



NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM

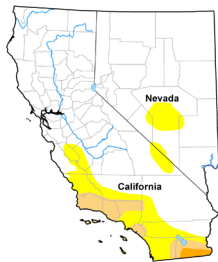
CALIFORNIA-NEVADA DROUGHT OUTLOOK

MAY 2017

CURRENT CONDITIONS

After improved regional drought conditions throughout this winter into spring, as of June 1st a mere 8.24% of California and none of Nevada remains in moderate to severe drought (D1-D2) according to the U.S. Drought Monitor. This is a marked improvement compared this time last year (86% in California, 62% in Nevada). The lingering areas of drought remain near the southern central coast and southeast corner of California. Few changes in the U.S. Drought Monitor classes have occurred

US DROUGHT MONITOR MAY 30, 2017



- Abnormally dry
- Moderate drought
- Severe drought

in California and Nevada in the last two months, with most improvement having taken place through February. On April 7, California Governor Brown lifted the statewide drought emergency except for a few counties in the San Joaquin Valley (Fresno, Kings, Tulare, and Tuolumne).

Almost all of California and Nevada received above- to much-above-normal precipitation this winter. At the end of May 2017, regions of the Sierra Nevadas and northern Nevada have been the wettest on record for the 2016-17 water year (Oct. 1-Sept. 30). These amounts resulted in part from continued landfall of large precipitation events called atmospheric rivers (ARs). ARs are narrow corridors of high water vapor transport in the lower 2 km of the atmosphere. In the short term, California and Nevada generally have seen an overall drying trend.

Snowpack levels have decreased since April 1 but remain above normal. As of May 31, Nevada SNOTEL sites are well above normal (300-400%) snow water equivalent for this time of year, while California Department of Water Resources (CA DWR) north, central, and south automated snow sensors show above-average snow water content in the Sierra Nevada (42%, 74%, and 59% of April 1 normal, respectively). April brought warmer than normal temperature to southern California and Nevada, and cooler than normal temperatures to the northern part of the region, with the opposite temperature pattern in May.

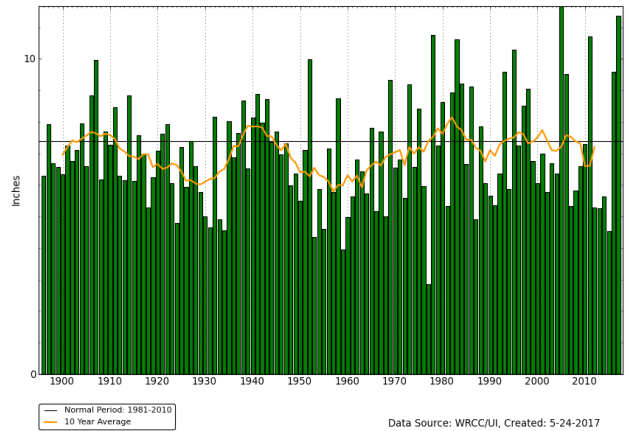
Many reservoirs in California are near or above historical normal levels, with some near flood control release levels before the additional summer snowmelt. Streamflows in California and Nevada are running normal to above normal, with flood stage potential in western Nevada. Forecasts for above-normal streamflow volume have persisted since February.

CLIMATE OUTLOOK

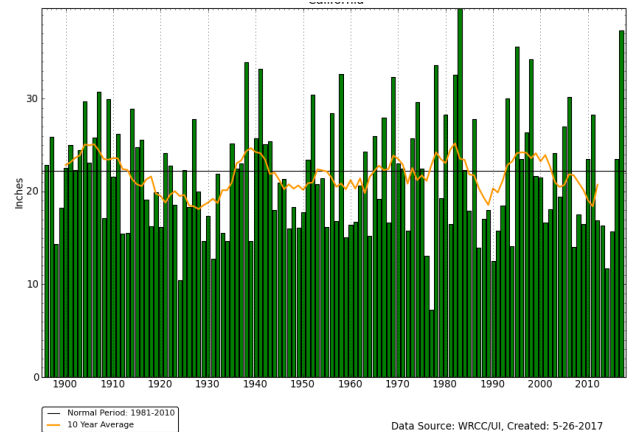
Following a transition from weak La Niña conditions to neutral this past winter, ENSO neutral conditions persisted through April and May with near-average equatorial sea surface temperatures (SST) near the central Pacific and above-average SSTs in the eastern Pacific. Currently ENSO-neutral conditions are present, and are favored to continue through early summer 2017. The official probabilistic ENSO forecast shows near equal chances (both >40%) of neutral or El Niño conditions developing through late summer into fall. A clear shift to El Niño conditions is lacking in observational data.

The Climate Prediction Center (CPC) seasonal outlooks as of May 18 show equal chances of above, below, or average precipitation in June-

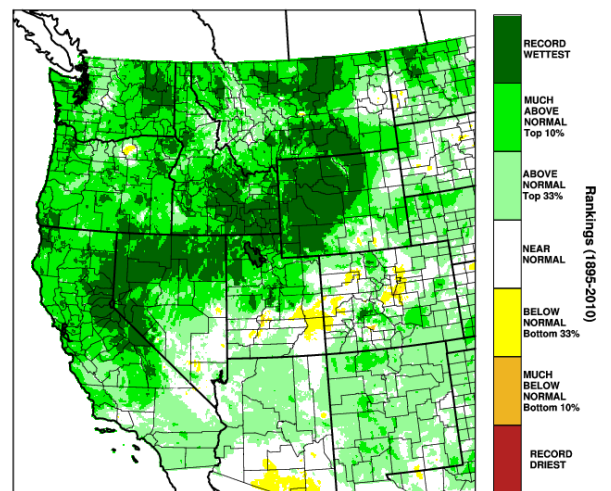
NEVADA PRECIPITATION (INCHES) OCTOBER 2016 - APRIL 2017



CALIFORNIA PRECIPITATION (INCHES) OCTOBER 2016 - APRIL 2017



OCTOBER-APRIL 2017 PRECIPITATION PERCENTILE



July-August (JJA) and July-August-September (JAS) in California-Nevada. Above-normal temperatures are favored across the region, with a 40-60% chance of above normal temperatures in summer into early fall. According to the North American Multi-Model Ensemble (NMME), these temperatures could be 0.25-1°C above normal through summer to fall. Highlighted in this webinar was recent work by Shrad Shukla (CNAP/UCSB) that showed historically the NMME is relatively skillful in forecasting JJA and JAS temperatures for the interior of California-Nevada. Through August, drought is expected to persist in the south central California coast as well as near the southern California-Arizona border.

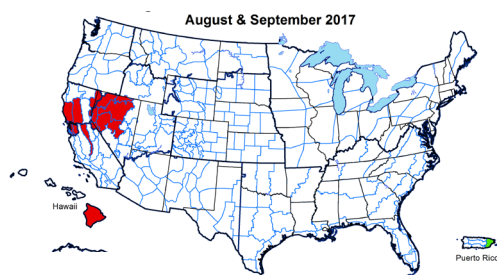
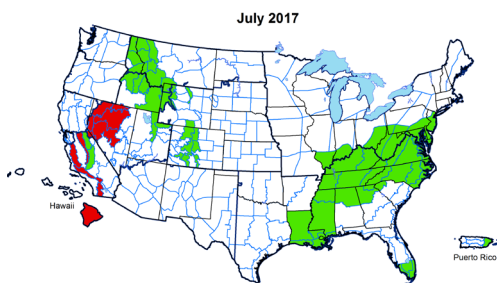
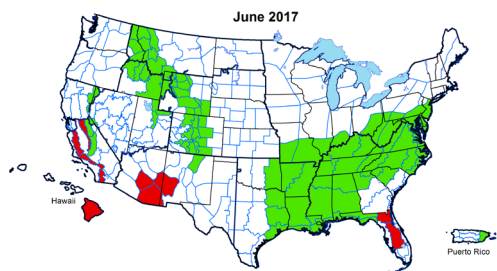
FIRE POTENTIAL OUTLOOK

Despite improved drought conditions throughout California and Nevada, significant wildland fire potential exists through the summer and is dependent on several factors. These include various dead fuel moistures and

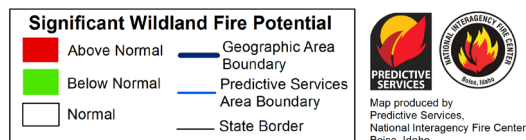
environmental conditions. A significant grass crop, or 10-hour fuels, across Nevada and California have created potential for wildland fire throughout the summer. For example, 10-hour fuel moisture over Nevada is in the 1-2% and 3-4% range. In the short-term, there will likely continue to be a burst in fire activity across the cured grassy areas in California. Most of these fires will not result in a significant drain on regional firefighting resources, but could require high resource demand at the local level. 100-hour fuel moisture (such as sagebrush) in the region is lowest in southern Nevada due to recent warming and drying.

On the other hand, 1000-hour fuel moisture (such as from timber) is high due to a large snowpack, and as a result the higher elevation areas have below-normal wildland fire potential until later in the summer. With the combination of a robust grass crop and significant tree mortality, the Sierra foothills in the 3000-6000 foot elevation will be the most likely area for large fire activity this summer.

Recent work by Gina McGuire from the Great Basin Geographic Area Coordination Center has shown that during the last 15 years, the years when Nevada entered or exited drought were those with the highest number of acres burned. In California, live fuel moisture is above average for this time of year, and will likely stay above average or close to average throughout much of the fire season. Therefore, significant fire activity (apart from the initial grass fire surge) will be slow to develop, and large fire activity within the heavier fuels may not start until later in July or August. Atmospheric conditions will determine coming wildland fire potential including the monsoon and Santa Ana winds in southern California.



Source: <https://www.predictiveservices.nifc.gov/outlooks/outlooks.htm>



ABOUT PREDICTIVE SERVICES

Predictive Services is a national program operating out of the Geographic Area Coordination Centers (GACC) (<https://gacc.nifc.gov/>) throughout the United States and is comprised of meteorologists, fire intelligence coordinators, and fire behavior analysts. Predictive Services combines weather, fuels, and resource availability to provide a comprehensive look at fire potential (where and when large fires occur). They provide this information through their web portal and products, monthly/seasonal outlooks, and webcast briefings.

ABOUT THIS OUTLOOK

On May 30th, 2017 NIDIS and its partners held a California-Nevada DEWS Drought & Climate Outlook Webinar as part of a series of regular drought and climate outlook webinars designed to provide stakeholders and other interested parties in the region with timely information on current drought status and impacts, as well as a preview of current and developing climatic events like La Niña.

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-may-30>

CONTRIBUTORS

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OUTLOOK: PRECIPITATION

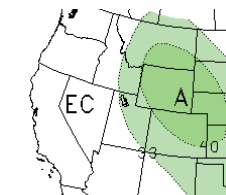
A = chances of above-normal precipitation

EC = Equal chances of above, below, normal

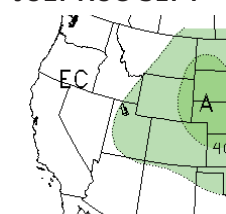
33-40% probability of above normal precipitation

40-50% probability of above normal precipitation

JUNE-JULY-AUG



JULY-AUG-SEPT



OUTLOOK: TEMPERATURE

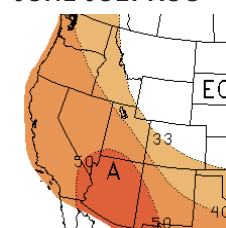
EC = Equal chances of above, below, normal

33-40% probability of above normal temperature

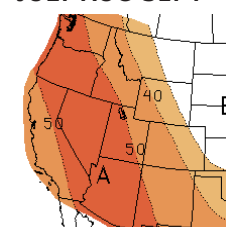
40-50% probability of above normal temperature

50-60% probability of above normal temperature

JUNE-JULY AUG



JULY-AUG-SEPT



<http://www.cpc.ncep.noaa.gov>

