

Groundwater Condition

REPORT | SANTA CLARA COUNTY

December 2023

SUMMARY

This report summarizes November 2023 groundwater storage, recharge, pumping, and level conditions for the Santa Clara Subbasin (the Santa Clara Plain and Coyote Valley groundwater management areas) and the Llagas Subbasin.

Groundwater conditions remain healthy throughout the county. Groundwater levels in most regional monitoring wells are lower than last month due to normal, seasonal declines. All water levels are higher relative to November 2022 and all are higher than or equal to the prior five-year average for November. The end of 2023 groundwater storage is projected to be in Stage 1 (Normal) of the Water Shortage Contingency Plan.

- November managed recharge is 93% to 180% of the five-year average.
- October pumping is 74% to 120% of the five-year average.
- Groundwater levels in index wells for November 2023 range from 7 feet to 40 feet higher than the November levels of 2022.

Table 1. Summary of Current Groundwater Conditions

| | Santa Clara Subbasin | | Llagas Subbasin |
|--|----------------------|---------------|-----------------|
| | Santa Clara Plain | Coyote Valley | |
| November 2023 managed recharge estimate | 7,800 | 1,200 | 1,600 |
| YTD managed recharge estimate | 80,600 | 12,900 | 20,600 |
| YTD managed recharge as % of five-year average | 180% | 93% | 113% |
| October 2023 pumping estimate | 5,900 | 1,500 | 5,300 |
| YTD pumping estimate | 44,100 | 12,100 | 35,500 |
| YTD pumping as % of five-year average | 74% | 120% | 98% |
| Current index well groundwater levels compared to November of 2022 | 19 feet higher | 7 feet higher | 40 feet higher |

All volumes are in acre-feet. All data is for 2023 except where noted. 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 2023 compared to the average of the previous five years (2018 – 2022).
- Compared to the average of the previous five years, managed recharge for November 2023 was higher in the Santa Clara Plain and the Llagas Subbasin, and lower in Coyote Valley.
- 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

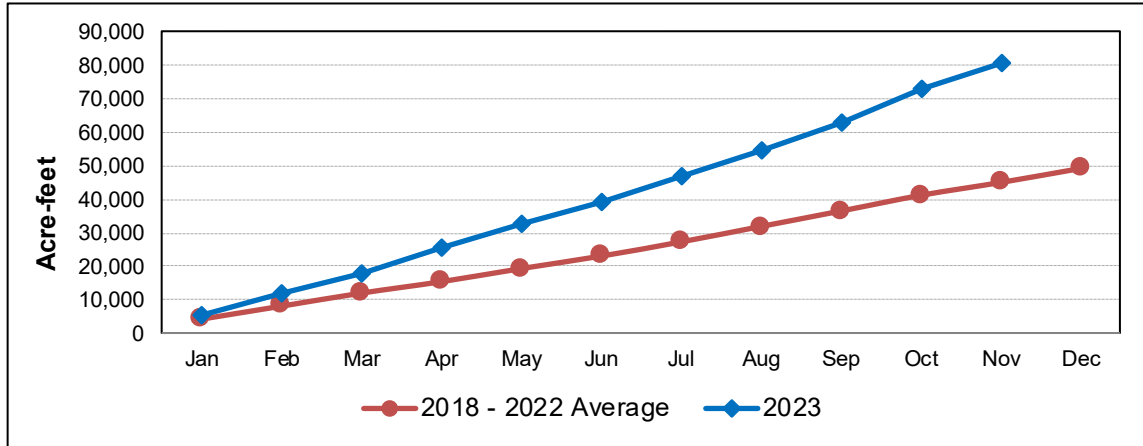


Figure 2. Estimated Cumulative Managed Recharge in the Coyote Valley

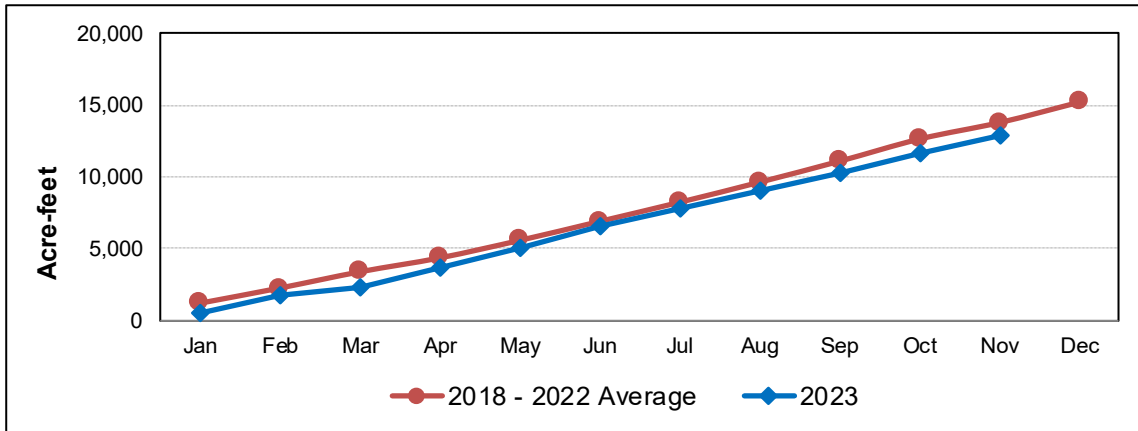
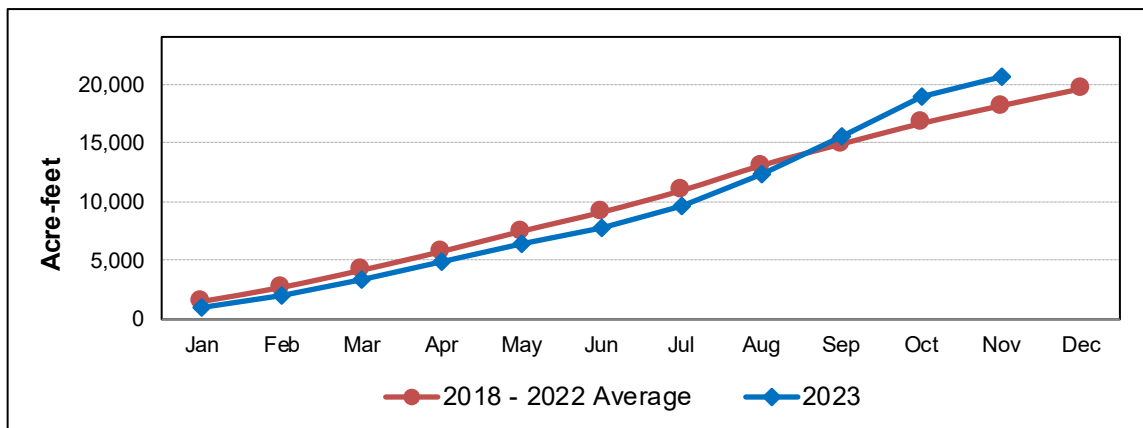


Figure 3. Estimated Cumulative Managed Recharge in the Llagas Subbasin



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Groundwater Pumping

- Figures 4, 5, and 6 show the cumulative groundwater pumping for 2023 compared to the average of the previous five years (2018 – 2022).
- Pumping estimates for October 2023 include monthly pumping data reported by water retailers and non-monthly pumping, primarily from domestic and agricultural uses.
- Compared to the average of the previous five years, pumping for October 2023 was higher in Coyote Valley, lower in the Santa Clara Plain, and slightly lower in the Llagas Subbasin.

Figure 4. Estimated Cumulative Santa Clara Plain Pumping

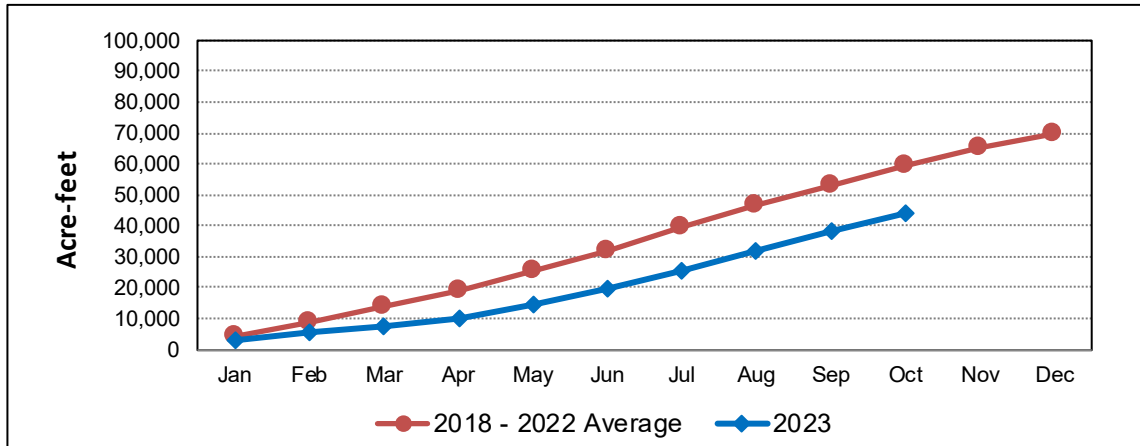


Figure 5. Estimated Cumulative Coyote Valley Pumping

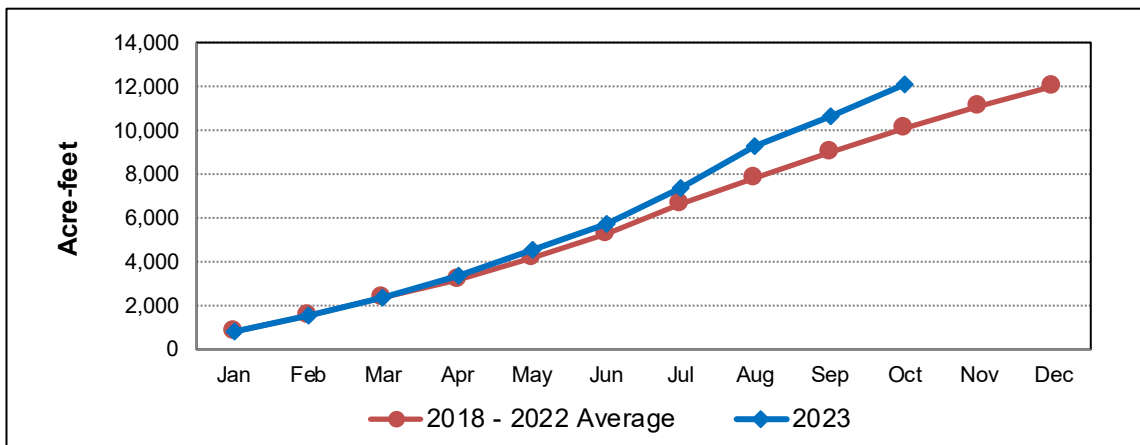
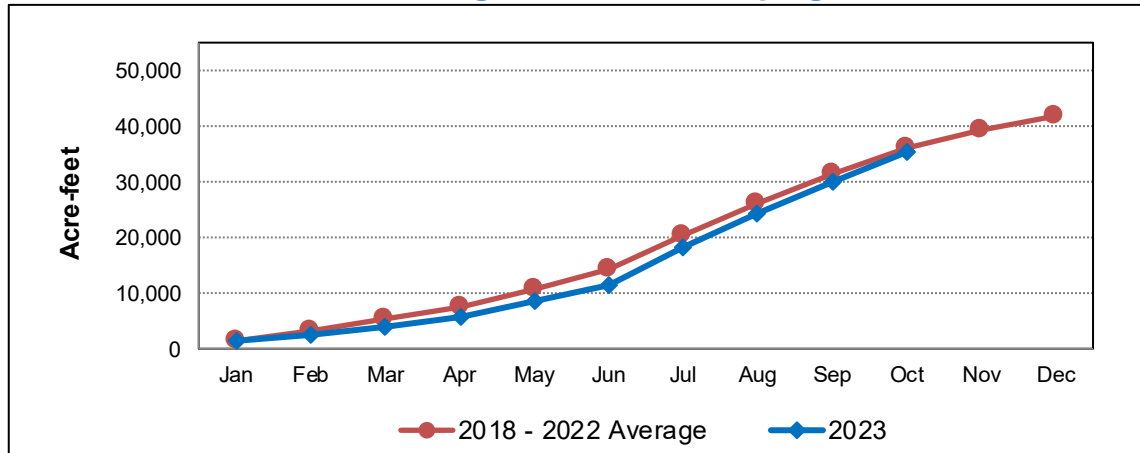


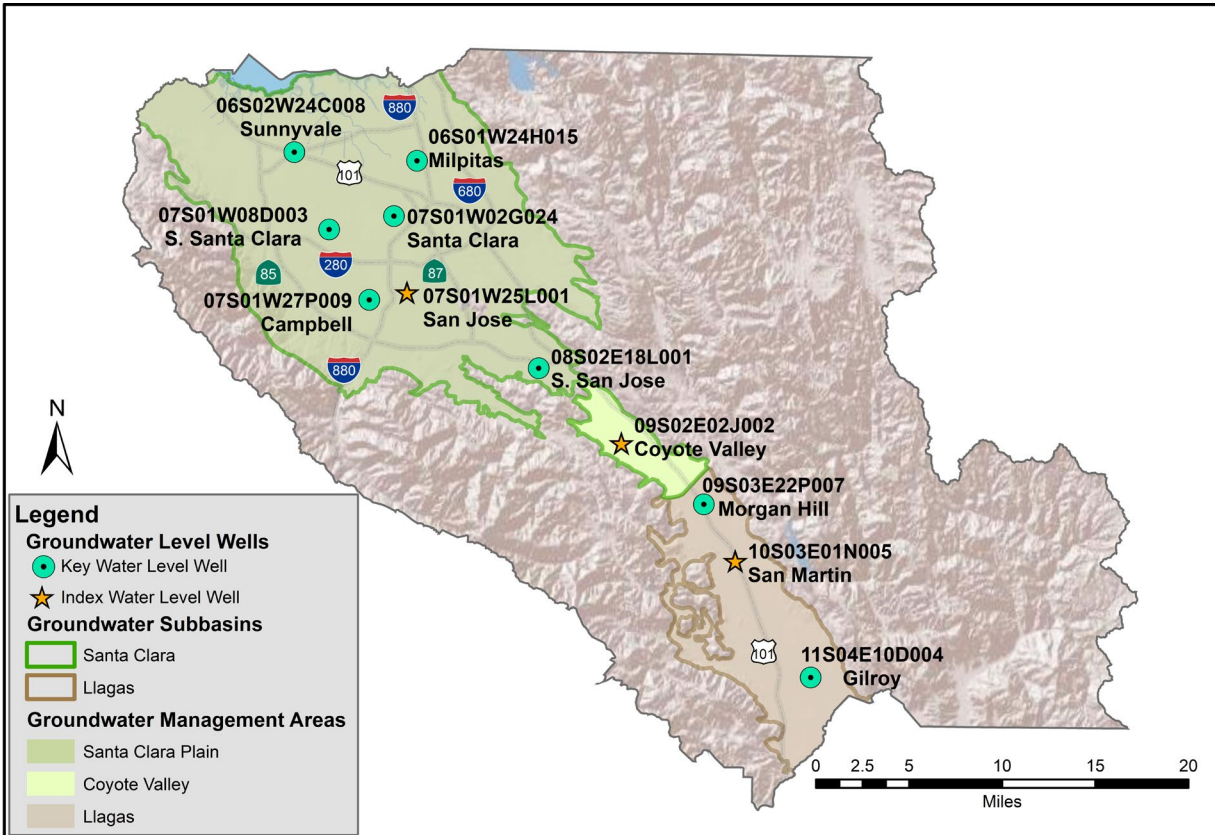
Figure 6. Estimated Cumulative Llagas Subbasin Pumping



Groundwater Levels

Groundwater levels in most regional monitoring wells¹ have decreased since last month. All water levels are higher than this time last year and higher than or equal to the November average for the previous five years. Table 2 summarizes current groundwater levels with historical comparisons for 11 regional monitoring wells that are distributed across the three management areas, as shown in Figure 7.

Figure 7. Locations of Regional Water Level Monitoring Wells



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¹ **Note:** While this report summarizes water levels from the 11 combined key and index wells of the regional network (Figure 7), Valley Water monitors groundwater levels from over 230 wells each month and these levels are publicly available at <https://gis.valleywater.org/GroundwaterElevations>.

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Table 2. Comparisons to November 2023 Depth to Water (DTW) in Regional Wells

| Location | State Well ID | November 2023 DTW (feet) | Difference in November 2023 DTW (feet) Compared to: | | | |
|----------------|---------------|--------------------------|---|---------------|-----------------------------------|--------------------------------------|
| | | | October 2023 | November 2022 | Prior 5-year Average for November | Maximum DTW during 2012–2016 drought |
| Milpitas | 06S01W24H015 | -26 (artesian) | -1 | 13 | 8 | 47 |
| Sunnyvale | 06S02W24C008 | -33 (artesian) | -3 | 8 | 0 | 12 |
| San Jose | 07S01W25L001 | 71 | -2 | 19 | 22 | 66 |
| Santa Clara | 07S01W02G024 | 7 | -3 | 13 | 19 | 84 |
| S. Santa Clara | 07S01W08D003 | 69 | -1 | 10 | 7 | 76 |
| Campbell | 07S01W27P009 | 103 | -2 | 22 | 30 | 95 |
| S. San Jose | 08S02E18L001 | 25 | 0 | 16 | 3 | 45 |
| Coyote Valley | 09S02E02J002 | 22 | -2 | 7 | 0 | 15 |
| Morgan Hill | 09S03E22P007 | 46 | 3 | 39 | 15 | 50 |
| San Martin | 10S03E01N005 | 34 | 2 | 40 | 21 | 46 |
| Gilroy | 11S04E10D004 | 19 | 8 | 18 | 9 | 44 |

Notes: Depth to water is measured to the hundredth of a foot but data shown here are rounded to the nearest foot. Negative values in the last 4 columns indicate current groundwater levels are lower than the comparison time. Well 09S03E22P005 was replaced with well 09S03E22P007; water level data from well 09S03E22P005 were used for historical comparison calculations. (artesian) indicates aquifer pressure conditions that push water level elevations higher than land surface. The maximum DTW during the 2012–2016 drought occurred between July 2014 and December 2015, depending on the well, and reflect some of the lowest water levels over the past 25 years.

Figures 8 through 18 show ten-year hydrographs for each of the eleven regional monitoring wells.

Figure 8. Milpitas Well Hydrograph

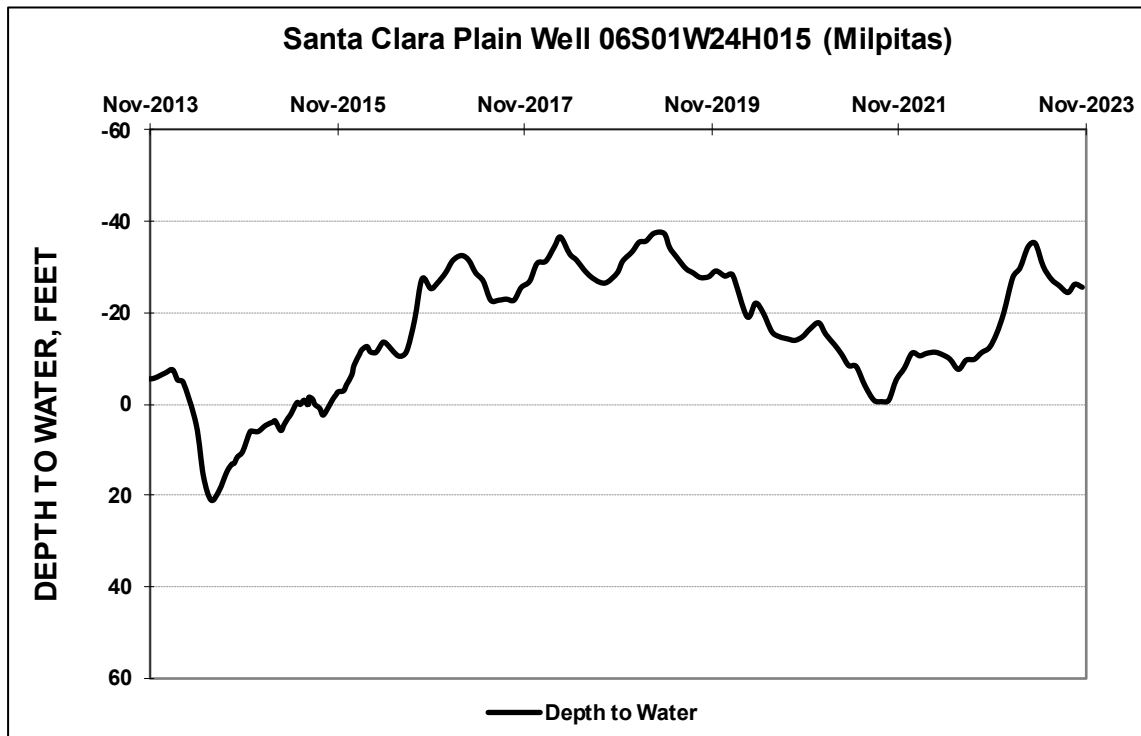


Figure 9. Sunnyvale Well Hydrograph

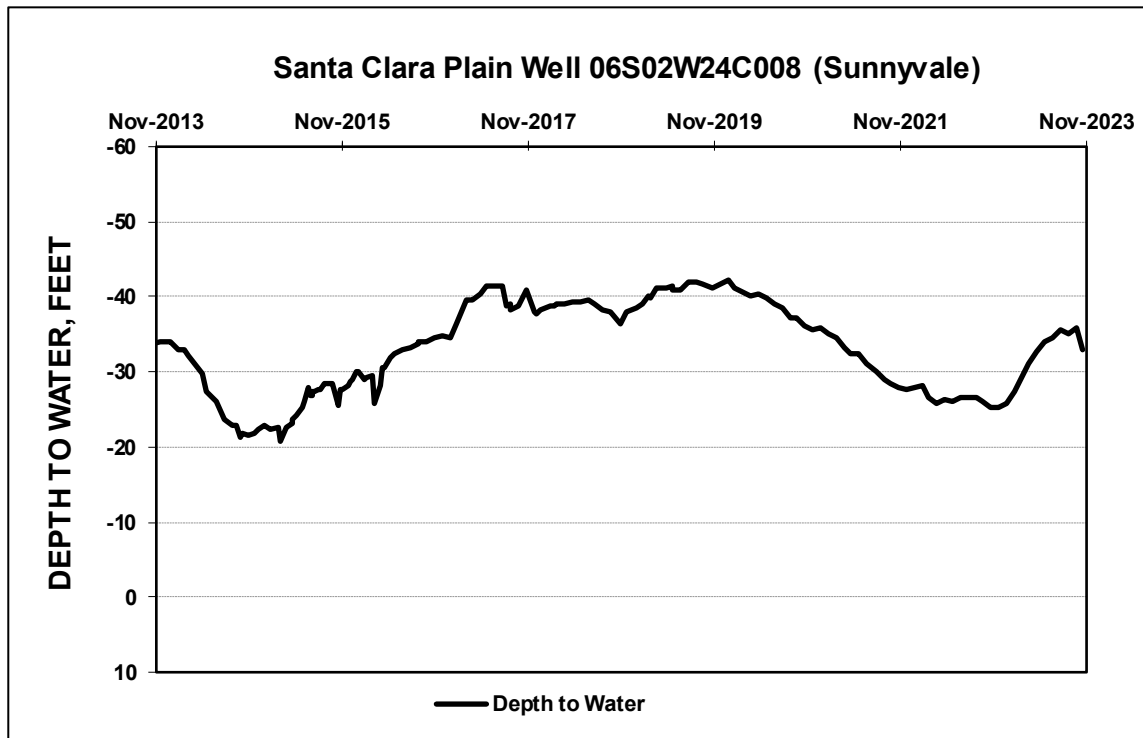


Figure 10. San Jose Well Hydrograph (Index Well for the Santa Clara Plain)

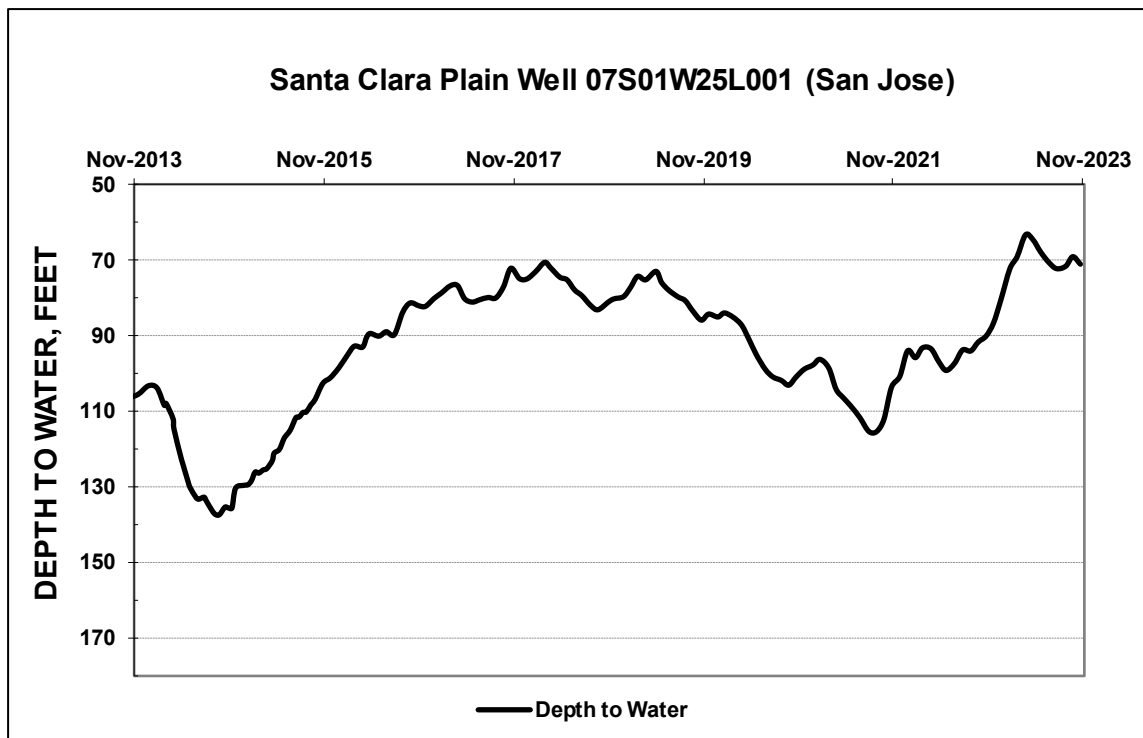


Figure 11. Santa Clara Well Hydrograph

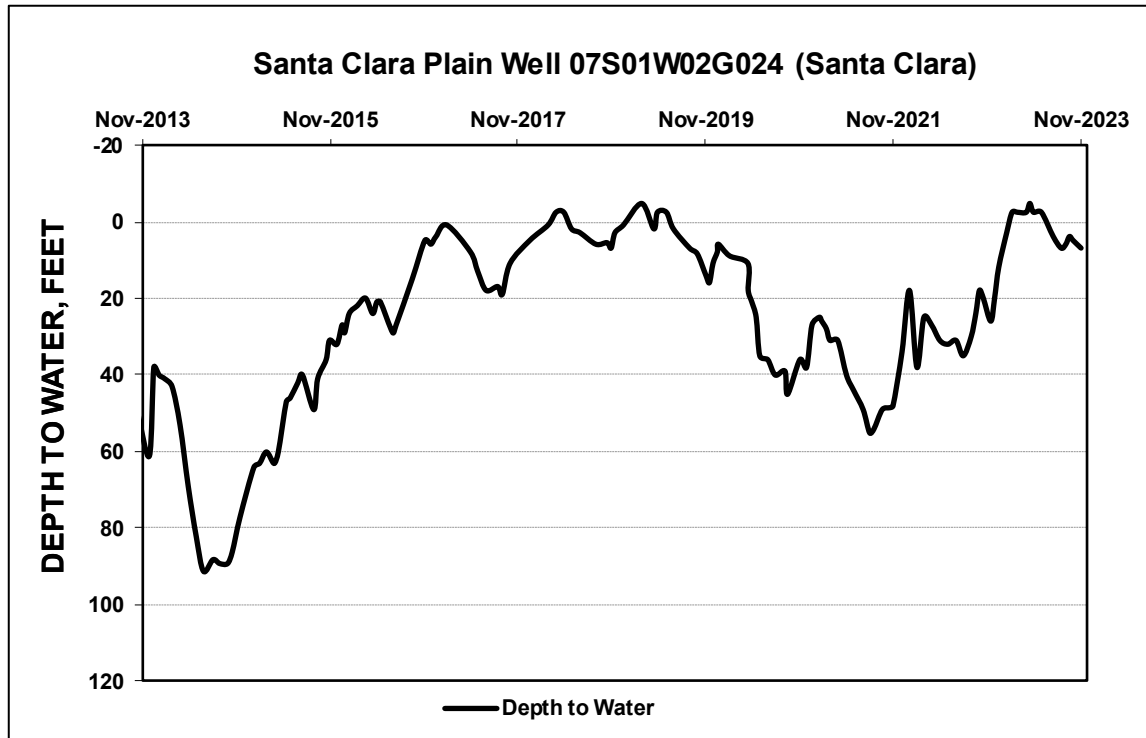


Figure 12. South Santa Clara Well Hydrograph

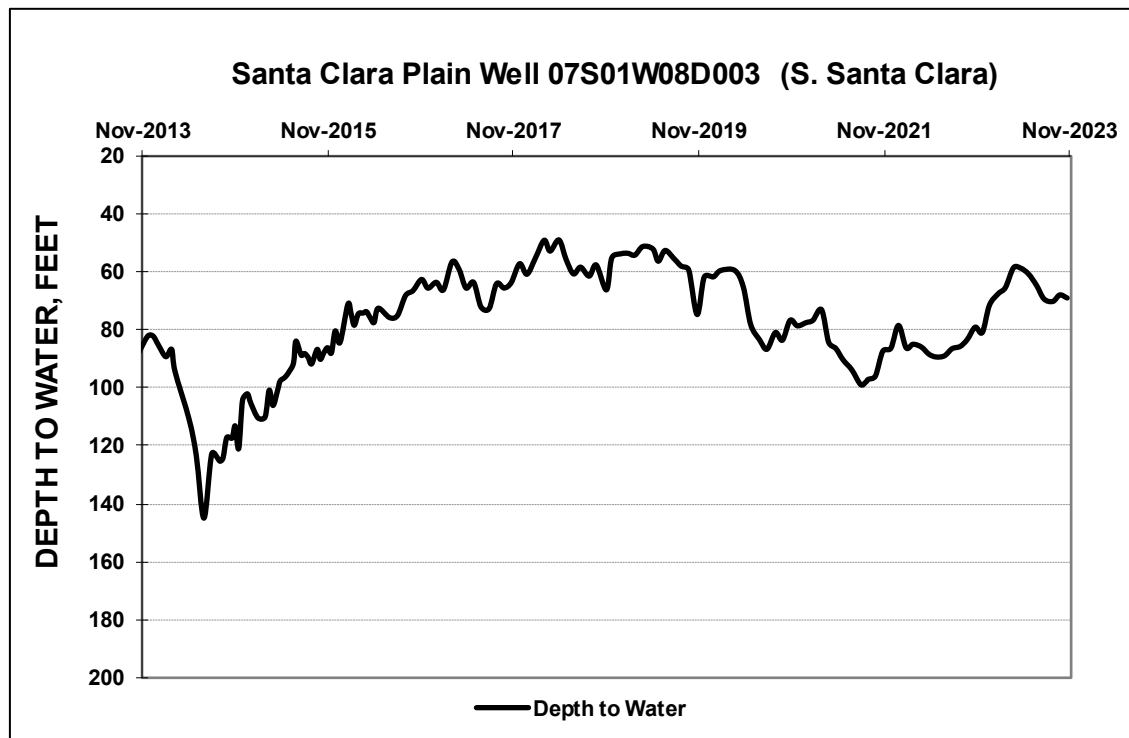
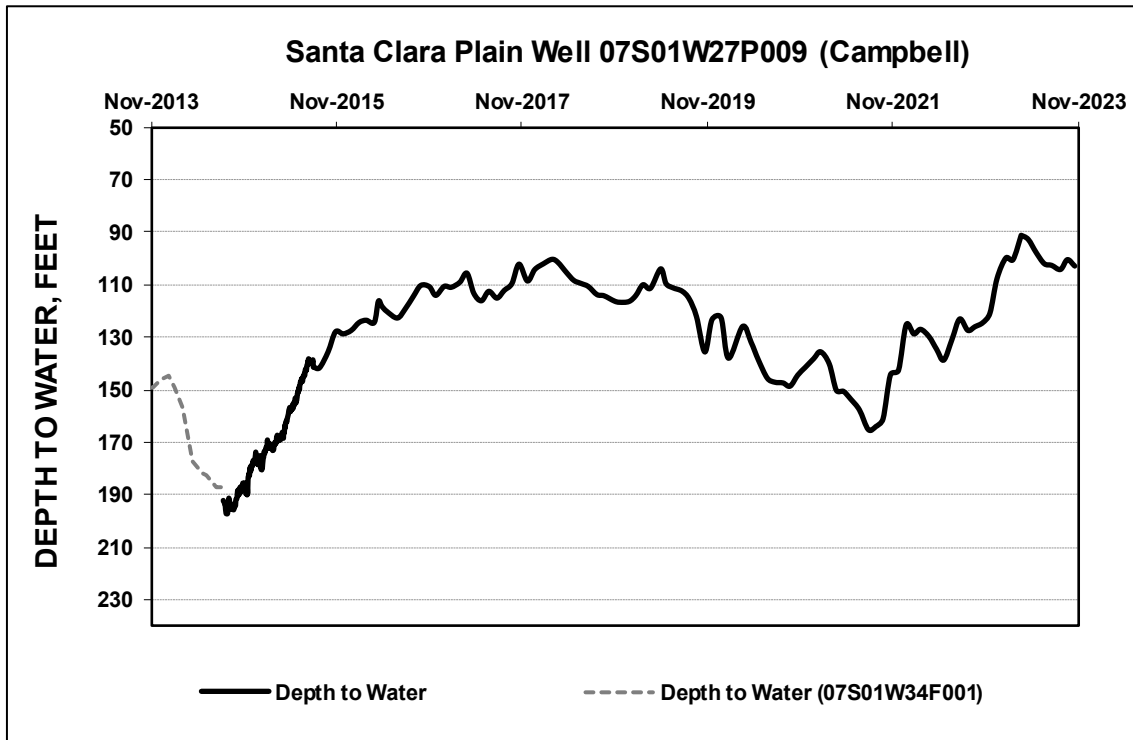


Figure 13. Campbell Well Hydrograph



The Campbell index well was replaced in August 2015 with a nearby well with similar water levels. Data in the chart prior to September 2014 is from the former index well (07S01W34F001).

Figure 14. South San Jose Well Hydrograph

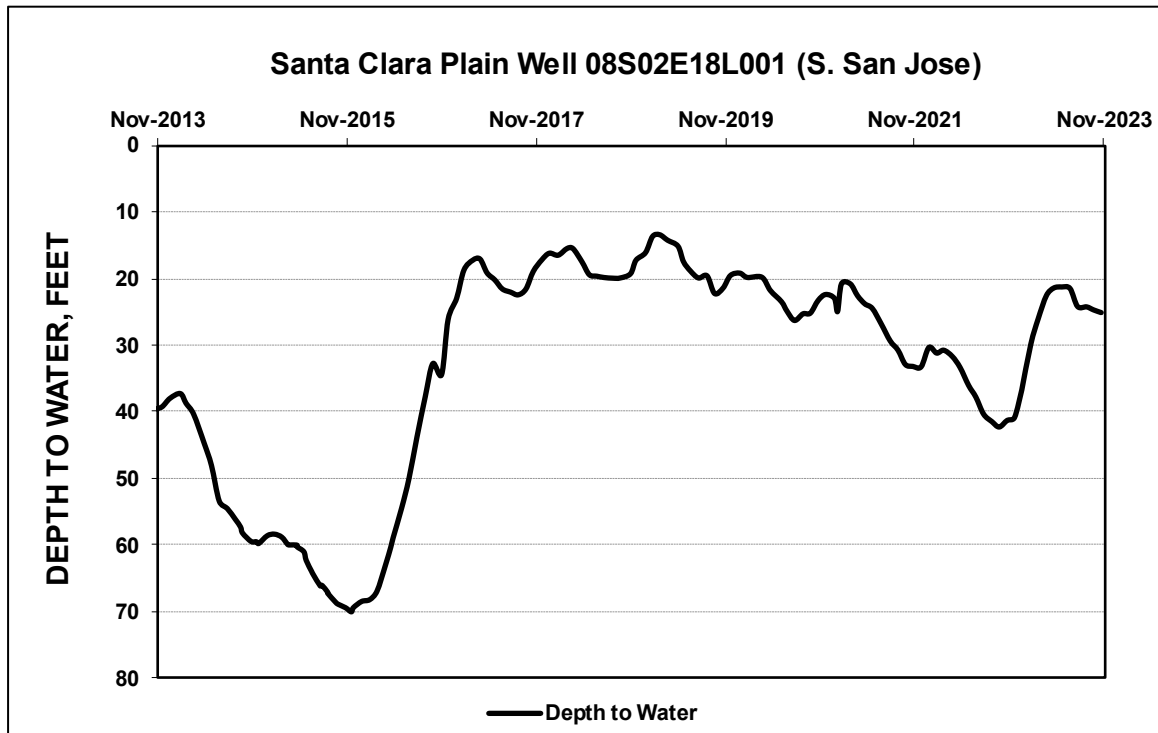


Figure 15. Coyote Valley Well Hydrograph (Index Well for the Coyote Valley)

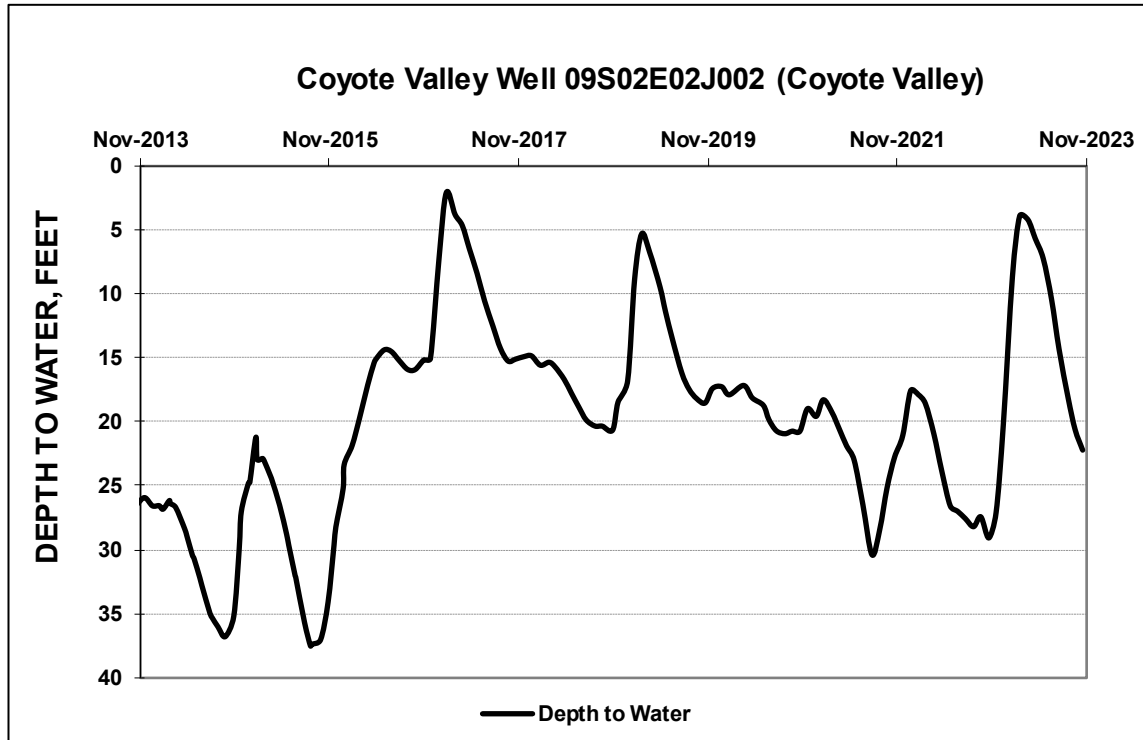
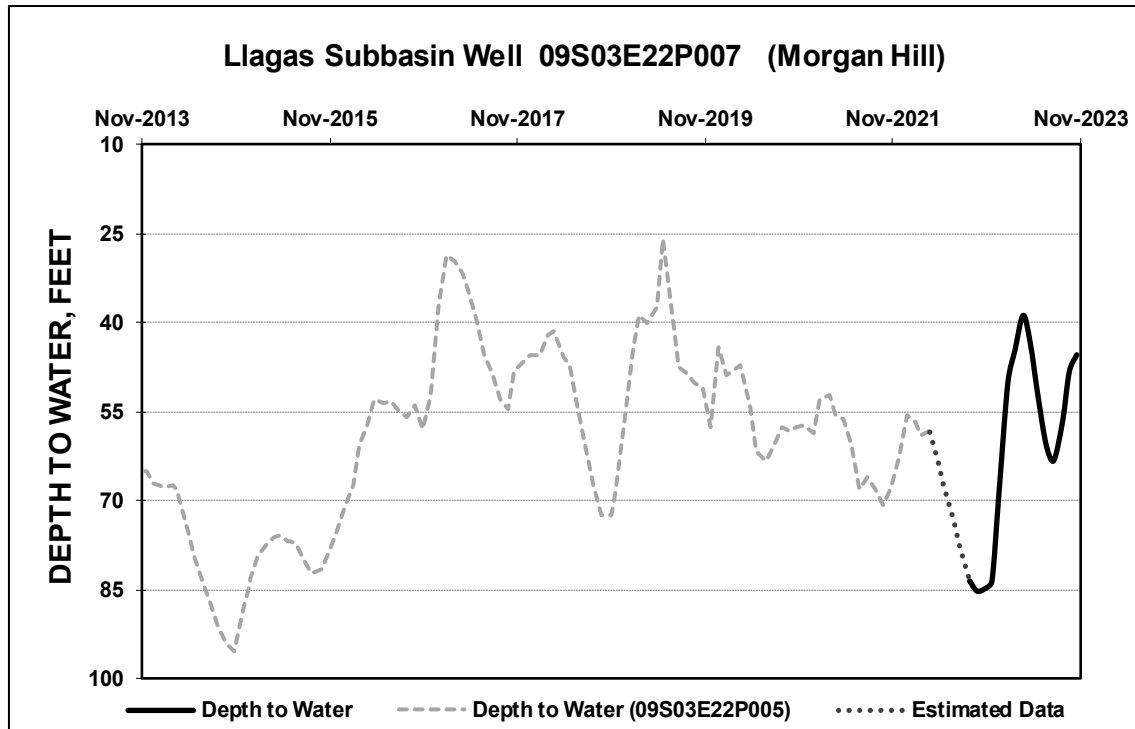


Figure 16. Morgan Hill Well Hydrograph



The Morgan Hill well 09S03E22P005 is no longer accessible and was replaced by well 09S03E22P007 in September 2022. Water levels from May 2022 to September 2022, represented by the dotted line, are estimated.

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

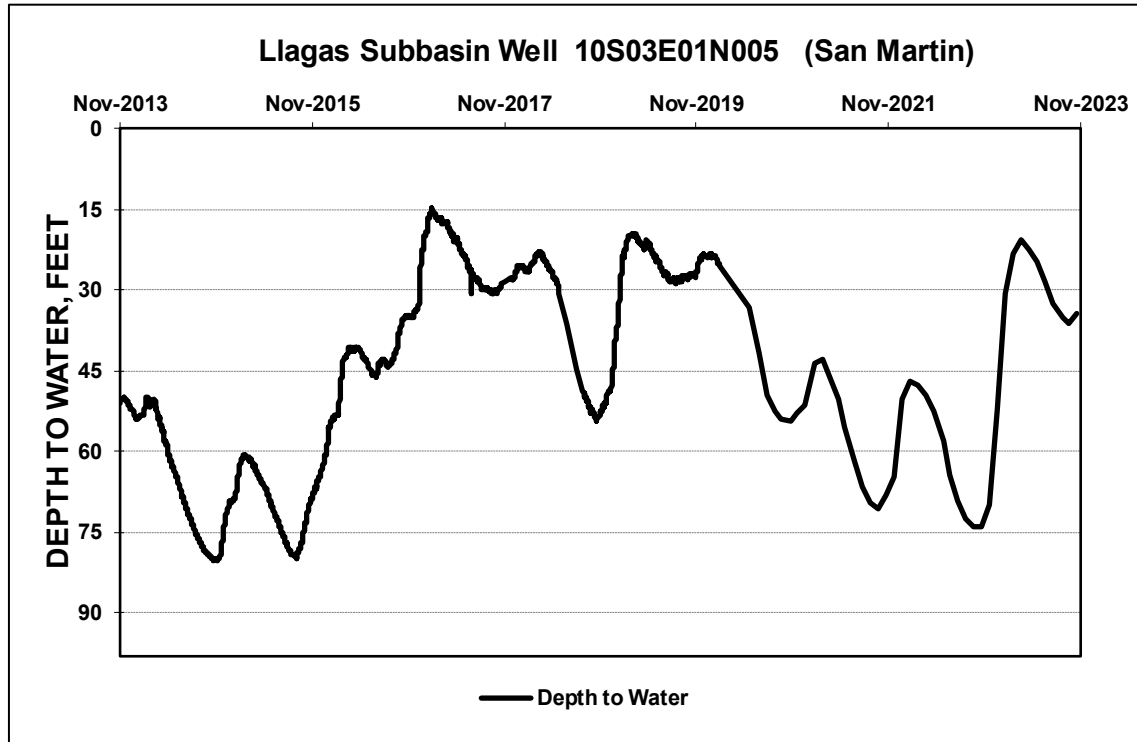


Figure 18. Gilroy Well Hydrograph

