

Groundwater Condition

REPORT | SANTA CLARA COUNTY

May 2021

SUMMARY

This report summarizes current (April 2021) groundwater storage, recharge, pumping, and level conditions for the Santa Clara Subbasin (which includes the Santa Clara Plain and Coyote Valley groundwater management areas) and the Llagas Subbasin. Overall, countywide groundwater storage and water levels are in good condition. Table 1 summarizes current conditions.

Current groundwater levels are in the normal range, but water levels have declined in most index wells to below their 5-year averages due to continued dry conditions and pumping increases. Total storage at the end of 2021 is still projected to be in the lower part of Stage 1 (Normal) of Valley Water's Water Shortage Contingency Plan.

- January to April managed recharge is 76% to 106% of the five-year average.
- January to March pumping is 89% to 131% of the five-year average.
- Groundwater index well water levels for April 2021 range from 3 to 18 feet lower than the April levels of last year.

Table 1. Summary of Current Groundwater Conditions

	Santa Clara Subbasin		Llagas Subbasin
	Santa Clara Plain	Coyote Valley	
April 2021 managed recharge estimate (AF)	3,500	1,200	1,500
YTD 2021 managed recharge estimate (AF)	12,400	4,200	5,150
YTD 2021 managed recharge as % of 5-year average	78%	76%	106%
March 2021 pumping estimate (AF)	5,800	760	2,600
YTD 2021 pumping estimate (AF)	16,100	1,900	6,600
YTD 2021 pumping as % of 5-year average	131%	89%	129%
Current GW index levels compared to April of last year	18 feet lower	3 feet lower	13 feet lower

AF = acre-feet.

YTD = Year-to-date

Contact Us For questions, contact
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Groundwater Recharge

- Figures 1, 2, and 3 show the cumulative managed recharge for 2021 compared to the average of the last five years (2016 – 2020).
- The cumulative managed recharge through April is lower for the Santa Clara Plain and Coyote Valley and higher for the Llagas Subbasin compared to the averages of January to April managed recharge of the previous five years.
- The monthly managed recharge depends on many factors, including water demand and availability, regulatory needs, groundwater storage, and facility maintenance.

Figure 1. Estimated Cumulative Managed Recharge in the Santa Clara Plain

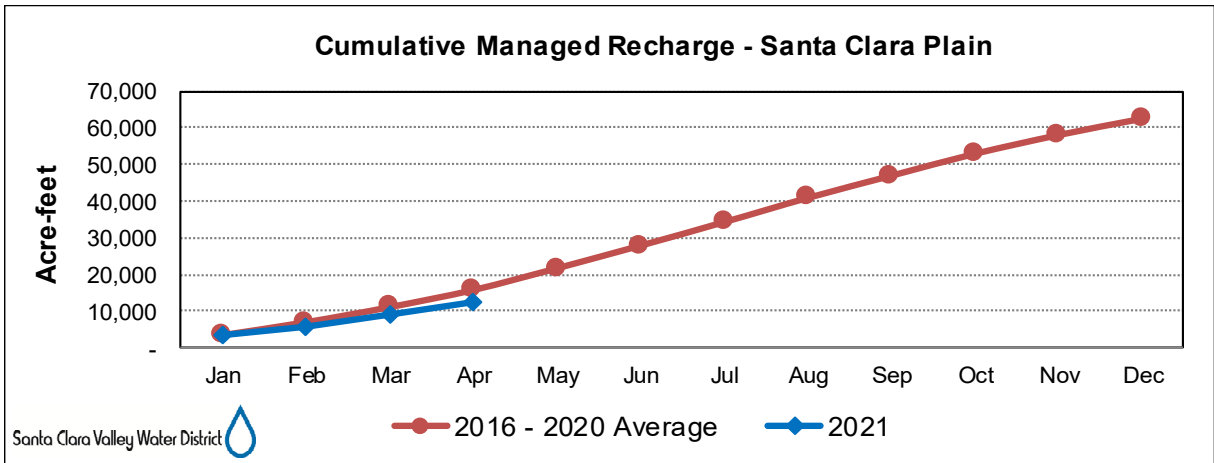


Figure 2. Estimated Cumulative Managed Recharge in the Coyote Valley

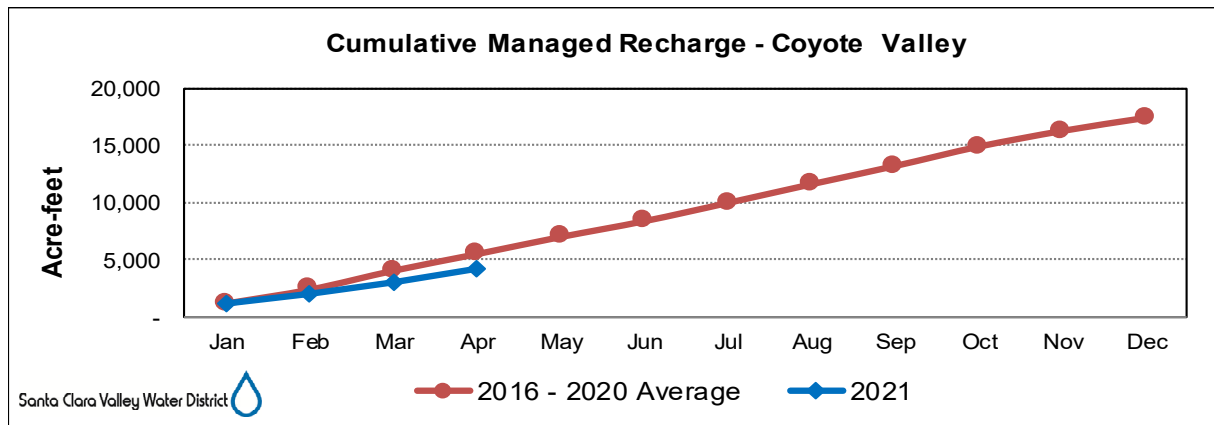
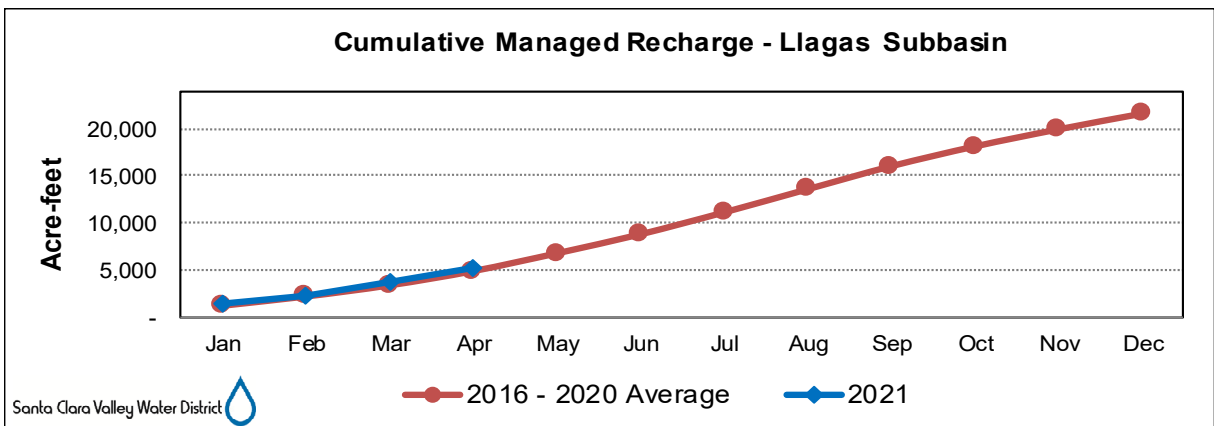


Figure 3. Estimated Cumulative Managed Recharge in the Llagas Subbasin



Groundwater Pumping

- Figures 4, 5, and 6 show the cumulative groundwater pumping for 2021 compared to the average of the last five years (2016 – 2020).
- Pumping for January to March 2021 are estimated numbers based on retailers’ pumping data.
- 2021 cumulative pumping is higher than the average pumping of the previous five years in the Santa Clara Plain and the Llagas Subbasin and lower in the Coyote Valley.

Figure 4. Estimated Cumulative Santa Clara Plain Pumping

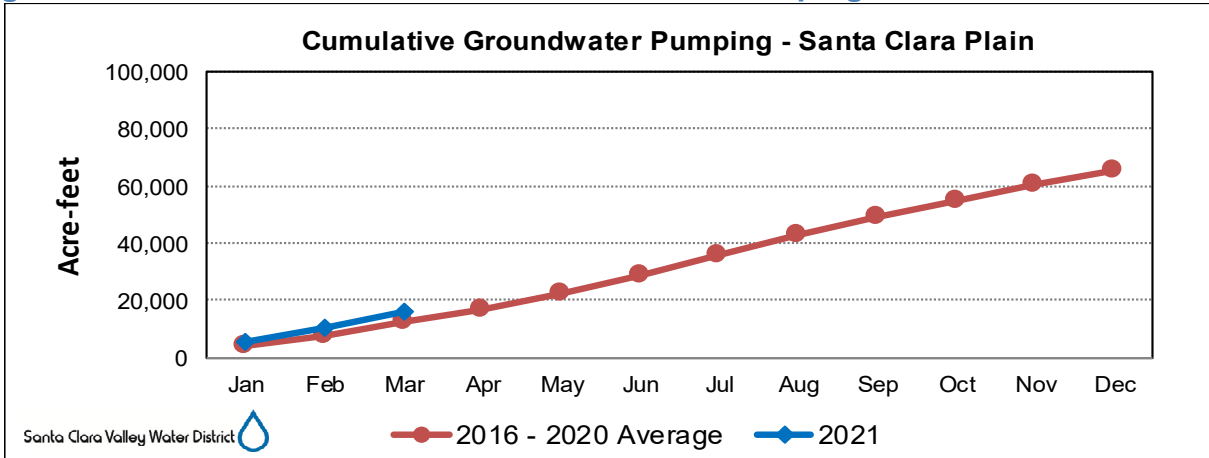


Figure 5. Estimated Cumulative Coyote Valley Pumping

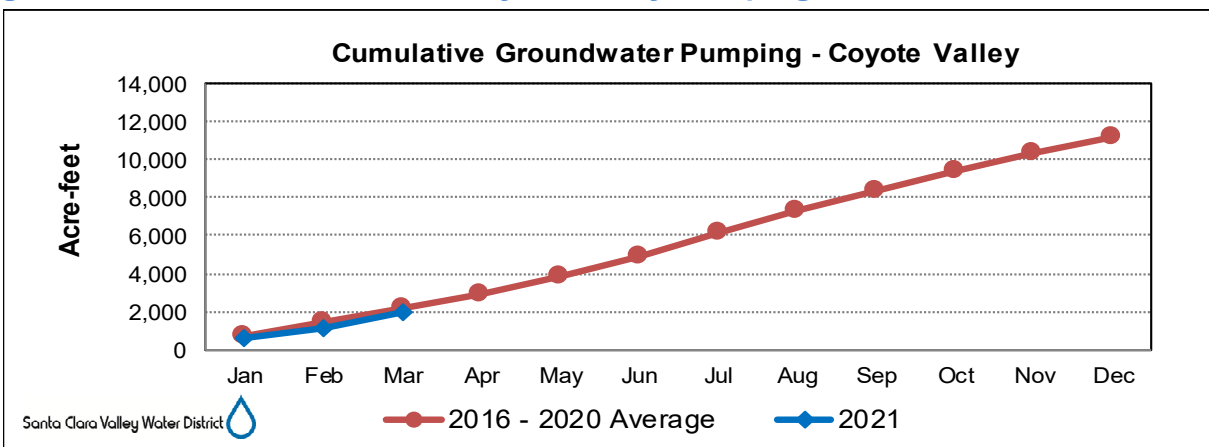
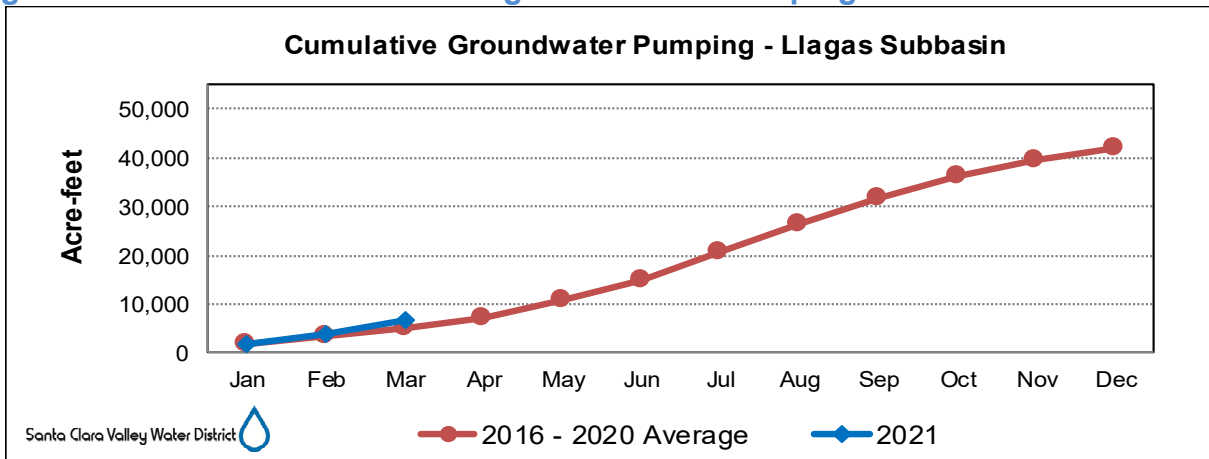


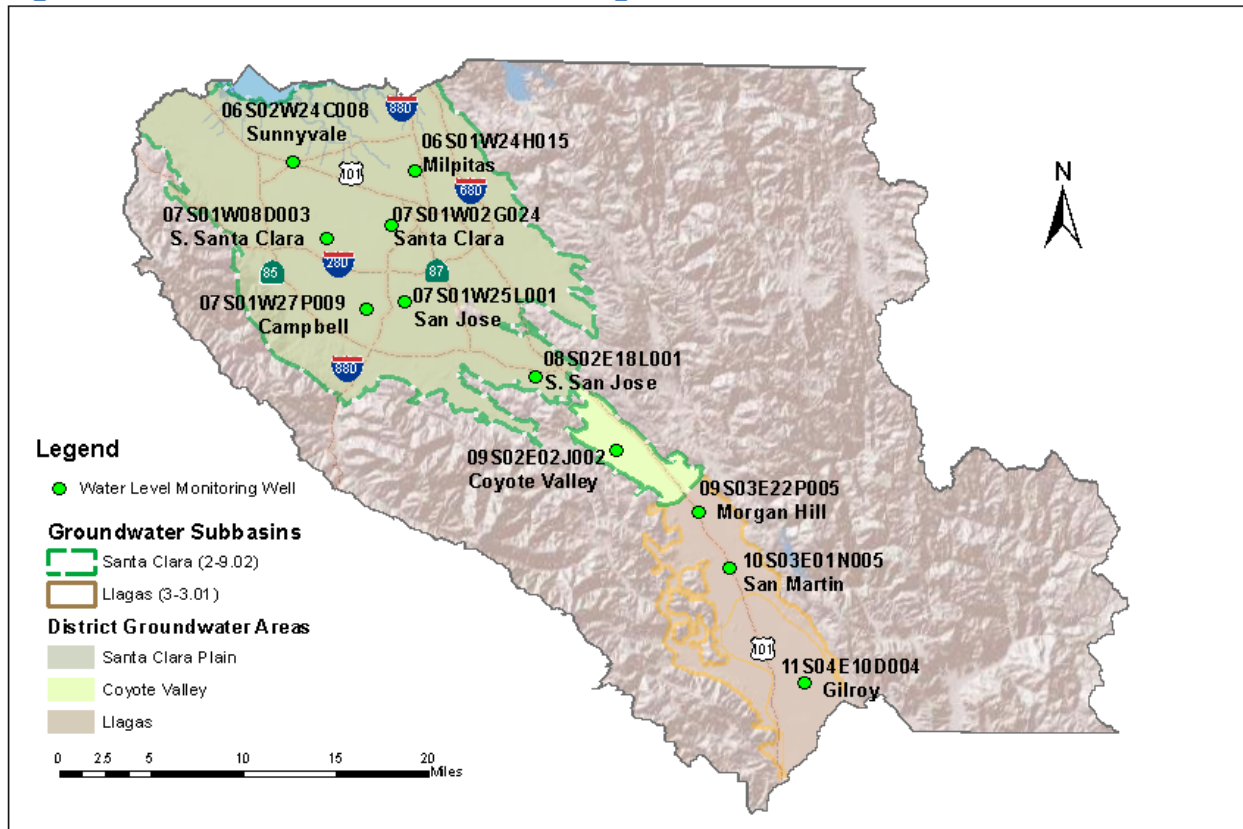
Figure 6. Estimated Cumulative Llagas Subbasin Pumping



Groundwater Levels

Current groundwater level conditions are summarized using eleven monitoring wells distributed across the sub-basins, as shown in Figure 7.

Figure 7. Location of Selected Monitoring Wells

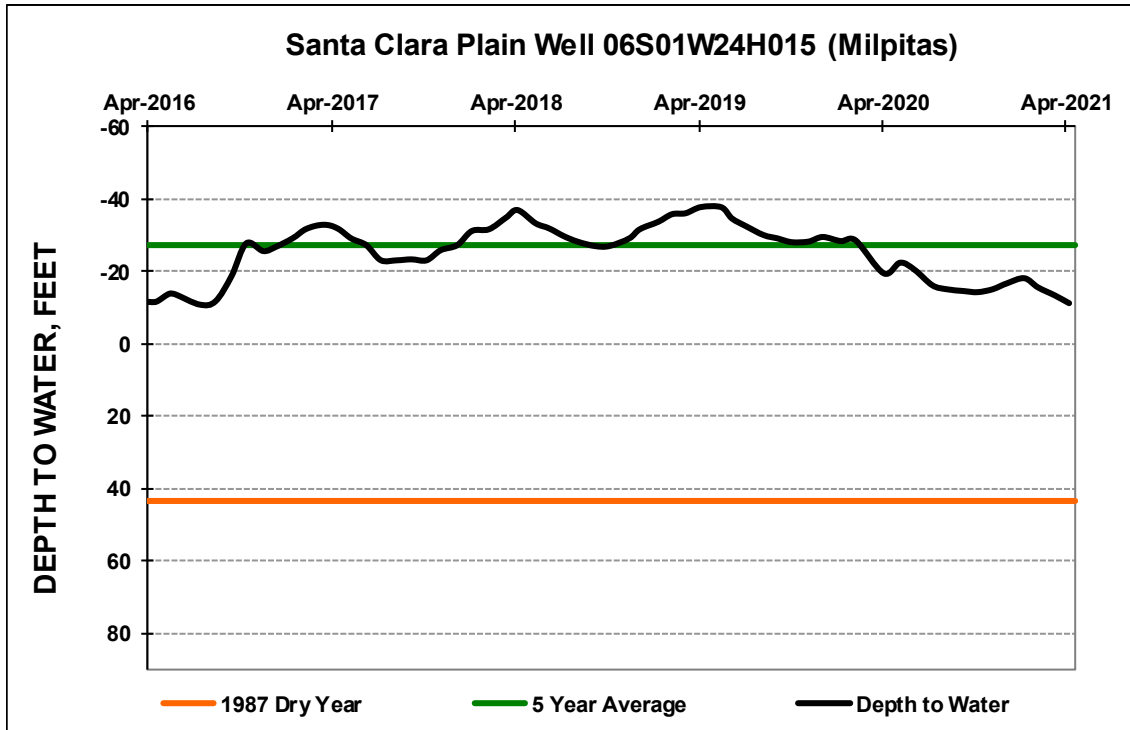


In Figures 8 through 18, hydrographs with April 2021 water levels from ten of the eleven index wells (one well (Gilroy) was not measured due to pumping) are compared to water levels from (i) March 2021, (ii) April 2020, (iii) April 2004 (a normal year), (iv) the prior five-year (2016-2020) average of April measurements, and (v) April 1987 (a dry year).

These hydrographs show that the April 2021 groundwater levels were:

- i. Lower than March 2021 levels in all ten wells with levels by 1 to 11 feet,
- ii. Lower than April 2020 levels in all ten wells with levels by 3 to 25 feet,
- iii. Higher in two wells by 1 to 15 feet and lower in seven wells by 5 to 31 feet compared to April 2004 (a normal year); one well does not have a 2004 water level,
- iv. Higher in one well by 4 feet, lower in nine wells by 4 to 36 feet, as compared to the average of the previous five-years of April readings, and
- v. Higher in seven wells by 31 to 103 feet and lower in three wells by 2 to 12 feet, as compared to April 1987 (a dry year).

Figure 8. Milpitas Well Hydrograph



A measured value at Milpitas for 2004 is not available for comparison. Between March 1998 and October 2006, this well was flowing artesian and not measured. In October 2006, the well was modified to allow measurement of artesian pressures.

Figure 9. Sunnyvale Well Hydrograph

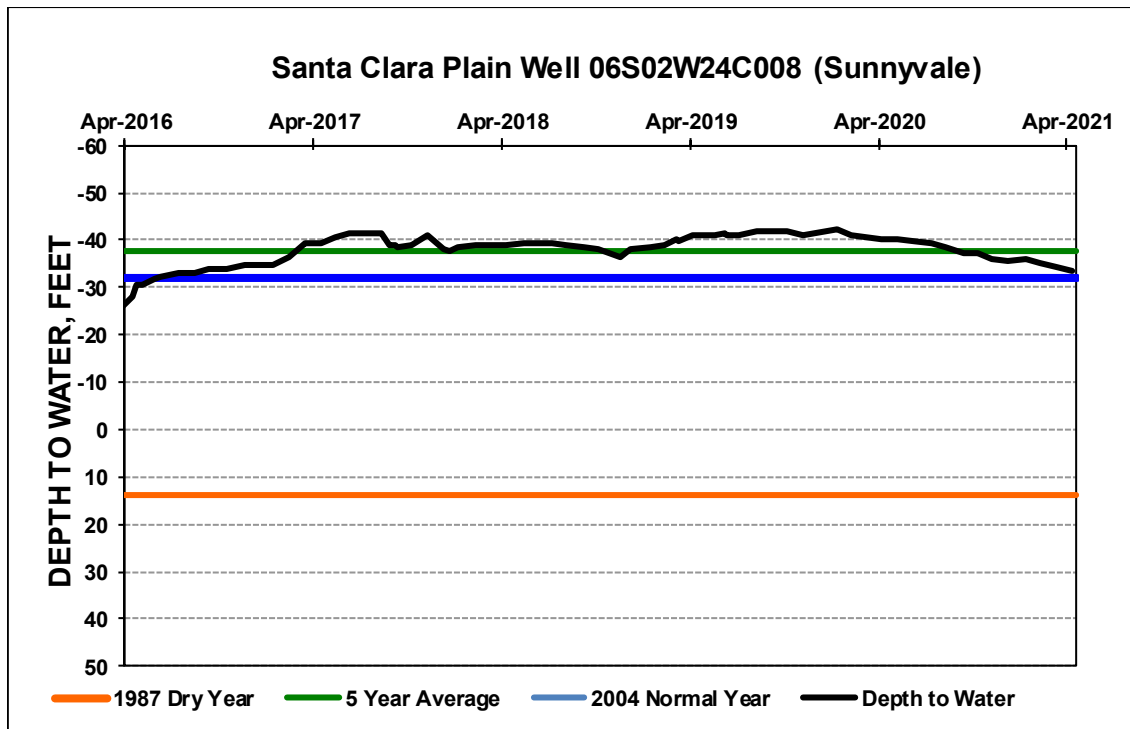


Figure 10. San Jose Well Hydrograph (Index Well for the Santa Clara Plain)

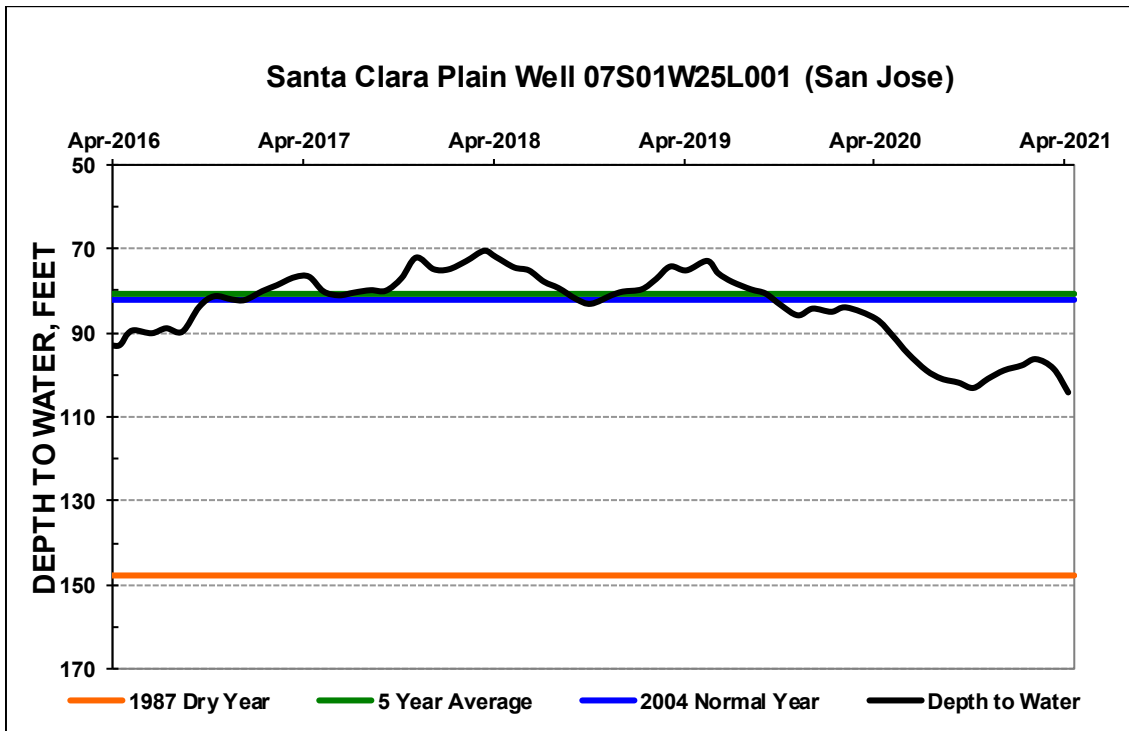


Figure 11. Santa Clara Well Hydrograph

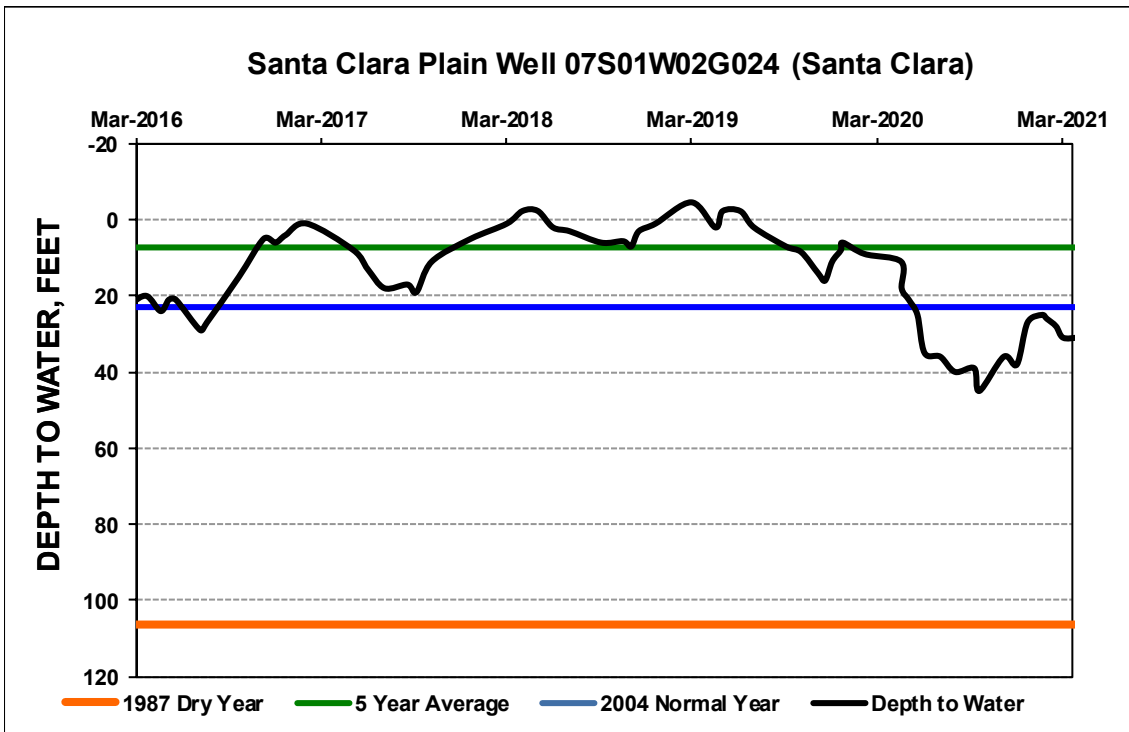


Figure 12. South Santa Clara Well Hydrograph

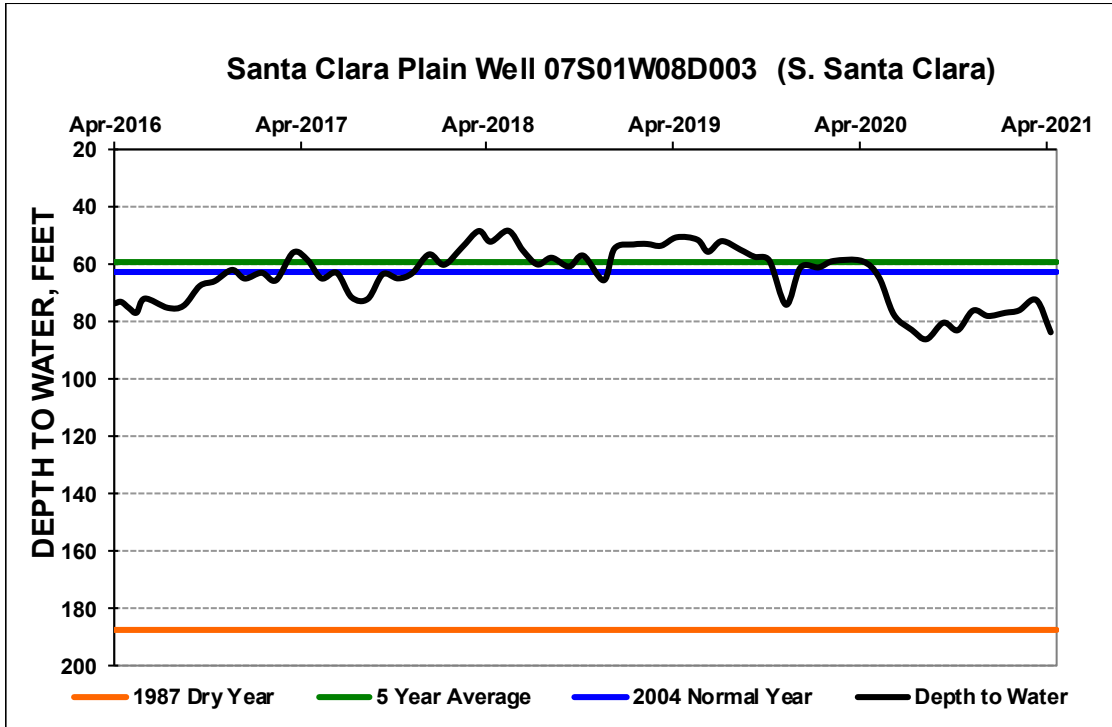
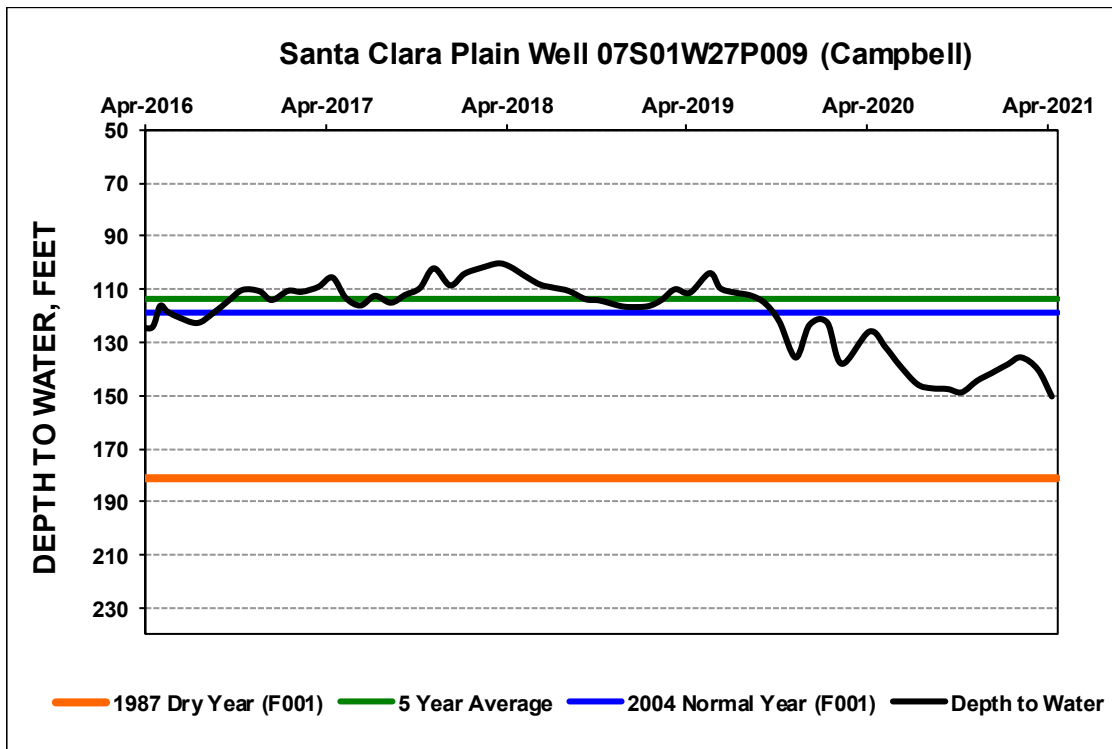


Figure 13. Campbell Well Hydrograph



The Campbell index well was replaced in August 2015 with a nearby well with similar water levels. Historic comparisons for 1987 and 2004 use data from the former index well (07S01W34F001).

Figure 14. South San Jose Well Hydrograph

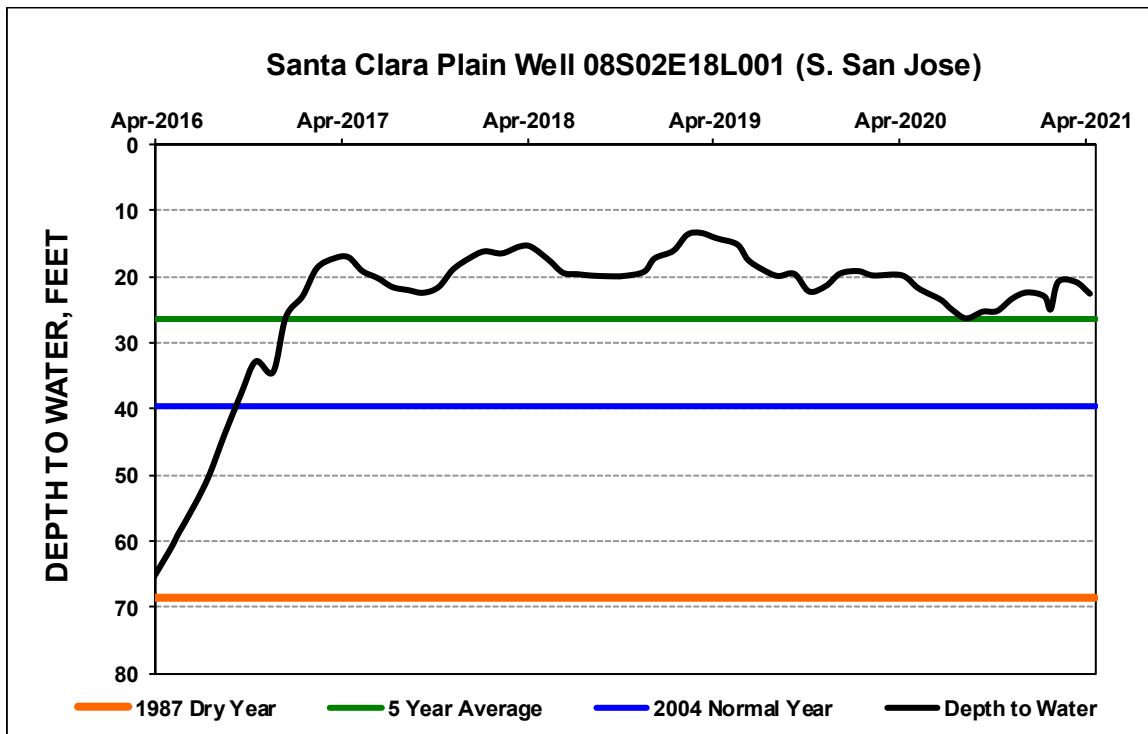


Figure 15. Coyote Valley Well Hydrograph (Index Well for the Coyote Valley)

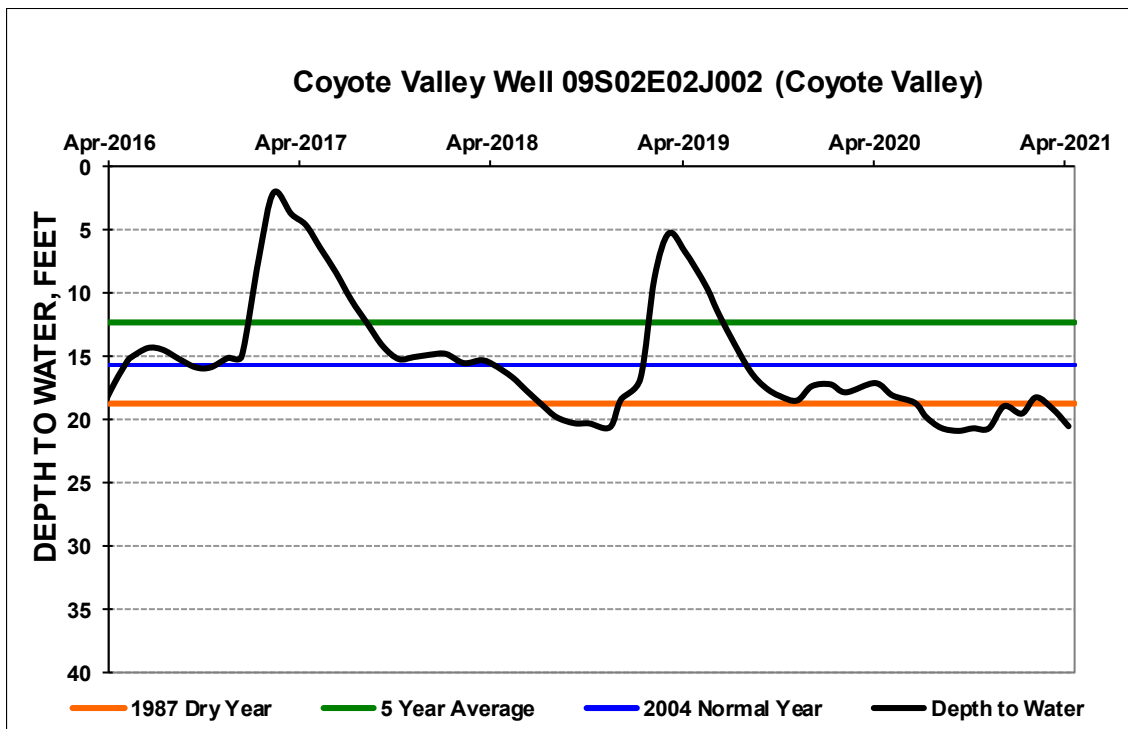


Figure 16. Morgan Hill Well Hydrograph

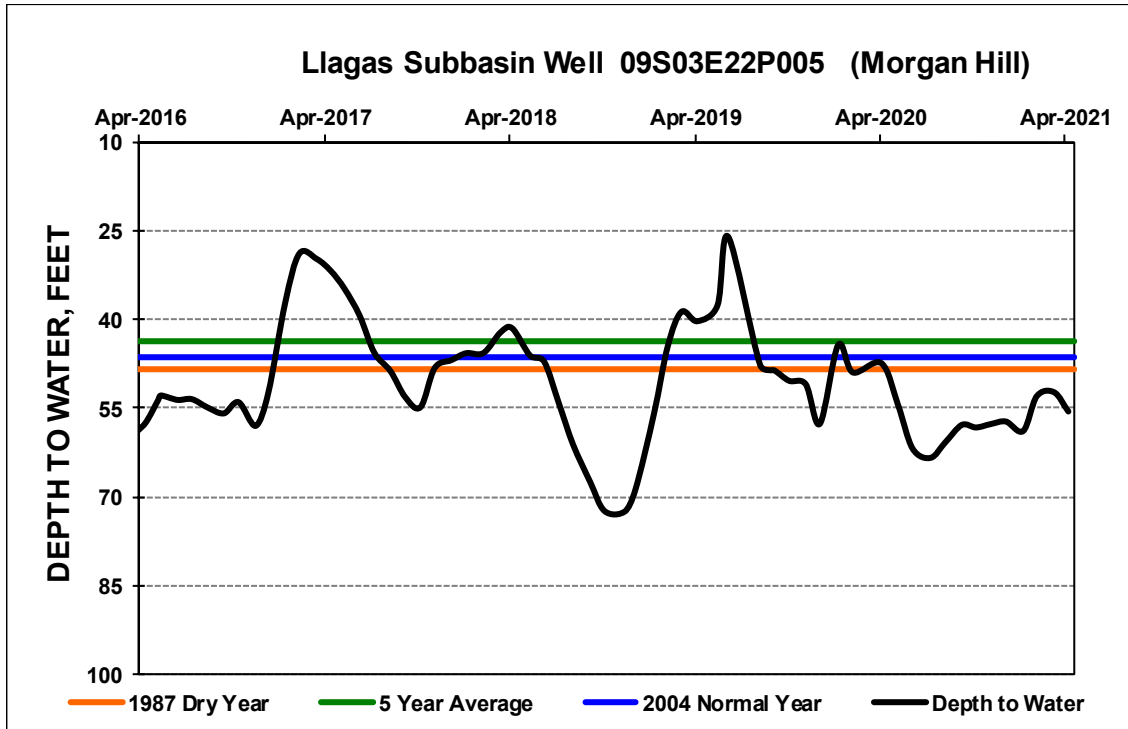
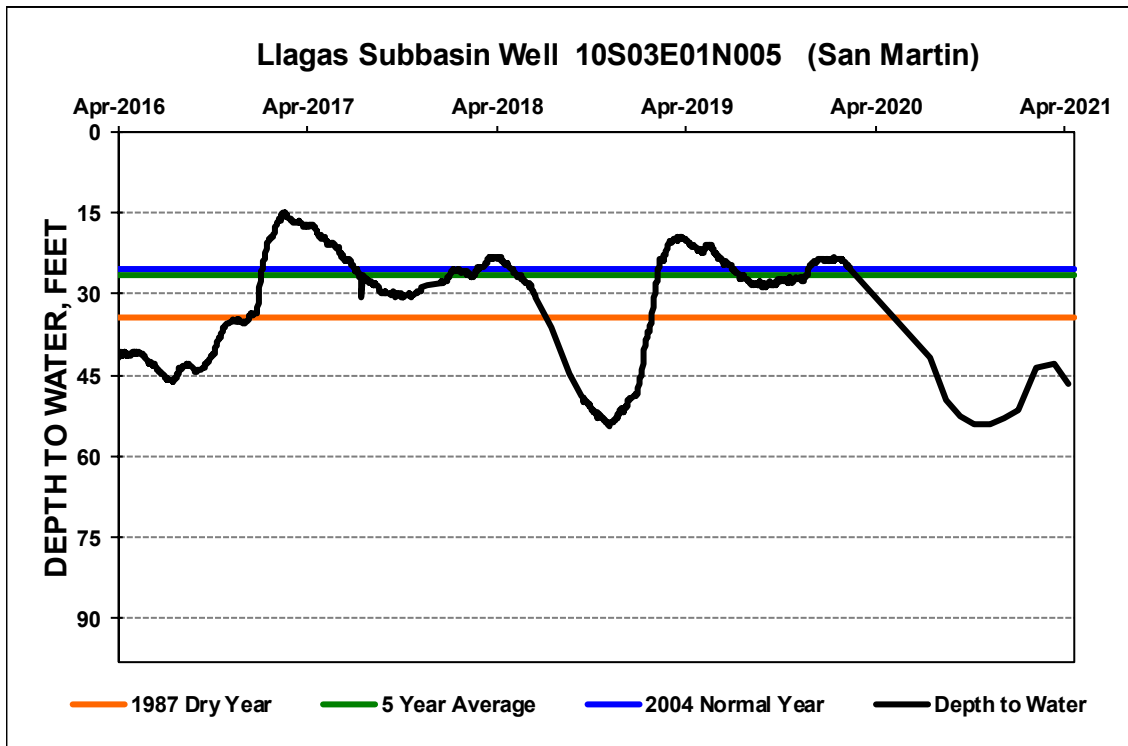
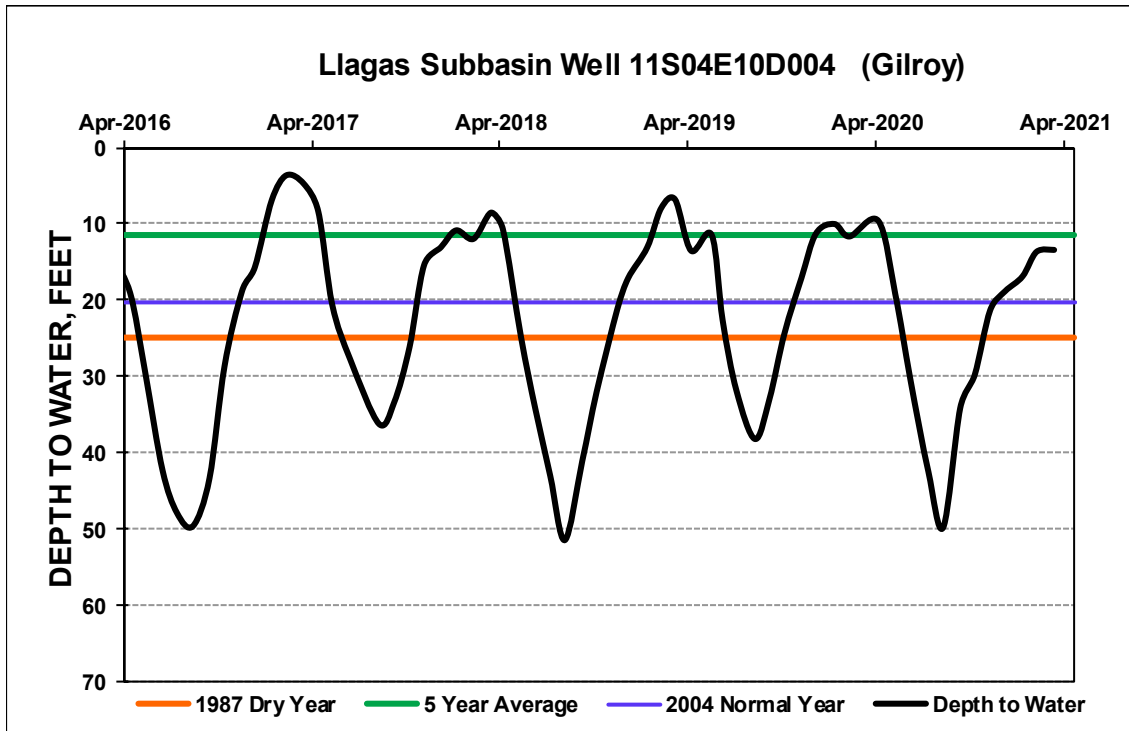


Figure 17. San Martin Well Hydrograph (Index Well for the Llagas Subbasin)



The San Martin index well was replaced in January 2021 with a nearby well with water levels similar to the prior wells but with a more complete record and improved access.

Figure 18. Gilroy Well Hydrograph



Note: There is not an April water level for this well as it was pumping at the time of measurement