

Groundwater Condition

REPORT | SANTA CLARA COUNTY

April 2021

SUMMARY

This report summarizes current (March 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 recent dry conditions. 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 March managed recharge is 74% to 111% of the five-year average.
- January to February pumping is 83% to 129% of the five-year average.
- Groundwater index well water levels for March 2021 range from 7 feet lower to 18 feet lower than the average of the previous five-years of March readings. Note that water levels were not measured in March 2020 due to COVID-19 restrictions.

Table 1. Summary of Current Groundwater Conditions

| | Santa Clara Subbasin | | Llagas Subbasin |
|--|----------------------|---------------|-----------------|
| | Santa Clara Plain | Coyote Valley | |
| March 2021 managed recharge estimate (AF) | 3,700 | 1,000 | 1,400 |
| YTD 2021 managed recharge estimate (AF) | 10,600 | 3,000 | 3,700 |
| YTD 2021 managed recharge as % of 5-year average | 96% | 74% | 111% |
| February 2021 pumping estimate (AF) | 4,900 | 580 | 2,000 |
| YTD 2021 pumping estimate (AF) | 10,250 | 1,150 | 4,000 |
| YTD 2021 pumping as % of 5-year average | 129% | 83% | 120% |
| GW index well level compared to last March 2020 | NA | NA | NA |
| GW index level compared to March 5-year average | 18 feet lower | 7 feet lower | 15 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 March is lower for the Santa Clara Plain and Coyote Valley and higher for the Llagas Subbasin compared to the averages of January to March 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

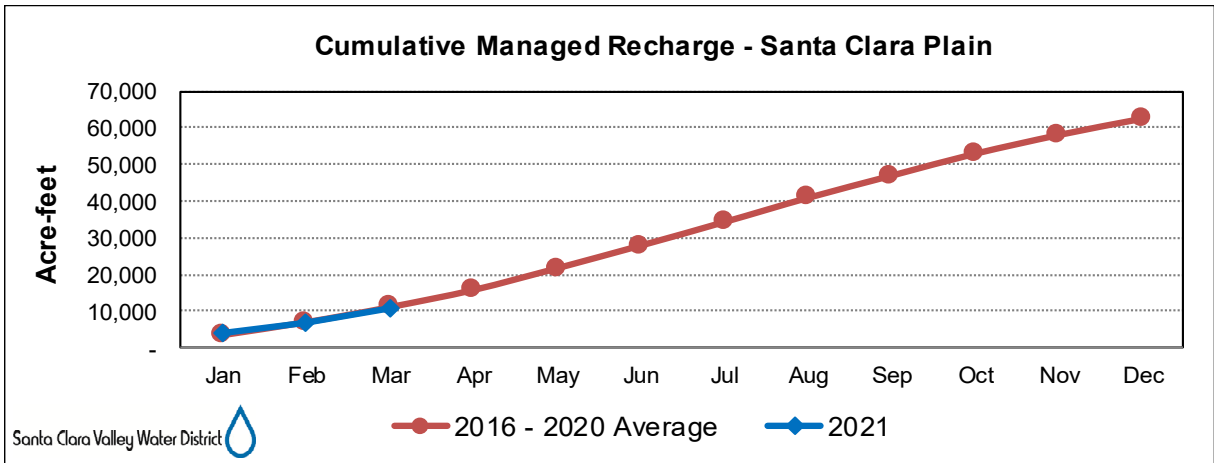


Figure 2. Estimated Cumulative Managed Recharge in the Coyote Valley

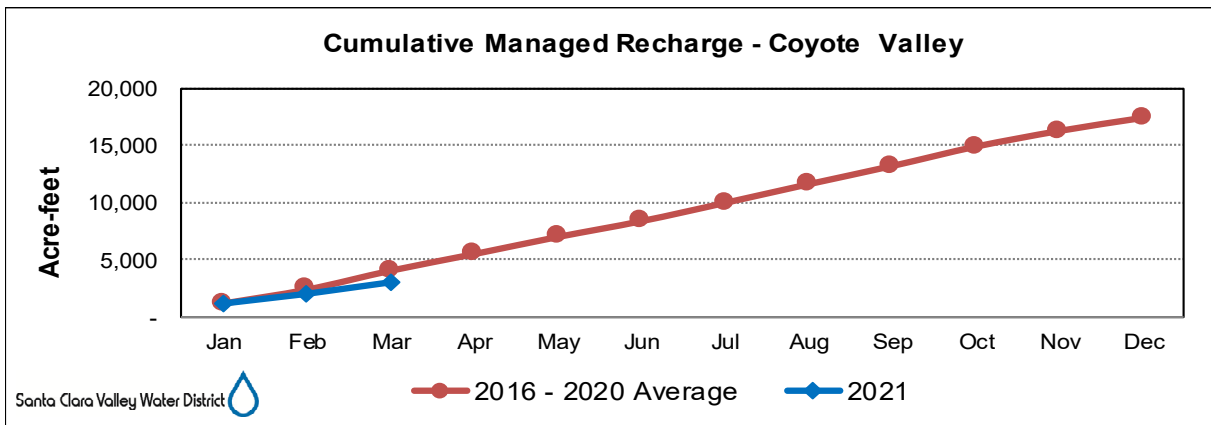
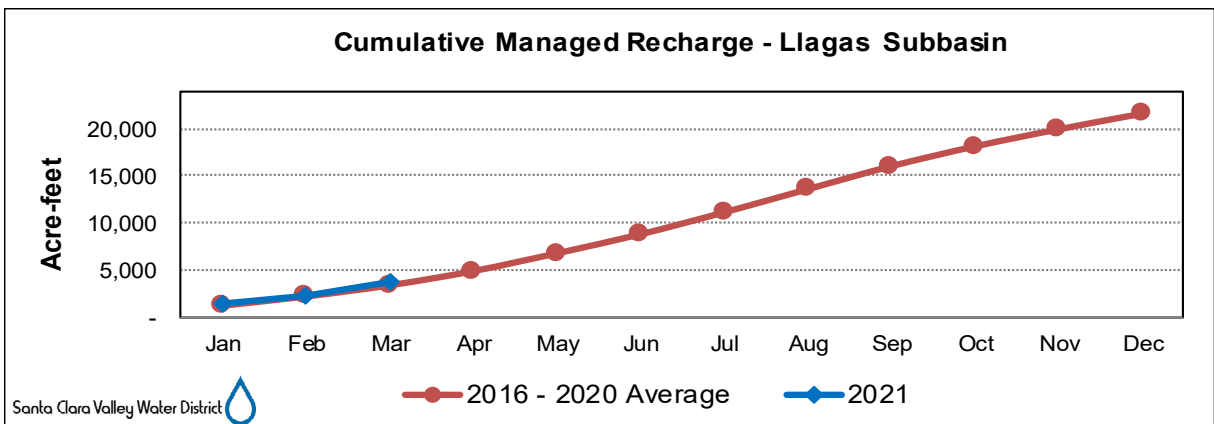


Figure 3. Estimated Cumulative Managed Recharge in the Llagas Subbasin



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 and February 2021 is an estimated number based on retailers’ pumping data from the new water zones that took effect in July 2020.
- 2021 cumulative pumping is higher than 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

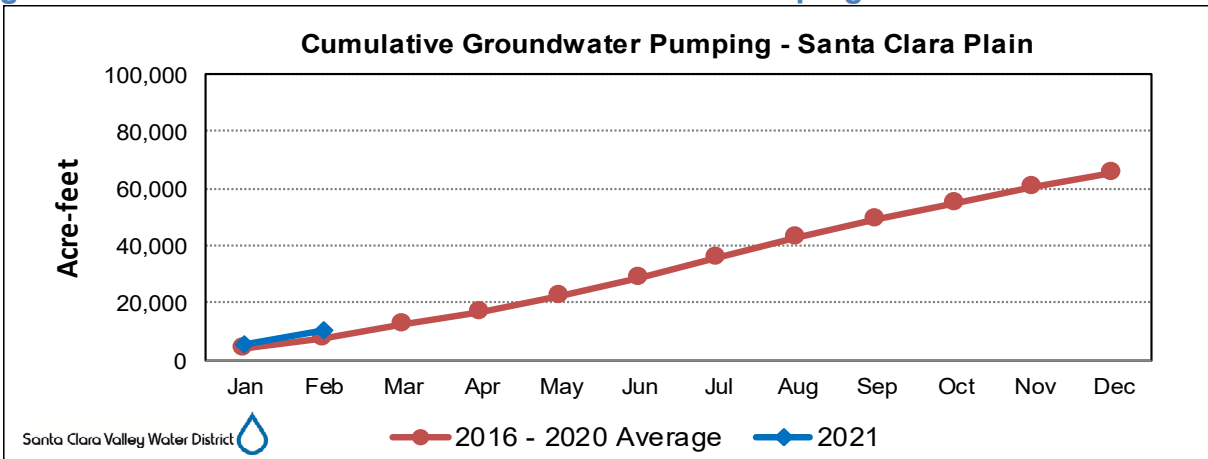


Figure 5. Estimated Cumulative Coyote Valley Pumping

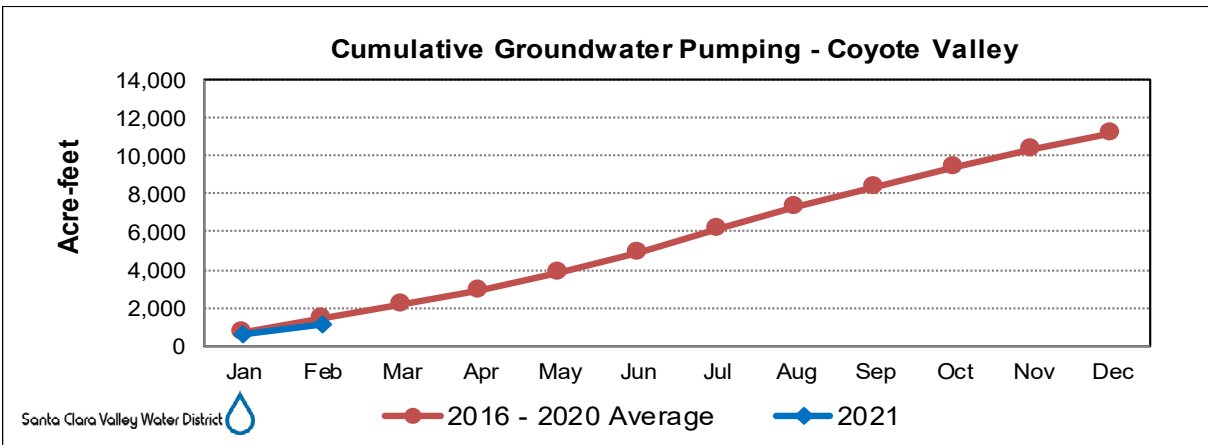
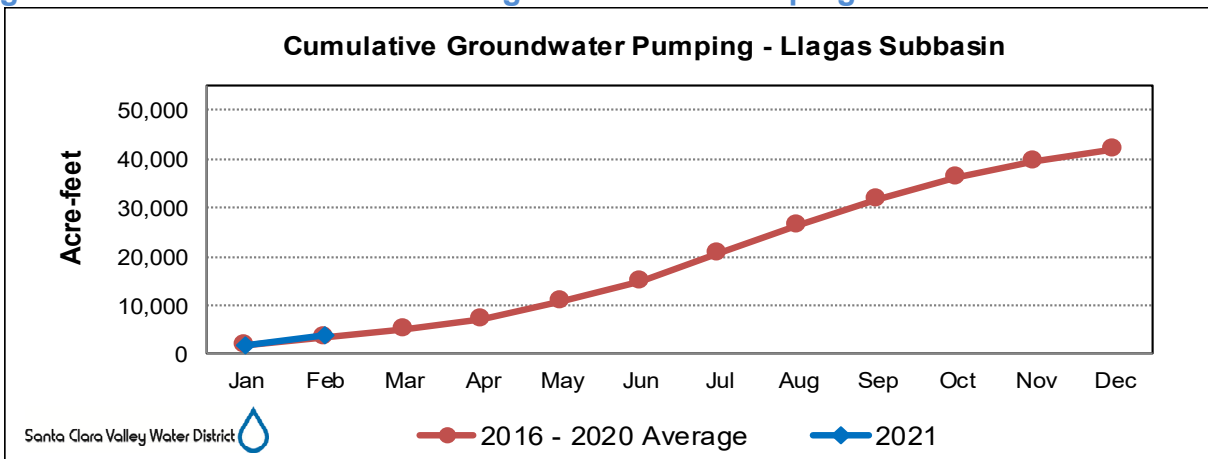


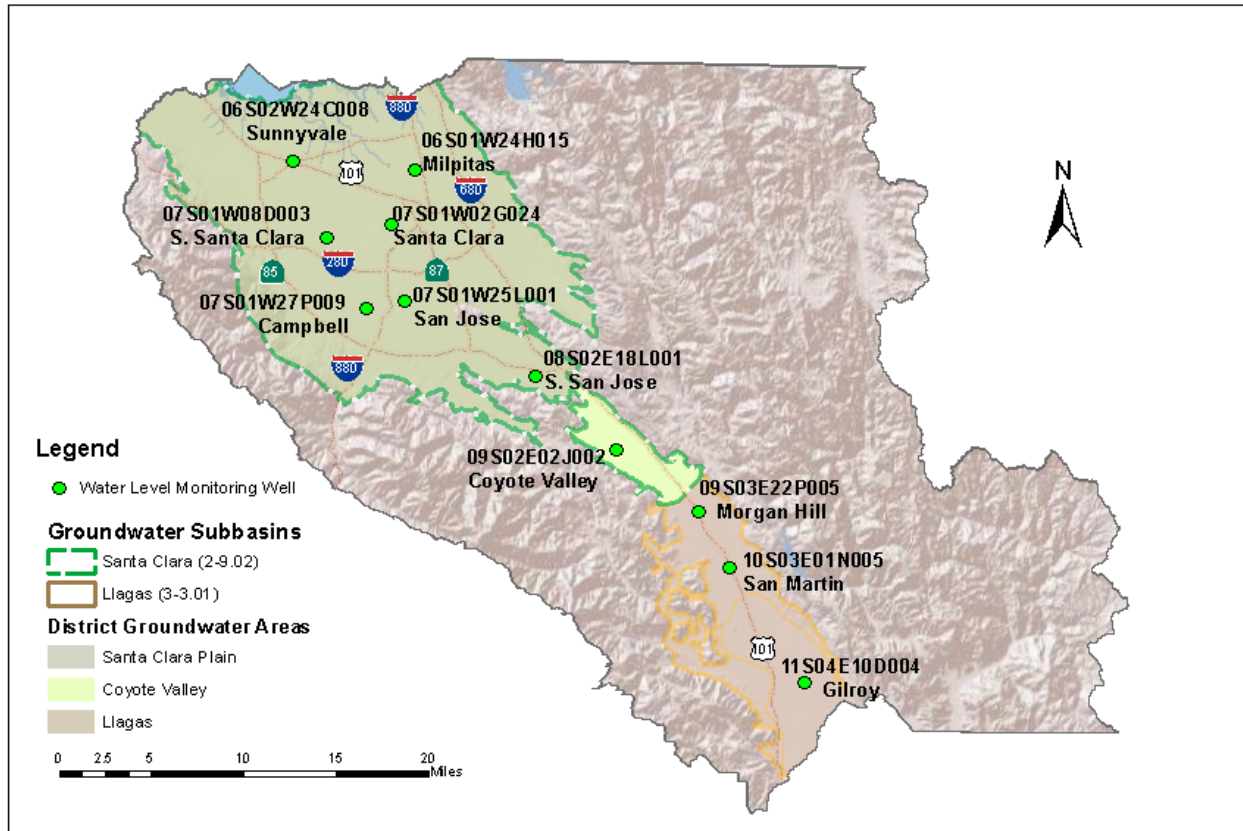
Figure 6. Estimated Cumulative Llagas Subbasin Pumping



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

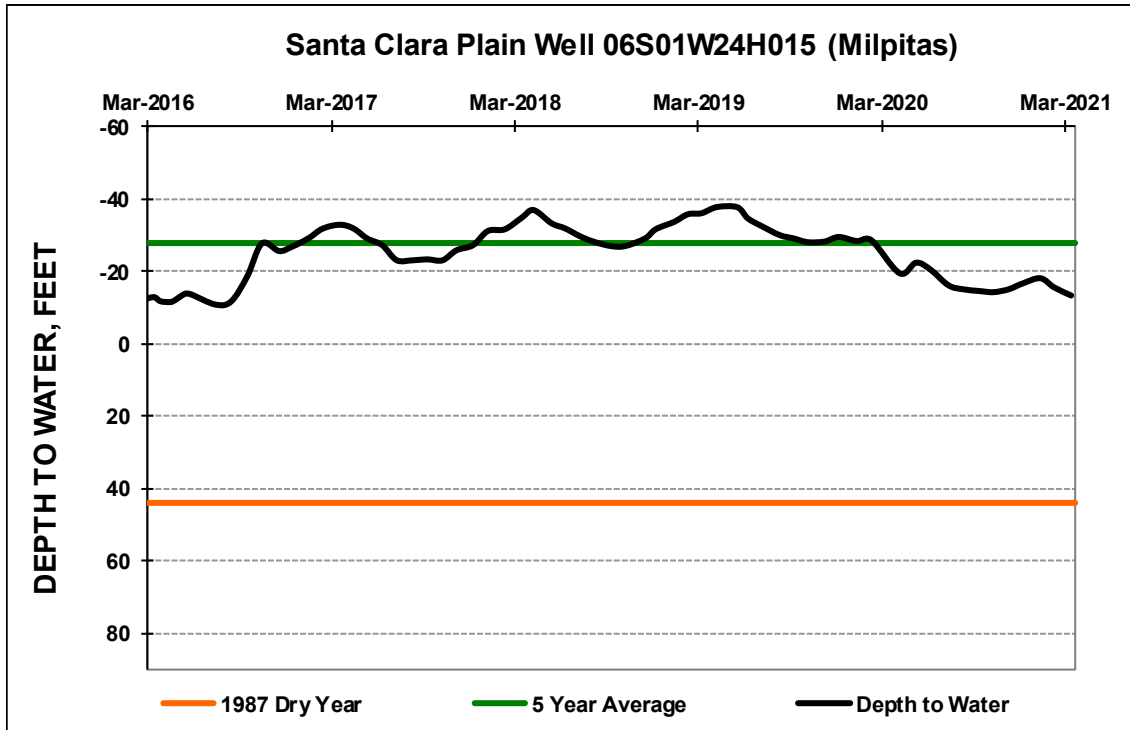


In Figures 8 through 18, hydrographs with March 2021 water levels from these eleven wells are compared to water levels from (i) February 2021, (ii) March 2020, (iii) March 2004 (a normal year), (iv) the prior five-year (2016-2020) average of March measurements, and (v) March 1987 (a dry year).

These hydrographs show that the March 2021 groundwater levels were:

- i. Higher than February 2021 levels in five wells by 2 to 9 feet, lower in five wells by 1 to 4 feet, and the same in one well.
- ii. Water levels were not measured in March 2020 due to COVID-19 restrictions so there is no comparison to last March.
- iii. Higher in three wells by 3 to 15 feet and lower in seven wells by 3 to 31 feet compared to March 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 3 to 25 feet, as compared to the average of the previous five-years of March readings, and
- v. Higher in seven wells by 39 to 113 feet and lower in four wells by 1 to 9 feet, as compared to March 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

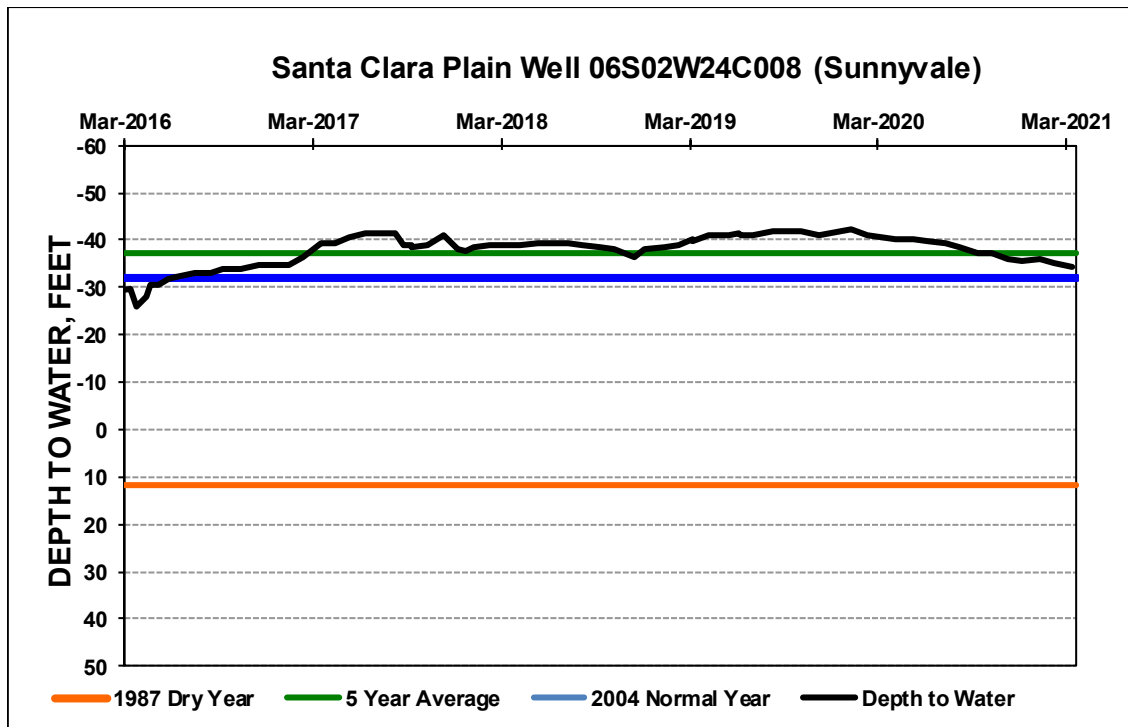


Figure 10. San Jose Well Hydrograph (Index Well for the Santa Clara Plain)

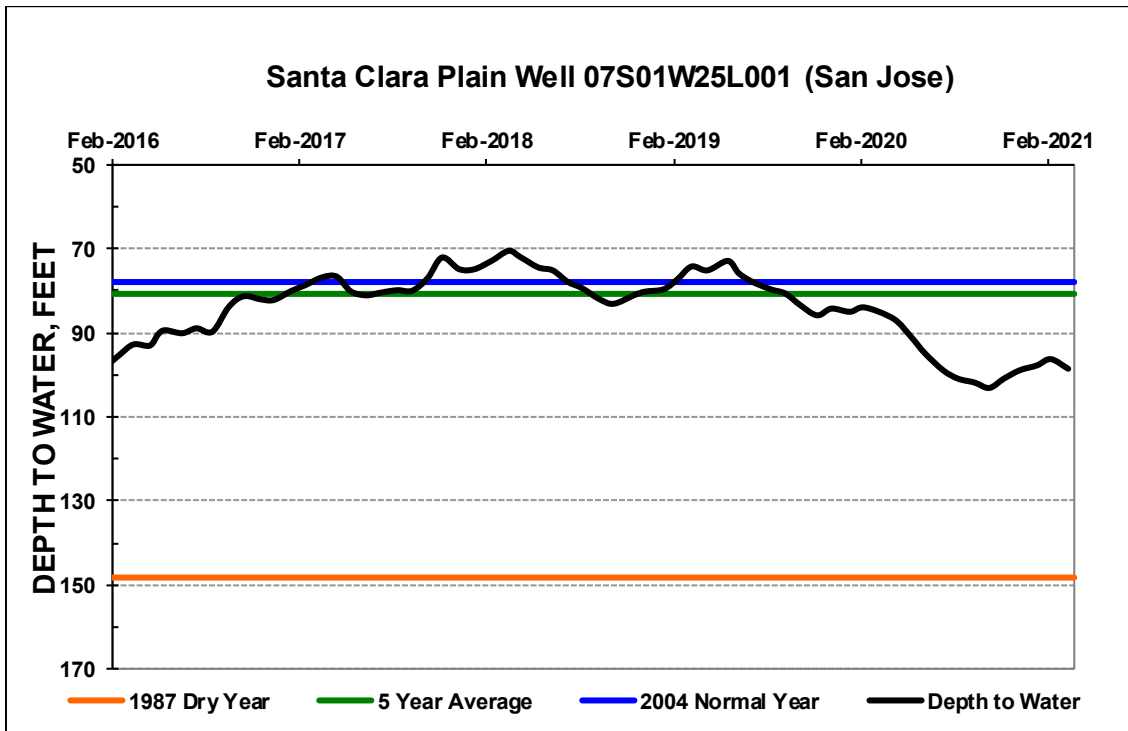


Figure 11. Santa Clara Well Hydrograph

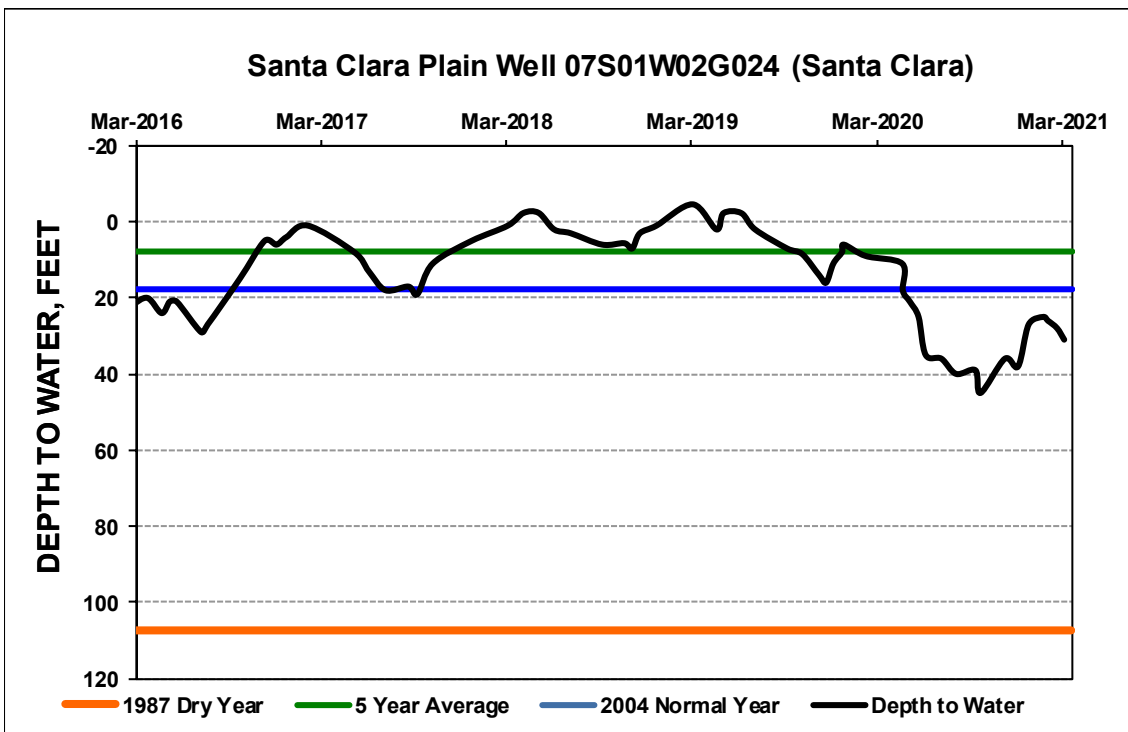


Figure 12. South Santa Clara Well Hydrograph

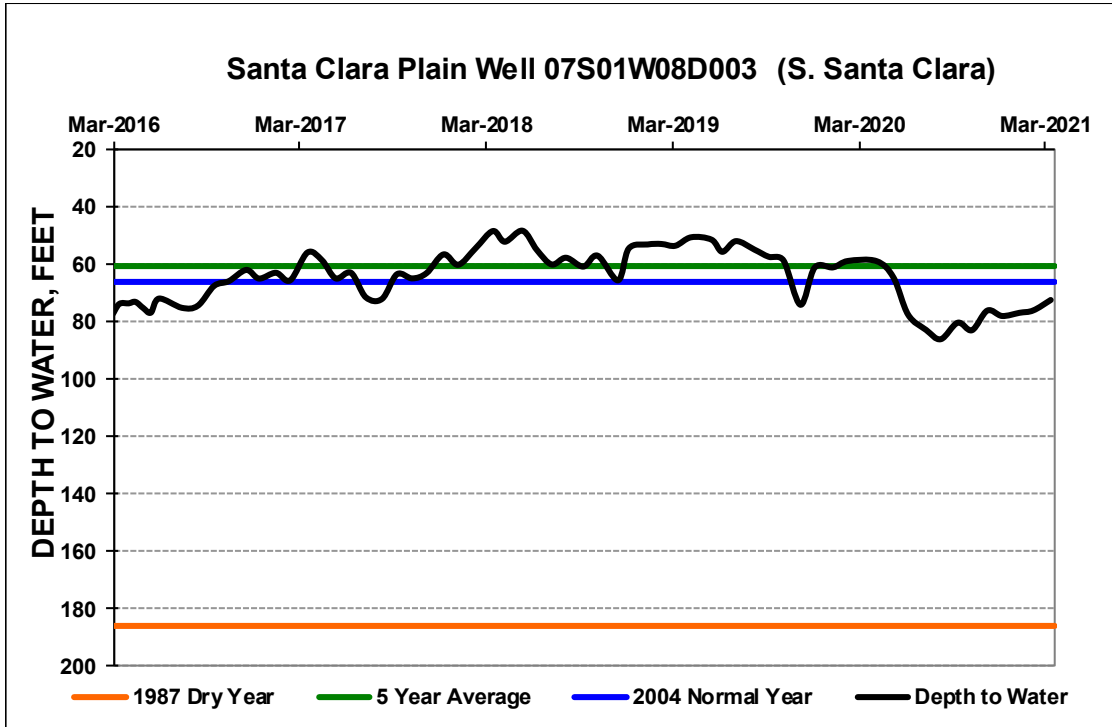
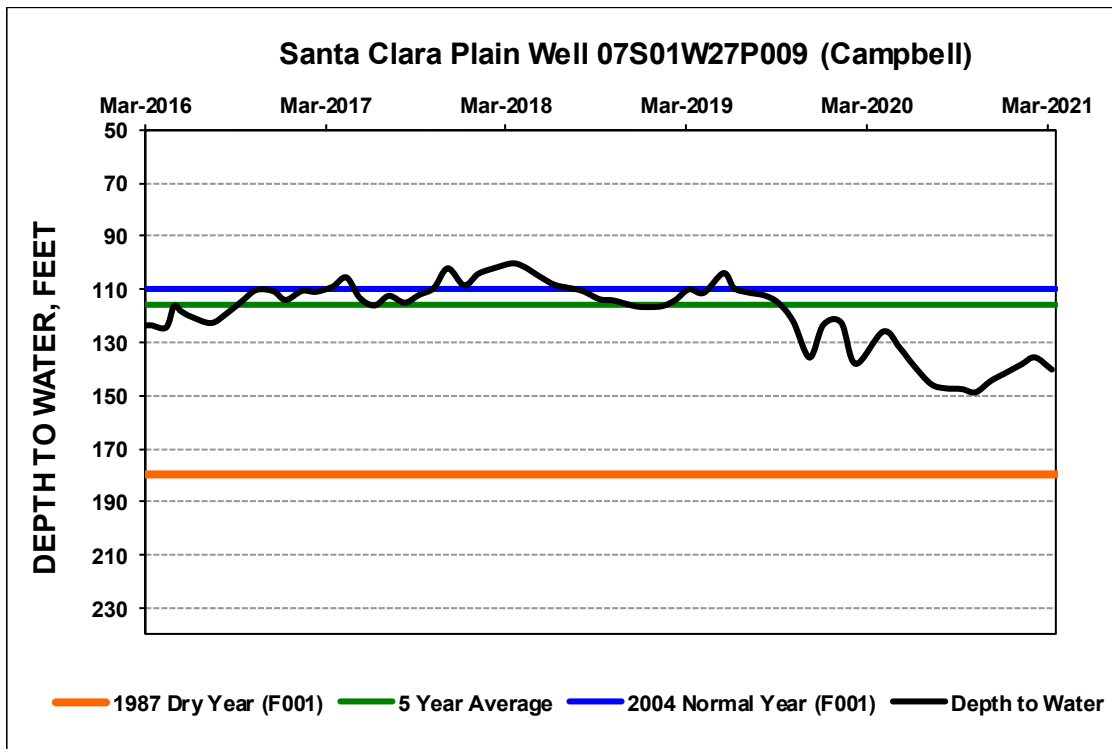


Figure 13. Campbell Well Hydrograph



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

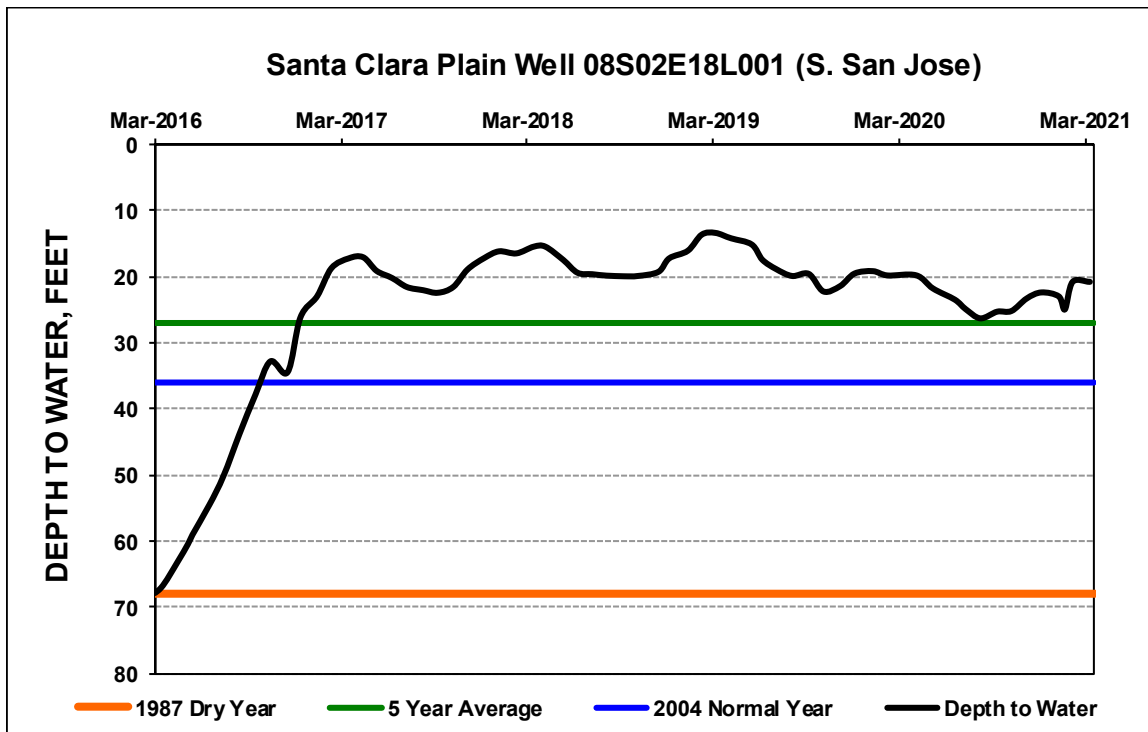


Figure 15. Coyote Valley Well Hydrograph (Index Well for the Coyote Valley)

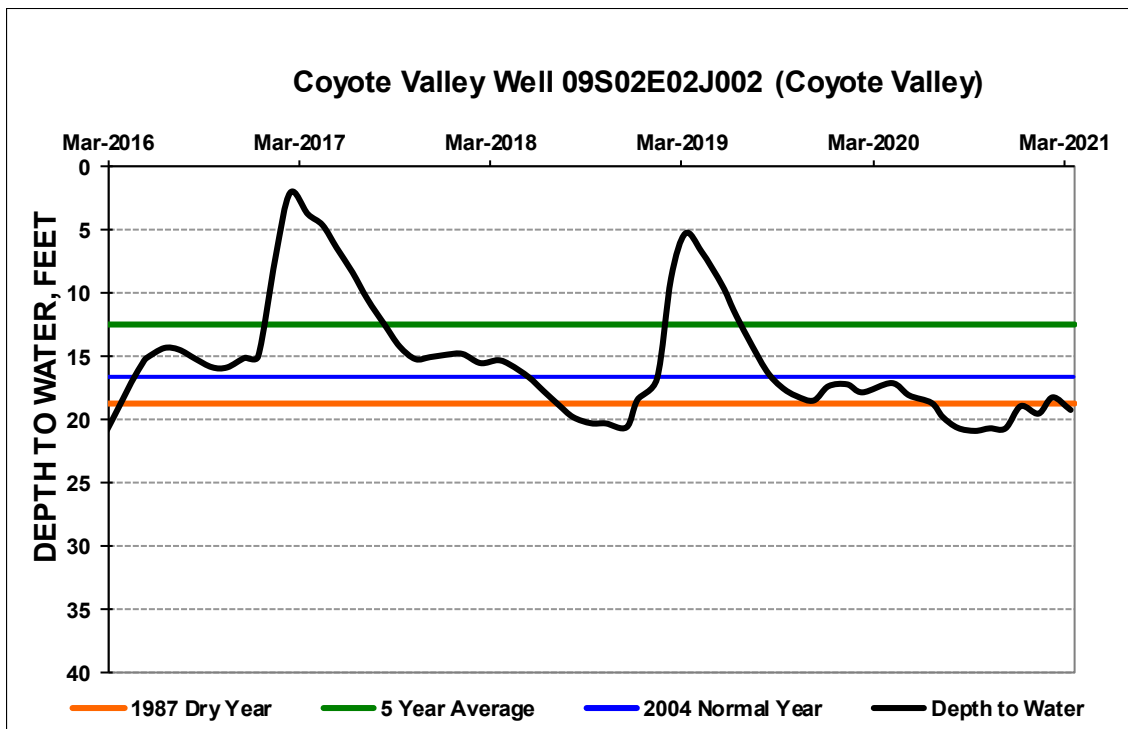


Figure 16. Morgan Hill Well Hydrograph

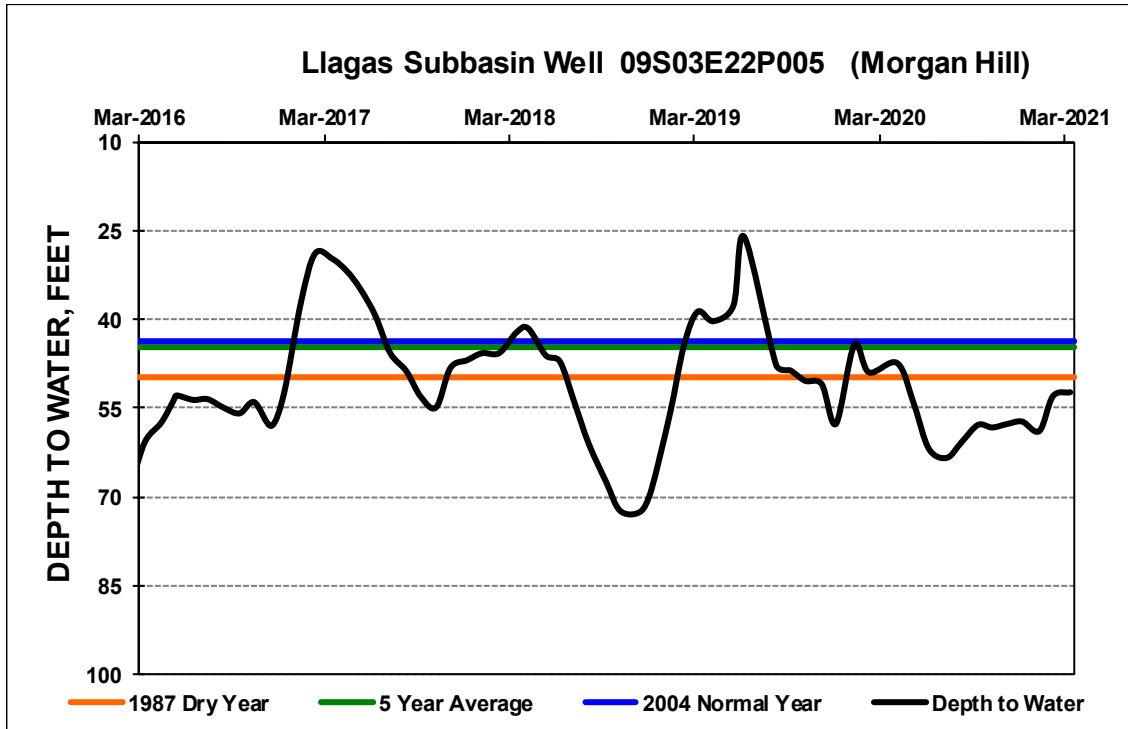
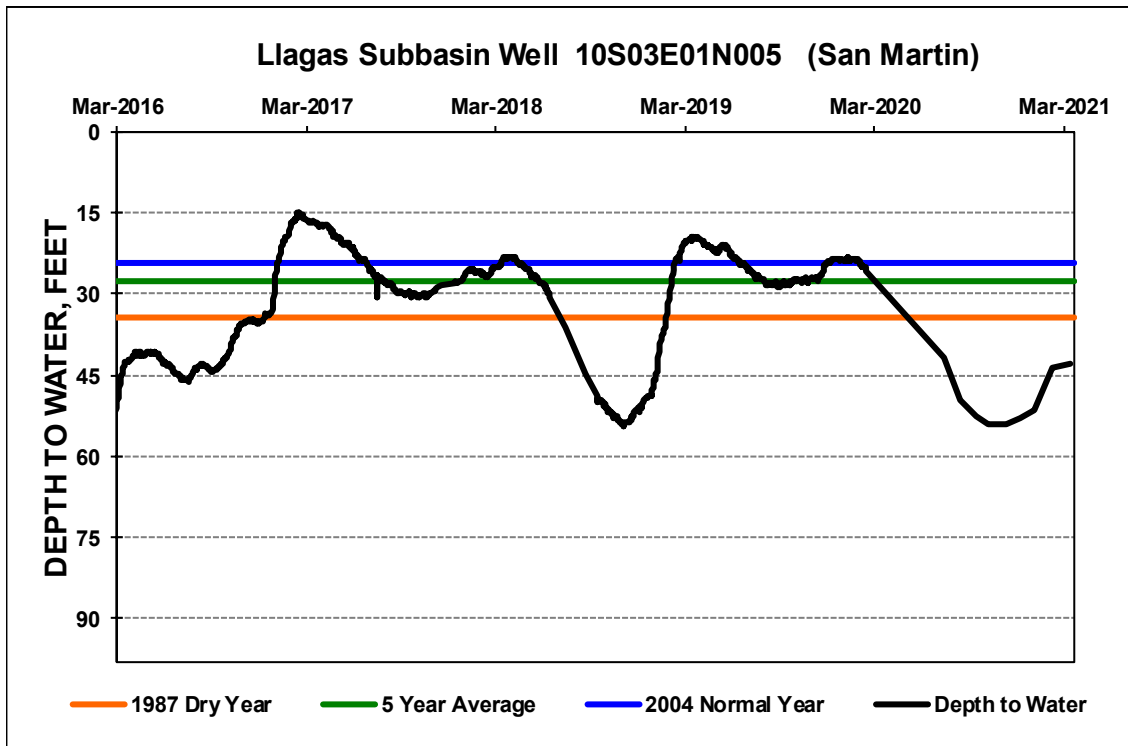


Figure 17. San Martin Well Hydrograph (Index Well for the Llagas Subbasin)



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

