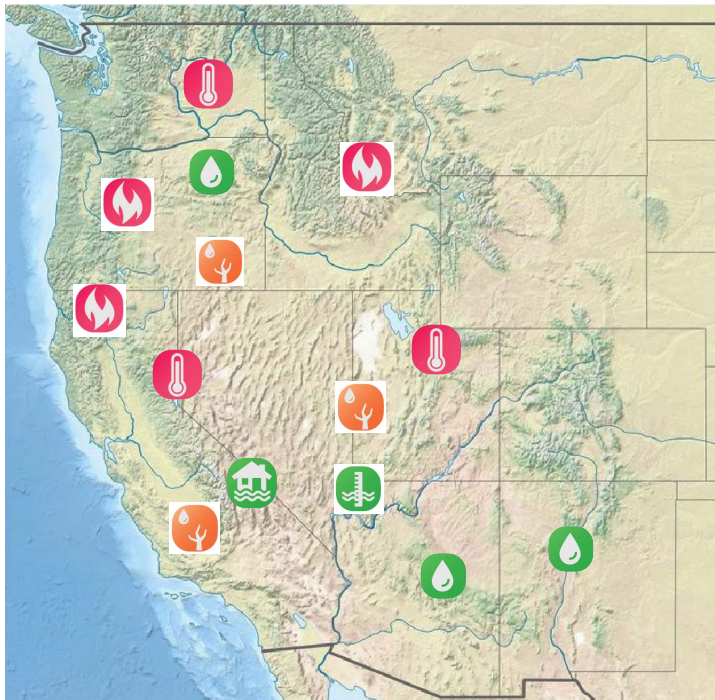


Significant Events for Jun-Jul-Aug 2022

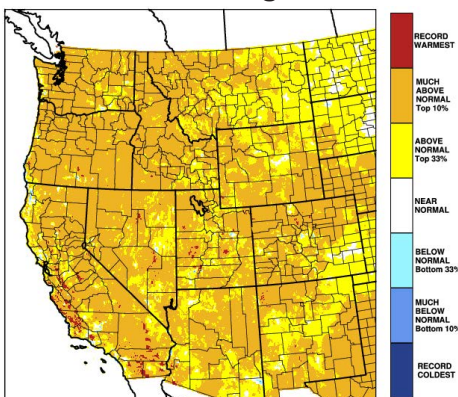


Jun-Jul-Aug Highlights

- Much above normal temperatures across nearly the entire West.
- Wet June in the PNW and wet monsoon season for AZ, NM, southern NV, southeast CA.
- August flooding and record rainfall in the Mojave Desert including Death Valley National Park, CA and Las Vegas, NV.
- Extreme to exceptional drought now covers 20% of the West and includes all Western States except for WA.
- Lake Powell (UT) and Lake Mead (NV) remain at record low levels and received well-below normal summer inflows.
- Large wildfires with many human and ecological impacts burned in northern California, the Cascade Range, and northern Rocky Mountains.
- La Niña conditions persisted during summer with La Niña favored to continue going into autumn and winter.

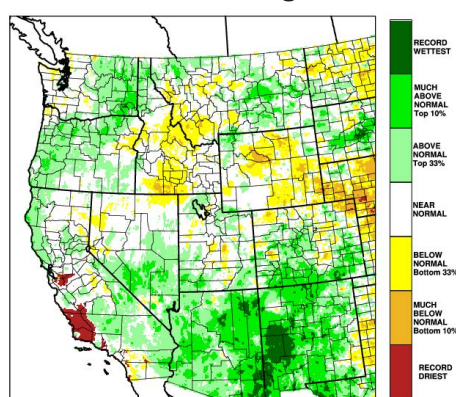
Regional Overview for Jun-Jul-Aug 2022

Mean Temperature Percentile
Jun-Jul-Aug 2022



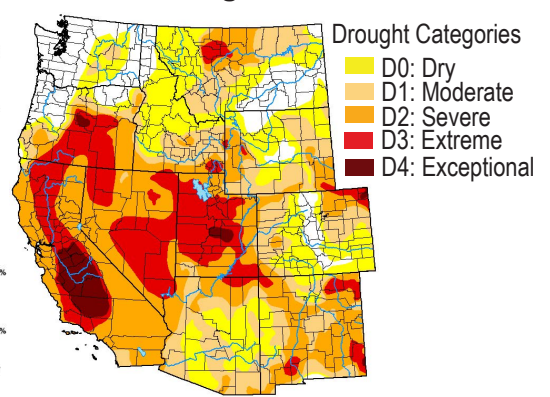
Temperatures were above normal across the entire West with many long-term stations in the top five warmest summers on record. Salt Lake City, Utah saw its hottest summer since records began in 1928. August was exceptionally warm across much of the Pacific Northwest with many long standing temperature records broken.

Precipitation Percentile
Jun-Jul-Aug 2022



Most of the West saw near normal or above normal precipitation this summer. June was wet across the Pacific Northwest and also in Arizona and New Mexico where the North American monsoon began early. An active monsoon continued throughout the summer with surges of moisture extending north and west into eastern California and western Nevada.

US Drought Monitor
August 30 2022



Over 67% of the western U.S. is in drought, with 20% in extreme to exceptional drought. The biggest drought amelioration was found in the core of the monsoon region in Arizona and New Mexico. Drought status was completely eliminated in parts of the Pacific Northwest mostly due to the wet and cool spring and early summer.

Regional Impacts for Jun-Jul-Aug 2022

Flooding

On August 5, 1.7 inches (43.2 millimeters) of rain from a thunderstorm fueled by monsoonal moisture fell at Death Valley National Park, California making it the rainiest day in the site's history. The storm caused flash flooding that stranded nearly 500 park visitors and 500 staff. Many roads into and out of the park remained closed for weeks after the event.

In June heavy rainfall caused substantial flooding and rockfall in southwest Montana with severe damage to roads and bridges, road closures, and temporary drinking water supply outages.

Drought and Water Supply

Leaders on the Hopi Reservation in Arizona ordered a 30% to 100% reduction of cattle on certain parts of the reservation to conserve water despite recent monsoon rains.

Water levels in Lake Mead and Lake Powell remain critically low with the reservoirs at 28% and 25% of capacity, respectively.

Four dead, many structures destroyed, and large fish kill all a result of the McKinney Fire, California

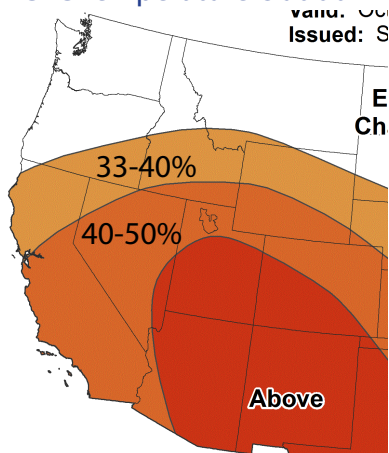


Image: Dead fish in the Klamath River near Happy Camp, CA in early August. Credit: Karuk Tribe.

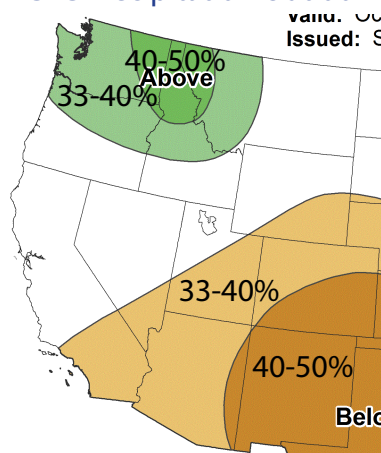
The McKinney Fire ignited on July 29, 2022 in the Klamath National Forest in northern CA and rapidly spread consuming more than 50,000 acres in the first 36 hours. The fire burned more than 60,000 acres total, led to four civilian deaths, and destroyed 185 structures. In early August heavy rainfall occurred on the recently burned area and triggered several debris flows that led to a massive fish kill on the Klamath River. Reports indicate thousands of dead fish of multiple fish species along more than a 20 mile stretch of the river. Ash and debris likely affected dissolved oxygen levels in the river causing the fish kill.

Regional Outlook for Oct-Nov-Dec 2022

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 15, 2022.

The CPC outlook for October-December favors above normal temperatures across the Southwest with equal chances of above or below normal temperatures in the Pacific Northwest. Highest chances for above normal temperatures are in Utah, Arizona, and New Mexico. Above normal precipitation is forecast for Washington, and parts of Oregon, Idaho, and Montana with below normal precipitation forecast for the Southwest. The precipitation pattern highlights an increased probability of continuation of La Niña for a third winter in a row.

Western Region Partners

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