

## **FEBRUARY 2019 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR**

*By Brian Ochs, Climate Services Focal Point  
Jim Andersen, Assistant Climate Services Focal Point  
WFO San Joaquin Valley-Hanford*

The month began with several days of wet weather throughout the forecast area. Moderate to heavy rain fell during the night of the 1<sup>st</sup> into the morning of the 2<sup>nd</sup>. Thunderstorms developed on the afternoon and evening of the 2<sup>nd</sup> and 3<sup>rd</sup> and brought locally heavy rain and hail around ¼ inch diameter (pea-sized) to as much as 7/8 inch (nickel-sized) in diameter to Mariposa and Madera Counties in the Sierra Nevada foothills. In addition, a weak tornado (EF-0) was reported several miles southeast of Mariposa in the Sierra Nevada foothills on the afternoon of the 2<sup>nd</sup>. Temperatures were a few degrees above average until the 4<sup>th</sup>, and much cooler readings afterward prevailed. Another storm brought widespread precipitation on the 4<sup>th</sup> with showers and thunderstorms; Fresno reported over ¾ inch of rain that day. A funnel cloud developed near Sanger with a storm cell that brought brief heavy rain. However, locations in Kern County, such as Bakersfield only reported about a tenth of an inch. On the 4<sup>th</sup> and 5<sup>th</sup>, the air was cold and unstable during the afternoon hours so that isolated thunderstorms developed and brought small hail to quite a few San Joaquin Valley and Sierra Nevada foothills, including around Fresno and Clovis. Snow fell at elevations around 2,500 feet once the cold air arrived.

Cooler than average temperatures prevailed for a couple of days, although dry conditions were brief as another storm arrived on the 8<sup>th</sup>. Rain and mountain snow fell from the 8<sup>th</sup> until the 10<sup>th</sup>. Cold air arrived on the 10<sup>th</sup>, and snow levels fell to around 2,000 feet by that day. Enough snow fell on Interstate 5 through the Grapevine by the evening of the 10<sup>th</sup> so that the roadway was closed for several hours. Rain amounts during this period were around a tenth of an inch to around an inch in the San Joaquin Valley and around 2-4 inches in the Sierra Nevada foothills. Snow amounts reached around 2-3 feet in the Sierra Nevada, especially in the higher elevations.

Another storm arrived on the 13<sup>th</sup>; however, this system brought subtropical moisture into the region with heavy rainfall at times up to elevations above 9,000 feet until the 14<sup>th</sup>. Rain in some Sierra Nevada locations was around 4-5 inches during the 13<sup>th</sup> and 14<sup>th</sup>. The snow level in Yosemite National Park almost reached 10,000 feet during the warmest period on the 13<sup>th</sup>, according to the ranger at Tuolumne Meadows. Some of the snowpack at lower elevations, including up to 9,000 feet, melted due to the warmer air, so there was a concern for flooding as rivers and creeks began to run higher, including around Merced. Colder air brought the snow levels down to around 5,000 feet by the morning of the 15<sup>th</sup>. Another colder system arrived on the 16<sup>th</sup>, and brought rain and lower elevation snow down at times down to around 1,500 feet until the 17<sup>th</sup>. Small hail and graupel was reported in quite a few San Joaquin Valley locations

during the 15<sup>th</sup>-17<sup>th</sup>, such as Fresno, Clovis, and Visalia, as the atmosphere was very cold but sufficiently unstable to produce isolated thunderstorms. Several feet of snow fell in the Sierra Nevada, especially from the 13<sup>th</sup>-15<sup>th</sup>.

Dry conditions with much cooler than average temperatures prevailed on the 18<sup>th</sup> and 19<sup>th</sup>, before yet another cold low pressure system arrived on the 20<sup>th</sup>. On the 21<sup>st</sup>, the very cold low pressure system brought low elevation snow once again, including snow down below 1,500 feet at the base of the Grapevine in Kern County during the late morning and early afternoon hours. Showers and thunderstorms developed later in the afternoon and dropped small hail and brief heavy rain, while some isolated cells briefly dropped flurries at even lower elevations. There was one location that reported snowflakes on the east side of Porterville during that evening (at elevations around 500 feet) due to some showers that developed. This was definitely a cold storm, as snow fell in quite a few locations south of Kern County (including Los Angeles and in much of southern California) at elevations below 1,000 feet. Showers continued into the evening before clearing overnight, or the morning of the 22<sup>nd</sup>. Snow amounts were also fairly decent, although several inches occurred each day above 7,000 feet in the Sierra Nevada during the 18<sup>th</sup> through the 20<sup>th</sup>. Dry conditions returned after the morning hours of the 22<sup>nd</sup>, but with cold morning lows (including lows at or just below freezing in the San Joaquin Valley) and cooler than average daytime highs. On the mornings of the 22<sup>nd</sup> and 23<sup>rd</sup>, quite a few San Joaquin Valley locations reported lows at freezing or within a couple of degrees during the morning hours.

For the last five days of the month, temperatures moderated back towards seasonal averages, but with rain and high elevation snow showers for the last two days of this period. Patchy dense fog with visibility down to around 500 feet developed in the southern portion of the San Joaquin Valley during the last morning of February.

Overall, the month was near to below average in terms of temperatures (Fig 1), while near to above average precipitation fell during this month (Fig 2). Mountain locations in the Sierra Nevada from Yosemite to Kern County reported a total of 8-12 feet of snowpack, including at elevations above 6,000 feet, and above 15 feet in the highest elevations along the crest. These amounts are well above average for the season thus far; the snow water equivalent is almost 150% of average for this time of year (according to the California Department of Water Resources). Most of this snow accumulated in this month alone.

**Table 1 – February 2019 Summary Statistics for ASOS locations**

<b>Location</b>	<b>Monthly Average Temp (deg F)</b>	<b>Departure From Average (deg F)</b>	<b>Total Monthly Precipitation (inches)</b>	<b>Departure From Normal (inches)</b>
Bakersfield	49.8	-2.8	1.20	-0.04
Fresno	49.2	-2.3	3.26	+1.23
Hanford	50.3	-2.0	2.53	+0.80
Madera	50.4	-0.1	2.81	+0.68
Merced	47.3	-2.4	3.33	+0.99

**Table 2 – Seasonal Precipitation for ASOS locations (ending on February 28<sup>th</sup>)**

<b>Location</b>	<b>Since Jan 1<sup>st</sup> (inches)</b>	<b>Departure From Average (inches)</b>	<b>Since Jul 1<sup>st</sup> (inches)</b>	<b>Departure From Average (inches)</b>	<b>Since Oct 1<sup>st</sup> (inches)</b>	<b>Departure From Normal (inches)</b>
Bakersfield	2.58	+0.18	3.88	-0.60	3.88	-0.48
Fresno	5.49	+1.27	7.82	-0.06	7.82	-0.13
Hanford	4.32	+0.55	6.19	-0.92	6.19	-0.71
Madera	4.58	0.00	7.57	-1.03	7.57	-0.74
Merced	5.67	+0.72	9.54	+0.77	9.54	+1.08

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

<b>Location</b>	<b>High</b>	<b>Date(s)</b>	<b>Low</b>	<b>Date(s)</b>
Bakersfield	73	25 <sup>th</sup>	32	8 <sup>th</sup> , 12 <sup>th</sup>
Fresno	69	25 <sup>th</sup>	32	6 <sup>th</sup>
Hanford	71	25 <sup>th</sup>	30	23 <sup>rd</sup> and several earlier days
Madera	72	25 <sup>th</sup>	30	22 <sup>nd</sup>
Merced	67	14 <sup>th</sup> , 27 <sup>th</sup>	28	19 <sup>th</sup> , 23 <sup>rd</sup>

### **Temperature/Precipitation Rankings for February 2019**

**Bakersfield** – tied for 15<sup>th</sup> coolest February on record; 45<sup>th</sup> wettest February on record.

**Fresno** – tied for 29<sup>th</sup> coolest February on record; 21<sup>st</sup> wettest February on record.

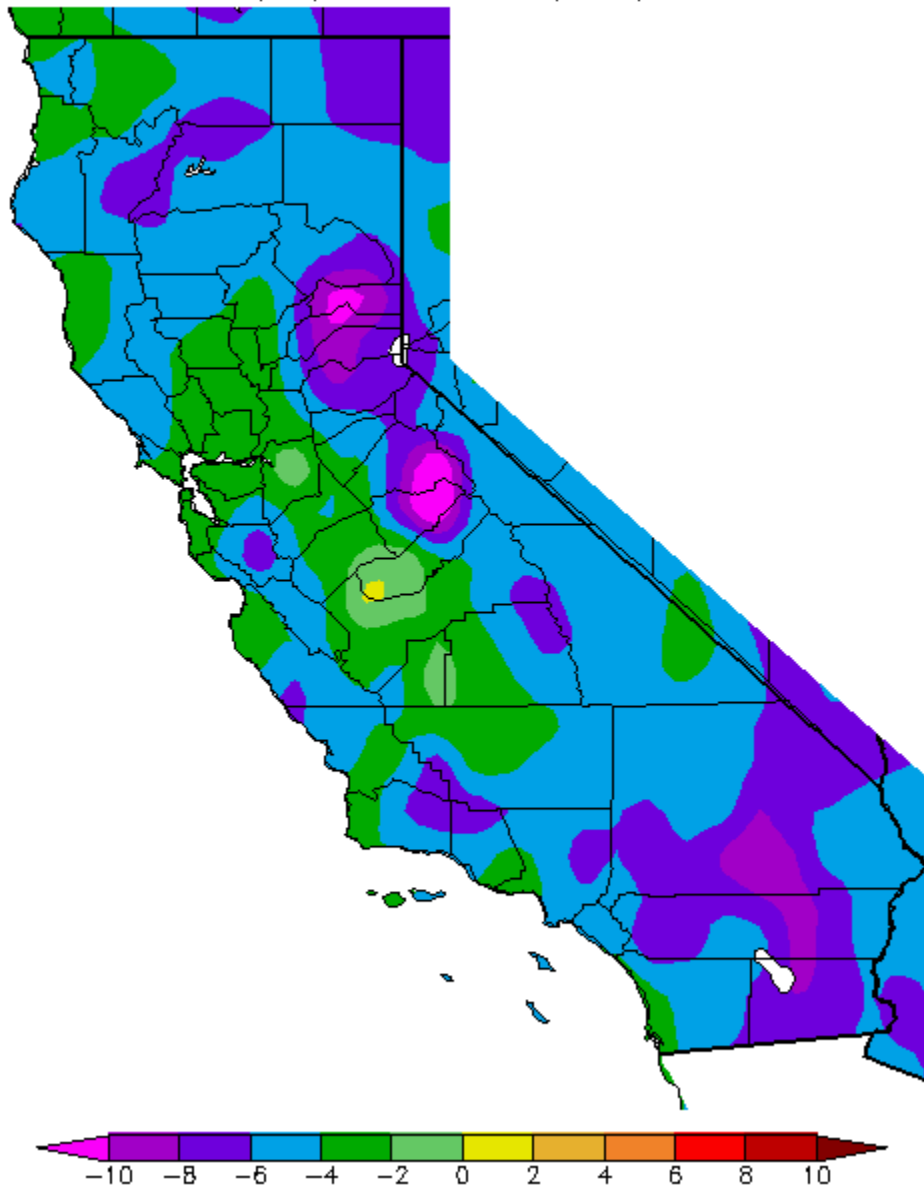
### **Daily Records Set During February 2019**

**Bakersfield** – Record low maximum temperature of 49 degrees on the 21<sup>st</sup> occurred. The old record was 54 degrees, last set for the date in 1975). In addition, a record low maximum temperature of 54 degrees was tied on the 22<sup>nd</sup>, which last occurred on the date in 1944.

**Fresno** – No daily temperature or precipitation records set.

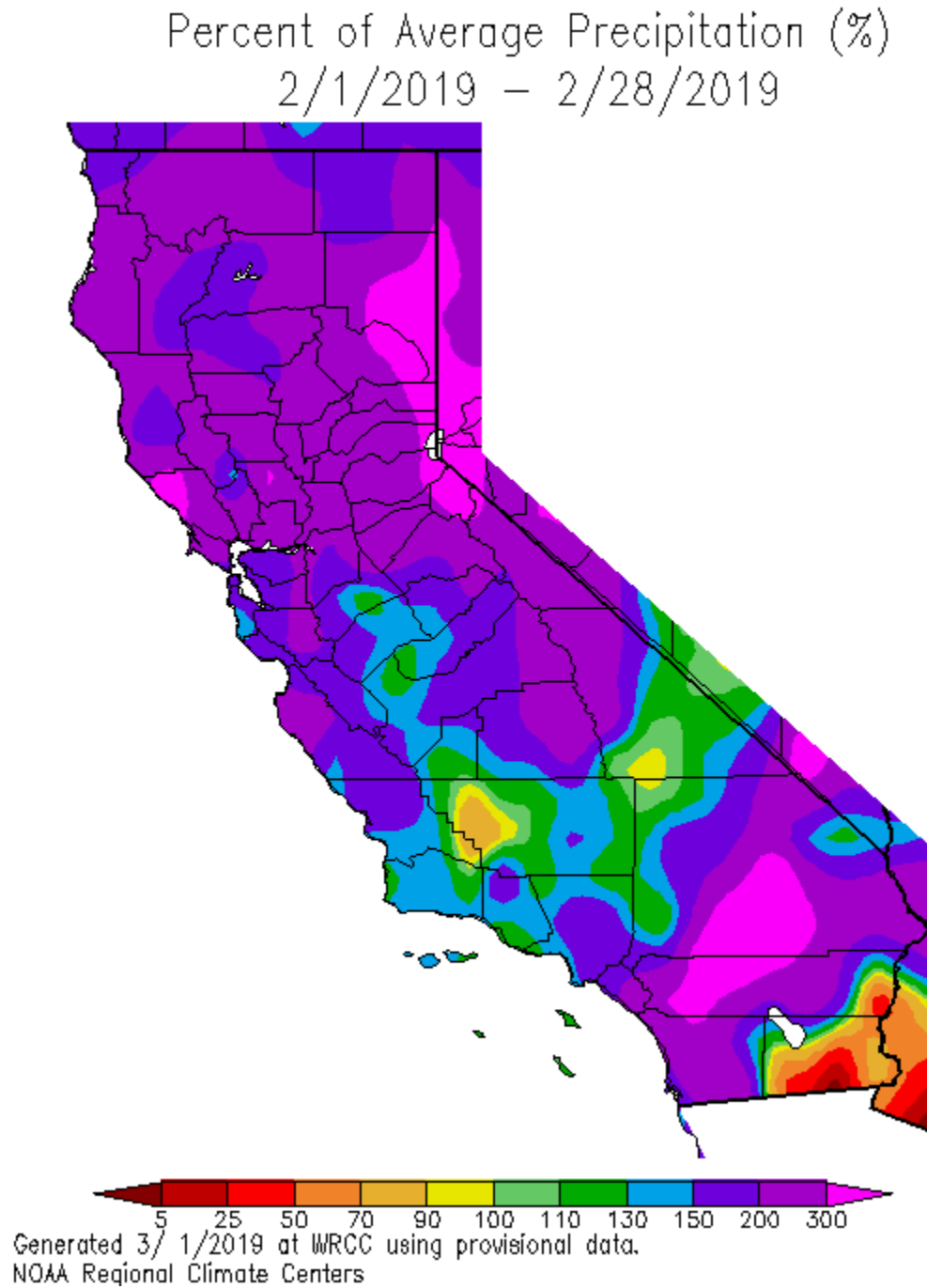
**Fig 1 – Departure from Average Temperature for February 2019**

Ave. Temperature dep from Ave (deg F)  
2/1/2019 – 2/28/2019



Generated 3/ 1/2019 at WRCC using provisional data.  
NOAA Regional Climate Centers

**Fig 2 – Percent of Average Precipitation for February 2019**



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