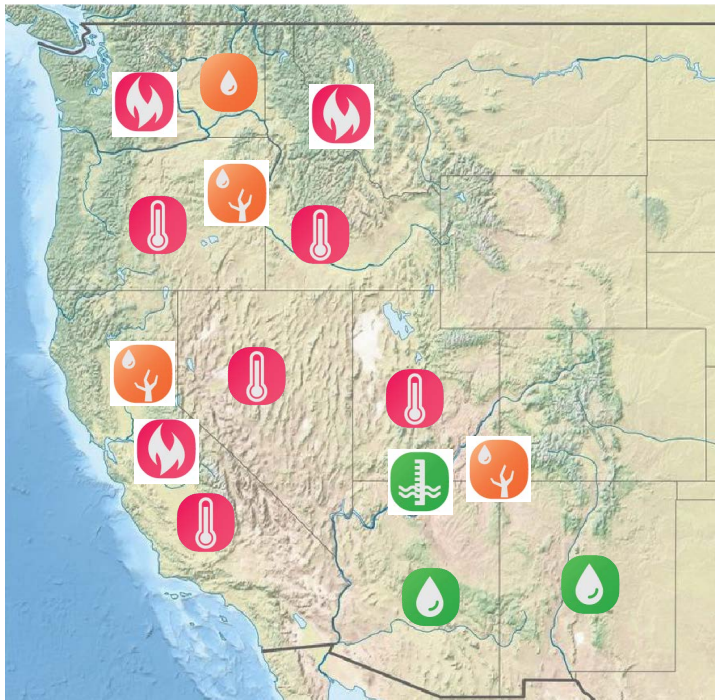


#### Significant Events for Jun-Jul-Aug 2021

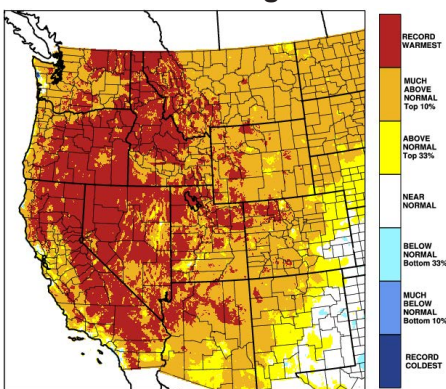


#### Jun-Jul-Aug Highlights

- CA, OR, NV, UT, and ID all experienced their warmest summer on record; AZ, MT, and WA saw the 2nd warmest.
- Dry conditions persisted across the PNW; WA saw its 4th driest summer on record.
- Extreme to exceptional drought now covers 54% of the West and includes all Western States.
- Lake Powell (UT) water level reached an all time low in July.
- Active wildfire season across Pacific Northwest and CA with several "mega fires" ignited this summer. Poor air quality due to wildfire smoke persisted for much of the summer.
- An active monsoon brought much needed rainfall to AZ, NM, and UT after two years in a row with a weak monsoon.
- La Niña conditions waned to ENSO-neutral during Summer with a transition back to La Niña favored going into Autumn.

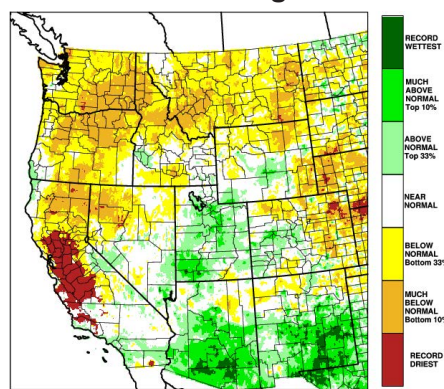
#### Regional Overview for Jun-Jul-Aug 2021

##### Mean Temperature Percentile Jun-Jul-Aug 2021



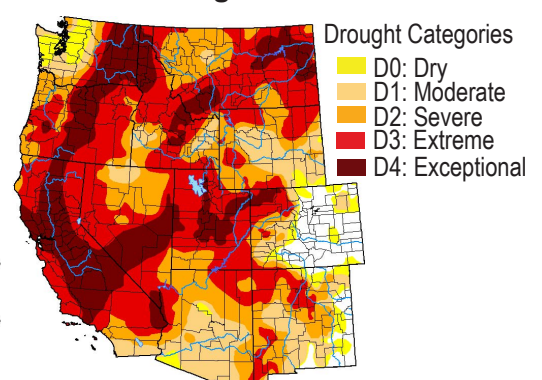
Temperatures were well above average across nearly the entire west and were record breaking in some cases. California, Nevada, Oregon, Utah, and Idaho all set statewide average records for the warmest summer. Southeast New Mexico and Southeast Colorado were outliers with near average summer temperatures.

##### Precipitation Percentile Jun-Jul-Aug 2021



Below average precipitation was coincident with above normal temperatures in the Pacific Northwest, Montana, northern California, and northern Nevada. Monsoon rains brought above average precipitation to much of the Four Corners region with small areas of record summer precipitation in southern Arizona and southern New Mexico.

##### US Drought Monitor August 31 2021



Over 89% of the western U.S. is in drought, with 54% in extreme to exceptional drought. Modest drought amelioration did occur during the summer in the Four Corners states due to an active monsoon and above average precipitation. Exceptional drought was completely removed from New Mexico and only a small sliver remains in western Arizona.

## Regional Impacts for Jun-Jul-Aug 2021

### Drought and Water Resources

Lake Mead, at 35% capacity, and Lake Powell, at 31% capacity, both fell to record low water levels this summer forcing the first ever federal water shortage declaration on the Colorado River.

Lake Oroville, one of California's largest reservoirs, hit a record low level that forced a shutdown of the hydroelectric power plant for the first time since it was completed in 1967.

### Wildlife Impacts

A number of mega fires continue to burn at the end of summer in California. Over 40,000 residents were forced to evacuate their homes. The Dixie Fire in the Northern Sierra Nevada has burned over 900,000 acres and destroyed over 1000 structures. The Caldor Fire just south of Lake Tahoe burned over 200,000 acres, destroyed over 1000 structures, and forced evacuations for the entire city of South Lake Tahoe.

### Agriculture

Above normal precipitation from an active monsoon brought major improvements to rangelands in Arizona and New Mexico.

### Federal Water Shortage Declared on Colorado River

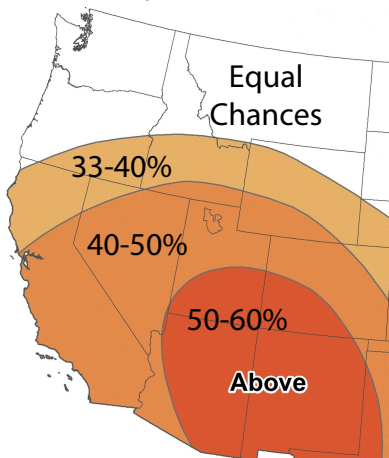


Photo: Bathtub rings on Lake Mead at the Hoover Dam. Credit: John Flek/Inkstain

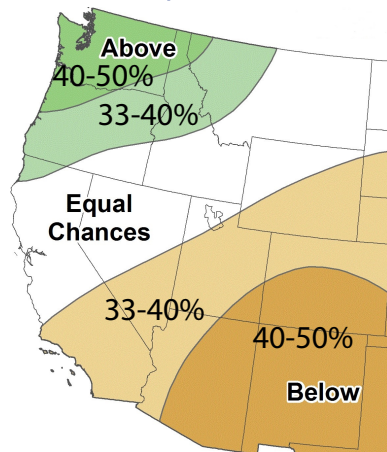
For the first time ever, a federal water shortage was declared on the Colorado River in August. The combination of a multi-decade drought, climate change, and growing human populations in Southwest cities has led to a decline in the Lake Mead, the nation's largest reservoir, since about the year 2000. Lake levels dipped below the stage 1 shortage threshold this summer which prompted a shortage declaration. Starting in 2022 Nevada, Arizona, and Mexico will all see reductions to their water allocations from the Colorado River. Arizona will see the greatest reductions which will cut nearly 20% of the supply they normally receive.

## Regional Outlook for Oct-Nov-Dec 2021

### CPC Temperature Outlook



### CPC Precipitation Outlook



Numbers indicate percent chance of temperatures in warmest/coolest one-third and precipitation in wettest/driest one-third. Outlook produced September 16, 2021.

The CPC outlook for October-December favors above normal temperatures across the Southwest and Great Basin with equal chances of above or below normal temperatures in the Pacific Northwest and Montana. Highest confidence in above normal temperatures is in the Four Corners area. A dipole favoring above normal precipitation in the Pacific Northwest and below normal precipitation in the Southwest can be seen. The precipitation pattern reflects the influence of La Niña returning to the outlook with an enhanced polar jet stream shifted to the north and an active storm track favoring the Pacific Northwest throughout Autumn and the start of Winter.

## Western Region Partners

Western Regional Climate Center  
[wrcc.dri.edu](http://wrcc.dri.edu)  
National Integrated Drought Information System (NIDIS) - [drought.gov](http://drought.gov)  
Western Governors' Association  
[westgov.org](http://westgov.org)  
Western States Water Council  
[westgov.org/wswc](http://westgov.org/wswc)  
NOAA/ESRL Physical Sciences Division  
[esrl.noaa.gov/psd](http://esrl.noaa.gov/psd)  
NOAA Climate Prediction Center  
[www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)  
National Centers for Envir. Info. (NCEI)  
[www.ncei.noaa.gov](http://www.ncei.noaa.gov)  
USDA/NRCS National Water and Climate Center - [www.wcc.nrcs.usda.gov](http://www.wcc.nrcs.usda.gov)  
National Interagency Fire Center  
[www.nifc.gov](http://www.nifc.gov)  
Western Water Assessment  
[wwa.colorado.edu](http://wwa.colorado.edu)  
Climate Assessment for the Southwest  
[climas.arizona.edu](http://climas.arizona.edu)  
California Nevada Applications Program  
[cnap.ucsd.edu](http://cnap.ucsd.edu)  
Climate Impacts Research Consortium  
[pnwclimate.org/resources](http://pnwclimate.org/resources)  
NWS Western Region Forecast Offices  
[www.wrh.noaa.gov/](http://www.wrh.noaa.gov/)