



May 2023: Southwest Climate Outlook

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June 2, 2023



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

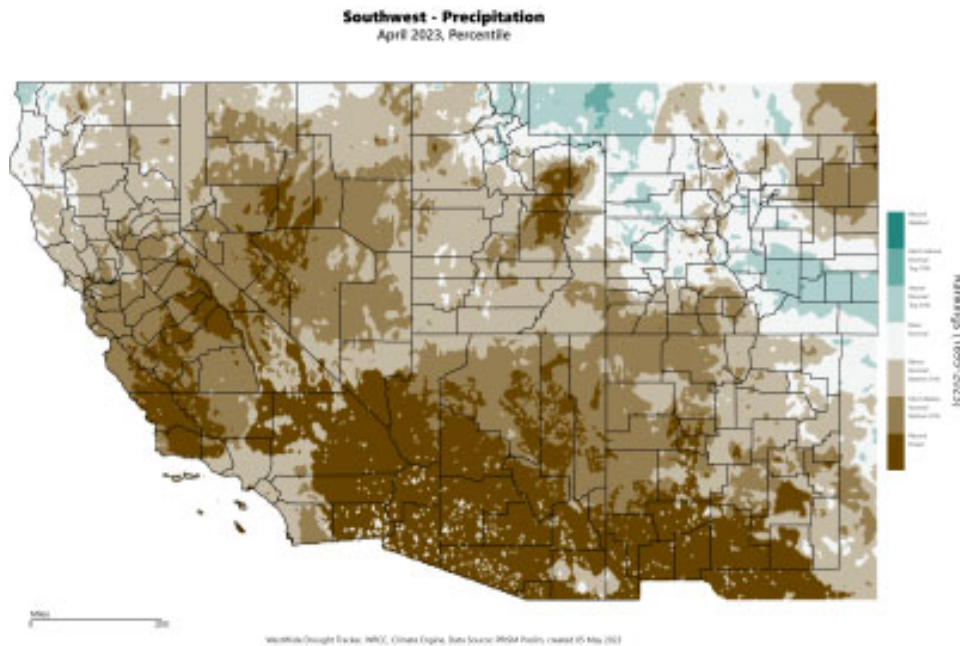
The Southwest Climate Outlook is published by the Climate Assessment for the Southwest (CLIMAS), with support from University of Arizona Cooperative Extension, and the New Mexico State Climate office.

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Precipitation and Temperature

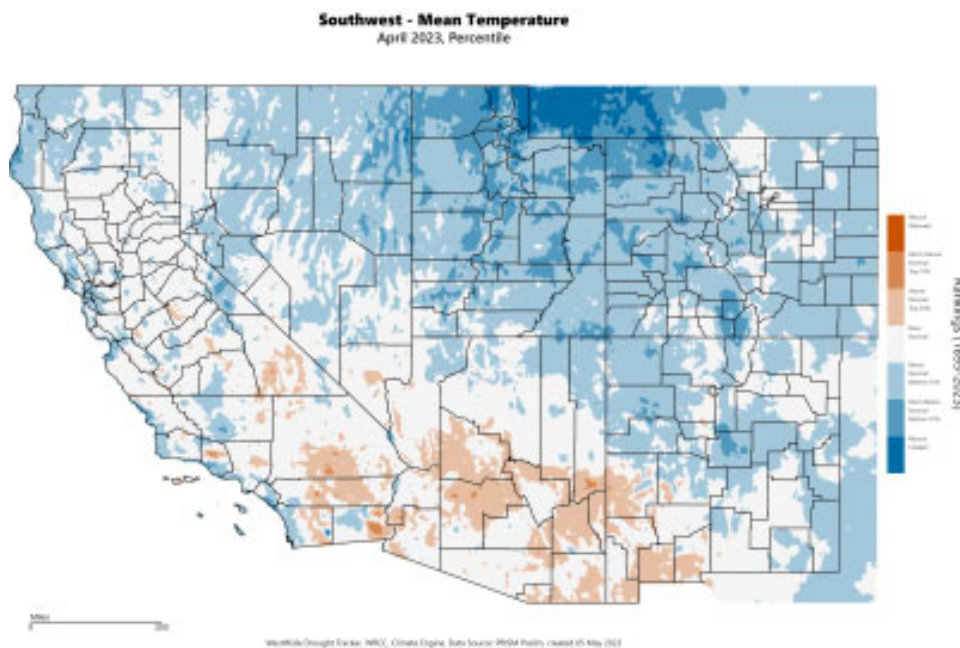
April precipitation in Arizona and New Mexico was below normal or much below normal for most areas, with large

areas of southern New Mexico and southwestern Arizona recording no precipitation for the month.



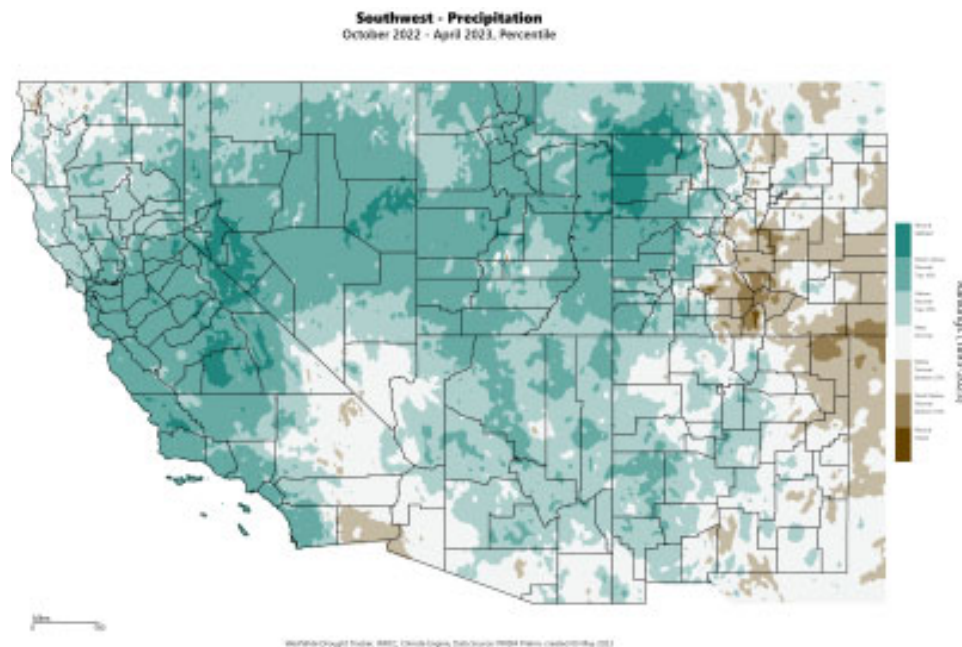
Source: [WestWide Drought Tracker](#)

April temperatures were above normal for most of Arizona and southern New Mexico, and near normal to below normal in central New Mexico and northern parts of both states.



Source: [WestWide Drought Tracker](#)

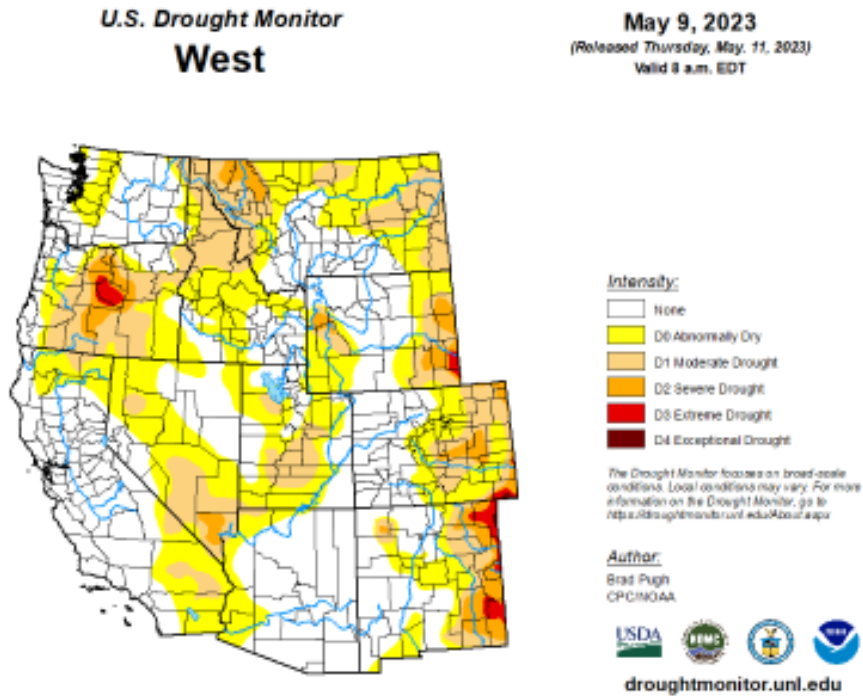
Water-year precipitation totals (Oct 2022-April 2023) are near- to much-above normal for most of Arizona and New Mexico. Northeastern New Mexico remains an exception—water-year precipitation for Union County is below- or much-below normal.



Source: [WestWide Drought Tracker](#)

Drought

The U.S. Drought Monitor shows drought-free conditions across most areas in Arizona (82% of the state; areas of the Lower Colorado River Basin show abnormally dry conditions) and western New Mexico (51% of the state's area), but drought conditions in eastern New Mexico contrast sharply—moderate to extreme drought conditions continue to prevail in areas east of the Pecos River.



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

NIDIS Launches Improved and Expanded State Pages on Drought.Gov

The expanded Drought.gov state pages provide a one-stop shop for state drought information, including interactive and easily shareable maps, statistics, and resources for all 50 states.

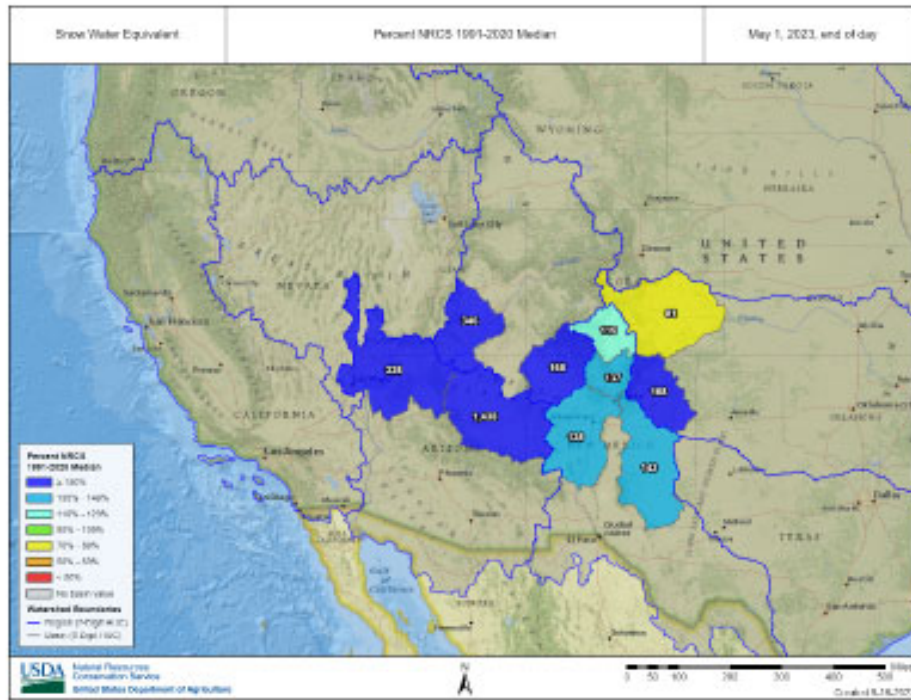
Arizona

New Mexico

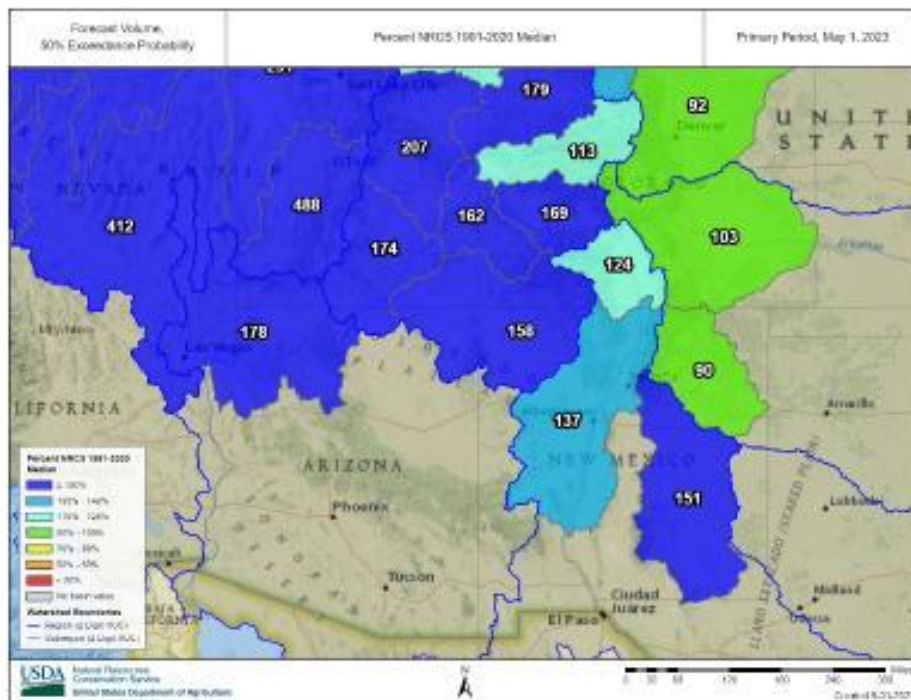
Snowpack & Streamflow

This legacy of this past winter’s well-above-normal snowpack persists in the high country across Arizona and New Mexico— May 1 snow water equivalent measurements are above-

normal. Consequently, above-normal streamflow is forecast for Colorado River and Rio Grande Basins.



Source: National Resource Conservation Service (USDA)



Source: National Resource Conservation Service (USDA)

Learn More: From Snow to Flow

Water Supply

Most of the reservoirs in Arizona and New Mexico are near or above last year's levels, and the Salt River and Verde River reservoir systems are at capacity, but many of the region's reservoirs remain far below long-term average levels, including most reservoirs in New Mexico, Lake Powell, Lake Mead, and Elephant Butte.

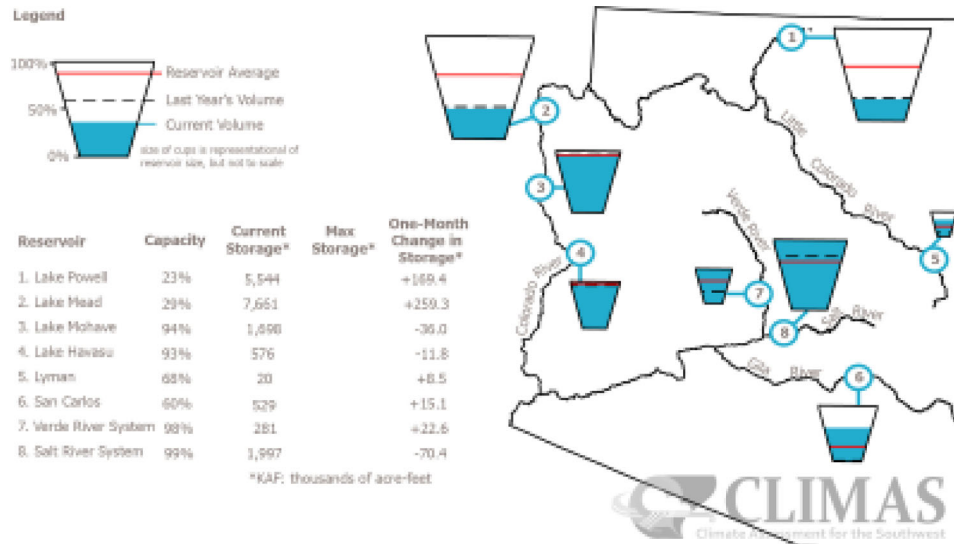


Figure 1. Arizona reservoir volumes for the end of April as a percent of capacity. The map depicts the average volume and last year's storage for each reservoir. The table also lists current and maximum storage, and change in storage since last month.

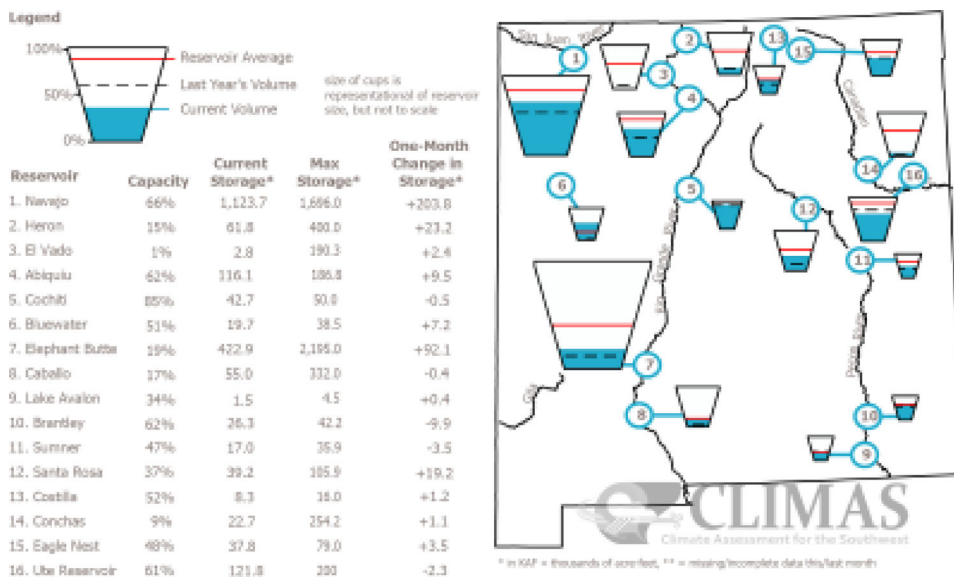
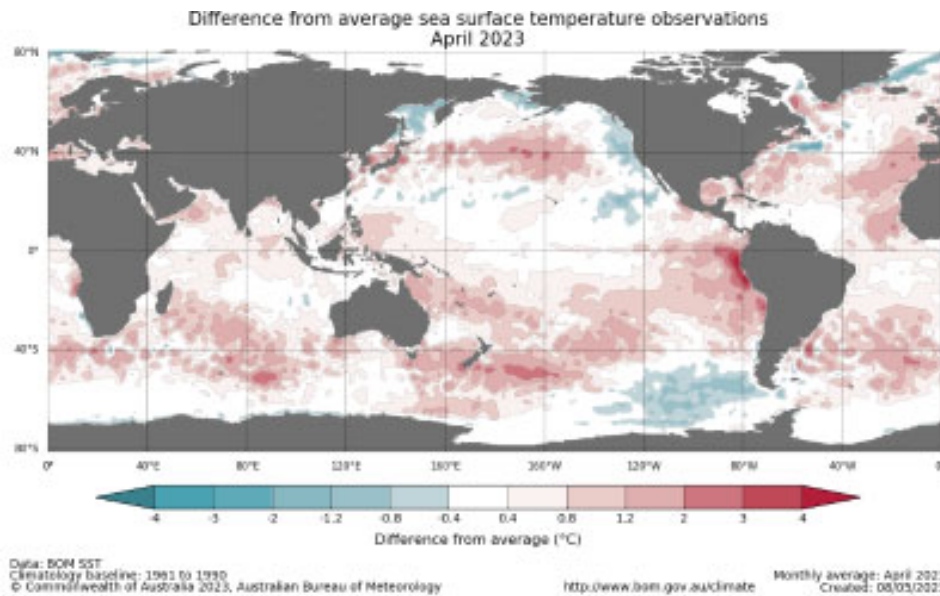


Figure 2. New Mexico reservoir volumes for end of April as a percent of capacity. The map depicts the average volume and last year's storage for each reservoir. The table also lists current and maximum storage, and change in storage since last month.

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 \(USDA\)](#)

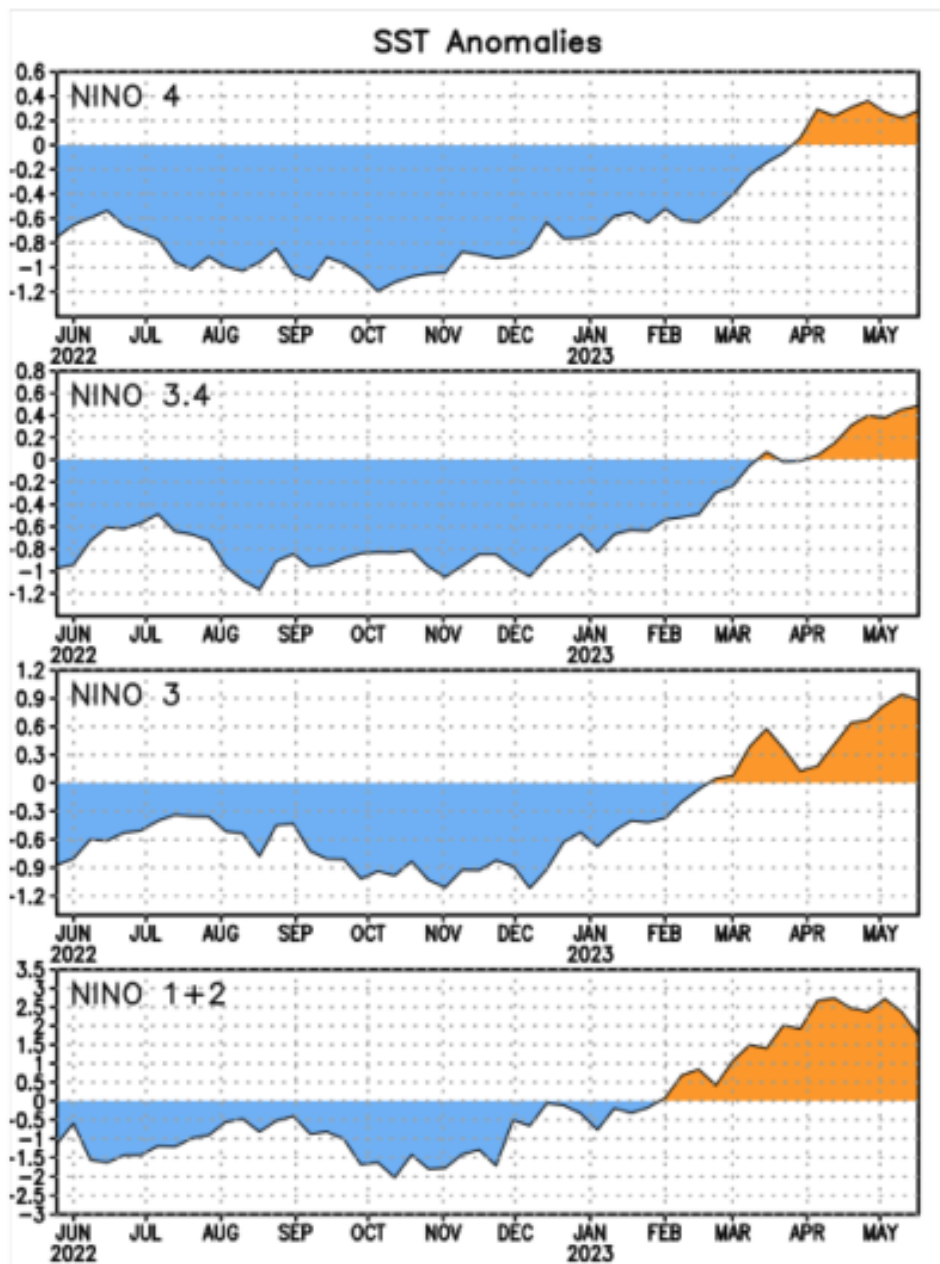
ENSO Tracker

Sea surface temperatures (SSTs) are near- or above-average across the equatorial Pacific Ocean.



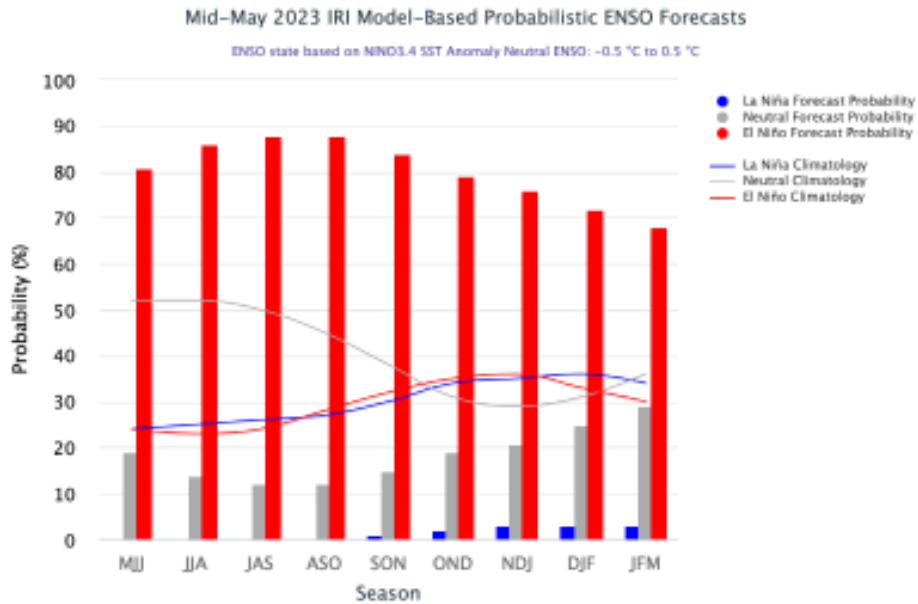
Source: Australian Bureau of Meteorology

All four ENSO diagnostic regions (Niño 1+2, Niño 3, Niño 4, Niño 3.4) have anomalously warm SSTs, with the greatest departures in the eastern Pacific—near +2°C for Niño 1+2 and near +1°C for Niño 3.

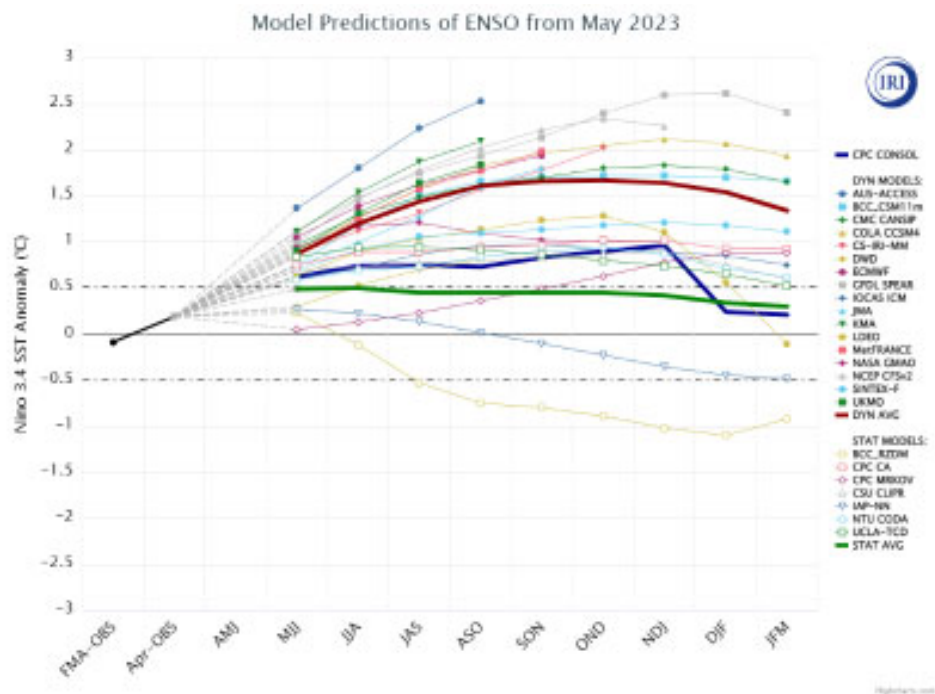


Source: [Climate Prediction Center \(NOAA\)](#)

ENSO forecasts strongly favor an expected transition to El Niño conditions in the coming months, likely to persist through the winter. NOAA CPC considers current conditions to be ENSO-neutral; El Niño conditions will be considered to have been met when 1) monthly Niño 3.4 SST departures exceed $+0.5^{\circ}\text{C}$, 2) El Niño-consistent atmospheric features are present, and 3) forecasts show the anomalies are expected to persist at least three consecutive months.



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



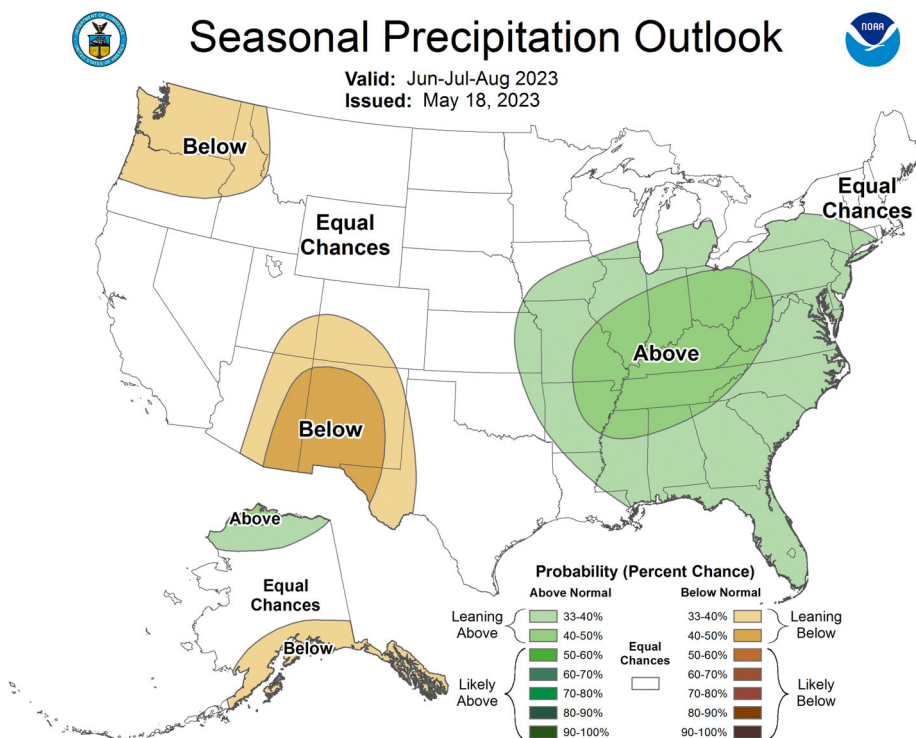
Source: The International Research Institute for Climate and Society, Columbia University
[Climate School](#)

Dynamical and statistical forecast models suggest El Niño conditions will be met May-July, with the dynamical models being more bullish on the strength and persistence of warming. The statistical models are not all in agreement, with a few models suggesting a return to ENSO-neutral or even La Niña conditions later in the year—a larger spread among

predictions than we saw from the statistical models in last month’s IRI “plume”. El Niño conditions are still the most likely outcome through next winter based on the IRI probabilistic outlook.

Seasonal Forecasts

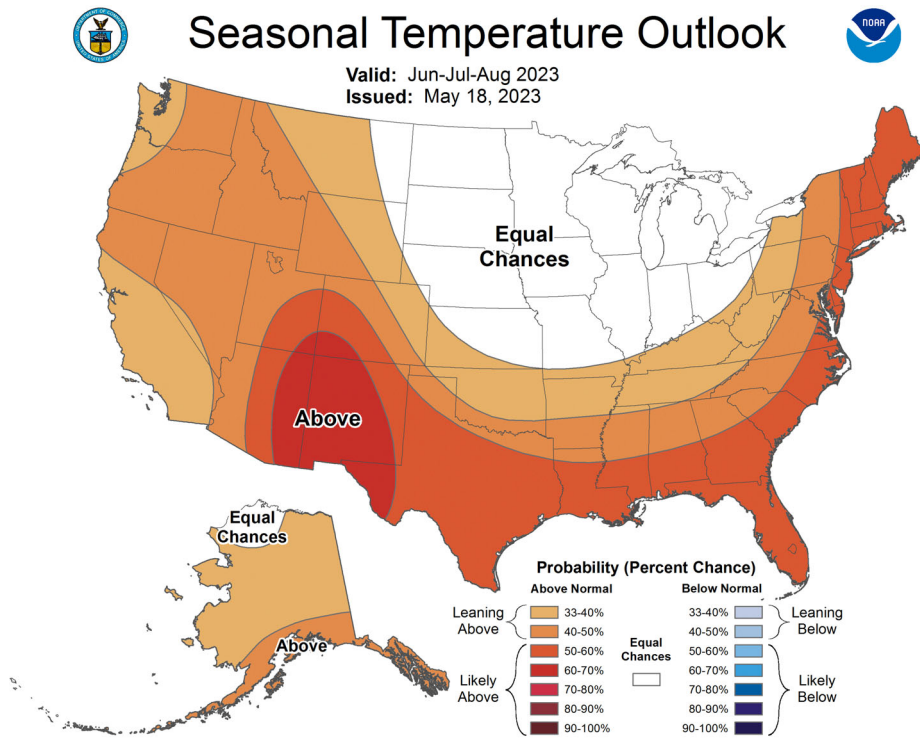
The CPC precipitation outlook seasonal forecast for June-August leans toward below-normal precipitation for New Mexico and most of Arizona. Note that even in the region ascribed the higher probability (40-50% chance) of below-normal precipitation, there is still a 50-60% chance precipitation will be normal OR above-normal. The below-normal outlook for the June-August season is indicating a possible late start to the upcoming monsoon for the Southwest.



Source: Climate Prediction Center (NOAA)

The June-August seasonal temperature forecast for Arizona and New Mexico favors above-normal temperatures, with

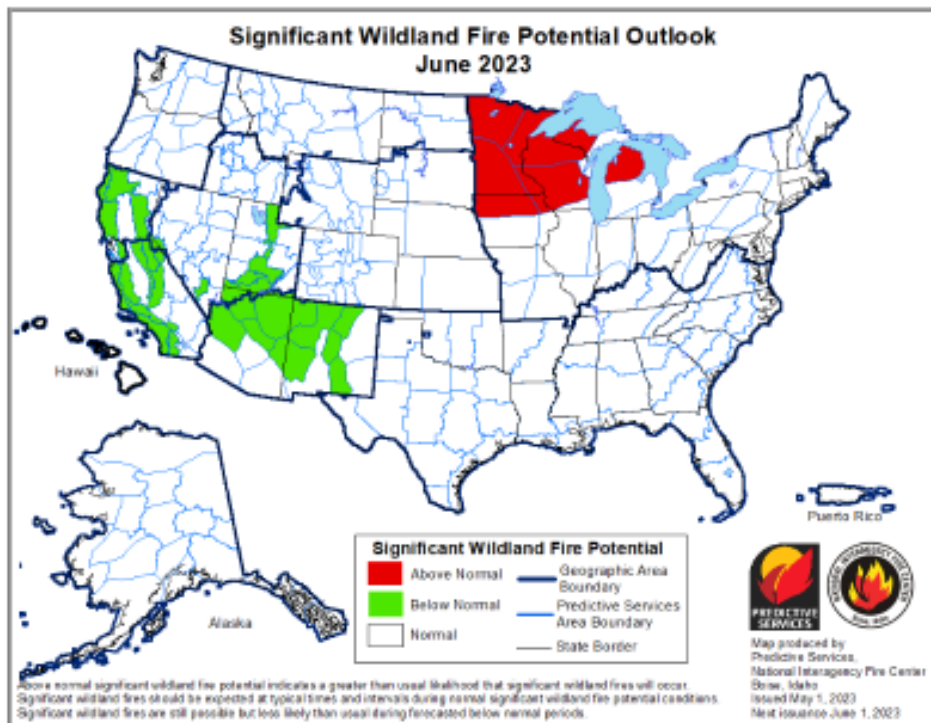
probabilities ranging from 40% (leaning toward above-normal) to 70% (likely above-normal).



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

Wildfire

We are now well into the 2023 fire season, and conditions in southern Arizona, southern and eastern New Mexico are expected to favor near-normal fire activity in June; but in northern Arizona and the mountainous areas of New Mexico, conditions are expected to favor below-normal fire activity in June due to wetter than average conditions this past winter and spring .



Source: [National Interagency Fire Center - Predictive Services](#)

Public Health Corner

Welcome to the Public Health Corner, a new quarterly section in the Southwest Climate Outlook dedicated to exploring the intersection between climate change and public health in Arizona and New Mexico! In this section, we will dive into the various health impacts of climate change that are affecting our communities and explore strategies to mitigate and adapt to these challenges.

This month we focus on the impacts of heat on health in Arizona and New Mexico. With summer just around the corner, rising temperatures can pose serious health risks,

particularly for vulnerable populations such as the elderly and those with pre-existing health conditions. CLIMAS researchers and partners recently participated in the 7th Annual Arizona Extreme Heat Planning Workshop ([recording on YouTube](#)). This workshop brought together partners across Arizona, coordinating efforts across sectors to tackle the health effects of extreme heat events. If you're looking for a place to cool off this summer, check out the interactive cooling center map for [southern Arizona](#) or contact 2-1-1 in Arizona or New Mexico to identify the closest cooling center near you.

This year, Heat Awareness Day took place on May 28th, 2023. This day serves as an important reminder of the dangers of extreme heat and the importance of taking proactive steps to protect ourselves and our communities. Are you interested in learning more about recognizing and preventing heat related illness? [Explore this medical education module](#) by Arizona Climate and Health, co-led by CLIMAS researcher Dr. Heidi Brown.

Learn More - Explore ArcGIS Maps on Heat and Health:

AZ EPHT

NM Tracking

Join us next quarter in the Public Health Corner as we explore the health impacts of climate change in Arizona and New Mexico, and discover ways we can all work together to create a healthier and more resilient future.

Southwest Climate Podcast

Special Edition - 2022 Environment & Society Fellows



For this special edition of the Southwest Climate Podcast Gigi Owen sits down with the CLIMAS exiting 2022 Environment & Society Fellows Julia Davies, Jake Dean, and Rachel Zollinger for a recap of their projects during their year as well as some words of wisdom for the incoming Fellows.

[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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