

## SEPTEMBER 2024 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR

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This month began with above average temperatures, including triple digit heat in the lower elevations. Hotter temperatures returned on the 4th through the 9th with high temperatures at least ten degrees above seasonal averages. A cooler pattern arrived on the 11th, with highs in the 70's and 80's at the warmest locations for the next several days. The first snow fell in the higher elevations of the Sierra Nevada on the 16th. Another low pressure system brought showers and thunderstorms with brief heavy rain and another round of higher elevation snow on the 18th and 19th with isolated thunderstorm activity persisting into Kern County on the 20th. A warming and drying trend occurred on the 21st which brought a return of widespread triple digit heat by the 24th. Above average temperatures lasted until the end of the month with some locations (mainly in the Kern County desert) reaching the century mark at times. Dry conditions lasted until the end of the month, and highs remained mainly in the 90's at the warmest spots in the Central Valley.

### **Number of Days with Triple Digit Temperatures** (Season from May 1-Oct 31st)

**Bakersfield:** 9 for September (September average: 4 days). Season to date total of 58 days which ranks 19th highest on record through September 30th (Average of 36 days).

**Fresno:** 9 for September (September average: 4 days). Season to date total of 59 days which ranks 5th highest on record through September 30th (Average of 38 days).

**Hanford:** 10 for September (September average: 3 days). Season to date total of 64 days which ranks 6th highest on record through September 30th (Average of 30 days).

**Madera:** 8 for September (September average: 3 days). Season to date total of 56 days which ranks 8th highest on record through September 30th (Average of 28 days).

**Merced:** 7 for September (September average: 3 days). Season to date total of 51 days which ranks 2nd highest on record through September 30th (Average of 23 days).

Table 1 – September 2024 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	80.3	+2.1	14th highest	T	-0.05	49th lowest
Fresno	80.0	+2.8	7th highest	0.02	-0.03	57th highest
Hanford	78.5	+3.8	5th highest	T	-0.04	54th lowest
Madera	76.4	+1.6	8th highest	T	-0.03	42nd lowest
Merced	76.3	+2.8	8th highest	0.00	-0.05	<b>Tied for lowest</b>

Note: It is not uncommon for the above locations to observe no measurable precipitation during September. Merced had 53 other occurrences with zero precipitation for the month of September since records began in 1899.

This month began with above average temperatures, including triple digit heat in the lower elevations. On the 2nd, there was a brief break from triple digit heat across most of the San Joaquin Valley due to a low pressure system that moved across Northern California and the Pacific Northwest, but a warming trend soon followed as high pressure rebuilt. Hotter temperatures returned on the 4th through the 9th with high temperatures at least ten degrees above seasonal averages. The hottest temperatures during this period in the San Joaquin Valley were around 105-108 degrees, including on the 9th.

On the 10th, high pressure finally began to weaken, although some triple digits persisted in the hottest locations. A trough pattern followed afterward, and daytime highs lowered to several degrees below average by the 12th, while the warmest highs lowered into the 80's in the Central Valley to the lower 90's at the Kern County desert locations. Below average temperatures with dry conditions continued for the next few days.

A strong, cold low pressure system arrived on the 16th and brought light showers to the region mainly in the Sierra Nevada and foothills north of Fresno County with a few light sprinkles and showers towards Merced County. Snow fell down to around 8,000 feet in the Sierra Nevada on the evening of the 16th, with one to two inches of accumulation at the Tioga Pass park entrance to Yosemite National Park. White Wolf RAWS in Yosemite National Park (along Highway 120 between Yosemite Valley and Tuolumne Meadows at an elevation around 8,000 feet) reported around 0.5 inch of snow. Otherwise, high temperatures were as low as 15 to 20 degrees below seasonal averages on the 16th.

Another strong, cool low pressure system passed over the forecast area on the 18th and 19th. Thunderstorms developed in portions of the San Joaquin Valley during the early morning hours of the 19th. Additional showers and thunderstorms developed in the afternoon and evening in the Sierra Nevada and the coastal ranges near western Kern County. On the morning of the 20th, the upper-level low was over Southern California which ended most of the activity, except in Kern County. Showers and thunderstorms in eastern Kern County brought brief moderate to heavy rain that morning. In addition, below average afternoon highs persisted until the 20th before another warmup returned.

A dry period began on the 21st along with a warming trend. Temperatures were at least a few degrees above seasonal averages until the 23rd and rose to around 10 to 15 degrees above average on the 24th due to strong high pressure over the region. Triple digit heat prevailed in much of the San Joaquin Valley and the Kern County desert that day. A minor cooling trend took place on the 25th and 26th as a weak low pressure system passed over the Pacific Northwest. The ridge of high pressure returned on the 27th and brought daytime highs back to about 5 to 10 degrees above average until the end of the month, except for a brief decrease in temperatures on the 29th. Overall, the month was much warmer than average (Fig 1) with well below average precipitation (Fig 2) across much of the forecast area.

<b>Table 2 – Seasonal Precipitation for ASOS Locations (ending on September 30th, 2024)</b>						
<b>Location</b>	<b>Since Jan 1st (inches)</b>	<b>Departure From Average (inches)</b>	<b>Since Jul 1st (inches)</b>	<b>Departure From Average (inches)</b>	<b>Since Oct 1st (inches)</b>	<b>Departure From Normal (inches)</b>
Bakersfield	5.87	+1.40	Trace	-0.05	6.83	+0.47
Fresno	9.13	+1.36	0.03	-0.05	10.02	-0.97
Hanford	7.40	+1.71	0.02	-0.04	8.68	+0.55
Madera	8.08	+0.47	Trace	-0.04	9.97	-0.82
Merced	12.20	+3.97	0.00	-0.05	15.20	+3.40

\*Water Year ended on September 30th, 2024. Rankings for the Water Year 2023-2024 were: Bakersfield at 32nd highest, Fresno at 60th highest, Hanford at 36th highest, Madera at 39th highest, and Merced at 25th highest

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

<b>Location</b>	<b>High</b>	<b>Date(s)</b>	<b>Low</b>	<b>Date(s)</b>
Bakersfield	107	9th	54	17th
Fresno	106	5th & 9th	55	17th
Hanford	108	9th	50	17th
Madera	107	7th & 9th	50	17th
Merced	106	9th	52	17th

## **Daily Records Set During September 2024**

### **Bakersfield**

No daily records reached.

### **Fresno**

24th - Record high maximum temperature of 103 degrees reached, which broke the old record of 102 degrees set for the date in 1899.

### **Hanford**

No daily records reached.

### **Madera**

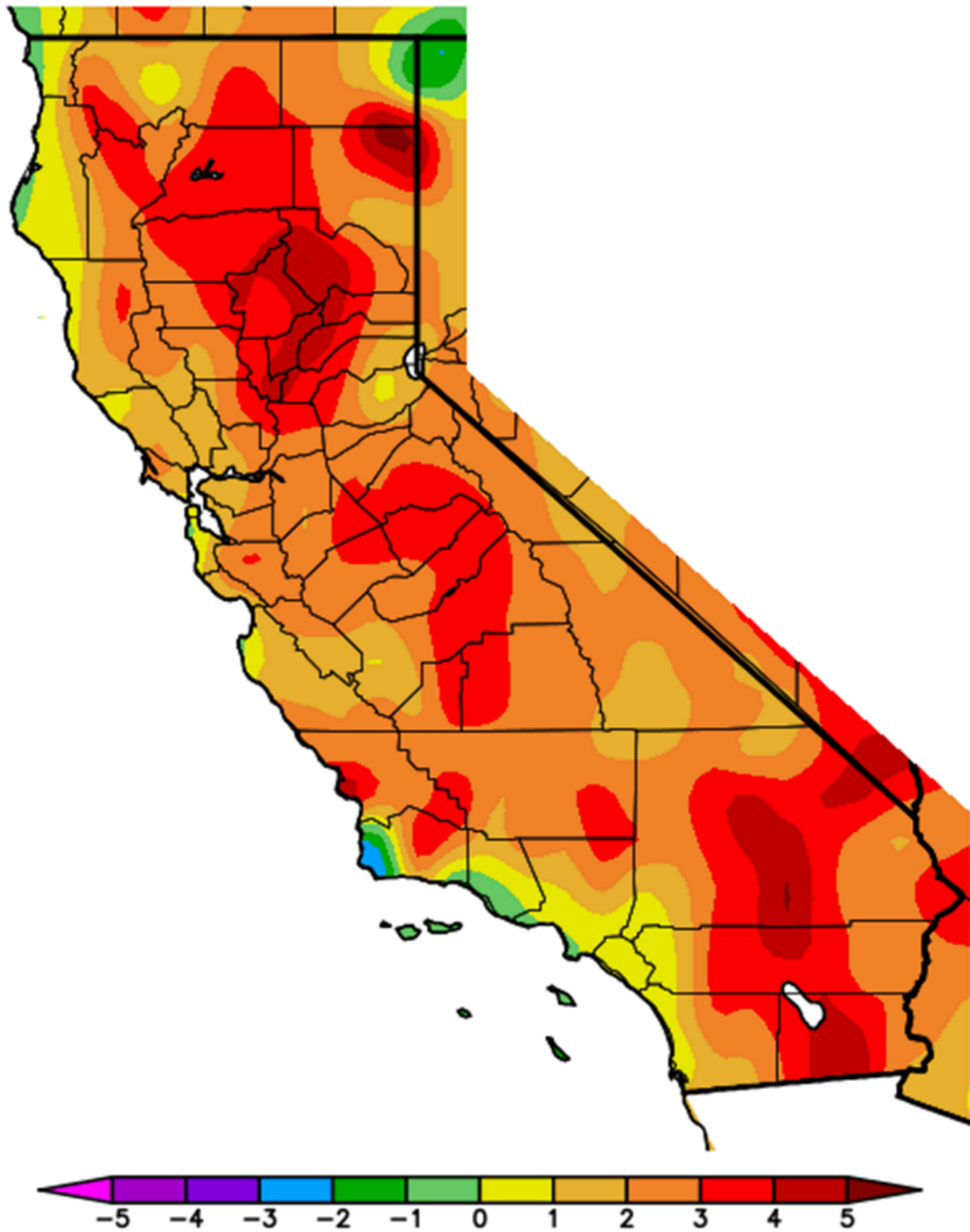
24th - Record high maximum temperature of 103 degrees reached, which broke the old record of 102 degrees set for the date in 1936.

### **Merced**

17th - Record high minimum temperature of 73 degrees reached, which tied the previous record set for the date in 1908.

**Fig 1 – Departure from Average Temperature for September 2024**

(image courtesy of Western Region Climate Center)



**Fig 2 – Percent of Average Precipitation for September 2024**

(image courtesy of Western Region Climate Center)

