October - January 2021-22 North Ops Highlights

- Dry rainy season followed by warm-dry summer although some moistening events occurred during September.

- Live fuel moisture values remain at critically flammable levels most areas.

- Low elevation fine fuel crop mostly cured.

- Overall outlook is for drier and warmer than average through part of November then increased potential of more frequent wetting systems by late November into December.

- Significant Fire Potential Above Normal west of the Cascade-Sierra crest through November, except Normal N Coast and NW Mtn PSAs. Normal also east of the crest.

- Significant Fire Potential returns to Normal all areas in December and January.
Weather Discussion

Atmospheric conditions were mixed across the region during September. Three fire season slowing events, due to Pacific Trough passages, led to above average precipitation across most of the region (Fig 1). This didn't make a big dent in the water year deficits however, with dry to much drier than average values (Fig 2). Ridging occurred between the trough passages and provided extended periods of unusually warm and dry conditions. Temperatures in September were near to a little below average across the north and near to a little above average across the south (Fig 3). Despite the September moisture, drought conditions were generally extreme to exceptional across northern CA (Fig 4).

The outlook for the North Ops region is for drier and warmer than average conditions during October and into the first part of November, followed by a transition to near and sometimes above average precipitation the latter half of November through December as the Jet stream becomes more active (Fig. 9). The wettest month is likely to be December. Confidence is lower for January with mixed results possible. There will be continued fire season slowing trough passages during the fall, but likely favoring the northern tier with less moistening results across areas that are impacted most by the offshore wind events. The offshore wind events should peak October into early November with a near to slightly above normal occurrence. ENSO-neutral conditions will likely transition to a La Niña state during the next few months (Fig 5).
Fuels Discussion

A dry rainy season led to widespread drought conditions across northern California (Fig 4) and summer conditions further exasperated the drought. The 4 month Evaporative Demand Drought Index, which quantifies the “thirst of the atmosphere”, illustrates the unusually warm and dry conditions (Fig 6) observed during the summer. The sum result has been unusually flammable live moisture values in the canopy-ladder and brush fuel types for an extended period. Herbaceous fuels are generally cured across most elevations, although the September rainfall created a light flush of green across some lower elevations found within the N. Coast, NW Mtn and Mid Coast-Mendocino PSAs. Moisture and wind events also helped to alter the orientation of the grass structure (Fig 7). A more expansive herbaceous green-up is expected during December across the lower elevations.

Dead fuels, up until September, had consistently been below average, if not near record low values for an extended period. Cool and moist conditions during a portion of September raised dead fuel moisture readings across most of the region. The 1000-hour dead fuel moisture trace shows this improvement with near average values by September 30th. Pockets of unusually low dead fuel moisture will continue to exist across portions of the region through at least early November.
NORTH OPS OUTLOOK

The Predictive Services 4-month weather outlook for the North Ops region (Fig 9) calls for mixed conditions but generally drier and warmer than normal during the earlier and latter stages of the outlook with a better frequency of moisture during December. The most flammable areas, or alignment in critically low dead-live fuel moisture, should be found west of the Cascade-Sierra crest through at least the earlier half of November. The critically low fuel moistures will align with a few impactful offshore wind events, thus heightening the potential for significant fire. Normal potential is expected across the N. Coast and NW Mtn PSAs, plus areas east of the crest.

Normal Significant Fire Potential in October is defined as 1.2 large fires per PSA and less than 1 large fire in all PSAs November through January.

Fig 9 – Predictive Services 4-month Temperature and Precipitation Outlook
Northern Operations
MONTHLY/SEASONAL OUTLOOKS
ISSUED OCTOBER 4, 2021 VALID OCTOBER 2021 - JANUARY 2022

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