

FEBRUARY 2018 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR

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The first week of February was characterized with much of the same weather as the cool season thus far, or warmer than average with below average precipitation. Patchy morning fog was the general rule in the San Joaquin Valley. In this area mornings were relatively cool, while afternoons remained fairly warm. High pressure ridging prevailed until the 10th. During these first ten days, there were quite a few periods of offshore winds that created very warm and dry conditions, especially in the mountains and desert areas. Single digit relative humidity prevailed during much of the daytime hours over the southern Sierra Nevada, as well as the Kern County mountain and desert areas. Record high temperatures occurred on the 7th and 8th, as the strength of the high pressure ridge reached its peak and was centered over much of California. By the afternoon of the 10th and morning of the 11th, some change in the weather pattern began to occur, mainly in the form of gusty westerly winds. Gusts around 35 to 40 mph were reported in locations along the west side of the San Joaquin Valley, and some locations in the Kern County mountains/desert reported gusts just above 50 mph, including at Mojave.

No significant precipitation occurred until the 12th; this was the first time this month any precipitation fell in Central California. However, very little rainfall was observed in the San Joaquin Valley, and many locations received no measurable rain. This was a dry and cold system; however, the atmosphere was sufficiently unstable to produce an isolated weak landspout tornado (i.e., a tornado that forms with a circulation of winds from the ground underneath a cumulus or cumulonimbus cloud) near Sanger during the afternoon of the 12th. Hanford reported a trace of rain on the 12th; however, no rain was reported in Bakersfield, Fresno, Madera, and Merced. Low elevation snow fell in the Sierra Nevada foothills, or down to around the 3,000 foot elevation level. A dusting to a few inches of snow was reported in the Sierra Nevada. Liquid equivalent precipitation amounts were generally one to two tenths of an inch in the areas that received the highest values.

Some showers fell in Kern County on the 14th, but mainly in the mountains and desert. Amounts were also generally light. Otherwise, the main effects were a brief period of near average to cooler than average temperatures.

Another dry cold front brought breezy conditions on the morning of the 15th; the main locations that experienced noticeable cooling were in Kern County. Temperatures were a few degrees from

the previous day these areas; otherwise, there was no significant change in temperatures from the previous day.

High pressure returned briefly on the 16th-18th, and temperatures reached around ten degrees above average. Many locations reached into the upper 60s to lower 70s in the warmest spots during this period (including in the San Joaquin Valley, Sierra Nevada foothills, and the Kern County desert areas).

Breezy to windy conditions returned to the region on the 19th ahead of a cold and dry low pressure system. Gusts reached around 50-55 mph in the Kern County mountain and desert areas (mainly near Mojave and Rosamond) and even stronger below some of the passes and canyons. Gusts exceeding 80 mph occurred over ridge tops in the southern Sierra Nevada. Gusts around 30-40 mph were reported in the San Joaquin Valley and around 45 mph through some of the passes leading to the coast (such as Pacheco Pass along Highway 152 at the Merced/Santa Clara County line and the Cottonwood Pass along Highway 41 in far northwestern Kern County).

The low pressure system that brought the gusty winds on the 19th brought freezing temperatures to the San Joaquin Valley on the 20th and 21st. This cold period had followed two months of temperatures that were much warmer than average, and many trees that produce a large amount of crops, such as almonds and stone fruits, had produced an early bloom of blossoms towards the beginning of this month. Temperatures in the coldest rural areas bottomed out in mainly the lower 20s on the 20th and a few degrees warmer on the 21st. Otherwise, temperatures were at or just below freezing in the urban areas of Bakersfield and Fresno. Lows were generally around 15 to 20 degrees below average throughout Central California, and high temperatures were also well below average. Subfreezing low temperatures in the San Joaquin Valley were certainly late in the season; a period of one or two days occurs about once per decade on average during the latter half of February. However, the lows were well below freezing in many locations outside of the larger cities, especially on the 20th.

Temperatures remained below average for the next few days, or during the 22nd through the 25th. A cold low pressure system brought light rainfall to the lower elevations and several inches to a foot of snow in the Sierra Nevada and into the foothills at around an elevation of 2,500 feet during the 22nd and 23rd. Light accumulations of snow also occurred in the lower Sierra Nevada foothills, including elevations above 1,500 feet. Freezing temperatures returned to the San Joaquin Valley on the 24th and 25th as drier air allowed for sufficient radiational cooling during the overnight hours.

Another relatively cold low pressure system arrived near the end of the month, or on the 26th and 27th. Precipitation fell over Merced and Mariposa Counties during the afternoon of the 26th. Locations in the San Joaquin Valley received up to around three tenths of an inch of rain with

this system. Amounts up to a half inch fell in the Sierra Nevada foothills, and several inches of snow fell in the Sierra Nevada above 3,000 feet. Most of the moisture and dynamics associated with this system remained over northern California. Temperatures were also below average for this period, as well as after the passage of this system, including on the last day of the month. Another low pressure system brought increasing clouds to the area during the afternoon and evening of the 28th; however, the precipitation arrived on the first day of March.

Overall, February 2018 was characterized with mainly near average to above average temperatures (Fig 1) and well below average precipitation (Fig 2). The cold temperatures late in the month offset much of the warm anomalies during the first half of the month.

Table 1 – February 2018 Summary Statistics for ASOS locations				
Location	Monthly Average Temp (deg F)	Departure From Average (deg F)	Total Monthly Precipitation (inches)	Departure From Normal (inches)
Bakersfield	54.0	+1.4	0.22	-1.02
Fresno	53.2	+1.7	0.26	-1.77
Hanford	51.3	+1.0	0.30	-1.43
Madera	51.1	+0.6	0.21	-1.92
Merced	49.4	-0.3	0.29	-2.05

Temperature/Precipitation Rankings for February

Bakersfield – 44th warmest February on record; 15th lowest February precipitation on record.

Fresno – 33rd warmest February on record; 14th lowest February precipitation on record.

Record High Temperatures Set in Bakersfield and Fresno

7th...A RECORD HIGH TEMPERATURE OF 81 DEGREES WAS SET AT BAKERSFIELD. THIS TIES THE OLD RECORD OF 81 SET IN 1987.

7th...A RECORD HIGH TEMPERATURE OF 79 DEGREES WAS SET AT FRESNO. THIS BREAKS THE OLD RECORD OF 77 SET IN 1930.

8th... A RECORD HIGH TEMPERATURE OF 76 DEGREES WAS SET AT FRESNO. THIS BREAKS THE OLD RECORD OF 74 SET IN 1987.

Figure 1 – Departure from Average Temperature for February 2018

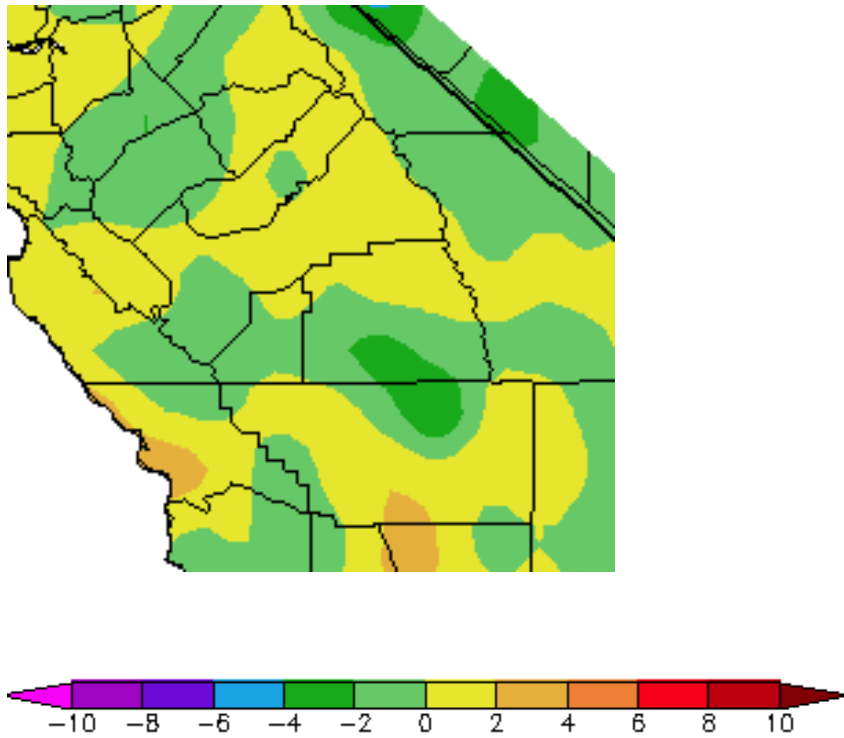
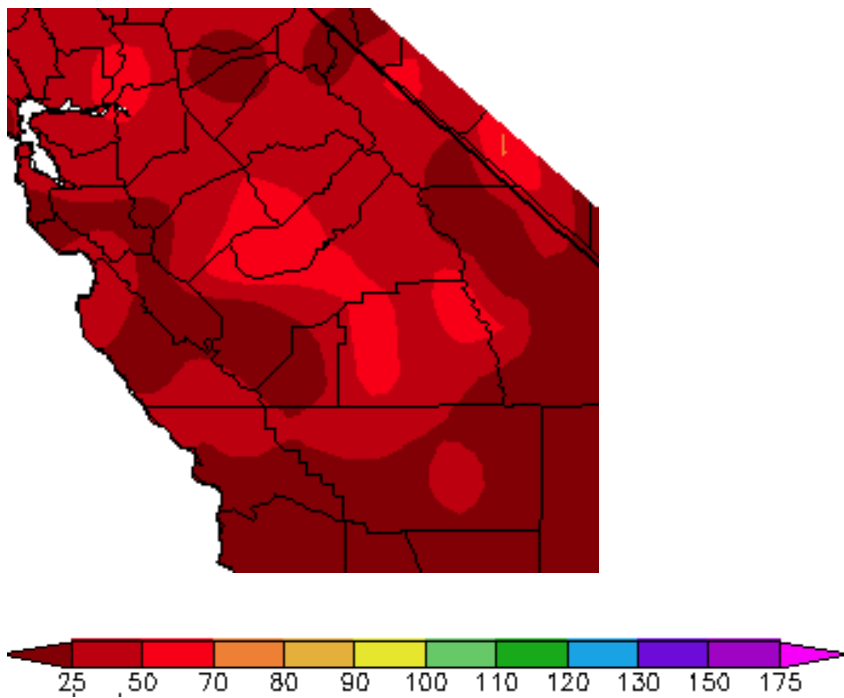


Figure 2 – Percent of Average Precipitation for February 2018



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