

MARCH 2013 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR

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A strong ridge of high pressure prevailed at the beginning of the month. On the 1st, high temperatures reached around 10 degrees above average. Bakersfield had a high of 77 degrees, while Fresno reached 75. The strong ridge continued over the area during the following day; temperatures rose several degrees (Fresno reached 81 degrees, and Bakersfield reached 82 degrees). Thus, March arrived like the proverbial lamb.

A weak storm system passed over the central California interior on March 3rd and allowed temperatures to cool by around 10 to 15 degrees. Both Bakersfield and Fresno reported a trace of rainfall on this day. The clouds also kept overnight temperatures warm. Bakersfield tied its record high minimum temperature on March 3rd, and Fresno came within a degree of doing the same.

Weak high pressure briefly returned on the 4th and 5th, and temperatures warmed a few degrees each day. This was a brief period of relatively calm weather.

March 5th was a transition day, as a Pacific storm approached California. The first storm brought only light precipitation to the region beginning on the evening of the 5th, but strong winds developed as the cold front moved through the San Joaquin Valley. Winds gusted as high as 54 mph along the west side of the Valley.

The system that moved over the region on the 6th and 7th had a typical track of a Pacific storm system originating from the Gulf of Alaska. The next storm arrived late on March 7th and continued into the 8th. There was minor street flooding in the eastern San Joaquin Valley and the foothills near Lake Success from a few embedded moderate showers, but the heaviest rain fell further south, in Kern County, as the upper-level low came onshore near San Diego. With this system, Bakersfield picked up 0.80 inch of rain, while Fresno only received 0.11 inch.

The cold airmass aloft dropped snow levels down to around 3000-3500 feet, and created unstable conditions that triggered a few thunderstorms over the San Joaquin Valley during the late afternoon and evening of March 8th. Upslope clouds banked against the north slopes of the Tehachapi Mountains combined with low snow levels to produce snow on some of the mountain roads. The California Highway Patrol closed southbound Interstate 5 over the Grapevine during the morning of the 8th, and a spotter in Bear Valley Springs reported 7 inches of new snow. Further north in the mountains, another spotter reported 6 inches of new snow in Glennville. The storm continued over Kern County through the evening of March 8th. Rainfall in the Kern River

Canyon was a factor in a rock slide on Highway 178, and winds gusted to 56 mph in the Mojave area below the Tehachapi Pass.

Unsettled conditions continued through the 9th. Bakersfield had a total rainfall for the 4 days of 0.80 inches, and Fresno had a total of 0.32 inch. This is because the upper-level low moved onshore over southern California, and the northern end of the warp-around moisture passed over central California, with most of the moisture affecting Kern County.

With abundant ground water, patchy dense fog developed in parts of the central and southern San Joaquin Valley. This was not unexpected, as climatologically March 8th-10th marks the end of the dense fog season. Dense fog developed in the Los Banos area during the morning of the 10th, with the visibility at the Los Banos Municipal Airport falling to less than a quarter mile.

The fog formed further south the next morning, with dense fog in the Selma to Hanford area. The morning of March 12th also saw some fog development, mainly west of the Highway 99 corridor.

Beginning on the 10th, the east Pacific ridge returned once again, bringing a warming trend to the region over the next several days. By the 13th, temperatures reached around 15-20 degrees above average. In fact, Fresno set a new record high temperature of 85 degrees on the 13th; this beat the old record of 84 degrees set back in 2007. Another record high temperature was broken on the 14th in Fresno. The observed high was 84 degrees, and this broke the former record of 83 degrees set back in 2007. Bakersfield tied its second warmest March 14th on record with a high of 85 degrees.

An upper-level disturbance brought high clouds to the region on March 15th, as well as gusty winds to the Kern County mountains and deserts. Another disturbance brought another round of gusty winds to the higher terrain of Kern County during the late evening of March 16th and the early morning of the 17th; Jawbone Canyon had a gust to 59 mph shortly after midnight. Winds redeveloped the following night, but were not as strong.

The next Pacific storm reached California on March 19th. This storm brought isolated gusts as high as 45 mph to the San Joaquin Valley during the evening of the 19th, but brought very little rainfall to the region. As a result, the central California interior ended the month with below normal rainfall.

Cooler air did, however arrive by the 21st, as some short-wave troughs rotated around the parent trough that moved to the Great Basin. These short-wave troughs produced very windy conditions over the Kern County desert. Mojave recorded a wind gust of 65 mph on March 21st.

Temperatures cooled to near average by the 22nd as yet another short-wave moved through the central California interior. Winds gusted up to 43 mph on the west side of the San Joaquin Valley beginning in the early morning of the 22nd and continuing through the day. Strong winds also

developed over the southeastern Kern County desert, with gusts to 62 mph at Rosamond, and to 58 mph at the National Test Pilots School near Mojave.

High pressure built into California behind the short-wave, bringing warming to the central California interior. Central and southern San Joaquin Valley high temperatures warmed into the mid 70s to around 80 degrees on both the 25th and 26th, despite upper-level disturbances that brought mid- and high-level clouds to the region. The disturbance on March 26th also brought isolated light showers to Madera, Mariposa and Merced Counties during the morning hours.

An east Pacific low moved toward the northern Oregon coast on March 27th. Upper-level disturbances brought showers to parts of the central California interior that afternoon and evening, with light rain falling as far south as Wasco. Hail was reported at Bass Lake. Another disturbance brought light showers to the region again the next day, and also triggered a thunderstorm that developed over Ventura County and moved northeast into Kern County near the Grapevine. Later that day, in the early evening, thunderstorms moved into Yosemite National Park, and hail was reported from one of the storms.

The east-Pacific low continued to drift slowly eastward toward the California coast on March 29th. Ahead of the low, the cyclonic circulation created a southerly flow over the central California interior. This warmed temperatures well above normal, with several sites in the central and southern San Joaquin Valley having highs in the lower to mid-80s. The flow also provided orographic lift over the southern Sierra Nevada, with numerous cumulus build-ups and a few showers over the high country. One thunderstorm was identified by a lightning strike near Florence Lake, south of Volcanic Knob, in the early evening of the 29th.

On the 30th, San Joaquin Valley temperatures once again reached into the lower to mid-80s. Numerous showers and scattered thunderstorms developed during the late evening; rain continued into the early morning hours of the 31st, or Easter Sunday. One source on Twitter even reported over 170 cloud-to-ground lightning strikes in the San Joaquin Valley during the late night of the 30th. There were a total of 1865 lightning strikes recorded that night. Fresno received 0.31 inch of rain during the early morning hours of the 31st. If it were not for this rain, then Fresno would have had the 8th driest March on record.

The upper-level low moved inland on Easter Sunday, and temperatures cooled by around 10 to 20 degrees throughout the region. The atmosphere remained unstable, as many cumulus clouds developed over the area during the afternoon. Later that afternoon, scattered showers and thunderstorms began to develop along the west side of the San Joaquin Valley and the southern Sierra Nevada. Over 2000 lightning strikes were recorded that evening! Thus, there was another active evening of convection. Some clouds persisted in the south end of the San Joaquin Valley from the previous night's storms, so temperatures did not reach above the mid 60s there. During

the evening, Bakersfield reported roadway flooding due to heavy showers that developed in the area and the south end of the San Joaquin Valley. During that time, Bakersfield Meadows Field Airport only reported about 0.02 inch of rain; thus, storms were confined to the city and points to the south and east. Some hail was reported with thunderstorms in Los Banos and Madera during that evening. Los Banos received pea-sized hail, according to a spotter report, and the hail covered the ground about one or two inches deep. Madera received 0.49 inch of rain from these storms, and another spotter reported a one-inch diameter hail report about 10 miles to the southeast of Madera along Highway 99 which briefly snarled traffic. March ended with very active weather, so it went out like the proverbial lion, unlike the way this month began. However, rainfall and snowpack were well below normal in most locations, and temperatures were overall well above normal.