JUNE 2019 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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An active weather period continued on the 1st day, although was relatively warm compared to storms during much of the previous month, as an upper-level low brought an unstable atmosphere to Central California. Scattered showers and thunderstorms developed over the higher terrain surrounding the San Joaquin Valley and into the Kern County desert areas. The strongest storms generated heavy rain, small hail, and gusty winds that reached around 45 mph. Rainfall reports received with these storms were around 0.50 inch (and locally higher, as one automated station near Kettleman City reported 0.92 inch during the evening of the 1st) that accumulated in a short period of time during the afternoon and evening hours, and hail sizes were around ¼ to ½ inch, or pea-size to dime-size. Shower and thunderstorms continued until shortly after sunset, although the focus of the storm activity shifted to the south end of the Central Valley and the Grapevine.

Another very active weather day occurred on the 2nd, as the upper-level low made little eastward progression. Scattered showers and thunderstorms developed over the Sierra Nevada and Kern County mountains, including near Tehachapi, Frazier Park, and Lake Isabella by the early afternoon. The focus of the activity later moved to the south and west, including into portions of the San Joaquin Valley. The south end and the west side of the San Joaquin Valley experienced quite a few thunderstorms by the late afternoon and into the early evening. Over 0.70 inch fell in about an hour at Coalinga during the early evening, and pea sized-hail was reported by the fire department. A weak tornado also touched down briefly a few miles to the northeast of Bakersfield. In addition, Bakersfield reported 0.23 inch of rain due to these thunderstorms. Gusty winds around 45 mph developed once again due to the thunderstorm outflow winds. The storm activity once again redeveloped near the Grapevine in the early evening before it weakened by shortly after sunset. Otherwise, daytime high temperatures continued to warm slightly.

Showers and thunderstorms continued to develop each afternoon and evening over the higher terrain until the 5th, although it did not move down into the Central Valley as during previous days. Temperatures continued to warm each day. Daily highs reached into the mid to upper 90s on the 3rd and 4th, and triple digits occurred for the first time this year at most San Joaquin Valley locations by the 5th. Plenty of low-level moisture lingered even where the thunderstorms did not develop, so that these days felt a bit muggy, especially during the peak heating of the day.

A low pressure system passed over the region on the night of the 5th into the 6th, so temperatures lowered considerably for the next couple of days. Dry conditions prevailed during this period. The coolest day was on the 7th, as highs only reached into the lower to mid 80s at the warmest locations. Gusty winds developed below the passes leading into the desert in eastern Kern County; gusts reached around 45 to 60 miles per hour on the evening of the 7th and pre-dawn hours of the 8th.

High pressure built over the region by the 9th, so temperatures warmed up significantly; daytime highs were mainly in the 90s in much of the lower elevations while the warmest locations reached just above 100 degrees. Dry conditions prevailed for quite some time, or through the end of the month, as is typical in this region of California. Temperatures reached back into the triple digits on the 10th through the 13th in much of the San Joaquin Valley, the Sierra Nevada foothills, and the Kern County desert regions.

Afterward, temperatures fluctuated from at least several degrees below average to several degrees above average, as low pressure systems prevailed over the Pacific Northwest. Between systems, high pressure returned for periods lasting about three days (i.e., the 17th-19th and the 22nd-24th). Impacts from the low pressure systems included gusty winds at times (especially during the 19th-21st), as well as below average temperatures. Wind gusts in the Kern County mountain and desert regions were as high as 55 mph on the 20th, and over 40 mph at Pacheco Pass and Sunflower Valley in the hills adjacent to the western San Joaquin Valley. Otherwise, gusts reached 35 to 50 mph at these locations on the 19th and 21st. Even cooler than average temperatures returned on the 27th, and highs only reached into the lower to mid 80s in the lower elevation locations. Thus, highs were as much as around 10-15 degrees below average for late June.

Temperatures gradually rose each day during the 28th-30th, and daytime highs returned to near average by the 30th. Low temperatures were also near or slightly below average, as the airmass was mainly dry. Some gusty winds with isolated locations that reported blowing dust occurred during much of the daytime on the 28th due to a slow moving dry cold front. This front also produced partly to mostly cloudy skies with middle and high level clouds, as it drew in moisture from the remnants of Hurricane Alvin that were off the coast of northern Baja California. Otherwise, the last two days of the month were fairly quiet

Overall, the month was considerably warmer than average (Fig 1). Fresno reached its 8th warmest June on record, while Bakersfield reached its 11th. Near to above average precipitation accumulated this month (Fig 2), especially in southern portions of the forecast area that received the heaviest rain due to thunderstorms during the first week. Typically, little rainfall falls in most locations during June in our forecast area, and it is common for locations, such as those in the

San Joaquin Valley, to report no precipitation for the entire month. Quite a bit of snowpack remains at the highest elevations of the southern Sierra Nevada.

Table 1 – June 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	81.9	+4.4	0.23	+0.15
Fresno	80.8	+3.6	0.00	-0.21
Hanford	78.8	+4.2	0.00	-0.15
Madera	77.1	+2.9	0.00	-0.19
Merced	76.2	+2.5	0.00	-0.13

Table 2 – Seasonal Precipitation for ASOS locations (ending on June 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	6.50	+2.11	7.80	+1.33	7.80	+1.45
Fresno	9.52	+1.68	11.85	+0.35	11.85	+0.54
Hanford	7.63	+0.87	9.50	-0.60	9.50	-0.39
Madera	8.43	+0.43	11.42	-0.60	11.42	-0.31
Merced	9.40	+0.72	13.27	+0.77	13.27	+1.08

Table 3 – Warmest High Temperatures and Coolest Low Temperatures of the Month for ASOS locations				
Location	**High**	**Date(s)**	**Low**	**Date(s)**
Bakersfield	108	12th	58	8th
Fresno	106	12th	56	8th
Hanford	105	12th	48	8th
Madera	105	12th	49	8th
Merced	105	11th, 12th	51	7th

Temperature/Precipitation Rankings for June 2019

Bakersfield – tied for 11th warmest June on record (with 1926); 15th highest monthly precipitation on record for June.
Fresno – 8th warmest June on record; tied for lowest precipitation on record for June (also occurred in 49 other Junes since precipitation records began in 1881).

Daily Records Set During June 2019

Bakersfield – No daily records set.
Fresno – 5th: Record high minimum temperature of 75 degrees set for date, which broke the old record of 72 degrees last set for the date in 1926.
11th: Record high minimum temperature of 75 degrees set for date, which broke the old record of 72 degrees last set for the date in 1918.
12th: Record high minimum temperature of 77 degrees set for date, which broke the old record of 73 degrees last set for the date in 2015.

100 Degree Day Statistics for June 2019 vs. Average (1981-2010)

Bakersfield – 8 days (average of 5 days)
Fresno – 7 days (average of 6 days)

Figure 1 – Departure from Average Temperature for June 2019

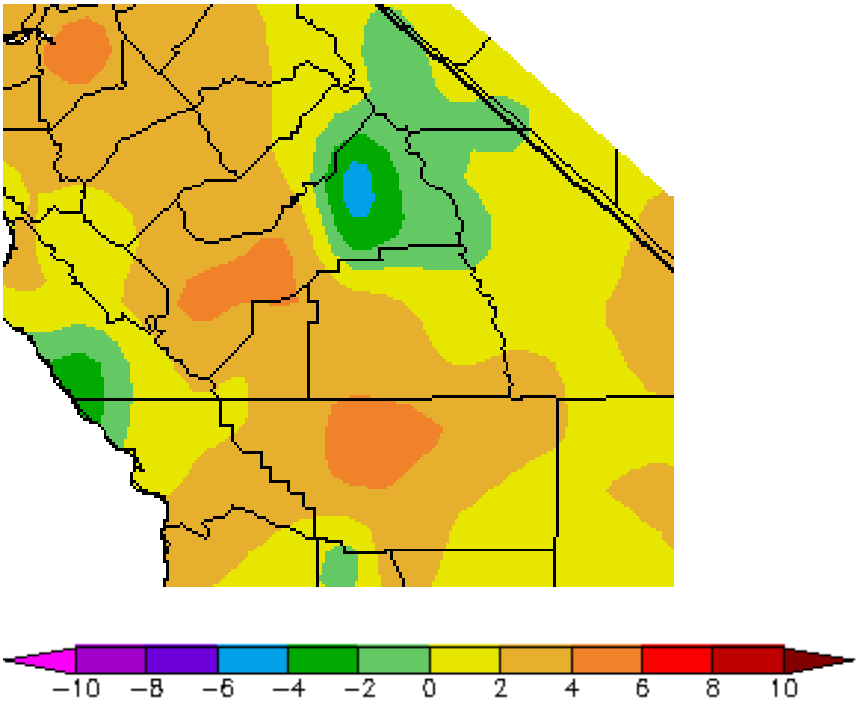
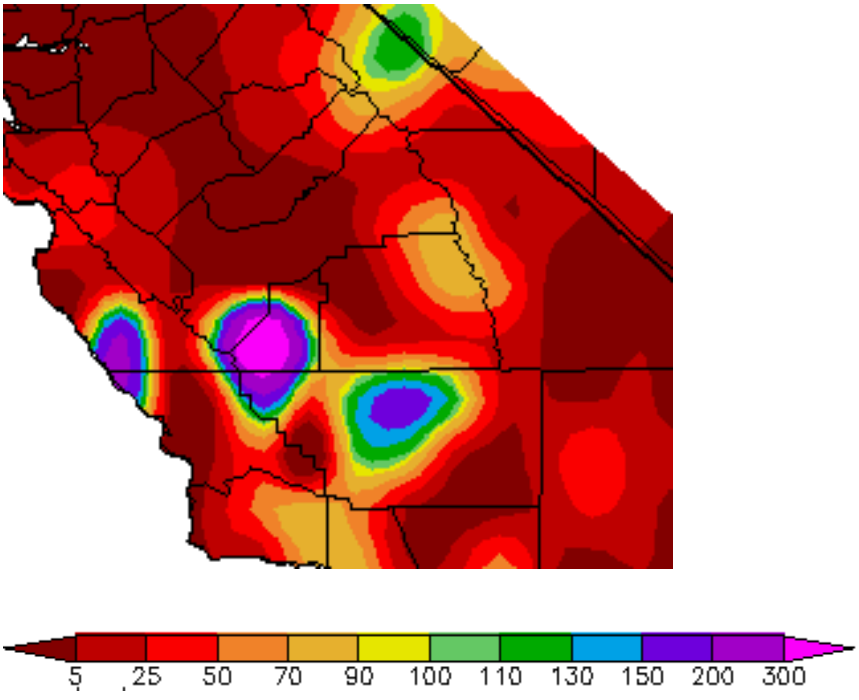


Figure 2 – Percent of Average Precipitation for June 2019



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