

July 2024: Southwest Climate Outlook

Stacie Reece
July 31, 2024



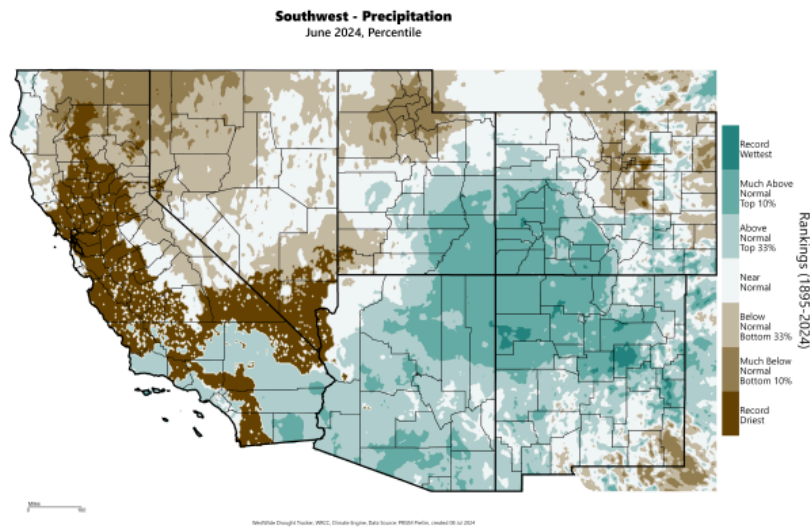
<https://climas.arizona.edu/>

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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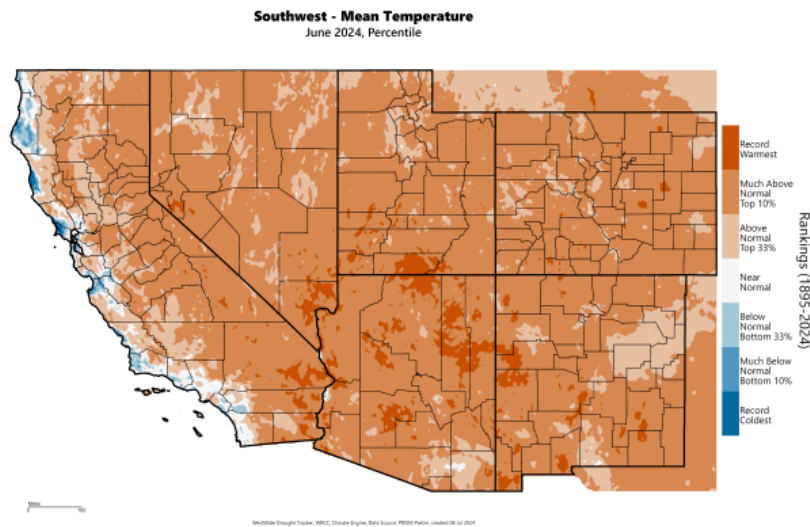
Precipitation and Temperature

June precipitation was above normal across much of Arizona and New Mexico, and much-above normal for areas of the Colorado Plateau and southern Rocky Mountains. The remnants of tropical storm Alberto delivered a surge of moisture to the region in late June, and a monsoonal circulation pattern happened to be in place, so the result was an early, running start for the summer rain season.



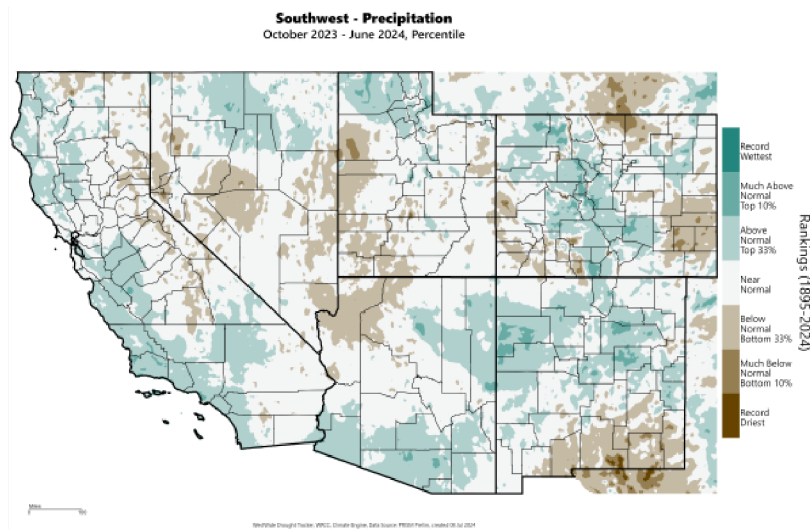
Source: [WestWide Drought Tracker](#)

June temperatures were much-above average across nearly all of Arizona and New Mexico, and in some locations, it was the warmest June in the record.



Source: [WestWide Drought Tracker](#)

Water year (October 2023 – June 2024) precipitation totals range from above normal for parts of southern Arizona, the Colorado Plateau, and northern New Mexico, to below normal for southern New Mexico and northwest Arizona.



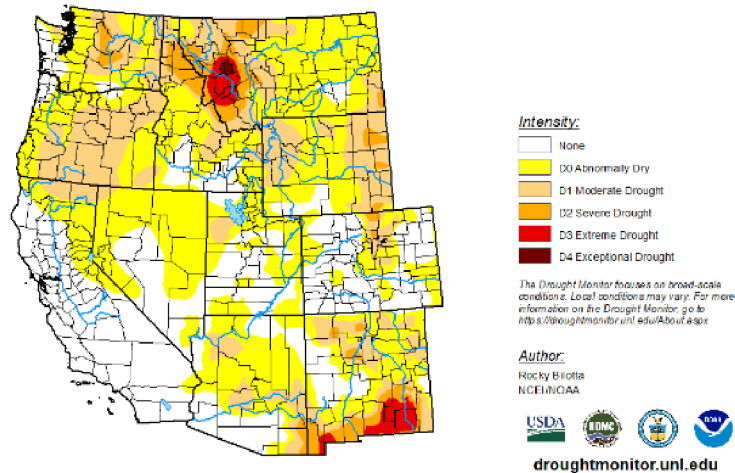
Source: [WestWide Drought Tracker](#)

Drought

Drought-conditions classifications have changed little over the last month in Arizona, but in New Mexico, some areas showed indications of improving conditions, with 15% of the state's area emerging from drought or classification as abnormally dry over the past month, now classified as having no drought. Southern New Mexico remains the area hardest hit by current drought, with extreme drought conditions in the area of Carlsbad, NM, and also in the bootheel. Moderate to severe drought conditions extend from southern New Mexico into southeast Arizona. About two thirds of Arizona is classified as abnormally dry or in moderate to severe drought. About 83% of New Mexico is classified as abnormally dry or worse.

**U.S. Drought Monitor
West**

July 23, 2024
(Released Thursday, Jul. 25, 2024)
Valid 8 a.m. EDT



Source: [U.S. Drought Monitor](https://droughtmonitor.unl.edu/)

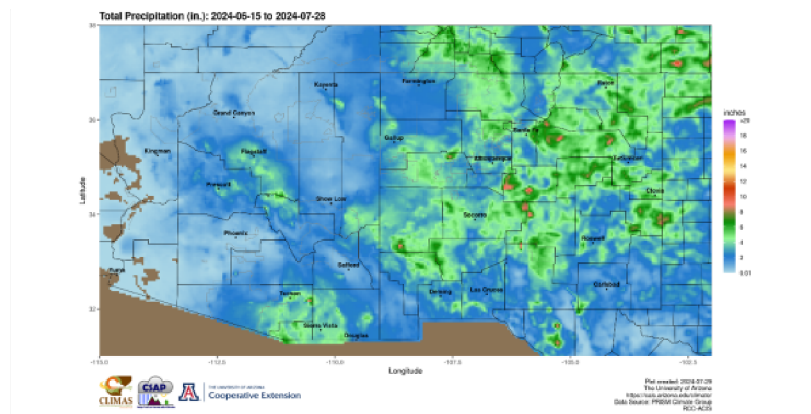
**NIDIS Improved and Expanded State Pages on
Drought.Gov**

Arizona

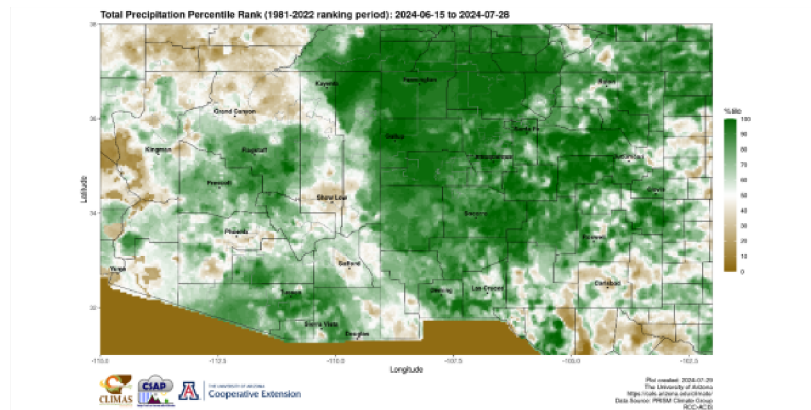
New Mexico

Monsoon

Monsoon precipitation since June 15 has been above normal to much-above normal across much of New Mexico, and above normal for areas of central, southern, and northeastern Arizona. Seasonal totals exceeding 4 inches have been widespread in New Mexico, and some areas have estimated totals exceeding 8 inches. Areas where monsoon precipitation has been below normal include Carlsbad, NM; Show Low, AZ; and Phoenix, AZ—all locations where amounts have not exceeded 2 inches.



Southwest U.S. Summer Monsoon Season Precipitation Mapping



Southwest U.S. Summer Monsoon Season Precipitation Mapping

Water Supply

Lakes Mead and Powell have managed to hold on to last year's storage increase that resulted from the above normal 2023 spring snowmelt—together they currently hold more water than they did one year ago. Other Arizona reservoirs on the Salt, Gila, Verde and Little Colorado rivers are storing above normal amounts of water, but less than one year ago. Reservoir storage in New Mexico is broadly below normal, and in most cases also less than one year ago.

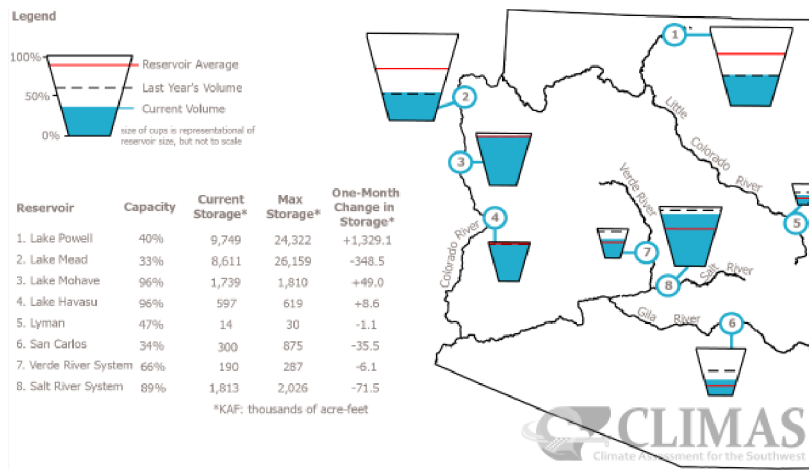


Figure 1. Arizona reservoir volumes for the end of June 2024 as a percent of capacity. The map depicts the average volume and last year's storage for each reservoir. The table also lists current and maximum storage, and change in storage since last month.

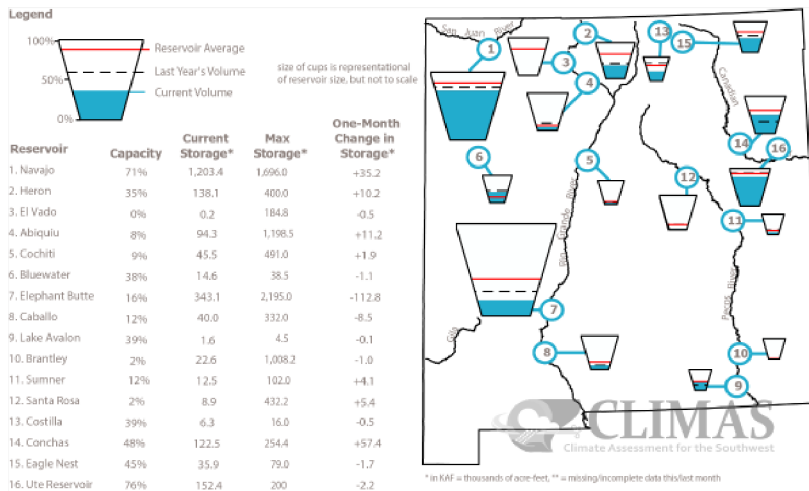


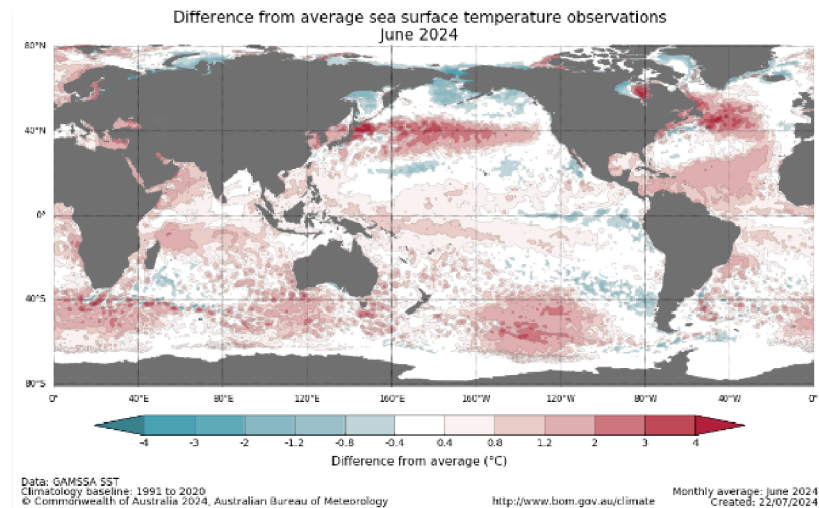
Figure 2. New Mexico reservoir volumes for end of June 2024 as a percent of capacity. The map depicts the average volume and last year's storage for each reservoir. The table also lists current and maximum storage, and change in storage since last month.

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](#)

BOR: New Mexico Dashboard

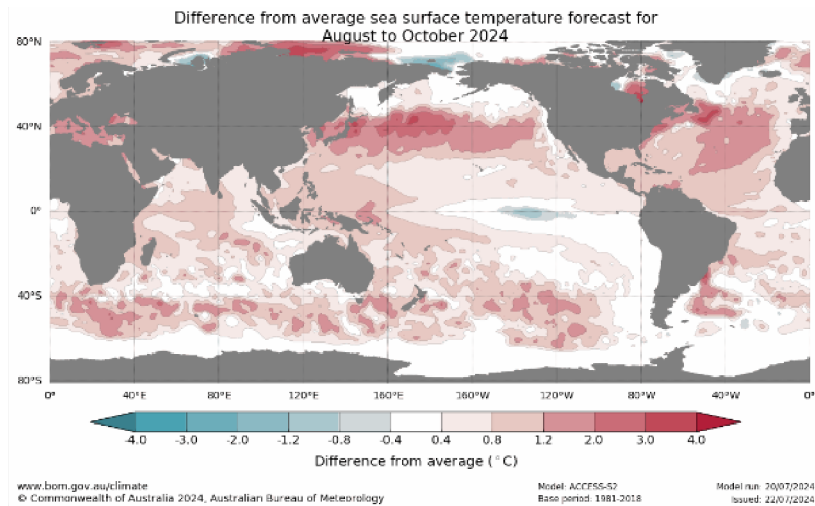
ENSO Tracker

Pacific sea surface temperatures (SSTs) along the equator are showing warm anomalies (difference from average) in the west and cool anomalies in the east--a La Niña-like pattern, but lacking sufficient intensity or extent of cool anomalies to meet the criteria of a La Niña event.



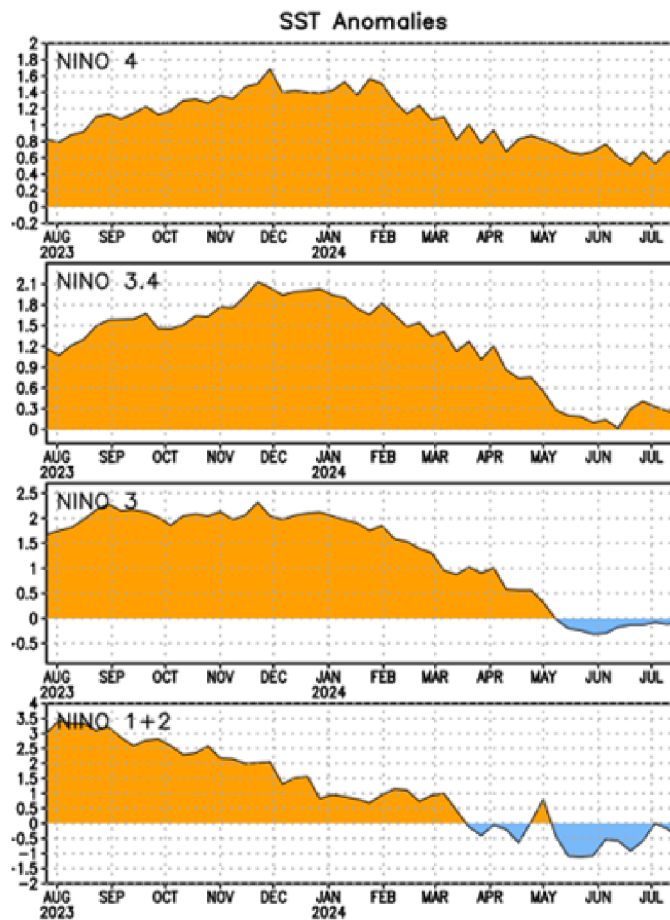
Source: Australian Bureau of Meteorology

A similar pattern with anomalies of similar intensity is expected to persist though the August – October season.



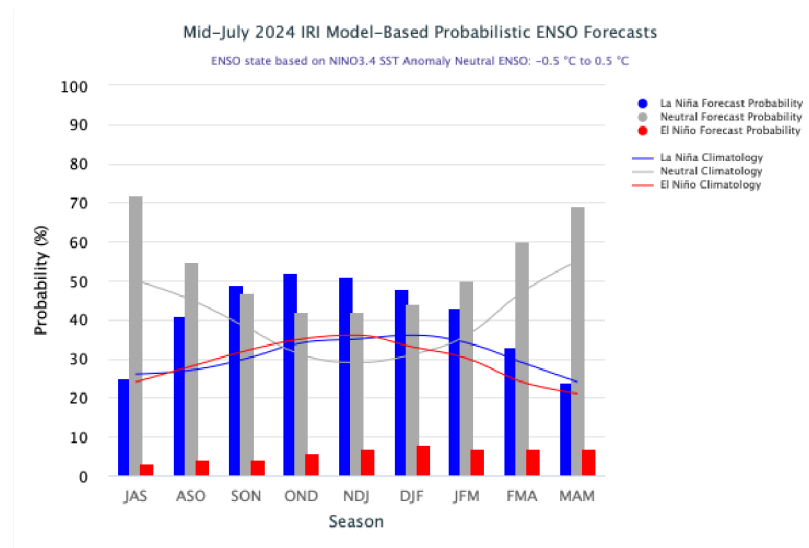
Source: Australian Bureau of Meteorology

SST anomalies averaged over the eastern (Nino 3) and coastal-eastern (Nino 1+2) ENSO monitoring regions have been negative for months, but in the central (Nino 4) and east-central, primary (Nino 3.4) monitoring region, the area-average SST has remained warmer than average. For a La Niña event to be considered *possibly* under way, the Nino 3.4 index will have to show anomalies cooler than -0.5°C below average for a month.



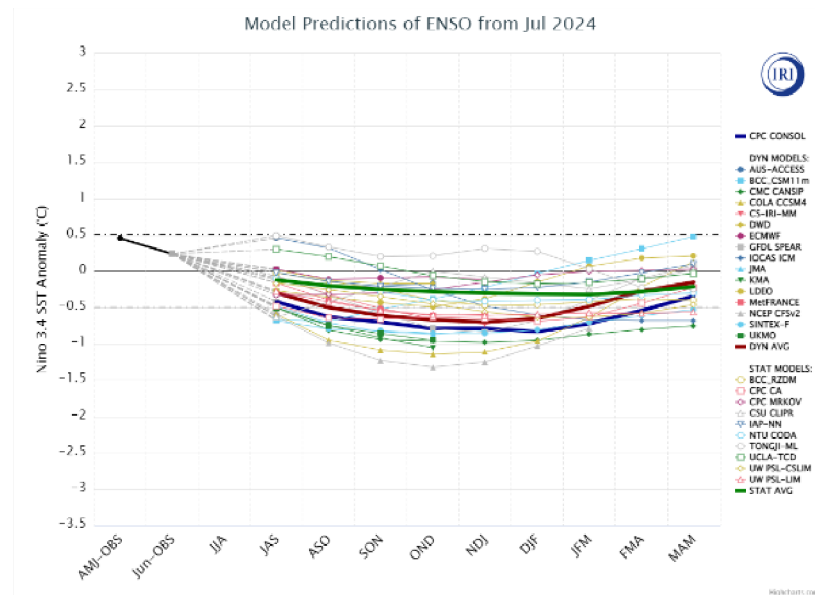
Source: [Climate Prediction Center \(NOAA\)](#)

ENSO forecasts currently favor La Niña conditions over neutral ENSO conditions for seasons comprising September 2023 through February 2024, but only slightly—probabilities of ENSO neutral are generally greater than 40% in that window, and La Niña probability peaks around 50%. There is very little chance of an El Niño event developing this year, and there is a decent chance of a La Niña event, but also a good chance of no event at all and neutral conditions in the Pacific. In any case, the farthest-out seasonal prediction, for the March – May 2024 season, strongly favors neutral, suggesting that even if a La Niña event occurs, it is not expected to last long.



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

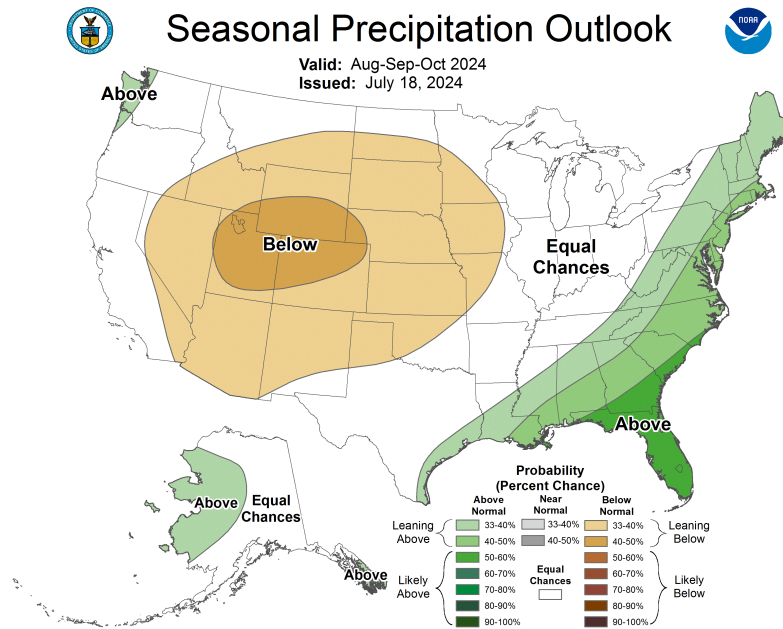
The spread of forecasts from individual ENSO models shows all models either remaining in ENSO-neutral state or developing a weak-to-moderate La Niña state with peak SST anomalies between -0.5°C and -1.5°C . Statistical forecast models tend to favor neutral ENSO, while dynamical forecast models tend to favor La Niña.



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

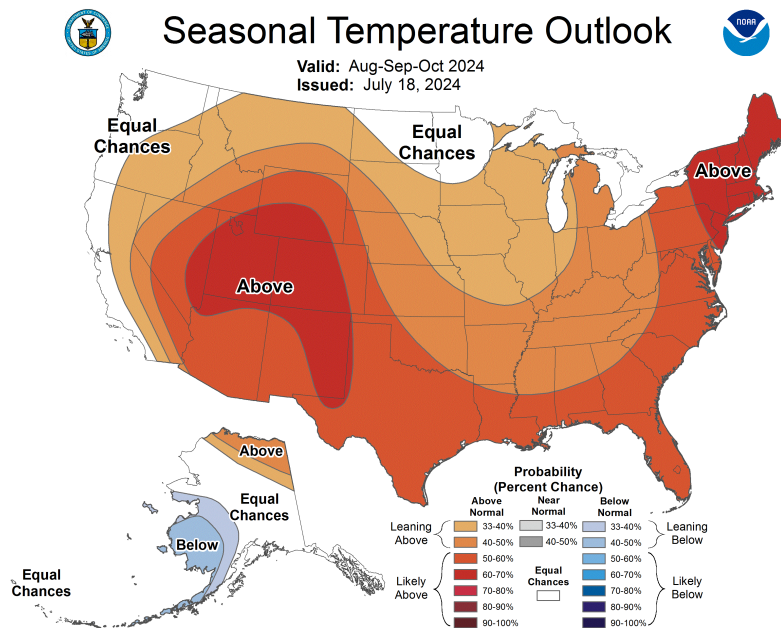
Seasonal Forecasts

The August – October seasonal precipitation forecast very slightly favors below normal precipitation for Arizona and New Mexico, assigning that outcome a probability of 33-40%, leaving at least a 60% probability precipitation will be either near normal or above normal.



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

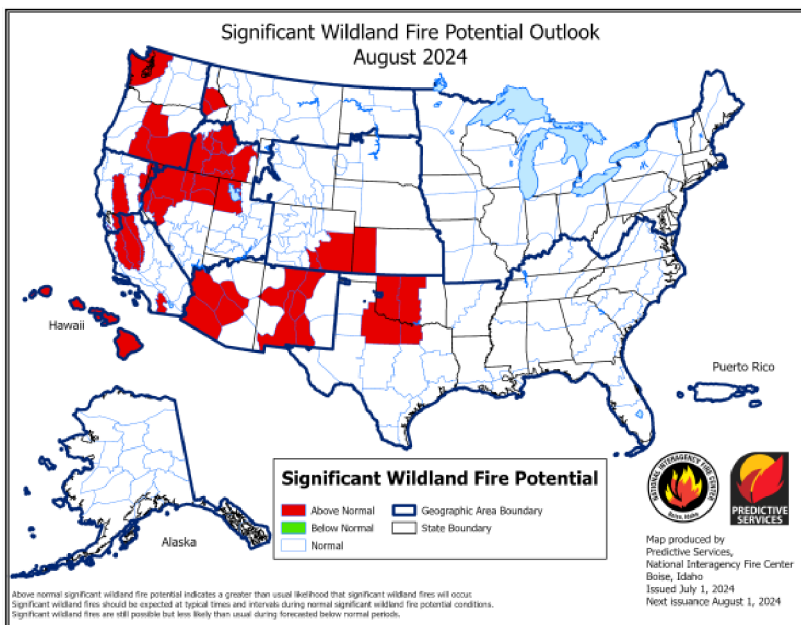
The August – October seasonal temperature forecast favors above normal temperatures for Arizona and New Mexico, assigning that outcome a probability of 50-70%, indicating a greater confidence in the temperature forecast as compared to the precipitation forecast.



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

Wildfire

Significant wildland fire potential in August is expected to be above normal for much of Arizona and New Mexico. In this year's fire season Arizona has seen over 1,000 fires burn over 147,000 acres, while in New Mexico over 500 fires burned over 78,000 acres. By this time last year, a similar number of acres had burned in Arizona, but around 50,000 additional acres had burned in New Mexico.



Source: [National Interagency Coordination Center](#)

SOUTHWEST AREA

2024 YEAR-TO-DATE FIRES & ACRES

By Protection Unit (State & Agency)

UPDATED:

7/22/24 6:06 PM

ARIZONA

CAUSE	HUMAN		NATURAL		UNKNOWN/UNDETERMINED		TOTAL	
	FIRES	ACRES	FIRES	ACRES	FIRES	ACRES	FIRES	ACRES
Arizona State Forestry & Fire Mgmt								
Bureau of Indian Affairs								
BIA	42	9,532	0	2,375	175	52,243	217	64,150
Bureau of Land Management								
BLM	308	11,330	52	7,762	16	155	376	19,251
Bureau of Reclamation								
BOR	49	563	8	444	28	2,098	85	3,104
Department of Defense								
DOD	0	0	0	0	0	0	0	0
Department of Energy								
DOE	0	0	0	0	0	0	0	0
National Park Service								
NPS	4	1	3	10	0	0	7	11
U.S. Fish & Wildlife Service								
FWS	2	2	2	2	2	2	6	6
U.S. Forest Service								
USFS	139	25,401	128	32,394	40	2,770	307	60,565
TOTAL ARIZONA	606	46,828	199	61,588	261	57,272	1,066	147,688
BLM - Arizona Strip District *								
AZ-ASD *	0	0	0	0	0	0	0	0
TOTAL ARIZONA (w/ AZ-ASD)	606	46,828	199	61,588	261	57,272	1,066	147,688

(* = AZ-ASD reports via SBCC)

NEW MEXICO

CAUSE	HUMAN		NATURAL		UNKNOWN/UNDETERMINED		TOTAL	
	FIRES	ACRES	FIRES	ACRES	FIRES	ACRES	FIRES	ACRES
New Mexico State Forestry								
NMS	254	1,601	33	542	43	542	330	2,685
Bureau of Indian Affairs								
BIA	53	105	18	37,603	8	7,942	79	38,649
Bureau of Land Management								
BLM	30	107	19	233	5	5	54	346
Bureau of Reclamation								
BOR	0	0	0	0	0	0	0	0
Bureau of Reclamation								
DOD	0	0	0	0	0	0	0	0
Department of Defense								
DOE	0	0	0	0	0	0	0	0
Department of Energy								
NPS	1	0	7	2,100	0	0	8	2,100
National Park Service								
FWS	0	0	0	0	0	0	0	0
U.S. Fish & Wildlife Service								
USFS	55	418	104	47,004	21	45	180	47,467
U.S. Forest Service								
TOTAL NEW MEXICO	293	2,231	181	67,821	77	8,494	551	78,646

[Southwest Coordination Center](#)

Monsoon Fantasy Forecasts

Today is the day to make your August predictions!

Forecasts for August must be entered by **TONIGHT at 11:59 PM**. You can check the [Dashboard Page](#) to make sure you've submitted predictions for ALL FIVE Southwest cities. Sign up now to join the fun and track our iconic summer storm season!

But who's winning so far? Check [The Leaderboard](#) to see how the scores stack up!

Join & Play: August Today!



Southwest Climate Podcast

July 2024 SW Climate Podcast - Wrong for the Right Reasons



Recorded 7/19/2024

Aired 7/23/2024

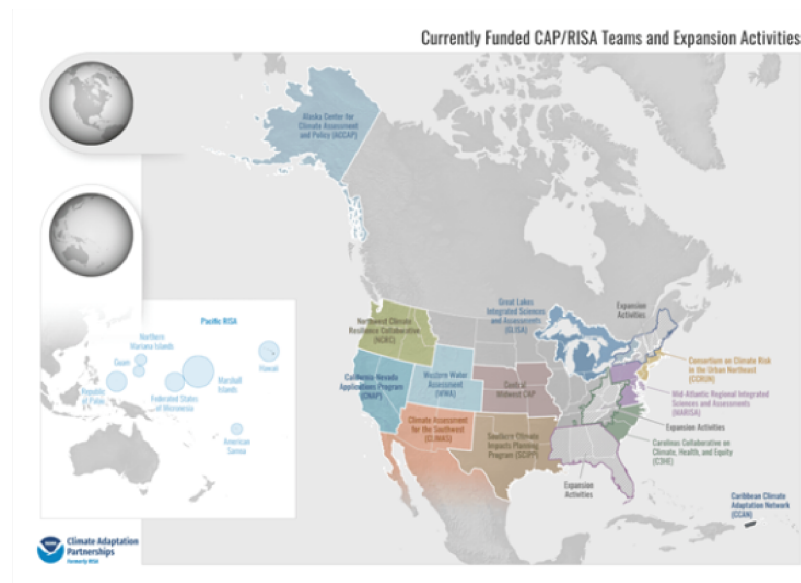
Get ready for a big episode day as this month's Southwest Climate Podcast hosts Zack Guido and Mike Crimmins kick off the monsoon season. The crew cover the evolution of the current monsoon phases from onset to where we are today with stats and analysis. And there is even a bit of a

philosophical introspection on the data and sources (do you believe?). Your hosts share what they have learned along the way - but stick around to the end to get their hot take on what is coming next.

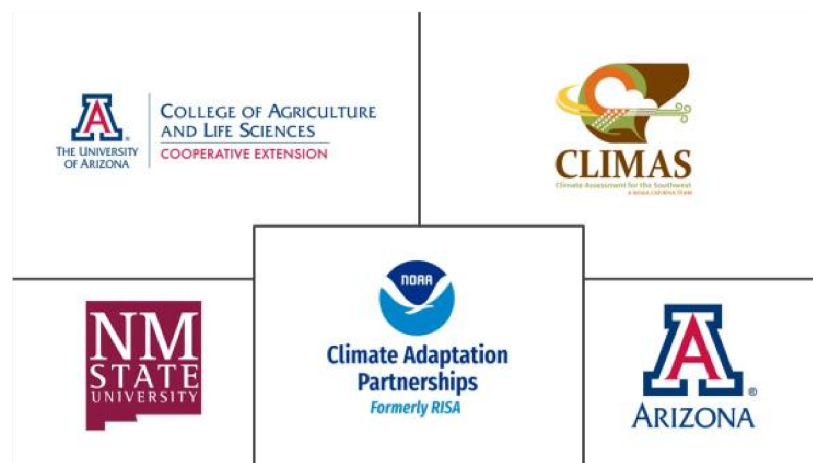
[Listen Here](#)

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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