May - August 2021 North Ops Highlights

- Drier than normal rainy season. Half of the region at less than 50% of average.

- Low elevation fine fuel crop curing earlier than usual. Weak greenup expected above 3000', with low peak and trending toward critical values early.

- Increased Initial Attack expected during dry breezy weather.

- Overall outlook is for drier and warmer than average May-August.

- **Significant Fire Potential is Normal for all areas in May.**

- Near normal monsoon. Dry fuels more vulnerable than usual to fire from lightning.

- **Significant Fire Potential Above Normal above 3000 ft elevations June-August, except along the coast and in eastern areas. Normal elsewhere.
Weather Discussion

Precipitation was well below normal across the North Ops region in April (Fig 1). The rain year, which began on October 1st, remains drier than average statewide (Fig 2). A large portion of the North Ops region has received less than half of the normal precipitation. April was warmer than normal in California, except in some coastal areas which were largely influenced by below normal sea surface temperatures along the coast (Fig 3). The high elevation snow pack in the north has rapidly dropped from a peak of 72% of normal snow water content in late March to 23% of normal now (Fig 4). The La Niña pattern, cooler than normal sea surface temps in the eastern tropical Pacific Ocean, is coming to an end and neutral conditions are expected into the fall (Fig 5).

May appears to be starting on a dry note, but some light precipitation events are still expected. Occasional dry N-NE/Offshore wind events are expected into June, and this weather pattern will lead to increasing Initial Attack and higher large fire potential as the long-term precipitation deficit allows dry fuels to spread fires. Some longer-range models show summer-time low pressure troughs along the west coast. This pattern would not yield precipitation, but it could lead to more days with a deeper marine intrusion and shorter intense heat waves than usual. The overall outlook calls for drier and warmer than average weather over the 4-month period. The summer monsoon and resulting lightning pattern is expected to be near or below normal.
**Fuels Discussion**

The dry rainy season has led to widespread drought conditions throughout California (Fig 6). Most of the North Ops region is in the Severe or Extreme Drought category. The dry outlook will allow these conditions to increase. The Evaporative Demand Drought Index, which quantifies the “thirst of the atmosphere” over a specified period, shows that the somewhat wetter weather during the winter months led to shorter-term benefits in northeast California, versus the very dry conditions shown increasing since late March (Fig 7).

The 1000-hour dead fuel moisture averaged across the North Ops region shows near record values due to the very dry spring conditions so far (Fig 8). Other indices have been and continue to set new records in portions of the region, especially farther south and west. The seasonal low elevation grass crop came in lighter than average and is rapidly curing in many areas, well ahead of usual. Brush growth at lower elevations has also been very light. Dead and dormant fuels at middle and upper elevations are vulnerable to fire spread in dry windy weather. Middle elevations are seeing a weak greenup among live fuels, and upper elevations will follow in late May and June. The weak snow pack and dry soils will mean live fuels will see peak greenup fuel moisture values lower than usual, with the declining phase toward critical values weeks earlier than usual.

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**Fig 6 – Drought Monitor for CA - April 27, 2021**

**Fig 7 – EDDI - 4-month vs 1-month April 20, 2021**

**Fig 8 – 1000-hr Fuel Moisture – North Ops Composite**
NORTH OPS OUTLOOK

The Predictive Services 4-month outlook for the North Ops region calls for drier and warmer than average weather through August (Fig 9). There is some indication of a semi-regular low pressure trough positioned along the west coast much of the summer, which could lead to shorter stretched of intense dry heat. Fuels, both dead and live and of all size classes, are expected to dry to critical values earlier than usual at all elevations, leading to an early start to the active fire season. At elevations below 3000 ft it is possible that the lighter than usual fine fuel crop will allow more successful initial attack efforts when ignitions occur. In areas dominated by timber, generally above 3000 ft, fuels will be vulnerable to fire spread, and any lightning will pose a threat of new large fires starting in June. Dry windy weather will pose a local threat of new large fires at elevations above 3000 ft until greenup occurs, and this process is beginning at the lower end of this elevation range. Significant Fire Potential for the North Ops region is Normal in all areas in May. Elevations above 3000 ft have Above Normal Significant Fire Potential from June through August, with the exception of areas near the coast (which may benefit from more onshore flow) and in the far east (where drought has led to less continuous fuels). The remainder of the region has Normal Significant Fire Potential during June-August.

Normal Significant Fire Potential is defined as less than one large fire per Predictive Service Area (PSA) in May. In June Normal is 2-2.5 large fires in the Sacramento Valley/Foothills and Far Eastside PSAs and up to 1.2 large fires elsewhere. In July Normal is defined as 1 large fire or less in coastal areas and 1.5-3 large fires inland. August typically is the peak of fire season, with near 1 large fire in the Bay Area PSAs and between 2.2 and 5.6 large fires per PSA elsewhere.

Fig 9 – 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 Index

Daily Fuels Indices Charts

NOAA/NWS Climate Prediction Center

Webpage: GACC.NIFC.gov/oncc/predictive/weather/index.htm  Contact: redding.fwx@fire.ca.gov