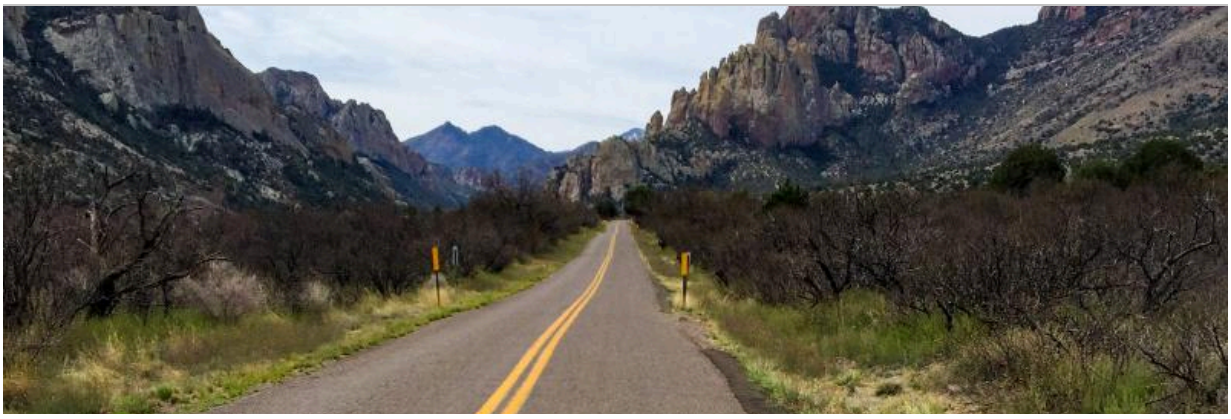

March 2025: Southwest Climate Outlook

Stacie Reece
April 1, 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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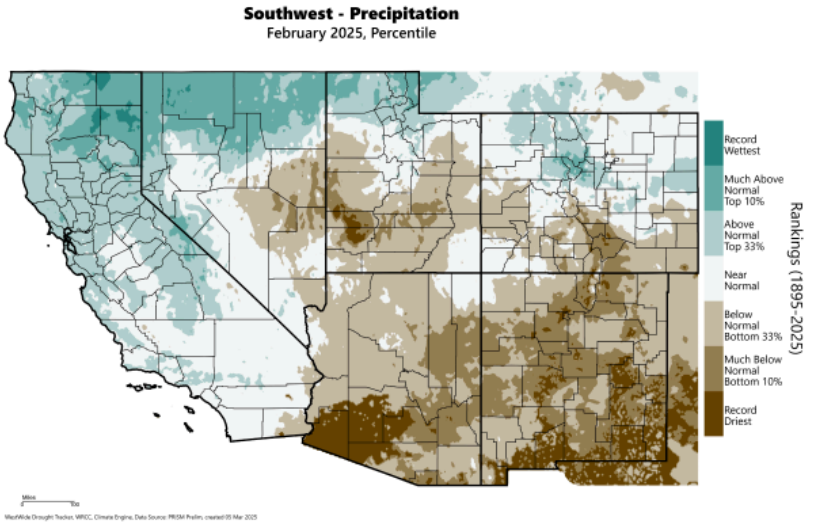
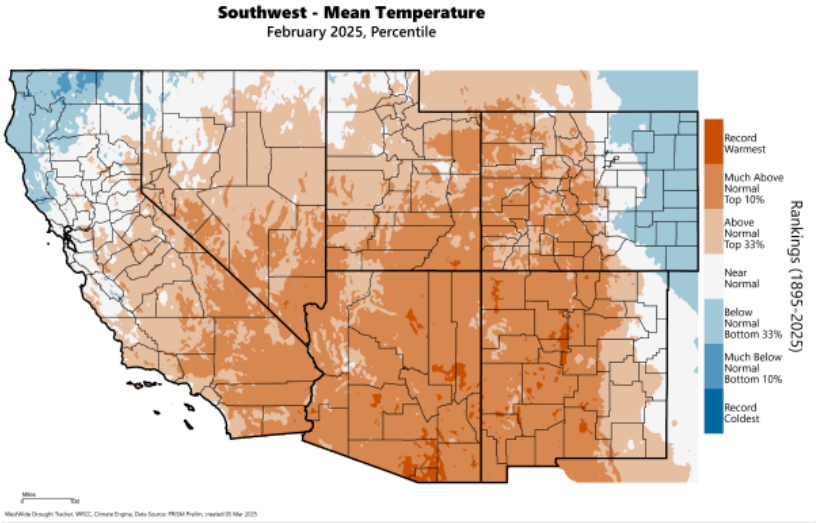
Precipitation and Temperature

February precipitation was below normal or much-below normal for nearly all of Arizona and New Mexico. It was the driest February on record for much of southwestern Arizona and many areas of southern New Mexico.



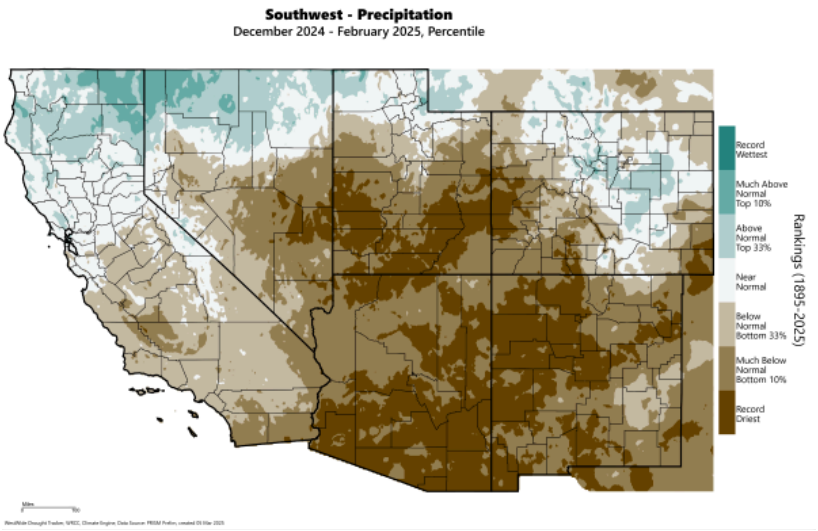
Source: WestWide Drought Tracker

February temperatures were above normal or much-above normal for Arizona and much of New Mexico. Temperatures were near normal for areas of eastern New Mexico. For some scattered areas it was the warmest February on record.



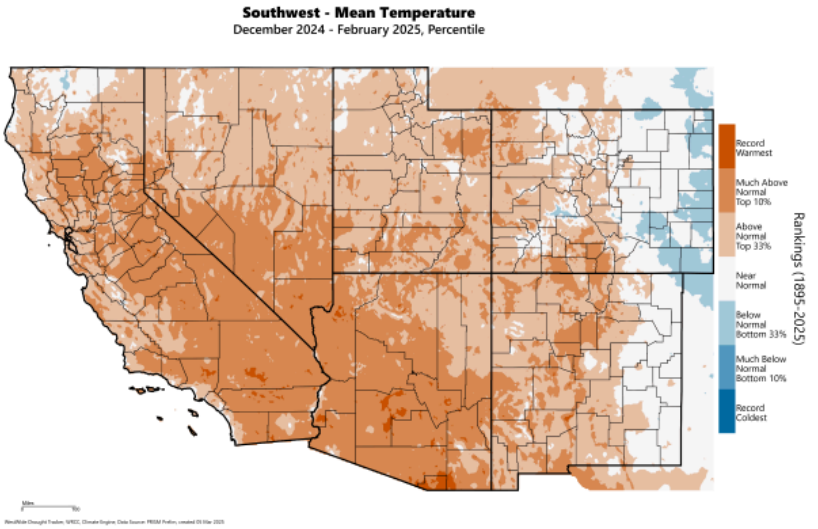
Source: WestWide Drought Tracker

December – February 3-month precipitation totals were either much-below normal or record driest across nearly all of Arizona and New Mexico.



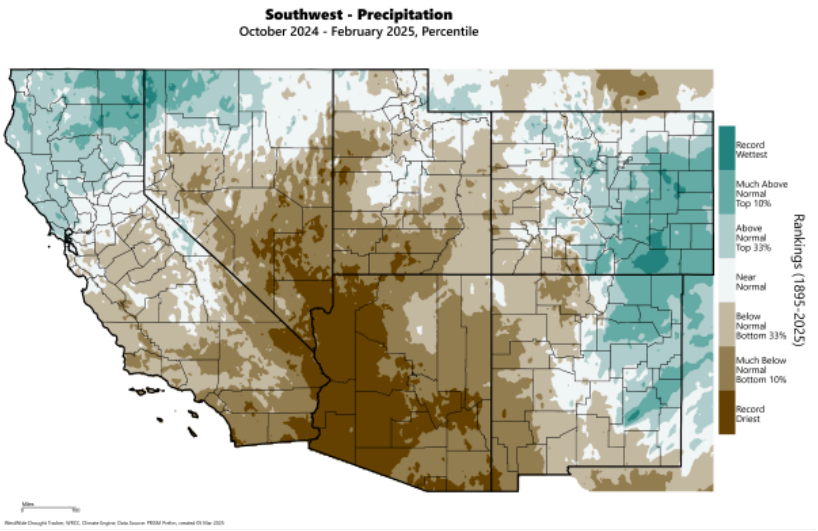
Source: WestWide Drought Tracker

December – February temperatures were above normal or much-above normal across Arizona and much of New Mexico, but near normal for eastern New Mexico.



Source: WestWide Drought Tracker

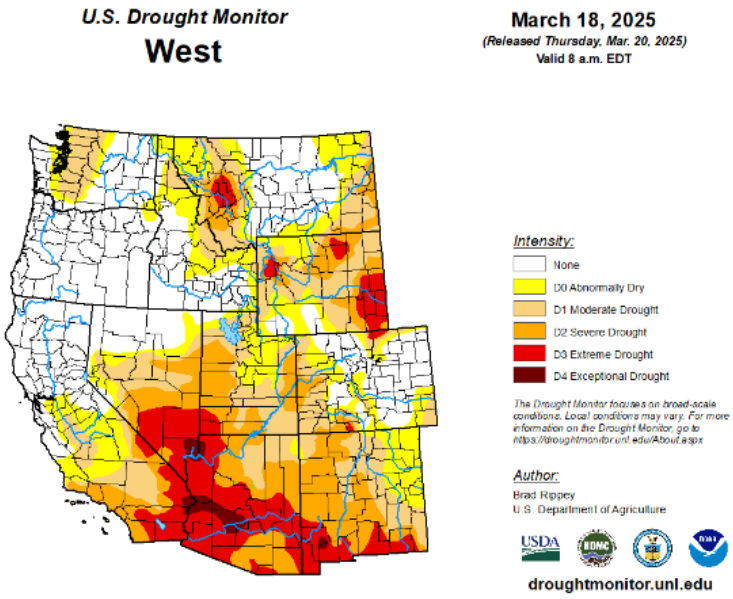
Precipitation totals for the 2025 water year so-far (October 2024 – February 2025) are much-below normal or record driest for Arizona, and for New Mexico totals vary from much-below normal in western parts of the state to much-above normal in eastern parts of the state.



Source: WestWide Drought Tracker

Drought

Extreme (D3) or exceptional (D4) drought conditions are affecting over half of Arizona and over one-quarter of New Mexico, by area. Nearly the entire state of Arizona is now affected by drought conditions considered moderate (D1) or worse; for New Mexico that area totals to 88 percent of the state. Northeastern New Mexico is classified abnormally dry (D0), despite having received above-normal precipitation since October, because that precipitation was concentrated in the fall and followed by warm temperatures that melted snow and depleted soil moisture.



Source: U.S. Drought Monitor

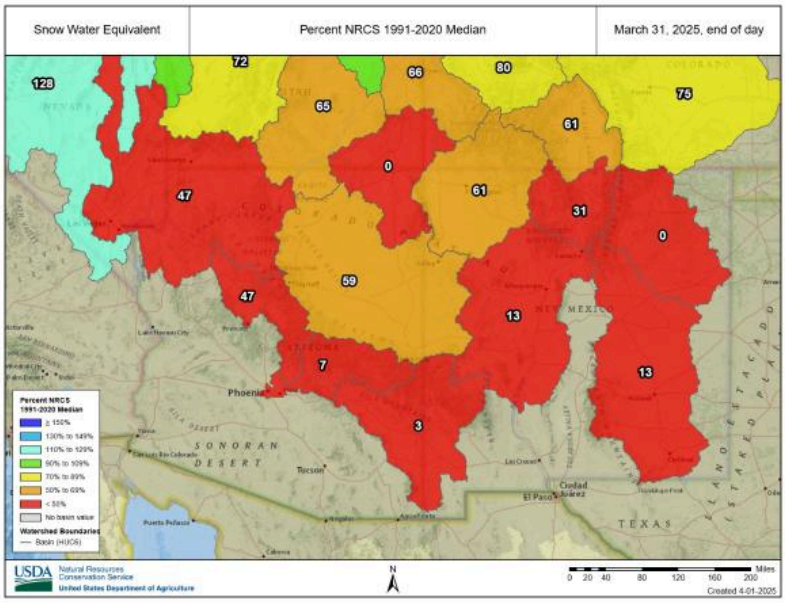
NIDIS Improved and Expanded State Pages on Drought.Gov

Arizona

New Mexico

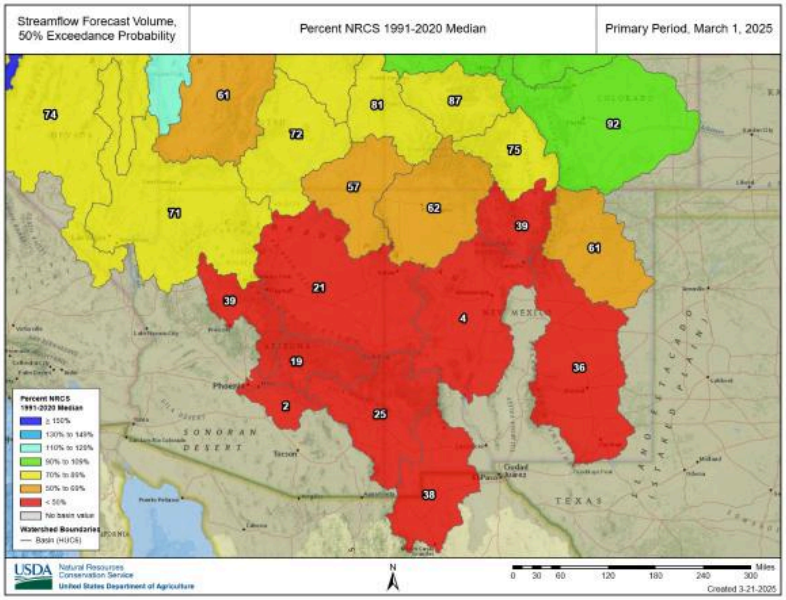
Snowpack & Streamflow

Mountain snowpack remains much-below normal across Arizona and New Mexico. Some recent snow events raised Verde River basin-average snow water equivalent (SWE) levels to near normal, but melting has been faster than normal, and Verde basin-average SWE is down to 46% of normal as of March 30. Colorado River water supply depends mostly on Upper Colorado River Basin snowpack; Upper Colorado River Basin SWE is at 86% of normal—not as severe as the snow drought faced by the Rio Grande or other basins within AZ and NM.



USDA-NRCS: National Water and Climate Center

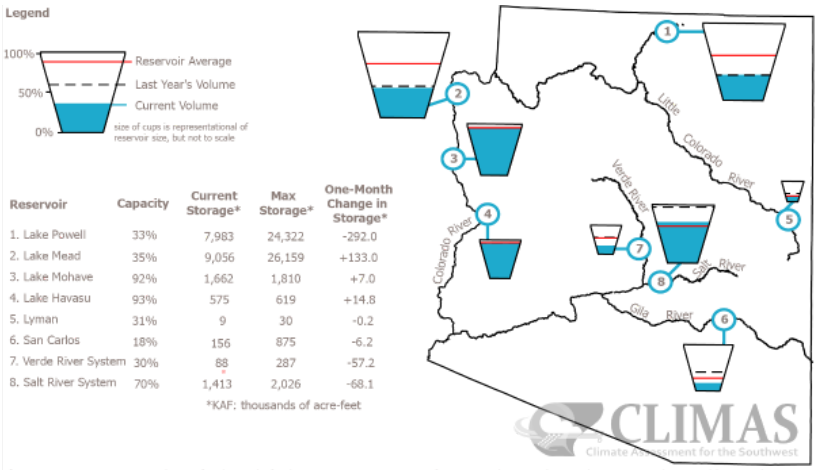
Streamflow forecasts for basins in Arizona and New Mexico range from below-normal to much-below normal. These streamflow forecasts are based in part on observed snowpack, and so follow a similar pattern to basin SWE. The forecast estimate for Upper Colorado River Basin is for 84% of normal streamflow; for the Rio Grande, the forecast is for 52% of normal streamflow.



USDA-NRCS: National Water and Climate Center

Water Supply

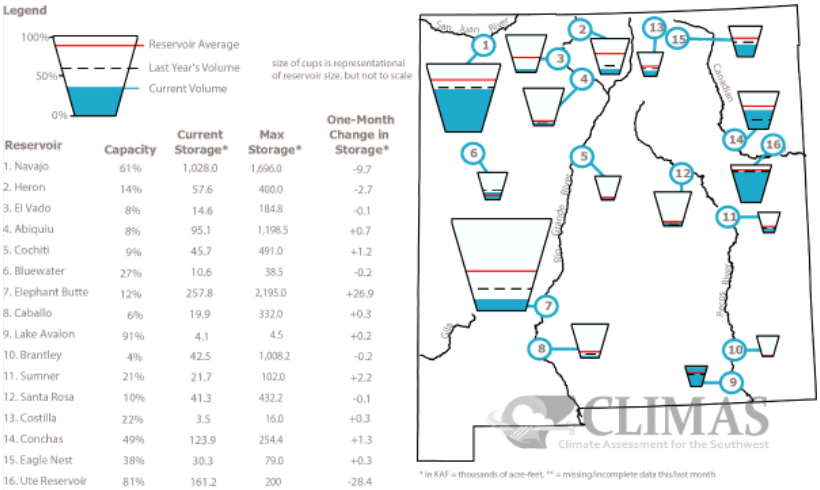
Lake Mead and Lake Powell are storing about as much as they were last year, which is around one-third of total capacity, much below respective long-term reservoir averages. Other Arizona reservoirs vary, from near average levels on reservoirs of the Lower Colorado, Salt River, and Little Colorado, to levels below last year's and below average for Verde and Gila River reservoirs. New Mexico reservoirs generally are storing less than long-term average volumes and less than last year's storage levels, with some exceptions—eastern New Mexico reservoirs are generally in better shape.



Reservoir	Capacity	Current Storage*	Max Storage*	One-Month Change in Storage*
1. Lake Powell	33%	7,983	24,322	-292.0
2. Lake Mead	35%	9,056	26,159	+133.0
3. Lake Mohave	92%	1,662	1,810	+7.0
4. Lake Havasu	93%	575	619	+14.8
5. Lyman	31%	9	30	-0.2
6. San Carlos	18%	156	875	-6.2
7. Verde River System	30%	88	287	-57.2
8. Salt River System	70%	1,413	2,026	-68.1

*KAF: thousands of acre-feet

Figure 1. Arizona reservoir volumes for the end of February 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.



Reservoir	Capacity	Current Storage*	Max Storage*	One-Month Change in Storage*
1. Navajo	61%	1,028.0	1,696.0	-9.7
2. Heron	14%	57.6	400.0	-2.7
3. El Vado	8%	14.6	184.8	-0.1
4. Abiquiu	8%	95.1	1,198.5	+0.7
5. Cochiti	9%	45.7	491.0	+1.2
6. Bluewater	27%	10.6	38.5	-0.2
7. Elephant Butte	12%	257.8	2,195.0	+26.9
8. Caballo	6%	19.9	332.0	+0.3
9. Lake Avalon	91%	4.1	4.5	+0.2
10. Brantley	4%	42.5	1,008.2	-0.2
11. Sumner	21%	21.7	102.0	+2.2
12. Santa Rosa	10%	41.3	432.2	-0.1
13. Costilla	22%	3.5	16.0	+0.3
14. Conchas	49%	123.9	254.4	+1.3
15. Eagle Nest	38%	30.3	79.0	+0.3
16. Ute Reservoir	81%	161.2	200	-28.4

Figure 2. New Mexico reservoir volumes for end of February 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)

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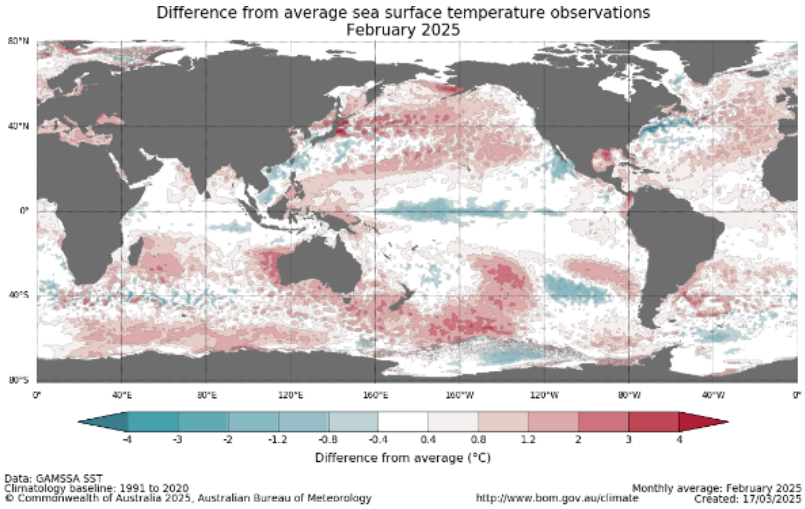
BOR: New Mexico Dashboard

ENSO Tracker

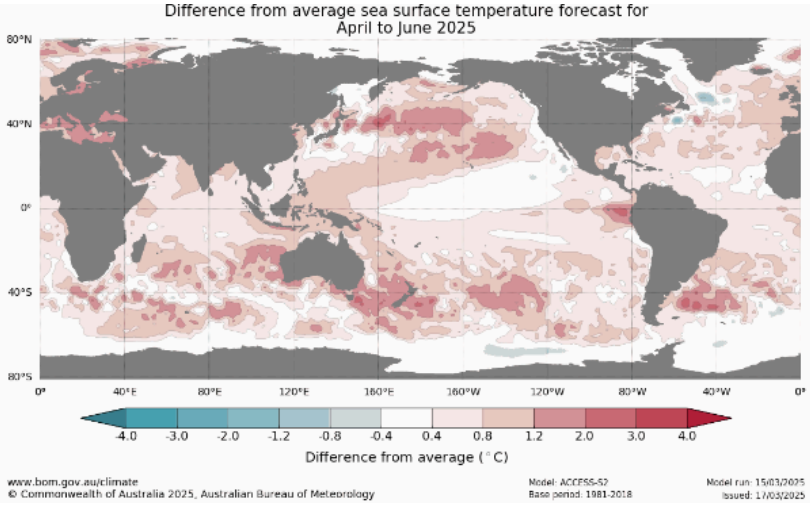
February sea surface temperatures (SSTs) showed a La Niña-like pattern of cooler-than-average SSTs in the central-to-eastern equatorial Pacific and warmer-than-average SSTs in the western margin of the tropical Pacific.



Source: Australian Bureau of Meteorology

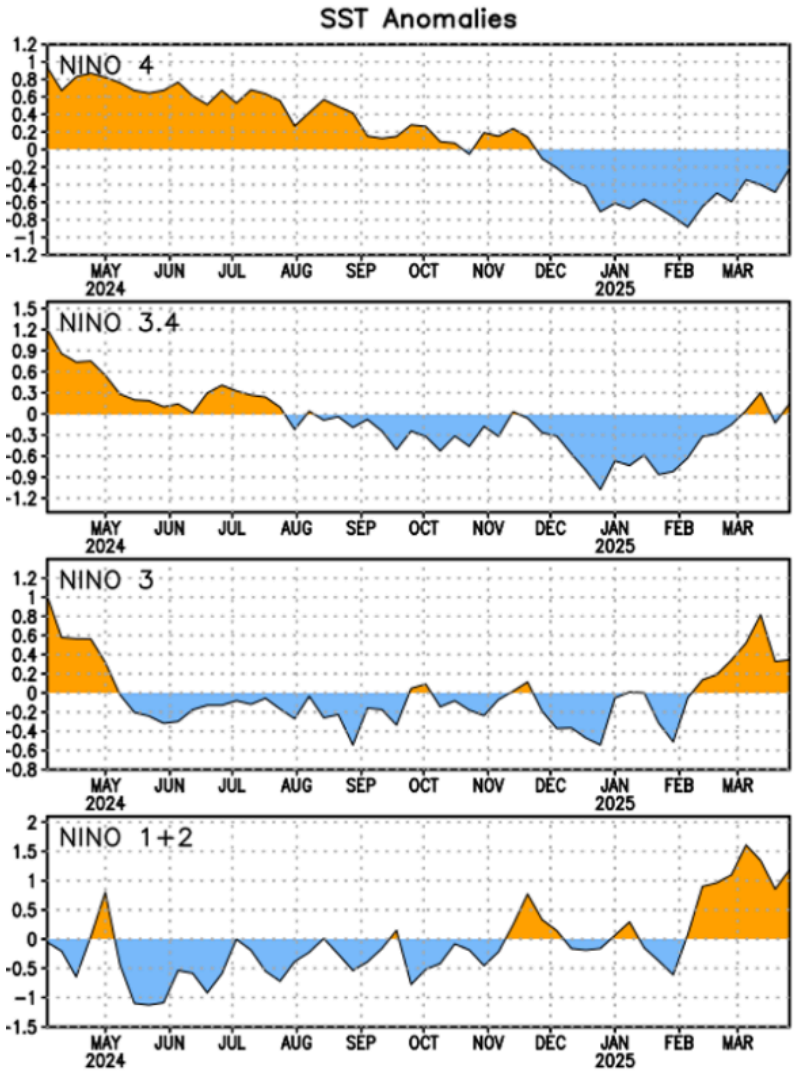
In a model forecast of SSTs for April – June, the La Niña pattern has faded, with the cooler-than-normal SSTs in the central equatorial Pacific being replaced with near-normal

SSTs. This forecast, from the Australian ACCESS-S2 model, represents one of many possibilities for the trajectory of the ENSO system, but most other models point in a similar direction.



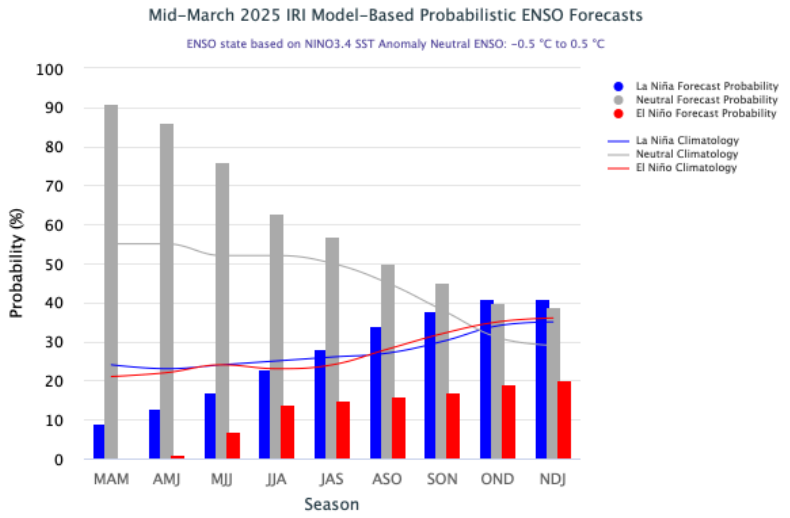
Source: Australian Bureau of Meteorology

Weekly SST anomalies (difference from average) for the main ENSO SST monitoring regions show that cooler-than-average SSTs have recently faded to near average or warmed to above average in all but one region—the central Pacific region Nino 4. March SSTs in Nino 3.4, the region used for diagnosing ENSO status, were consistently within the range of ENSO-neutral—never more than 0.5°C cooler or warmer than average.



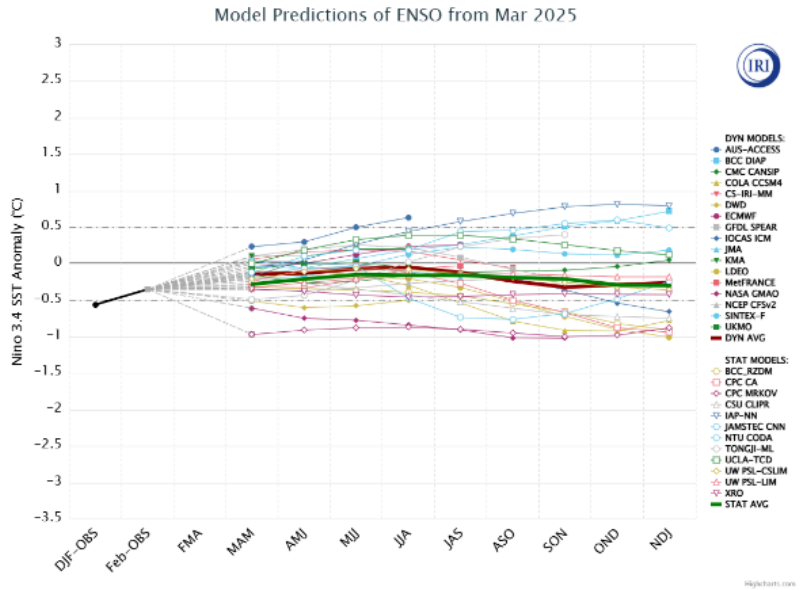
Source: Climate Prediction Center (NOAA)

Forecasts generally favor ENSO-neutral conditions in the coming seasons, through summer. ENSO is much more consequential for Southwest climate in the fall and winter, and at present the ENSO forecasts for fall give roughly equal chances to ENSO-neutral and a return of La Niña, with a smaller chance indicated for El Niño conditions.



Source: The International Research Institute for Climate and Society, Columbia University Climate School

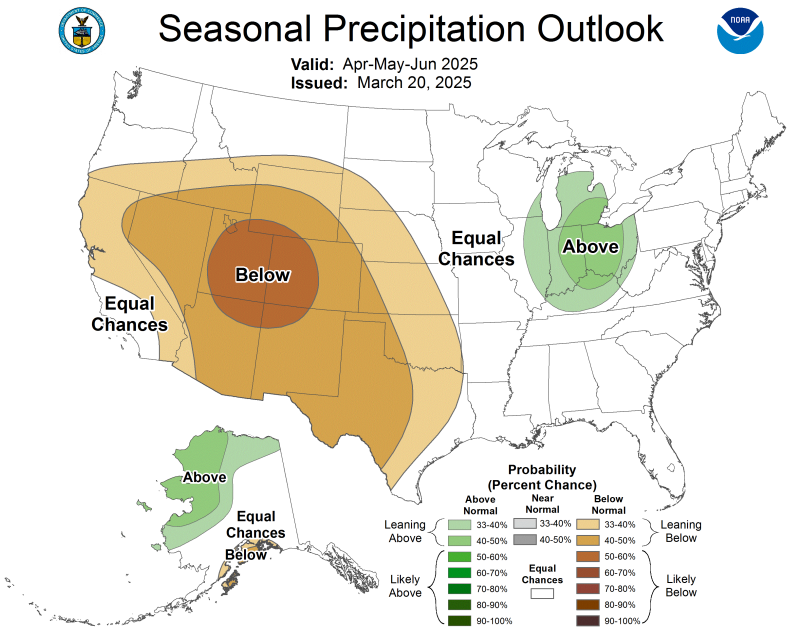
The forecast model plume of individual forecasts shows where those probabilistic forecasts come from—in the near-term nearly all models predict SSTs somewhere in the ENSO-neutral range. In the furthest-out forecast windows, a few models predict El Niño conditions, but the rest are split evenly between La Niña and ENSO-neutral SSTs.



Source: The International Research Institute for Climate and Society, Columbia University Climate School

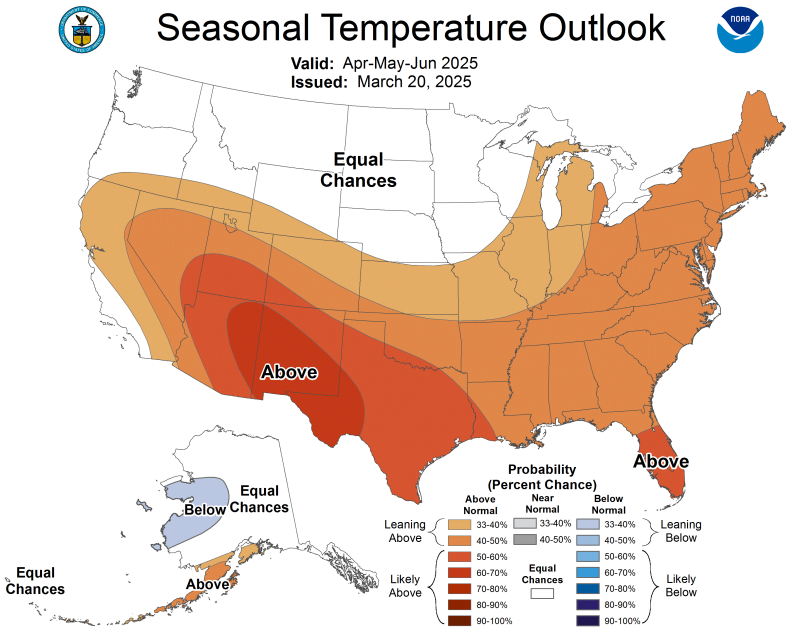
Seasonal Forecasts

The seasonal precipitation forecast for April – June leans toward below normal precipitation (33-50% chance) for an area that includes Arizona and New Mexico. The forecast calls below normal precipitation *likely* (50-60% chance) for an area that includes parts of northwestern New Mexico and northeastern Arizona.



Source: Climate Prediction Center (NOAA)

The seasonal temperature forecast for April – June gives a *likely* (50-70% chance) of above normal temperatures for an area that covers nearly all of New Mexico and Arizona. The areas of the states not included in the *likely above* forecast are still within the area where the forecast *leans* (40-50% chance) toward above normal temperatures.



Source: Climate Prediction Center (NOAA)

Southwest Climate Podcast

March 2025 SW Climate Podcast – March Toward Heat

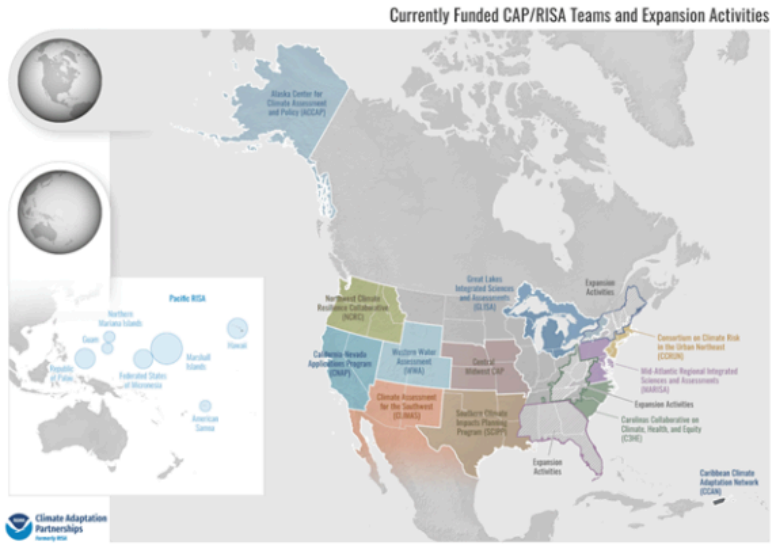
Recorded 3/28/2025, Aired 4/1/2025

For this month's Southwest Climate Podcast hosts Zack Guido and Mike Crimmins deliver a fully robust episode. They review the abysmal winter season, breeze through our 'meh' March, cover the snowpack conditions and drought situation - which all could lead up to a potentially active fire hazard season. Stick around for the deep dive into the Pacific Decadal Oscillation (PDO) and what to expect for the seasonal forecasts into the monsoon season.

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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