

Groundwater Condition

REPORT | SANTA CLARA COUNTY

February 2021

SUMMARY

This report summarizes current (January 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.

- Estimated groundwater storage is above normal and is projected to remain well within the Stage 1 (Normal) range of Valley Water's Water Shortage Contingency Plan throughout 2021.
- January managed recharge is 96% to 100% of the five-year average.
- 2020 pumping through December is 99% to 124% of the five-year average.
- Groundwater index well water levels for January 2021 range from 2 feet lower to 16 feet lower than the average of the previous five-years of January readings.

Table 1. Summary of Current Groundwater Conditions

	Santa Clara Subbasin		Llagas Subbasin
	Santa Clara Plain	Coyote Valley	
January managed recharge estimate (AF)	3,450	1,200	1,150
January managed recharge, % of 5-year average	100%	100%	96%
December 2020 pumping estimate (AF)	5,800	600	2,900
January to December 2020 pumping estimate (AF)	81,000	11,350	44,500
YTD pumping, % of 5-year average	124%	99%	105%
GW index well level compared to last January 2020	13 feet lower	2 feet lower	28 feet lower
GW index level compared to January 5-year average	14 feet lower	2 feet lower	16 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 estimated January 2021 managed recharge compared to the average of the last five years (2016 – 2020).
- January 2021 managed recharge is same for the Santa Clara Plain and Coyote Valley, and slightly lower for the Llagas Subbasin compared to the averages of January 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

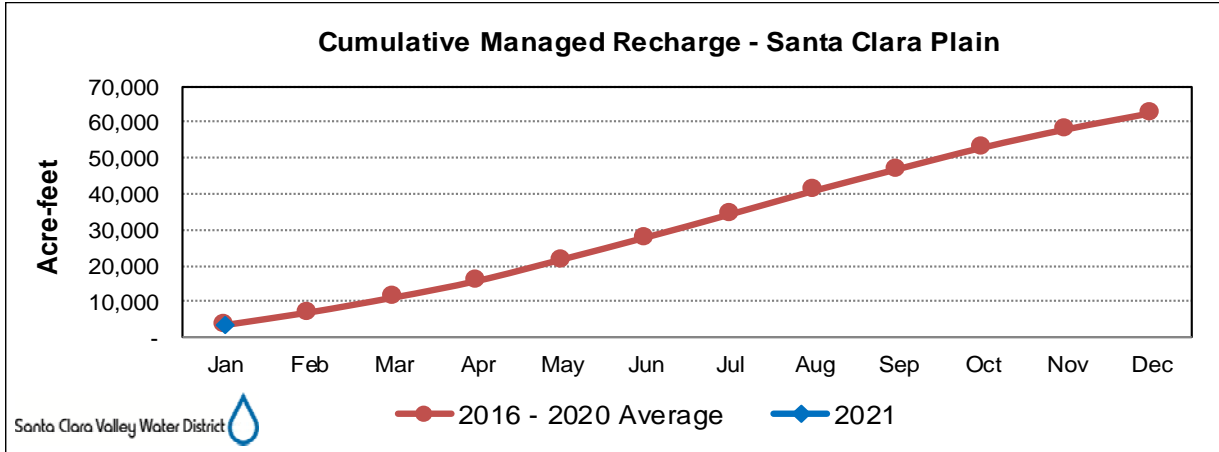


Figure 2. Estimated Cumulative Managed Recharge in the Coyote Valley

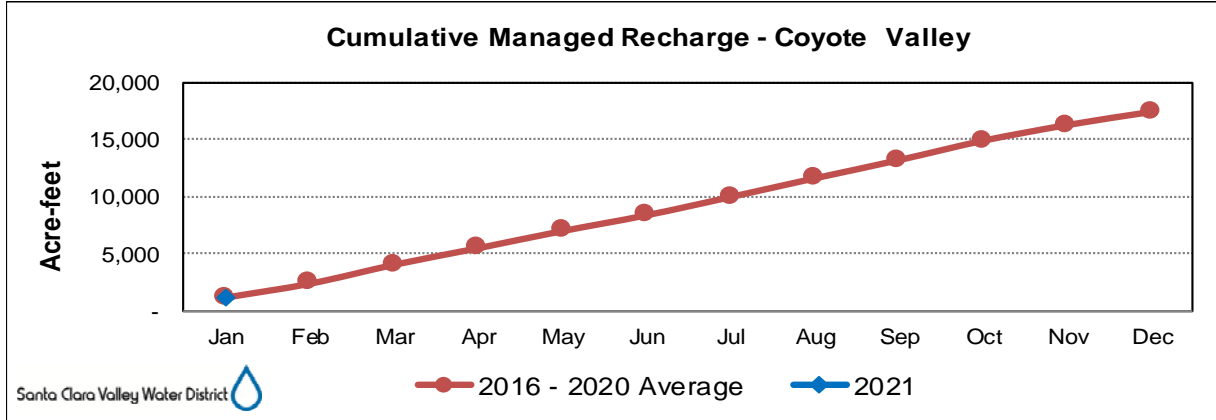
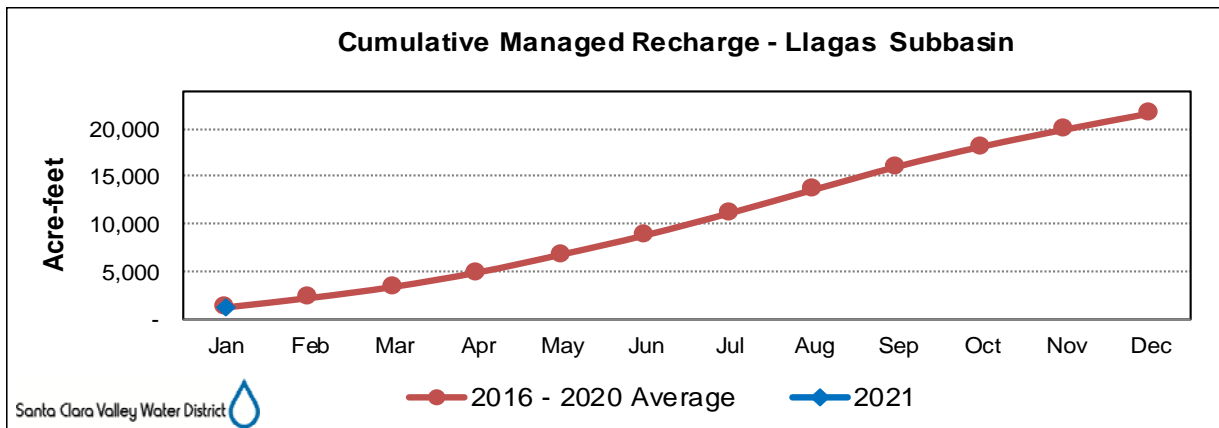


Figure 3. Estimated Cumulative Managed Recharge in the Llagas Subbasin



Groundwater Pumping

- Figures 4, 5, and 6 show the cumulative groundwater pumping for 2020 compared to the average of the last five years (2015 – 2019).
- Pumping for December 2020 is an estimated number based on retailers’ pumping data; it includes data from the new water zones that took effect in July 2020.
- Cumulative pumping through December 2020 shows higher than average pumping in the Santa Clara Plain and the Llagas Subbasin and little lower than average pumping in the Coyote Valley.

Figure 4. Estimated Cumulative Santa Clara Plain Pumping

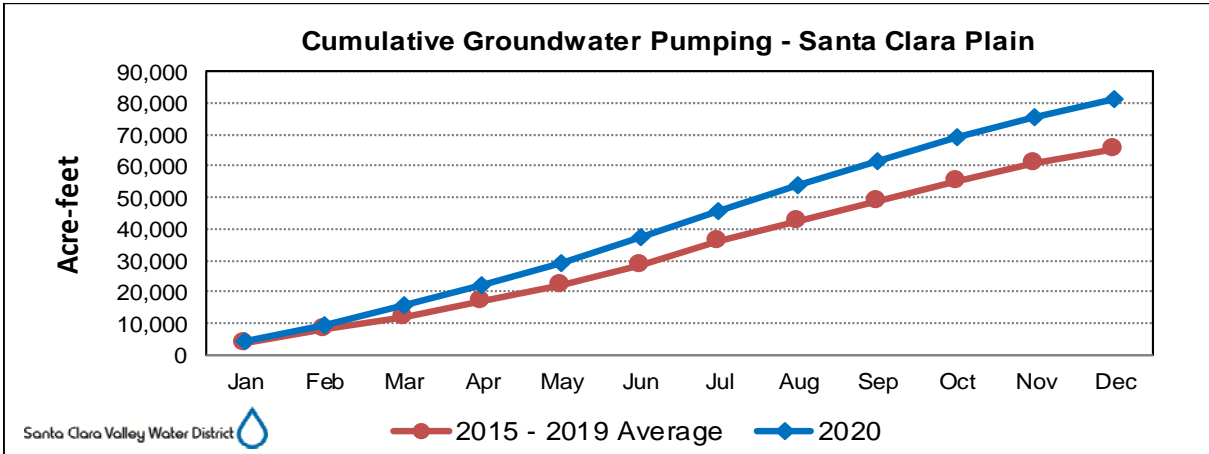


Figure 5. Estimated Cumulative Coyote Valley Pumping

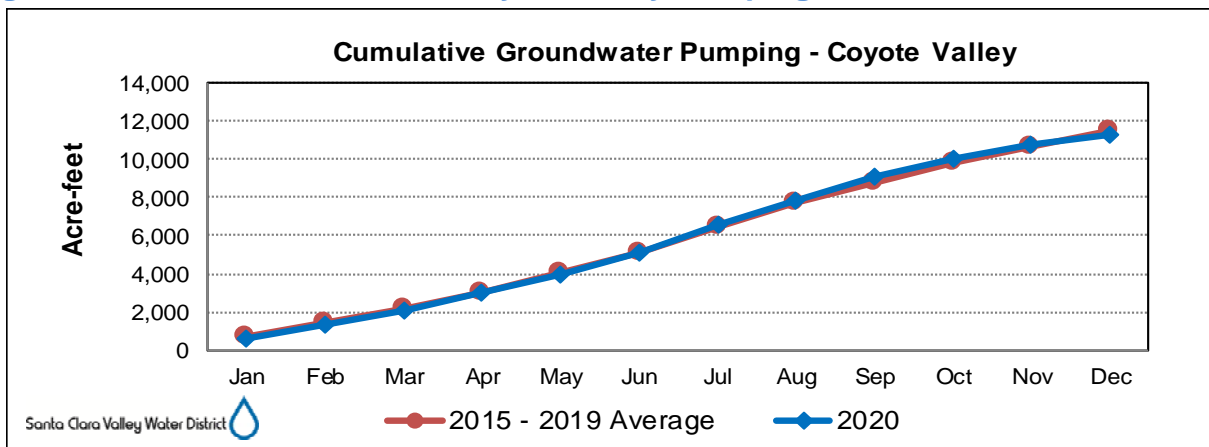
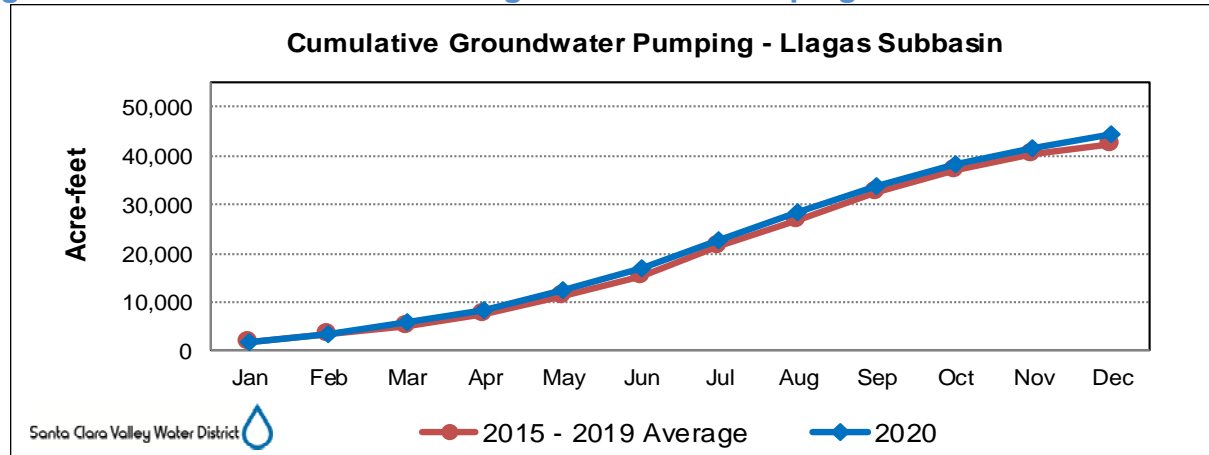


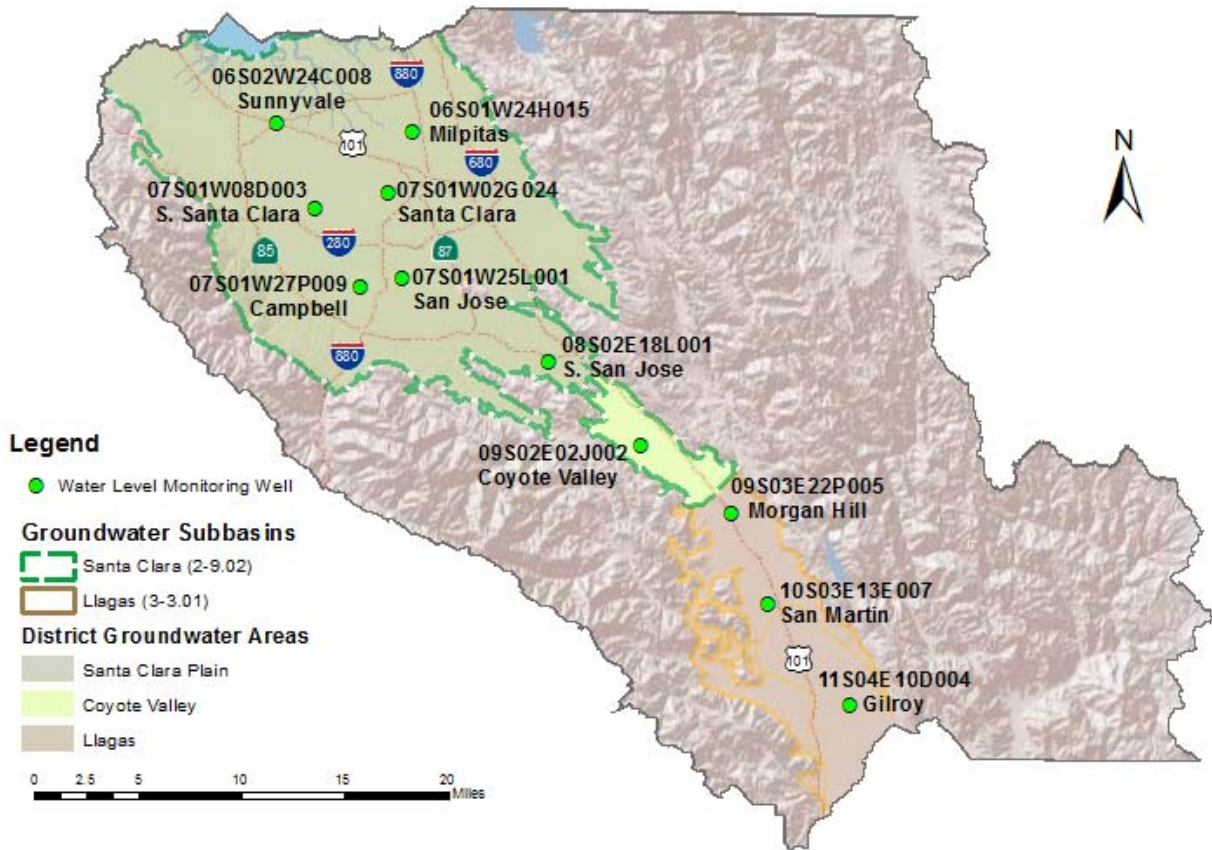
Figure 6. Estimated Cumulative Llagas Subbasin Pumping



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

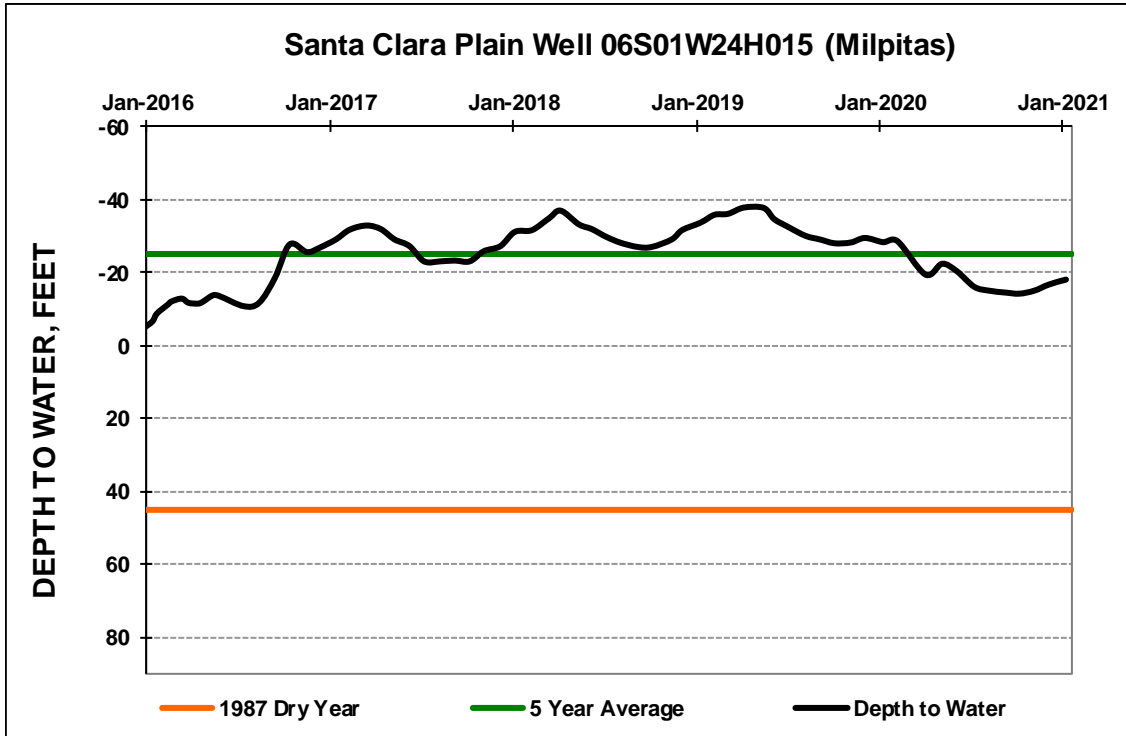


In Figures 8 through 18, hydrographs with January 2021 water levels from these eleven wells are compared to water levels from (i) December 2020, (ii) January 2020, (iii) January 2004 (a normal year), (iv) the prior five-year (2016-2020) average of January measurements, and (v) January 1987 (a dry year).

These hydrographs show that the January 2021 groundwater levels were:

- i. Higher than December 2020 levels in seven wells by 1 to 11 feet, lower in three wells by 1 to 2 feet, and the same in one well,
- ii. Lower than January 2020 in all eleven wells by 2 to 28 feet
- iii. Higher in two wells by 6 to 13 feet and lower in seven wells by 2 to 26 feet, and the same in one well as compared to January 2004 (a normal year); one well does not have a 2004 water level,
- iv. Higher in one well by 6 feet, lower in ten wells by 1 to 21 feet, as compared to the average of the previous five-years of January readings, and
- v. Higher in seven wells by 44 to 107 feet and lower by 1 to 17 feet in four wells as compared to January 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

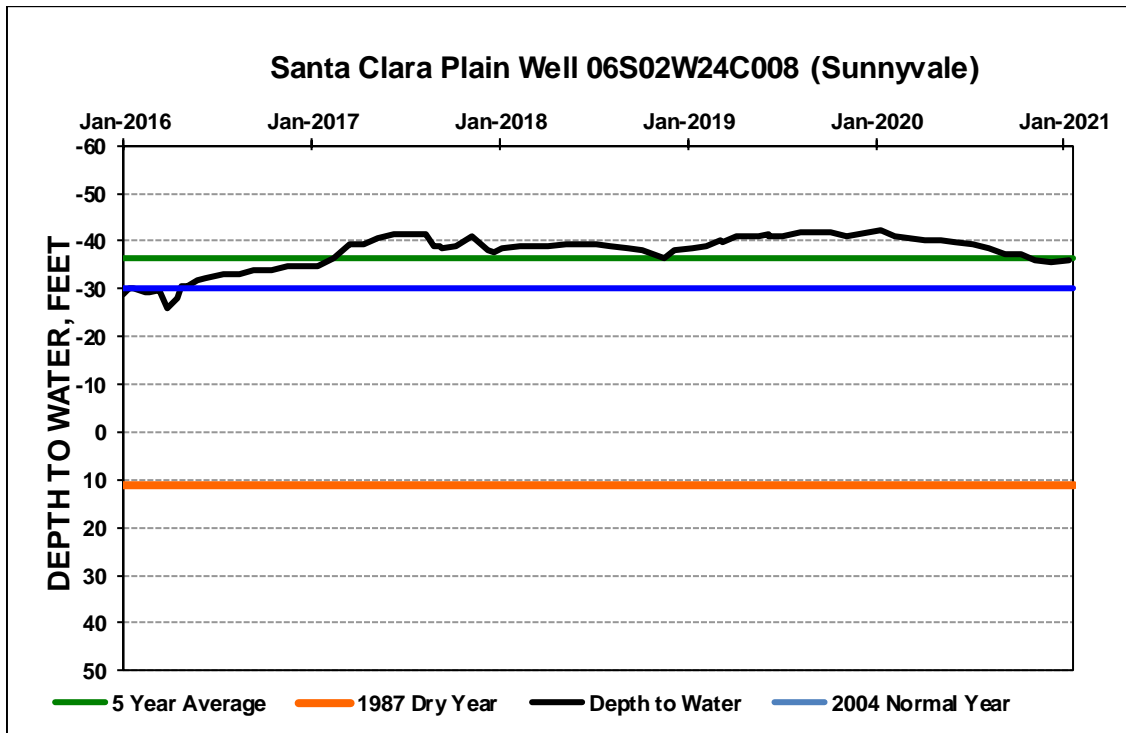


Figure 10. San Jose Well Hydrograph (Index Well for the Santa Clara Plain)

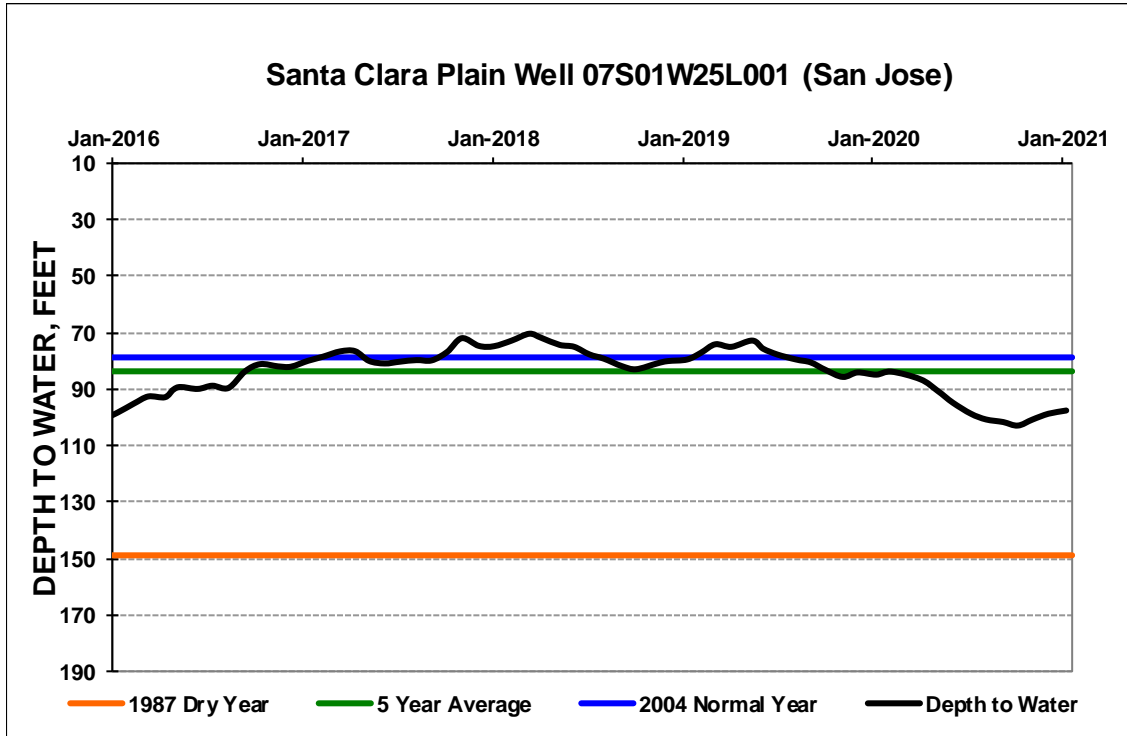


Figure 11. Santa Clara Well Hydrograph

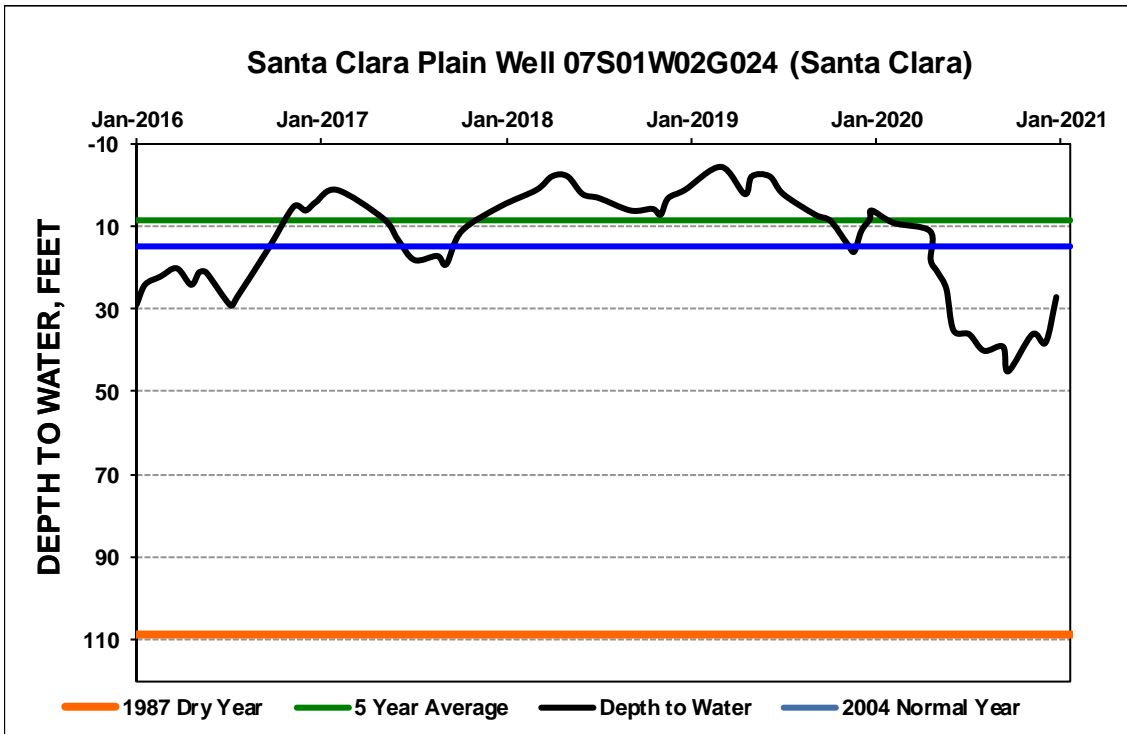


Figure 12. South Santa Clara Well Hydrograph

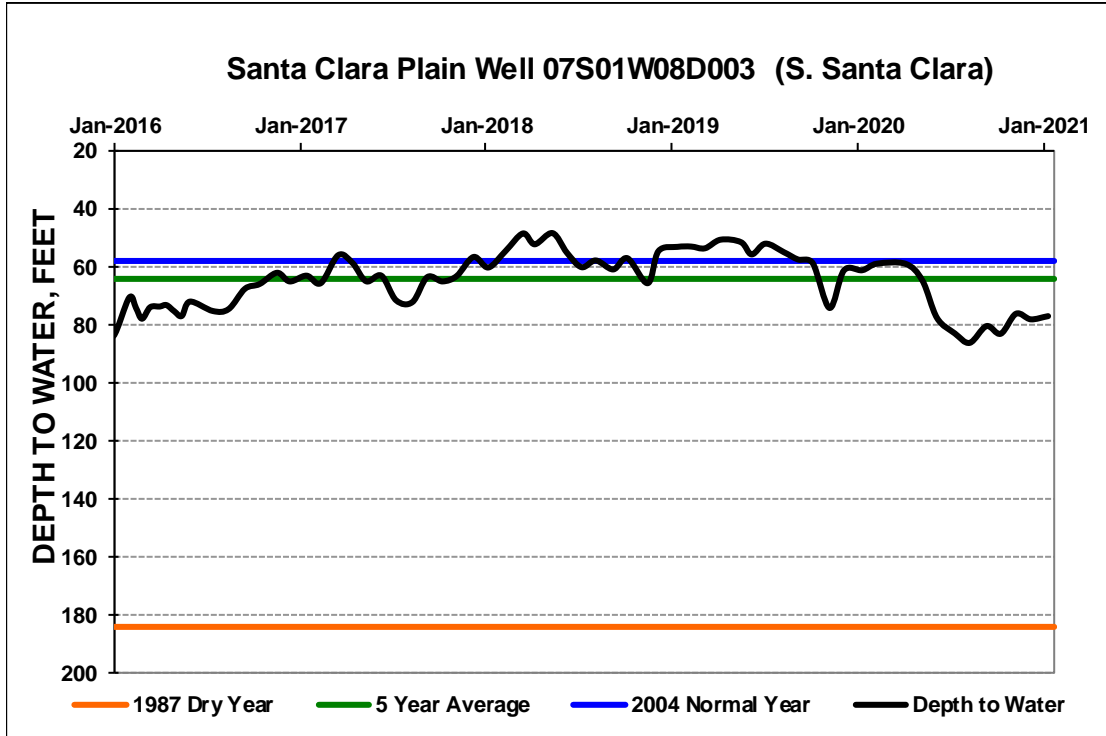
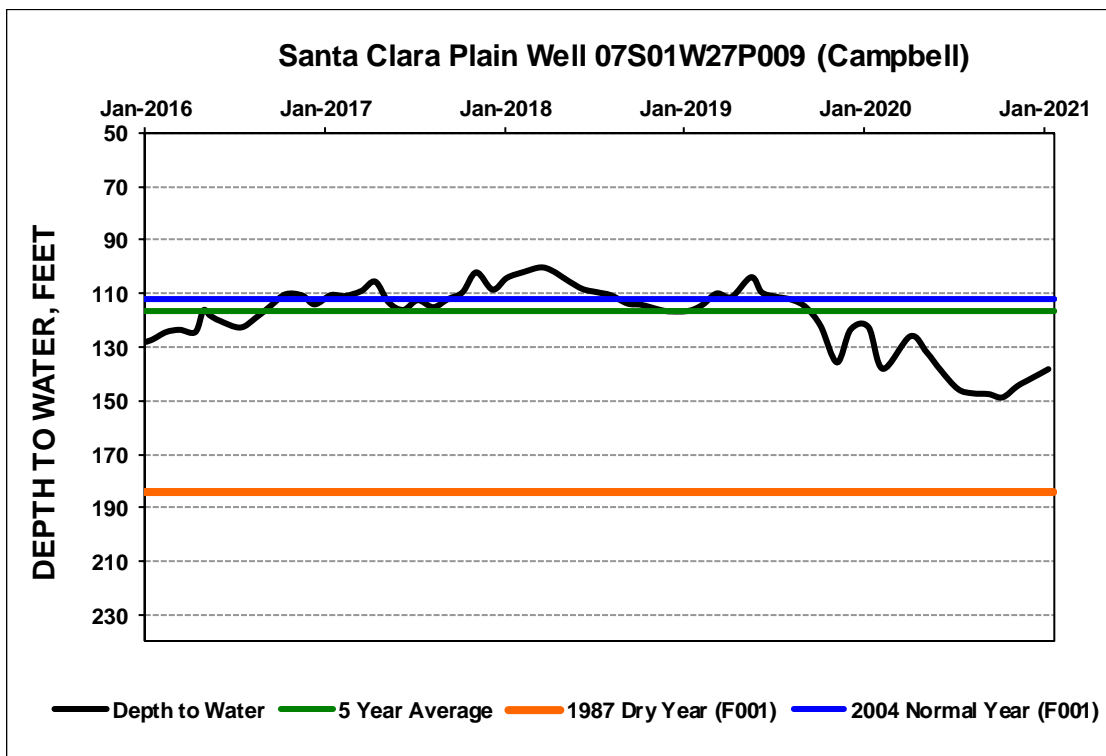


Figure 13. Campbell Well Hydrograph



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

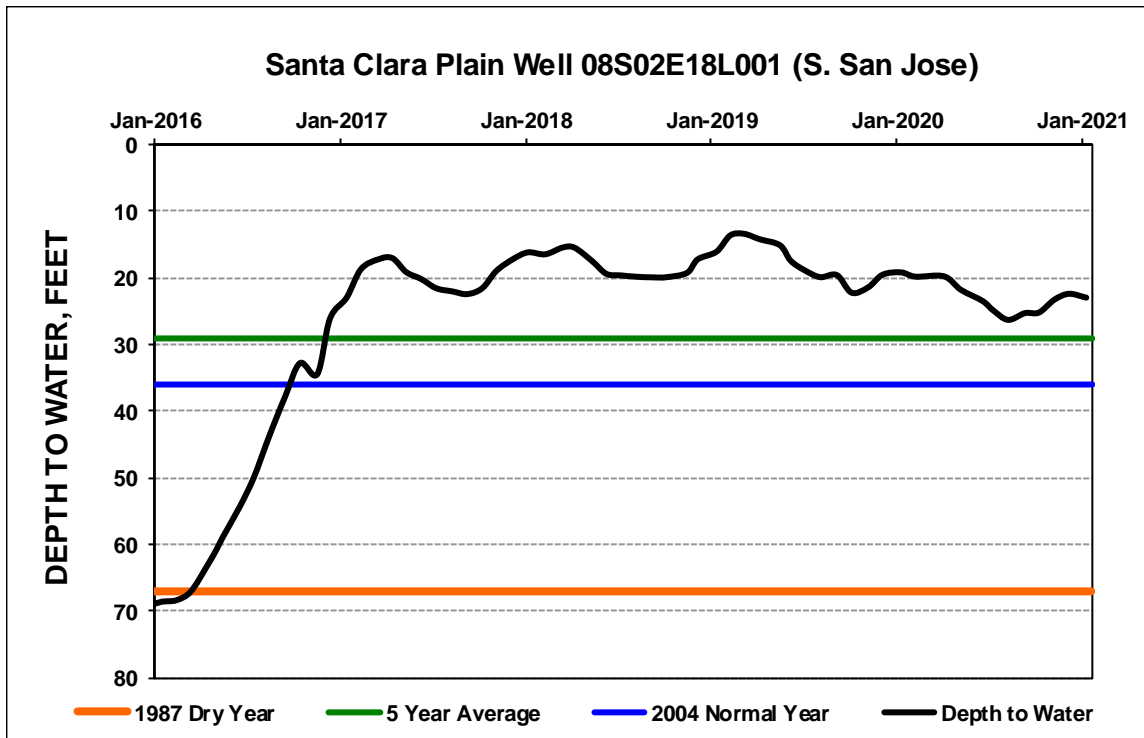


Figure 15. Coyote Valley Well Hydrograph (Index Well for the Coyote Valley)

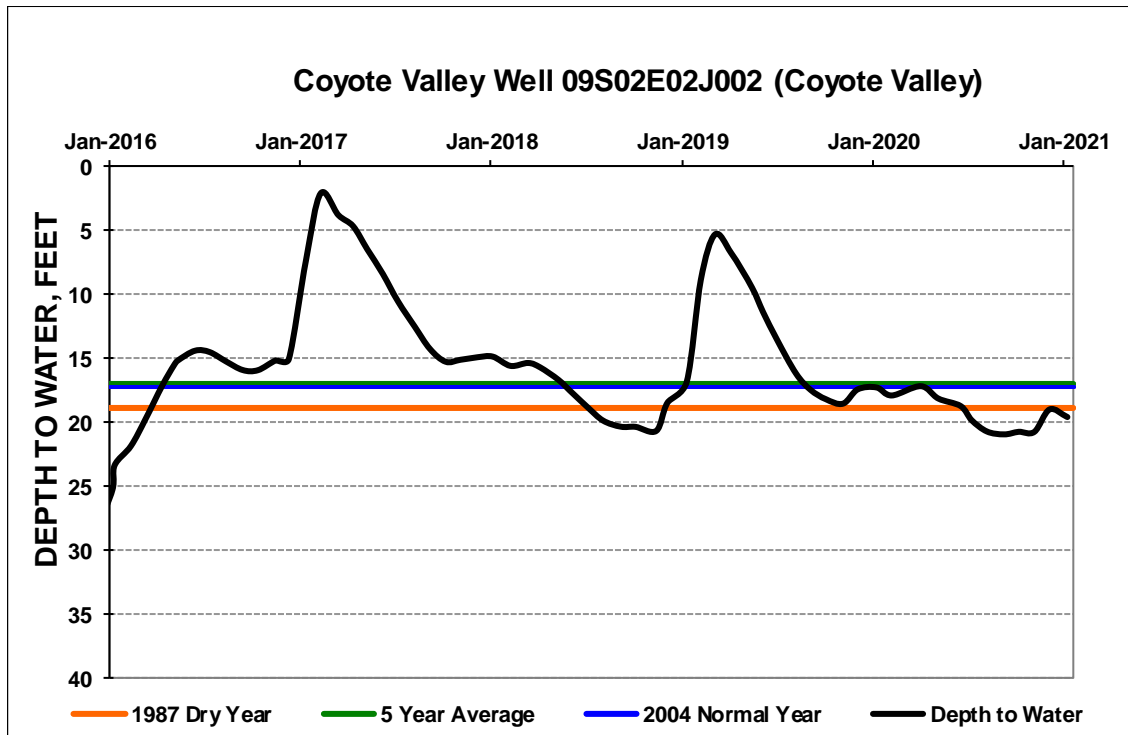


Figure 16. Morgan Hill Well Hydrograph

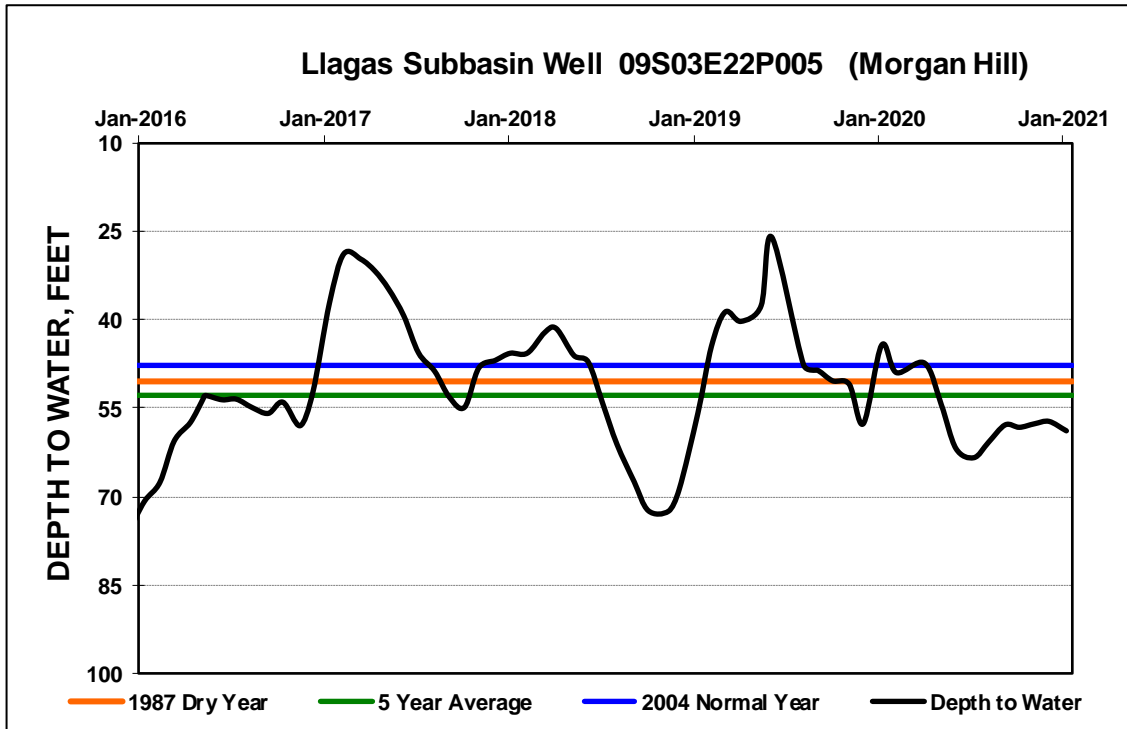
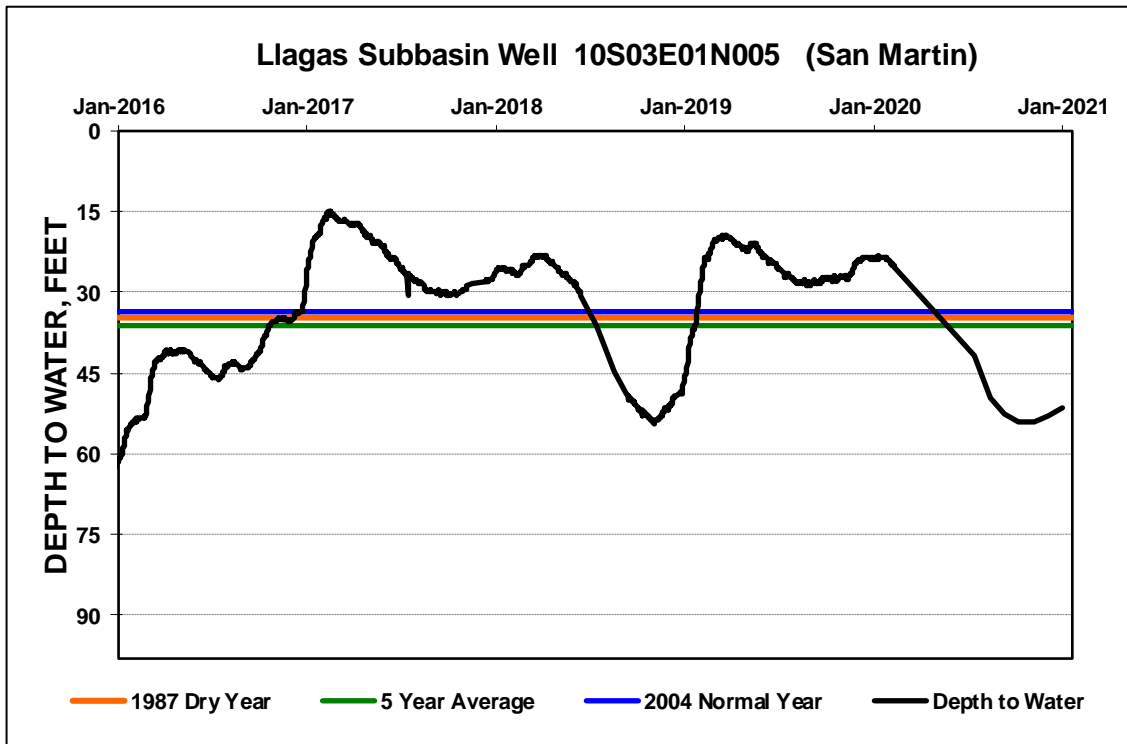


Figure 17. San Martin Well Hydrograph (Index Well for the Llagas Subbasin)



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 better access.

Figure 18. Gilroy Well Hydrograph

