MAY 2019 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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This May started with mainly seasonal temperatures as a low pressure system moved over Northern California and into the Great Basin. Locally breezy conditions occurred at times on the 1st and 2nd. On the 3rd and 4th, temperatures warmed back to several degrees above average as a ridge of high pressure built over the region. The weather was generally quiet during these first four days.

Another low pressure system moved over California on the 5th and 6th and brought a return of near to slightly below average temperatures. Light showers and isolated thunderstorms developed over the Sierra Nevada at times, and gusty winds developed in a few locales (gusts around 35 mph) along the west side of the San Joaquin Valley and into the Kern County desert and mountain areas (gusts around 45 mph). Gusty winds occurred at times once again on the evening of the 7th in eastern Kern County, or near Mojave and Jawbone Canyon; reported gusts were around 55 to 60 mph.

After a brief slightly warmer than average, although a quiet weather period, another low pressure system arrived on the 9th. Gusty winds of 30 to 40 mph were reported in a few locations along the west side of the San Joaquin Valley during much of the daytime and evening of the 9th. The upper-level low traveled from northern Nevada that afternoon, then over the Sierra Nevada and San Joaquin Valley during the nighttime and early morning hours of the following day, and finally to the Central California coast by the afternoon of the 10th. These systems rarely move in this northeast to southwest path. This low produced scattered showers and thunderstorms in the Sierra Nevada from Yosemite to Lake Isabella during the afternoon. Some of the storms produced gusty winds, including at Fresno where gusts reached around 30 to 35 mph at times. By the evening and overnight hours, the focus of activity shifted to the Sierra Nevada foothills and much of the San Joaquin Valley from Fresno and southward, where scattered showers and thunderstorms developed. Storm activity continued overnight and into the morning of the 10th and moved southward to Kern County during that morning. Otherwise, a few showers continued in the following afternoon and evening. Precipitation amounts were as high as 1.50 inches in portions of the Sierra Nevada and Tehachapi Mountains due to slow moving thunderstorms. Otherwise, the 10th was a cool and mostly cloudy day in much of the region.

May 11th-13th was a period with warmer weather as high pressure built over Central California. However sufficient moisture remained over much of the mountains and into the Kern County

desert to produce showers and isolated thunderstorms on the 11th. Debris flows were reported just to the east of Tehachapi during the late afternoon of the 11th, as heavy rain, or around 0.70 inch fell in about 15 minutes. Later in the period, shower and thunderstorm activity was confined to the higher elevations in the Sierra Nevada near the crest on the 12th until the 13th. Temperatures were generally around seasonal averages on the 11th, but later warmed to several degrees above average, or during the 12th-13th.

A very cold storm arrived on the night of the 15th. Plenty of moisture brought a late season heavy snow to the Sierra above 5,000 feet, and several inches up to around a foot accumulated by the following morning. Around 0.50 to 1.00 inch of rain fell in quite a few San Joaquin Valley locations during the 15th-16th. Another storm arrived on the evening of the 18th and continued through the evening of the 19th and brought similar amounts of precipitation as the previous system. Thunderstorms also brought brief heavy rain to parts of the San Joaquin Valley. A brief weak tornado (rated an EF-0) touched down between Lemoore and Huron in western Fresno County on the afternoon of the 19th. A pistachio tree was destroyed and was moved about 100 feet, while another tree nearby sustained significant damage. Very cool daytime temperatures prevailed during the 16th through the next several days; high temperatures were over 20 degrees below average due to precipitation and cloudiness. Some daily temperature records were set in terms of coolest daytime highs, especially on the 19th. For example, Fresno only reached 62 degrees on the 19th, which is 23 degrees below average for the date. A daily record high precipitation was also set at Fresno that day (0.58 inch).

Active, unsettled weather, similar to what normally occurs in February and March, persisted during the next several days, especially on the 21st and 23rd in the San Joaquin Valley and much of the mountain areas. Showers and isolated thunderstorms developed on the 21st, although were mainly over the mountains and foothills. Up to around three quarters of an inch of rain fell in the San Joaquin Valley and the Kern County mountain areas due to scattered showers and thunderstorms on the afternoon and evening of the 23rd. Some of the heavier storm cells produced localized flooding, including in Fresno. Otherwise, cool temperatures prevailed from the 20th through the 24th as a low pressure trough pattern persisted over Central California, and at least few showers and thunderstorms developed over the mountains during the afternoons and evenings each day. The weather activity briefly calmed down on the 24th, while temperatures warmed closer to, but remained several degrees below, average. A few showers and an isolated thunderstorm developed near and inside Yosemite National Park during the evening shortly after sunset.

Yet another storm arrived on the 25th and brought showers, thunderstorms, and mountain snow until the 26th.Thunderstorms were reported on both the 25th and 26th in the San Joaquin Valley. Precipitation amounts were spotty on the 25th; reported amounts were as much as 0.40 inch. On the 26th, a wet and chilly day was observed throughout Central California. Precipitation amounts

ranged from around a few hundredths of an inch to around one inch during this day. In addition, a funnel cloud was sighted in southern Tulare County along Highway 99 to the west of Pixley. High temperatures bottomed out at around 20 to 30 degrees below average on the 26th, and Fresno set another record low maximum temperature at 58 degrees and was the lowest high temperature for this month. Overnight lows by the following morning were in the mid to upper 40s, or on the morning of the 27th. Cool weather dominated in much of the region until the 28th, as temperatures remained around 10-20 degrees below average due to with cloudy skies.

Showers and thunderstorms continued for the remaining three days of the month over the higher terrain, as a trough of low pressure and plenty of moisture lingered from the previous systems. The most active day during this period was the 31st, as numerous showers and thunderstorms developed underneath the center of an upper-level low that moved over the San Joaquin Valley during the day. The strongest storms produced heavy rain over the Sierra Nevada near Hume Lake, a few miles east of Three Rivers, and a few miles south of Grant Grove in Sequoia National Park, which prompted Severe Thunderstorm Warnings during the late afternoon hours. One strong storm produced over an inch of rain that fell within an hour at Hume Lake, although there were likely even higher amounts just to the north during that period, especially over remote terrain where limited observation data are available. Another location that received significant rainfall was the Ferguson Burn Scar in Yosemite National Park and nearby areas to the west; strong thunderstorms brought heavy rain to this area during the evening of the 29th. Some mud and increased flow occurred in the Merced River near El Portal, including along Highway 140. Otherwise, temperatures warmed to seasonal averages to slightly above.

Overall, the month was below average in terms of temperatures and well below average over the Sierra Nevada, as well as the Kern County mountain and desert areas (Fig 1). Well above average precipitation accumulated this month (Fig 2). Quite a few daily records were set for low maximum temperatures and high precipitation at Bakersfield and Fresno.

Table 1 – May 2019 Summary Statistics for ASOS locations				
Location	**Monthly Average Temp (deg F)**	**Departure From Average (deg F)**	**Total Monthly Precipitation (inches)**	**Departure From Normal (inches)**
Bakersfield	68.0	-2.5	1.57	+1.39
Fresno	66.7	-3.4	2.38	+1.95
Hanford	66.5	-2.2	1.83	+1.41
Madera	67.2	-0.1	1.58	+1.10
Merced	64.4	-2.5	1.40	+0.82

Table 2 – Seasonal Precipitation for ASOS locations (ending on May 31st)						
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	6.27	+1.96	7.57	+1.18	7.57	+1.30
Fresno	9.52	+1.89	11.85	+0.56	11.85	+0.75
Hanford	7.63	+1.02	9.50	-0.45	9.50	-0.24
Madera	8.43	+0.62	11.42	-0.41	11.42	-0.12
Merced	9.40	+0.85	12.37	-0.90	13.27	+1.21

Table 3 – Warmest High Temperatures and Coolest Low Temperatures of the Month for ASOS locations				
Location	**High**	**Date(s)**	**Low**	**Date(s)**
Bakersfield	91	30th	49	27th
Fresno	90	12th	48	27th
Hanford	91	12th, 30th	44	27th
Madera	92	12th, 13th, 31st	45	27th
Merced	88	30th, 31st	44	27th

Monthly Temperature/Precipitation Rankings for May 2019

Bakersfield – 31st coolest on record; 6th highest precipitation on record.
Fresno – 36th coolest on record; 2nd highest precipitation on record.

Daily Records Set During May 2019

Bakersfield

16th – Record daily high precipitation of 0.24 inch was set, which broke the old record for the date of 0.17 inch set back in 1944.

19th - Record daily high precipitation of 0.33 inch was set, which broke the old record for the date of 0.06 inch set back in 1957.

22nd – Record low maximum temperature of 66 degrees was set; the old record was 68 degrees which was last set for the date in 2010.

Fresno

16th - Record daily high precipitation reached, or 0.76 inch. The old record was 0.13 inch, which was last set for the date in 2005.

19th – Record daily high precipitation reached, or 0.58 inch. The old record was 0.53 inch and was last set for the date in 1884. Record low maximum temperature of 62 degrees was set; the old record was 63 degrees back in 1972.

22nd – Record low maximum temperature of 67 degrees was tied; which was also set for the date in 2010.

23rd – Record daily high precipitation reached, or 0.38 inch. The old record was 0.23 inch, which was last set for the date in 1990.

26th – Record low maximum temperature of 58 degrees was set; old record was 66 degrees which was last set for the date in 1946.

100-Degree Day Statistics for May 2019

Bakersfield – total of days: none (average is 1 day)
Fresno – total of days: none (average is 1 day)

Fig 1 – Departure from Average Temperature for May 2019

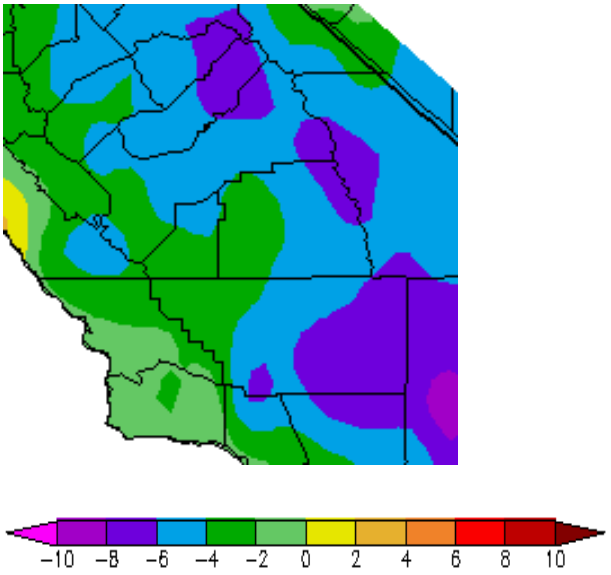
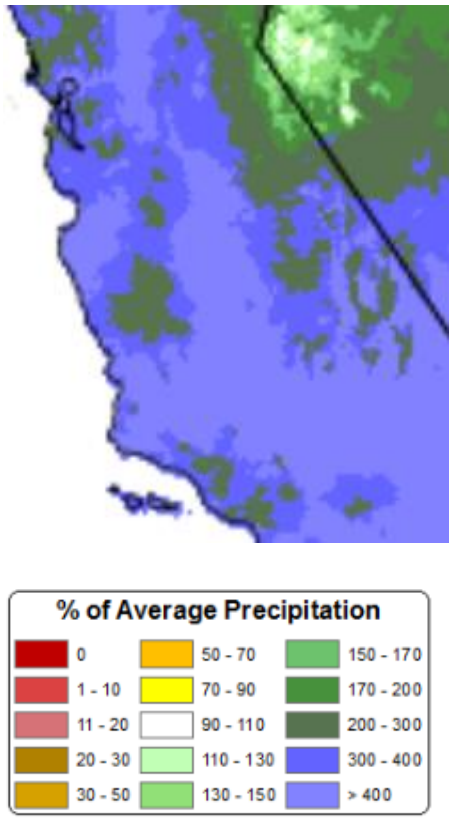


Fig 2 – Percent of Average Precipitation for May 2019



*Images above courtesy of Western Region Climate Center (Fig 1) and PRISM Climate Group at Oregon State University (Fig 2)