

# SOUTHWEST AND CALIFORNIA DROUGHT STATUS UPDATE

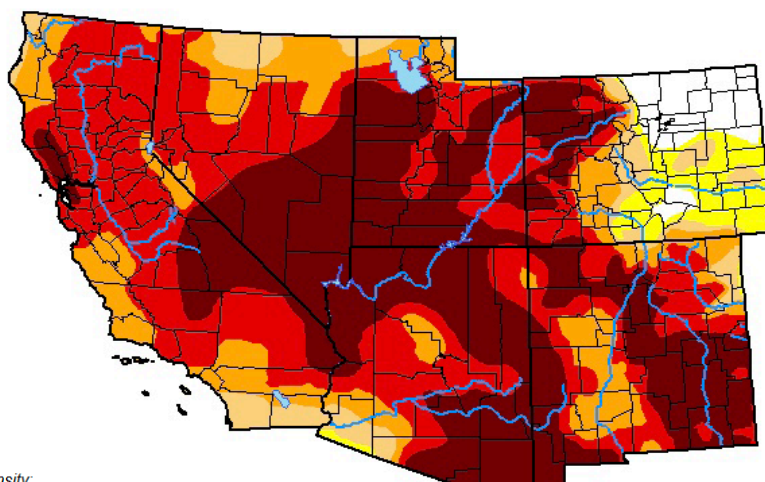
MAY 2021

National Integrated Drought  
Information System  
Drought.gov



## Long-Term Drought in the Southwest Threatens Water Supplies and Increases Wildfire Risk

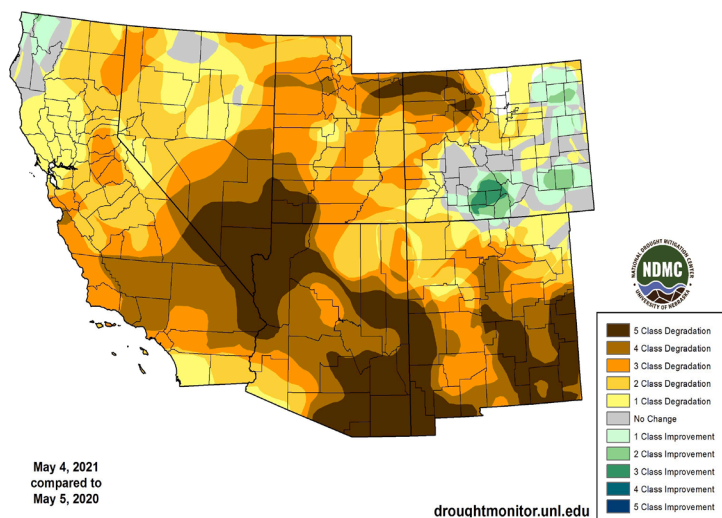
- 93% of the Southwest and California is in drought
- 38% is in Exceptional (D4) Drought, the highest level
- Much of the West was drought free 12 months ago, but drought conditions began developing around May 2020.
- High temperatures and very low rainfall totals through spring and summer of 2020 set new records across the Southwest.
- The combination of extremely low soil moisture leading into winter and snow drought through winter means that run-off this spring has been very low.



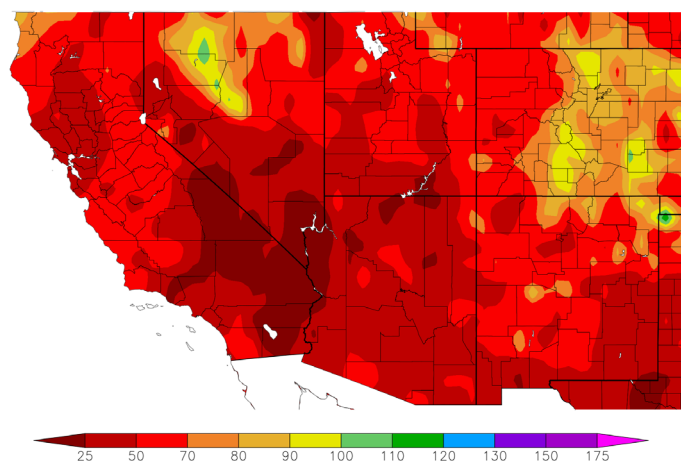
Intensity

D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought
D2 Severe Drought	

▲ **Fig 1.** May 18, 2021 U.S. Drought Monitor. Source: National Drought Mitigation Center



▲ **Fig 2.** U.S. Drought Monitor Change Map showing the degradation of conditions in the last year. Source: National Drought Mitigation Center



▲ **Fig. 3** Percent of normal precipitation in the last year as of May 16, 2021. Source: High Plains Regional Climate Center

## RESERVOIR LEVELS AND FORECASTS ARE ALARMING

Most reservoir levels in California and Southwest are below or much below normal, in many cases from long-term drought. Water supply volume forecasts don't show conditions improving. Lake Powell is currently at 34% of capacity and the U.S. Bureau of Reclamation forecasts inflows at 2.0 million-acre-feet, which is 28% of average. The NWS Colorado Basin River Forecast Center's water supply forecast for the Upper Colorado River Basin ranges between 15-75% of the 1981-2010 historical April-July average. Great Basin water supply forecasts are 10-70% of average. Many April-July volume forecasts in these basins fall in the bottom (driest) five on record. In California, current (April 30) reservoir storage is somewhat better but the outlook is grim. Storage for the state's 154 major reservoirs stands at 19.72 million acre-feet, or 71% of average. However, reservoir recharge through April 30 has totaled just 1.69 million acre-feet, barely 20% of normal. With little snow left in the Sierra Nevada due to rapid snowmelt and dry soils, that number will not increase much.

### CURRENT RESERVOIR LEVELS

**Lake Mead (AZ/NV):**

**38%**  
of capacity

**Lake Powell (AZ/UT):**

**34%**  
of capacity

**Lake Shasta (CA):**

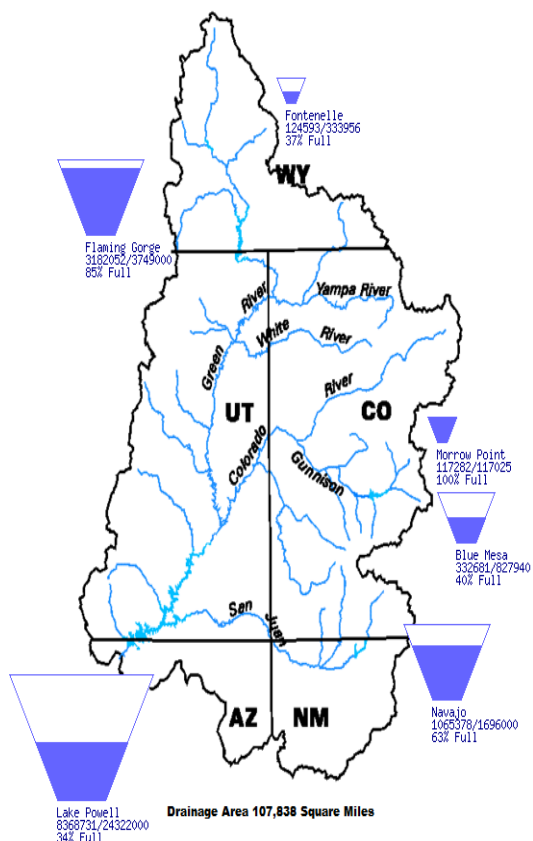
**47%**  
of capacity

**Lake Oroville (CA):**

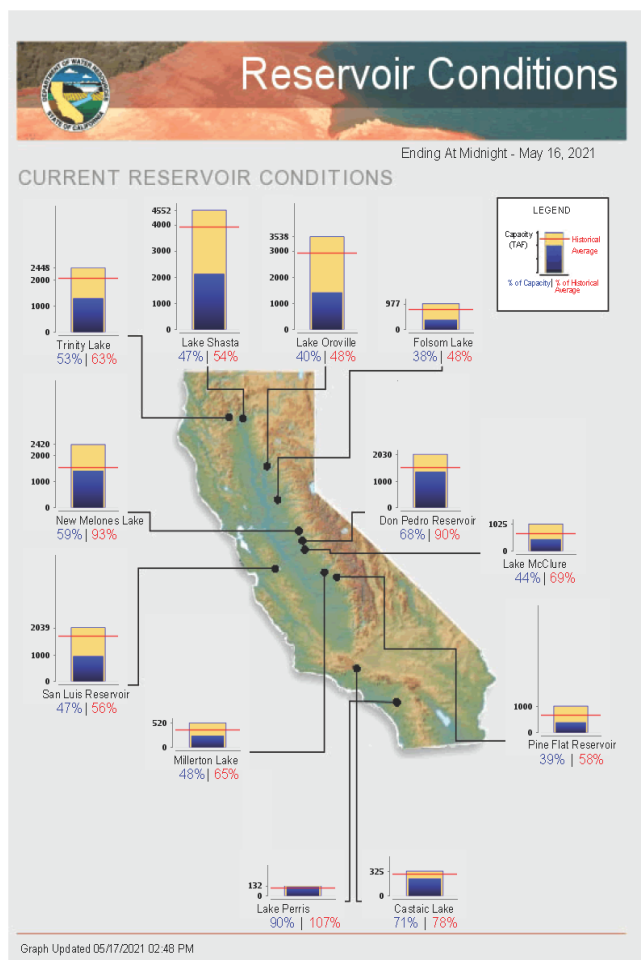
**40%**  
of capacity

Data Current as of:  
05/16/2021

### Upper Colorado River Drainage Basin



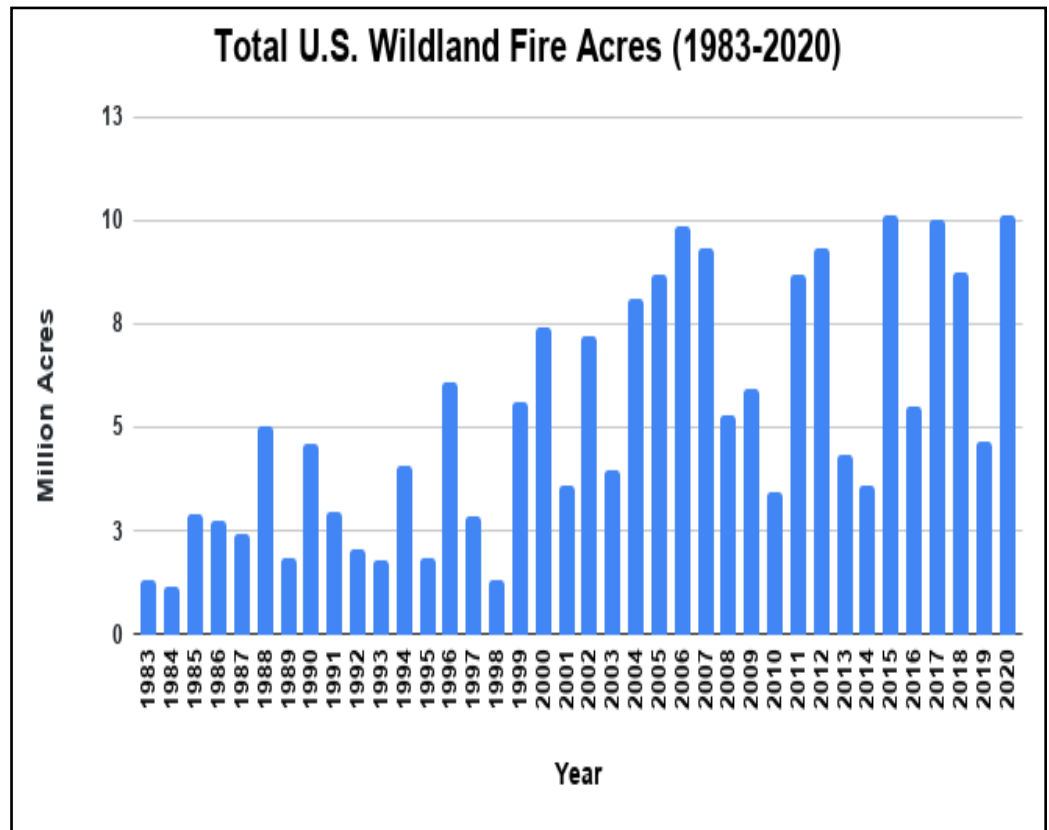
▲ **Fig 4.** Upper Colorado River Drainage Basin as of 5/16/21 showing level of fill in reservoirs, ratio of the volume of water currently in the reservoir compared to the volume of water in the reservoir when it is full, and the percent full. Source: Bureau of Reclamation



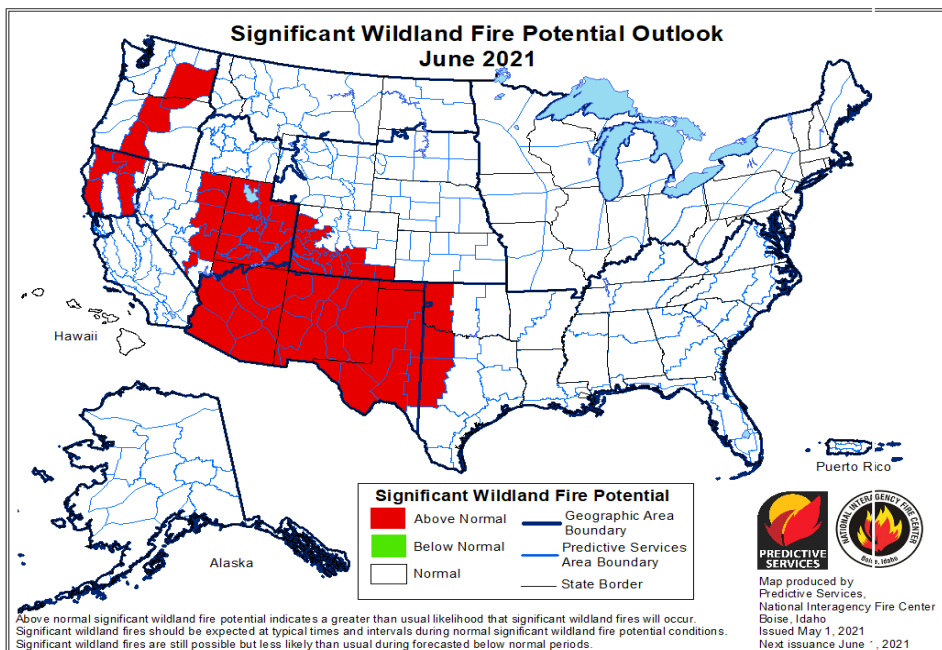
▲ **Fig 5.** Conditions for major California reservoirs as of May 16, 2021. The blue bars show the storage level for the date, the gold bar total reservoir capacity, and the red line historic level for date. Below the diagrams are % of capacity in blue and % of historic capacity in red. Source: California Department of Water Resources

## 2020 WAS A DEVASTATING WILDFIRE YEAR, 2021 COULD BE WORSE

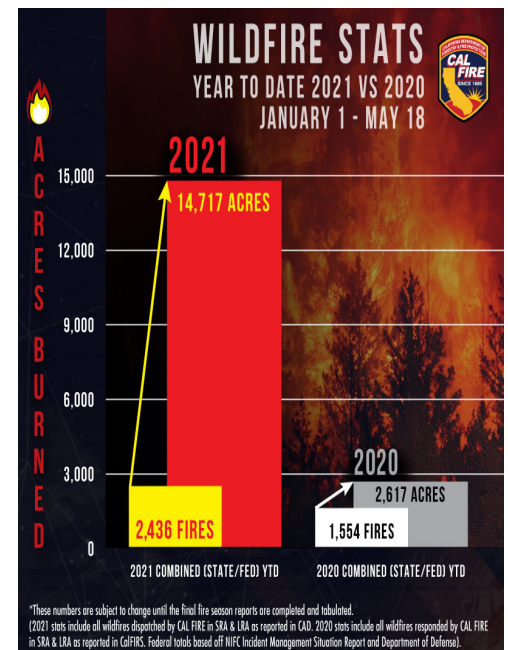
- For all of 2020, there were 58,258 fires covering a record-setting 10,274,679 acres. The number of acres burned was much above the average of 6,789,149.
- California has already experienced a significant increase in the number of wildfires and acres burned compared to this time last year.
- Vegetation is already showing stress and summer temperatures are forecasted by the NWS to be above normal again.
- Above normal significant fire potential is anticipated in the Southwest including Northern California for June, given the present widespread drought.



▲ **Fig 7.** Total U.S. Wildland Fire Acres from 1983 - 2020. Data from National Interagency Fire Center. 2004 fires and acres do not include state lands for North Carolina



▲ **Fig 8.** Significant Wildland Fire Potential Outlook for June 2021. Source: National Interagency Fire Center



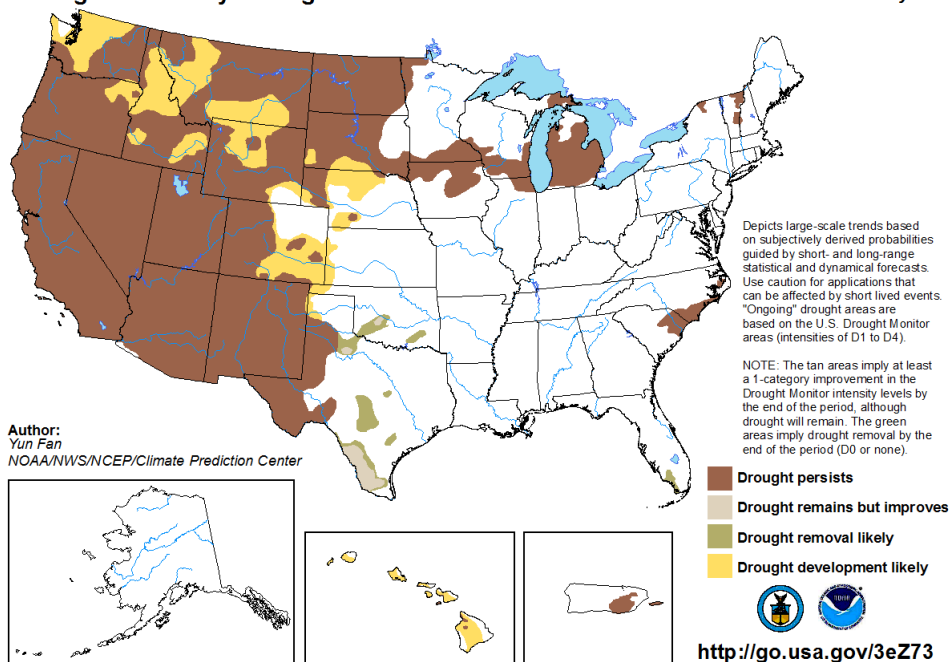
▲ **Fig. 9** Number of acres burned so far in California in 2021 as of May 18, compared to the same time period in 2020. Source: Cal Fire

## OUTLOOK SHOWS DROUGHT CONDITIONS CONTINUING

- NOAA's National Weather Service Climate Prediction Center sees drought persisting in California where the climatology is relatively dry throughout much of the outlook period that runs to the end of August.
- The Southwest is also entering a dry time of year until monsoon rainfall normally begins later in July. However, drought persistence is forecast for the Southwest through the end of August even if monsoon rainfall comes as expected.

### U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for May 20 - August 31, 2021  
Released May 20



▲ Fig 10. Seasonal Drought Outlook from April 15 through July 2021. Source: NWS CPC

## NIDIS AND PARTNERS ARE RESPONDING TO THE SOUTHWEST DROUGHT

Throughout the 2020-21 drought, NIDIS has been working to ensure that stakeholders have the drought information they need. NIDIS' efforts include posting the latest drought information on the new [drought.gov](https://drought.gov) and social media, regular drought status updates, webinars, and regional coordination meetings. All of these efforts involve bringing together the most knowledgeable national and regional drought experts and helping to disseminate their knowledge in easy to understand language. On [drought.gov](https://drought.gov), for example, NIDIS has created interactive maps, tools, and other resources that don't exist anywhere else, building on data from a vast network of partners to provide easily accessible drought information all in one place. The goals of all these outreach efforts are to prepare the public for drought before it occurs or becomes severe and to take appropriate actions to mitigate its impacts. These outreach efforts also share over a decade's worth of NIDIS-funded research and tools on preparing for, predicting, monitoring, and assessing drought.

NIDIS will continue to provide useful and accurate information for as long as the current drought persists. Furthermore, NIDIS is already thinking ahead to the next drought by developing drought impact assessments, integrating lessons learned, and filling gaps and needs. Our ongoing activities and coordination efforts aim to build resilience and provide value to stakeholders across the region who are trying to manage through these exceptional drought conditions.

