

JUNE 2021 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR

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Overall, the month was much warmer than average, with triple digit heat accompanied with warm overnight lows at times throughout the month and record-breaking high temperatures at times over the latter part of the month. Places in the San Joaquin Valley, such as Fresno, Bakersfield, and Hanford, reached 110 degrees or above for two consecutive days, while the Indian Wells Valley in the Kern County desert, such as at China Lake and Inyokern, rose to over 110 degrees for almost an entire week. Fresno and Bakersfield reached their 2nd and 4th hottest Junes on record, respectively. Some high minimum temperature records were also set, including at Bakersfield and Fresno when overnight lows were in the upper 70s to lower 80s.

Table 1 – June 2021 Summary Statistics – NWS Hanford, CA ASOS Sites						
Location	Monthly Average Temp (deg F)	Dept from Average (deg F)	Temp Rank	Total Monthly Precip (in)	Dept from Normal (inches)	Precip Rank
Bakersfield	83.4	+4.7	4 th warmest	T	-0.05	2 nd lowest
Fresno	82.6	+5.0	2 nd warmest	0.00	-0.24	Lowest
Hanford	80.5	+4.5	3 rd warmest	0.00	-0.07	Lowest
Madera	77.7	+2.7	8 th warmest	0.00	-0.16	Lowest
Merced	77.7	+3.5	8 th warmest	0.00	-0.12	Lowest

A very hot start to the month occurred due to strong high pressure ridging in place, as high temperatures reached the triple digits for the first time this year in a widespread area throughout the Central California interior. Record high minimum temperatures were also reached on the 1st, including a record tied at Bakersfield and a new record established in Fresno, as both locations recorded only 75 degrees for low temperatures. Mainly near record high maximum temperatures occurred on the first day of the month, except for a tied record high maximum temperature of 103 degrees that was reported at Merced.

Much warmer than average temperatures continued until the 5th, as daytime highs reached over 100 degrees in much of the Central Valley and the Kern County desert areas with warm overnight lows on the 2nd through the 5th. Record high minimum temperatures were tied or

broken during this period, including at both Bakersfield and Fresno with morning lows only falling to the mid to upper 70s at times.

A cooling trend began on the 6th, and much cooler than average afternoon temperatures prevailed on the 7th through the 10th due to a couple of low-pressure systems. Increased winds occurred at times during this period, and a few locales recorded gusts around 45 to 50 mph in the eastern Kern County mountains and desert, including on the night of the 7th into the morning of the 8th, as well as the afternoon and evening of the 9th. In addition, a gust of 45 mph was reported at Pacheco Pass in the West Side Hills in Merced County during the overnight hours of the 7th into the 8th. Otherwise, widespread gusts to 25 to 30 mph were recorded in much of the San Joaquin Valley. By the 7th, high temperatures were several degrees below average (mainly mid-80s in the San Joaquin Valley to the 90's in the eastern Kern County desert regions) and fell to around 10 to 15 degrees below seasonal values (mainly highs of mid to upper 70's in the Central Valley, with readings in the 80's to near 90 degrees in eastern Kern County) on the 8th until the 10th.

Below to near average temperatures continued until the 12th, although temperatures began to warm noticeably. Slightly above average daily maximum temperatures occurred on the 13th and 14th, although temperatures were a few degrees lower on the 14th in the Central Valley. Highs generally reached into the 90's during the 12th through the 14th in this area. However, dramatically hotter temperatures were reported in the Kern County desert by the 15th, as daytime highs reached around 106 to 112 degrees, due to a building ridge of high pressure that moved westward from the Desert Southwest region. Scorching heat spread across much of Central California by the 17th, with the hottest temperatures of the year thus far, that included highs of 105 to 111 degrees observed in the San Joaquin Valley. The hottest temperatures continued in the Kern County desert, and readings rose to as much as 116 degrees at China Lake NWTC on the 16th and 115 degrees on the 17th. Some thunderstorms also developed over the mountains and desert and reached into the south end of the San Joaquin Valley, including on the 17th; a trace of rain was even reported at Bakersfield. Even hotter temperatures occurred on the 18th and 19th, as highs exceeded 110 degrees in many Central Valley locations. Overnight lows failed to dip below the lower 80s at Bakersfield during this period, as well as in portions of the southern San Joaquin Valley and the Kern County desert. However, temperatures remained around 110 degrees in much of the Kern County desert during this period. High temperatures even reached around 105 degrees at elevations around 4,000 feet in the mountain areas. Significant cooling did not occur throughout Central California until the 21st, or when the ridge of high pressure weakened, as highs finally fell below 100 degrees, at least in the San Joaquin Valley.

More seasonal temperatures were observed during the 22nd through the 25th due to cooler westerly flow aloft and a deeper marine layer that moved inland into our forecast area from the Central California coast. Meanwhile, or including on the 24th, a few showers and thunderstorms developed over the Sierra Nevada crest in Yosemite National Park, as moisture moved around

the low-pressure system moved just off the coast. However, another significant warming trend began on the 26th. Widespread triple digit heat occurred on the 26th until the end of the month, although with no record-breaking high temperatures this time. Afternoon and evening thunderstorms became a daily occurrence over the Sierra Nevada until the 30th. Cloud to ground lightning strikes caused some wildfire starts (such as in Yosemite National Park during the 29th and 30th), which were accompanied with little or no rainfall and ongoing drought conditions. The rain year of 2020-2021 (July 1st-June 30th) ended this month with much below average precipitation throughout the region (for example: refer to station data in Table 2 below).

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	2.03	-2.39	2.77	-3.59	2.77	-3.54
Fresno	5.17	-2.52	6.59	-4.40	6.59	-4.32
Hanford	3.62	-2.01	4.29	-3.84	4.29	-3.78
Madera *	Missing	Missing	Missing	Missing	Missing	Missing
Merced	4.72	-3.46	7.00	-4.80	7.00	-4.75

*Madera missing precipitation during January 26-29, 2021.

Table 3 – Warmest High Temperatures and Coolest Low Temperatures of the Month for ASOS locations				
Location	High	Date(s)	Low	Date(s)
Bakersfield	110	18 th & 19 th	52	10 th
Fresno	111	18 th & 19 th	53	10 th
Hanford	111	18 th & 19 th	51	10 th
Madera	109	18 th	44	10 th
Merced	109	18 th	48	10 th

Temperature/Precipitation Rankings for June 2021

Bakersfield – 4th warmest June on record; tied for lowest precipitation for June on record.

Fresno – 2nd warmest June on record; tied for lowest precipitation for June on record.

Hanford – 3rd warmest June on record; tied for lowest precipitation for June on record.

Madera – 8th warmest June on record; tied for lowest precipitation for June on record.

Merced – 8th warmest June on record; tied for lowest precipitation for June on record.

Daily Records Set During June 2021

Bakersfield – 1st: Record high minimum temperature tied (75 degrees, last set in 1970).

4th: Record high minimum temperature set at 78 degrees (old record was 77 degrees, last set in 1960).

5th: Record high minimum temperature tied (75 degrees, last set in 1981).

18th: Record high maximum temperature of 110 degrees (old 106 degrees, last set in 1945).
Record high minimum temperature of 82 degrees set (old 81 degrees, last set in 2017).

19th: Record high maximum temperature of 110 degrees (old 109 degrees, last set in 2017).
Record high minimum temperature of 83 degrees set (old 80 degrees, last set in 2017).

27th: Record high minimum temperature of 80 degrees tied (last set in 2006).

Fresno – 1st: Record high minimum temperature set (75 degrees, old record 71 degrees last set in 2016).

2nd: Record high minimum temperature set at 72 degrees (old record of 70 degrees, last set in 1960).

18th: Record high maximum temperature of 111 degrees (old 107 degrees, last set in 2017).
Record high minimum temperature of 79 degrees set (old 76 degrees, last set in 2017).

19th: Record high maximum temperature of 111 degrees (old 108 degrees, last set in 2017).

27th: Record high minimum temperature of 79 degrees (old 77 degrees, last set in 2020).

Hanford – 18th: Record high maximum temperature of 111 degrees (old 108 degrees, last set in 1917).

19th: Record high maximum temperature of 111 degrees (old 108 degrees, last set in 2017).

Madera – 19th: Record high maximum temperature of 108 degrees tied (also occurred on the date in 2017).

Merced - 1st: Record high maximum temperature tied (103 degrees, last set in 2016).

18th: Record high maximum temperature of 109 degrees tied (last set on date in 1899).

19th: Record high maximum temperature of 107 degrees tied (last set on date in 2017).

Fig 1 – Departure from Average Temperature for June 2021

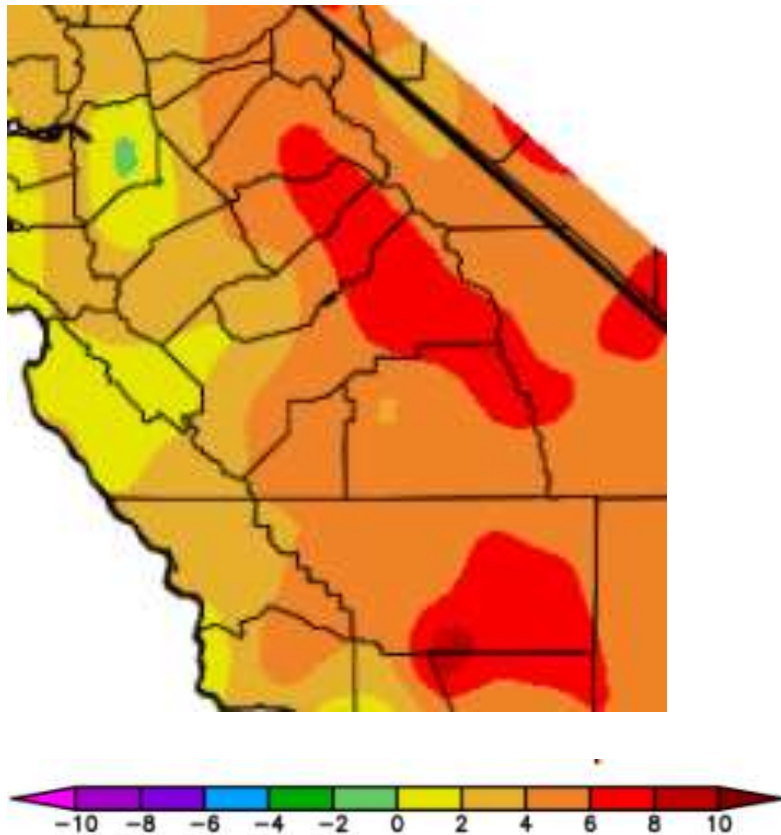
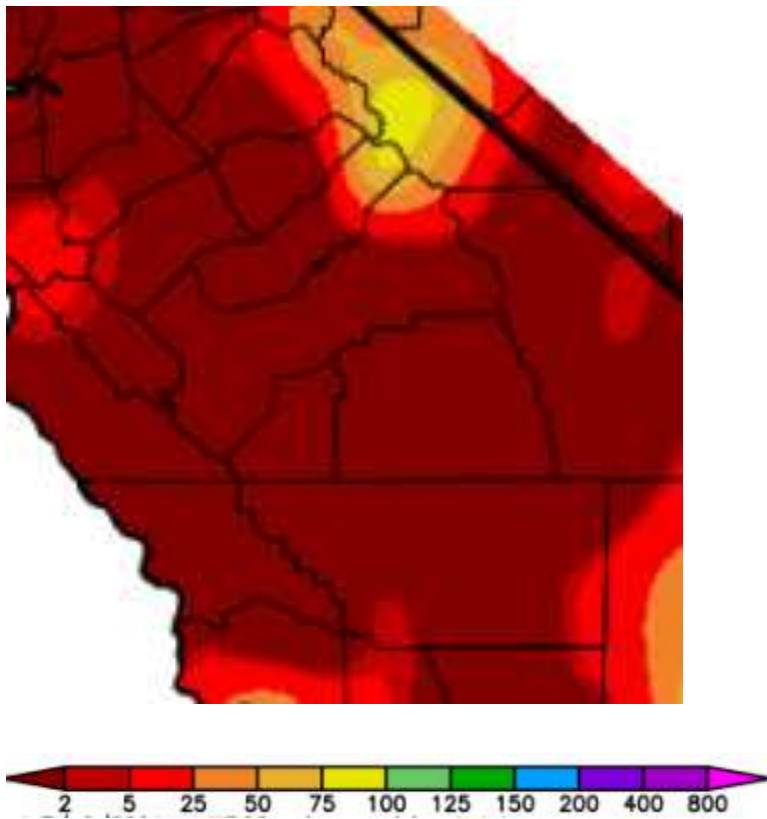


Fig 2 – Percent of Average Precipitation for June 2021



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