



The drought in the western United States has reached its fourth year with drought conditions covering 73.47% of the 11 western states including 99.86% of land in California¹.

Due to these drought conditions, wildfire season in the West and California has been particularly severe in 2015.

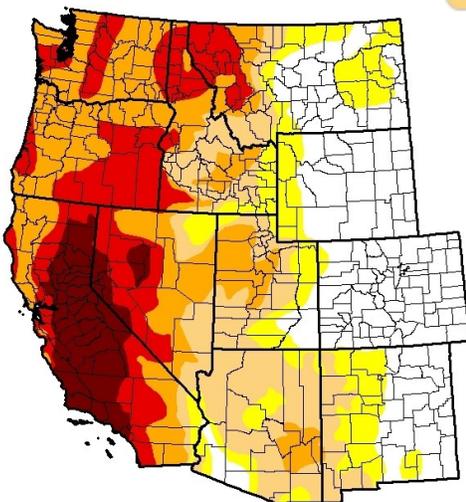


South Complex Castle Fire, California
Source: National Wildfire Coordinating Group

U.S. Drought Monitor
West

Intensity:

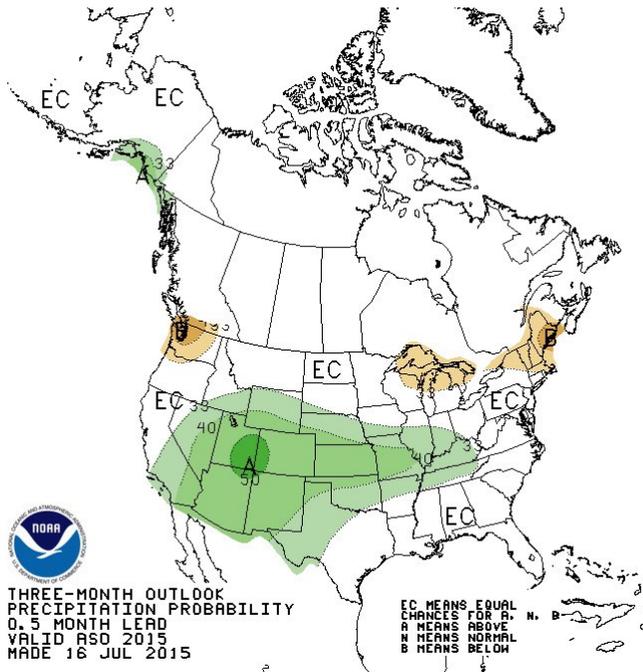
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)



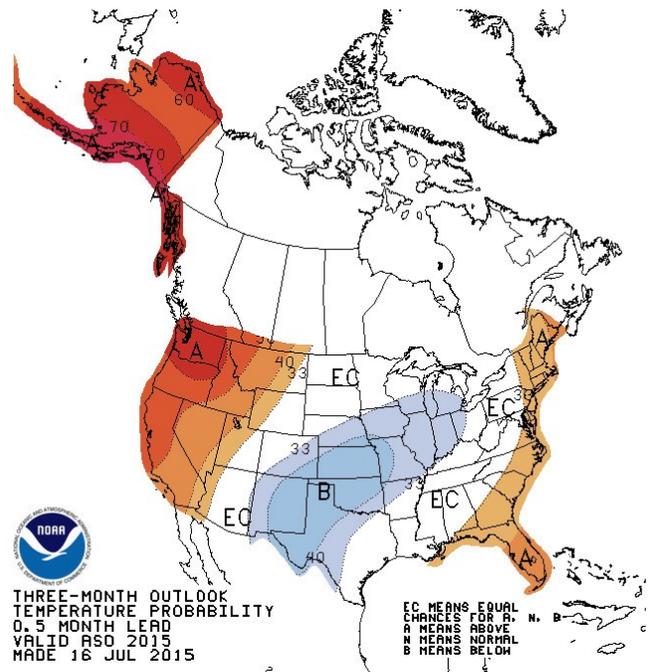
In 2014, NOAA scientists identified the main drivers of the drought were decadal scale sea surface temperature variation as well as short term atmospheric variability². They also learned:

- Climate change trends will increase precipitation in the West long term
- The current mode of sea surface temperature variation will result in a small drying trend for the next decade
- The current drought, despite its severity, does not indicate any long term drying trends

Precipitation



Temperature



NOAA’s Climate Prediction Center (CPC) predicts at least a 33% chance of above normal precipitation for much of the Southwest through October (Areas of above [below] average precipitation are highlighted in green [brown])

NOAA’s Climate Prediction Center (CPC) predicts at least a 33% chance of above normal temperatures for much of the West through October (Areas of above [below] average temperature are highlighted in red [blue])

Despite the increase in precipitation for parts of the West, the CPC predicts the drought will continue into at least October due to the extreme conditions currently being experienced in the West³



Fork Complex Fire, California
Source: National Wildfire Coordinating Group

Extreme drought conditions enhance wildfire probability by providing dryer, more plentiful fuel for fires to feed on.

- Wildfires can impact areas not directly affected by the fire via increased risk of flash flooding and impacts due to ash and smoke
- CoreLogic estimates there to be over \$550 Billion USD in single family residences exposed to wildfire risk in the western US⁴

Fire Name	County	Size (acres)
Rocky Fire	Lake	69,600
Washington Fire	Alpine	17,790
Mad River Complex	Trinity	17,041
Route Complex	Del Norte	15,862
South Complex	Trinity	15,026
Fork Complex	Trinity	14,434

- As of August 7, 19 different major wildfires were burning in California accounting for over 204,000 burned acres. The largest five active fires are listed in the table on the left⁵.
- In comparison to the previous 10 wildfire seasons, the number of fires in 2015 is below average while the number of burned acres is well above average⁶ due to the intensity of the fires caused by the extreme nature of the drought.

There is hope that drought conditions will improve in the coming months consequentially decreasing threat from wildfires⁷

- A moderate to strong El Niño is forecast for the Fall/Winter of 2015/2016⁸.
- El Niño conditions exist when equatorial sea surface temperatures in the eastern Pacific are above average
- Strong El Niños typically result in increased precipitation for the western US
- El Niños have been observed to increase tropical cyclone activity in the eastern Pacific and decrease activity in the north Atlantic

The National Interagency Coordination Center and National Interagency Fire Center produce wildfire potential outlooks based on climate and weather patterns. Their projections for wildfire potential for the West:

- Currently much of the Northwest and southern/central California are above normal wildfire potential
- The Northwest and central California will return to normal by the end of September
- Southwestern California will return to normal by the end of November



Credit: Misael Virgen/San Diego Union-Tribune

The remnants of Hurricane Dolores dumped 1.02 inches of rain on San Diego on July 18, making it the rainiest day in the city's 165 year observed history

References

1. USDA, <http://droughtmonitor.unl.edu/>
2. Seager, Richard, et al. "Causes and predictability of the 2011-14 California Drought: Assessment Report." (2014).
3. NOAA Climate Prediction Center, www.cpc.ncep.noaa.gov
4. CoreLogic 2015 Wildfire Hazard Risk Report
5. CalFire, <http://www.fire.ca.gov>
6. CalFire, <http://www.fire.ca.gov>
7. NOAA Climate Prediction Center, www.cpc.ncep.noaa.gov
8. NOAA Climate Prediction Center, www.cpc.ncep.noaa.gov