

Highlights:

- Above normal temperatures through the fall.
- Slightly above normal monsoonal moisture possible in September/early October.
- Large fire potential will be well above normal across most areas...especially the Sierra Foothills
- Large fire potential returning to near normal from north to south late fall/early winter
- Near to slightly below normal offshore wind events expected this fall.

WEATHER DISCUSSION

Two periods of near record high temperatures occurred during the past month. An enormously strong ridge centered over Northern California allowed some stations in the San Joaquin Valley and Sierra Foothills to approach 110 during the first few days of the month. Cooler, onshore flow followed during the middle of the month, but by the last week of August, temperatures returned to far above normal readings. During this last stage of August, the hottest weather was centered over the southern half of the state and many stations across Central and Southern California saw temperatures above 110.

Despite the two extremely hot periods, [temperature averages over the past 30 days have only been 6-8 degrees above normal](#). But these relatively modest departures from 30 day normalcy hide the bipolar-like temperature pattern which caused wild fluctuations in fine, dead fuel moisture.

Precipitation remained well below normal over the district, as the monsoon remained bottled up over the Southwest during much of the past month. But there are indications the longwave pattern may change to one more favorable for the transport of monsoonal moisture into the area. All long range models indicate the western half of the country will see well above normal temperatures due to a strong ridge over the Great Basin and Southwest. The position of this ridge may allow intermittent east and southeasterly flow to pull subtropical moisture into the area (**Figure 1, next page**).

PREDICTIVE SERVICES

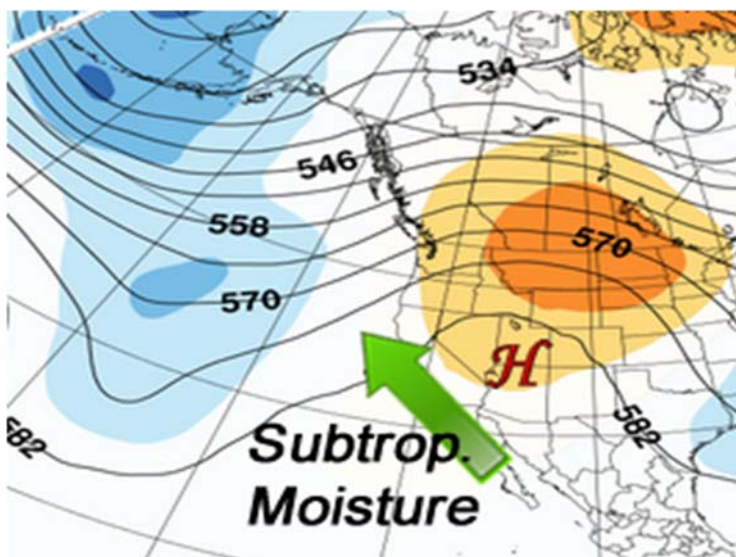
MONTHLY/SEASONAL OUTLOOK



VALID FOR: SEPTEMBER 2017 – DECEMBER 2017

In addition, the subtropics near the Mexican coast have been quite active the past few weeks, possibly due to [sea surface temperatures running 2-4 °C above normal](#). There may be an active period of tropical cyclones in this area, which would supply ample moisture to the monsoon. For these reasons, the monsoon may finish quite active after a dry start. The subtropical origin of this moisture may keep the chances of dry lightning lower than normal this fall. But the rainfall from the monsoon may be too late in the season to change fuel moisture much in the long term.

Figure 1: Possible Longwave Pattern Sept/early Oct.

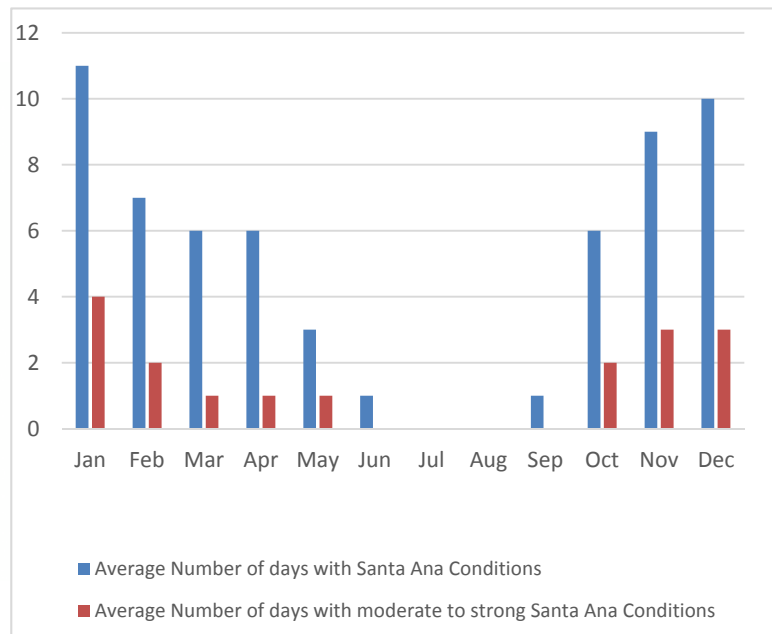


As the monsoon begins to wind down, there should be a several week long period between the last of the summertime convection and the beginning of the winter rainy season. A weakly positive ENSO signal continues at the current time, and [most models indicate it will trend only slightly stronger](#) through the fall. In fact, the Niño 3.4 Region (which has the greatest bearing on California's precipitation) has been trending cooler during the past month. At any rate, it is unlikely any ENSO will impact the beginning date, or the amount of wintertime precipitation this year. It is reasonable to assume that there will likely be a period that may be precipitation-free this fall, probably centered from October 15th – November 15th. After this time, significant wetting rains should spread from north to south in typical fashion.

It is a bit early to predict the amount of precipitation that one can expect this winter. But there are signs a Modoki El Niño may develop this winter as evidenced by the cooling along the coast of South America and far west of the International Date Line. Should this pattern continue to evolve this fall, there would be a greater than average chance of a below normal amount of precipitation this winter.

The current ridge pattern over the West, should it continue into the fall, would lead to a later start of offshore winds. But considering the amount of cold water pooled in the Gulf of Alaska, there may be a return of more frequent troughs later this fall. This may result in more onshore flow than usual and would also signal a slightly reduced probability of offshore flow. But again, it must be emphasized that offshore wind predictions are often inaccurate more than 3 weeks out. Given the lack of a strong signal, the number of offshore wind events are expected to be near normal this fall. *It is likely there will be at least one or two significant offshore events prior to the onset of meaningful wintertime precipitation.*

Figure 2: Santa Ana Climatology for Zone 1 (Los Angeles and Ventura Counties)



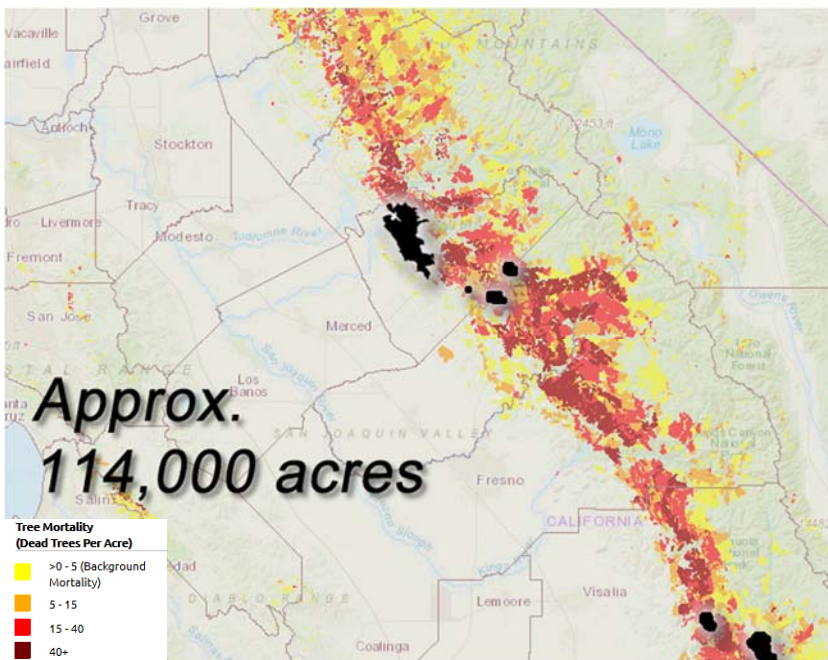
PREDICTIVE SERVICES

MONTHLY/SEASONAL OUTLOOK



VALID FOR: SEPTEMBER – DECEMBER 2017

Figure 3: 2015-2017 Tree Mortality, burned acres (as of Sept 1):



FUELS AND DROUGHT OUTLOOK:

The hot, dry weather over the past month punished both live and dead vegetation. Dead fuel moisture plunged to near record low readings over many lower elevation sites. Some modest, temporary recoveries were seen in mid-August, but by the end of the month, fuel moisture conditions was scraping the bottom of the charts over many Predictive Service Areas (**Figure 4, below**).

Live fuel moisture continues to hover near normal over many areas near the coast, but further inland, fuels are drawing closer to critically dry levels. In some areas, fuel beds are dominated by dead fuels as a result of the 5 year drought and the bark beetle. The Sierra Foothills continues to see the most pervasive fire activity due to the combination of dense, cured fine fuels under a forest marred by a high concentration of dead trees. At the time of this writing, nearly 114,000 acres in the Sierra Foothills have been consumed by large fires (this figure does not include small incidents where no ICS-209 was filed). This area will continue see the highest likelihood of fires through September and October. Large fire potential should decrease in this area in November due to a lower sun angle, longer nights and the arrival of precipitation from north to south.

Fuel conditions dictate that this will be very active and potentially dangerous fall wildfire season. The interface of a high amount of fine fuel loading in stands of dead trees will allow fires to transition rapidly into the heavier fuels during hot or windy periods. Extremely low fuel moisture will lead to very active fire behavior where slope and terrain are in alignment, even during non-windy periods. Readers of this outlook are reminded to utilize safety protocol, including LCES, when engaged with fire this fall.

Figure 4: 100 Hr. DFM Sierra Foothills

