

Report on Salinas Valley water conditions for the third quarter of Water Year 2017-2018.

CHANGES TO PRESENTATION OF GROUNDWATER LEVEL TRENDS:

Beginning with the first quarter Water Year 2017-2018 (WY18) report, we introduced changes to the presentation of groundwater level data. The aim of these changes is to enhance understanding of the nature of Salinas Valley groundwater level data and its relationship to basin health and management, to better communicate this information to stakeholders, and to more efficiently maintain the Agency's groundwater level monitoring network.

The changes are graphically incorporated into attachments E through J. As in past Quarterly Reports, attachments E through J summarize water level trends for the current and previous water years (WY18 and WY17, respectively). However, instead of "depth to water," water levels are now presented as "water surface elevation," relative to mean sea level. Unlike depth to water, water surface elevation is independent of well elevation, making replacement of study wells a less costly and more objective process. Water surface elevation also ties Salinas Valley groundwater level data directly to a universally recognized datum, facilitating comparative analysis and scientific collaboration.

A second change is the replacement of the "normal" conditions water level trend curve, as represented by a single selected water year (WY85), with the more objective "long-term average" water level curve, a data set based on averaged monthly water levels for the most recent 30-years for each subarea. In this way, each month's data will now be compared to an objective measure of central tendency based on data that encompass a more representative range of climatic and operational conditions in the Salinas Valley.

Finally, for comparison to water levels in dry conditions, WY15 replaces WY91. With this change, current groundwater level data will now be compared to data from a recent extended drought within a time of contemporary operational constraints. Using WY15 also minimizes uncertainty associated with the gradual loss and replacement of study wells since WY91.

SUMMARY/DISCUSSION:

This report covers the third quarter of Water Year 2017-2018 (WY18), April through June, 2018. It provides a brief overview of water conditions in the Salinas Valley (Attachment A) with discussion of precipitation, reservoir storage, and groundwater level trends. Data for each of these components are included as graphs and tables in Attachments B through J.

Precipitation – Preliminary National Weather Service rainfall data indicates that the third quarter of WY18 brought above normal rainfall to Salinas and below normal rainfall to King City. Totals for the quarter were 1.86 inches (136% of normal rainfall of 1.37 inches for the quarter) at the Salinas Airport, and 0.36 inches (32% of normal rainfall of 1.14 inches for the quarter) in King City.

Attachment B contains graphs for both stations showing monthly and cumulative precipitation data for the current and a "normal" water year, based on long-term monthly precipitation averages. Attachment B also includes tables showing values for precipitation totals as well as percent of "normal" precipitation.

Reservoirs - The following table compares third quarter storage at Nacimiento and San Antonio reservoirs for the past two years. Storage in Nacimiento Reservoir is 153,920 acre-feet lower than in June 2017, and storage in San Antonio Reservoir is 77,855 acre-feet lower.

Reservoir	June 30, 2018 (WY18) Storage in acre-feet	June 30, 2017 (WY17) Storage in acre-feet	Difference in acre-feet
Nacimiento	123,060	276,980	-153,920
San Antonio	93,100	170,955	-77,855

Graphs showing daily reservoir storage for the last five water years along with 30-year average daily storage for comparison are included as Attachments C and D.

Groundwater Levels – More than 90 wells are measured monthly throughout the Salinas Valley to monitor seasonal groundwater level fluctuations. Data from approximately 50 of these wells are used in the preparation of this report. The measurements are categorized by hydrologic subarea, averaged, and graphed to compare current water levels (WY18) with selected past conditions. Graphs for individual subareas, showing the current year's water level conditions, last year's conditions (WY17) and dry conditions (WY15) are found in Attachments E through I. For comparison to long term conditions, a curve showing monthly water levels averaged over the most recent 30 years (WY1987-WY2017) is included on each graph. Attachment J is a summary of water level changes for all subareas.

Third quarter groundwater levels declined in all subareas. Over the last month of the quarter, average groundwater levels fell by one foot in the Pressure 180-Foot Aquifer, by three feet in the Pressure 400-Foot Aquifer, by eight feet in the East Side Subarea, by one foot in the Forebay Subarea, and by less than one foot in the Upper Valley Subarea.

Compared to June 2017, average groundwater levels in June 2018 increased by two feet in the Pressure 180-Foot Aquifer, by one foot in the Forebay Subarea, and by four feet Upper Valley Subarea, while remaining unchanged in both the Pressure 400-Foot Aquifer and the East Side Subarea.

When compared to 30 year average groundwater conditions, June 2018 water levels were two feet lower in the Pressure 180-Foot Aquifer, three feet higher in the Pressure 400-Foot Aquifer, ten feet lower in the East Side Subarea, three feet lower in the Forebay Subarea and one foot lower in the Upper Valley Subarea.

Average groundwater levels at end of the third quarter of WY18 were higher in all subareas than in WY15 (dry conditions).

OTHER AGENCY INVOLVEMENT:

None

FINANCING:

Funds 113, 114, 115, 116

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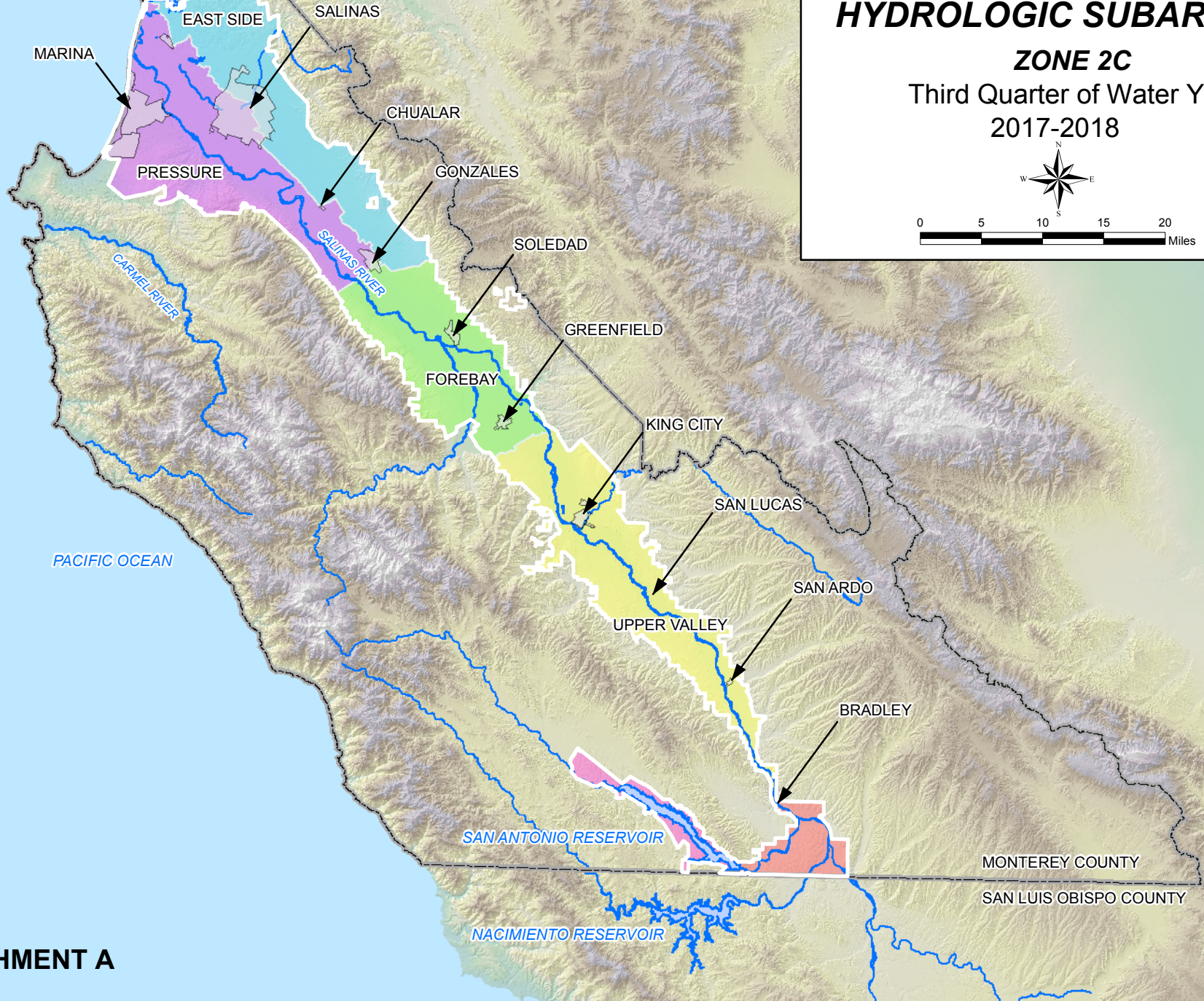
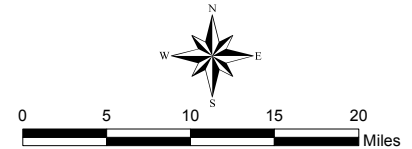
Attachments:

1. Attachment A, Salinas Valley Hydrologic Subareas Map
2. Attachment B, Salinas and King City Precipitation Graphs
3. Attachment C, Nacimiento Reservoir Graph
4. Attachment D, San Antonio Reservoir Graph
5. Attachment E, Groundwater Trends Pressure 180-Foot Aquifer
6. Attachment F, Groundwater Trends Pressure 400-Foot Aquifer
7. Attachment G, Groundwater Trends East Side Subarea
8. Attachment H, Groundwater Trends Forebay Subarea
9. Attachment I, Groundwater Trends Upper Valley Subarea
10. Attachment J, Groundwater Trends Summary

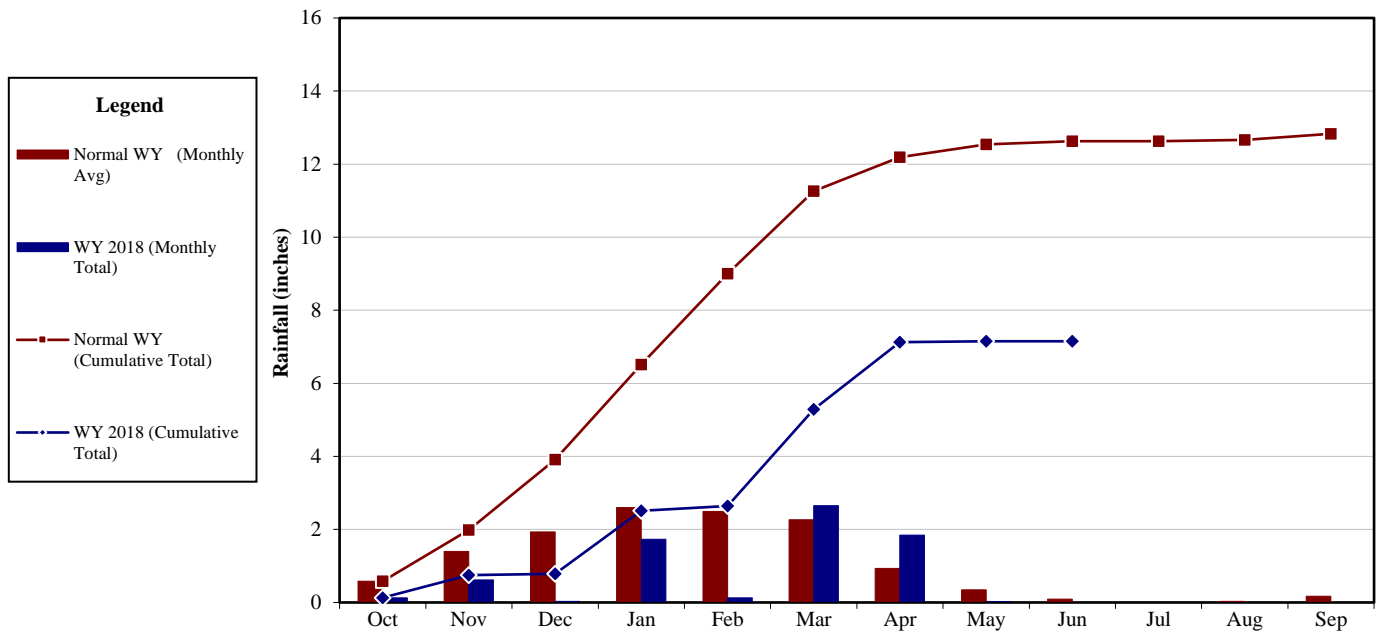
SALINAS VALLEY GROUNDWATER BASIN HYDROLOGIC SUBAREAS

ZONE 2C

Third Quarter of Water Year
2017-2018

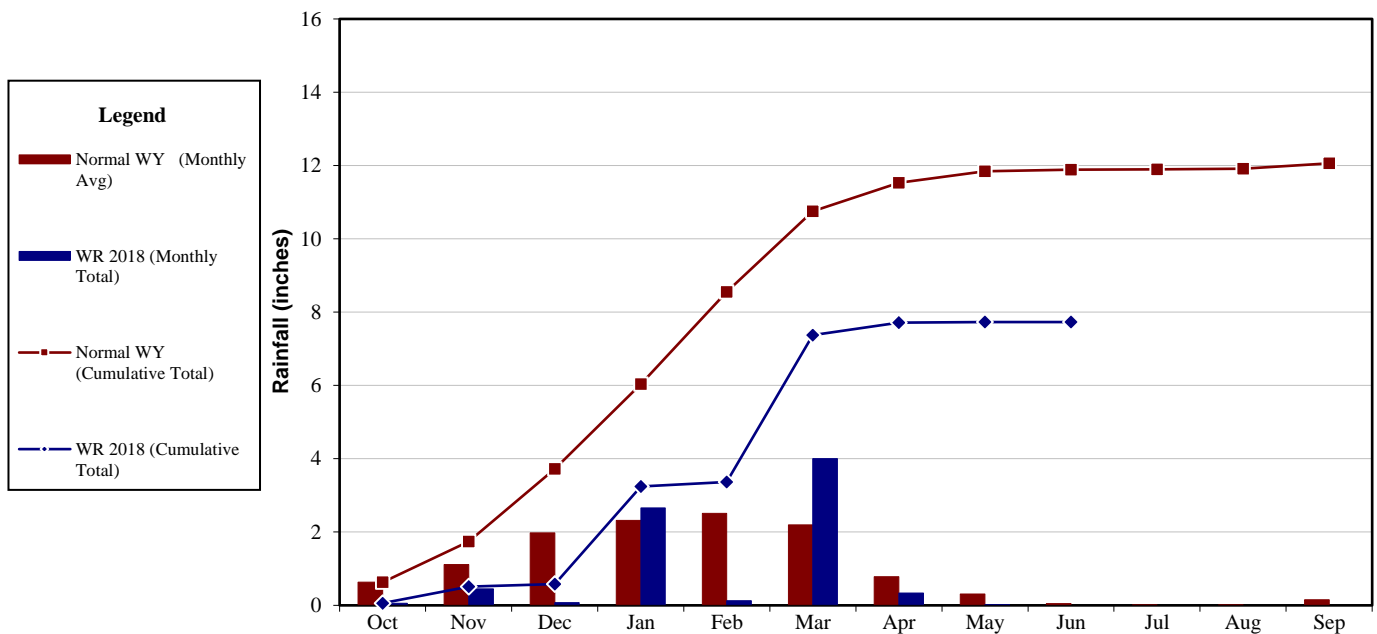


SALINAS AIRPORT RAINFALL WATER YEAR 2018



Monthly Rainfall (WY 2018)	0.13	0.62	0.03	1.73	0.13	2.65	1.84	0.02	0.00			
Monthly Rainfall (Normal WY*)	0.58	1.40	1.93	2.60	2.49	2.26	0.93	0.35	0.09	0.00	0.03	0.17
Percent of Normal for Month	22%	44%	2%	67%	5%	117%	198%	6%	0%			
Cumulative Rainfall (WY 2018)	0.13	0.75	0.78	2.51	2.64	5.29	7.13	7.15	7.15			
Cumulative Rainfall (Normal WY*)	0.58	1.98	3.91	6.51	9.00	11.26	12.19	12.54	12.63	12.63	12.66	12.83
Percent of Cumulative Normal	22%	38%	20%	39%	29%	47%	58%	57%	57%			

KING CITY RAINFALL WATER YEAR 2018



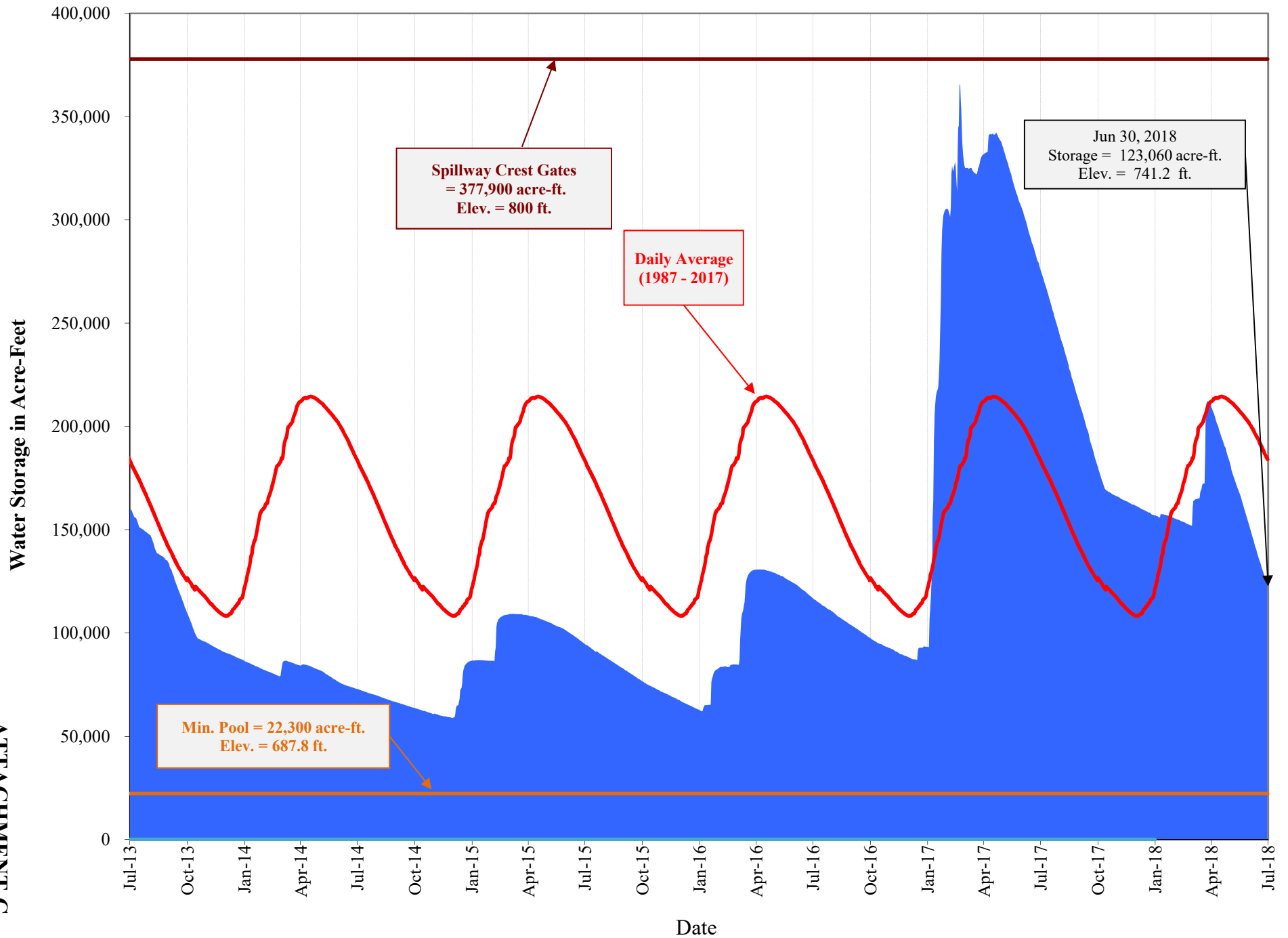
Monthly Rainfall (WR 2018)	0.06	0.45	0.07	2.66	0.13	4.00	0.34	0.02	0.00			
Monthly Rainfall (Normal WY*)	0.63	1.11	1.98	2.32	2.51	2.20	0.78	0.31	0.05	0.01	0.01	0.15
Percent of Normal for Month	10%	41%	4%	115%	5%	182%	44%	6%	0%			
Cumulative Rainfall (WR 2018)	0.06	0.51	0.58	3.24	3.37	7.37	7.71	7.73	7.73			
Cumulative Rainfall (Normal WY*)	0.63	1.74	3.72	6.04	8.55	10.75	11.53	11.84	11.89	11.90	11.91	12.06
Percent of Cumulative Normal	10%	29%	16%	54%	39%	69%	67%	65%	65%			

*Average precipitation over the most recent 30-year period ending in a decade (1981-2010)

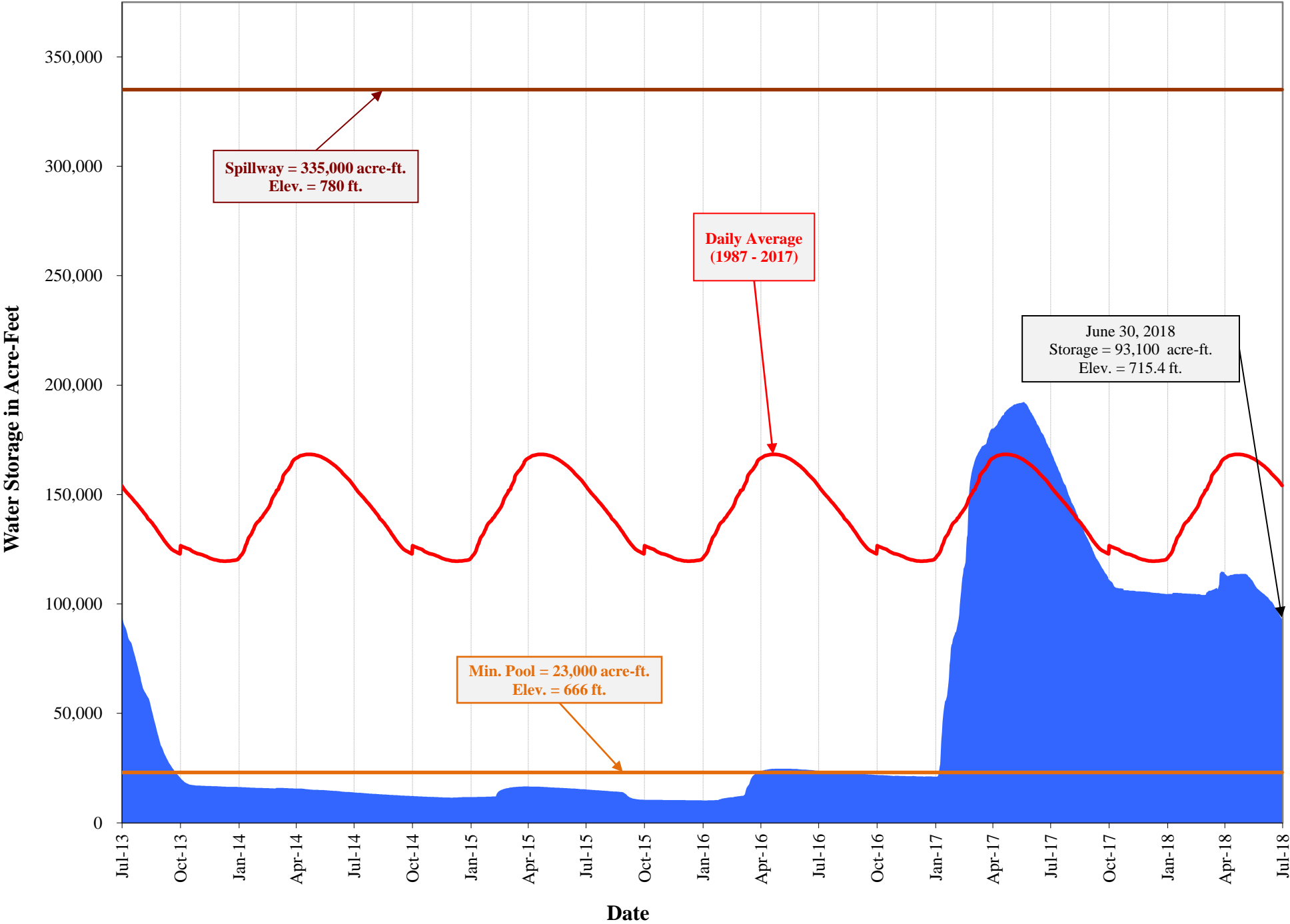
ATTACHMENT B

NACIMIENTO RESERVOIR

DAILY STORAGE



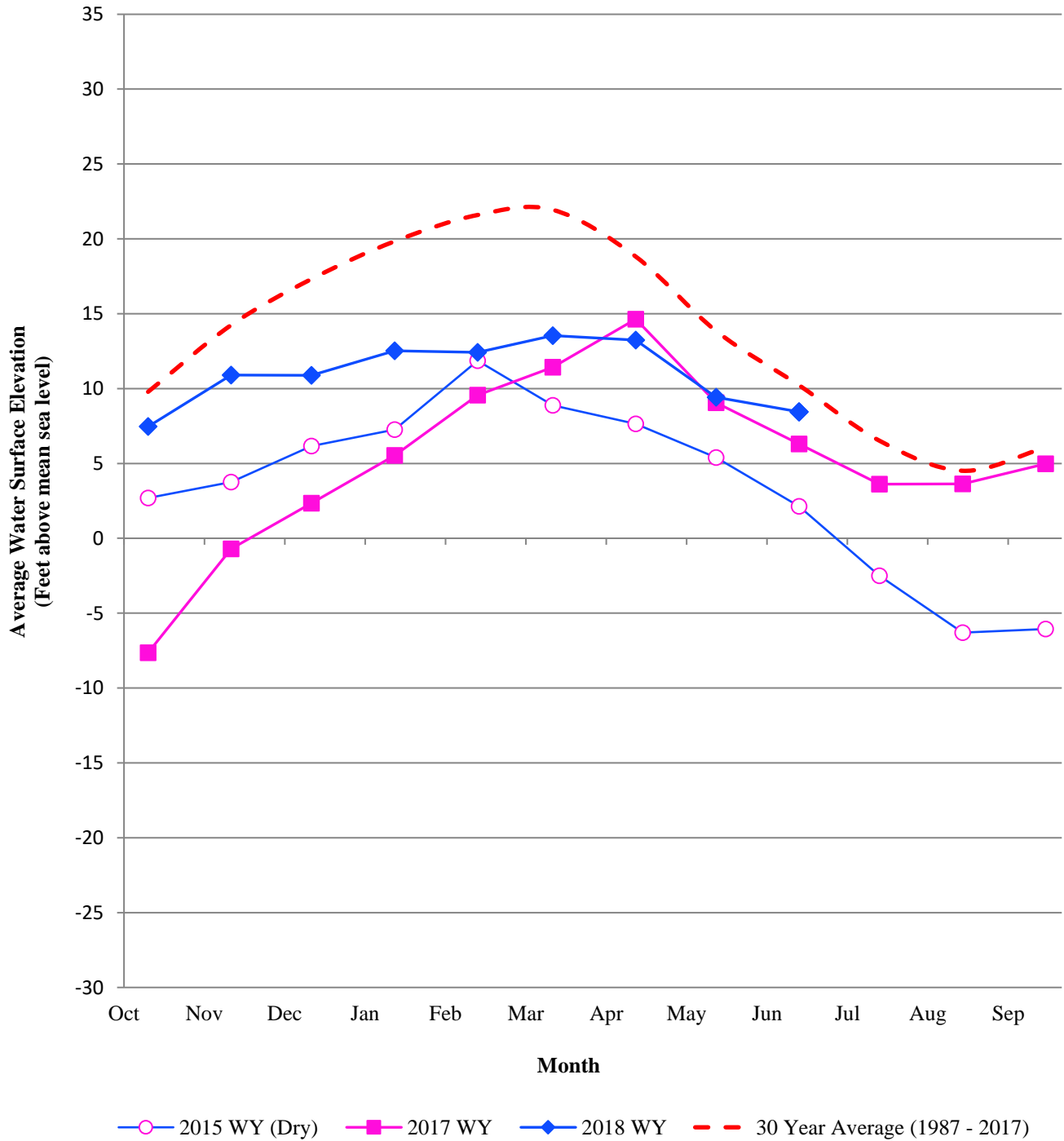
SAN ANTONIO RESERVOIR DAILY STORAGE



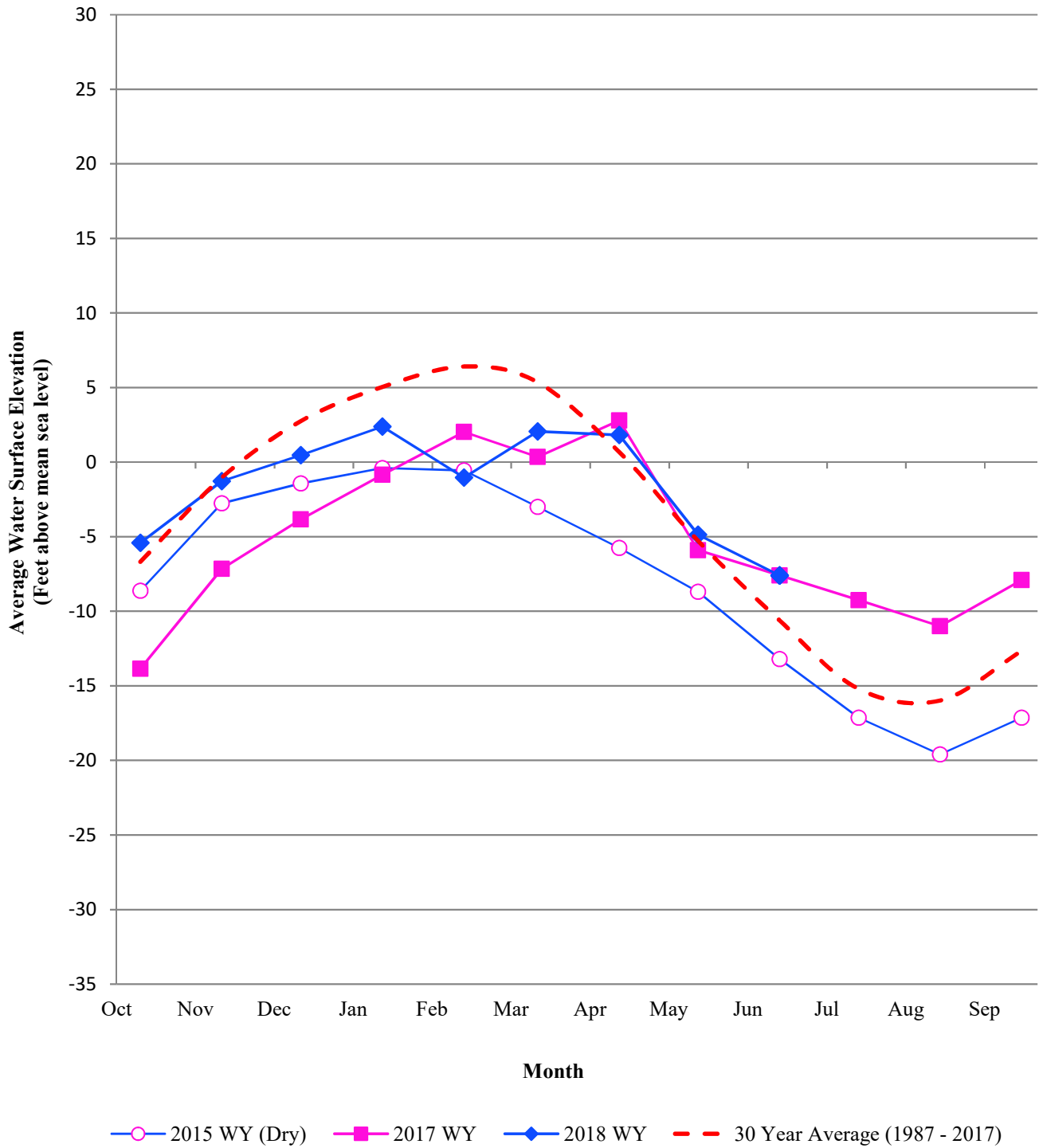
GROUNDWATER TRENDS

PRESSURE 180-FOOT AQUIFER

5 Wells



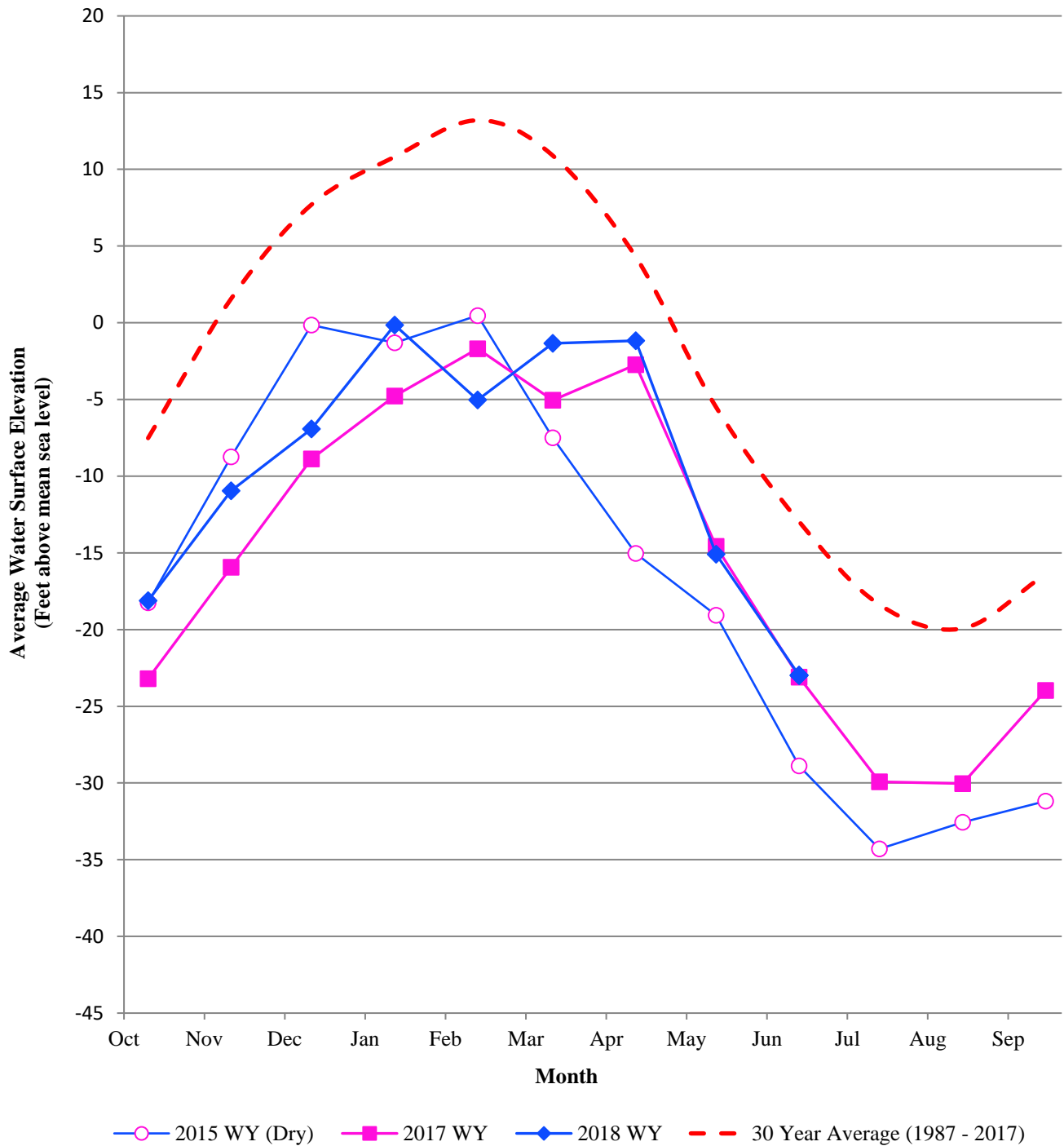
GROUNDWATER TRENDS PRESSURE 400-FOOT AQUIFER 11 Wells



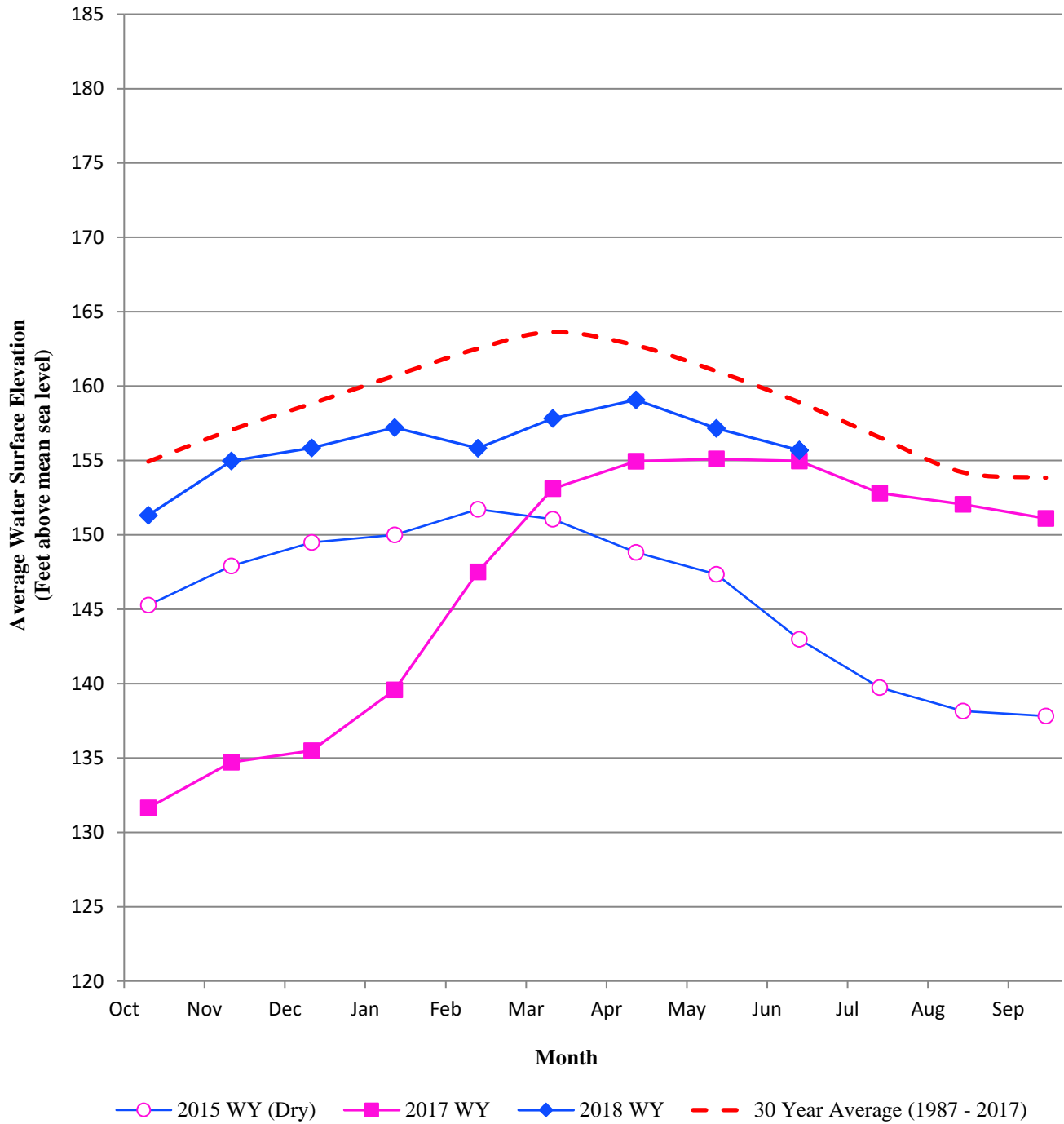
GROUNDWATER TRENDS

EAST SIDE SUBAREA

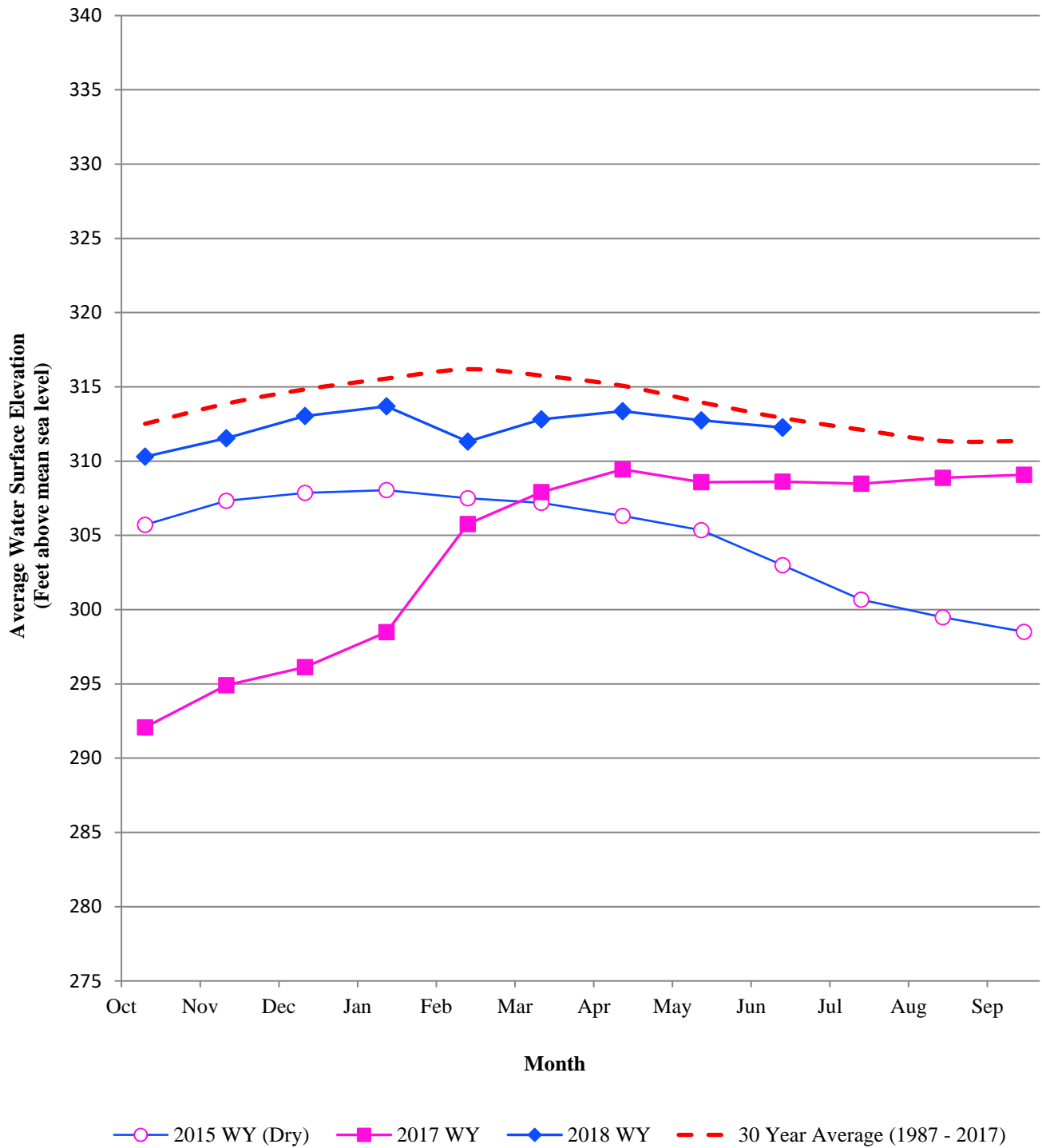
11 Wells



GROUNDWATER TRENDS FOREBAY SUBAREA 10 Wells



GROUNDWATER TRENDS UPPER VALLEY SUBAREA 9 Wells



Groundwater Trends Summary

June 2018

Area	June 2018 Groundwater Elevation (ft msl)	1 Year Change	Difference from 30 year Average Elevation	1 Month Change
Pressure 180-Foot Aquifer	8 '	up 2 '	down 2 '	down 1 '
Pressure 400-Foot Aquifer	-8 '	No Change	up 3 '	down 3 '
East Side Subarea	-23 '	No Change	down 10 '	down 8 '
Forebay Subarea	156 '	up 1 '	down 3 '	down 1 '
Upper Valley Subarea	312 '	up 4 '	down 1 '	down < 1 '