

SEPTEMBER 2021 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR

*By Brian Ochs, Climate Services Focal Point
Colin McKellar, Assistant Climate Services Focal Point
WFO San Joaquin Valley-Hanford*

September 2021 was warmer than average with below average precipitation. The average number of triple digit days this month was once again exceeded at locations throughout the San Joaquin Valley. Fresno tied the record number of triple digit days for the year on the 5th and exceeded the record on the following day. At Fresno, the record highest number of days per year with temperatures of 100 degrees or warmer is now 69 days. Bakersfield also reported the 2nd highest number of days in a year with triple digit heat at a total of 67 days, and Hanford set a new record high of days with daily highs of 100 degrees and above at a total of 74 days (Please note: the old record of 84 days for the calendar year of 1919, as well as 76 days per year during both 1917-1918 are no longer valid). A trace of rain was reported on the night of the 9th into the predawn hours of the 10th at most San Joaquin Valley locations due to evening showers and thunderstorms that developed over the Sierra Nevada and pushed westward, except at Merced. Otherwise, record high maximum temperatures were set on the 9th in the Central Valley in the afternoon prior to the showers and thunderstorms that developed.

Number of Days Above 100 Degrees:

Bakersfield: 5 in September; 67 for year so far, or May-September (September average: 4; Annual average: 36)

Fresno: 7 in September; 69 for year so far, or May-September (September average: 4; Annual average: 38)

Hanford: 9 in September; 74 for year so far, or May-September (September average: 3; Annual average: 30)

Madera: 6 in September; 57 for year so far, or May-September (September average: 3; Annual average: 28)

Merced: 7 in September; 48 for year so far, or May-September (September average: 3; Annual average: 23)

Table 1
September 2021 Summary Statistics
NWS Hanford, CA ASOS Sites

Location	Monthly Average Temp (deg F)	Departure from Average (deg F)	Temperature Rank	Total Monthly Precipitation (inches)	Departure from Normal (inches)	Precipitation Rank
Bakersfield	80.2	+2.0	15 th warmest	T	-0.04	2 nd lowest
Fresno	79.6	+2.5	9 th warmest	T	-0.05	2 nd lowest
Hanford	76.6	+1.9	11 th warmest	T	-0.04	2 nd lowest
Madera	75.2	+0.4	24 th warmest	T	-0.03	2 nd lowest
Merced	75.7	+2.2	11 th warmest	0.00	-0.05	Lowest

The first part of this month was mainly associated with near to slightly below average temperatures. A warmup began on the 4th as high pressure ridging began to rebuild over the region, and temperatures returned to at least a few degrees above average. Further warming brought triple digit heat to much of the lower elevations by the 5th, due to strong upper-level high pressure. Many locations reported triple digit heat until the 9th. No precipitation was recorded until the 8th; however, on the following day, scattered showers and thunderstorms developed that brought brief heavy rainfall at times over the mountains. On the evening of the 9th into the morning of the 10th, quite a few San Joaquin Valley locations reported a trace up to a few hundredths of an inch of rain due to showers and thunderstorms. On the afternoon of the 10th, a few showers and isolated thunderstorms redeveloped along the Sierra Nevada crest, although amounts were generally light. Otherwise, high temperatures lowered significantly by that time, or by 10 to 15 degrees, compared to the 9th. Lightning from the thunderstorms on the 9th unfortunately sparked some new fire starts in the Sierra Nevada, including on the Tule River Reservation near Springville and in Sequoia National Park.

On the 11th through the 15th, high pressure remained in control over Central California with above average high temperatures that persisted. High temperatures at the warmest spots remained mainly in the 90s, although a few locations reported highs around 100 degrees at times. The wildfires that started in the Sierra Nevada back on the 9th continued to burn dry fuel and timber and grew significantly during this time. As of the end of the month, these fires had grown significantly and were still burning.

Daytime highs lowered to the mid to upper 80's towards Merced and Los Banos on the 16th and 17th, as the ridge of high pressure system began to weaken. Highs remained in the lower to mid-90s at the warmest locations. Dry weather persisted during the next few days, or until the 20th; however, temperatures lowered into the 80s in much of the San Joaquin Valley by the 19th. Wind

gusts of 35 to 40 mph were reported along the West Side Hills on the night of the 18th into the morning of the 19th. Gusty winds developed by the afternoon of the 19th along the slopes leading into the Kern County desert and continued into the evening hours; gusts around 45 to 55 mph were recorded at the windiest locations. Afterward, high pressure ridging returned, though highs were mainly in the 90s throughout the Central Valley and the Kern County desert region during the 21st through the 23rd.

Temperatures lowered during the 24th through the 27th, and returned to near average, as the high pressure pattern weakened. By the evening of the 27th and morning of the 28th, a low pressure system with a cold front brought another period of increased winds along with low clouds that brought light showers and drizzle (less than 0.10 inch of precipitation) over the mountains and cooler temperatures. Highs failed to top the 70's in the Central Valley at most locations on the 28th, and temperatures lowered to around 10 degrees below average that day throughout much of the Central California interior region. Wind gusts during the 27th-28th were around 50 to 55 mph in the desert of eastern Kern County along the adjacent slopes. Some locations in the San Joaquin Valley and the adjacent West Side Hills reported gusts around 30-35 mph on the 27th - 28th. Smoke moved into the San Joaquin Valley and reduced visibility at times during the 24th - 27th, along with poor air quality.

A warming trend returned for the 29th and 30th as high pressure began to rebuild over Central California. Highs for these last two days of the month were near to slightly above average, though the warmest readings were not as warm, or reached into the upper 80s in both the San Joaquin Valley and Kern County desert. Wildfire smoke remained over the Southern Sierra Nevada in Tulare County on the 29th and mainly traveled eastward; however, the winds began to turn easterly on the 30th and allowed the wildfire smoke to return to the Central Valley and reduce air quality.

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	-2.44	T	-0.05	2.77	-3.59
Fresno	5.17	-2.60	T	-0.08	6.59	-4.40
Hanford	3.62	-2.07	T	-0.06	4.29	-3.84
Madera	Missing	Missing	T	-0.04	Missing	Missing
Merced	4.72	-3.51	0.00	-0.05	7.00	-4.80

*Water Year 2020-2021 (October-September) ended on September 30th, 2021.

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

Location	High	Date(s)	Low	Date(s)
Bakersfield	108	9 th	56	29 th
Fresno	107	9 th	57	29 th & 30 th
Hanford	108	9 th	47	30 th
Madera	106	9 th	46	29 th
Merced	105	8 th , 9 th	45	29 th

Daily Records Set During September 2021

Bakersfield –

9th: Record high maximum temperature of 108 degrees tied (last set in 1904).

Fresno –

9th: Record high maximum temperature of 107 degrees tied (last set in 1904) and minimum temperature tied at 76 degrees (also set in 1888).

Hanford –

9th: Record high maximum temperature of 106 degrees set (old record high of 105 degrees set for the date in 1944).

Madera –

9th: Record high maximum temperature of 106 degrees tied (last set in 1936 and 1944) and record high minimum temperature set at 67 degrees (old record of 65 degrees set for the date in 1997).

Merced –

9th: Record high maximum temperature of 105 degrees tied (last set in 1944).

Fig 1 – Departure from Average Temperature for September 2021

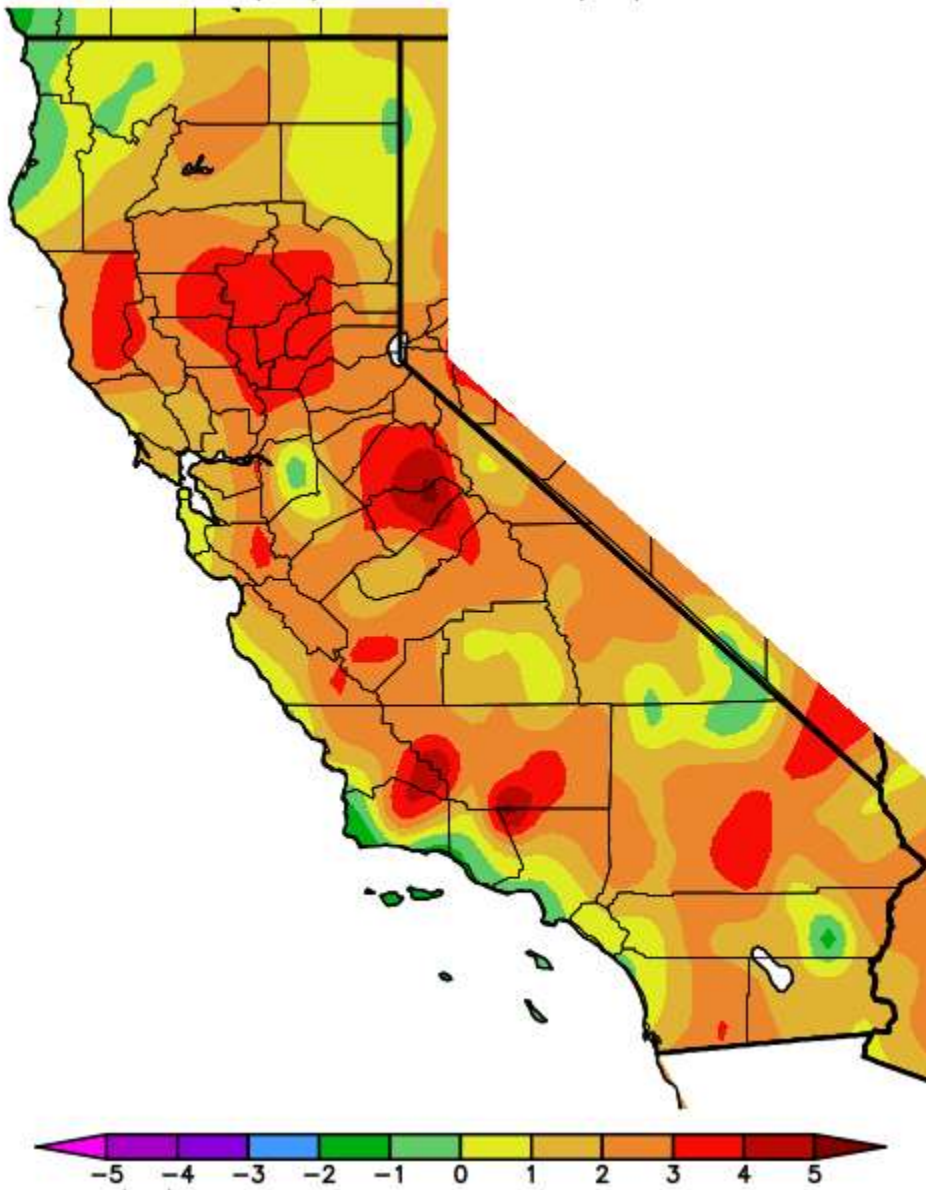
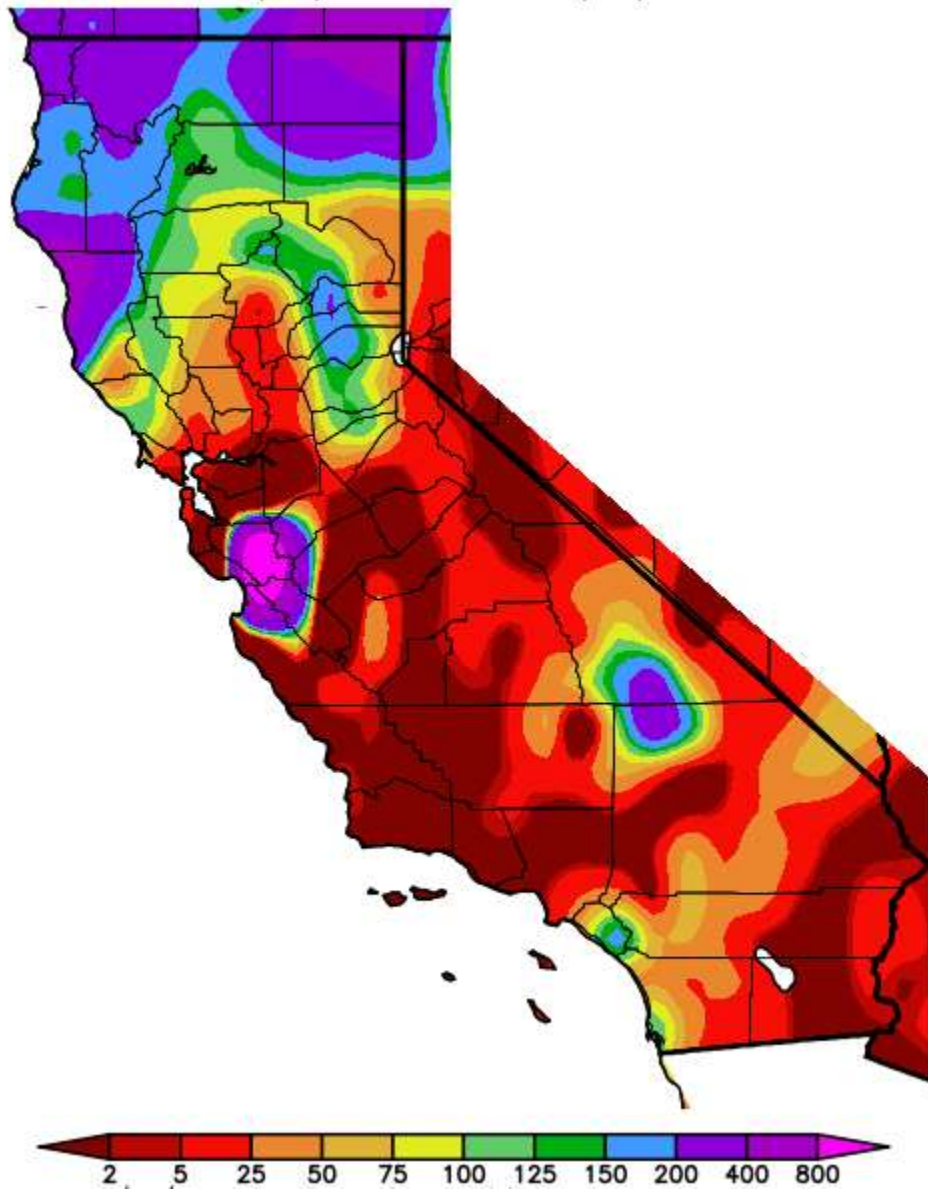


Fig 2 – Percent of Average Precipitation for September 2021



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