



# November 2024: Southwest Climate Outlook

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December 3, 2024



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

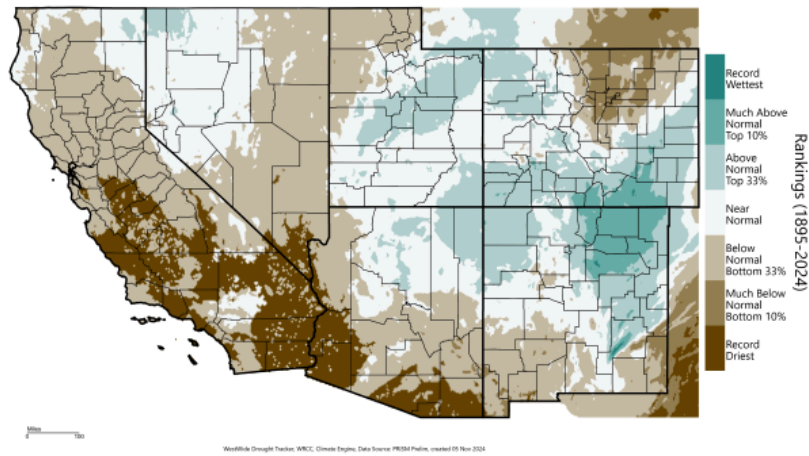
The Southwest Climate Outlook is published by the Climate Assessment for the Southwest (CLIMAS), with support from University of Arizona Cooperative Extension, and the New Mexico State Climate office.

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## Precipitation and Temperature

October precipitation was below normal across much of southern New Mexico, and across southern and western Arizona, where in places it was the driest October on record. Precipitation was near normal to above normal for northeastern Arizona and northern New Mexico, and much above normal in northeastern New Mexico. The rain event in Chaves County, NM that caused flooding in Roswell also broke October precipitation records.

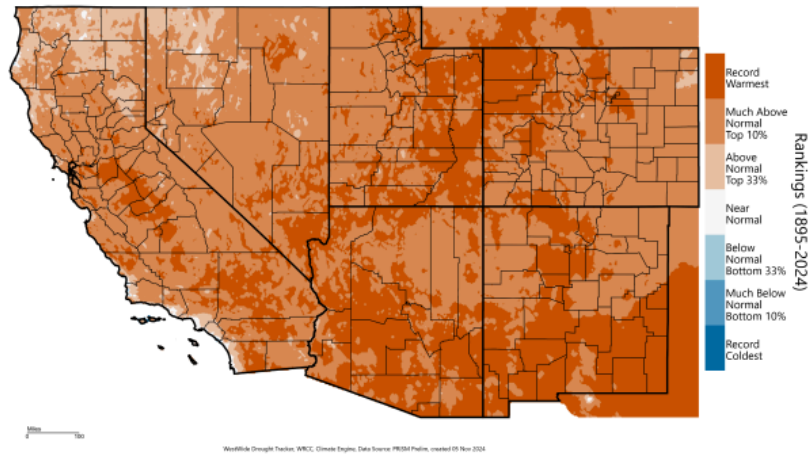
**Southwest - Precipitation**  
October 2024, Percentile



Source: [WestWide Drought Tracker](#)

October temperatures were much above normal or warmest on record across Arizona and New Mexico, with the record warmest temperatures occurring more extensively across the southern parts of either state.

**Southwest - Mean Temperature**  
October 2024, Percentile

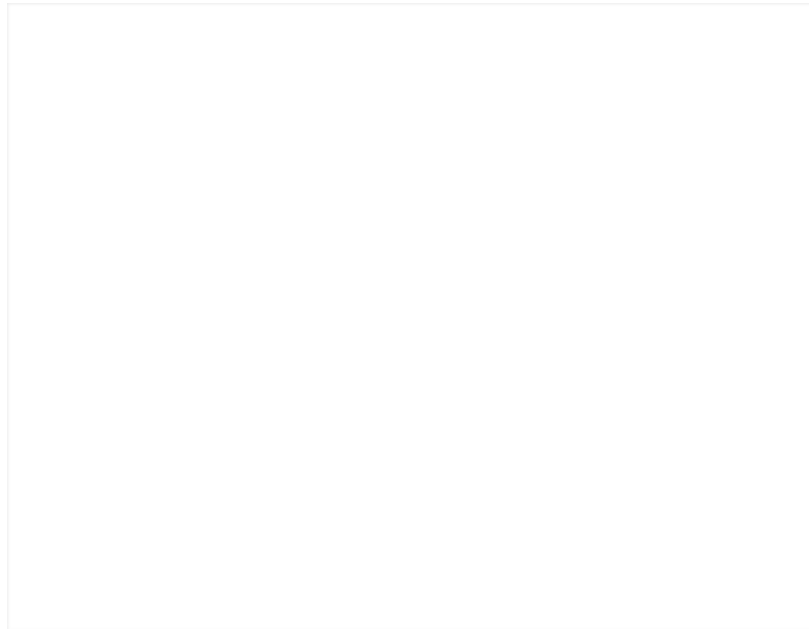


Source: [WestWide Drought Tracker](#)

## Drought

Generally, drought conditions have improved in New Mexico and worsened in Arizona. While extreme (D3) drought still affects over 5% of the state's area in southern New Mexico, that figure is down slightly over last month, and the area of the state classified as abnormally dry (D0) or in moderate (D1) or severe (D2) drought has also been adjusted downward, however nearly two-thirds of the state remain abnormally dry

or classified under a drought category. In Arizona, 85% of the state is abnormally dry or in drought, and an area of western Arizona has had its drought classification advanced to extreme drought.



[Source: U.S. Drought Monitor](#)

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

**Arizona**

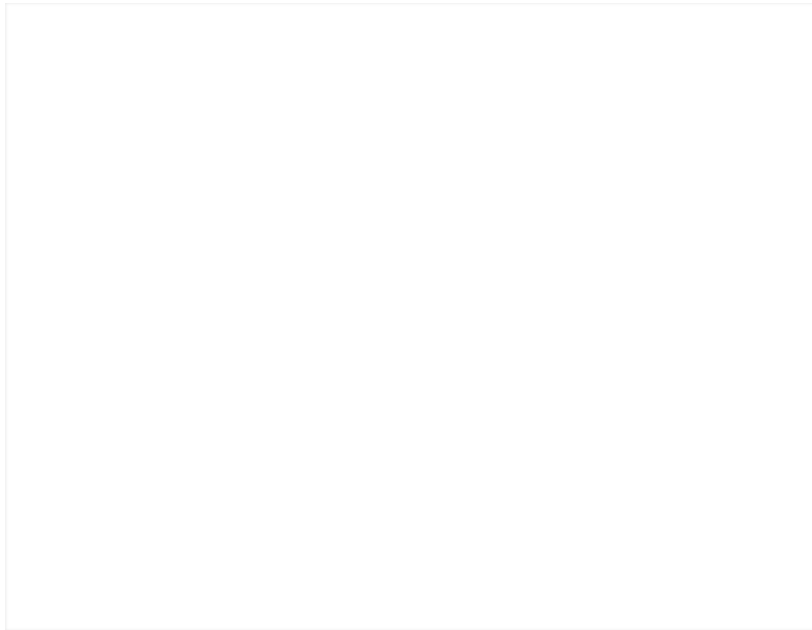
**New Mexico**

## **Hurricanes & Tropical Storms**

The end of November marks the end of hurricane season for the eastern North Pacific. This year the eastern Pacific was less active, with fewer named storms (11) versus the long-term average (14), and fewer storms that reached hurricane strength (4) than average (8).

## **Snowpack**

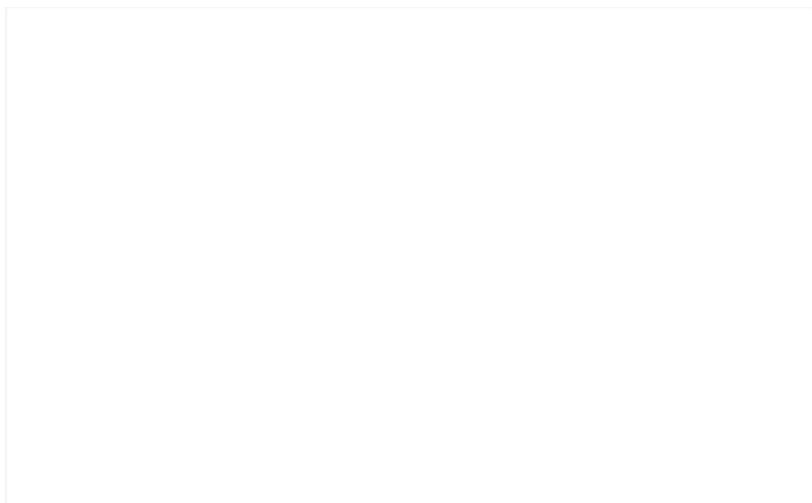
The season of snow accumulation has begun and NRCS has resumed tracking of snow water equivalent (SWE) for snow-fed watersheds. Many basins are in good shape with SWE values above normal for this time of season. This early in the season, SWE estimates in Arizona and southern New Mexico are based on only a small number of stations, because for lower-elevation stations, the median value in the record is zero, and so no comparison with observations is made.

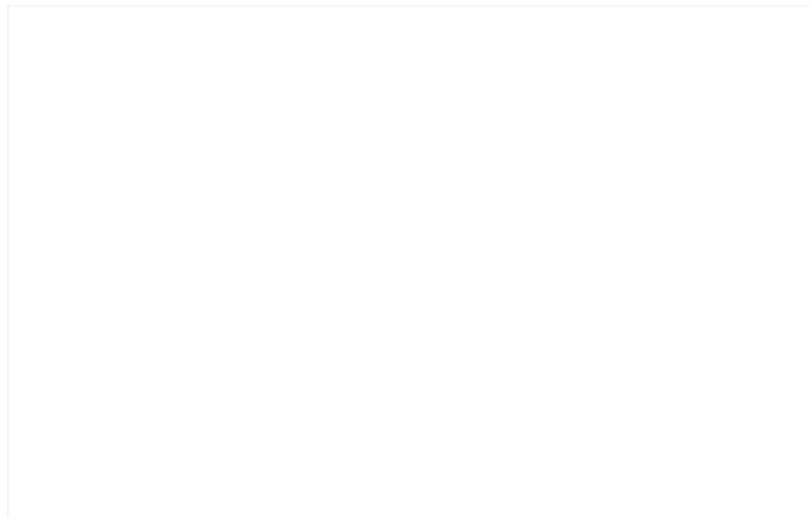


USDA-NRCS: National Water and Climate Center

## **Water Supply**

Lake Powell and Lake Mead are holding about as much water as this time last year, which is still far below the long-term average. Other Arizona reservoirs are in good shape, generally holding near or above the long-term average amounts of storage. Storage in New Mexico is generally short of average and also down from last year's levels, except at Lake Avalon and Ute Reservoir where levels are above average and up over last year, and Conchas reservoir, which is holding more than last year, but still short of average.





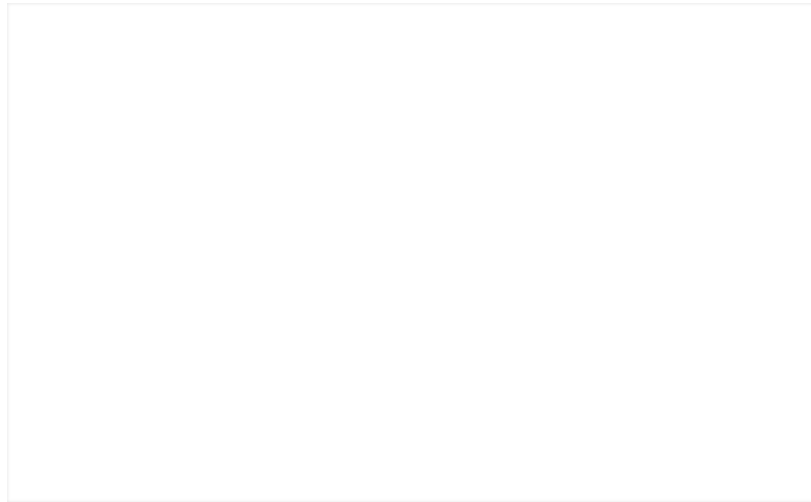
*The map gives a representation of current storage for reservoirs in Arizona and New Mexico. Reservoir locations are numbered within the blue circles on the map, corresponding to the reservoirs listed in the table. The cup next to each reservoir shows the current storage (blue fill) as a percent of total 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**

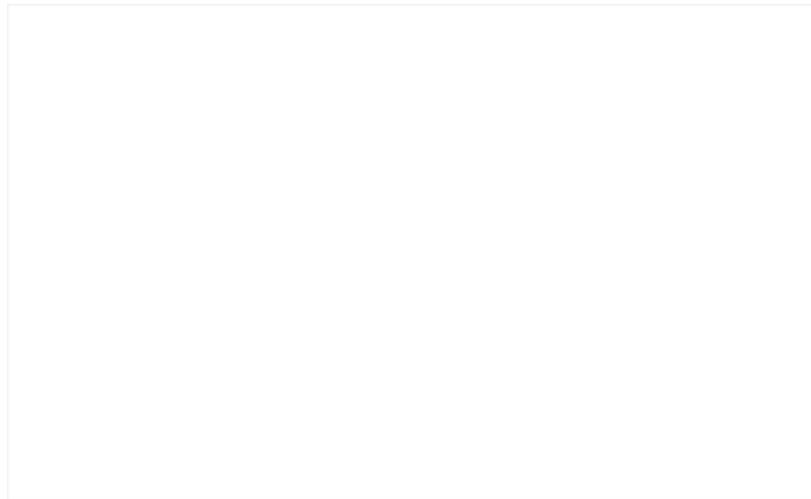
Sea surface temperatures (SSTs) in the equatorial Pacific have been for months exhibiting a La Niña-like pattern of cooler-than-average SSTs in the central-eastern Pacific and warmer-

than-average SSTs in the western Pacific. That pattern continued through October, but the pattern has remained too weak—SSTs too close to average—to be considered the start of La Niña conditions.



[Source: Australian Bureau of Meteorology](#)

SST forecasts differ between different models, with some models indicating a strengthening of cool SST anomalies into a La Niña event, but others, like the Australian ACCESS-S2 model forecast shown here, indicate a weakening of the cool anomalies and a movement of the system away from the La Niña threshold.



[Source: Australian Bureau of Meteorology](#)

SST anomalies (SSTs) averaged over the four ENSO monitoring regions have showed no persistent cooling trend through October and November. The most recently measured SSTs in Nino 3.4 have been close to long-term average, a return to

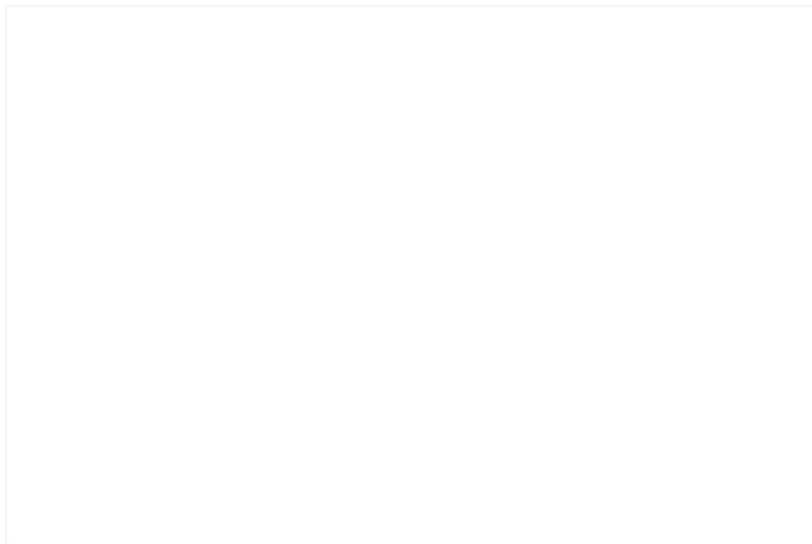
more ENSO-neutral temperatures after a few months near the La Niña threshold of  $-0.5^{\circ}\text{C}$ .



Source: Climate Prediction Center (NOAA)

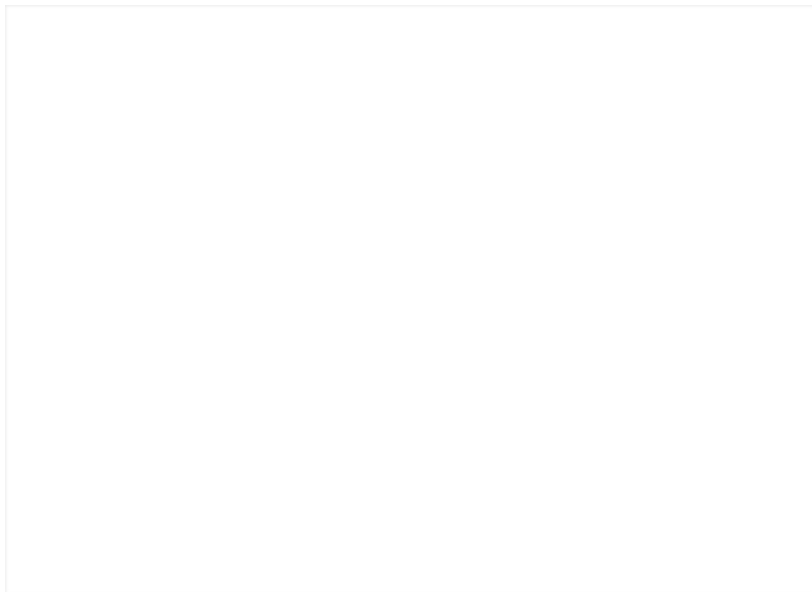
The probabilistic ENSO forecast gives around equal chances of either ENSO-neutral or La Niña conditions for the November – January and December – February forecast windows. In subsequent forecast windows, ENSO-neutral is favored.





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

The plume of individual-model ENSO forecasts shows the relative (dis)agreement among models that informs the above near-50/50 chance of La Niña versus ENSO-neutral in the coming months—about half of the models predict Nino 3.4 SSTs cooler than the La Niña threshold of 0.5°C below average, the other half predict SSTs closer to normal.



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

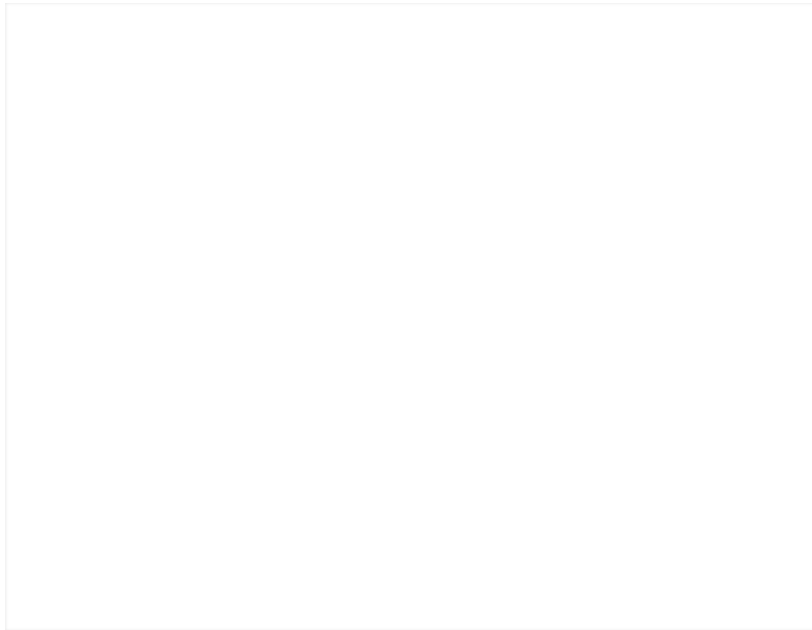
## **Seasonal Forecasts**

The December – February seasonal precipitation forecast calls for likely (50-60% chance) below normal precipitation for an area that includes southern New Mexico and southwestern Arizona. The forecast leans (33-50% chance) toward below normal precipitation for an area that includes the remainder of Arizona and New Mexico.



Source: Climate Prediction Center (NOAA)

The December – February seasonal temperature forecast calls for likely (50-70% chance) above normal temperatures for an area that includes most of New Mexico and most of Arizona. Western Arizona and northeastern New Mexico are included in the area where the forecast leans toward (33-50% chance) above normal temperatures.



Source: Climate Prediction Center (NOAA)

## **Southwest Climate Podcast**

### **November 2024 SW Climate Podcast - It's All About Nuance**

*Recorded 11/1/2024*

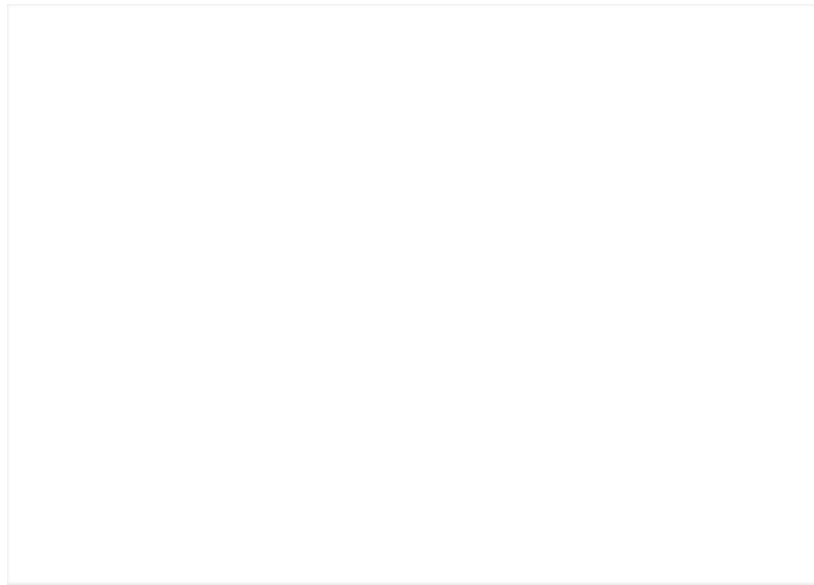
*Aired 11/5/2024*

The Southwest Climate Podcast hosts Zack Guido and Mike Crimmins are grateful that fall is (finally) here. In this month's episode, they unpack the persistent heat that hung around through October as well as blocking patterns. They discuss the two major hurricanes that made landfall - Helene and Milton. And get into the current ENSO forecast which is pointing to a weak La Niña. Lastly, they dive into a couple papers as a way to think differently about ENSO and winter as they look ahead. Buckle up as it could be a wild ride!

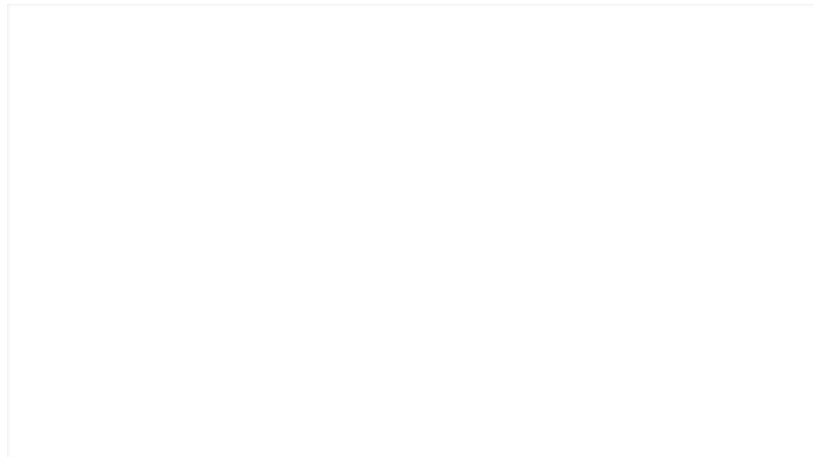
[Listen Here](#)

## 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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