

Long-Term Drought Continues, Even as a Wet Spring and Early Summer Have Improved Conditions in Parts of the West

- Compared to one year ago, the area in drought in the western U.S. shrank from 89% to 73%, while the area in Exceptional Drought (D4) dropped from 25% to 7%.
- Spring storms in the Pacific Northwest and Northern Rockies removed drought in parts of those regions. A robust summer monsoon has improved drought in parts of the Southwest, especially western NM (Fig. 2).
- The Southwest, California, and even parts of the Northwest have been stuck in a 20+ year megadrought, influenced by climate change. While this megadrought has improved or worsened at times, the last two years have been particularly dry for the West as a whole (Fig. 3).



Fig. 2. Percent of normal precipitation in the last 60 days (as of July 17, 2022) for the western U.S. Source: High Plains Regional Climate Center.

U.S. Drought Monitor Western U.S.



Fig. 1. July 19, 2022 U.S. Drought Monitor. Source: National Drought Mitigation Center.

July 19, 2022

ased Thursday, Jul. 21, 2022) Valid 8 a.m. EDT

79.09 59.51 24.87

D2 Severe Drought

D3 Extreme Drought



🔺 Fig. 3. Percent of normal precipitation in the last two years (as of July 16, 2022) for the western U.S. Source: High Plains Regional Climate Center.

RESERVOIR LEVELS ARE BELOW OR MUCH BELOW NORMAL

As of July 17, 2022, most reservoir levels in the West were below or much below normal, in many cases from long-term drought (Fig. 4). Lake Powell is at 26% capacity while Lake Mead is at 27% of capacity. In California, Lake Shasta is at 38% of capacity and Lake Oroville is at 44% of capacity.

Snowpack is key to boosting reservoir levels. The 2021-22 snow season ended with above-normal snowpack for much of the Northwest and Northern Rockies while the drought crisis worsened in California and the Southwest. Water supply remains a major concern for much of the West, especially because this was the second or third drought year in a row for many parts of the West. As we head further into summer, the <u>Southwest Monsoon</u> has continued to come on strong, especially in Arizona, New Mexico, and Southwest Colorado. The monsoon brought a quick end to the Southwest fire season and may help vegetation and ecosystems. However, the monsoon will not have much impact on long-term water supply challenges facing the Colorado River Basin (Fig. 5).



For more information about NIDIS, visit www.drought.gov

IT'S NOT JUST THE LACK OF PRECIPITATION THAT'S DRIVING DROUGHT. IT'S THE HEAT TOO.

- Extreme heat can cause or worsen drought conditions by drying out soils and vegetation.
- Most of the West has been warmer than normal since the start of summer, and conditions are worsening.
- The 8-14 temperature outlook shows that the most of the West is expected to experience extreme heat conditions over the next two weeks (Fig.6).
- The trend towards a hotter climate is clear when looking at the past 120 years. Every 10 years, NOAA releases new U.S. Climate Normals. These 30-year averages represent the new "normals" of our changing climate. Looking at the U.S. annual average temperature during each Normals period in the 20th-century average (1901-2000), the earliest map in the series has the most widespread and darkest blues, and the most recent map has the most widespread and darkest reds, showing the influence of global warming (Fig. 7). The shift towards warmer temperatures is especially pronounced in the West.



Fig. 6. Top: Departure from normal temperature in the last 30 days years (as of July 17, 2022) for the western U.S. Source: High Plains Regional Climate Center. Bottom: 8-14 day temperature outlook for the contiguous U.S. and Alaska. Source: NOAA's NWS Climate Prediction Center.

U.S. ANNUAL TEMPERATURE COMPARED TO 20th-CENTURY AVERAGE



Fig. 7. Annual U.S. temperature compared to the 20th-century average for each U.S. Climate Normals period from 1901-1930 (upper left) to 1991-2020 (lower right). Source: NOAA National Centers for Environmental Information.

OUTLOOK SHOWS DROUGHT CONDITIONS CONTINUING

- NOAA's National Weather Service Climate Prediction Center forecasts drought persisting throughout much of the West through the end of October.
- Drought is also expected to develop in parts of ID and MT.
- Drought is expected to improve in parts of the Southwest, particularly in AZ. Any improvements are not expected to substantially help with water supply challenges.



Fig. 8. Seasonal Drought Outlook from July 21 through October 31, 2022. Source: NWS CPC.

NIDIS AND PARTNERS ARE RESPONDING TO THE WESTERN DROUGHT

Throughout the 2020-22 drought, NIDIS has been working with federal, state, and tribal partners, plus organizations including the the Western States Water Council and the American Water Works Association, to ensure that stakeholders have the drought information they need. NIDIS' efforts include posting the latest drought information on the new <u>drought.gov</u> and social media, regular drought status updates, webinars, and regional coordination meetings. Additionally, NIDIS has a number of ongoing initiatives to address current drought and future droughts and related impacts. For example, the <u>NIDIS Drought and Wildland Fire</u> <u>Nexus (NDAWN) Strategy</u> defines the needs and challenges of fire managers to effectively utilize drought information and to establish a robust drought and wildland fire decision-support information network. 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 <u>drought.gov</u>, 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. 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.

