MARCH 2014 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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March began with an upper-level low located west of Monterey County. The cyclonic flow around this low drew precipitation northward over the central California interior, and brought Bakersfield its only measurable rain (0.04 inch) for the first three weeks of the month. Fortunately, rainfall amounts over the central and southern San Joaquin Valley were light, as the heavy rains of the preceding three days of February had left the soil saturated and additional heavy rains could have caused flooding. The Southern Sierra Nevada foothills were not as lucky, as a debris flow covered part of Highway 168 near the Four Lane shortly after midnight on March 1st.

With the southerly flow aloft, the low advected warm and unstable subtropical air into the central California interior. Thunderstorms developed over the region on March 2nd, resulting in a funnel cloud that formed near Dos Palos. As the storm moved east during the night of the 2nd-3rd, skies partially cleared. This allowed for radiational cooling, and patchy dense fog developed in the Hanford-Lemoore area with visibilities of 500 feet or less at times. Also in the wake of the storm, a band of low clouds formed along the foothills and valley-facing slopes of the Southern Sierra Nevada, producing light (but measurable) rain during the evening of March 4th.

Another storm approached California on March 5th. This system brought gusty winds to the mountains and deserts of Kern County on the 6th, with gusts to 55 mph recorded at Cache Creek and 53 mph at Indian Wells Canyon and the Mojave Air and Spaceport. March 6th also saw Fresno receive 0.02 inch of rain, the only measurable rain during the first 24 days of the month.

The second week of March saw high pressure return to California, bringing another round of warm, dry weather. An offshore flow developed over the Southern Sierra Nevada and Tehachapi Mountains on March 11th-12th, resulting in a “mini-Mono” event during the morning of the 12th. Trees and power poles were blown down near Oakhurst, and gusts of 50-55 mph were recorded from Hetch Hetchy near Yosemite south to Bear Valley Springs and Grapevine Peak in the Tehachapi Mountains.

The offshore flow also provided orographic forcing over the east slopes of the Southern Sierra Nevada. Clouds that formed east of the crest spilled over the summits into the Hanford warning/ forecast area. Isolated showers developed near Giant Forest, and while in-cloud lightning was detected with one of the cells, there was no cloud-to-ground lightning.

Warm, dry weather continued until March 25th. In fact, on the 24th, a record high maximum temperature of 85 degrees was reached in Fresno, which broke the previous record high of 83 degrees set back in 1930. On the 25th, a developing low approached the coast. While the approaching storm did bring some cooling to the central California interior on the 25th, temperatures were still several degrees above normal.

The storm brought showers, thunderstorms and strong winds to the central California interior on March 26th. Hail up to a quarter-inch in diameter fell during a thunderstorm at Ballico in Merced County, and in Coarsegold in the foothills of Madera County. Winds gusted to 76 mph at Inyokern producing areas of near-zero visibility in blowing dust that closed Highway 178 and U.S. 395. Nine inches of snow fell at Camp Nelson in the Southern Sierra Nevada, 5 inches fell at Lodgepole, and nearly 6 inches was reported at Grant Grove. Further north, up to a foot of new snow fell on the high country of the Southern Sierra Nevada from Kings Canyon to Yosemite National Park.

Temperatures fell as the cold airmass moved into the central California interior. The high at Fresno on March 26th was only 62 degrees, down 16 degrees from the previous day. This also was the first day that the high temperature was below normal for the month. Bakersfield reached 67 degrees, for its second day in March when the high was below normal (the first day being March 7th).

With available surface moisture, the morning of March 27th saw the return of Tule fog to the region. Fog developed initially near Porterville and spread westward to Tulare and Visalia by daybreak. In the central San Joaquin Valley, clearing skies allowed temperatures to recover from the previous day. Fresno matched both its normal high and low. Further south, clouds pooled over the south end of the San Joaquin Valley and were slow to dissipate. Bakersfield was only one degree warmer than the previous day, and the high was below normal for the second consecutive day.

Winds gusted to 45-50 mph over the mountains and desert areas of Kern County on March 27th, but diminished during the evening hours. Warm and dry weather returned to the region on March 28th, but this proved to be short-lived, as the pattern finally shifted to a wetter regime and another storm reached the area late on March 29th and the early morning hours of the 30th. Rainfall from this storm mostly was between a third and two-thirds of an inch, although training showers in the slow-moving front gave Chowchilla 1.57 inch of rain. Bakersfield received 0.25 inch of rain during the morning of March 30th, only 0.03 inch short of the record for the date of 0.28 inch, set in 1946. New snowfall reports included an estimated 10-11 inches from the SNOTEL sites in the Southern Sierra Nevada high country. Lodgepole reported 7 inches of new snow, and Camp Nelson had 4 inches.

After a brief break in the precipitation, the next storm arrived during the afternoon of March 31st. This was the first of two systems rotating around an upper-level low west of Oregon, and moved through interior central California relatively quickly. (The second storm arrived on April 1st.) As a result of the faster movement, rainfall amounts were a bit less than from the storm on March 29th-30th, although the central and southern San Joaquin Valley saw up to half an inch of rain. By mid-afternoon of the 31st, thunderstorms had developed over Merced County. Thunderstorms moved into the Southern Sierra Nevada foothills during the late afternoon, and the cold air associated with the storm dropped the snow level to around 5000 feet. The snow level continued to fall through the evening of the 31st, with snow being reported down to 3000 feet. Bass Lake received 2 inches of snow at 3800 feet.

Winds gusted to near 50 mph over parts of the San Joaquin Valley during the afternoon of March 31st as the cold front moved through. The deserts of Kern County saw similar winds during the evening hours as the cold front arrived there; these winds continued overnight into the early morning hours of April 1st.

The cold air associated with the storms of March 29th-31st dropped temperatures to below normal after almost three weeks of above-normal high temperatures. The high temperature at Fresno on March 29th was 76 degrees; the high the next day was 10 degrees cooler. At the south end of the San Joaquin Valley, Bakersfield saw much stronger cooling, falling from a high of 82 on the 29th to only 64 on the 30th, a drop of 18 degrees.

The month concluded with well below average precipitation and much above average temperatures. The average temperature for the month in Fresno reached 62.4 degrees for the 3rd warmest March on record, while the average monthly temperature in Bakersfield was 62.2 degrees, or the 7th warmest March on record. The total precipitation for this month was 0.62 inch (1.41 inches below normal) in Fresno, and 0.36 inch (0.85 inch below normal) fell in Bakersfield. Snowpack in the Sierra was about 31 percent of normal as of the 31st.

WARMEST MARCHES ON RECORD

	BAKERSFIELD	FRESNO
1.	65.1...2004	63.8...1934
2.	65.0...1934	62.5...2004
3.	63.3...1972	*62.4...2014*
4.	62.7...1910	62.1...2013
5.	62.5...1978	60.9...1926
6.	62.5...1926	60.7...1972
7.	*62.2...2014*	60.3...1986
8.	61.5...2007	60.3...1978
9.	60.9...1993	60.2...2007
10.	60.9...1928	60.2...1993