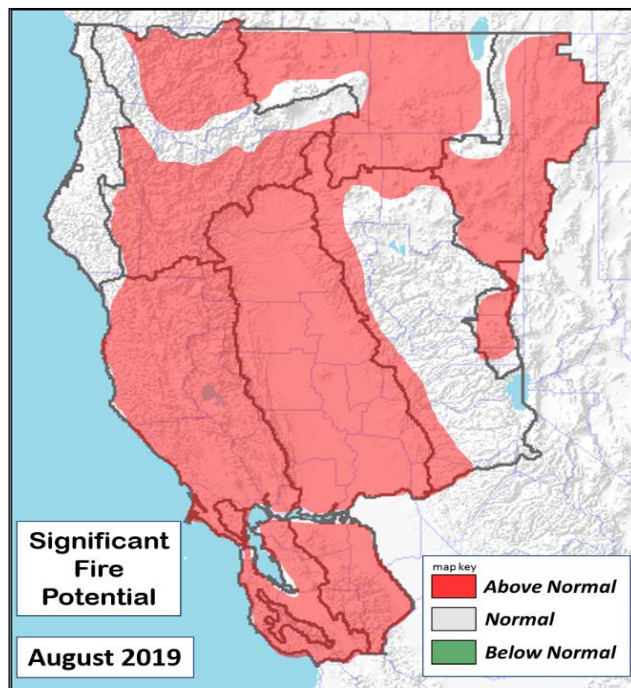
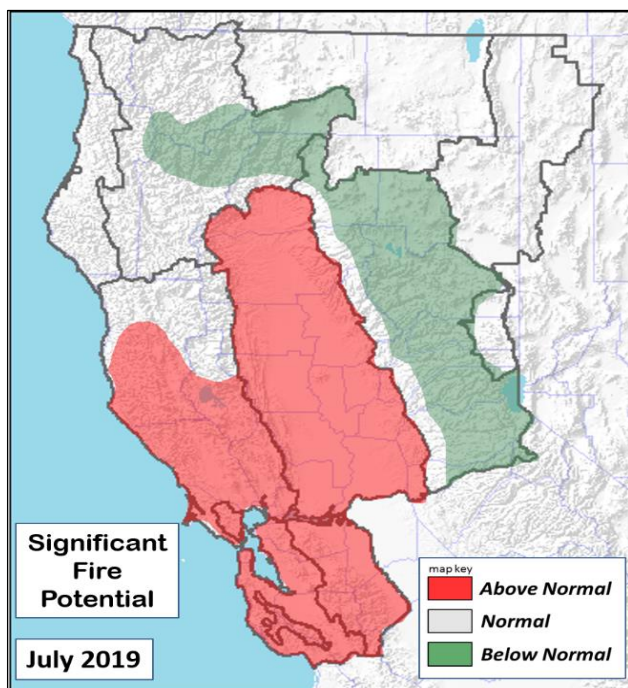


SIGNIFICANT FIRE POTENTIAL



NORTHERN OPERATIONS MONTHLY/SEASONAL OUTLOOK

ISSUED MAY 1, 2019

VALID MAY – AUGUST 2019

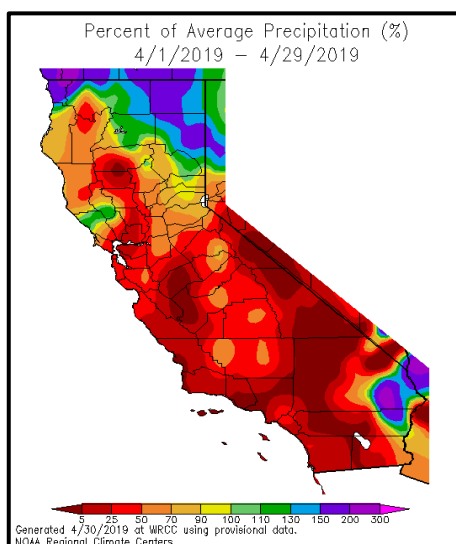


May - August 2019 HIGHLIGHTS

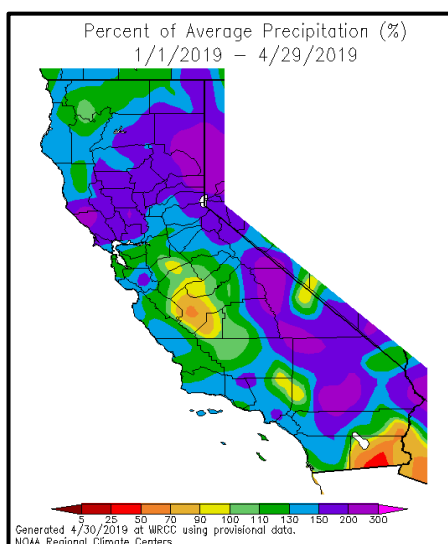
- Near normal temperatures and precipitation through August.
- Above normal snow pack gradually melting through July.
- Weak El Niño continuing throughout the summer.
- Heavy fine fuel crop, completely cured in June. Above normal brush growth.
- Below normal amount of summer lightning due to prevailing SW-W flow.
- Normal Significant Fire Potential in May. Above Normal at lower elevations from Sacramento Valley June-August, spreading north and including middle elevations beginning in August. Significant Fire Potential remaining quiet at high elevations.

PAST WEATHER DISCUSSION

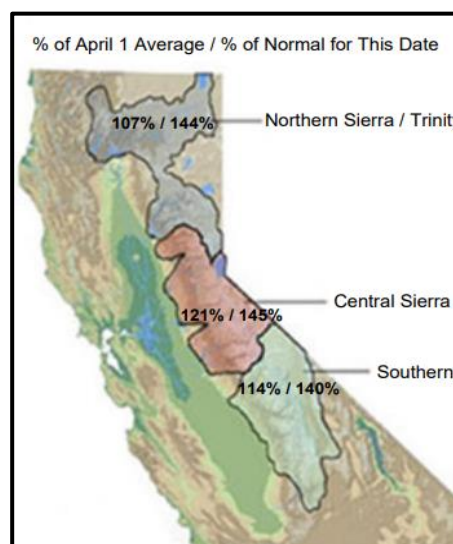
The majority of the North Ops region received below normal precipitation in April (**Fig 1**). Notable exceptions were across the north and northeast portions of the region. Since January 1st the entire region has received above normal precipitation, with a large portion at 150% or more of normal (**Fig 2**). Average temperatures were below normal in 2019 through the first half of April. The latter half of April has been warm and dry. The high elevation snow pack snow water content remains well above average for the date as we enter May, and still slightly above the typical seasonal April 1st peak (**Fig 3**). The snow water content had reached 165% of the normal seasonal peak in early April before the warm and dry weather began to rapidly reduce it.



**Fig 1: Apr Precipitation
(% of Ave.)**



**Fig 2: Jan-Apr Precipitation
(% of Ave.)**



**Fig 3: Snow pack as of April 29,
2019**

FUELS AND DROUGHT

Fine fuels on the floors of lower elevation valleys, especially the Sacramento Valley, have started curing, but the brush green-up phase is just beginning at middle elevations (3000-6000'). The ongoing weak El Niño pattern in the equatorial Pacific is now expected to continue throughout the summer (**Fig 4**). The wetter than normal rainy season, especially since January 1st, has led to 1000-hr fuel moisture readings well above normal (**Fig 5**), but with the drier and warmer than normal weather since mid April readings are quickly approaching the "Normal" curve. The wet weather through mid April greatly reduced the amount of the state considered to be abnormally dry (**Fig 6**). An above normal fine fuel crop has emerged, and brush growth will also be above normal this spring. However, the cooler than normal conditions through the first half of April delayed the spring green-up phase by 2 weeks or more in many areas. Also, a rare heavy snow event in the northern Sacramento Valley has led to lots of dead and down trees and limbs. Finally, there has been an increase in tree mortality in the past year, as shown in the Tree Mortality Task Force density map (**Fig 7**). These fuels issues may contribute to another active fire season this year.

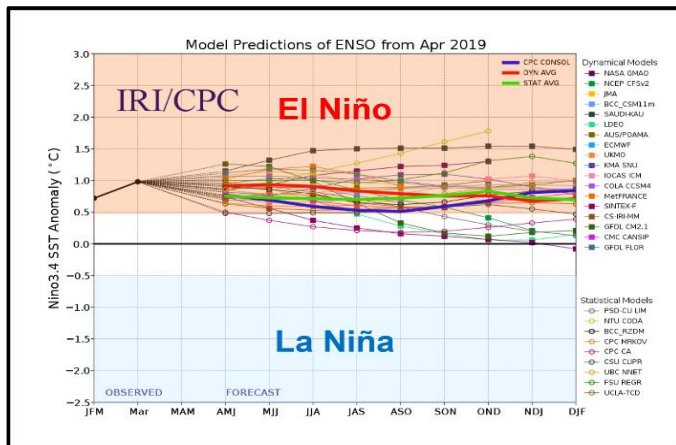


Fig 4: ENSO Plume diagram - April 2019

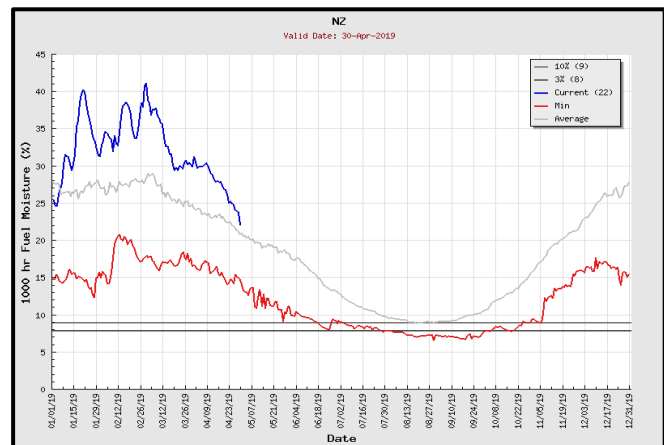


Fig 5: N Ops 1000-hr Fuel Moisture

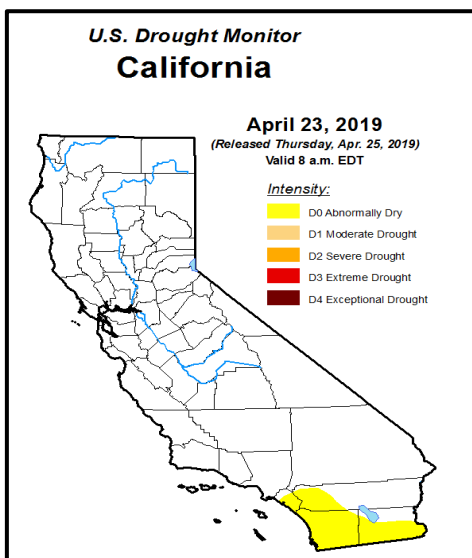


Fig 6: California Drought Monitor

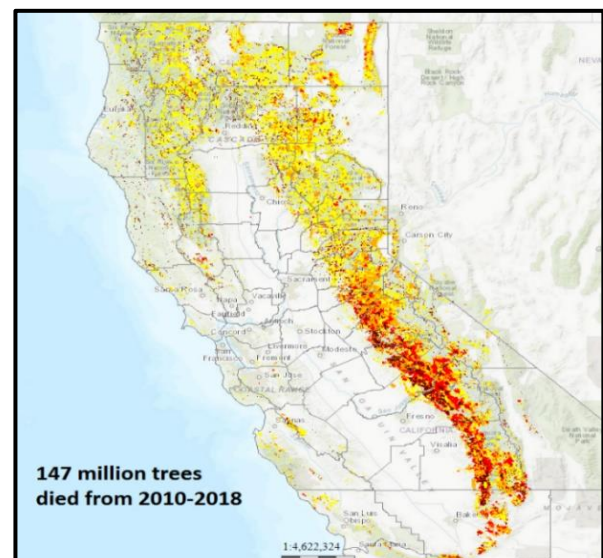


Fig 7: Tree Mortality density - Feb 2019

NORTHERN OPERATIONS MONTHLY/SEASONAL OUTLOOK

ISSUED MAY 1, 2019

VALID MAY – AUGUST 2019



NORTH OPS OUTLOOK

Mild temperatures and occasional light rain are in the forecast through the middle of May. This pattern will slow the rate of the snow pack melt off. The longer-term Predictive Service outlook calls for near normal temperatures and precipitation through August (**Fig 8**). Spring weather systems are likely to continue impacting the North Ops region well into June, delivering cool or mild temperatures with spotty light precipitation. In the absence of strong heat waves, the high elevation snow pack is likely to gradually melt through July, continuing high fuel and soil moisture readings. Little to no significant fire activity is expected through July at elevations above 6000', and fire activity there will likely be on the quiet side of the normal range in August. Lower elevations (below 3000') will see an increase in grass fires in May, but the potential for significant fire growth will remain small until June when the robust fine fuel crop becomes more thoroughly cured. Middle elevations (3000-6000 ft) will gradually dry out a normal to slightly slower than normal rate, reaching Above Normal Significant Fire Potential in many areas by late July or August. El Niño patterns are uncommon in summer months, so there are few comparable years. However, in those that do show similarities a SW or W flow aloft prevails, leading to fewer monsoon surges into the North Ops region, and therefore, less lightning occurrence than usual. Due to the expected moist conditions, lightning strikes at upper elevations through July will not be as likely to produce large fires, compared to 2018 when the snow pack was below normal.

Normal large fire occurrence is defined as less than 1 large fire in May in all PSAs. In June normal is defined as 2-3 large fires in the Sacramento Valley/Foothills and Far Eastside PSAs, and fewer than 2 large fires in all other PSAs. In July normal is defined as 2-3 large fires in the Sacramento Valley and NW Mtns and 1-2 large fires in all other PSAs. In August normal is defined as 3-6 large fires in the NW Mtns, NE CA, and Northern Sierra PSAs and 1-3 large fires in all other areas.

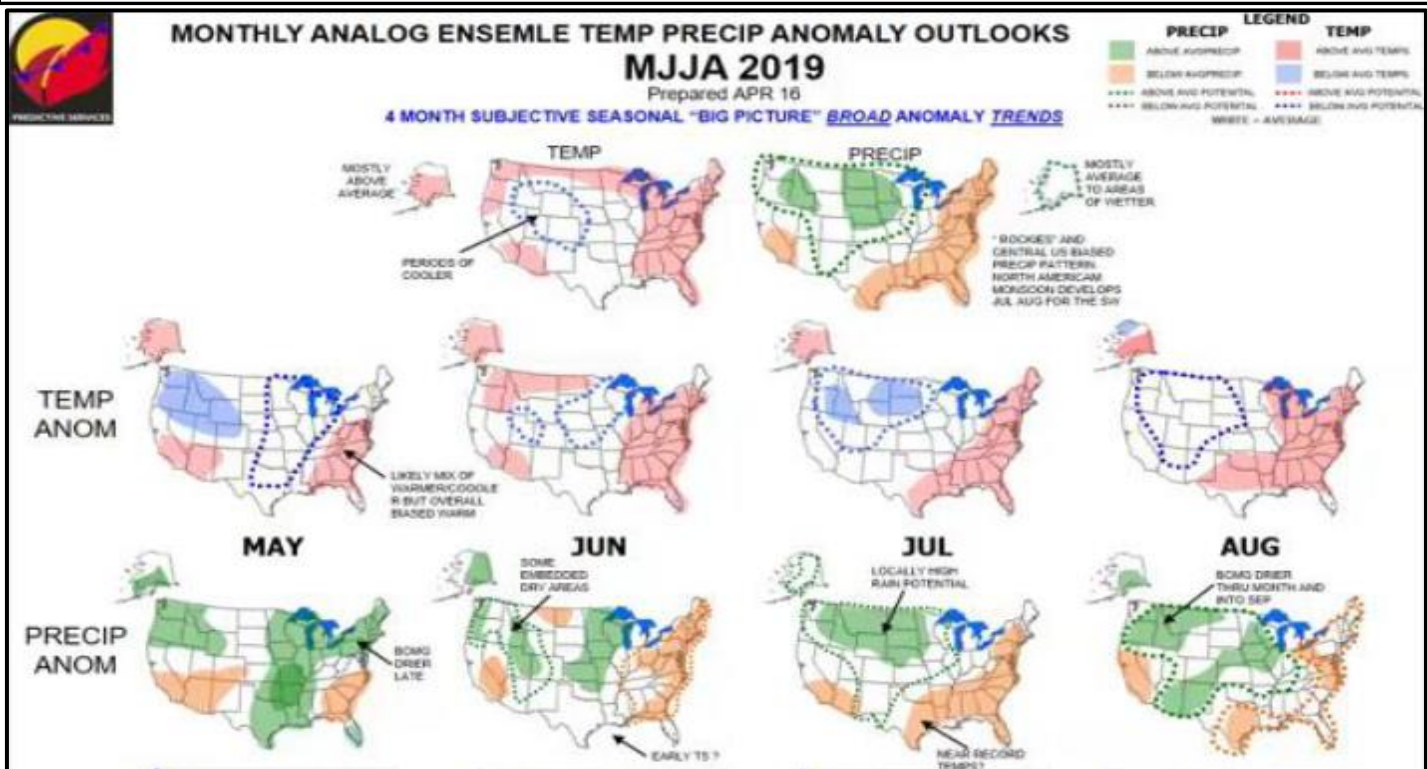


Fig 8: Predictive Services graphical Outlook for May through August 2019