

***Monthly Images will only be shown when there are changes**

December 2021 - March 2022 South Ops Highlights

- Temperatures will be below normal through the period.
- Rainfall will be near to a little above normal through the period.
- The amount of Santa Ana wind events will be below normal through the period.



Weather Discussion

Just like October, the weather pattern was very progressive in November with a series of upper-level Pacific troughs and high-pressure areas moving inland into the West Coast from the Pacific Ocean. However, unlike October the center of the troughs moved inland further to the north and the areas of high pressure were much stronger. Temperatures cooled to near or a little below normal with the troughs and temperatures were well above normal with the areas of high pressure. There was record heat across portions of the area November 11-14 as an unseasonably strong upper-level high-pressure area sat just off the California Coast. For the month, temperatures were well above normal across most of the area, except temperatures were within a couple degrees of normal across the San Joaquin Valley (**Fig 1**). Scattered showers with light to moderate rainfall amounts moved across Central California ahead of and with the Pacific troughs during the first couple weeks of the month. There was little or no precipitation across Southern California for the whole month. For the entire month, the region received well below normal precipitation (**Fig 2**). Just like in October, the snow level over the Sierra was mainly above 8,000 feet during the first couple weeks of the month. There were gusty south to west winds associated with the Pacific troughs and light offshore flow with the areas of high pressure. There was a weak Santa Ana wind event on November 21-22 and a moderate event November 24-26.

Av. Max. Temperature dep from Ave (deg F)
11/1/2021 – 11/29/2021

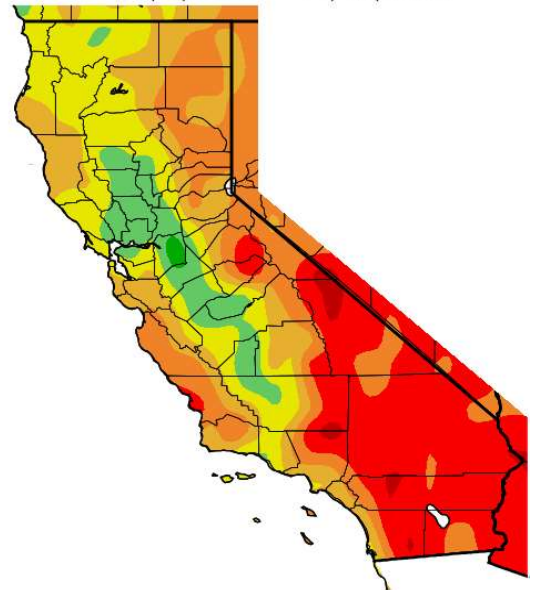


Fig 1: November 1st - November 29th Temperature (% of Ave.)

Percent of Average Precipitation (%)
11/1/2021 – 11/29/2021

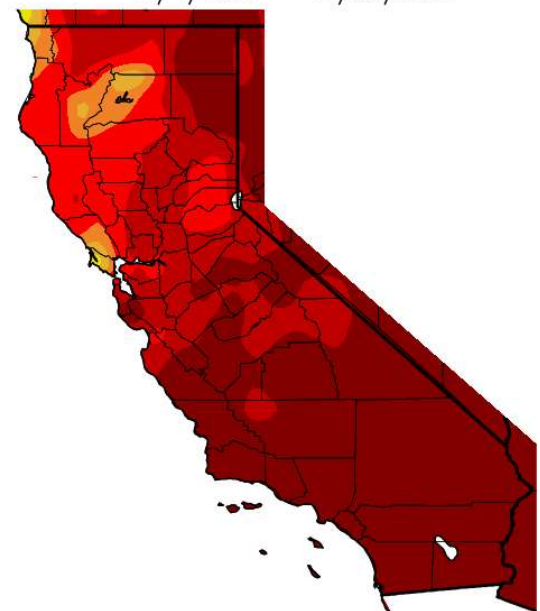


Fig 2: November 1st - November 29th Precipitation (% of Ave.)



Fuels Discussion

There continues to be very little change in the drought across the region (**Fig 3**). From Los Angeles County northward there is extreme to exceptional drought. East and south of Los Angeles County, there is moderate to severe drought. Both the 1,000-hr and 100-hr dead fuel moisture were mainly between the 10th percentile and the 3rd percentile across Southern California (**Fig 4**) and between normal and the 10th percentile across Central California (**Fig 5**) by the end of the month. Also, both the 1,000-hr and 100-hr dead fuel moisture were breaking record low levels across the region to end the month. The live fuel moisture is mainly between 50% and 80% across the region (**Fig 6**).

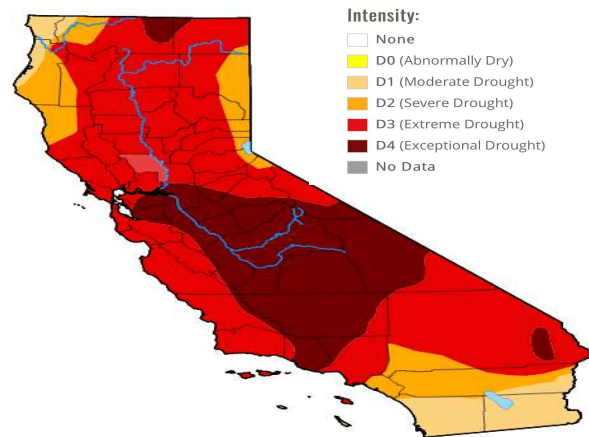


Fig 3: Drought Monitor November 24th, 2021

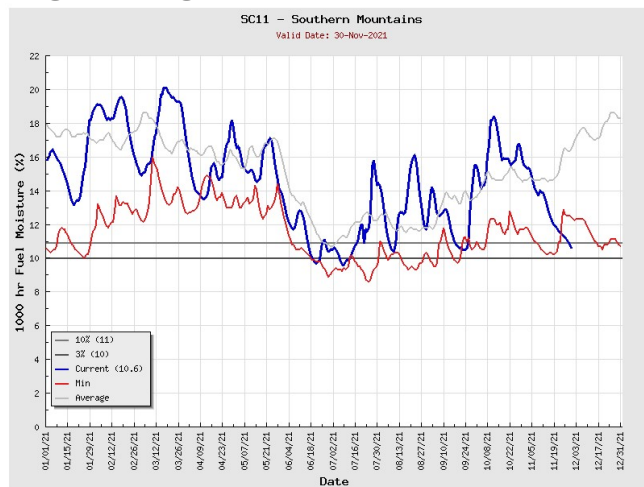


Fig 4: Southern Mountains 1000 hr Dead fuel moisture November 30th

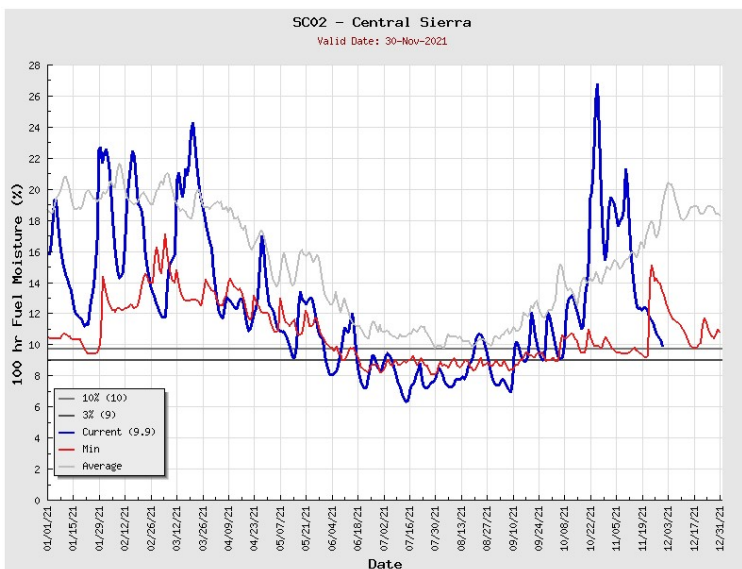


Fig 5: Central Sierra 100 hr Dead fuel moisture November 30th

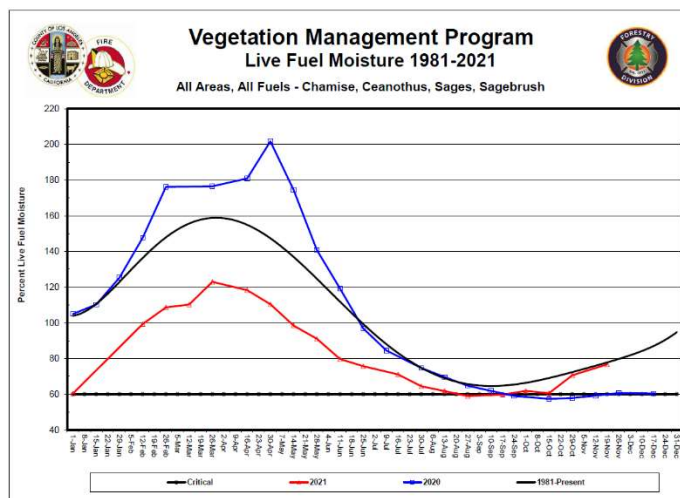


Fig 6: LA County Live Fuel Moisture November 18th

SOUTH OPS OUTLOOK

Sea surface temperatures warmed to a little above normal off the West Coast which most likely caused the strong upper-level high-pressure area to remain just off the California Coast in November (**Fig 7**). Forecast models show that the sea surface temperatures off the West Coast will cool dramatically over the next couple of months and that the sea surface temperatures in the Gulf of Alaska will remain well below normal (**Fig 8**). This will most likely cause the high-pressure area to shift further to the west allowing Pacific troughs from the Gulf of Alaska to move inland further south into California. Below normal temperatures and near to a little above normal precipitation will most likely develop after the first week of December and then continue through the winter months. Precipitation still looks as though it will not be excessive since sea surface temperatures over the Equatorial Pacific are currently well below normal and they are only expected to warm to near normal by late winter. These below normal sea surface temperatures will likely limit the amount of sub-tropical moisture that the troughs will be able to entrain. The amount of Santa Ana wind events will most likely remain below normal through the winter months.

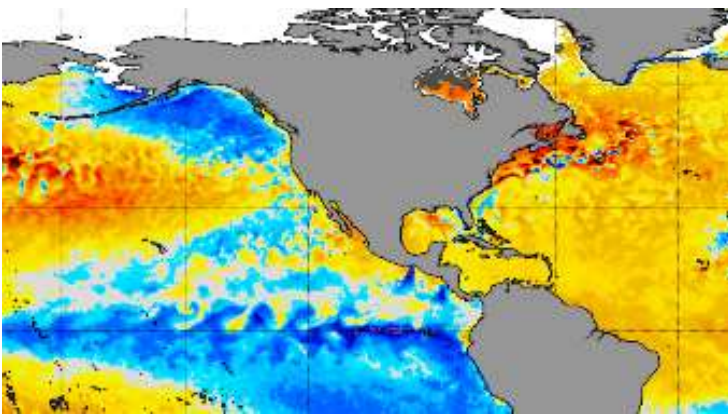


Fig 7: Sea Surface Temperature Anomaly, November 30th, 2021

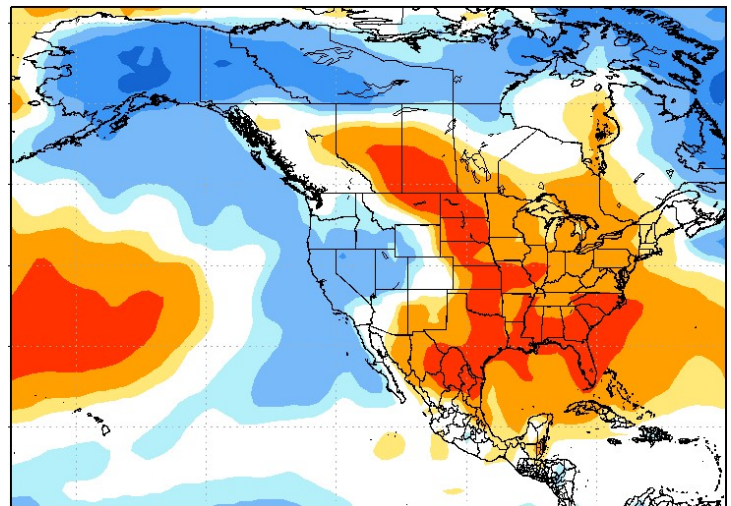
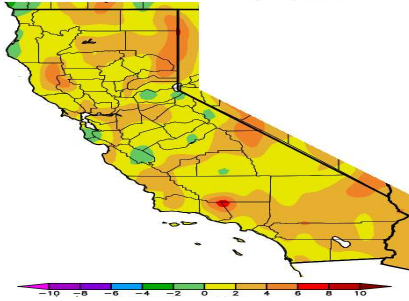


Fig 8: Forecast Temperature Anomalies for December through March, November 30th, 2021



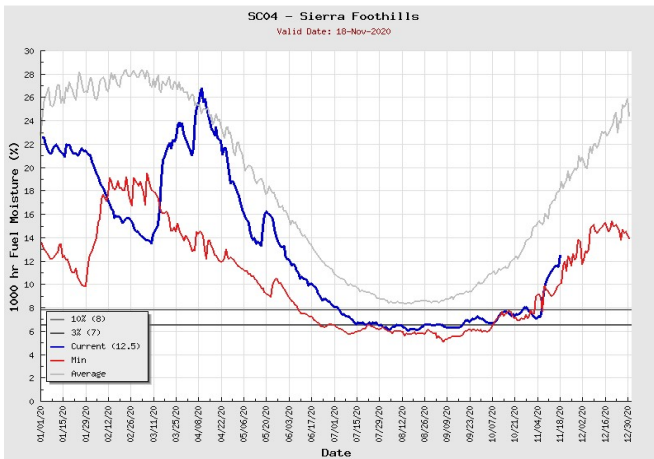
Select Intel Links used in the forecast

Av. Max. Temperature dep from Ave (deg F)
11/1/2020 - 11/19/2020



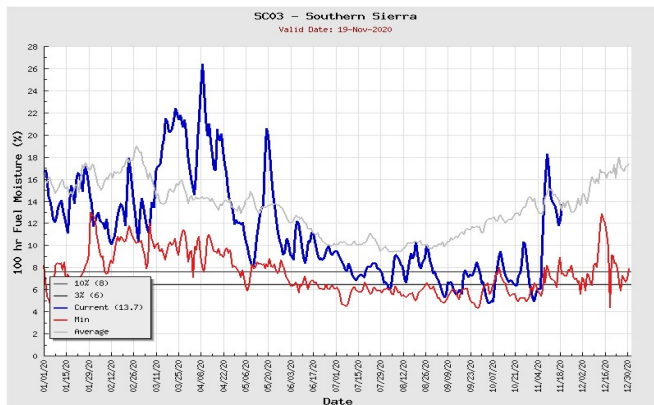
Climate

- <https://calclim.dri.edu/pages/anommaps.html>



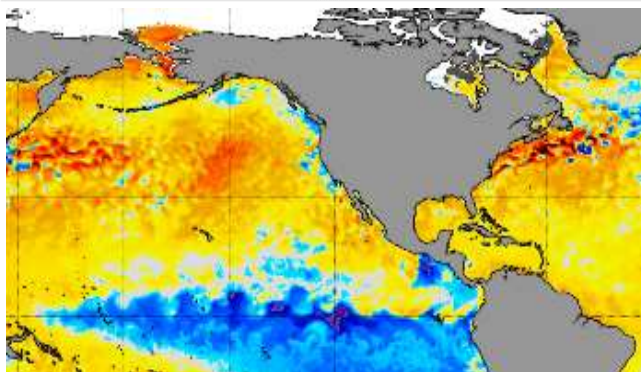
1000 hr dead fuel moisture

- https://gacc.nifc.gov/oscc/fuelsFireDanger_Thousand.php



100 hr dead fuel moisture

- https://gacc.nifc.gov/oscc/fuelsFireDanger_Hundred.php



Current sea surface temperatures

- <https://www.ospo.noaa.gov/Products/ocean/sst/anomaly/>