

**\*Significant Fire Potential per Predictive Service Area (PSA)**

## **April - July 2024 North Ops Highlights**

- Timely moist-cool intrusions are likely next few months thus mitigating the potential for extended critically dry fuel periods.
- Several barriers to significant fire spread should be in place next 3-4 months thus leading to a slower start to the significant portion of the fire season.
- Herbaceous curing will be more noticeable latter half of May into June across the lowlands and likely lead to an uptick in Initial Attack fires.
- A longer window for large prescribed burn projects is expected next few months.
- **Significant Fire Potential is normal for April and May when very little activity occurs then trend Near to Below Normal June-July when the occurrence potential increases.**



## Weather Discussion

Weather patterns fluctuated during March with around 3 weeks of cool-moist while 1 week of warm-dry. No discernible Atmospheric River events occurred. Precipitation (**Fig 1**) anomalies were mixed with some areas of above normal favoring the near Coastal Areas and far East and areas of below normal across central portions of the region. Average temperatures (**Fig 2**) were generally near to below normal with small pockets of above normal. There were a little over 1600 lightning strikes observed during the month, above the 2012-2022 March lightning strike average of nearly 800 strikes. One weak and 1 strong northerly and easterly wind event occurred with the stronger event occurring the 13th to 15th. There were several gusty to strong southerly wind events but with high humidity.

A few complex oceanic-atmospheric teleconnection states will be in play during the next 4 months that will impact the Jet Stream strength and track and how the high pressure ridge builds. This includes a rapidly weakening and transitioning El Nino (**Fig 5**), -PDO, plus fluctuations in the Madden Julian Oscillation (MJO). Although some uncertainties exist there is a better likelihood for timely cool-moisture intrusions through June with mixed temperature and precipitation anomalies more probable for each month. Northerly wind event activity should be near to below normal. More dominant onshore wind cases attached with a dry intrusion should be something to watch for during June-July. Early indications suggest a late start to the Southwest Monsoon although a few drier moisture (lightning) pulses could occur in July.

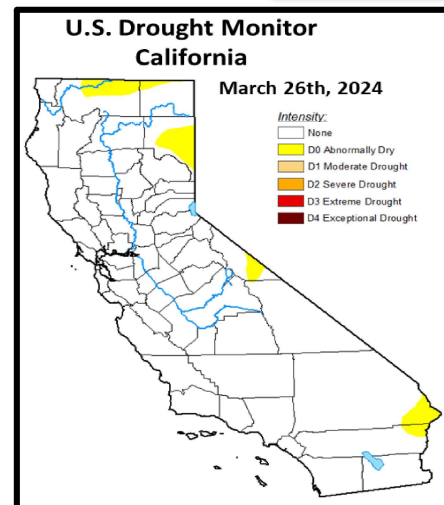


Fig 3 – Drought Monitor

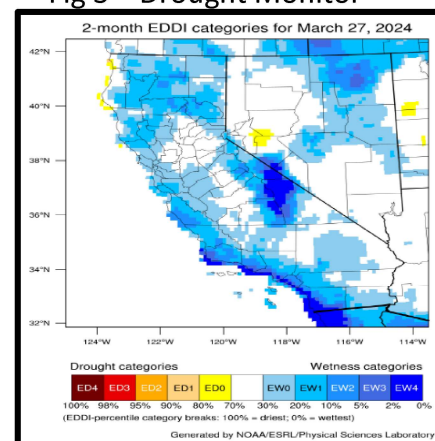


Fig 4 two-month EDDI March 27th

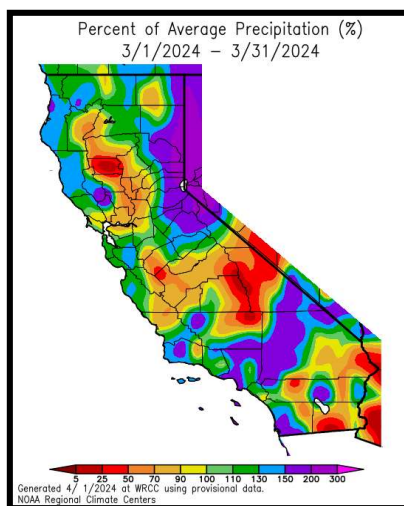


Fig 1 – Precip in March (% of avg.)

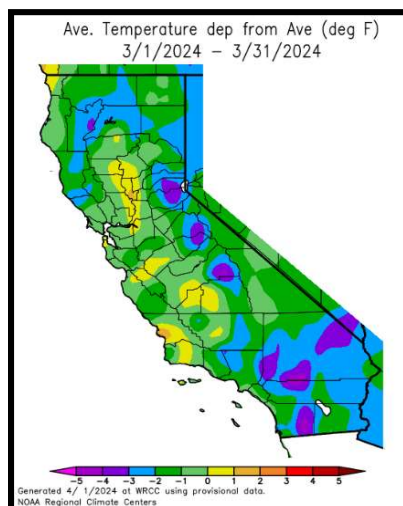


Fig 2 – Temp in March (dep of avg.)

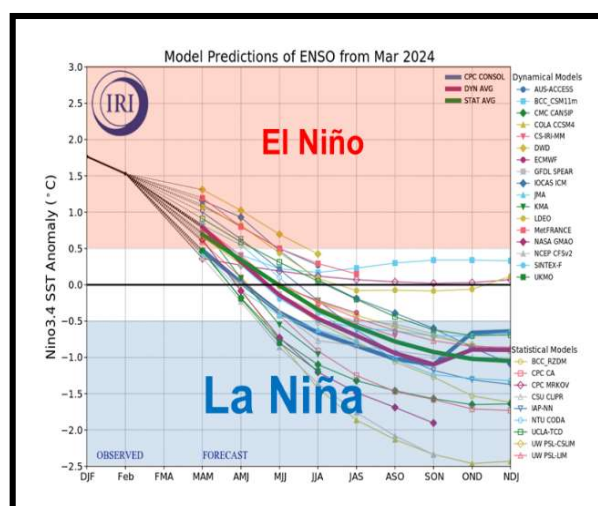


Fig 5 – Current ENSO state and outlook



## Fuels Discussion

Dead fuels were generally moist and less flammable during most of March with the exception of some dryness during the 3rd week of the month that led to some increased flammability. The growing season became well underway within the shrub and tree canopies, generally below 2500 feet, with dormancy remaining across the mid/upper elevations. Herbaceous fuels were in various forms of green-up, generally below 3500-4000 feet, with a noticeable growth spurt across the lowest elevations.

The blue line found on the North Ops 1000-hour dead fuel moisture chart (**Fig 6**) shows noticeable fluctuations during March with above normal values during most of the month although a distinct drying trend during the third week led to near normal values. The grey line is the historical average based on 23 years of data. The red line is the record minimum. The dashed lines represent various flammable percentile thresholds from the 40th to the 3rd therefore the heavier fuels weren't very flammable.

**Fig 8** shows a noticeable transition in the oak canopy between March 8th to 31st at 2 locations across N. CA. Initial stages of green-up generally creates mixed flammability with some species trending more flammable while others less flammable. Herbaceous fuels were in various stages of green-up, generally below 3500-4000 feet. **Fig 9** shows a 6 year growth comparison at 1 location near Redding. The 2024 growth isn't as progressive compared to 2022 but is further along compared to last year.

Moisture found within the snowpack continued to improve during March with a jump from near 80-90% at the end of February to 100-120% on March 29th (**Fig 7**). A more consistent snowpack was generally found above 4200-5200 ft on April 1st in the fully sheltered areas.

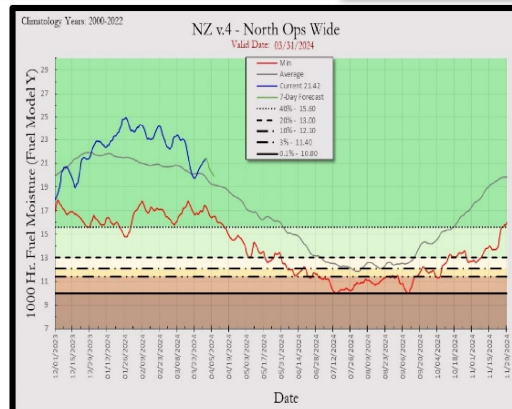


Fig 6 – North Ops 1000-hr Fuel Moisture - March 31st

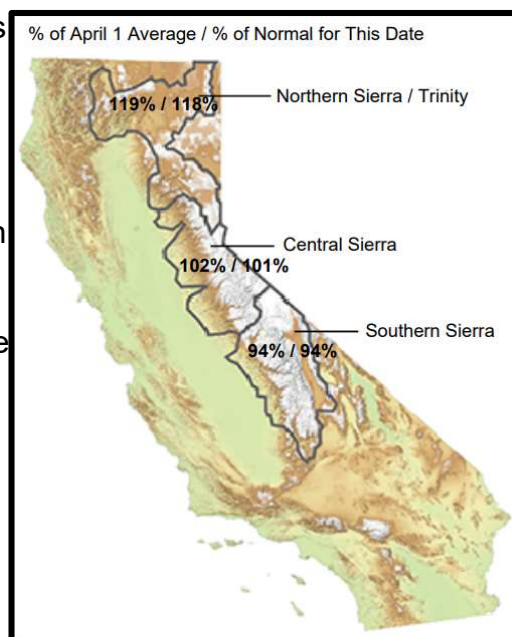


Fig 7 Snow water equivalent on March 29th

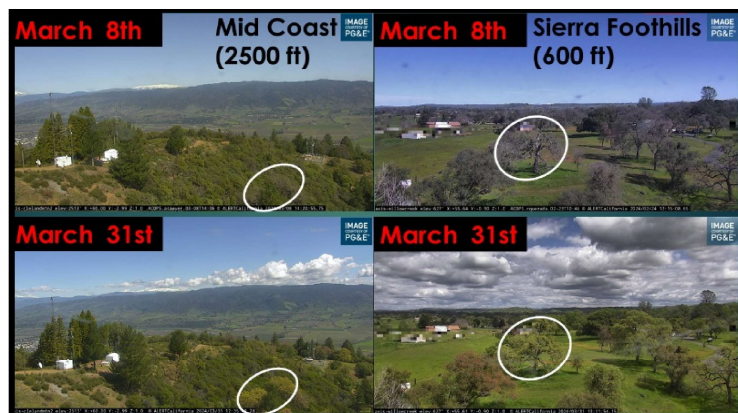


Fig 8 Oak green-up illustration btwn 8th to 31st



Fig 9 Redding Area herbaceous comparison mid March



## **NORTH OPS FIRE BUSINESS & TRENDS**

Fire business increased slightly during March. The daily initial attack average was 1. The largest ignition was a little over 1 acre on March 16th. There were 2 lightning ignitions based on media and law enforcement reports but never made it into the official fire records. Pile burning was the main project activity.

Significant fire potential should be near to below normal during the next 4 months. Timely cool-moist intrusions, melting snowpack and adequate live fuel moistures due to the lack of drought and transitory spring green-up will provide fire growth resistance barriers. There doesn't appear to be active frequency signal for dry-gusty offshore-northerly wind events as a more persistent onshore flow is expected. This means very little if any critically flammable live and dead fuel alignments the next 4 months. More noticeable herbaceous curing will become evident across the lower elevations mid May thru June and likely lead to an increase in initial attack numbers but large fires will be dependent on the nature of the wind. **Fig 4** shows the 2 month Evaporative Drought Demand Index (EDDI) ending on March 27th and there isn't a short term drought signal or accumulated dryness built up. Any notable dryness will need to be built up during the next 4 months and that doesn't look to be too likely. Far northern areas would be the likely location if a short term drought signal were to develop. Preliminary forecasts suggest a late start to the Southwest Monsoon season which could impact lightning ignition potential for northern CA. Typically less than 1 large fire occurs in each PSA during April and May. During June 1-2 large fires occur per PSA and the number jumps to 1-3 large fires during July except for across the Bay Area PSAs where less than 1 occurs. Favorable prescribed burn windows are expected this spring into the early summer.

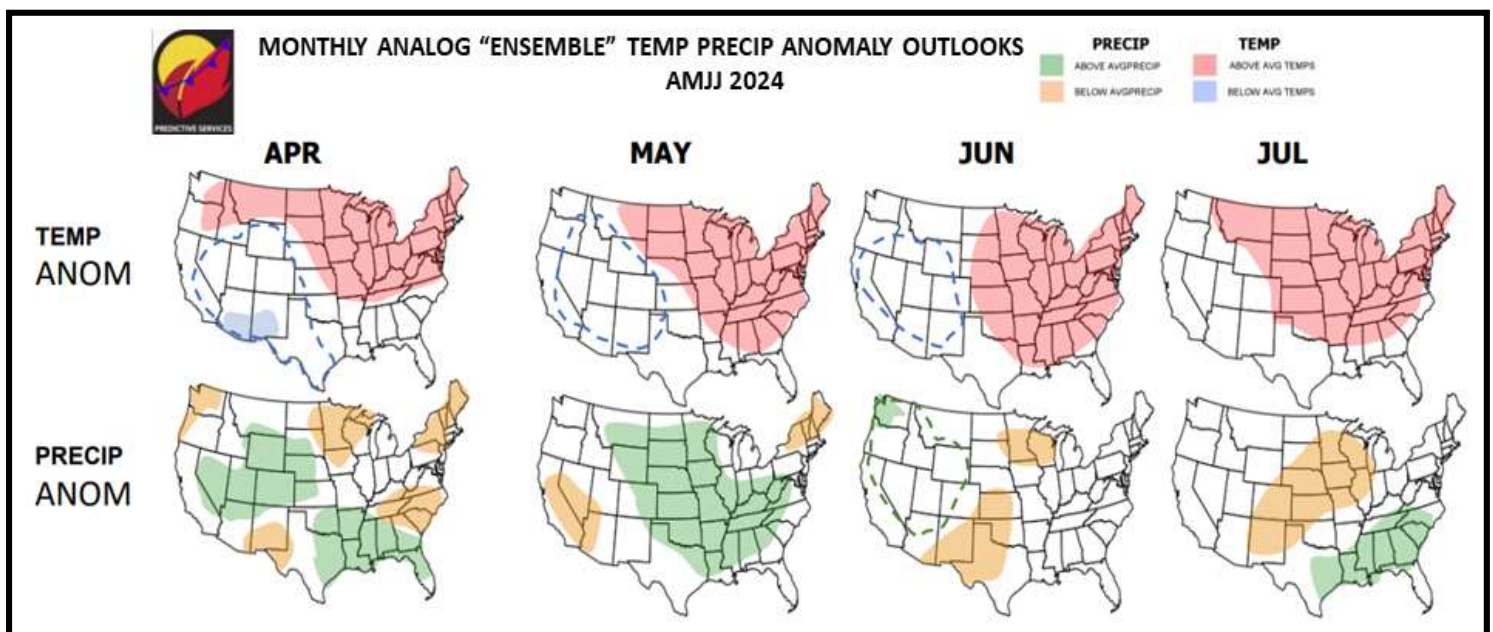
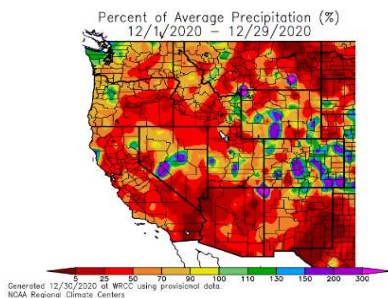


Fig 7 – Predictive Services 4-month Temperature and Precipitation Outlook



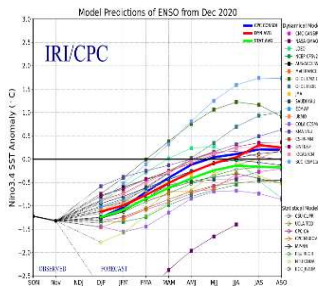
## Select Links Used in this Outlook



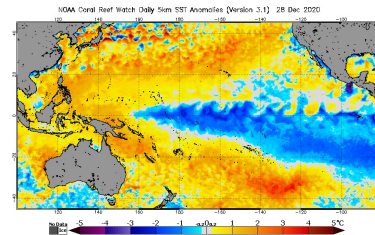
# Western Region Climate Center Temperature and Precipitation Anomalies



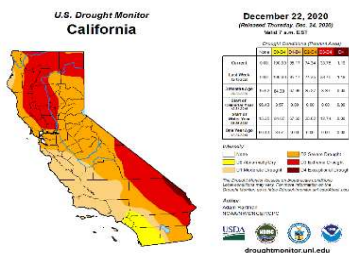
# California Daily Snowpack Map



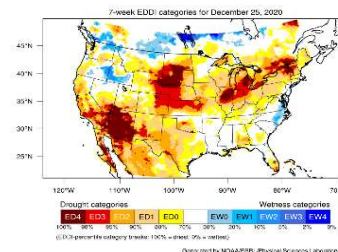
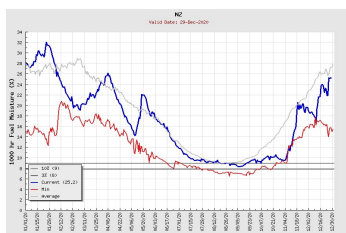
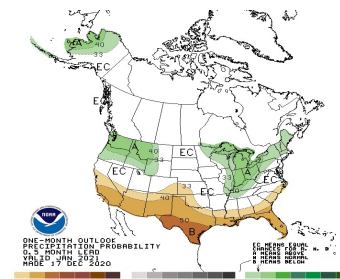
# Monthly El Niño Southern Oscillation Analysis and Outlook



## Sea Surface Temperature Anomaly Maps



# Drought Monitor Product for California

Evaporative  
Demand  
Drought IndexDaily  
Fuels  
Indices  
Charts

NOAA/NWS  
Climate  
Prediction Center