Key Takeaways

Global Conditions Relevant to Drought

- Neutral El Niño-Southern Oscillation is forecast through the end of 2025, though conditions are forecast to be La Niña-like by Southern California's 2025-2026 wet season.
- La Niña-like conditions are related to below-average precipitation and a late start to the wet season in Southern California.

Local and Regional Drought Conditions

- Drought continues across Southern California and the Southwest U.S.
- October 1, 2024 - June 21, 2025 was the 4th driest and 7th warmest such period in Southern California since 1951.
- Drought is forecast to persist in Southern California through at least September 2025 alongside above-average temperatures.

Public Health Sector-Specific Drought Outlook

- Poor air quality in Southern California is expected during the latter half of 2025 due to smoke from wildfires and other pollutants (high confidence).
- Anomalous extreme heat, especially in southeastern California, is expected in June-September (high confidence).

Agriculture Sector-Specific Drought Outlook

- Anomalous extreme heat in summer 2025 will hinder crop, livestock, and agricultural workers' productivity, particularly in southeastern California (high confidence).
- Low soil moisture and extreme temperatures in summer 2025 will stress agriculture and livestock (high confidence).

Water Utilities Sector-Specific Drought Outlook

- Compared to June 2025, lower reservoir storage and groundwater levels are expected in October 2025 (high confidence) and June 2026 (medium confidence).

About the Outlook

This outlook disseminates sector-specific drought scenarios that are based on tailored monitoring and forecasting information, which will enable users to make proactive decisions ahead of drought. The focus sectors include water utilities, agriculture, and public health in Southern California.

Lines of Evidence

Several perspectives are used to inform sector-specific drought scenarios.

- Observed Conditions: Current state of the region from observations as of June 26, 2025 at 10 a.m. PT unless indicated otherwise.
- Predictions: Expert interpretation of many types of forecasts to anticipate the future.

Interpreting Scenarios

A confidence level for each scenario is provided based on guidance from the IPCC AR5:

- Low confidence indicates little agreement among several sources of evidence.
- Medium confidence indicates modest agreement among several robust sources of evidence.
- High confidence indicates close agreement among several robust sources of evidence.

Global Perspective

- El Niño-Southern Oscillation (ENSO), composed of El Niño, La Niña, and neutral phases, is related to weather anomalies that are used to predict conditions over California months to seasons in the future.
- A neutral El Niño-Southern Oscillation is forecast through the end of 2025, though conditions are forecast to be La Niña-like during Southern California's 2025-2026 wet season (Figure 1).

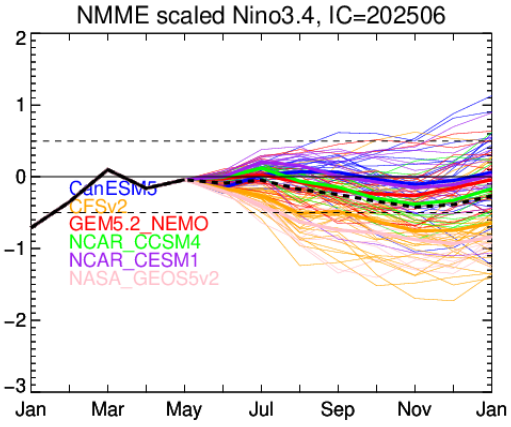

Figure 1. Forecast Nino3.4 index issued in June 2025 from dynamical models contributing to the North American Multimodel Ensemble. The spread of the individual forecasts (thin colored lines) indicates the uncertainty in the forecast while the central value of the forecasts (black dashed line) shows the most likely outcome, which approaches the La Niña threshold of -0.5C. The solid black line indicates observed conditions prior to June 2025.

Regional Drought Conditions

- Drought continues across Southern California and the Southwest U.S. (Figure 2).
- October 1, 2024 - June 21, 2025 was the 4th driest and 7th warmest such period in Southern California since 1951 (Figure 3).
- Southern California experienced exceptional heat June 1-21, 2025 (Figure 4).

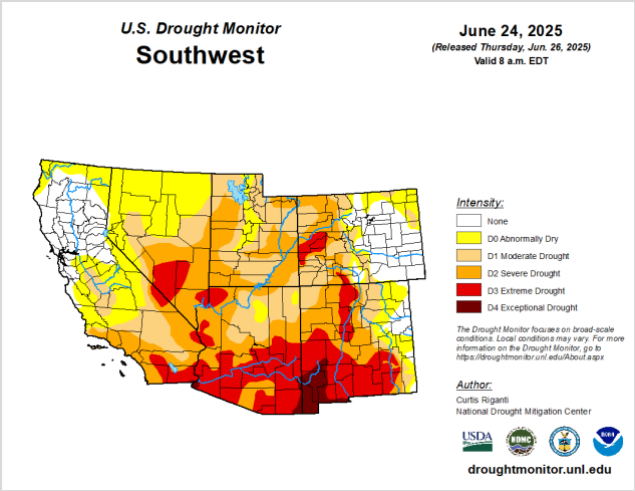

Figure 2. U.S. Drought Monitor as of June 24, 2025. Source: National Drought Mitigation Center.

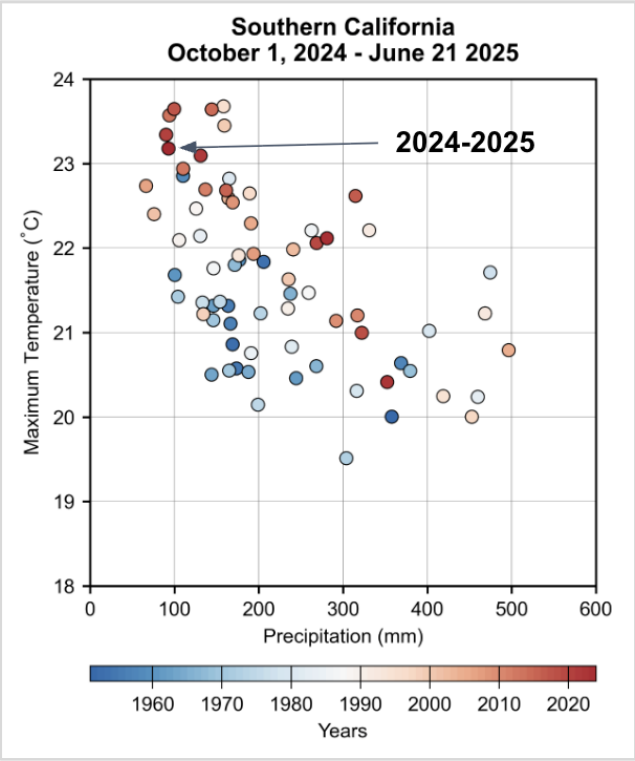

Figure 3. Scatter relationship between daily maximum temperature (Celsius, C) and precipitation (mm) in Southern California during October 1, 2024 to June 21, 2025. Source: NOAA Physical Sciences Laboratory using data from NOAA's National Environmental Satellite, Data and information Service (NESDIS) and National Centers for Environmental Information (NCEI).

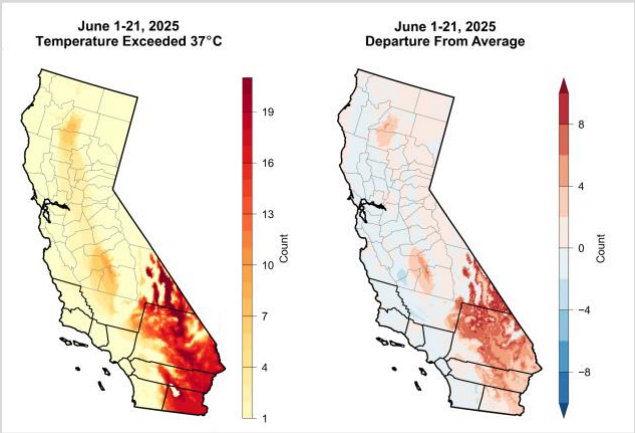

Figure 4. During June 1-21, 2025, (left) days that exceeded 37° C (98.6° Fahrenheit, F) and (right) departure from average of days that exceeded 37° C based on conditions during 1951-2024. Source: NOAA Physical Sciences Laboratory using data from NOAA's NESDIS and NCEI.

Forecasts and Summertime Conditions Relevant to Drought

- Above-average temperatures are forecast through at least the end of 2025 according to the NOAA/NWS Climate Prediction Center (Figure 5b)
- Drought is expected to persist through at least the end of September 2025 according to the NOAA/NWS Climate Prediction Center (Figure 6).
- Soil moisture will remain below drought thresholds through summer 2025 and most likely through December 2025 (Figure 7).

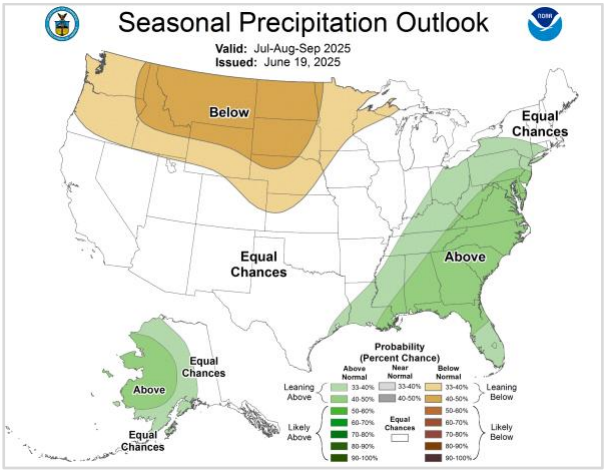

Figure 5a. Chances of above- (green), below- (brown), and near- (gray) average precipitation valid for July-September 2025. Issued on June 15, 2025 by the NOAA National Weather Service (NWS) Climate Prediction Center.

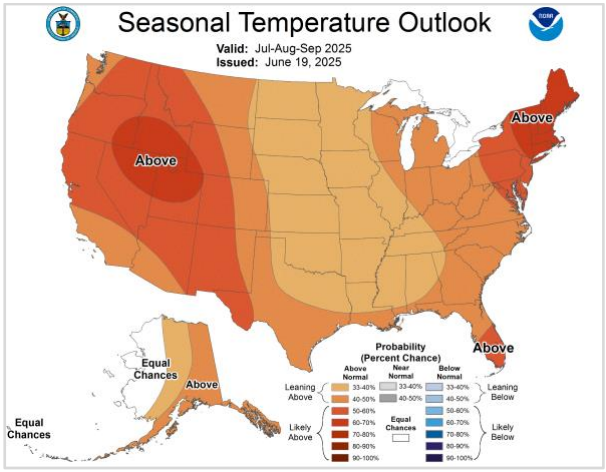

Figure 5b. Chances of above- (red), below- (blue), and near- (gray) average temperature valid for July-September 2025. Issued on June 15, 2025 by the NOAA NWS Climate Prediction Center.

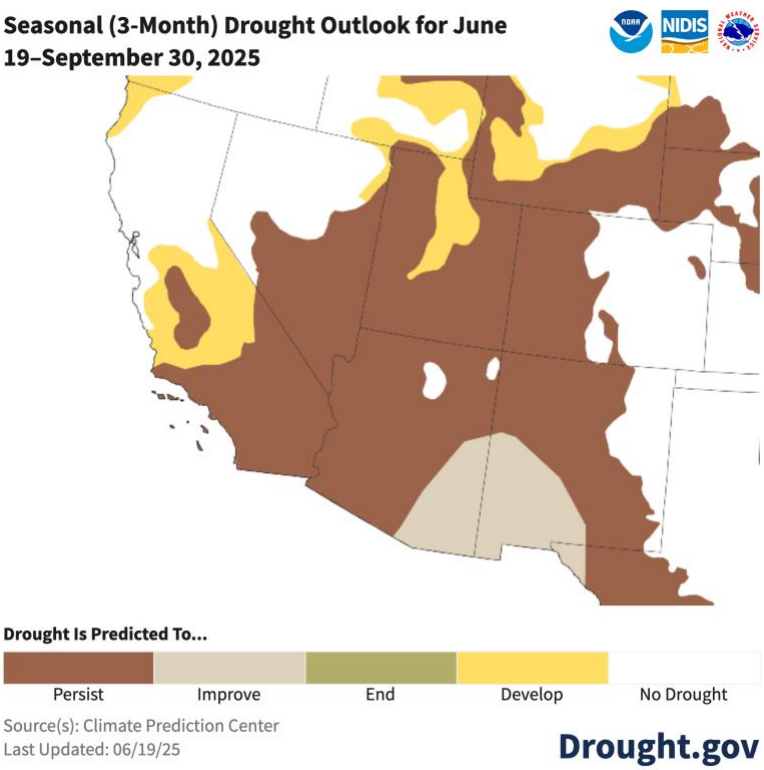

Figure 6. Drought outlook for June 19-September 30, 2025, showing where drought is predicted to persist (brown) and develop (yellow). Issued on June 19, 2025 by the NOAA NWS Climate Prediction Center.

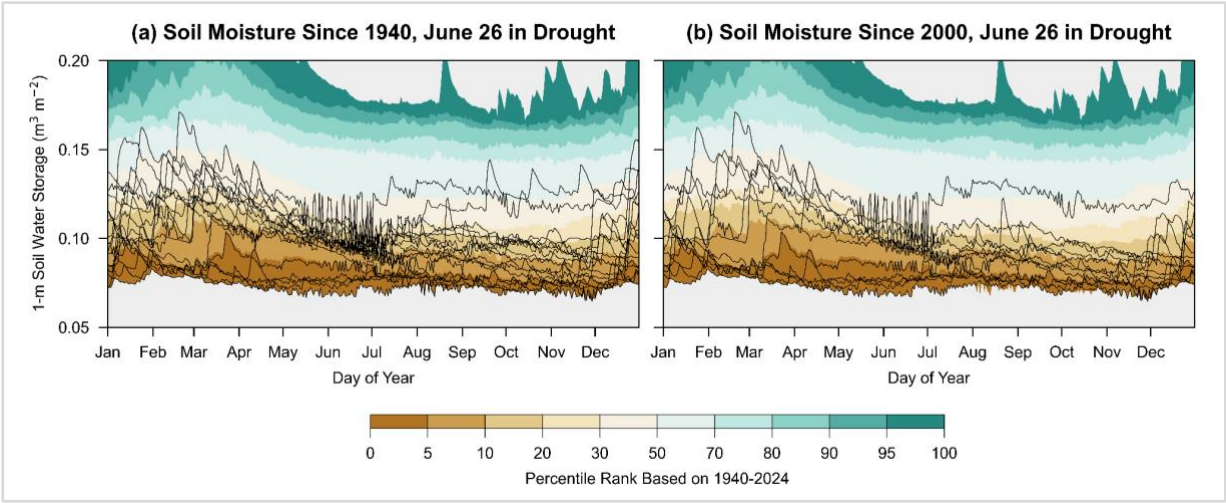

Figure 7. The evolution of the top meter of soil moisture over the calendar year, shown as a percentile rank based on 1940-2024 (shading). The two time series show soil moisture's evolution during the calendar year. Soil moisture on June 26 was below the 30th percentile (a) after 1940 (black line) and (b) after 2000 (black line). Source: NOAA Physical Sciences Laboratory using data from European Centre for Medium-Range Weather Forecasts (ECMWF)'s ERA5.

Public Health Sector-Specific Drought Outlook

Poor air quality in Southern California is expected during the latter half of 2025 due to smoke from wildfires and other pollutants (high confidence). Anomalous extreme heat, especially in southeastern California, is expected in June-September (high confidence).

Supporting Evidence:

- Southern California and the entire western United States have elevated risk of significant wildland fire potential. (Figure 8).
- There is an elevated risk of a late start to the 2025-2026 wet season. (Figure 9).
- An above-average number of days exceeding 398.6° F in summer 2025 is expected. (Figures 4 and 10).

Figure 8a. Wildland fire potential valid for July 2025 issued on June 1, 2025 by the National Interagency Fire Center.

Figure 8b. Wildland fire potential valid for September 2025 issued on June 1, 2025 by the National Interagency Fire Center.

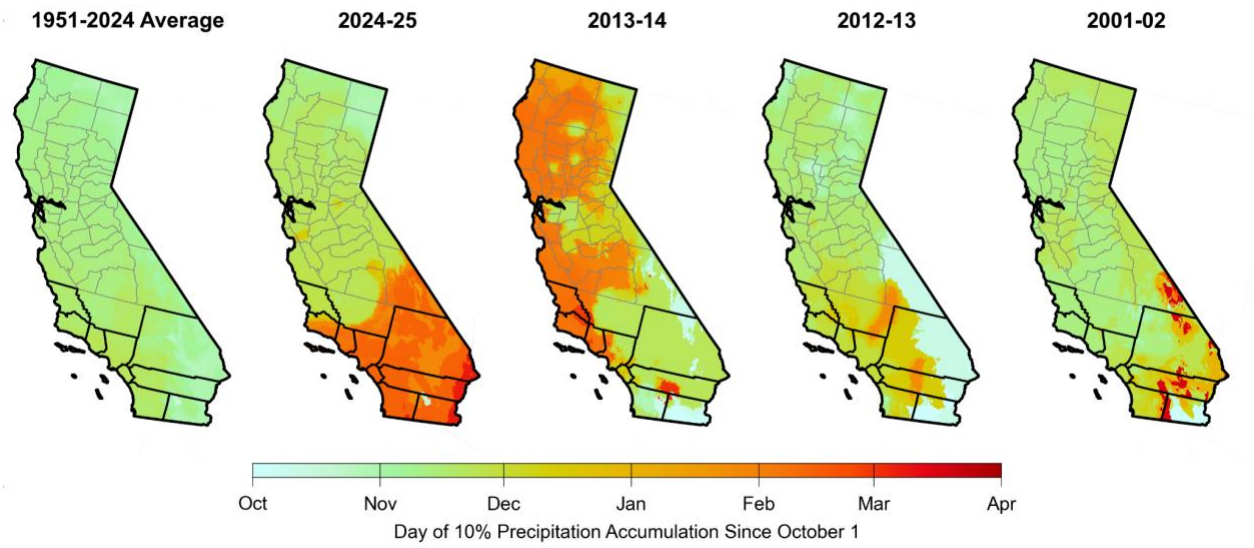

Figure 9. Day since October 1 in which 10% of October-September cumulative precipitation was observed in terms of the 1951-2024 average, in La Nina-like winter conditions in 2024-2025, 2013-2014, 2012-2013, and 2001-2002. The individual years were selected based on La Nina-like conditions in December-February of those years. Source: NOAA Physical Sciences Laboratory using data from NOAA's NESDIS and NCEI.

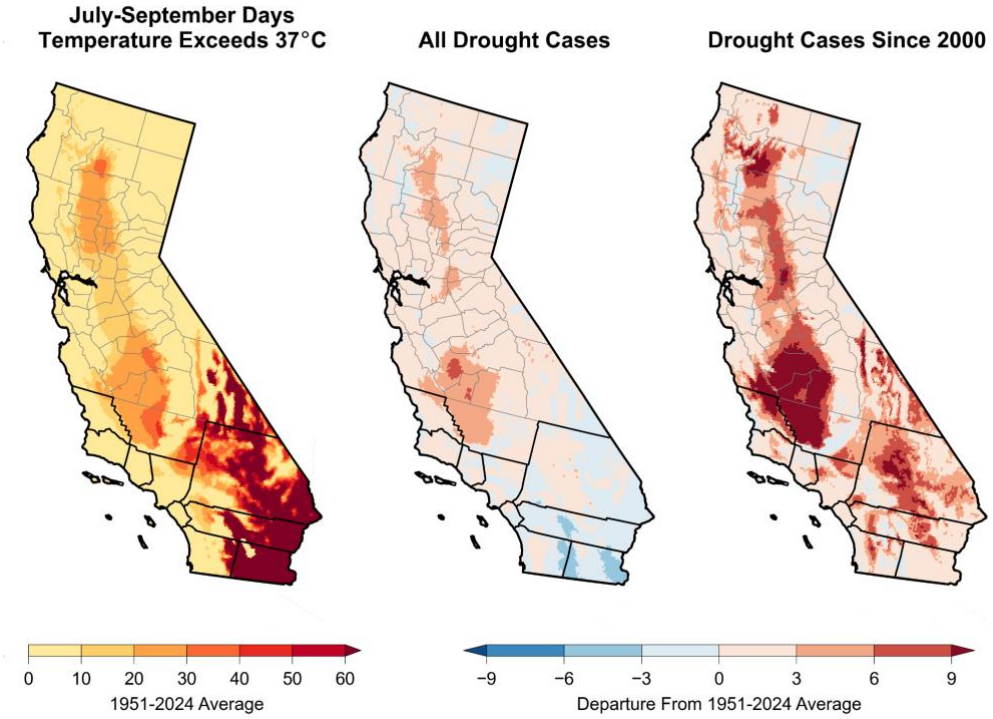

Figure 10. (left) Average number of days exceeding 37° C (98.6° F) during July-September 1951-2024. (center) Average number of days exceeding 37° C during drought years in Figure 7a since 1951 displayed as a difference from the 1951-2024 average. (right) Average number of days exceeding 37° C during drought years in Figure 7b since 2000 displayed as a difference from the 1951-2024 average.

Agriculture Sector-Specific Drought Outlook

Anomalous extreme heat in summer 2025 will hinder agricultural crop, livestock, and workers' productivity, particularly in southeastern California (high confidence). Low soil moisture and extreme temperatures in summer 2025 will stress agriculture and livestock (high confidence).

Supporting Evidence:

- Above-average temperatures are predicted in summer 2025 (Figure 5b).
- An above-average number of days exceeding 100° F are forecast in summer 2025 (Figures 4 and 10).
- Drought is expected to persist through at least the end of September 2025 (Figure 6) alongside low soil moisture (Figure 11).

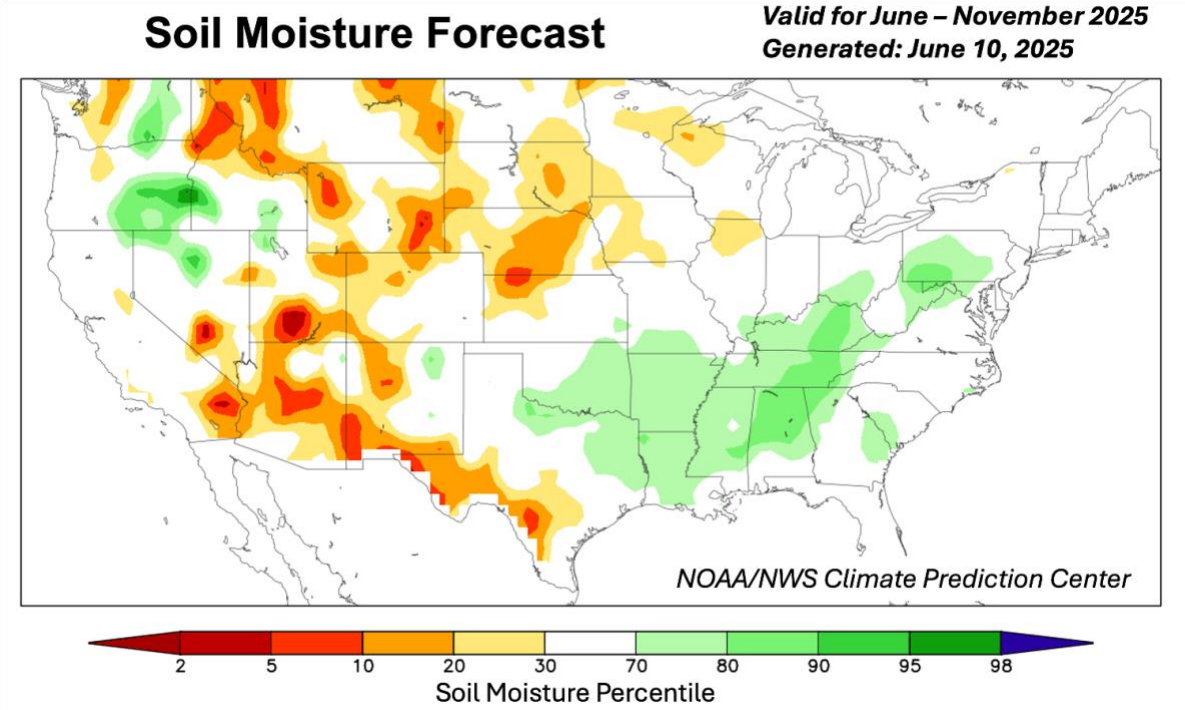

Figure 11. Forecast soil moisture percentiles valid for June-November 2025 issued on June 10, 2025 by the NOAA/NWS Climate Prediction Center.

Water Utilities Sector-Specific Drought Outlook

Compared to June 2025, reservoir storage and groundwater levels are expected to be lower in October 2025 (high confidence) and lower in June 2026 (medium confidence).

Supporting Evidence:

- Reservoir storage was steady over the last several months (Figure 12).
- Snowpack is historically low because of rapid snowmelt during the last several weeks (Figure 13).
- There is no indication of substantial reservoir and aquifer replenishment due to above-average precipitation in the 2025-2026 wet season (Figure 14).
- The Bureau of Reclamation projects low reservoir elevations over the next two water years (Figure 15).

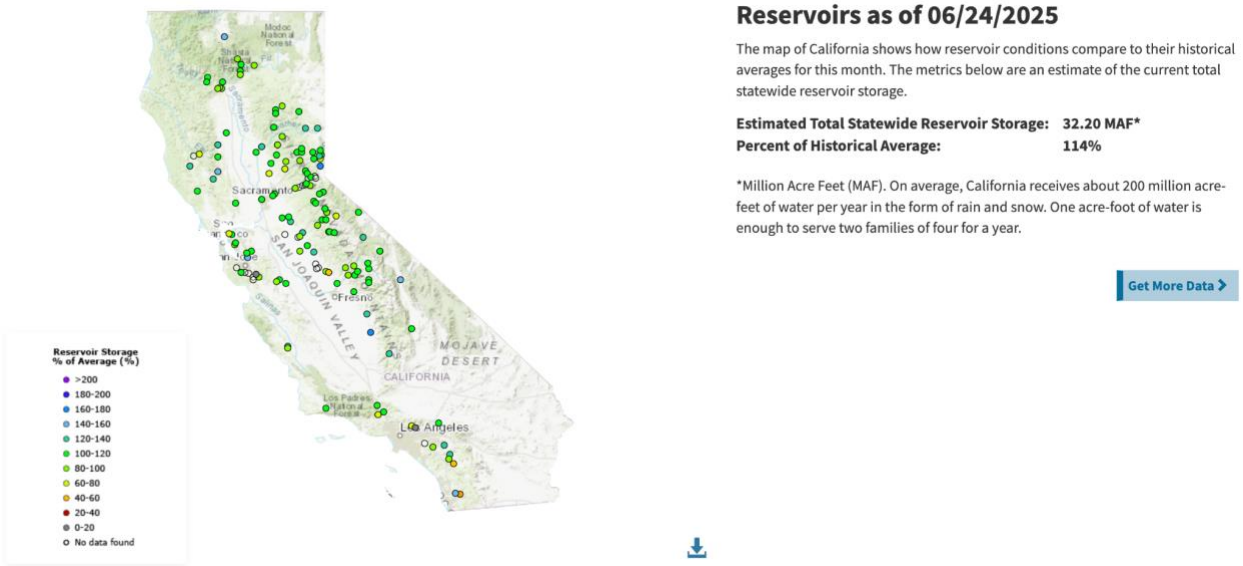

Figure 12. Reservoir storage in California as of June 24, 2025 from California Water Watch.

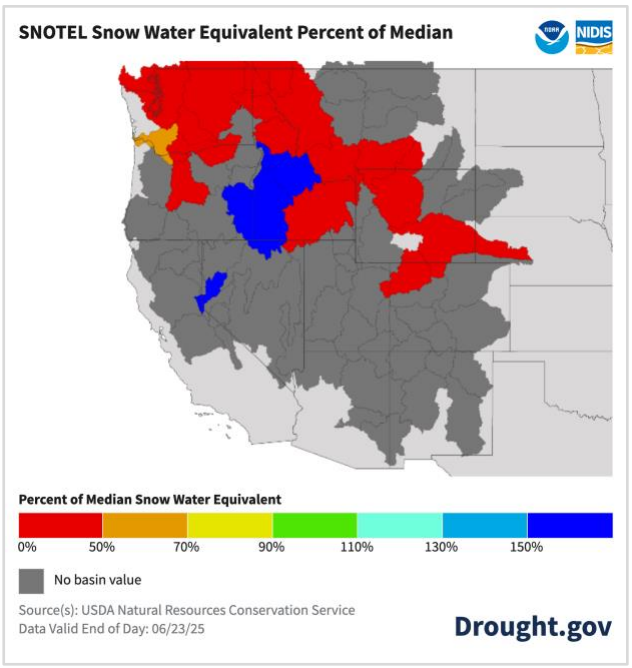

Figure 13. Percent of median snow water equivalent on June 23, 2025 based on data from the USDA Natural Resources Conservation Service.

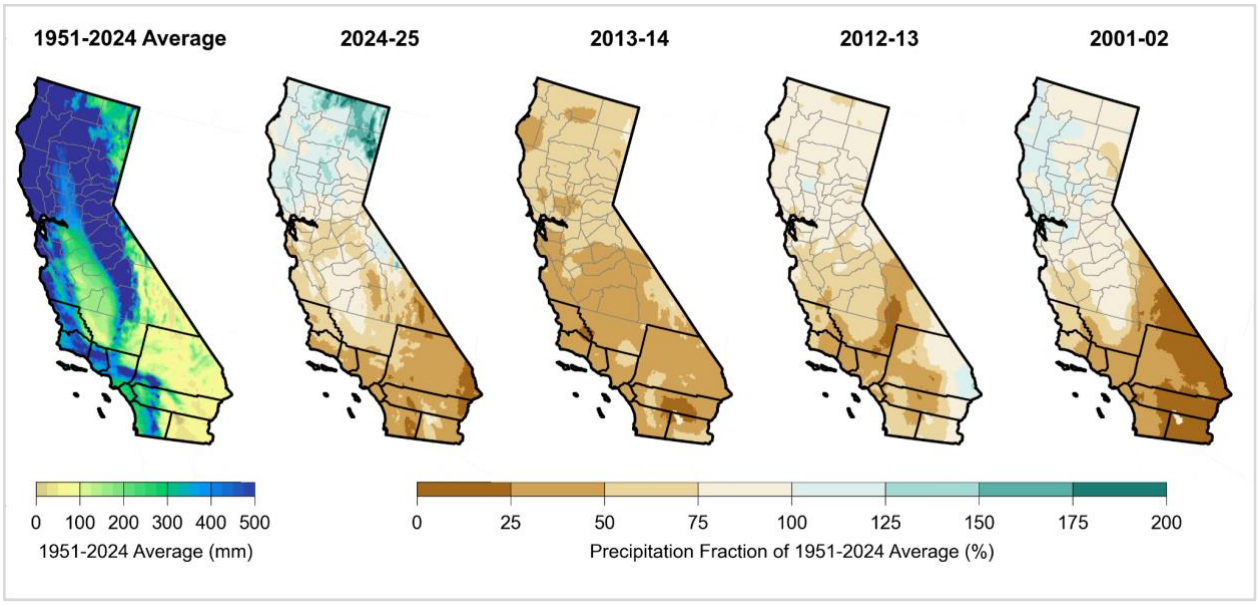

Figure 14. (left) Average October-September precipitation during 1951-2024. (rightmost four columns) October-September fraction of average precipitation during , 2024-2025, 2013-2014, 2012-2013, and 2001-2002. The individual years were selected based on La Nina-like conditions in December-February of those years. Source: NOAA Physical Sciences Laboratory using data from NOAA's NESDIS and NCEI.

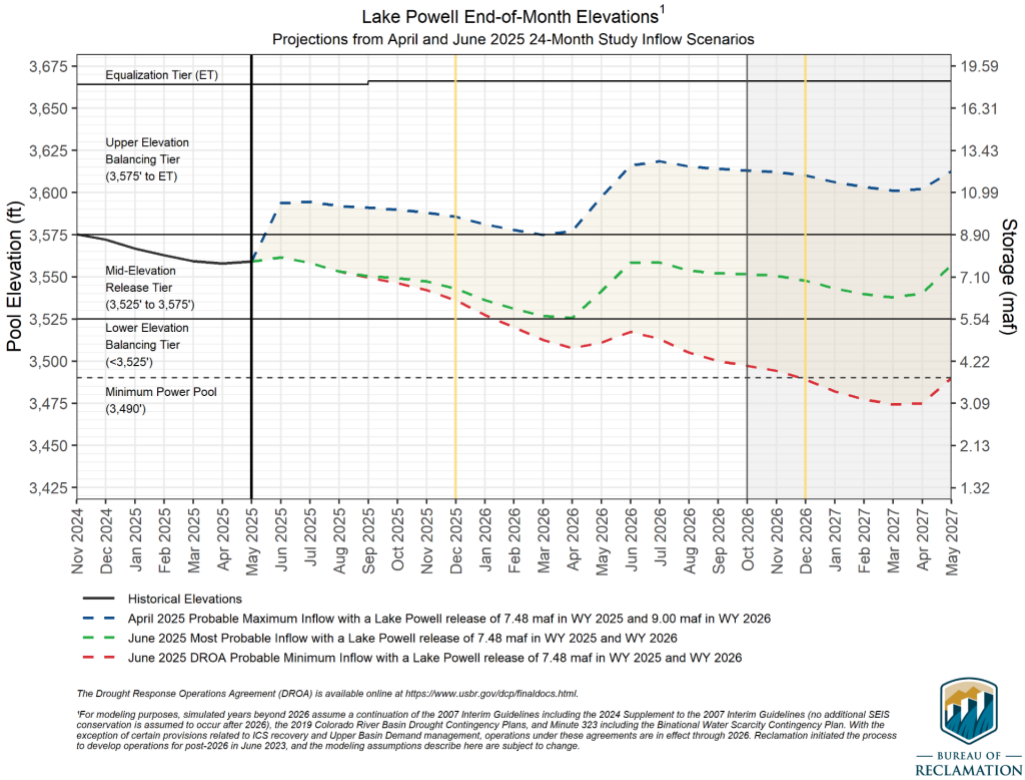

Figure 15. Projections of Lake Mead end-of-month pool elevations from the U.S. Bureau of Reclamation.