

MARCH 2019 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR

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The month began with a brief quiet weather period between storms. A storm was approaching on the night of the 1st after another system had just exited the Central California interior region. In fact, for the first week of the month, there were only brief quiet periods lasting around 12-24 hours. Just about anywhere in the forecast area received some weather, including gusty winds, precipitation, and thunderstorms during this week. There were two storms of significance during the 1st-6th period.

The first storm of the month, or on the 2nd, a storm brought showers and thunderstorms to much of the region during the afternoon into the evening. Snow accumulations ranged anywhere from several inches up to around two feet in the Sierra Nevada above 7,000 feet. Around 0.50 to 1.00 inch of rain fell in the San Joaquin Valley and Kern County mountain areas, while one to three inches fell in the Sierra Nevada and adjacent foothills. Around 0.10 to 0.50 inch of rain fell in the Kern County desert areas. A weak tornado touched down near Mendota (west of Fresno) during that afternoon and caused minor roof damage. On the 3rd and 4th, there were periods of scattered light showers, except for a brief dry period during the afternoon and evening of the 4th. Otherwise, skies were partly to mostly cloudy.

An even stronger storm system arrived by the 5th and continued until the 6th. Rain and gusty winds occurred during much of daylight hours the 5th. On the evening of the 5th into the morning of the 6th, an atmospheric river, or plume of abundant subtropical moisture, that slowly moved over Kern and Tulare Counties and brought a large amount of rainfall to elevations above 8,000 feet. This rain fell on a large area with snow cover that melted and flowed into the rivers and creeks over the next 12 hours after the heavy rain ended on the morning of the 6th. The rivers in the mountains of eastern Kern County rose rapidly, as 2-4 inches of rain fell during the night of the 5th into the morning of the 6th. Many locations in the Kern County desert reported rainfall that exceeded an inch. One creek (i.e., Kelso Creek to the southeast of Lake Isabella) had filled up enough that a potential levee breach became a concern and prompted a recommended evacuation of three nearby communities within the town of Kelso Creek. In addition, there were thunderstorms that developed on the evening of the 5th in the aforementioned counties. Otherwise, scattered showers and thunderstorms developed during the afternoon of the 6th, and gusty winds continued throughout much of Central California. Gusts reached near 60 mph on both days in the Kern County mountain areas and along the west side of the San Joaquin Valley, while gusts reached around 35-40 mph elsewhere in the San Joaquin Valley. By the afternoon of

the 6th, scattered thunderstorms developed and brought heavy rain that caused some rockslides and even one report of a funnel cloud in the Sierra Nevada foothills in rural Madera County. Snow in the Sierra Nevada was generally around 7,000 feet to above 8,000 feet during the 5th and 6th; the snow levels rose to above 8,000 feet during the night of the 5th into the morning of the 6th. Another several inches to over a foot of snow accumulated during both days in these elevations of the Sierra Nevada.

On the 7th, light showers persisted behind the upper-level low in portions of the San Joaquin Valley and Sierra Nevada foothills. On the following day, there was a brief break in the precipitation before the next system approached the region by the 9th. On the evening of the 9th and into the 10th, scattered showers developed. There were some isolated thunderstorms over the higher terrain by the afternoon of the 10th. Otherwise, partly cloudy skies prevailed throughout Central California. This system ended up moving into southern California and northern Baja California during the overnight hours, or into the early morning hours of the 11th. Some snow showers developed over the Kern County mountains, especially above 5,000 feet that night. The daytime hours of the 11th were quiet in terms of the weather with relatively warmer temperatures and mainly clear skies.

During the 12th and 13th, another storm system approached and mainly brought light showers over the San Joaquin Valley and light snow over the Sierra Nevada above 6,000 feet. However, the main impacts with this system were due to the gusty winds that occurred in the Kern County mountains and desert, especially near Mojave where three semi-trucks had blown over. Gusts reached around 70 to 80 miles per hours in the Kern County mountain and desert areas (71 mph at Mojave); there were also some gusts around 40-45 mph reported in the mountains along the west side of the San Joaquin Valley. Colder air arrived by the morning of the 13th, and temperatures remained below average through at least the morning of the 14th. A few spots in the San Joaquin Valley briefly reached near or just below freezing during that morning.

After another chilly morning, a warming trend commenced on the 15th and continued through the 18th due to a relatively strong ridge of high pressure. High temperatures reached into the 80s in quite a few locations throughout Central California, including the San Joaquin Valley, Sierra Nevada foothills, and the Kern County desert areas on the 18th. During the 17th and 18th, high temperatures in these areas reached around 10 to 15 degrees above average. Even low temperatures became fairly mild during the overnight and morning hours towards the end of this period.

A low pressure system approached on the 19th and brought increasing clouds and lowering temperatures. However, highs were still around 5 to 10 degrees above average. Precipitation and cooler temperatures returned by the evening of the 19th. Cool and unsettled conditions lasted through the 21st, and the 20th was characterized with stormy weather, including some isolated

thunderstorms with funnel clouds and heavy rain. A brief dry period occurred during the morning and afternoon of the 22nd before another low pressure system approached by the following evening. Showers moved over the region through the 23rd. The next several days as weak ridging moved into the region, temperatures warmed again to several degrees above late March levels through the 26th. On the 27th through the 28th, another weak system moved into the area and again cooled temperatures to around normal levels and brought many locations light precipitation. Fresno Air Terminal recorded 0.09” of rainfall on the 27th, while Bakersfield Meadows Field reported 0.04” of rainfall. Another gradual warm up to above normal temperatures concluded the month of March across the area.

Overall, the month was mostly above average in terms of temperatures (Fig 1). Mostly above average precipitation accumulated this month (Fig 2).

Table 1 – March 2019 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	57.4	-0.2	2.01	0.80
Fresno	57.4	0.8	1.26	-0.77
Hanford	55.9	0.5	1.19	-0.44
Madera	57.2	3.0	2.08	0.28
Merced	53.9	0.3	2.28	0.21

Table 2 – Seasonal Precipitation for ASOS locations (ending on March 31st)

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	4.59	0.98	5.89	0.20	5.89	0.32
Fresno	6.75	0.50	9.08	-0.83	9.08	-0.64
Hanford	5.54	0.11	7.38	-1.36	7.58	-0.05
Madera	6.66	0.28	9.65	-0.75	9.65	-0.46
Merced	7.95	0.93	11.82	0.98	11.82	1.29

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

Location	High	Date(s)	Low	Date(s)
Bakersfield	82	18 th	37	14 th
Fresno	83	18 th	40	11 th , 10 th
Hanford	81	18 th	33	14 th
Madera	85	18 th	36	14 th
Merced	79	18 th	32	14 th

Temperature/Precipitation Rankings for March 2019

Bakersfield – 58th warmest March on record; 19th highest precipitation on record for March.

Fresno – 36th warmest March on record; 60th lowest precipitation on record for March.

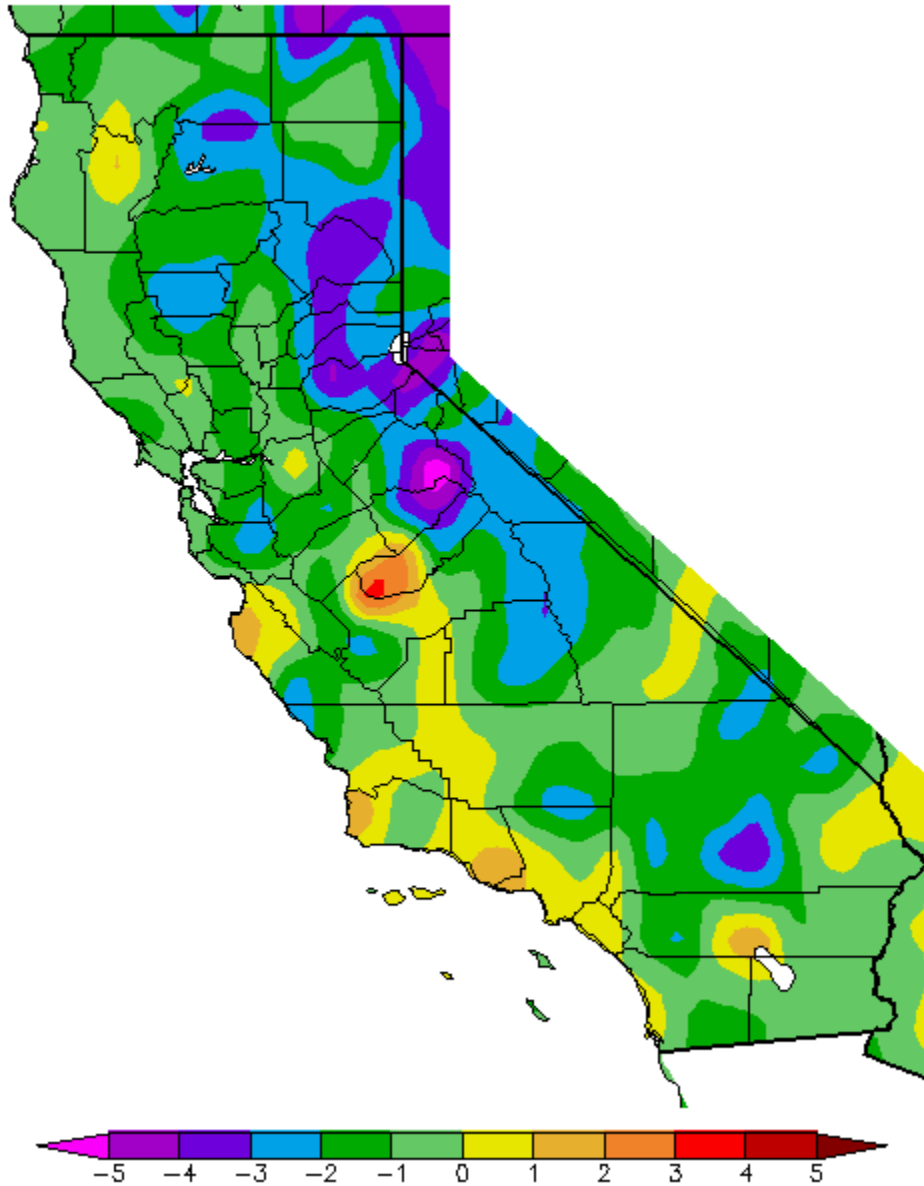
Daily Records Set During March 2019

Bakersfield – None.

Fresno – Record high minimum temperature of 56 degrees tied on the 27th, which was last set for the date in 2015.

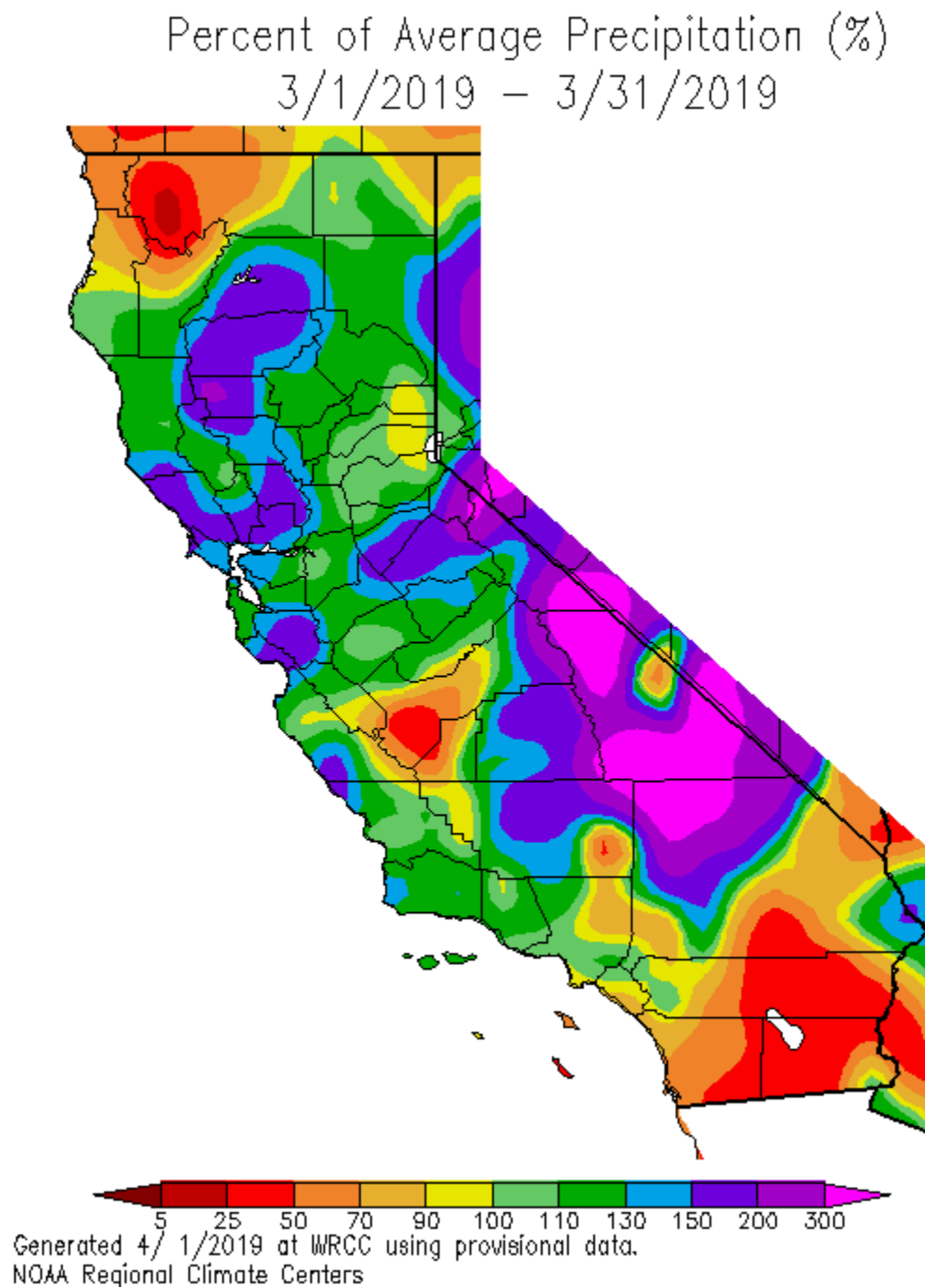
Fig 1 – Departure from Average Temperature for March 2019

Ave. Temperature dep from Ave (deg F)
3/1/2019 – 3/31/2019



Generated 4/ 1/2019 at WRCC using provisional data.
NOAA Regional Climate Centers

Fig 2 – Percent of Average Precipitation for March 2019



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