

SEPTEMBER 2011 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR

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The central California interior began September between an upper-level ridge over the Desert Southwest, another ridge over the eastern Pacific, and a trough over the Pacific Northwest. This pattern kept a dry flow aloft for the first two days of the month. However, the trough then lifted northeast, allowing the ridge over the Desert Southwest to expand westward into southeastern California. This turned the flow aloft southerly, bringing a push of monsoonal moisture into southern and central California. Isolated showers developed along the Southern Sierra Nevada crest during the afternoon of September 3rd, but no lightning was detected.

An upper-level low over the east Pacific opened into a short-wave trough that moved over northern California on the 3rd. As the trough dropped south, it set up a sharp convergence boundary with the upper-level ridge over southeastern California. Showers and thunderstorms developed along this boundary on September 4th, forming a nearly stationary line that extended northeast from Los Angeles County through the southeast corner of Kern County and into northwestern San Bernardino County. Convection continued along this boundary into the morning of the 5th.

A dry southwest flow aloft set up over the area on the 6th along the leading edge of a upper level trough over the Pacific Northwest and northern California, bringing dry weather through the 8th. However, an upper level low moved from the Great Basin into central California on the 9th. This atypical movement of the low occurred because it was cut off from the prevailing westerly winds aloft. These systems usually move into the area from the Pacific Ocean. This low changed the flow aloft over the region to southeasterly, drawing moisture into central California from Arizona and northwestern Mexico. This warm, unstable airmass brought showers and thunderstorms to much of interior central California from the 9th through the 14th. Isolated thunderstorms continued over the Sierra Nevada crest on the 15th, as residual moisture remained over the area while the southeasterly flow transitioned to a more southwesterly direction.

The low meandered across central and southern California during these several days. This low allowed for unstable conditions over the entire district; quite a few locations in the San Joaquin Valley received at least a trace of rain. On the 9th, thunderstorms produced little rainfall, but they did cause quite a few wildfires due to lightning over the mountains in Kern County (around Keene, Breckenridge, and just to the east of Arvin and Bakersfield). As for the 10th, numerous thunderstorms developed over Kern County and much of the southern San Joaquin Valley during the evening. In addition, more wildfires developed over the Kern County mountains. A severe thunderstorm warning and numerous significant weather

advisories were issued throughout Kern County that evening; these storms moved westward into San Luis Obispo County later that night. Afternoon showers and thunderstorms redeveloped mainly over the Tehachapi Mountains and the Southern Sierra Nevada daily on the 11th, 12th, and 13th, and a few showers occurred over the south end of the San Joaquin Valley, including Bakersfield, on the 13th. Thunderstorms that developed over the Piutes during the afternoon of September 11th were nearly stationary, and runoff from these storms caused road flooding in the area south of Lake Isabella.

On the evening of the 15th, a significant marine push occurred and moved well inland toward the west side of the central San Joaquin Valley as an upper-level trough moved onshore; Pacheco Pass experienced a 42 mph wind gust that evening. That gust prompted a wind advisory that was issued during that evening for the west side of the San Joaquin Valley for Fresno and Merced Counties. Temperatures on the 16th fell several degrees from the previous day, including in the San Joaquin Valley. The trough remained over the region through the 17th. Temperatures were several degrees normal on both of these days, with highs in the central and southern San Joaquin Valley only in the mid to upper 80s for high temperatures, and upper 80s to lower 90s in the desert areas of eastern Kern County.

The upper-level ridge returned to interior central California by the 18th. Temperatures rose to a few degrees above average by the 19th. The weather has remained mainly dry through September 22nd, with mainly cumulus cloud buildups over the southern Sierra Nevada crest.

Off the coast of California, a low-pressure system developed within the ridge and drifted toward the coast. By September 23rd, the flow around this low drew subtropical moisture into southern and central California. The ridge remained the dominant large-scale feature over central California, bringing unseasonably warm weather to the region. Fresno had a high of 101 degrees on the 23rd, the third, and last, time Fresno saw triple digits in September. With a very warm and unstable airmass, thunderstorms developed across the region. Although there was moisture in the mid-level of the atmosphere, the lowest levels remained dry, and the thunderstorms were mostly dry with numerous lightning strikes. The lightning triggered several wildfires in Kern County, with a few fires started in Tulare County. Outflow winds from the thunderstorms toppled power poles in northeast Bakersfield, knocking out power to over three thousand people. In the Mojave Desert northeast of Mojave, winds blew a big rig over on State Route 58.

Clouds from the showers and thunderstorms remained over the central California interior through September 24th, keeping low temperatures unseasonably warm. Fresno set record high minimum temperature records on both the 23rd and 24th.

A strong cold front moved into central California on September 25th, bringing sharp drops in temperature. The highs at Bakersfield and Fresno on the 24th were 97 degrees; the next day, the high at Bakersfield was only 80 and Fresno was only a degree warmer. The unseasonably cold airmass lingered over the region the next two days, slowly mixing out. A weak upper-level ridge boosted high temperatures over the central and southern San Joaquin Valley into the mid to upper 90s on September 29th, but highs fell back to near normal the next day. A weak surge of monsoonal moisture at the end of the month brought isolated thunderstorms to the Southern Sierra Nevada crest.

Bakersfield had five days in September with highs at or above 100 degrees, and Fresno had 3 triple-digit days. For the summer, through the end of September, Bakersfield had 30 days with highs at or above 100 degrees, while Fresno had 28 days. The average temperature for September was 80.3 degrees at both Bakersfield and Fresno. This was the third warmest September on record for Fresno, while Bakersfield tied for its ninth warmest September on record.