

**SEPTEMBER 2022 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR**

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Triple digit heat prevailed from the 1st until the 9th. Record breaking heat occurred on the 2nd and again on the 6th-7th, as highs in much of the Central Valley exceeded 110 degrees. An all-time record high was set on the 6th at Merced, as the high reached 116 degrees (old record was 114 degrees which was last set on July 17, 1925); this also became the new record high for the month of September (old record was 110 degrees set on September 7, 2020). Highs reached near 115 degrees at many San Joaquin Valley locations on the 6th and set new record highs for the month of September, including at Bakersfield (115 degrees; old record 112 degrees on Sep 3, 1955), Fresno (114 degrees; old record was 111 degrees which was reached on Sep 2, 2022, Sep 3, 1955, and Sep 11, 1888), Hanford (114 degrees; old record was 110 degrees set on September 4, 1955), and Madera (115 degrees, tied with September 3, 1955). Temperatures gradually lowered from the 10th until the 14th, although showers and thunderstorms with localized flash flooding were reported in the mountain areas (including the Sierra Nevada, Tehachapi Mountains, and the Grapevine along Interstate 5 in Kern County) at times. A much cooler period during the 15th through the 22nd occurred, with precipitation at many locations on the 19th and 20th. From the 23rd until the end of the month, above average temperatures and dry conditions returned to the region. The month was much warmer than average, with some locations reporting their warmest September on record, while near to above average precipitation was recorded.

**Table 1 – September 2022 Summary
Statistics—
NWS Hanford, CA ASOS Sites**

Location	Monthly Average Temp (deg F)	Departure from Average (deg F)	Temperature Rank	Total Monthly Precipi- tation (inches)	Departure from Normal (inches)	Precipitation Rank
Bakersfield	82.4	+4.2	3 rd highest	0.00	-0.05	Lowest
Fresno	82.2	+5.1	Highest	0.06	+0.01	48 th highest
Hanford	79.9	+5.2	3 rd highest	0.02	-0.02	40 th highest
Madera	78.3	+3.5	Highest	0.54	+0.51	7 th highest
Merced	78.7	+5.2	Highest	0.20	+0.15	25 th highest

Number of Days with Maximum Temperature at or Above 100 Degrees:

Bakersfield: 9 in September; 63 for year, or May-September (September average: 4; Annual average: 36)

Fresno: 9 in September; 65 for year, or May-September (September average: 4; Annual average: 38)

Hanford: 9 in September; 68 for year, or May-September (September average: 3; Annual average: 30)

Madera: 9 in September; 56 for year, or May-September (September average: 3; Annual average: 28)

Merced: 9 in September; 48 for year, or May-September (September average: 3; Annual average: 23)

High pressure dominated over the region for the first nine days of the month, and triple digit heat prevailed throughout the lower elevations, including the Central Valley, West Side Hills, Sierra Nevada foothills, and the Mojave Desert portion of eastern Kern County. During this period, occasional afternoon thunderstorms in the Sierra Nevada and Kern County mountain/desert areas developed, though with little or no precipitation. Record highs were reached on the 2nd, as well as the 6th and 7th, as high temperatures exceeded 110 degrees throughout the San Joaquin Valley. On the 6th, new September records were set throughout the Central Valley, including an all-time record high of 116 degrees at Merced. High temperatures were mainly below 110 degrees in the Kern County desert during the 6th and 7th; this is typically the warmest area throughout our forecast area during episodes of strong high pressure ridging. Overnight lows were rather warm throughout much of the region and set record high minimum temperatures on these dates throughout the San Joaquin Valley.

On the 9th, moisture due to remnants of Hurricane Kay that developed off the coast of southern Baja California, brought numerous showers and scattered thunderstorms to much of the region. This moisture lingered until at least the 12th. The main event on the 9th was the excessive heat that continued in the San Joaquin Valley and brought some record high maximum temperatures, as well as widespread record high minimum temperatures. Triple digit heat mainly ended after the 9th, at least in the San Joaquin Valley. However, record high minimum temperatures also lasted until the 11th in quite a few valley locations, as lows remained in the 70's. Precipitation amounts were notable over the mountains. For example, on the 11th, Grant Grove in Kings Canyon National Park received from near 1.00 inch to over 1.25 inches in about a one hour period. This amount of rain in this relatively short period caused flooding along Highway 180 and the General's Highway (198) in Sequoia National Park. In addition, shower and thunderstorms moved over the Tehachapi Mountains towards the Grapevine and the southern San Joaquin Valley in Kern County on the evening of the 11th and again over the Tehachapi

Mountains on the afternoon of the 12th. The storms on the 12th caused roadway flooding near Tehachapi and Stallion Springs, as these areas received anywhere from 0.25 to near one inch of rain during the previous evening. In addition, there were rainfall rates around 0.50 inch in ten minutes in this area on the afternoon of the 12th.

On the 13th, some light showers passed over portions of the San Joaquin Valley during the morning hours. Otherwise, there was another round of afternoon showers and thunderstorms in the mountain areas; the activity was mainly confined to the Sierra Nevada and Tehachapi Mountains. This was the last day of above average temperatures for quite some time.

From the 14th until the 22nd, temperatures lowered to at least several degrees below average across the region. During this period, there was a cold, more winter like storm system that arrived on the 18th and brought much cooler than average (by about 10-15 degrees below seasonal averages) through the 21st, as well as up to two inches of snow above 8,000 feet in the Sierra Nevada, including at Tuolumne Meadows in Yosemite National Park and up to a total of one inch of rain in the Sierra Nevada. Locations in the San Joaquin Valley received rainfall amounts up to just above 0.50 inch. Highs temperatures at many of the San Joaquin Valley locations failed to top the 70's on the 19th, which is more typical of the middle part of October. Otherwise, highs were mainly the 80's at the warmest locations from the 20th until the 22nd.

On the 23rd, high pressure ridging returned to our forecast area, and a warming trend began. Highs were slightly above average on this day, but continued to rise for the next few days. On the 26th, triple digit heat returned to some communities in the Central Valley (such as Lemoore, but not at the five primary NWS-owned ASOS sites) and the Kern County communities. Triple digit heat continued in the Kern County desert through the end of the month; otherwise, highs remained mainly in the 90's in the lower elevations. The month ended with well above average temperatures and near to above average precipitation.

Table 2 – Seasonal Precipitation for ASOS locations (ending on September 30 th)						
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	1.86	-2.61	0.00	-0.05	5.41	-0.95
Fresno	1.19	-6.58	0.11	+0.03	6.40	-4.59
Hanford	1.78	-3.91	0.04	-0.02	6.38	-1.75
Madera*	Missing	Missing	0.54	+0.50	Missing	Missing
Merced	1.85	-6.38	0.20	+0.15	7.64	-4.06

*Missing precipitation at Madera in December 2021 and March 2022.

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

Location	High	Date(s)	Low	Date(s)
Bakersfield	115	6 th	59	18 th
Fresno	114	6 th	60	16 th & 22 nd
Hanford	114	6 th	54	23 rd
Madera	115	6 th	53	16 th
Merced	116	6 th	52	23 rd

Daily Records Set During September 2022

Bakersfield –

2nd: Record high minimum temperature of 79 degrees tied, which last occurred on the date in 2017.

5th: Record high minimum temperature of 81 degrees set, which broke the old record of 78 degrees set on the date in 2019.

6th: Record high maximum temperature of 115 degrees set, which broke the old record high temperature of 111 degrees set for the date in 1904. This temperature also set a record high maximum temperature for September, since records began in 1893; the old record was 112 degrees set on September 3, 1955. The low temperature was 80 degrees, which set a new record high minimum temperature for the date; the old record was 78 degrees set for the date in 2020.

7th: Record high maximum temperature of 111 degrees reached, which broke the record high of 110 degrees set for the date in 1977. Record high minimum temperature of 84 degrees set, which broke the record of 80 degrees last reached on the date in 2020. In addition, this is the warmest minimum temperature reached in September, as the old record was 82 degrees set on September 1, 2017.

8th: Record high minimum temperature of 82 degrees reached, which broke the record high of 78 degrees last set for the date in 2021.

9th: Record high minimum temperature of 81 degrees set, which broke the old record of 80 degrees set for the date in 1982.

10th: Record high minimum temperature of 78 degrees set, which tied the record set for the date in 2021.

12th: Record high minimum temperature of 75 degrees tied, which last occurred on the date in 2017.

Fresno –

2nd: Record high maximum temperature of 111 degrees reached, which broke the record high of 109 degrees set for the date in 2017. This also tied the record high temperature for September, which last occurred on September 3, 1955. Record high minimum temperature of 77 degrees tied, which last occurred on the date in 2017.

4th: Record high maximum temperature of 107 degrees reached, which tied the record set for the date in 1955.

5th: Record high maximum temperature of 108 degrees reached, which broke the record high of 105 degrees set for the date in 2020.

6th: Record high maximum temperature of 114 degrees set, which broke the old record high temperature of 106 degrees set for the date in 1988. This also set the record high maximum temperature for September; the old record was 111 degrees and was last reached on September 2, 2022. The low temperature was 80 degrees, which set a new record high minimum temperature for the date; the old record was 76 degrees set for the date in 1998. This low also tied the record high minimum temperature for the month of September, which last occurred on September 4, 2017.

7th: Record high maximum temperature of 111 degrees reached, which broke the record high of 108 degrees set for the date in 1904. Record high minimum temperature of 79 degrees set, which broke the record of 77 degrees last reached on the date in 2020.

8th: Record high minimum temperature of 78 degrees set, which broke the record high of 76 degrees set for the date in 2020.

9th: Record high minimum temperature of 77 degrees set, which broke the old record of 76 degrees set for the date in 2021.

10th: Record high minimum temperature of 80 degrees set, which broke the record of 76 degrees last set for the date in 2021.

11th: Record high minimum temperature of 76 degrees set, which broke the record of 75 degrees last set for the date in 2015.

12th: Record high minimum temperature of 77 degrees set, which broke the record high minimum temperature of 74 degrees last reached on the date in 2015.

26th: Record high minimum temperature of 69 degrees set, which broke the record high minimum temperature of 68 degrees last set for the date in 2019.

27th: Record high minimum temperature of 68 degrees tied, which last occurred on the date in 2015.

Hanford –

1st: Record high maximum temperature of 105 degrees reached, which tied the daily record last reached for the date in 2017.

2nd: Record high maximum temperature of 109 degrees reached, which broke the record high of 107 degrees set for the date in 2017.

5th: Record high maximum temperature of 109 degrees reached, which broke the record high of 105 degrees set for the date in 1904. Record high minimum temperature of 78 degrees set, which broke the old record high of 77 degrees set on the date in 2019.

6th: Record high maximum temperature of 114 degrees set, which broke the old record high temperature of 105 degrees set for the date in 1924.

7th: Record high maximum temperature of 112 degrees set, which broke the old record high temperature of 106 degrees set for the date in 1932.

8th: Record high maximum temperature of 106 degrees set, which broke the old record high temperature of 105 degrees set for the date in 2021.

9th: Record high maximum temperature of 108 degrees set, which tied the record last set for the date in 2021. Record high minimum temperature of 71 degrees set, which broke the record of 69 degrees last set for the date in 1960.

10th: Record high minimum temperature of 78 degrees set, which broke the record of 73 degrees last set for the date in 2021.

11th: Record high minimum temperature of 74 degrees set, which broke the record of 68 degrees last set for the date in 2011.

26th: Record high minimum temperature of 66 degrees set, which broke the record high minimum temperature of 64 degrees last set for the date in 1991.

27th: Record high minimum temperature of 66 degrees set, which broke the record high minimum temperature of 64 degrees last set for the date in 1918.

Madera –

6th: Record high maximum temperature of 115 degrees set, which broke the old record high temperature of 107 degrees set for the date in 2020. In addition, this temperature tied the all-time record high for September which was last reached on September 3, 1955.

7th: Record high maximum temperature of 111 degrees reached, which broke the old record high temperature of 108 degrees last set for the date in 1932. The low temperature was 73 degrees, which broke the previous record high minimum of 70 degrees previously set for the date in 1958.

8th: Record high maximum temperature of 107 degrees set, which broke the record high temperature of 106 degrees set for the date in 1944.

9th: Record high maximum temperature of 106 degrees set, which tied the record last set for the date in 2021. Record high minimum temperature of 68 degrees set, which broke the record of 67 degrees last set for the date in 2021.

10th: Record high minimum temperature of 76 degrees set, which broke the record of 71 degrees last set for the date in 2021.

11th: Record high minimum temperature of 73 degrees set, which broke the record of 71 degrees last set for the date in 2017.

12th: Record high minimum temperature of 72 degrees set, which broke the record high minimum temperature of 68 degrees last reached on the date in 2017.

Merced –

5th: Record high maximum temperature of 108 degrees reached, which broke the record high of 106 degrees set for the date in 1904.

6th: Record high maximum temperature of 116 degrees set, which broke the old daily record high temperature of 108 degrees set for the date in 1904. This temperature set a new all-time record high (since records began in 1899) temperature of 114 degrees that was last set on July 17, 1925.

7th: Record high maximum temperature of 111 degrees reached, which broke the old record high temperature of 110 degrees last set for the date in 2020.

9th: Record high maximum temperature of 106 degrees set, which broke the record of 105 degrees last set for the date in 2021. Record high minimum temperature of 70 degrees set, which tied the record last set for the date in 1908.

10th: Record high minimum temperature of 75 degrees set, which broke the record of 70 degrees last set for the date in 2021.

11th: Record high minimum temperature of 72 degrees set, which broke the record of 69 degrees last set for the date in 2015.

12th: Record high minimum temperature of 68 degrees set, which broke the record high minimum temperature of 66 degrees last reached on the date in 1953.

Fig 1 – Departure from Average Temperature for September 2022

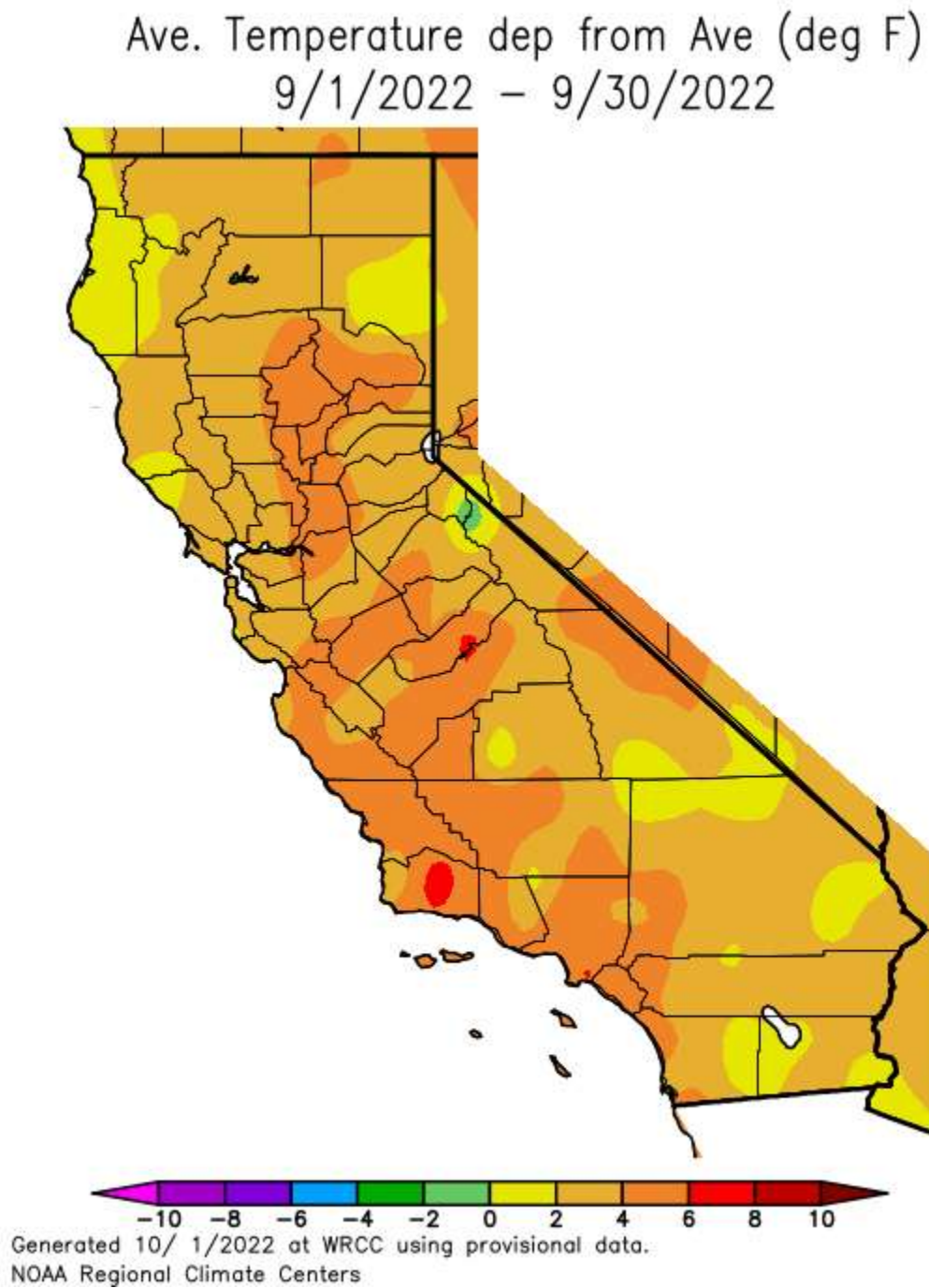


Fig 2 – Percent of Average Precipitation for September 2022

