



September 2025: Southwest Climate Outlook

Stacie Reece
October 2, 2025



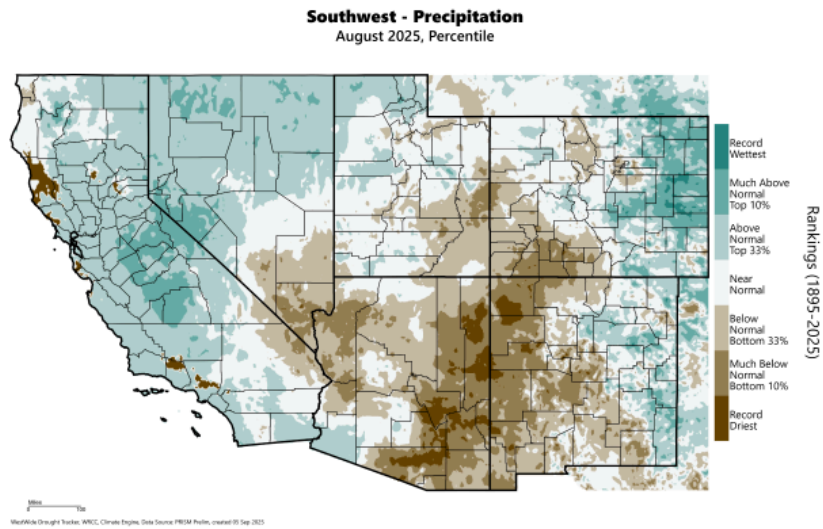
<https://climas.arizona.edu/>

The Southwest Climate Outlook is published by the Climate Assessment for the Southwest (CLIMAS), with support from University of Arizona Cooperative Extension, and the New Mexico State Climate office.

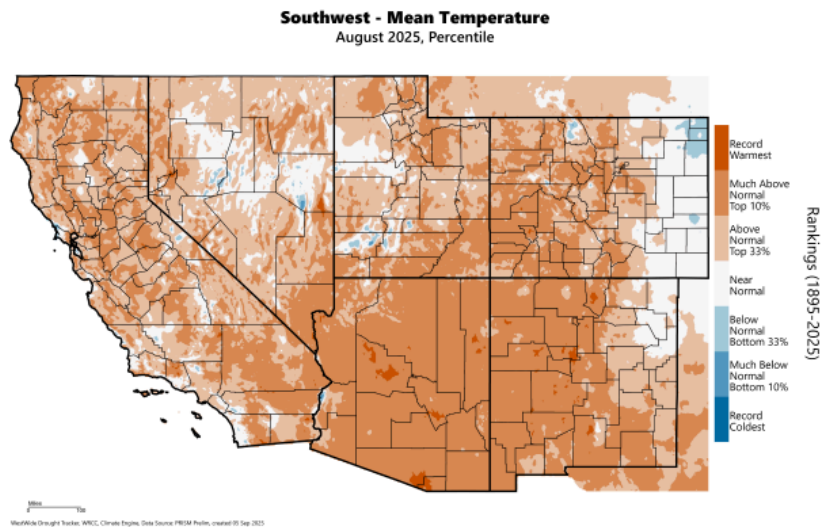
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Precipitation and Temperature

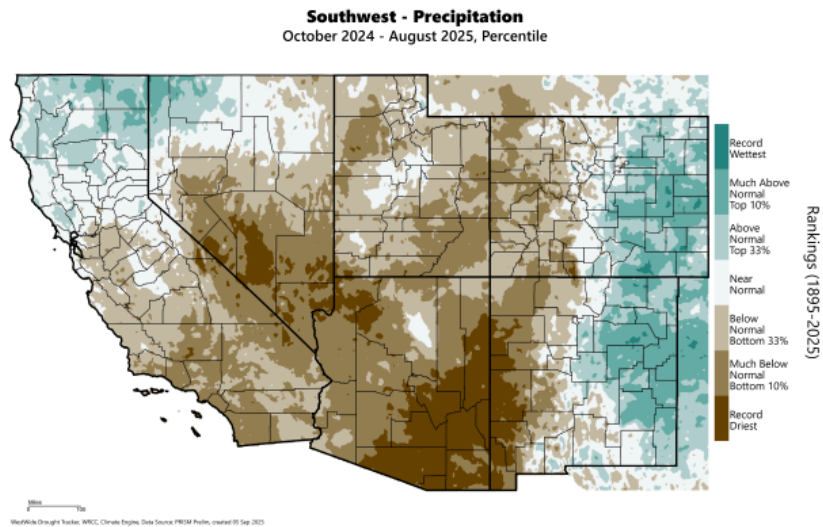
Precipitation in August was below normal for much of Arizona and New Mexico, ranking among the bottom 10% of Augusts on record for a large area extending from southern Arizona across western New Mexico. For some parts of that area, it was the driest August on record.



August temperatures were much above normal (ranking among the warmest 10% of Augusts on record) across Arizona and much of New Mexico—temperatures were near normal for extreme northeastern New Mexico.

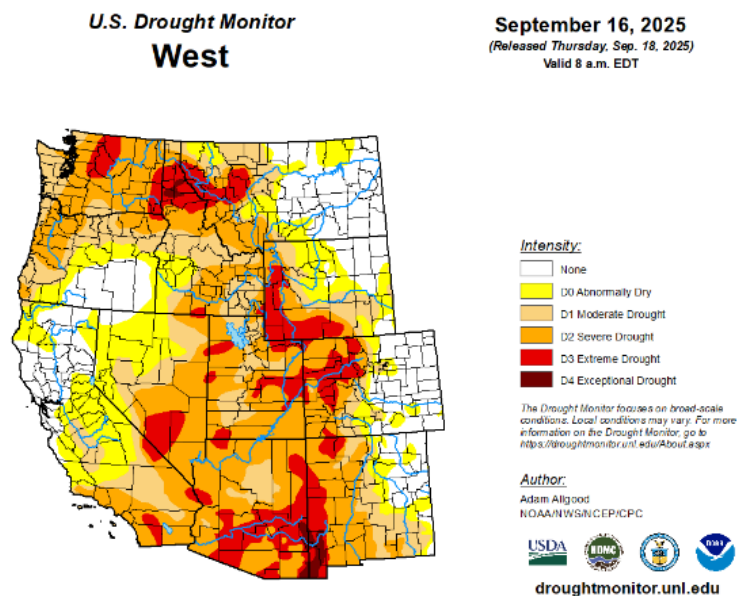


Precipitation totals for the water year so far (October 2024–August 2025) are the driest on record for much of southern and eastern Arizona, and for parts of western New Mexico. Remaining parts of Arizona saw totals ranking in the bottom 10 percent of the record. New Mexico’s water year looked very different for the eastern half of the state, where precipitation totals were above normal or much-above normal, compared to the below normal to record driest totals in western New Mexico.



Drought

Drought conditions classified as severe or worse extend across an area accounting for 87% of land in Arizona and 44% of land in New Mexico. Extreme drought (D3, occurring historically on average once in 20–50 years) affects areas stretching throughout the Gila River basin, the mountains of western New Mexico, and into the Colorado Plateau. The exceptional (D4) drought conditions affecting the upper Gila and bootheel of New Mexico are expected to occur on average once per 50–100 years.



Source: U.S. Drought Monitor

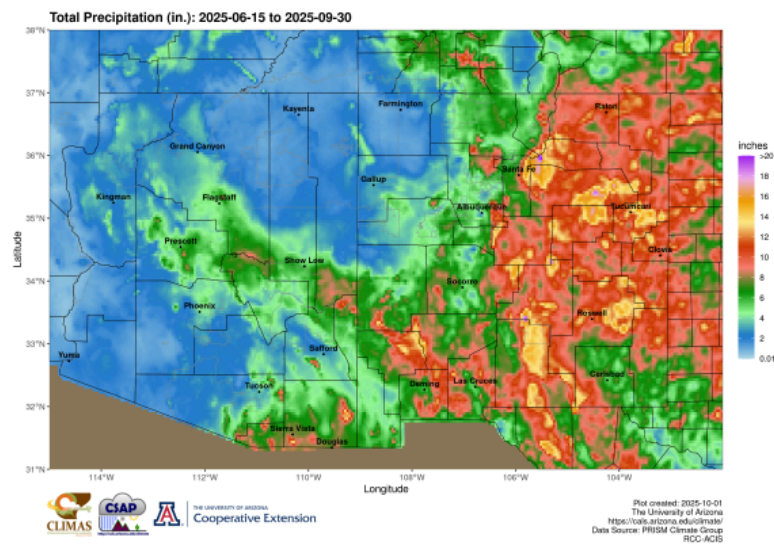
NIDIS Improved and Expanded State Pages on Drought.Gov

New Mexico

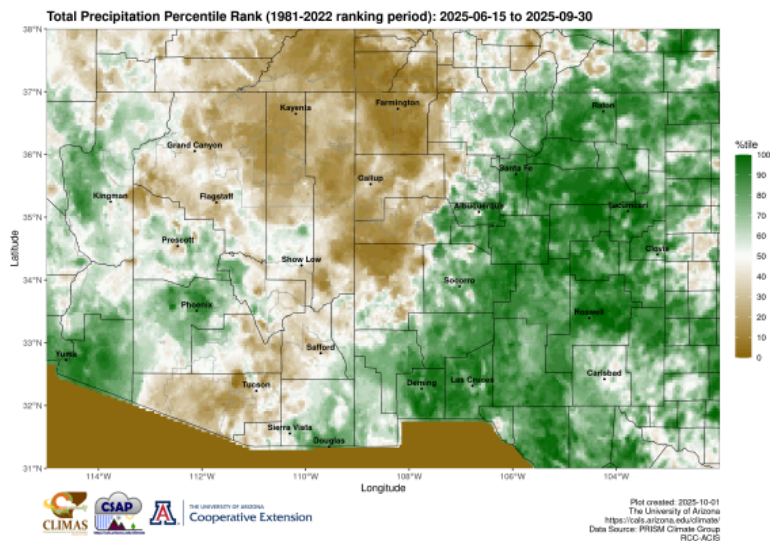
Arizona

Monsoon

Monsoon rainfall totals (precipitation since June 15) vary from much-below normal for large parts of the Colorado Plateau, below normal for parts of southern Arizona, to above normal for much of New Mexico, generally east of the continental divide, and above normal for parts of western Arizona.

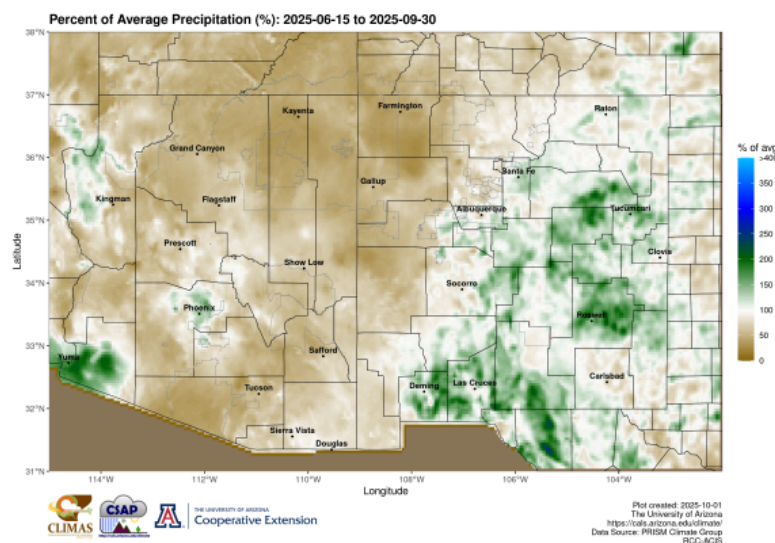


Source: [University of Arizona Cooperative Extension - CSAP](#)

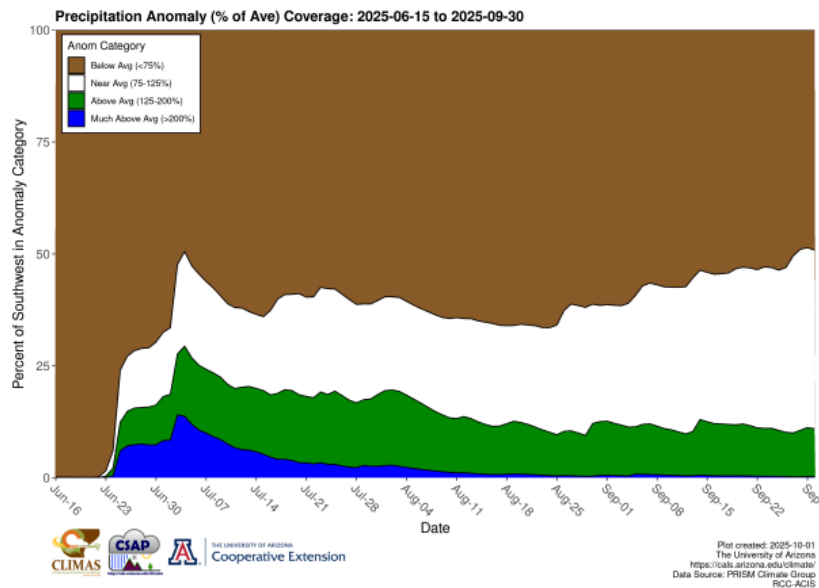


Source: University of Arizona Cooperative Extension - CSAP

This monsoon's totals expressed as percent-of-average looks a little different than the above percentile ranking map because in the percentile ranking, “normal” is the median or 50th percentile, of past year's monsoon totals, while in the percent-of-average map, “normal” is the average, or mean, of past years' monsoon totals. The average is typically a larger number than the median for precipitation data. Some parts of the region had above-median but below-average monsoon precipitation. About half of the region saw seasonal rainfall totaling less than the long-term average seasonal total.



Source: University of Arizona Cooperative Extension - CSAP



Source: [University of Arizona Cooperative Extension - CSAP](https://climate.arizona.edu/climate)

Water Supply

Reservoir storage is uneven across the Southwest—in New Mexico, reservoirs in the eastern part of the state are in good shape, at or above long-term average levels, but on the Rio Grande, Elephant Butte is at 3% of capacity, and Heron and El Vado are much below long-term average levels. In Arizona, Salt-Verde system reservoirs are near long-term average levels, while Lake Powell and Lake Mead are down compared to last year and much below long-term average levels. San Carlos reservoir, downstream of the extreme-to-exceptional drought in the upper Gila basin, is near empty.

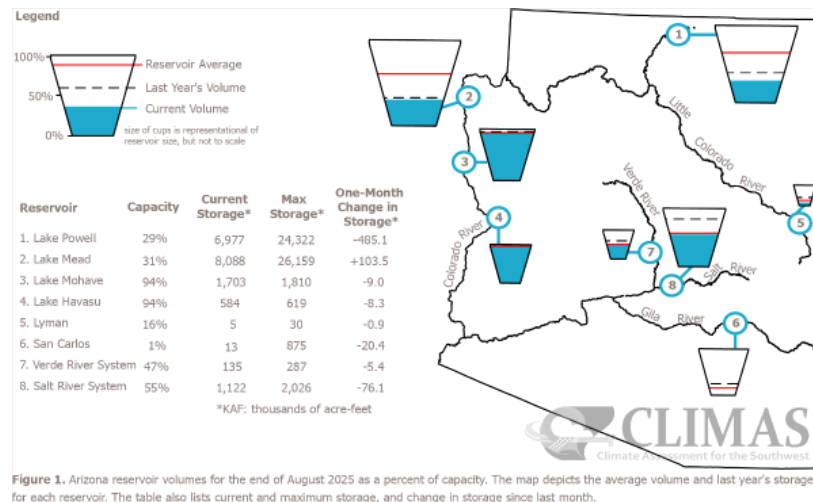
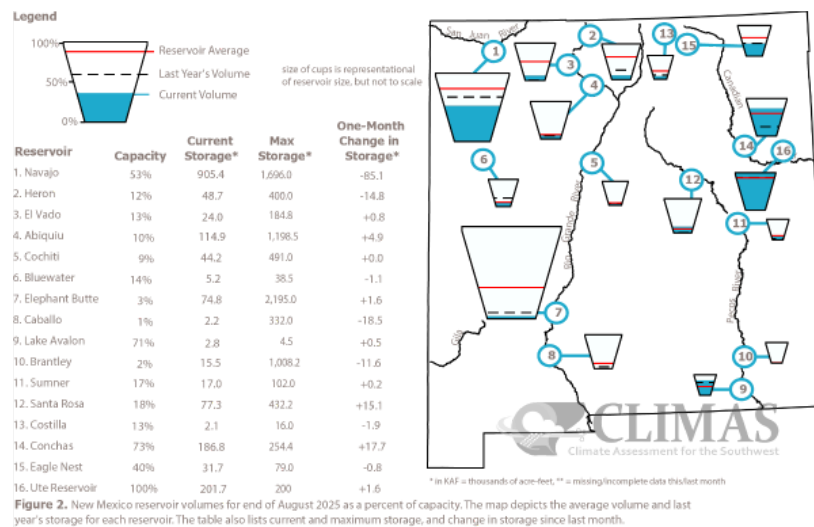


Figure 1. Arizona reservoir volumes for the end of August 2025 as a percent of capacity. The map depicts the average volume and last year's storage for each reservoir. The table also lists current and maximum storage, and change in storage since last month.



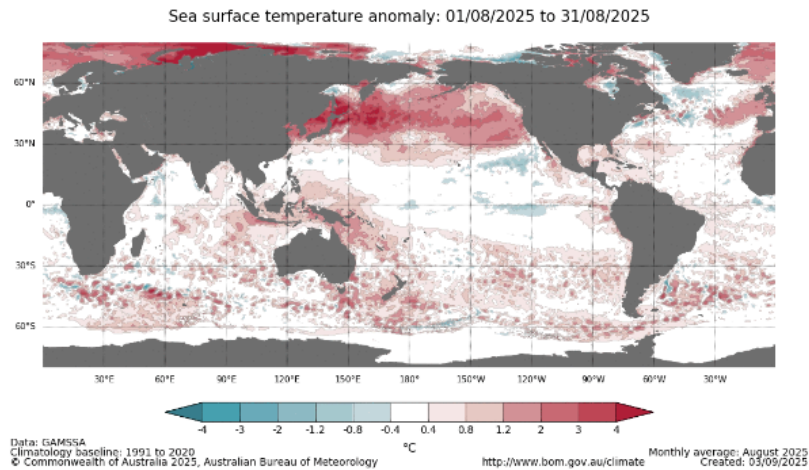
The map gives a representation of current storage for reservoirs in Arizona and New Mexico. Reservoir locations are numbered within the blue circles on the map, corresponding to the reservoirs listed in the table. The cup next to each reservoir shows the current storage (blue fill) as a percent of total capacity. Note that while the size of each cup varies with the size of the reservoir, these are representational and not to scale. Each cup also represents last year's storage (dotted line) and the 1991–2020 reservoir average (red line). The table details more exactly the current capacity (listed as a percent of maximum storage). Current and maximum storage are given in thousands of acre-feet for each reservoir. One acre-foot is the volume of water sufficient to cover an acre of land to a depth of 1 foot (approximately 325,851 gallons). On average, 1 acre-foot of water is enough to meet the demands of four people for a year. The last column of the table lists an increase or decrease in storage since last month. A line indicates no change. These data are based on reservoir reports updated monthly by the [Natural Resources Conservation Service - National Water and Climate Center \(USDA\)](#).

BOR: New Mexico Dashboard

ENSO Tracker

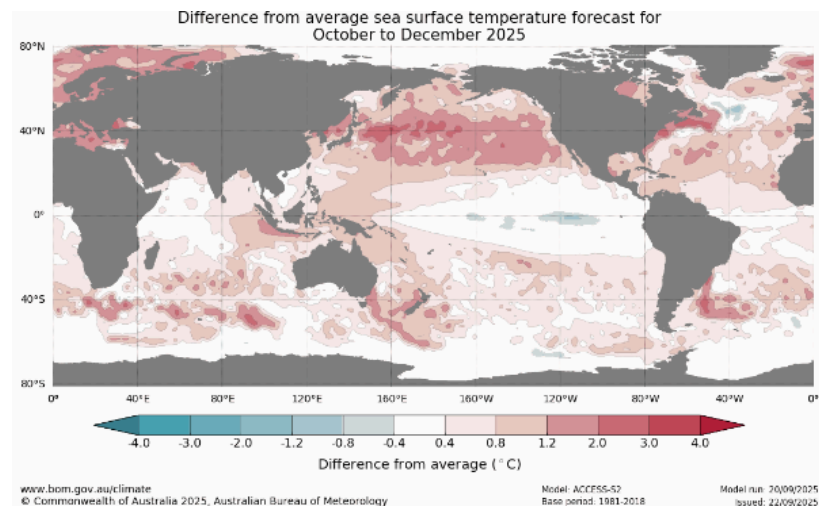
August sea surface temperatures (SSTs) reflect ENSO-neutral conditions. An area of cooler than normal SSTs in the eastern–central equatorial Pacific are not spatially extensive or

sufficiently cool as to qualify as La Niña conditions. Nearly the entire North Pacific north of 30°N Latitude is warmer than normal, but SSTs in this region do not influence ENSO.



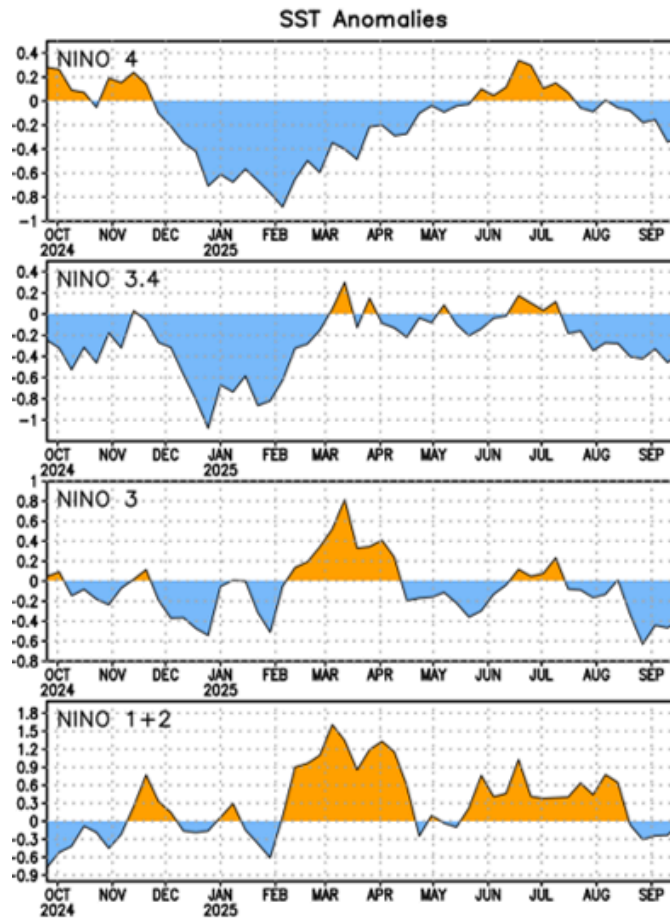
Source: Australian Bureau of Meteorology.

In a model forecast of October–December SSTs, the central and eastern equatorial Pacific remain near average, within the range of conditions considered ENSO-neutral. Warmer than average SSTs in the western equatorial Pacific typically occur during La Niña; this pattern hints at a ocean-atmosphere state that is like La Niña but remains classified as ENSO-neutral.



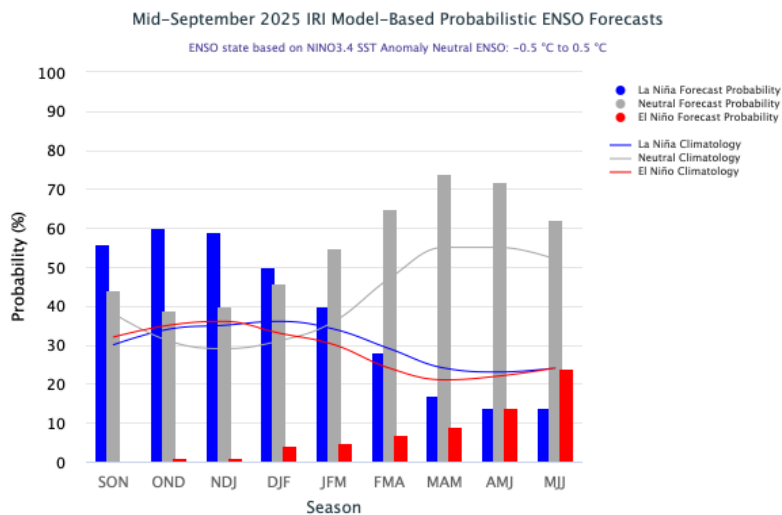
Source: Australian Bureau of Meteorology.

Weekly SST anomalies (difference from average) for the Nino 3.4 monitoring region, the index used to classify ENSO status, have been on the cool side—leaning toward La Niña but not past the -0.5°C threshold—for the past two months.



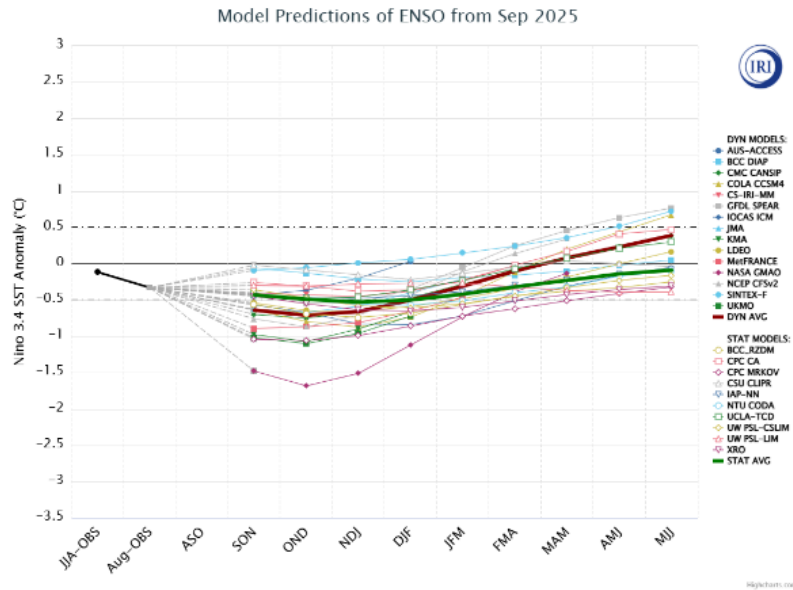
Source: [Climate Prediction Center \(NOAA\)](#)

The probabilistic ENSO forecast gives the highest probabilities to La Niña in the coming months, with chance of ENSO-neutral coming in second through the December–February forecast window. An El Niño event is effectively ruled out as a possibility for this fall-winter-spring.



Source: [The International Research Institute for Climate and Society, Columbia University Climate School](#)

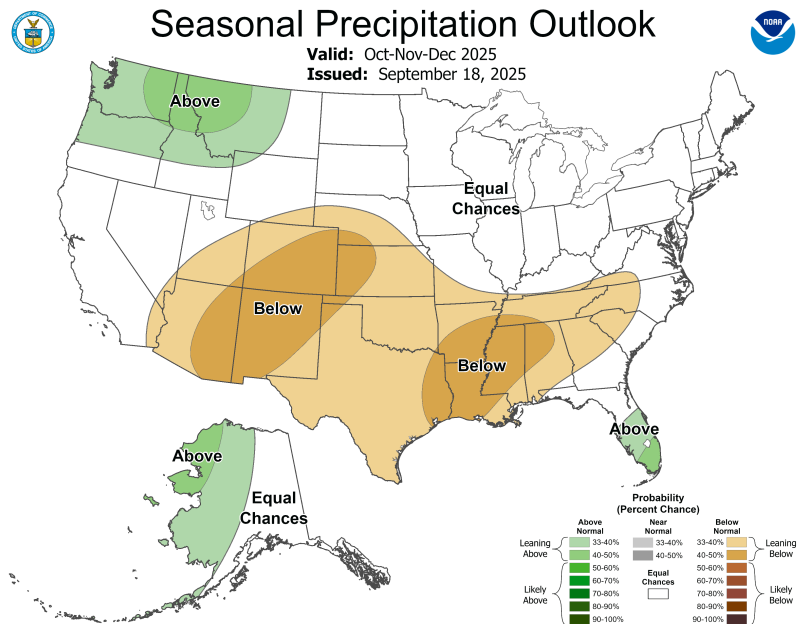
The plume of individual model forecasts shows all models falling rather close to either side of the La Niña–ENSO-neutral threshold of -0.5°C (Nino 3.4 SST difference from average). No models predict El Niño conditions. Only one model predicts a strong La Niña (Nino 3.4 SST anomaly $< -1.5^{\circ}\text{C}$).



Source: [The International Research Institute for Climate and Society, Columbia University Climate School](#)

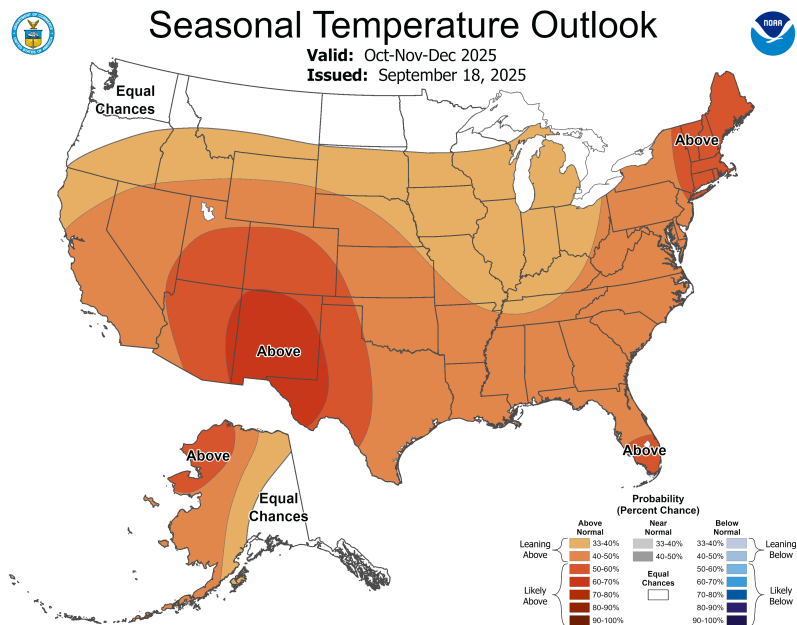
Seasonal Forecasts

The October–December seasonal precipitation forecast leans toward (33-50% chance) below normal precipitation for an area that includes Arizona and New Mexico.



Source: [Climate Prediction Center \(NOAA\)](https://climatepredictioncenter.noaa.gov/)

The October–December seasonal temperature forecast calls above normal temperatures *likely* (50–70% chance) for an area that includes New Mexico and most of Arizona. The forecast leans toward above normal temperatures for the remaining, southwestern, part of Arizona.



Source: [Climate Prediction Center \(NOAA\)](https://climatepredictioncenter.noaa.gov/)

The [CLIMAS Environment & Society Fellowship](#) was created in 2013 as a funding opportunity for graduate students to practice use-inspired research and science communication. The Fellowship supports projects that connect social or physical sciences, the environment, and decision-making. Hear from the current 2025 Graduate Fellows as they reflect on their projects and experience so far this year for the [CLIMAS blog](#).



["Mapping the Missing Half?" by Tali Neesham-McTiernan](#)



"We Are All Impacted by Pollution" by Lois Polashenski



"From Lasagna to Lettuce: A Journey into Fresh Produce Safety" by Alyssa Rosenbaum



"In Fire's Footprint" by A.G. Steig

Southwest Climate Podcast

August 2025 SW Climate Podcast - At Wits End



Recorded 8/29/2025, Aired 9/2/2025

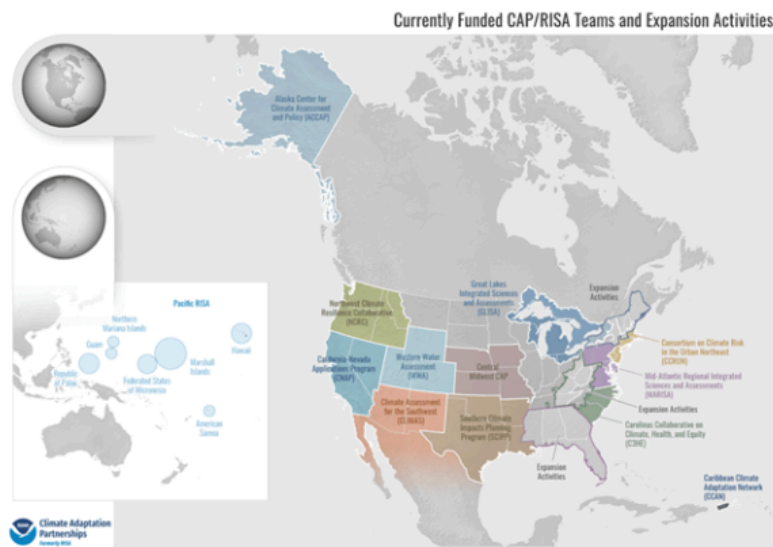
We are over two-thirds of the way through this year's monsoon and in this month's Southwest Climate Podcast hosts Zack Guido and Mike Crimmins have a bit of a therapy session. They do a round up of July and August which they call the most uninteresting monsoon. There is a deep dive on what is driving this picture of night and day between

Arizona and New Mexico. They give a look towards September with all eyes on the eastern Pacific tropical activity as the wildcard. They eventually learn to appreciate the subtleties and accept their relationship with the Southwest Monsoon.

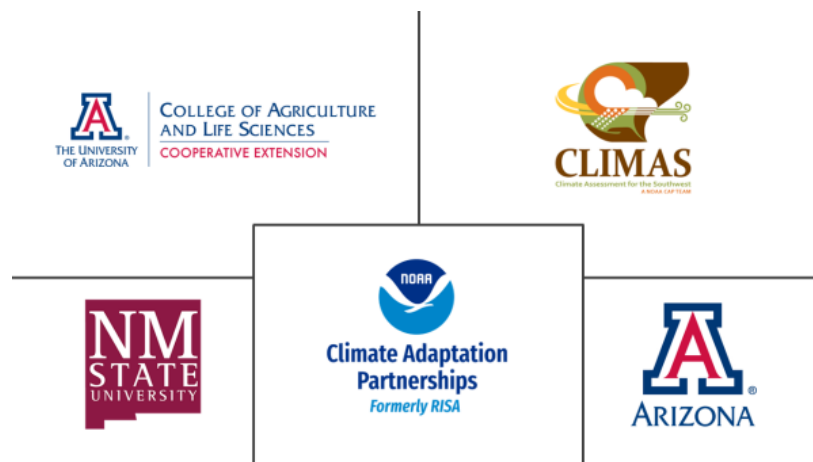
[Listen Here](#)

About CLIMAS

The Climate Assessment for the Southwest (CLIMAS) program was established in 1998 as part of the National Oceanic and Atmospheric Administration's Climate Adaptation Partnerships (CAP) Program (formerly known as Regional Integrated Sciences and Assessments, or RISA). CLIMAS—housed at the University of Arizona's Institute of the Environment—is a collaboration between the University of Arizona and New Mexico State University. The CLIMAS team is made up of experts from a variety of social, physical, and natural sciences who work with partners across the Southwest to develop sustainable answers to regional climate challenges.



[Learn more about the NOAA CAP program here](#)



Disclaimer

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