Salinas Valley Groundwater Basin
Eastside Aquifer Subbasin
Water Year 2022 Annual Report
Submitted in Support of Groundwater Sustainability Plan Implementation

Salinas Valley Basin
Groundwater Sustainability Agency

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ABBREVIATIONS AND ACRONYMS

AF ....acre-feet
AF/yr. ....acre-feet per year
CCRWQCB.......Central Coast Regional Water Quality Control Board
COC(s) ....Constituent(s) of concern
D-TAC ....Drought Technical Advisory Committee
DDW ....Division of Drinking Water
DWR ....California Department of Water Resources
DWSN...............Dry Winter Scenario Narrative
eWRIMS ....Electronic Water Rights Information Management System
GEMS ....Groundwater Extraction Management System
GSA...................Groundwater Sustainability Agency
GSP or Plan.......Groundwater Sustainability Plan
InSAR ....Interferometric Synthetic-Aperture Radar
ILRP..................Irrigated Lands Regulatory Program
ISW ....interconnected surface water
MCL..................Maximum Contaminant Level
MCWRA...........Monterey County Water Resources Agency
mg/L..................milligrams per liter
MLRP................Multibenefit Land Repurposing Program
OSWCR ....Online System for Well Completion Reports
RMS..................Representative Monitoring Site
SGMA...............Sustainable Groundwater Management Act
SMC..................Sustainable Management Criteria/Criterion
SMCL................Secondary Maximum Contaminant Level
Subbasin............Eastside Aquifer Subbasin
SVBGSA...........Salinas Valley Basin Groundwater Sustainability Agency
SVIHM..............Salinas Valley Integrated Hydrologic Model
SWIG ....Seawater Intrusion Working Group
SWRCB.............State Water Resources Control Board
ug/L ....micrograms per liter
UMHOS/CM.....micromhos per centimeter
WY....................Water Year

EXECUTIVE SUMMARY

The Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) is required to submit an annual report for the Eastside Aquifer Subbasin (Subbasin) to the California Department of Water Resources (DWR) by April 1 of each year following the SVBGSA's 2022 adoption and submittal of its Groundwater Sustainability Plan (GSP or Plan). This Annual Report covers data collected through Water Year (WY) 2022, from October 1, 2021, to September 30, 2022.

As described in the GSP, DWR lists the Subbasin as a high priority subbasin, which indicates that continuation of present water management practices would probably result in significant adverse impacts. The goal of the Eastside Subbasin GSP is to balance the needs of all water users in the Subbasin while complying with the Sustainable Groundwater Management Act (SGMA).

In WY 2022, groundwater conditions remained similar to conditions in recent years, with slight changes in conditions related to specific sustainability indicators. WY 2022 is classified as a dry-normal year.

The groundwater data for WY 2022 are summarized below:

- Groundwater extractions for reporting year 2022 (November 1, 2021, through October 31, 2022) were approximately 82,700 acre-feet (AF).
- Groundwater elevations decreased during this dry-normal water year, with declines ranging from about 1 to 9 feet. None of the Representative Monitoring Site (RMS) wells had groundwater elevations above their measurable objectives, 20 had elevations between their measurable objectives and minimum thresholds, and 13 had elevations below their minimum thresholds.
- There is still no seawater intrusion in the Subbasin.
- There were 7 groundwater quality constituents of concern (COCs) that exceeded their minimum thresholds in WY 2022, none of them due to GSA groundwater management actions.
- No subsidence was detected in the Subbasin.
- There are no locations of interconnected surface water (ISW) in the Subbasin.

As a result, the Eastside Aquifer Subbasin has 2 undesirable results in WY 2022: chronic lowering of groundwater levels and reduction in groundwater storage.

During WY 2022, the SVBGSA has taken numerous actions to implement the GSP. These include:

- **Eastside Subbasin Planning and Implementation:** SVBGSA worked with the Eastside Subbasin Planning Committee to finish the Eastside Subbasin GSP, submitted to DWR in January 2022. As the responsibilities of the subbasin planning committees finished with GSP submittal, SVBGSA set up subbasin implementation committees to lead subbasin-specific GSP implementation activities.
- **GSA policies, operations, and engagement:** SVBGSA continued to regularly engage interested parties through its Board of Directors and committees. It developed a 2-year and 5-year work plan and associated budget and continued to strengthen its relationship with partner agencies. SVBGSA conducted outreach to Underrepresented Communities. Finally, SVBGSA developed well permit application review processes to comply with Executive Order N-7-22.
- **Data and monitoring** – SVBGSA undertook several efforts to further increase data collection and monitoring, including identifying existing wells that could potentially fill monitoring network data gaps, engaging in discussions to expand the groundwater extraction monitoring program, developing the Salinas Valley Seawater Intrusion Model, continuing support of USGS development of a Salinas Valley groundwater-surface water model, and contracting and then receiving the results of the preliminary investigation of the Deep Aquifers Study.
- **Project implementation activities** – SVBGSA developed a sustainability strategy for the Eastside Subbasin that outlines the GSP workstreams underway or planned to reach sustainability. SVBGSA plans to move from core initial assessments into high level feasibility and discussions on a more refined sustainability approach in WY 2023 and WY 2024. During WY 2022, SVBGSA, Monterey County Water Resources Agency (MCWRA), and project partners moved forward with actions that will positively impact groundwater conditions and help maintain sustainability, including:
    - The Greater Monterey County Integrated Regional Water Management Group, in collaboration with SVBGSA, was awarded a $10 million grant through Multibenefit Land Repurposing Program (MLRP) to strategically and voluntarily acquire and repurpose the least viable, most flood-prone portions of irrigated agricultural lands in the lower Salinas Valley.
    - MCWRA continued to convene MCWRA's Drought Technical Advisory Committee (D-TAC).
    - SVBGSA began the Deep Aquifer Study and received recommendations from the preliminary investigation.

1 INTRODUCTION

1.1 Purpose

The 2014 California Sustainable Groundwater Management Act (SGMA) requires that, following adoption of a Groundwater Sustainability Plan (GSP), Groundwater Sustainability Agencies (GSAs) annually report on the condition of the basin and show that the GSP is being implemented in a manner that will likely achieve the sustainability goal for the basin. This report fulfills that requirement for the Salinas Valley – Eastside Aquifer Subbasin (Subbasin) for Water Year (WY) 2022.

The sustainability goal of the Eastside Subbasin is to manage groundwater resources for long-term community, financial, and environmental benefits to the Subbasin's residents and businesses. The goal of this GSP is to ensure long-term viable water supplies while maintaining the unique cultural, community, and business aspects of the Subbasin. It is the express goal of this GSP to balance the needs of all water users in the Subbasin.

This is the second annual report for the Subbasin and includes monitoring data for WY 2022, which is from October 1, 2021, to September 30, 2022. This Annual Report includes a description of basin conditions through text, hydrographs, groundwater elevation contour maps, calculated estimates of change in groundwater in storage, and maps of the distribution of groundwater extraction across the Subbasin. It compares WY 2022 data to Sustainability Management Criteria (SMC) as a measure of the Subbasin's groundwater conditions with respect to the sustainability goal that must be reached by the end of 2042.

1.2 Eastside Aquifer Subbasin Groundwater Sustainability Plan

In 2017, local Groundwater Sustainability Agency (GSA)-eligible entities formed the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) to develop and implement the GSPs for the Salinas Valley. The SVBGSA is a Joint Powers Authority with membership comprising the County of Monterey, Monterey County Water Resources Agency (MCWRA), City of Salinas, City of Soledad, City of Gonzales, City of King, Castroville Community Services District, and Monterey One Water.

The SVBGSA developed the GSP for the Eastside Aquifer Subbasin, identified as California Department of Water Resources (DWR) subbasin 3-004.02. SVBGSA has exclusive jurisdiction of the Eastside Subbasin. DWR has designated the Eastside Subbasin as a high priority basin, which indicates that continuation of present water management practices would probably result in significant adverse impacts.

The SVBGSA developed the GSP for the Eastside Aquifer Subbasin in concert with the 5 other Salinas Valley Subbasin GSPs that fall partially or entirely under its jurisdiction: the 180/400-Foot Aquifer Subbasin (DWR subbasin 3-004.01), the Forebay Aquifer Subbasin (DWR subbasin 3-004.04), the Upper Valley Aquifer Subbasin (DWR subbasin 3-004.05), the Langley Area Subbasin (DWR subbasin 3-004.09), and the Monterey Subbasin (DWR subbasin 3-004.10). This Annual Report covers all the 57,500 acres of the Eastside Aquifer Subbasin, as shown on Figure 1.

1.3 Annual Report Organization

This Annual Report corresponds to the requirements of GSP Regulations § 356.2. It first outlines the subbasin conditions, including several components of the Regulations: groundwater elevations, groundwater extractions, surface water use, total water use, and change in groundwater storage. The Annual Report then addresses GSP implementation by reporting on actions taken to implement the GSP and progress toward interim milestones.

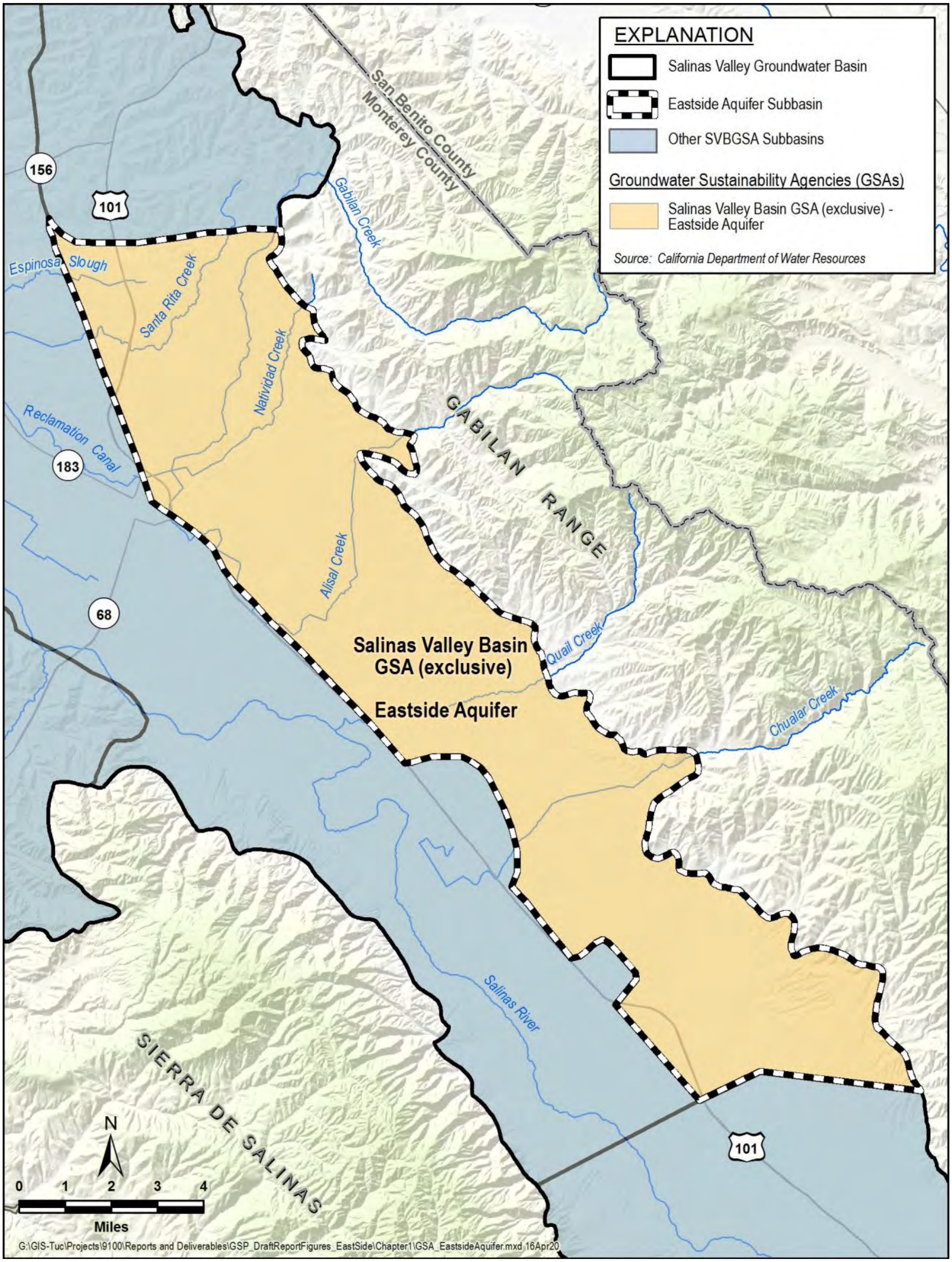

Figure 1. Eastside Aquifer Subbasin

2 SUBBASIN SETTING

The Eastside Aquifer Subbasin is located in northern Monterey County, along the eastern side of the Salinas River Valley and abutting the Gabilan Range. The Subbasin contains portions of the City of Salinas, City of Gonzales, and a small portion of the community of Chualar. The geology of the Eastside Subbasin is dominated by alluvial fans deposited by surface-water drainages originating in the Gabilan Range. The eastern boundary of the Subbasin is the contact between the unconsolidated sediments and the Gabilan Range that consists mostly of granitic rocks. The northern boundary with the Langley Subbasin generally coincides with the presence of the Aromas Red Sands (DWR, 2004). There are no reported hydraulic barriers separating these subbasins, and therefore there is potential for groundwater flow between them. A potential fault zone exists in the northeastern corner of the Subbasin along the boundary with the Langley Subbasin, however, the effects of this potential fault zone are still undetermined. Similarly, there is likely groundwater flow between the Eastside and 180/400-Foot Aquifer Subbasins, although flow may be restricted due to the change from alluvial fan sediments in the Eastside Subbasin to less permeable marine and riverine sediments in the 180/400-Foot Aquifer Subbasin (Kennedy/Jenks, 2004). The change in sediments generally defines the boundary between these 2 Subbasins. At the Subbasin's southern boundary there may be reasonable hydraulic connectivity with the Forebay Subbasin where water along the border moves both down from the mountains and toward the ocean.

2.1 Principal Aquifers and Aquitards

The Eastside Subbasin's sole principal aquifer is made up of 2 generalized water-bearing zones that have been recognized within the alluvial fan aquifer system: the Eastside Shallow Zone and the Eastside Deep Zone. Together these are commonly considered the Eastside Aquifer and are part of the unconfined Basin Fill Aquifer that extends into the Langley and Forebay Subbasins. These designations of shallow and deep have not been identified as distinct aquifers by most investigators. They are only generalized zones of water-bearing sediments with time-correlated depositions and are somewhat hydraulically connected to the 180-Foot and 400-Foot Aquifers in the 180/400-Foot Aquifer Subbasin. The seawater intrusion that is occurring in the 180/400-Foot Aquifer Subbasin has not been observed in the Eastside Subbasin despite the eastward groundwater gradient, suggesting that the hydraulic connection between the subbasins may be limited. In the 180/400-Foot Aquifer Subbasin, the 400-Foot Aquifer is separated from the Deep Aquifers by the 400-Foot/Deep Aquitard. The historical extents of the alluvial fans that define the Eastside Subbasin near the City of Salinas are contemporaneous with the 400-Foot Aquifer. Thus, by inference, the edge of the Deep Aquifers could also potentially extend into the Eastside Subbasin, and SVBGSA is undertaking a study of the Deep Aquifers in part to determine this.

2.2 Natural Groundwater Recharge and Discharge

Groundwater can discharge from the aquifer in locations where surface water and groundwater are interconnected and gaining streamflow conditions occur. There are no known locations of interconnected surface water (ISW) in the Subbasin, but interconnection could occur in the future in response to changing aquifer conditions. In areas of interconnection, groundwater dependent ecosystems may depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface and may discharge groundwater through evapotranspiration. Natural groundwater recharge occurs through deep percolation of surface water, excess applied irrigation water, and precipitation.

2.3 Precipitation and Water Year Type

Precipitation that falls within the Subbasin contributes to runoff and percolation components of the water budget. The precipitation gage at the Salinas Airport (National Oceanographic and Atmospheric Administration Station USW00023233) recorded 7.38 inches of rainfall in WY 2022. For comparison, the average rainfall from WY 1980 to WY 2022 at this gage is 11.87 inches of precipitation.

The SVBGSA adopted the methodology used by MCWRA for determining the Subbasin's water year type. The MCWRA assigns a water year type of either dry, dry-normal, normal, wet-normal, or wet based on an indexing of annual mean flows at the USGS stream gage on the Arroyo Seco near Soledad (USGS Gage 11152000) (MCWRA, 2005). Using the MCWRA method, WY 2022 was a dry-normal year.

3 2022 DATA AND SUBBASIN CONDITIONS

This section details the Subbasin conditions and WY 2022 data. Where WY 2022 data are not available, it includes the most recent data available. The SVBGSA stores monitoring data in a data management system. Monitoring data are included in this Annual Report and are submitted to DWR.

3.1 Water Supply and Use

Within the Subbasin, water is used for agricultural, urban, industrial use, and wetlands and native vegetation. Most of the water in the Subbasin is used for agriculture. Only a relatively small amount of water is used by wetlands and native vegetation.

The water supply in the Eastside Subbasin predominantly consists of groundwater. Some growers also report a small amount surface water use to the State Water Resources Control Board (SWRCB). No recycled water is used in the Subbasin.

3.1.1 Groundwater Extraction

Urban and agricultural groundwater extractions are compiled using MCWRA's Groundwater Extraction Management System (GEMS), which collects data from groundwater wells with an internal discharge pipe diameter greater than 3 inches within Zones 2, 2A, and 2B.

Table 1 presents groundwater extractions by water use sector in the Eastside Subbasin, including the method of measurement and accuracy of measurement. Urban use data from MCWRA aggregates municipal wells, small public water systems, and industrial wells. Agricultural use accounted for 83% of groundwater extraction in 2022; urban and industrial use accounted for 17%. It is important to note that the reporting year varies according to user: agricultural pumping is reported to MCWRA for the period November 1 through October 31, whereas urban pumping is reported is reported to MCWRA on a calendar year basis. No groundwater was extracted for managed wetlands or managed recharge. Groundwater use by natural vegetation is assumed to be small and was not estimated for this report. The total reported groundwater extraction in reporting year 2022 was 82,700 acre-feet per year (AF/yr.) in the Subbasin. This total is for the Eastside Subbasin not the MCWRA Eastside Subarea; therefore, the pumping total is not identical to what MCWRA publishes in their annual Groundwater Extraction Summary Reports. Figure 2 illustrates the general location and volume of groundwater extractions in the Subbasin.

Table 1. 2022 Groundwater Extraction by Water Use Sector (AF/yr.)

Water Use Sector	Groundwater Extraction	Method of Measurement	Accuracy of Measurement
Urban	13,800	MCWRA's Groundwater Reporting Program allows 3 different reporting methods: water flowmeter, electrical meter, or hour meter. For 2022, 84% of extractions were calculated using a flowmeter, 16% electrical meter and <1%-hour meter.	MCWRA ordinances 3717 and 3718 require annual flowmeter calibration, and that flowmeters be accurate to within +/- 5%. The same ordinance requires annual pump efficiency tests. SVBGSA assumes an electrical meter accuracy of +/- 5%.
Agricultural	68,900		
Managed Wetlands	0	N/A	N/A
Managed Recharge	0	N/A	N/A
Natural Vegetation	0	*De minimis* and not estimated.	Unknown
Total	**82,700**		

Note: Agricultural pumping is reported on a MCWRA reporting year basis whereas urban is reported in calendar-year basis. N/A = Not Applicable.

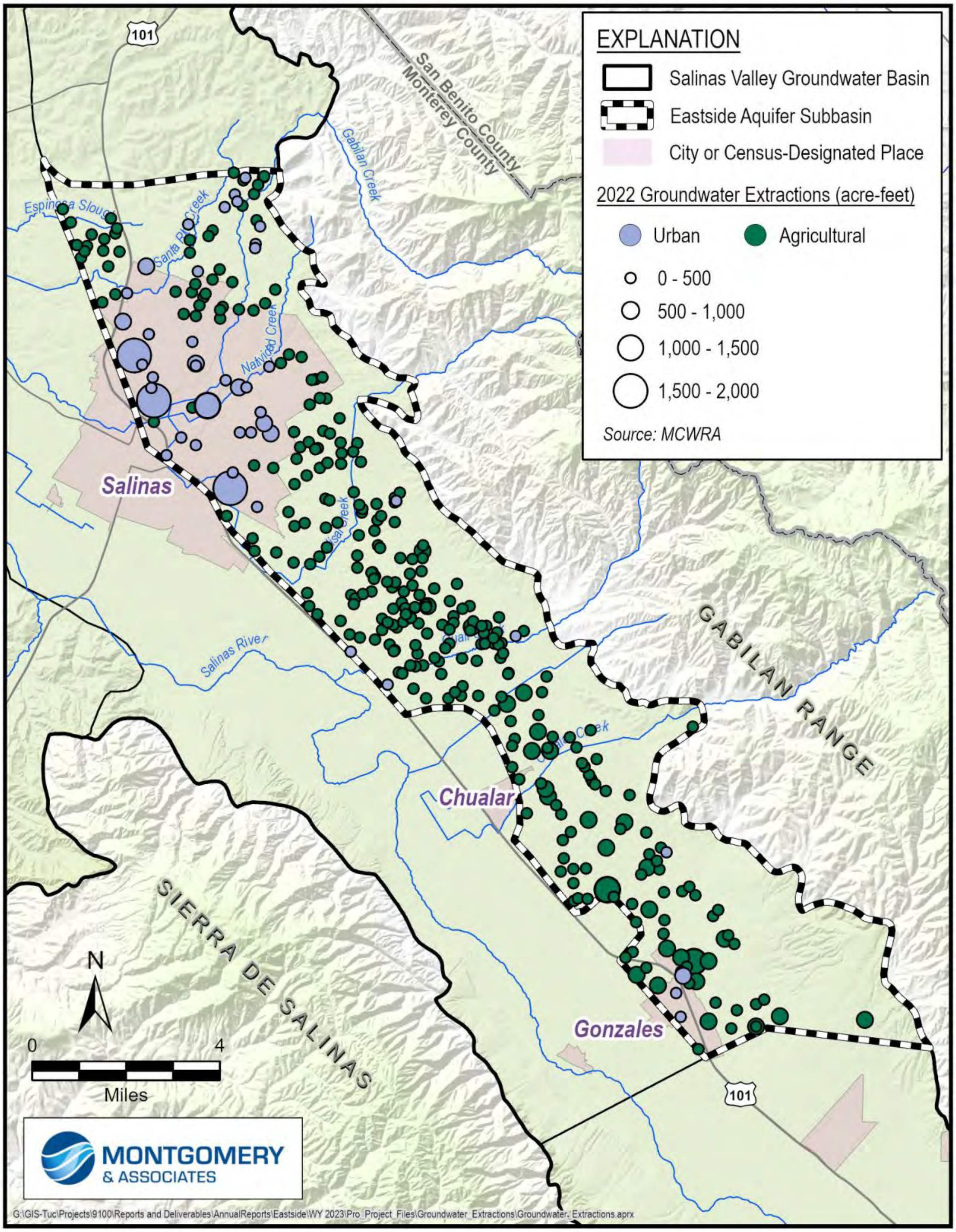

Figure 2. General Location and Volume of Groundwater Extractions

3.1.2 Surface Water Supply

Salinas River Watershed diversion data are obtained from the SWRCB Electronic Water Rights Information Management System (eWRIMS) website. The data are reported annually and include diversions from the Salinas River and its tributaries. Surface water diversions reported to eWRIMS were approximately 500 AF/yr in WY 2022. All diverted surface water is used for irrigation and is reported as a Statement of Diversion and Use.

3.1.3 Total Water Use

Total water use is the sum of groundwater extractions and surface water use and is summarized in Table 2.

Many growers and residents have noted that some irrigation is reported both to SWRCB as Salinas River diversions and to MCWRA as groundwater pumping in other Salinas Valley Groundwater Subbasins. To avoid double counting, all surface water reported as a Statement of Diversion and Use is excluded from the total water use count for the Subbasin. Therefore, in WY 2021, total surface water use for the Subbasin is adjusted from the 500 AF/yr reported in eWRIMS to 0 AF/yr. It is possible that not all of the surface water diversions excluded are being reported to both SWRCB and MCWRA, in which case total water use may be up to 500 AF/yr greater than calculated here. This accounting is done to calculate the total water use and is not meant to imply that SVBGSA classifies any or all the reported diversions as groundwater. SVBGSA will continue to work with stakeholders to refine the method used to resolve double counting.

Total water use was approximately 82,700 AF/yr. in WY 2022, as shown in Table 2.

Table 2. Total Water Use by Water Use Sector in WY 2022 (AF/yr.)

Water Use Sector	Groundwater Extraction	Surface Water Use	Recycled Water	Method of Measurement	Accuracy of Measurement
Urban	13,800	0	0	Direct	Estimated to be +/- 5%.
Agricultural	68,900	0		Direct	Estimated to be +/- 5%.
Managed Wetlands	0	0	0	N/A	N/A
Managed Recharge	0	0	0	N/A	N/A
Natural Vegetation	Unknown	Unknown	Unknown	N/A	N/A
SUBTOTALS	82,700	0	0	-	-
TOTAL		**82,700**			

Note: Agricultural pumping is reported on the MCWRA reporting year basis whereas urban is reported in calendar-year basis. To avoid double counting with groundwater pumping reported to MCWRA, Statement of Diversion and Use surface water diversions reported in Section 3.1.2 are subtracted from the total water use. N/A = Not Applicable.

3.2 Groundwater Elevations

The current groundwater elevation monitoring network in the Eastside Subbasin contains 35 wells. All 35 wells are representative monitoring sites and monitored by MCWRA. Since last year's Annual Report, 4 wells (14S/03E-09P02, 15S/04E-09D01, 15S/04E-21F04, and 16S/05E-05N01) in the Representative Monitoring Site (RMS) network have been replaced because the wells were removed from MCWRA's water level monitoring programs. Figure 3 shows the Subbasin's updated groundwater elevation representative monitoring network wells. The wells selected as RMS replacements (14S/03E-36P02, 15S/04E-08N01, 15S/04E-15P02, and 16S/05E-08Q01) are highlighted with a pink star and the old RMS wells are marked with a red X on Figure 3. Although the new RMS wells are not all near the old RMS wells, there were not suitable options near some wells removed from the monitoring network and the wells added to the monitoring network help produce representative coverage of the Subbasin.

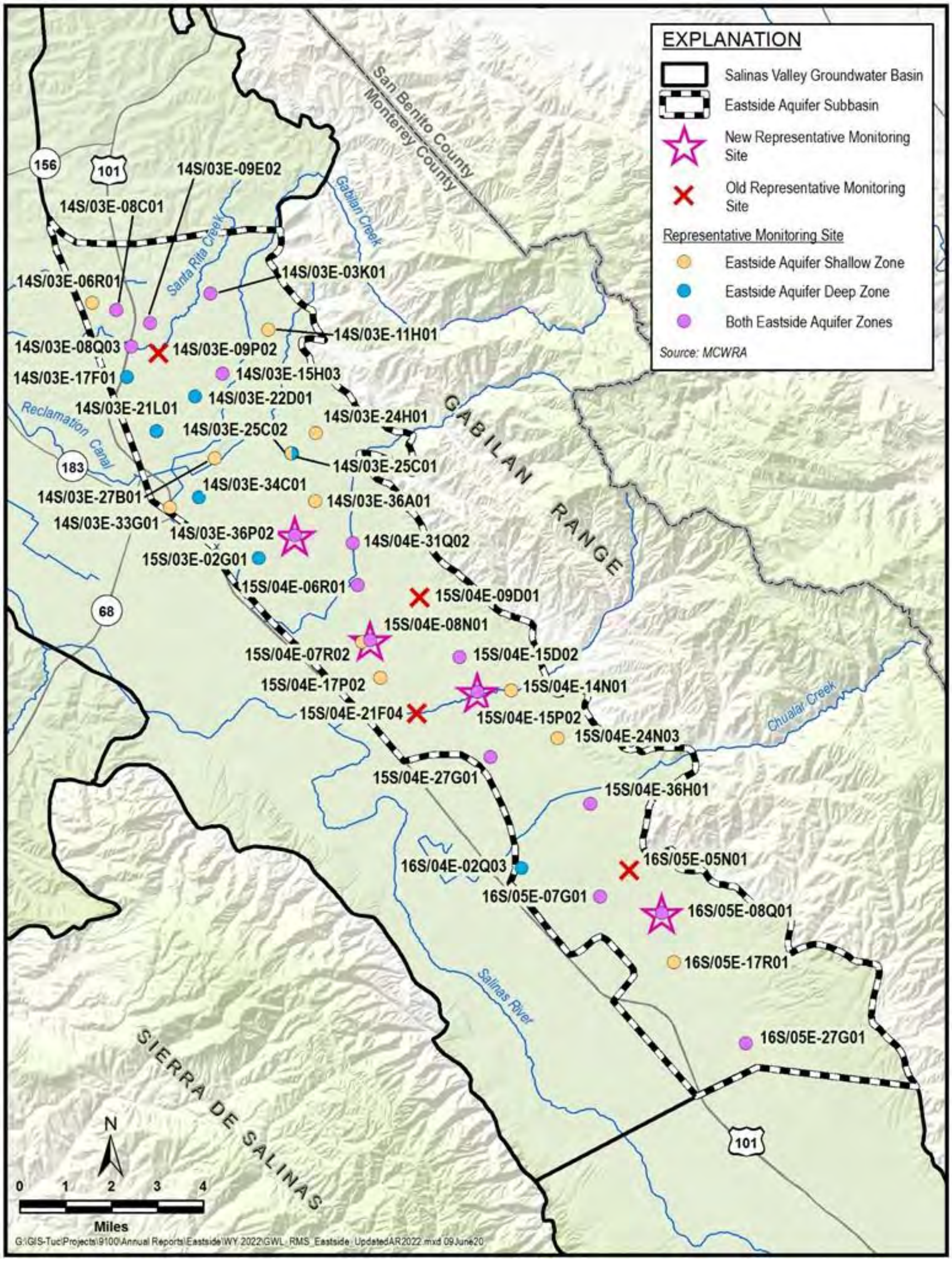

Figure 3. Locations of Representative Groundwater Elevation Monitoring Sites

Fall 2022 groundwater elevation data are presented in Table 3. In accordance with the GSP, this report uses groundwater elevations measured in the fall which are neutral groundwater conditions that are generally not heavily influenced by either summer irrigation pumping or winter rainfall recharge. These groundwater elevations are also used to compare to SMC, as described in Section 4.2.1. Fall groundwater elevation measurements are made from November to December and used to produce groundwater elevation contours. These fall contours are further discussed in Section 3.2.1. Figure 4 shows the approximate annual change in groundwater levels for the RMS wells. Out of 35 RMS wells, 16 are screened in both the Shallow and Deep Zones of the Eastside Aquifer. Depending on the year, these wells could be more representative of either the Shallow or Deep Zone. Wells that MCWRA did not sample during the fall event do not have a water level measurement for WY 2022. During GSP implementation, the SVBGSA is working to get biannual measurements for every RMS well.

Table 3. Groundwater Elevation Data

Monitoring Site	WY 2022 Groundwater Elevations (ft)
Shallow Zone	
14S/03E-06R01	-25.7
14S/03E-11H01	47.1
14S/03E-24H01	-71.0
14S/03E-25C02	-62.7
14S/03E-27B01	-8.0
14S/03E-33G01	-19.0
14S/03E-36A01	-64.1
15S/04E-07R02	5.0
15S/04E-14N01	Not sampled
15S/04E-17P02	-13.1
15S/04E-24N03	-14.0
16S/05E-17R01	71.7
Deep Zone	
14S/03E-17F01	-45.0
14S/03E-21L01	-47.0
14S/03E-22D01	-83.0
14S/03E-25C01	-63.8
14S/03E-34C01	-36.0
15S/03E-02G01	-27.0
16S/04E-02Q03	29.2
Both Zones	
14S/03E-03K01	-68.0
14S/03E-08C01	-36.4
14S/03E-08Q03	-58.0
14S/03E-09E02	-60.0
14S/03E-15H03	-54.6
14S/03E-36P02	Not sampled
14S/04E-31Q02	-52.8
15S/04E-06R01	-31.0
15S/04E-08N01	1.0
15S/04E-15D02	-33.5
15S/04E-15P02	-21.6
15S/04E-27G01	2.8
15S/04E-36H01	17.4
16S/05E-07G01	40.3
16S/05E-08Q01	51.7
16S/05E-27G01	84.3

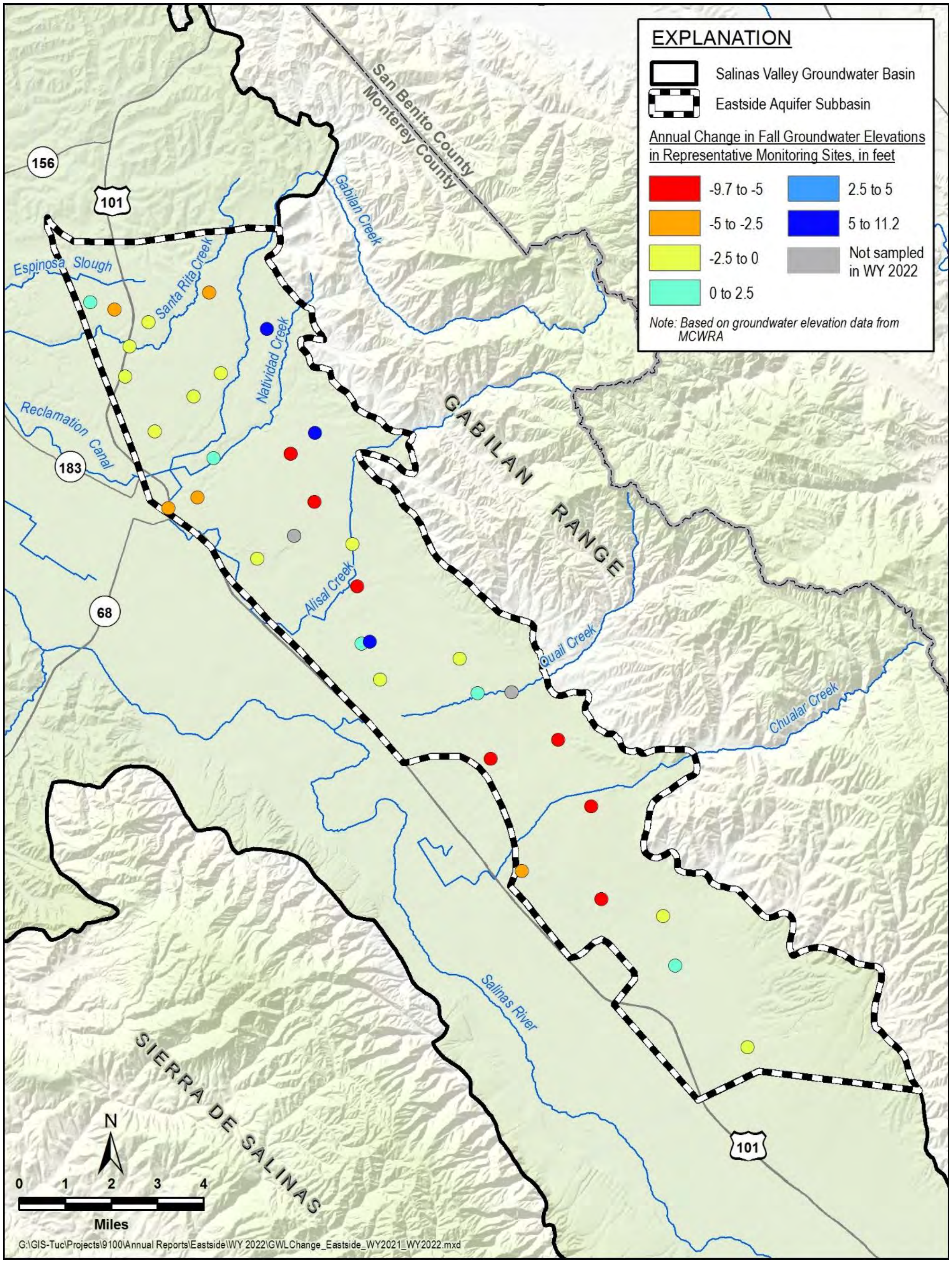

Figure 4. Annual Change in Fall Groundwater Elevations in Representative Monitoring Sites

3.2.1 Groundwater Elevation Contours

SVBGSA received groundwater elevation contour maps from MCWRA for the Eastside Aquifer Subbasin for August and fall 2022. The August contours represent seasonal low conditions due to agricultural pumping, and the fall contours represent seasonal high conditions, even though they are neutral. The true seasonal high usually occurs between January and March (MCWRA, 2015); however, the GSP adopts fall groundwater elevations as the seasonal high because GSP monitoring is based on MCWRA's existing monitoring networks that annually monitors groundwater elevations in the fall.

Groundwater elevation contours for seasonal high and low groundwater conditions in the Shallow Zone of the Eastside Aquifer are shown on Figure 5 and Figure 6, respectively. Groundwater elevation contours for seasonal high and low groundwater conditions in the Deep Zone of the Eastside Aquifer are shown on Figure 7 and Figure 8, respectively. The contours indicate that groundwater flow directions are similar in the Eastside Subbasin during both seasonal low and seasonal high conditions. Figure 5 through Figure 8 show a groundwater depression trending toward the northeastern boundary of the city of Salinas. In this area, groundwater flow gradients are not parallel to the Salinas Valley's long axis, but rather are cross-valley toward the pumping trough. The pumping trough is more pronounced in August than in the fall due to the seasonal groundwater pumping trends in the Subbasin. The August contours do not extend across all portions of the Subbasin due to data limitations; this is a data gap that will be addressed during GSP implementation.

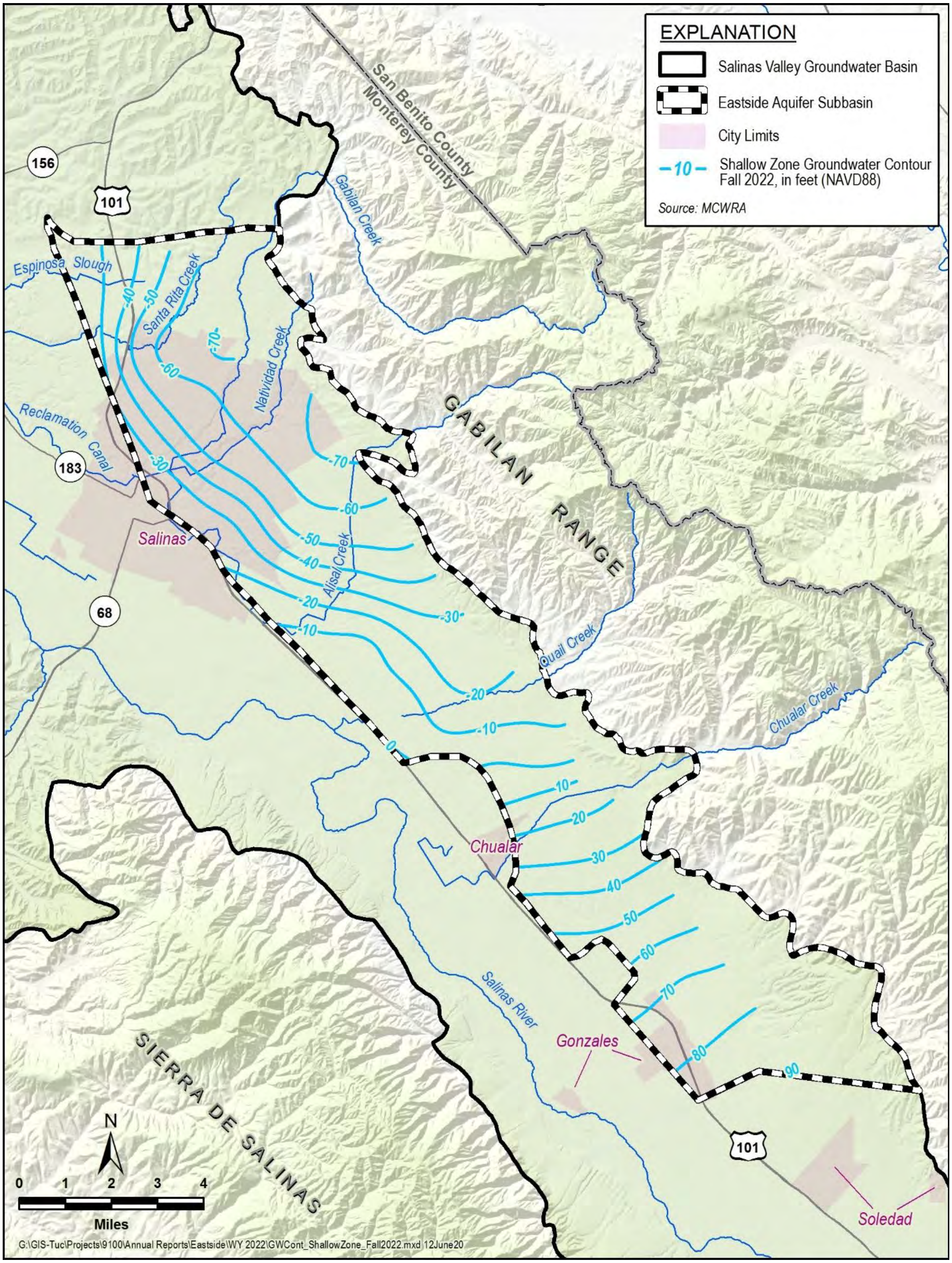

Figure 5. Seasonal High Groundwater Elevation Contour Map for the Shallow Zone of the Eastside Aquifer

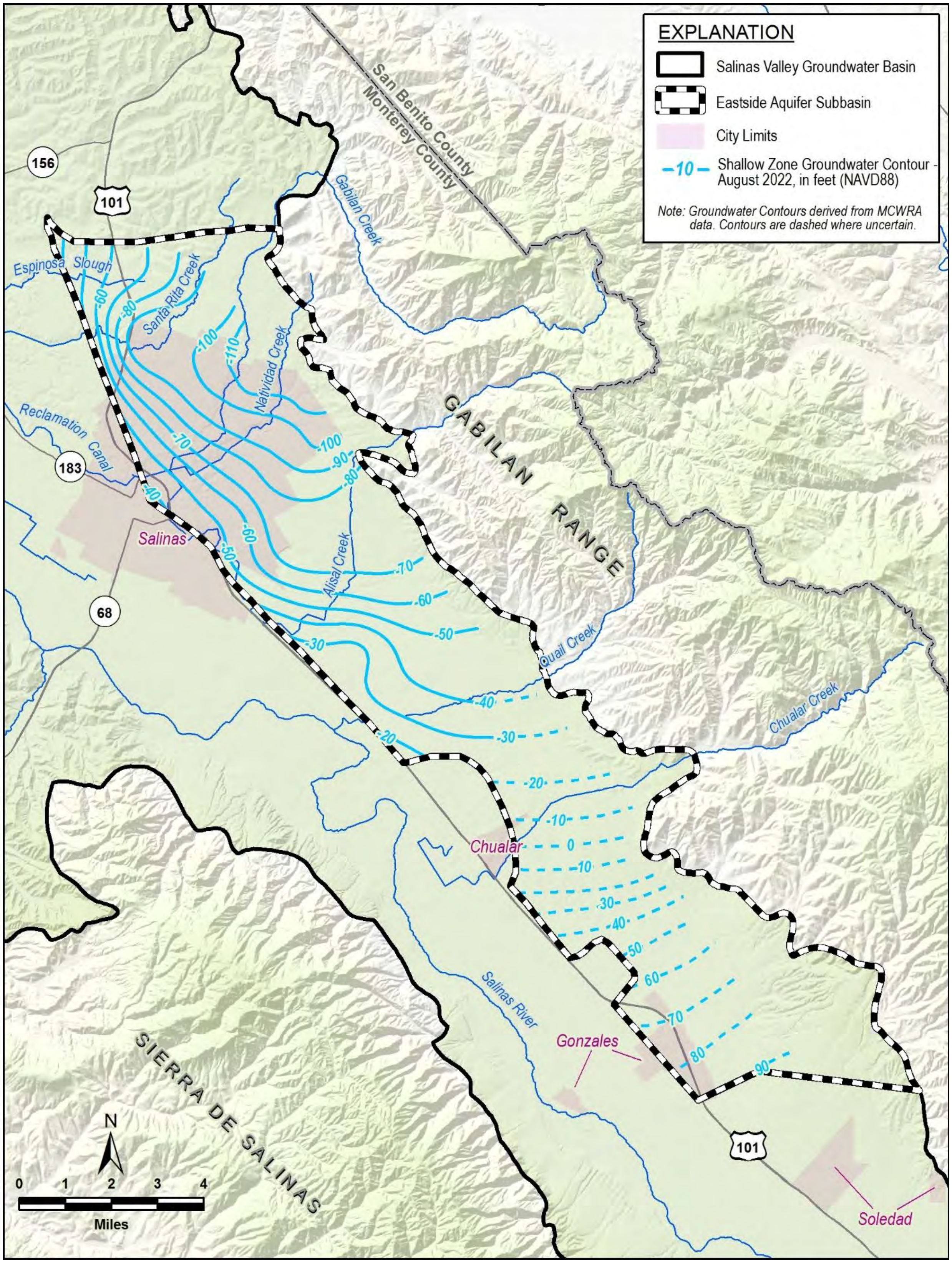

Figure 6. Seasonal Low Groundwater Elevation Contour Map for the Shallow Zone of the Eastside Aquifer

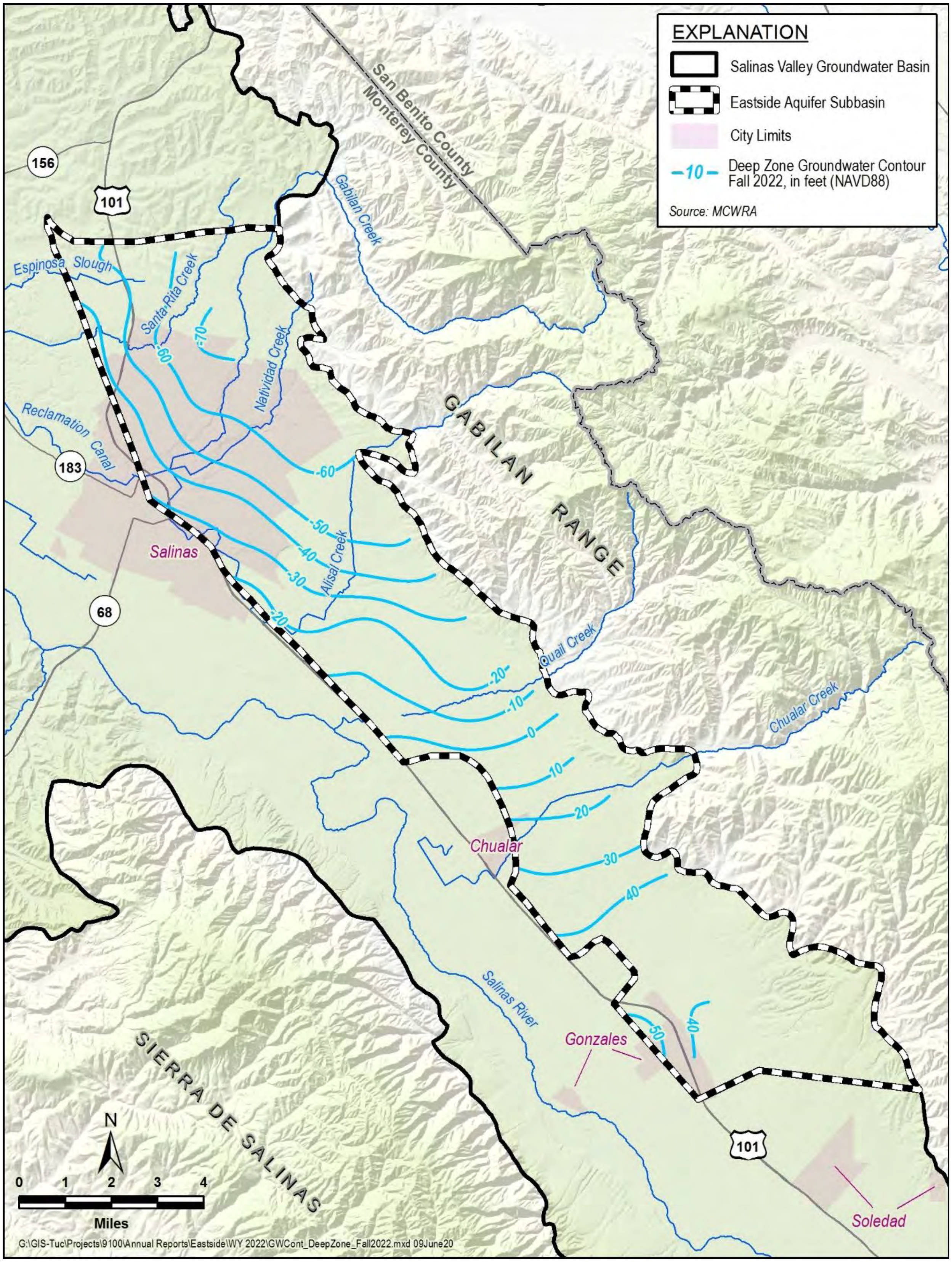

Figure 7. Seasonal High Groundwater Elevation Contour Map for the Deep Zone of the Eastside Aquifer

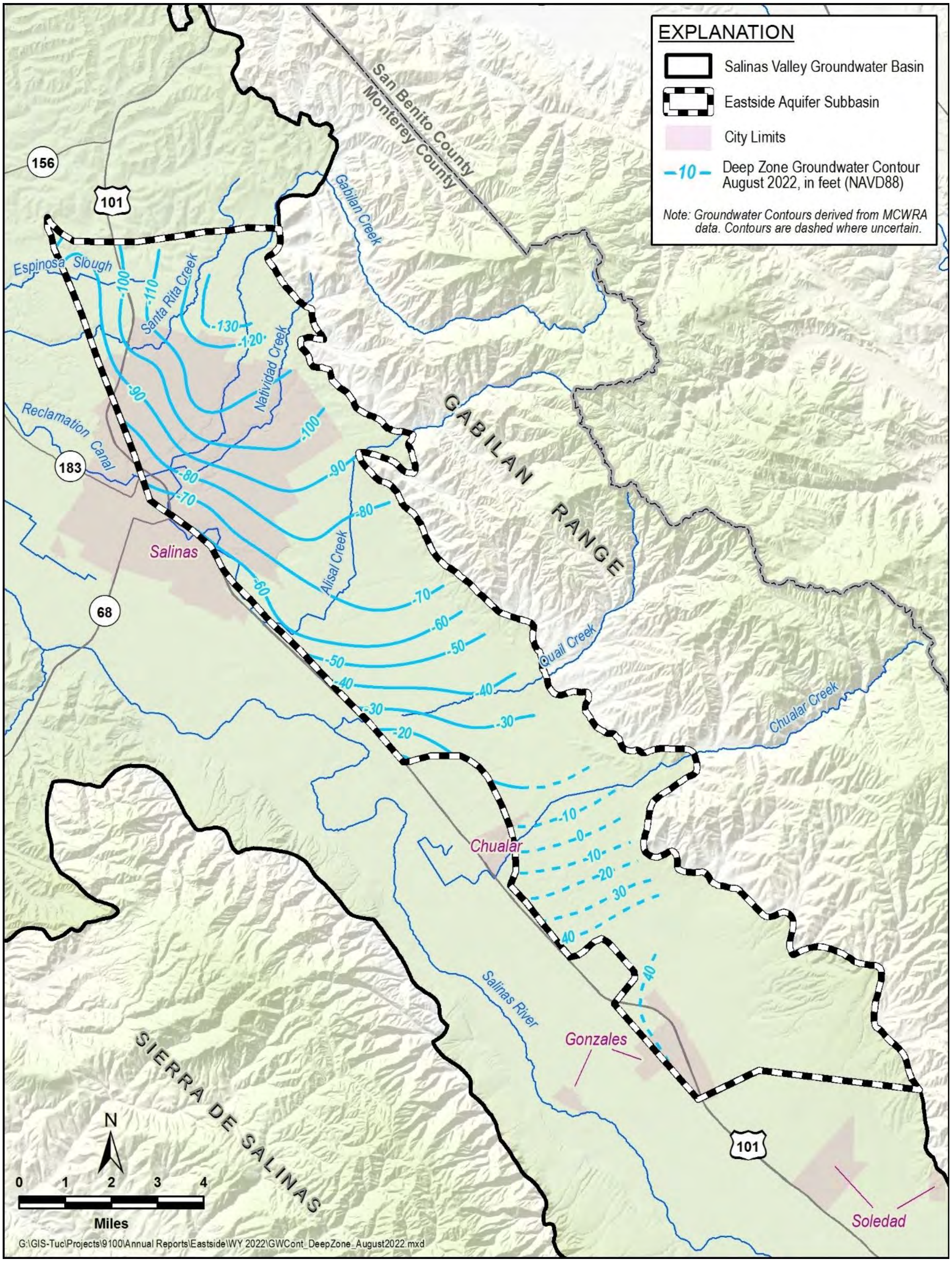

Figure 8. Seasonal Low Groundwater Elevation Contour Map for the Deep Zone of the Eastside Aquifer

3.2.2 Groundwater Elevation Hydrographs

Temporal trends in groundwater elevations can be assessed with hydrographs that plot changes in groundwater elevations over time. Hydrographs for selected monitoring wells within the principal aquifer of the Eastside Subbasin are shown on Figure 9. These hydrographs were selected to show characteristic trends in groundwater elevation in each zone of the aquifer. The hydrographs indicate that groundwater elevations in the Shallow and Deep Zones of the aquifer have generally declined throughout the Subbasin for the last 20 years and have continued to decline since 2019. Since WY 2021, groundwater elevations decreased in most wells by about 4 to 20 feet. Hydrographs for all representative monitoring sites are included in Appendix A.

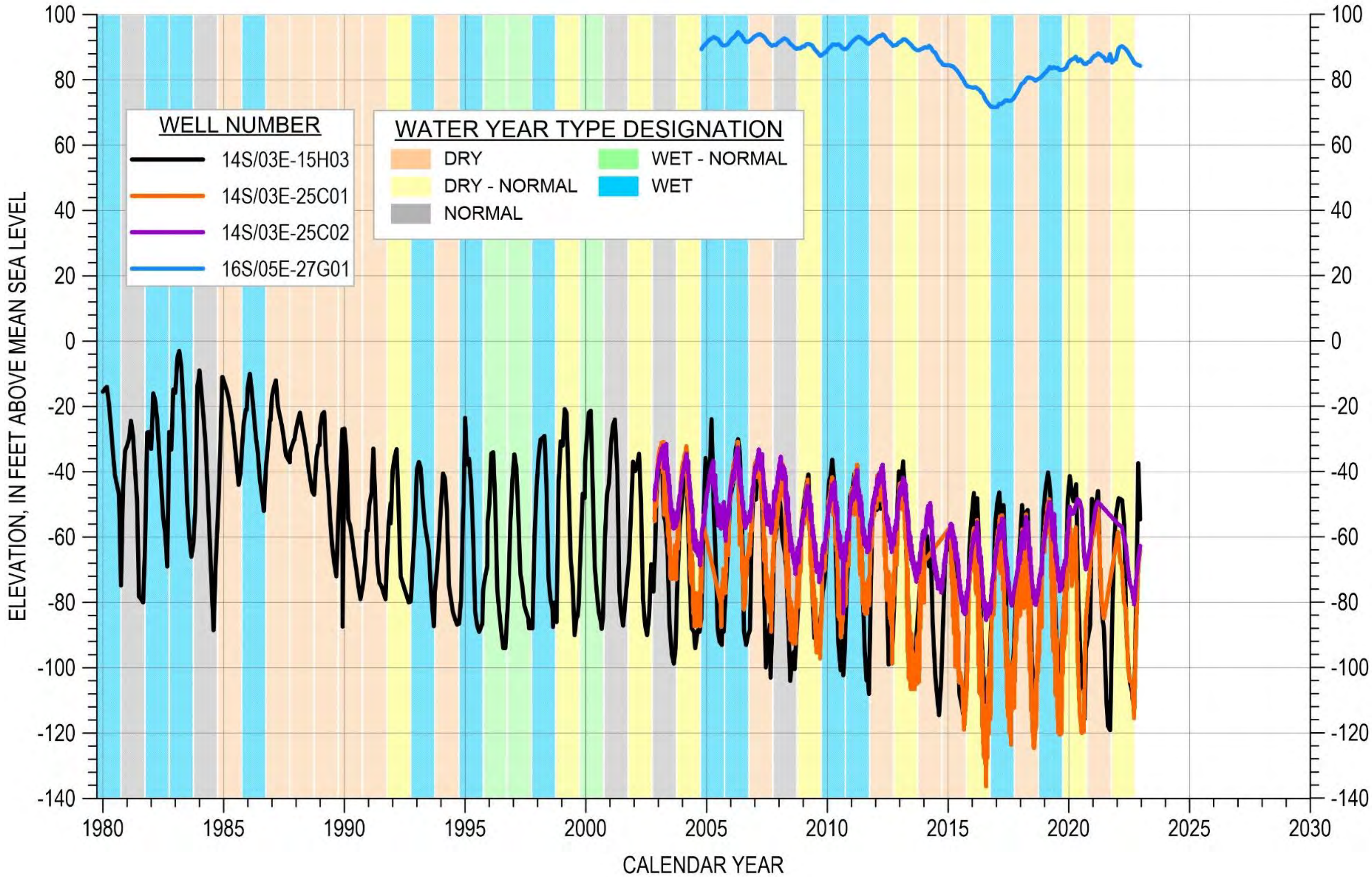

Figure 9. Groundwater Elevation Hydrographs for Selected Monitoring Wells

3.3 Seawater Intrusion

Seawater intrusion does not occur in the Eastside Subbasin; however, seawater intrusion does occur in the 180/400-Foot Aquifer and Monterey Subbasins. Figure 10 and Figure 11 show the seawater intrusion contours for the 180-Foot and 400-Foot Aquifers, respectively, that MCWRA annually prepares for the adjacent 180/400-Foot Aquifer Subbasin. The MCWRA seawater intrusion contours for the Monterey Subbasin are not included in these figures because there is a lack of chloride monitoring in the Monterey Subbasin, and Marina Coast Water District assesses seawater intrusion in the Monterey Subbasin through a different methodology. The extent of seawater intrusion is based on the 500 milligram per liter (mg/L) chloride isocontour.

Figure 10 shows that seawater intrusion in the 180-Foot Aquifer has not increased since WY 2020. The 400-Foot Aquifer contours on Figure 11, however, show that the total seawater intruded acreage increased by approximately 400 acres from WY 2021 to WY 2022 in the 180/400-Foot Aquifer Subbasin. Although advancement of the seawater intrusion front has slowed compared to historical years in the 180-Foot Aquifer, seawater intrusion is still advancing in the 180/400-Foot Aquifer Subbasin. The 180-Foot and 400-Foot Aquifers are contemporarily correlated to the Shallow and Deep Zones of the Eastside Aquifer, respectively. The boundary between these subbasins generally represents the furthest extents of the alluvial fans that are characterized by clays and other fine sediments. These sediments frequently act as an impediment—if not fully a barrier—to flow in certain locations. The groundwater flow relationship between the Eastside and 180/400-Foot Aquifer Subbasins is largely uncharacterized as a result of a lack of data both about the sediment changes and the groundwater elevations in the area. This is a data gap that will be addressed during implementation.

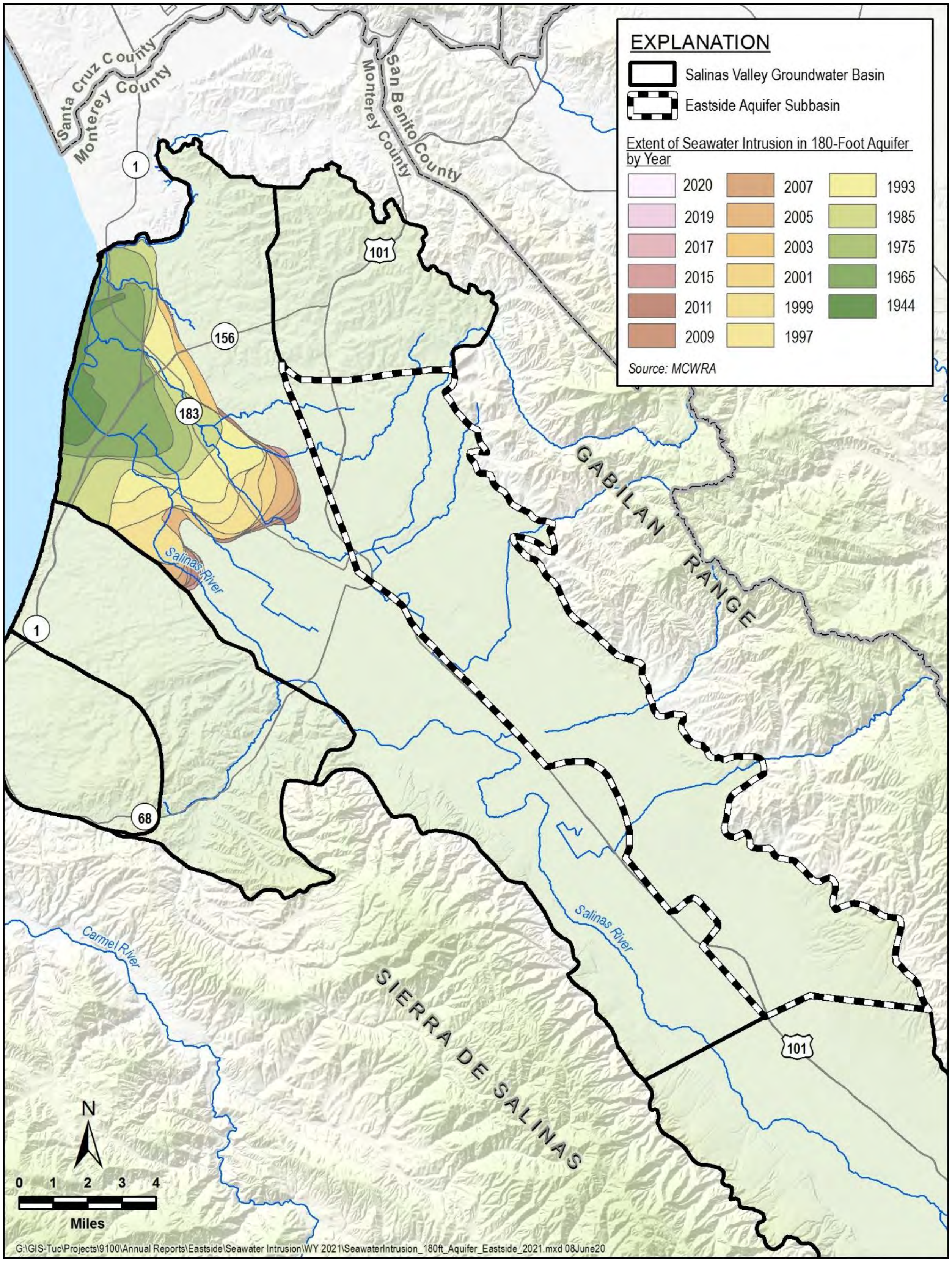

Figure 10. 2022 Seawater Intrusion Contours for the 180-Foot Aquifer

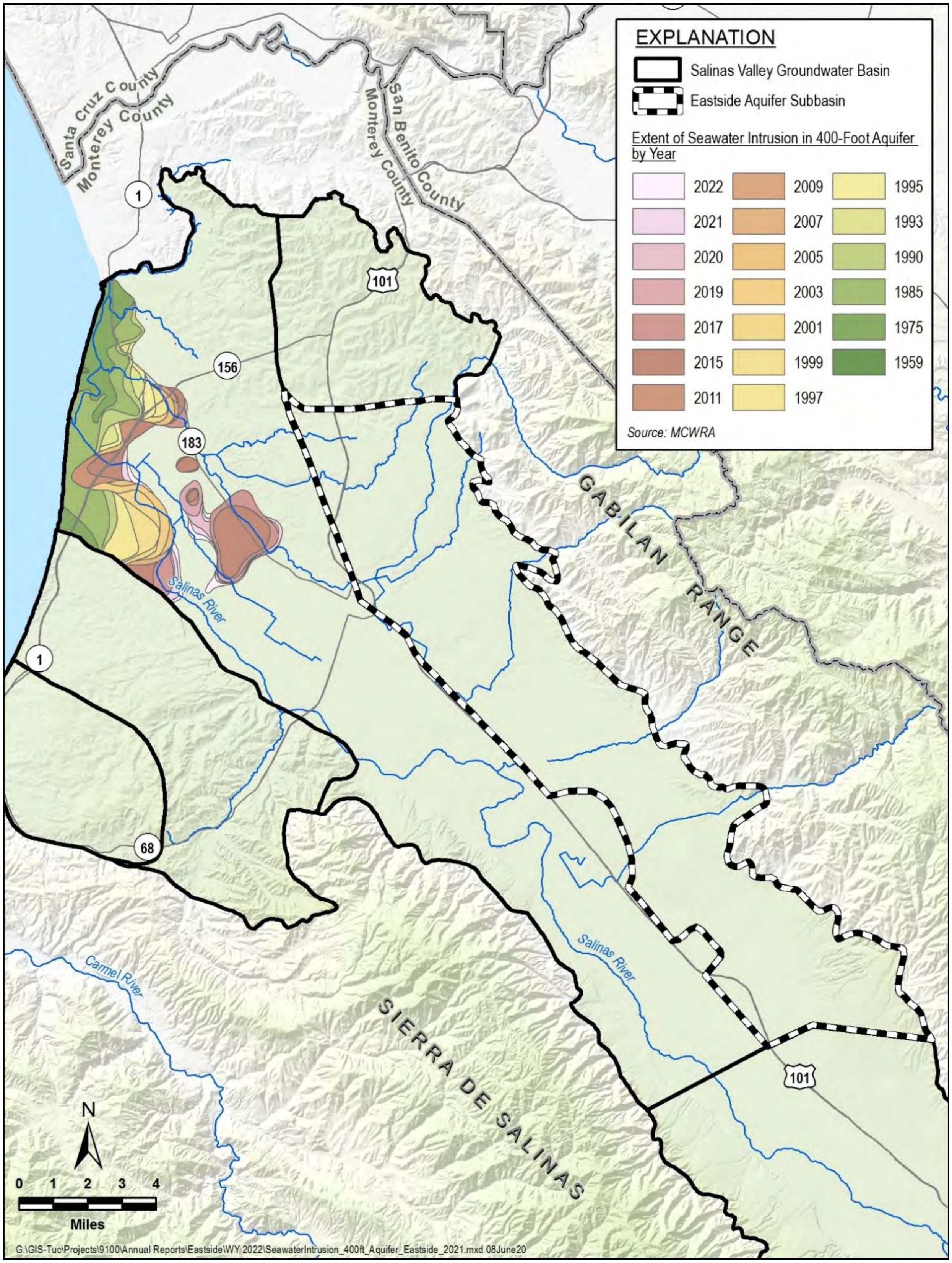

Figure 11. 2022 Seawater Intrusion Contours for the 400-Foot Aquifer

3.4 Change in Groundwater Storage

The Eastside Subbasin GSP adopted the concept of change in usable groundwater storage, defined as the annual average increase or decrease in volume of groundwater that can be safely used for municipal, industrial, or agricultural purposes.

The annual change in storage calculation is based on groundwater elevation contours produced by MCWRA for fall 2021 and fall 2022. MCWRA uses groundwater elevations from November to December to produce these contours. Fall measurements occur at the end of the irrigation season and before groundwater levels increase due to seasonal recharge by winter rains. These measurements record annual changes in storage reflective of groundwater recharge and withdrawals in the Subbasin.

Average annual change in groundwater elevations in the Eastside Subbasin from WY 2021 to WY 2022 was estimated by subtracting the fall 2019 groundwater elevations shown on Figure 12 from the fall 2022 groundwater elevations (Figure 5). The groundwater contours in the Shallow and Deep Zones of the Eastside Aquifer (Figure 5 and Figure 7, respectively) have similar elevations and flow patterns. Therefore, for this change in storage calculation the groundwater elevation contours for the Shallow Zone of the Eastside Aquifer are used because they are generally representative of overall aquifer conditions of the Eastside Aquifer. This change was then multiplied by the storage coefficient for the Eastside Aquifer. Monterey County's *State of the Basin Report* approximates the storage coefficient to 0.08 for the Eastside Subarea, which overlaps most of the Eastside Subbasin (Brown and Caldwell, 2015). The estimated change in storage due to groundwater elevation changes, in acre-feet (AF) per acre, in the Eastside Aquifer is depicted on Figure 13. Since the groundwater elevation contours do not extend across the entire Subbasin, the storage change was not calculated in the areas that were not contoured, as indicated by the areas without color on Figure 13. There is little known pumping in the non-contoured area within the Subbasin, and therefore the actual change in storage may be slightly higher or lower depending on average change in groundwater levels in the non-contoured area.

A summary of components used for estimating change in groundwater storage due to groundwater elevation changes is shown in Table 4. Annual groundwater storage change due to changes in groundwater elevation from fall 2021 to fall 2022 decreased by approximately 17,800 AF/yr. in the Eastside Aquifer. The negative signs in Table 4 indicate decline in groundwater levels or loss in storage.

Table 4. Parameters Used for Estimating Annual Change in Groundwater Storage

Component	Values
Area of contoured portion of Subbasin (acres)	45,900
Storage coefficient	0.08
Average change in groundwater elevation (feet)	-4.85
Total annual change in groundwater storage (AF/yr.)	**-17,800**

Note: Negative values indicate loss, positive values indicate gain.

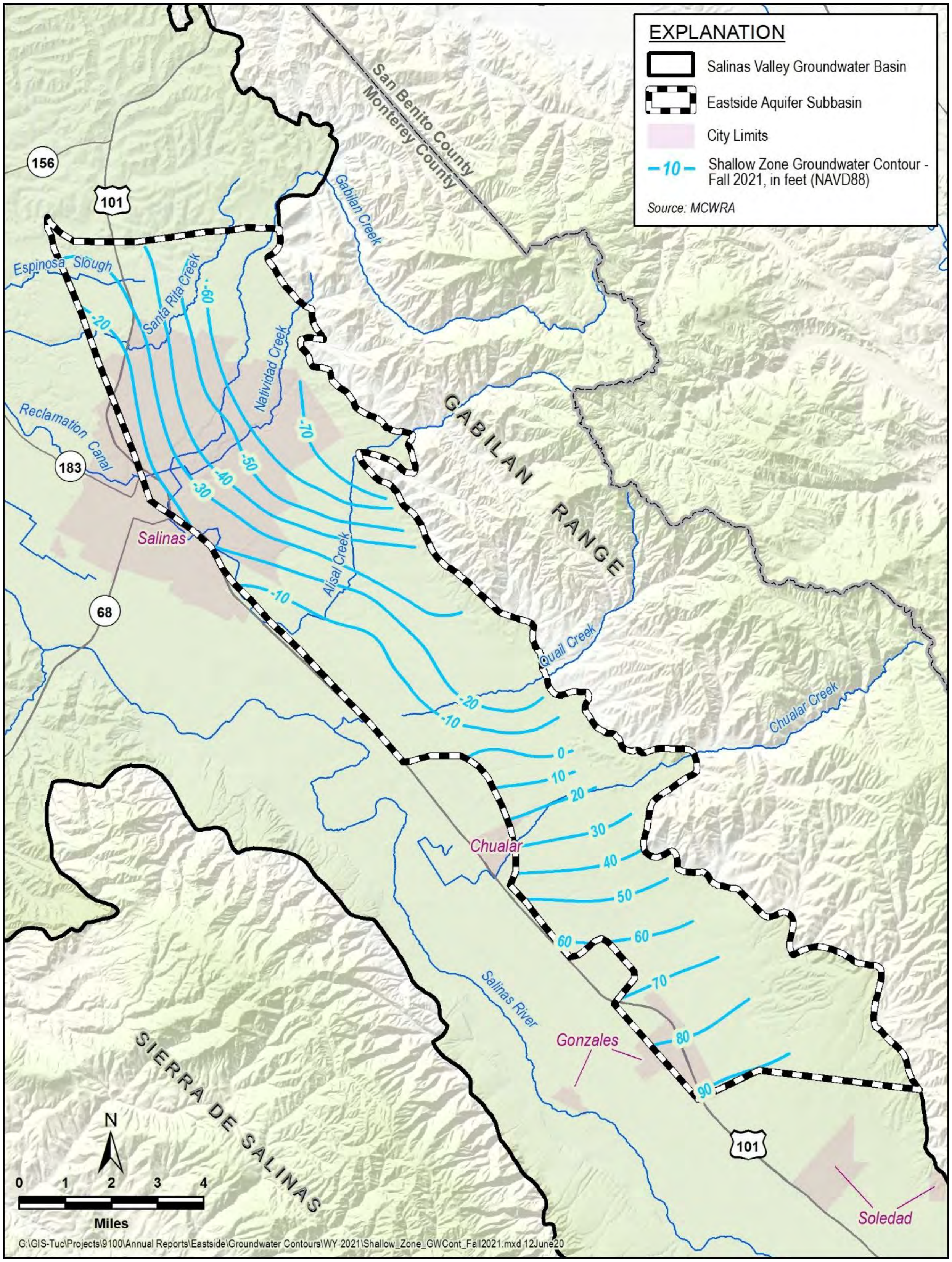

Figure 12. Fall 2021 Groundwater Elevation Contour Map for Shallow Zone of the Eastside Aquifer

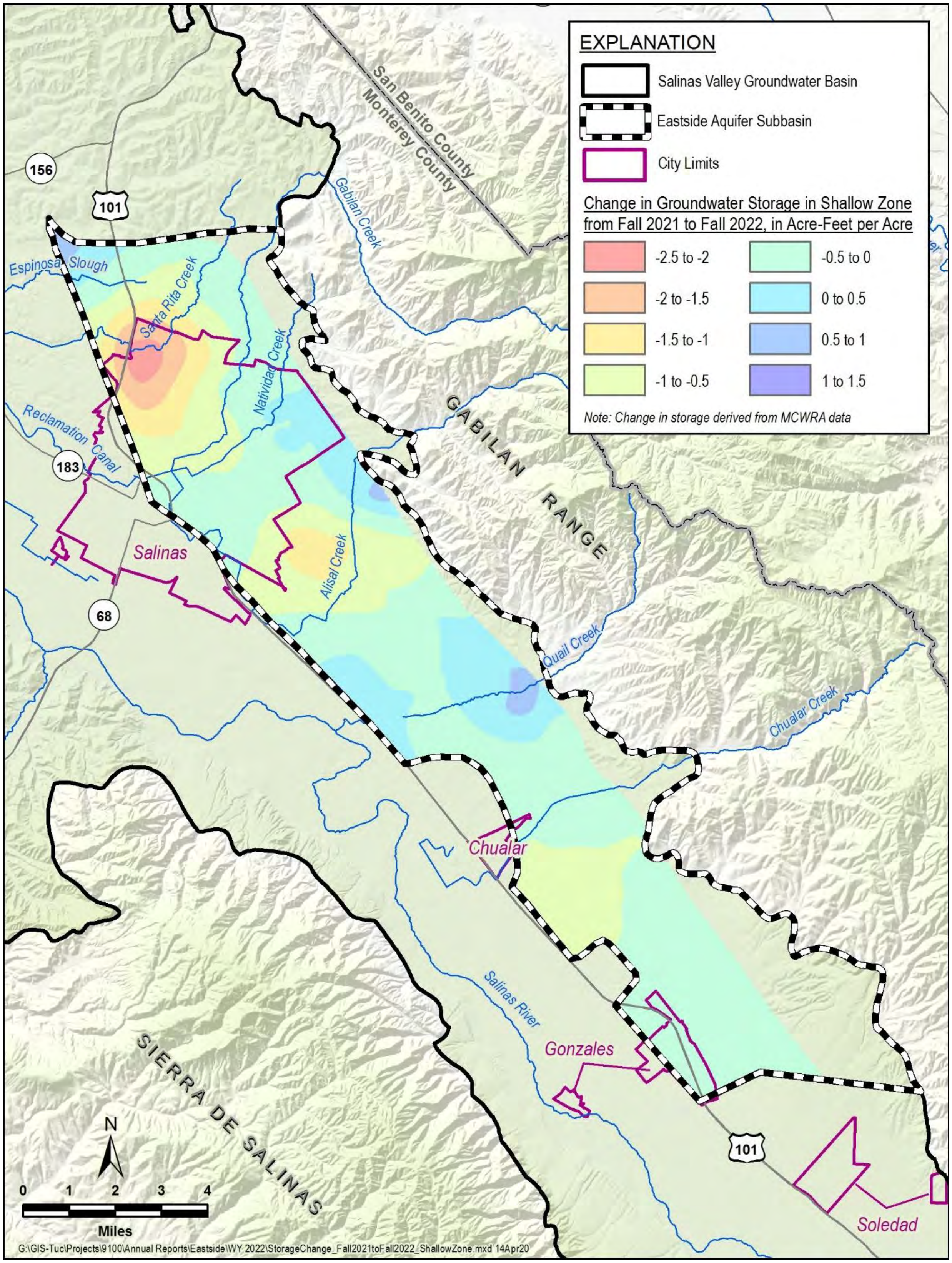

Figure 13. Estimated Annual Change in Groundwater Storage from WY 2021 to WY 2022

GSP Regulations also require that annual and cumulative changes in groundwater storage and groundwater use along with water year type data are plotted together as shown on Figure 14. The annual and cumulative groundwater storage changes included on Figure 14 are based on Subbasin-wide average groundwater elevation changes. This figure includes groundwater extraction from 1995 to 2022, 1995 to 2016 average historical extraction, and the 2070 projected extraction from Chapter 6 of the GSP. As the last year in a 3-year drought, 2022 pumping increased slightly since the previous year in reporting year and is lower than the historical average and projected pumping. The orange line represents cumulative storage change since 1944 (e.g., zero is the amount of groundwater in storage in 1944, and each year the annual change in storage is added to produce the cumulative change in storage). The green line represents the annual change in storage from the previous year. The 1995 annual change in storage value is based on change in storage from 1994. From WY 2021 to WY 2022, the annual change groundwater in storage increased slightly, as shown by the green line, but the cumulative change in storage decreased, as shown by the orange line.

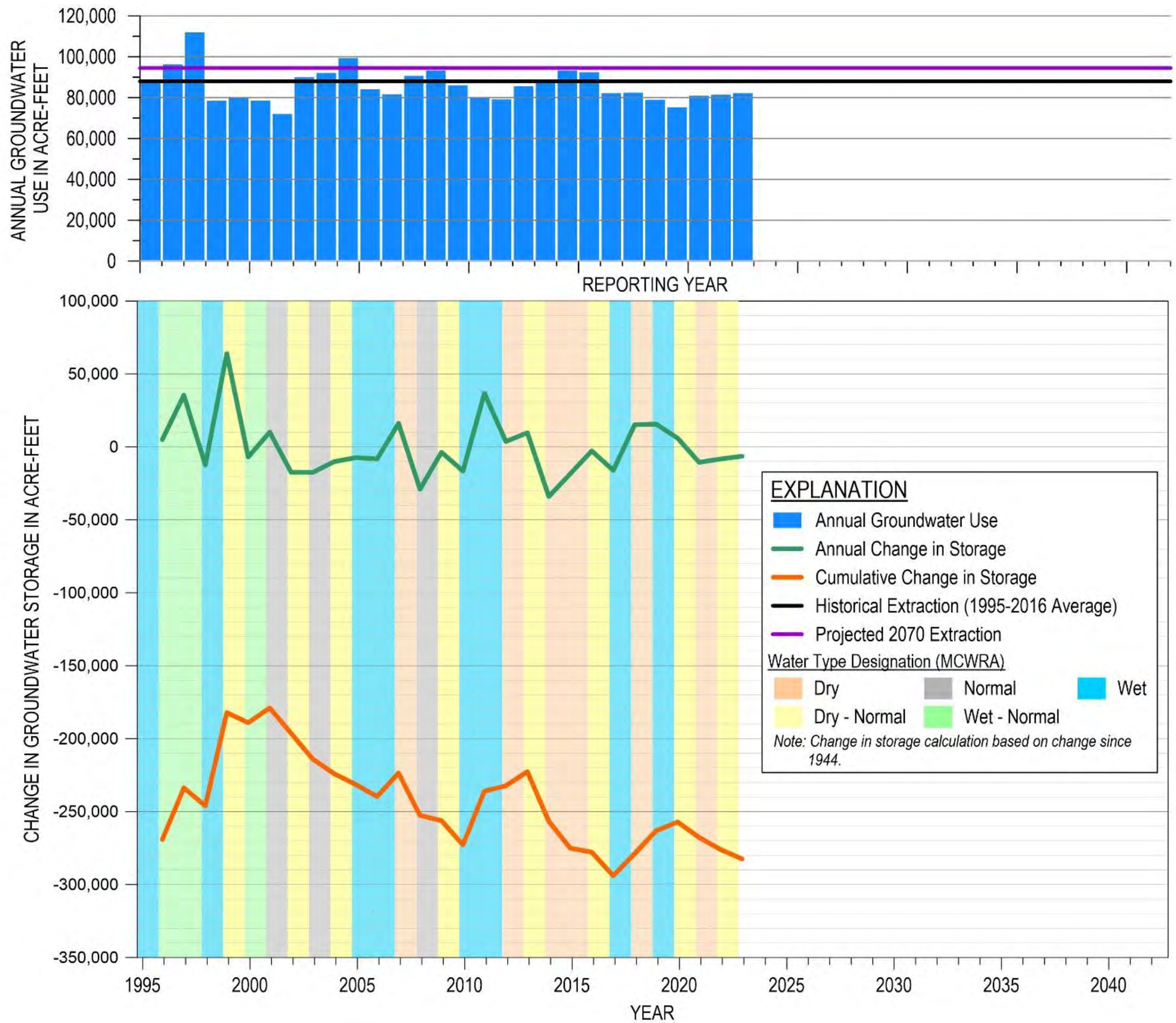

Figure 14. Groundwater Use and Annual and Cumulative Change in Groundwater Storage

3.5 Groundwater Quality

Degradation of groundwater quality is measured in 3 sets of wells: public water system supply wells, on-farm domestic wells, and irrigation wells. Data collected by SWRCB Division of Drinking Water (DDW) is used to evaluate groundwater quality in public water system supply wells. Under the Irrigated Lands Regulatory Program (ILRP), water quality degradation is monitored for on-farm domestic wells and irrigation wells. Water quality data for both programs can be found on SWRCB's GAMA groundwater information system. The constituents of concern (COCs) for municipal public water system supply wells and domestic wells have a Maximum Contaminant Level (MCL) or Secondary Maximum Contaminant Level (SMCL) established by the State's Title 22 Regulations. The COCs for irrigation wells include those that may lead to reduced crop production and are outlined in the Central Coast Regional Water Quality Control Board (CCRWQCB)'s Basin Plan (2019). As discussed in the GSP, each set of wells has its own COCs and only the last sample for each COC and each well are considered. Table 5 and Figure 15 show the number of wells that were sampled in WY 2022 and that have concentrations above the regulatory standard for the COCs in the Eastside Subbasin listed in the GSP. The COCs that had wells with concentrations above the regulatory standard include 1,2,3-trichloropropane, iron, manganese, methyl-tert-butyl ether, nitrate, and specific conductivity.

Table 5. WY 2022 Groundwater Quality Data

Constituent of Concern (COC)	Regulatory Standard	Standard Units	Number of Wells Sampled for COC in WY 2022	Number of Wells Sampled in WY 2022 with COC Concentrations Above the Regulatory Standard
DDW Wells				
1,2,3-Trichloropropane	0.005	ug/L	22	4
1,2-Dibromo-3-chloropropane	0.2	ug/L	0	0
Arsenic	10	ug/L	15	0
Benzo(a)pyrene	0.2	mg/L	12	0
Di(2-ethylhexyl)phthalate (DEHP)	4	ug/L	12	0
Dinoseb	7	ug/L	13	0
Hexachlorobenzene (HCB)	1	ug/L	8	0
Iron	300	ug/L	13	2
Lindane (Gamma-BHC)	0.2	ug/L	8	0
Manganese	50	ug/L	13	1
MTBE (Methyl-tert-butyl ether)	13	ug/L	10	1
Nitrate as N	10	mg/L	41	11
Specific Conductivity	1600	umhos/cm	12	1
Total Dissolved Solids	1000	mg/L	7	0
Vinyl Chloride	0.5	ug/L	10	0
ILRP On-Farm Domestic Wells				
Chloride	500	mg/L	0	0
Iron	300	ug/L	0	0
Manganese	50	ug/L	0	0
Nitrate (as nitrogen)	10	mg/L	3	1
Nitrate + Nitrite (sum as nitrogen)	10	mg/L	0	0
Specific Conductance	1600	umhos/cm	0	0
Sulfate	500	mg/L	0	0
Total Dissolved Solids	1000	mg/L	0	0
ILRP Irrigation Wells				
Chloride	350	mg/L	2	0
Iron	5	mg/L	0	0
Manganese	0.2	mg/L	0	0

mg/L= milligram per liter
ug/L = micrograms per liter
umhos/cm = micromhos per centimeter

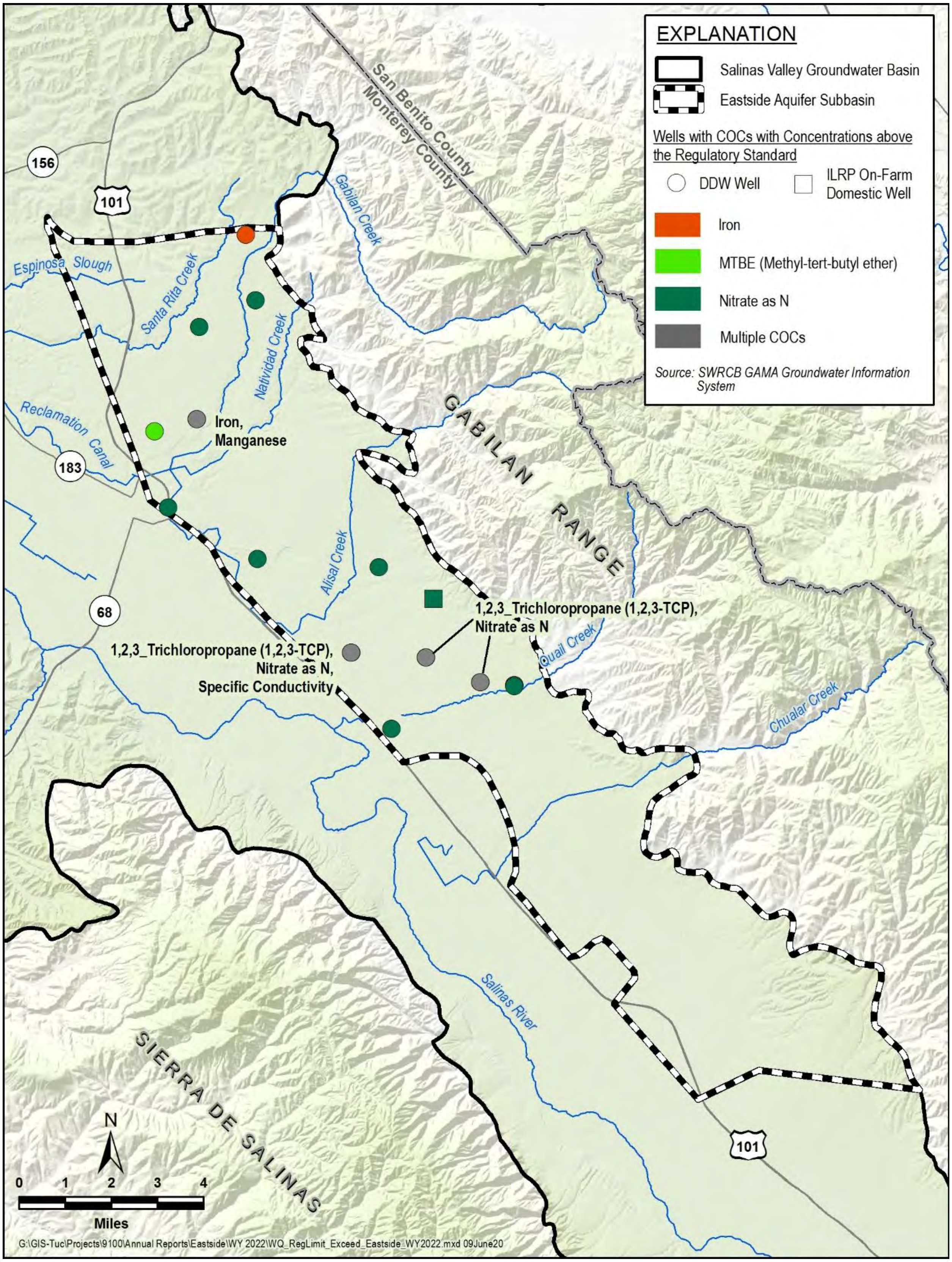

Figure 15. Wells with COC Concentrations Above the Regulatory Standard Sampled in WY 2022

3.6 Subsidence

Subsidence is measured using Interferometric Synthetic-Aperture Radar (InSAR) data. These data are provided by DWR on the SGMA data viewer portal (DWR, 2022). Figure 16 shows the annual subsidence for the Eastside Subbasin from October 2021 to October 2022. Data continue to show negligible subsidence. All land movement was within the estimated error of measurement of +/- 0.1 foot.

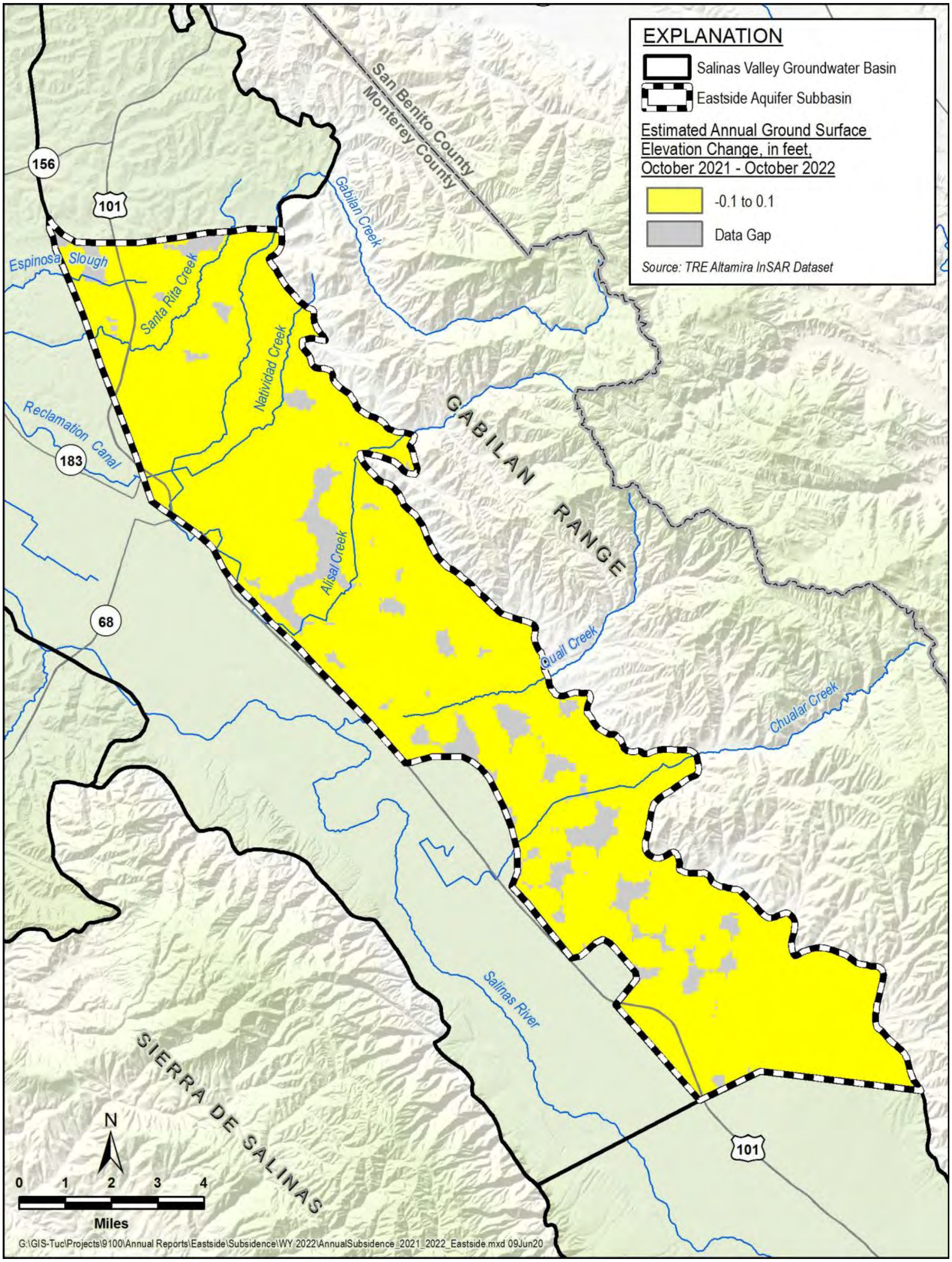

Figure 16. Annual Subsidence

3.7 Depletion of Interconnected Surface Water

As described in Section 4.4.5.1 of the GSP, there are no locations of ISW in the Eastside Subbasin. However, SVBGSA is planning on installing a new shallow well along Gabilan Creek to monitor nearby ISW in the Langley Area Subbasin and to monitor any future interconnection that could occur within the Eastside Subbasin. If there is interconnection in the future, the rate of depletion of surface water due to groundwater pumping will be estimated as described in Section 5.6.2 of the GSP using the Salinas Valley Integrated Hydrologic Model (SVIHM).

4 ANNUAL PROGRESS TOWARD IMPLEMENTATION OF THE GSP

4.1 WY 2022 Groundwater Management Activities

This section details groundwater management activities that have occurred in WY 2022. These include activities of SVBGSA and MCWRA that promote groundwater sustainability and are important for reaching the GSP sustainability goal. This section begins with an overview of SVBGSA's sustainability strategy for the Eastside Aquifer Subbasin, which builds on and further details the Road Map included in the GSP.

In WY 2022, SVBGSA and MCWRA undertook 4 main categories of activities to begin GSP implementation and further groundwater sustainability goals: Groundwater Sustainability Agency (GSA) policies, operations, and engagement; data and monitoring; planning; and sustainability strategy and activities.

4.1.1 GSA Policies, Operations, and Engagement

SVBGSA focused much of its effort during WY 2022 on developing GSA policies, standardizing GSA operations, and strengthening engagement to provide a strong base for GSP implementation.

Subbasin-level: SVBGSA continued robust stakeholder engagement and strengthened collaboration with key agencies and partners. SVBGSA worked throughout the year with the Eastside Aquifer Subbasin Planning Committee to develop the Eastside Subbasin GSP and submit it to DWR in January 2022. SVBGSA held 2 meetings of the Eastside Aquifer Subbasin Planning Committee during WY 2022 prior to submitting the GSP. As the responsibilities of the subbasin planning committees finished with GSP submittal, SVBGSA set up subbasin implementation committees to lead subbasin-specific GSP implementation activities. The Eastside Aquifer Subbasin Implementation Committee was formed with 12 subbasin committee members. SVBGSA held 3 meetings of the Eastside Aquifer Subbasin Implementation Committee during WY 2022 to begin implementation of the GSP.

SVBGSA Agency-level: During WY 2022, SVBGSA streamlined its committee structure. The SVBGSA Board of Directors transitioned the responsibilities of the Seawater Intrusion Working Group (SWIG) and Integrated Implementation Committee to the existing Advisory Committee, and the responsibilities of the SWIG Technical Advisory Committee to a new, broader Groundwater Technical Advisory Committee. SVBGSA continued its engagement across all Salinas Valley subbasins through its Board of Directors and Advisory Committee, holding 12 Board meetings and 9 Advisory Committee meetings over the course of WY 2022.

SVBGSA Work Plan, Budget, and Operating Fee: SVBGSA developed a 2-year and 5-year work plan and associated budget, which set the basis for the annual operating fee. The Board of Directors passed a portion of the fee increase. During the budget discussions, the Board directed staff to determine whether the regulatory fee needed to be applied for some projects and management actions at a specific subbasin level. As a result of the partial funding, some workstreams moved forward while others remained unfunded, slowing implementation of certain activities.

Well Permitting: Governor Gavin Newsom released Executive Order N-7-22 on March 28, 2022. The Executive Order creates a role for GSAs in the groundwater well permitting process during droughts. Specifically, a well permitting agency shall not "approve a permit for a new groundwater well or for alteration of an existing well in a basin subject to the Sustainable Groundwater Management Act and classified as medium- or high-priority without first obtaining written verification from a Groundwater Sustainability Agency managing the basin or area of the basin where the well in proposed to be located that groundwater extraction by the proposed well would not be inconsistent with any sustainable groundwater management program established in any applicable Groundwater Sustainability Plan adopted by the Groundwater Sustainability Agency and would not decrease the likelihood of achieving a sustainability goal for the basin covered by such a plan." In addition, a proposed well cannot cause subsidence that would adversely impact or damage nearby infrastructure. SVBGSA worked with County agencies involved in well permitting, interested parties, and its Board of Directors to develop a process to comply with the Executive Order.

Coordination with Partner Agencies: SVBGSA and MCWRA increased coordination and collaboration through weekly meetings between agency leads and consultants. This resulted in increased awareness of each other's activities, objectives, and challenges. MCWRA and SVBGSA finalized the Memorandum of Understanding that outlines the roles of the 2 agencies and how they will coordinate through the implementation of the GSPs.

SVBGSA conducted meetings throughout the year to reach out to additional agencies and stakeholders to coordinate. These included meetings with:

- Monterey County Health Department on data and the existing well permitting and water quality monitoring programs
- Central Coast Regional Water Quality Control Board to discuss the Water Quality Coordination Group
- Integrated Regional Water Management Plan, including coordinating with CCWG on watershed coordinator grant

Outreach: Underrepresented Communities are an important stakeholder for the SVBGSA to develop meaningful and long-term relationships with regard to groundwater sustainability.

Outreach to Underrepresented Communities included 2 different methods of communication for making workshop materials more accessible. For the first in-person workshop since GSP implementation, SVBGSA offered Spanish interpretation services for attendees both in person and online. In addition, SVBGSA informational workshops are archived on a YouTube channel which is easily accessible to interested parties. A workshop on demand management was also translated and presented in Spanish with the video archived for accessible viewing.

SVBGSA worked very closely with the Watershed Coordinator for the Lower Salinas/Gabilan watershed. SVBGSA intends to learn from and apply lessons learned and outreach tools from the Lower Salinas/Gabilan watershed to the rest of the Salinas Basin. The Watershed Coordinator is collaborating with the League of United Latin American Citizens and developing materials to reach residents to increase their general understanding of water resources. A "Water 101" will help residents build a foundation for better voicing their needs regarding particular projects and management actions. In addition, the Watershed Coordinator is working with the North Monterey County School District in hopes of scheduling future groundwater related educational programs, co-funded by the SVBGSA.

4.1.2 Data and Monitoring

SVBGSA also undertook several efforts to further increase data collection and monitoring. During WY 2022:

- SVBGSA reviewed MCWRA and DWR databases to identify any potential existing wells that could fill data gaps, and reviewed the data gaps with interested parties.
- SVBGSA and MCWRA began discussions on expanding and enhancing the GEMS program. This effort will primarily take place in 2022 and 2023. These early discussions focused on understanding the challenges to changing the program and steps involved.
- SVBGSA's technical consultant, Montgomery & Associates, continued development of the Salinas Valley Seawater Intrusion Model, which will enable assessment of projects and management actions to address seawater intrusion.
- SVBGSA continued to support the USGS through the Cooperative Agreement for the development of the SVIHM.
- SVBGSA received bids for the Deep Aquifers Study and selected Montgomery & Associates. During WY 2022, M&A conducted the preliminary investigation, through which it reviewed existing data and found that the Deep Aquifers extends into the Eastside Subbasin. The boundary of the Deep Aquifers will be refined with additional data during the remainder of the Study.

4.1.3 Planning

SVBGSA began WY 2022 by finalizing the Eastside Subbasin GSP, working together with the 10 members of the Eastside Planning Committee. Final stages included responding to and addressing comments on the draft GSP, reviewing changes with the Eastside Planning Committee, and presenting to the SVBGSA Board of Directors for final approval. SVBGSA submitted the GSP in January 2022.

After submittal of the 2022 GSPs, SVBGSA developed an Integrated Implementation Plan to tie the SVBGSA GSPs together. It described how the Salinas Valley's groundwater system functions holistically, outlined a Valley-wide water budget, and provided an integrated understanding of current groundwater conditions and SGMA sustainability goals.

4.1.4 Sustainability Strategy and Activities

The Eastside Subbasin GSP included a high-level Road Map for Refining and Implementing Management Actions and Projects. The Road Map organizes management actions and projects identified in Chapter 9 of the GSP into a general priority order for implementation. These include implementation actions that contribute to groundwater management and GSP implementation but do not directly help the Subbasin maintain sustainability. Activities in the implementation strategy build on GSA policies, operations, and engagement; data and monitoring; and planning activities.

The management actions and projects identified in the GSP are sufficient for reaching sustainability in the Eastside Subbasin within 20 years and maintaining sustainability for an additional 30 years; however, not all will need to be implemented. They will be integrated with projects for the other Salinas Valley subbasins as appropriate during GSP implementation. The management actions and projects described in this GSP have been identified as beneficial for the Eastside Subbasin. The impacts of management actions and projects on other subbasins will be analyzed and taken into consideration as part of the project selection process. Prior to implementation, they will be evaluated in the context of this Subbasin and the entire Valley.

Building on the Road Map in the GSP, SVBGSA has a more comprehensive sustainability strategy to reach sustainability across all 6 sustainability indicators. Figure 17 builds on the general Road Map in the GSP to show SVBGSA's main initial workstreams for implementing the GSP. SVBGSA plans to move from core initial assessments into high level feasibility and discussions on a more refined sustainability approach in WY 2023 and WY 2024. This will include mapping high areas of recharge and a demand management stakeholder assessment. Additionally, SVBGSA is moving forward with projects and feasibility work in adjacent subbasins.

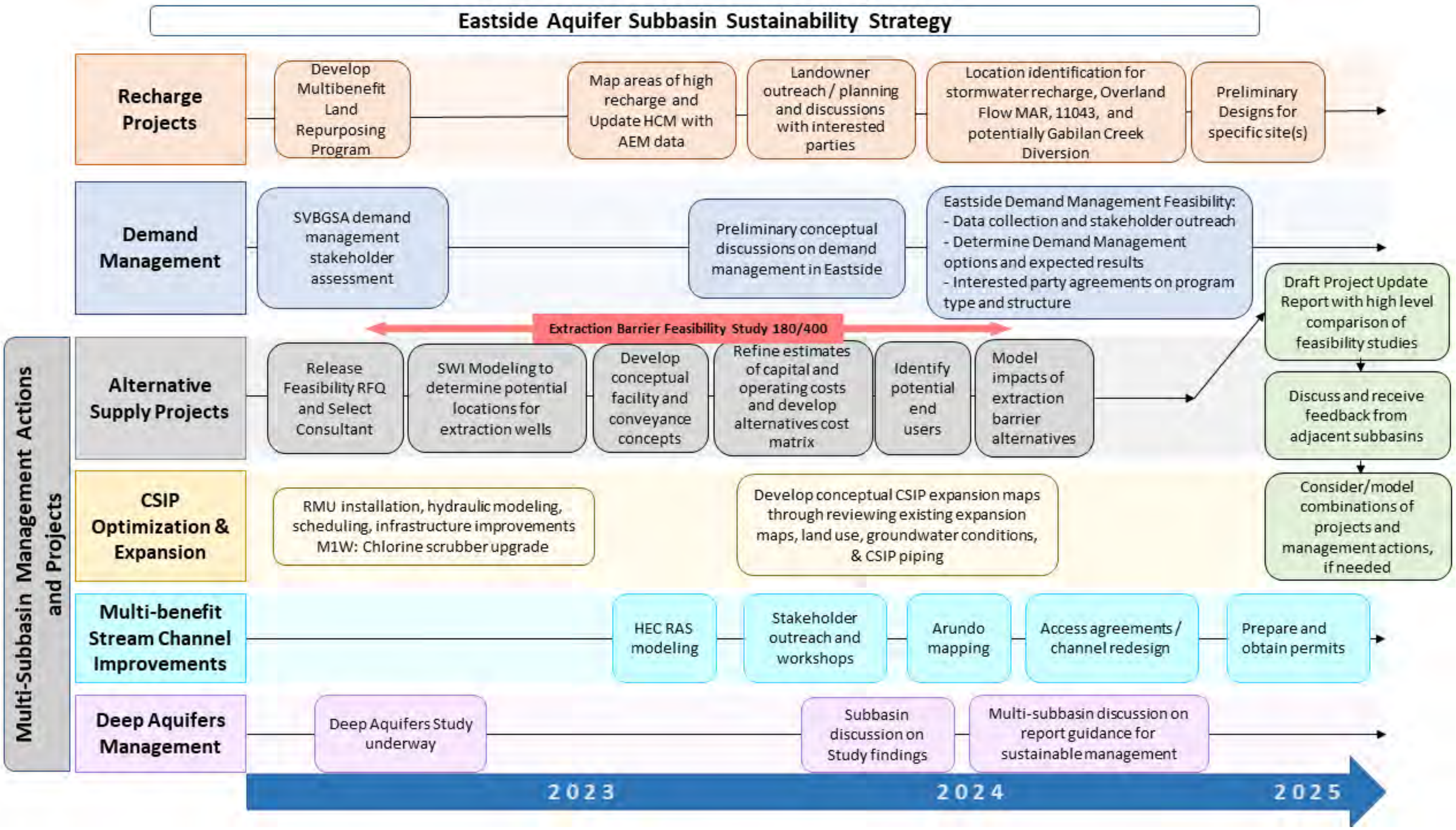

Figure 17. Eastside Sustainability Strategy

During WY 2022, SVBGSA, MCWRA, and project partners moved forward with actions that will positively impact groundwater conditions and assess feasibility of additional actions. More specifically, actions undertaken in WY 2022 that contributed to groundwater sustainability include:

Salinas Valley Multibenefit Land Repurposing Program: In collaboration with SVBGSA, the Greater Monterey County Integrated Regional Water Management Group was awarded a $10 million grant through Multibenefit Land Repurposing Program (MLRP) to strategically and voluntarily acquire and repurpose the least viable, most flood-prone portions of irrigated agricultural lands in the lower Salinas Valley. The multibenefit land repurposing concept supports the strategic transition of least productive, most flood prone irrigated land to new, lower water uses that will help reestablish sustainable groundwater supplies – while also providing benefits to landowners, adjacent communities, and freshwater ecosystems. Focusing on the 180/400-Foot Aquifer, Eastside, and Langley Subbasins, this grant will support acquisition of portions of agricultural ranches where interested landowners wish to transition irrigated farmlands to projects that increase recharge and storage, reduce flooding, and enhance water quality and base flow.

180/400-Foot Aquifer Subbasin SGMA Implementation: SVBGSA received $7.6 million from the DWR Round 1 SGMA Implementation Grant in the adjacent 180/400-Foot Aquifer Subbasin, which includes activities that may have an indirect benefit for the Eastside Subbasin. The grant funds implementation of 2 projects that will help optimize CSIP and reduce CSIP-related groundwater extraction. First, the development of a hydraulic model, irrigation scheduling, and piping improvements will enable CSIP to be managed to increase reliance on recycled and surface water and decrease groundwater extraction. Second, upgrading of M1W's Regional Treatment Plant chlorine scrubbers will reduce winter maintenance shutdowns when the system has to rely solely on groundwater. The grant also funds 3 feasibility studies: demand management, aquifer storage and recovery, and a seawater extraction barrier and desalting plant. The latter has the potential to directly benefit the Eastside Subbasin if desalted water is delivered to the City of Salinas in lieu of extraction.

Deep Aquifers Study: SVBGSA and cooperative funding partners contracted Montgomery & Associates to undertake a scientific study to better understand the extent, groundwater conditions, and water budget of the Deep Aquifers of the Salinas Valley. The Deep Aquifers Study includes a preliminary investigation that assessed existing data, additional data collection, and development of a final report. In August 2022, SVBGSA received the preliminary investigation results, which included recommended interim monitoring and management actions.

Well destruction: During WY 2022, MCWRA continued to implement its agreement with the SWRCB for the *Protection of Domestic Drinking Water Supplies for the Lower Salinas Valley* project. In August 2022, MCWRA requested additional time to complete the project which, if provided, will extend project implementation through December 2023.

Drought Technical Advisory Committee (D-TAC): MCWRA formed a Drought Operations Technical Advisory Committee (D-TAC) to provide technical input and advice regarding the operations of Nacimiento and San Antonio Reservoirs when drought triggers occur. During WY 2022, MCWRA convened the D-TAC to develop a proposed reservoir release schedule for the April to December period. The D-TAC also worked on formulating a Dry Winter Scenario Narrative (DWSN) for the January – March period following the release schedule period with the purpose of recommending release actions in the event of continuation of dry conditions in the following winter. The DWSN was finalized in April 2022. The D-TAC will be activated in future years when 2 reservoir storage depletion triggers are met and winter inflow fails to replenish reservoir storage about either of those triggers.

4.2 Sustainable Management Criteria

The Eastside Subbasin GSP includes descriptions of significant and unreasonable conditions, minimum thresholds, interim milestones, measurable objectives, and undesirable results for each of DWR's 6 sustainability indicators. SVBGSA determined locally defined significant and unreasonable conditions based on public meetings and staff discussions. SMC are individual criterion that will each be met simultaneously, rather than in an integrated manner. A brief comparison of the data presented in Section 3 and SMC criteria are included for each sustainability indicator in the following sections.

Significant and unreasonable conditions occur due to inadequate groundwater management and qualitatively describe groundwater conditions deemed insufficient by subbasin planning committees. Minimum thresholds are quantitative indicators of the Subbasin's locally defined significant and unreasonable conditions. An undesirable result is a combination of minimum threshold exceedances that shows a significant and unreasonable condition across the Subbasin as a whole. Measurable objectives are the goals that reflect the Subbasin's desired groundwater conditions for each sustainability indicator and provide operational flexibility above the minimum thresholds. The GSP and annual reports must demonstrate that groundwater management will not only avoid undesirable results, but can reach measurable objectives by 2042. DWR uses interim milestones every 5 years to review progress from current conditions to the measurable objectives.

Since the GSP addresses long-term groundwater sustainability, some of the metrics for the sustainability indicators may not be applicable in each individual future year. The GSP is developed to avoid undesirable results—under average hydrogeologic conditions—with long-term, deliberate groundwater management. Average hydrogeologic conditions are the anticipated future groundwater conditions in the Subbasin, averaged over the planning horizon and accounting for anticipated climate change. Pursuant to SGMA Regulations (California Water Code § 10721(w)(1)), "Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods." Therefore, groundwater levels may temporarily exceed minimum thresholds during prolonged droughts, which could be more extreme than those that have been anticipated based on historical data and anticipated climate change conditions. Such temporary exceedances do not constitute an undesirable result. Future groundwater conditions are based on historical precipitation, evapotranspiration, and streamflow, as well as reasonably anticipated climate change and sea level rise. The average hydrogeologic conditions include reasonably anticipated wet and dry periods.

The 2 solid green lines on Figure 18 show the anticipated average precipitation for 2030 and 2070, accounting for reasonable future climatic change (DWR, 2018). Measured annual precipitation from WY 2020 to 2022 are shown as blue dots, and the dashed blue line shows the average measured precipitation since GSP implementation. This figure shows that precipitation in WY 2022 was slightly below the average hydrologic conditions for the Subbasin represented by the average precipitation after GSP implementation. Furthermore, average precipitation since GSP implementation has not risen to the anticipated future average conditions. As a result, it is not anticipated that all measurable objectives have been achieved this year because these measurable objectives were based on managing to average future climatic conditions. This does not mean that minimum thresholds should be exceeded. However, WY 2022 was classified as dry-normal, and therefore it is more likely that groundwater levels are low. Areas with current minimum threshold exceedances should be monitored and should demonstrate progress toward interim milestones and measurable objectives as conditions approach expected average conditions.

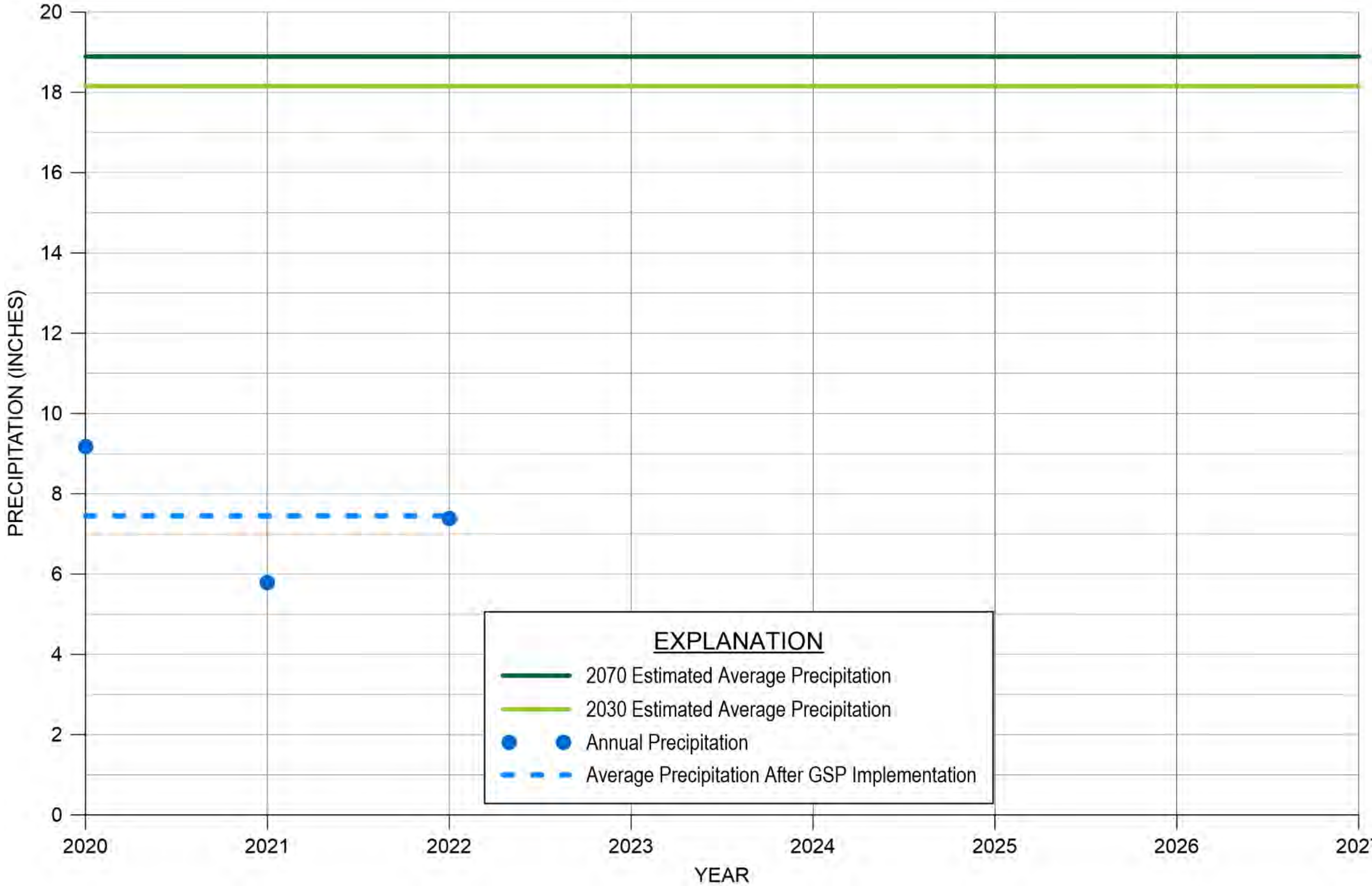

Figure 18. Comparison of Average Precipitation Since GSP Implementation and Estimated Future Average Precipitation

4.2.1 Chronic Lowering of Groundwater Levels SMC

4.2.1.1 Minimum Thresholds

Section 8.6.2.1 of the Eastside Subbasin GSP describes the information and methodology used to establish minimum thresholds for chronic lowering of groundwater levels. In the Eastside Subbasin, the minimum thresholds were set to 2015 groundwater elevations. The minimum threshold values for each well within the groundwater elevation monitoring network are provided in Table 6. Fall groundwater elevation data are color coded on this table: red cells mean the groundwater elevation is below the minimum threshold, yellow cells mean the groundwater elevation is above the minimum threshold but below the measurable objective, and green cells mean the groundwater elevation is above the measurable objective. Groundwater elevations are also compared against the groundwater level SMC on Figure 19. The red cells below show that 13 wells in the Subbasin exceeded their minimum threshold in WY 2022.

Table 6. Groundwater Elevation Data, Minimum Thresholds, and Measurable Objectives (in feet)

Below Minimum Threshold	Above Minimum Threshold	Above Measurable Objective

Monitoring Site	Minimum Threshold	WY 2022 Groundwater Elevation	Interim Milestone at Year 2027	Measurable Objective (Goal to Reach at 2042)
Shallow Zone				
14S/03E-06R01	-29.7	-25.7	-32.2	-24.9*
14S/03E-11H01	25.2	47.1	59.0	88.3
14S/03E-24H01	-84.1	-71.0	-84.3	-54.5
14S/03E-25C02	-65.4	-62.7	-71.5	-42.2*
14S/03E-27B01	-12.8	-8.0	-13.1	-5.0*
14S/03E-33G01	-18.0	-19.0	-15.8	-6.9*
14S/03E-36A01	-55.2	-64.1	56.8	-29.7
15S/04E-07R02	-4.6	5.0	-5.8	17.8
15S/04E-14N01	-34.6	Not Sampled	-42.0	14.0*
15S/04E-17P02	-18.0	-13.1	-14.2	17.5
15S/04E-24N03	-15.8	-14.0	-23.5	26.0
16S/05E-17R01	61.9	71.7	62.1	77.1
Deep Zone				
14S/03E-17F01	-44.0	-45.0	-45.0	-27.5*
14S/03E-21L01	-36.0	-47.0	-42.8	-22.6*
14S/03E-22D01	-62.0	-83.0	-50.0	-50.0
14S/03E-25C01	-64.9	-63.8	-76.3	-41.7*
14S/03E-34C01	-31.0	-36.0	-31.5	-13.3*

Monitoring Site	Minimum Threshold	WY 2022 Groundwater Elevation	Interim Milestone at Year 2027	Measurable Objective (Goal to Reach at 2042)
15S/03E-02G01	-36.0	-27.0	-31.4	-8.8*
16S/04E-02Q03	32.5	29.2	26.0	57.8
Both Zones				
14S/03E-03K01	-63.1	-68.0	-67.1	-40.7
14S/03E-08C01	-48.0	-36.4	-38.1	-31.5
14S/03E-08Q03	-41.0	-58.0	-48.3	-31.0
14S/03E-09E02	-54.0	-60.0	-65.3	-38.2*
14S/03E-15H03	-55.3	-54.6	-59.7	-36.7
14S/03E-36P02	-31.9	Not Sampled	-35.0	-11.1
14S/04E-31Q02	-61.0	-52.8	-65.3	-25.6*
15S/04E-06R01	-30.5	-31.0	-39.1	-4.1
15S/04E-08N01	-10.0	1.0	-11.0	3.0
15S/04E-15D02	-26.5	-33.5	-33.3	-0.2
15S/04E-15P02	-30.8	-21.6	-34.0	-5.0
15S/04E-27G01	3.8	2.8	0.7	33.5
15S/04E-36H01	12.9	17.4	8.6	56.2
16S/05E-07G01	38.7	40.3	37.5	69.3
16S/05E-08Q01	46.9	51.7	41.0	67.8
16S/05E-27G01	77.7	84.3	76.0	88.4*

*Groundwater elevation was estimated.

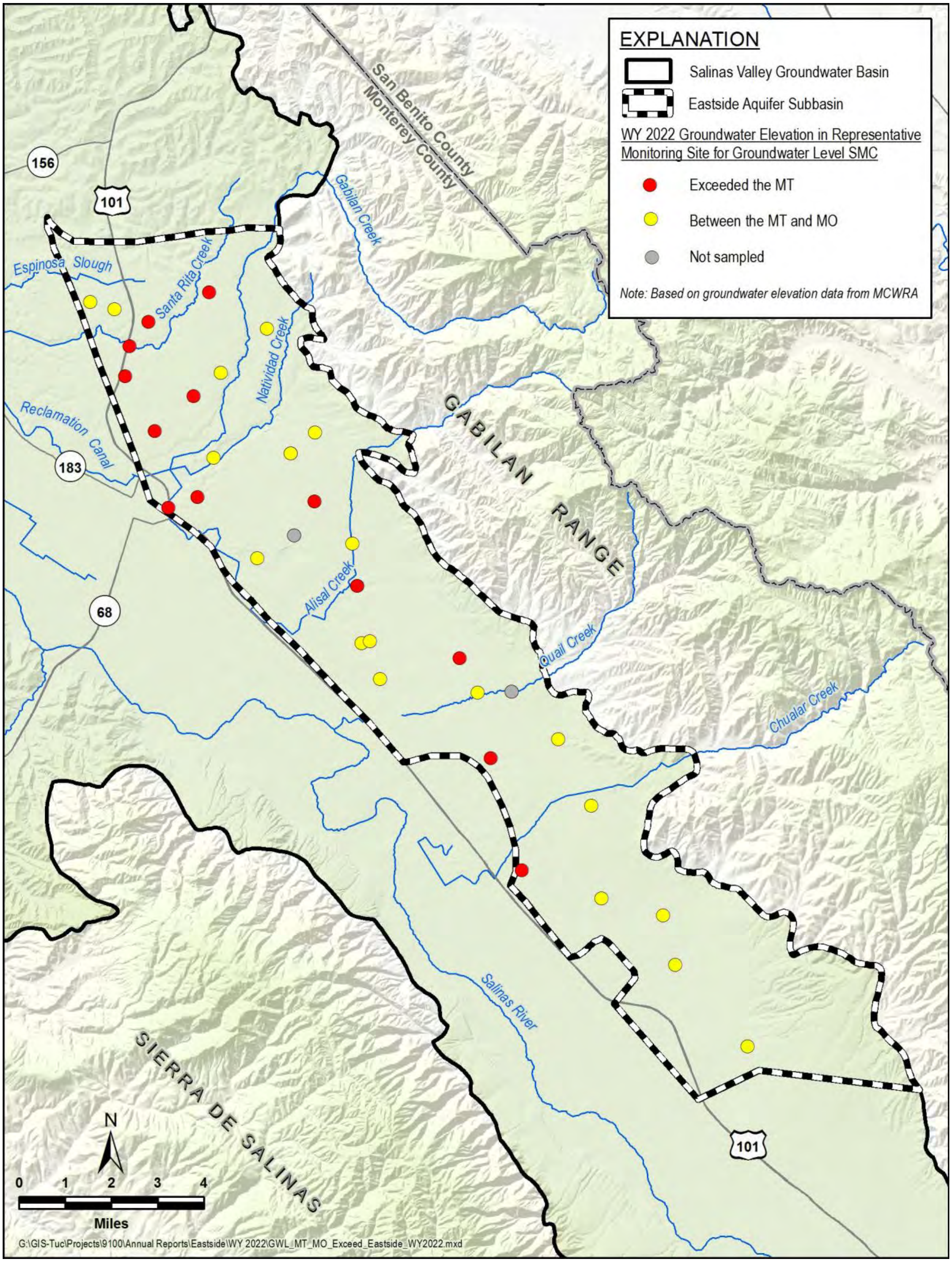

Figure 19. Groundwater Elevations Compared to the Minimum Thresholds and Measurable Objectives

4.2.1.2 Measurable Objectives and Interim Milestones

The measurable objectives for chronic lowering of groundwater levels represent target groundwater elevations that are higher than the minimum thresholds. These measurable objectives provide operational flexibility to ensure that the Subbasin can be managed sustainably over a reasonable range of hydrologic variability. Measurable objectives for the chronic lowering of groundwater levels are summarized in Table 6. None of the RMS wells had groundwater elevations higher than their measurable objective in WY 2022.

To show progress toward measurable objectives, DWR assesses interim milestones at 5-year intervals. The 2027 interim milestones for groundwater elevations are also shown in Table 6. The WY 2022 groundwater elevations in 23 wells are already higher than the 2027 interim milestones. The 2027 interim milestones continue the downward trend of groundwater elevations in most RMS wells before increasing toward the measurable objectives because of the time lag associated with seeing groundwater benefits from projects and management actions. This was done to set more realistic interim milestones for the Eastside Subbasin where groundwater elevations have been declining historically; however, the goal is to raise groundwater levels as quickly as possible. It is acknowledged that these groundwater level declines may have additional impact to beneficial uses and users beyond those associated with the minimum threshold. To assess the impact of WY 2022 groundwater levels, a domestic well analysis mirroring the method described in Section 8.6.2.2 of the GSP was completed with the WY 2022 groundwater level contours using domestic wells from DWR's Online System for Well Completion Reports (OSWCR) database. The analysis does not include wells with inaccurate locations, which eliminates most domestic wells in the OSWCR database. As a result, it is not necessarily a representative analysis, but aims to complete the assessment with available data. Similar to the assessment of the minimum threshold in the GSP, the WY 2022 analysis identified no domestic wells that are likely impacted by groundwater levels. This indicates current conditions have negligible effects on domestic wells than if groundwater elevations were at the minimum threshold.

4.2.1.3 Undesirable Result

The chronic lowering of groundwater levels undesirable result is a quantitative combination of groundwater elevation minimum threshold exceedances. For the Subbasin, the groundwater elevation undesirable result is:

> *More than 15% of the groundwater elevation minimum thresholds are exceeded.*

Table 6 shows that 37% of the RMS wells were below their minimum threshold and therefore constitute an undesirable result. Groundwater elevation minimum threshold exceedances, compared with the undesirable result, are shown on Figure 20. If a value is in the shaded red area, it constitutes an undesirable result. This graph will be updated annually with new data to demonstrate the sustainability indicator's direction toward sustainability.

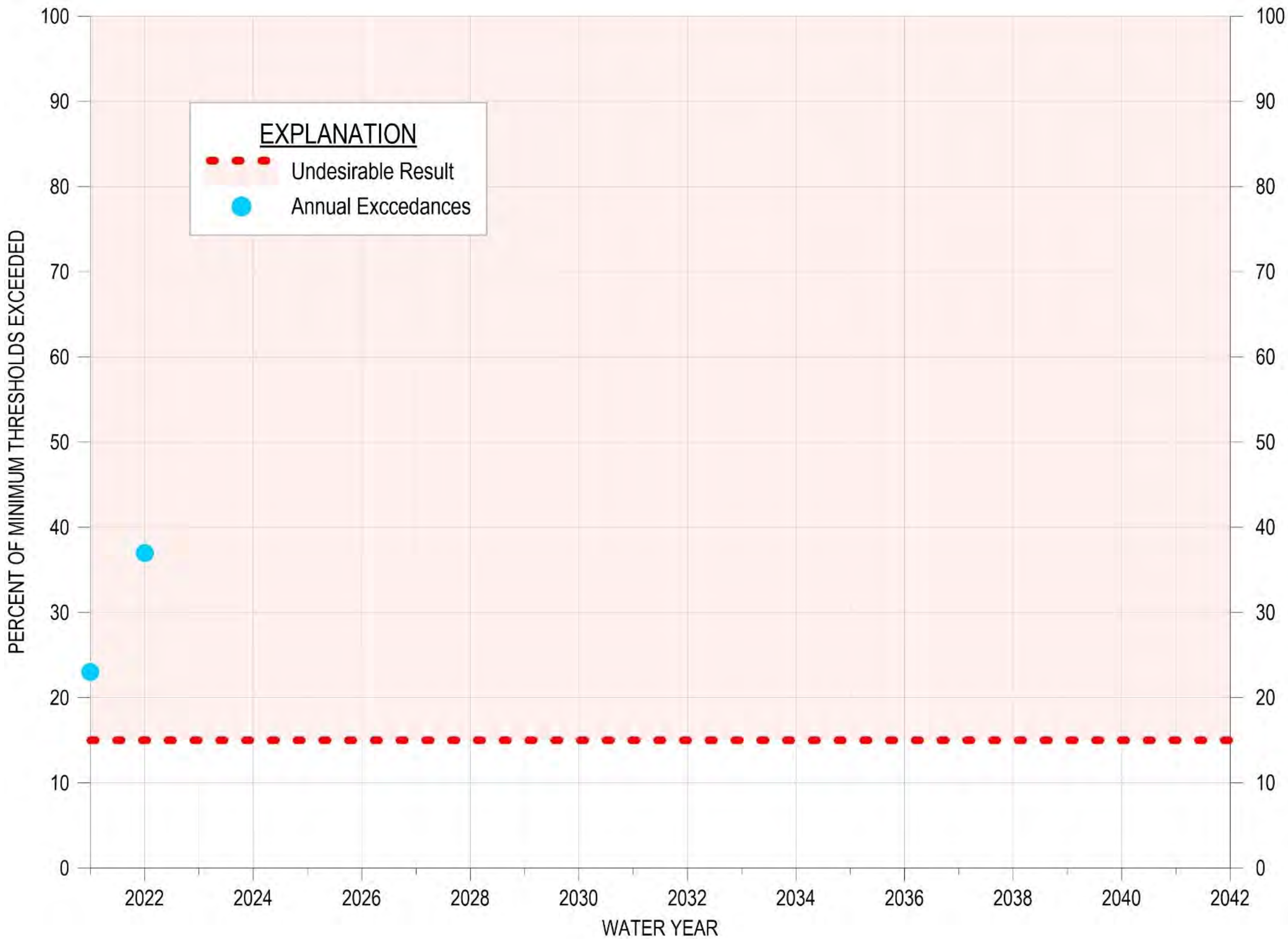

Figure 20. Groundwater Elevation and Storage Exceedances Compared to the Undesirable Result

4.2.2 Reduction in Groundwater Storage SMC

4.2.2.1 Minimum Thresholds

The reduction in groundwater storage SMC is established by proxy using groundwater elevations. The minimum thresholds for reduction in groundwater storage are measured using groundwater elevations as proxies, therefore the minimum thresholds are identical to the minimum thresholds for groundwater level RMS wells, which are those described in Section 4.2.1.1.

4.2.2.2 Measurable Objective and Interim Milestones

The measurable objectives and interim milestones for reduction in groundwater storage are the same as those for groundwater elevations that are described in Section 4.2.1.2.

4.2.2.3 Undesirable Result

The criteria used to define undesirable results for reduction of groundwater storage are based on minimum thresholds established for chronic lowering of groundwater levels. The reduction of storage undesirable result is:

> *More than 15% of groundwater elevation minimum thresholds are exceeded. The undesirable result for reduction in groundwater storage is established by proxy using groundwater elevations.*

Based on the groundwater elevation data presented in Section 4.2.1, more than 15% of wells exceeded their minimum thresholds. The WY 2022 groundwater elevations used to measure the groundwater storage SMC by proxy constitute an undesirable result, as shown on Figure 20. If a value is in the shaded red area, it constitutes an undesirable result.

4.2.3 Seawater Intrusion SMC

4.2.3.1 Minimum Thresholds

The minimum threshold for seawater intrusion is defined by a chloride concentration isocontour of 500 mg/L for the principal aquifer where seawater intrusion may lead to undesirable results. Section 8.8.2.1 of the Eastside Subbasin GSP describes the information and methodology used to establish minimum thresholds for chronic seawater intrusion. The Subbasin boundary is adopted as the seawater intrusion minimum threshold as depicted by the red line on Figure 21.

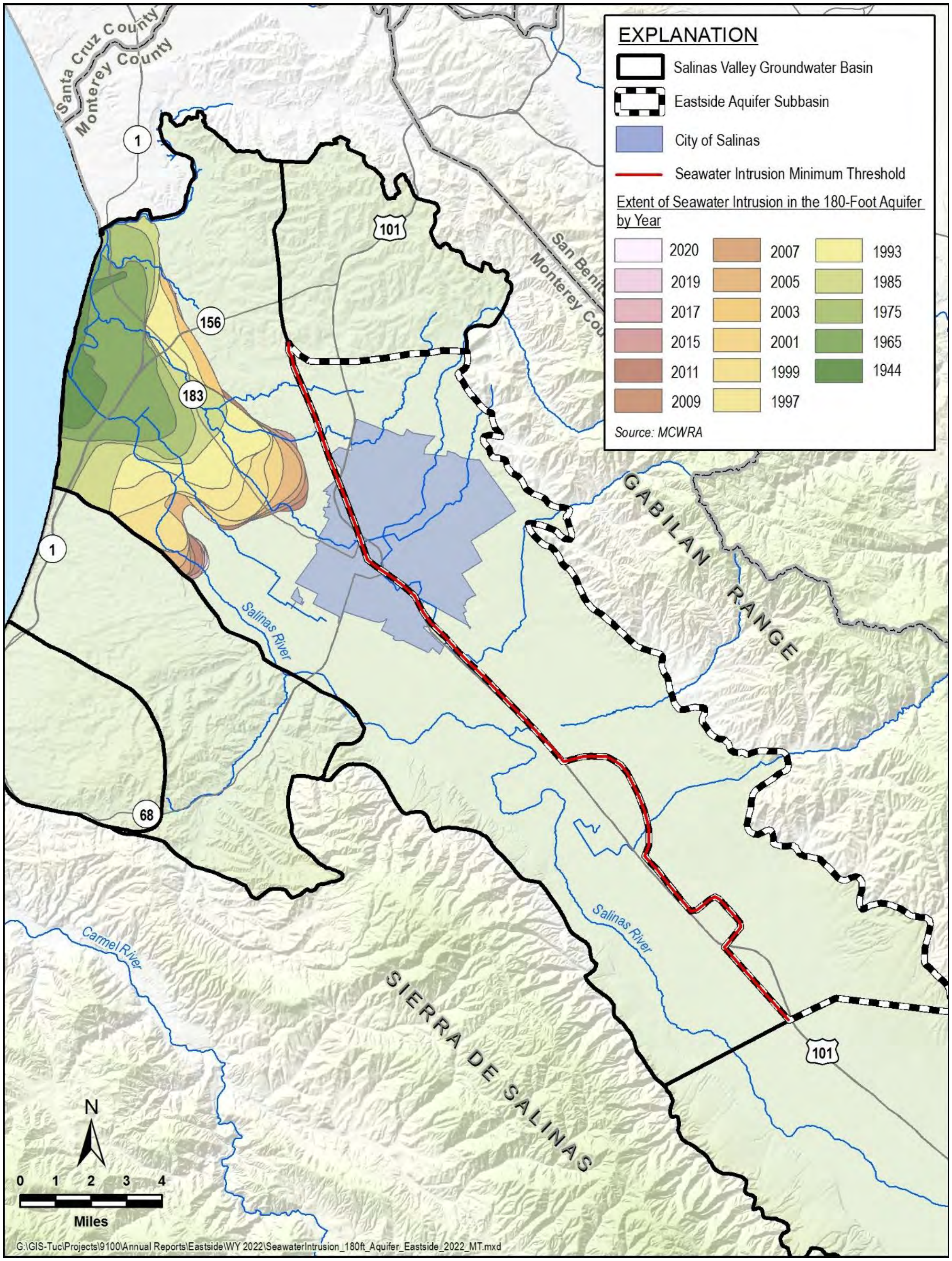

Figure 21. Seawater Intrusion Compared to the Seawater Intrusion Minimum Threshold and Measurable Objective

4.2.3.2 Measurable Objectives and Interim Milestones

The measurable objective for seawater intrusion is identical to the minimum threshold that is shown on Figure 21.

4.2.3.3 Undesirable Result

The seawater intrusion undesirable result is a quantitative combination of chloride concentrations minimum threshold exceedances. Because even localized seawater intrusion is not acceptable, the subbasin-wide undesirable result is zero exceedances of minimum thresholds. For the Subbasin, the seawater intrusion undesirable result is:

> *Any exceedance of the minimum threshold, resulting in mapped seawater intrusion within the Subbasin boundary.*

There is no seawater intrusion in the Eastside Subbasin thus an undesirable result does not exist.

4.2.4 Degraded Groundwater Quality SMC

4.2.4.1 Minimum Thresholds

The degraded groundwater quality minimum thresholds were established for each COC based on the number of supply wells monitored that had higher concentrations than the regulatory standards for drinking water and irrigation water during the last sampling event. Section 8.9.2.1 of the Eastside Subbasin GSP describes the information and methodology used to establish minimum thresholds for degraded groundwater quality. The minimum threshold values for each COC for the wells within the groundwater quality monitoring network are provided in Table 7. Table 7 also shows the wells with concentrations higher than the regulatory standard in WY 2022 discussed in Section 3.5, and the running total of wells with concentrations higher than the regulatory standard, which are used to assess the SMC. Only the latest sample for each COC at each well is used for the running total. The minimum thresholds are set to no additional wells with concentrations higher than the regulatory standard for each constituent, as compared to the 2019 baseline. The SMC are based on the total number of wells in order to assess subbasin-wide conditions; so if a single well rises above a COC's regulatory standard and another falls below, there is no change in the number of wells with concentrations above the regulatory standard. These conditions were determined to be significant and unreasonable because COC concentrations above the regulatory standard may cause a financial burden on groundwater users. Public water systems with COC concentrations above the MCL or SMCL are required to add treatment to the drinking water supplies or drill new wells. Agricultural wells with COCs that significantly reduce crop production may reduce growers' yields and profits.

As the GSP established a minimum threshold for each COC, there is an exceedance of the minimum threshold if there are more wells with concentrations above the regulatory standard than there were in 2019. In WY 2022, 7 COCs exceeded their groundwater quality minimum thresholds. The last column in Table 7 includes the number of wells above the 2019 baseline that had higher concentrations than the regulatory standard. If a COC has more wells with concentrations above the regulatory standard than the minimum threshold, it is highlighted in orange to indicate an exceedance. The negative numbers in the last column indicate a drop in the total number of wells with concentrations above the regulatory limit, as compared to 2019 when the minimum threshold was established.

Compared to WY 2021, the same COCs exceeded their minimum thresholds. However, iron and manganese both had additional wells with concentrations above the regulatory limit.

Table 7. Minimum Thresholds and Measureable Objectives for Degradation of Groundwater Quality

Constituent of Concern (COC)	Minimum Threshold/ Measurable Objective (Baseline number of wells with COC concentrations above the Regulatory Standard in 2019)	Number of Wells Sampled in WY 2022 with COC Concentrations Above the Regulatory Standard	Total Number of Wells with COC Concentrations Above the Regulatory Standard in Most Recent Sample	Number of Wells with COC Concentrations above Minimum Threshold (negative if fewer than MT)
DDW Wells				
1,2,3-Trichloropropane	10	4	16	6
1,2-Dibromo-3-chloropropane	3	0	3	0
Arsenic	4	0	5	1
Benzo(a)Pyrene	1	0	1	0
Di(2-ethylhexyl)phthalate	1	0	1	0
Dinoseb	3	0	3	0
Hexachlorobenzene	1	0	1	0
Iron	5	2	10	5
Lindane	1	0	1	0
Manganese	2	1	4	2
MTBE (Methyl-tert-butyl ether)	0	1	1	1
Nitrate (as nitrogen)	8	11	20	12
Specific Conductance	1	1	2	1
Total Dissolved Solids	3	0	3	0
Vinyl Chloride	8	0	8	0
ILRP On-Farm Domestic Wells				
Chloride	3	0	3	0
Iron	4	0	4	0
Manganese	1	0	1	0
Nitrate (as nitrogen)	91	1	68	-23
Nitrate + Nitrite (sum as nitrogen)	17	0	9	-8
Specific Conductance	27	0	19	-8
Sulfate	2	0	2	0
Total Dissolved Solids	22	0	20	-2
ILRP Irrigation Wells				
Chloride	4	0	4	0
Iron	1	0	1	0
Manganese	2	0	2	0

4.2.4.2 Measurable Objectives and Interim Milestones

The measurable objectives for degradation of groundwater quality represent a target number of wells with COC concentrations above the regulatory standard and are set at the 2019 baseline to aim for no degradation. SGMA does not require the improvement of groundwater quality; therefore, the Eastside GSP includes measurable objectives identical to the minimum thresholds, as defined in Table 7. Interim milestones are also set at the minimum threshold levels. Although there were 7 groundwater quality minimum threshold exceedances in WY 2022, the groundwater quality data already meet the 2027 interim milestones because these exceedances are not a result of GSA groundwater management actions.

4.2.4.3 Undesirable Result

The degradation of groundwater quality undesirable result is a quantitative combination of groundwater quality minimum threshold exceedances. Any groundwater quality degradation as a direct result of GSP implementation is unacceptable. Some groundwater quality changes are expected to occur independent of SGMA activities; because these changes are not related to SGMA activities they do not constitute an undesirable result. The degradation of groundwater quality undesirable result is:

> *Future or new minimum thresholds exceedances are caused by a direct result of GSA groundwater management action(s), including projects or management actions and regulation of groundwater extraction.*

Table 7 shows that 7 constituents exceeded their minimum thresholds in WY 2022. However, since SVBGSA has yet to implement any projects or management actions in the Subbasin, these exceedances are not due to GSA actions. Therefore, the groundwater quality exceedances do not cause an undesirable result. The groundwater quality minimum threshold exceedances, compared with the undesirable result, are shown on Figure 22. If a value is in the shaded red area as a direct result of GSA groundwater management action(s), it would constitute an undesirable result. This graph is updated annually with new data to demonstrate the sustainability indicator's direction toward sustainability.

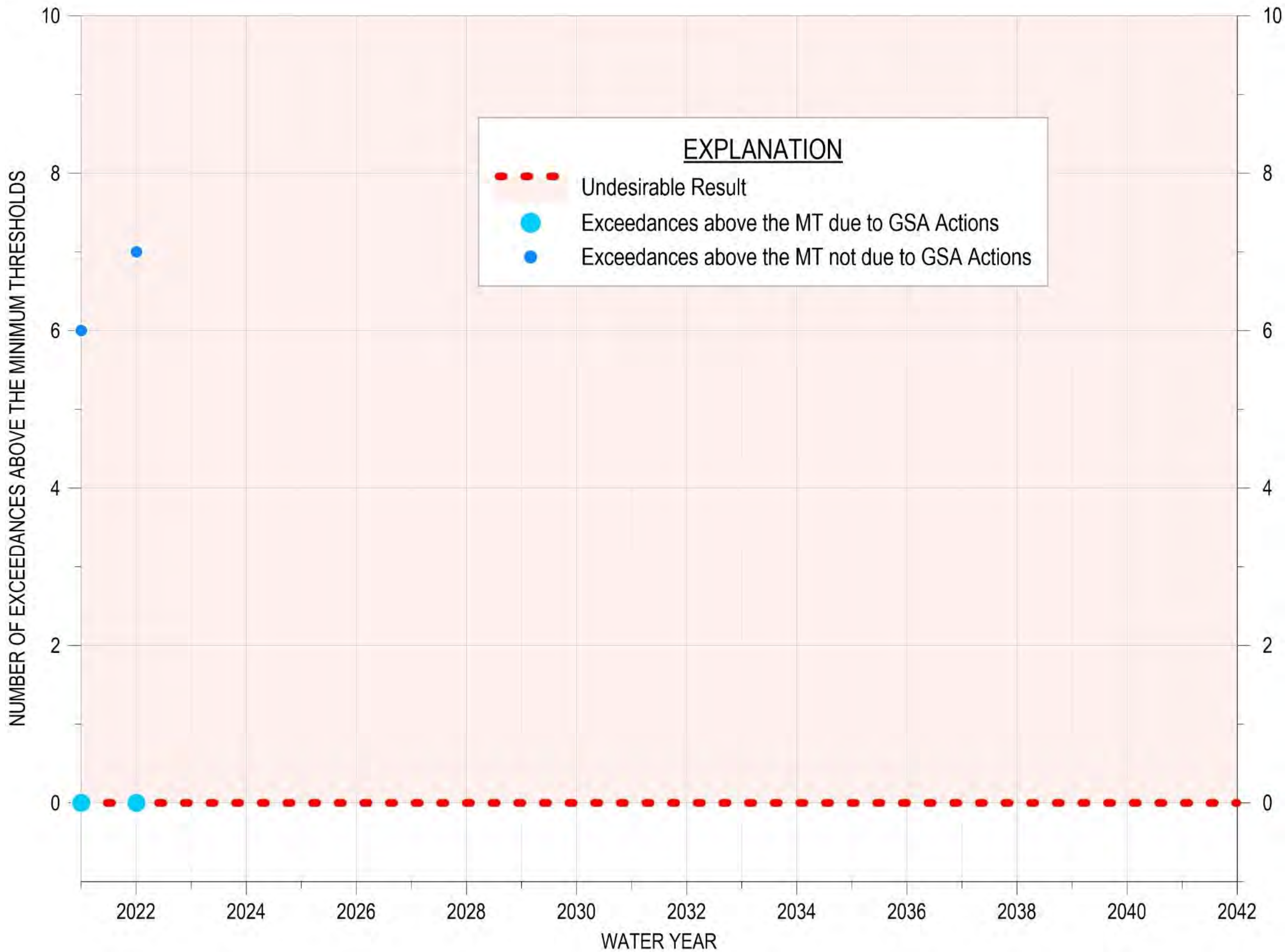

Figure 22. Groundwater Quality Minimum Threshold Exceedances Compared to the Undesirable Result

4.2.5 Land Subsidence SMC

4.2.5.1 Minimum Thresholds

Accounting for measurement errors in the InSAR data, the minimum threshold for land subsidence in the GSP is zero net long-term subsidence, with no more than 0.1 foot per year of estimated land movement to account for InSAR errors. Section 8.10.2.1 of the Eastside Aquifer Subbasin GSP describes the information and methodology used to establish minimum thresholds for subsidence. A single minimum threshold is set for the entire Subbasin. Annual subsidence data from October 2021 to October 2022 demonstrated less than the minimum threshold of 0.1 foot per year, as shown on Figure 16.

4.2.5.2 Measurable Objectives and Interim Milestones

The measurable objectives for land subsidence represent target subsidence rates in the Subbasin. Because the minimum thresholds of zero net long-term subsidence are the best achievable outcome, the measurable objectives are identical to the minimum thresholds: zero net long-term subsidence, with no more than 0.1 foot per year of estimated land movement to account for InSAR errors. Figure 16 demonstrates that data from October 2021 to October 2022 showed less than the measurable objective of no more than 0.1 foot per year of measured subsidence is being met. The interim milestones are identical to minimum threshold of 0.1 foot per year. The latest subsidence data shows that the 2027 subsidence interim milestone is already being met.

4.2.5.3 Undesirable Result

The land subsidence undesirable result is a quantitative combination of subsidence minimum threshold exceedances. For the Eastside Subbasin, no long-term subsidence is acceptable. Therefore, the land subsidence undesirable result is:

> *There is an exceedance of the minimum threshold for land subsidence due to lowered groundwater elevations.*

Data from October 2021 to October 2022 showed subsidence was below the minimum threshold of 0.1 foot per year. The latest land subsidence, therefore, does not exceed the 20-year planning horizon undesirable result. Maximum annual measured subsidence in the Subbasin, compared with the subsidence undesirable result, is shown on Figure 23. If a value is in the shaded red area, it would constitute an undesirable result.

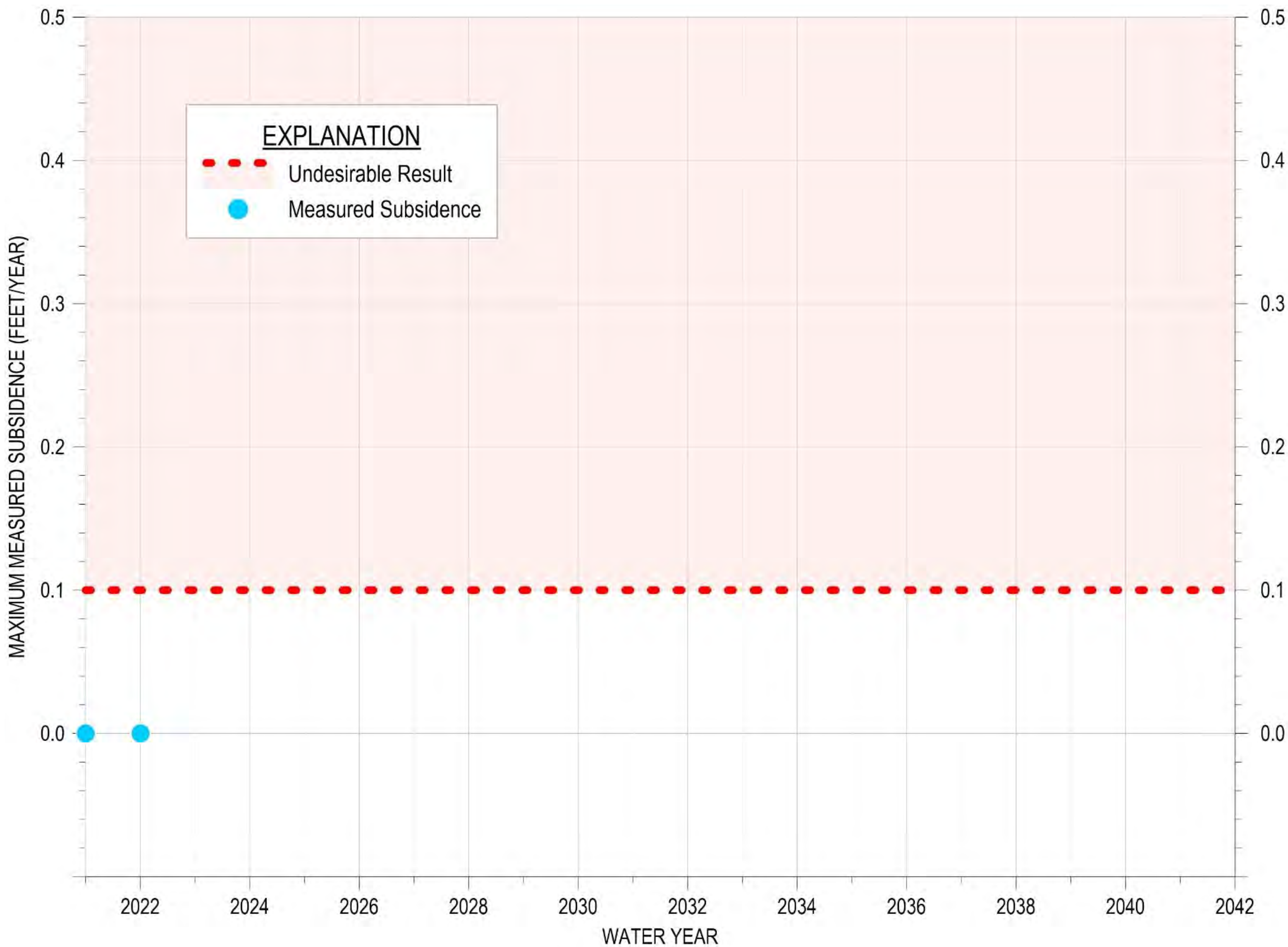

Figure 23. Maximum Measured Subsidence Compared to the Undesirable Result

4.2.6 Depletion of Interconnected Surface Water SMC

As mentioned in Section 3.7, there are currently no locations of ISW in the Eastside Subbasin. If locations of ISW occur in the future the current conditions will be compared to the SMC presented below.

4.2.6.1 Minimum Thresholds

The minimum thresholds for depletion of ISW are established by proxy using shallow groundwater elevations and are established to maintain consistency with chronic lowering of groundwater elevation and reduction in groundwater storage minimum thresholds. Minimum thresholds at shallow groundwater monitoring wells will be established when the monitoring network is fully developed by interpolating values from the groundwater elevation contour maps.

4.2.6.2 Measurable Objectives and Interim Milestones

The measurable objectives for depletion of ISW target groundwater elevations that are higher than the minimum thresholds. The measurable objectives are established to maintain consistency with the chronic lowering of groundwater elevation and reduction in groundwater storage minimum thresholds, which are also established based on groundwater elevations.

4.2.6.3 Undesirable Result

The depletion of ISW undesirable result is a quantitative combination of minimum threshold exceedances. The undesirable result for depletion of ISW is:

> *There is an exceedance of the minimum threshold in a shallow groundwater monitoring well used to monitor interconnected surface water.*

As stated in Section 3.7, there is no interconnection in the Eastside Subbasin. Therefore, there are no data from WY 2022 to compare to the undesirable result at this point.

5 CONCLUSION

This 2022 Annual Report updates data and information for the Eastside Aquifer Subbasin GSP from WY 2019 to WY 2022 with the best available data. It covers GSP implementation activities up to September 30, 2022. All GSP implementation and annual reporting meets the regulations set forth in the SGMA GSP Regulations.

In WY 2022, the Eastside Subbasin continues to have undesirable results for Chronic Lowering of Groundwater Levels and therefore also for Reduction in Groundwater Storage. WY 2022 was classified as dry-normal. Groundwater elevations generally continued to decrease in WY 2022, with more wells exceeding the minimum thresholds than the prior year. Change in groundwater storage, as measured by groundwater elevation changes, decreased from WY 2021 and WY 2022. There is still no seawater intrusion in the Subbasin in WY 2022. Groundwater quality data showed 6 exceedances of minimum thresholds, none were caused by a direct result of GSA groundwater management action(s). Negligible subsidence was observed in WY 2022. Finally, there are no locations of depletion of ISW, therefore there is no ISW data presented in this Annual Report.

In WY 2022, the SVBGSA finalized and submitted the Eastside Subbasin GSP, working together with the Eastside Subbasin Planning Committee. SVBGSA continued to actively engage stakeholders through its Board of Directors and committees, worked on filling data gaps, and began activities to implement the GSP. In particular, SVBGSA started and received preliminary investigation results from the Deep Aquifer Study, MCWRA continued to convene the D-TAC, and the Greater Monterey County Integrated Regional Water Management Group, in collaboration with SVBGSA, was awarded a $10 million MLRP grant to acquire and repurpose the least viable, most flood-prone portions of irrigated agricultural lands in the lower Salinas Valley.

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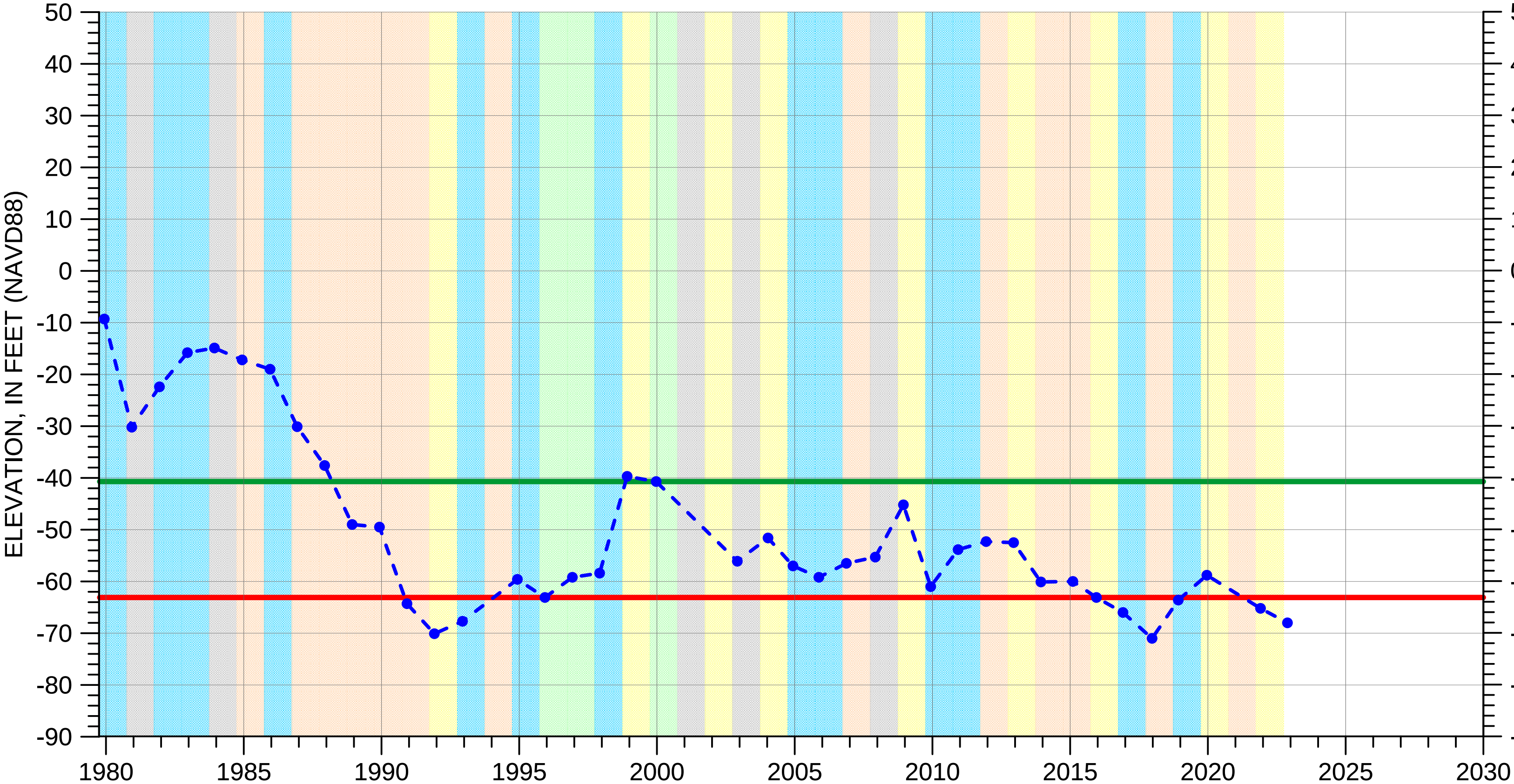
APPENDIX A. HYDROGRAPHS OF REPRESENTATIVE MONITORING SITE WELLS

Hydr_14S_03E-03K01 3
Hydr_14S_03E-06R01 4
Hydr_14S_03E-08C01 5
Hydr_14S_03E-08Q03 6
Hydr_14S_03E-09E02 7
Hydr_14S_03E-11H01 8
Hydr_14S_03E-15H03 9
Hydr_14S_03E-17F01 10
Hydr_14S_03E-21L01 11
Hydr_14S_03E-22D01 12
Hydr_14S_03E-24H01 13
Hydr_14S_03E-25C01 14
Hydr_14S_03E-25C02 15
Hydr_14S_03E-27B01 16
Hydr_14S_03E-33G01 17
Hydr_14S_03E-34C01 18
Hydr_14S_03E-36A01 19
Hydr_14S_03E-36P02 20
Hydr_14S_04E-31Q02 21
Hydr_15S_03E-02G01 22
Hydr_15S_04E-06R01 23
Hydr_15S_04E-07R02 24
Hydr_15S_04E-08N01 25
Hydr_15S_04E-14N01 26
Hydr_15S_04E-15D02 27
Hydr_15S_04E-15P02 28
Hydr_15S_04E-17P02 29
Hydr_15S_04E-24N03 30
Hydr_15S_04E-27G01 31
Hydr_15S_04E-36H01 32

Hydr_16S_04E-02Q03 33
Hydr_16S_05E-07G01 34
Hydr_16S_05E-08Q01 35
Hydr_16S_05E-17R01 36
Hydr_16S_05E-27G01 37

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-03K01

Eastside Aquifer Subbasin

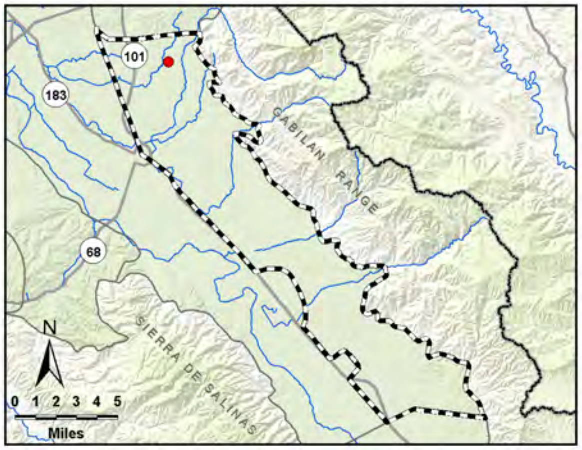


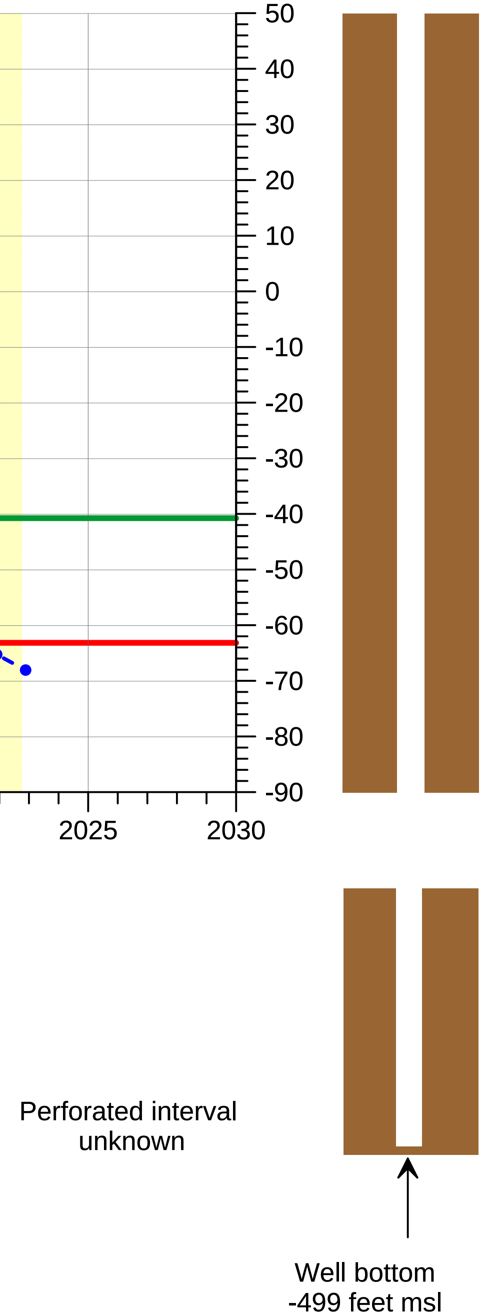
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (169 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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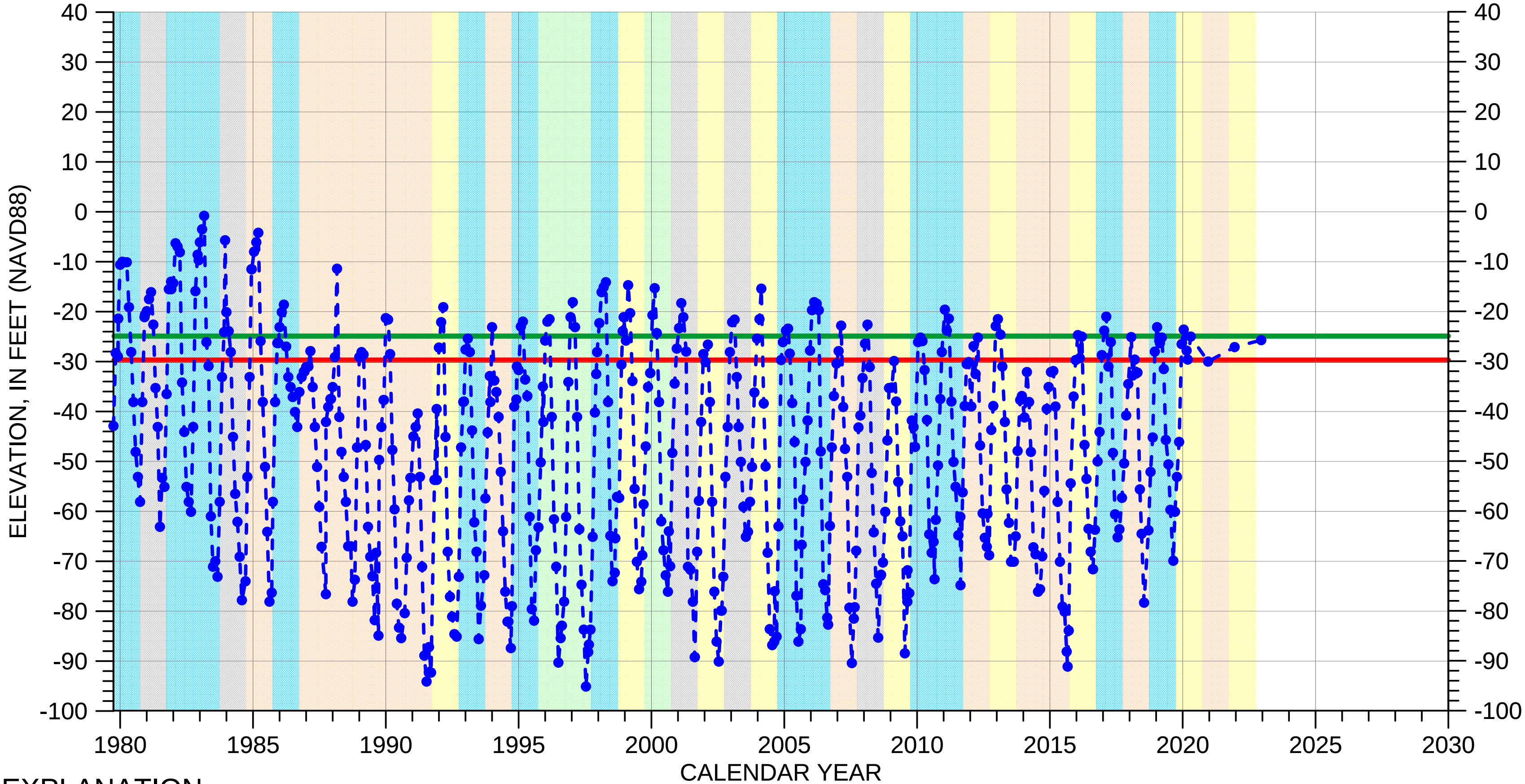
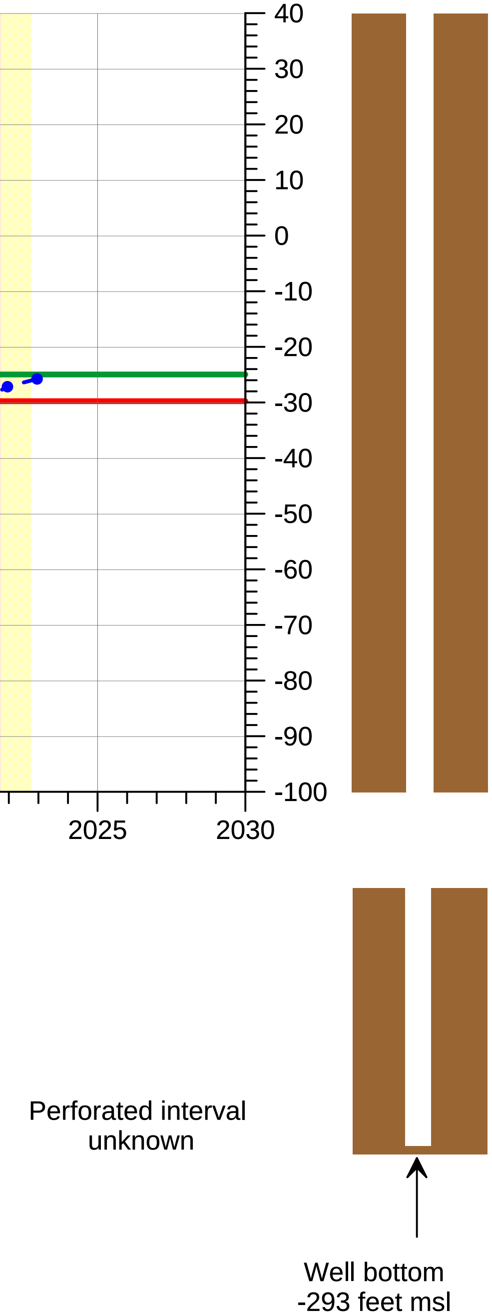
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-06R01

Eastside Aquifer Subbasin



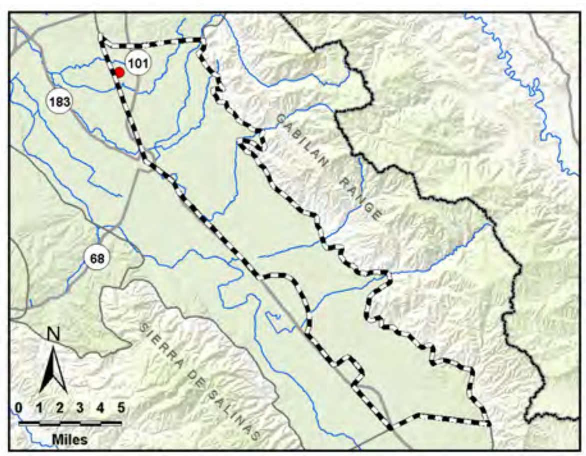


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (92 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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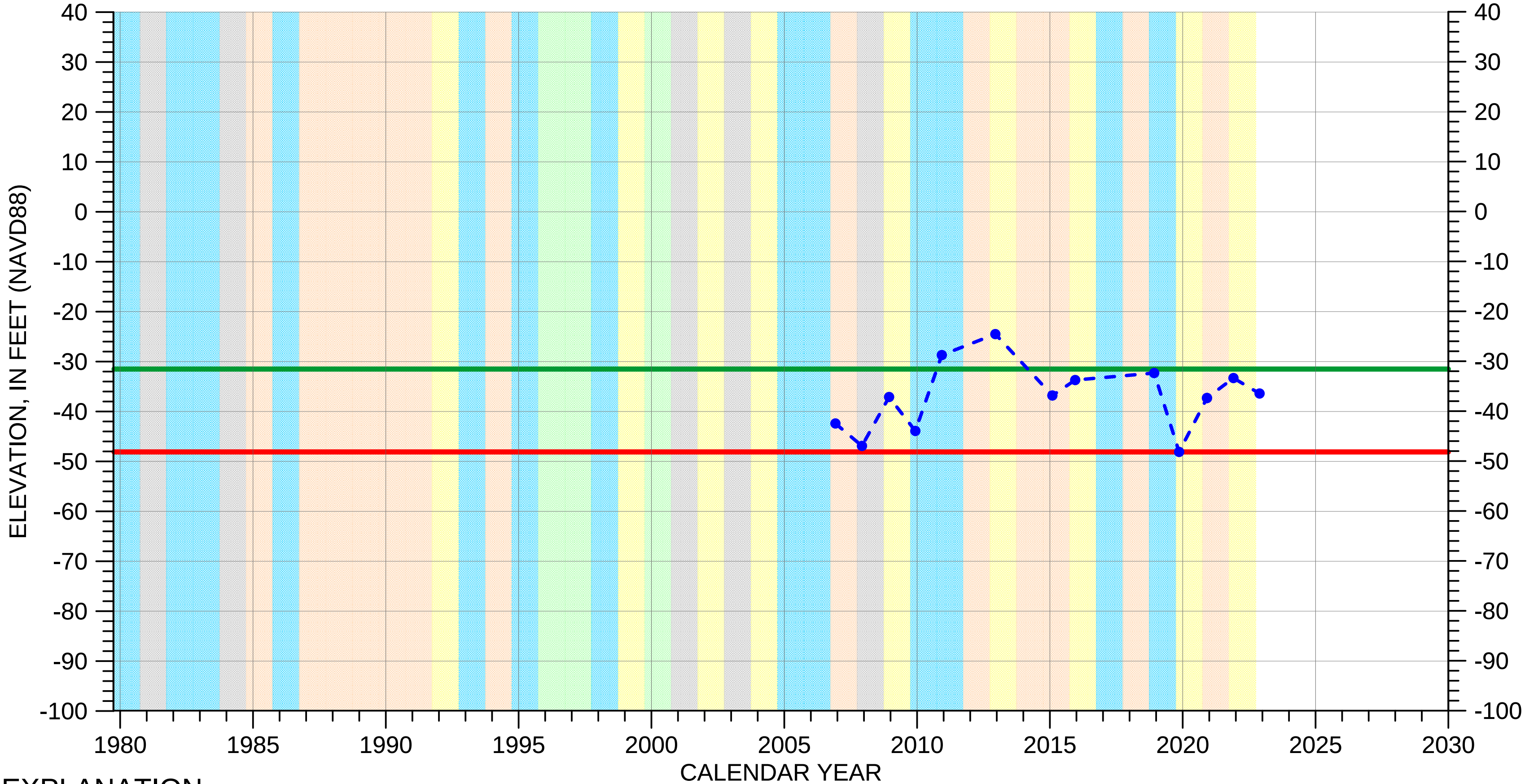
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-08C01

Eastside Aquifer Subbasin

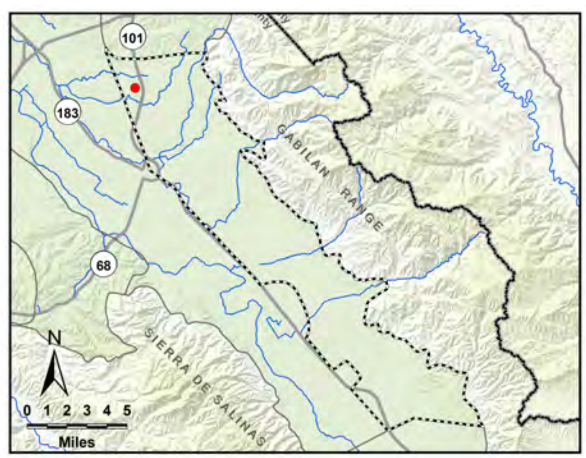


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (110 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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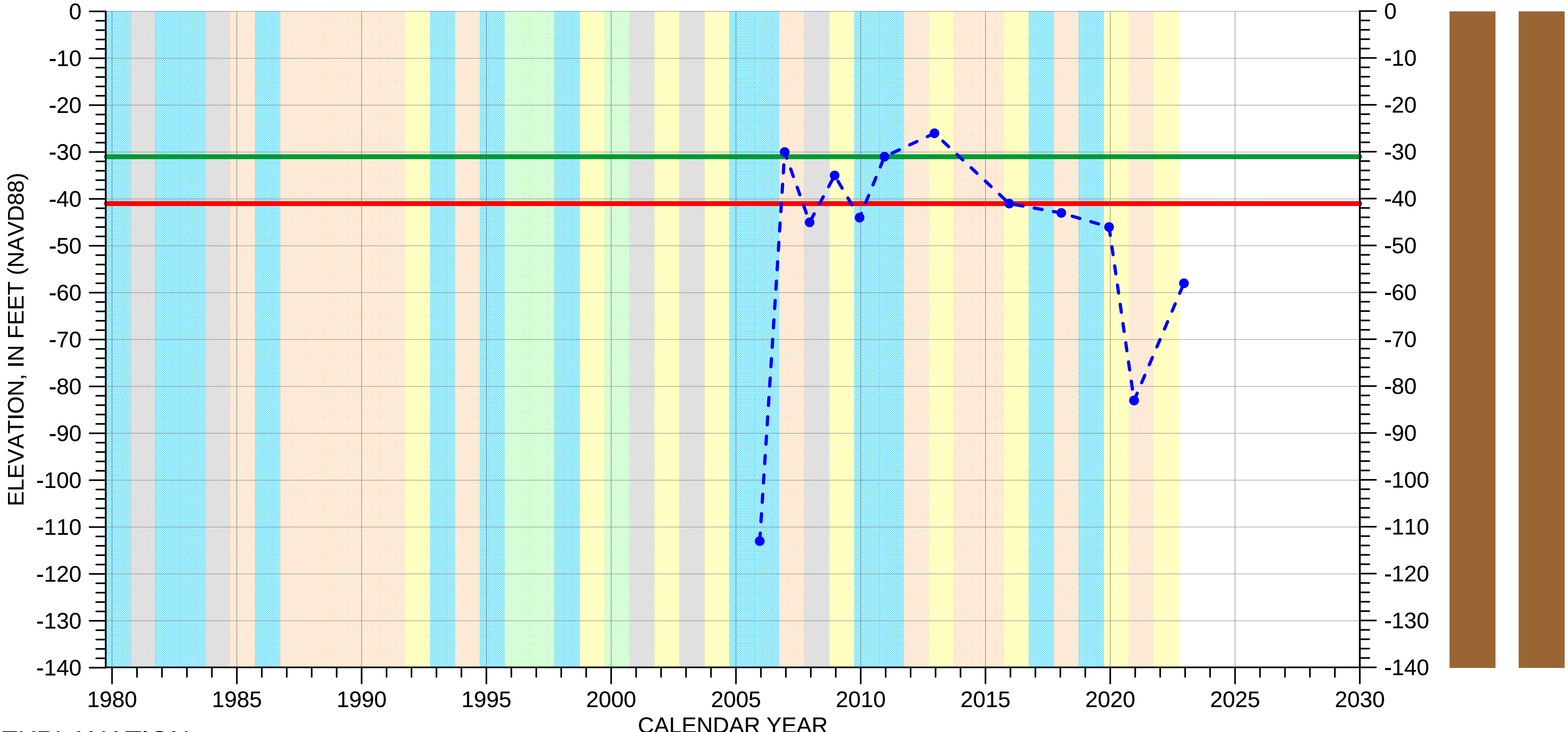
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-08Q03

Eastside Aquifer Subbasin

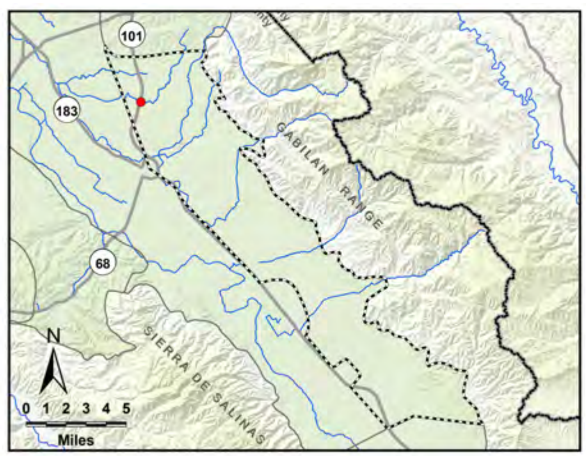


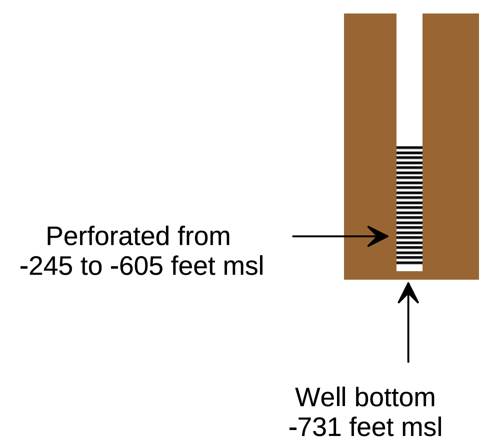
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (75 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

DRY	WET - NORMAL
DRY - NORMAL	WET
NORMAL	

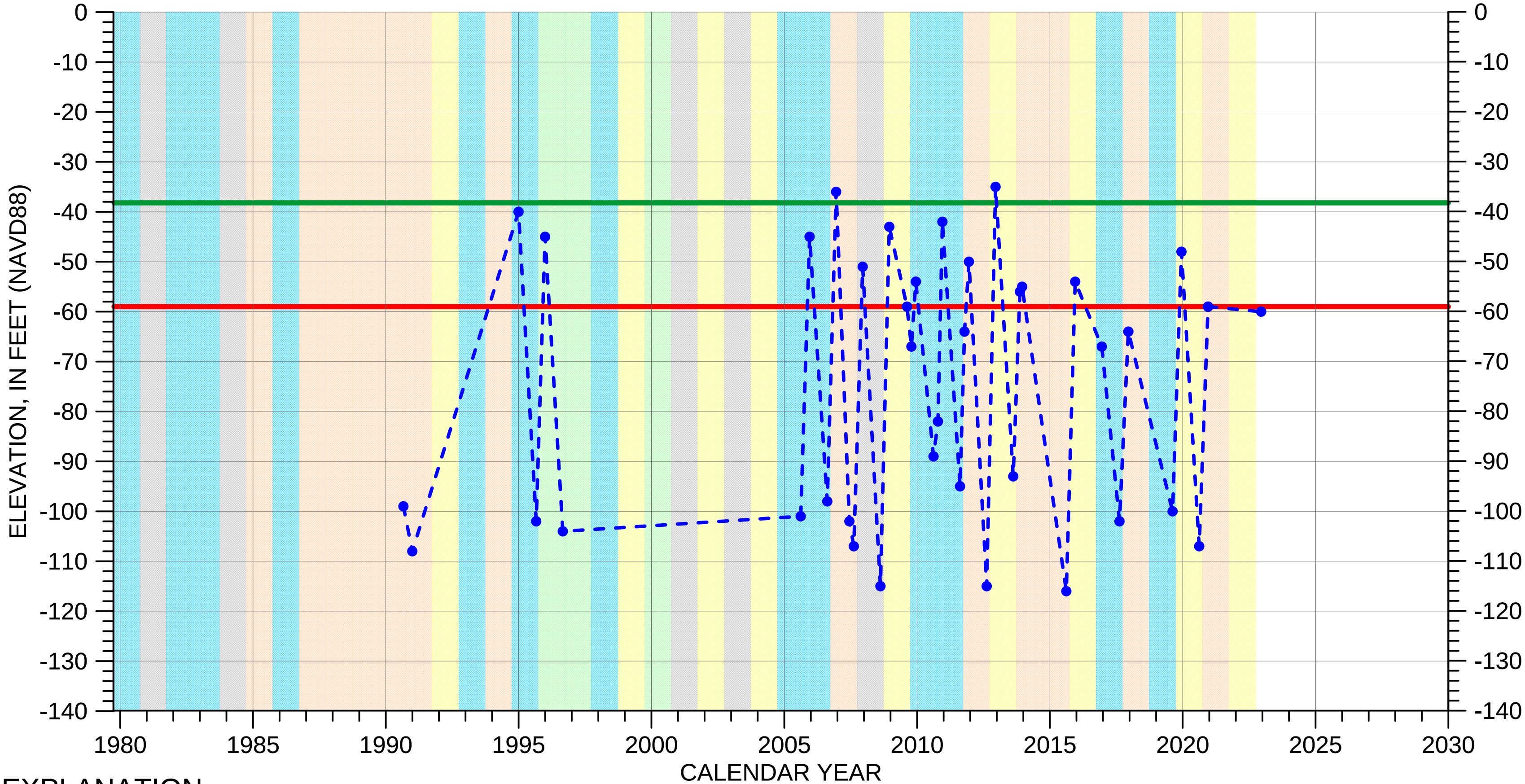




C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\14S_03E-08Q03.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-09E02

Eastside Aquifer Subbasin

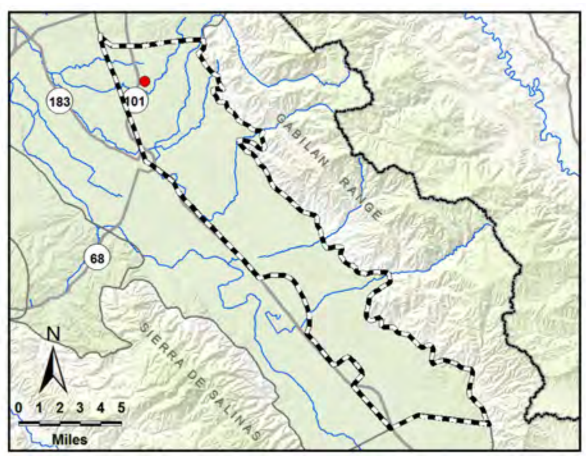


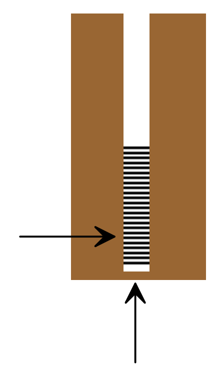
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (121 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





Perforated from
-189 to -509 feet msl

Well bottom
-529 feet msl

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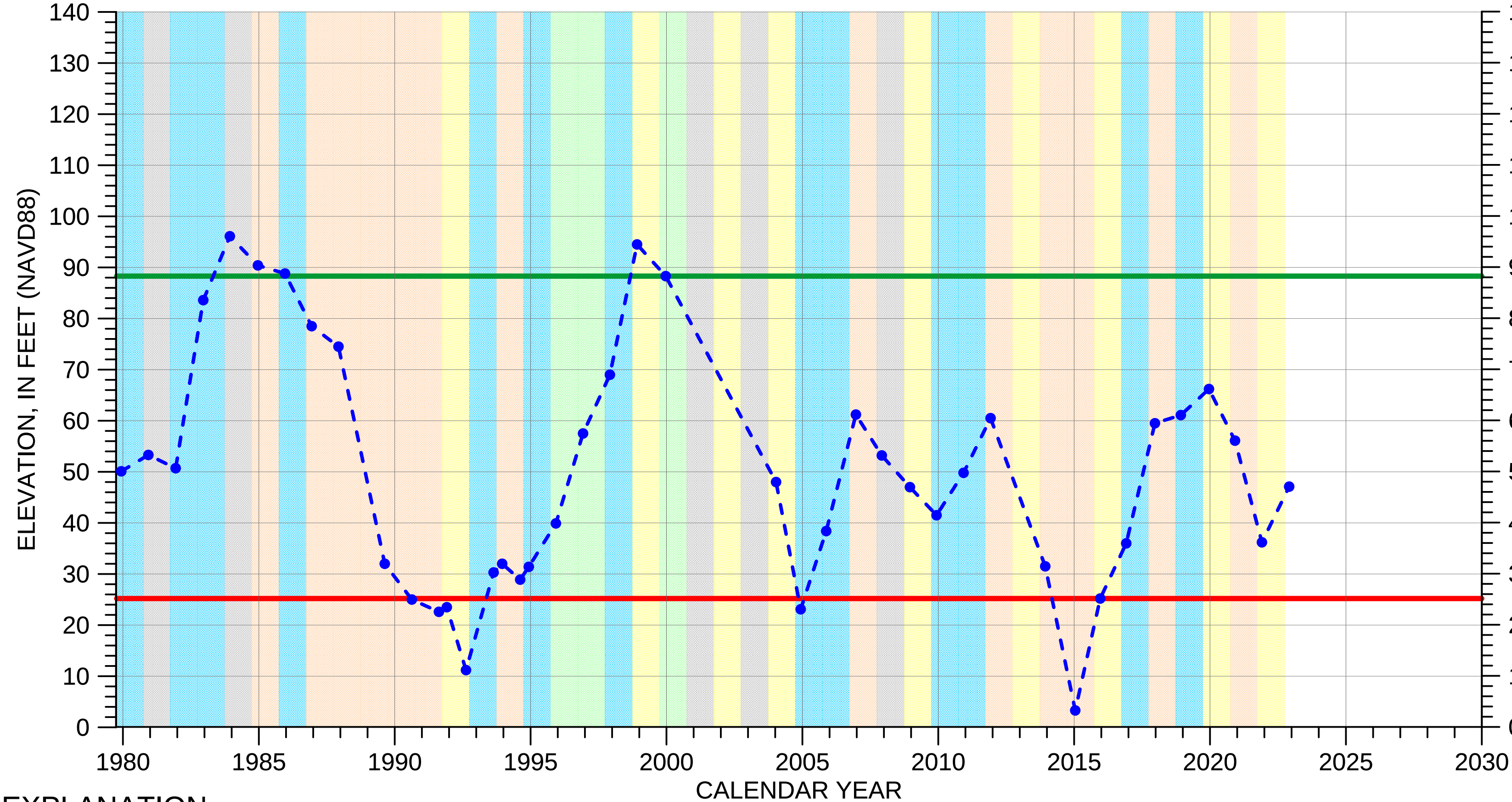
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-11H01

Eastside Aquifer Subbasin

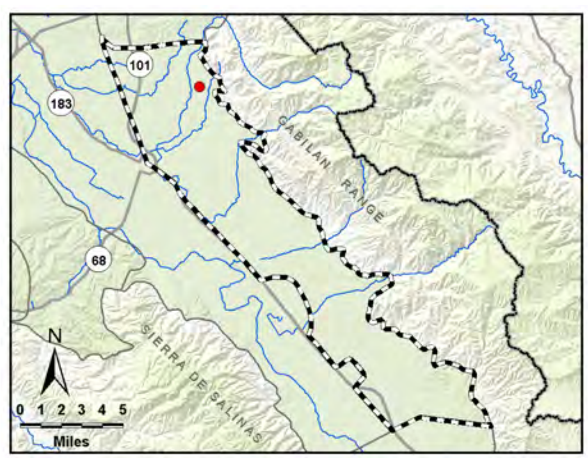


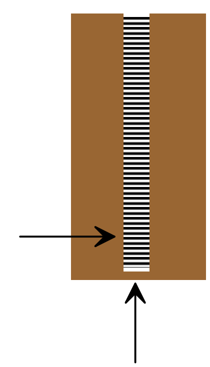
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (142 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





Perforated from
2 to -248 feet msl

Well bottom
-248 feet msl

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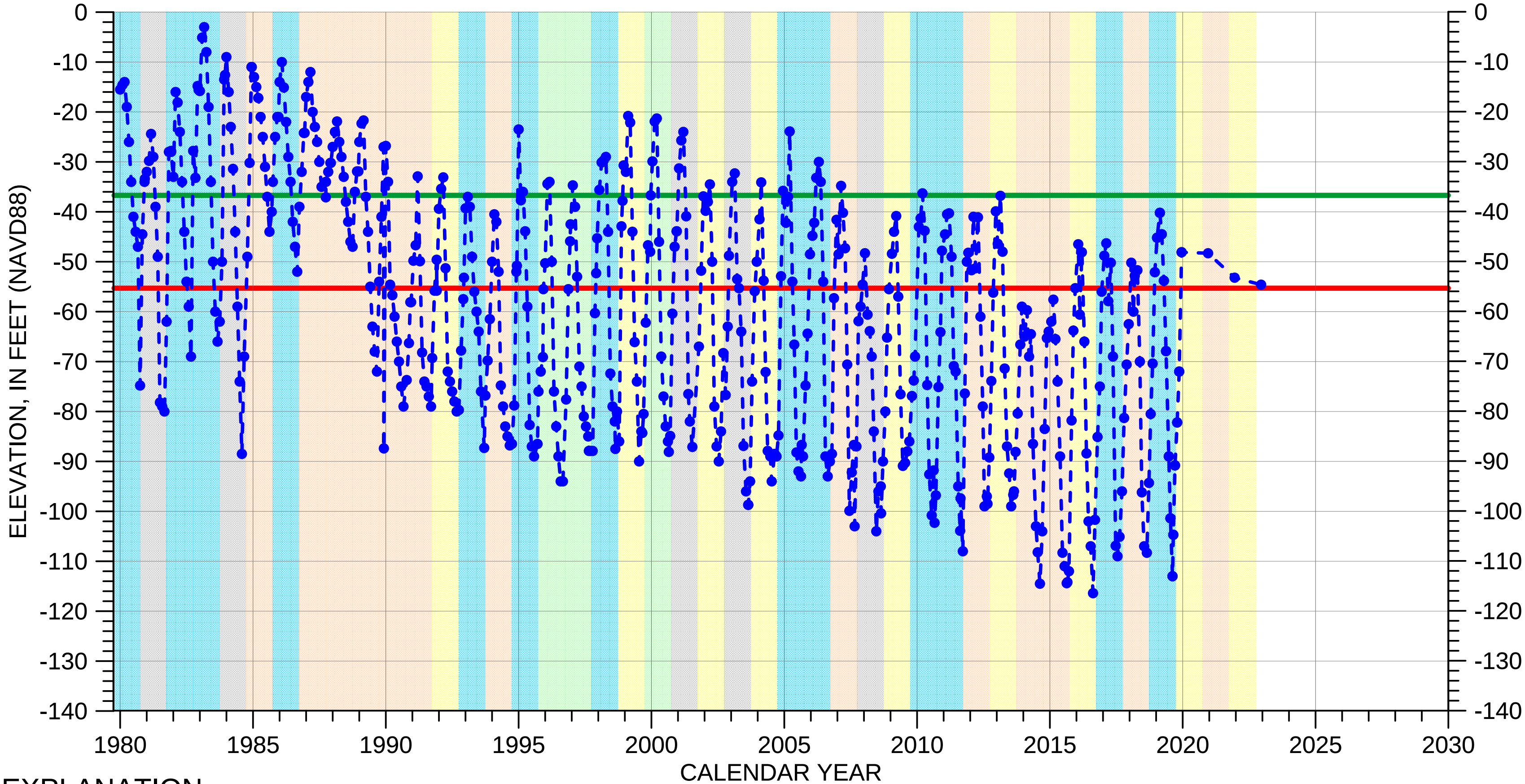
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-15H03 Eastside Aquifer Subbasin

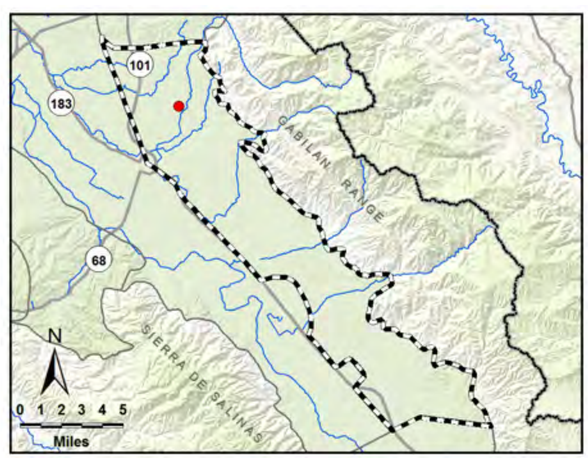


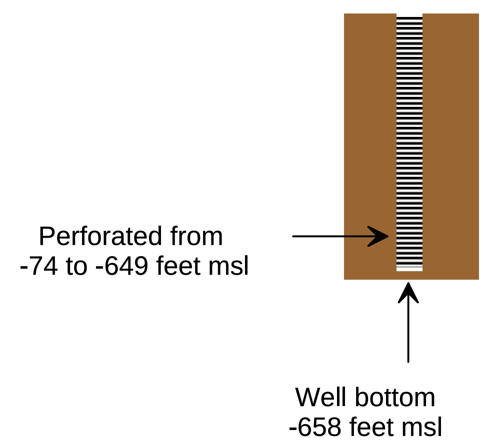
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (126 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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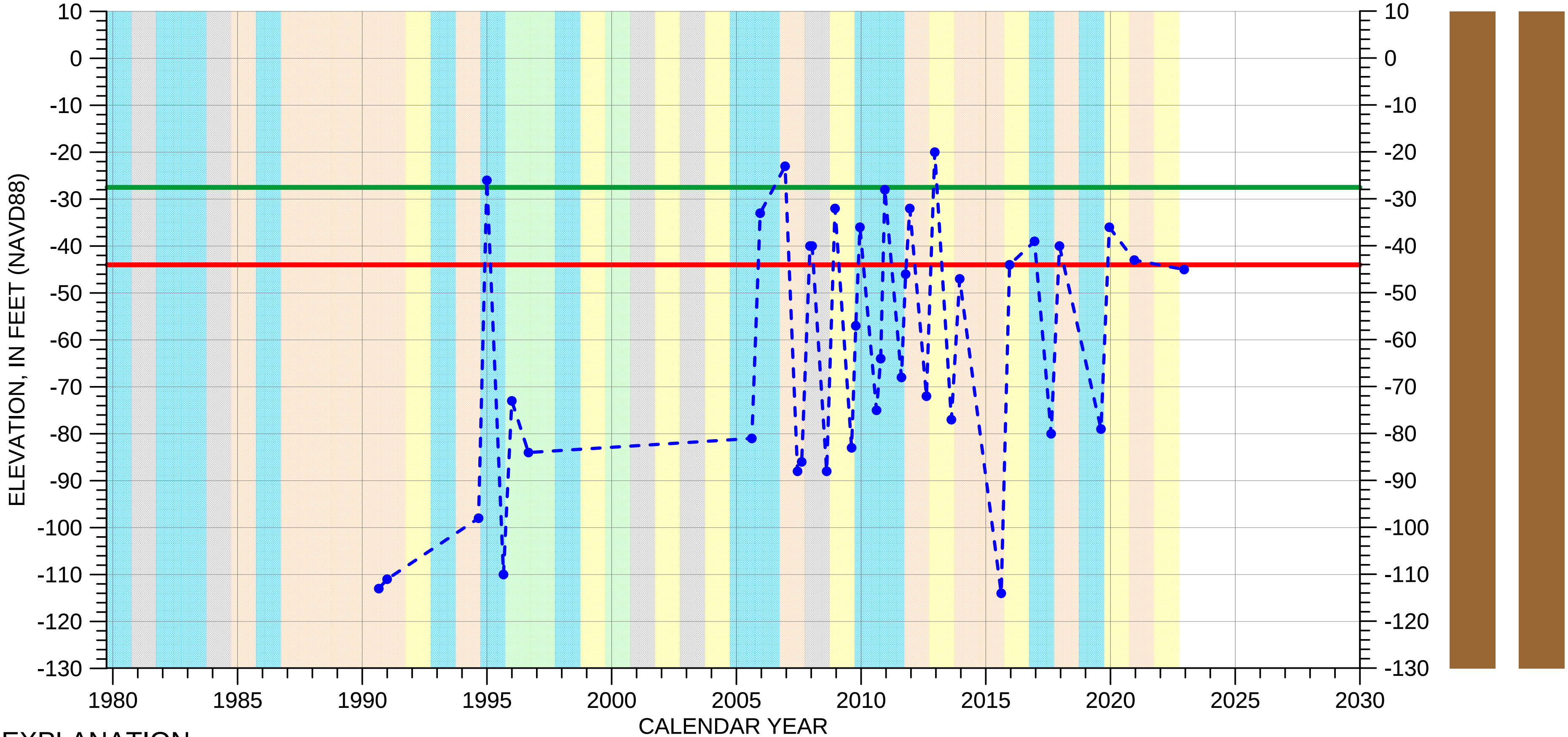
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-17F01

Eastside Aquifer Subbasin

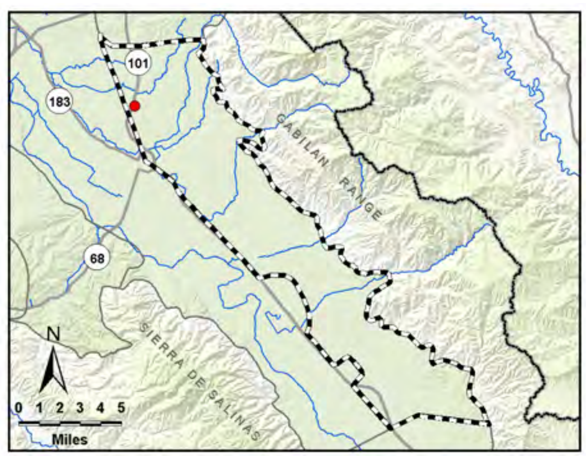


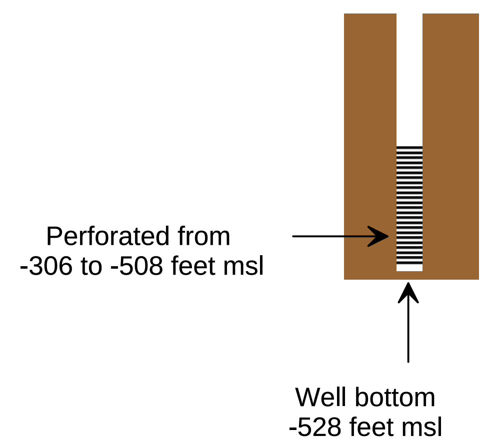
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (92 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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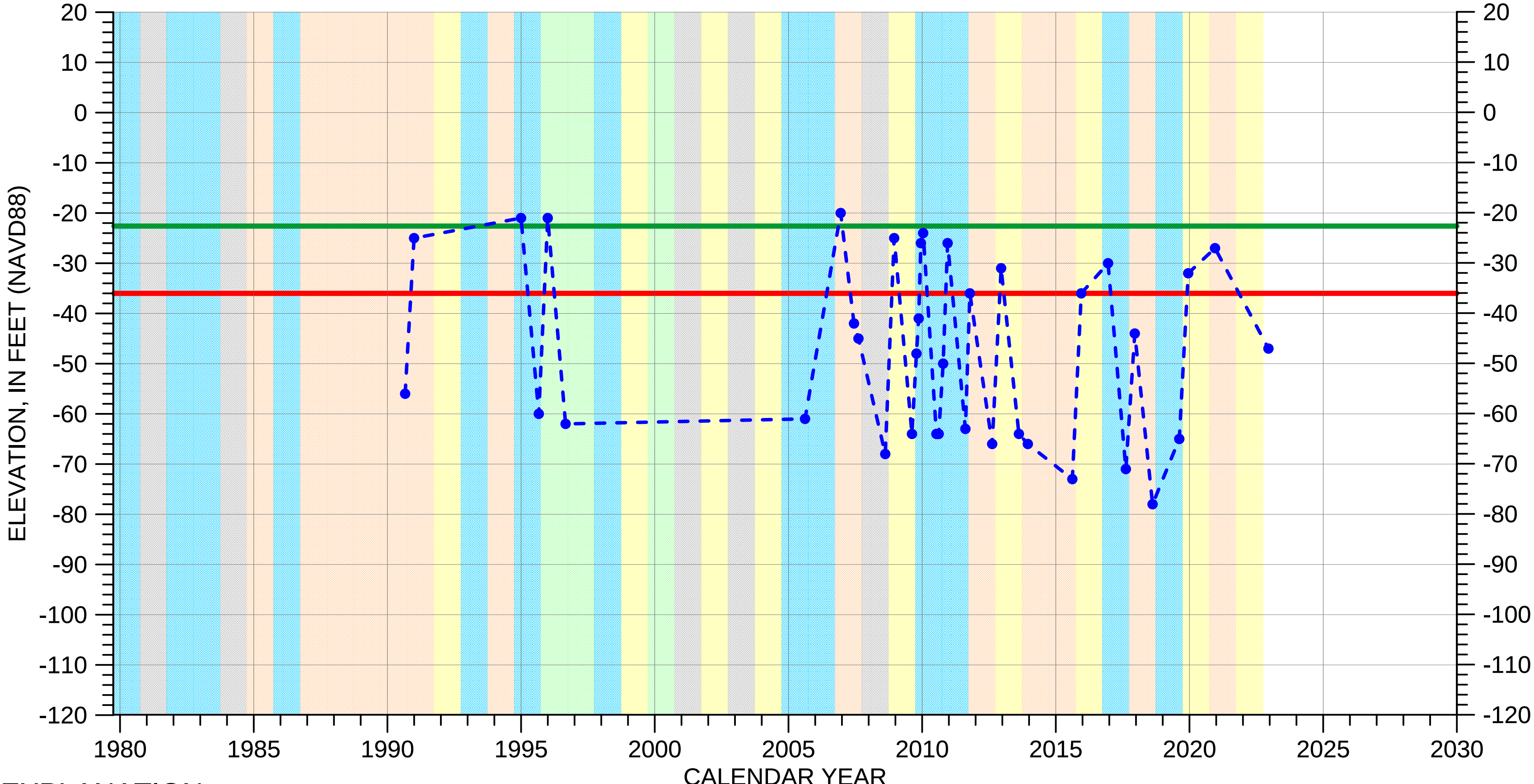
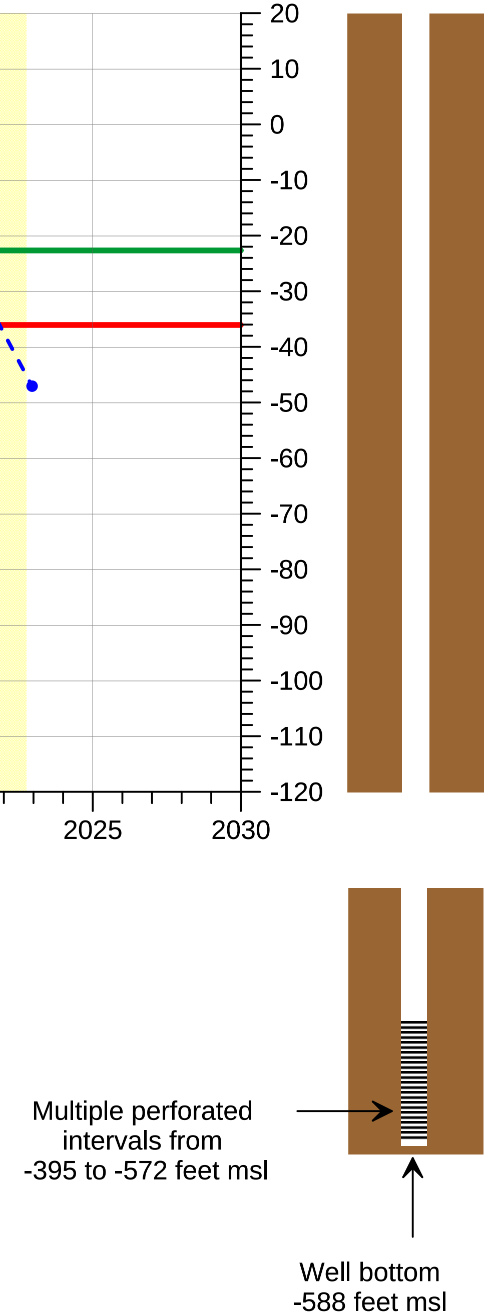
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-21L01

Eastside Aquifer Subbasin



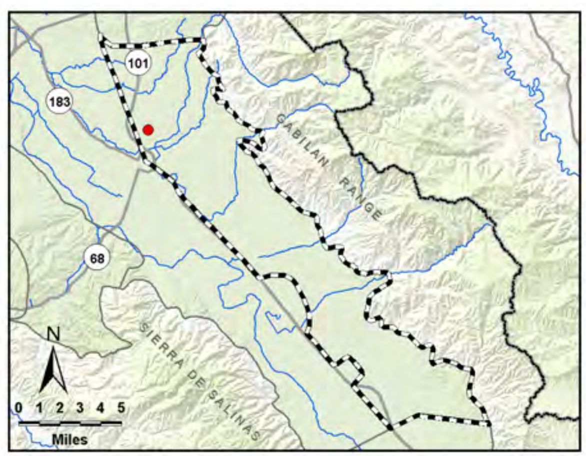


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (80 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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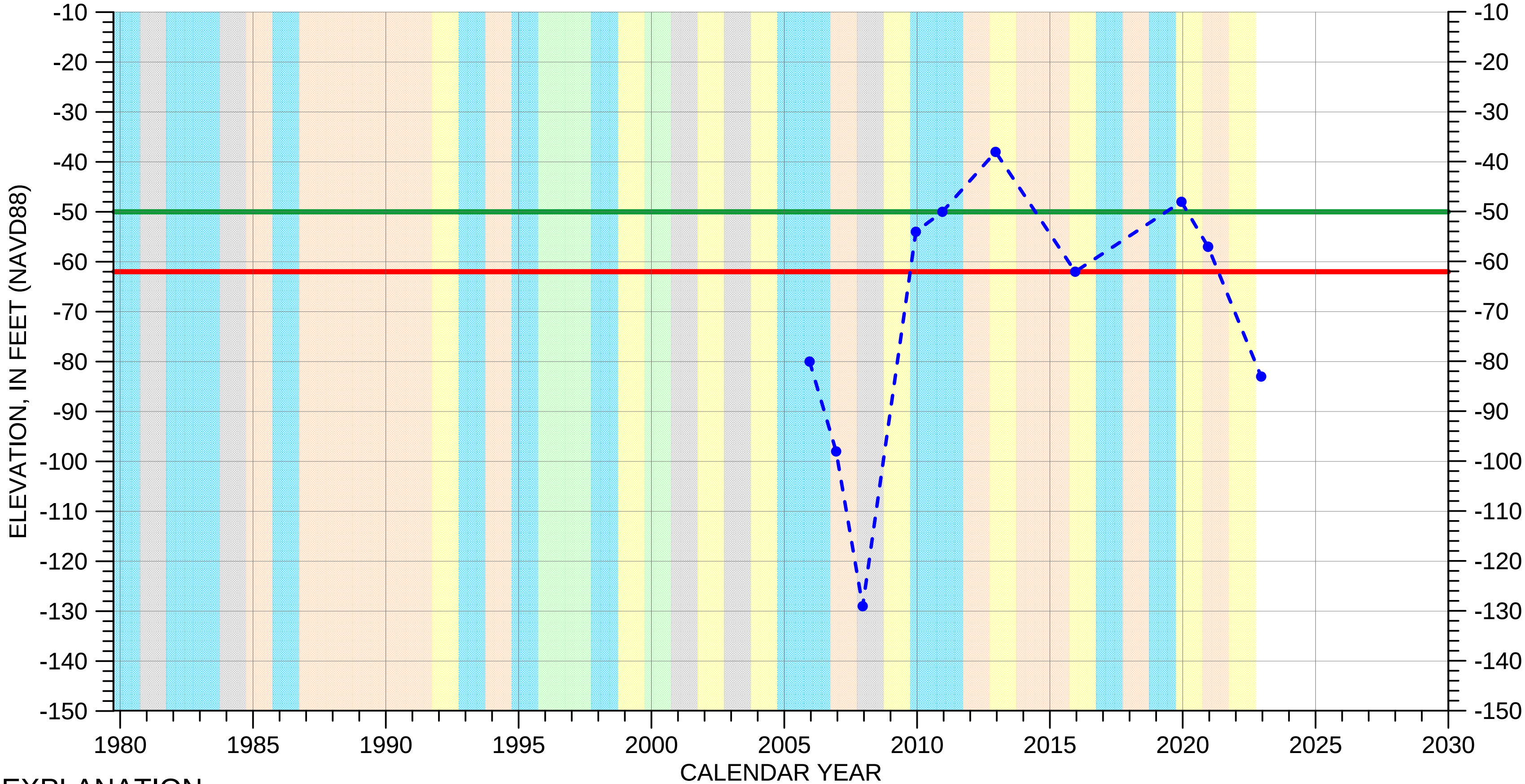
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-22D01

Eastside Aquifer Subbasin

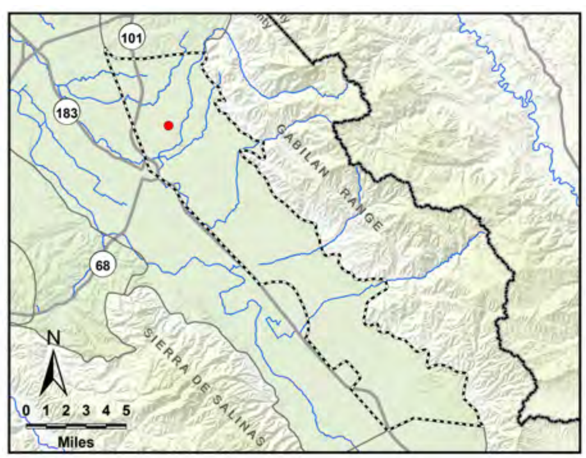


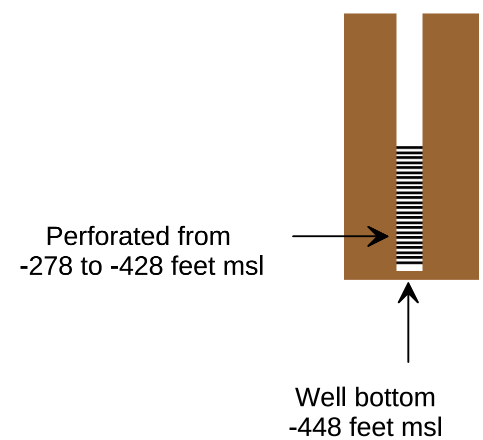
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (102 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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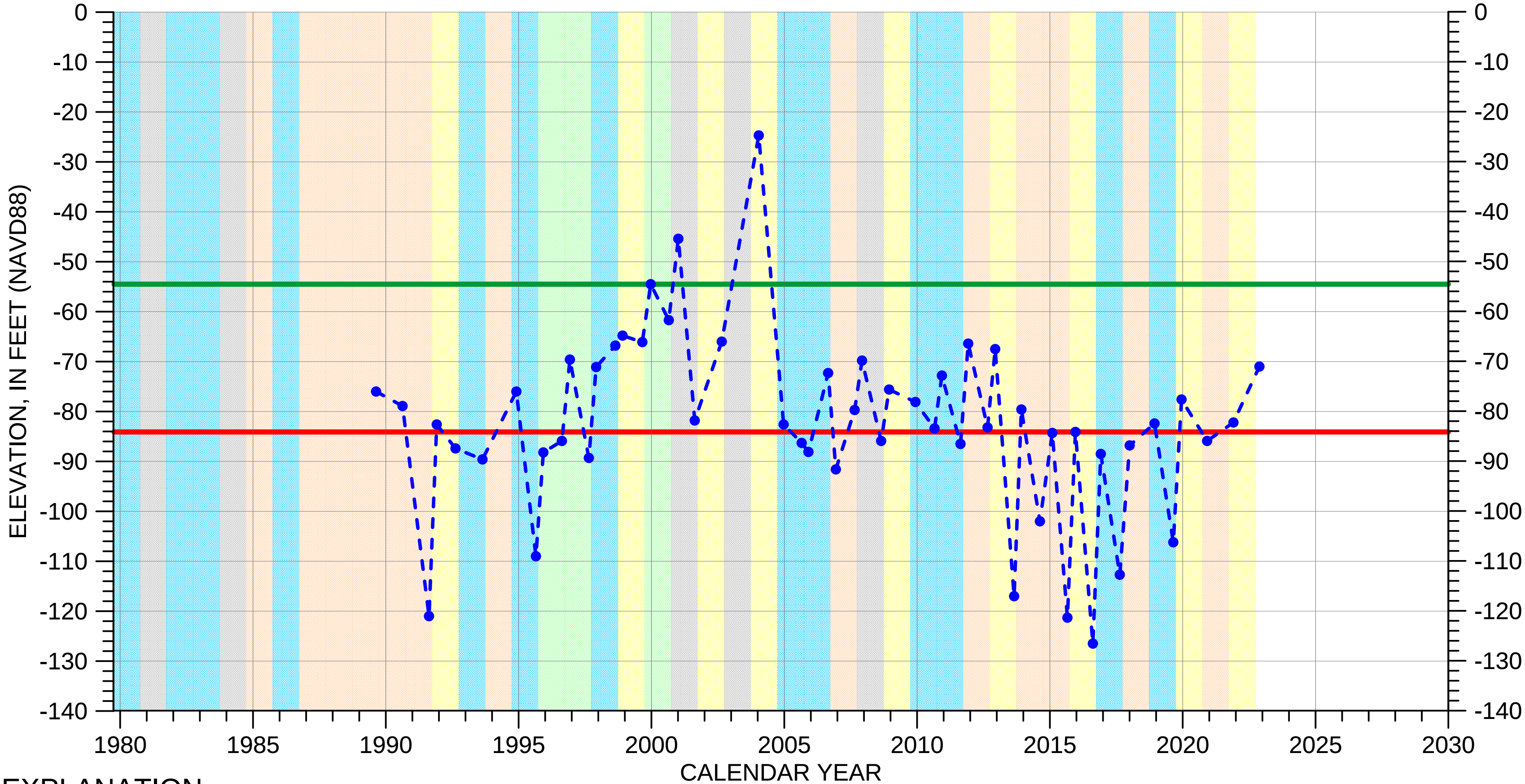
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-24H01

Eastside Aquifer Subbasin

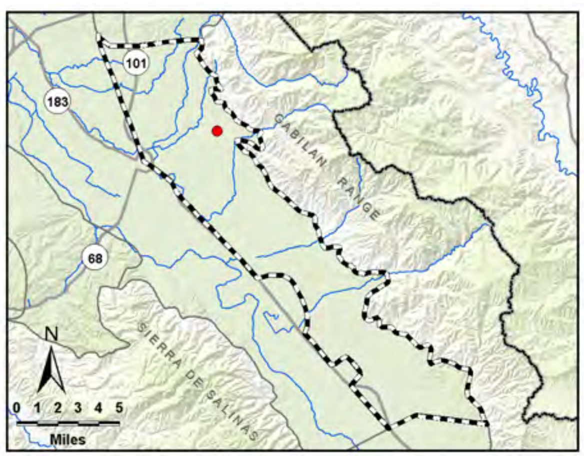


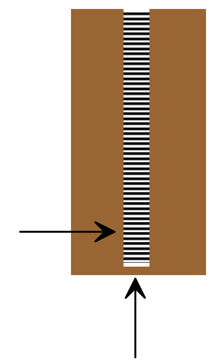
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (156 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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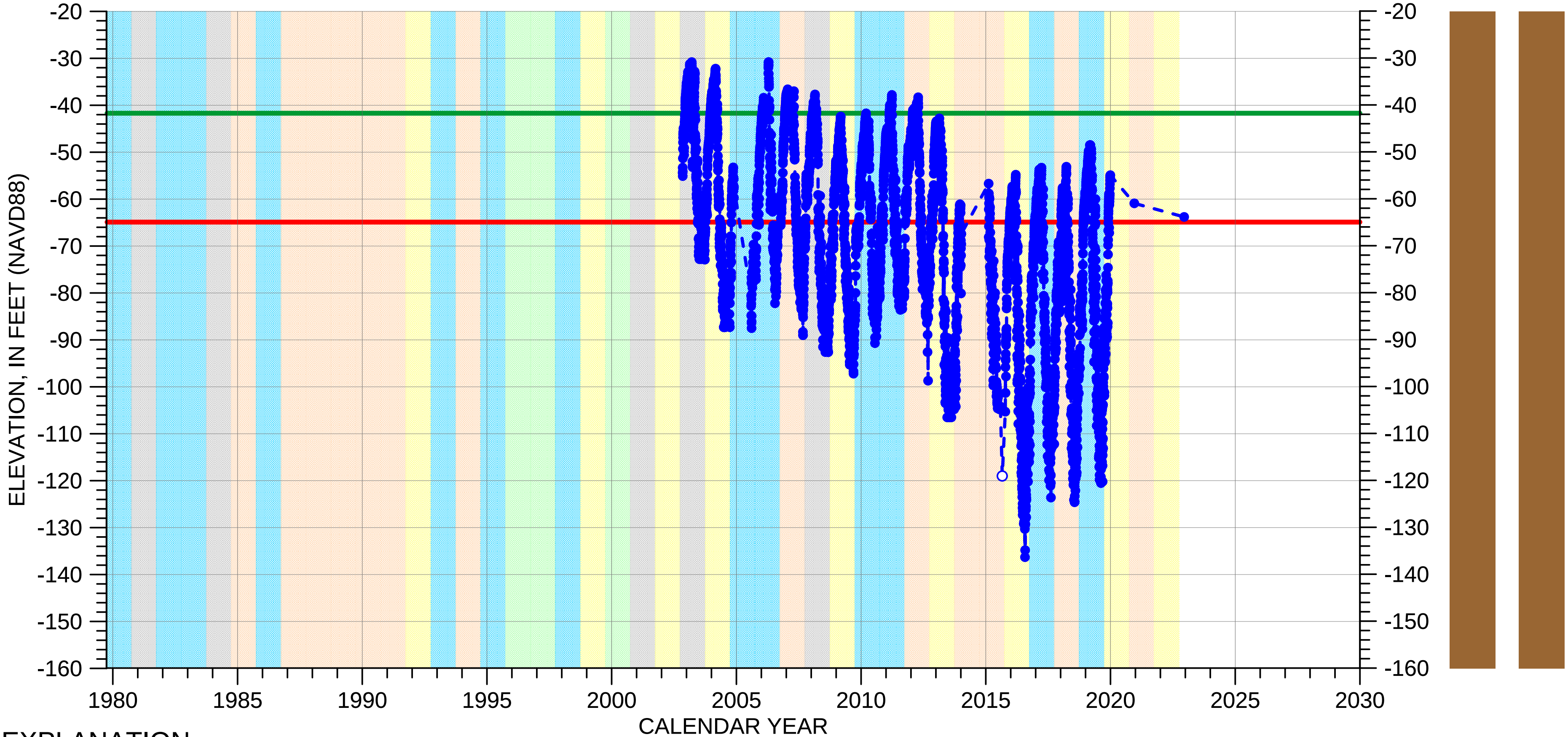
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-25C01

Eastside Aquifer Subbasin

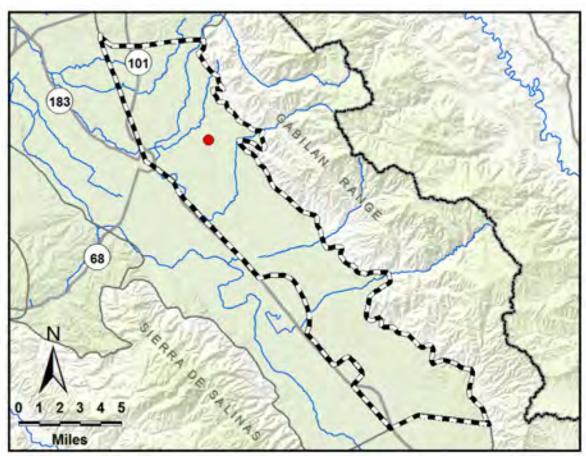


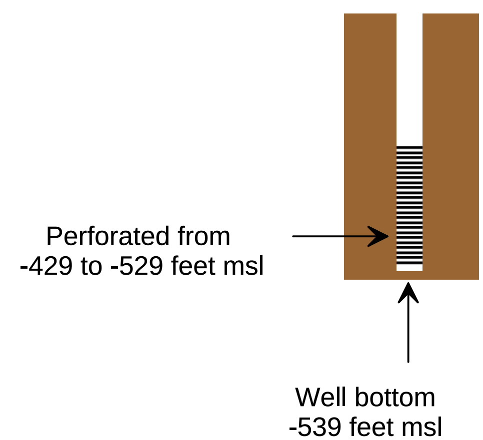
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (141 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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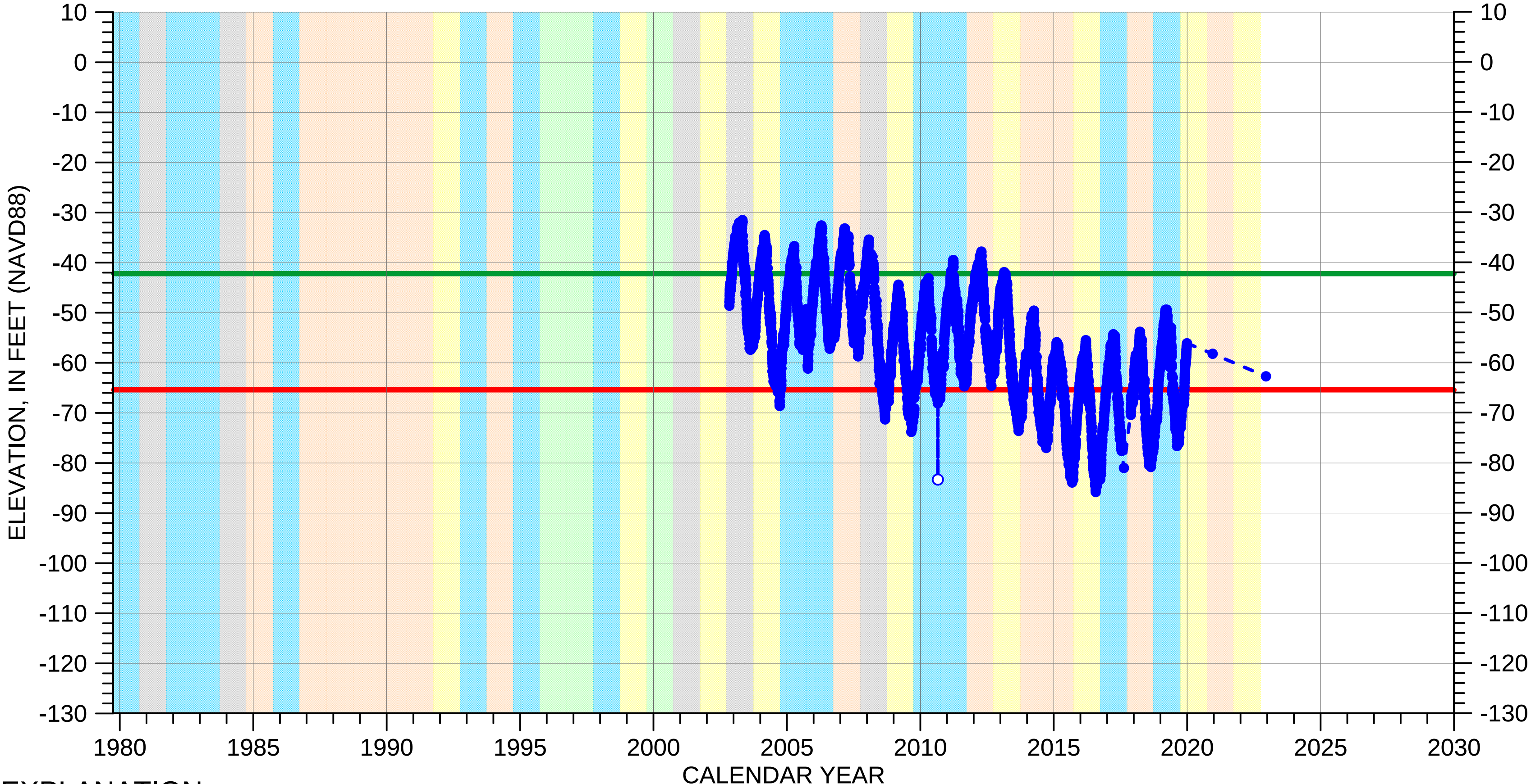
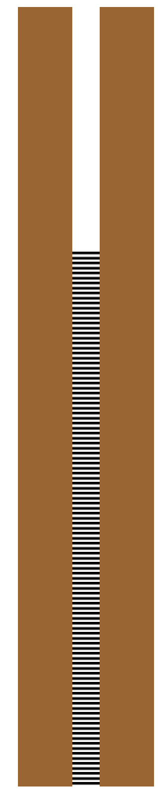
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-25C02

Eastside Aquifer Subbasin



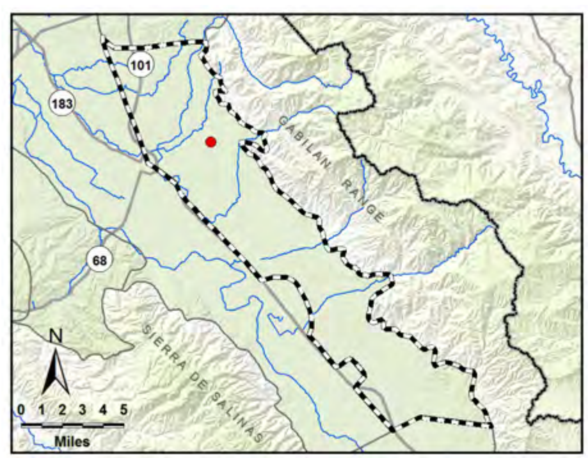


EXPLANATION

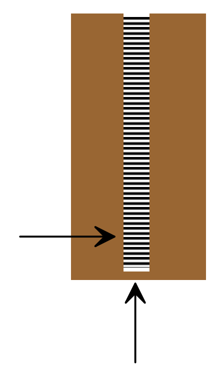
- Groundwater Elevation
- Suspect Measurement
- Land Surface (141 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



Perforated from
-34 to -219 feet msl



Well bottom
-229 feet msl

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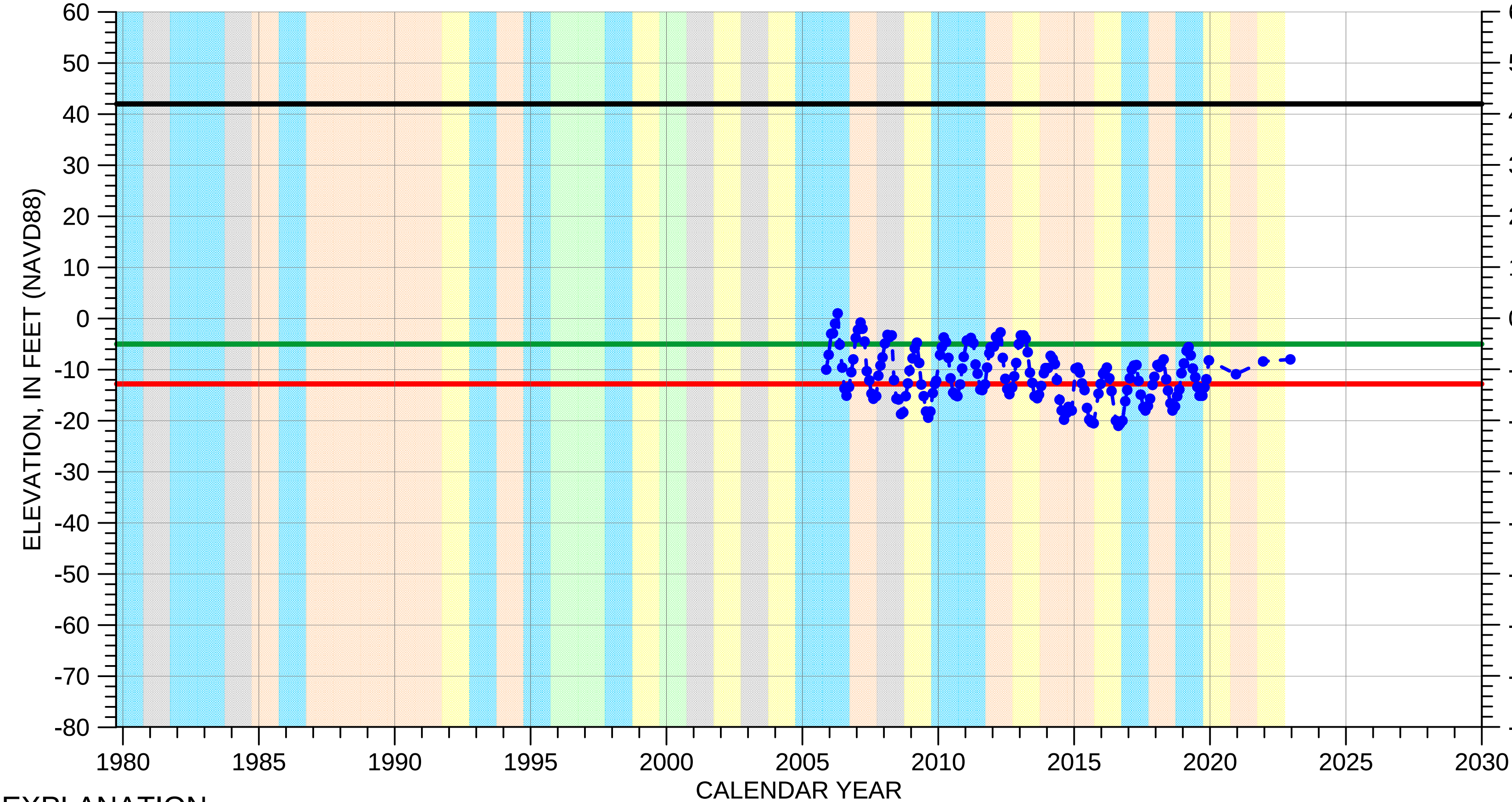
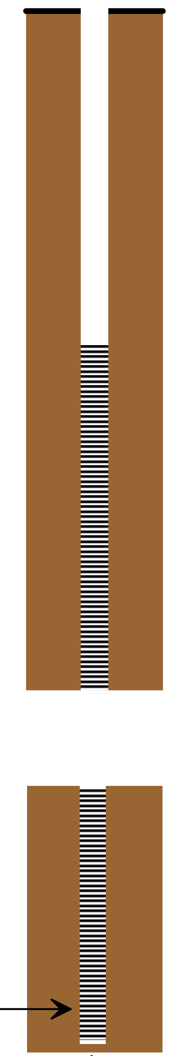
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-27B01

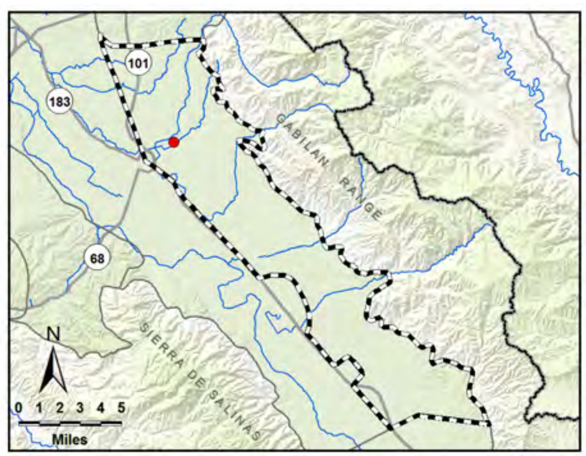
Eastside Aquifer Subbasin





EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold



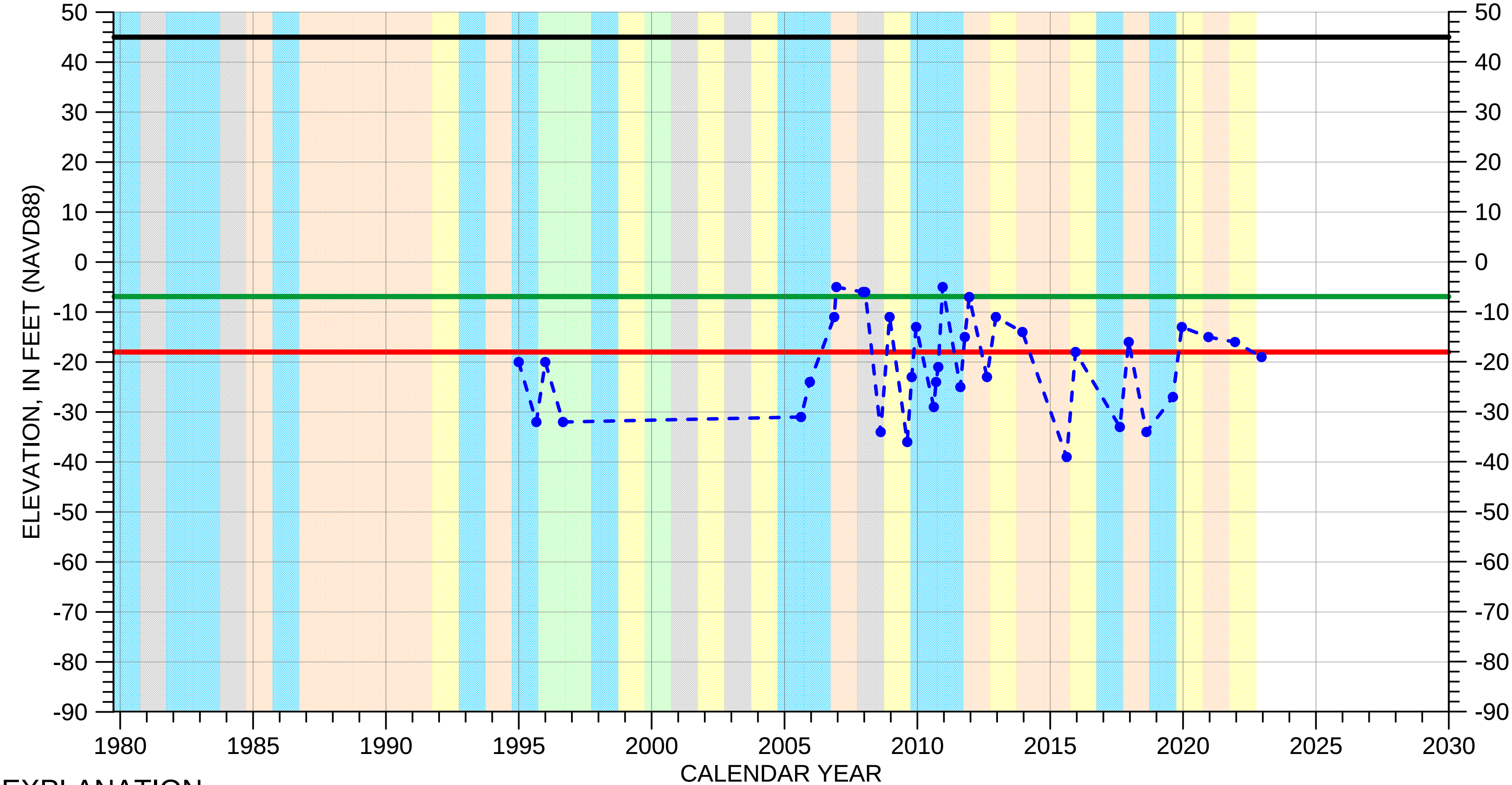
WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\14S_03E-27B01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-33G01

Eastside Aquifer Subbasin

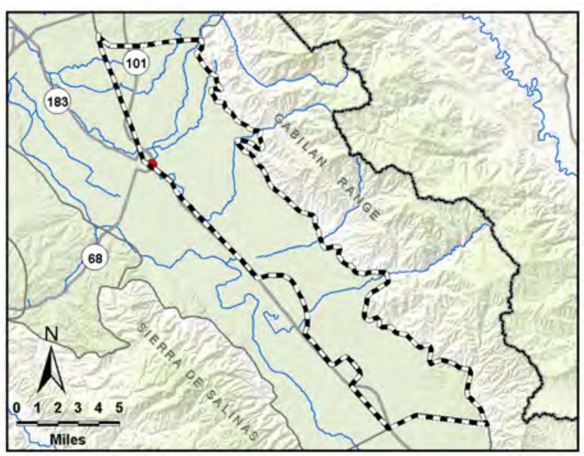


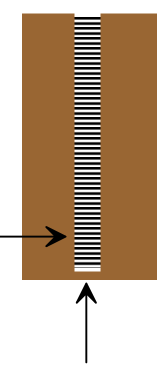
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





Perforated from
-72 to -286 feet msl

Well bottom
-286 feet msl

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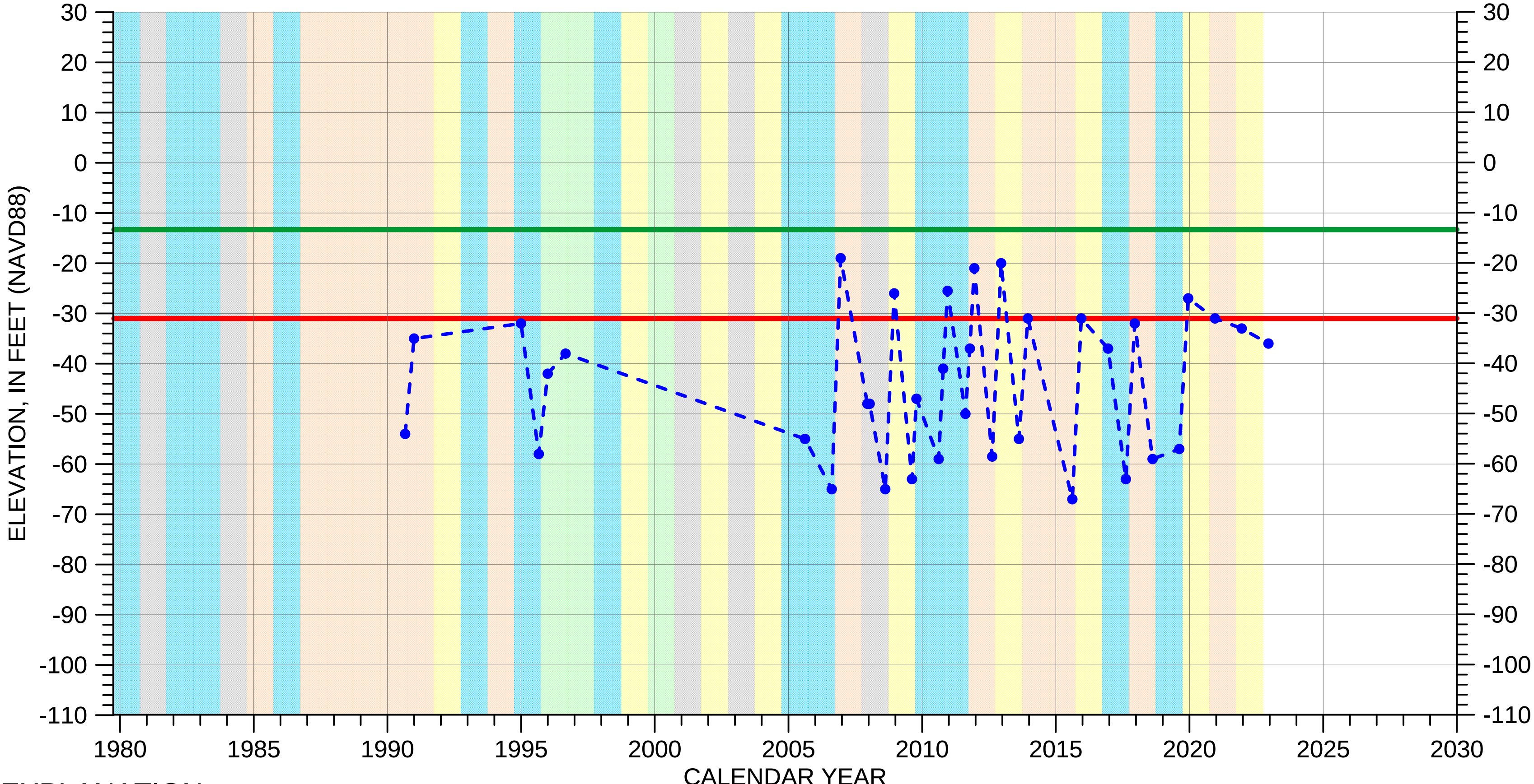
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-34C01

Eastside Aquifer Subbasin

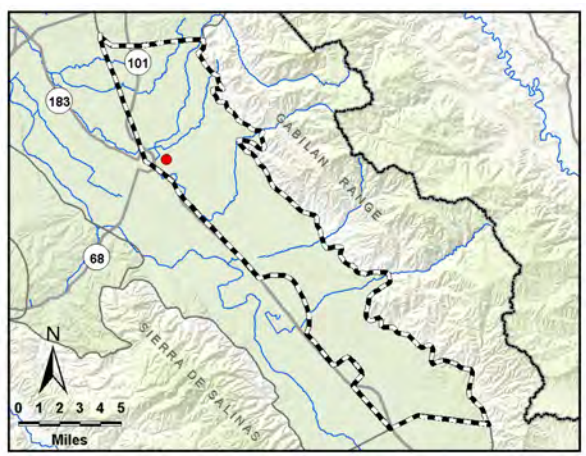


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (67 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



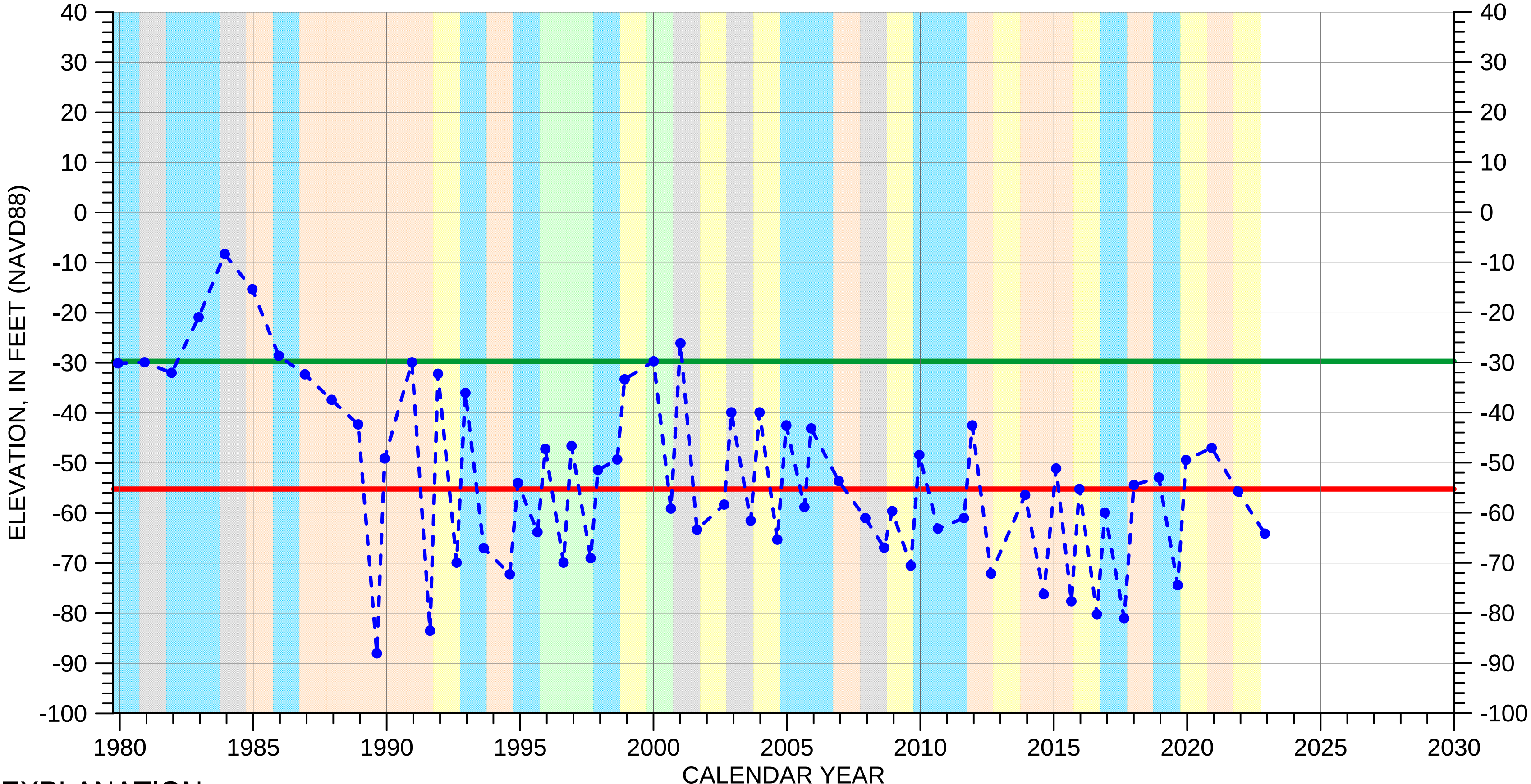
Perforated from
-238 to -493 feet msl

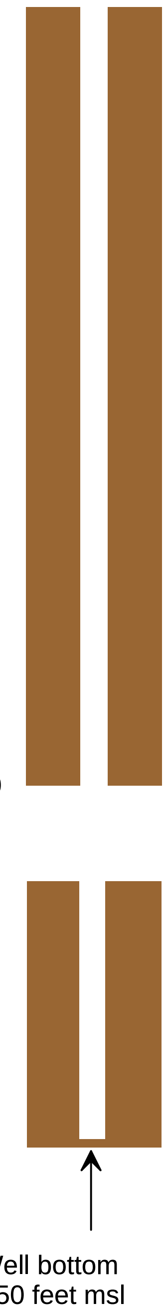
Well bottom
elevation unknown

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\14S_03E-34C01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-36A01

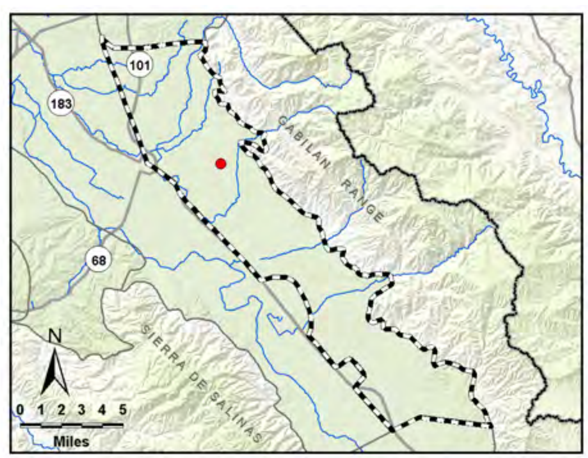
Eastside Aquifer Subbasin





EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (140 FT MSL)
- Measurable Objective
- Minimum Threshold



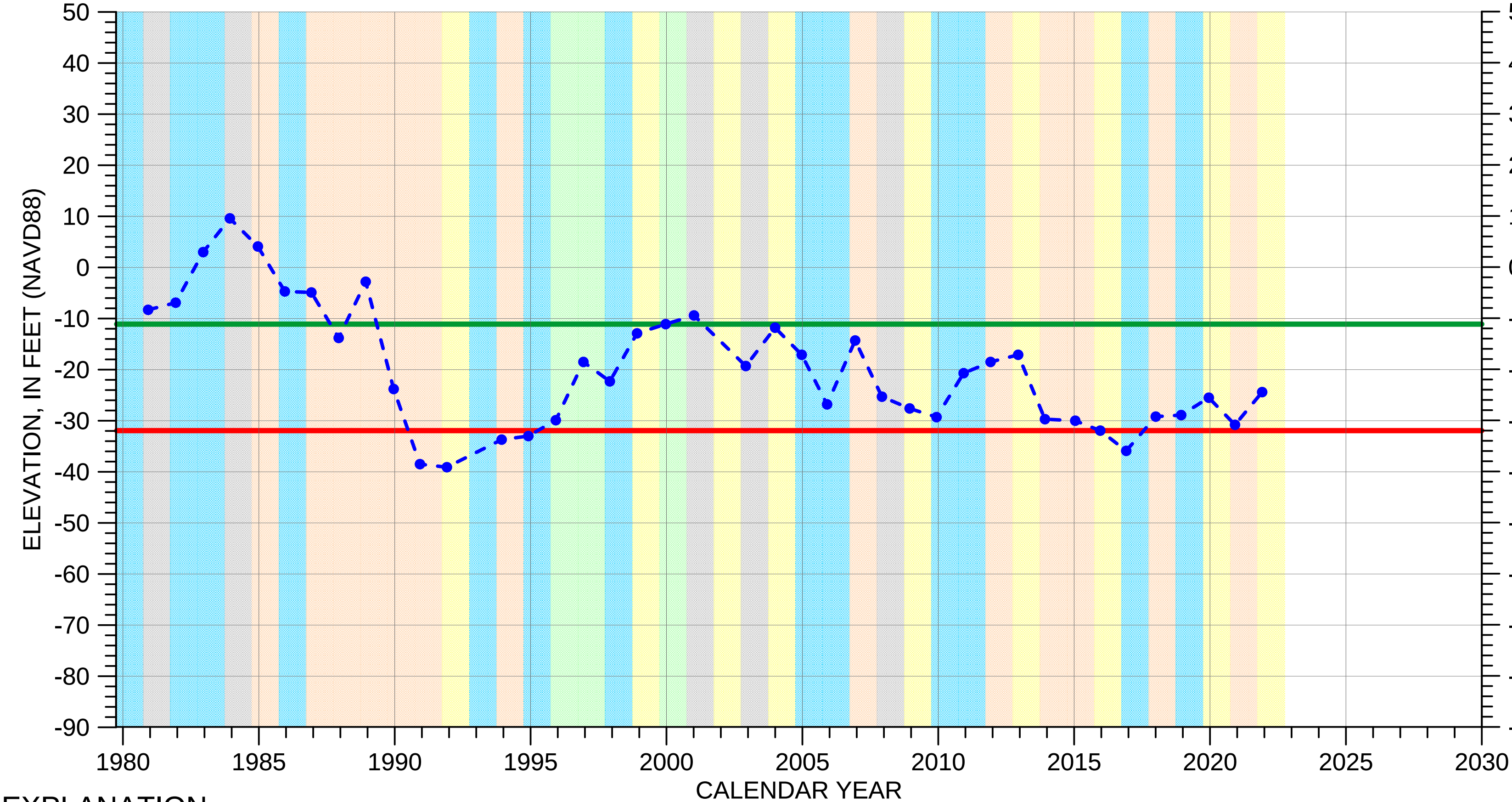
WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\14S_03E-36A01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/03E-36P02

Eastside Aquifer Subbasin

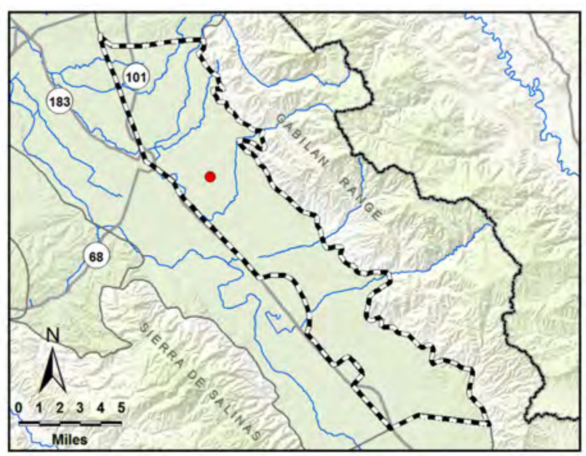


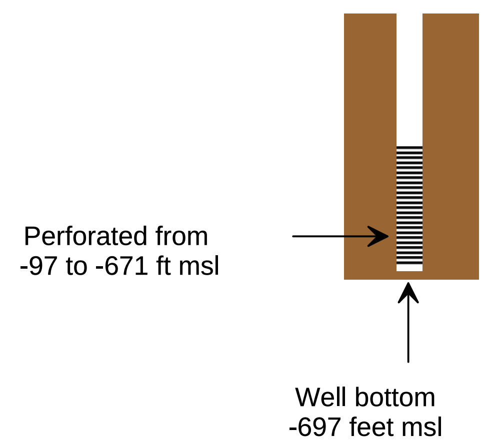
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (103 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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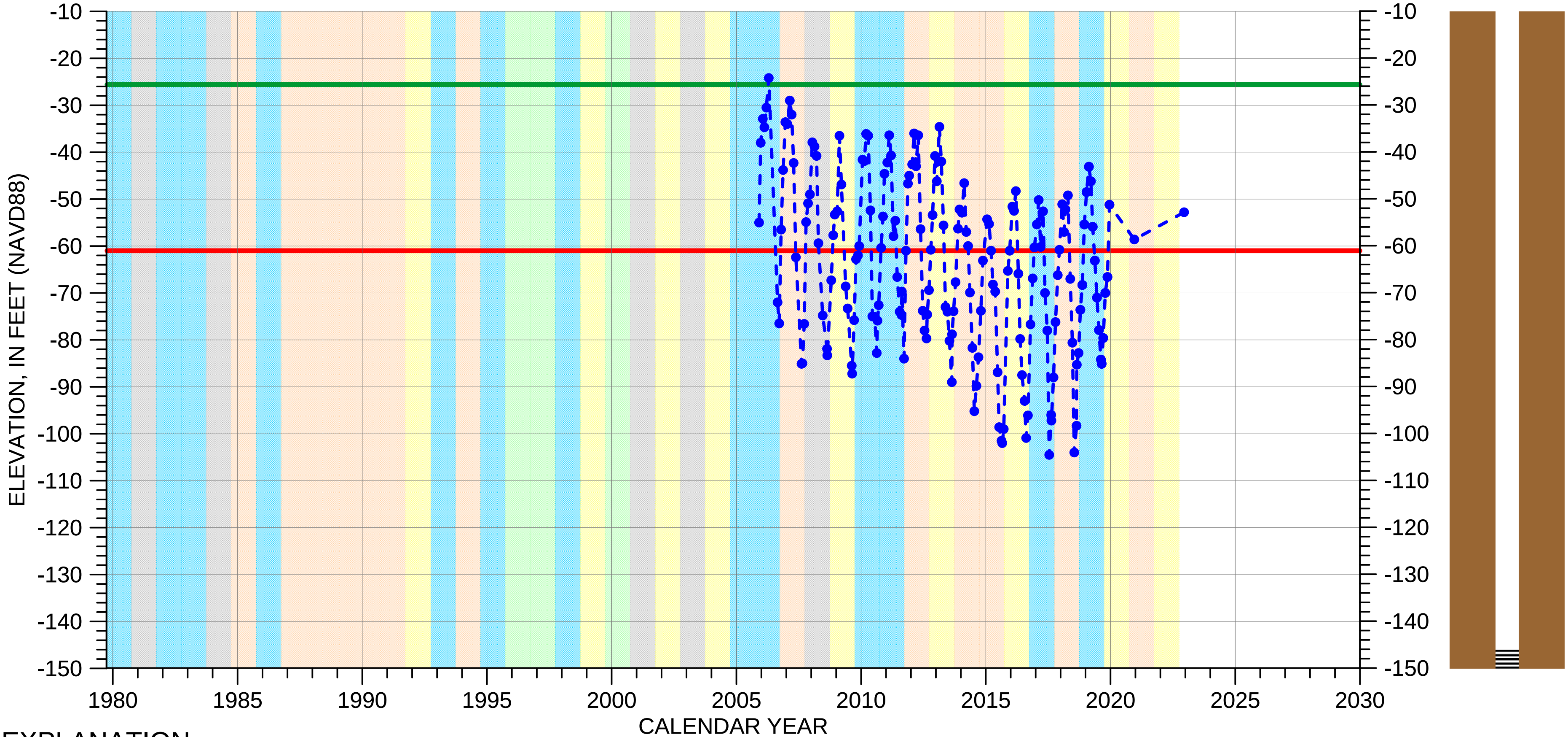
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 14S/04E-31Q02 Eastside Aquifer Subbasin

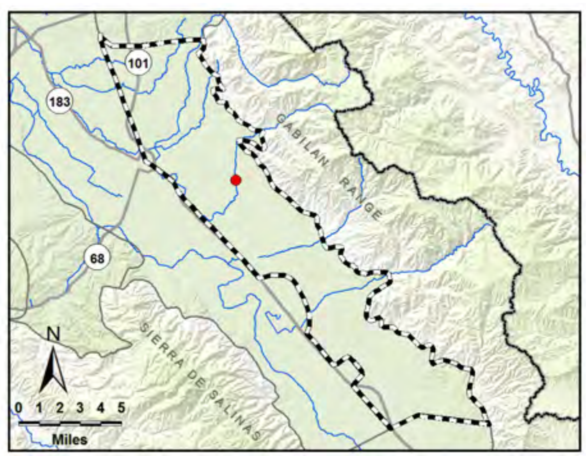


EXPLANATION

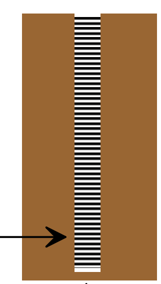
- Groundwater Elevation
- Suspect Measurement
- Land Surface (104 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



Multiple perforated intervals from -146 to -606 feet msl



Well bottom -606 feet msl

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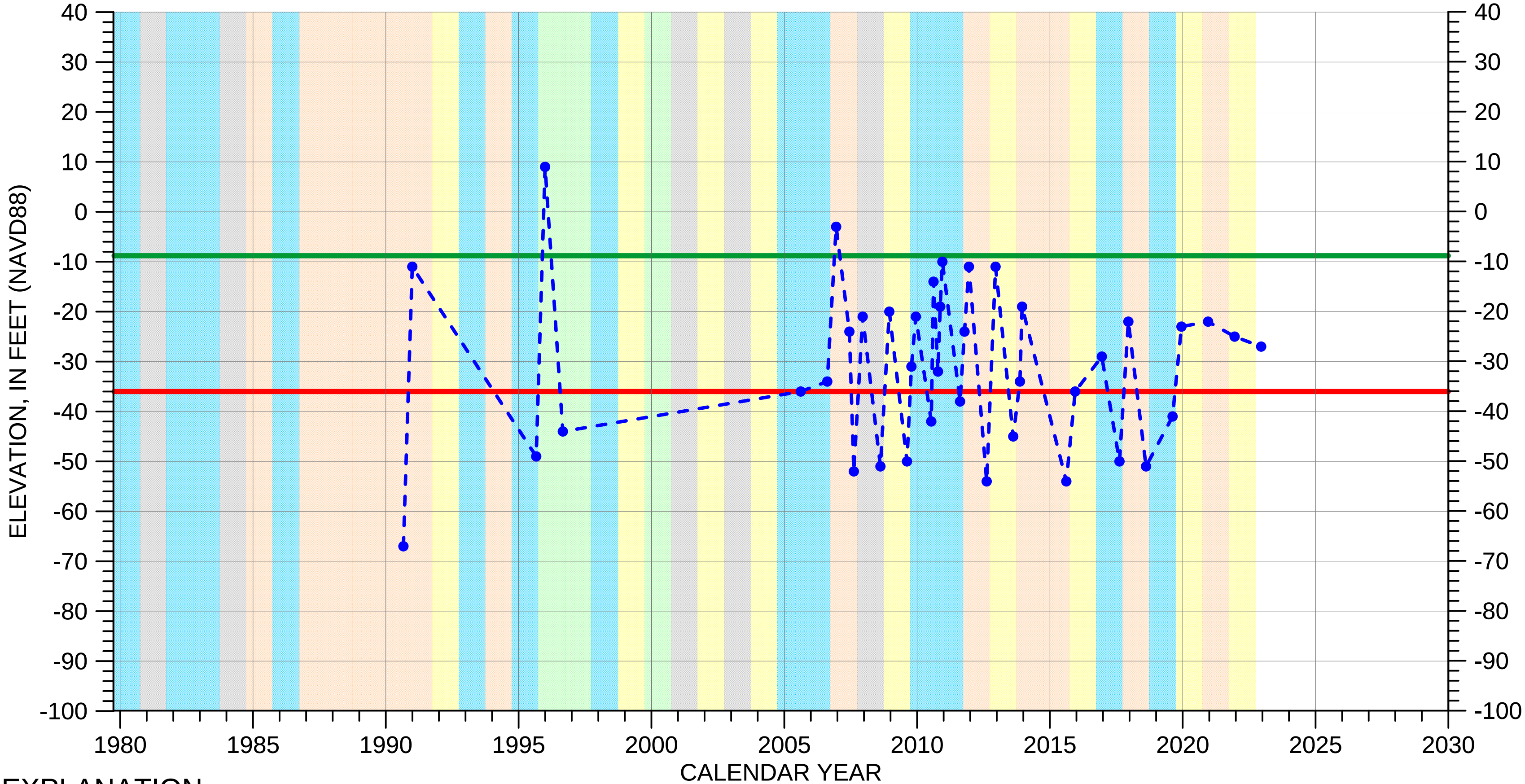
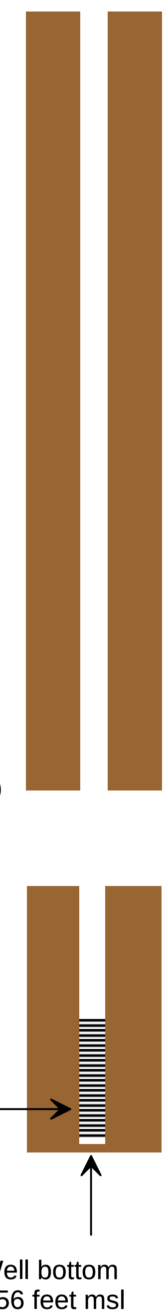
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/03E-02G01

Eastside Aquifer Subbasin





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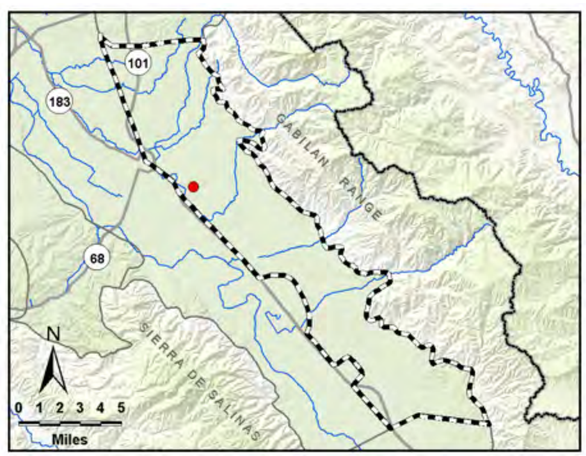
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (74 FT MSL)
- Measurable Objective
- Minimum Threshold

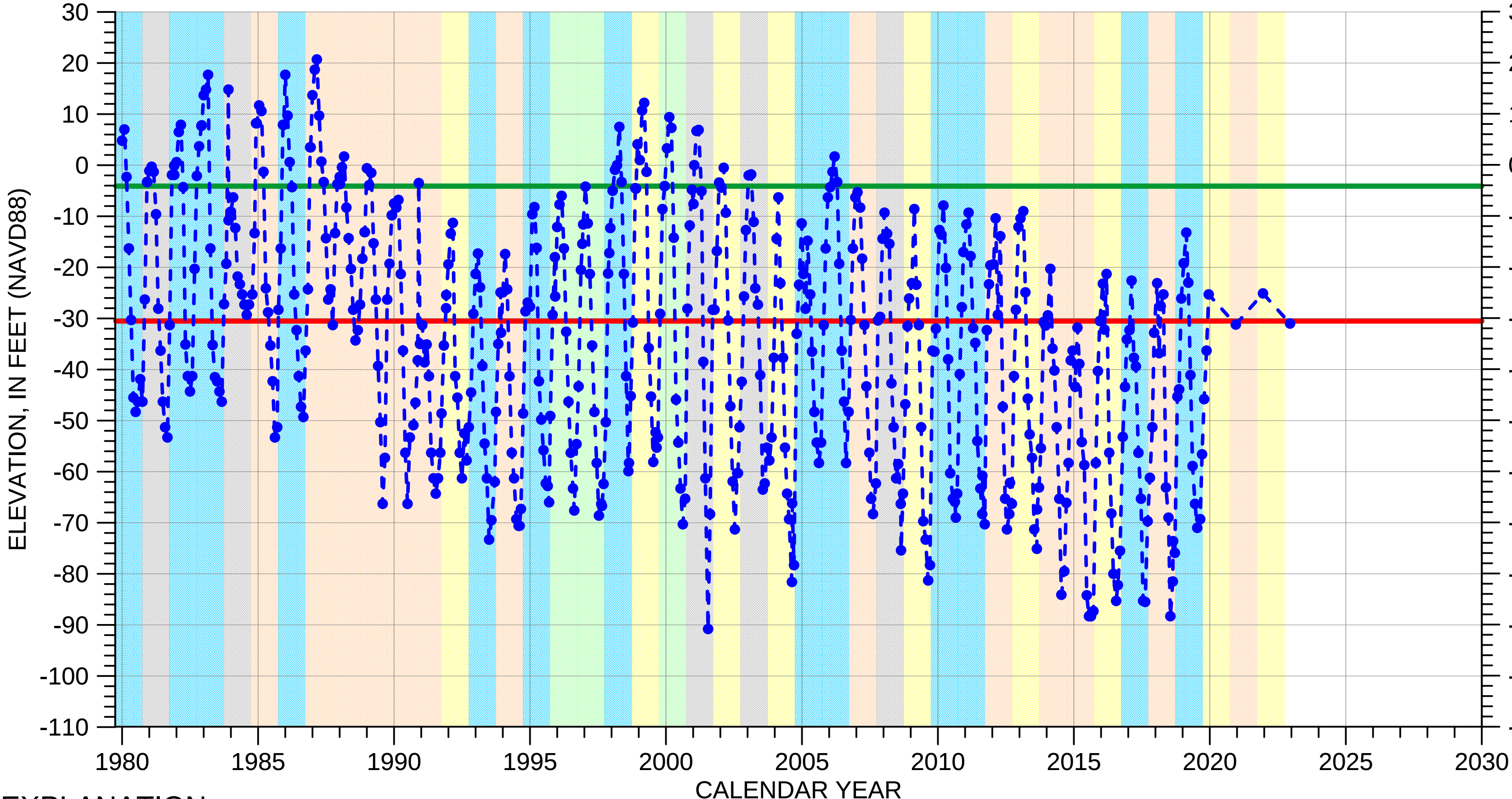


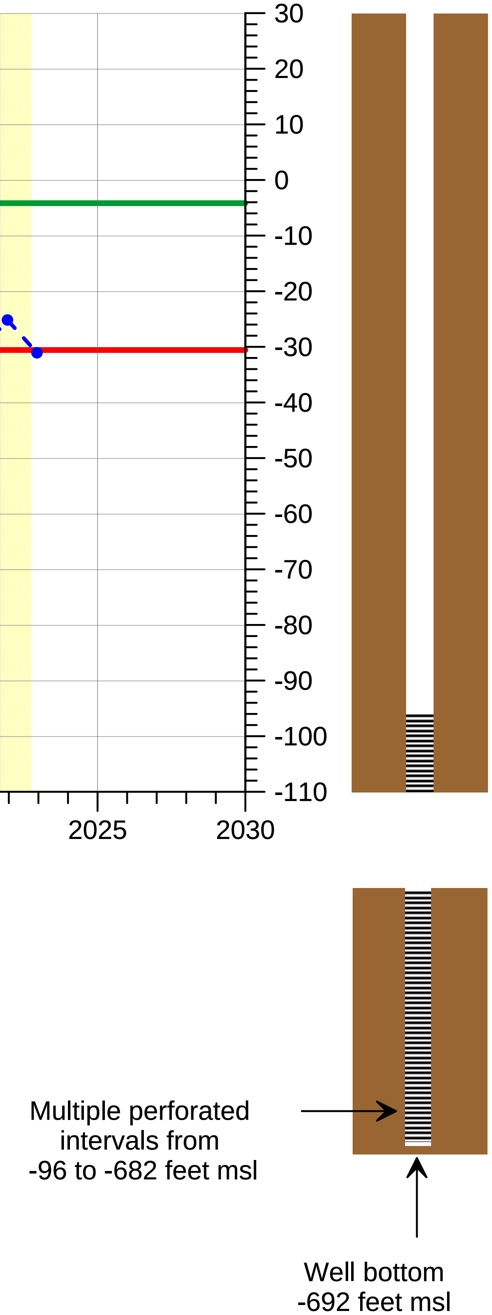
WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-06R01

Eastside Aquifer Subbasin



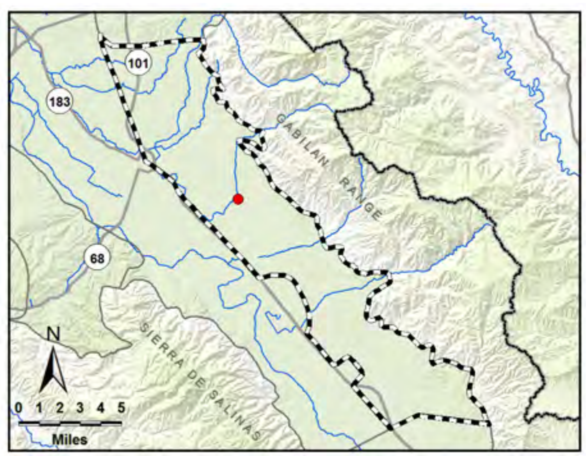


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (94 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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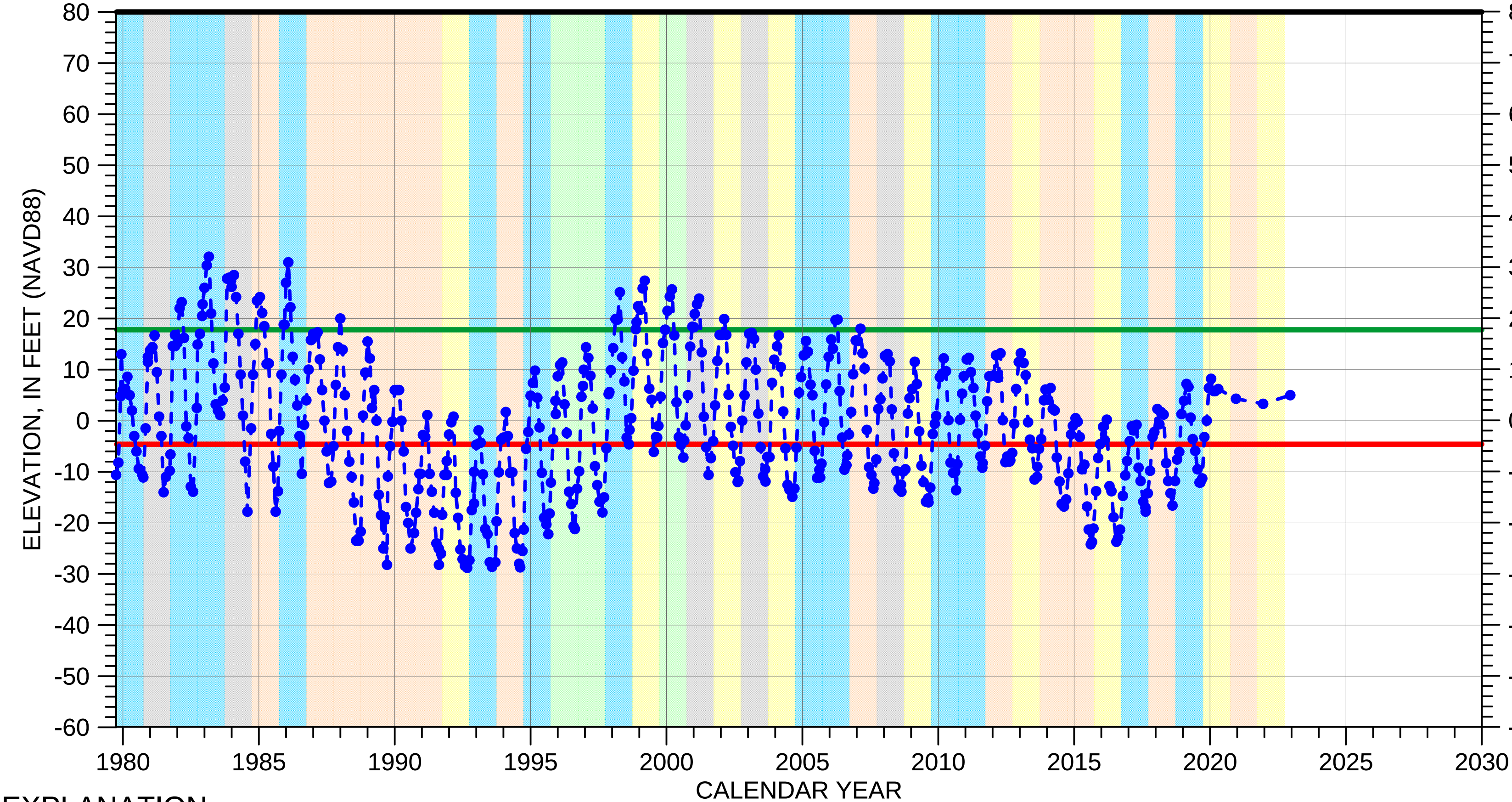
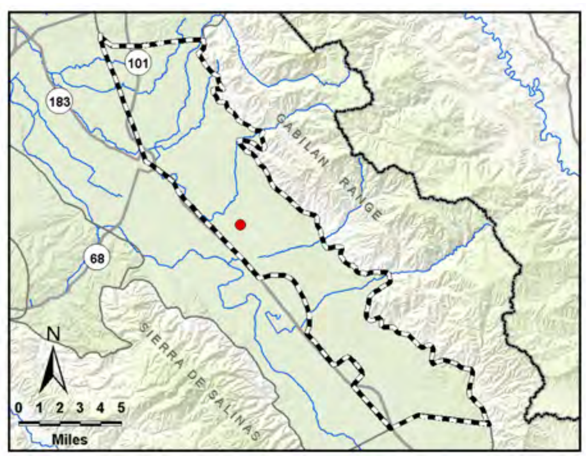
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-07R02

Eastside Aquifer Subbasin

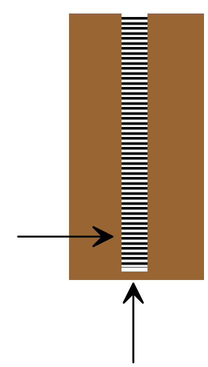


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold



Multiple perforated intervals from -29 to -210 feet msl



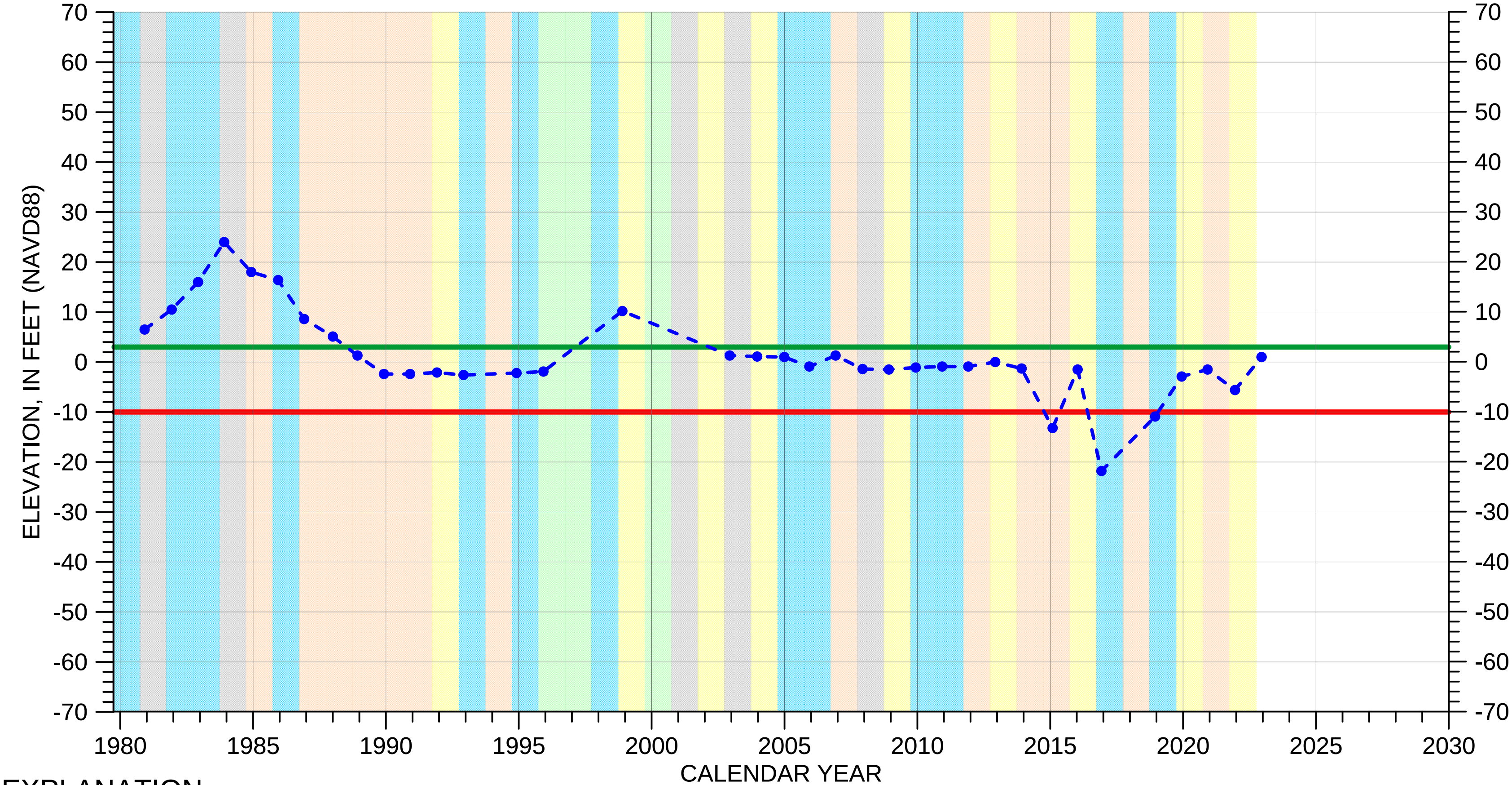
Well bottom -224 feet msl

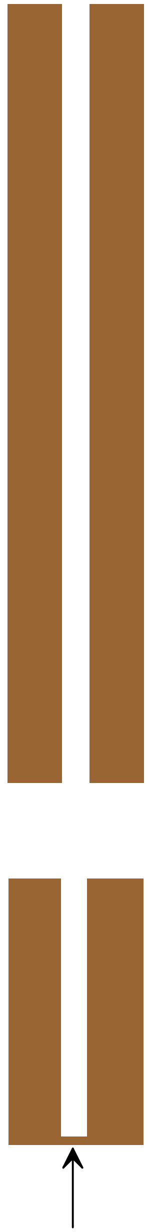
WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\15S_04E-07R02.grf

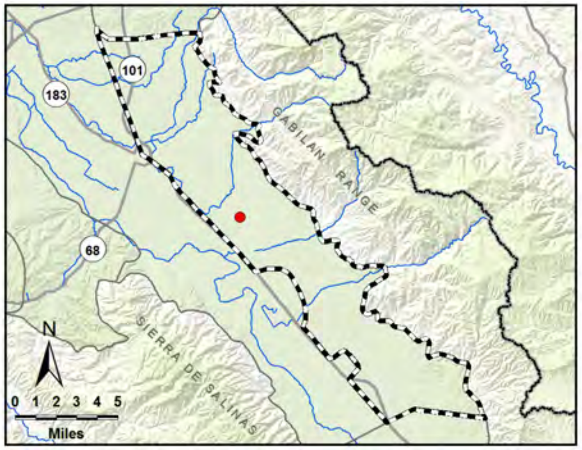
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-08N01 Eastside Aquifer Subbasin





EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (89 FT MSL)
- Measurable Objective
- Minimum Threshold



WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

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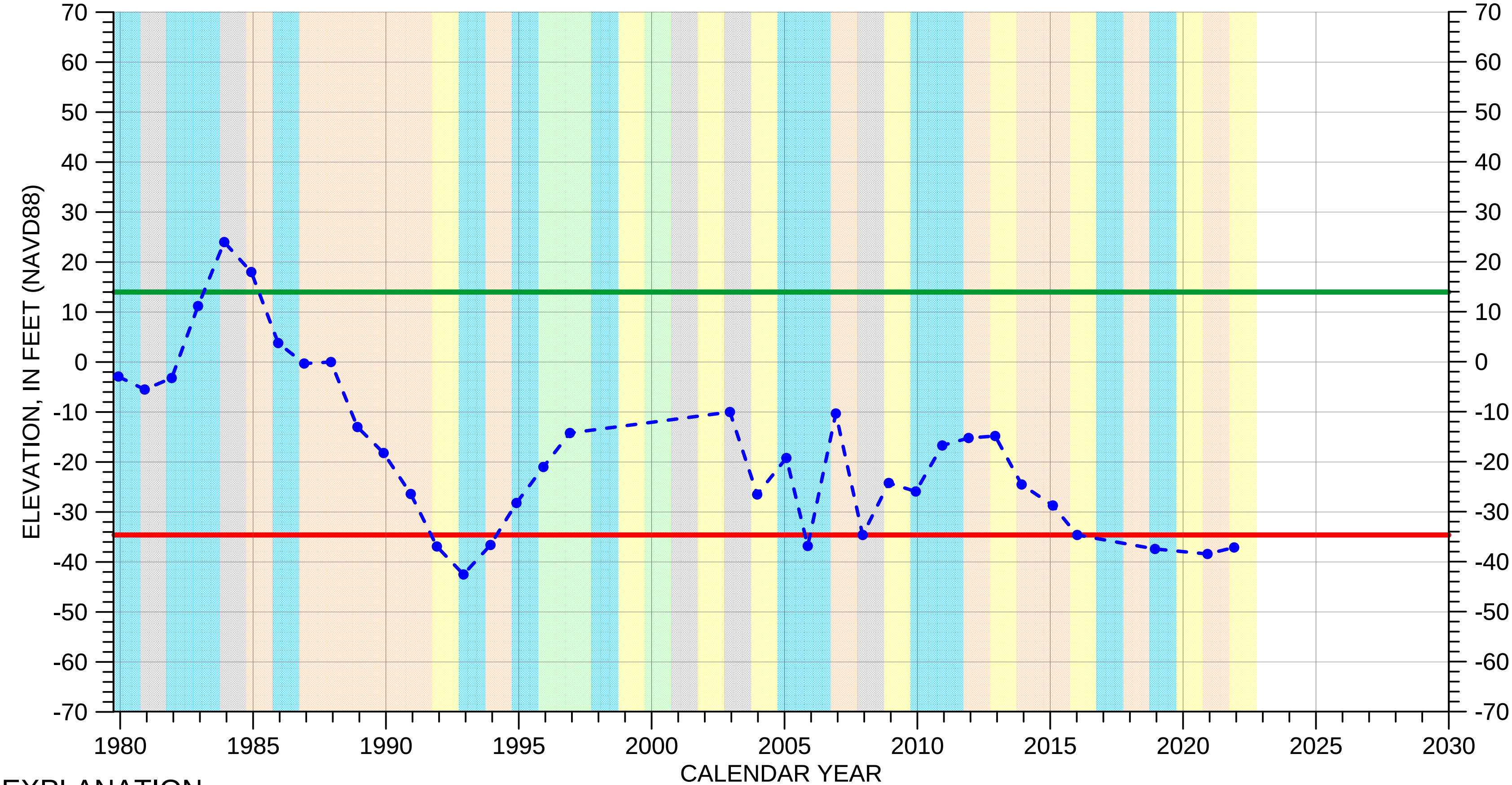
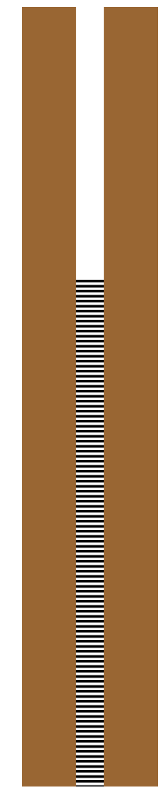
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-14N01

Eastside Aquifer Subbasin



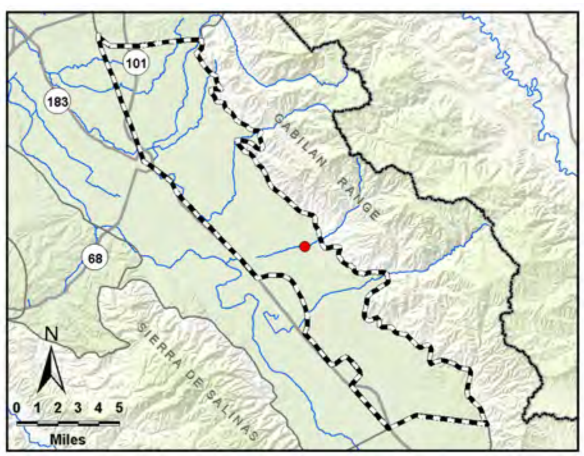


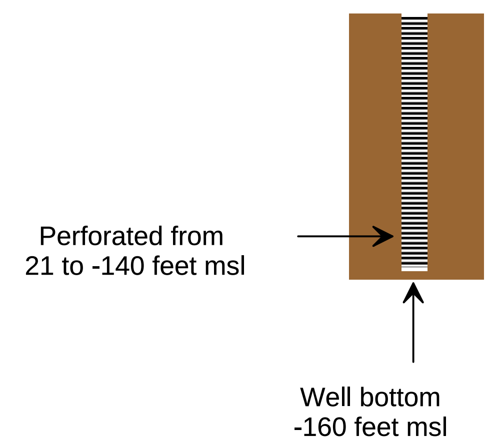
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (240 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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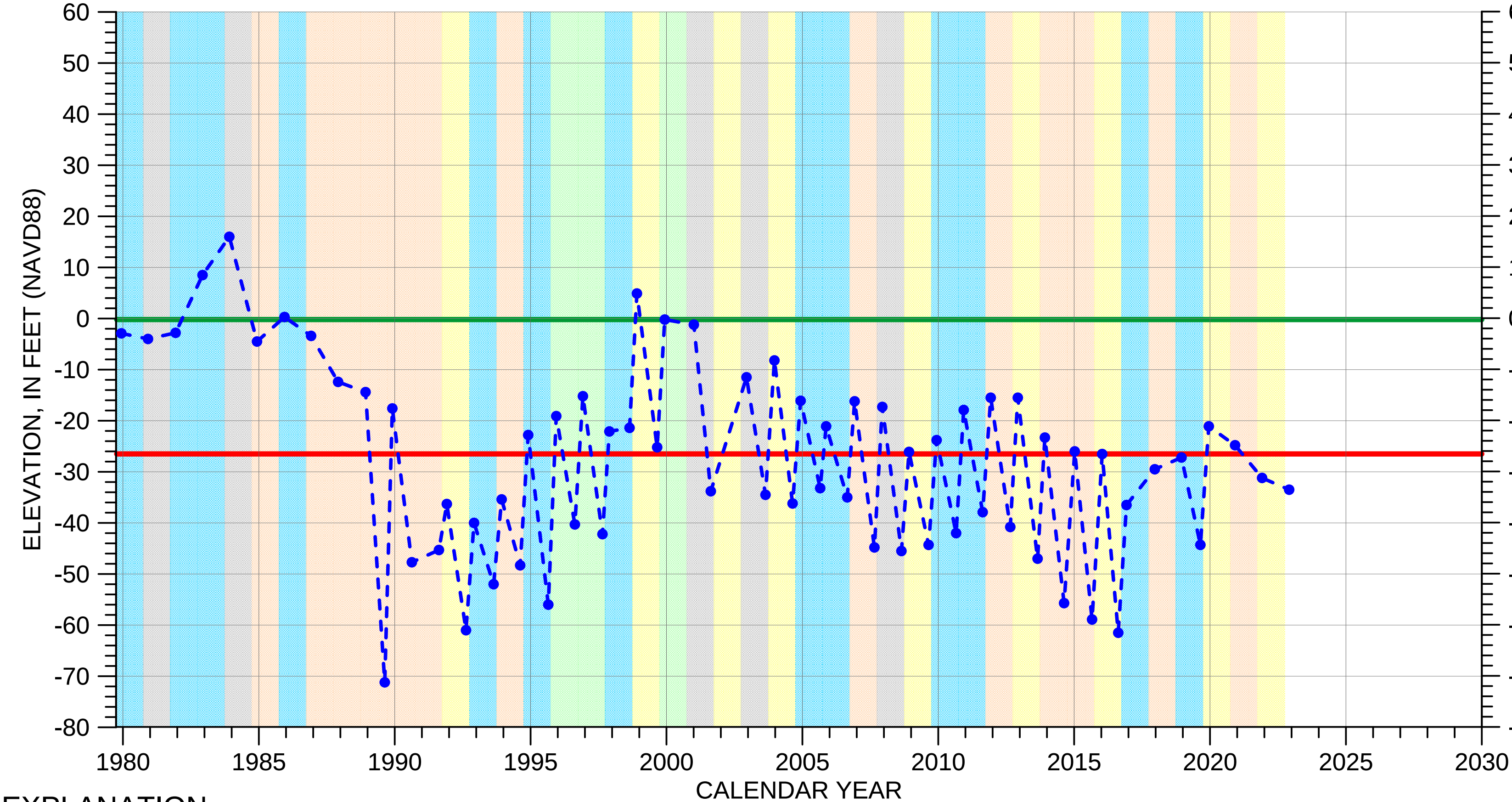
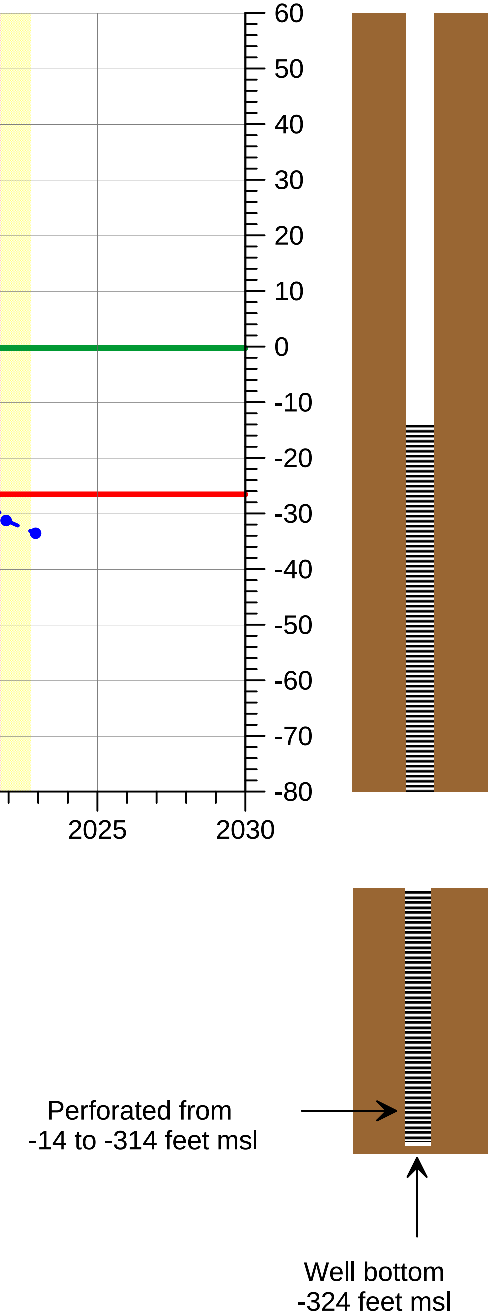
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-15D02

Eastside Aquifer Subbasin



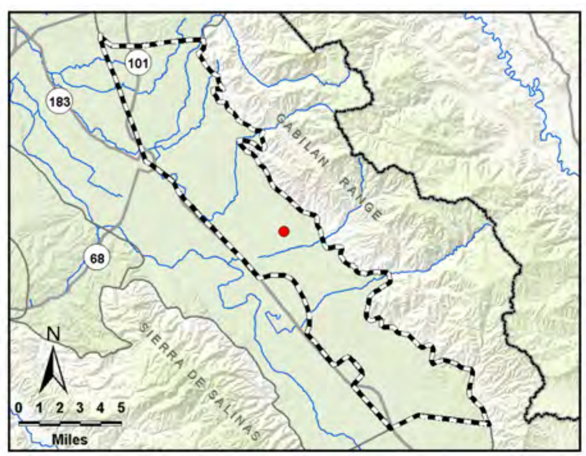


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (186 FT MSL)
- Measurable Objective
- Minimum Threshold

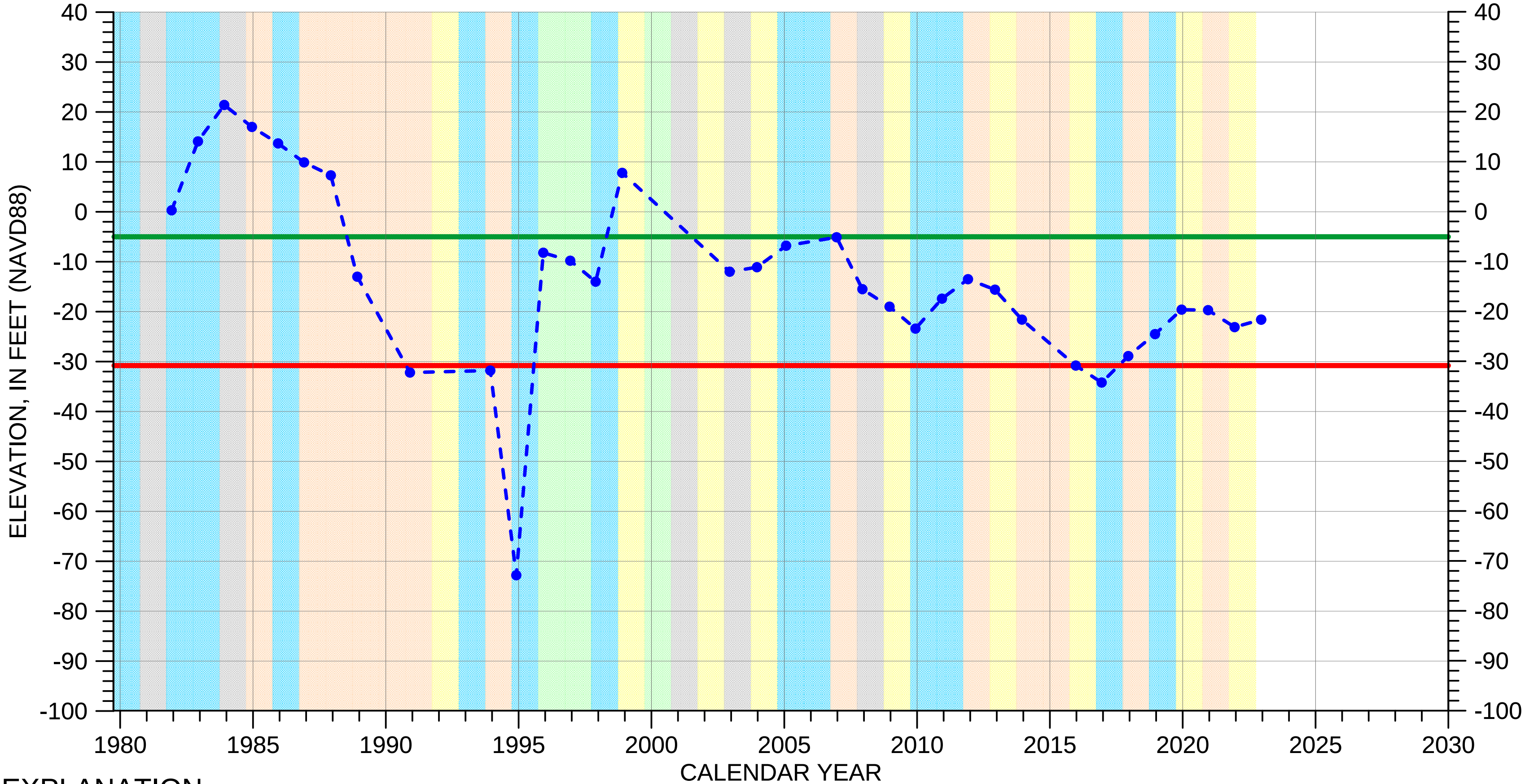
WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-15P02

Eastside Aquifer Subbasin

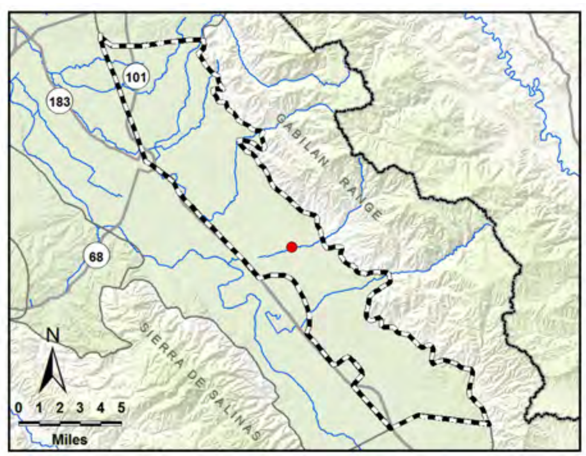


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (197 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



Perforated interval unknown

Well bottom elevation unknown

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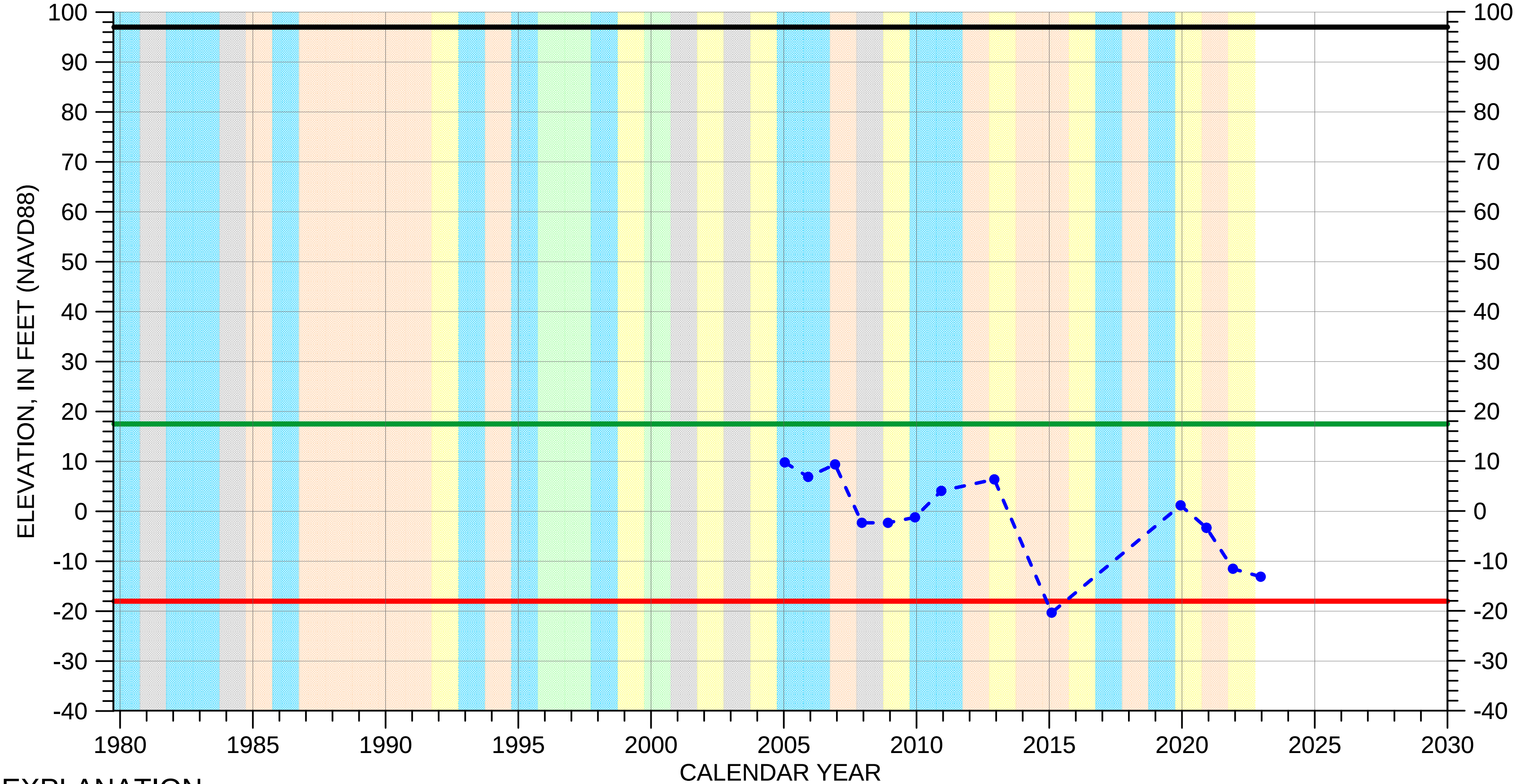
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-17P02

Eastside Aquifer Subbasin



Perforated from
-60 to -332 feet msl

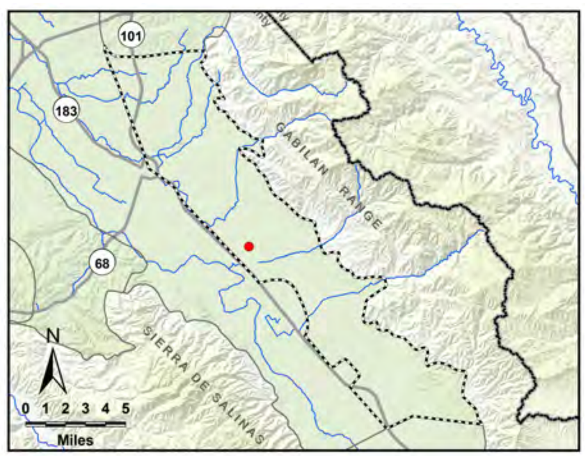
Well bottom
-370 feet msl

EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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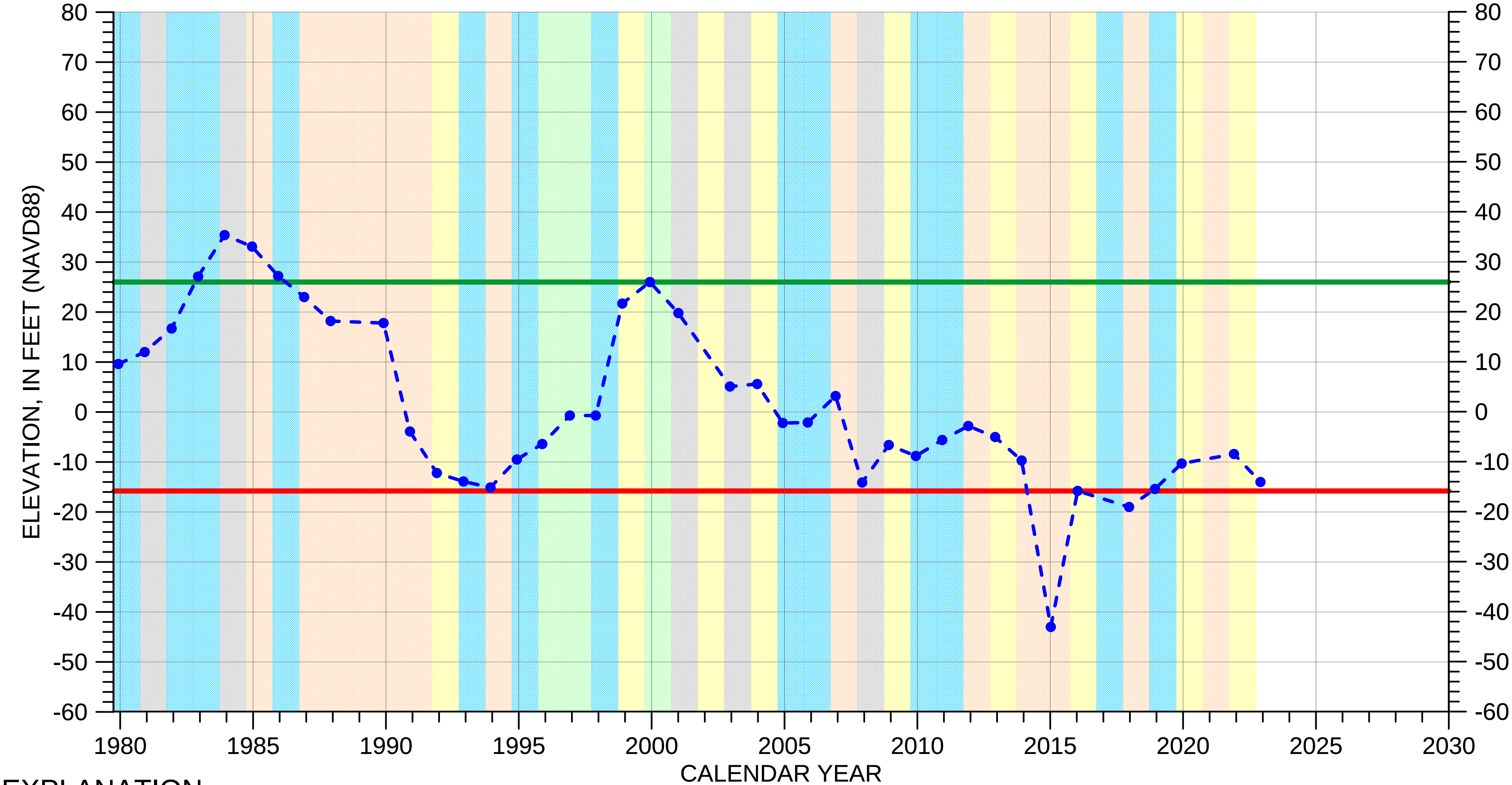
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-24N03

Eastside Aquifer Subbasin

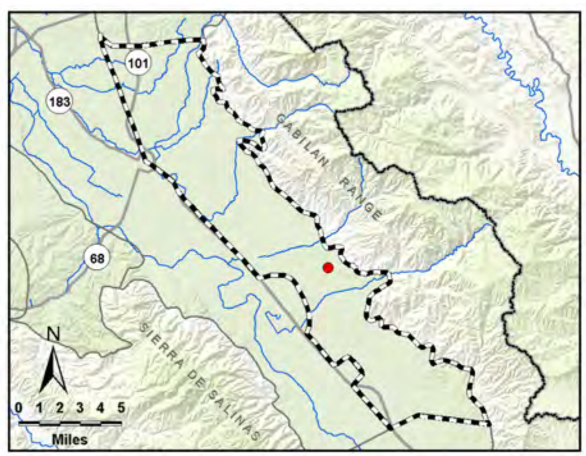


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (272 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

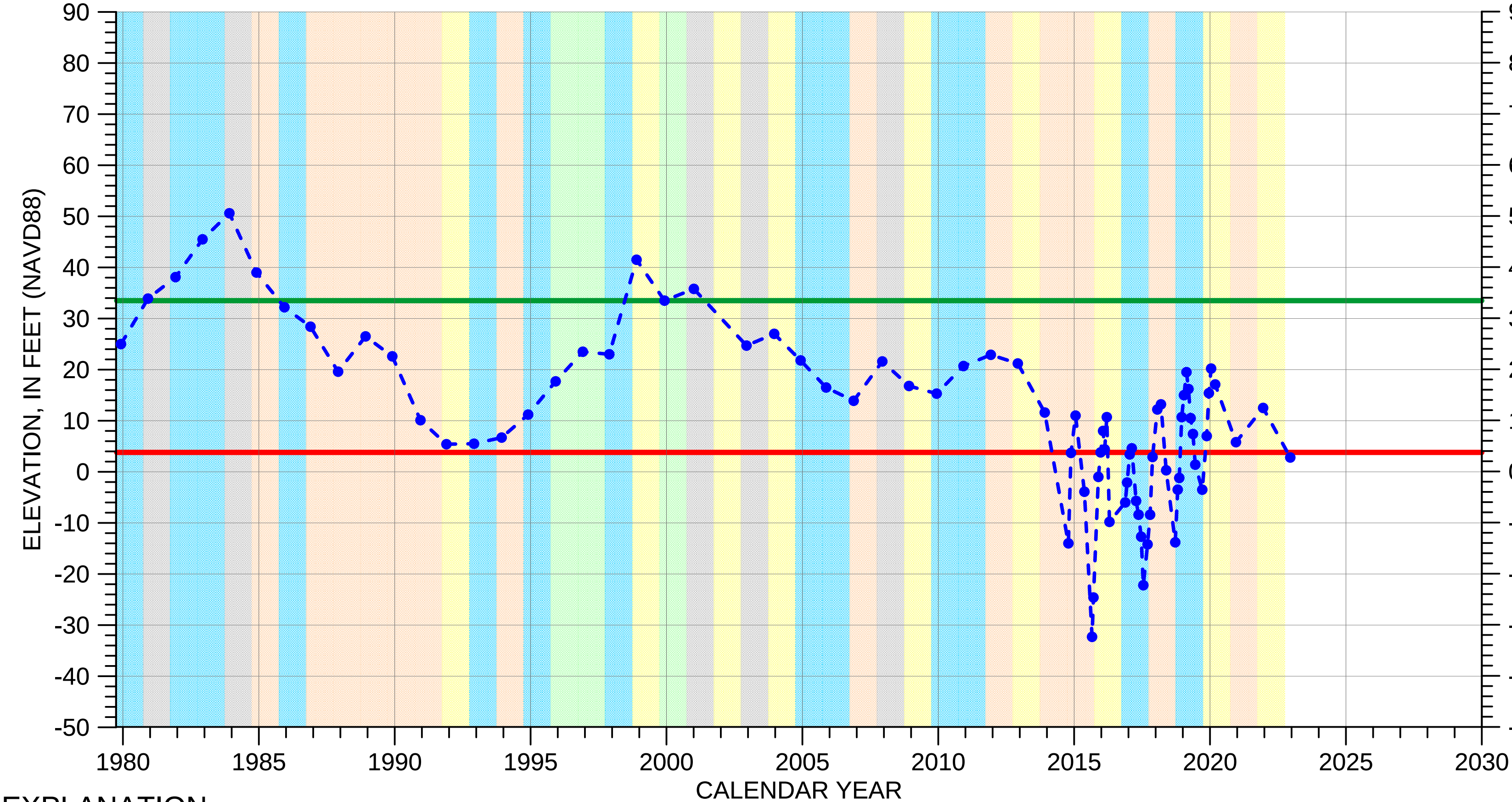
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\15S_04E-24N03.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-27G01

Eastside Aquifer Subbasin

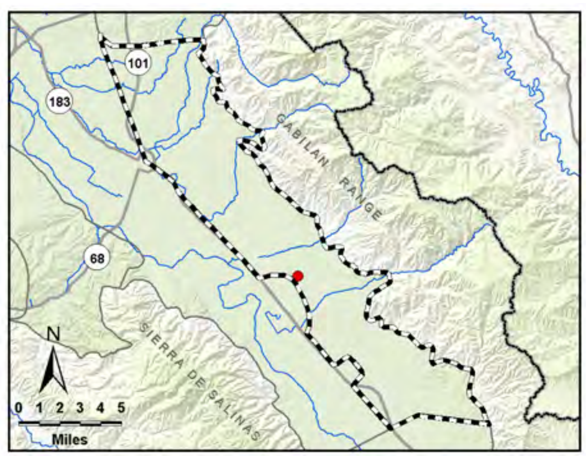


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (189 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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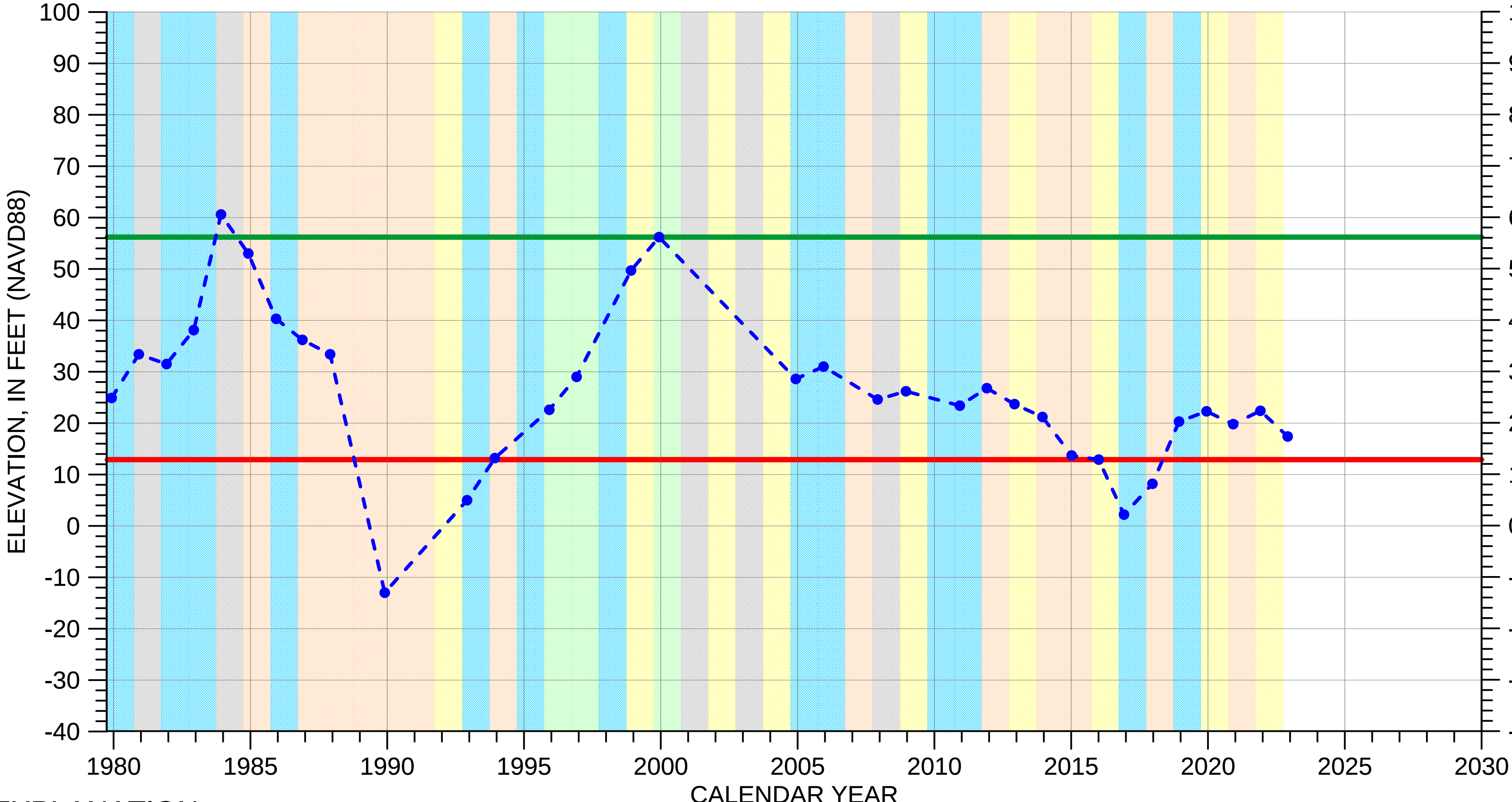
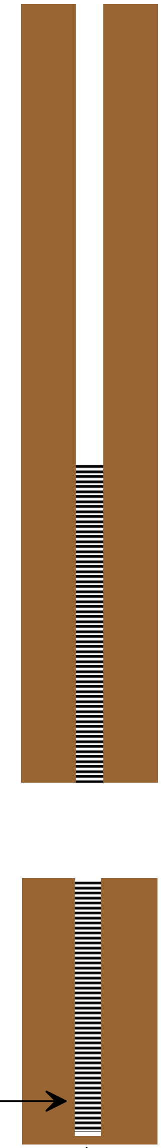
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 15S/04E-36H01

Eastside Aquifer Subbasin





Perforated from
17 to -140 feet msl

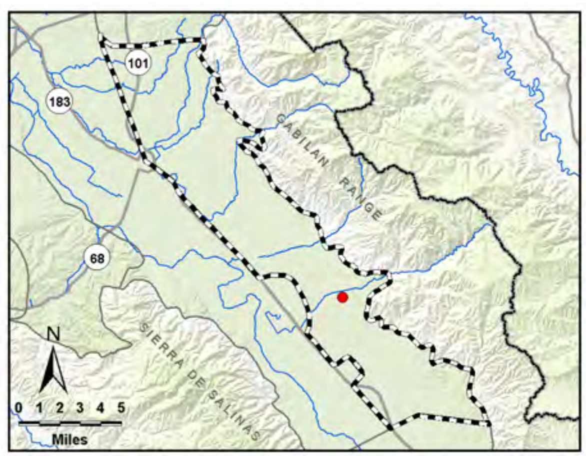
Well bottom
-154 feet msl

EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (334 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

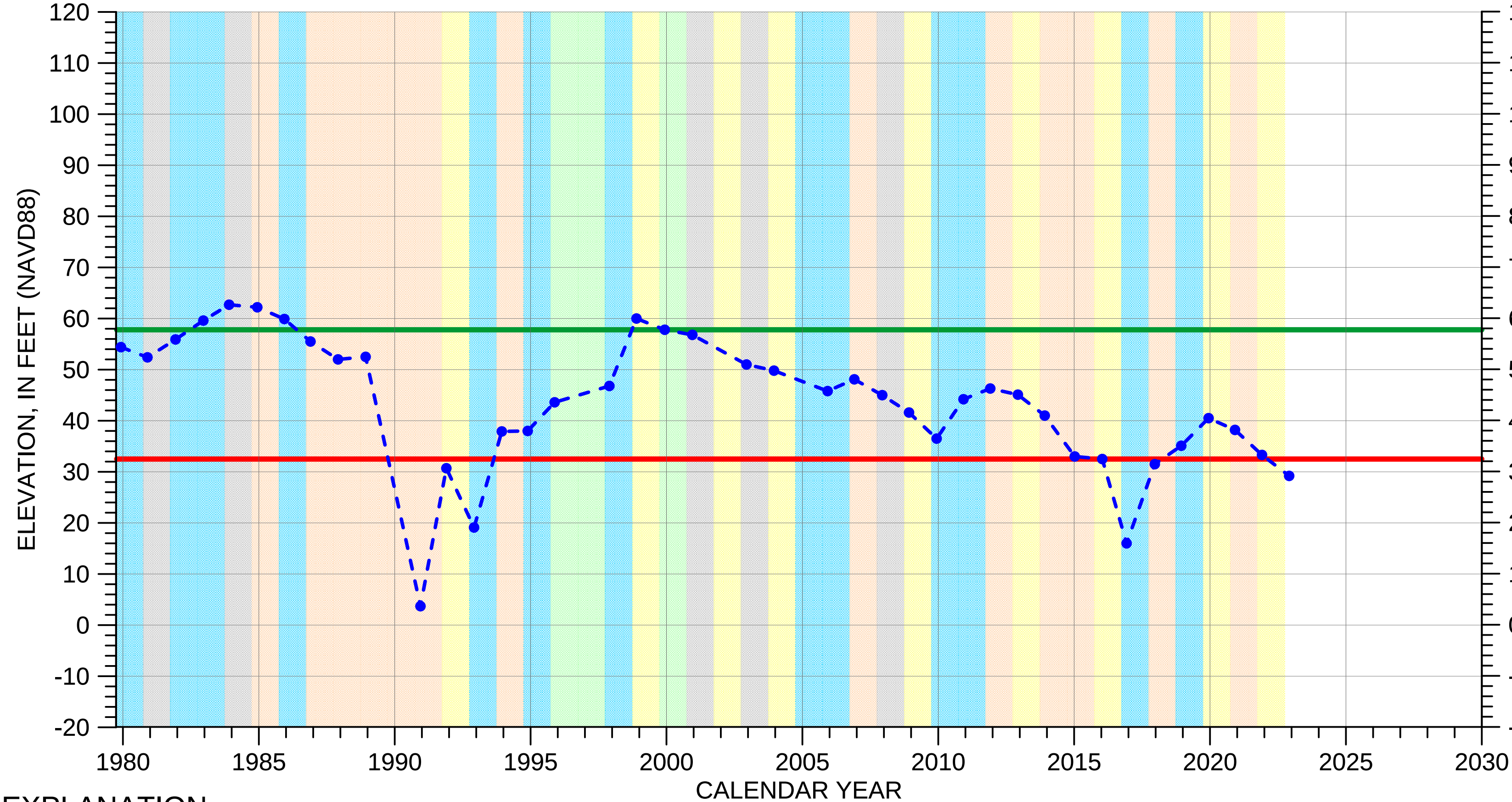
- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET

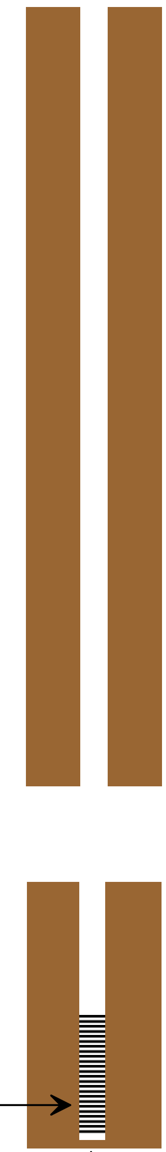


C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\15S_04E-36H01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 16S/04E-02Q03

Eastside Aquifer Subbasin





Multiple perforated intervals from -64 to -867 feet msl

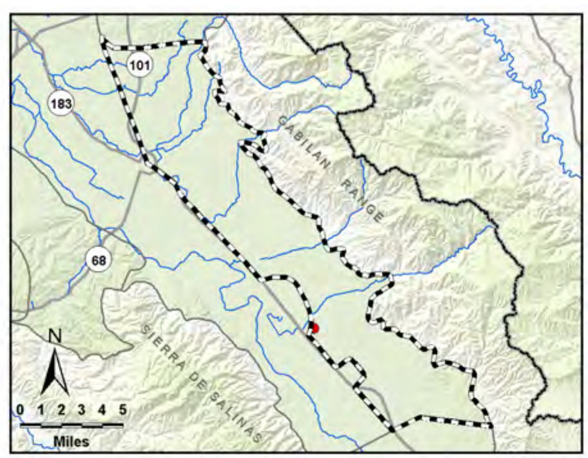
Well bottom -887 feet msl

EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (136 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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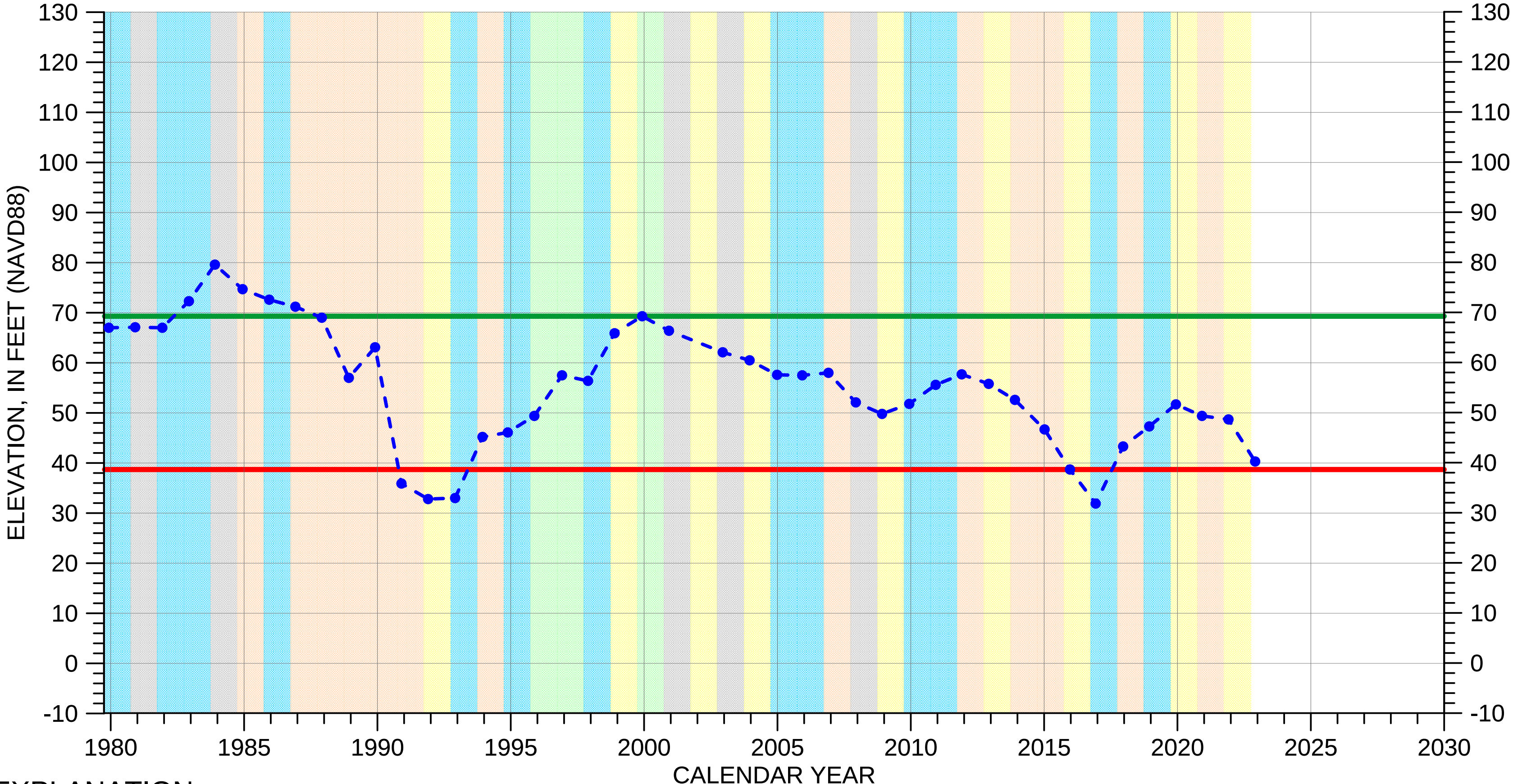
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 16S/05E-07G01

Eastside Aquifer Subbasin

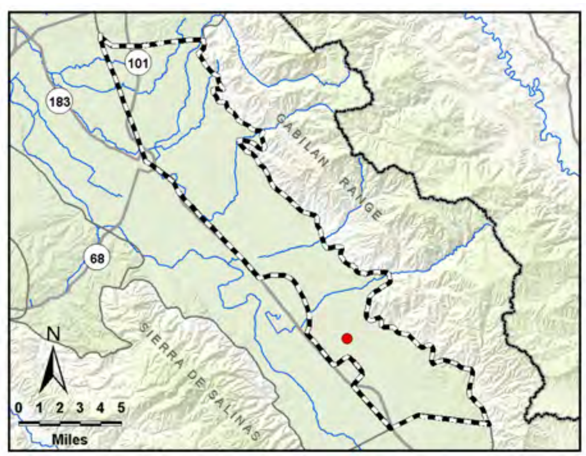


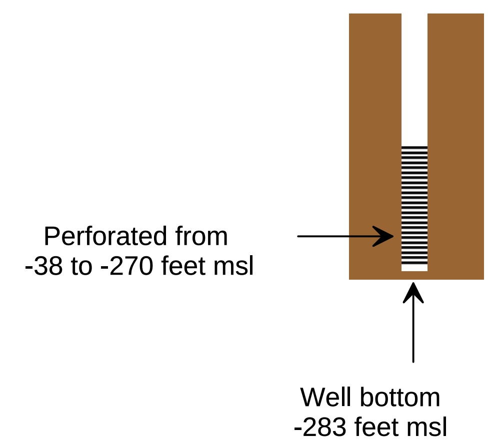
EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (193 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET





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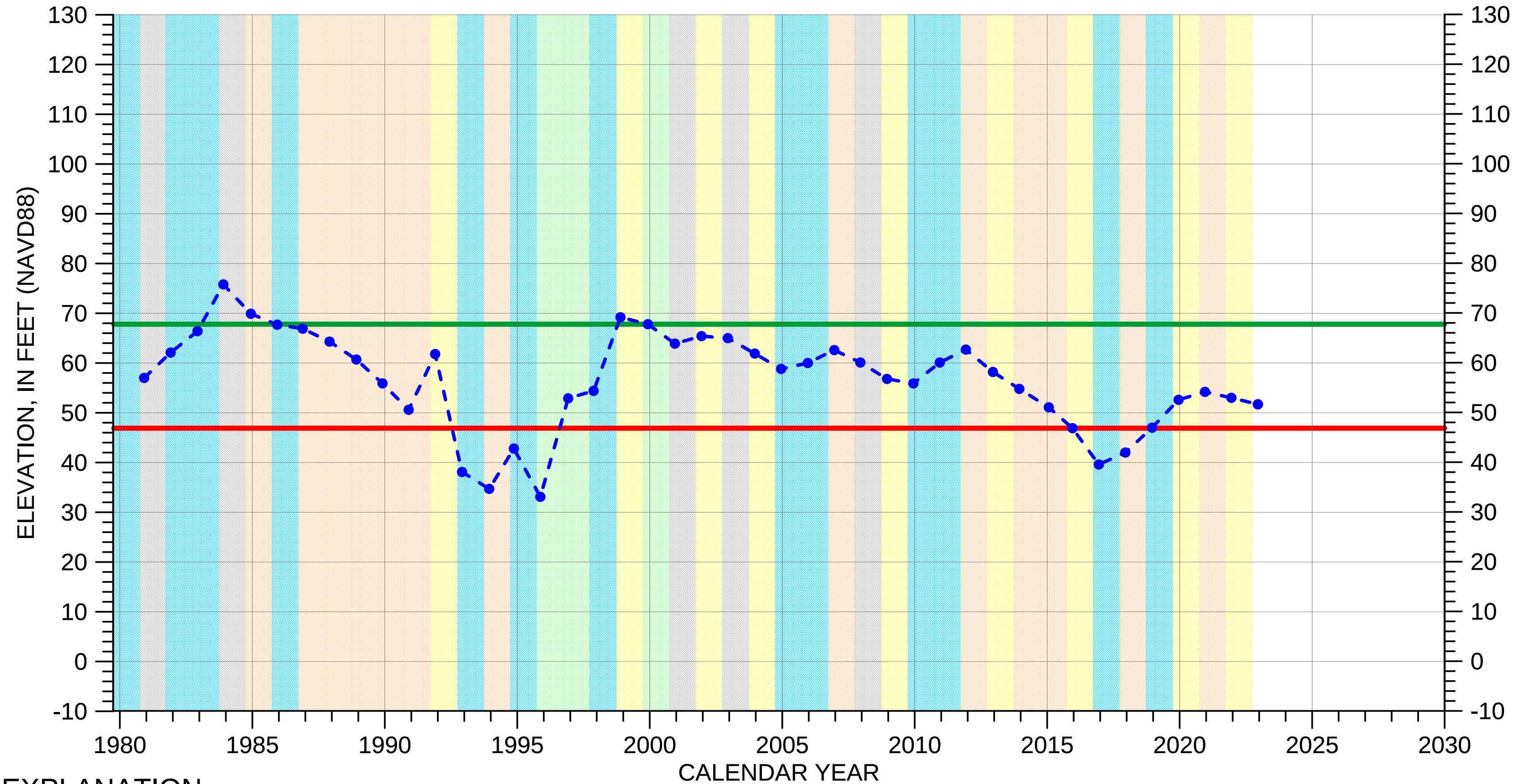
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 16S/05E-08Q01

Eastside Aquifer Subbasin

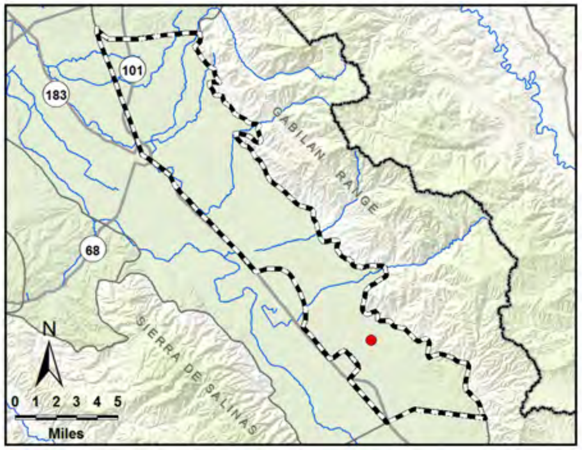


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (222 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



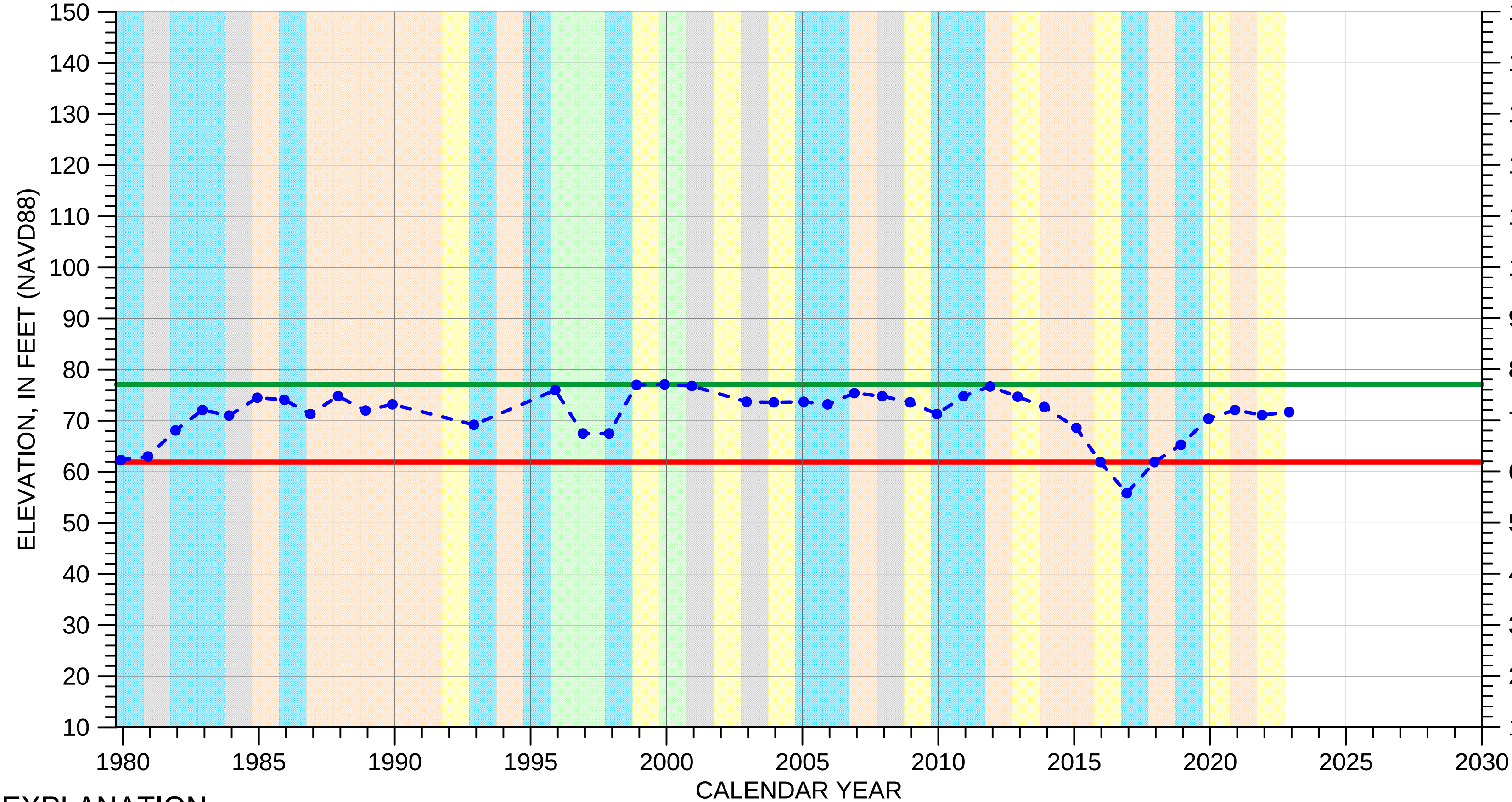
Perforated interval unknown

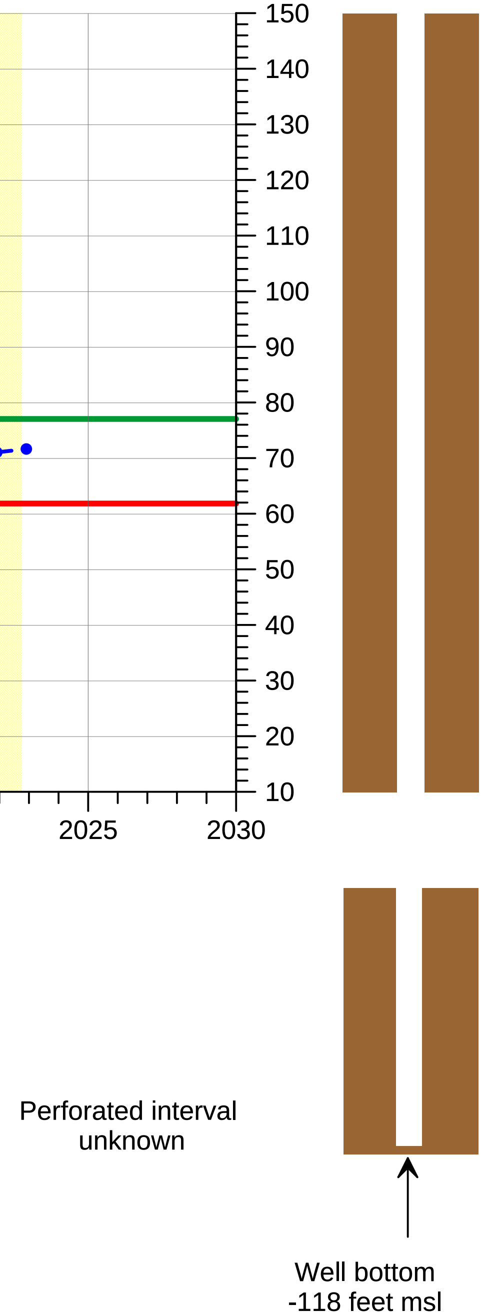
Well bottom elevation unknown

C:\Users\tpontifex\Documents\Salinas Valley Basin GSA\Hydrographs\GRFs_test\16S_05E-08Q01.grf

HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 16S/05E-17R01

Eastside Aquifer Subbasin



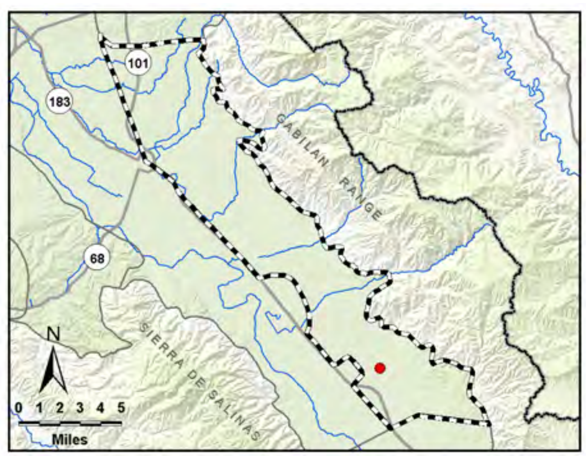


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (181 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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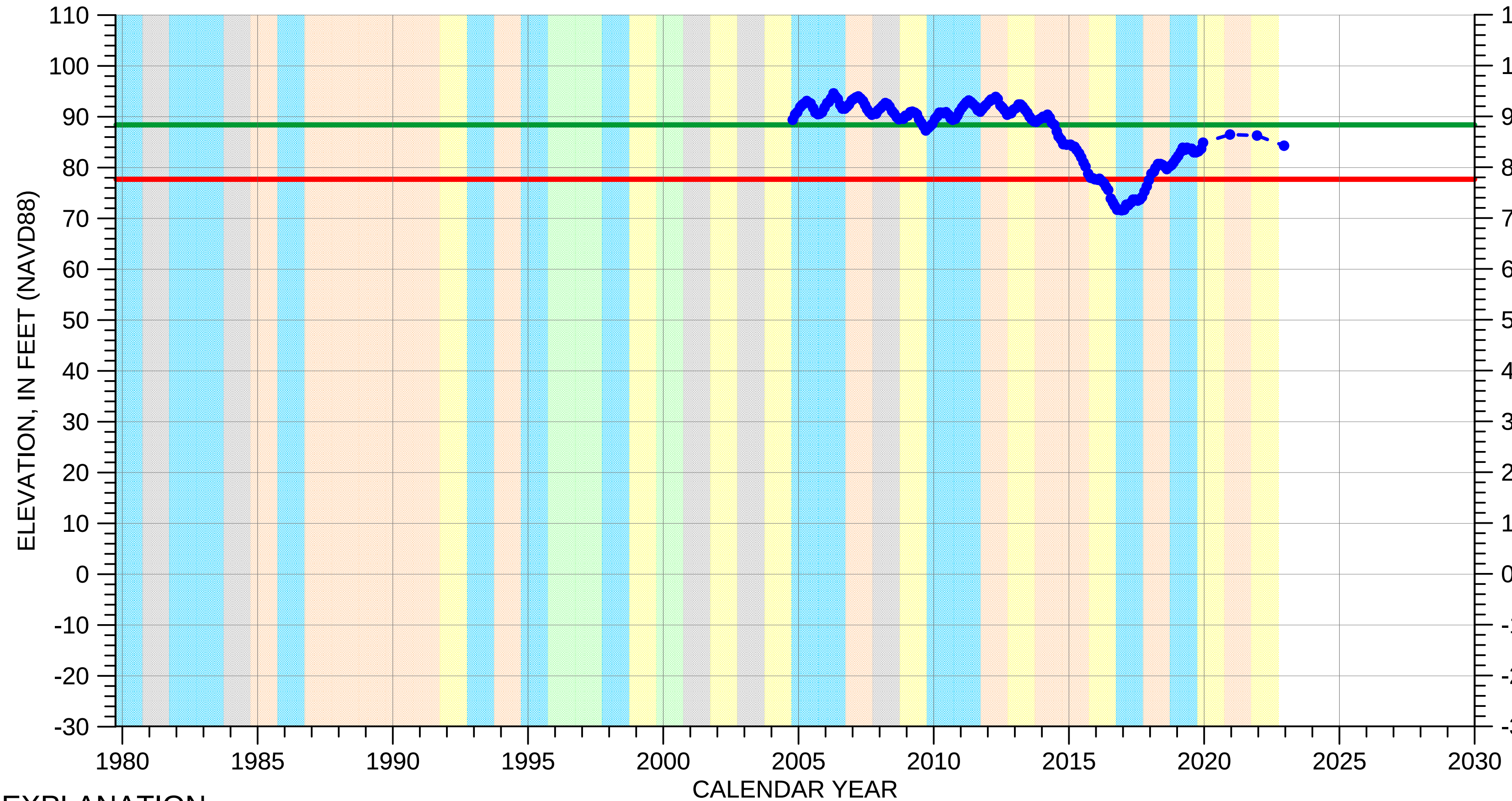
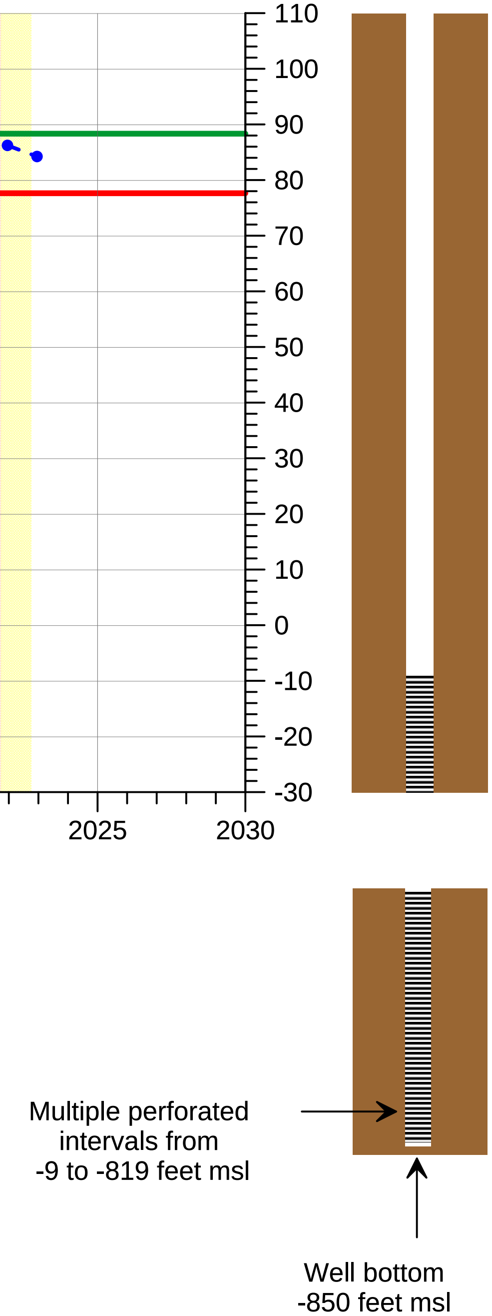
HYDROGRAPH OF MEASURED GROUNDWATER ELEVATION FOR 16S/05E-27G01

Eastside Aquifer Subbasin



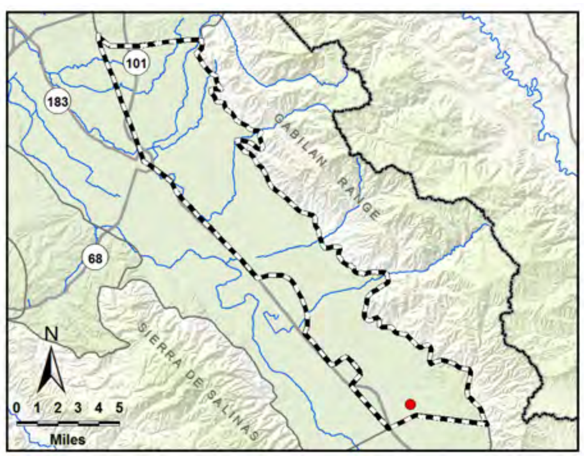


EXPLANATION

- Groundwater Elevation
- Suspect Measurement
- Land Surface (272 FT MSL)
- Measurable Objective
- Minimum Threshold

WATER YEAR TYPE DESIGNATION

- DRY
- DRY - NORMAL
- NORMAL
- WET - NORMAL
- WET



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