

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

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May began with mainly seasonal temperatures, though ended with much above average temperatures at most locations. As is typical for May, there were several periods of gusty winds at quite a few locations throughout the month. Periods of dry weather with some hot days (with highs mainly in the 90's) in the Central Valley and Kern County desert also occurred at times during this May. The strongest winds were prevalent in the usual prone areas, including the Kern County mountains and desert, as well as the west side of the San Joaquin Valley, during periods when cooler air flowed into the region. Precipitation was confined to mainly the higher terrain and was generally light, and no rainfall was reported in the San Joaquin Valley this month. Some snowfall (mainly 1-3 inches) even fell in the Sierra Nevada, including down to elevations around 5,500 feet during the 21<sup>st</sup>. There were a few days of relatively cool weather during the third week of the month that coincided with the precipitation that occurred in the mountain areas; afterward, slightly above average temperatures prevailed until the 30<sup>th</sup>. Strong high pressure began to build over Central California by the last day of the month and brought the first day of widespread triple digit heat. Overall, the month was warmer than average with below average precipitation.

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

| <b>Location</b> | <b>Monthly<br/>Average<br/>Temp<br/>(deg F)</b> | <b>Departure<br/>from<br/>Average<br/>(deg F)</b> | <b>Temp Rank</b>         | <b>Total<br/>Monthly<br/>Precipitation<br/>(inches)</b> | <b>Departure<br/>from<br/>Normal<br/>(inches)</b> | <b>Precipitation<br/>Rank</b> |
|-----------------|-------------------------------------------------|---------------------------------------------------|--------------------------|---------------------------------------------------------|---------------------------------------------------|-------------------------------|
| Bakersfield     | 74.0                                            | +2.9                                              | 14 <sup>th</sup> warmest | 0.00                                                    | -0.25                                             | Tied for lowest               |
| Fresno          | 73.4                                            | +3.2                                              | <b>8th warmest</b>       | 0.00                                                    | -0.42                                             | Tied for lowest               |
| Hanford         | 71.3                                            | +2.1                                              | 14 <sup>th</sup> warmest | 0.00                                                    | -0.35                                             | Tied for lowest               |
| Madera          | 69.2                                            | +1.1                                              | 24 <sup>th</sup> warmest | 0.00                                                    | -0.47                                             | Tied for lowest               |
| Merced          | 69.6                                            | +2.2                                              | 18 <sup>th</sup> warmest | 0.00                                                    | -0.55                                             | Tied for lowest               |

**\*Note:** The monthly and daily average precipitation and temperature values now reference the period 1991-2020.

An upper-level low pressure system was responsible for a lowering trend in temperatures towards on the 1<sup>st</sup> and 2<sup>nd</sup>. Maximum temperatures on the first day were several degrees warmer than average, and temperatures on the following day cooled to near average. Quite a few locations were windy on both the 1<sup>st</sup> and 2<sup>nd</sup> in the Central Valley, with the strongest gusts in the West Side Hills (gusts as strong as 35 to 40 mph). The eastern Kern County mountain and desert areas also observed gusty conditions; the strongest gusts exceeded 60 miles per hour towards Inyokern and the typical prone passes and canyons in eastern Kern County.

On the 3<sup>rd</sup> through the 6<sup>th</sup>, a rather warm period occurred as high pressure took control over Central California. By the 5<sup>th</sup>, daytime highs peaked into the upper 90's in the Central Valley, which were the warmest for the year so far. The desert regions of Kern County were also similarly warm.

During the 7<sup>th</sup> through the 9<sup>th</sup>, a couple of upper-level disturbances brought windy conditions to the eastern Kern County mountain and desert regions once again. Gusts reached around 50 to 60 miles per hour on the evening of the 7<sup>th</sup> and again on the 9<sup>th</sup>. Winds also developed along the west side of the San Joaquin Valley, mainly during the afternoon and evening of the 7<sup>th</sup> and again on the 8<sup>th</sup>. In addition, gusts reached as high as 35 to 45 miles per hour at Kettleman City, Gustine, and Pacheco Pass during this period. Winds decreased by the 10<sup>th</sup>, although temperatures began to noticeably rise throughout our interior portions of Central California.

On the 11<sup>th</sup> through the 14<sup>th</sup>, high temperatures rose to around 10 to 15 degrees above average due to strong high pressure ridging in place. Highs were mainly in the mid-upper 90s during this period in the Central Valley and the Kern County desert, although the afternoon high on the 12<sup>th</sup> reached 102 degrees at China Lake. By the afternoon of the 14<sup>th</sup>, daytime highs began to lower towards Merced County, as onshore flow brought gusty winds through Pacheco Pass where gusts exceeded 45 miles per hour. Highs only reached into the lower 80s at Los Banos, while highs at Merced remained just above 90 degrees.

Temperatures lowered throughout the region on the 15<sup>th</sup> and remained near to slightly below average on that day, as well as on the 16<sup>th</sup>. The flow of cooler air on the 15<sup>th</sup> caused winds to increase through the passes and canyons in eastern Kern County where gusts of 45 to 55 mph were reported. Further changes in the weather occurred on the 16<sup>th</sup>, due to an upper-level low pressure system that passed from Northern California into our forecast area and eventually (or by the late afternoon and evening of the 16<sup>th</sup>) into the Mojave Desert in eastern San Bernardino County. Cumulus cloud buildups were observed in portions of the San Joaquin Valley, the Sierra Nevada foothills, and the West Side Hills. In the higher terrain, mainly afternoon thunderstorms developed in the higher elevations of the Sierra Nevada from Yosemite to near Lake Isabella. A few afternoon thunderstorms also developed in the Kern County desert and moved southeastward

into San Bernardino County. Otherwise, isolated showers were reported during the evening near Mariposa and Yosemite. Precipitation amounts with these showers and thunderstorms were generally less than 0.20 inch. A brief warmer period soon followed, as the upper-level low moved well to the east of Central California.

Daytime highs reached several degrees above average on the 18<sup>th</sup>, with highs at the warmest locations in the upper 80s, but a cooling trend soon followed. Slightly lower high temperature readings occurred on the 19<sup>th</sup>, though a sharp cooling trend took place on the 20<sup>th</sup> along with widespread gusty winds. Wind gusts on the 20<sup>th</sup> reached as high as 91 miles per hour at Indian Wells Canyon near Inyokern in northeastern Kern County. Other locations in eastern Kern County measured gusts at around 45 to 60 miles per hour, while gusts in the San Joaquin Valley were around 30 to 40 miles per hour. Highs in the Central Valley only reached into the lower to mid-70s on both the 20<sup>th</sup> and 21<sup>st</sup>, with a recurrence of gusty winds, or with speeds around 30 to 35 miles per hour during the afternoon and early evening on the 21<sup>st</sup>. Rain and snow showers developed in the Sierra Nevada and West Side Hills on the afternoon and evening of the 21<sup>st</sup>. Precipitation amounts were relatively light, or mainly up to one quarter inch, although a few spots in the Sierra Nevada reported up to one half of an inch. In addition, snow flurries were observed at elevations below 6,000 feet.

A warming trend followed on the 22<sup>nd</sup> until the 24<sup>th</sup> as high pressure returned to the region. This feature allowed temperatures to return to the mid-80s to near 90 degrees at the warmest areas in the Central Valley and the Kern County desert by the 24<sup>th</sup>. Temperatures remained steady for the next several days, due to weak low-pressure systems, although these systems allowed for an increase in westerly winds at times during the 24<sup>th</sup> and 25<sup>th</sup>, especially in the typical prone areas, or through and below the passes leading into the desert of eastern Kern County and the west side of the San Joaquin Valley (gusts reached near 35 mph at Pacheco Pass and 40 to 45 mph in eastern Kern County on the evening of the 24<sup>th</sup>). However, winds reached around 20-25 miles per hour at times in the remaining portions of the San Joaquin Valley.

Near to slightly above average temperatures returned for the 26<sup>th</sup> through the 30<sup>th</sup> as a west to northwesterly flow aloft prevailed. Highs were generally in the mid-80s to near 90 degrees in the warmest locations. Breezy to locally gusty conditions occurred at times once again during this period, with gusts around 30-35 mph along the west side of the San Joaquin Valley and 40 to 45 mph in the eastern Kern County mountain and desert areas. However, a sharp warming trend began on the 31<sup>st</sup>, or just in time for Memorial Day, and triple digit heat was reported for the first time this year in a widespread area, including the San Joaquin Valley, Kern County desert areas, the West Side Hills, and the lower Sierra Nevada foothills. Highs ranged from around 100 to 104 degrees in much of the Central Valley and Kern County desert, except for some isolated readings up to 106 degrees towards the far southwestern portion of the San Joaquin Valley (such as Taft). Overall, the month ended with warmer than average temperatures and below average

precipitation (see Figs 1-2). Precipitation was basically non-existent in the San Joaquin Valley during this month, although it is not unusual, as the average precipitation amounts are around 0.25 to 0.50 inch for the month of May.

## Number of Days with Maximum Temperature of 100 Degrees or Above for May 2021

(Note: The average value includes the 1991-2020 reference period).

**Bakersfield** – This May’s total: 1 (average 1); average total for May-September: 36

**Fresno** – This May’s total: 1 (average 1); average total for May-September: 38

**Hanford** – This May’s total: 1 (average 1); average total for May-September: 30

**Madera** – This May’s total: 1 (average 1); average total for May-September: 28

**Merced** – This May’s total: 1 (average 1); average total for May-September: 23

| Table 2 – Seasonal Precipitation for ASOS locations (ending on May 31 <sup>st</sup> ) |                                       |                                    |                                       |                                    |                                       |                                   |
|---------------------------------------------------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------|------------------------------------|---------------------------------------|-----------------------------------|
| Location                                                                              | Since Jan 1 <sup>st</sup><br>(inches) | Departure From Average<br>(inches) | Since Jul 1 <sup>st</sup><br>(inches) | Departure From Average<br>(inches) | Since Oct 1 <sup>st</sup><br>(inches) | Departure From Normal<br>(inches) |
| Bakersfield                                                                           | 2.03                                  | -2.34                              | 2.77                                  | -3.54                              | 2.77                                  | -3.49                             |
| Fresno                                                                                | 5.17                                  | -2.28                              | 6.59                                  | -4.16                              | 6.59                                  | -4.08                             |
| Hanford                                                                               | 3.62                                  | -1.94                              | 4.29                                  | -3.77                              | 4.29                                  | -3.71                             |
| Madera (*)                                                                            | Missing                               | Missing                            | Missing                               | Missing                            | Missing                               | Missing                           |
| Merced                                                                                | 4.72                                  | -3.34                              | 7.00                                  | -4.68                              | 7.00                                  | -4.63                             |

\* Precipitation missing for January 2021 at Madera.

## Daily Records Set During May 2021

**Bakersfield** – No daily records reached or tied.

**Fresno** – No daily records reached or tied.

**Hanford** – No daily records reached or tied.

**Madera** – No daily records reached or tied.

**Merced** – 5<sup>th</sup>: Record high maximum temperature of 97 degrees set, which broke the old record of 96 degrees that was last set for the date in 1990.

| <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                                                                                             | 102         | 31 <sup>st</sup> | 50         | 20 <sup>th</sup> & 21 <sup>st</sup> |
| Fresno                                                                                                  | 101         | 31 <sup>st</sup> | 50         | 20 <sup>th</sup>                    |
| Hanford                                                                                                 | 102         | 31 <sup>st</sup> | 43         | 22 <sup>nd</sup>                    |
| Madera                                                                                                  | 101         | 31 <sup>st</sup> | 43         | 20 <sup>th</sup>                    |
| Merced                                                                                                  | 102         | 31 <sup>st</sup> | 42         | 22 <sup>nd</sup>                    |

### **Temperature/Precipitation Rankings for May 2021**

**Bakersfield** – 14<sup>th</sup> warmest May on record; tied for lowest precipitation for May on record (last occurred in 2012 and multiple prior years).

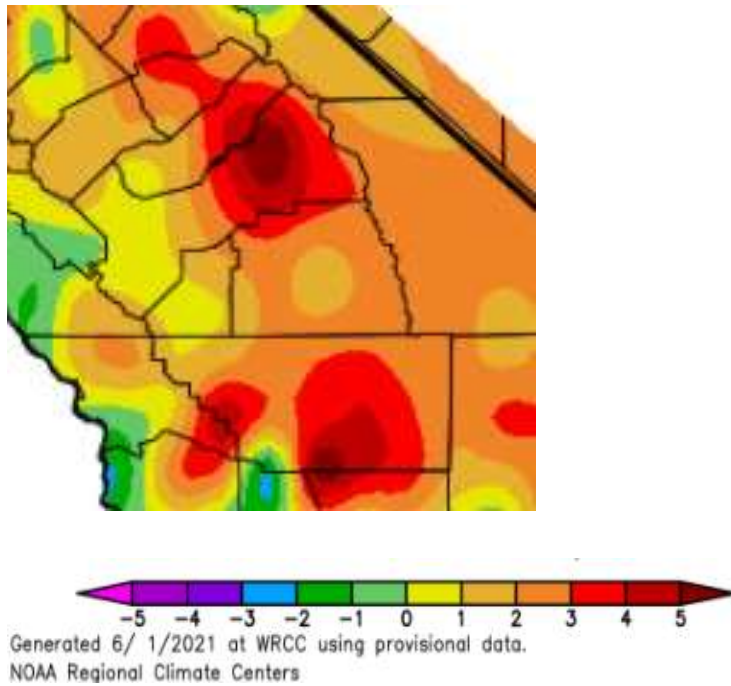
**Fresno** – 8<sup>th</sup> warmest May on record; tied for lowest precipitation for May on record (last occurred in 2012 and multiple prior years).

**Hanford** – 14<sup>th</sup> warmest May on record; tied for lowest precipitation for May on record (last occurred in 2018 and multiple prior years).

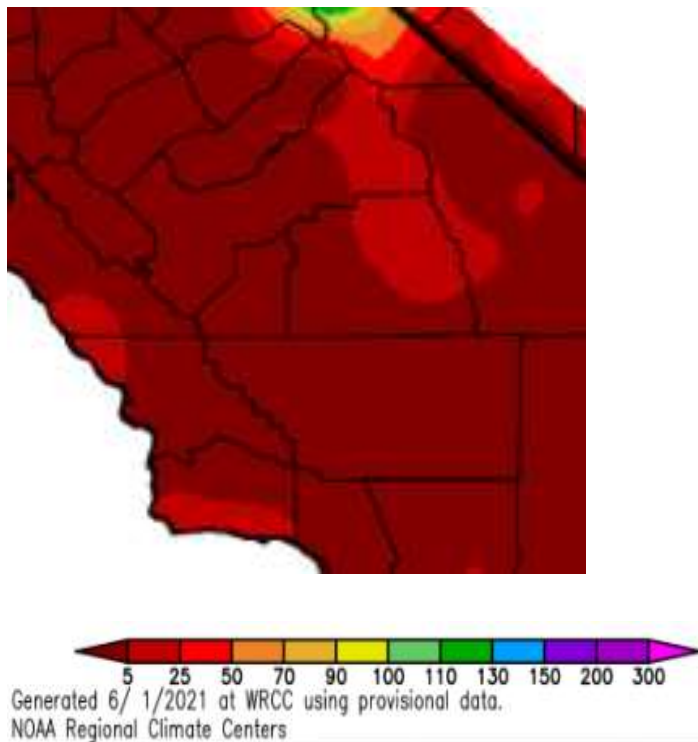
**Madera** – 24<sup>th</sup> warmest May on record; tied for lowest precipitation for May on record (last occurred in 2012 and multiple prior years).

**Merced** – 18<sup>th</sup> warmest May on record; tied for lowest precipitation for May on record (last occurred in 2001 and multiple prior years).

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



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



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