

## **JULY 2021 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR**

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July ended up much warmer than average with above/below average precipitation. Triple digit heat persisted for much of the month, including at Bakersfield and Fresno, as well as locations in the Kern County desert. In addition, daily record high maximum and minimum temperatures were set during July 9<sup>th</sup>-11<sup>th</sup>, as highs reached above 110 degrees in quite a few locations. Fresno had three consecutive days with highs above 110 degrees during this period. Much warmer than temperatures prevailed for the remainder of the month, though not as hot as on the 9<sup>th</sup>-11<sup>th</sup>. Mountain thunderstorms that brought isolated heavy rainfalls occurred throughout much of the month, though were most prevalent towards the middle and end of the month.

### **Number of Days with High Temperatures of At Least 100 Degrees Fahrenheit:**

Bakersfield: 28 in July; 43 for year so far, or May-July (July average: 13; May-July average: 20)  
Fresno: 27 in July; 42 for year so far, or May-July (July average: 14; May-July average: 22)  
Hanford: 28 in July; 44 for year so far, or May-July (July average: 11; May-July average: 17)  
Madera: 20 in July; 27 for year so far, or May-July (July average: 11; May-July average: 17)  
Merced: 18 in July; 27 for year so far, or May-July (July average: 9; May-July average: 14)

**Table 1 – July 2021 Summary Statistics –  
NWS Hanford, CA ASOS Sites**

<b>Location</b>	<b>Monthly Average Temp (deg F)</b>	<b>Departure from Average (deg F)</b>	<b>Temperature Rank</b>	<b>Total Monthly Precipitation (inches)</b>	<b>Departure from Normal (inches)</b>	<b>Precipitation Rank</b>
Bakersfield	90.0	5.2	<b>Warmest</b>	T	T	2 <sup>nd</sup> Lowest
Fresno	88.7	5.2	<b>Warmest</b>	0.00	-0.03	<b>Lowest</b>
Hanford	85.5	4.4	3 <sup>rd</sup> Warmest	0.00	-0.02	<b>Lowest</b>
Madera	83.2	3.0	6 <sup>th</sup> Warmest	0.00	-0.01	<b>Lowest</b>
Merced	83.3	4.3	4 <sup>th</sup> Warmest	0.00	0.00	<b>Lowest</b>

The month began with warmer than average temperatures, including a continued stretch of triple-digit highs in the Central Valley and the Kern County desert areas. Highs ranged from around 100 to 105 degrees during the 1<sup>st</sup> through the 4<sup>th</sup>. Thunderstorms developed each afternoon along

the Sierra Nevada crest until the 3<sup>rd</sup>, before a drying airmass arrived to the region. Temperatures remained relatively, though not unseasonably, warm until the 7<sup>th</sup>.

Beginning on the 8<sup>th</sup>, a strong ridge of high pressure began to build over much of California and brought extreme heat for several days. The hottest temperatures occurred on the 10<sup>th</sup> and 11<sup>th</sup>, although record high minimum and maximum temperatures were reached as early as the 9<sup>th</sup>. Low temperatures failed to drop below 80 degrees on the 9<sup>th</sup> through the 11<sup>th</sup> at both Fresno and Bakersfield, while highs on these three days reached anywhere from 108 to 114 degrees at these cities. Fresno was one degree shy of its all-time record high (i.e., 115 degrees set on July 8, 1905) on the 11<sup>th</sup> at 114 degrees. Yosemite Valley also reached one degree shy of its all-time record high (i.e., 109 degrees set on August 2, 1977) on the 11<sup>th</sup>. Also on the 11<sup>th</sup> the all-time record high maximum temperature of 119 degrees was tied (last reached on August 2, 1993) at KNID, or the automated airport observing station at China Lake NWTC. Temperature records at China Lake began in 1945. Some relief from the extreme heat finally arrived to the San Joaquin Valley by the 14<sup>th</sup>, although highs still hovered at or above the century mark at most Central Valley and Kern County desert locations for at least another day.

On the 16<sup>th</sup> and again on the 18<sup>th</sup>, highs finally dipped below 100 degrees at most of the larger cities. Temperatures warmed slightly on the 17<sup>th</sup>, as high pressure began to build westward. By the early morning of the 18<sup>th</sup>, the high pressure remained, but there was a noticeable change in the weather by sunrise, at least across Kern County. Increased cloud cover accompanied with light showers occurred in southern portions of the Central Valley by the mid-morning hours of the 18<sup>th</sup> and spread northward in the afternoon. In addition, thunderstorms developed over the Sierra Nevada that afternoon. Daytime highs were mainly within two or three degrees from daily averages, although some locations, such as Hanford, ended up a few degrees below the daily average. Over the next several days, temperatures remained steady or slightly above average. Thunderstorms occurred on a daily basis over the Sierra Nevada crest until the end of the month, although coverage was sparse from the 20<sup>th</sup> until the 24<sup>th</sup>.

Another round of subtropical moisture brought clouds and lower daytime highs on the 26<sup>th</sup>. In fact, Bakersfield reported a trace of rain that day. The high pressure pattern that persisted over much of the western United States shifted westward a bit with an upper-level trough off the coast of California. This minor shift in the pattern was sufficient for more influxes of subtropical moisture flowed into Central California from the 26<sup>th</sup> until the end of the month. Strong thunderstorms with locally heavy rainfall formed over mainly the higher elevations of the Sierra Nevada from Yosemite National Park to Tulare County. Heavy rain with estimated rates of one to two inches per hour occurred over portions of the burn area left by last year's Creek Fire during the period, or on the 29<sup>th</sup> and 30<sup>th</sup>. Yosemite Valley also received over an inch of rain in about an hour at a mesonet station (YNP Portable) during the afternoon of the 30<sup>th</sup>. In addition,

mountain and desert locations in Kern County received rainfall, though mainly a few hundredths of an inch or less, on the 27<sup>th</sup> and also on the 31<sup>st</sup>.

Overall, the month had near average precipitation (which is generally near zero at most locations outside of the Kern County mountain and desert areas, as well as the Sierra Nevada); otherwise, many mountain locations received well above average rainfall due to the persistent influxes of monsoonal moisture. Temperatures ended up well above average, and some locations ranked at least in the top 4 warmest Julys on record (see Table 1 above).

<b>Table 2 – Seasonal Precipitation for ASOS locations (ending on July 31<sup>st</sup>)</b>						
<b>Location</b>	<b>Since Jan 1<sup>st</sup> (inches)</b>	<b>Departure From Average (inches)</b>	<b>Since Jul 1<sup>st</sup> (inches)</b>	<b>Departure From Average (inches)</b>	<b>Since Oct 1<sup>st</sup> (inches)</b>	<b>Departure From Normal (inches)</b>
Bakersfield	2.03	-2.39	Trace	Trace	2.77	-3.54
Fresno	5.17	-2.55	0.00	-0.03	6.59	-4.35
Hanford	3.62	-2.03	0.00	-0.02	4.29	-3.80
Madera	Missing	Missing	0.00	-0.01	Missing	Missing
Merced	4.72	-3.46	0.00	0.00	7.00	-4.75

<b>Table 3 – Warmest High Temperatures and Coolest Low Temperatures of the Month for ASOS locations</b>				
<b>Location</b>	<b>High</b>	<b>Date(s)</b>	<b>Low</b>	<b>Date(s)</b>
Bakersfield	111	11 <sup>th</sup>	72	6 <sup>th</sup>
Fresno	114	11 <sup>th</sup>	67	16 <sup>th</sup>
Hanford	112	10 <sup>th</sup> & 11 <sup>th</sup>	62	7 <sup>th</sup>
Madera	112	11 <sup>th</sup>	56	7 <sup>th</sup>
Merced	111	10 <sup>th</sup>	59	17 <sup>th</sup>

## **Daily Records Set During July 2021**

### **Bakersfield –**

11<sup>th</sup>: Record high maximum temperature of 111 degrees set (old record was 110 degrees for the date in 1961). Record high minimum temperature of 85 degrees set (old record was 79 degrees in 2002).

12<sup>th</sup>: Record high minimum temperature of 82 degrees set (old record was 80 degrees in 1999).

13<sup>th</sup>: Record high daily precipitation of a trace (T) was tied (last set in 1953).

26<sup>th</sup>: Record high daily precipitation of a trace (T) was tied (last set in 2013).

30<sup>th</sup>: Record high minimum temperature of 83 degrees set (old record was 82 degrees in 2014).

### **Fresno –**

9<sup>th</sup>: Record high minimum temperature of 81 degrees tied (last set in 2008).

11<sup>th</sup>: Record high maximum temperature of 114 degrees set (old record was 110 degrees in 1961). Record high minimum temperature of 83 degrees set (old record was 78 degrees in 2002).

### **Hanford –**

10<sup>th</sup>: Record high minimum temperature of 112 degrees tied (last set for the date in 1905).

11<sup>th</sup>: Record high maximum temperature of 112 degrees tied (last set in 1905).

### **Madera –**

9<sup>th</sup>: Record high maximum temperature of 109 degrees set (old record was 107 degrees in 2006).

10<sup>th</sup>: Record high maximum temperature of 72 degrees tied (last set in 2008).

### **Merced –**

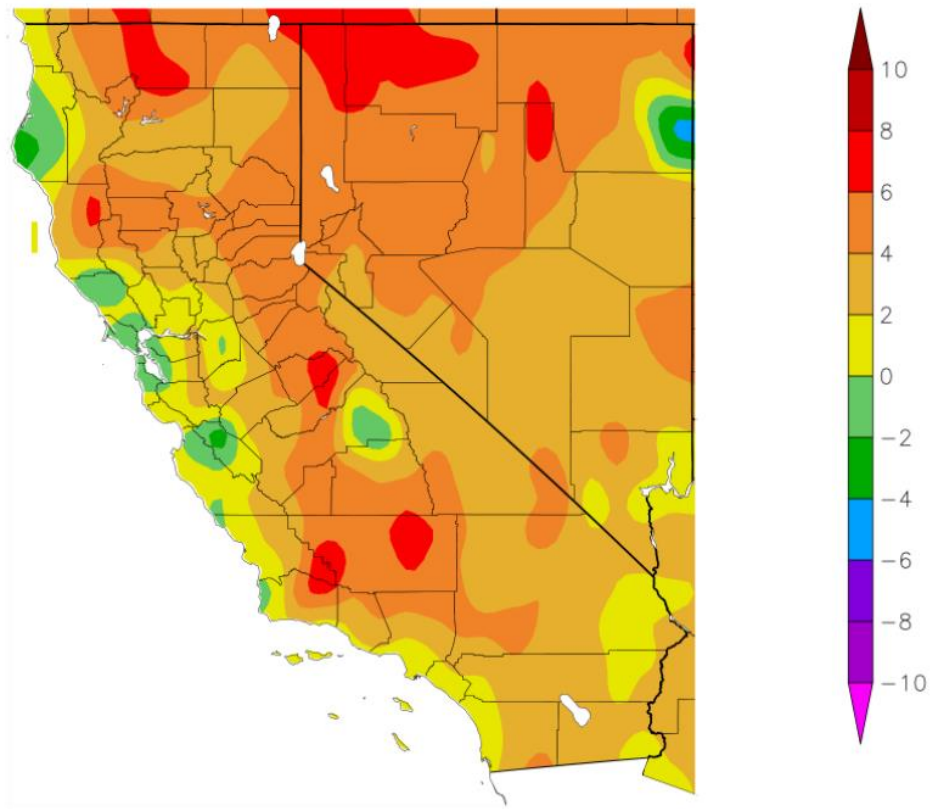
9<sup>th</sup>: Record high maximum temperature of 108 degrees set (old record was 107 degrees in 1990).

10<sup>th</sup>: Record high maximum temperature of 111 degrees reached (old record was 108 degrees set in 1961). Record high minimum temperature of 73 degrees set (old record was 72 degrees in 2008).

11<sup>th</sup>: Record high maximum temperature of 110 degrees tied (last set in 1959).

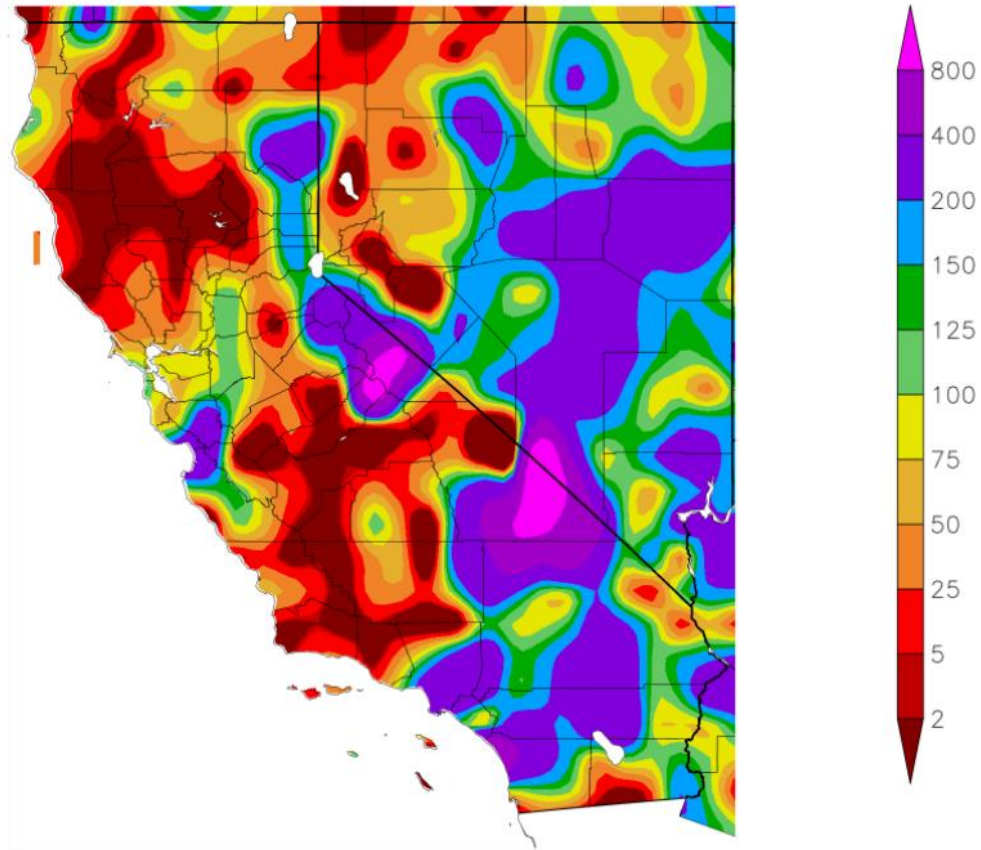
**Fig 1 – Departure from Average Temperature for July 2021**

Departure from Normal Temperature (F)  
7/1/2021 – 7/31/2021



**Fig 2 – Percent of Average Precipitation for July 2021**

Percent of Normal Precipitation (%)  
7/1/2021 – 7/31/2021



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