AUGUST 2020 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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Overall, August was much warmer than average (Table 1; see also Fig 1), and there was record breaking heat in the middle part of the month. Below average precipitation accumulated this month in most of the region (Table 1; see also Fig 2), although thunderstorms occurred in the Sierra Nevada, mainly towards Yosemite National Park, and the higher terrain in western Fresno County at times throughout the month. Some showers and thunderstorms formed over the San Joaquin Valley on the 13th and night of the 23rd into the morning of the 24th, but with no measurable rainfall reported at the primary climate sites, including Bakersfield, Fresno, and Madera (Hanford and Merced reported no precipitation). Little or no precipitation is common for these locations during the summer months. The month ended up ranking in the top 5 warmest Augusts for all of the climate sites (all five ASOS locations) in the San Joaquin Valley (Table 1). Precipitation was zero to a trace at these sites, which is not uncommon in the summer months.

Table 1 – August 2020 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	87.2	+4.8	4th warmest	T	-0.04	2nd lowest
Fresno	86.2	+4.5	2nd warmest	T	-0.01	2nd lowest
Hanford	83.1	+4.9	3rd warmest	0.00	-0.02	Lowest
Madera	81.4	+4.3	5th warmest	T	-0.02	2nd lowest
Merced	81.4	+5.1	2nd warmest	0.00	0.00	Lowest

Number of Days with Maximum Temperature of 100 Degrees or Above for August 2020 and Total for 2020 (May-August)

Bakersfield – August total: 18 (average 10); 2020 total so far: 45 (average 29)
Fresno – August total: 18 (average 11); 2020 total so far: 49 (average 32)
Hanford – August total: 16 (average 7); 2020 total so far: 42 (average 21)
Madera – August total: 13 (average 8); 2020 total so far: 36 (average 23)
Merced – August total: 10 (average 6); 2020 total so far: 28 (average 20)

Warm and dry weather continued throughout central California for the first few days of the month. Highs remained in the triple digits in locations throughout the lower elevations until the 4th. Gusty winds developed on the evening of the 3rd in the Kern County mountain passes that lead into the desert areas. The strongest gusts observed were around 55 miles per hour. Afterward, a more noticeable change in the weather began.

On the evening of the 4th locally gusty winds developed along the west side of the San Joaquin Valley, as ocean-cooled air flowed through the mountain passes (that separate the Central Valley from the coastal valleys to the west) into the valley. This flow was prompted by a trough that moved into Central California during the 4th into the 5th. Gusts to 41 miles per hour were reported at Pacheco Pass during the daytime hours of the 5th. In addition, wind gusts around 20 to 30 miles per hour were reported in much of the Central Valley on the evening of the 5th. As a result of these increased winds, daytime highs cooled several degrees in the San Joaquin Valley on the 5th and another several degrees on the 6th. Highs were around 10 degrees below average on the 6th in much of the Central Valley, or highs in the mid-80s to around 90 degrees. Otherwise, daytime highs peaked about 5 to 10 degrees below average elsewhere. On the 5th, there was mainly just a slight lowering in temperatures outside of the San Joaquin Valley; however, much of the region cooled noticeably on the 6th as the trough of low pressure had dug southward into Southern California.

Warmer than average temperatures and dry weather prevailed for the next several days, although not change was observed during the 7th through the 12th. However, a significant change in the pattern ensued by the 13th.

Tropical moisture from the remnants of Hurricane Elida arrived into Kern County by the morning of the 13th. This moisture surged northward into Merced County by the afternoon. Most locations received increased cloud cover and sprinkles, except for thunderstorms in the mountains. Daytime highs ended up near average as a result of the increased cloud cover. Much warmer temperatures occurred on the 14th, as daytime highs topped 105 degrees in many San Joaquin Valley locations.

Another surge of tropical moisture arrived on the 15th, due to the remnants of Tropical Storm Fausto, but the much warmer temperatures continued along with stronger upper-level high pressure ridging in place. Thunderstorm coverage became more numerous in the mountains, as well as much of Kern County. Some light rain showers with thunder were even reported in Bakersfield that afternoon. On the 14th and 15th, high temperatures reached above 105 degrees in much of the Central Valley and the Kern County desert. Some record high minimum temperature records were reached on both of these days.

Record breaking heat occurred on the 16th and 17th, including in the Central Valley. Bakersfield, Fresno, Hanford, Madera, and Merced all reached record high maximum temperatures on the 16th, while Madera set another record on the 17th. The hottest temperature in the San Joaquin Valley was at Fresno on the 16th, with a maximum of 112 degrees. Otherwise, highs topped 105 degrees to near 110 degrees on the 17th and 18th in the San Joaquin Valley and around 110 to 115 degrees in the Kern County desert, with the warmest temperatures in the Indian Wells Valley (including Inyokern, Ridgecrest, and China Lake NAF). In addition, low temperatures failed to drop below 80 degrees on the morning of the 17th in Bakersfield, Fresno, and China Lake due to increased humidity. The heat with record breaking low temperatures continued until the morning of the 19th. Otherwise, thunderstorms remained a daily occurrence from the 16th until the 19th in the higher elevations of the Sierra Nevada, as well as in the southern Kern County mountain areas towards Pine Mountain Club and Frazier Park, although some strong thunderstorms developed in the Kern County desert regions on the 18th and 19th. Temperatures began to moderate by the afternoon of the 19th, as dense smoke from surrounding large wildfires (quite a few ignitions due to lightning) near the Central California coast and in Northern California filtered out much of the sunlight.

The dense smoke and ash reached the ground in much of the region over the next several days, or from the 19th and afterward. As a result, haze reduced visibility to around a half mile or less at times, but failed to improve beyond 2-3 miles during this period. High temperatures were generally seasonably warm, although daytime maximum temperatures in the Kern County desert remained around 105 to 110 degrees in the warmest locations. Otherwise, daily highs were a few degrees above average and remained below 100 degrees throughout the Central Valley on the 21st through the 23rd. A return of afternoon and evening thunderstorms occurred in the higher terrain on the 23rd and 24th due to an influx of tropical moisture from the remnants of Hurricane Genevieve that had earlier passed near Cabo San Lucas and the southern tip of Baja California.

Visibility gradually improved by the evening of the 24th and continued into the next couple of days as the fires in northern California and along the Central California coast as firefighters got some handle on the fires. However, much more containment is necessary before the smoke completely ceases. Temperatures remained slightly above average during the daytime, but nighttime lows are even warmer than average due to lingering low-level moisture that remains from the previous storm activity. A drying trend began on the 27th, and overnight lows were closer to average until the 31st, while daytime highs lowered to around 2-5 degrees above average (highs in the San Joaquin Valley were generally in the 90s, while highs in the Kern County desert remained above 100 degrees) on the last two days of the month.

Table 2 – Seasonal Precipitation for ASOS locations (ending on August 31st)						
Location	**Since Jan 1st (inches)**	**Departure from Average (inches)**	**Since Jul 1st (inches)***	**Departure from Average (inches)**	**Since Oct 1st (inches)****	**Departure from Average (inches)**
Bakersfield	4.61	+0.18	T	-0.04	4.61	+0.14
Fresno	4.75	-3.11	T	-0.01	7.63	-3.70
Hanford	4.31	-2.49	0.00	-0.02	6.62	-3.31
Madera	3.76	-4.28	T	-0.02	6.02	-5.75
Merced	4.58	-4.11	0.00	-0.01	9.54	-2.66

* Rain Year 2020-2021: July 1st, 2020 thru Jun 30th, 2021, T = trace amount of precipitation
*Water Year 2019-2020: Oct 1st, 2019 thru Sep 30th, 2020

Table 3 – Warmest High Temperatures and Coolest Low Temperatures of the Month for ASOS locations				
Location	**High**	**Date(s)**	**Low**	**Date(s)**
Bakersfield	107	16th & 17th	64	6th
Fresno	112	16th	61	6th
Hanford	109	16th	60	1st, 2nd & 3rd
Madera	111	16th	56	6th
Merced	111	16th	58	6th

Daily Records Set During August 2020

Bakersfield –
13th - Record high daily precipitation of Trace tied, which was last set for the date in 1965.

15th – Record high minimum temperature of 81 degrees set, which broke the old record of 80 degrees, which was last set for the date in 1933.

16th - Record high minimum temperature of 80 degrees set, which tied the previous record last set for the date in 1909.

18th – Record high minimum temperature of 82 degrees set, which broke the old record of 80 degrees last set for the date in 2012.

Fresno –
15th – Record high minimum temperature of 77 degrees tied, which was last set for the date in 2012.

16th – Record high maximum temperature of 112 degrees set, which broke the old record of 110 degrees set in 1920. Record high minimum temperature of 81 degrees set, which broke the old record of 77 degrees last set for the date in 1920.

17th – Record high minimum temperature of 81 degrees set, which broke the old record of 77 degrees set for the date in 1933.

18th - Record high minimum temperature of 81 degrees set, which broke the old record of 75 degrees last set for the date in 2012.

19th – Record high minimum temperature of 82 degrees set, which broke the old record of 76 degrees last set for the date in 2013.

Hanford –
16th – Record high temperature of 109 degrees set. This broke the old record of 108 degrees, which was last set for the date in 1920.

17th – Record high minimum temperature of 79 degrees set, which broke the old record of 71 degrees set for the date in 1992.

18th – Record high minimum temperature of 77 degrees set, which broke the old record of 75 degrees last set for the date in 2012.

19th – Record high minimum temperature of 77 degrees set, which broke the old record of 72 degrees last set for the date in 2012.

Madera –
16th - Record high temperature of 111 degrees set. This broke the old record of 109 degrees, which was last set for the date in 1967.

17th - Record high temperature of 109 degrees set. This broke the old record of 108 degrees, which was last set for the date in 1992.

18th – Record high minimum temperature of 73 degrees set, which broke the old record of 70 degrees last set for the date in 2012.

23rd – Record high daily precipitation of Trace tied, which was last set for the date in 2009.

Merced –
16th - Record high temperature of 111 degrees set. This broke the old record of 109 degrees, which was last set for the date in 1920.

17th – Record high minimum temperature of 76 degrees set, which broke the old record of 73 degrees set for the date in 1967.

18th – Record high maximum temperature of 107 degrees set, which broke the old record of 106 degrees set for the date in 1992. Record high minimum temperature of 77 degrees set, which broke the old record of 72 degrees last set for the date in 2012.

19th – Record high minimum temperature of 74 degrees set, which broke the old record of 73 degrees last set for the date in 1903.

Fig 1 – Departure from Average Temperature for August 2020

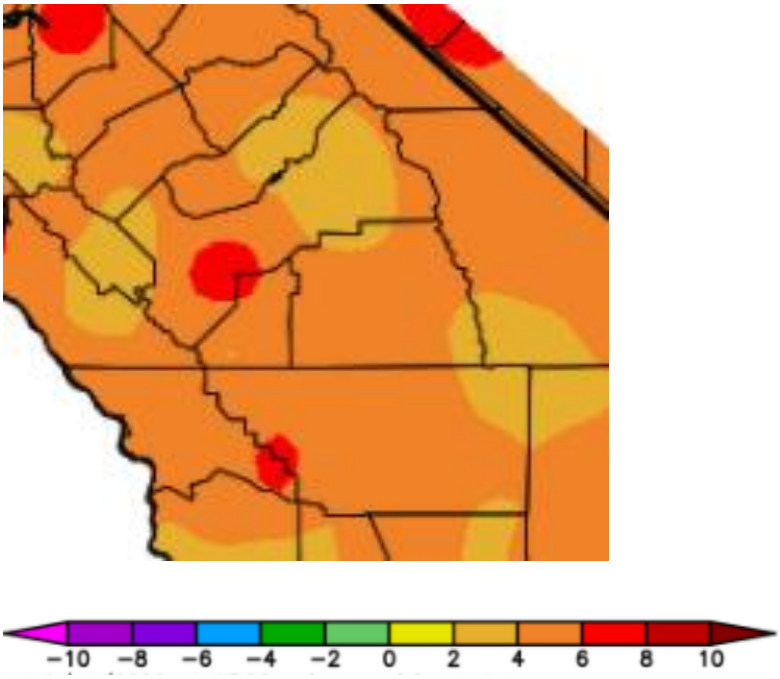
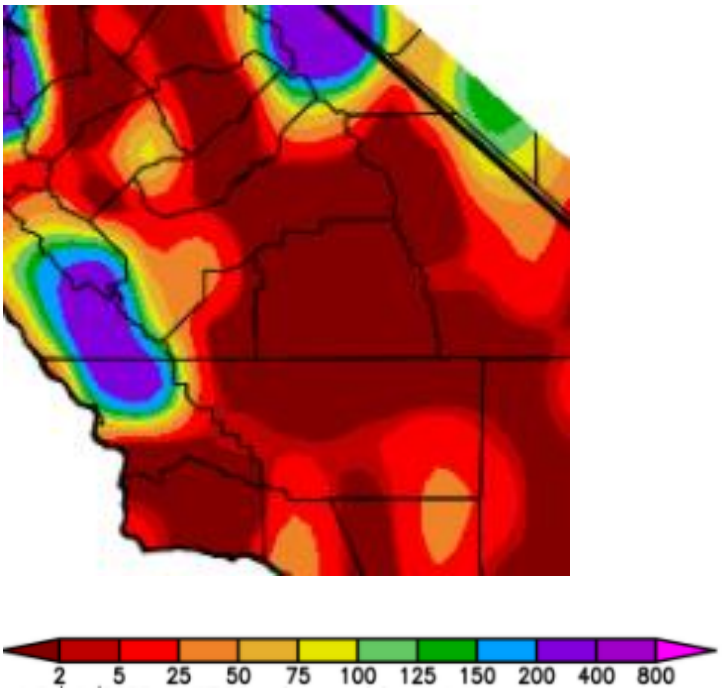


Fig 2 – Percent of Average Precipitation for August 2020



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