



May 2025: Southwest Climate Outlook

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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

April precipitation varied widely across space in Arizona and New Mexico, from record-low precipitation in Yuma County, AZ, to much-above average precipitation in parts of eastern New Mexico and parts of northern Arizona. Precipitation was below normal for much of southern Arizona and southern New Mexico, and near normal for many other areas of either state.



Source: WestWide Drought Tracker

April temperatures averaged near normal to above normal across Arizona and New Mexico.



Source: WestWide Drought Tracker

Water year precipitation totals through April (October 2024 – April 2025) were much-below normal across much of Arizona and western New Mexico; for large parts of southern and western Arizona it was the driest October – April season on record. Precipitation was below normal for much of New Mexico, but for most of the eastern plains precipitation was above normal.

Southwest - Precipitation October 2024 - April 2025, Percentile

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Source: WestWide Drought Tracker

Drought

Drought remains widespread across the region; effectively all of Arizona, and all of New Mexico except for portions of the eastern part of the state, are affected by drought conditions. Drought is considered Exceptional (D4) for southwestern New Mexico and far-southeastern Arizona, and Extreme (D3) drought conditions extend across western Arizona, southern Arizona and New Mexico, and areas surrounding the Rio Grande valley throughout New Mexico.



Source: U.S. Drought Monitor

NIDIS Improved and Expanded State Pages on Drought.Gov

New Mexico

Arizona

Snowpack & Streamflow

We are past the normal date of melt-out for many snowmeasurement stations across the region, but there are some stations at high elevations, in more northerly locations, where there would normally be measurable amounts of snow water equivalent (SWE) remaining at this time of year, and at those stations, current SWE is much below normal.



USDA-NRCS: National Water and Climate Center

Surface flows in rivers and streams are expected to be below normal to much-below normal across the Southwest, following the historic drought conditions that developed over the past year, including the very low winter snow accumulation. The best-estimate streamflow forecast for the Upper Colorado River Basin is for 69% of normal streamflow



volume. For Rio Grande, the estimate is for 45% of normal volume.

USDA-NRCS: National Water and Climate Center

Water Supply

Reservoir storage is generally below long-term average levels across the Southwest. In Arizona, Salt River system storage is near normal, but Lake Mead and Lake Powell continue to hold around half as much as they used to before their persistent decline began over 20 years ago. Some eastern New Mexico reservoirs are at near or above-normal levels, but Rio Grande reservoirs Heron, El Vado, and Elephant Butte are holding much less than average.



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



Figure 2. New Mexico reservoir volumes for end of April 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

The April sea-surface temperature (SST) pattern in the equatorial Pacific broadly reflects ENSO-neutral conditions— SSTs near normal along the equator, some discontinuous regions of cooler-than-normal SSTs in the central Pacific left over from this past winter's La Niña, a region of warmer-thannormal SSTs at the eastern margin that is not at this time extensive enough to suggest a developing El Niño.



Source: Australian Bureau of Meteorology

A sample snapshot of possible June-August SSTs from the Australian forecast model also reflects ENSO-neutral conditions. Although there are warmer-than-normal SSTs forecast, the more anomalous SSTs are in the west, where warmer-than-normal SSTs more typically occur during La Niña. In the regions that are diagnostic of ENSO, the central and eastern equatorial Pacific, this forecast shows SSTs closer to normal, suggesting neither a developing El Niño nor La Niña. This is only one of many forecast model simulations; there are others which indicate a developing El Niño in some cases, La Niña in others.



Source: Australian Bureau of Meteorology

Weekly SST anomalies (departures from long-term average; SSTAs) for the ENSO monitoring regions have been near normal (within 0.5°C of average) across all regions after some brief episodes of anomalous warmth in eastern Pacific regions Nino 3 and Nino 1+2 occurred in March and April.



The probabilistic summary of ENSO forecast models indicates high probabilities for ENSO-neutral through the summer months, but near even split chances of La Niña or ENSOneutral for the October – December and November – January forecast windows.

Mid-May 2025 IRI Model-Based Probabilistic ENSO Forecasts





The forecast plume of individual ENSO model predictions shows forecast trajectories in all possible directions, some simulating a development of El Niño, some La Niña, some remaining in the range of ENSO-neutral. This disagreement among models is consistent with past difficulties ENSO forecasters have had predicting the coming fall and winter conditions from this far ahead, referred to as a "spring predictability barrier" to ENSO prediction.



Seasonal Forecasts

The June – August seasonal precipitation forecast calls for equal chances of above-normal, below-normal, or nearnormal precipitation for an area that includes New Mexico and eastern Arizona. The forecast leans toward (33-40% chance of) above normal precipitation for much of Arizona.



The June – August seasonal temperature forecast calls for *likely* (50 – 70%) chance of above normal temperatures for an area that includes Arizona and New Mexico.



Source: Climate Prediction Center (NOAA)

Wildfire

In June, potential for significant wildland fire is expected to be above normal for areas extending across Arizona and New Mexico. Ongoing drought conditions and expected warmerthan-normal temperatures both contribute to elevated fire potential.



Source: National Interagency Coordination Center

Southwest Climate Podcast

May 2025 SW Climate Podcast - Monsoon Countdown



Recorded 5/16/2025, Aired 05/20/2025

The Southwest Climate Podcast hosts Zack Guido and Mike Crimmins are ready to start counting down the days to this year's monsoon season. But before they get into the monsoon preview - they do a final winter recap and review April and May's weather patterns. They also cover the fire season so far, and Mike gets to share on his upcoming paper "Changing

Climate, Changing Fire: Understanding Ecosystem-Specific Fire-Climate Dynamics in Arizona and New Mexico".

Stick around for the monsoon discussion at the end so you can be informed - or at least entertained - in time for the <u>Southwest Monsoon Fantasy Forecasts Game</u> starting next month!

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.

Currently Funded CAP/RISA Teams and Expansion Activities



Learn more about the NOAA CAP program here



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