

Groundwater Condition

REPORT | SANTA CLARA COUNTY

June 2021

SUMMARY

This report summarizes current (May 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 declining because of extreme drought conditions. Table 1 summarizes current conditions.

Current groundwater levels in most index wells are below their 5-year averages due reduced recharge and increased pumping. While Valley Water is pursuing emergency imported water supplies for additional recharge, availability is uncertain. Assuming limited emergency imported water purchases and no additional water use reduction, total storage at the end of 2021 is projected to be in Stage 2 (Alert) of Valley Water's Water Shortage Contingency Plan.

- January to May managed recharge is 76% to 92% of the five-year average.
- January to April pumping is 100% to 138% of the five-year average.
- Groundwater index well water levels for May 2021 range from 4 to 16 feet lower than the May levels of last year.

Table 1. Summary of Current Groundwater Conditions

	Santa Clara Subbasin		Llagas Subbasin
	Santa Clara Plain	Coyote Valley	
May 2021 managed recharge estimate (AF)	4,050	1,400	1,300
YTD 2021 managed recharge estimate (AF)	17,000	5,300	6,200
YTD 2021 managed recharge as % of 5-year average	78%	76%	92%
April 2021 pumping estimate (AF)	7,200	950	3,350
YTD 2021 pumping estimate (AF)	23,200	2,950	9,050
YTD 2021 pumping as % of 5-year average	138%	100%	123%
Current GW index levels compared to May of last year	16 feet lower	4 feet lower	10 feet lower

AF = acre-feet.

YTD = Year-to-date

Contact Us For questions, contact
Roger Pierno at (408) 630-2738



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 May is lower for the Santa Clara Plain, the Coyote Valley, and the Llagas Subbasin compared to the averages of January to May 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

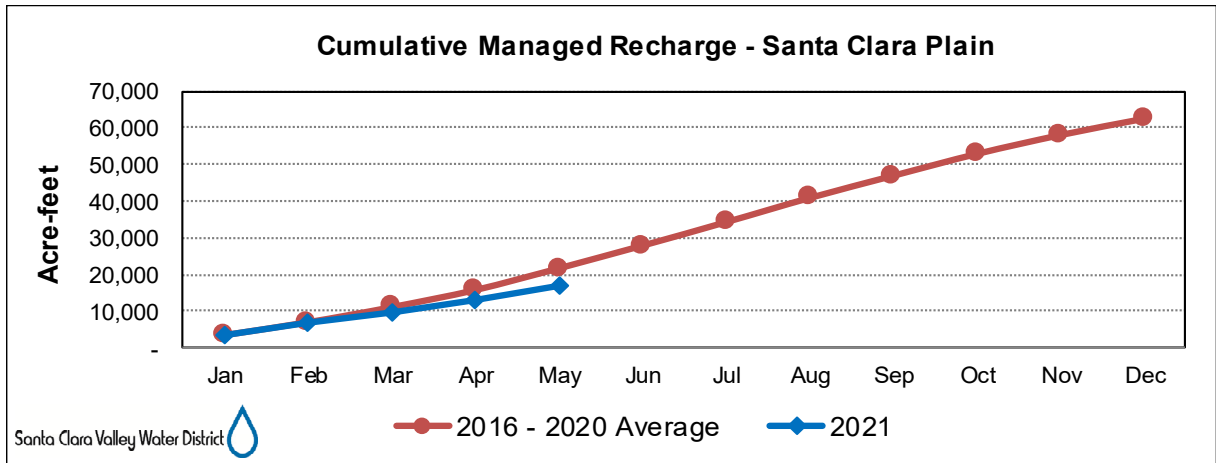


Figure 2. Estimated Cumulative Managed Recharge in the Coyote Valley

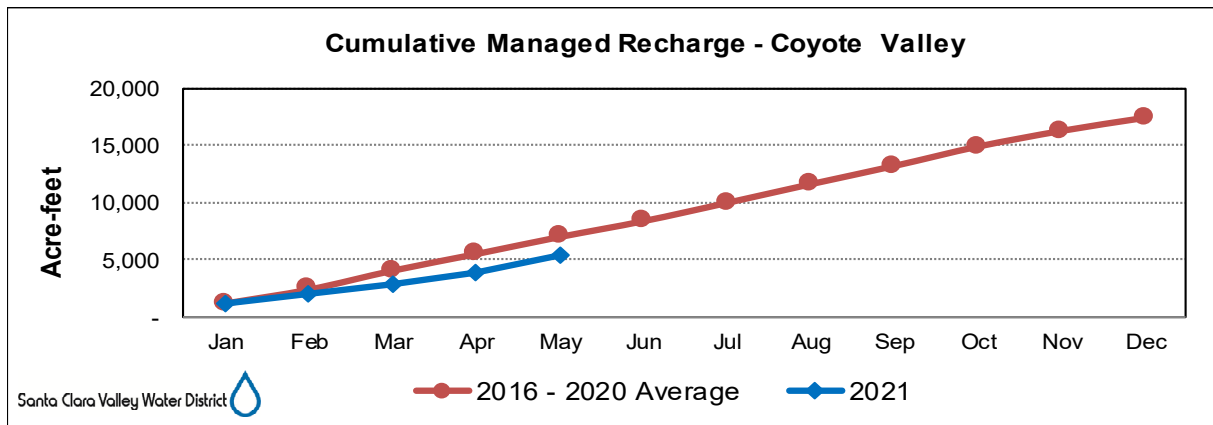
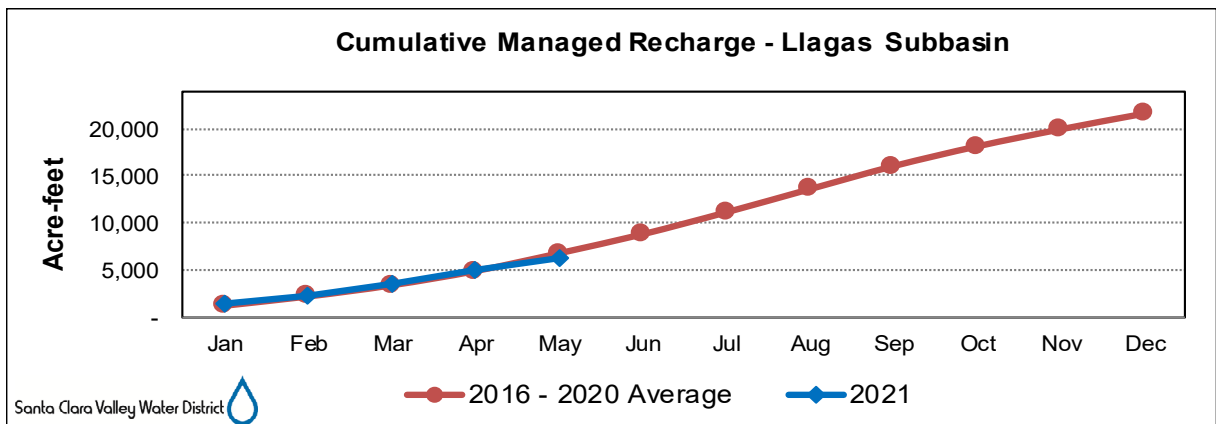


Figure 3. Estimated Cumulative Managed Recharge in the Llagas Subbasin



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 April 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, the Llagas Subbasin, while Coyote Valley is average.

Figure 4. Estimated Cumulative Santa Clara Plain Pumping

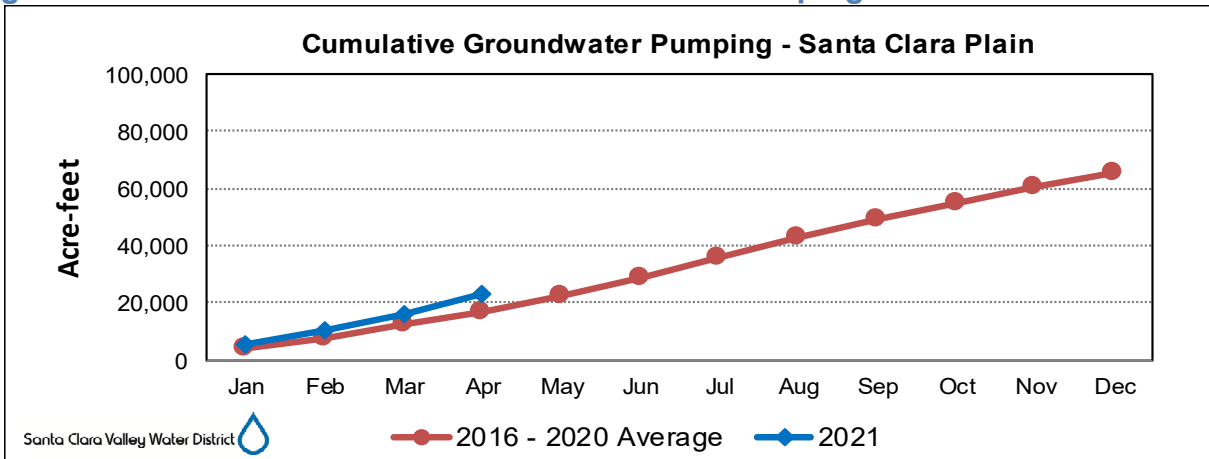


Figure 5. Estimated Cumulative Coyote Valley Pumping

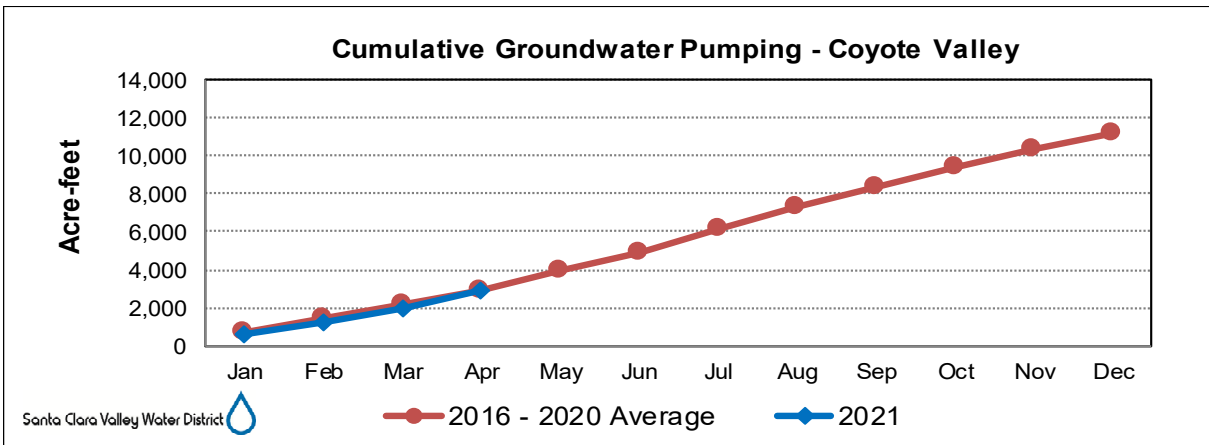
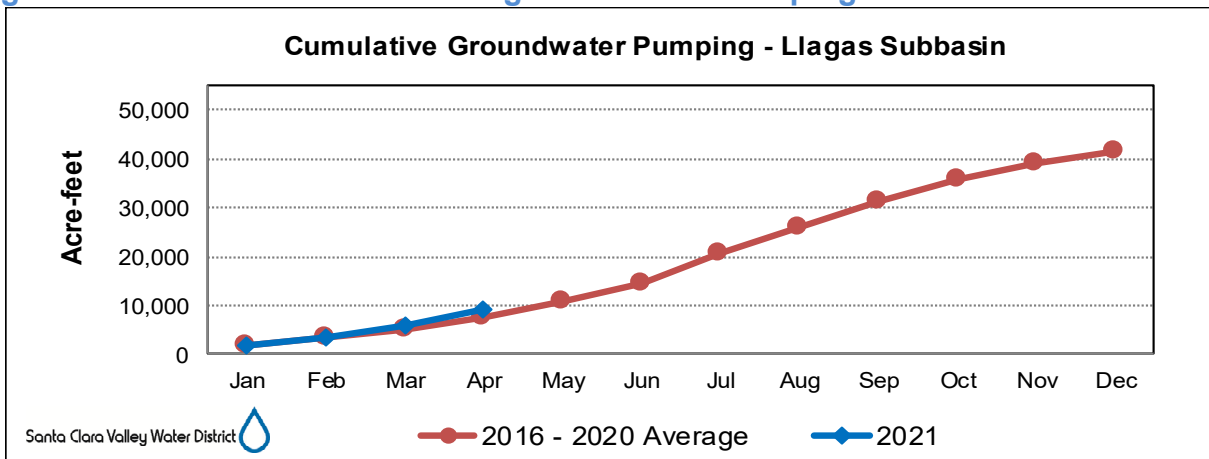


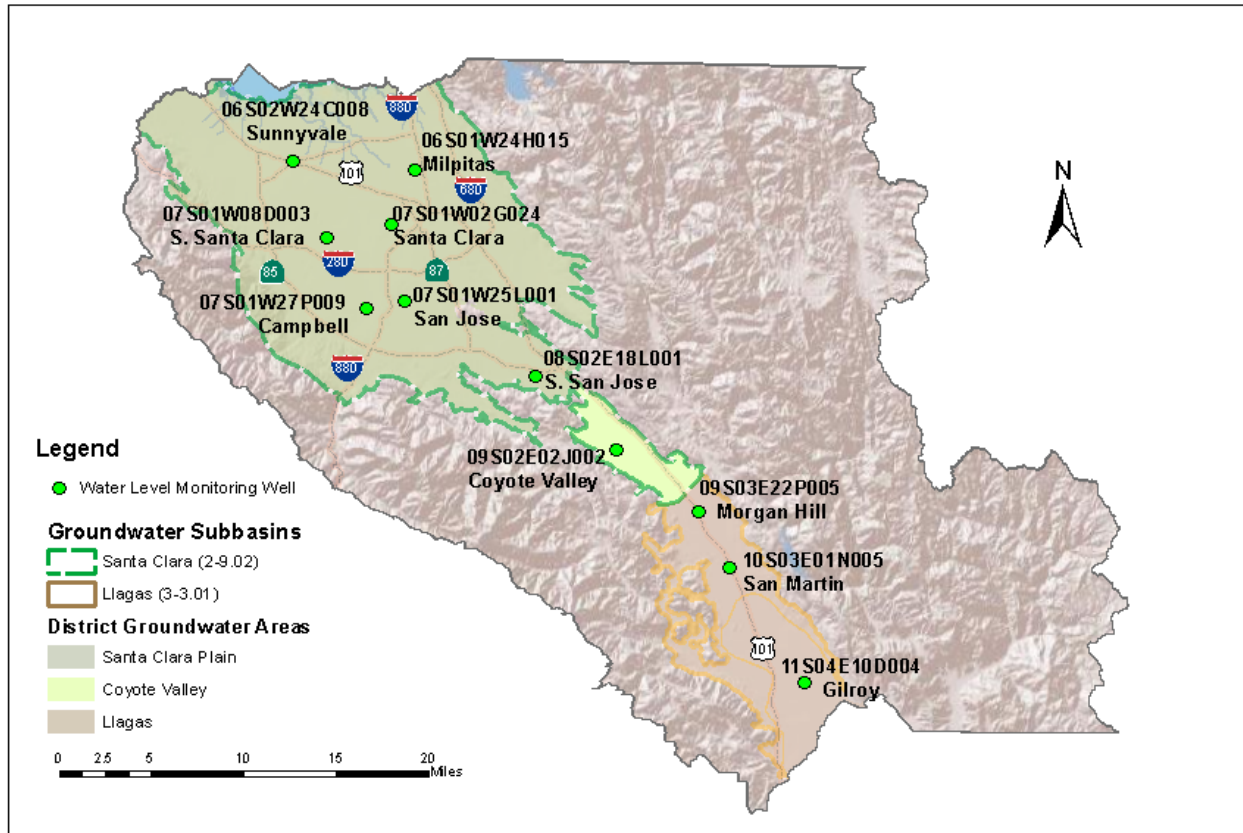
Figure 6. Estimated Cumulative Llagas Subbasin Pumping



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

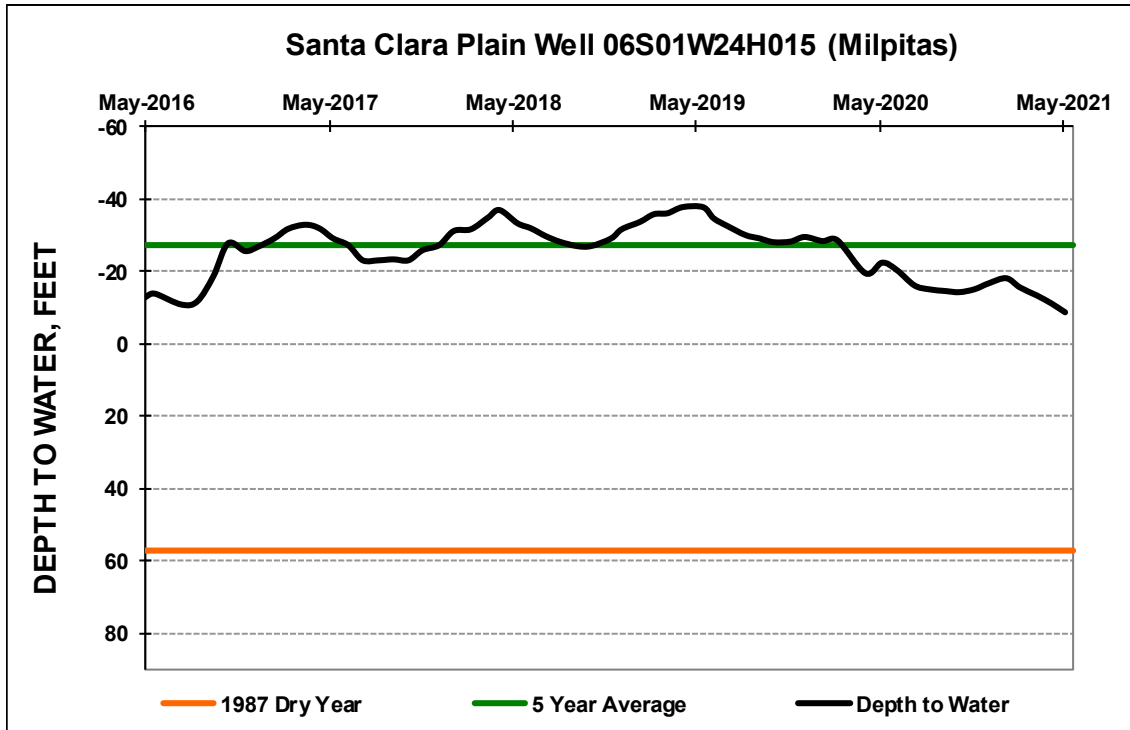


In Figures 8 through 18, hydrographs with May 2021 water levels from the eleven index wells are compared to water levels from (i) April 2021, (ii) May 2020, (iii) May 2004 (a normal year), (iv) the prior five-year (2016-2020) average of May measurements, and (v) May 1987 (a dry year).

These hydrographs show that the May 2021 groundwater levels were:

- i. Lower than April 2021 levels in all eleven wells with levels by 1 to 29 feet,
- ii. Lower than May 2020 levels in all eleven wells with levels by 2 to 21 feet,
- iii. Higher in three wells by 1 to 21 feet and lower in seven wells by 2 to 39 feet compared to May 2004 (a normal year); one well does not have a 2004 water level,
- iv. Higher in one well by 3 feet, lower in ten wells by 5 to 37 feet, as compared to the average of the previous five-years of May readings, and
- v. Higher in eight wells by 1 to 102 feet and lower in two wells by 2 to 4 feet, and the same in one well as compared to May 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

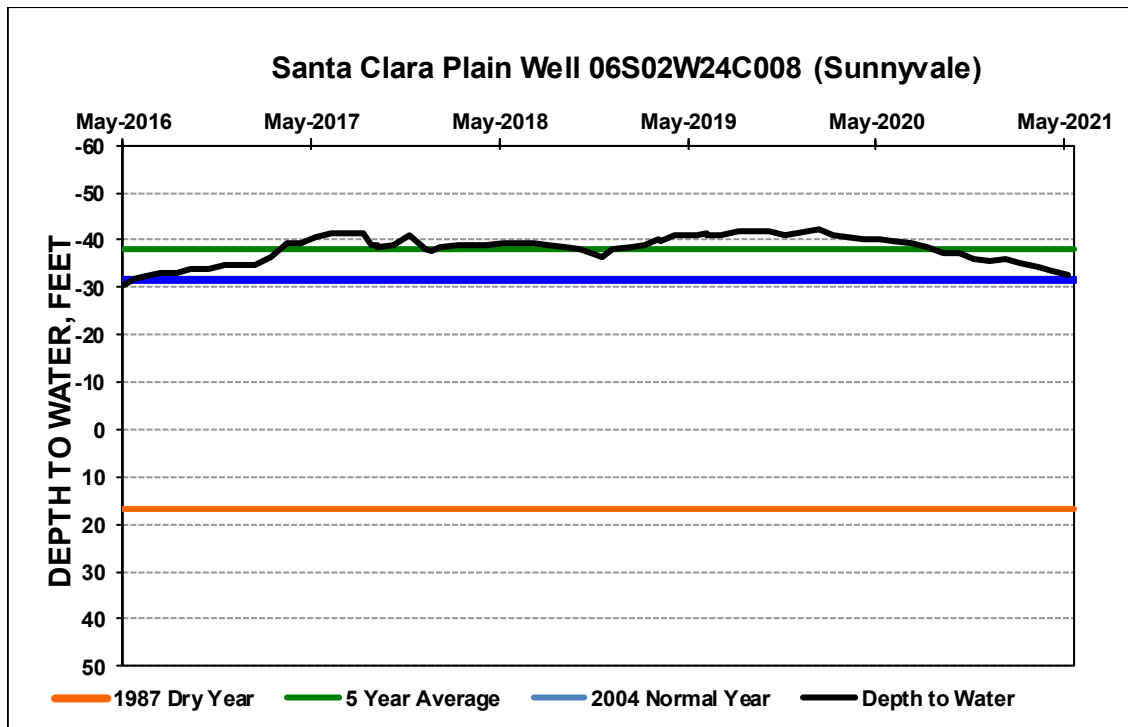


Figure 10. San Jose Well Hydrograph (Index Well for the Santa Clara Plain)

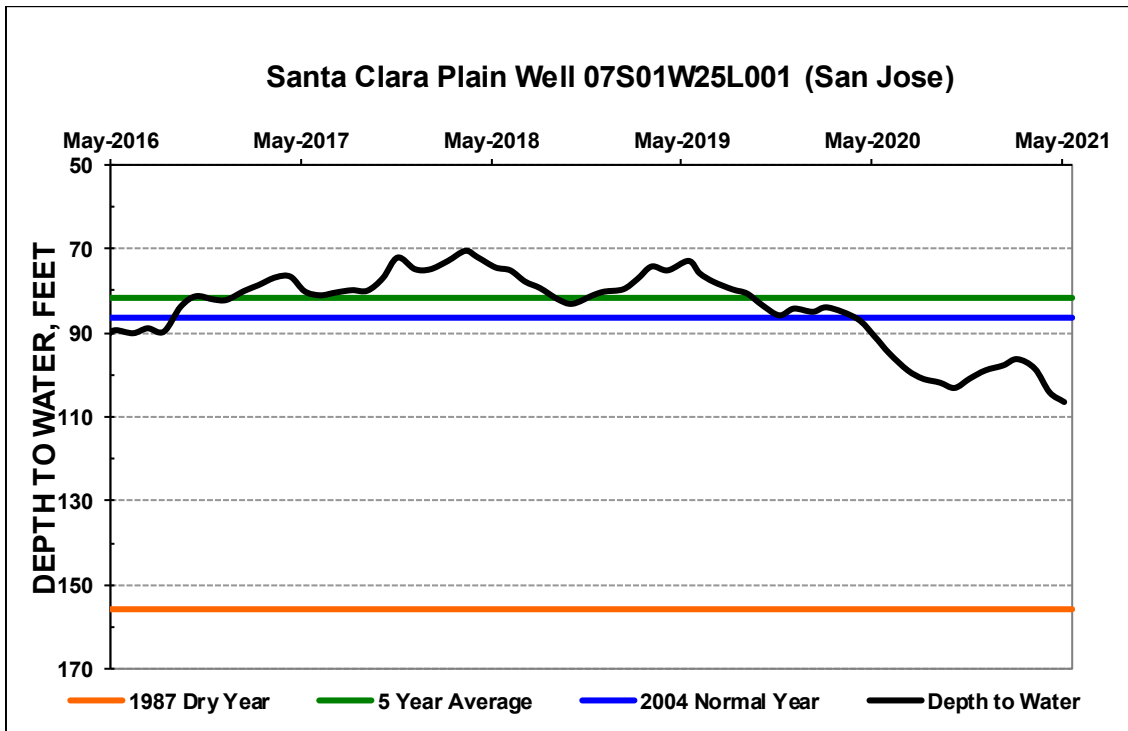


Figure 11. Santa Clara Well Hydrograph

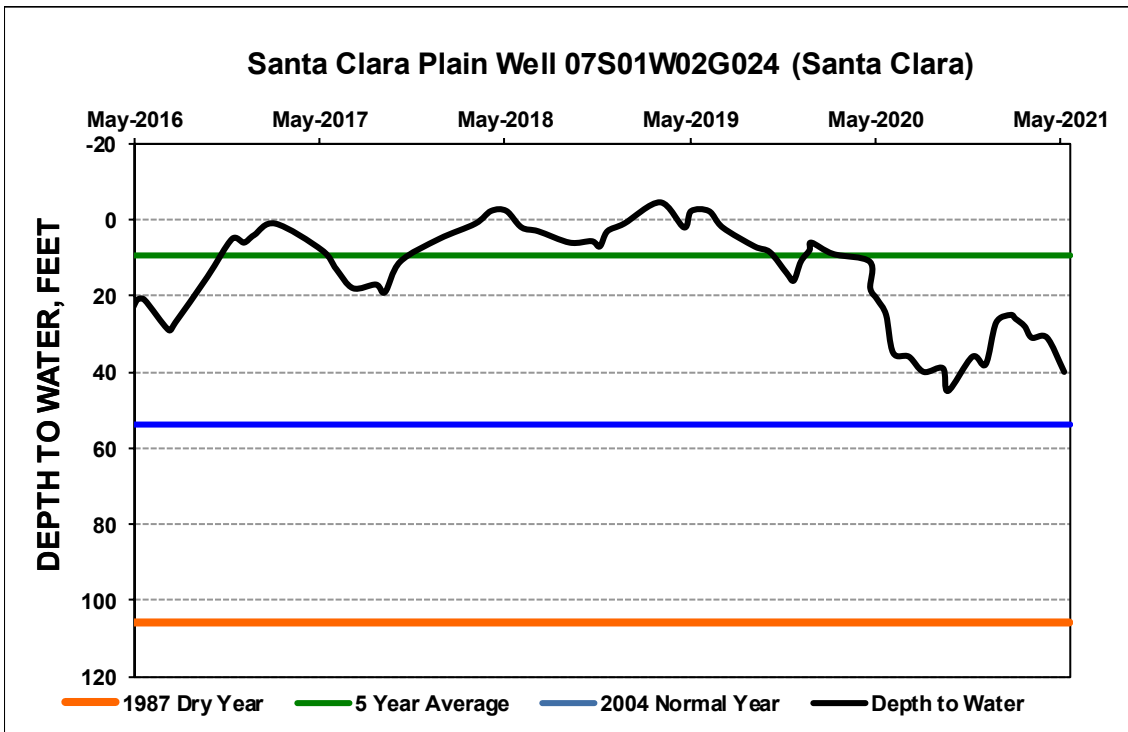


Figure 12. South Santa Clara Well Hydrograph

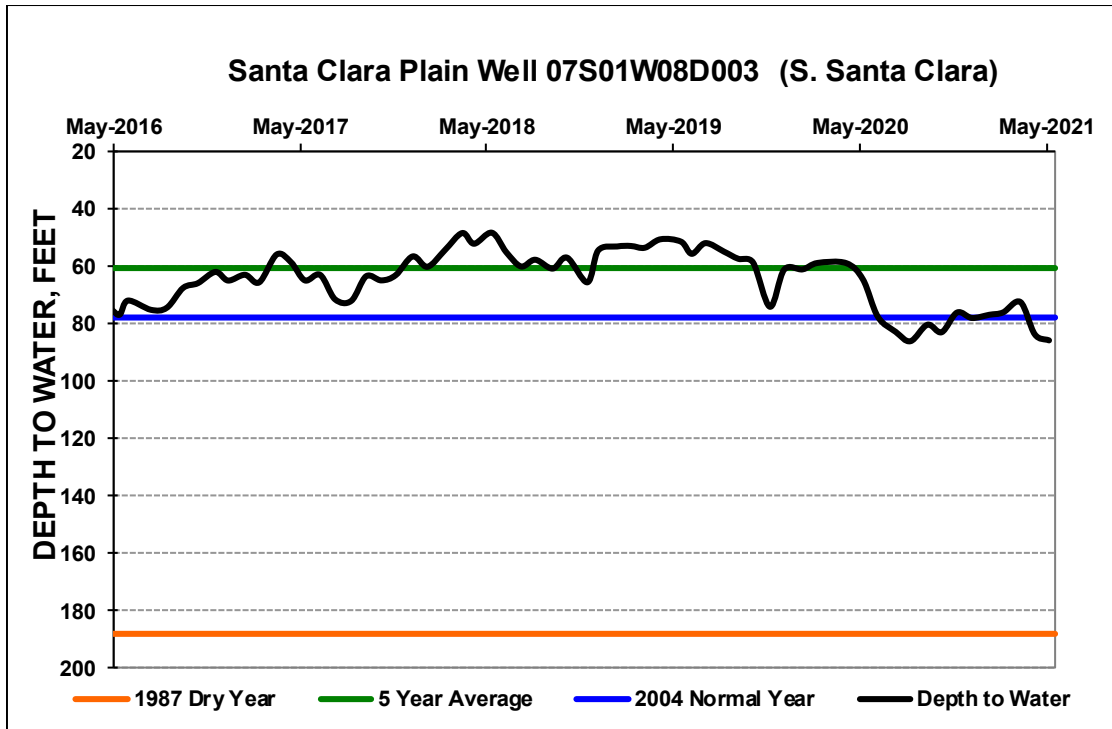
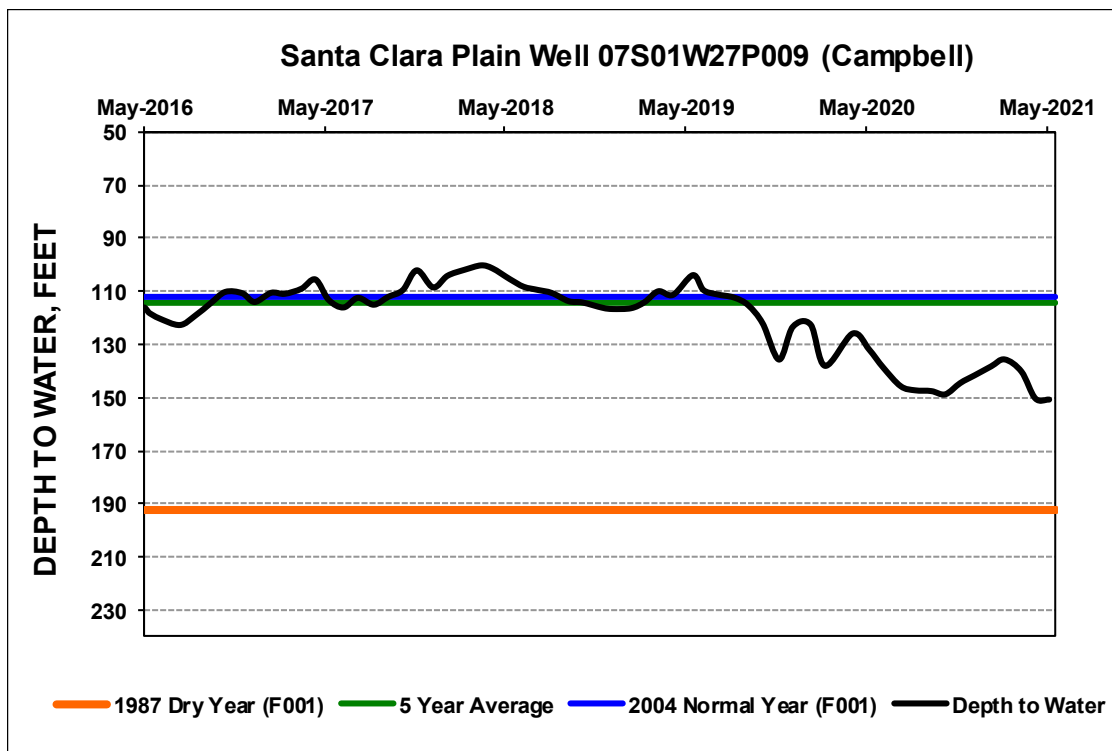


Figure 13. Campbell Well Hydrograph



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

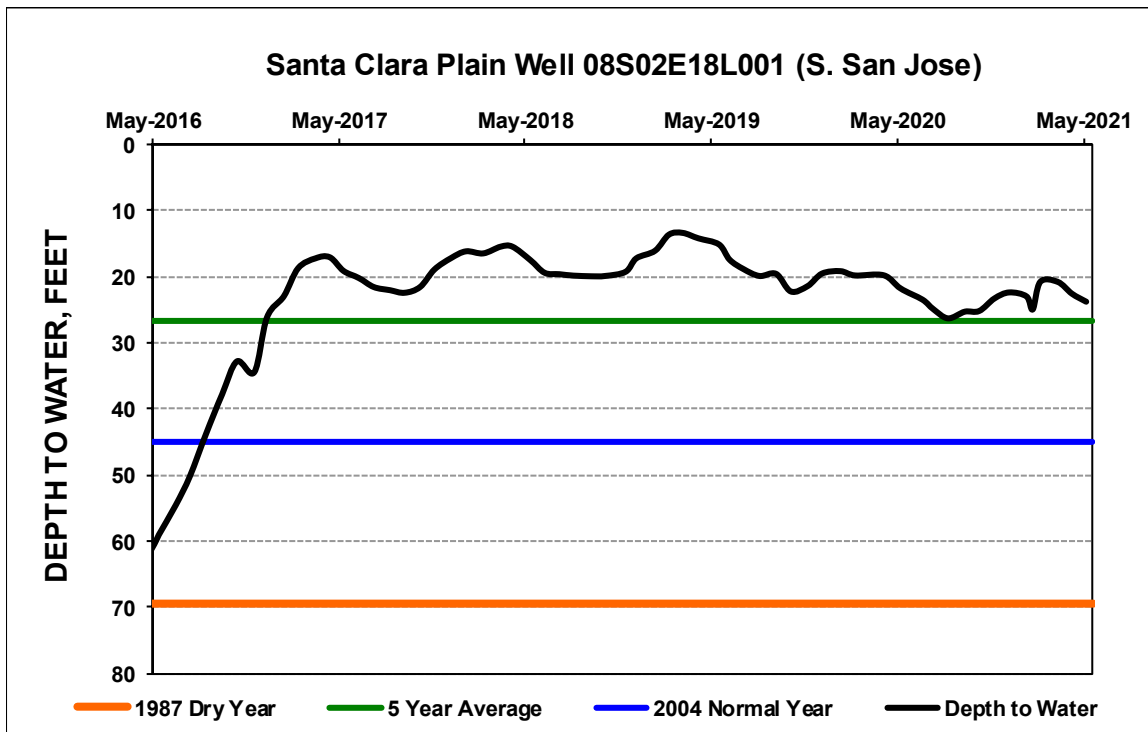


Figure 15. Coyote Valley Well Hydrograph (Index Well for the Coyote Valley)

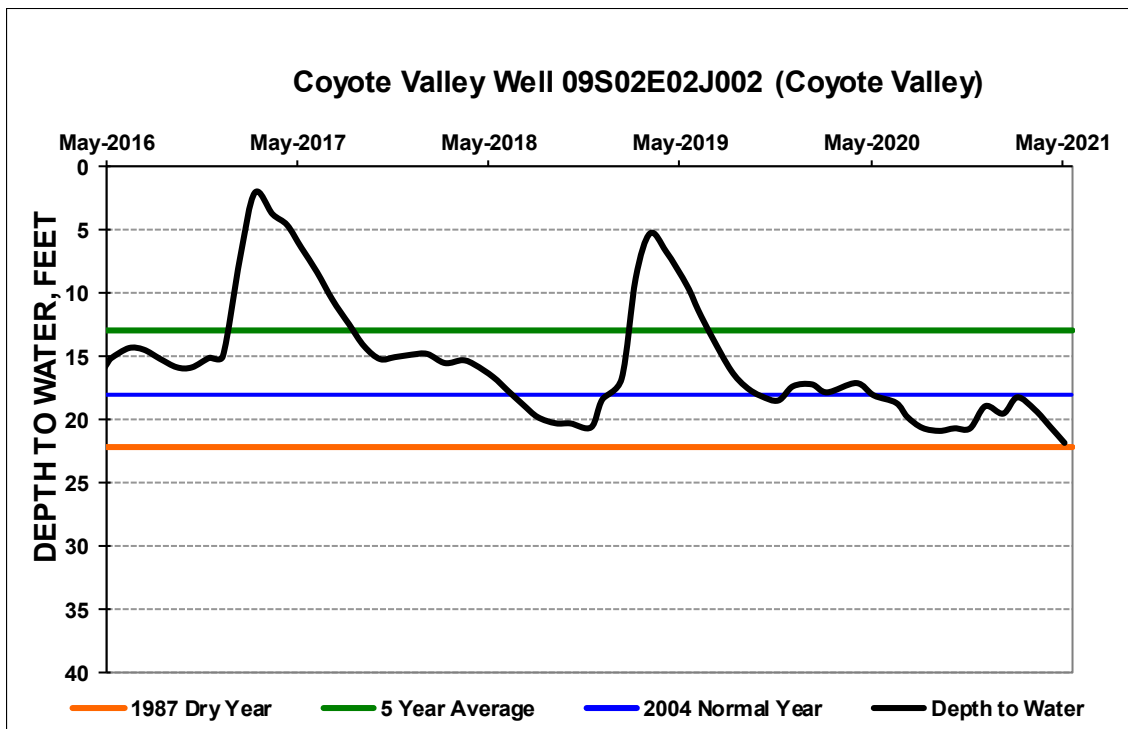


Figure 16. Morgan Hill Well Hydrograph

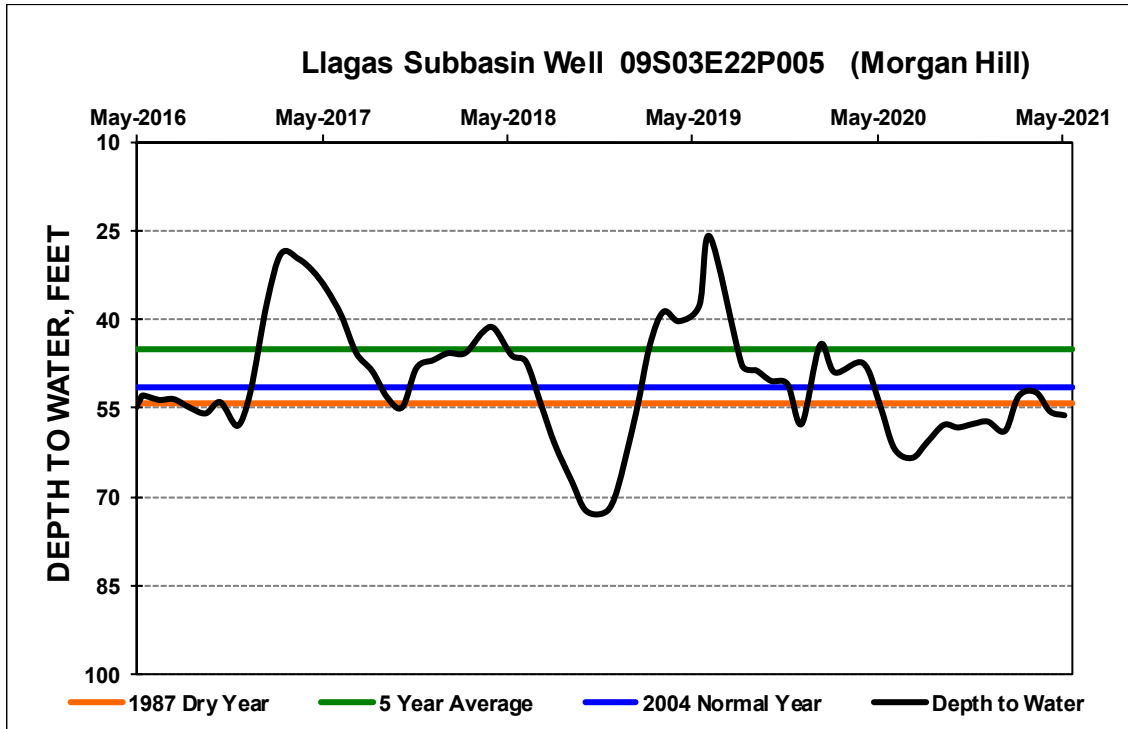
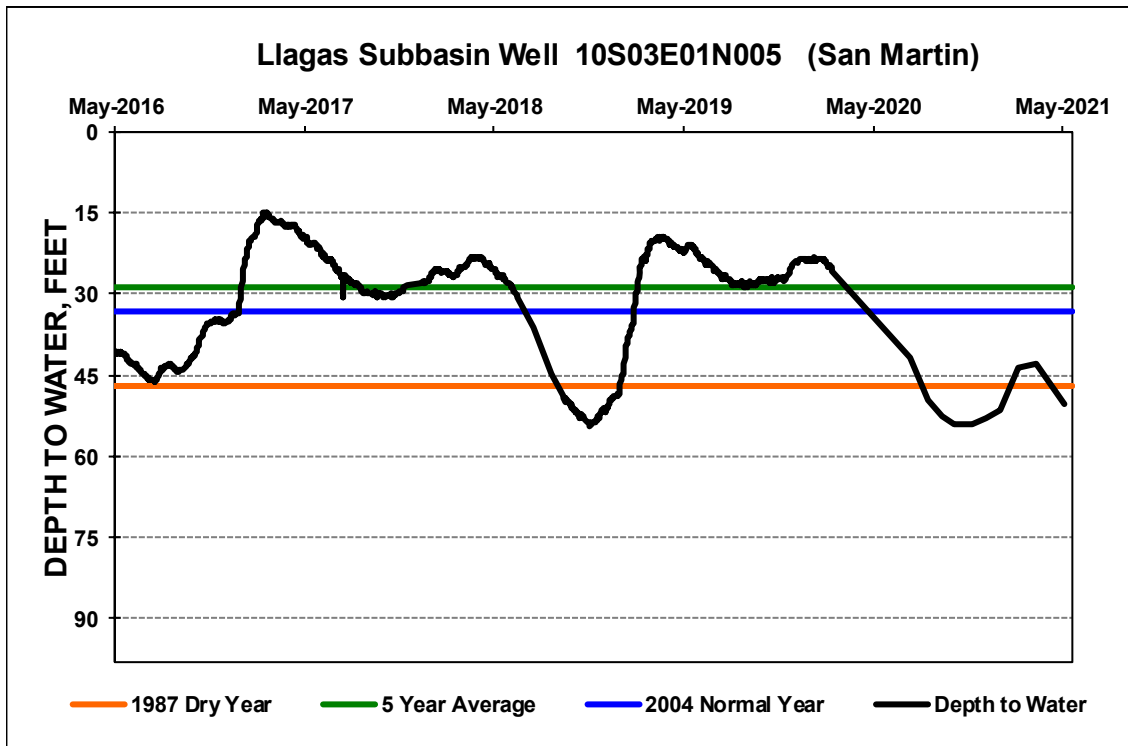


Figure 17. San Martin Well Hydrograph (Index Well for the Llagas Subbasin)



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

