

**JULY 2023 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR**

*By Brian Ochs and JP Kalb, Climate Services Focal Points
WFO San Joaquin Valley-Hanford*

Very hot temperatures occurred on the first two days of the month, and a record high maximum temperatures was reached at Merced on the 1st. Highs rose to 105 to near 110 degrees in the hottest locations. A cooling trend occurred for the 3rd until the 10th, as high temperatures lowered to several degrees below average on the 6th through the 10th, but highs climbed back up soon afterward. Much hotter temperatures returned on the 15th, and near record highs were reached on the 16th and 17th as afternoon highs reached near 110 degrees in the hottest locations in the Central Valley and the Kern County desert, except it rose to 117 degrees at China Lake and 119 degrees at Inyokern. Some record high minimum temperatures occurred on the 17th, due to increased humidity and poor overnight recovery in terms of temperatures. Temperatures recovered starting on the 18th before warming up to Excessive Heat criteria again on the 21st through the 23rd. Another cooldown happened on the 24th and 25th before one final warmup on the 26th before more gradual cooling finished the month. Overall, the month was warmer than average for the entire San Joaquin Valley.

**Table 1 – July 2023 Summary Statistics–
NWS Hanford, CA ASOS Sites**

Location	Monthly Average Temp (deg F)	Departure from Average (deg F)	Temperature Rank	Total Monthly Precipit ation (inches)	Departure from Normal (inches)	Precipitation Rank
Bakersfield	87.6	+3.7	Tied for 9 th warmest	0.00	-0.01	Tied for driest
Fresno	86.6	+4.3	9 th warmest	0.00	-0.01	Tied for driest
Hanford	84.0	+3.6	Tied for 7 th warmest	0.00	-0.01	Tied for driest
Madera	81.6	+1.7	20 th warmest	0.00	-0.01	Tied for driest
Merced	81.5	+2.5	Tied for 17 th warmest	0.02	+0.01	Tied for 9 th wettest

Table 2 – Number of Days with High Temperatures of 100 Degrees and Above for NWS Hanford, CA ASOS Sites

Location	Number of 100 deg days	July average	Season to date Total Number of 100 deg days (since May 1st)	Season to date Average (since May 1st)	Total Seasonal Average (May 1 – Oct 31)
Bakersfield	20	13	22	20	36
Fresno	24	14	25	22	38
Hanford	26	11	27	17	30
Madera	22	11	23	17	28
Merced	13	9	14	14	23

A strong ridge of high pressure brought near record high temperatures to quite a few locations, although Merced broke a record high maximum on the 1st. Widespread readings above 105 degrees were observed in the San Joaquin Valley, while the hottest spots were as much as 110 degrees. Another very hot day occurred on the 2nd, as highs once again exceeded 105 degrees in many locations and reached at least near records. Temperatures remained about the same on the 3rd before a gradual cooldown began on the 4th.

Temperatures had dropped into the mid-80s to lower 90s at the warmest locations on the 8th and climbed back up slightly on the 10th. Daytime highs were several degrees to around ten degrees below seasonal averages during the 9th-10th. High temperatures even dropped just below the triple digits in the eastern Kern County desert areas on the 9th, but the warmest locations returned to just above 100 degrees on the 10th.

Another significant warmup occurred on the 11th as high pressure rebuilt over the region. High temperatures reached the upper 90's to the century mark in the warmest spots in the Central Valley, which is about average for this time of year. Meanwhile, highs reached above 105 degrees in the Mojave Desert portion of Kern County. However, widespread triple digit high temperatures were once again observed by the 12th in the San Joaquin Valley and remained stagnant on the 13th.

The temperatures climbed even higher on the 14th through 16th. An Excessive Heat Warning was issued for the 15th through the 17th for the San Joaquin Valley, Sierra Foothills and Kern County Desert along with a Heat Advisory for the Sierra Nevada below 7,000 feet due to high probabilities of high temperatures at or above 110 degrees through that weekend. The 16th was originally forecast to be the warmest day but clouds and some moist air moved in from the south which prevented any record high maximum temperatures from being broken. Highs still rose to

or near 110 degrees on the 16th and 17th in much of the Central Valley. In addition, some record high minimum temperatures were reported at Bakersfield, Fresno, and Madera on the 17th, as low temperatures in the San Joaquin Valley were only in the mid 70's to the mid 80's.

Temperatures lowered on the 18th and again on the 19th, though slightly each day. Above average temperatures persisted during these days, but moisture began to decrease on the 19th. Showers and thunderstorms developed on the afternoon of the 18th in portions of the San Joaquin Valley, including Merced County, as well as portions of Fresno and Madera Counties, due to an upper-level disturbance that provided subtropical moisture and moved inland from the Eastern Pacific. Merced even set a daily high precipitation record for the 18th. Storms continued overnight into the early morning hours of the 19th over the Sierra Nevada and adjacent foothills as the disturbance pushed further eastward. The 19th saw drier conditions while the 20th saw temperatures drop a little bit back to average.

Temperatures climbed back up to trigger more Excessive Heat products on the 21st through the 23rd. However, the temperatures went back down to the low triple digits and upper 90s on the 24th and 25th. There was another brief warmup, as highs reached as warm as 105 degrees in the San Joaquin Valley on the 26th before slowly lowering through the end of the month.

Table 2 – Seasonal Precipitation for ASOS locations (ending on July 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	7.91	+3.48	0.00	-0.01	10.26	+3.94
Fresno	12.56	+4.86	0.00	-0.01	17.81	+6.89
Hanford	10.92	+5.28	0.00	-0.01	14.57	+6.49
Madera	8.73	+1.15	0.00	-0.01	11.62	+0.86
Merced	14.65	+6.46	0.02	+0.01	20.86	+9.10

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

Location	High	Date(s)	Low	Date(s)
Bakersfield	110	16 th	62	9 th & 10 th
Fresno	109	17 th	59	10 th
Hanford	109	1 st , 16 th & 22 nd	57	11 th
Madera	109	1 st & 23 rd	52	10 th
Merced	109	16 th	54	9 th

Daily Records Set During July 2023

Bakersfield – 17th: Record high minimum temperature of 84 degrees reached, which broke the old record of 81 degrees last set for the date in 2005.

Fresno – 17th: Record high minimum temperature of 81 degrees reached, which broke the old record of 80 degrees last set for the date in 1984.

Hanford – None

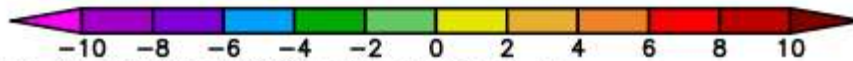
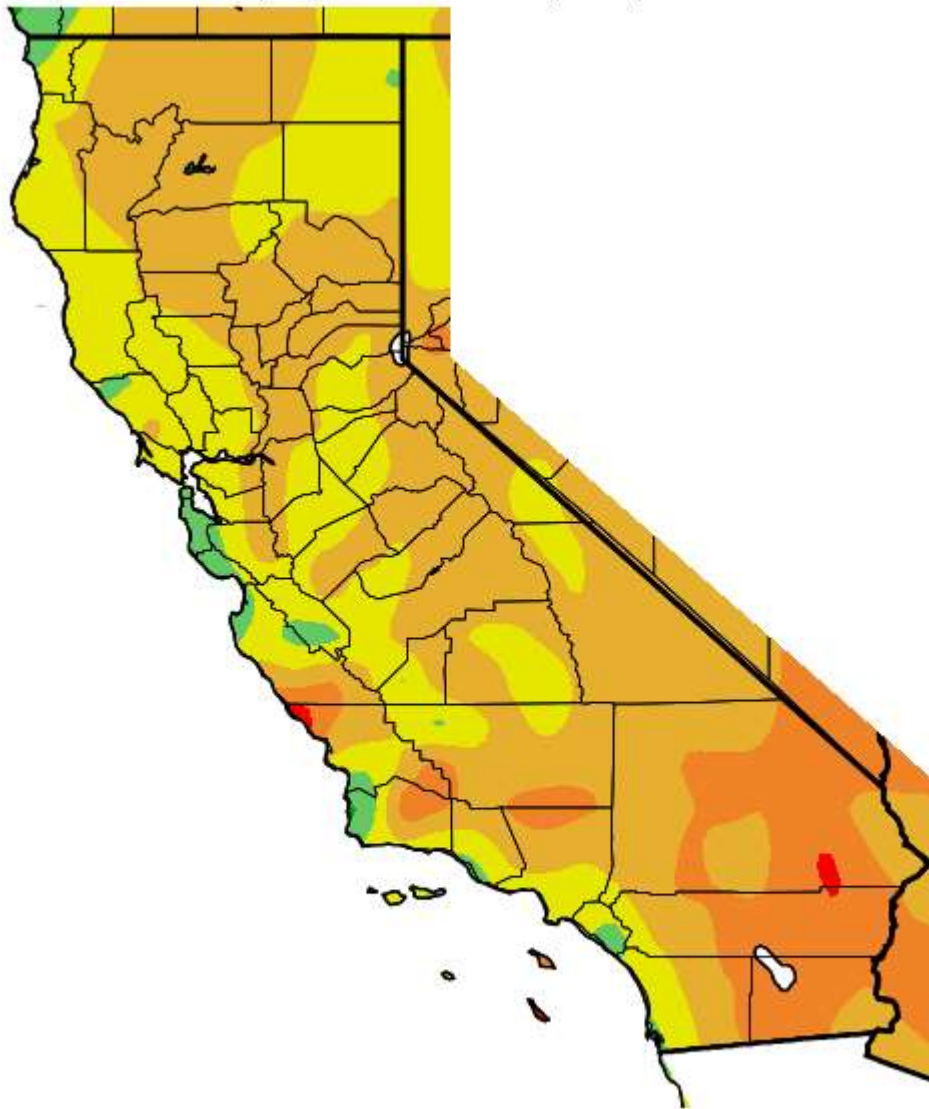
Madera – 17th: Record high minimum temperature of 75 degrees reached, which broke the old record of 72 degrees last set for the date in 2005.

Merced – 1st: Record high maximum temperature of 108 degrees reached, which broke the old record of 107 degrees set for the date in 2013.

18th: Record high daily precipitation reached at 0.02 inch, which broke the old record of trace that was last set on the date in 1949.

Fig 1 – Departure from Average Temperature for July 2023

Ave. Temperature dep from Ave (deg F)
7/1/2023 – 7/31/2023



Generated 8/ 1/2023 at WRCC using provisional data.
NOAA Regional Climate Centers

Fig 2 – Percent of Average Precipitation for July 2023

