JUNE 2020 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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The month began with seasonably warm temperatures, though slightly below average, as an upper-level low pressure center remained off the coast of southern California and northern Baja California. However, a warming trend soon occurred as a building ridge of high pressure took control, or on the 2nd through the 4th. Temperatures were a few degrees above average on the 2nd and even warmer on the 3rd, and daytime highs exceeded 100 degrees in the San Joaquin Valley and the Kern County desert regions by the 3rd. Isolated thunderstorms developed over the Sierra Nevada and the mountain areas over southern Kern County (e.g., Frazier Park and Pine Mountain Club) on the afternoon of the 3rd with showers over the higher terrain along the west side of the San Joaquin Valley as the low pressure system moved slightly closer to the Southern California coast. On the 4th, the low moved a little further offshore, but the ridge of high pressure continued to strengthen over much of California. Thus, high temperatures warmed even more and peaked on this date; some record high maximum and minimum temperatures occurred (such as at Fresno and Merced).

The upper-level low was caught in the southern jet stream over Southern California on the 5th, and this low moved inland during the afternoon and evening hours. Therefore, more numerous thunderstorms developed over the Sierra Nevada, with at least isolated storms over much of Kern County. The southern end of the San Joaquin Valley reported showers and isolated thunderstorms. Bakersfield even received measurable rainfall (0.02 inch) due to a thunderstorm that moved over the city, including over the airport (i.e., Bakersfield Meadows Field Airport). As the storms weakened over the southern portion of the San Joaquin Valley, gusty winds around 25 to 30 miles per hour produced blowing dust during the early evening, including at the NWS Forecast Office in Hanford and surrounding areas from Lemoore to just west of Visalia. Some fields had enough blowing dust to reduce visibility to only a few hundred feet. One thunderstorm produced small hail with brief heavy rain in the Kern County desert at Rosamond (between Lancaster and Mojave), while isolated thunderstorms developed to the north towards Ridgecrest and California City. A few locations in the Kern County mountains reported amounts near 0.20 inch, while the desert locations received less than a tenth of an inch. Otherwise, daytime highs were near to below seasonal averages due to cloud cover for much of the day and developing gusty winds through the passes and over the ridgetops along the west side of the Central Valley, such as Pacheco Pass. Afterward, or during the late-night hours of the 5th into the morning of the 6th, the upper-level low moved eastward into Arizona. In the wake of this system, gusty west to northwest winds developed over much of the region, although the strongest winds occurred

through the passes and canyons in the Kern County desert, as well as the hills and mountains along the west side of the Central Valley.

Further cooling allowed daytime highs to cool back to below seasonal averages on the 6th and 7th while increased winds continued. Gusts during the afternoons and evenings of both days were around 55 to 60 miles per hour at a few locations in the Kern County mountains and desert areas and around 40 miles per hour through the passes leading into the western San Joaquin Valley. On the 8th, an upward trend in temperatures occurred, but remained below average as winds relaxed. Morning lows on the 8th were much cooler than average, or by around 10 degrees. For example, a few San Joaquin Valley locations dipped into the mid to upper-40s on that morning.

Temperatures quickly rebounded by the 10th and 11th, and highs reached into the triple digits in many lower elevation locations due to a ridge of high pressure. This ridge weakened on the 12th, as another strong trough of low pressure with a cold front approached Central California. On the evening of the 12th, showers and thunderstorms developed over the Sierra Nevada, adjacent foothills, and the east side of the San Joaquin Valley. Even parts of Fresno and Clovis reported sprinkles and a brief period with rumbles of thunder; however, no precipitation was reported at Fresno-Yosemite International Airport with this particular event. Some light snow also fell at around 9,000 feet and above in Yosemite National Park during that evening (from a dusting up to around three inches, or at higher elevations around 10,000 feet); accumulation remained on the ground until at least the following morning. Most of the storm activity remained in Fresno County and northward; however, gusty winds developed elsewhere as the cold front passed over the region. Highs only reached about 90 degrees at the warmest spots, except for locations in the Kern County desert that were a bit warmer. A cold front is typically associated with gusty winds, and this front was no exception, as wind gusts reached over 35 miles per hour or higher in much of the San Joaquin Valley during the late afternoon and evening of the 12th. In addition, gusts reached around 45 to 55 miles per hour in the Kern County mountain and desert areas. Gusty winds this strong in the San Joaquin Valley usually lead to blowing dust, especially after a long period with little or no rainfall. Some isolated locations, including recently plowed fields in the Central Valley, also experienced blowing dust with visibility down to near zero. The upper-level low passed to the east of the region during the overnight hours of the 12th into the 13th, and below average temperatures soon followed.

Relatively cool temperatures prevailed on the 13th and 14th, though with a slight warming trend that started on the 14th, as the upper-level low pressure system moved further inland. Gusty winds redeveloped during the afternoon and evening hours of the 13th, and were a bit stronger in the Kern County mountains and desert (local gusts at the passes and canyons above 60 miles per hour) as westerly flow aloft continued. High temperatures on the 13th remained below 80 degrees in much of the Central Valley and were overall about 10 to 15 degrees above average throughout Central California. On the 14th, temperatures were several degrees warmer, but still below

average, while winds were not as strong. Temperatures warmed back to seasonal averages on the 15th, and the warmest spots once again reached into the 90s. Another trough soon passed into Central California, or beginning in the late afternoon hours of the 15th. Thus, yet another downward trend in temperatures occurred on the 16th. Some gusty winds developed, but were mainly reported near the passes leading into the Kern County desert and the west side of the San Joaquin Valley. Daytime highs lowered back to the mid to upper-80s at the warmest spots. Temperatures until this point in the month have generally remained near average due to the amount of well above average temperatures combined with some days with cooler than average conditions.

Temperatures remained below normal as of the 17th. However, a warming trend began once again. Above average temperatures returned by the 19th and continued until the 27th. The hottest day was on the 27th, as highs reached 105 degrees or warmer in many lower elevation locations. Triple digit heat lasted for nearly a week in much of the lower elevations of our forecast area, and thus far has been the longest stretch since the calendar year 2020 began. Dry weather prevailed in the region, except for some mountain thunderstorms at times during the 22nd through the 26th. On the 25th, some strong thunderstorms brought hail and gusty winds to Yosemite National Park. Gusts reached near 60 miles per hour at one station above Hetch Hetchy Reservoir. In addition, some downed trees were reported in Yosemite Valley.

Below average temperatures briefly returned on the 28th and 29th. It was mainly dry with breezy to gusty conditions throughout Central California. On the 28th, a few spots observed gusts over 50 miles per hour, including a gust of 56 mph at Pacheco Pass in the west side hills. The Kern County mountain and desert areas had gusts over 50 mph in a quite a few locations with isolated locations that reported gusts over 75 miles per hour. Otherwise, most of the Central Valley experienced a period with blowing dust and widespread gusts around 25 to 35 miles per hour. However, there was an exception to the overall dry conditions; the weather observer at Tuolumne Meadows reported light snow flurries on the afternoon of the 29th. The last day of the month was about average in terms of temperatures, as a warming trend began.

Overall, the month was near to above average in terms of temperatures (Fig 1). Mainly below average precipitation accumulated this month, except above average precipitation was reported at some locations in the high country of Yosemite and a small portion of the Central Sierra Nevada (Fig 2).

Note: Temperatures and precipitation records are now available prior to 1998 at Hanford, Madera, and Merced, as additional data was incorporated into their datasets. Temperature and precipitation data collected via the National Weather Service's Cooperative Observers Program (NWS COOP) were added; periods of record now go back to 1899 at Hanford and Merced and 1928 at Madera.

Table 1 – June 2020 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	79.1	+1.6	0.02	-0.06
Fresno	79.5	+2.3	0.00	-0.21
Hanford	77.1	+2.5	0.00	-0.15
Madera	74.9	+0.7	0.00	-0.19
Merced	75.9	+2.2	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	4.61	+0.22	7.22	+0.75	7.20	+0.85
Fresno	4.75	-3.09	7.63	-3.87	7.63	-3.68
Hanford	4.31	-2.45	6.62	-3.48	6.62	-3.27
Madera	3.76	-4.24	6.02	-6.00	6.02	-5.71
Merced	4.58	-4.10	9.54	-2.96	9.54	-2.65

*July 1 – June 30th is also known as the Rain Year.

Table 3 – Warmest High Temperatures and Coolest Low Temperatures of the Month for ASOS locations				
Location	**High**	**Date(s)**	**Low**	**Date(s)**
Bakersfield	105	27th	50	8th
Fresno	107	27th	54	8th
Hanford	106	27th	50	9th
Madera	106	27th	46	8th
Merced	106	27th	49	7th

Temperature/Precipitation Rankings for June 2020

Bakersfield – 39th warmest June on record; 33rd highest precipitation for June on record (tied with 1976).
Fresno – 17th warmest June on record (tied with 1889); tied for lowest precipitation for June on record.
Hanford – 29th warmest June on record (tied with 1959); tied for lowest precipitation for June on record.
Madera – 37th warmest June on record (tied with 1970); tied for lowest precipitation for June on record.
Merced - 25th warmest June on record (tied with 2008 and 1968); tied for lowest precipitation for June on record.

Note: San Joaquin Valley locations often report no precipitation during June.

Daily Records Set During June 2020

Bakersfield – No daily records tied or broken.

Fresno –
4th – Record high maximum temperature of 106 degrees set, which broke the old record of 105 degrees set for the date in 2016. Record high minimum temperature of 73 degrees tied, which was last set for the date in 1912.

27th - Record high minimum temperature of 77 degrees tied, which was last set for the date in 1973.

Hanford – No daily records tied or broken.
Madera – No daily records tied or broken.
Merced – No daily records tied or broken.

Number of Days with Maximum Temperature of 100 Degrees or Above

Bakersfield – June total: 9 (average 5); 2020 total so far: 12 (average 6)
Fresno – June total: 11 (average 6); 2020 total so far: 14 (average 7)
Hanford – June total: 9 (average 4); 2020 total so far: 12 (average 5)
Madera – June total: 9 (average 4); 2020 total so far: 12 (average 5)
Merced – June total: 8 (average 4); 2020 total so far: 11 (average 5)

Fig 1 – Departure from Average Temperature for June 2020

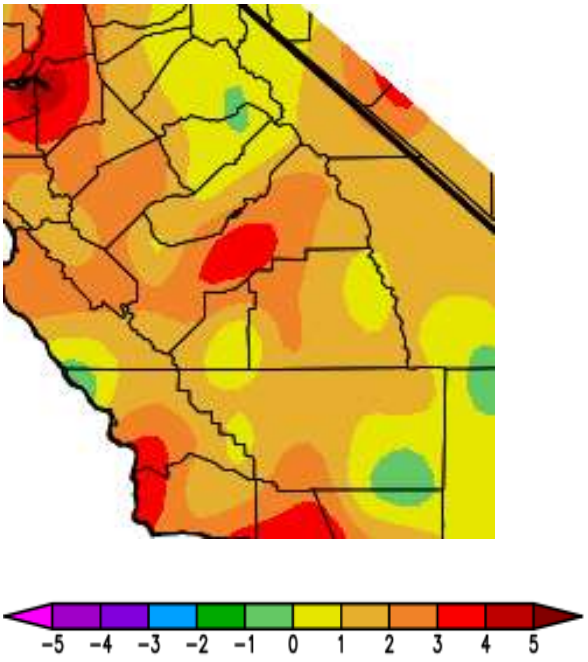
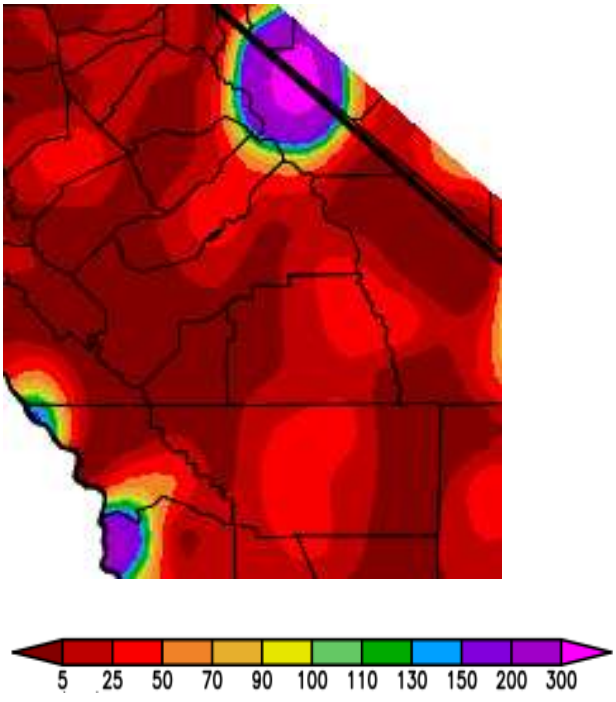


Fig 2 – Percent of Average Precipitation for June 2020



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