

Storm Data and Unusual Weather Phenomena - October 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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CALIFORNIA, South Central

(CA-Z096) S SIERRA MTNS, (CA-Z097) TULARE CTY MTNS

	10/05/11 02:00 PST		0	Winter Storm
	10/06/11 00:47 PST		0	

KINGS COUNTY --- HANFORD [36.33, -119.65]

	10/05/11 03:00 PST		0.10M	Heavy Rain
	10/05/11 04:00 PST		0	Source: Broadcast Media

Brief heavy rain caused a power transformer fire and a resulting house explosion. Rain amount measured at the Hanford ASOS were 0.13 inches.

October began with an upper-level trough over the eastern Pacific, approaching the California coast. This trough brought a cooling trend to the region and isolated light showers. An upper-level low that formed in the Gulf of Alaska dropped down the lee side of the trough, carving a stronger system that brought much colder air, thunderstorms, heavy rain and gusty winds beginning October 4th.

By the second day of the month, the computer models had been consistently showing an early-season winter storm to occur over the region with the arrival of the trough. Consequently, a Winter Storm Watch was issued for the Southern Sierra Nevada on October 2nd for three days later.

Cold air moved into the central California interior on the 4th, with the high at Fresno down 7 degrees from the previous day, and Bakersfield down 5 degrees. The cold front moved through the region the next morning, bringing record rainfall to Bakersfield and 0.90 inch of rain to Fresno. The highs at both cities for October 5th were down 8 degrees from the 4th. For Fresno, this was a 15-degree drop over two days, while Bakersfield was down 13 degrees over the same period. Thunderstorms dropped pea-size hail on Ponderosa (in the Tulare County Mountains) and on southwest Fresno during the late morning and early afternoon of the 5th. By the time the showers and thunderstorms had ended during the evening of October 5th, 0.52 inch of rain had fallen at Meadows Field, breaking the rainfall record of 0.46 inch for Bakersfield, set in 1921.

The early-season winter storm also dropped up to 1½ feet of snow on the higher elevations of the Southern Sierra Nevada.

The storm moved east of the region on October 6th, leaving only a few mountain showers in its wake. The cold air over the San Joaquin Valley slowly mixed out, and by the 8th, central and southern San Joaquin Valley highs were back in the mid 70s. Temperatures continued to warm the next day, to within a few degrees of normal, as an upper-level ridge strengthened over the eastern Pacific, pushing the upper-level trough east of California. The warming was capped, however, on the 10th, as an upper-level short-wave trough tracked through British Columbia.

An upper-level trough dropping out of the Gulf of Alaska moved into the Pacific Northwest and northern California on October 10th. This system brought a few sprinkles to the central and southern San Joaquin Valley, and up to a quarter-inch of rain to the Southern Sierra Nevada with the heaviest rain falling on Yosemite National Park. Rain fell the length of the Sierra Nevada, with a hundredth of an inch falling as far south as Lake Isabella. Even the Tehachapi Mountains saw light rain, with 0.01 inch falling on Grapevine Peak.

Temperatures cooled with the arrival of the trough, with central and south Valley highs in the upper 70s to lower 80s on October 10th. Temperatures warming into the lower to mid 80s the next day as the upper-level ridge rebounded over California. There was little change in Valley temperatures on the 12th due to a thin layer of marine air that spilled through the Sacramento Delta, but the mountains saw strong warming as the ridge continued to strengthen.

An upper-level low off the California coast deepened the marine layer on October 16th, with marine air spilling into the San Joaquin Valley. The low merged with an east-Pacific trough that moved into the Pacific Northwest and flattened the ridge over California. Temperatures warmed to above normal on the 18th ahead of the trough, but as the ridge flattened, temperatures fell back to near normal, with little change through the 21st. An upper-level short-wave ridge then moved into California, warming temperatures well above normal. The high at Bakersfield on October 23rd was 88 degrees, 12 degrees above normal, while Fresno was 10 degrees above normal with a high of 86 degrees.

A mostly dry cold front moved through the central California interior on October 24th-25th. High temperatures in the central and southern San Joaquin Valley fell 10-12 degrees from the 24th to the 25th, and a shower was recorded at the Edwards AFB North Auxiliary Field during the afternoon of the 24th. Winds gusted to 47 mph at Mojave during the afternoon of October 25th, and to 24-30 mph across parts of the central and southern San Joaquin Valley.

An upper-level ridge moved into California behind the cold front, bringing warmer temperatures to the region. An offshore flow near the surface dried the airmass, with relative humidities falling into single digits on October 29th over parts of the Kern County mountains and deserts. Durations of the very low humidities were mostly 3-6 hours.

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The month ended with another upper-level trough approaching California, heralding a change to cooler weather for the start of November.

There were no triple-digit days at either Bakersfield or Fresno during October. Fresno did not see any 90-degree days during the month, while Bakersfield had only one day in the 90s. For the summer, Bakersfield had 30 days with highs at or above 100 degrees, while Fresno had 28 days. The 50-year average number of 100-degree days for Bakersfield is 38 days, and for Fresno, 36 days. Thus, both cities had 8 fewer 100-degree days than average.