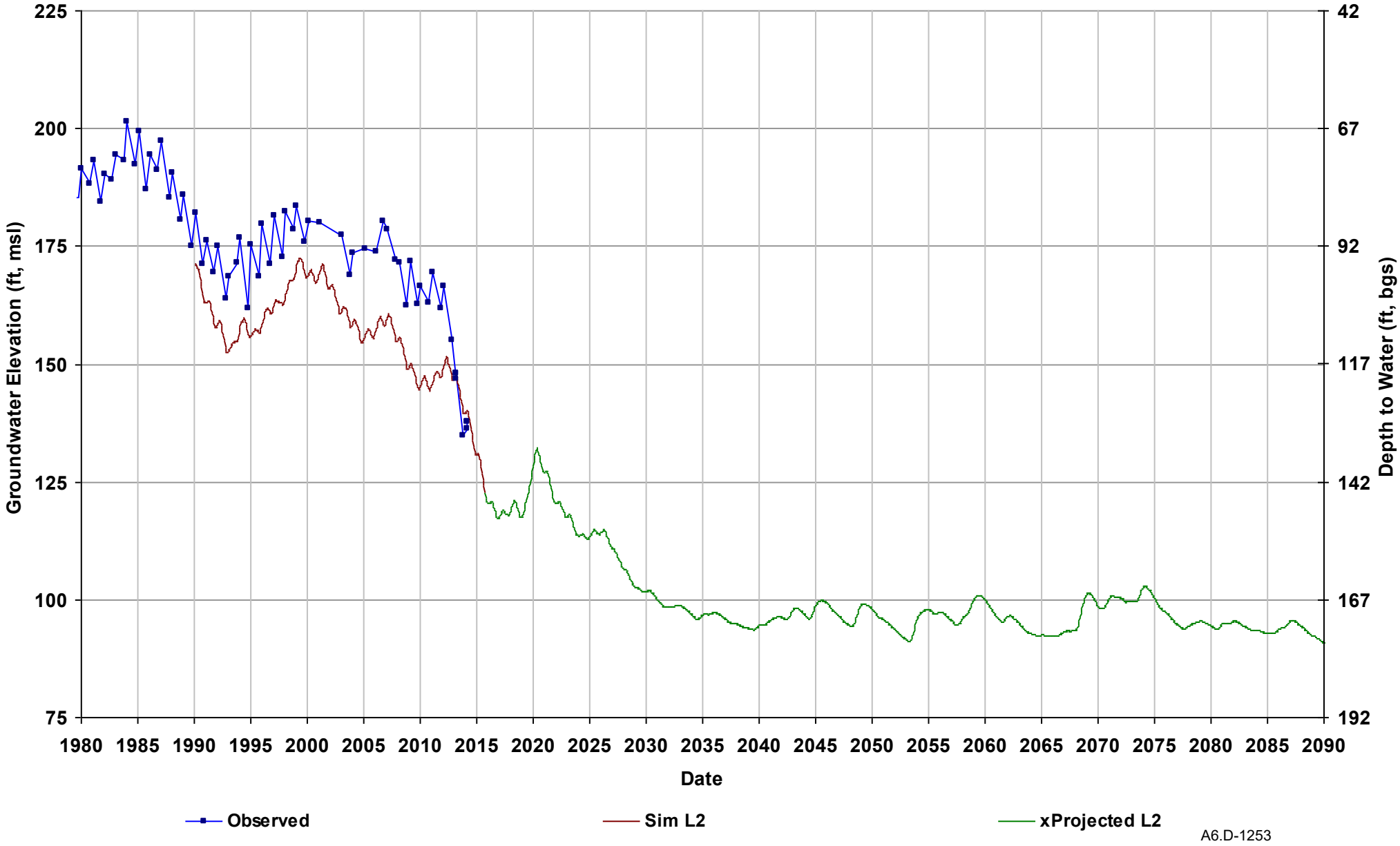
Well Name: 12S18E12N001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 282

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



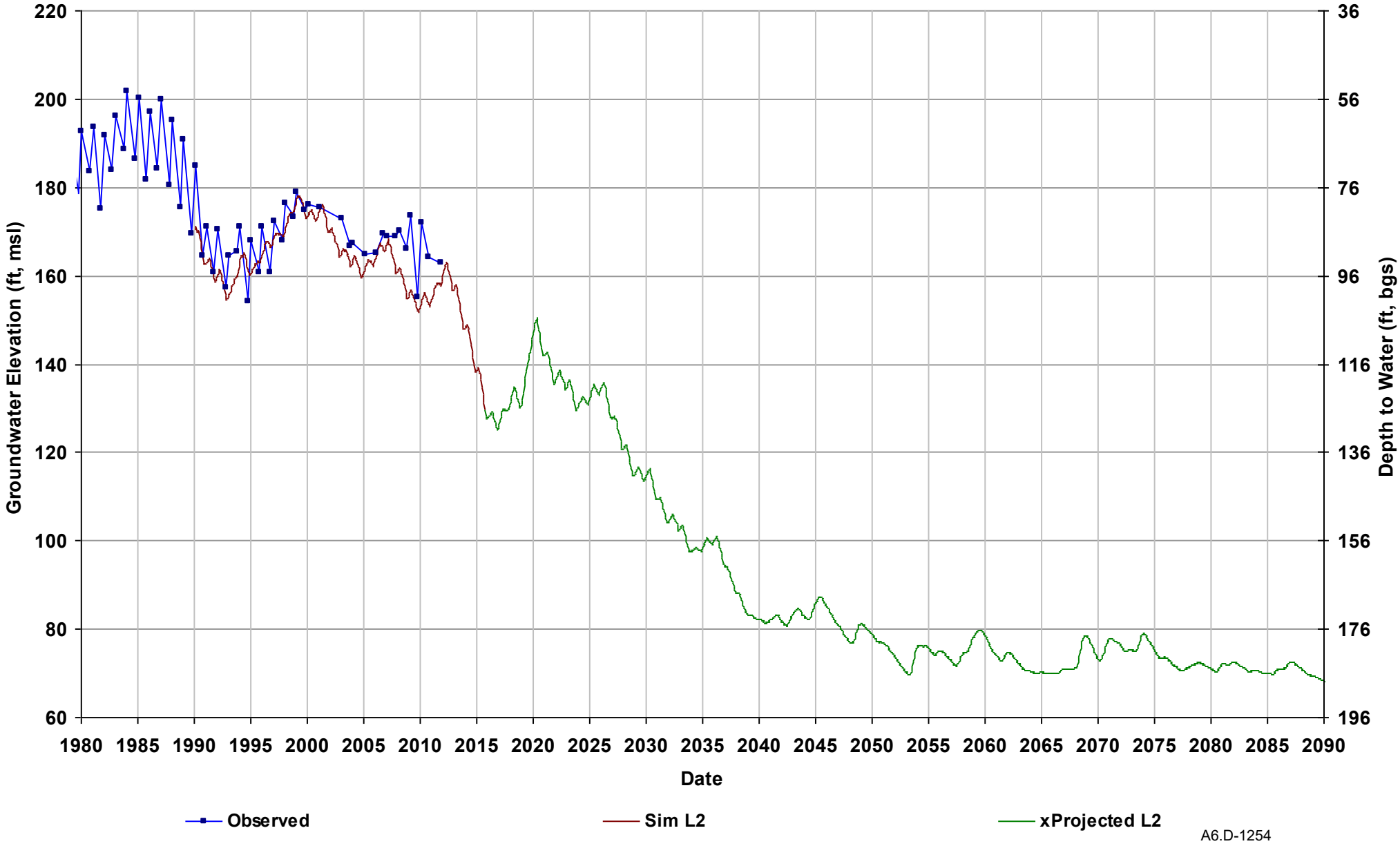
Well Name: 12S18E21G001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 267

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



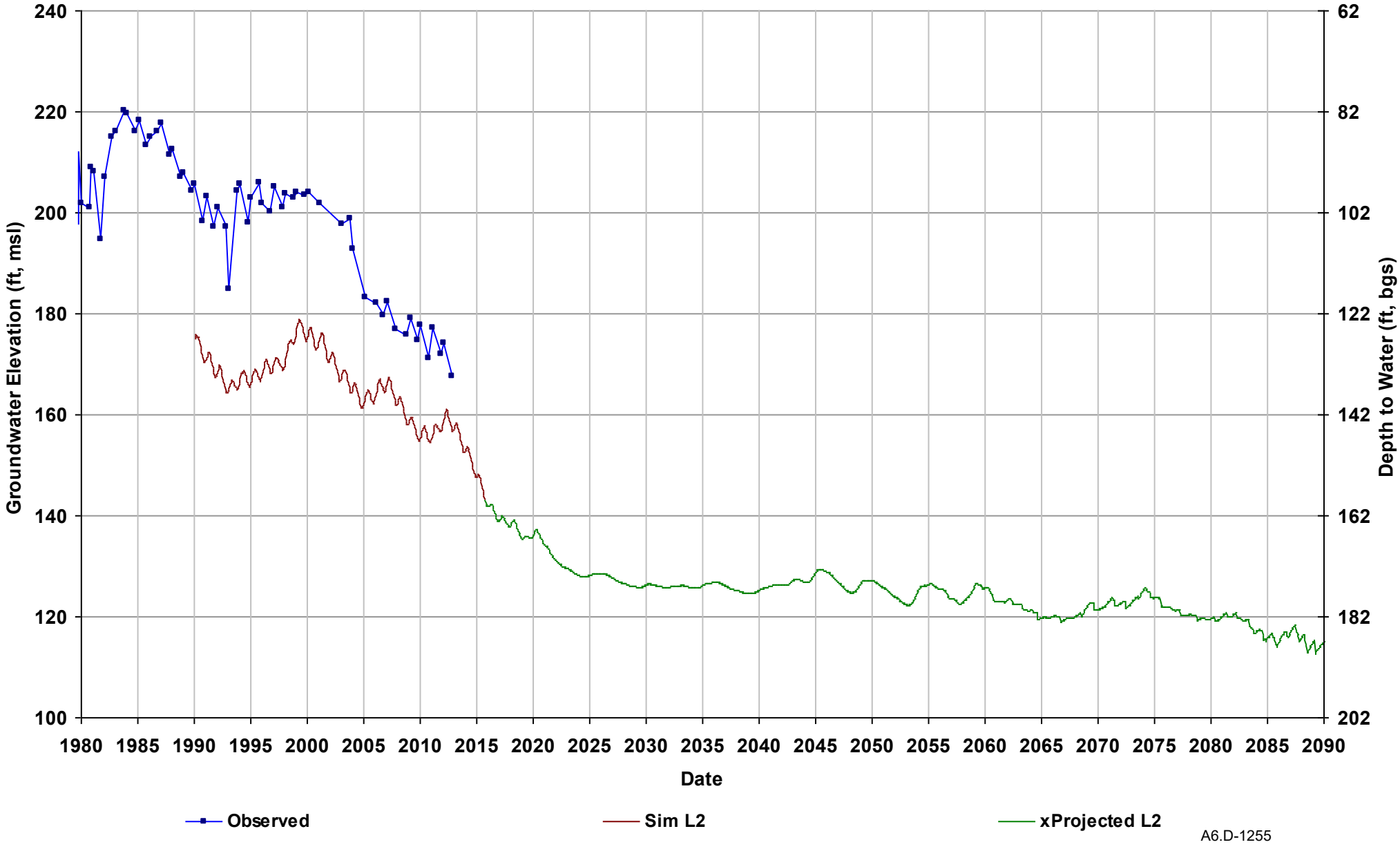
Well Name: 12S18E31J001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 256

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



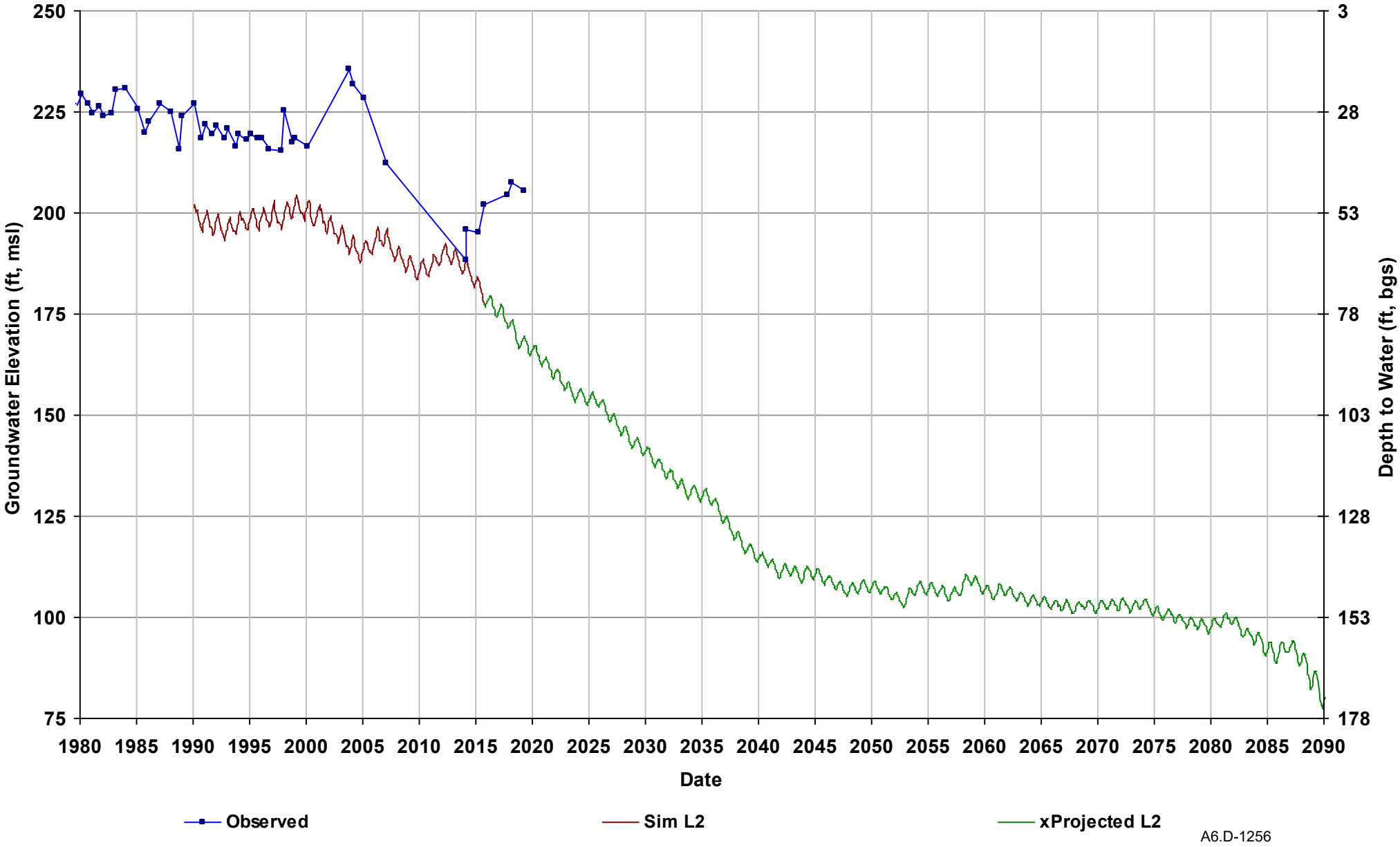
Well Name: 12S19E21B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 302

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



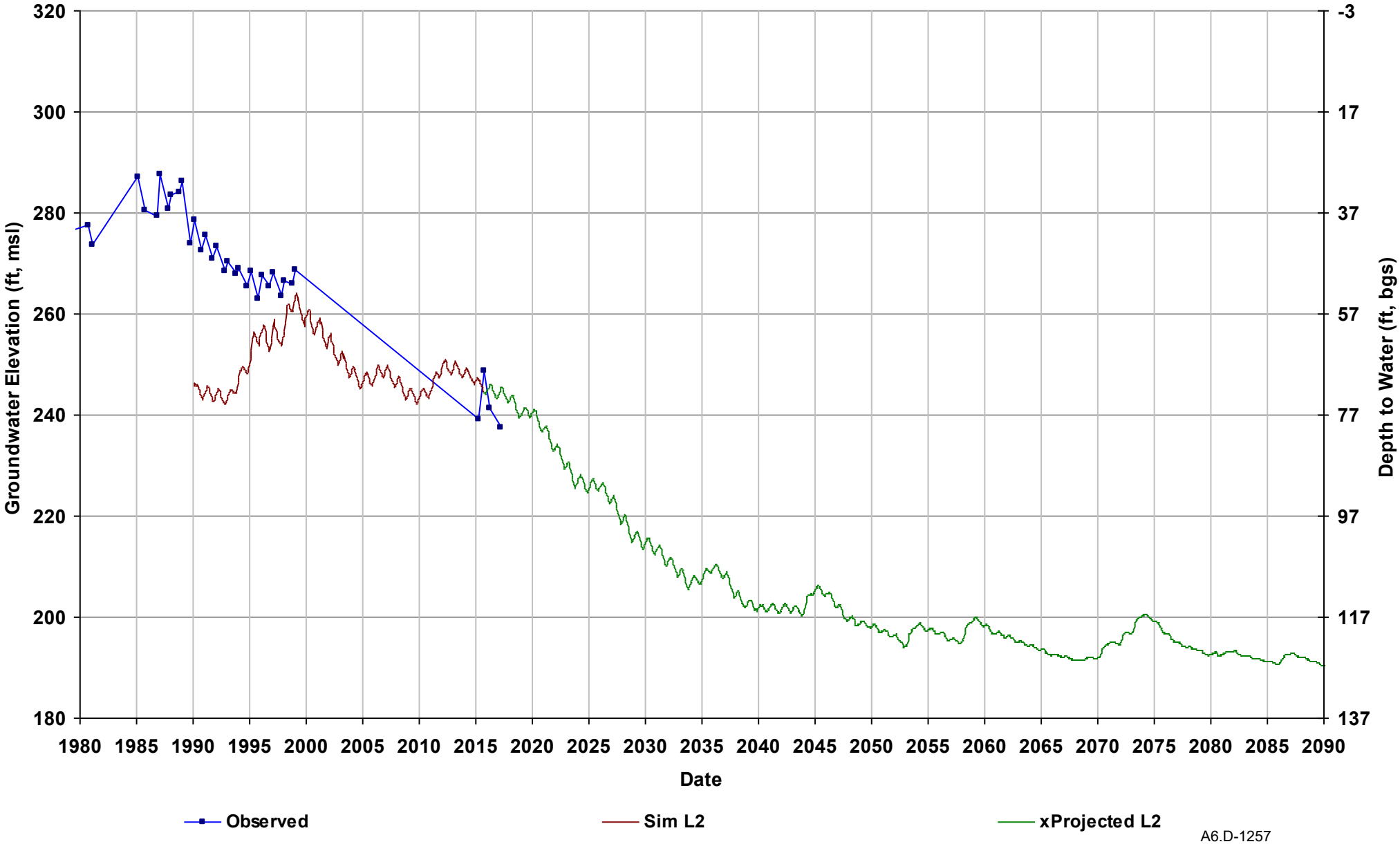
Well Name: 12S19E35A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 252

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



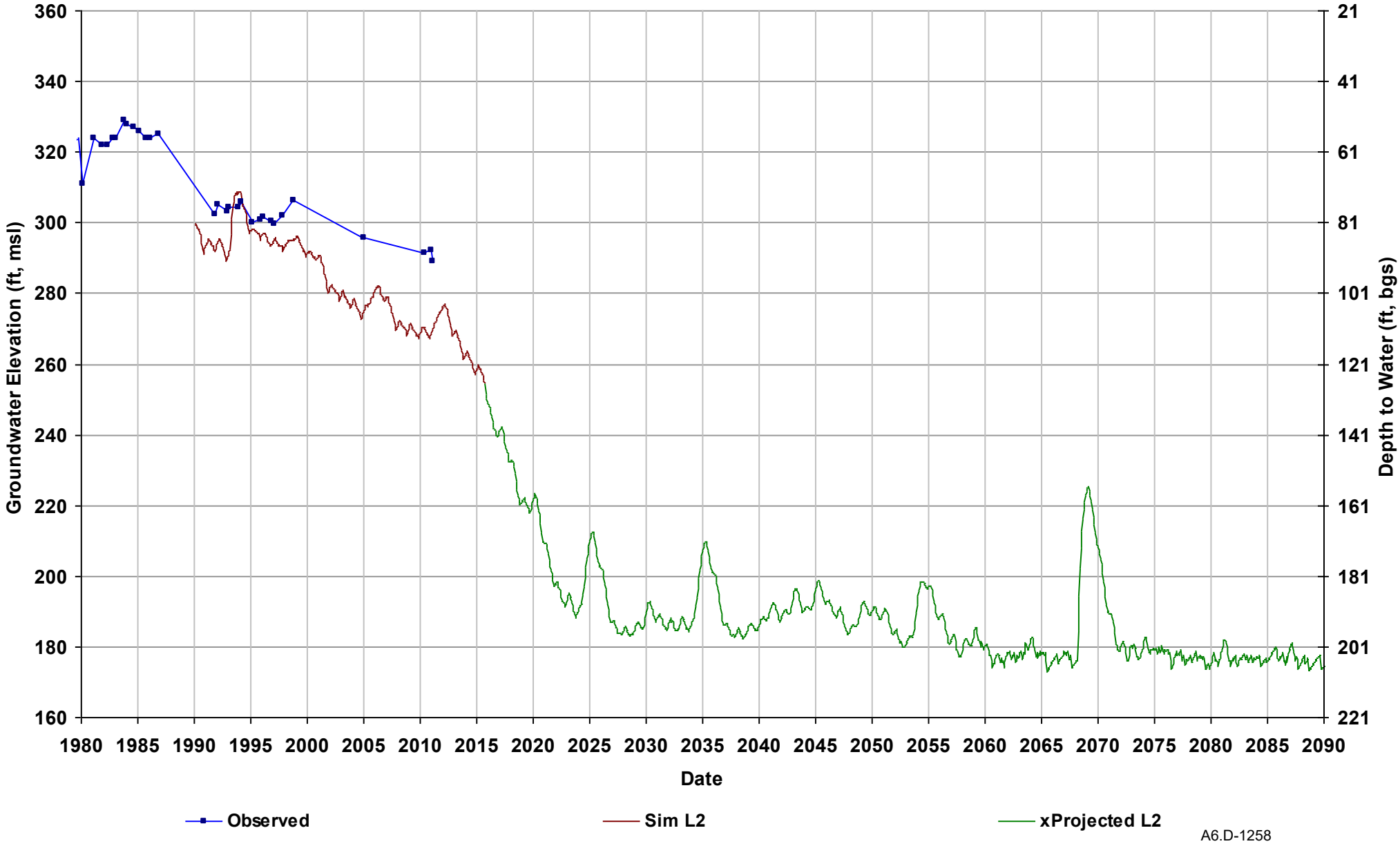
Well Name: 12S20E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 317

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



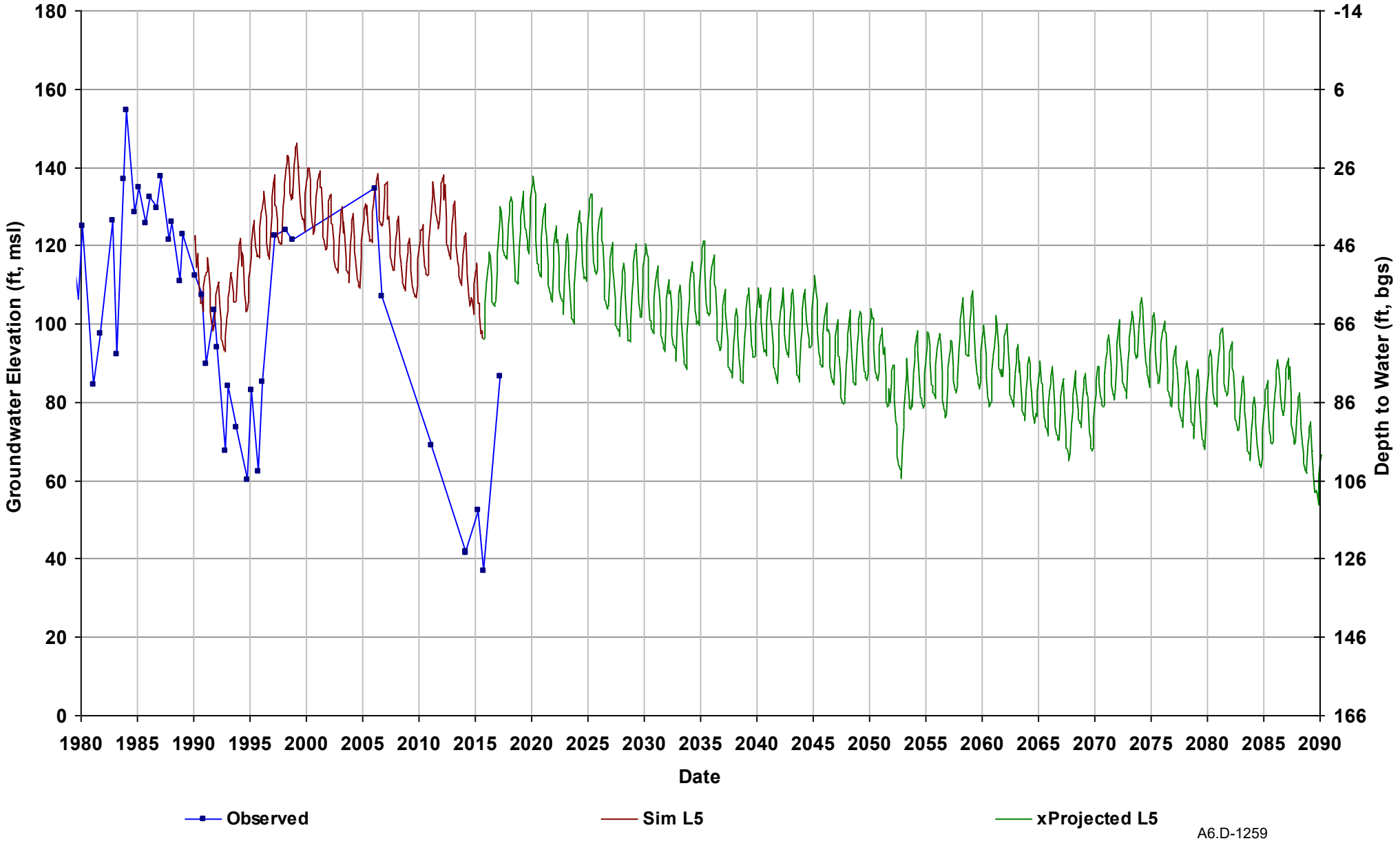
Well Name: 12S21E19J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 380

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



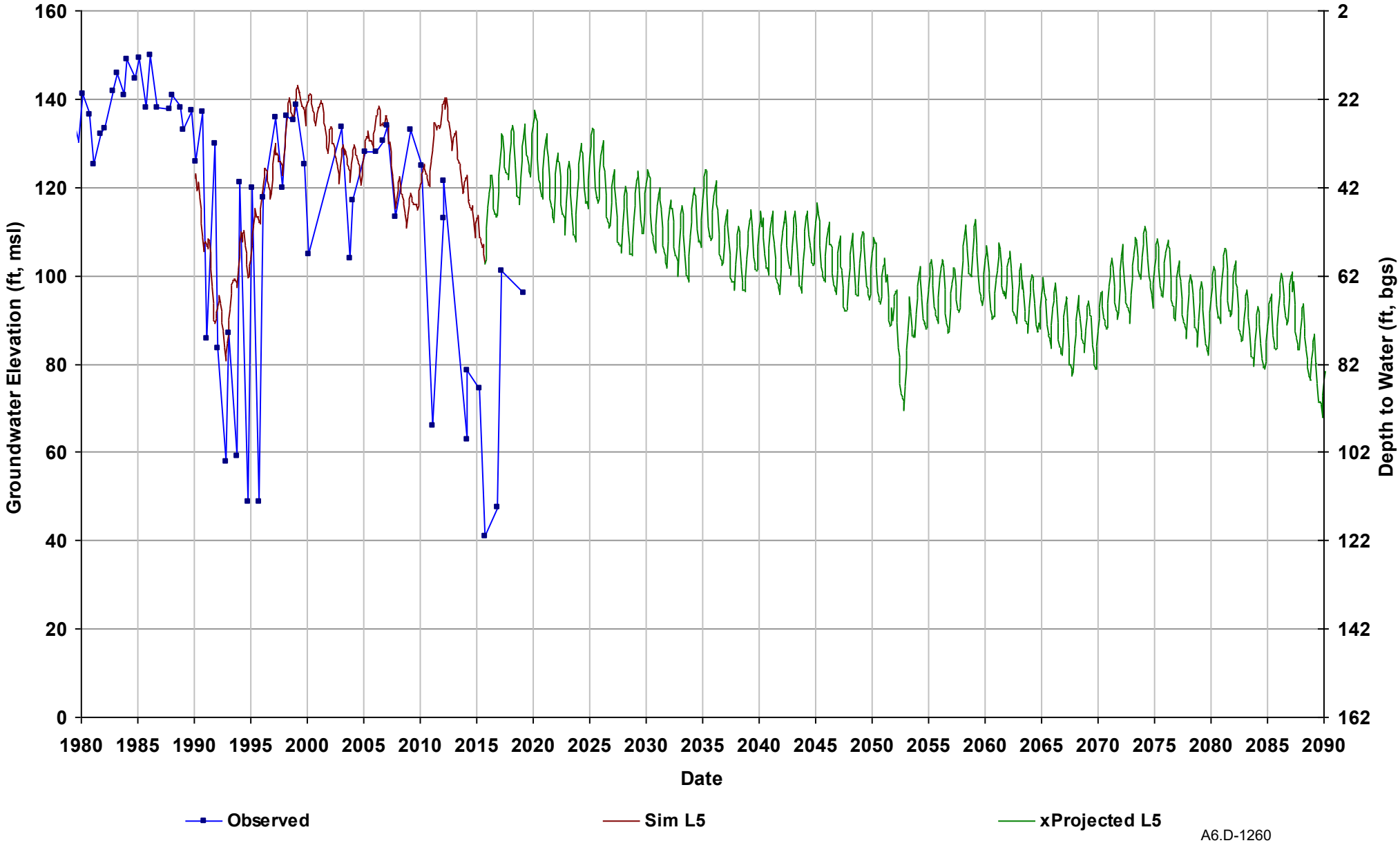
Well Name: 13S15E14M001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 166

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



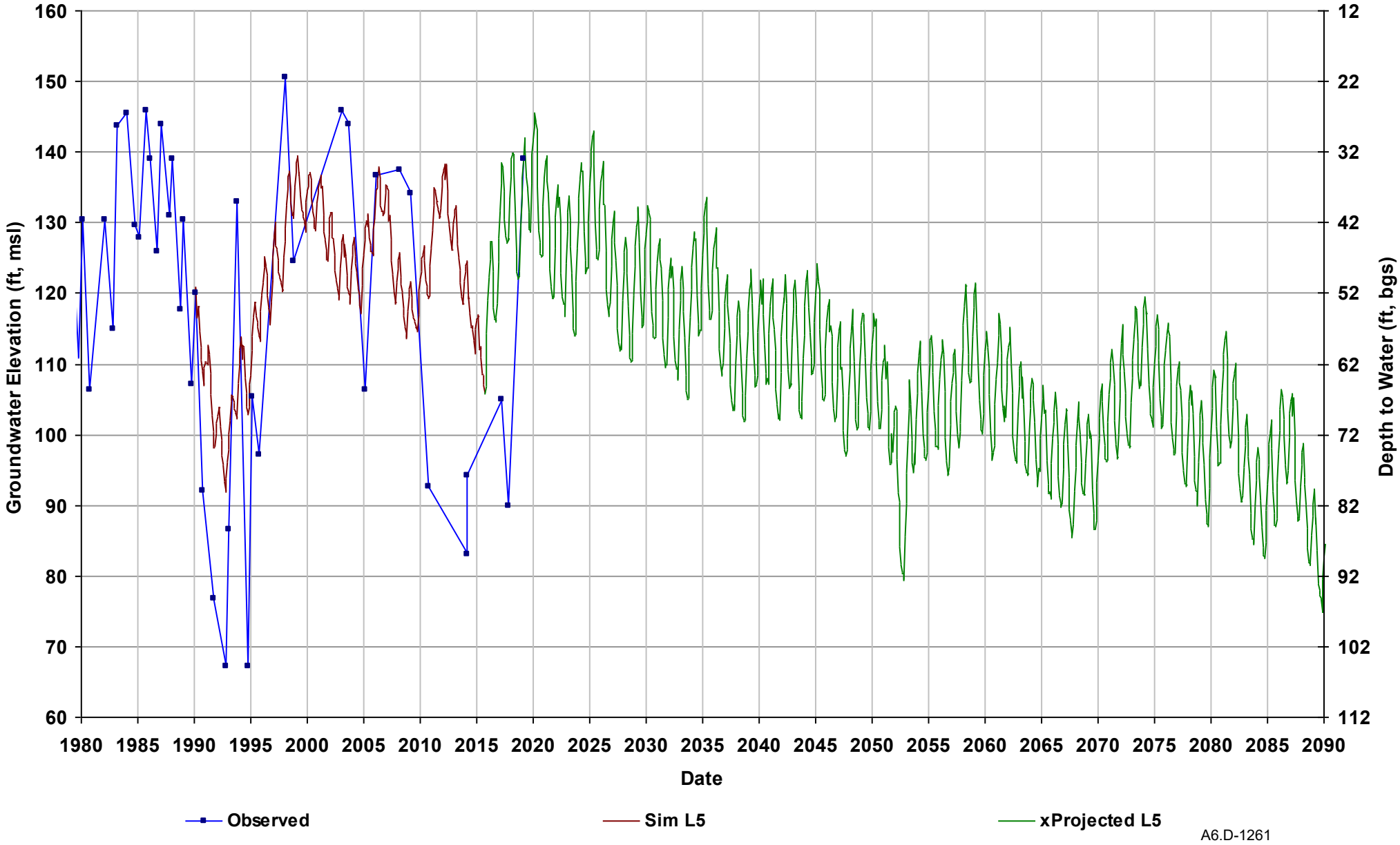
Well Name: 13S15E20G001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 162

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



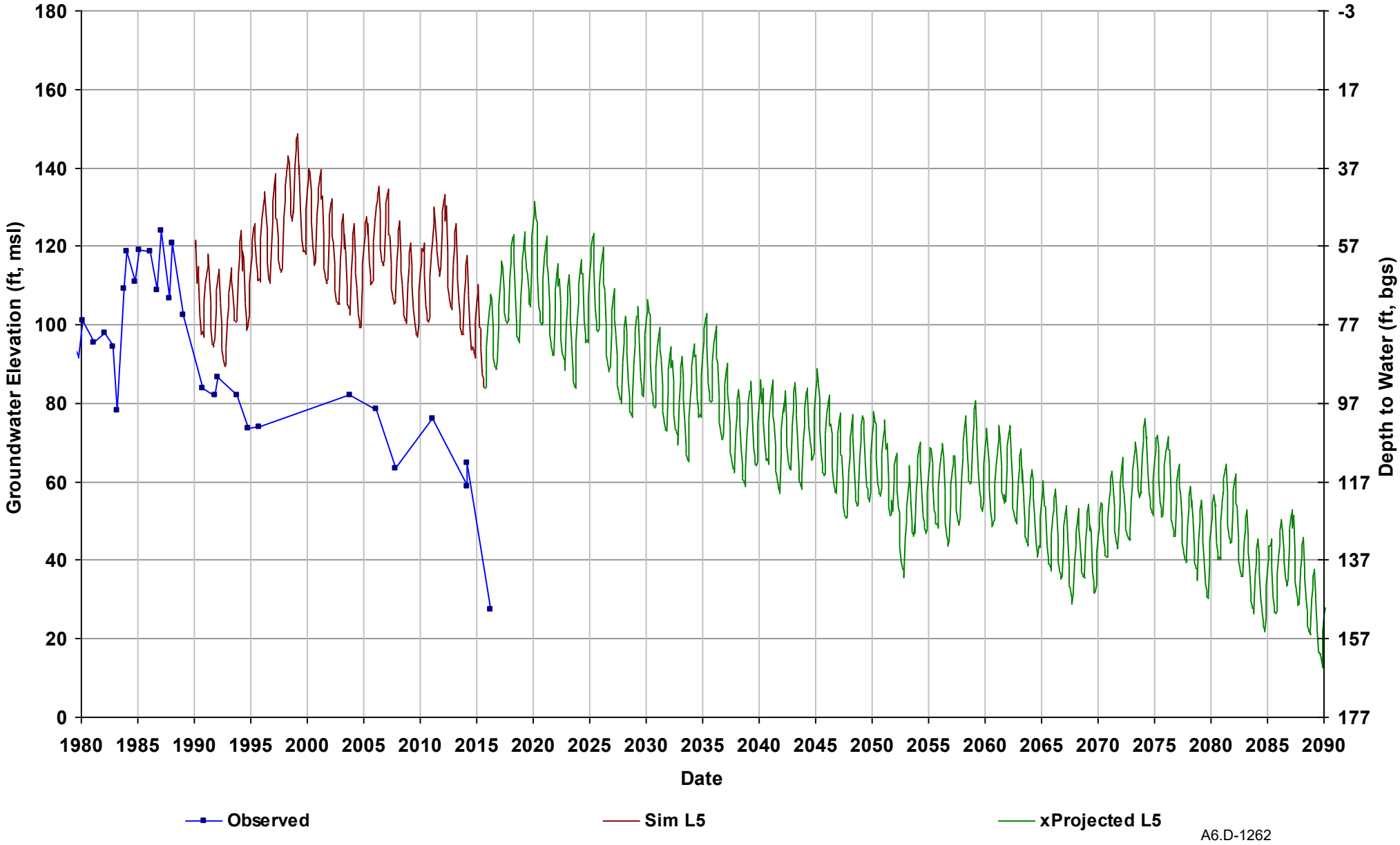
Well Name: 13S15E25N002M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 172

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



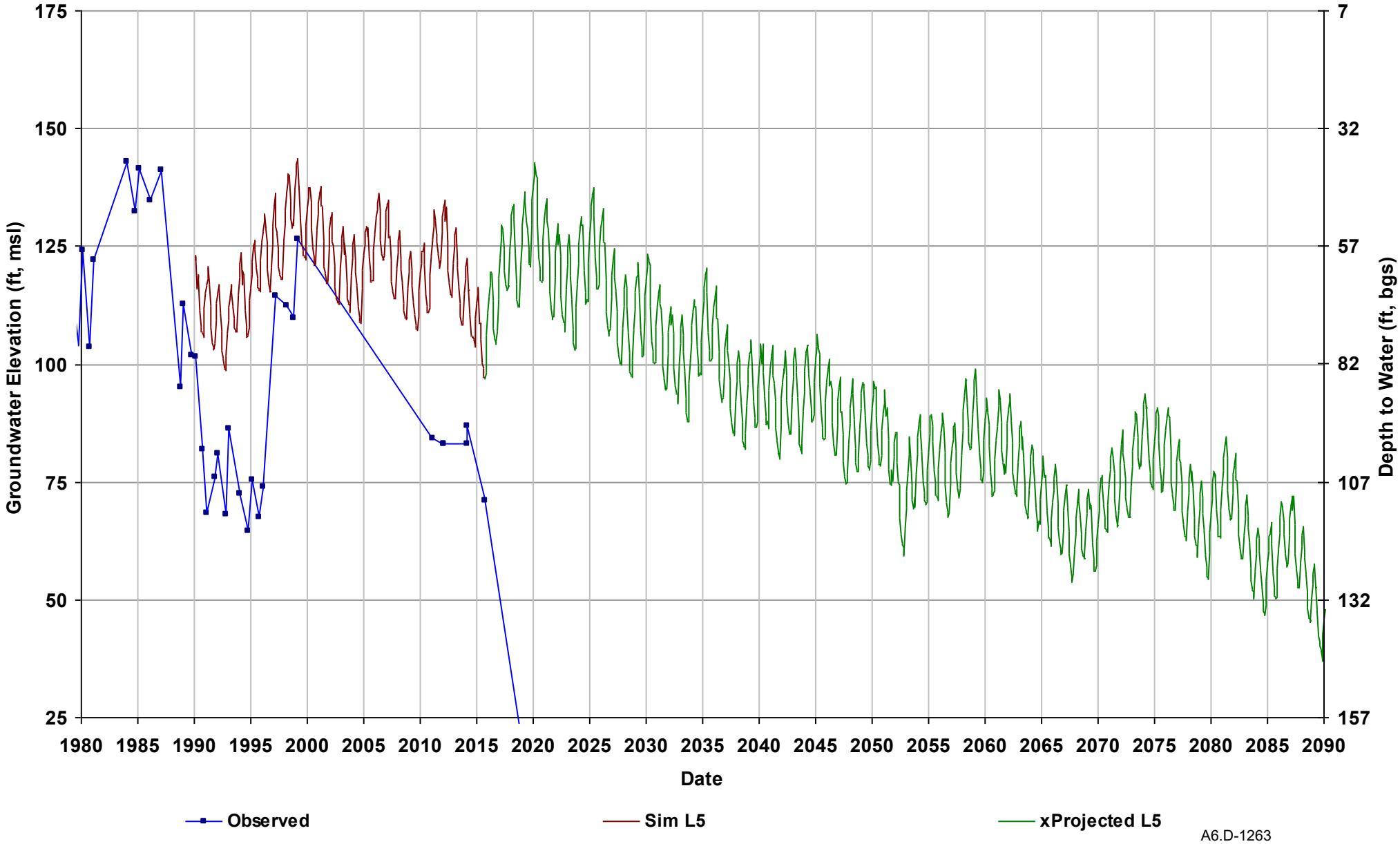
Well Name: 13S16E07R001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 177

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



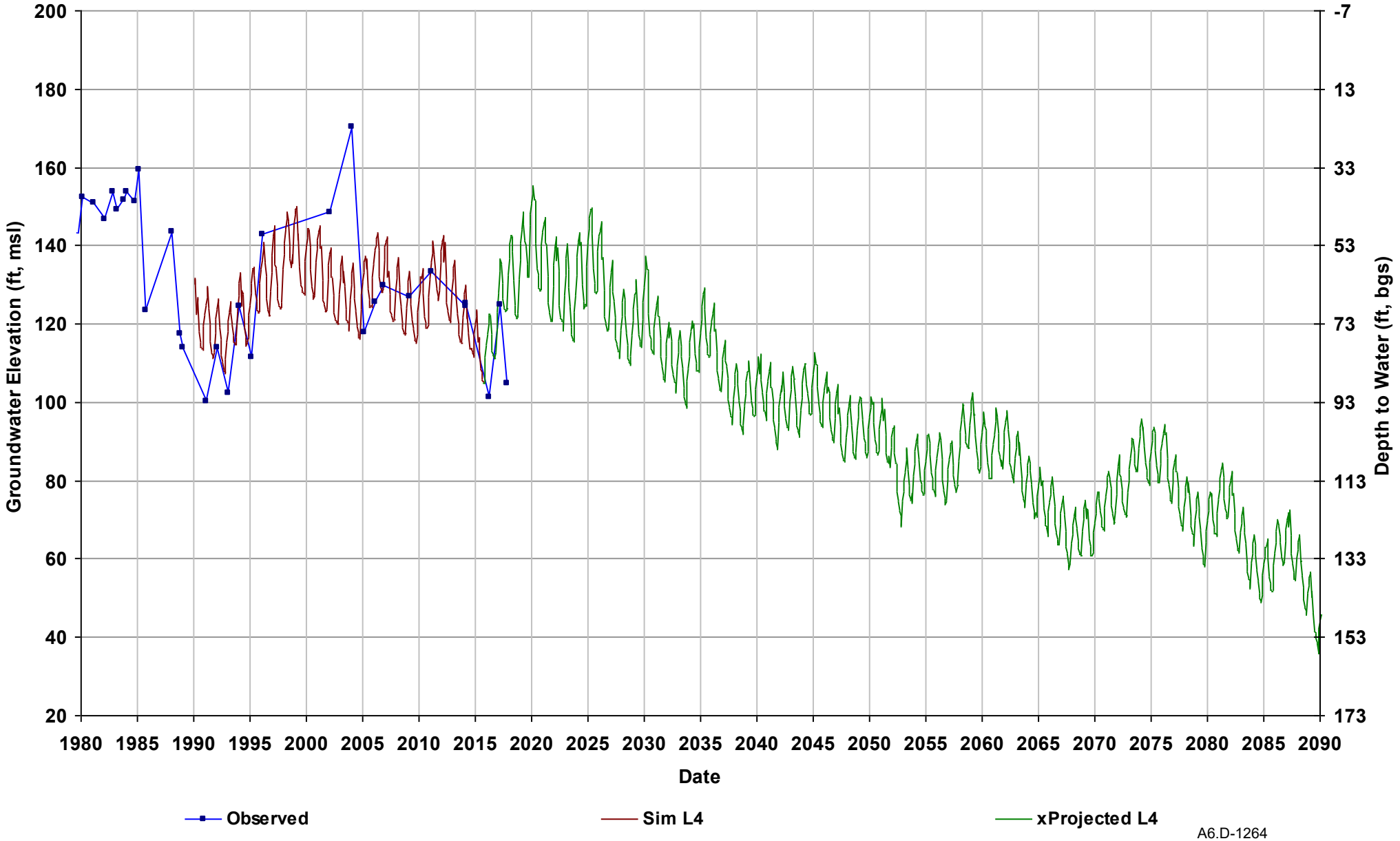
Well Name: 13S16E20J001M
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 182

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



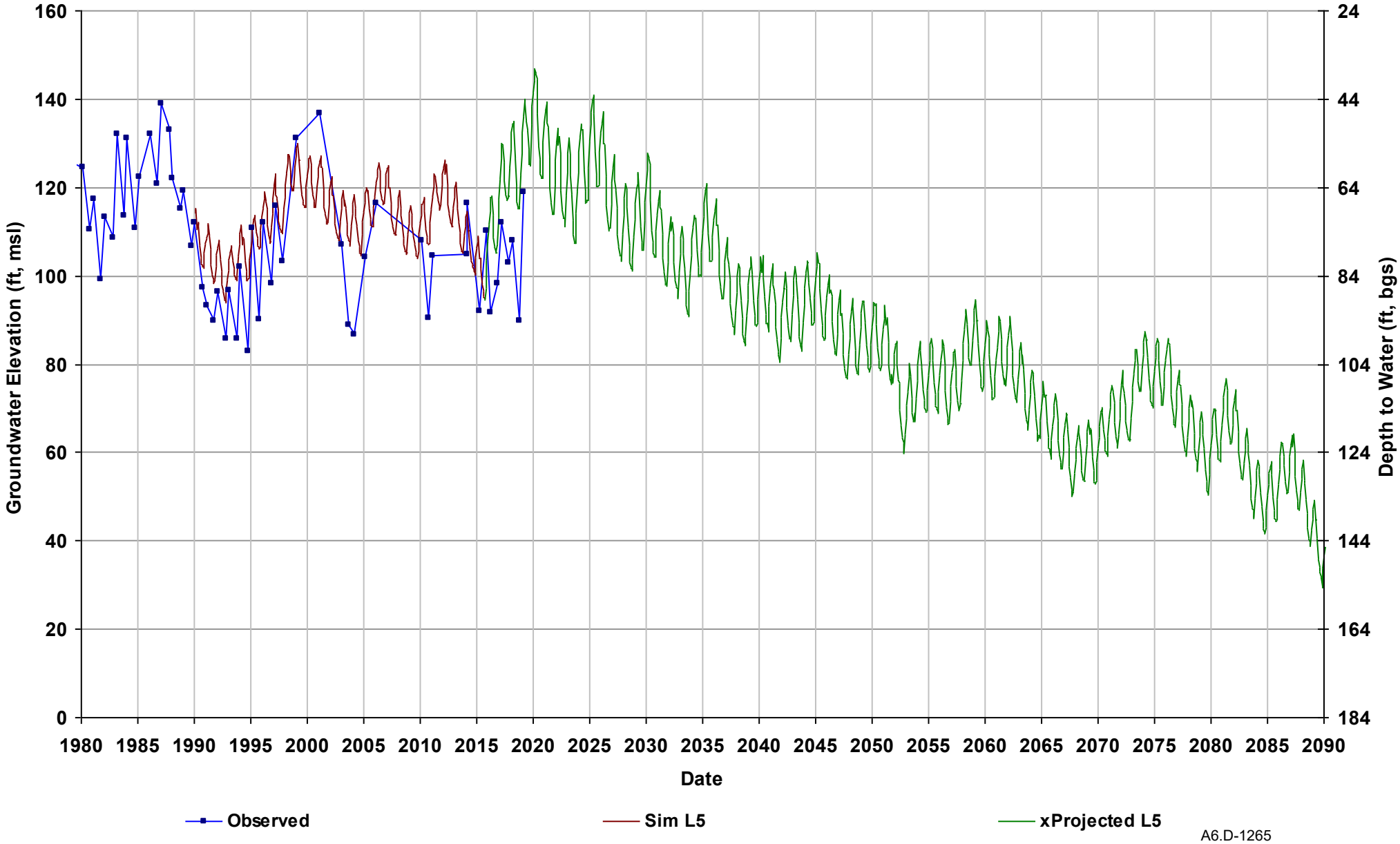
Well Name: 13S16E23N001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 192

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



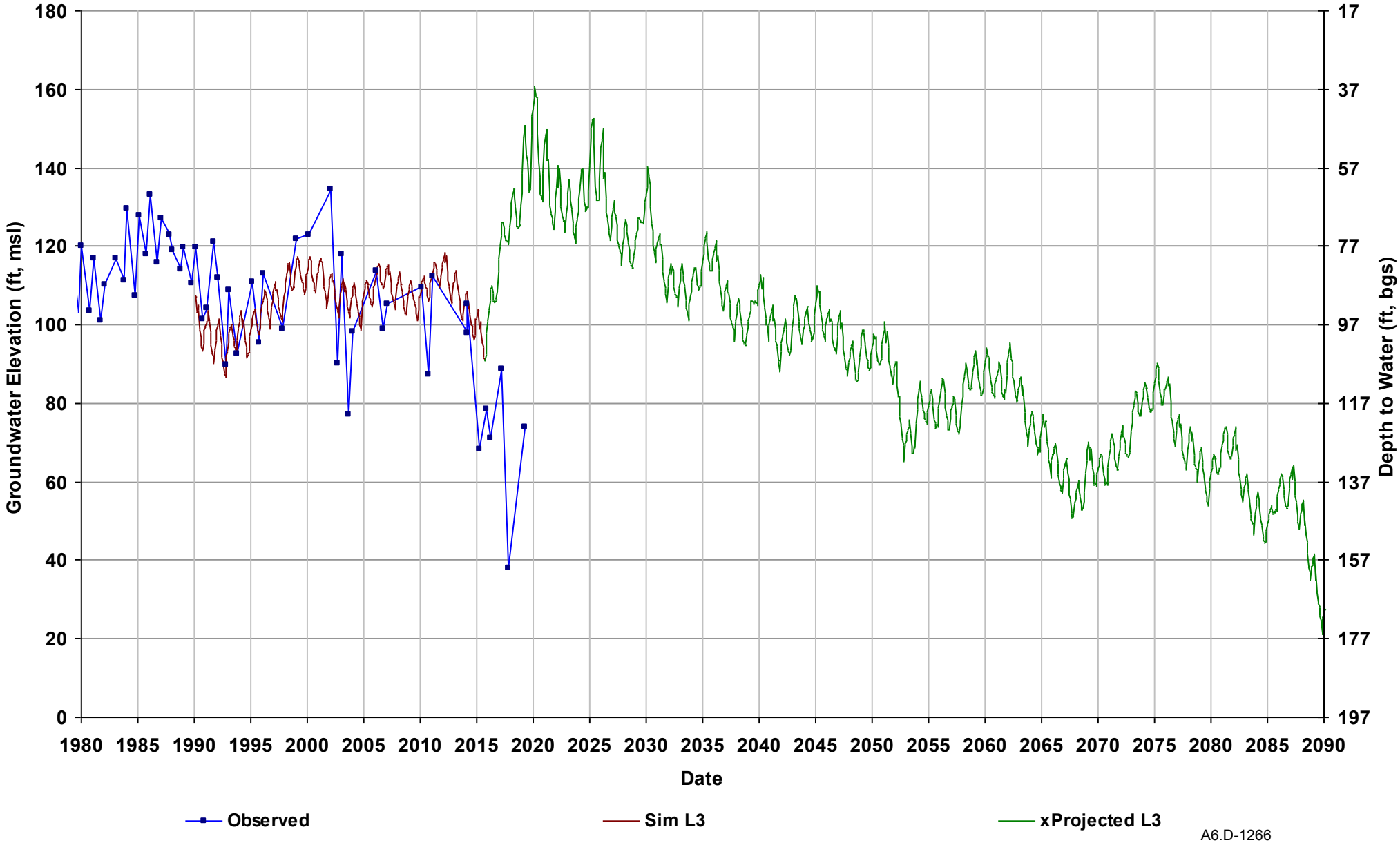
Well Name: 13S16E34C001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 184

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



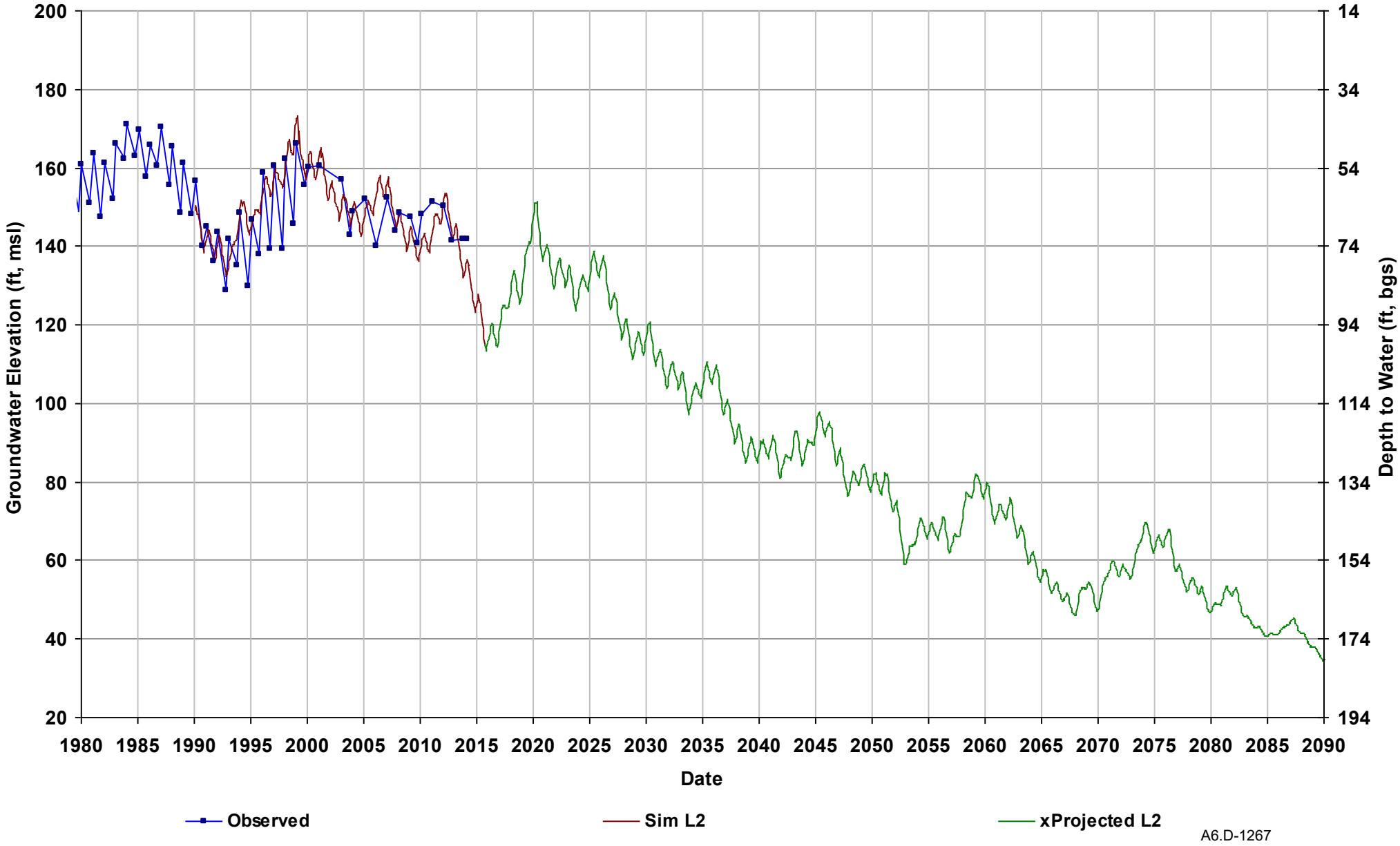
Well Name: 13S16E36R004M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



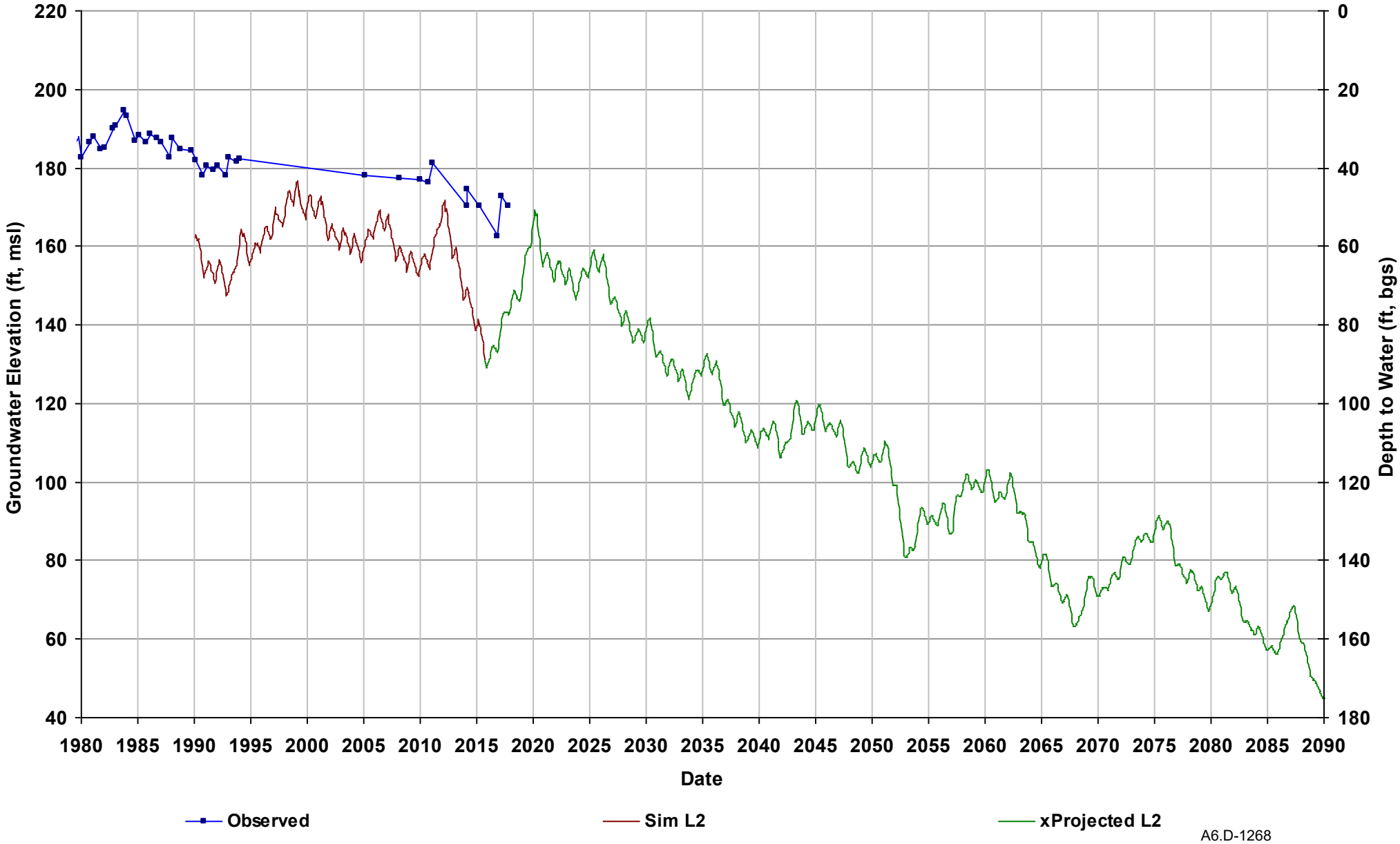
Well Name: 13S17E05P002M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 214

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



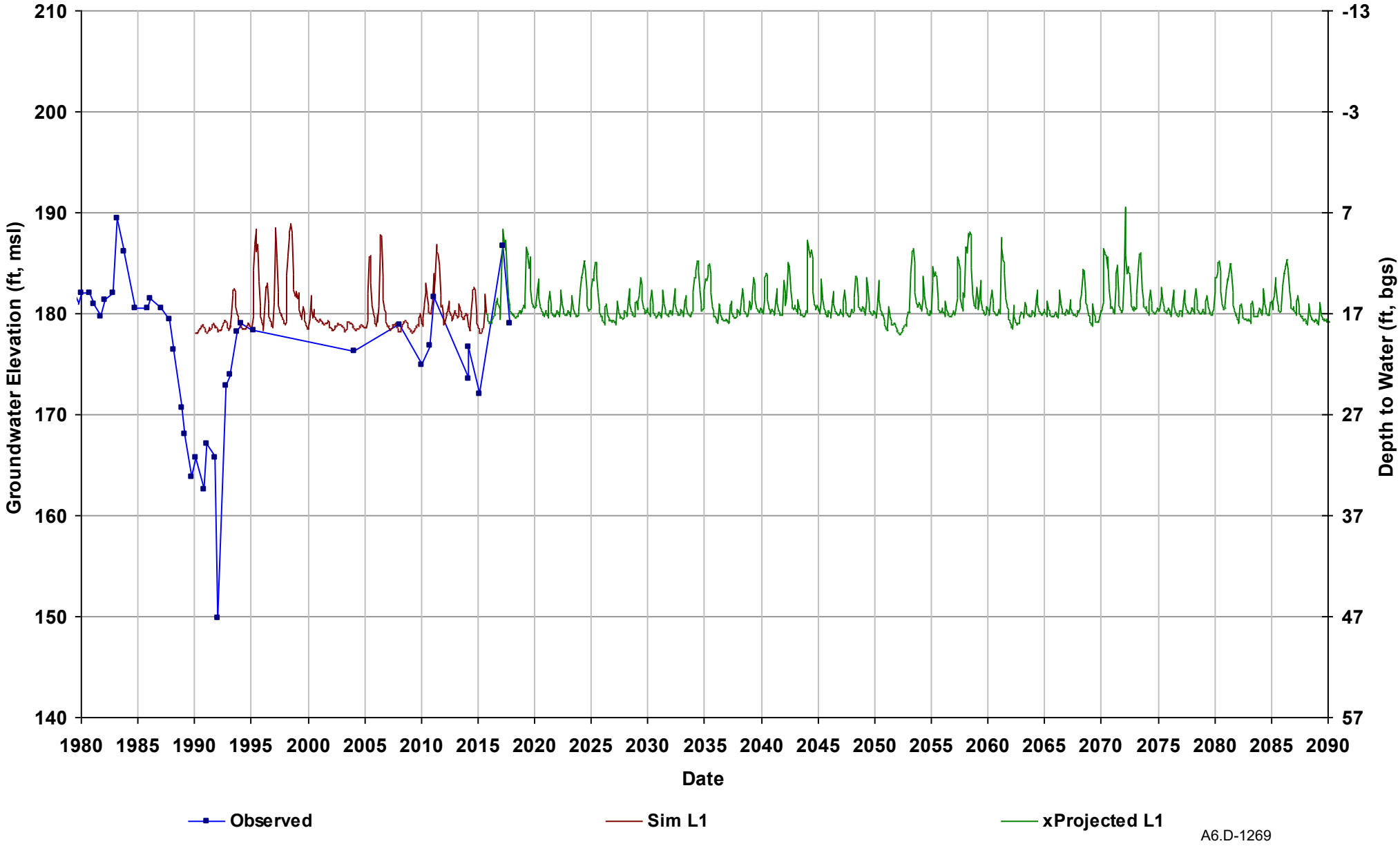
Well Name: 13S17E09R001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 220

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



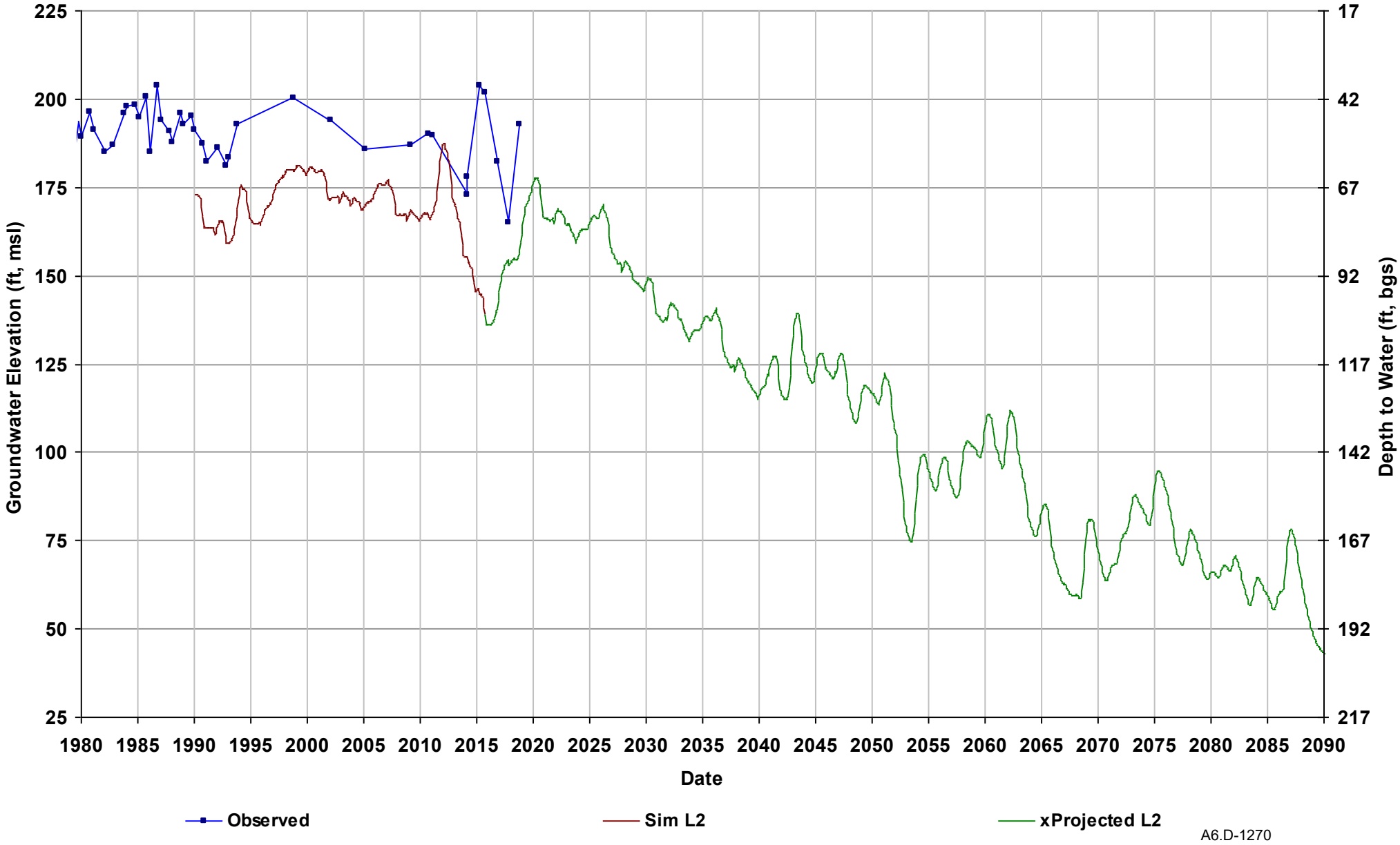
Well Name: 13S17E18M001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 197

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



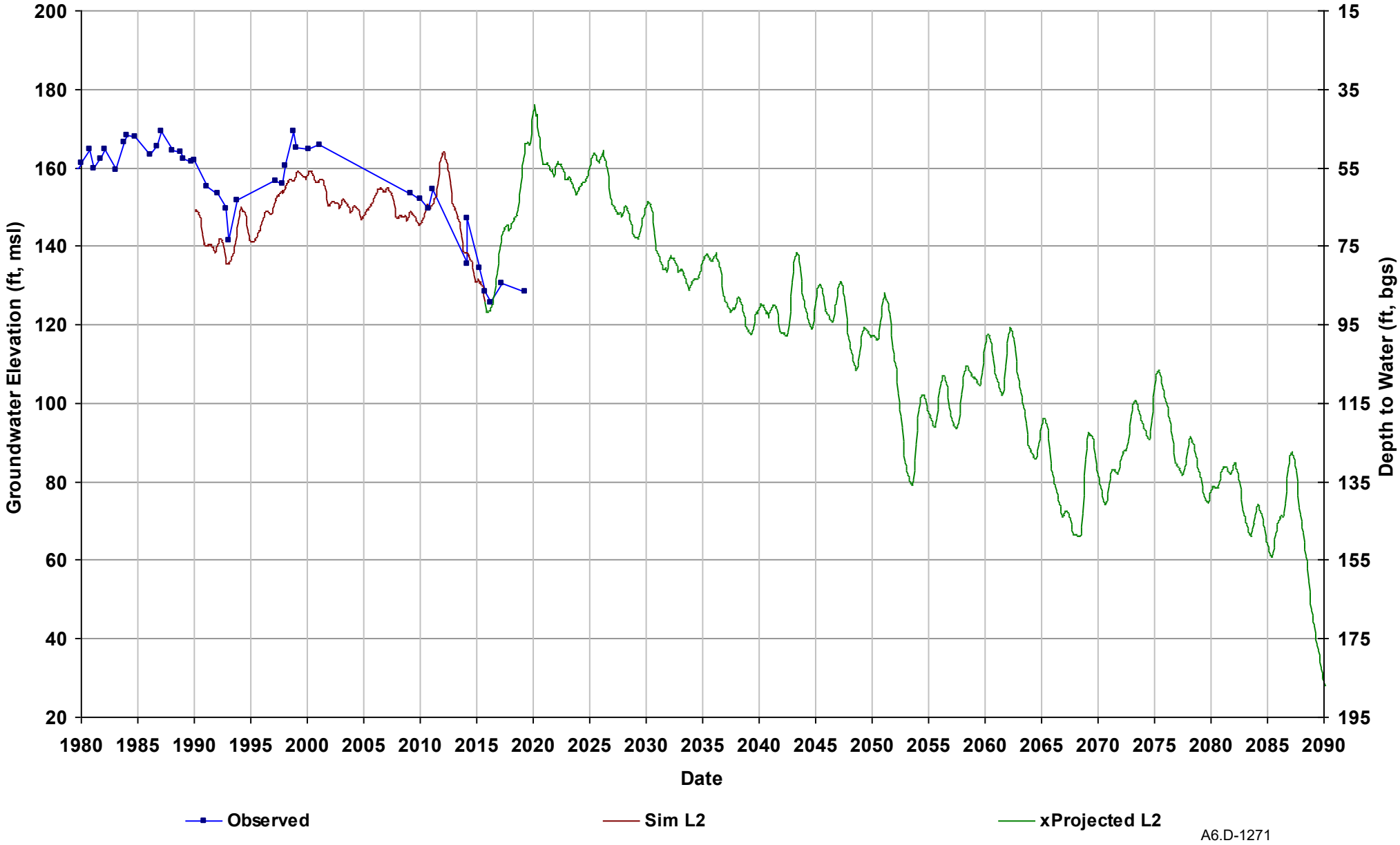
Well Name: 13S17E24A001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 242

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



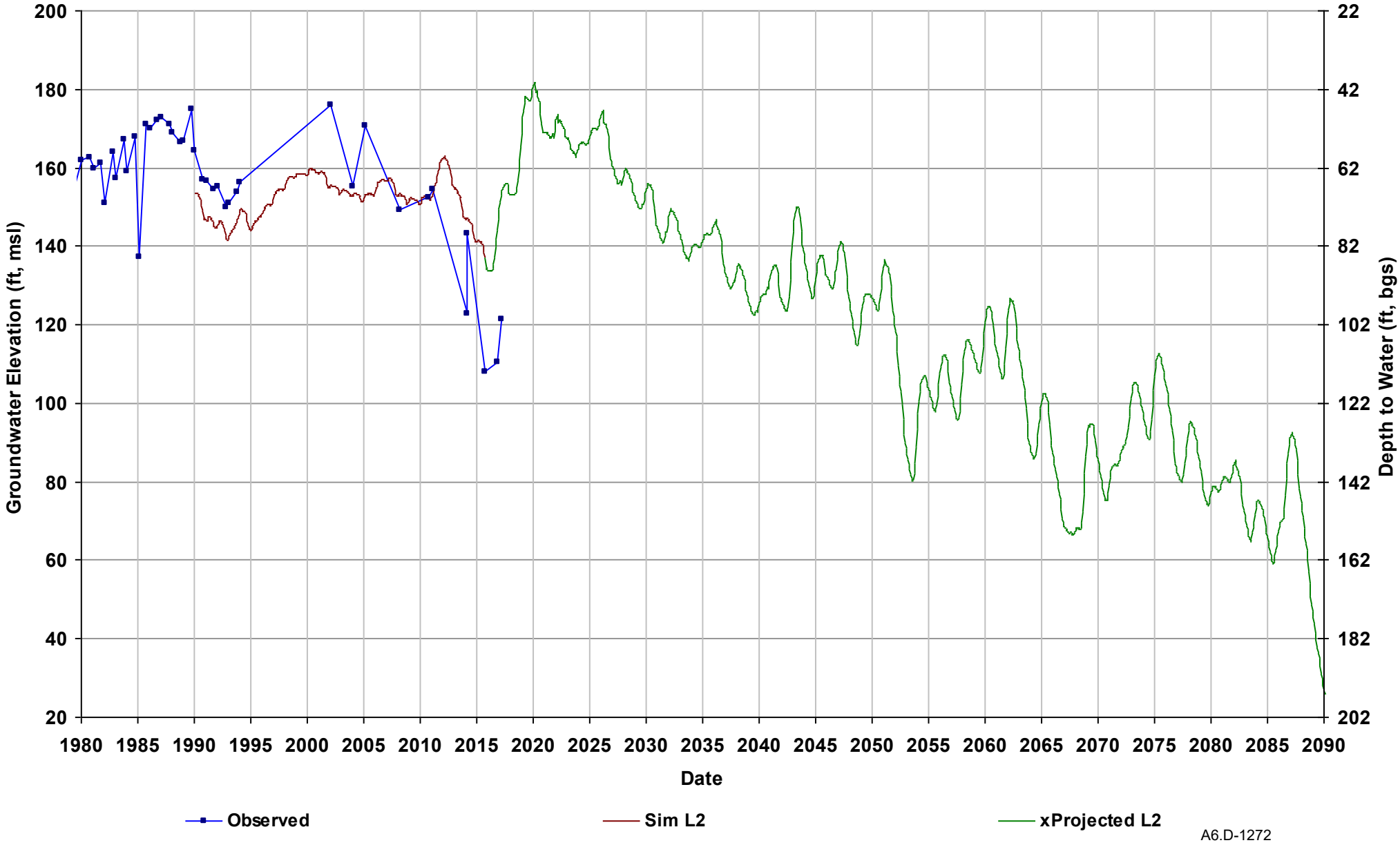
Well Name: 13S17E28H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 215

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



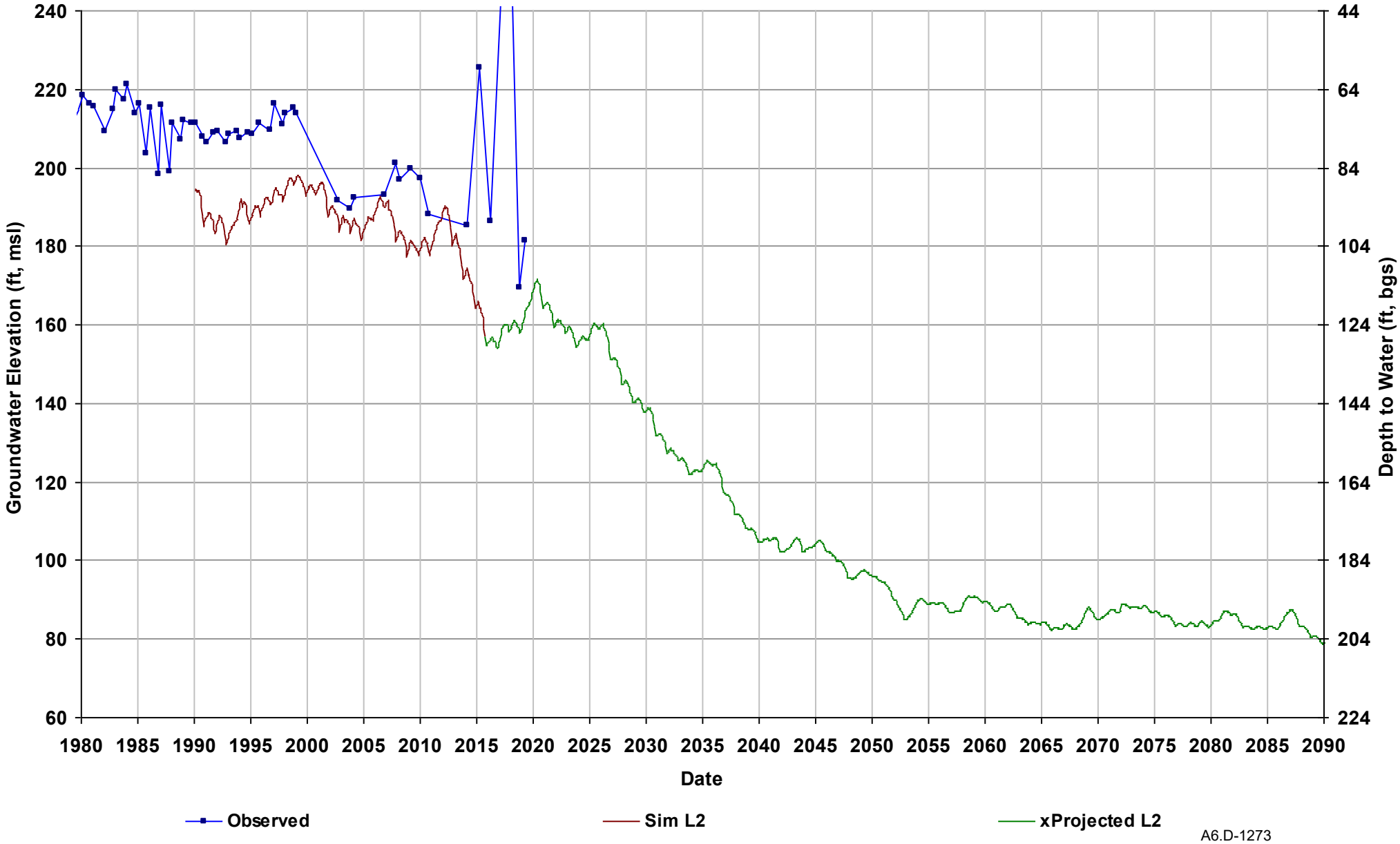
Well Name: 13S17E35L001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 222

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



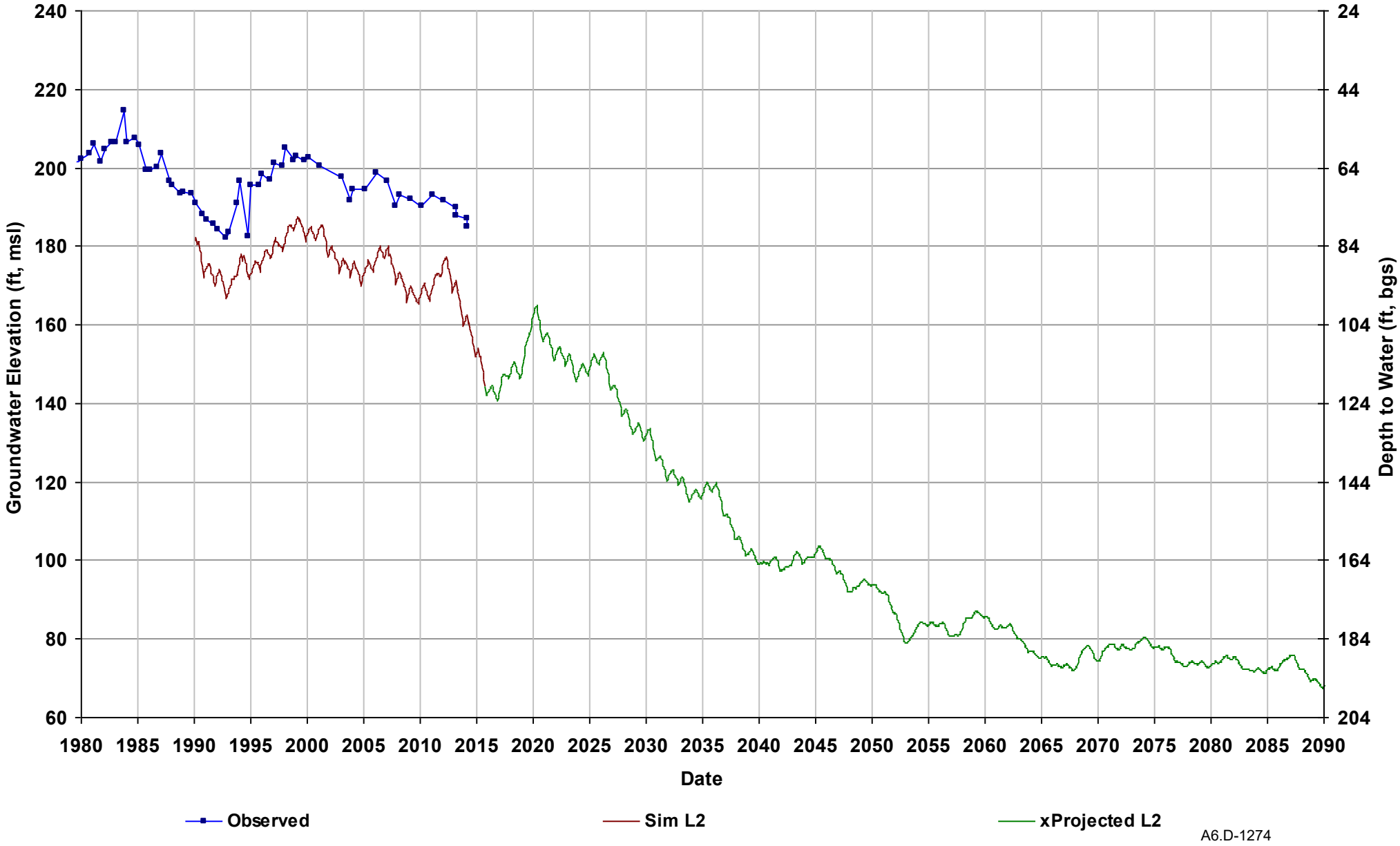
Well Name: 13S18E01H001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 284

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



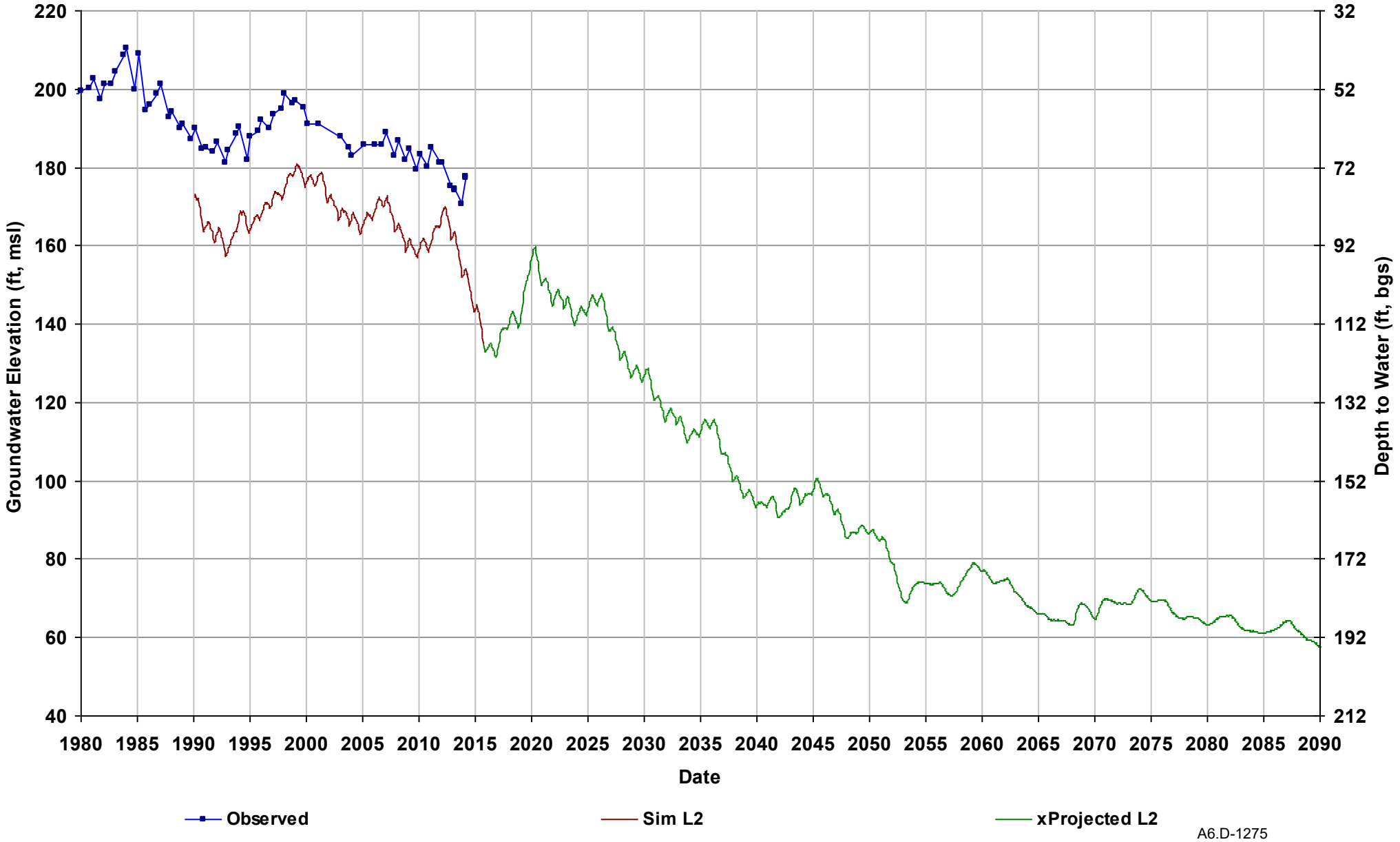
Well Name: 13S18E04B001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 264

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



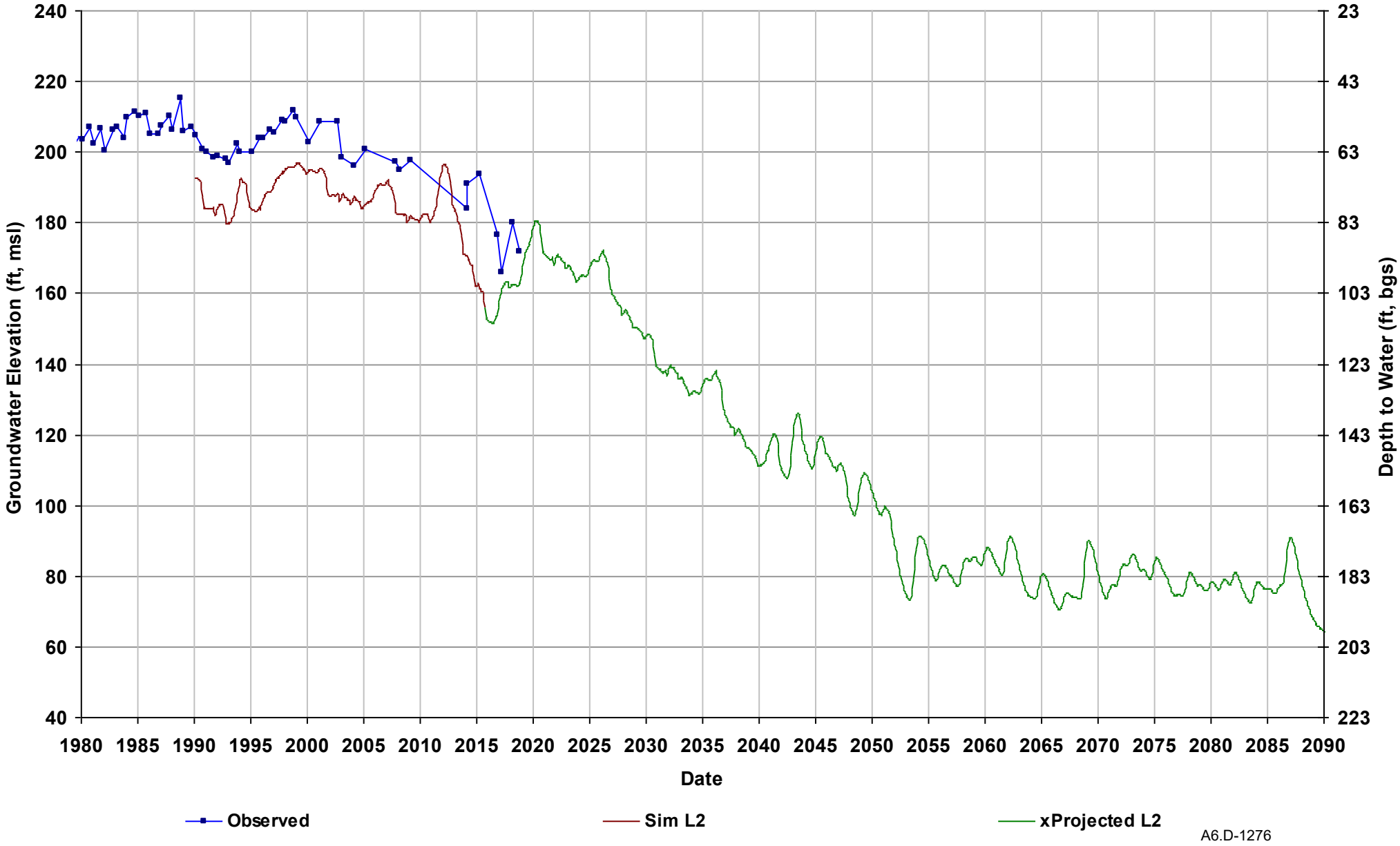
Well Name: 13S18E06K001M
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 252

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



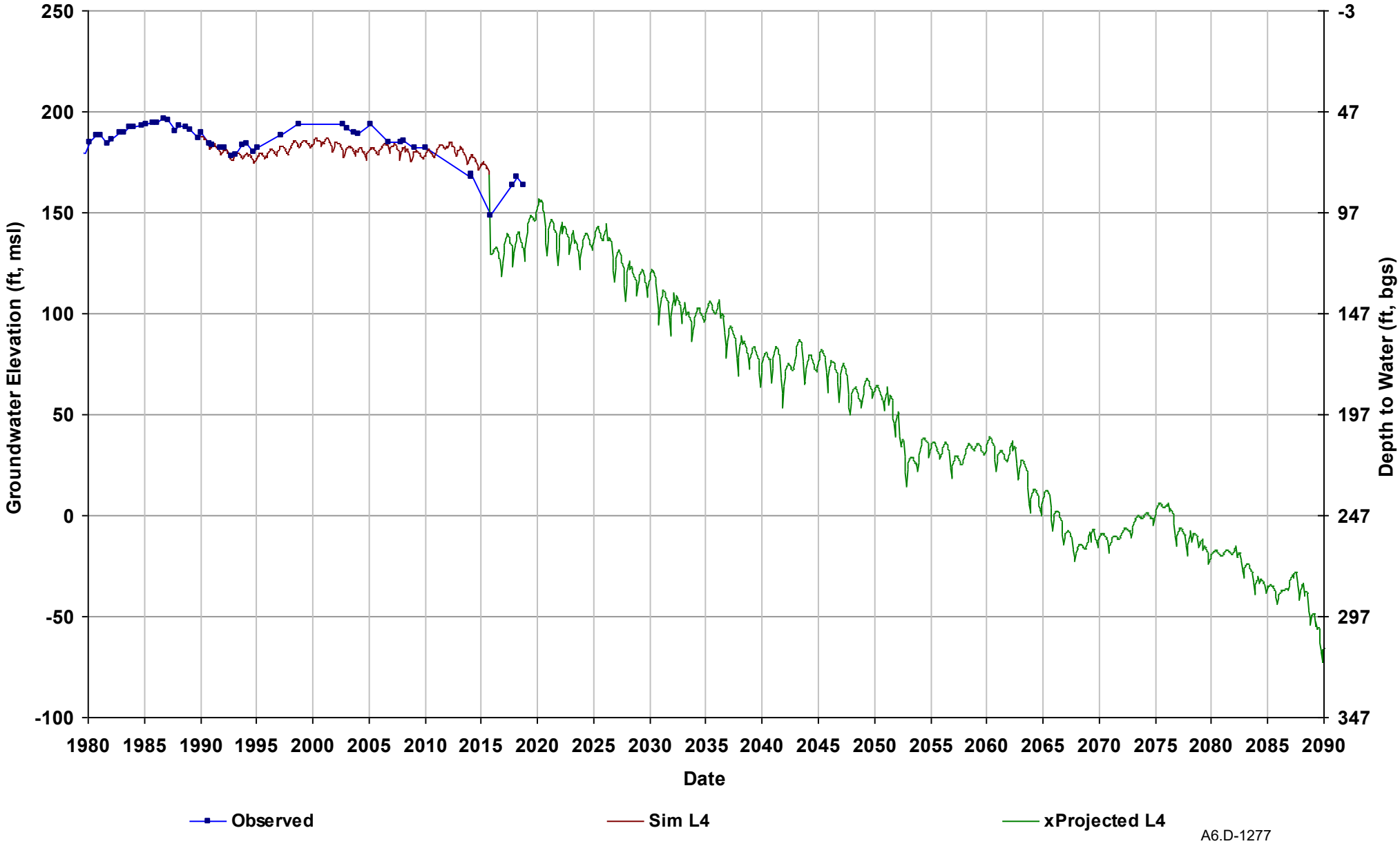
Well Name: 13S18E15J001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 263

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



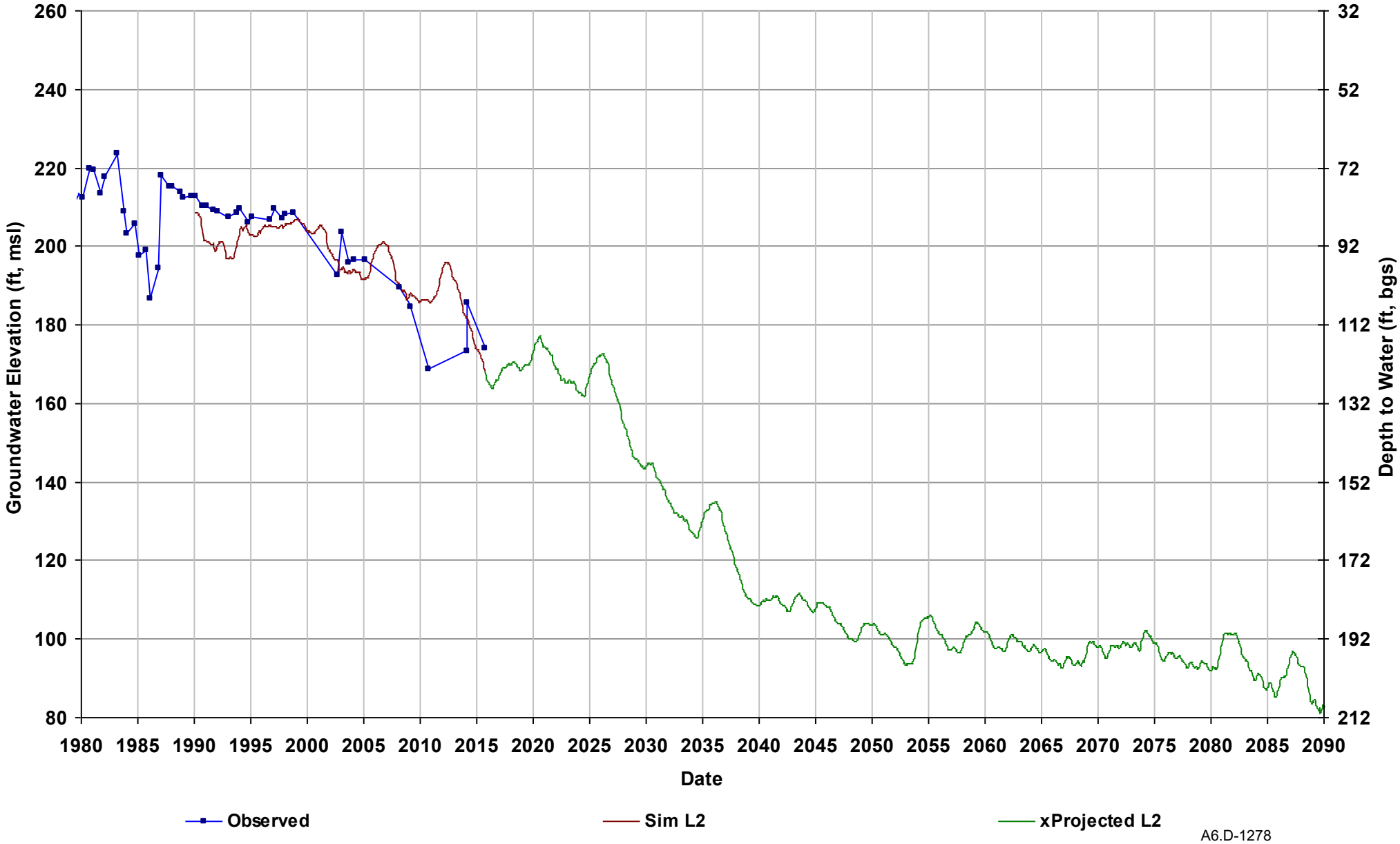
Well Name: 13S18E34D001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 247

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



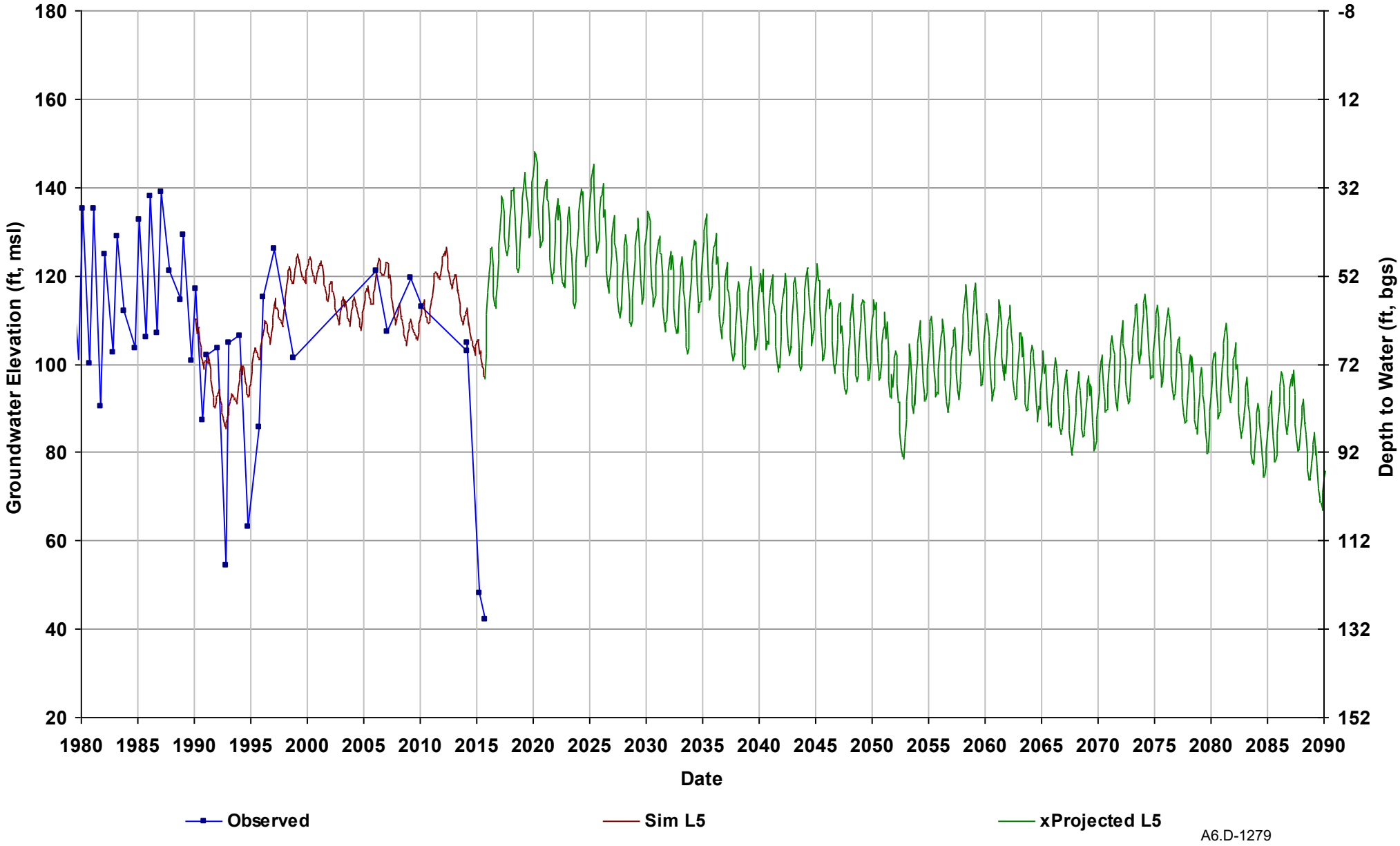
Well Name: 13S19E16K001M
Depth Zone: Unknown; Outside CC
Subbasin: Kings
GSE (ft, msl): 292

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



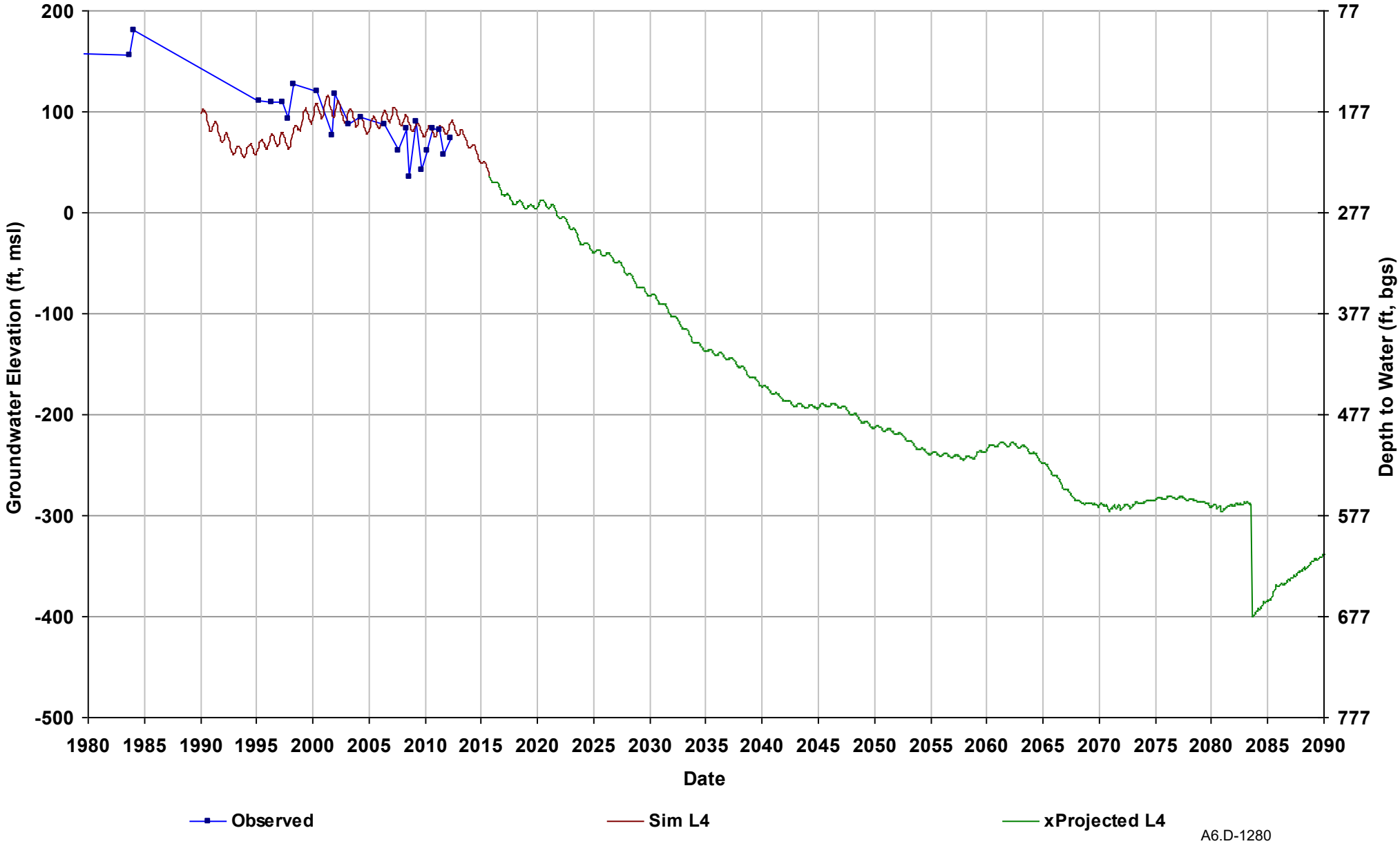
Well Name: 14S16E06A001M
Depth Zone: Unknown; Within CC
Subbasin: Kings
GSE (ft, msl): 172

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



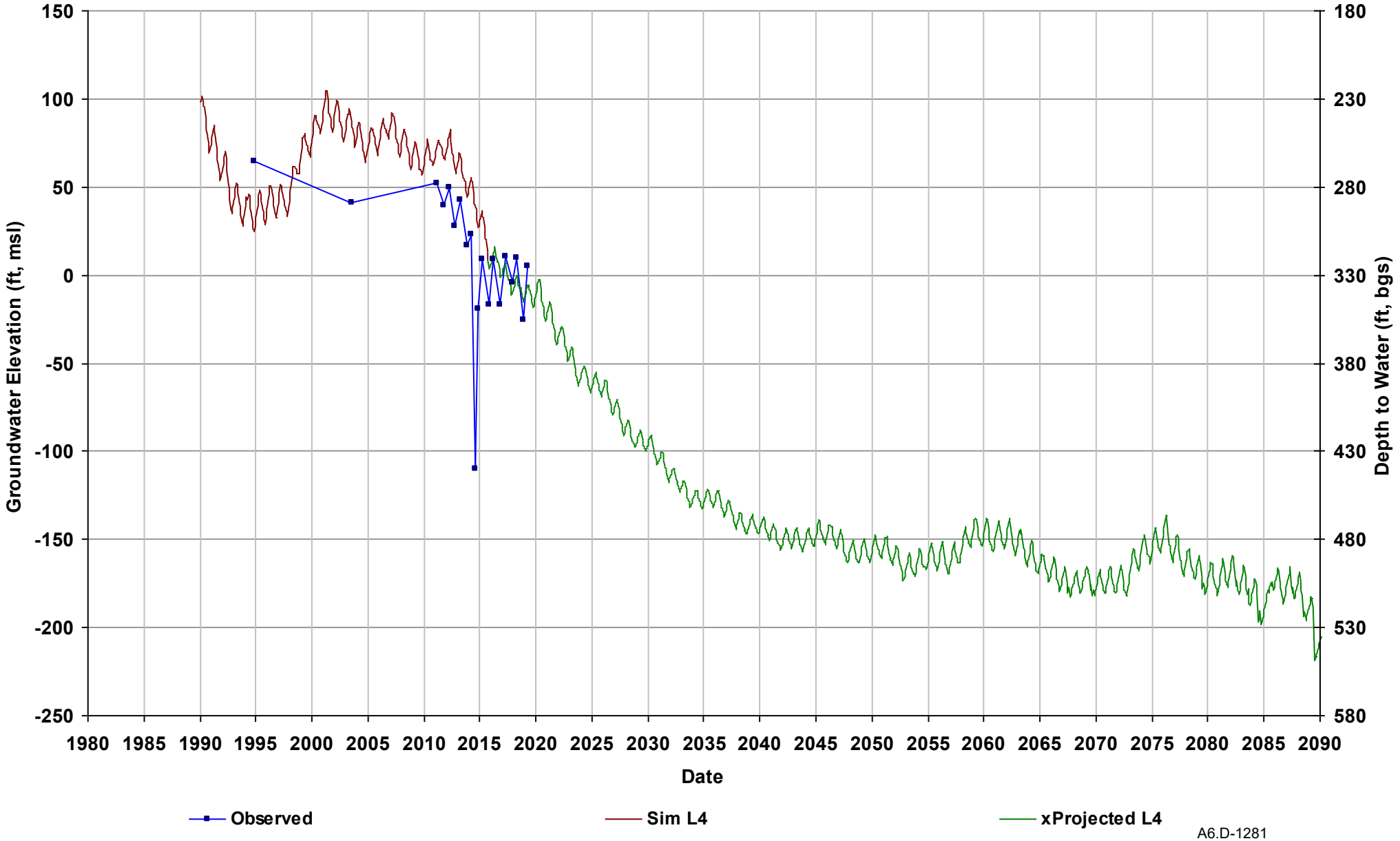
Well Name: City_of_Madera_16
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 276

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



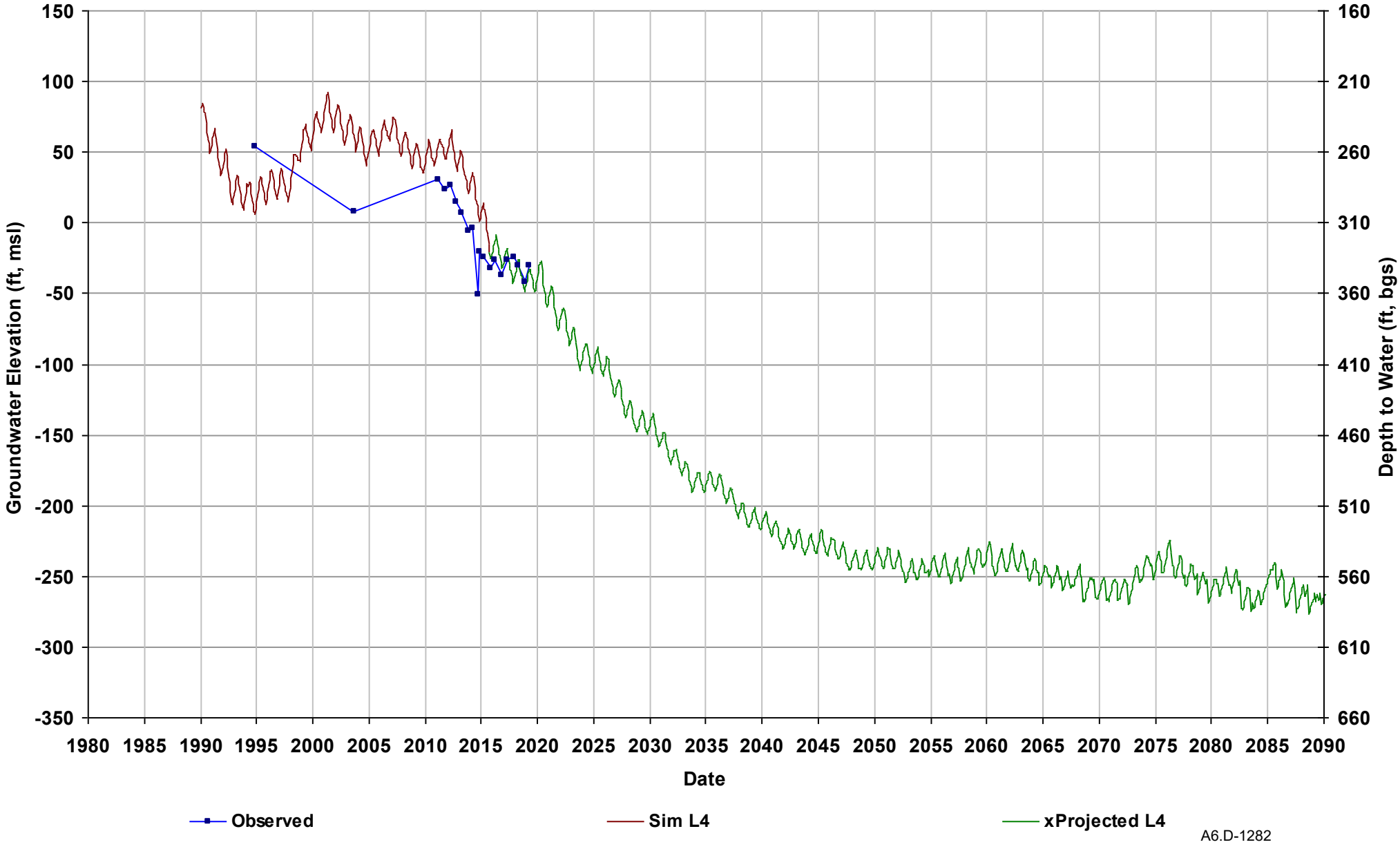
Well Name: MaderaWD-4
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 330

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



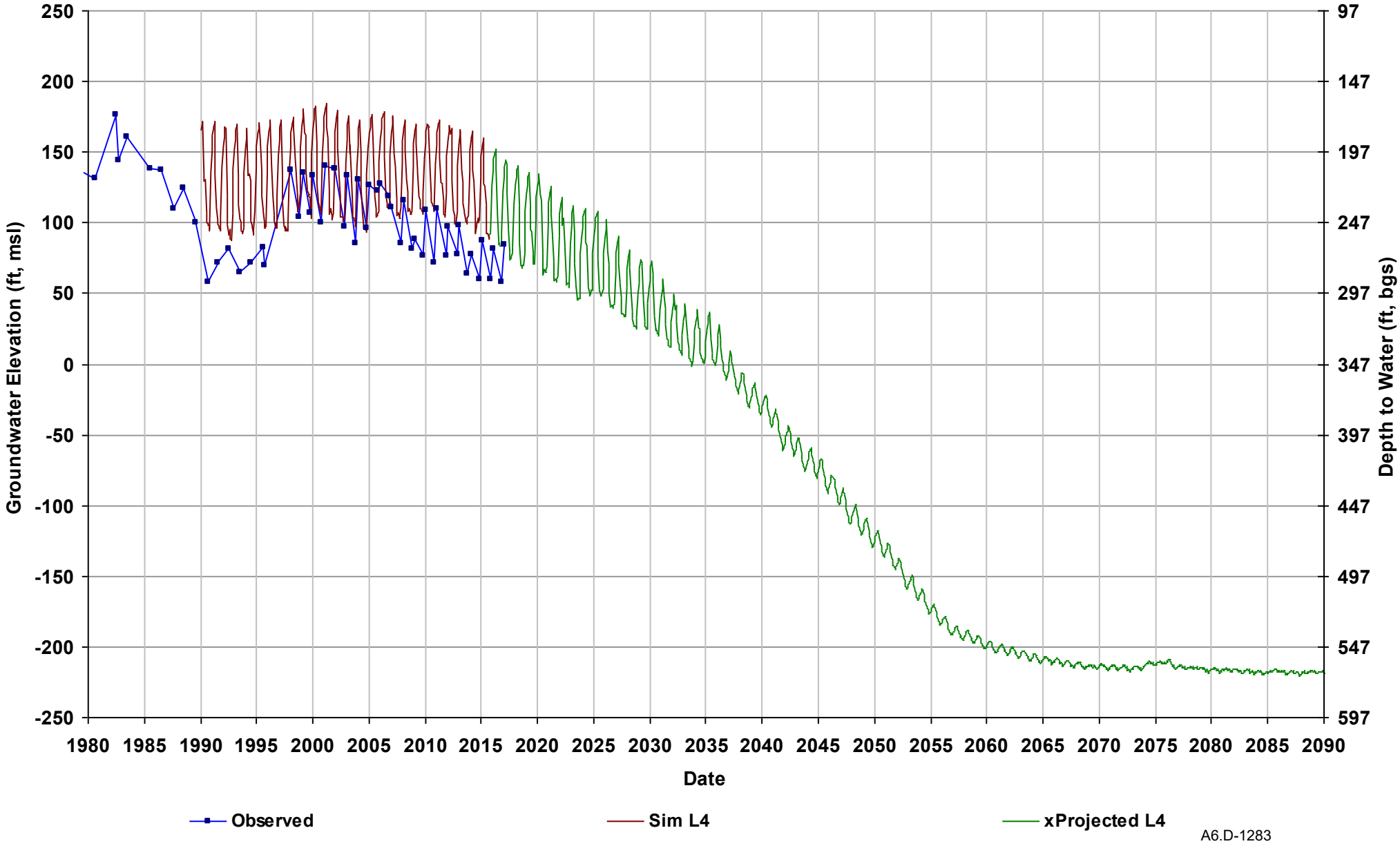
Well Name: MaderaWD-9
Depth Zone: Lower; Outside CC
Subbasin: Madera
GSE (ft, msl): 310

Total Depth (ft): 536
Perf Top (ft): 200
Perf Bottom (ft): 536
Top Model Layer: 4
Bottom Model Layer: 4



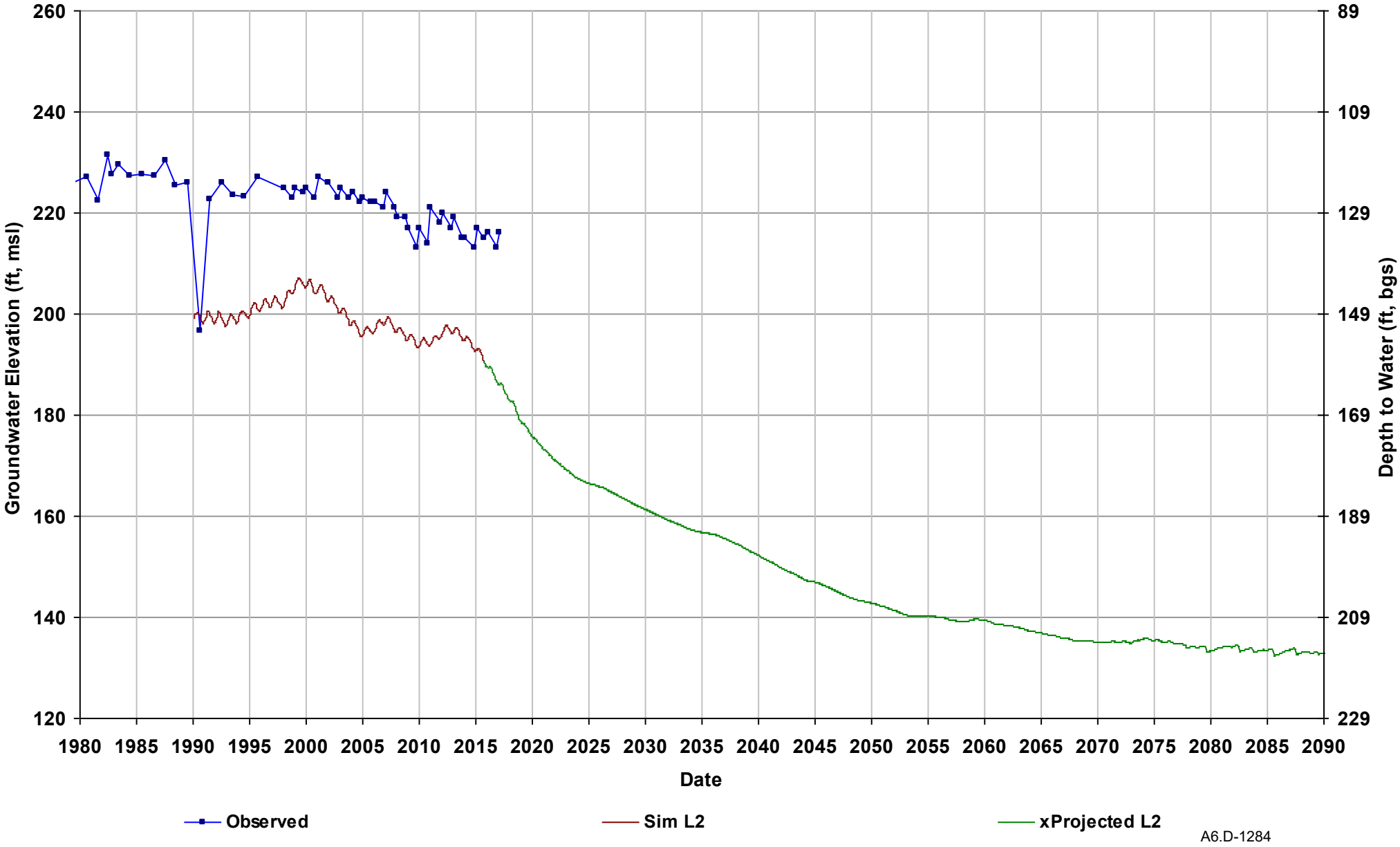
Well Name: RootCreekWD-113
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 346

Total Depth (ft): 495
Perf Top (ft): 240
Perf Bottom (ft): 492
Top Model Layer: 4
Bottom Model Layer: 4



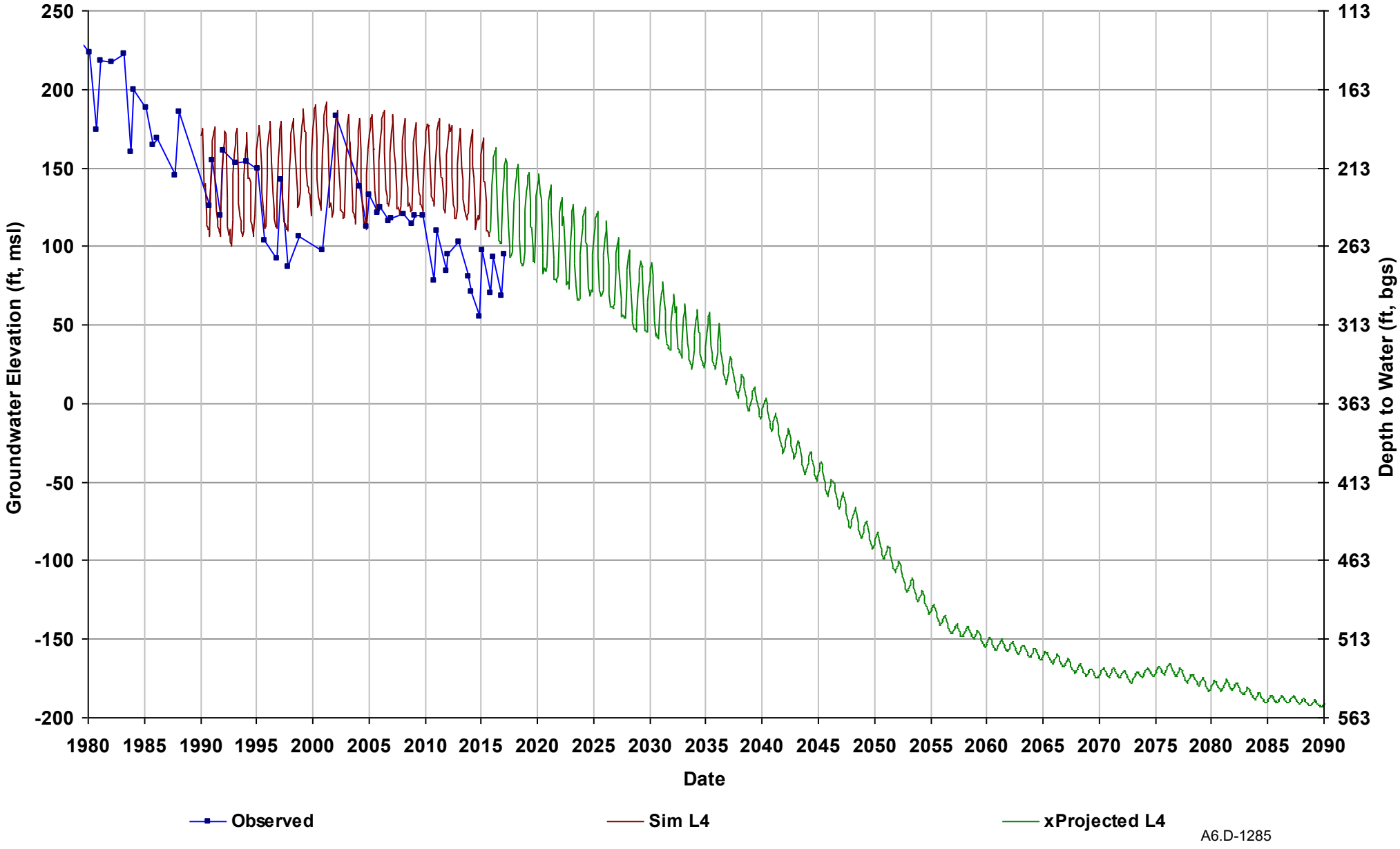
Well Name: RootCreekWD-22
Depth Zone: Upper; Outside CC
Subbasin: Madera
GSE (ft, msl): 348

Total Depth (ft): 236
Perf Top (ft): 160
Perf Bottom (ft): 228
Top Model Layer: 2
Bottom Model Layer: 2



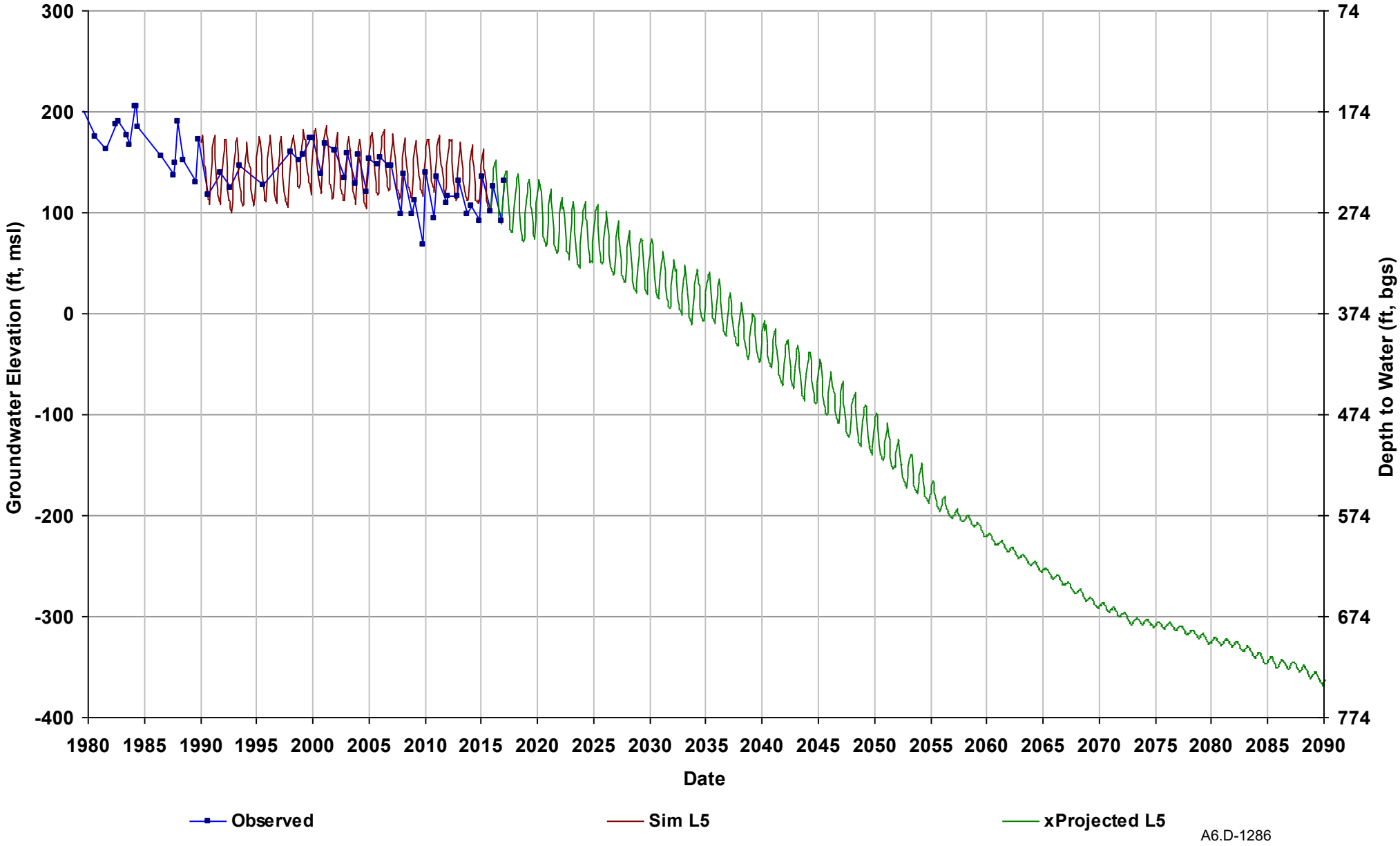
Well Name: RootCreekWD-65
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 363

Total Depth (ft): 407
Perf Top (ft): 290
Perf Bottom (ft): 400
Top Model Layer: 4
Bottom Model Layer: 4



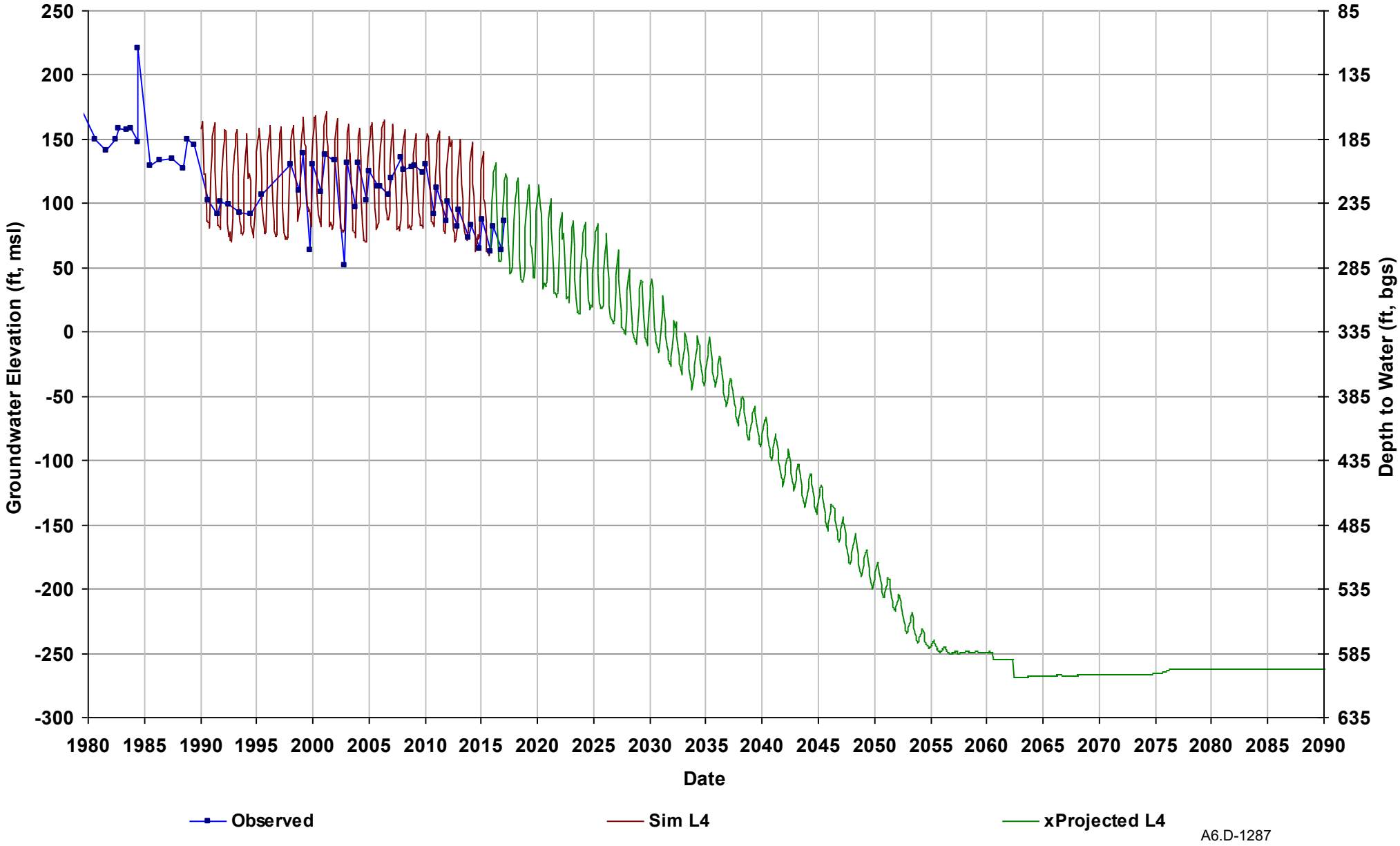
Well Name: RootCreekWD-66
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 373

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



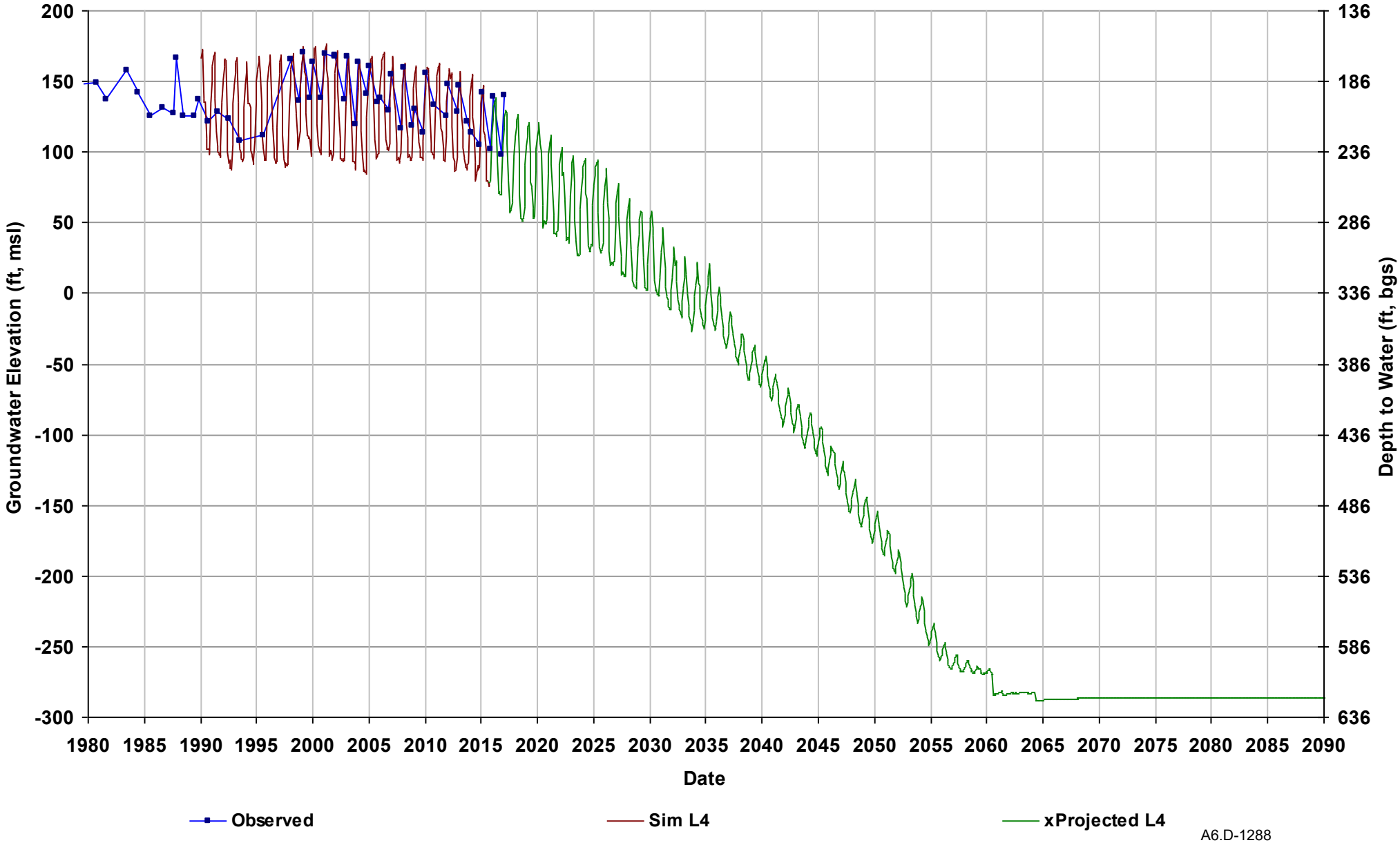
Well Name: RootCreekWD-85
Depth Zone: Composite or Lower; O
Subbasin: Madera
GSE (ft, msl): 335

Total Depth (ft): 412
Perf Top (ft): 250
Perf Bottom (ft): 408
Top Model Layer: 4
Bottom Model Layer: 4



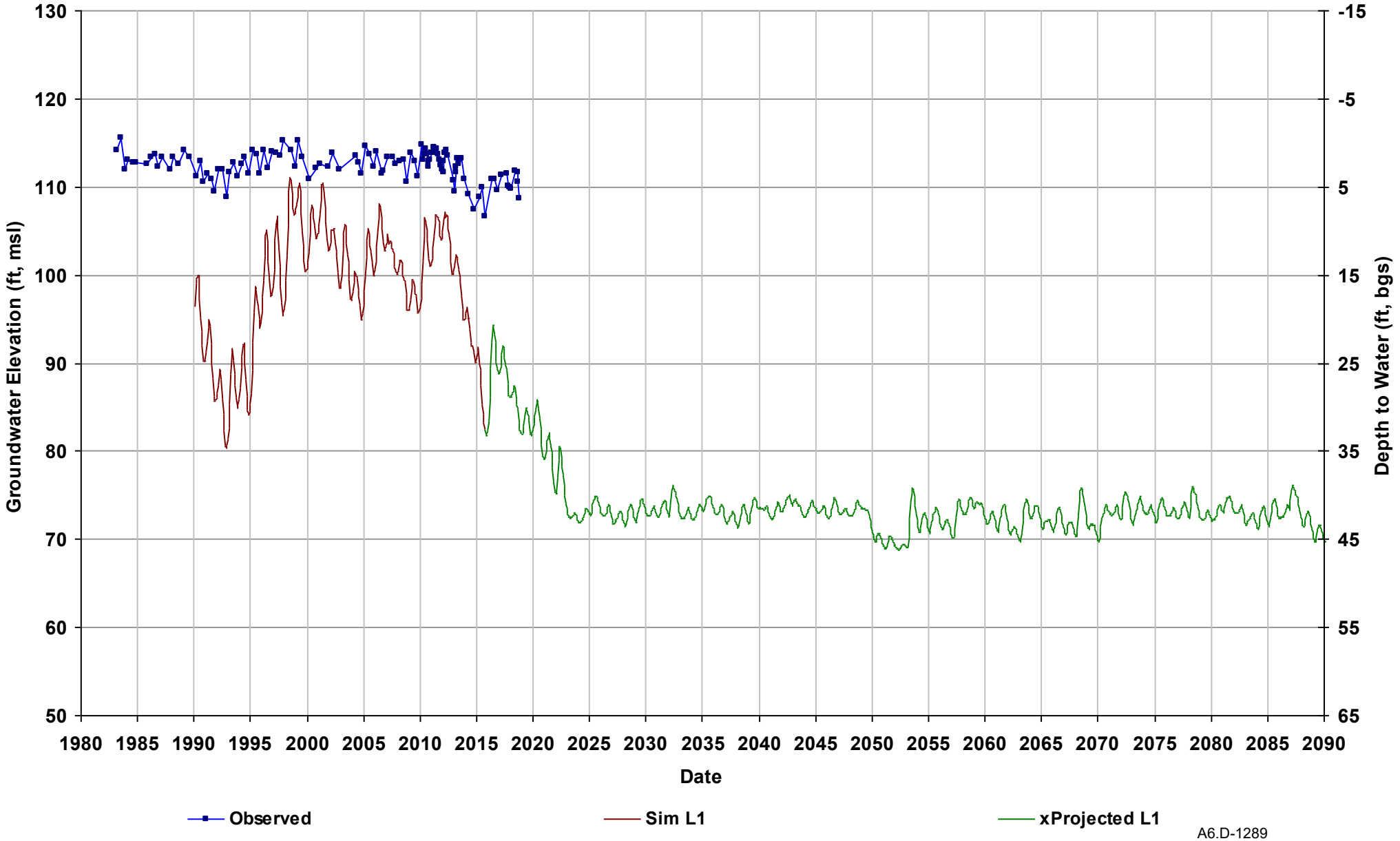
Well Name: RootCreekWD-88
Depth Zone: Unknown; Outside CC
Subbasin: Madera
GSE (ft, msl): 336

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



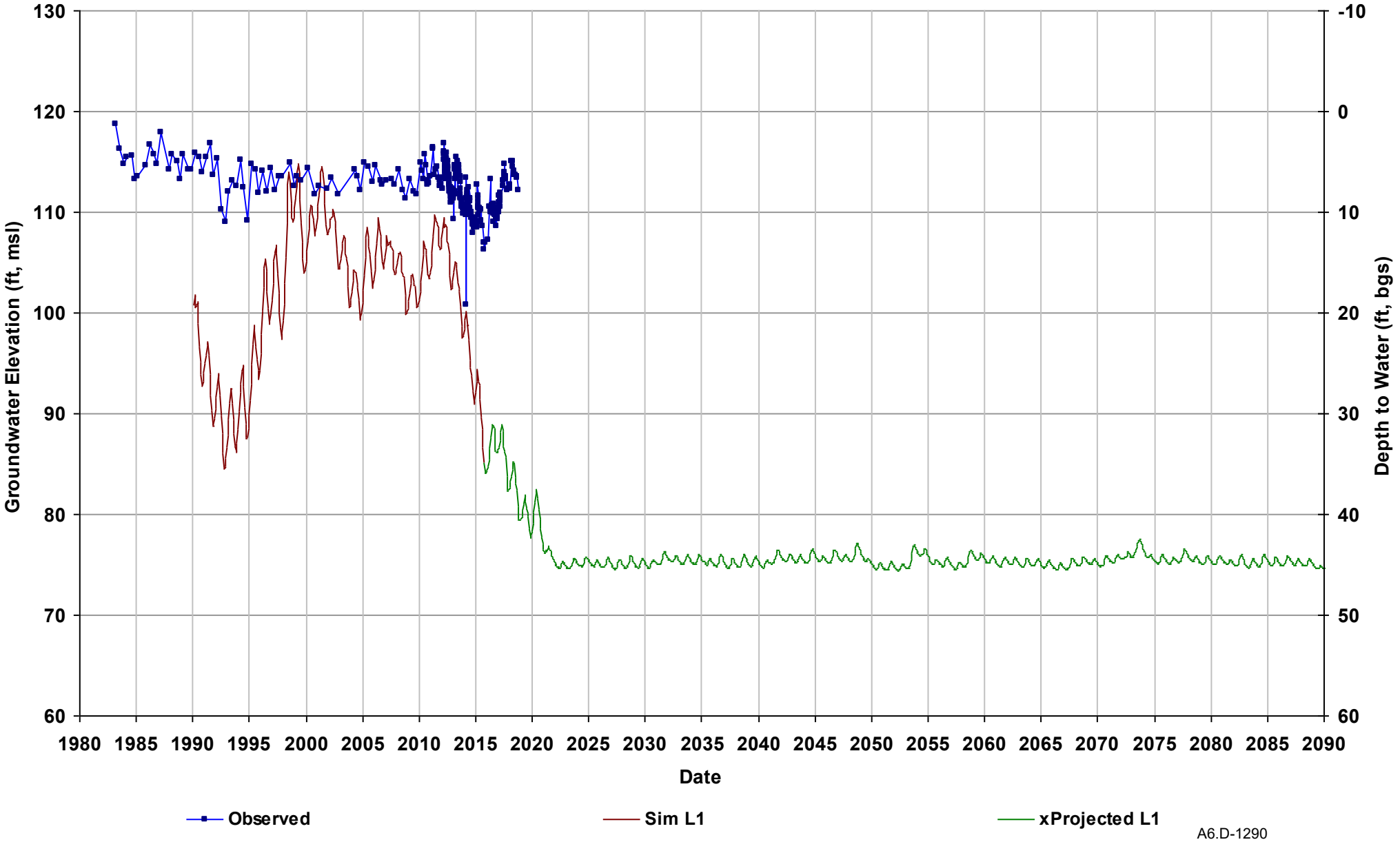
Well Name: SJRRP_129
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 114

Total Depth (ft):
Perf Top (ft): 8.2
Perf Bottom (ft): 17.2
Top Model Layer: 1
Bottom Model Layer: 1



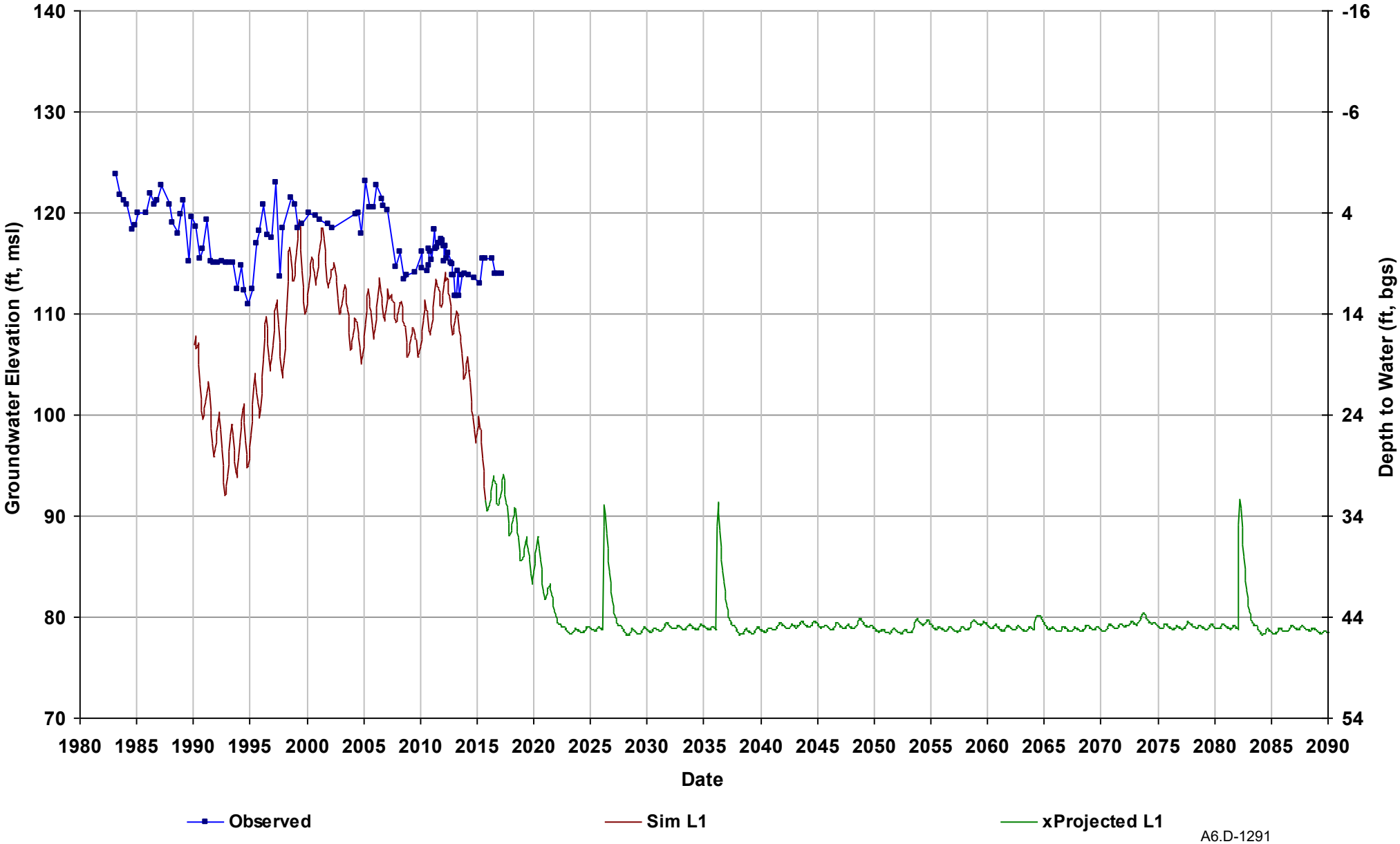
Well Name: SJRRP_135
Depth Zone: Unknown; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 120

Total Depth (ft):
Perf Top (ft): 8.4
Perf Bottom (ft): 17.4
Top Model Layer: 1
Bottom Model Layer: 1



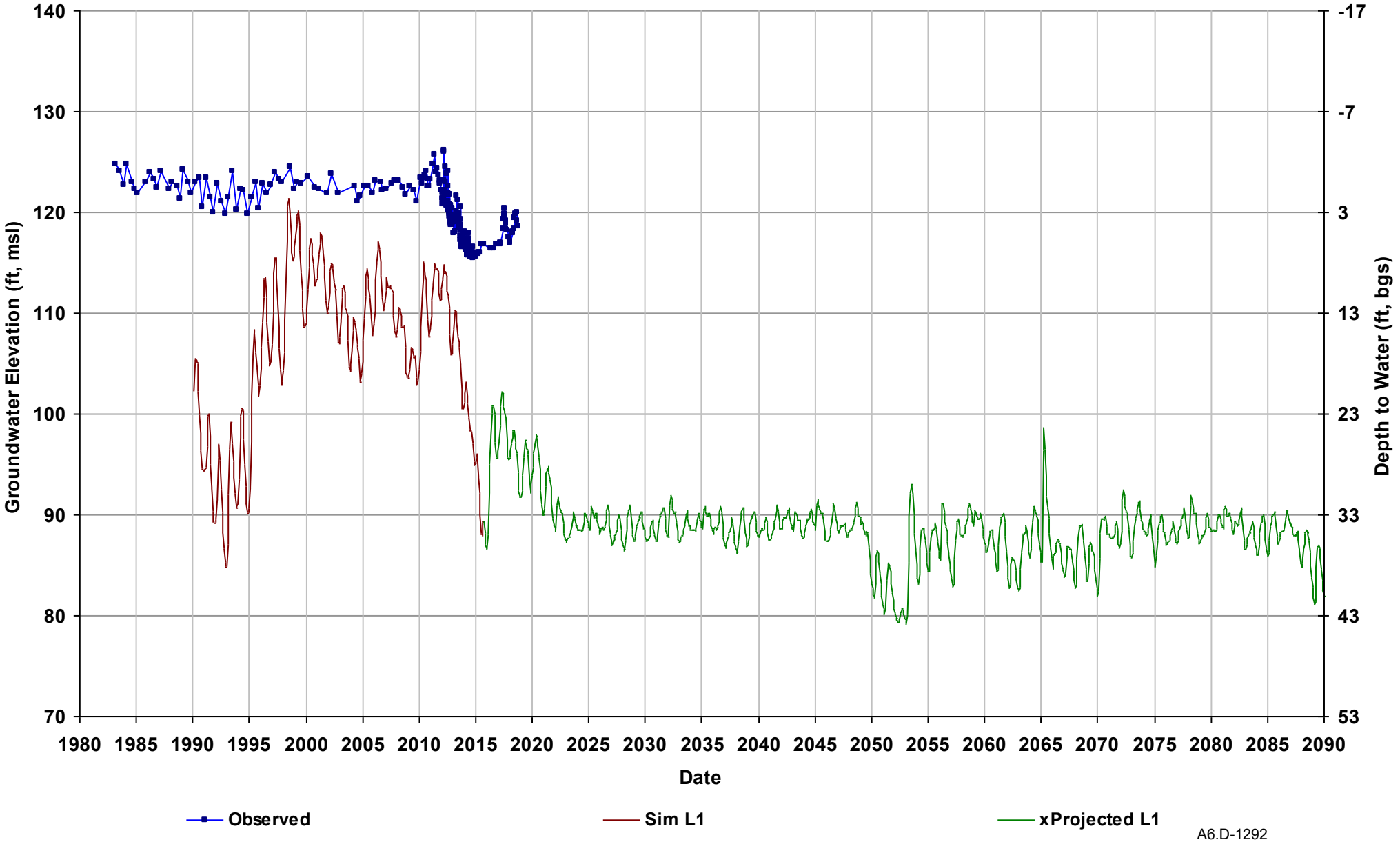
Well Name: SJRRP_140
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 124

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



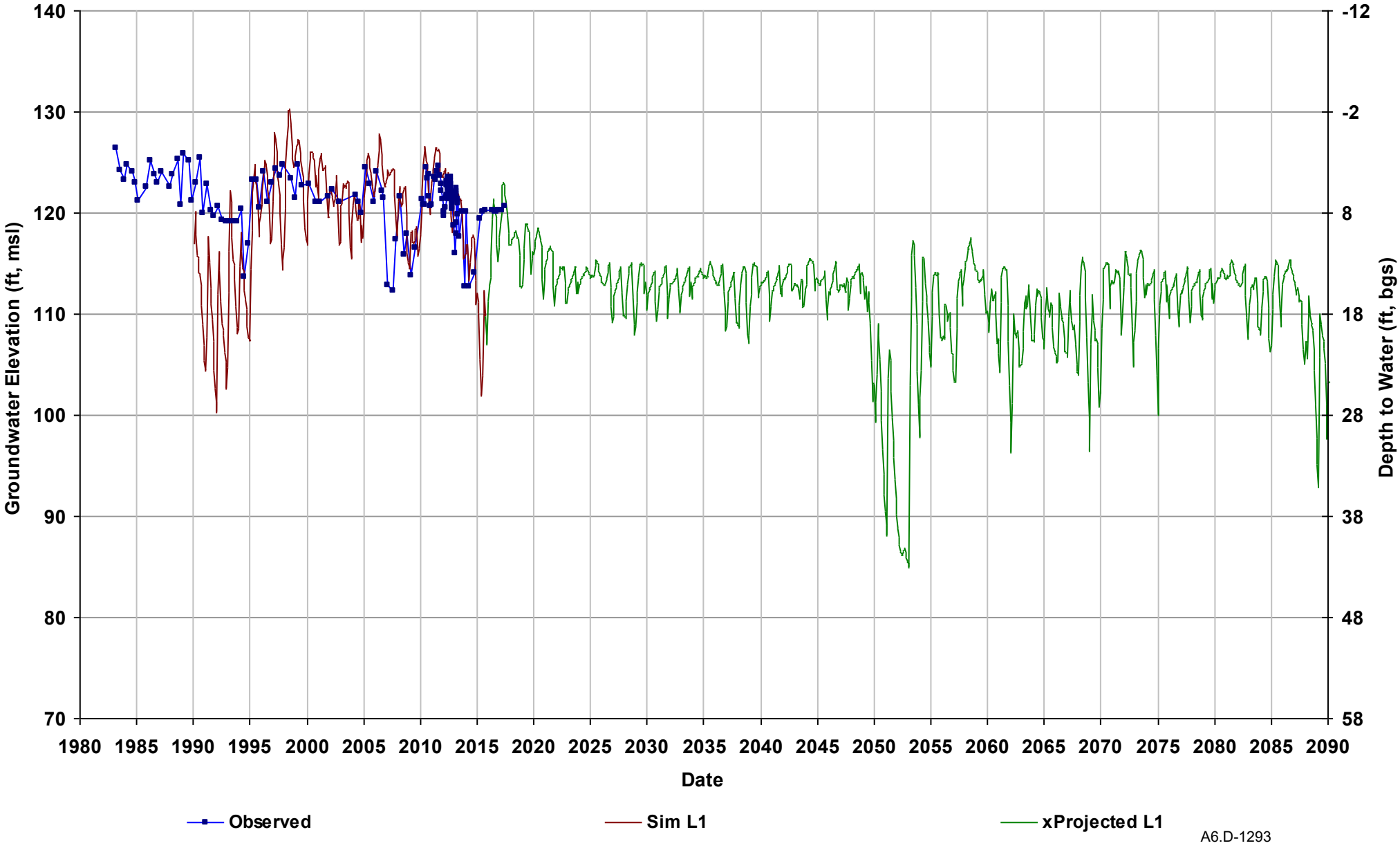
Well Name: SJRRP_145
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 123

Total Depth (ft):
Perf Top (ft): 7.3
Perf Bottom (ft): 16.3
Top Model Layer: 1
Bottom Model Layer: 1



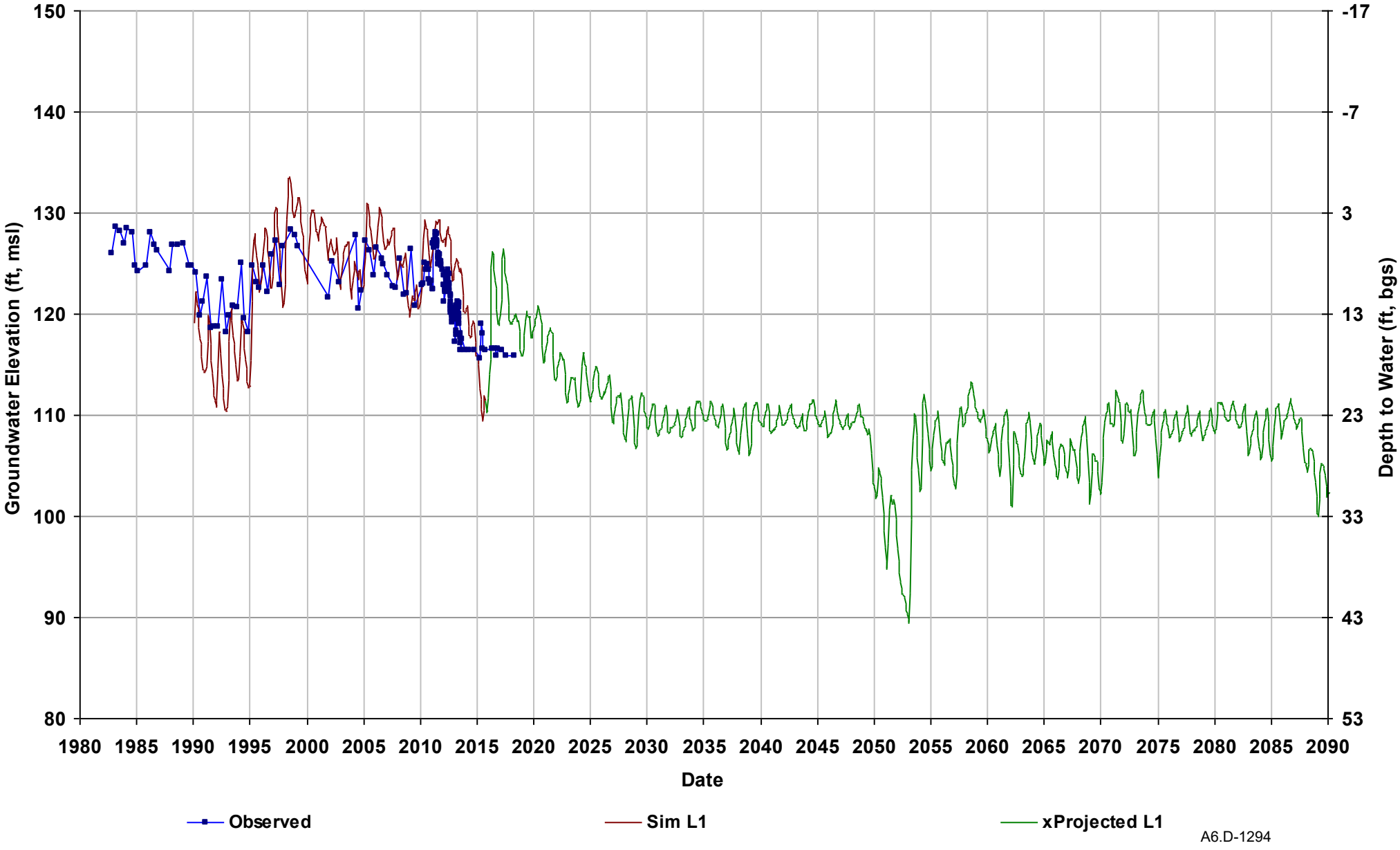
Well Name: SJRRP_151
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 127

Total Depth (ft):
Perf Top (ft): 7.5
Perf Bottom (ft): 16.5
Top Model Layer: 1
Bottom Model Layer: 1



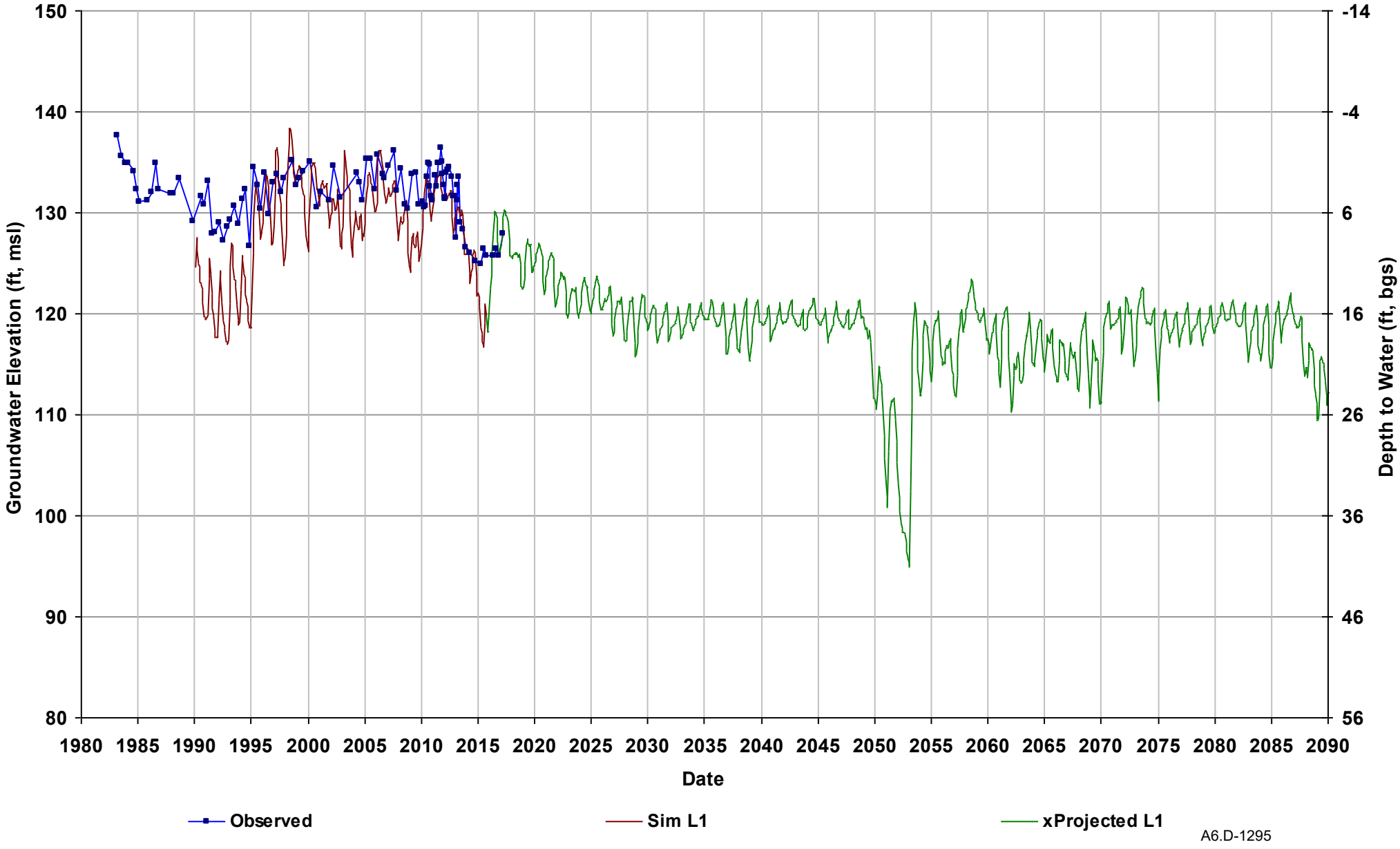
Well Name: SJRRP_155
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 7.1
Perf Bottom (ft): 16.1
Top Model Layer: 1
Bottom Model Layer: 1



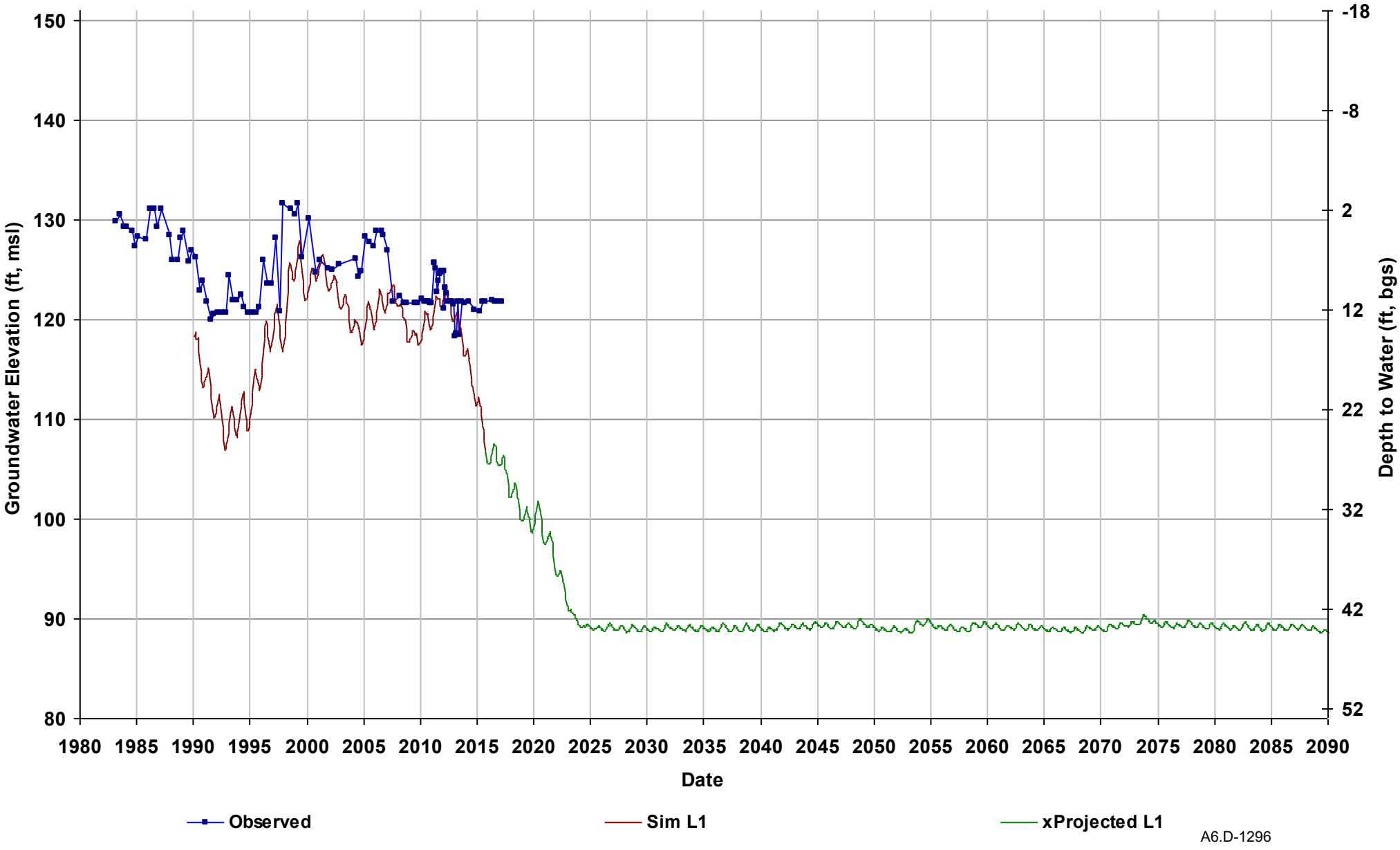
Well Name: SJRRP_156
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 135

Total Depth (ft):
Perf Top (ft): 7
Perf Bottom (ft): 16
Top Model Layer: 1
Bottom Model Layer: 1



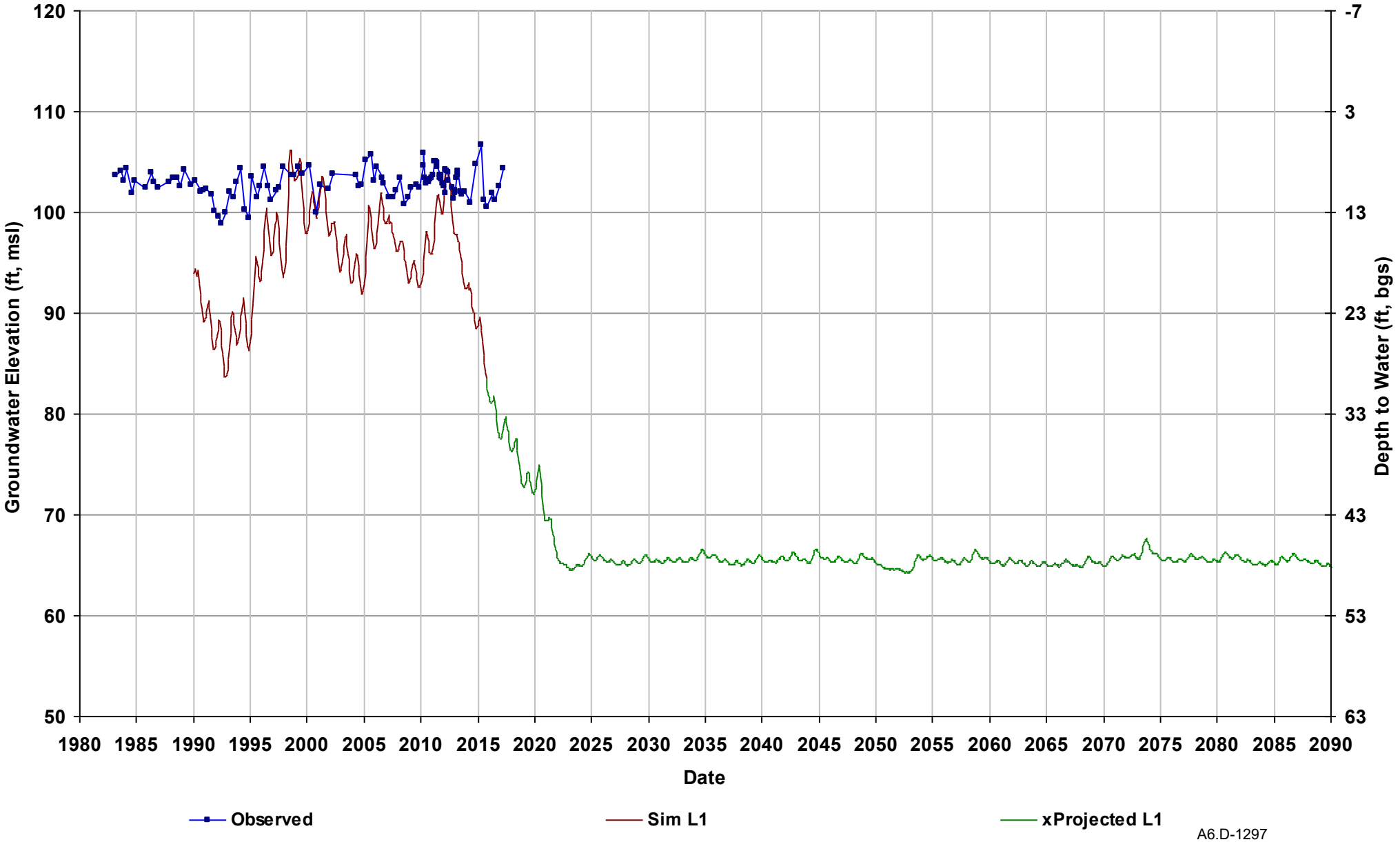
Well Name: SJRRP_166A
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 132

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



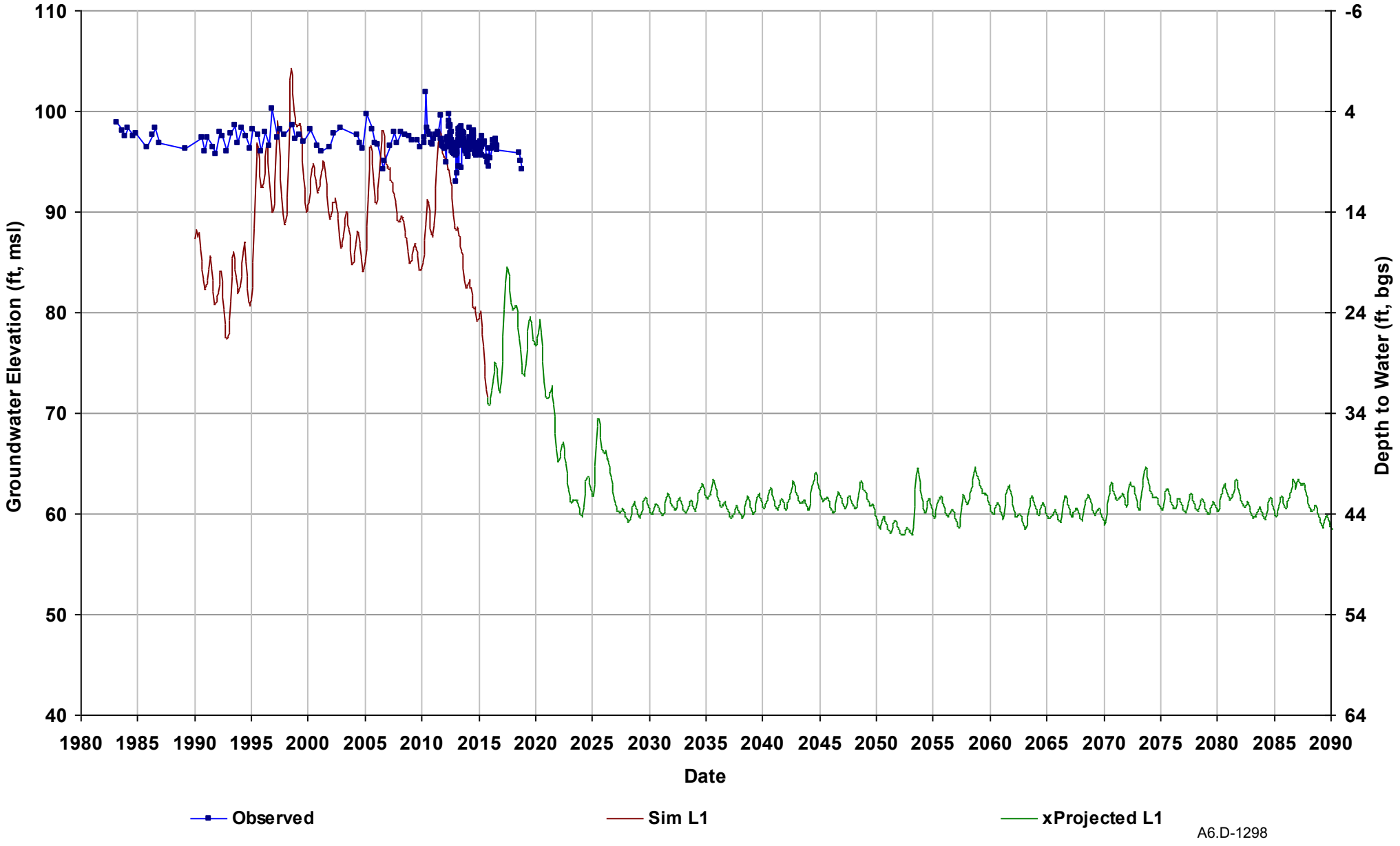
Well Name: SJRRP_181
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft):
Perf Top (ft): 9.2
Perf Bottom (ft): 18.2
Top Model Layer: 1
Bottom Model Layer: 1



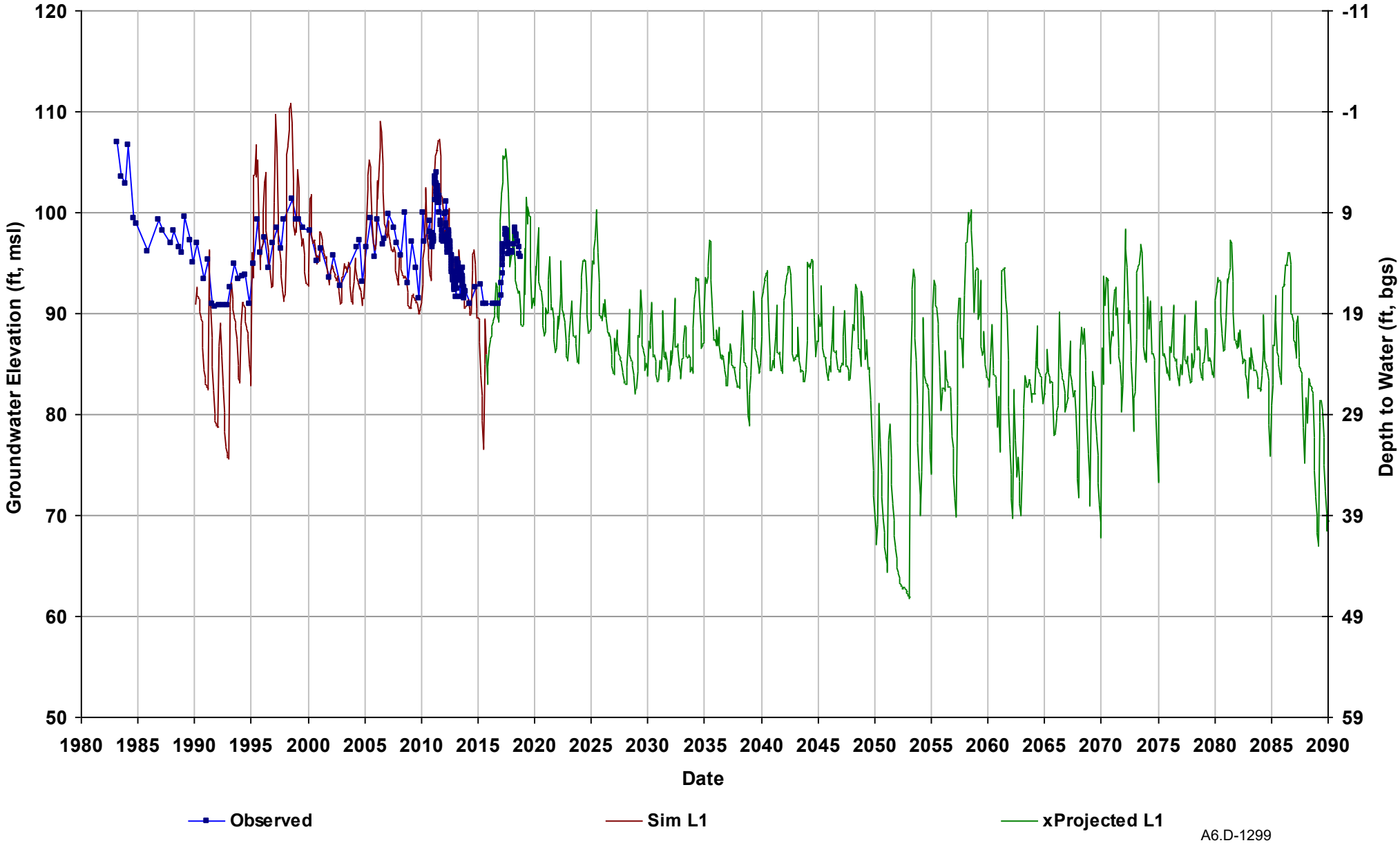
Well Name: SJRRP_184
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 104

Total Depth (ft):
Perf Top (ft): 6.7
Perf Bottom (ft): 15.7
Top Model Layer: 1
Bottom Model Layer: 1



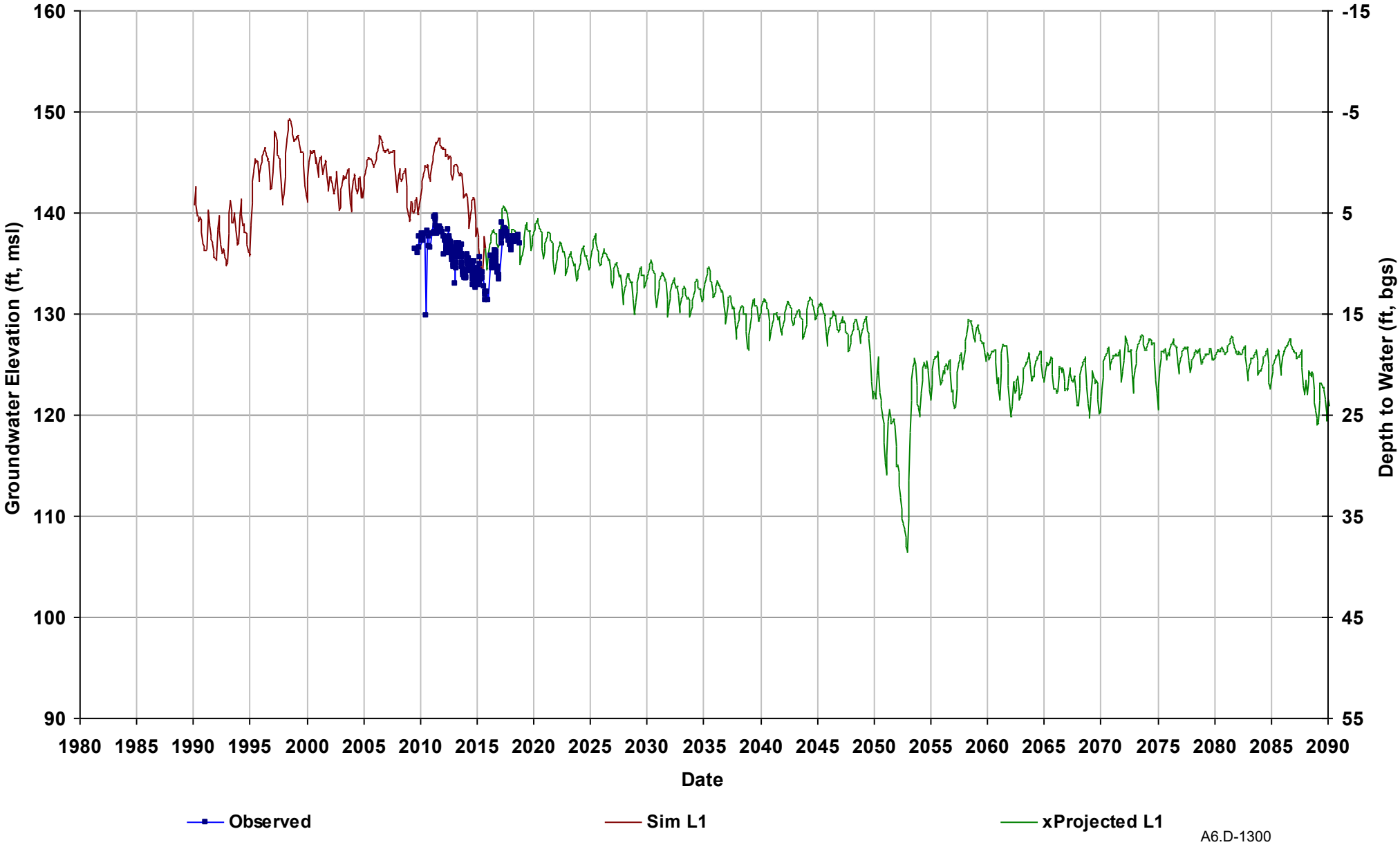
Well Name: SJRRP_191
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 108

Total Depth (ft):
Perf Top (ft): 7.9
Perf Bottom (ft): 16.9
Top Model Layer: 1
Bottom Model Layer: 1



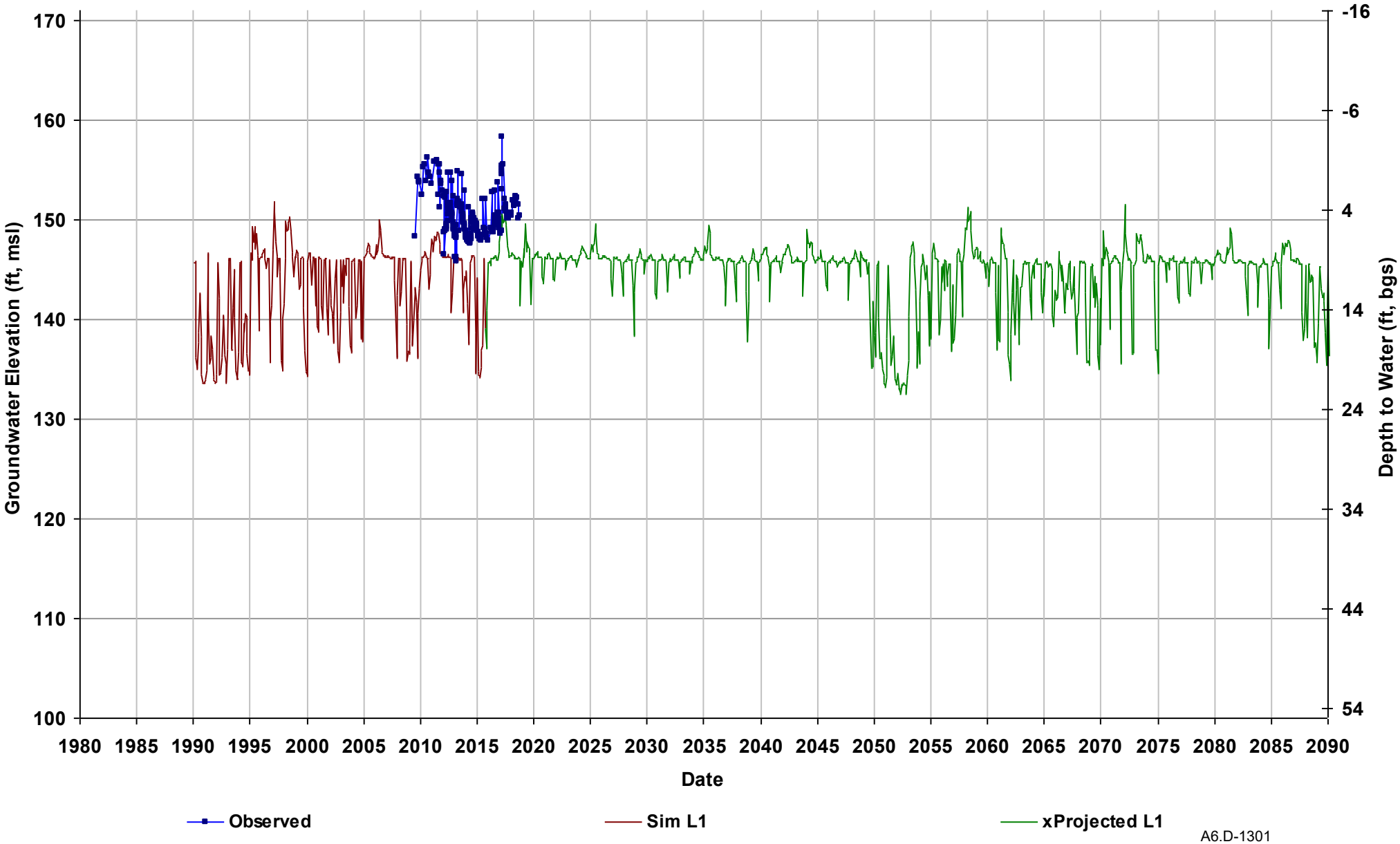
Well Name: SJRRP_355
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 145

Total Depth (ft):
Perf Top (ft): 7.7
Perf Bottom (ft): 16.7
Top Model Layer: 1
Bottom Model Layer: 1



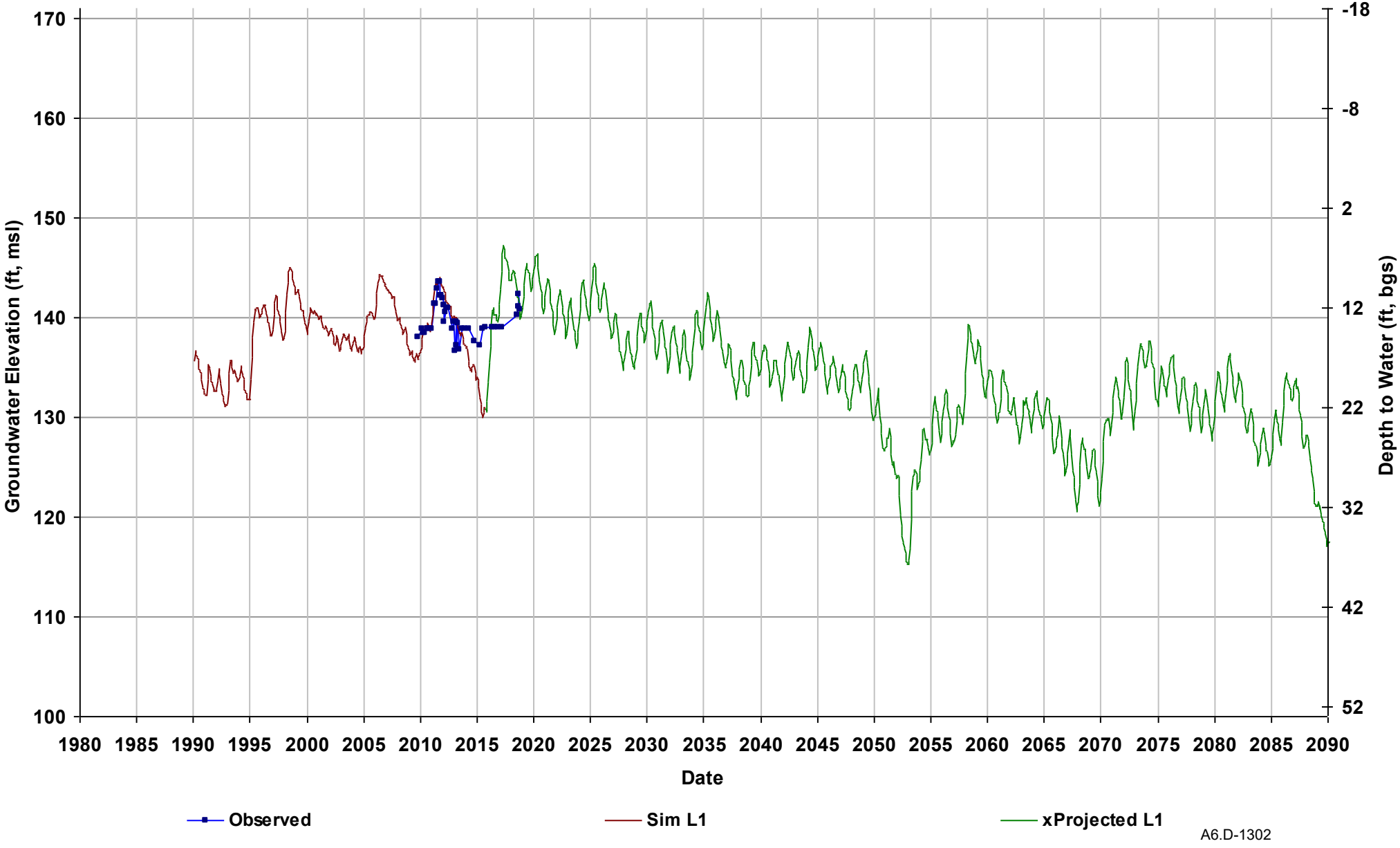
Well Name: SJRRP_364
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 154

Total Depth (ft):
Perf Top (ft): 4.4
Perf Bottom (ft): 13.4
Top Model Layer: 1
Bottom Model Layer: 1



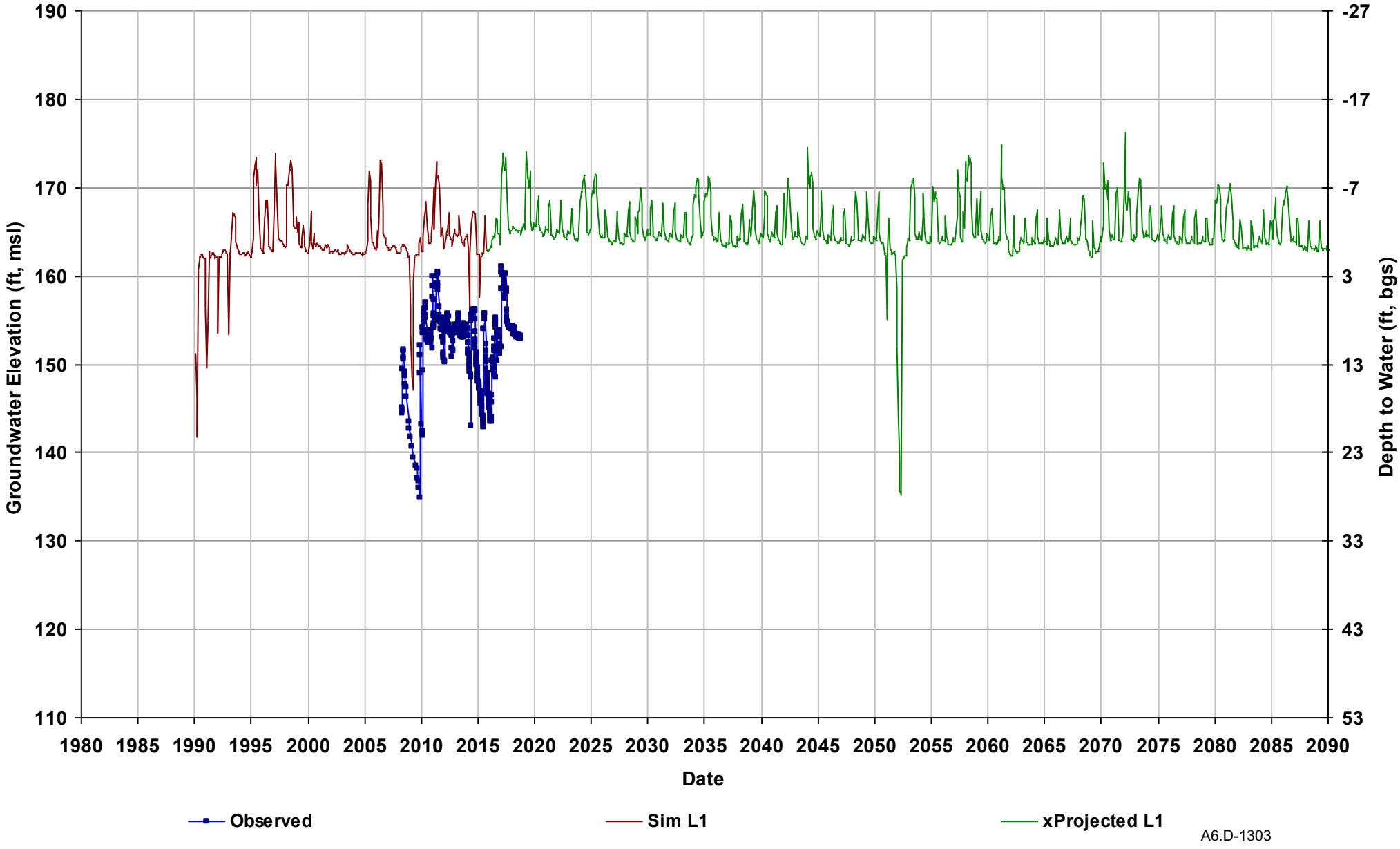
Well Name: SJRRP_366
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 152

Total Depth (ft):
Perf Top (ft): 6.8
Perf Bottom (ft): 15.8
Top Model Layer: 1
Bottom Model Layer: 1



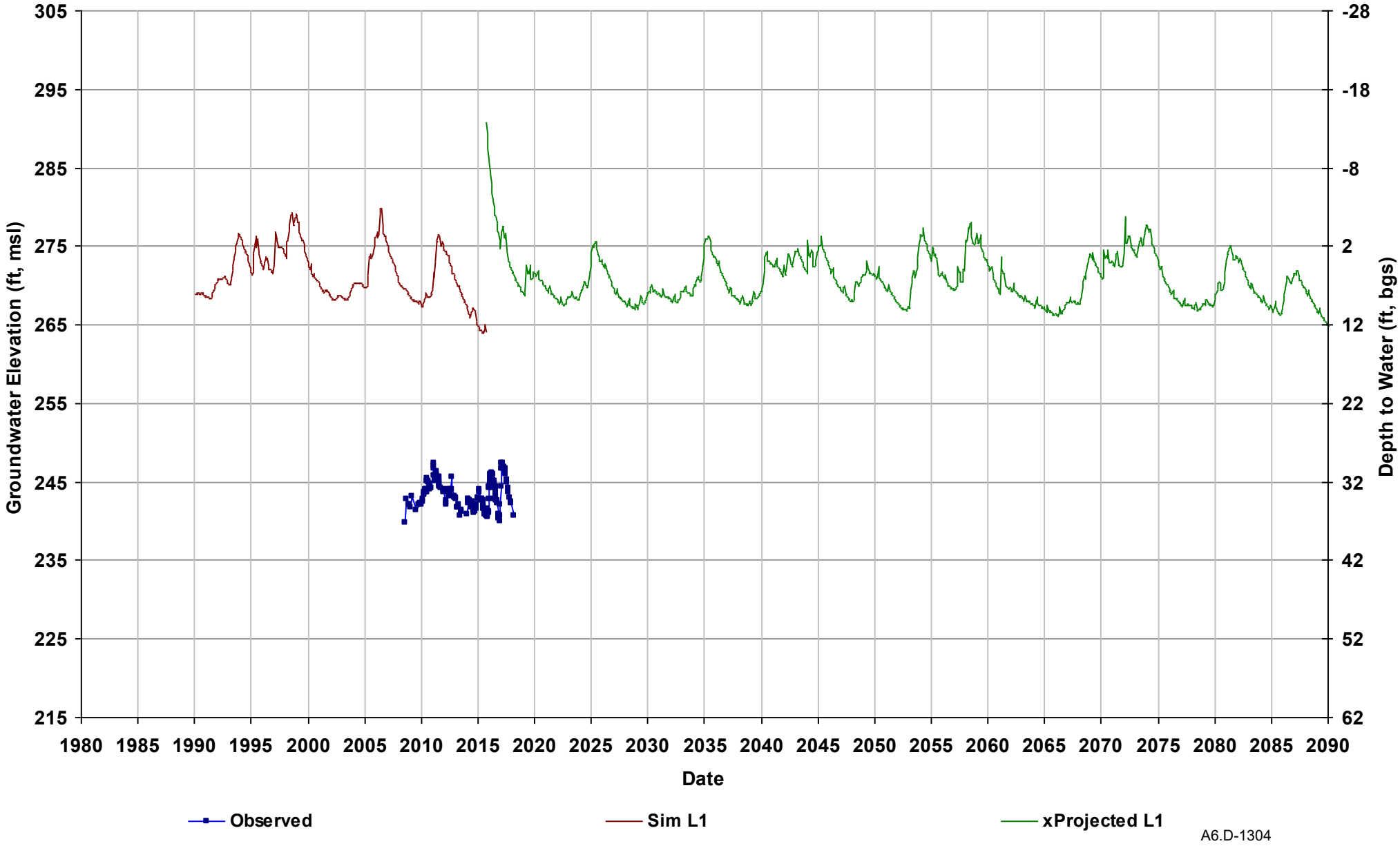
Well Name: SJRRP_FA-8
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 163

Total Depth (ft): 28
Perf Top (ft): 15
Perf Bottom (ft): 30
Top Model Layer: 1
Bottom Model Layer: 1



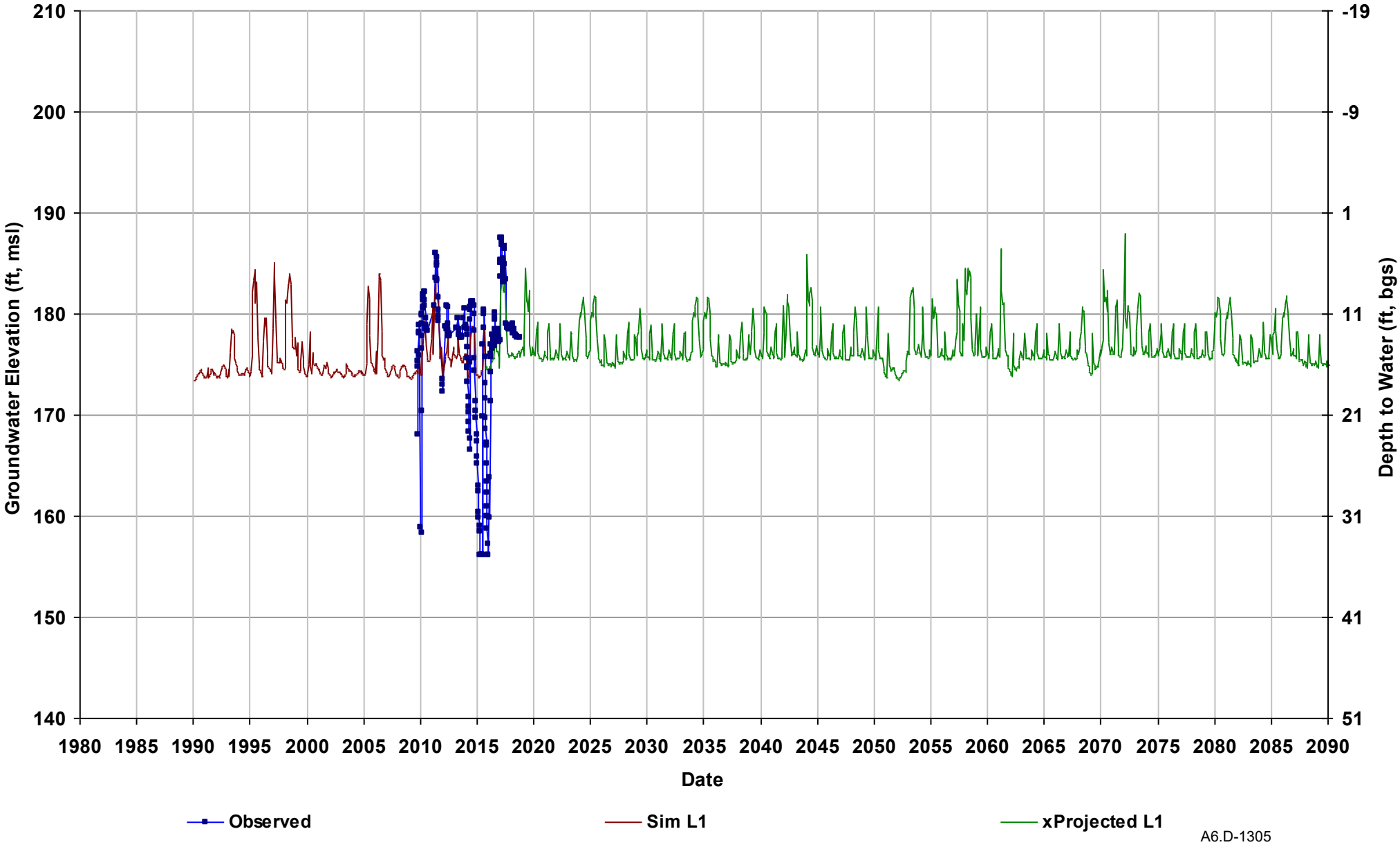
Well Name: SJRRP_JR-1
Depth Zone: Upper, Shallow GW; Ou
Subbasin: Kings
GSE (ft, msl): 277

Total Depth (ft): 38
Perf Top (ft): 37.5
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1



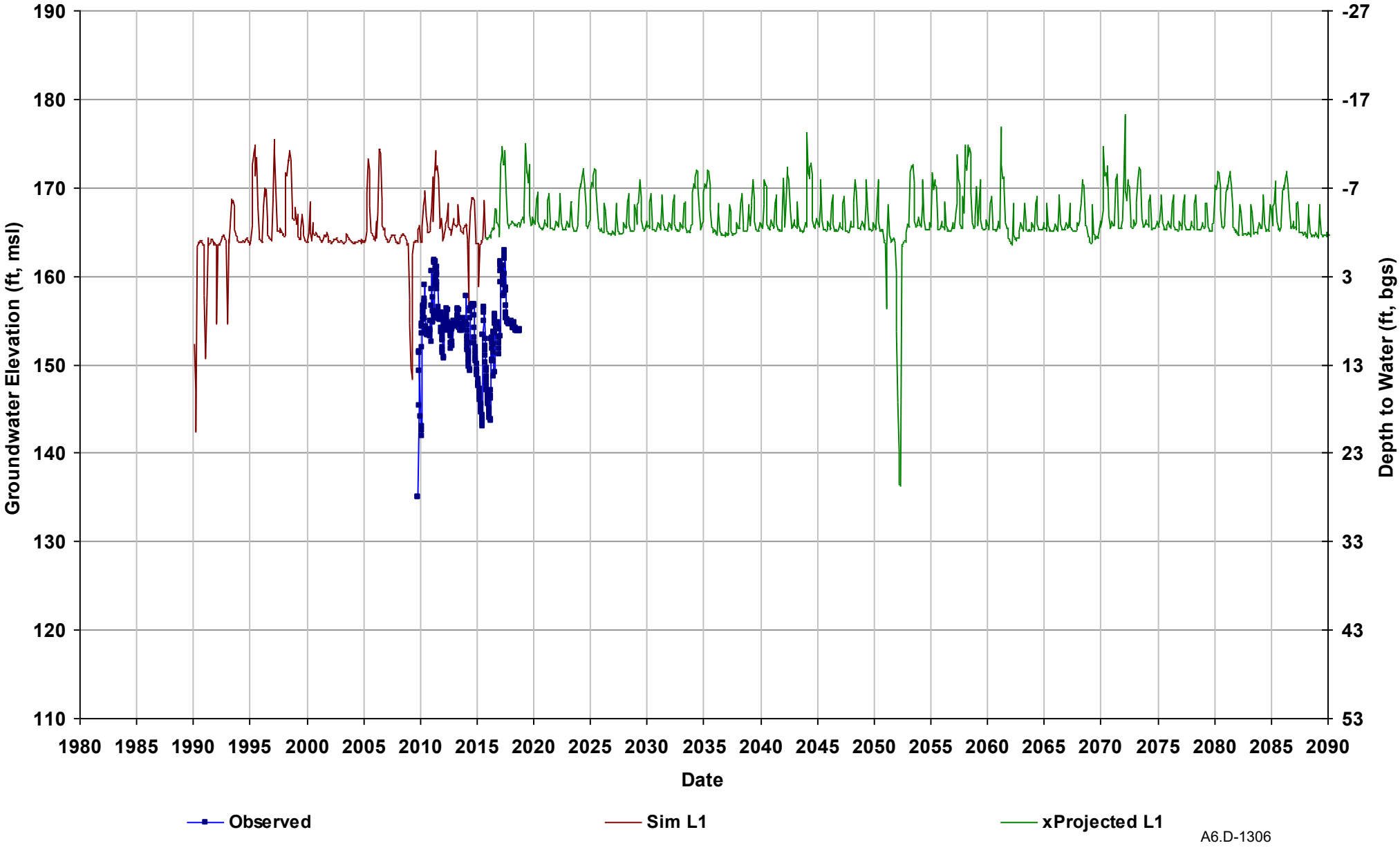
Well Name: SJRRP_MW-09-36
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 191

Total Depth (ft): 37
Perf Top (ft): 17
Perf Bottom (ft): 37
Top Model Layer: 1
Bottom Model Layer: 1



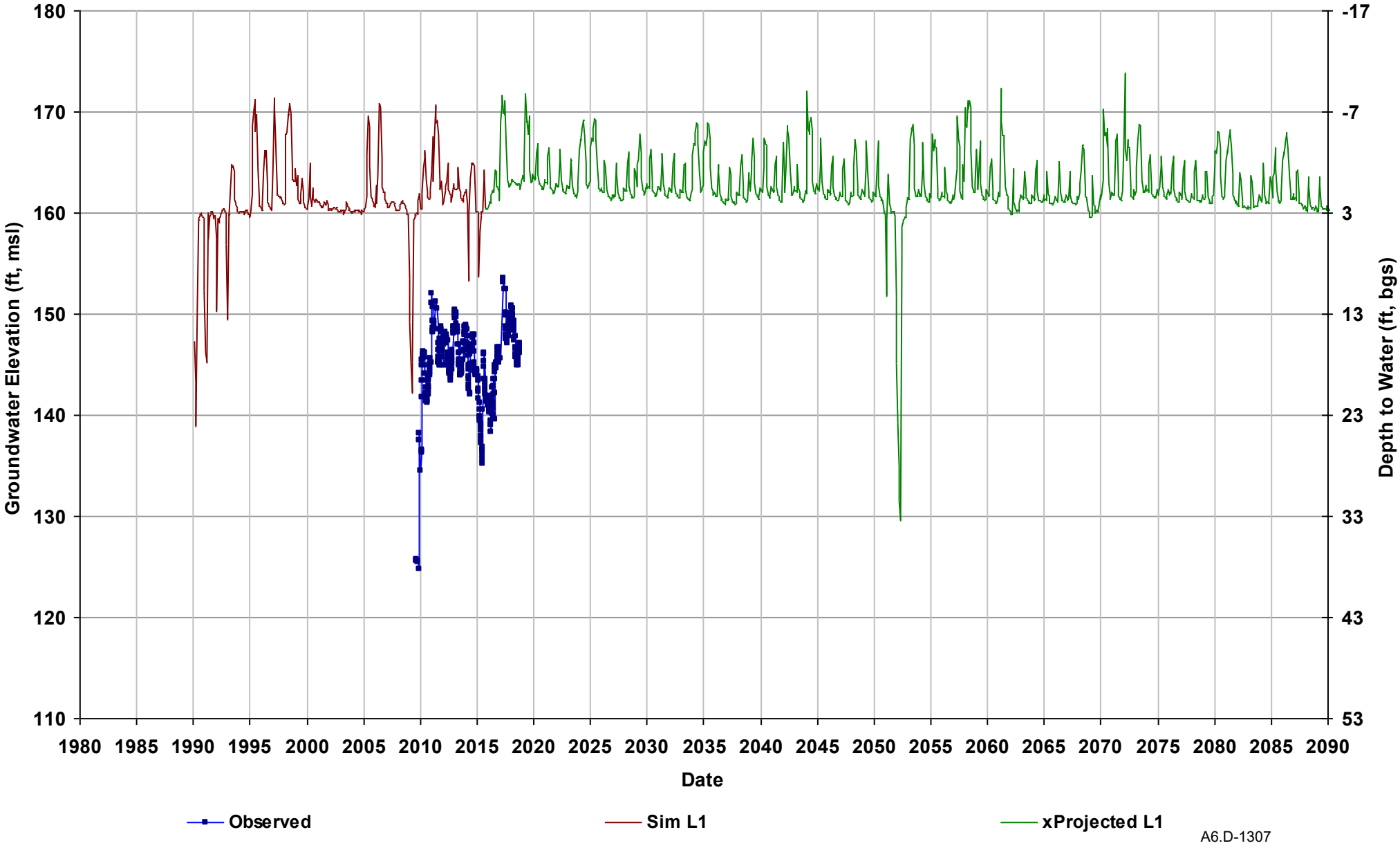
Well Name: SJRRP_MW-09-47
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 163

Total Depth (ft): 41
Perf Top (ft): 20
Perf Bottom (ft): 40
Top Model Layer: 1
Bottom Model Layer: 1



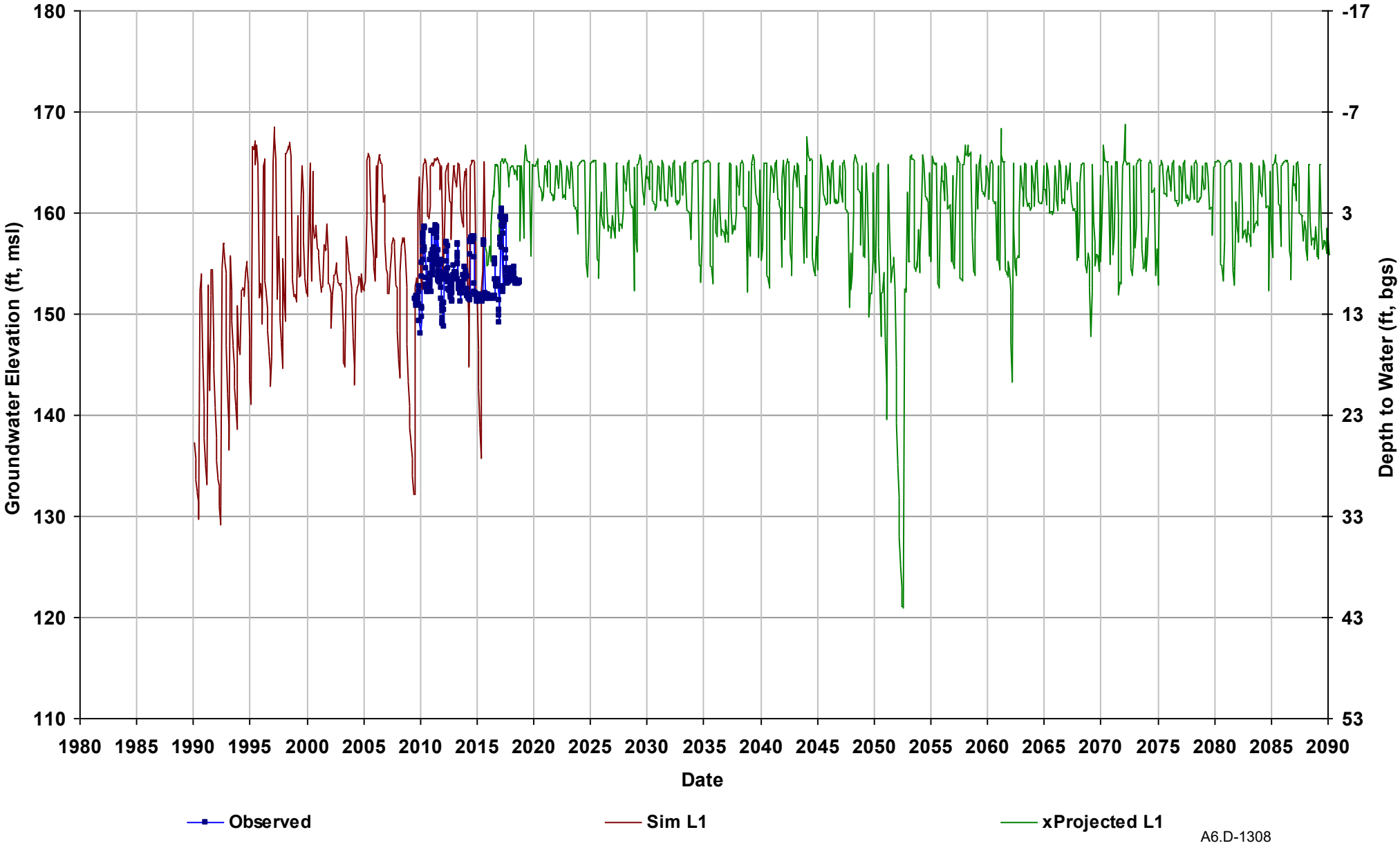
Well Name: SJRRP_MW-09-49
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Kings
GSE (ft, msl): 163

Total Depth (ft): 60
Perf Top (ft): 50
Perf Bottom (ft): 60
Top Model Layer: 1
Bottom Model Layer: 1



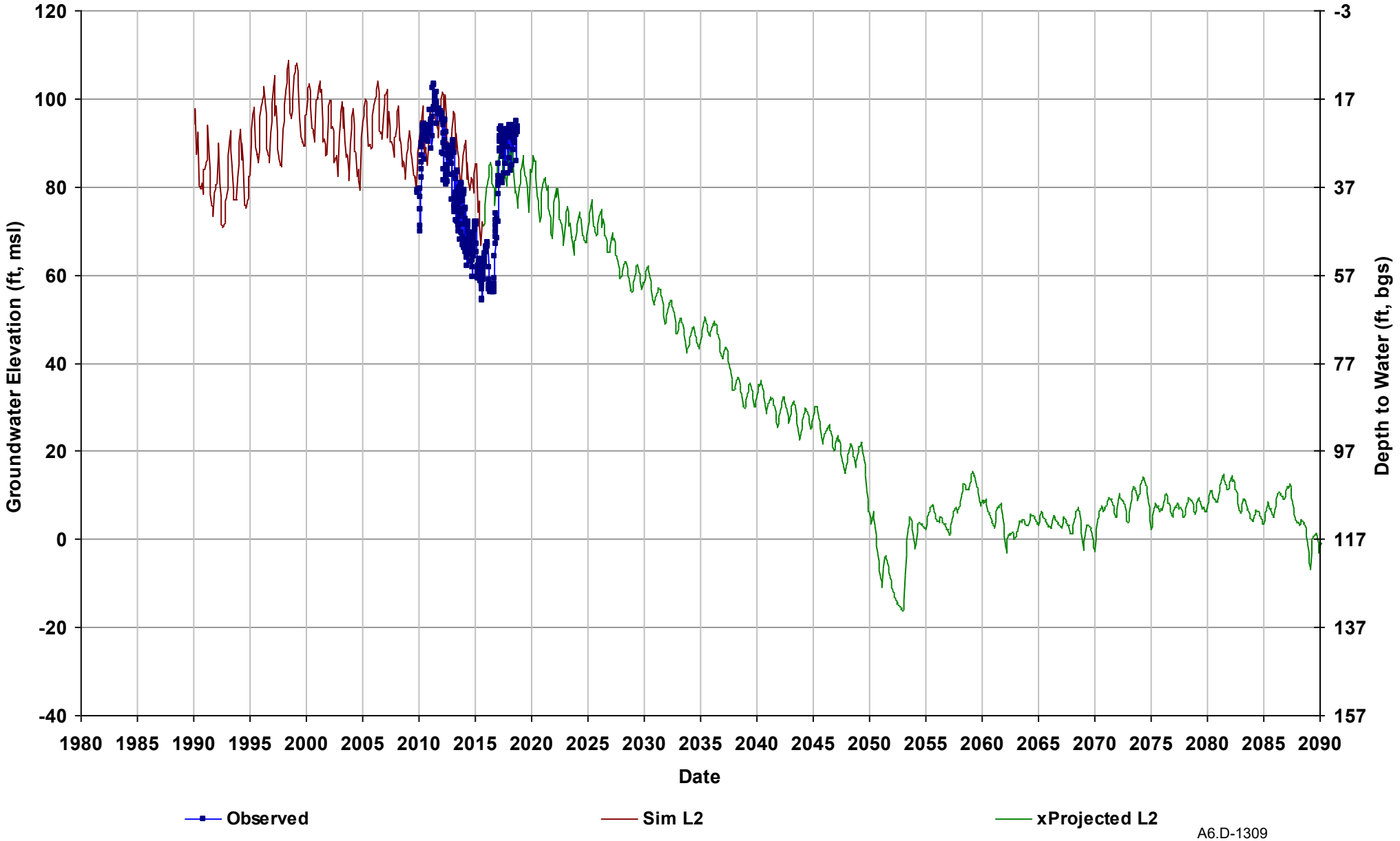
Well Name: SJRRP_MW-09-55B
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 163

Total Depth (ft): 15
Perf Top (ft): 10
Perf Bottom (ft): 15
Top Model Layer: 1
Bottom Model Layer: 1



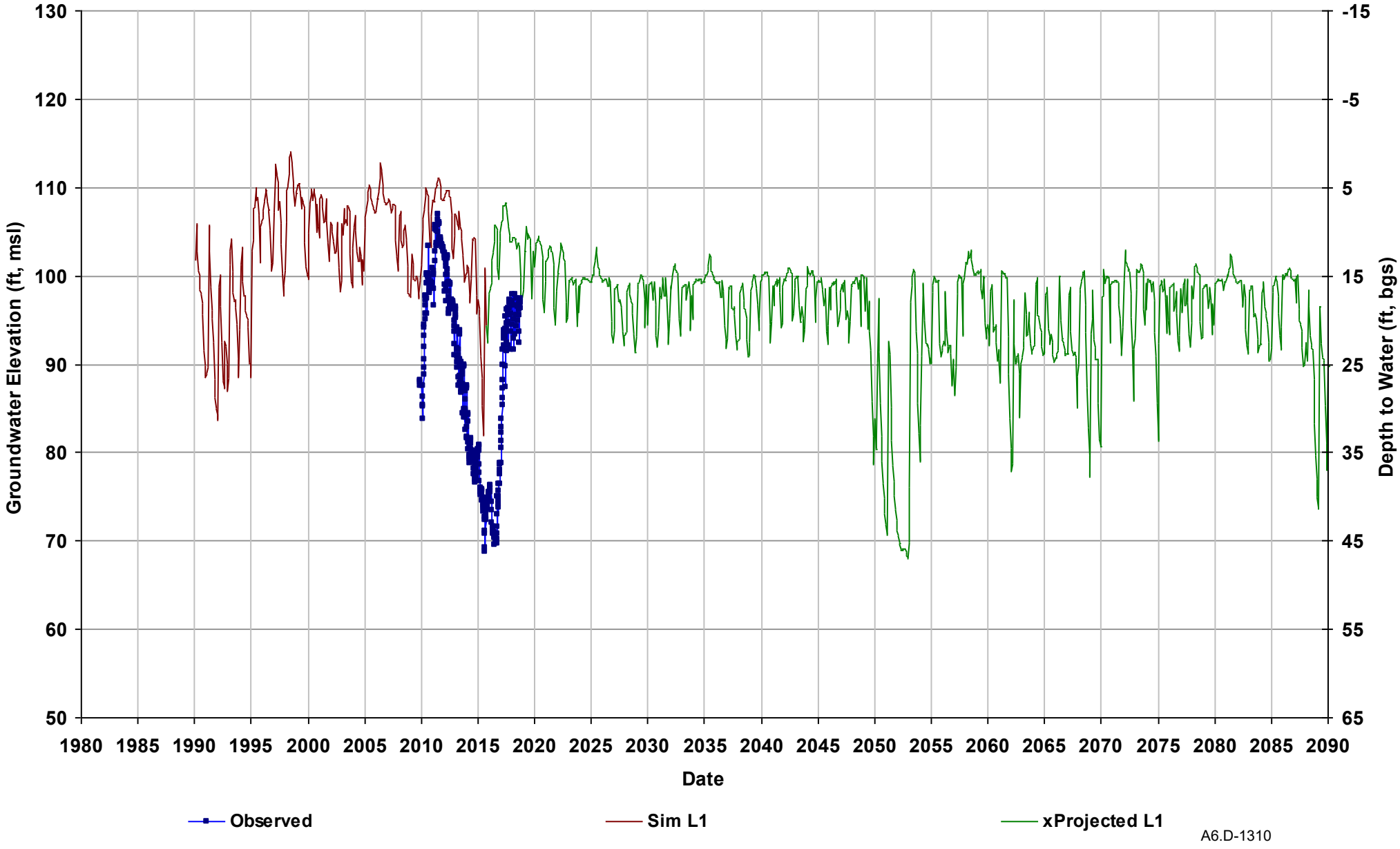
Well Name: SJRRP_MW-09-86
Depth Zone: Upper; Within CC
Subbasin: Delta-Mendota
GSE (ft, msl): 117

Total Depth (ft): 72
Perf Top (ft): 52
Perf Bottom (ft): 72
Top Model Layer: 2
Bottom Model Layer: 2



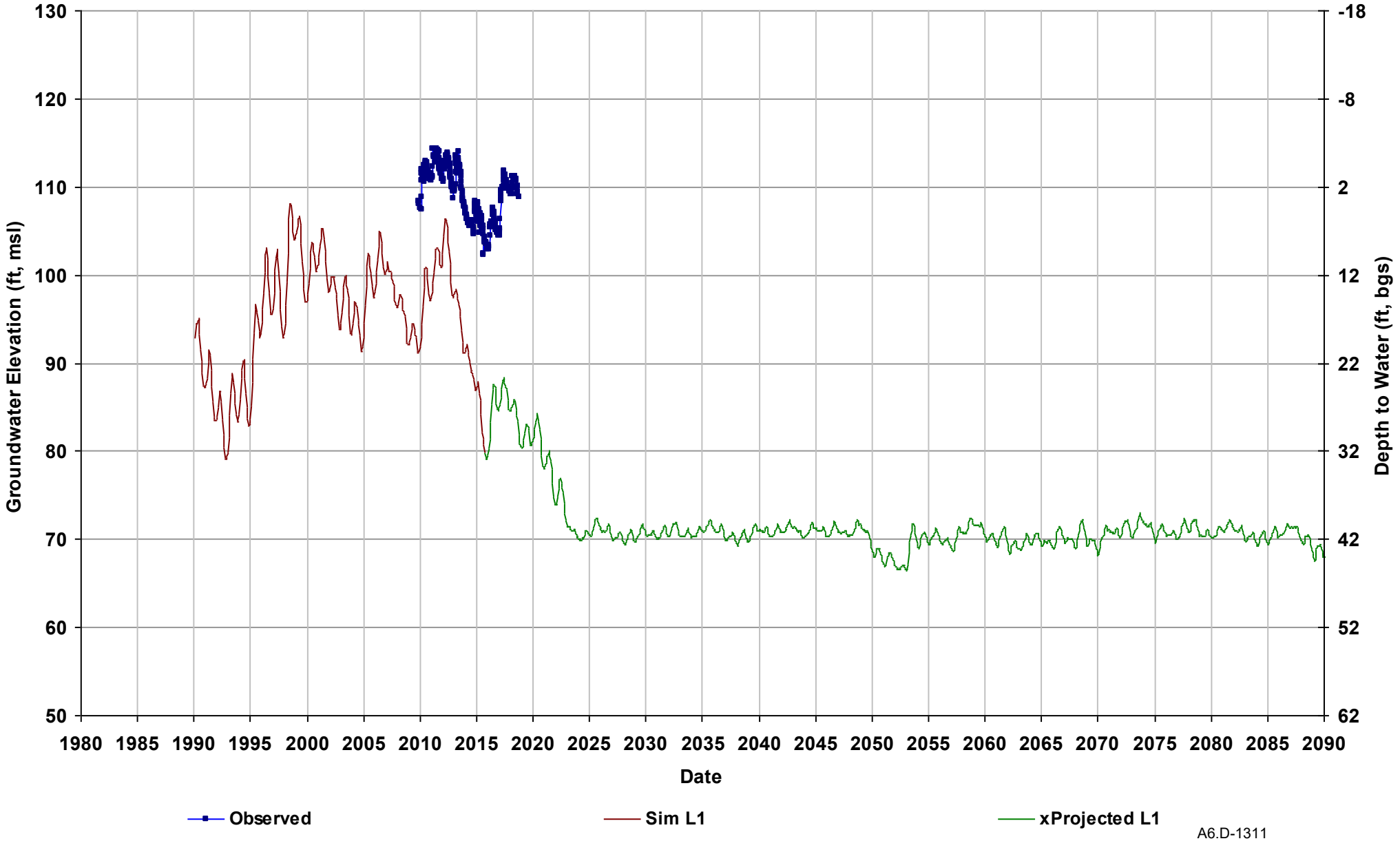
Well Name: SJRRP_MW-09-87
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 115

Total Depth (ft): 47
Perf Top (ft): 37
Perf Bottom (ft): 47
Top Model Layer: 1
Bottom Model Layer: 1



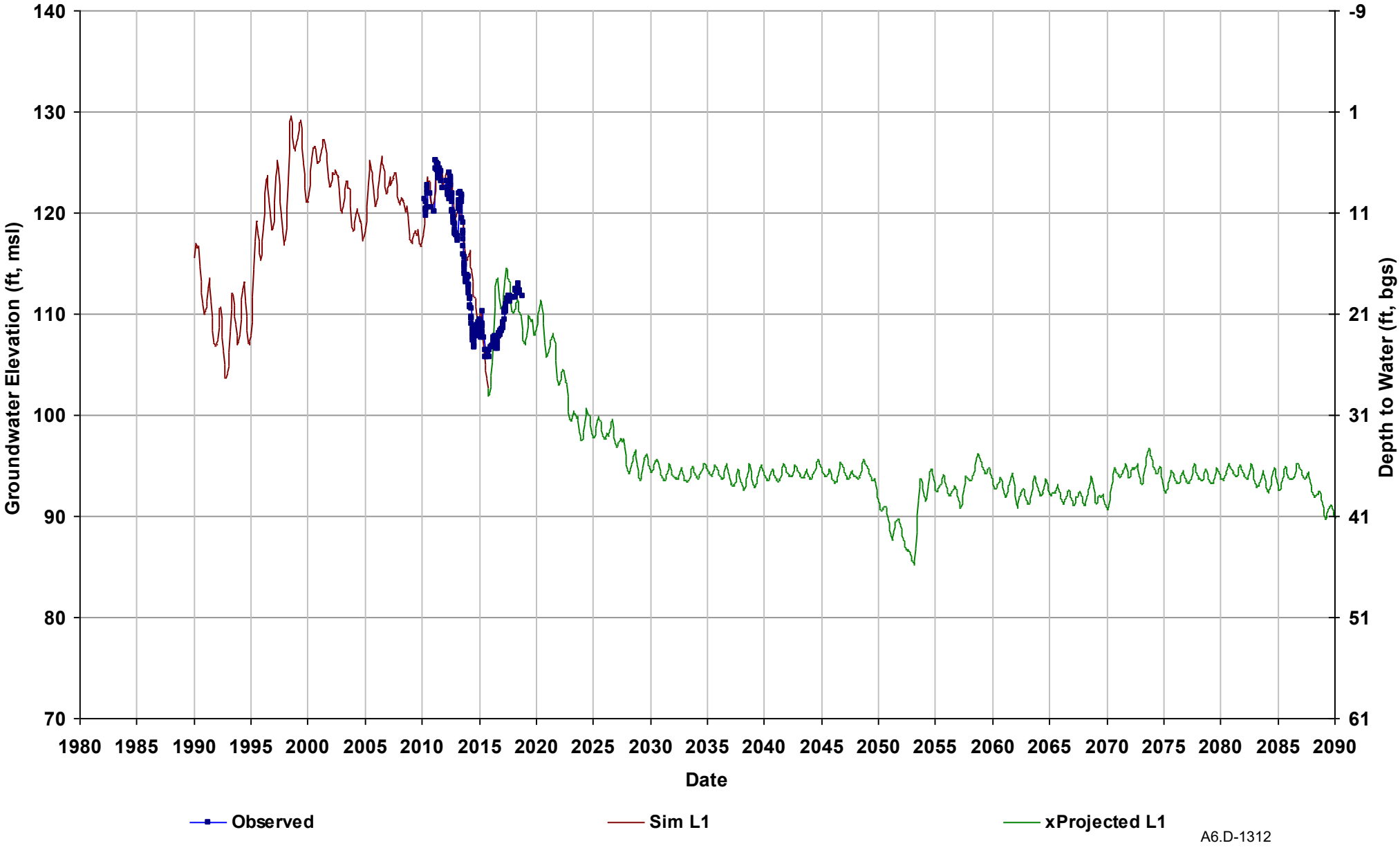
Well Name: SJRRP_MW-09-88
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 112

Total Depth (ft): 49
Perf Top (ft): 25
Perf Bottom (ft): 45
Top Model Layer: 1
Bottom Model Layer: 1



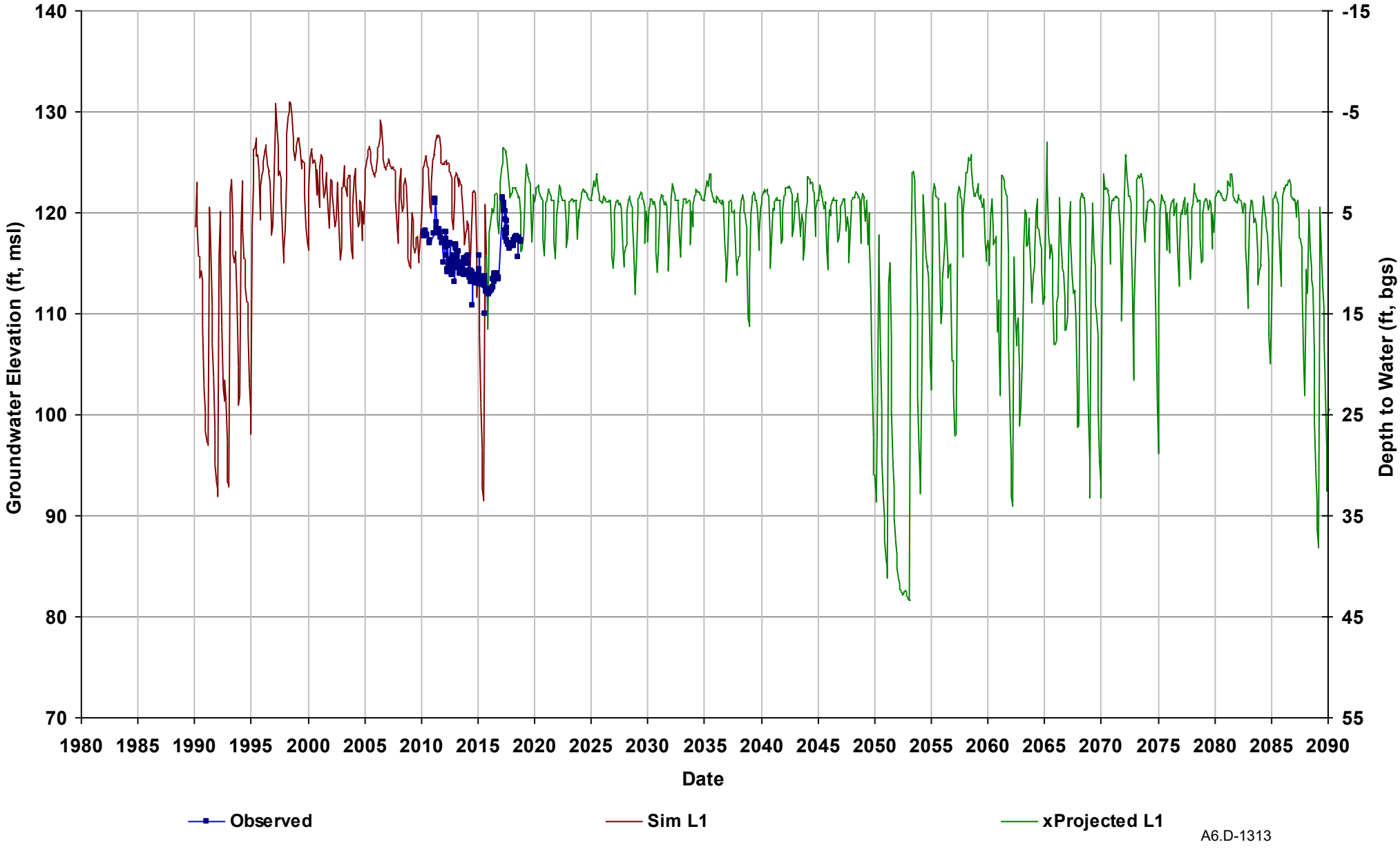
Well Name: SJRRP_MW-10-76
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Delta-Mendota
GSE (ft, msl): 130

Total Depth (ft): 27
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



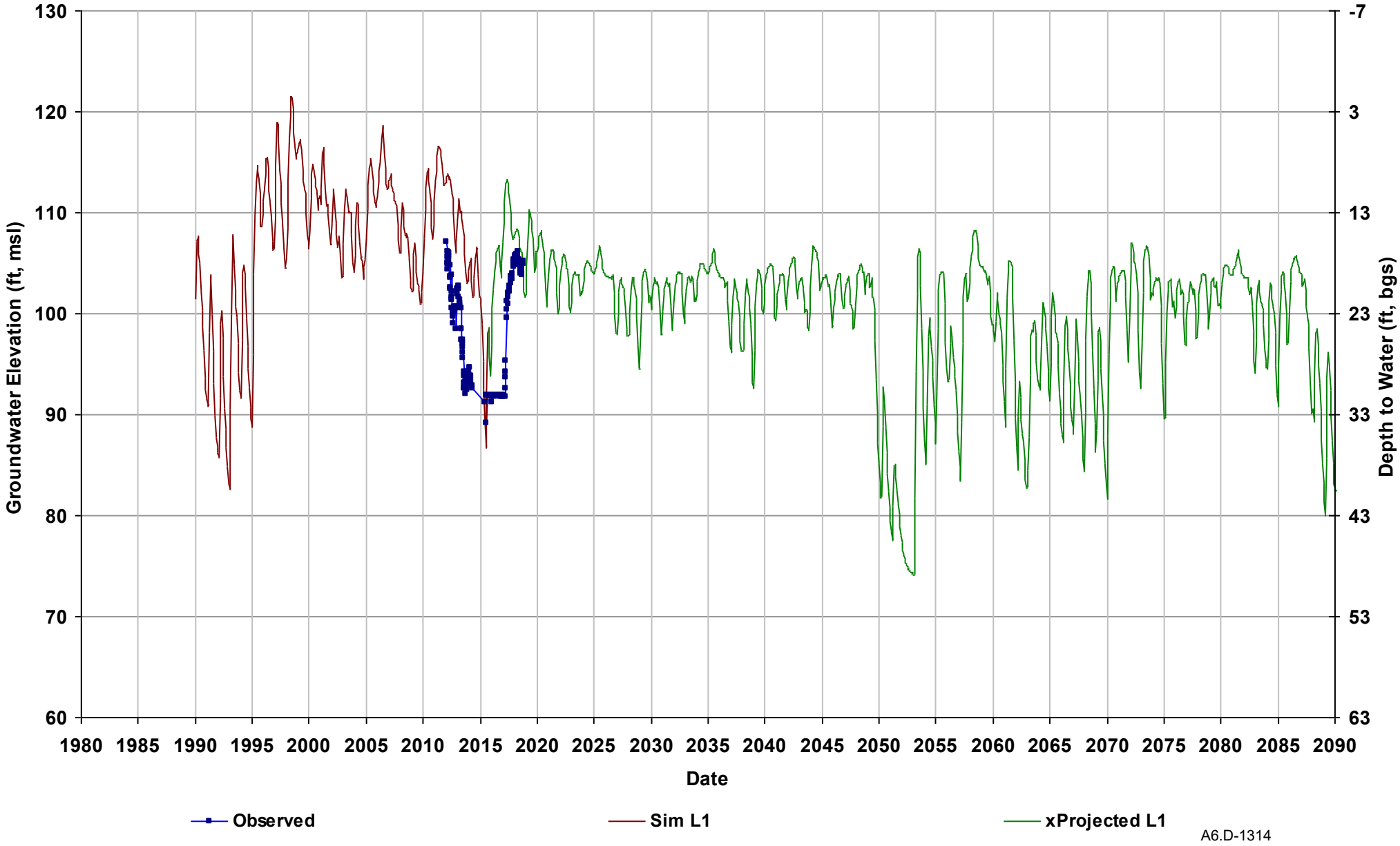
Well Name: SJRRP_MW-10-78
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 125

Total Depth (ft): 28
Perf Top (ft): 10
Perf Bottom (ft): 25
Top Model Layer: 1
Bottom Model Layer: 1



Well Name: SJRRP_MW-11-162
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 123

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



Well Name: SJRRP_MW-11-163
Depth Zone: Upper, Shallow GW; Wit
Subbasin: Chowchilla
GSE (ft, msl): 127

Total Depth (ft): 29
Perf Top (ft):
Perf Bottom (ft):
Top Model Layer: 1
Bottom Model Layer: 1