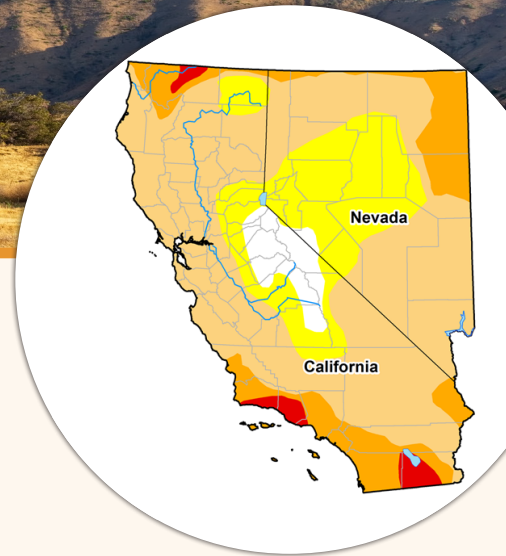


# CALIFORNIA-NEVADA DROUGHT OUTLOOK NOVEMBER 2018



▲ Fig 1. U.S. Drought Monitor for December 4. Source: <http://droughtmonitor.unl.edu>

## Current Drought Conditions

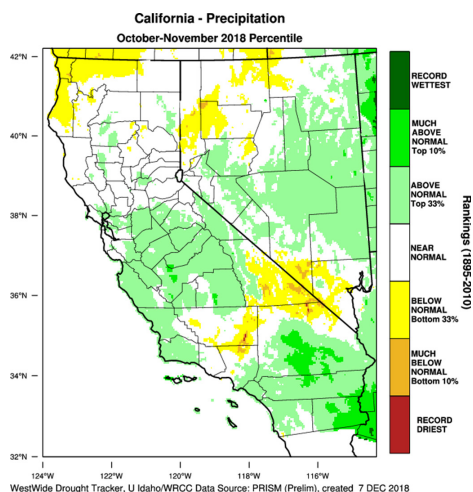
The 2019 Water Year was off to a dry start in California-Nevada. According to the U.S. Drought Monitor, ~74% of California-Nevada is in moderate (D1) to extreme drought (D3) as of Dec. 4 (Fig. 1). Extreme drought (D3) conditions began impacting Ventura-Santa Barbara counties while D1-D2 conditions expanded over the Sierras and northern coastal California. Precipitation at the end of November into early December improved some of these conditions.

## Regional Drought & Climate Update

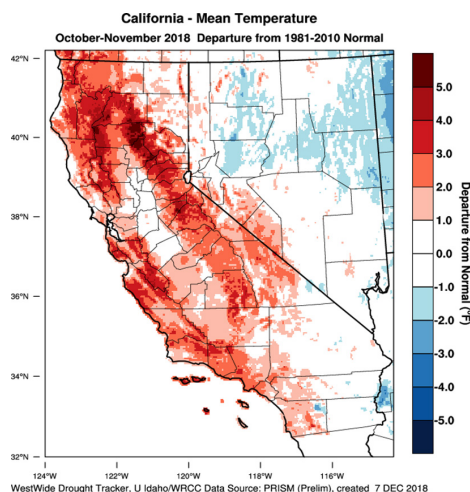
California and Nevada started the 2019 water year (Oct. 1, 2018) with precipitation totals below normal. For example, on November 19, much of California had < 25% percent of normal precipitation. High fuel loads and dry conditions combined with short term weather resulted in several major fires in California in November.

Three atmospheric river (AR) events starting around Thanksgiving and continuing through the end of November brought rain and snow to California-Nevada, with the later storm reaching into southern California. As of the end of November (Fig. 2), some of the region remains near or below normal (northern CA-NV, southern Sierras), while others are above normal (central CA-NV and southern CA). Oct-Nov temperatures were above normal over much of the region, with some regions as high as 4-5°F above normal (Fig. 3).

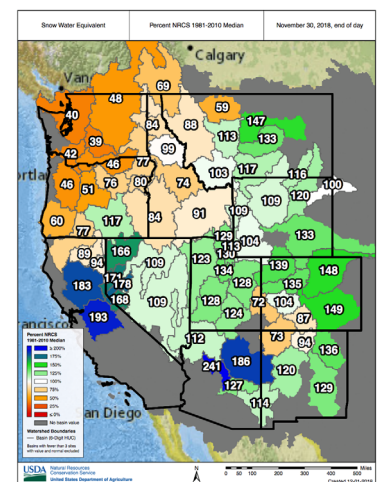
Snowpack has finally started to build and, as of November 30, snow water equivalent values are above median over much of the Sierra Nevada and the Rockies (Fig. 4). Major California reservoirs are at or just below historical averages, while Lake Tahoe remains above the natural rim.



▲ Fig. 2: Percent of normal precipitation (%) since start of the 2019 water year (Oct-Nov 2018). Source: [WestWide Drought Tracker](#)



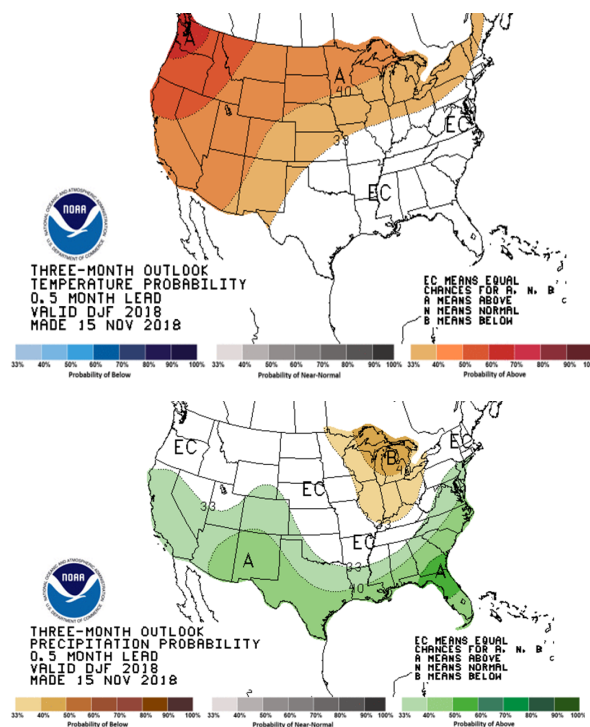
▲ Fig. 3: Departure from normal temperature (°F) since start of the 2019 water year (Oct-Nov 2018). Source: [WestWide Drought Tracker](#)



▲ Fig. 4: Percent NRCS 1981-2010 median snow water equivalent (SWE) on Nov 30. Source: [NRCS](#)

## Drought & Climate Outlook

- **ENSO:** Despite above-average ocean temperatures across most of the equatorial Pacific, ENSO-neutral conditions remain. However, forecasters are expecting the ocean-atmosphere system to eventually couple. [NOAA's ENSO alert system](#) status is currently an **El Niño Watch**, and the official forecast favors the formation of a weak El Niño that will continue through winter (~80% change) and into spring (55-60%). For more information, check out the [NOAA ENSO blog](#).
- **Temperature:** Warm temperatures are favored over California-Nevada through early winter with > 40% chance of above-normal Dec-Feb temperatures, with the greatest chances (> 50%) over the northern part of the region (Fig. 5).
- **Precipitation:** Most of California and Nevada have slightly increased odds of above normal Dec-Feb precipitation (Fig. 5). However, additional forecasts show California and Nevada have equal chances of above, below, and normal Jan-Mar precipitation. At the time of the forecast, current drought conditions are forecasted to improve in some of the region.



▲ Fig. 5: Temperature and precipitation probabilities for December 2018 to February 2019. Source: [Climate Prediction Center](#). A = chances of Above Normal, EC = equal chances of Above, Below, or Normal, B = chances of Below Normal.

### Preparing Your Winter Toolbox: Tools presented during the November Webinar

- [CNAP Drought Tracker](#): The California-Nevada Application Program (CNAP), a NOAA RISA team, gathers information from tools developed by CNAP researchers and collaborators to provide a summary of the current precipitation and water resources throughout the region.
- The Center for Western Weather and Water Extremes (CW3E) at Scripps Institution of Oceanography provides [atmospheric river event forecasts](#), [interactive mapping tools](#), and more monitoring and forecasting tools.
- NOAA NWS [California-Nevada River Forecast Center \(CNRFC\)](#) provides hydrologic guidance for time scales from hours (flash flood guidance, flood forecasts, and reservoir inflows), to days (flood forecasts, reservoir inflows, and short-range ensembles), to weeks (short-range ensembles and water resources), to months (water resources). CNRFC coverage spans ~250,000 square miles, supporting 12 NWS weather forecast offices and customers with observed and forecasted conditions, including interactive mapping.

### About this Outlook

On November 26, 2018, NIDIS and its partners held this webinar as part of a series of drought and climate outlook webinars designed to provide stakeholders in the region with timely information on current drought status and impacts, as well as a preview of current and developing climatic events.

A video of and presentations from this webinar can be accessed here:

<https://www.drought.gov/drought/calendar/events/california-nevada-drought-climate-outlook-webinar-nov-26-2018>

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