

NOVEMBER 2020 WEATHER SUMMARY

FOR THE CENTRAL CALIFORNIA INTERIOR

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November ended with above average temperatures in the Sierra Nevada mountains and foothills, as well as the Kern County mountains and desert (Fig. 1). Average monthly temperatures varied in the southern San Joaquin Valley, with slightly above average temperatures in the east and south valley, to slightly below average temperatures in the west and north valley (Table 1). With the exception of a localized area in eastern Merced county, the majority of the area experienced well below average precipitation (Fig. 2). A very cold low pressure system from the Gulf of Alaska impacted the central California interior on the 7th and 8th, bringing rain and isolated thunder to the valley, along with snowfall into the Sierra Nevada and Kern County mountains and surrounding foothill locations down to 3,500 feet. A weak low pressure system brought light precipitation into the northern half of the district on the 13th, while a wetter system brought precipitation and accumulating snow above 7,000 feet to much of the central California interior on the 18th. There were two significant time periods of sub-freezing temperatures in the Southern San Joaquin Valley and Kern County desert. The first occurred on 9th through the 10th, and the second occurred from the 27th through the 30th. Hanford, Madera, and Merced each recorded 7 days with the low temperature at or below 32 degrees, all above average. Lastly, the Tule fog also returned to the valley, first occurring on the 14th and 15th, as well as each morning from the 19th through the 22nd.

**Table 1 – September 2020 Summary Statistics –
NWS Hanford, CA ASOS Sites**

Location	Monthly Average Temp (deg F)	Departure from Average (deg F)	Temperature Rank	Total Monthly Precipitation (inches)	Departure from Normal (inches)	Precipitation Rank
Bakersfield	55.4	+0.3	67 th Warmest	0.39	-0.25	54 th Lowest
Fresno	54.9	+0.6	56 th Warmest	0.28	-0.79	42 nd Lowest
Hanford	52.6	+0.6	55 th Warmest	0.13	-0.87	16 th Lowest
Madera	51.9	-0.9	23 rd Coolest	0.16	-0.99	17 th Lowest
Merced	51.6	-0.9	33 rd Coolest	1.08	-0.10	60 th Lowest

**Number of Days with Minimum Temperature of 32 Degrees or Below for
Month 2020 and Total for 2020-2021 (November-March)**

Bakersfield – November total: 0 (Average 2); 2020 total so far: 0 (Average 2)

Fresno – November total: 0 (Average 1); 2020 total so far: 0 (Average 1)

Hanford – November total: 7 (Average 5); 2020 total so far: 7 (Average 5)

Madera – November total: 7 (Average 4); 2020 total so far: 7 (Average 4)

Merced – November total: 7 (Average 5); 2020 total so far: 7 (Average 5)

The month started off with a strong high-pressure system over the region. With light winds aloft, smoke from the Creek and SQF Complex wildfire's continued to bring very poor air quality to the district. From the 1st through the 5th, afternoon high temperatures across the central California interior were between 10 to 15 degrees above average.

On the morning of the 6th, a strong cold front swept through the area, lowering the afternoon high temperatures by as much as 20 degrees across the district. This front also brought strong winds up to 40 mph along the West Side Hills, as well as the Kern County mountains and desert, prompting air quality alerts for blowing dust during the 6th. Precipitation then moved into the region on the morning of the 7th, with many areas in the southern San Joaquin Valley seeing the first significant rainfall of the 2020-2021 wet season. Merced Airport recorded 0.51", Bakersfield recorded 0.38", and Fresno recorded 0.10". Up to a quarter of an inch of precipitation fell in the Sierra foothills and mountains, with a couple of inches of snow in the higher elevations of the Sierra. Afternoon high temperatures plummeted on the 7th, as locations in the San Joaquin Valley struggled into the low to mid 50's. Bakersfield set a record low maximum temperature of 53 degrees, breaking the old record of 58 degrees set back in 2008.

This very cold system continued to impact the central California interior into the 8th. Strong winds continued along West Side Hills and Kern County mountains and desert, with locations recording wind gusts up to 55 mph. During the afternoon of the 8th, isolated thunderstorms with small hail occurred throughout the valley, with a report of dime size in Visalia. Snow impacted travel along the Grapevine on the evening of the 8th, as the CHP paced traffic for a few hours due to snow and icy roads. Total precipitation amounts on the 8th ranged from 0.10" or less in the valley, 0.50" to 1.0" in the foothills and Kern County mountains, and between 1" to 1.5" in the Sierra Nevada. Overall snowfall amounts over the two day period were generally between one to one and a half feet in the Sierra Nevada with lesser amounts of up to a half a foot in Kern County. Snow levels dropped to as low as 3,500 feet, with recorded snow of 3" in Springville. High temperatures on the 7th and 8th were as much as 10 to 15 degrees below average across the district. After the system exited the area, a cold air mass settled into the region on the 9th and 10th with the first freeze warnings of the Fall season. Low temperatures bottomed out in the upper 20's to low 30's in the valley with low to mid-20's in the desert. Temperatures then slowly moderated on the 11th and 12th, but still remained 5 to 10 degrees below average.

A weak front brushed the northern half of the valley and Sierra on the 13th bringing light rain and snow, primarily to the Sierra Nevada foothills and mountains. Overall precipitation accumulations remained light, with up to 0.25" in the foothills and mountains with minor accumulations occurring in Merced County. This system also brought strong winds into the Kern County mountains and desert, with a wind gust of 62 mph recorded at Cache Creek, 48 mph in Mojave, and 41 mph in Tehachapi. With rain the night before, locally dense fog formed during the morning of the 14th in Merced County. More extensive fog formed during the morning of the 15th, with the first dense fog advisory issued of the 2020 Fall season.

On the afternoon of the 17th, strong south to southeasterly winds formed along the south end of the valley and into the West Side Hills, where wind gusts up to 45 mph were recorded. The downslope winds in the Bakersfield area allowed for temperatures to soar to 87 degrees, setting a daily record high temperature. The system moved through the region on the 18th, warranting a Winter Weather Advisory for the Sierra Nevada above 7,000 feet. This system dropped 0.58" in Merced, 0.17" in Fresno and a lesser amount toward the south. Between 0.5" and 1.5" of precipitation fell in the Sierra foothills and mountains, with accumulations primarily remaining from Fresno County northward into Yosemite/Merced County. This storm system was the last shot of measurable precipitation in the Central California interior for the remainder of the month.

With the recent rainfall, and high pressure building into the region, the Tule fog returned to the San Joaquin valley on the mornings of the 19th through the 22nd, with dense fog advisories being issued each morning for portions of the southern San Joaquin Valley. High temperatures during this period remained near to slightly above average, with low temperatures just at to slightly below average.

A strong, dry cold front moved through the region on the afternoon of the 25th into Thanksgiving Day, producing strong northwest winds into the Kern County mountains and desert. A wind gust of 58 mph was recorded in Mojave with general wind gusts up to 45 mph the evening of the 25th. As the upper low dropped to the south, winds aloft turned to an offshore flow on Thanksgiving morning, setting up a weak Mono Wind event. Wind gusts up to 49 mph were recorded at Mount Tom and also at Minarets on Thanksgiving morning. This cold front also

ushered in the coldest airmass of the season. With Freeze warnings occurring on the 27th through the end of the month. Temperatures in the valley dropped to as low as 26 to 27 degrees each morning. Since the airmass was also quite dry, the region experienced wide variations in daily temperatures. High temperatures were between 2 to 5 degrees above average while low temperatures remained 4 to 8 degrees below average. With the dry air in place, the Tule fog was not an issue for the last week of the month.

Table 2 – Seasonal Precipitation for ASOS locations (ending on November 30th)

Location	Since Jan 1st (inches)	Departure From Average (inches)	Since Jul 1st (inches)	Departure From Average (inches)	Since Oct 1st (inches)	Departure From Normal (inches)
Bakersfield	5.00	-0.01	0.39	-0.58	0.39	-0.45
Fresno	5.03	-3.54	0.28	-1.46	0.28	-1.28
Hanford	4.44	-2.07	0.13	-1.14	0.13	-1.00
Madera	3.92	-4.97	0.16	-1.62	0.16	-1.48
Merced	5.66	-4.10	1.08	-0.98	1.08	-0.80

Table 3 – Warmest High Temperatures and Coolest Low Temperatures of the Month for ASOS locations

Location	High	Date(s)	Low	Date(s)
Bakersfield	87	17 th	34	29 th
Fresno	82	1 st	34	29 th
Hanford	83	1 st	28	29 th
Madera	81	1 st & 3 rd	29	29 th
Merced	82	1 st	29	29 th

Daily Records Set During November 2020

Bakersfield –

7th - Record low maximum temperature of 53 degrees set (old record of 58 degrees set in 2012).

17th - Record high maximum temperature of 87 degrees set (old record of 84 degrees in 2008)

Fresno – None.

Hanford – None.

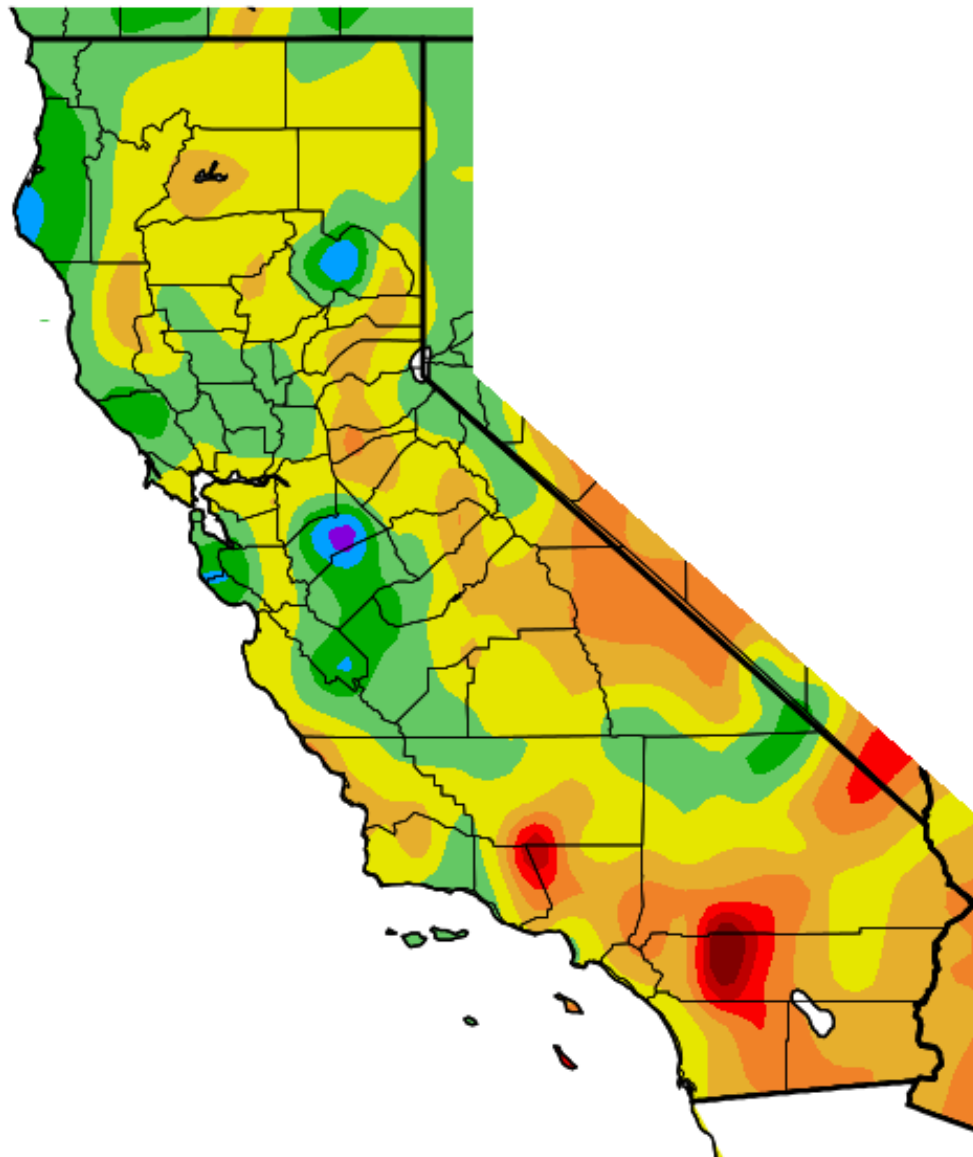
Madera – None.

Merced –

9th - Record low maximum temperature of 56 degrees tied (record also set in 2012)

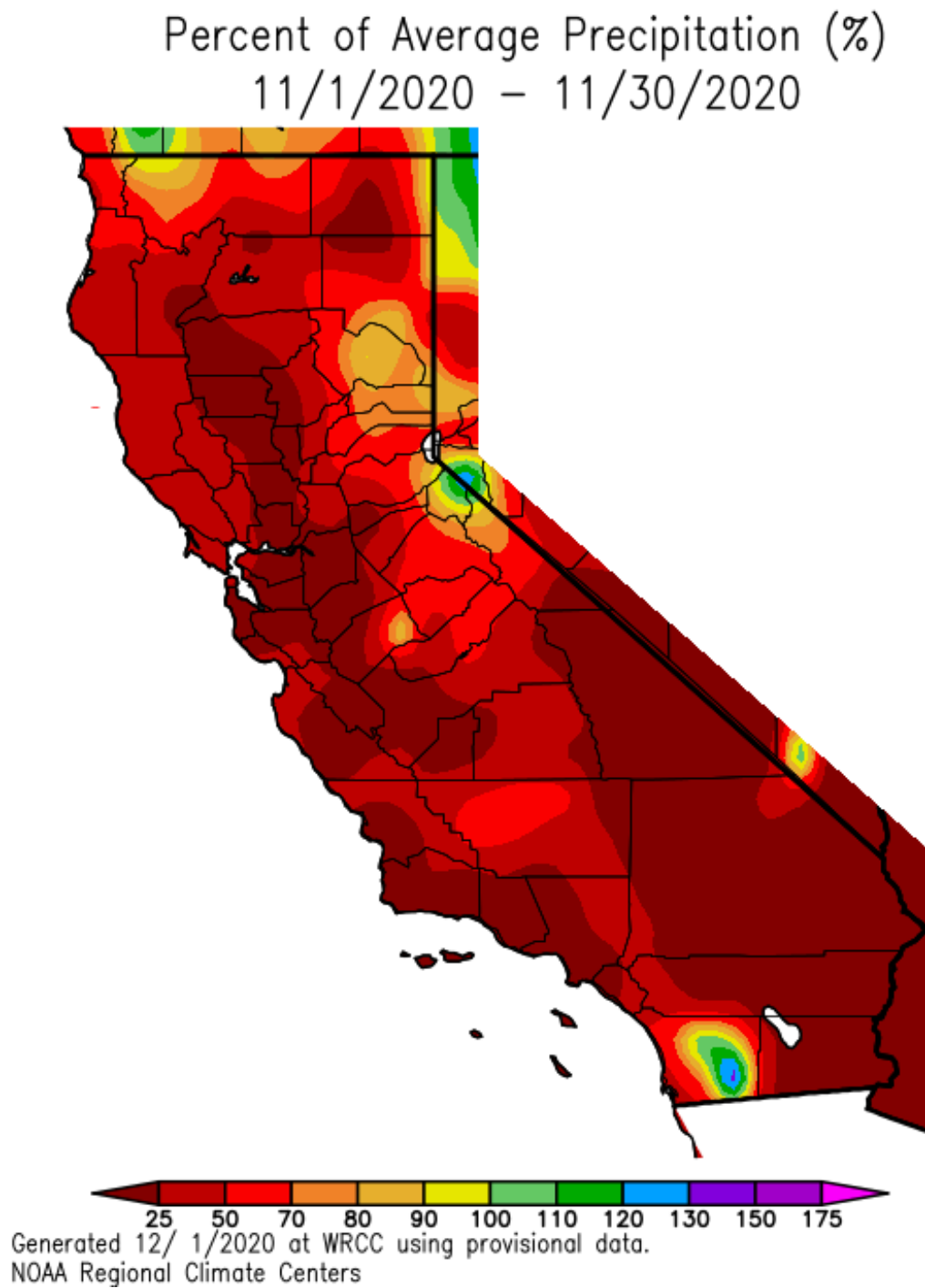
Fig 1 – Departure from Average Temperature for November 2020

Ave. Temperature dep from Ave (deg F)
11/1/2020 – 11/30/2020



Generated 12/ 1/2020 at WRCC using provisional data.
NOAA Regional Climate Centers

Fig 2 – Percent of Average Precipitation for November 2020



*Images above (i.e., Figures 1-2) courtesy of Western Region Climate Center.