CALIFORNIA DEPARTMENT OF WATER RESOURCES

California's Groundwater Conditions: Semi-Annual Update



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CALIFORNIA DEPARTMENT OF WATER RESOURCES

California's Groundwater Semi-Annual Update: October 2026

Message from DWR Deputy Director of Sustainable Water Management



California is no stranger to weather extremes driven by climate change. Over the past six years, our state has experienced record-breaking weather events from severe drought that challenged domestic wells to excess flood flows caused by historic precipitation that threatened life, property, and critical infrastructure. And 2026 is no exception. Following warm spring conditions that melted the State's snowpack in March, experts are now forecasting strong El Niño conditions for this coming winter. This means an increased likelihood of storms that could once again challenge Californians. Thankfully, California has made several key investments to support our local agencies since the last extreme wet year to protect our communities by diverting and capturing flood flows when possible.

As a key strategy in Governor Newsom's Water Supply Strategy, groundwater recharge can help enhance water resiliency and security; reduce vulnerability to floods, drought, and dry wells; and promote long-term sustainability. We know weather extremes, especially drought, can make it more difficult for groundwater basins to meet sustainability goals set in support of the Sustainable Groundwater Management Act (SGMA). That's why state and local officials are already working hand in hand to ensure projects and infrastructure are in place to take advantage of extremely wet years – capturing and storing water underground when it is available to help replenish groundwater basins and prepare for future droughts. Additionally, the Governor's recent proclamation of a state of emergency due to El Niño creates a pathway forward for agencies to identify opportunities to streamline our critical work and coordination as we enter the winter season.

I am pleased to share the Fall 2026 edition of DWR's Semi-Annual Groundwater Conditions Update, which highlights some of the ways local agencies are making progress towards groundwater sustainability and includes data that helps make decisions in our local communities. This includes information on statewide groundwater levels, groundwater storage, recharge, land subsidence, well infrastructure and the status of California's groundwater basins. This Update is possible because of the hard work of local and state entities in combination with data reported by GSAs across the 99 basins that submitted Annual Reports.

As SGMA continues to evolve and California prepares for a winter potentially driven by El Niño, DWR staff remain committed to collecting data and working with local agencies to manage our groundwater supply by preparing for whatever this winter might bring.

Paul Gosselin

Deputy Director, Sustainable Water Management, California Department of Water Resources

Executive Summary

California's groundwater conditions generally stabilized in Water Year (WY) 2026, though persistent effects of long-term groundwater depletion remain, and hydrologic variability continues. WY 2026 began with near-average precipitation and snow conditions, but a warm, dry spring reduced statewide precipitation to below average and contributed to the second-lowest April snowpack on record. These conditions highlight a growing challenge for groundwater management: as California experiences greater variability in the timing and form of precipitation, capturing water when it is available and storing it for future dry periods becomes increasingly important.

Groundwater levels, as measured in monitoring wells, show encouraging signs of stabilization and some improvement since the 2020-2022 drought. Successive 20-year trend analyses show a slight reduction in the prevalence of long-term groundwater declines, although declining trends remain more common than increasing trends.

Other indicators reinforce the distinction between stabilization and recovery. Land subsidence has waned but persists in portions of the Central Valley where groundwater remains below critical levels. There was a reduction in annual new well installations and fewer dry well reports in WY 2026, suggesting a reduction in drought induced problems. Together, these trends represent meaningful improvements in overall groundwater conditions but demonstrate that underlying groundwater vulnerabilities remain and widespread sustainable groundwater conditions have not yet occurred.

The potential for strong El Niño during the 2026–27 winter adds another source of uncertainty to California's water-supply outlook. This uncertainty also presents a potential opportunity to improve the groundwater conditions in California, if flood water can be captured for aquifer recharge. Groundwater Sustainability Agencies have identified a substantial portfolio of recharge projects statewide to build upon the existing groundwater recharge infrastructure built over the past years and decades. As California's hydrology becomes increasingly variable, advancing projects from planning to implementation will be critical to converting periods of water abundance into groundwater storage for future dry periods.

Despite the more stable groundwater conditions in recent years, assessments of groundwater conditions still indicate long-term declines in many important aquifers. Capturing more water in wet years through improved groundwater recharge management strategies and actions will help to recharge and build resilience. Due to the strong El Niño and potential for an unusually wet winter, DWR and local agencies are coordinating improved recharge readiness. This proactive planning intends to capture surface water in high-water and flood events and direct it towards groundwater recharge where possible. Groundwater recharge is only one of many groundwater management strategies. In an increasingly variable climate, sustained groundwater recovery will not result from a single wet year, project, or management action, but from consistent, long-term management that turns short-term hydrologic opportunities into enduring groundwater sustainability.

Key Findings

Recharge Readiness

- As of August 24, 2026, 493 recharge Projects and Management Actions (PMAs) have been identified statewide, with 331 reporting approximately 1.52 million acre-feet per year of potential average annual groundwater replenishment. Only 149 projects are ongoing or completed, highlighting the importance of advancing projects from planning to operational readiness so they can capture legally available water when hydrologic opportunities occur.

Groundwater Levels

- Groundwater levels remained largely stable through the first part of 2026 with signs of continued statewide recovery. Between spring 2025 and spring 2026, 76% of wells showed stable levels, 14% rose more than 5 feet, and 11% declined more than 5 feet. South Coast (29%) and Tulare Lake (27%) again led in rising groundwater levels in wells but also in declines (11% and 19%, respectively).
- In spring 2026, 44% of groundwater levels in wells fell in the normal range, 23% were lower than average, and roughly a third measured above-normal to record-high.
- Groundwater rebound is occurring over longer time scales in some regions but is uneven across the state. 35% of groundwater levels in wells rose more than 5 feet compared to spring 2023, and 41% rose compared to spring 2016 (post-2012–2015 drought). However, groundwater levels in substantial areas of the Tulare Lake and San Joaquin River regions remain below their 2016 levels.
- Over the last twenty years (2006–2026), 40% of wells show long-term groundwater level declines (down from 45% in the prior year's analysis), while only 10% show increasing trends –wells with declining groundwater levels still outnumber increasing ones roughly 4 to 1.

Land Subsidence

- From April 2025 to April 2026, 2,640 square miles experienced subsidence greater than 0.1 feet, with two-thirds of that area concentrated in the Tulare Lake Hydrologic Region and one-third in the southern San Joaquin River region.
- Over the last 5-year period (2021–2026), 3,629 square miles subsided more than 0.1 feet, including 20 square miles at rates above 0.6 feet/year.

Well Infrastructure and Groundwater Monitoring Enhancements

- Water Year 2026 (through September 11) recorded the fewest new domestic wells (1,347) and irrigation wells (437) of the past decade, continuing a post-drought reduction in new well construction.
- Dry well reports fell to 65 – down from 115 in WY 2025 and 173 in WY 2024 – though still elevated relative to the pre-2020 drought baseline.
- Approximately 6% of WY 2026 groundwater-level monitoring sites were monitored continuously and 12% monthly, providing greater resolution of short-term and current groundwater responses, while 59% were monitored biannually, providing broader coverage of seasonal and long-term conditions.

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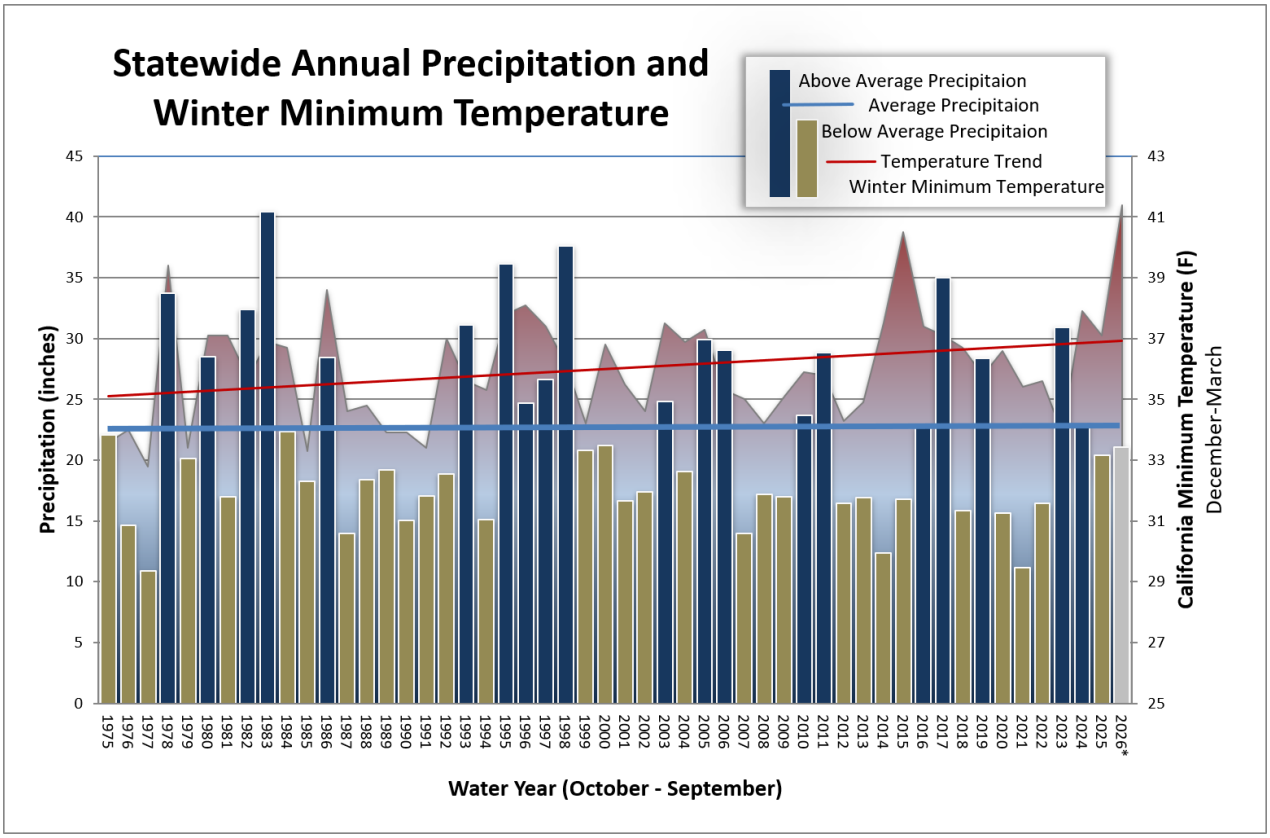
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Introduction

California's groundwater conditions are closely tied to the state's broader hydrologic conditions. Precipitation, temperature, snowpack, runoff, surface water availability, groundwater use, and recharge all contribute to how much water enters and leaves the groundwater system. These relationships are particularly important in a state where hydrologic conditions can shift rapidly between wet and dry periods. Groundwater is a critical buffer to these changes, storing water during wetter periods and providing a critical source of supply when surface water availability is limited. Water Year 2026 highlights how the timing and type of precipitation can be as important as precipitation totals. Despite average early season rain and snow, a warm and dry spring resulted in precipitation falling below average (**Figure 1**) and a premature melt-off of the existing snowpack, resulting in the second lowest April snow water equivalent readings on record (DWR April 2026 Snow Survey News Release).

Figure 1: Statewide Annual Precipitation, NOAA National Centers for Environmental Information, (Climate at a Glance: U.S. Time Series, Precipitation). *WY 2026 Precipitation (grey) through August 2026.



Current forecasts indicate that El Niño is strengthening, with NOAA's September 10th forecast predicting greater than a 90 percent probability of a very strong El Niño during fall and winter 2026–27. NOAA also estimates a 75 percent probability that the October–December 2026 event could reach a strength exceeding previous El Niño events observed

since 1950. Historically, two of the last three strongest El Niño events since 1950 (1982–83 and 1997–98) were associated with extreme wet conditions throughout California and Nevada, while precipitation during the third event (2015–16) was near normal. Although a strong El Niño can increase the likelihood of wetter conditions in California, particularly during the core winter months, its strength does not directly translate into a specific amount of precipitation or runoff.

In response to the potential for a strong El Niño and associated flood risks, Governor Newsom issued a State of Emergency proclamation on September 21, 2026, directing state agencies to advance preparedness for the coming winter. The proclamation highlights groundwater recharge as a part of the preparedness by directing DWR, in coordination with the State Water Resources Control Board, to conduct outreach and education to support groundwater recharge efforts under existing law, with the goal of reducing flood impacts and strengthening local water supplies.

The potential for above-normal temperatures adds another consideration to the water-supply outlook. Warmer winter storms can produce higher snow levels, increasing the proportion of precipitation falling as rain rather than snow and affecting the amount and timing of water stored in the Sierra Nevada snowpack. However, these effects depend on the temperature, timing, and location of individual storms. Ultimately, the water-supply outcome will depend not only on how much precipitation falls, but also on its timing and form, the occurrence of atmospheric river events, and the resulting runoff.

For California's groundwater systems, a potentially wet winter represents more than the possibility of increased precipitation. Wet conditions affect groundwater through several interconnected pathways: increased precipitation contributes to natural recharge, increased runoff and surface-water availability reduce reliance on groundwater pumping, and high-flow events provide opportunities to intentionally divert and recharge water to groundwater basins. Where these processes occur together, a wet winter can increase groundwater storage while reducing groundwater demand. Groundwater storage provides a bridge between California's highly variable wet and dry periods, allowing water captured during abundance to remain available after surface-water conditions return to normal or below-normal levels — an increasingly important function as California's hydrology grows more variable.

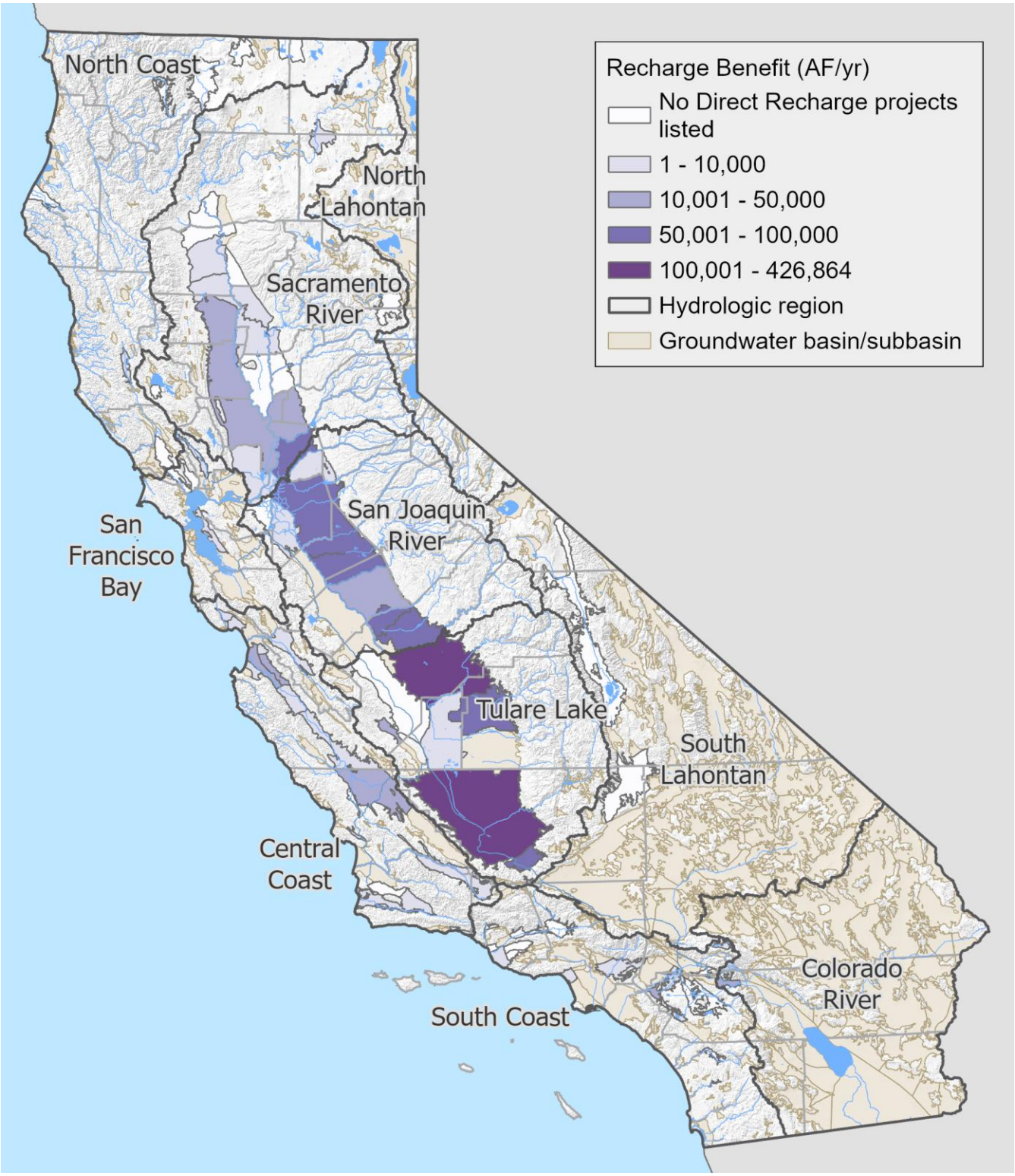
California has multiple statutory pathways for diverting water for managed aquifer recharge, including existing water rights, temporary groundwater recharge permits, and diversions during imminent flood risk under CWC §1242.1. WY 2023 illustrates these pathways in action: as atmospheric river storms moved through the state, California recharged approximately 4.9 million acre-feet of groundwater statewide (per SGMA annual reporting), including roughly 401,000 acre-feet diverted under the 2023 Flood Executive Orders and approximately 20,031 acre-feet under temporary groundwater recharge permits, together,

about 421,000 acre-feet (Flood Mar Resource Guidance). By contrast, WY 2025 saw less than 5,000 acre-feet diverted under temporary permits, showing that successful recharge depends not only on available authorities but also on hydrologic conditions and the ability to act when water becomes available.

SGMA has further emphasized groundwater recharge by supporting identification and implementation of recharge projects and other management strategies. GSAs have identified a broad range of Projects and Management Actions (PMAs) to increase recharge, improve water-use efficiency, augment supplies, and improve groundwater conditions. As of August 24, 2026, 493 recharge PMAs have been identified statewide; 331 have quantified projected benefits totaling approximately 1.52 million acre-feet per year. Much of this potential is tied to spreading basins: 311 PMAs involve existing, new, or expanded spreading basins, accounting for approximately 905,000 acre-feet per year of quantified benefits. Benefits are geographically concentrated, with the largest occurring in the San Joaquin River and Tulare Lake regions, and additional substantial benefits in the Sacramento River region; other parts of the state have fewer or smaller identified direct-recharge benefits (**Figure 2**).

Importantly, the 493 PMAs and their associated benefits represent new recharge projects and management actions identified through SGMA implementation — not a statewide inventory of groundwater recharge potential. Many parts of California have recharged water for decades, including areas not subject to SGMA. These longstanding programs and infrastructure are not captured in the PMA counts but represent a substantial part of the state's capacity to capture and store water. California's existing recharge experience, together with the growing portfolio of SGMA projects, provides a foundation for responding to future opportunities. Building readiness does not mean starting from scratch; it means expanding existing programs, completing projects underway, and ensuring projects have the information, infrastructure, water supplies, agreements, and operational procedures needed to act when conditions are favorable — particularly for floodwater recharge, where opportunities may occur over days or weeks rather than throughout the water year. The portfolio of new recharge PMAs represents a substantial opportunity to increase groundwater storage, but realizing these benefits depends on projects being ready to operate when water is available. Funding, permitting, water rights and agreements, infrastructure, land availability, aquifer conditions, and monitoring can all affect project readiness. Implementation status provides one indication towards recharge readiness. Of the 493 recharge PMAs, 149 are ongoing or completed, accounting for approximately 545,000 acre-feet per year of quantified benefits; the remaining projects are in conceptual, planning, or construction phases, or lack a recent implementation update. Water availability is also critical: 134 recharge PMAs identify stormwater or floodwater as a potential source, including 83 with quantified benefits totaling approximately 256,000 acre-feet per year. These projects could capture water from large storm events for groundwater storage.

Figure 2: Reported Average Annual Benefits of Recharge Projects by Basin



A potentially wet winter thus raises the question not only of how much water may become available, but how prepared water managers are to capture and store it. Already-operational recharge projects may be positioned to respond to high-flow events, while projects still in planning represent opportunities for future wet years — a distinction relevant to evaluating SGMA implementation progress and basin resilience, and one that could matter significantly if California sees a series of large storms this winter.

To help water managers prepare for these opportunities, the 2026–27 Recharge Readiness Webinar Series offers guidance, tools, case studies, and lessons learned on project planning, permitting, floodwater availability, recharge operations, and water quality. This focus on readiness is consistent with the September 2026 State of Emergency proclamation, which, emphasized outreach and education to advance groundwater recharge efforts and preparing to take advantage of high-flow conditions when they occur. DWR's Flood-Managed Aquifer Recharge (Flood-MAR) program focuses on redirecting floodwater to agricultural lands, working landscapes, and managed natural landscapes to replenish groundwater while providing flood-management and water-supply benefits, supported by tools like the Central Valley Flood-MAR Dashboard.

Together, WY 2026 conditions and the outlook for the coming winter highlight a central challenge for groundwater management: California cannot control when hydrologic opportunities occur, but it can improve its readiness to capture and store water when they do while still planning for groundwater management for the episodic dry periods that have historically followed. These groundwater and recharge considerations are also increasingly important to California's broader water planning efforts. The California Water Plan Update 2028 (CWP 2028) provides an opportunity to more fully integrate groundwater into statewide water planning as California adapts to climate change and increasingly variable hydrologic extremes. Groundwater and recharge are central to that adaptation through SB659, providing the ability to store water during periods of abundance and support water supplies during periods of scarcity. As CWP 2028 is developed, concepts such as recharge readiness, regional differences in groundwater conditions and opportunities, and connections between recharge investments and monitoring data can help inform strategies that reflect how water is managed across the state. Recharge enhancement projects and associated monitoring can also provide real-world examples of how local and regional actions contribute to broader statewide resilience. With CWP 2028 currently in development, ongoing outreach provides an opportunity to incorporate these regional realities and strengthen the connection between groundwater management, climate adaptation, and California's long-term water strategy.

Status of California's Groundwater Conditions

Evaluation of California's groundwater conditions across multiple time scales helps to distinguish short-term changes from longer-term patterns. One-year groundwater-level

changes and spring 2026 percentile rankings provide a snapshot of current conditions, while three-year, 10-year, and 20-year analyses offer broader context for evaluating recovery following drought and identifying areas where persistent declines remain.

Currently, statewide groundwater conditions indicate generally stable to improving groundwater levels over the shorter comparison periods, with a substantial variation between hydrologic regions. Longer-term analyses present a more complex picture with a small but important shift in wells with a declining trend in water levels to no significant trend. Reduced but continued land subsidence indicates persistent groundwater stress, particularly in the San Joaquin Valley, where subsidence continues in areas where groundwater levels remain below historical critical head levels. Together, these findings demonstrate that groundwater recovery is gradual and uneven and that short-term improvements do not necessarily represent full aquifer recovery. Multiple wet years, combined with sustainable groundwater management during both wet and dry periods, will be necessary to support long-term groundwater resilience across California.

Short-Term Groundwater Conditions

Evaluation of short-term groundwater conditions provides valuable insight into seasonal fluctuations in groundwater elevations and support timely responses to water supply needs. The one-year change in groundwater levels between spring 2025 and spring 2026, shown in **Table 1** and **Figure 3**, indicates that most wells (76%) had groundwater levels similar to the previous year. Among the remaining wells, 14% recorded increases of more than five feet, while 11% experienced declines of more than five feet. The South Coast (29%) and Tulare Lake (27%) hydrologic regions had the highest percentage of wells with increasing groundwater levels; however, these same regions also had the highest percentage of wells showing decreases, at 11% and 19%, respectively (see Figure 3 inset).

Table 1: Summary of Groundwater Level Changes Compared to spring 2025 to 2026 (shown in **Figure 3**).

Period **(Water Year Types)**	**Total Well Count**	**Decrease > 25 ft**	**Decrease 5 to 25 ft**	**No Significant Change** **(Less than +/- 5 ft)**	**Increase 5 to 25 ft**	**Increase >25 ft**
1-Year GWL Change: Spring 2025 compared to Spring 2026	6,775	2%	9%	76%	12%	2%

Figure 31: One Year Groundwater Level Change - Statewide and hydrologic region groundwater level change map for one-year period between spring 2025 and 2026. See **Table 1** for specific groundwater level statistics. Map and charts based on data from the DWR Water Data Library as of 08/27/2026.

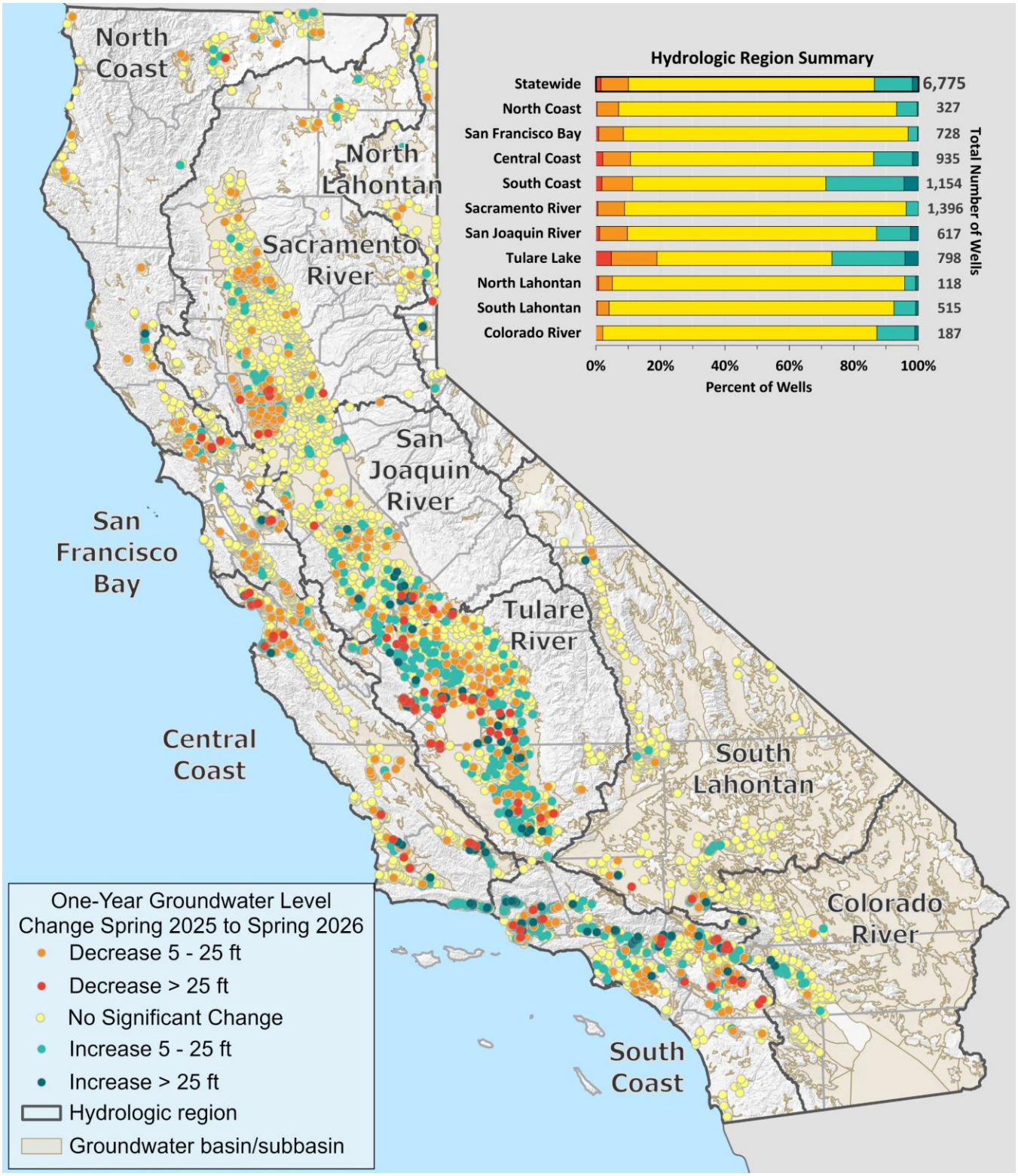


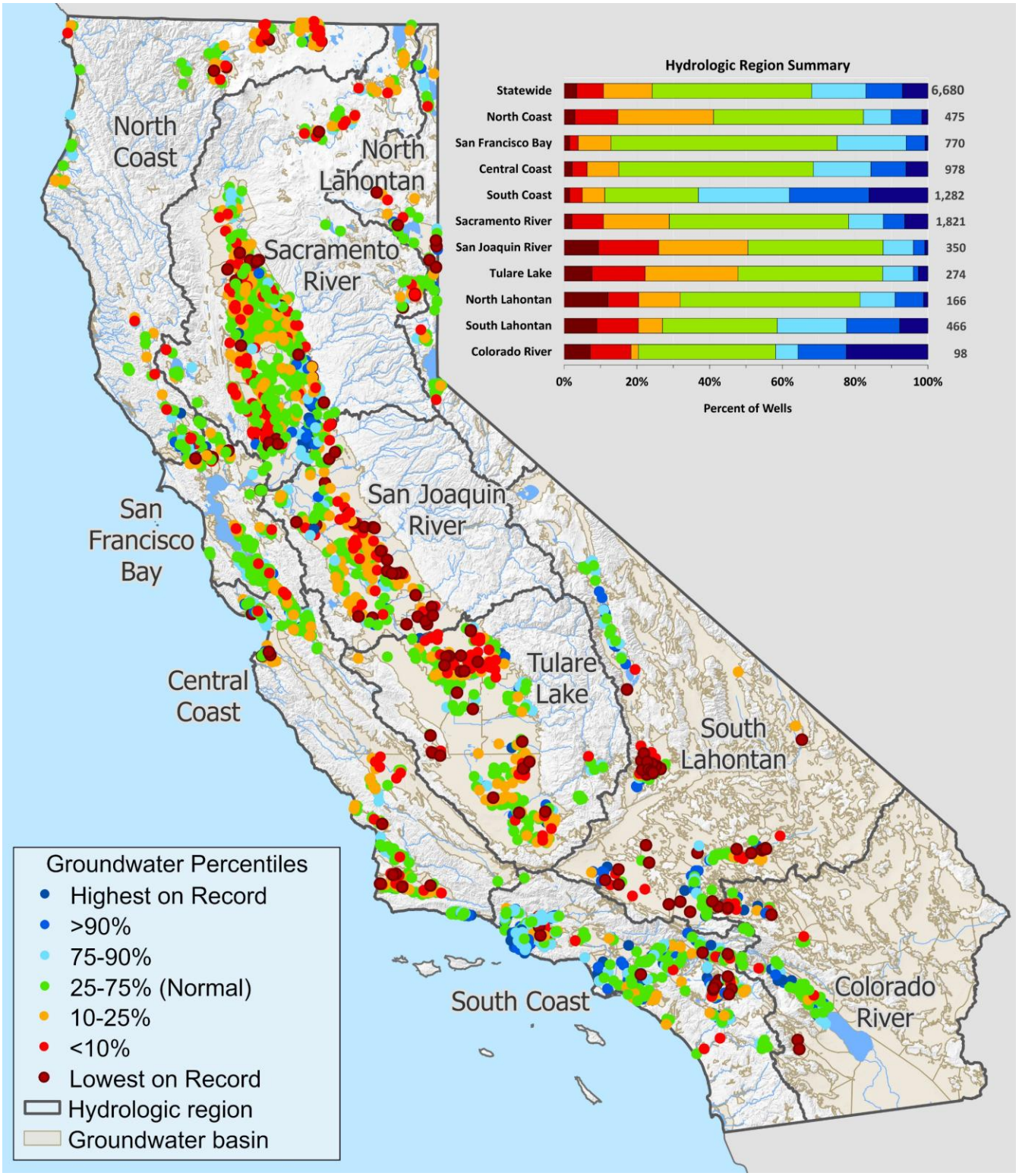
Figure 4 and **Table 2** show how spring 2026 (March, April, May) groundwater level measurements compared to past spring measurements collected in wells with at least 10 years of spring data. The spring 2026 measurement is classified into one of five percentile categories, or statistical bins, based on all spring measurements for that well. These categories are: lowest on record and less than10% (Much Below Normal), 10-25% (Below Normal), 25-75% (Normal), 75-90% (Above Normal), and Greater than 90% and highest on record (Much Above Normal). A more detailed description of percentile class analysis is provided in the Semi-Annual Groundwater Conditions Update: October 2023.

Spring 2026 groundwater conditions across California are generally typical when compared to long-term spring averages, with 44% of wells falling within the normal range (25th–75th percentile). While conditions have improved in several regions, 23% of wells statewide remain drier than normal, including 13% in the 10th–25th percentile and 10% below the 10th percentile. The strongest groundwater level recovery is seen in the Central Coast, South Lahontan, Colorado River and South Coast. In contrast, San Joaquin River, Tulare Lake, and North Coast show a greater percentage of wells with below normal groundwater levels than above normal.

Table 2: Statistical Summary of percentile classes for March, April, May 2026 (as shown in **Figure 4**).

Percentile Class	Total Well Count	Lowest on Record	Less than 10%	10-25%	25-75% (Normal)	75-90%	Greater than 90%	Highest on Record
Statewide Percentile Class for March, April, May 2026	6,680	3%	7%	13%	44%	15%	10%	7%

Figure 42: Spring Groundwater Conditions -Statewide and hydrologic region groundwater level percentile map for groundwater wells in March, April, May. See **Table 2** for specific groundwater level statistics. Map and chart are based on data from the DWR Water Data Library as of 08/27/2026.



Long-Term Groundwater Conditions

While short-term trends provide valuable insight into seasonal fluctuations in groundwater elevations and support timely responses to water supply needs, long-term groundwater trends offers a broader perspective on the sustainable use and recovery of groundwater resources over many years. A statewide comparison of spring 2026 groundwater levels with those measured in spring 2023 and spring 2016, following the 2020–2022 and 2012–2015 droughts, respectively, shows overall improvement. The three-year comparison (**Table 3** and **Figure 5**) shows 35% of measured wells had groundwater levels at least 5 feet higher, while 12% showed decreases of more than 5 feet. The remaining 54% showed no significant change.

However, regional differences remain significant. Over the three-year period, Tulare Lake showed the most widespread recovery, with 61% of wells recording groundwater levels more than 5 feet higher than in spring 2023, followed by the South Coast at 47%.

Table 3: Summary of Groundwater Level Changes Compared to spring 2023 to 2026 (shown in **Figure 5**).

Period **(Water Year Types)**	**Total Well Count**	**Decrease > 25 ft**	**Decrease 5 to 25 ft**	**No Significant Change** **(Less than +/- 5 ft)**	**Increase 5 to 25 ft**	**Increase >25 ft**
3-Year GWL Change (Post 2020-2022 Drought): Spring 2023 compared to Spring 2026	6,084	2%	10%	54%	25%	10%

Groundwater level trend analysis over a 20-year period, from WY 2006 through WY 2026 (**Figure 6**) captures the impacts of three major droughts (2007–2009, 2012–2016, and 2020–present) and highlights several clusters of wells with declining groundwater-level trends from spring 2006 to spring 2026. Declines are most widespread and pronounced in the southern Central Valley, particularly within the Tulare Lake Hydrologic Region and southeastern San Joaquin River Hydrologic Region, where many wells declined by more than 2.5 feet per year. Clusters of declining wells are also evident in the Sacramento Valley, including areas with declines exceeding 2.5 feet per year. Smaller, more localized areas of decline occur within the North Coast, North Lahontan, South Lahontan, and South Coast Hydrologic Regions. In contrast, notable clusters of wells with increasing groundwater-level trends are present in the Colorado River Hydrologic Region and portions of the South Coast Hydrologic Region. Overall, the figure demonstrates substantial geographic variability, with

declining, stable, and increasing groundwater levels often occurring within the same hydrologic region.

Droughts occurring since 2006 have placed significant stress on water resources and forced increased groundwater reliance. Over this 20-year period, approximately 40% of statewide wells show a decreasing trend in groundwater levels, while 10% of wells demonstrate an increasing trend (**Table 4**).

Table 4: Statistical Summary of Groundwater Level Trend Map (**Figure 6**) compared to the previous year's trend analysis.

Period	Total Well Count	Decrease > 2.5 ft/yr	Decrease 0.01 - 2.5 ft/yr	No Significant Trend	Increase 0.01 - 2.5 ft/yr	Increase > 2.5 ft/yr
20-Year Trend: 2006 to 2026	4,821	10%	30%	50%	8%	2%

Figure 53: Three-Year Groundwater Level Change - Statewide and hydrologic region groundwater level change map for ten-year period between spring 2023 and 2026. See **Table 3** for specific groundwater level statistics. Map and charts based on data from the DWR Water Data Library as of 08/27/2026.

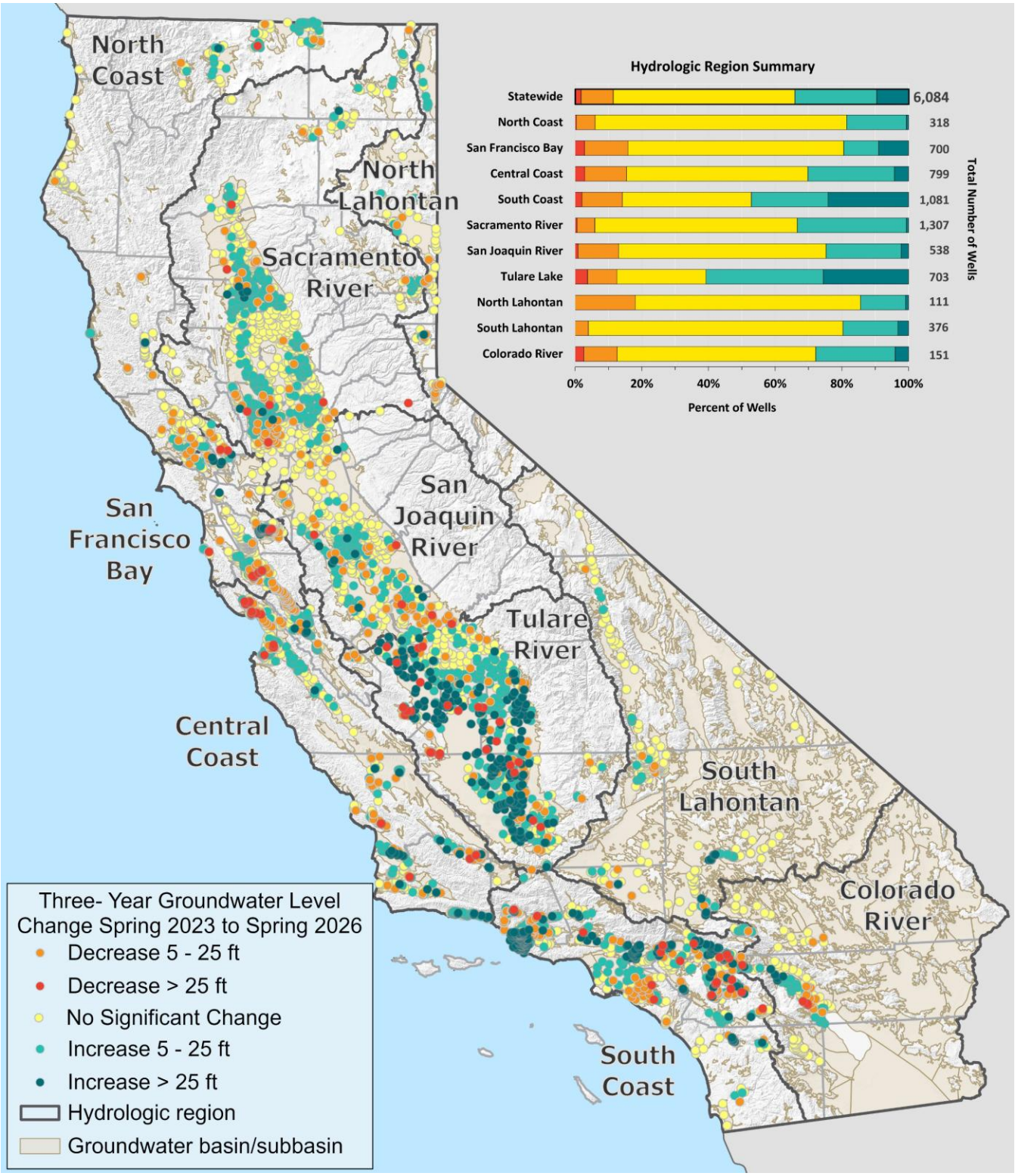
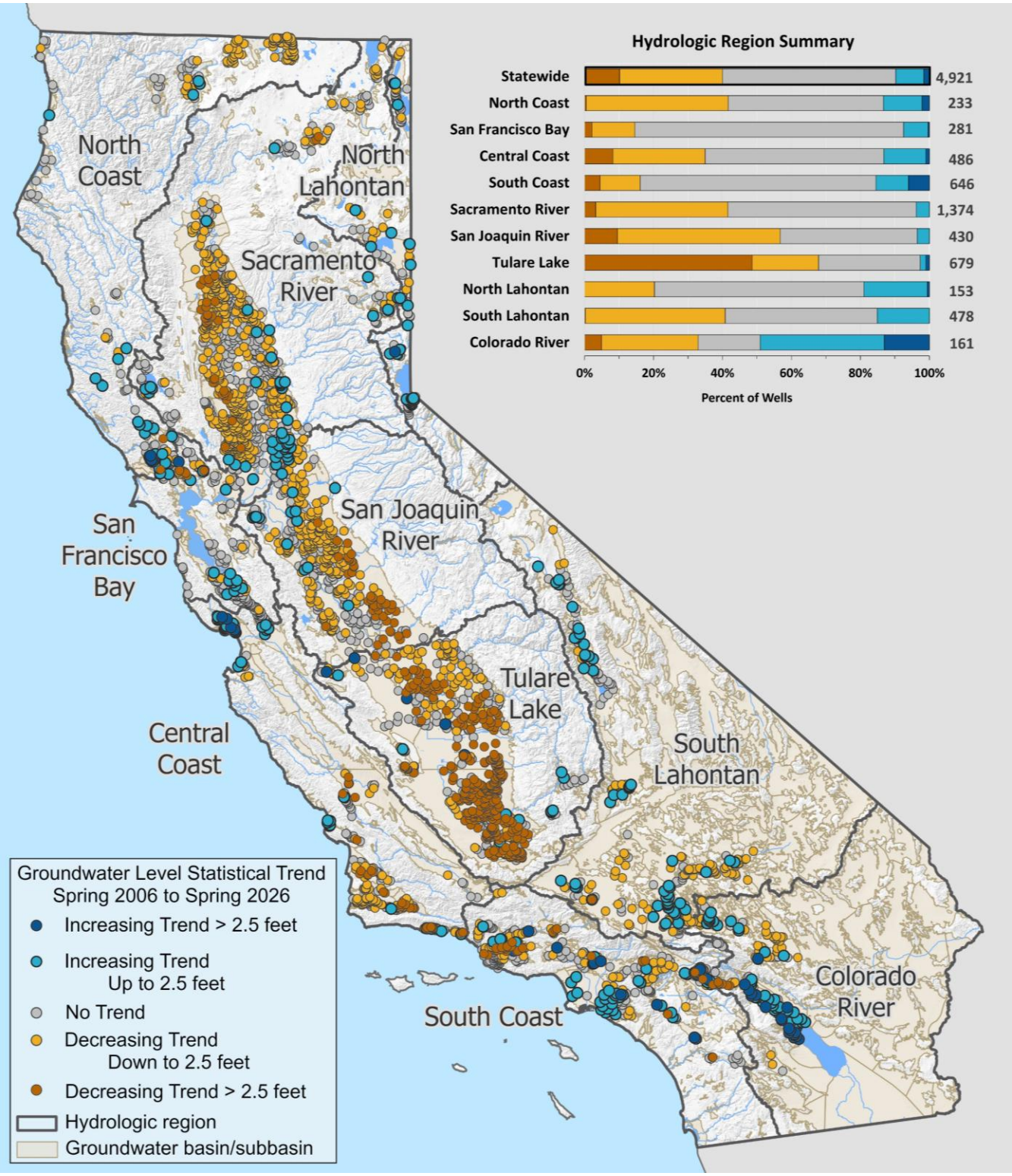
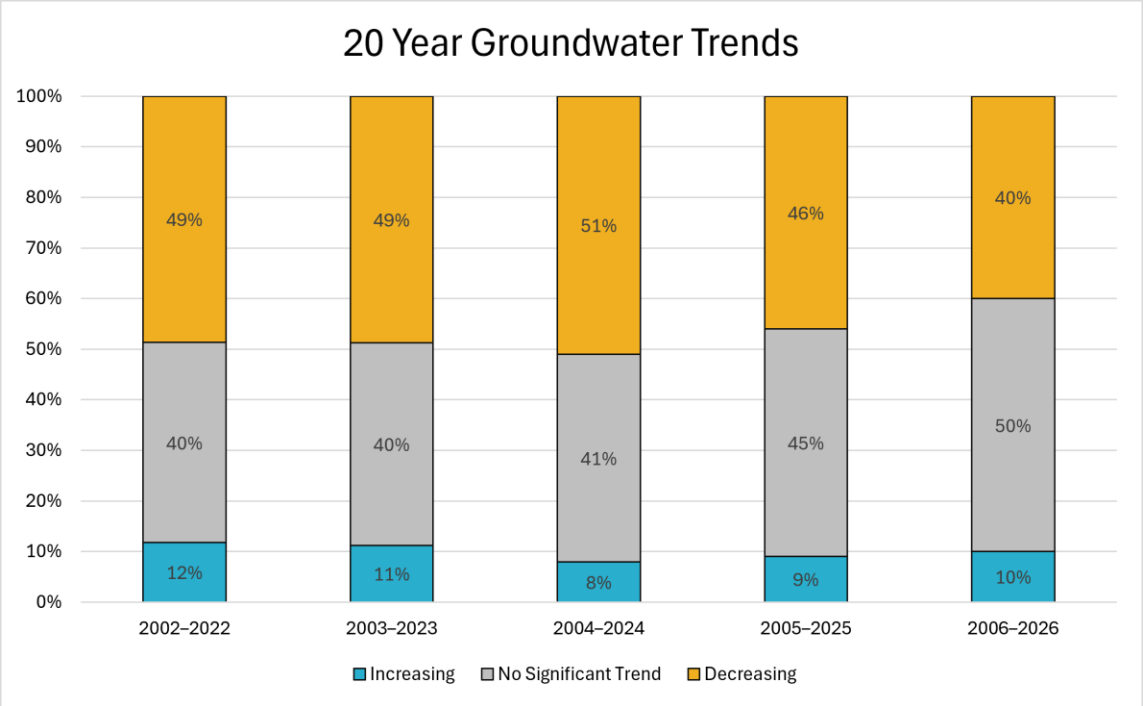


Figure 64: Twenty-Year Groundwater Level Trend - Statewide and hydrologic region groundwater level trend analysis map for Spring 2006-2026. See **Table 4** for specific groundwater level statistics. Map and charts based on data from the DWR Water Data Library as of 08/27/2026.



Repeated statewide 20-year trend analysis shows a strong declining trend in groundwater levels. Analysis over the last two years, however, shows that the percent of wells with declining groundwater level trends is shrinking. **Figure 7** data shows the proportion of wells exhibiting no significant increased from 40 percent during 2002–2022 to 50 percent during 2006–2026, while the proportion exhibiting declining trends decreased from 49 percent to 40 percent. This shift coincides with multiple wet years that provided opportunities for natural and managed groundwater recharge, as well as continued implementation of groundwater management actions intended to maintain more balanced groundwater conditions through both wet and dry periods. uncommon, and declining wells continue to outnumber increasing wells by four to one.

Figure 7: Past five year's overview of the Twenty-Year Groundwater Level Trend – Statewide and hydrologic region groundwater level trend analysis statistics for WYs 2002-2022, WYs 2003-2023, WYs 2004-2024, WYs 2005-2025, and WYs 2006-2026. Chart based on data from the DWR Water Data Library as of 08/27/2026.



Overall, these findings reflect a broader hydrologic pattern: one or two wet years following an extended drought may slow or temporarily stabilize declines but are generally insufficient for groundwater systems to fully recover. Over time, repeated cycles of prolonged dry periods interrupted by shorter wet intervals can lead to cumulative groundwater-storage losses, underscoring the continued need for sustainable groundwater management throughout California. Looking forward, multiple wet years combined with sustained, careful groundwater-pumping management during both dry and wet periods, will be required to shift from stabilized groundwater levels (No Significant Trend) to an Increasing trend representative of long-term aquifer recovery.

Land Subsidence

Land subsidence has occurred in many areas of the state for over a century, with some areas experiencing over 30 feet of vertical displacement or "sinking." This has damaged water conveyance systems, reduced groundwater storage, damaged well casings, and impacted other infrastructure. Irreversible (inelastic) subsidence happens when falling groundwater levels cause clay layers or interbeds to collapse (compact) beyond an elastic range. Because clay compaction occurs gradually, subsidence may continue even after groundwater levels stabilize. The term critical head refers to the groundwater level below which additional inelastic compaction can occur. Continued subsidence after groundwater levels have stabilized is referred to as residual subsidence. Subsidence, including residual subsidence, diminishes as groundwater levels recover above the critical head. Estimates of critical head elevations are provided for 50 sites in the Central Valley in Bulletin 118 - Update 2025 (CalGW Update 2025) Appendix I: Update on Land Subsidence in California.

Since 2015, subsidence monitoring has improved significantly, especially through the use of satellite-based InSAR data, which now provides monthly updates across more than 150 groundwater basins covering about 40,000 square miles. In 2022, DWR began reporting InSAR data quarterly instead of annually to enhance data timeliness. As of August 2026, data is available through April 1, 2026. DWR has also installed 33 continuous GPS (CGPS) stations in the Central Valley, which report vertical displacement daily.

Subsidence conditions across the one-, three-, and five-year periods (**Table 5**) reflect the influence of recent wet and dry conditions on groundwater levels particularly in the San Joaquin Valley. The three-year period captures the effects of wetter conditions in 2023 and 2024, when rising groundwater levels reduced subsidence rates and produced elastic uplift in some areas. However, the most recent one-year data indicate that these effects are diminishing, with subsidence rates increasing again as groundwater levels remain below critical head levels in areas with historically persistent subsidence. The five-year analysis provides longer-term context by incorporating the 2020–2022 drought, when groundwater-level declines accelerated subsidence across portions of the Central Valley. Together, these time periods show that recent wet years reduced subsidence but did not eliminate the underlying conditions that drive continued land subsidence.

Table 5: Total Area (in square miles) of Subsidence (Subs.) and Uplift Corresponding to Displacement Rate (ft/yr) for one-year (**Figure 8**), three-year (**Figure 9**), and five-year (**Figure 10**). Each value for subsiding area is inclusive of areas subsiding at higher rates.

Period	Uplift >0.1 ft/yr	Subs. >0.1 ft/yr	Subs. >0.2 ft/yr	Subs. >0.4 ft/yr	Subs. >0.6 ft/yr	Subs. >0.8 ft/yr	Subs. >1 ft/yr
One Year April 2025 – April 2026	41	2,640	1,197	79	0	0	0
Three Year April 2023 – April 2026	243	2,216	902	9	0	0	0
Five Year April 2021 – April 2026	0	3,629	1,946	559	20	0	0

From April 1, 2025 to April 1, 2026, subsidence was concentrated in the San Joaquin Valley (**Figure 8**), with two-thirds of the affected area in the Tulare Lake Hydrologic Region and one third in the southern part of the San Joaquin River Hydrologic Region. Less than one percent of the statewide area showing subsidence was in the Sacramento River Hydrologic Region, where small areas of subsidence were scattered throughout the region. In the Westside Subbasin, 37 square miles were observed to have uplift of more than 0.1 feet.

During the most recent period from April 1, 2025 through April1, 2026 (**Figure 8**), 2,640 square miles had recorded subsidence of more than 0.1 feet. Uplift of more than 0.1 feet was recorded over 41 square miles, most of which were in the Westside Subbasin in the western Tulare Lake Hydrologic Region. Statewide precipitation was approximately normal in 2025 but was below normal in the San Joaquin Valley, where most subsidence occurs. Although the total area subsiding is comparable to that of the three-year average, the area with subsidence of more than 0.2 feet per year has increased and the areas of elastic uplift have reduced. These changes indicate the diminishing effects of the wet springs in 2023 and 2024 and an increase in groundwater extraction in 2024 and 2025.

Statewide three-year average annual rates from April 1, 2023 through April 1, 2026 (**Figure 9**) show subsidence over 2,216 square miles. Wet conditions in 2023 coupled with a near 50% drop in reported groundwater extractions in the San Joaquin Valley (GSP Annual Report Data), increased groundwater levels. This was sustained by above-normal precipitation and only a moderate increase in groundwater extractions in 2024, reducing the extent and intensity of subsidence. Subsidence that continued during this period was largely residual from long-term groundwater-level declines. In areas that had significant increases in groundwater levels, uplift averaging more than 0.1 feet per year was observed. These changes were elastic rebound as groundwater levels surpassed the critical head in those areas.

The five-year average annual subsidence rates from April 1, 2021 through April 1, 2026 (**Figure 10**) show subsidence of more than 0.1 feet per year occurring over an area of 3,629 square miles. The five-year average includes data from the middle of the 2020-2022 drought, which accelerated land subsidence in parts of the Central Valley.

The areas experiencing the highest subsidence rates remained centered in portions of the Tulare Lake and southern San Joaquin River Hydrologic Regions across every time period, although the intensity varies with changing groundwater conditions. In Spring 2026, these regions had the highest percentages statewide of wells with record-low groundwater levels, as shown in **Figure 4**. The persistence of subsidence across wet and dry periods demonstrates that short-term groundwater-level improvements alone are insufficient to eliminate subsidence where groundwater levels remain below critical head. Sustained groundwater-level recovery above critical head will be necessary to reduce subsidence over the longer term.

Figure 85: One-Year Subsidence Rate - Statewide annual subsidence map for April 2025 to April 2026. See **Table 5** for specific subsidence level statistics. Map and charts based on data from CNRA Open Data as of 8/20/2026.

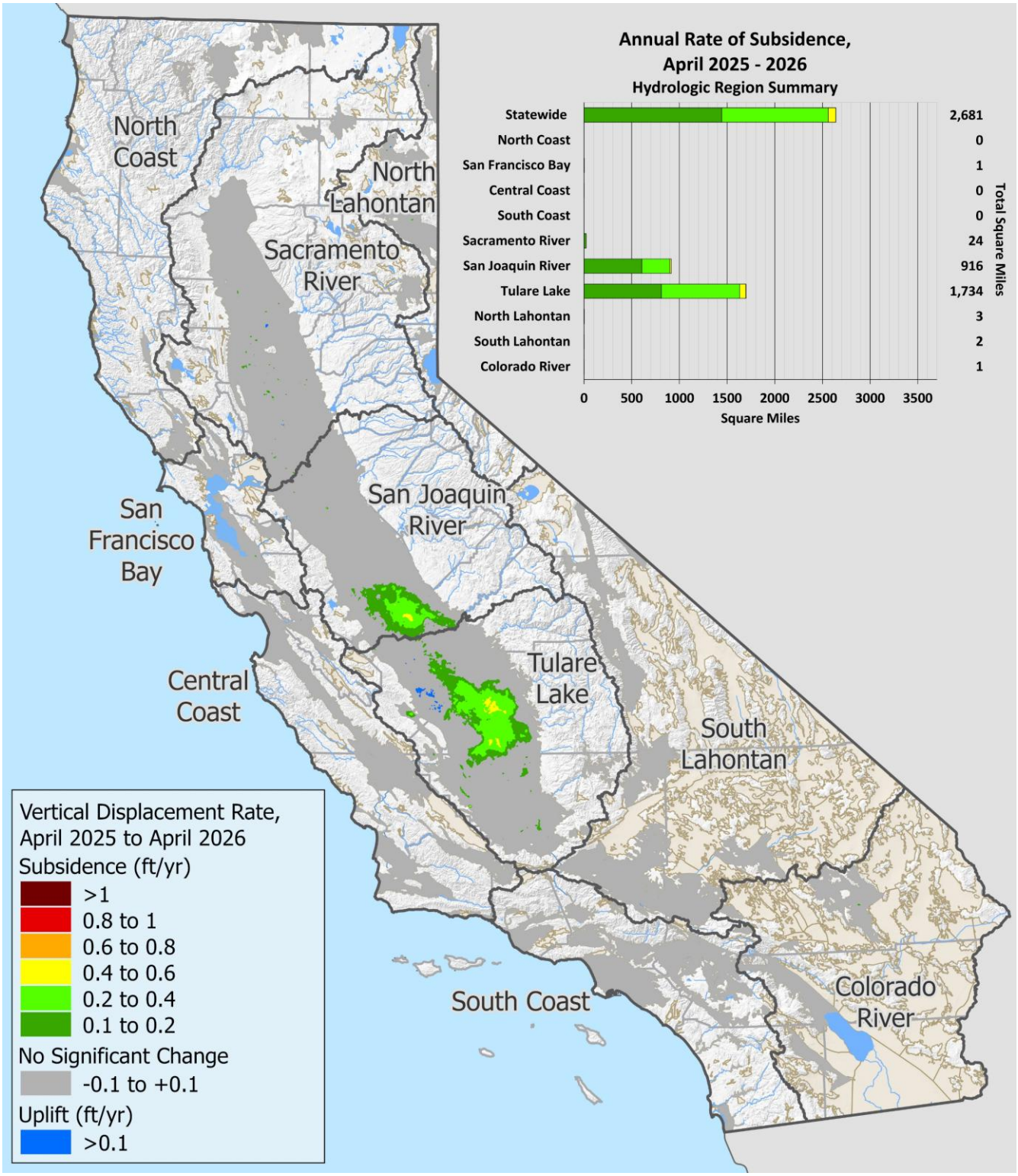


Figure 9: Three-Year Average Subsidence Rate - Statewide average annual subsidence map for April 2023 to April 2026. See **Table 5** for specific subsidence level statistics. Map and charts based on data from CNRA Open Data as of 8/20/2026.

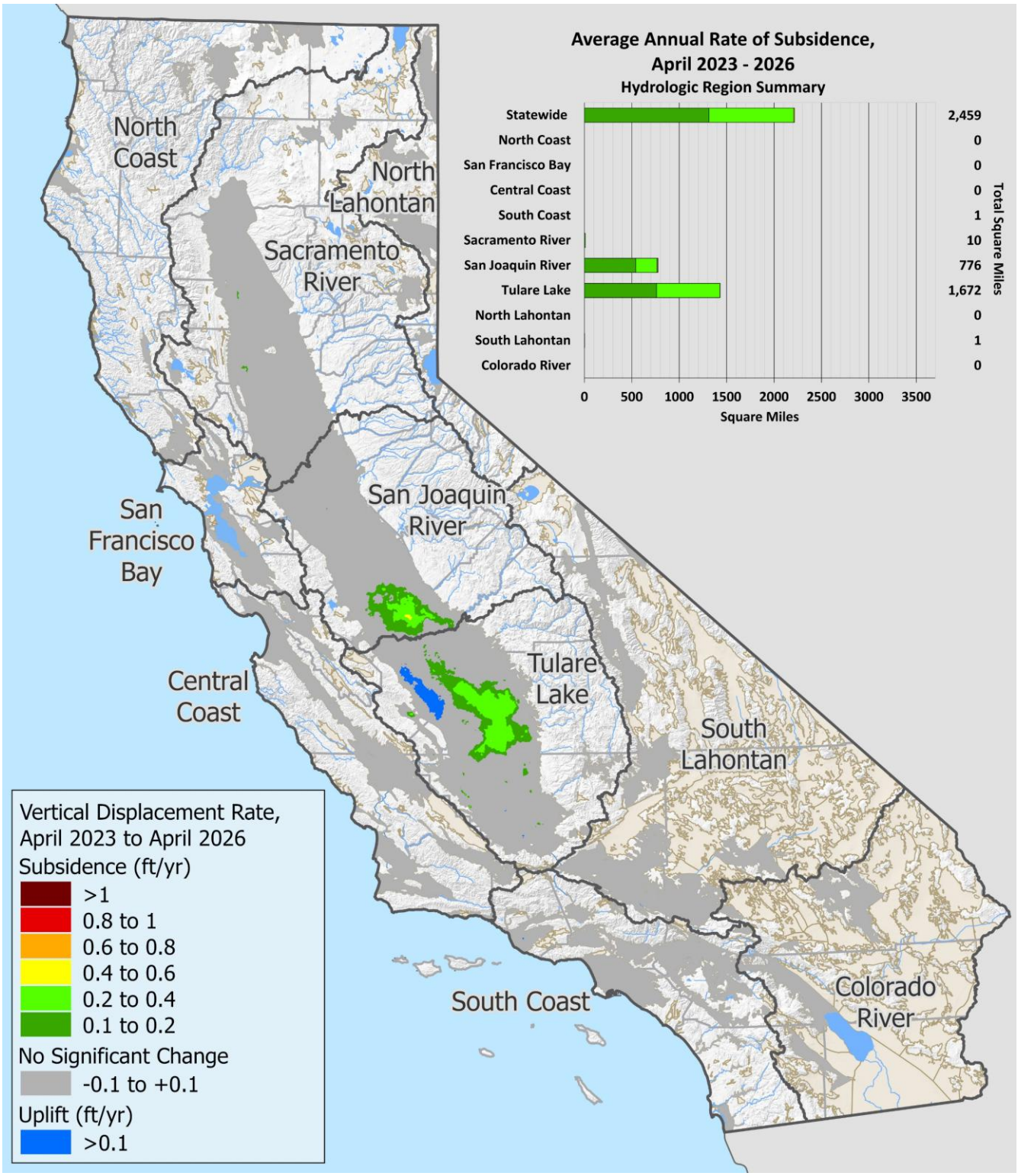
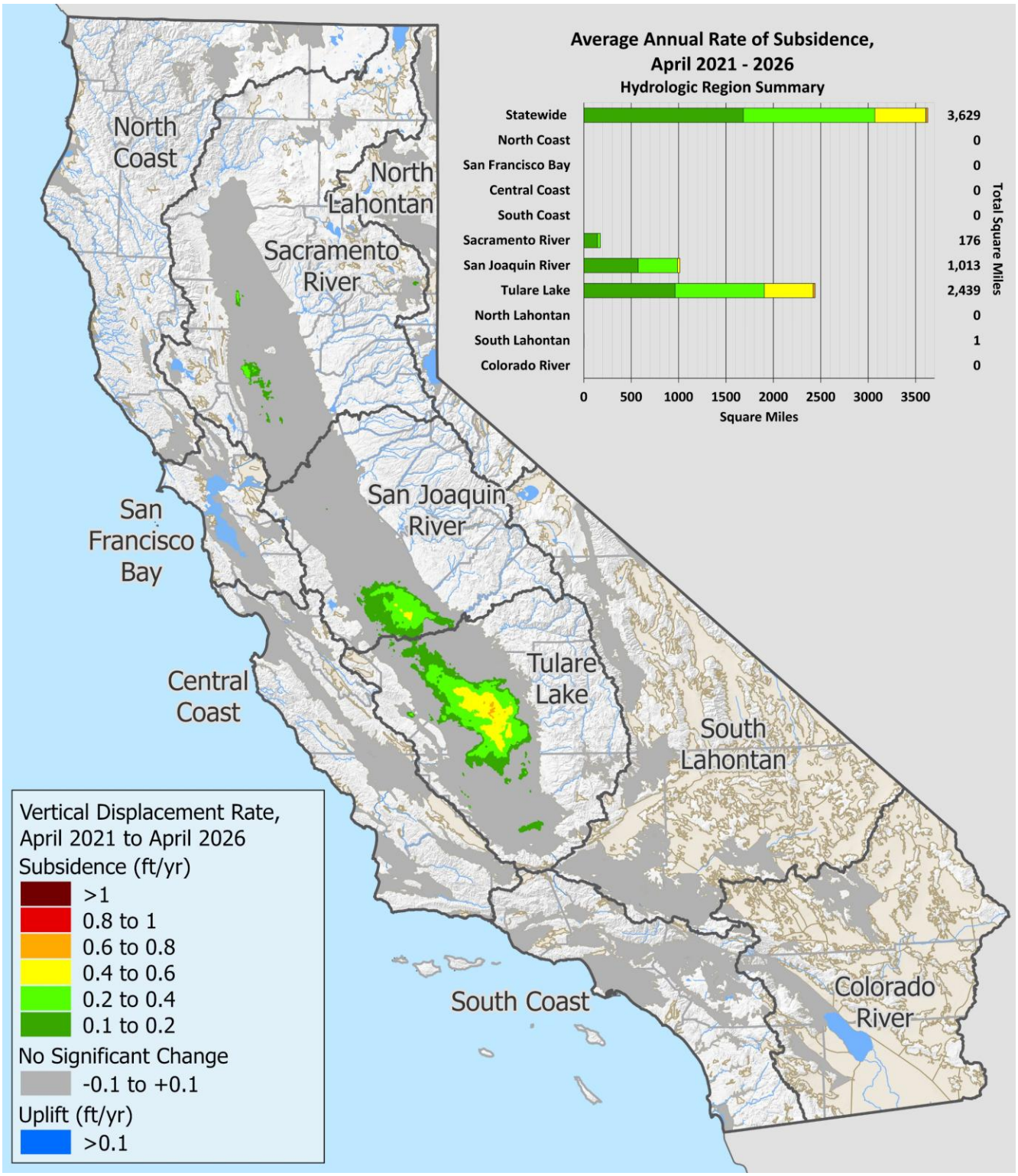


Figure 10: Five-Year Average Subsidence Rate - Statewide average annual subsidence map for April 2021 to April 2026. See **Table 5** for specific subsidence level statistics. Map and charts based on data from CNRA Open Data as of 8/20/2026.



In addition to the satellite-based InSAR data, CGPS stations provide daily measurements of vertical displacement. These stations provide high frequency, low latency measurements and can provide insight into subsidence rates at specific sites before InSAR data becomes available. As of September 1, 2026, DWR's InSAR data was available through April 1 while CGPS data was already available through July 18.

Since 2024, DWR has installed 33 CGPS stations in the Central Valley, and more than 1,000 other stations currently exist in California (**Figure 11**). Data from these stations is available through the MGViz data visualizer, from the Scripps Orbit and Permanent Array Center (SOPAC) and NASA Gravity Recovery and Climate Experiment and Follow-On satellite missions (NASA GRACE-FO). CGPS station data is also available through the SGMA Data Viewer and California's Groundwater Live websites.

For example, the DWR CGPS station Q143 began recording measurements in September 2024. This station is located in the Westside Subbasin along the California Aqueduct. The new CGPS data can be combined with the long-term InSAR data for the same location (**Figure 12**). The location experienced subsidence throughout the 2020 to 2022 drought and elastic rebound since the wet season of Water Year 2023. The 31-day moving average is applied to the daily displacement data to filter (or smooth) out high frequency noise. Data from this CGPS station begins near the end of 2024 and tracks closely with the InSAR data during the period of overlap. The section highlighted in the red box is expanded in **Figure 13**, which includes the unfiltered daily measurements at Station Q143. The figure shows steady uplift from January 2025 through April of 2026, when the CGPS measurements begin to show subsidence or downward vertical displacement. Due to data processing and publication delays, the InSAR data is not yet available for this period of changing subsidence trends. Monitoring of low latency CGPS data in addition to InSAR data allows for swifter subsidence management actions.

Figure 11: Continuous GPS Stations in California – DWR, SOPAC, and JPL CGPS stations. Map based on data from MGViz as of 9/1/2026.

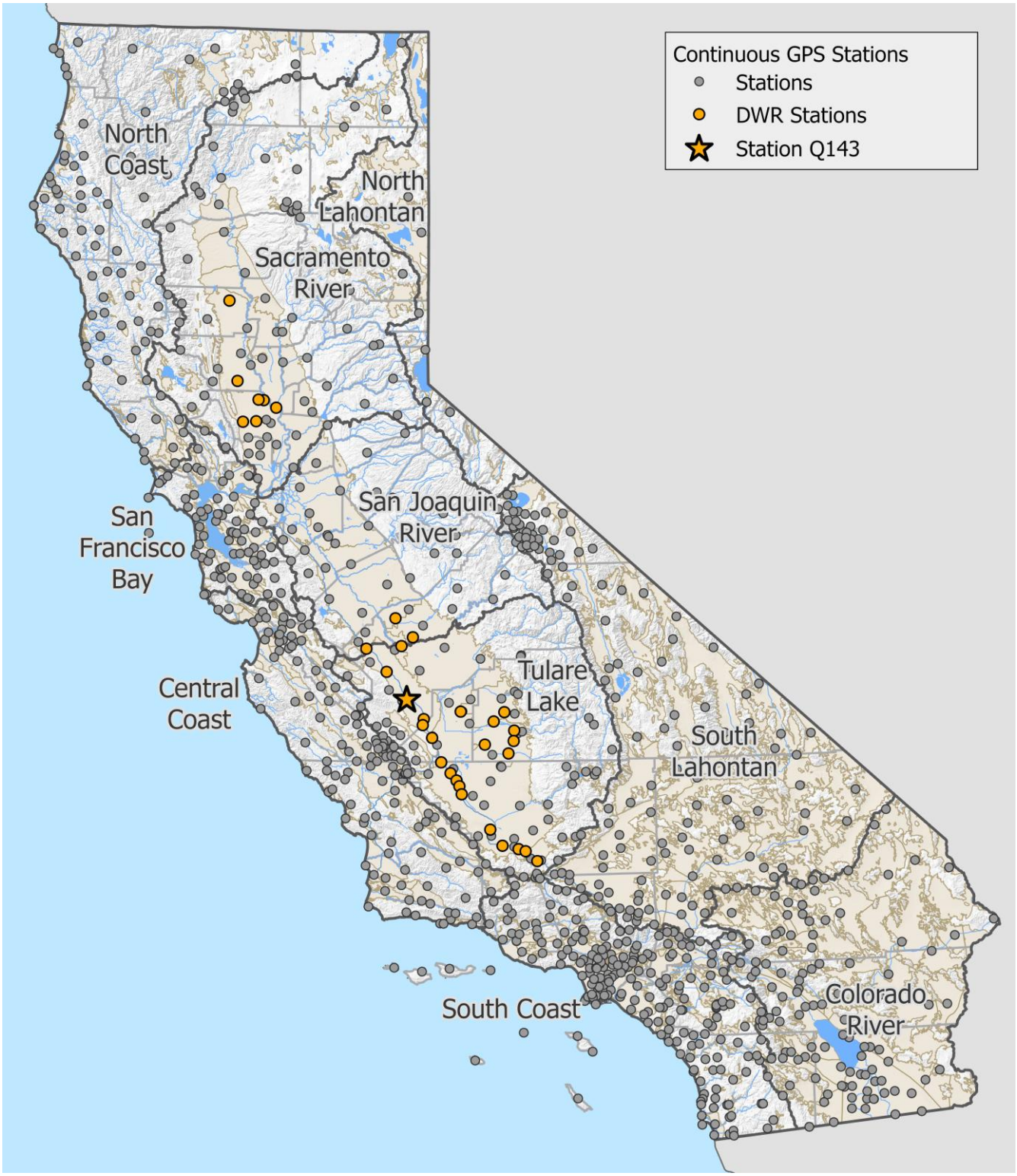


Figure 12: Vertical Displacement at Continuous GPS Station Q143 since 2015 – InSAR raster point data for cell BVE5GYN and 31-day Average for CGPS station Q143, both located at the intersection of the California Aqueduct and State Road 145, in Westside Subbasin. The red box highlights the section displayed in further detail in the subsequent chart, Figure 14. Charts based on data from CNRA Open Data and MGViz as of 9/1/2026.

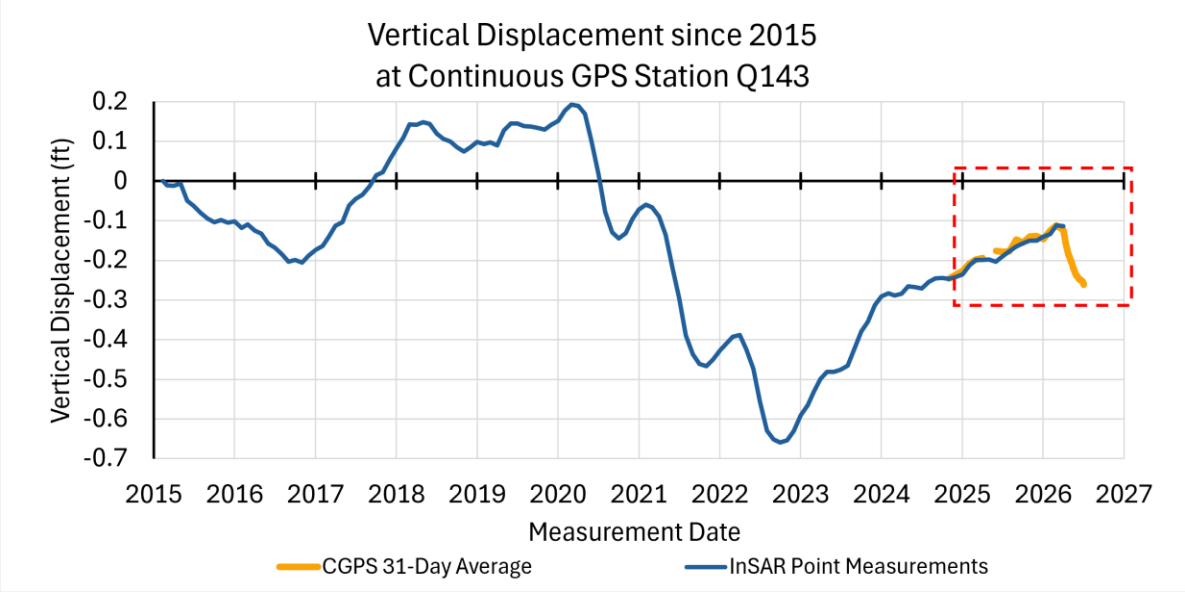
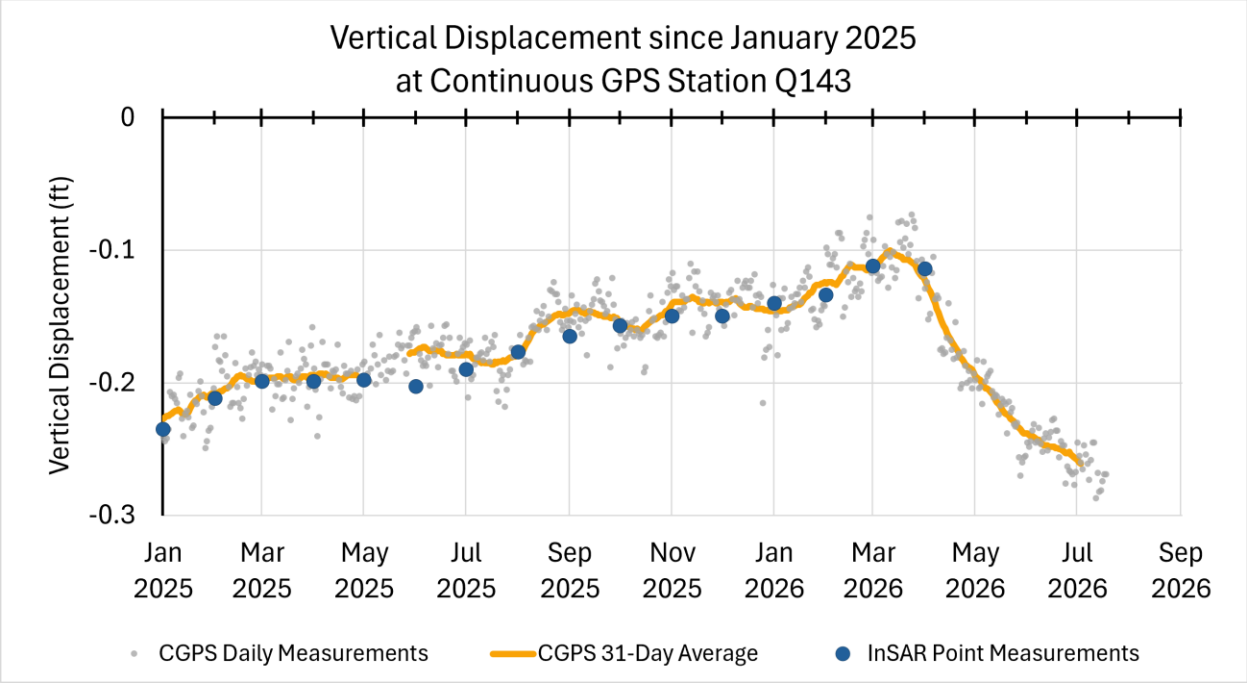


Figure 13: Vertical Displacement at Continuous GPS Station Q143 since 2025 – InSAR raster point data for cell BVE5GYN and CGPS data for station Q143, both located at the intersection of the California Aqueduct and State Road 145, in Westside Subbasin. A missing CGPS measurement on 5/12/2026 causes a break in the 31-Day Average line. Charts based on data from CNRA Open Data and MGViz as of 9/1/2026.



Well Infrastructure

The construction of groundwater extraction wells in California is influenced by various factors, including climate conditions, surface water availability, groundwater level trends, legislative actions, well age, and other local conditions. Well completion reports (WCRs) must be submitted to DWR within 60 days of well installation, replacement, or destruction, as required by California Water Code Section 13751. These reports are submitted through the Online System for Well Completion Reports (OSWCR), and as a result, well construction data may be delayed by up to two months.

This section summarizes annual statistics of domestic and irrigation wells submitted to OSWCR, and data from DWR's Dry Well Reporting System. Dry well reports, which are submitted voluntarily, likely underrepresent actual dry well occurrences or resolutions. Yearly statistics for domestic, irrigation, and dry wells since WY 2015, which captures the end of the 2012–2016 drought, are presented in **Table 16** and provides cumulative totals of domestic and irrigation wells installed since 1977. **Figures 14** and **15** highlight installation trends of domestic and irrigation wells over the past five water years (2022–2026), overlain with newly constructed wells in WY 2026 through September 11th, 2026.

Table 6: **Statewide Summary of Newly Installed Domestic and Irrigation Wells and Number of Reported Dry Wells**. *Dry Well Reporting started in 2013, whereas the database of WCRs for domestic and irrigation wells are considered complete since 1977. Drought years are highlighted tan.

Water Year	Number of New Domestic Wells	Number of New Irrigation Wells	*Dry Wells Reported
WY 2016	4,446	2,876	544
WY 2017	3,165	1,484	166
WY 2018	2,743	1,179	97
WY 2019	2,787	1,354	59
WY 2020	3,056	1,361	142
WY 2021	3,735	1,864	1062
WY 2022	4,113	1,764	1390
WY 2023	3,374	1,284	386
WY 2024	2,500	737	173
WY 2025	2,124	664	116
WY 2026 September 11th 2026	1,566	513	76
5 Year Total (WY 2022 - 2026)	13,677	4,962	2,141
Total since 1977*	288,797	64,468	6,199

A reduction in new well construction in 2023 is indicative of a reduction in groundwater stress following the 2020–2022 drought. New domestic and irrigation well installations have declined each year since WY 2022, reaching their lowest numbers of the past decade in WY 2026. Dry well reports have also continued to decline. However, dry well issues reported during the current post-drought period remain higher than during the previous post-drought period, indicating that underlying groundwater vulnerabilities persist despite improving near-term conditions.

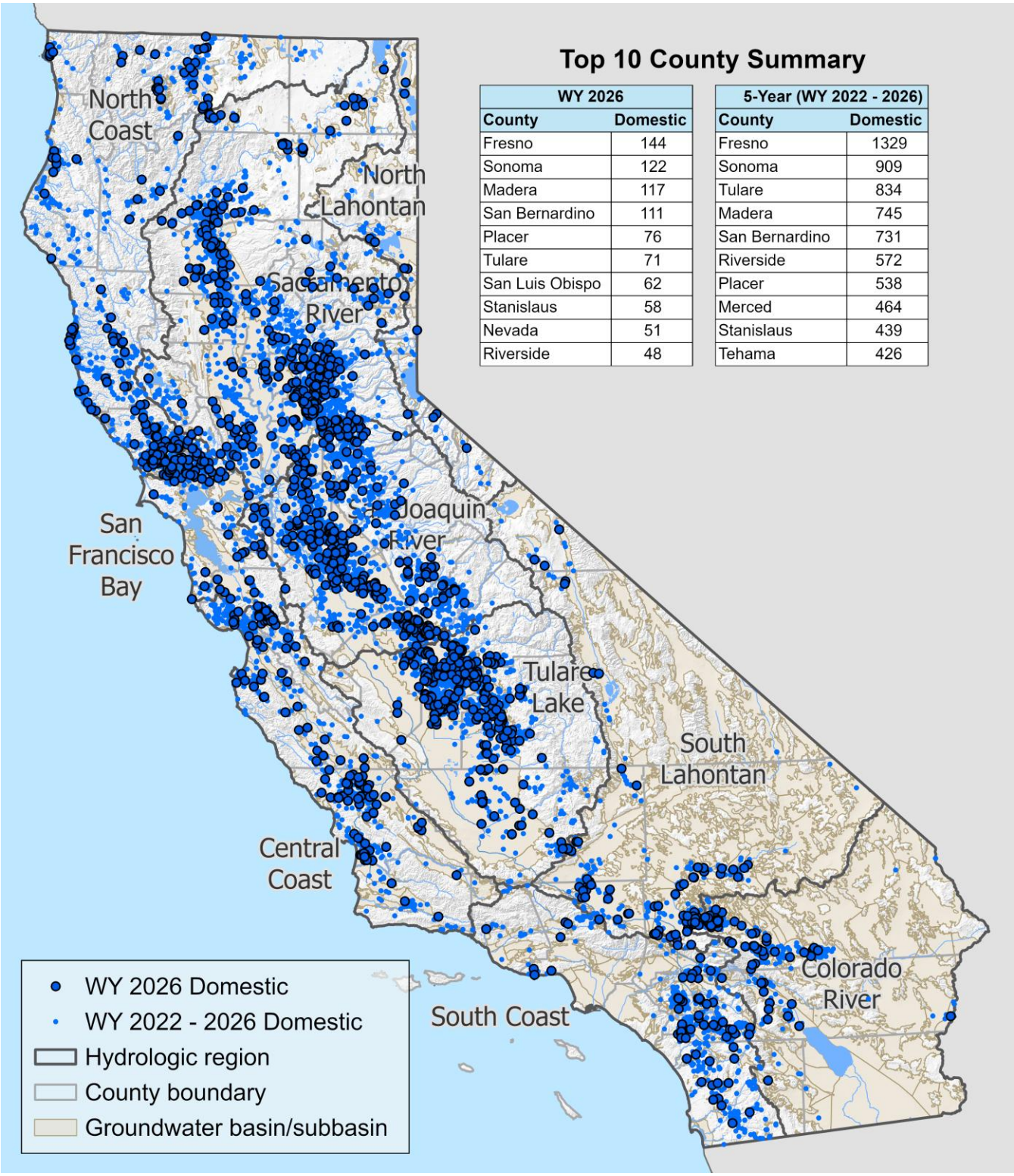
The reduction in domestic and irrigation well installations and fewer dry well reports is a positive sign following the 2020–2022 drought. However, dry well issues during the current post-drought period remain elevated compared with the previous post-drought period, indicating that some communities and groundwater users remain vulnerable to groundwater-level declines. These indicators reinforce the broader statewide pattern of improving groundwater conditions without widespread recovery from longer-term groundwater impacts.

Domestic Wells

Domestic (household) wells provide critical water supply to millions of people throughout California and are often the sole source of water supply for many households. During WY 2026 through September 11th, 2026, a total of 1,566 new domestic wells statewide were reported (**Table 6**). The number of new domestic wells installed each year has decreased since the end of the last drought in WY 2022, with WY 2026 having the fewest domestic wells installed in the last decade. This decline in WY2026 coincides with generally wetter conditions following the drought and a period of elevated domestic well construction during the drought years (WY 2022).

The location of new domestic and irrigation wells installed in California over the past five years (WY 2022 through WY 2026) is shown along with recent WY 2026 installations in **Figure 14**. The counties with the highest number of new domestic wells installed in the past five years were Fresno (1,329), Sonoma (909), and Tulare (834). Figure 24 shows that numerous domestic wells were installed outside of the 515 groundwater basins, particularly in volcanic and fractured-rock aquifers across the state, which underscores the importance of groundwater and the reliance on groundwater in these non-basin areas.

Figure 14: **Five-Year & WY 2026 Domestic Well Installation** - Statewide newly installed domestic and irrigation wells map for 5-year period from WY 2022 through 2026, along with WY 2026 overlaid. See **Table 6** for specific well data. Map and charts based on available data from the CNRA Open Data as of 09/11/2026.



WY 2026	
County	Domestic
Fresno	144
Sonoma	122
Madera	117
San Bernardino	111
Placer	76
Tulare	71
San Luis Obispo	62
Stanislaus	58
Nevada	51
Riverside	48

5-Year (WY 2022 - 2026)	
County	Domestic
Fresno	1329
Sonoma	909
Tulare	834
Madera	745
San Bernardino	731
Riverside	572
Placer	538
Merced	464
Stanislaus	439
Tehama	426

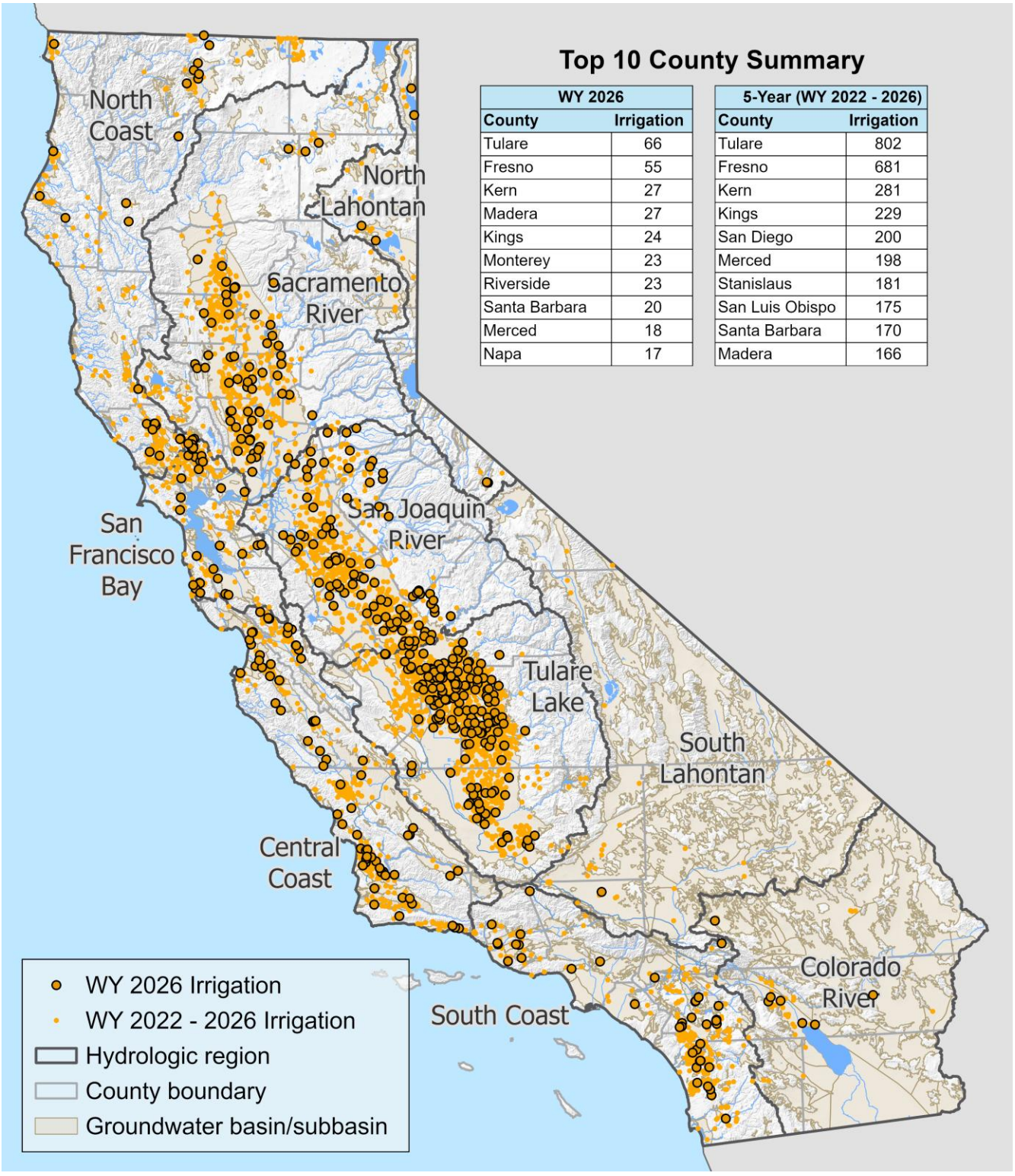
Irrigation Wells

Irrigation wells typically are constructed deeper than domestic wells, have higher pumping capacity, and pump more groundwater than domestic wells. They play a crucial role in supplying water to farms that feed millions of people in California and around the world.

During WY 2026 through September 11th, 2026, a total of 513 new irrigation wells were reportedly installed statewide, the fewest installed in the past decade (**Table 6**). Similar to domestic wells, irrigation well installations have declined substantially since WY 2022. A total of 64,468 irrigation wells has been installed statewide since 1977.

Irrigation wells are less geographically spread throughout the state when compared with domestic wells (**Figure 15**). In the past five water years, Tulare County installed more irrigation wells (802) than any other county in the state, accounting for approximately (16%) statewide. Neighboring Fresno County (681) and Kern County (281) ranked 2nd and 3rd, respectively, for the highest number of new irrigation well installations.

Figure 15: **Five-Year & WY 2026 Irrigation Well Installation** - Statewide newly installed domestic and irrigation wells map for 5-year period from WY 2022 through 2026, along with WY 2026 overlaid. See **Table 6** for specific well data. Map and charts based on available data from the CNRA Open Data as of 09/11/2026.



WY 2026	
County	Irrigation
Tulare	66
Fresno	55
Kern	27
Madera	27
Kings	24
Monterey	23
Riverside	23
Santa Barbara	20
Merced	18
Napa	17

5-Year (WY 2022 - 2026)	
County	Irrigation
Tulare	802
Fresno	681
Kern	281
Kings	229
San Diego	200
Merced	198
Stanislaus	181
San Luis Obispo	175
Santa Barbara	170
Madera	166

Dry Well Reporting

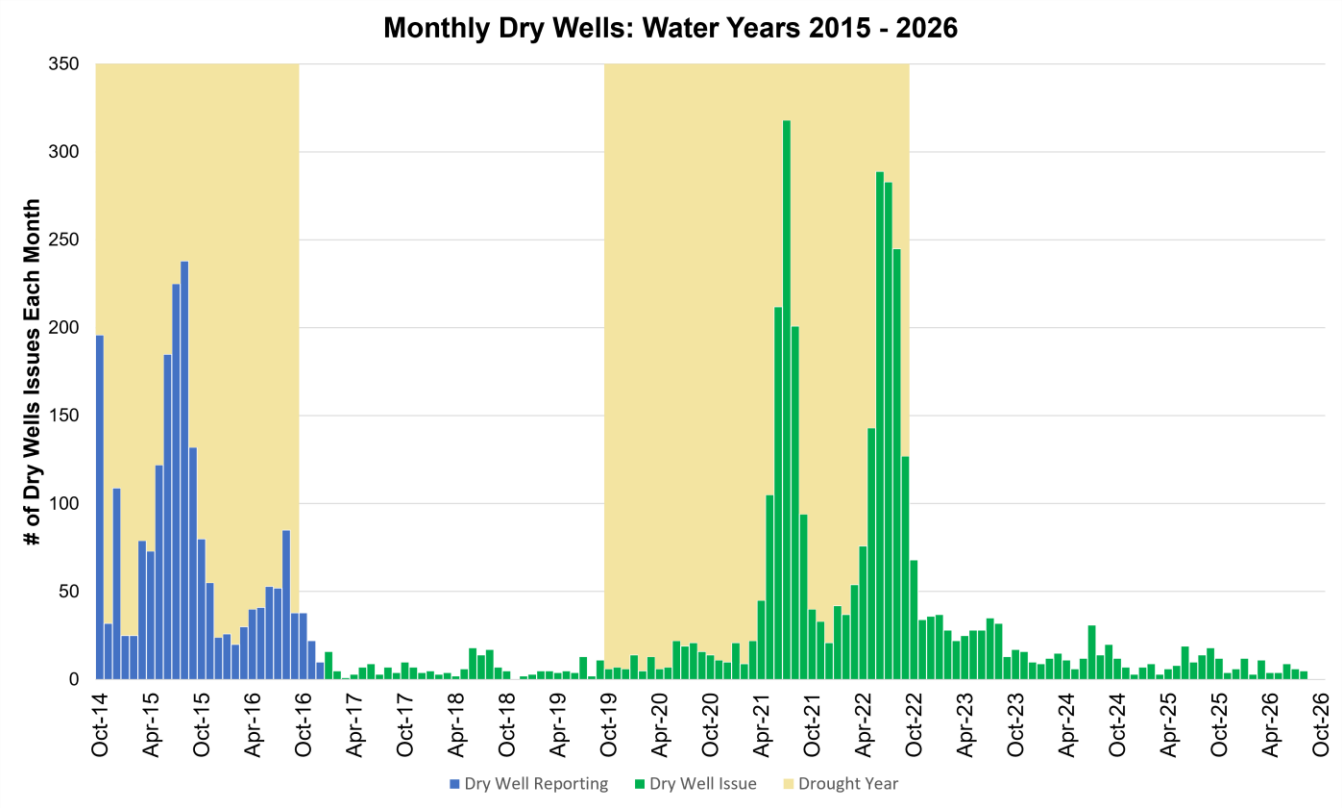
DWR's Dry Well Reporting System is a platform where Californians experiencing problems with their private, self-managed wells that are not served by a public water system can voluntarily report dry wells and connect with entities providing local drought assistance. The system helps centralize and disseminate information statewide when well outages are reported. This centralized reporting system helps ensure that local and State agencies are quickly notified and can respond to provide available resources such as interim water supplies or appropriate funding sources to help address the issues. The Dry Well Reporting database is designed to receive reports when a domestic well goes dry, or when a dry well problem is resolved. DWR provides a statewide statistical summary of locally reported dry wells on the Dry Well Reporting System website. The summary includes a cumulative report of dry wells by county, a map showing the statewide distribution of dry wells, and an accounting of dry wells reported to the state by quarter from 2013 to present.

The submission of dry well reports is voluntary so the data may not represent the total number of dry wells occurring across the state, only those submitted to the Dry Well Reporting System. Community outreach by DWR over the years since the development of the dry well reporting system has resulted in more awareness and greater usage of the system over time, so more dry well reports are likely being submitted to the Dry Well Reporting database than were submitted in the past. Additionally, the reported information was refined in 2017, when the Reporting Date was changed to the Approximate Issue Start Date.

The Dry Well Reporting System over the last twelve water years (2015 – 2026) based on both Reporting Date and Approximate Issue Start Date is summarized **Figure 16**. In WY 2026 through September 11th, 2026, a total of 76 new dry well issues were reported, compared to 116 in WY 2025 and 173 in WY 2024. Although the number of dry wells has declined each year since the end of the 2022 drought, the number of issues reported in the 2023-2026 post-drought period is higher than the 2014-2019 post-drought period.
In WY 2026 up to September 11th, 2026, the highest number of dry well reports were received in, Fresno County (19), San Luis Obispo County (18) and Madera County (13). These three counties account for approximately two-thirds of the dry well reports (68%) received statewide in WY 2026 through September 11th 2026. No other county reported more than 8 dry wells, and 40 counties reported zero dry wells.

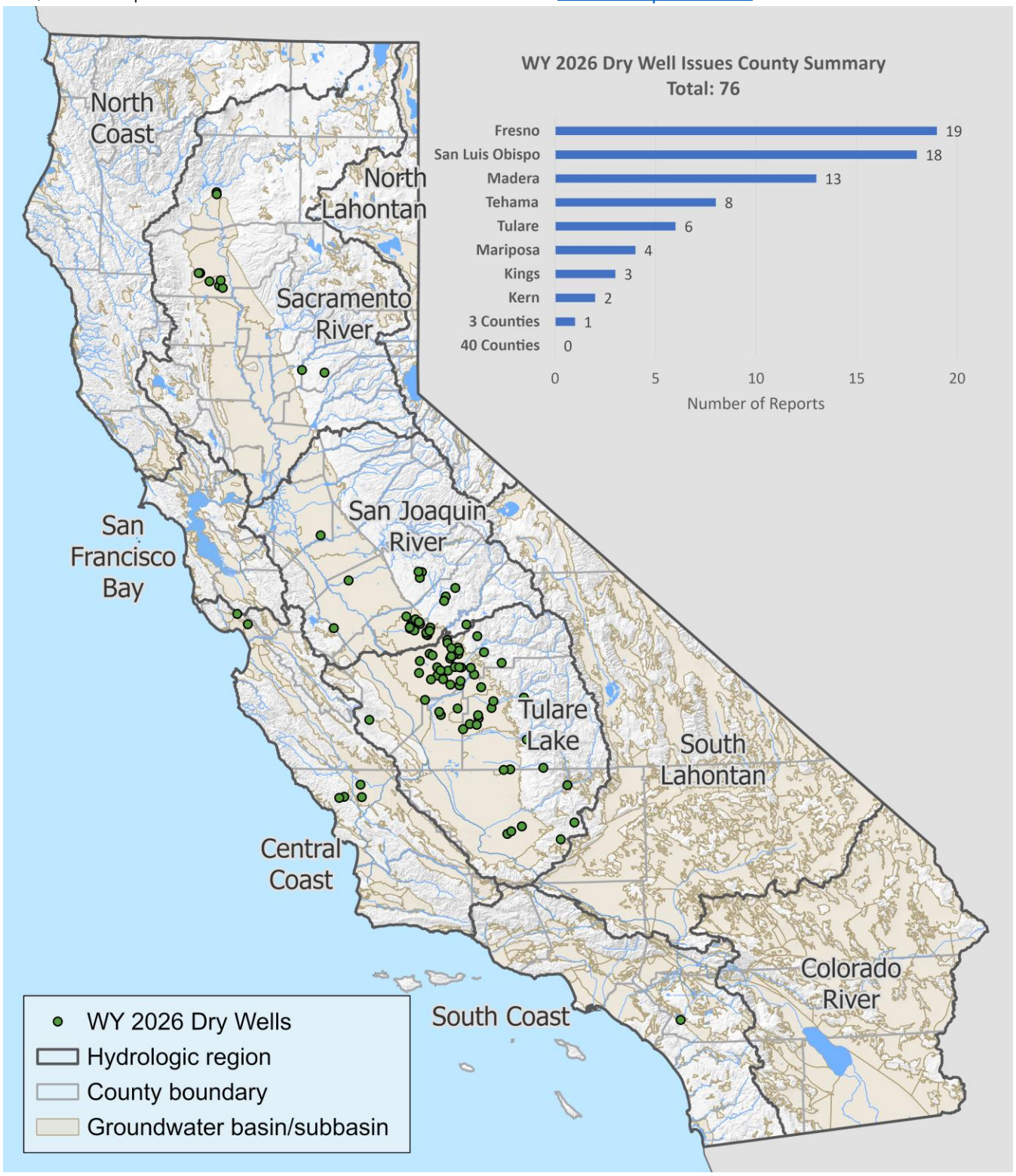
The statewide trend for dry well reporting over the past five years (2022-2026) shows a strong correlation between post drought conditions and the decreasing number of dry well reports. More dry wells were reported during the drought periods (2015-2016 and 2020-2022) than any other period. Coming out of the drought in water year 2023 resulted in a steep decline in dry wells reported. **Figure 16** shows a monthly time series of dry well reports from October 2014 to September 11th, 2026.

Figure 16: **Monthly Dry Well Reporting** - October 2014 through September 2026.



A total of 2,141 new dry well issues were reported to have occurred over the last five water years (2022-2026), and a total of 6,199 dry well reports have been received since 2013. The year-to-year number of dry wells since 2017 has fluctuated from a low of just 59 in WY 2019 to a high of 1,388 in WY 2022 (**Table 6**). The locations of dry wells in WY 2026 through September 11th, 2026 are shown in **Figure 17**.

Figure 17: **Dry Well Reporting** - Statewide one-year reported dry wells map for WY 2026 through September 11th, 2026. Map and charts based on available data from the CNRA Open Data as of 09/11/2026.



Groundwater Reporting Assessment

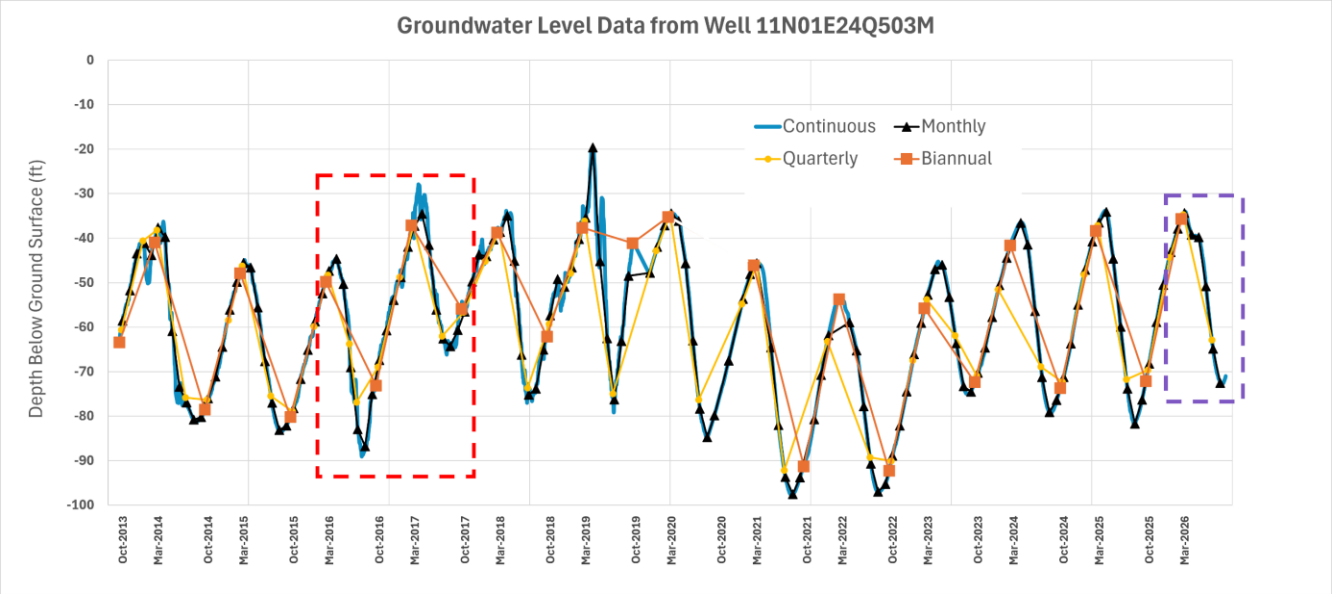
The frequency of groundwater-level measurements affects the ability to characterize basin hydrology and evaluate groundwater-level trends. More frequent measurements provide greater temporal resolution, improving the ability to characterize seasonal fluctuations and short-term groundwater responses, while less frequent measurements can still provide valuable information on longer-term conditions and trends.

Measurement frequency is often related to the method of data collection. Biannual, quarterly, and monthly measurements are commonly collected manually at the wellhead, while continuous measurements are collected using automated data loggers or telemetry. **Figure 18** shows continuous, monthly, quarterly, and biannual measurements for one well in the Yolo Subbasin in the southwestern Sacramento Valley over approximately 10 years. All four measurement frequencies capture the general seasonal pattern and longer-term trends, but more frequent data collection provides higher quality information. Continuous monitoring captures short-term fluctuations and accurately depicts the timing and magnitude of seasonal high and low groundwater levels. Monthly monitoring clearly depicts seasonal fluctuations but may not accurately capture the seasonal high and low levels, while quarterly and biannual measurements provide progressively fewer observations and may miss the seasonal high and low levels. Continuous data has a high data density and can be more resilient if measurements are missed through technical issues. Less frequent monitoring, such as quarterly or biannual, can lead to larger data gaps if measurements are missed.

It is a common practice to allow automated data loggers to collect data for several weeks or months before downloading and posting the data to public websites. When transmitted through telemetry, continuous monitoring is provided in real-time. Measurements collected manually are not available to the public until it is posted to designated data portals, which can lead to significant delays in its public availability.

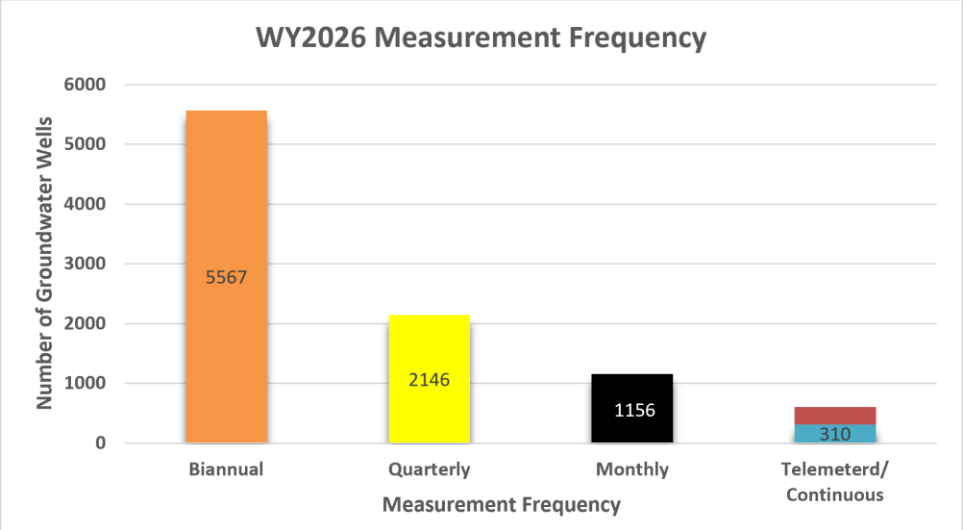
Statewide during WY 2026, biannual monitoring was by far the most common data collection frequency with 5,567 wells were monitored biannually compared with 2,146 monitored quarterly and 1,156 monthly. Continuous monitoring represented the smallest portion of the monitoring network, with 602 total sites and 292 of those telemetered (**Figure 19**). This distribution indicates that much of the statewide monitoring network is characterizes broad seasonal and longer-term groundwater-level patterns, while a substantially smaller portion provides the temporal resolution needed to characterize short-term fluctuations and the timing and magnitude of groundwater responses between seasonal measurements.

Figure 18: **Groundwater Measurement Frequency Graph** comparing biannual, monthly, and continuous data collection at Groundwater Monitoring Site 11NO1E24Q503M. Data available on the CNRA Open Data Site.



Groundwater-level monitoring is integral to evaluating groundwater sustainability, including tracking Sustainable Management Criteria such as Minimum Thresholds and Measurable Objectives at Representative Monitoring Sites. Under SGMA, GSAs are required to submit groundwater-level measurements at least biannually, generally representing seasonal high-water conditions in late winter or early spring and low-water conditions in late summer or early fall. While these measurements provide important information on long-term aquifer behavior, more frequent monitoring provides a more complete representation of seasonal and short-term groundwater dynamics. **Figure 18** shows that biannual monitoring was the most common measurement frequency in WY 2026, followed by quarterly and monthly monitoring, while continuous monitoring represented the smallest portion of the dataset.

Figure 19: **Statewide Groundwater Measurement Frequency Graph** comparing biannual, monthly, and continuous and telemetered data collection. Data available on the CNRA Open Data Site as of 9/11/2026.



Closing Thoughts

California's groundwater conditions in 2026 reflect both measurable progress and the cumulative effects of decades of hydrologic variability and groundwater use. Recent conditions are generally more stable than those observed during the 2020–2022 drought, while recovery remains gradual, uneven, and highly dependent on location and time scale. Between spring 2025 and spring 2026 (**Figure 3**), 76 percent of monitored wells experienced no significant change in groundwater levels, and slightly more wells showed higher groundwater levels than lower levels.

Over the 20-year period (**Figure 6**) from 2006 through 2026, approximately 40 percent of wells continue to show declining groundwater-level trends, compared with only 10 percent showing increasing trends. However, in recent years there appears to be a gradual reduction in wells with long-term declining groundwater level trends. Comparing the past five statewide 20-year trend analyses (**Figure 7**), the proportion of wells exhibiting declining trends shifted from 49 percent to 40 percent, while there was little change in the percentage of wells with increasing trends. This gradual shift coincides with recent wet years and suggests that statewide groundwater conditions are stabilizing but not yet reversing long-term declines. The shift also coincides with increased opportunities for natural and managed recharge, along with continued implementation of groundwater management actions. Positive long-term trends in groundwater levels, however, remain relatively uncommon, and wells with long-term declining trends still outnumber wells with increasing trends by approximately four to one.

The continuing effects of groundwater depletion are also evident in land subsidence. From April 2025 through April 2026 (**Figure 8**), approximately 2,640 square miles experienced

more than 0.1 feet of subsidence, with impacts concentrated almost entirely in the San Joaquin Valley and particularly within the Tulare Lake Hydrologic Region. Although wetter conditions in 2023 and 2024 raised groundwater levels and reduced subsidence rates in some areas, those effects are diminishing. Significant subsidence will continue where groundwater levels remain below historical critical head levels, emphasizing that groundwater-level recovery is important not only for water supply but also for protecting aquifer storage capacity and critical infrastructure.

Well infrastructure provides another indication of improving near-term conditions while illustrating the vulnerabilities that remain. Following average to above-average precipitation since the 2022 drought, new domestic and irrigation well installations (**Table 6**) have declined to their lowest levels in a decade and reported dry well issues have fallen substantially. For WY 2026 (through September), 65 new dry well issues were reported, compared with 115 in WY 2025 and 173 in WY 2024. However, dry well issues reported during the 2023–2026 post-drought period remain higher than during the previous 2016 post-drought period. This suggests that while improved hydrologic conditions have reduced immediate stresses on groundwater users, underlying vulnerabilities persist in many communities and aquifer systems.

Together, these findings reinforce an important distinction between groundwater stabilization and groundwater recovery. The proportion of wells with stable or increasing long-term trends has grown in recent years, indicating movement in a positive direction. However, declining wells still outnumber increasing wells by approximately four to one. One or two wet years following an extended drought can slow declines, raise groundwater levels, and provide temporary relief, but do not restore groundwater systems affected by long-term depletion. Repeated cycles of prolonged dry periods interrupted by shorter wet intervals can result in cumulative groundwater-storage losses. Sustained recovery will therefore require multiple favorable hydrologic years coupled with careful groundwater management during both wet and dry conditions.

California's ability to capitalize on wet periods is increasingly important. The likelihood for a strong El Niño during winter 2026–27 highlights the opportunity and the challenge of capturing water available for recharge. Wet conditions can support natural recharge, increase surface-water availability, reduce groundwater pumping, and create opportunities to capture high flows for managed aquifer recharge. But these benefits depend on having projects, infrastructure, permits, water supplies, and operational capacity in place when water becomes available. GSAs have identified 493 recharge Projects and Management Actions statewide, representing substantial potential groundwater replenishment. Of these identified Projects and Management Actions, only 149 are currently identified as ongoing or completed; the remainder are in conceptual, planning, or construction phases, or lack a

recent implementation update. Because high-flow opportunities may be short-lived, recharge readiness is becoming as important as recharge potential.

The findings in this Update show a groundwater system that is more stable, but not recovered. California has made progress since the most recent drought, and implementation of SGMA continues to expand the tools available to manage groundwater more sustainably. The next challenge is to translate that progress into lasting aquifer recovery by maintaining sustainable pumping during dry periods, accelerating recharge readiness before wet periods occur, and continuing to monitor and respond to groundwater-level declines, subsidence, and impacts to groundwater-dependent communities.