

OCTOBER 2007 WEATHER SUMMARY

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An upper-level ridge over California at the beginning of October warmed temperatures to near normal on the 1st, and to above normal on the 3rd. A cold, mostly dry trough reached California on the 4th, with San Joaquin Valley temperatures plunging into the lower to mid 70s (a drop of 13-14 degrees from the previous day), and further cooling into the 60s the next two days. Light precipitation fell on the northern parts of the Hanford warning/forecast area, but stayed mainly north of Fresno. To the south, the main impact was wind, as gusts to 45-55 mph were recorded in the Kern County mountains and deserts on October 4th. Bakersfield set a record low maximum temperature on the 5th of 66 degrees, breaking the old record of 68 degrees in 1918. As this trough exited the region, temperatures warmed back to near normal by the 8th, and several degrees above normal on the 9th as the airmass warmed ahead of an approaching Pacific storm.

The storm that reached central California on the 10th ushered in a period of cold, unsettled, and occasionally windy conditions for the middle of the month. Light precipitation accompanied the first storm, with significant precipitation on the 12th as the next storm moved through the region. Nearly all of Fresno's measurable rainfall occurred with this storm (0.14 inch—month total was 0.15 inch), but Bakersfield only saw a trace of rain. (Meadows Field did not have any measurable rainfall in October 2007.)

The third storm brought only light precipitation to the region on the 16th-17th, but also brought strong wind gusts to the Kern County mountains and deserts, where gusts as high as 67 mph were recorded. The fourth, and final, storm of the series hit central California on October 20th, again bringing gusty winds to the Kern County mountains and deserts—with gusts of 45-55 mph—but again only light precipitation, mainly north of Fresno.

A sharp change in the weather pattern occurred during October 21st-22nd, as strong high pressure aloft built into California. Temperatures warmed 12-15 degrees from the 21st to the 23rd, and a strong offshore surface-pressure gradient set up across the southern half of California. The dry, windy, and unseasonably warm conditions resulted in numerous wildfires across southern California, with some smoke drifting into the Hanford warning/forecast area. Fresno warmed to 91 degrees on October 24th, its warmest day of the month. Historically, the latest 90-degree day for Fresno is the 31st, with a record of 90 degrees, set in 1949. Record highs for Fresno fall into the 80's on October 26, which has a record high of 89 degrees, set in 2003. Bakersfield's latest 90-degree day is November 8th, with a record high of 95 degrees, set in 1918.

An upper-level low developed off Point Conception by October 27th, and slowly drifted northeast toward the central California coast. The low pulled a moist, tropical airmass—including remnants from former Tropical Storm Kiko—into the central California interior on the 29th. A dry air flow became entrained in the circulation around the low, clearing

skies over the San Joaquin Valley during the late morning, allowing for solar heating of an already unstable airmass. Then, in the late afternoon, an upper-level disturbance rotating around the low moved over the southern half of the Hanford warning/forecast area. This combination of events triggered the worst severe thunderstorm outbreak over the central California interior in memory, with 15 Severe Thunderstorm Warnings, two Urban and Small Stream Flood Advisories, and a Flash Flood Warning issued between 4 PM and 8 PM. Another Severe Thunderstorm Warning had been issued earlier in the day, at 1:16 PM, for the Sierra foothills in Madera and Mariposa counties. Hail up to an inch in diameter was reported, and flooding occurred in parts of the San Joaquin Valley, including sections of northwest Fresno and downtown Visalia

Thunderstorm activity continued into the early morning hours of October 30th, as a cold front moved through central California. A strong push of cold air into the region dropped the high temperature at Fresno from 80 on the 29th to 68 on the 30th. Bakersfield saw even stronger cooling, from 84 on October 29th to 63 the next day, a 21-degree cooling. Temperatures warmed to near normal on the 31st as an east-Pacific upper-level ridge began building into California.