

Groundwater Condition

REPORT | SANTA CLARA COUNTY

March 2021

SUMMARY

This report summarizes current (February 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 conditions are in the normal range, but water levels and storage have declined because of recent dry conditions. Total storage at the end of 2021 is projected to be in the lower part of Stage 1 (Normal) of Valley Water's Water Shortage Contingency Plan.
- January to February managed recharge is 87% to 109% of the five-year average.
- January 2021 pumping is 75% to 138% of the five-year average.
- Groundwater index well water levels for February 2021 range from 4 feet lower to 14 feet lower than the average of the previous five-years of February readings.

Table 1. Summary of Current Groundwater Conditions

	Santa Clara Subbasin		Llagas Subbasin
	Santa Clara Plain	Coyote Valley	
February 2021 managed recharge estimate (AF)	3,300	950	1,000
YTD 2021 managed recharge estimate (AF)	7,100	2,100	2,400
YTD 2021 managed recharge as % of 5-year average	103%	87%	109%
January 2021 pumping estimate (AF)	5,500	550	2,000
January 2021 pumping as % of 5-year average	138%	75%	114%
GW index well level compared to last February 2020	12 feet lower	Same	8 feet lower
GW index level compared to February 5-year average	14 feet lower	4 feet lower	14 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 February is the same the Santa Clara Plain, higher for the Llagas Subbasin, and lower for the Coyote Valley compared to the averages of January to February 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

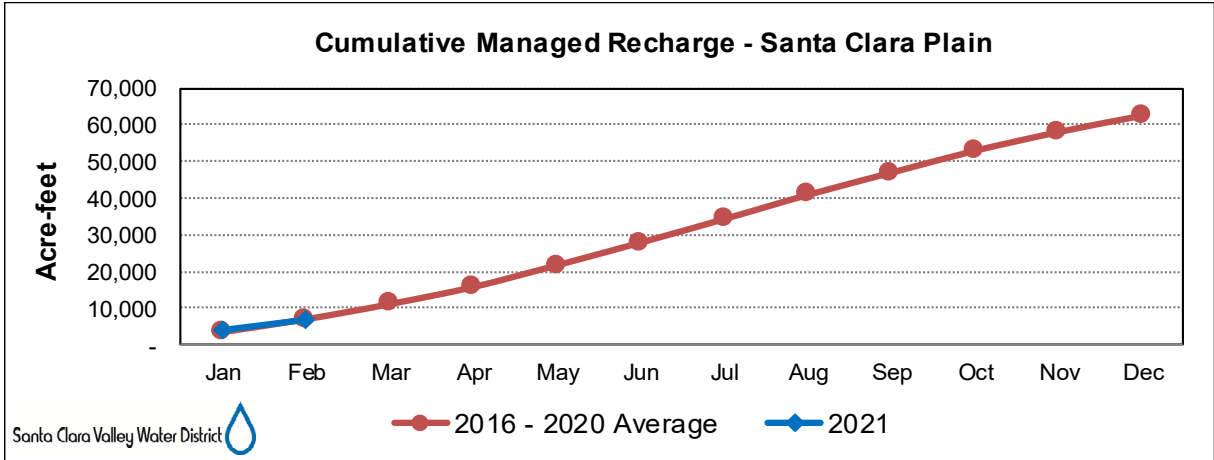


Figure 2. Estimated Cumulative Managed Recharge in the Coyote Valley

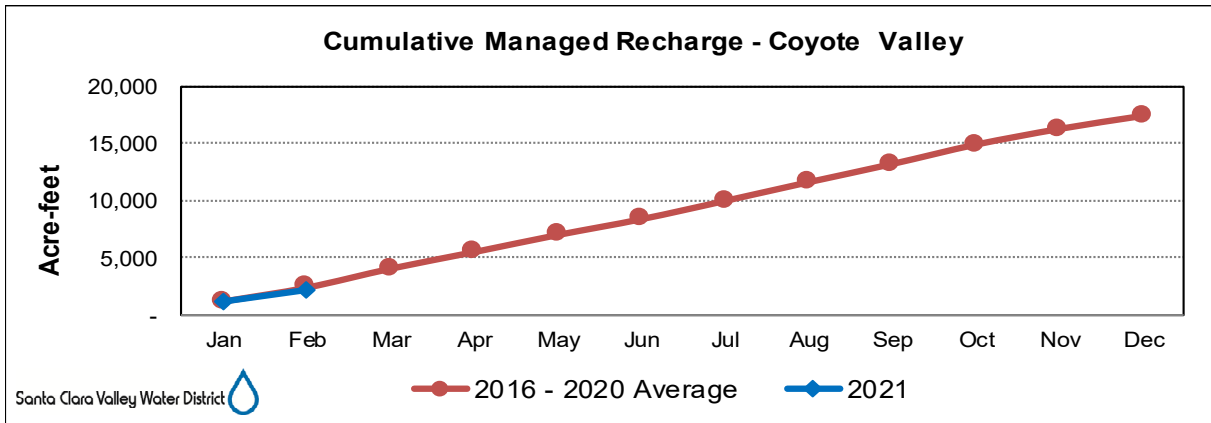
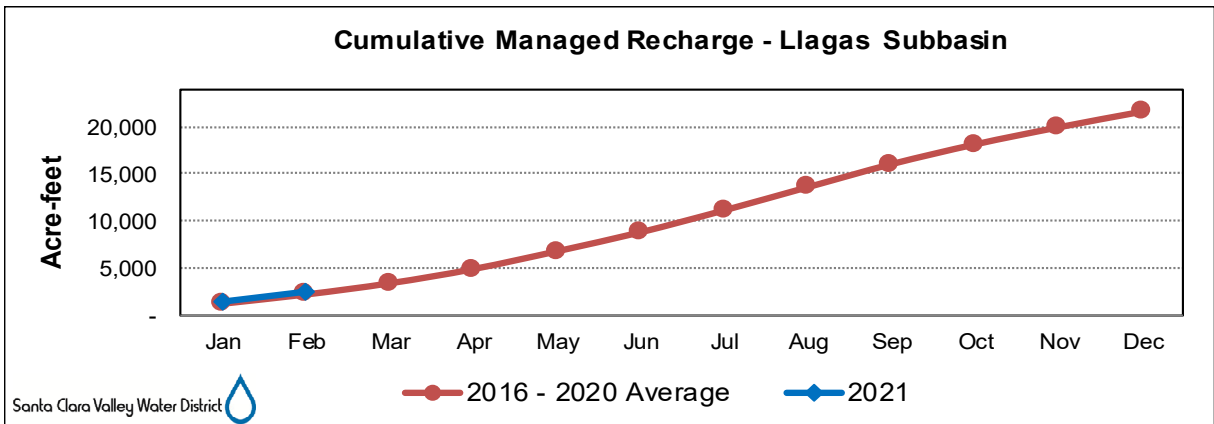


Figure 3. Estimated Cumulative Managed Recharge in the Llagas Subbasin



Groundwater Pumping

- Figures 4, 5, and 6 show January 2021 groundwater pumping compared to the average of the last five years (2015 – 2019).
- Pumping for January 2021 is an estimated number based on retailers’ pumping data from the new water zones that took effect in July 2020.
- January 2021 pumping is higher than average pumping of the previous five years in the Santa Clara Plain and the Llagas Subbasin and lower than average pumping in the Coyote Valley.

Figure 4. Estimated Cumulative Santa Clara Plain Pumping

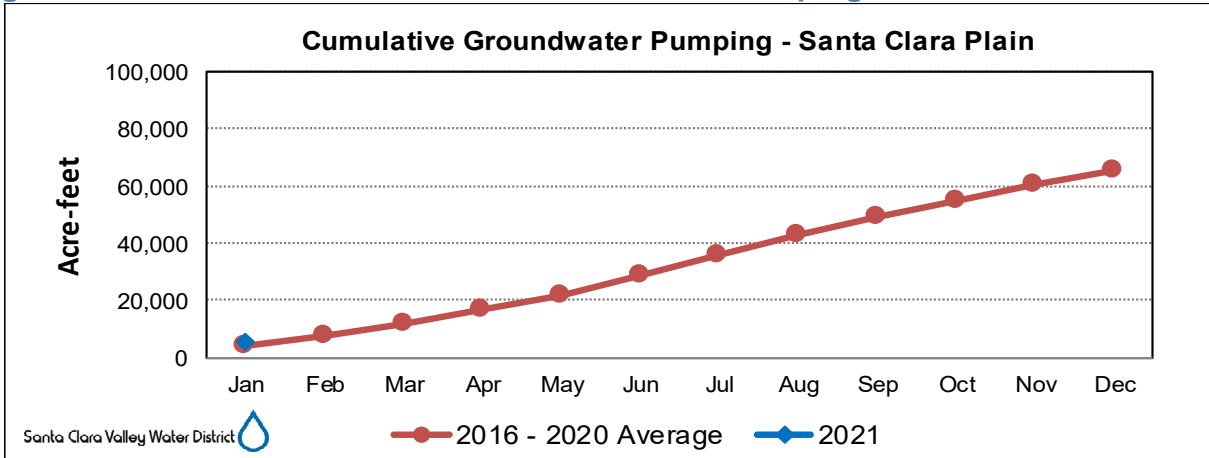


Figure 5. Estimated Cumulative Coyote Valley Pumping

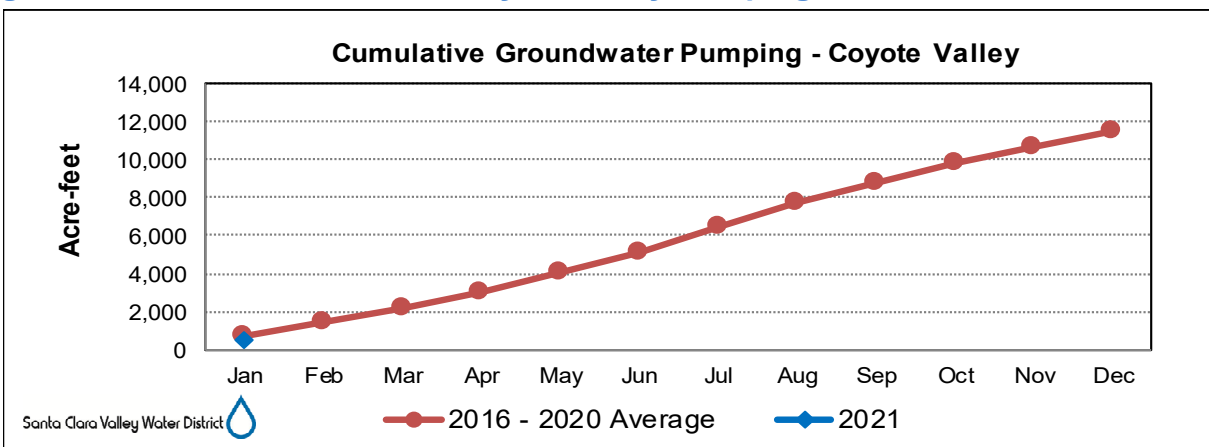
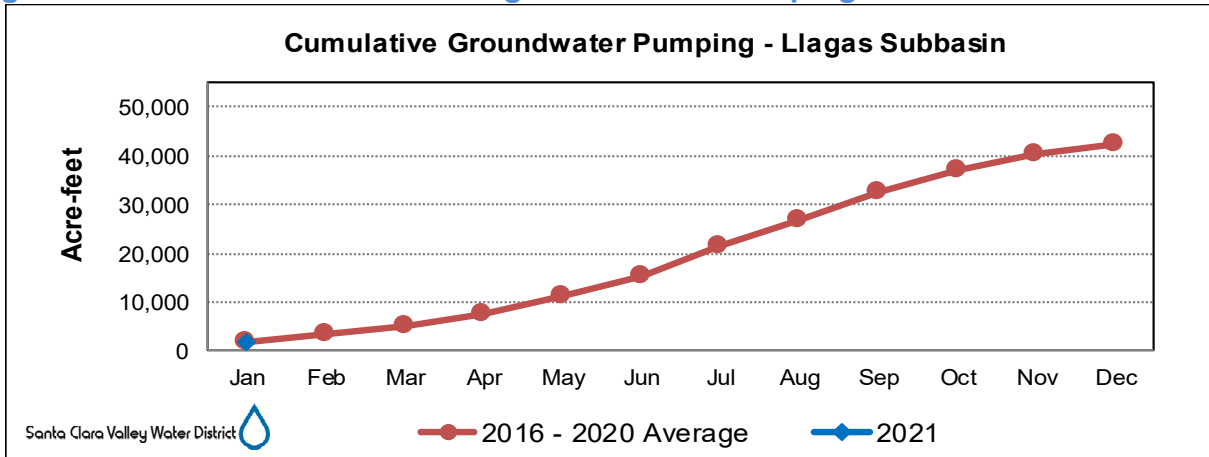


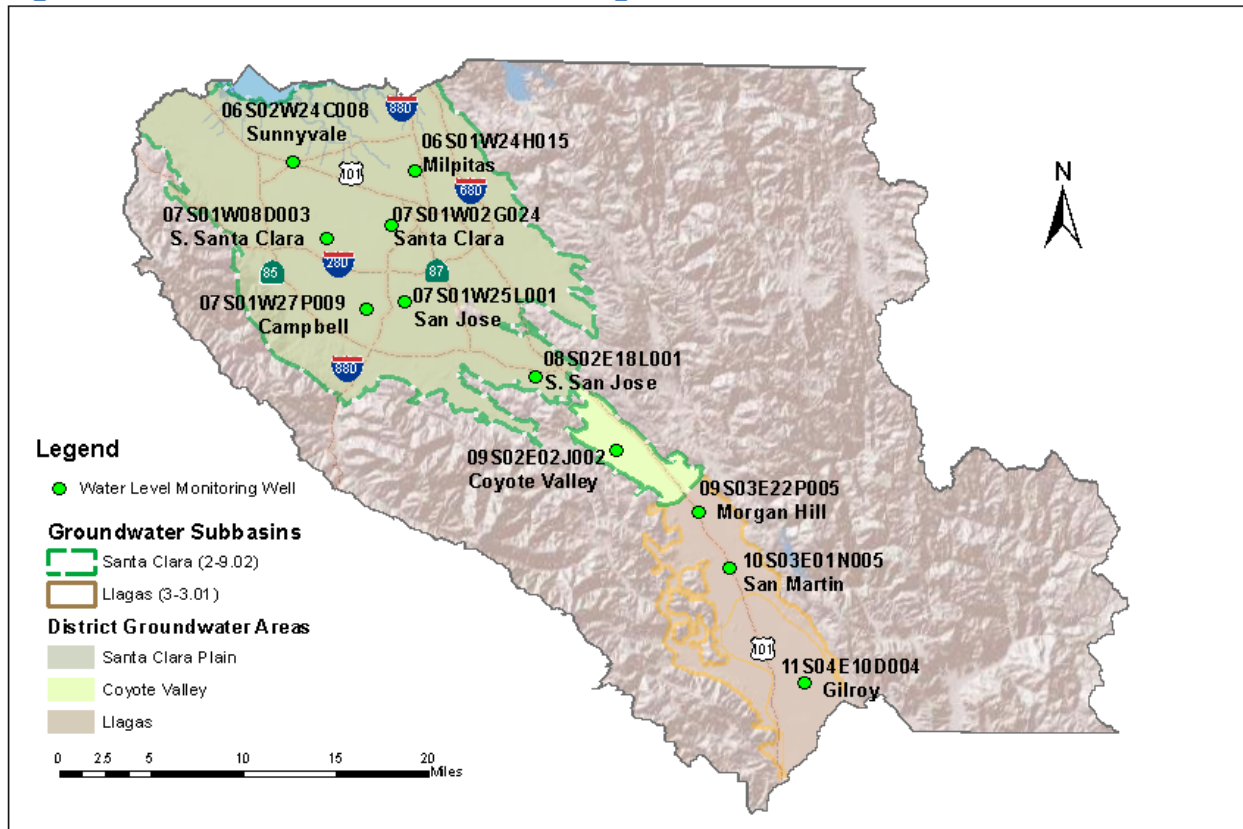
Figure 6. Estimated Cumulative Llagas Subbasin Pumping



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

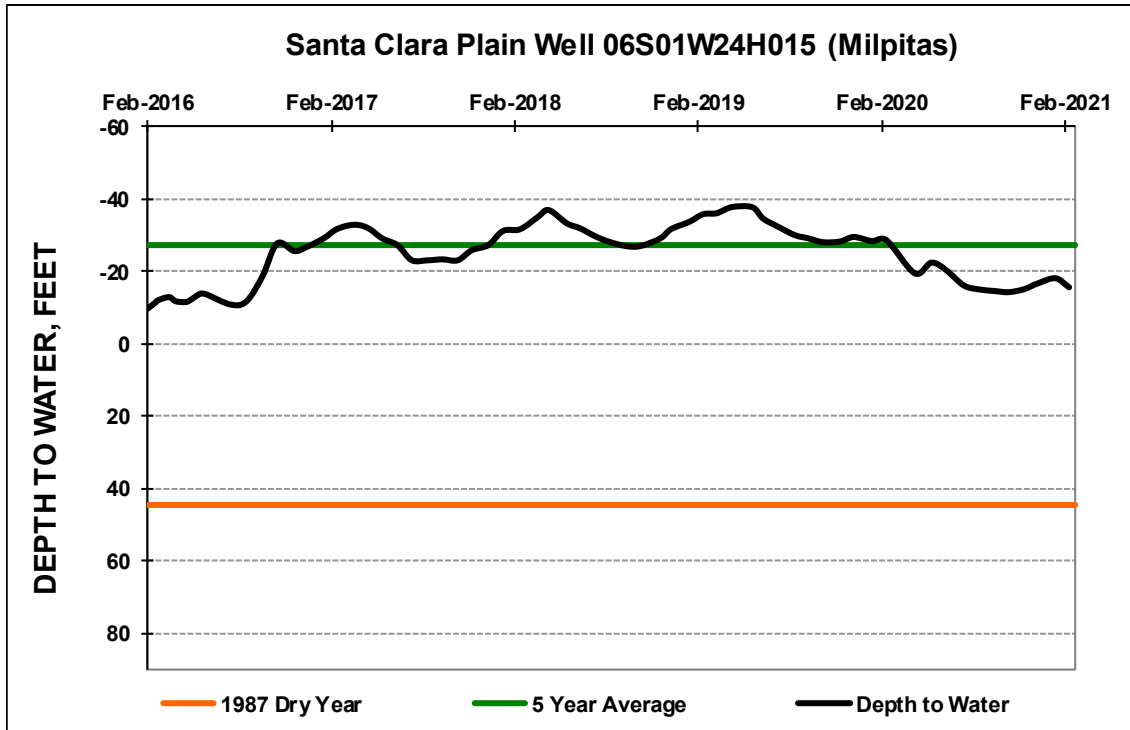


In Figures 8 through 18, hydrographs with February 2021 water levels from these eleven wells are compared to water levels from (i) January 2021, (ii) February 2020, (iii) February 2004 (a normal year), (iv) the prior five-year (2016-2020) average of February measurements, and (v) February 1987 (a dry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

These hydrographs show that the February 2021 groundwater levels were:

- i. Higher than January 2021 levels in nine wells by 1 to 8 feet and lower in two wells by 1 to 3 feet,
- ii. Lower than February 2020 in ten wells by 1 to 17 feet and higher in one well by 3 feet.
- iii. Higher in three wells by 3 to 15 feet and lower in seven wells by 2 to 28 feet compared to February 2004; one well does not have a 2004 water level,
- iv. Higher in one well by 7 feet, lower in ten wells by 2 to 19 feet, as compared to the average of the previous five-years of February readings, and
- v. Higher in eight wells by 1 to 109 feet and lower by 1 to 9 feet in three wells as compared to February 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

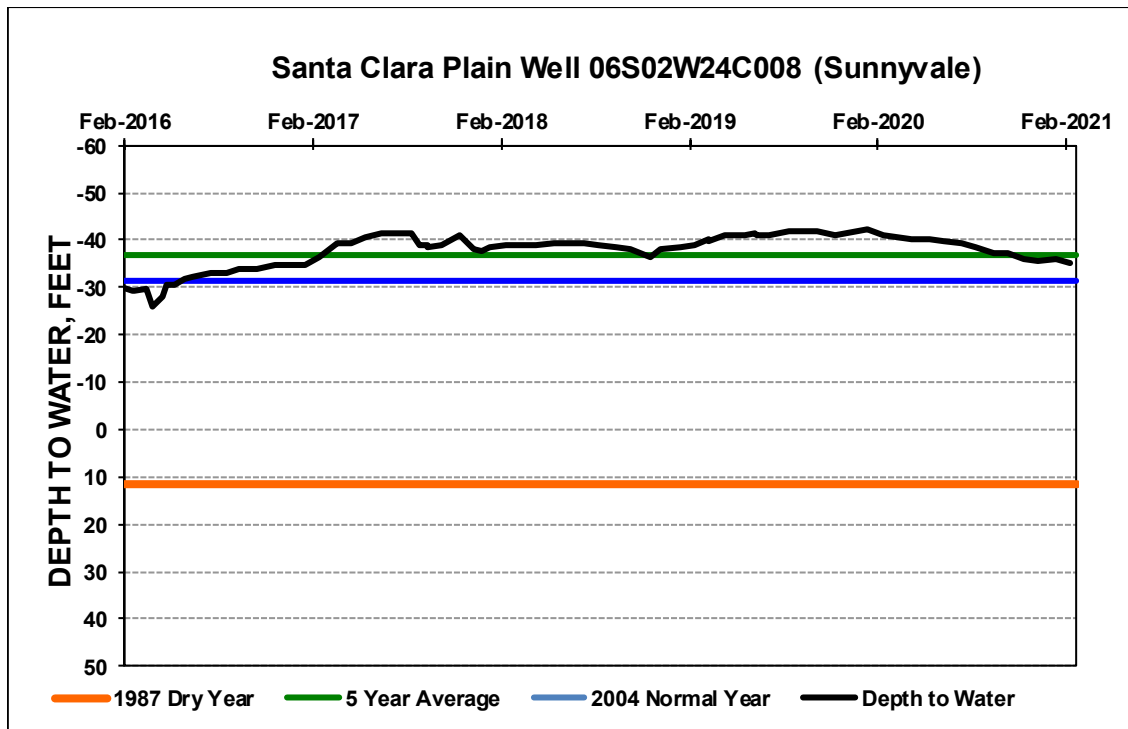


Figure 10. San Jose Well Hydrograph (Index Well for the Santa Clara Plain)

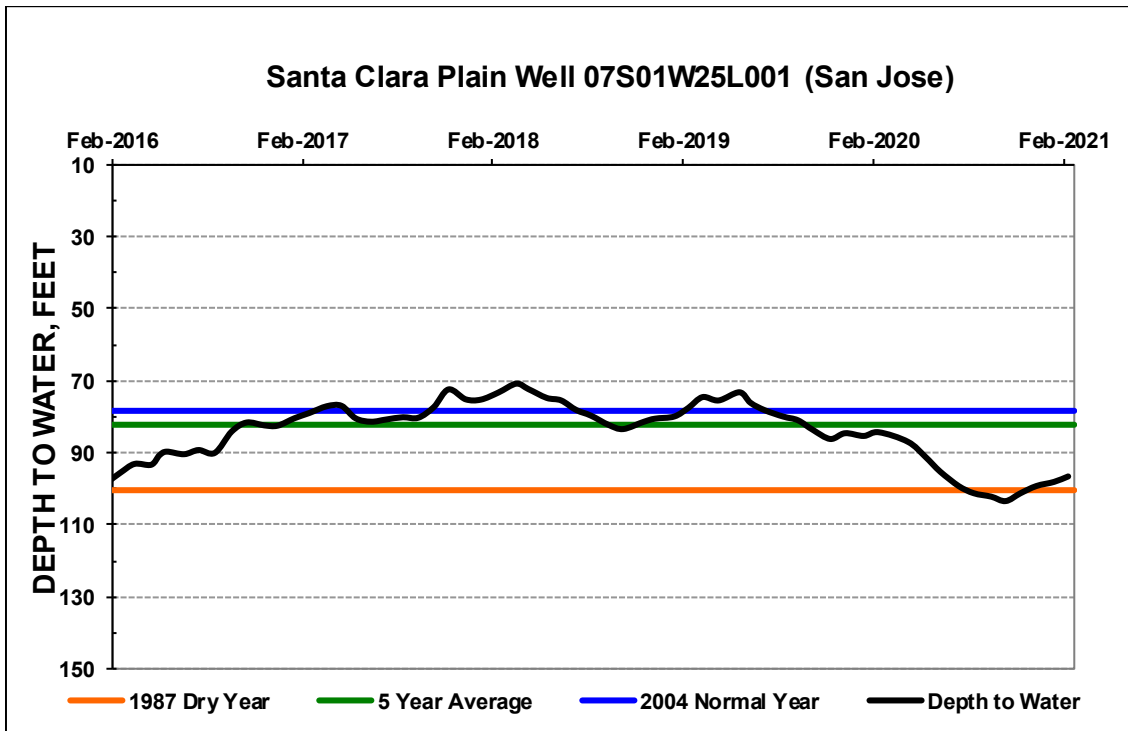


Figure 11. Santa Clara Well Hydrograph

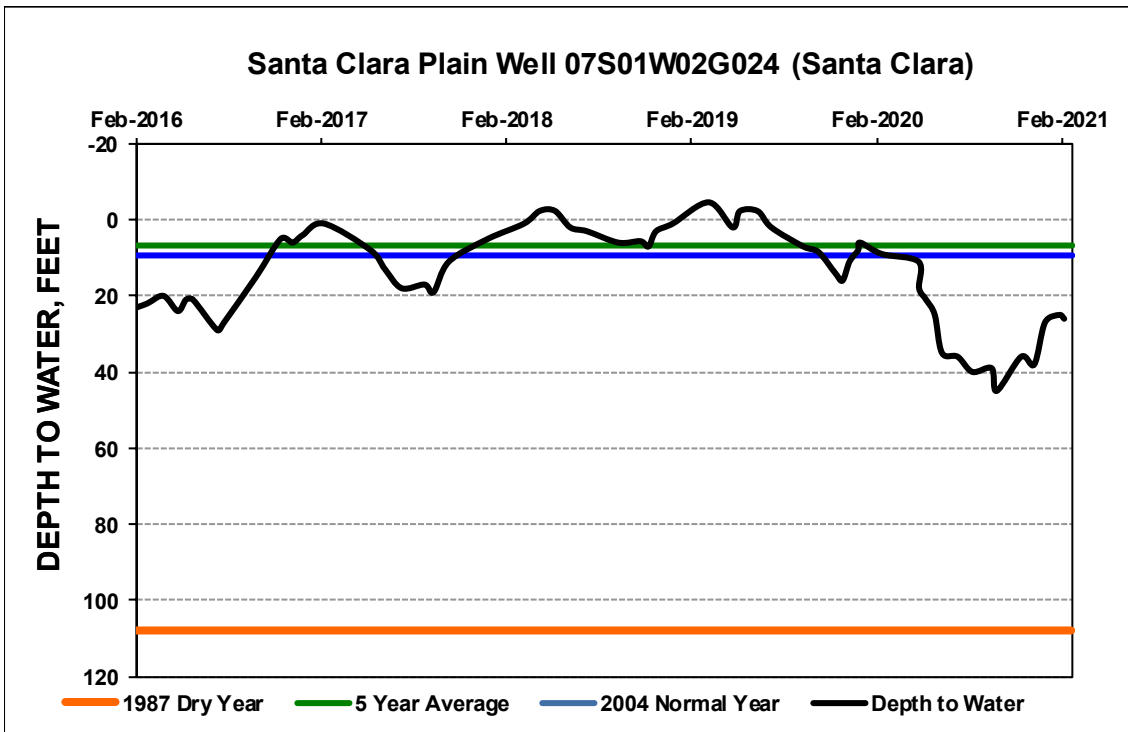


Figure 12. South Santa Clara Well Hydrograph

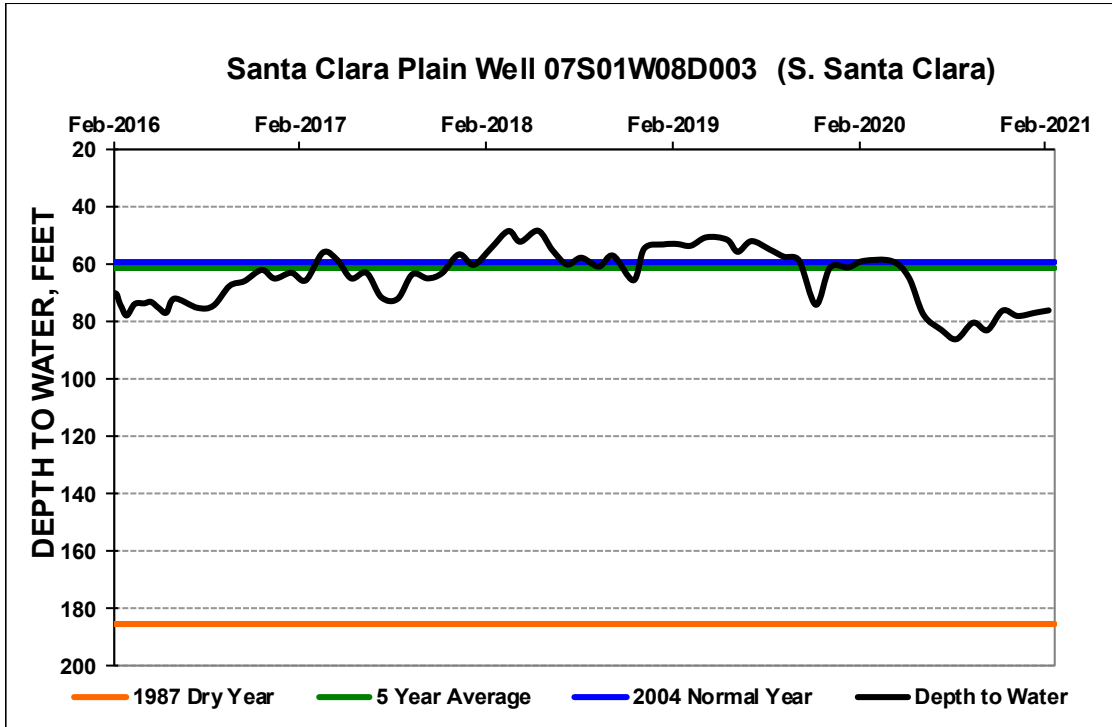
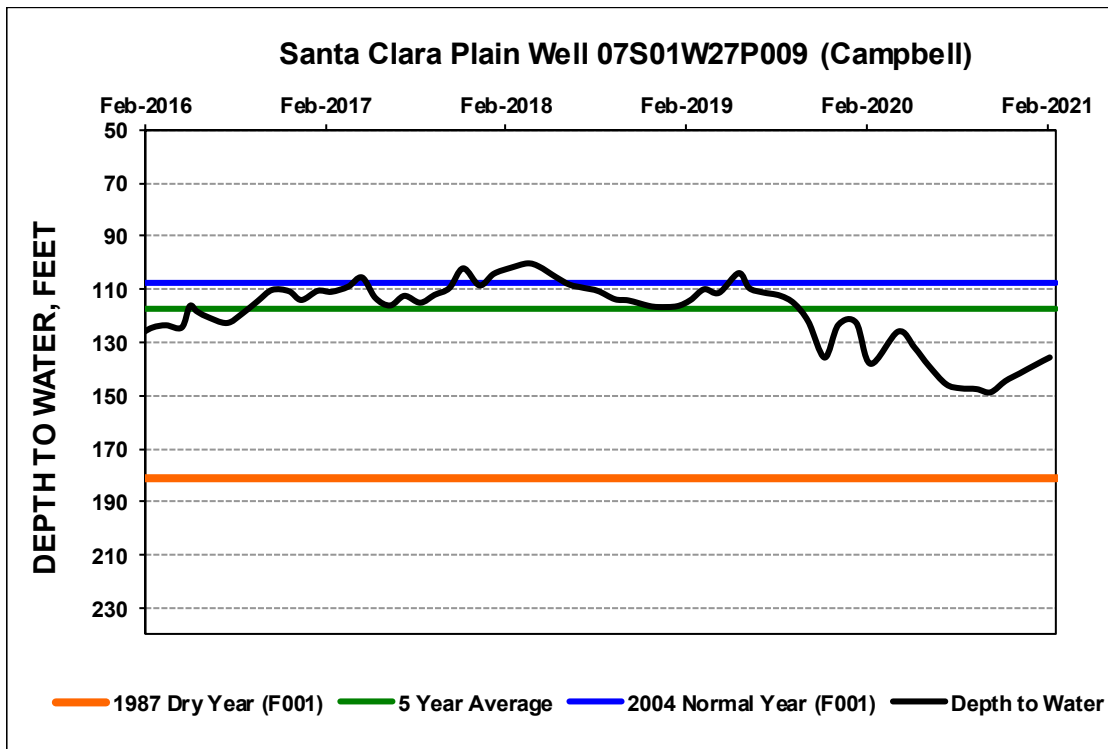


Figure 13. Campbell Well Hydrograph



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

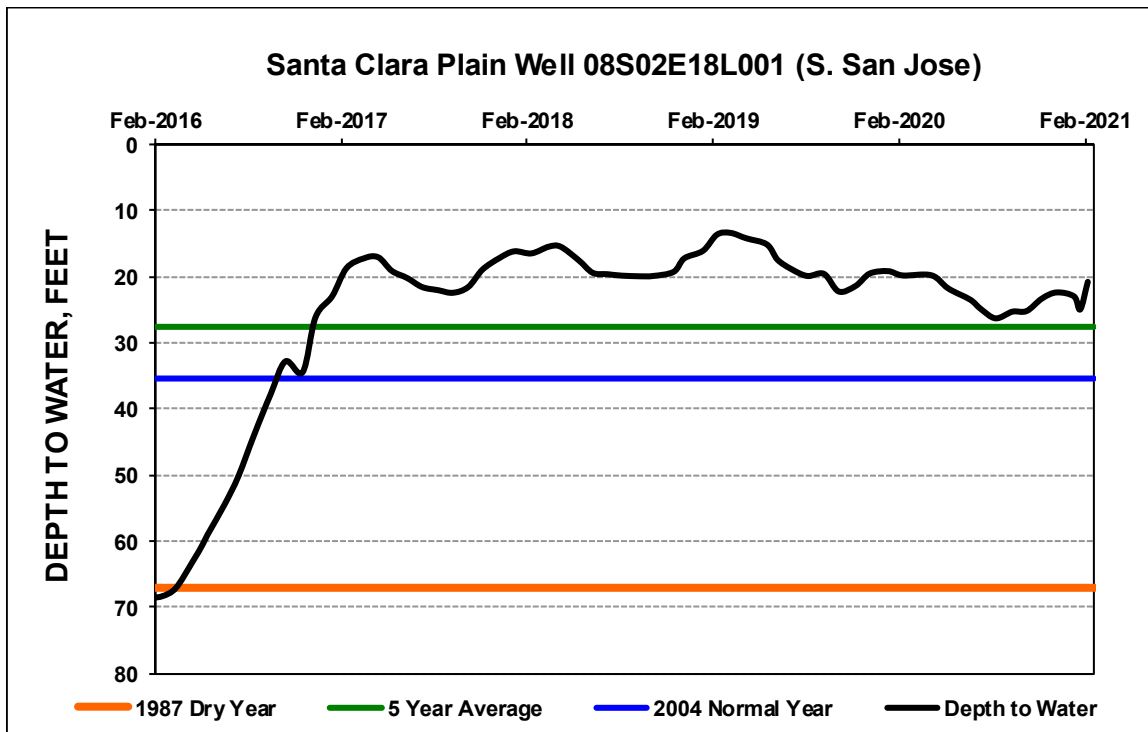


Figure 15. Coyote Valley Well Hydrograph (Index Well for the Coyote Valley)

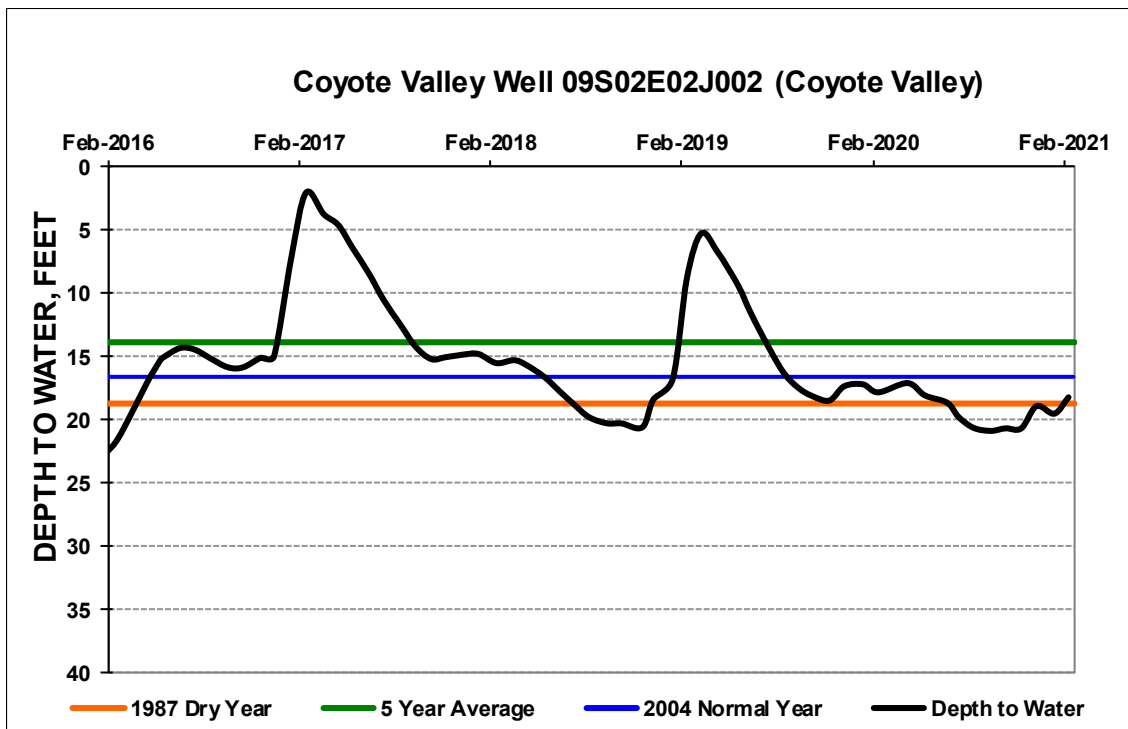


Figure 16. Morgan Hill Well Hydrograph

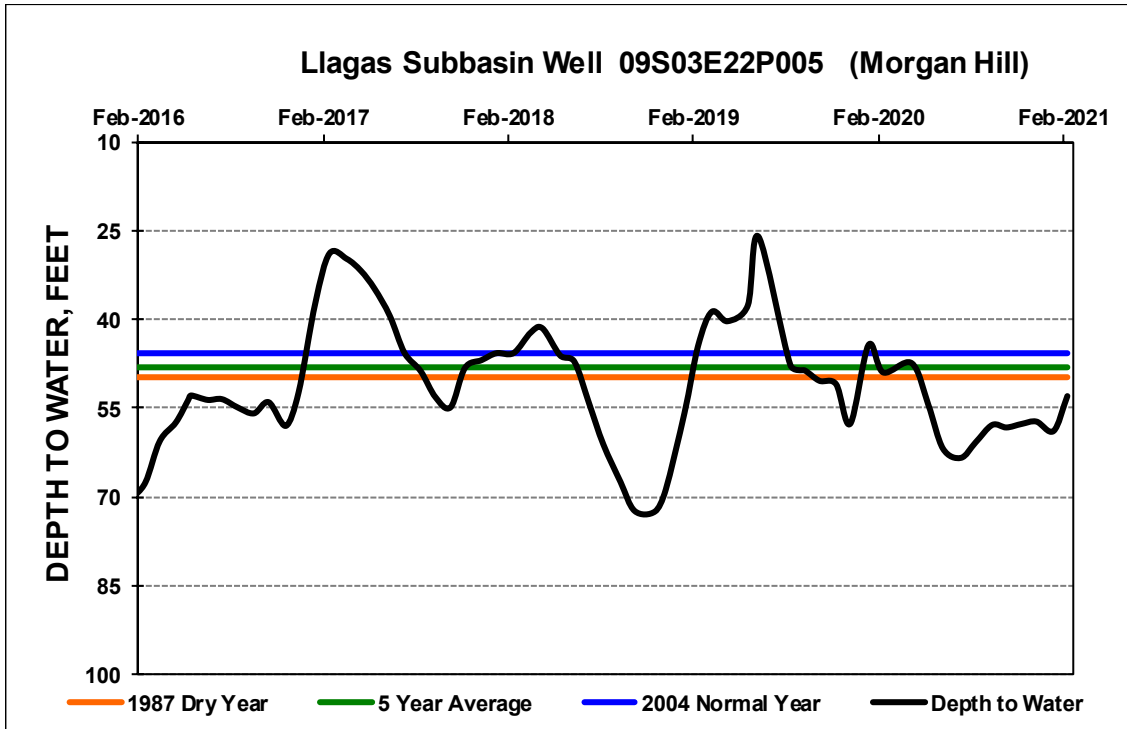
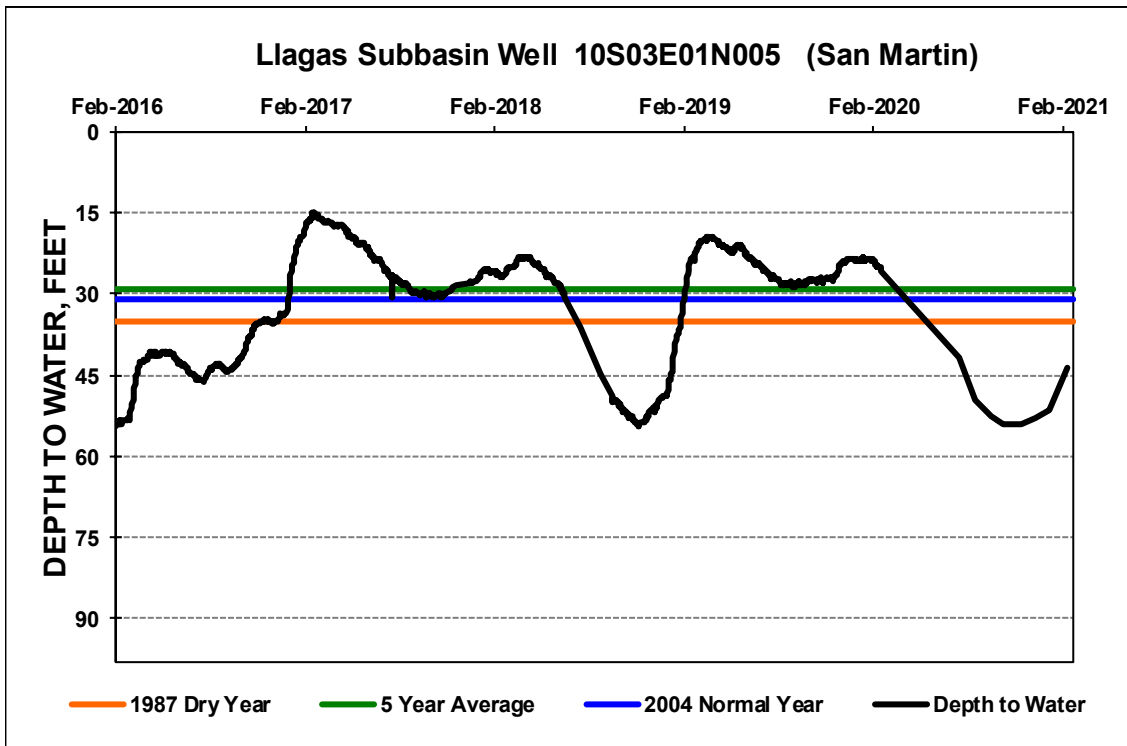


Figure 17. San Martin Well Hydrograph (Index Well for the Llagas Subbasin)



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

