



June 2023: Southwest Climate Outlook

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

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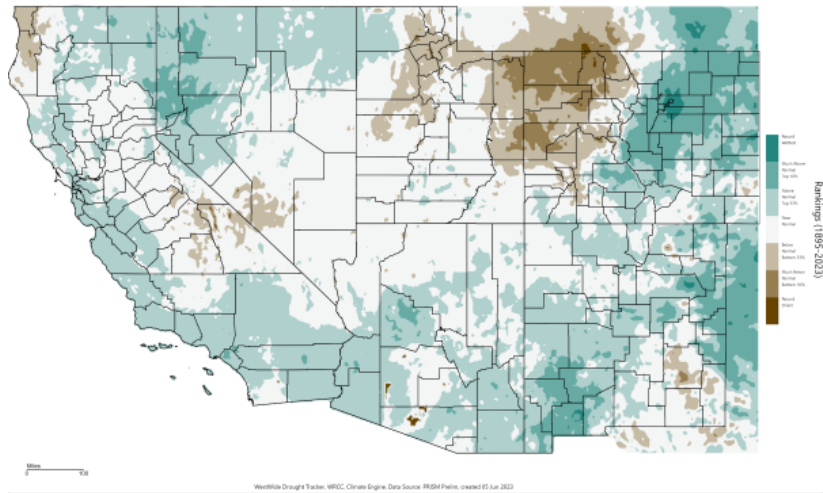
Mexico State Climate office.

Questions/Contact: Stacie Reece, sreece@arizona.edu

Precipitation and Temperature

Precipitation in May was near-normal to much-above-normal in Arizona and New Mexico. Areas that enjoyed a wetter May include southwestern and eastern New Mexico; however, Chaves County, NM appears to have been the exception with below-normal precipitation totals.

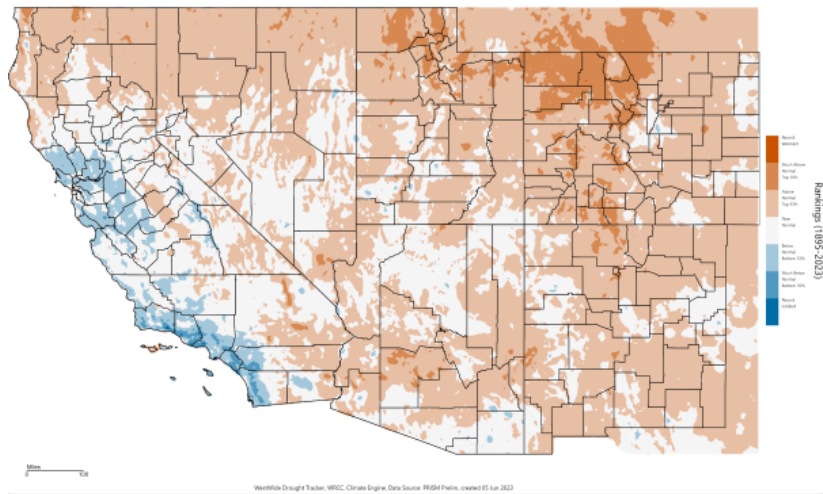
Southwest - Precipitation
May 2023, Percentile



Source: [WestWide Drought Tracker](#)

May temperatures were near- to above-normal across Arizona and New Mexico.

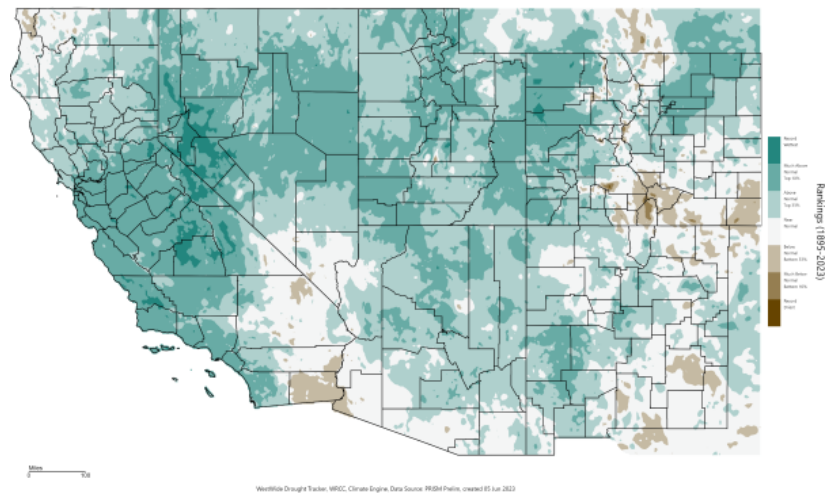
Southwest - Mean Temperature
May 2023, Percentile



Source: [WestWide Drought Tracker](#)

Water year (October 2022 – May 2023) precipitation totals are above-normal across much of Arizona and New Mexico. Drier areas (near-normal to below-normal water year precipitation) include parts of eastern and southern New Mexico, and southwestern Arizona.

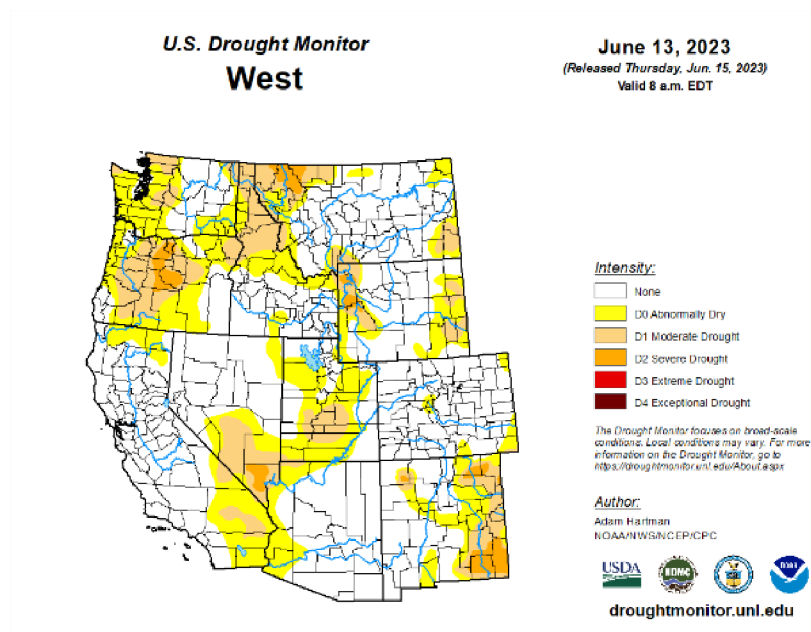
Southwest - Precipitation
October 2022 - May 2023, Percentile



Source: [WestWide Drought Tracker](#)

Drought

The U.S. Drought Monitor shows drought-free conditions for much of Arizona and the western half of New Mexico. Drought conditions have improved since last month for eastern New Mexico, though abnormally-dry to severe-drought conditions remain in place—about 48% of the state’s area falls under the D0 (Abnormally Dry) or worse category of drought intensity, and about 9% of New Mexico falls in the D2 (Severe Drought) category. Abnormally Dry (D0) conditions in Arizona are restricted to the western part of the state but account for about 18% of the state’s area.



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

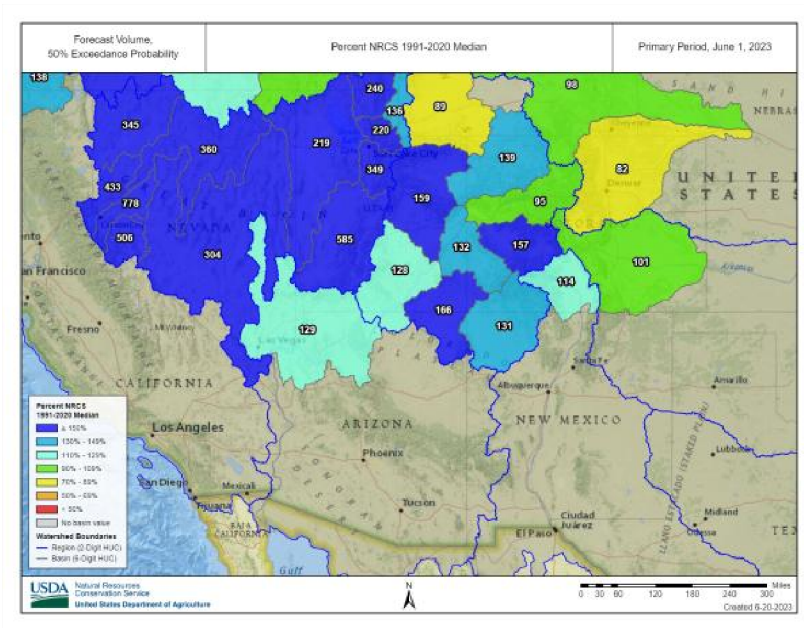
NIDIS Improved and Expanded State Pages on Drought.Gov

Arizona

New Mexico

Snowpack & Streamflow

Forecast streamflow for Colorado River and Rio Grande basins is above-normal with only a few exceptions of near-normal flow—the result of abnormally cool and moist conditions that persisted for much of this past winter and spring across the western U.S.



Source: National Resource Conservation Service (USDA)

Learn More: From Snow to Flow

Water Supply

Nearly all of the larger reservoirs in Arizona and New Mexico are in better shape than they were at this time last year. The Salt and Verde River Systems reservoirs in Arizona remain at capacity, but Lake Powell, Lake Mead, and Elephant Butte Reservoir are still well below long-term average levels.

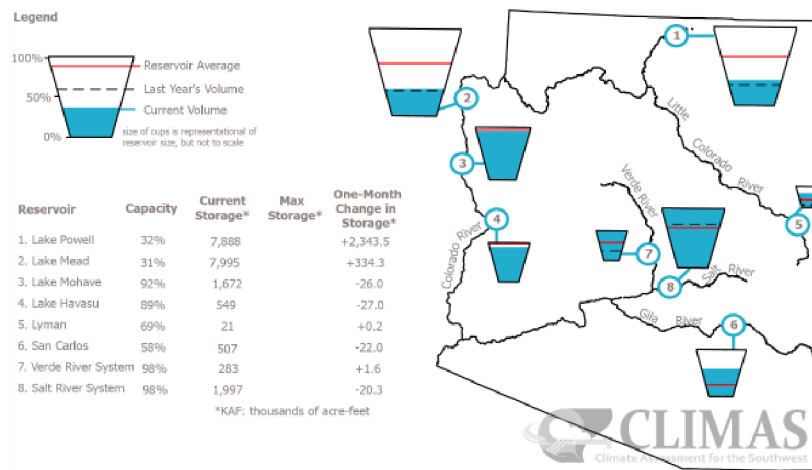


Figure 1. Arizona reservoir volumes for the end of May 2023 as a percent of capacity. The map depicts the average volume and last year's storage for each reservoir. The table also lists current and maximum storage, and change in storage since last month.

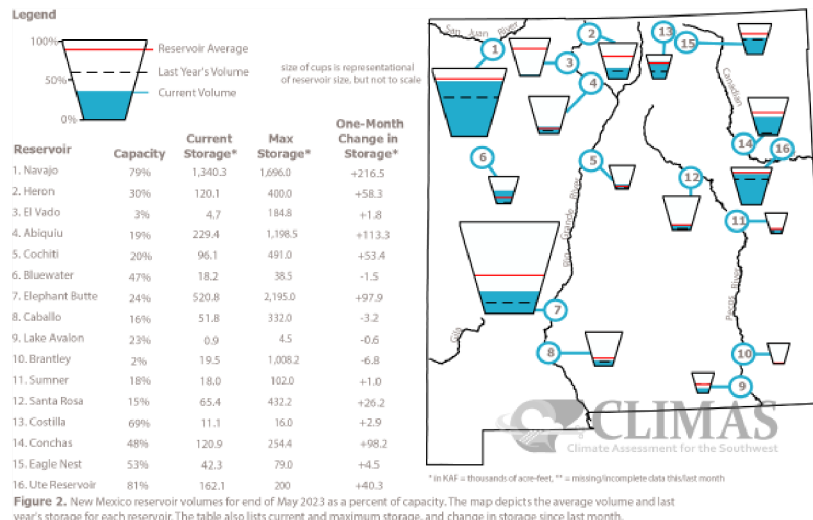


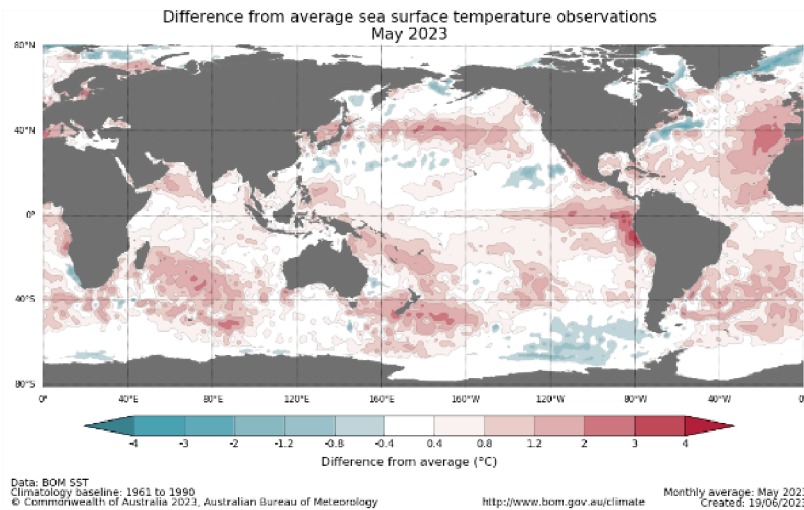
Figure 2. New Mexico reservoir volumes for end of May 2023 as a percent of capacity. The map depicts the average volume and last year's storage for each reservoir. The table also lists current and maximum storage, and change in storage since last month.

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 \(USDA\)](#).

BOM: New Mexico Dashboard

ENSO Tracker

Sea surface temperatures (SSTs) have been above-average across the equatorial Pacific, with the largest SST anomalies located along the west coast of South America (BOM).



Source: [Australian Bureau of Meteorology](http://www.bom.gov.au/climate)

In June, SSTs have continued to increase across the Niño regions 3, 4, and 3.4, and NOAA Climate Prediction Center has issued an El Niño Advisory stating that El Niño conditions have been met (NOAA CPC).

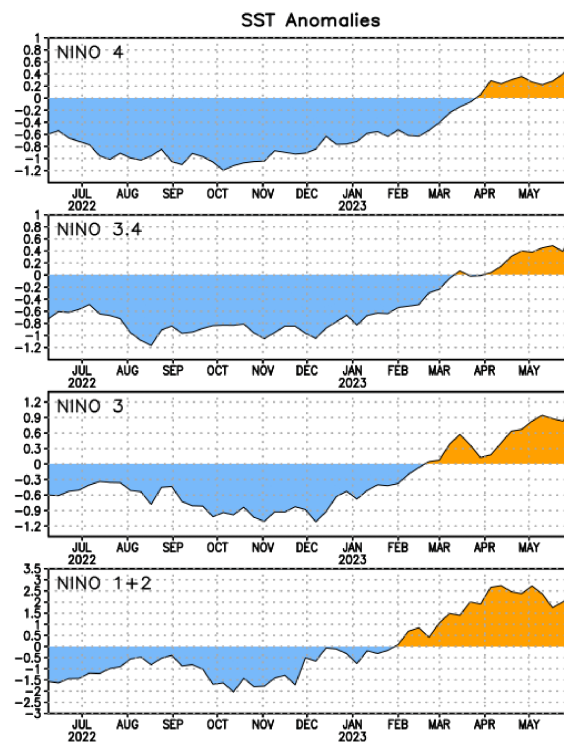
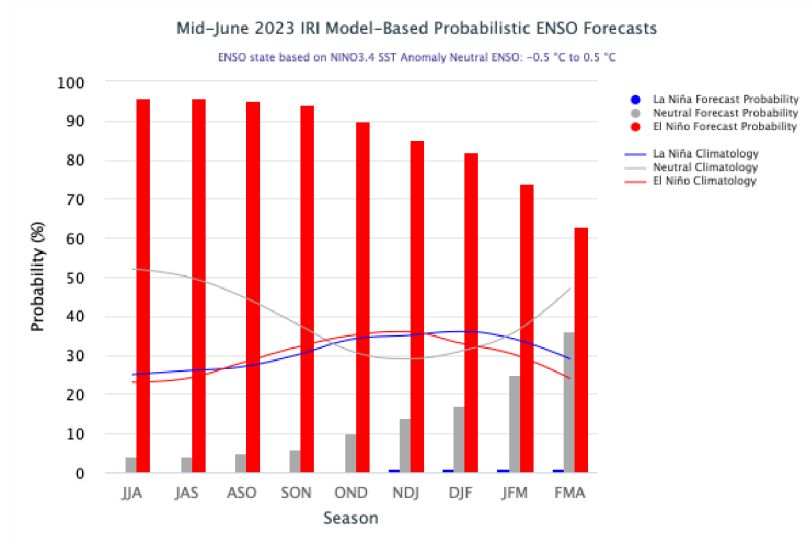


Figure 2. Time series of area-averaged sea surface temperature (SST) anomalies (°C) in the Niño regions [Niño-1+2 (0°-10°S, 90°W-80°W), Niño-3 (5°N-5°S, 150°W-90°W), Niño-3.4 (5°N-5°S, 170°W-120°W), Niño-4 (5°N-5°S, 150°W-160°E)]. SST anomalies are departures from the 1991-2020 base period weekly means.

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

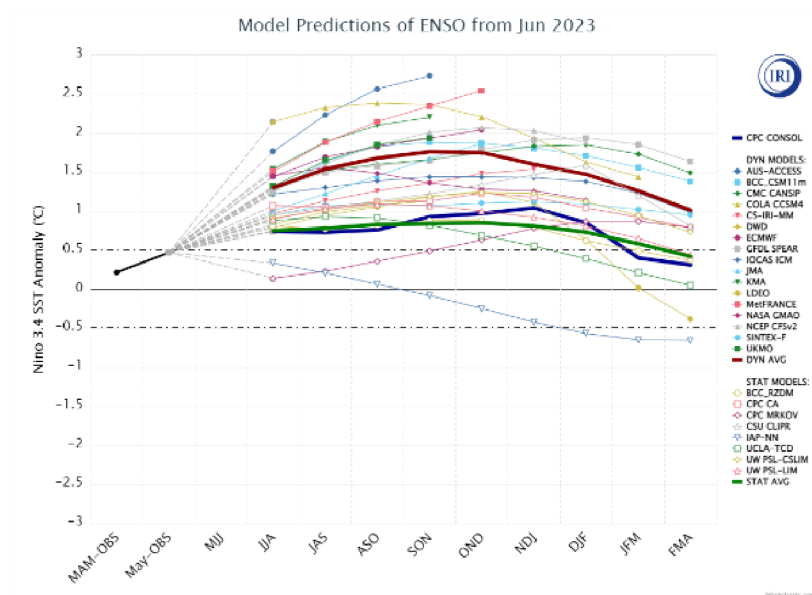
Model-based forecasts strongly favor a persistence of El Niño conditions through the end of 2023 (~90% probability), and

suggest they could persist into Spring 2024 (~60% probability; IRI).



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

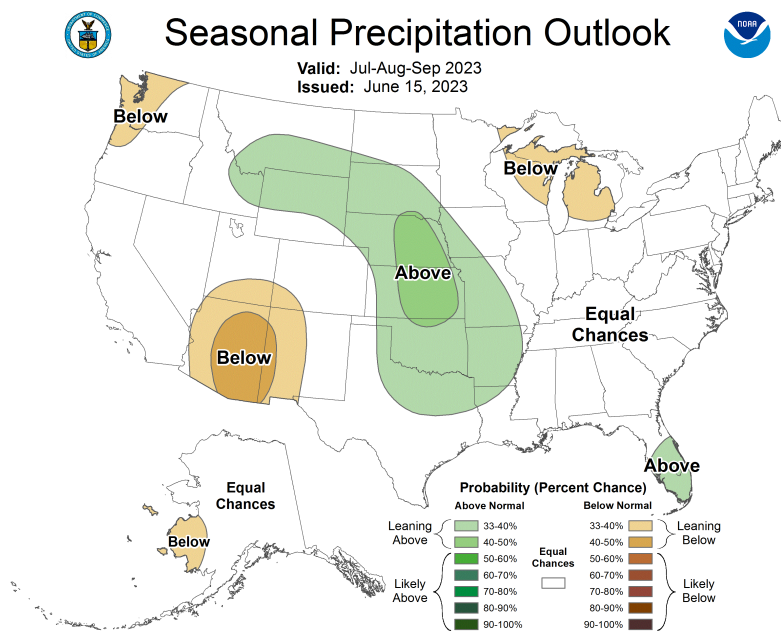
There is good agreement among dynamical and statistical ENSO forecast models regarding the continuation of El Niño, but the severity of the SST warming over the coming months remains uncertain—the dynamical models on average predict a stronger El Niño event (Niño 3.4 SST anomaly $> 1.5^{\circ}\text{C}$) than do the statistical models (Niño 3.4 SST anomaly $< 1^{\circ}\text{C}$). Taken together, the general indication is that present El Niño conditions will gradually strengthen and persist into the new year (IRI).



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

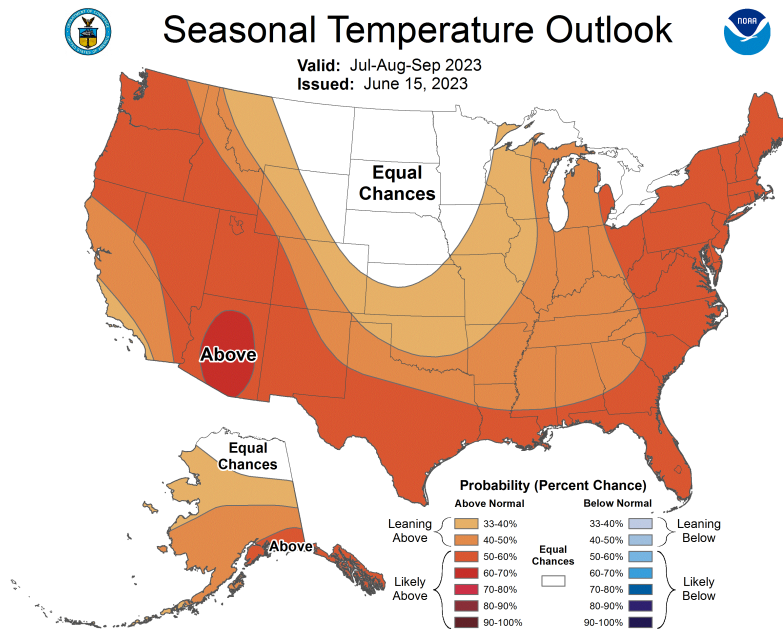
Seasonal Forecasts

The July-September seasonal precipitation forecast leans toward below-normal precipitation for Arizona and, to a lesser extent, western New Mexico. CPC claims a “relatively high” confidence in a weak monsoon with a sluggish start, citing agreement among forecast models and suggesting the influence of high soil moisture across the West. The probabilities assigned to this forecast still allow for at least a 50% chance of near- or above-normal precipitation in the areas where below-normal precipitation is indicated.



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

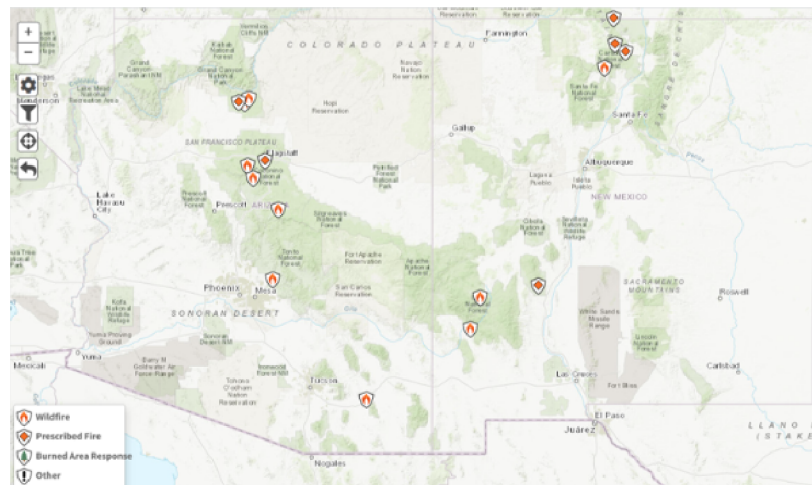
The July-September seasonal temperature forecast calls for above-normal summer temperatures in Arizona and New Mexico, along with much of the rest of the conterminous U.S. Probabilities are higher here than for the seasonal precipitation forecast, with 60-70% likelihood of above-normal temperatures in Arizona and 50-60% likelihood of above-normal temperatures in New Mexico.



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

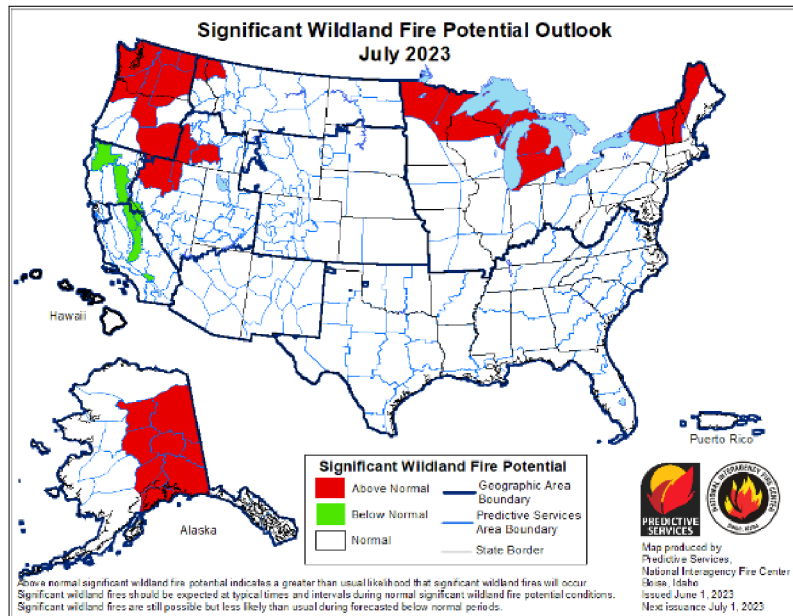
Wildfire

Fire season is well underway in the Southwest, with large, as-yet-uncontained fires including the Wilbur Fire burning in Arizona Rim Country (9,000 acres as of 6/21), the Pass Fire in the Gila National Forest of New Mexico (50,000 acres as of 6/21), and the Post Fire southeast of Tucson (1200 acres as of 6/23).



Source: [InciWeb - Wildfire Incident Information System \(6/20/2023\)](#)

The NIFC fire outlook for July shows normal potential for significant wildland fire. The onset of the monsoon will bring moist conditions that limit fire's destructive potential, but it will also bring lightning and increasing risk of ignitions. If the monsoon has a delayed start, as seasonal forecasts have been suggesting, the risk of destructive fires will extend later into July than is usual for the Southwest.



Source: National Interagency Fire Center - Predictive Services

Southwest Coordination Center

Monsoon Fantasy



Have you ever wondered with a friend when the monsoon will arrive? Would you care to make that a wager? Don't worry, you won't have to put money down – but you could win some!

Join the Southwest Monsoon Fantasy Forecast, an initiative of the [Arizona Institute for Resilience](#) at the University of Arizona, in which players take guesses at total monthly precipitation in the five major cities in the U.S Southwest Monsoon region. Points are assigned each month July through September based on the riskiness and accuracy of the players' forecasts, and cash prizes totaling \$900 in Amazon gift cards will be awarded to the top three players at the end of the season.

Forecasts for July must be cast by June 30 at 11:59 PM. Please note that if you submitted a forecast prior to June 15, you will need to resubmit, as all 2023 submissions cast before the game began have been removed. Sign up now to watch the weather, compete with other players, and learn about the Southwest region's iconic summer storm season!

Sign Up to Play Today!

Monsoon Fantasy

Southwest Climate Podcast

May 2023 - Asking the Real Questions



Zach Guido and Mike Crimmins are back in the May 2023 edition of the Southwest Climate Podcast where they are asking the real questions: Has it been a quiet spring? What was with that Monsoon-y Too Soon Maysoon? Why is it so hot in the Southwest? What are the models showing for the upcoming Monsoon season? And how come those models are throwing

shade? Join the crew as they do a deep dive into the data to give their answers, explainers as well as a bit of the usual banter.

[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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Southwest Climate Outlook
contributors:

Mike Crimmins & Matt Meko