JUNE 2017 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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Near average temperatures occurred on the first couple of days of the month before warming slightly on the 3rd. High pressure was relatively weak over the region on the 3rd, and into the next several days, so temperatures remained about the same with minor fluctuations during this period. By the end of the first week of this month, there were some periods of gusty winds along the west side of the San Joaquin Valley (around 35-40 mph) and through the passes and canyons in the Kern County mountain and desert areas (mainly about 50-55 mph).

By the 8th, temperatures fell to below average as a trough of low pressure prevailed over northern California and the Pacific Northwest. Additional low pressure systems strengthen the trough, especially by the 11th and 12th, when temperatures fell to well below average. On the 11th and 12th, the low pressure system was sufficiently strong to produce precipitation, especially in the Sierra Nevada and adjacent foothills. There were also some showers and isolated thunderstorms on the evening of the 11th that moved across parts of the San Joaquin Valley, such as in Hanford and Visalia. Mainly light rainfall occurred with these showers and measured mainly below a tenth of an inch. Rainfall of this amount is usually rare in the San Joaquin Valley during this month, although some record values have exceeded an inch of rain in 24 hours, especially in Fresno. Some lightning was also visible towards the east of Fresno that evening, but no rain was reported in Fresno. On the night of the 11th and into the morning of the 12th, snow fell in the Sierra Nevada as low as 6,000 feet; up to several inches fell in the high country.

By the 13th, a ridge of high pressure began to build over the region, but temperatures remained below average. However, this was the beginning of a warming trend which eventually led to the heat wave that began on the 18th. High pressure further strengthened by the 17th, and the San Joaquin Valley once again started to observe triple digit high temperatures were generally in the 90s in the warmest locations. On the 18th, most locations in the San Joaquin Valley reached daily highs that exceeded 105 degrees; similar temperatures or warmer occurred until the 25th. As the high pressure ridge reached its peak strength, high temperatures reached around 110 degrees by the 20th in quite a few locations throughout the San Joaquin Valley and the Kern County desert areas. However, the high pressure ridge maintained its strength for at least several more days as this heat continued, and high temperatures remained around 105 to 110 degrees until the 25th. Bakersfield even recorded a high at 100 degrees or above until the 26th. Overnight lows were also very warm, and record high minimum temperatures were reached for much of this week,

especially in the San Joaquin Valley. Some locations, such as Bakersfield and Fresno only bottomed out at or above 80 degrees in the mornings of some of these days.

The extreme heat over the region unfortunately led to rapid snowmelt over the Sierra Nevada. Above average snowpack persisted for the month thus far. Minor flooding was reported along the Kings River, especially near unprotected low-lying areas, on the 19th and for much of the 3rd week of the month. The river levels were sufficiently high to prompt evacuations at some local RV parks near Kingsburg and Sanger. There was also a golf course in Kingsburg that reported flooding and was forced to close on the 22nd. Pine Flat Lake continued to rise near its capacity, as increasing amounts water due to snow melt flowed into the reservoir. As a result, the Kings River rose to increasing water releases below Pine Flat Dam. In addition, Millerton Lake was observing significant rises that week and was also rising sufficiently close to its capacity, so the operators at Friant Dam increased water releases into the San Joaquin River. Minor flooding was also reported in Yosemite National Park along the Merced River; the flood stage at Pohono Bridge was just above its flood stage of 10 feet for several days starting around the 17th.

As a side note, high temperatures in the San Joaquin Valley during the period of the 17th-26th were 100 degrees or warmer; this is a total of 10 consecutive days. Bakersfield recorded highs of 100 degrees or warmer on all of these days, but only during this period. Fresno's highs reached or exceeded 100 degrees on the 17th-25th, or for nine consecutive days, but also were this warm only during this period in the month of June. On eight of these days, Fresno recorded highs of 105 degrees or warmer. High temperatures reached 110 degrees on four different days in Bakersfield (i.e., the 20th-22nd and the 25th) and once in Fresno (on the 20th). Quite a few other locations reached above 110 degrees during this heatwave.

The heat wave finally began to abate by the 25th. Before this heat wave finally ended, there were scattered thunderstorms in the mountain areas from Yosemite to Kern County during the afternoon and evening of the 24th. Some strong thunderstorms developed over Yosemite during that day and produced brief heavy rain and frequent lightning. In addition, a thunderstorm started a fire in Sequoia National Forest in southern Tulare County, or the Schaeffer Fire, which continued to burn as of the end of the month. A few thunderstorms also developed around Frazier Park and Lake Isabella during that afternoon. In the meantime, daytime high temperatures finally fell below 100 degrees throughout the San Joaquin Valley by the 27th as high pressure weakened and gave way to a cooler, westerly (or onshore) flow.

As of the last three days of the month, or the 28th to the 30th, temperatures warmed slightly but changed very little as weak high pressure returned, but with southwesterly wind flow aloft. Highs in the San Joaquin Valley were mainly below 100 degrees during this period. However, the Kern County desert areas remained the warmest in our forecast area, as widespread triple digit high temperatures (mainly 100-104 degrees) continued there. Due to the westerly wind flow aloft,

gusty winds were prevalent in the Kern County mountain and desert areas during the evening and early morning hours during the 27th to the 29th, as gusts reached around 50-55 mph, especially in the passes and canyons near Mojave and to the west of Inyokern.

This June was overall warmer than average throughout much of central California, except for some locales in the southern Sierra Nevada (Fig 1). In terms of precipitation, the month was mainly below average, with a few exceptions due to localized showers and thunderstorms at times during the month (such as June 11th-12th and 24th). Locations in the San Joaquin Valley on average receive little or no precipitation, as is typical during the summer months. June was overall warmer than average, largely due to the heat wave during the third week of the month.

Table 1 – June 2017 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	82.8	+5.3	0.00	-0.08
Fresno	80.5	+3.3	0.00	-0.21
Hanford	79.2	+4.6	0.01	-0.14
Madera	77.5	+3.2	0.00	-0.19
Merced	76.5	+2.8	0.05	-0.08

Temperature/Precipitation Rankings for June

Bakersfield – 6th warmest June on record; ties for driest June on record (However, precipitation often does not fall in this month, as there were 60 other Junes on record that reported no precipitation).
Fresno – 9th warmest June on record; ties for driest June on record (There were 48 other Junes on record that reported no precipitation, not even a trace amount).

Figure 1 – Departure from Average Temperature for June 2017

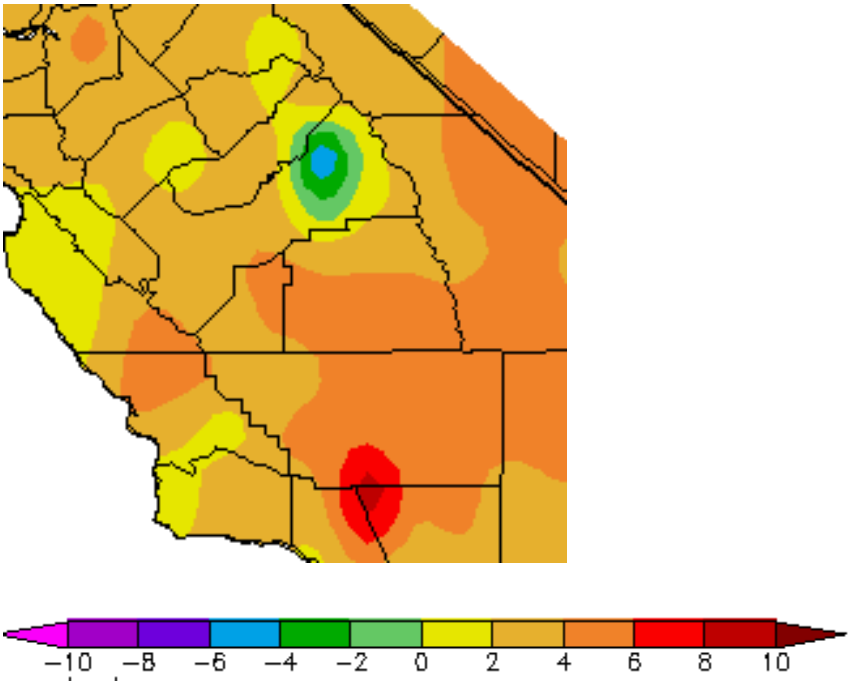
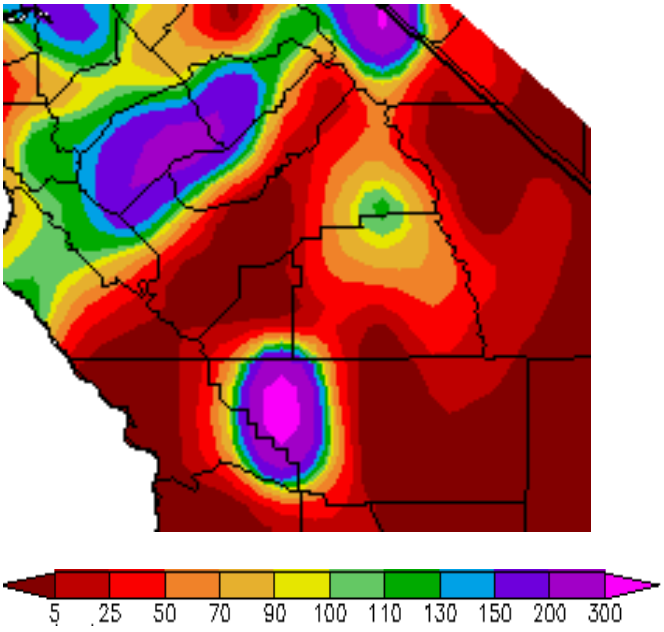


Figure 2 – Percent of Average Precipitation for June 2017



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