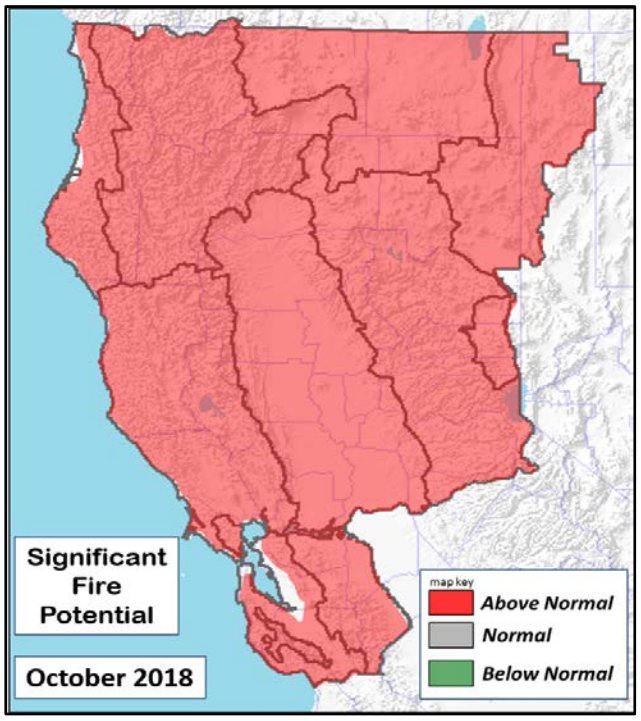
NORTHERN OPERATIONS

MONTHLY/SEASONAL OUTLOOK

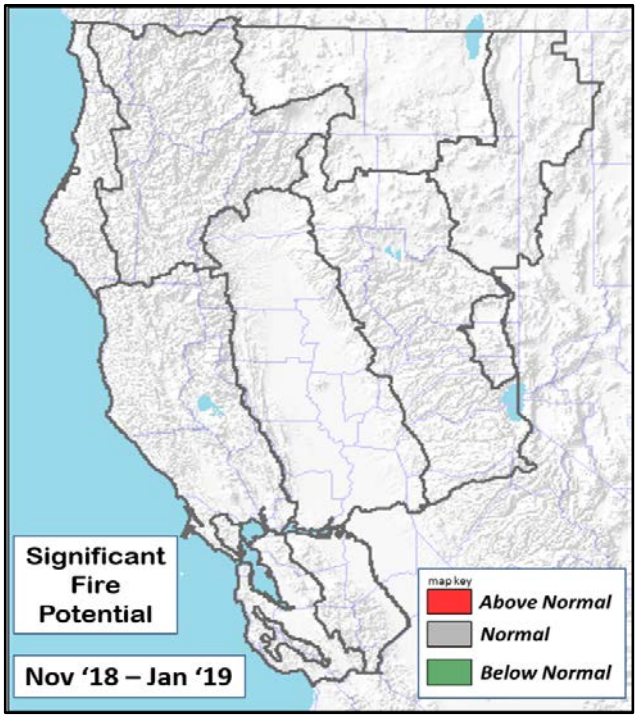
ISSUED OCTOBER 1, 2018 **VALID OCT '18 - JAN '19**

PREDICTIVE SERVICES

SIGNIFICANT FIRE POTENTIAL



October 2018



November '18 - January '19

October 2018 - January 2019 Highlights

- ***Near to slightly below normal temperatures and below normal precipitation***
- ***Although light rain in early Oct, the remainder of the 1st half of October looks dry w/multiple days of dry N-E/Offshore winds***
- ***Fuels of all size classes drier than normal & close to record values, between 3rd and 10th percentile in many areas***
- ***Abundant load of fine fuels and brush at mid & lower elevations***
- ***Exceptional fire behavior, spread rates, and acreage possible with any ignitions in October***
- ***Above Normal Large Fire Potential all areas in October, favoring the 1st half of the month***
- ***All areas Normal Nov 2018 - Jan 2019***
- ***ENSO neutral currently then increasing chances of El Niño late fall and winter***

WEATHER DISCUSSION

Little to no rain fell in the North Ops region in September (**Fig 1**). The region saw more time spent under the influence of dry low pressure troughs in September than usual. That, and periods of thick smoke from active wildfires, contributed to temperatures a bit cooler than normal in most areas (**Fig 2**) and another quiet month in terms of lightning activity. North central and eastern areas tended to be warmer than normal and areas from the Sacramento Valley to the coast were generally near to cooler than normal. The wet spring across the majority of the region led to heavy fine fuel and brush growth at lower and middle elevations. However, the overall 2017-2018 rainy season was drier than normal, especially west of the Cascade-Sierra ranges (**Fig 3**), allowing the current very dry fuels situation. The current ENSO status is neutral, but current NOAA outlooks are giving a 67% chance of a weak El Niño pattern from late fall through the winter (**Fig 4**). Current fall and winter outlooks reflect weather patterns that typically occur in an El Niño event.

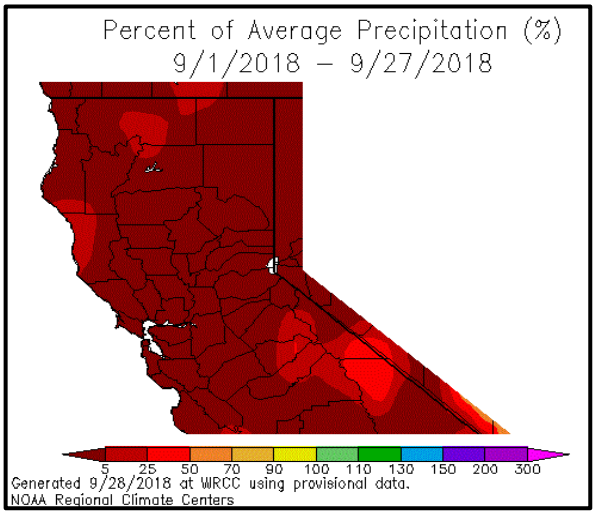


Fig 1: September Precipitation (% of Ave.)

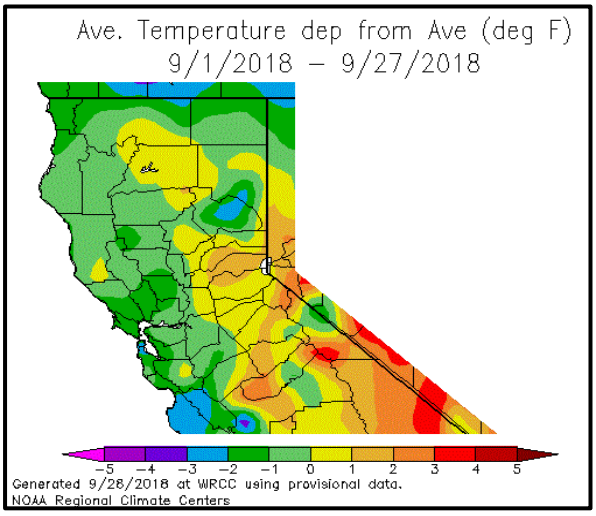


Fig 2: September Temperature (Departure from Ave.)

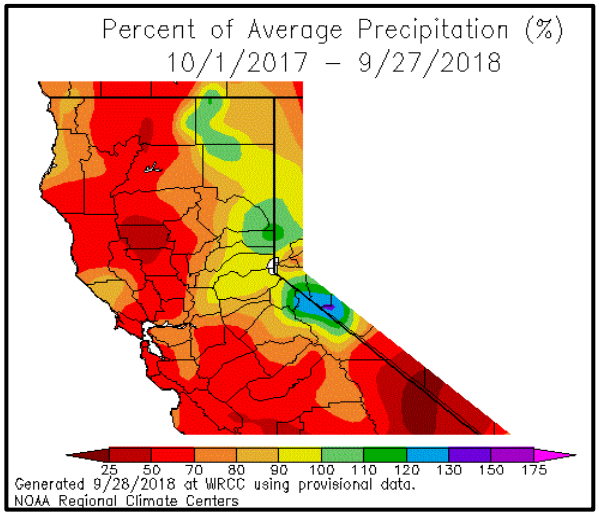


Fig 3: Pcpn (% of Ave.) since Oct 1, 2017

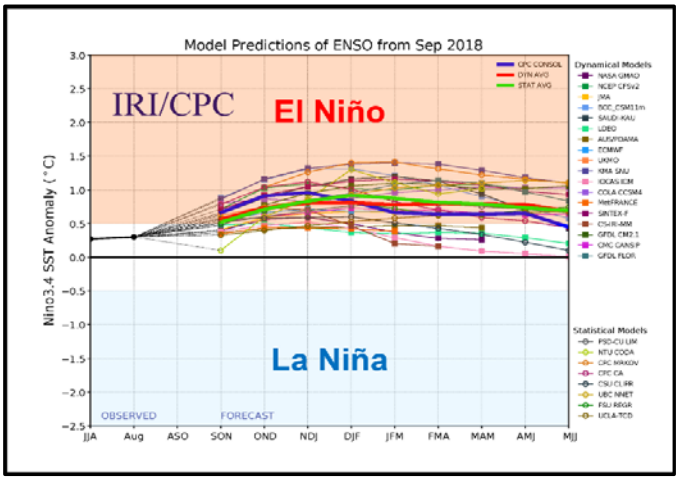


Fig 4: ENSO, currently neutral, has a 67% chance of weak El Niño late fall and winter

FUELS AND DROUGHT

The dry rainy season and early summer dry and warm weather led to a rapid drying of fuels and soils across the region and a quick start to the fire season in June. The U. S. Drought Monitor product now shows a large area of "Abnormally Dry" conditions throughout the far northern counties and west of the Cascade-Sierra crest (**Fig 5**). "Moderate" and "Severe" drought conditions have developed near the OR state line and west of the Sacramento River. The wet weather in the spring months was ideally timed to produce a heavier than normal crop of fine fuels and brush growth at mid and lower elevations and a near to slightly above normal green-up phase among perennial live fuels. The University of California Sierra Foothill Research and Extension Center reported that on May 1 the fine fuel crop in the foothills of the eastern Sacramento Valley had reached more than 180% of normal. The North Ops average 1000-hr fuel moisture chart shows that the heavier fuels are drier than normal and still near seasonal lows at a time when fuel moisture usually starts to climb (**Fig 6**). Other fuels indices in a few Predictive Service Areas are at yearly extremes as well. Live fuels are also at critically dry levels throughout the region. The current very dry state and abundant loading of fine fuels and brush are evident in the photo on the right taken in northern Sacramento Valley in late August (**Fig 7**). Extreme fire behavior and rapid fire spread rates will be likely with any ignitions until wetting rains arrive later in October.

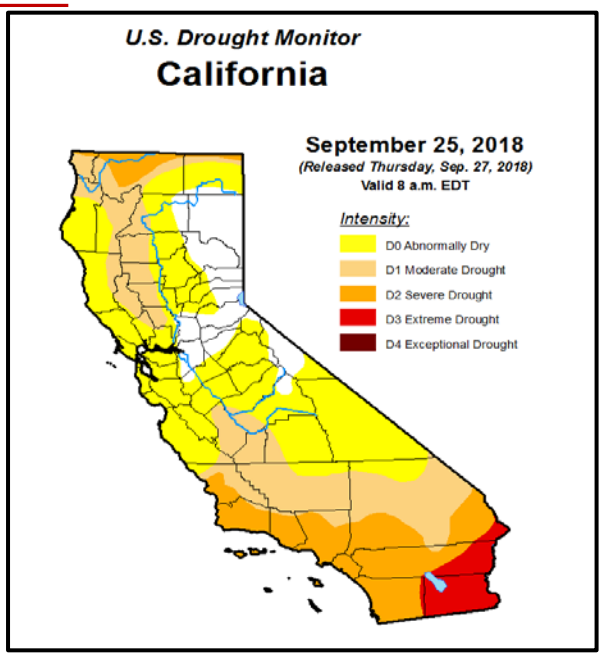


Fig 5: California Drought Monitor from September 25, 2018

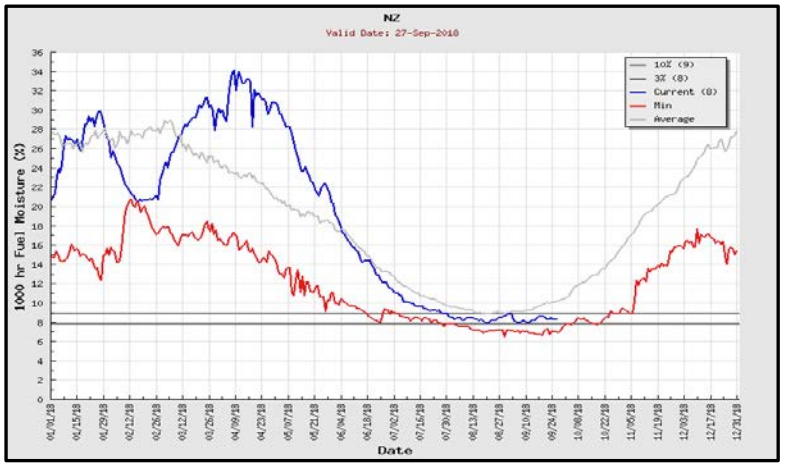


Fig 6: North Ops 1000 hr FM September 27, 2018
blue = 2018 grey = average red = record

Fig 7: Above normal crop of cured fine fuels with dry ladder fuels in the Sacramento Valley - August 2018

NORTH OPS OUTLOOK

The overall outlook for October-January is for near to slightly below normal temperatures and below normal precipitation, although there are smaller month-to-month differences (**Fig 8**). Low pressure troughs will move through the region with increasing frequency and strength in October. During the first half of the month they will produce little to no rainfall, but rainfall amounts should increase during the last half of October. The very heavy load of fine fuels and brush are accompanied by carry-over fuels from 2017. The current very dry fuel condition, combined with the potential of strong gusty winds that will likely accompany and follow low pressure troughs, will continue the high potential of significant fire development throughout the North Ops region in October. Northern and eastern areas will likely see large fire potential fall off some by the middle of the month. Areas farther to the SW, where fine fuels and brush are the dominant fuel type and where N-NE/Offshore winds tend to produce the most critical weather conditions, will continue with above normal large fire potential until heavier rains reach farther south later in October. Wildfire occurrence, behavior, and spread rates have been very high to extreme so far this fire season, and until wetting rains arrive new ignitions in even light to moderate winds could resist control. Occasional precipitation in Nov-Jan, even if below normal, will bring significant fire potential back to normal in all areas.

The North Ops region has Above Normal Significant Fire Potential in all areas in October, with the emphasis on the first half of the month. All areas drop back to normal for Nov-Jan.

The normal number of large fires per Predictive Service Area is defined as:
October: <1 in the north, 1-1.2 elsewhere.
November-January: <1 in all areas.

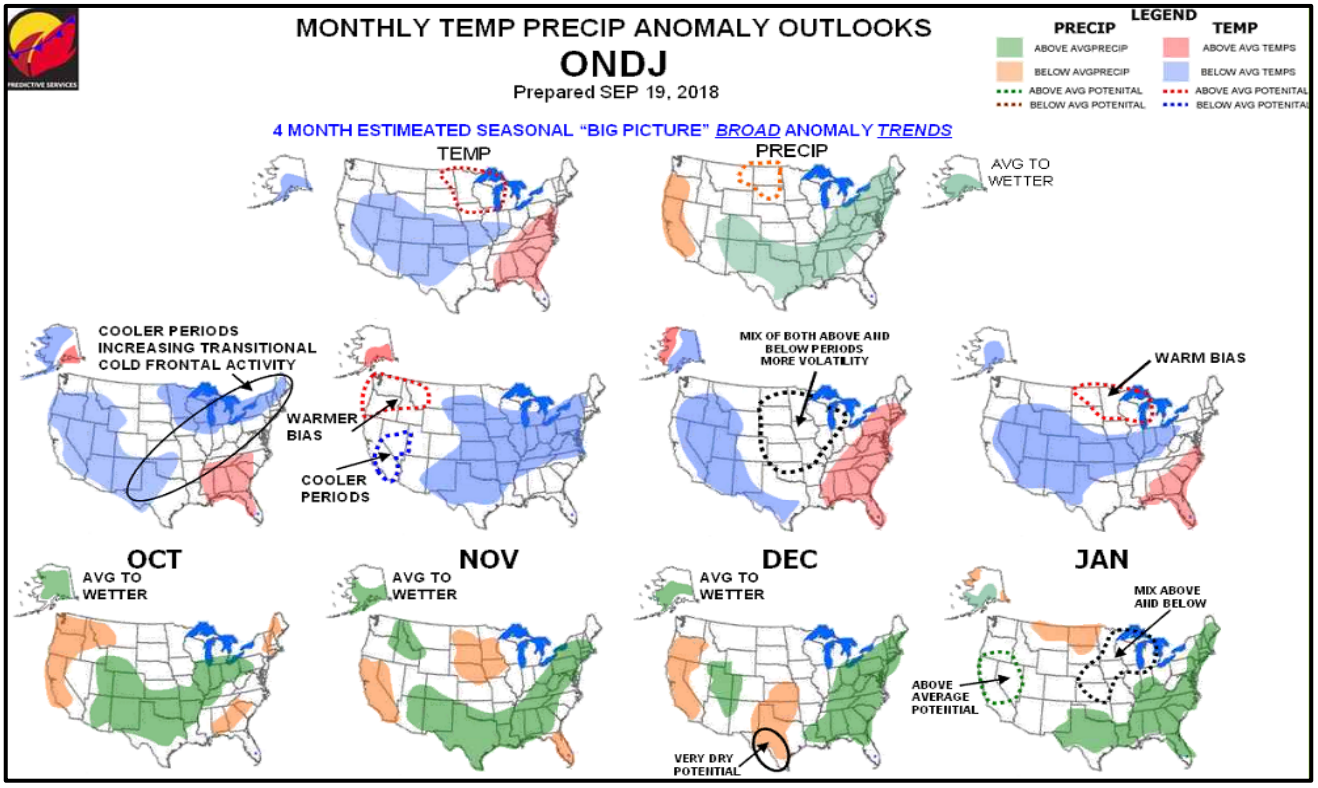


Fig 8: Predictive Services graphical Outlook for October 2018 - January 2019