October 2023 – January 2024 South Ops Highlights

- The odds tilt in favor for a weaker offshore wind season.
- The odds tilt in favor for below normal large fire activity across the Central Coast, Central Coast Interior and South Coast.
- The odds tilt in favor of near-normal large fire activity across all 16 Predictive Service Areas (PSAs) November through January. The climatological normal for large fires in each of these 16 PSAs is zero during this time.
Weather Discussion

A significantly cooler September was observed across most of Southern California (Fig. 1) as a strong and pronounced marine layer persisted over the area this month. This trend was largely driven by persistent upper level troughing off the California coast. Precipitation anomalies (Fig. 2) were dependent on location in the region. Locations south of the Los Angeles and San Bernardino Mountains generally had a wetter than normal September, with the exception of San Diego County and coastal Orange County. North of the San Bernardino Mountains, September was a very dry month with widespread areas receiving less than 5% of the monthly average precipitation. The driest areas were most notable along the Central Coast Interior, Central Valley and High Desert. The wettest areas were Riverside and Imperial Counties as well as in the Sierra Mountains. The monsoon has been inactive in September. September 1st was the only day where monsoonal moisture entered the region and brought widespread showers to the area. Otherwise, onshore flow persisted this month which allowed for ample marine influence, especially west of the coastal slopes.

Strong El Nino conditions persist in the eastern and central equatorial Pacific. Sea surface temperature (SST) anomalies have remained above +1.0°C for the past month and above +0.5°C since late June in Nino 3.4 Region (central Pacific). The core of the warmest water continues to remain in the eastern equatorial Pacific, making this a traditional El Nino rather than a central Pacific El Nino Modoki.
**Fuels Discussion**

Fuels continue to remain moist from the combination of this being a very wet year and a pronounced marine layer keeping relative humidity high, furthermore there are no areas in drought status across Southern California (Fig. 3). Energy Release Component (ERC) continues to remain below average (Fig. 4) and 1000 Hour Dead Fuel Moisture continues to remain above average (Fig. 5) in all Predictive Service Areas (PSAs), except for the Lower Deserts and Eastern Deserts. The Lower Deserts and Eastern Deserts have 1000 Hour Dead Fuel Moisture near-normal. However, there is a very light fuel load with respect to 1000 Hour Fuel in those 2 PSAs as finer fuel is much more dominant in that location which helps skew the data due to the smaller sample size.

Live fuel continues to remain well above average (Fig. 6) across Southern California.

The odds tilt in favor towards dead and live fuel moisture remaining above normal and ERCS below normal overall. Intermittent periods of drier conditions are likely, especially during the fall months due to offshore wind events.

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**Fig. 3: Drought Monitor September 28th, 2023**

**Fig. 4: ERC Timeseries for the South Coast from September 28th**

**Fig. 5: 1000-Hour Dead Fuel Moisture for the South Coast from September 28th**

**Fig. 6: LPF Live Fuel Moisture September 18th**

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SOUTH OPS OUTLOOK

Strong El Nino conditions continue in the equatorial Pacific as Sea Surface Temperature (SST) Anomalies continue to remain significantly above normal (Fig. 7).

The odds show a strong tilt in favor of El Nino conditions continuing through the October – January period. Ensemble guidance suggests that SST anomalies in Nino 3.4 Region are likely to peak during the November – January timeframe. Overall, the odds show a moderate to strong tilt in favor of a cooler and wetter period. A unique weather pattern on the subseason-to-season (S2S) scale is highly likely to remain in place. This pattern features the combination of a strong traditional East Pacific El Nino combined with the Pacific Decadal Oscillation (PDO) remaining strongly in the negative phase. What this means for the weather over the East Pacific and California is a stronger Jetstream that remains farther to the south. This pattern allows for cooler temperatures and above normal precipitation. There is still at least a moderate degree of uncertainty however due to the lack of analog years since strong El Nino events almost always correspond to a strongly positive phase of the PDO. This Jetstream pattern is also less favorable for offshore wind events. CFS shows the greatest chance for offshore wind events is likely in November (Fig. 8) and given the overall weather pattern, it is likely that a large wetting rain can occur prior to then.

Maps with Counties and Select Intel Links used in the forecast

October 2023

November 2023 – January 2024

Climate

- [https://calclim.dri.edu/pages/anommaps.html](https://calclim.dri.edu/pages/anommaps.html)
- [https://www.tropicaltidbits.com/](https://www.tropicaltidbits.com/)

100 hr dead fuel moisture


Current sea surface temperatures

- [https://www.ospo.noaa.gov/Products/ocean/sst/anomaly/](https://www.ospo.noaa.gov/Products/ocean/sst/anomaly/)