AUGUST 2013 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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August began with the central California interior between two weather systems. An upper-level trough was over the Pacific Northwest, and an upper-level ridge was over the Desert Southwest and northern Mexico. The circulation around these features combined to keep a southwesterly flow aloft over central California. Temperatures were near to below average as a relatively cool, but dry, onshore flow was prevalent over the central California interior. High temperatures in the San Joaquin Valley and even the Kern County desert were mainly in the 90s during much of this period. At the mid-levels, the southwest flow aloft created orographic lift over the higher elevations of the Southern Sierra Nevada, resulting in cumulus development, but there was a general lack of thunderstorm activity over the mountains and desert.

The trough developed an upper-level low on August 5th and 6th. This low displaced the ridge eastward and turned the upper-level flow southerly. This brought some monsoonal moisture into central California from the south. The developing low also deepened the marine layer, allowing marine air to spill into the San Joaquin Valley. This lowered temperatures several degrees below normal. The high temperature at Bakersfield on August 6th was 97 degrees, with Fresno a degree cooler. The next day, the high at both cities was only 90 degrees.

The marine air began to mix out from the north on August 9th as the upper-level ridge began building back into California. Fresno hit the century mark for the first time in August on the 13th, the start of a 10-day string of consecutive triple-digit highs. Bakersfield's highs reached the upper 90s on the 14th, but did not hit 100 until August 17th.

High pressure had strengthened by the third week of August and lasted for the remainder of the month over much of the western states and even into the Midwest. August 18th saw the return of monsoonal moisture to the region as a warm, moist airmass wrapped around the upper-level ridge. This airmass brought thunderstorms to the mountains and deserts, especially in Kern and southern Tulare Counties. A strong thunderstorm near Boron produced ½-inch hail during the afternoon of the 18th, and caused flooding near the Boron rest area on Highway 58.

An upper-level low approached the California coast on the 19th, drawing very warm air into the central California interior from the south. Temperatures climbed to their highest readings of the month, with Fresno reaching 110 degrees, and Bakersfield hitting 108. Thunderstorms developed over the mountains and deserts, with some drifting into the San Joaquin Valley during the

afternoon and evening hours. Garlock and Red-Rock-Randsburg Road in the eastern Kern County desert was closed due to flooding around sunrise, with flooding on U.S. 395 reported a couple of hours later. Quarter-inch hail fell near Lake Isabella during the early afternoon, and mud and debris flows blocked Highway 178 in the Kern River Canyon. There was a media report of a 1.90 inch storm total rainfall in the Lake Isabella area.

An early evening thunderstorm on the 19th dropped quarter-inch hail on Fresno. Outflow winds from collapsing thunderstorms caused roof damage east-southeast of Lemon Cove, and a 30-foot flag pole was blown over. Trees and utility lines were downed in Woodlake. In the Southern Sierra Nevada foothills, winds damaged fences in the town of Dunlap, northeast of Squaw Valley, and downed trees and utility lines in Springville.

Clouds persisted over the region through August 20th, keeping night-time temperatures warm. Fresno set back-to-back record high minimum temperatures on the 19th and 20th, as well as a record high on the 19th of the aforementioned 110 degrees. The previous record high for August 19th had been 108 degrees, set more than a century ago in 1892.

The upper-level low remained off the coast, resulting in a deepening of the marine layer. The influx of marine air into the San Joaquin Valley brought cooler temperature to the region on August 23rd. Fresno had a high of 96 degrees, snapping the string of 100-degree days, and would not see 100 again until the 28th.

The weather for the last 10 days of the month was dominated by a combination of monsoonal moisture and tropical moisture from the remnants of back-to-back tropical storms—Ivo and Juliette—that formed off the southern tip of Baja California. Thunderstorms that formed over the Kern and Tulare County mountains brought locally heavy rainfall, resulting in some flash flooding. There was a bit of a respite from convective activity on August 28th-30th as the upper-level ridge briefly strengthened, but thunderstorms returned to close out the month.

A mix of clouds and wildfire smoke kept the morning of August 31st warm, with both Fresno and Bakersfield coming within a degree of their record high minimum temperatures for the date. The clouds also heralded thunderstorm development, with activity beginning during the morning hours. Of particular concern were thunderstorms that developed over northeastern Ventura County and moved northward toward Frazier Park. By early afternoon, road flooding was reported in the Frazier Park area, with mud and debris flows subsequently reported in the Frazier Park and Lake of the Woods area. One thunderstorm near Lake of the Woods produced dime-size hail. Thunderstorms also developed over the Sierra Nevada in southeastern Tulare County that produced locally heavy rains. By late afternoon, the thunderstorm activity had diminished, ending the threat of flash flooding.

Wildfire activity due to lightning increased significantly in August compared to the previous month, especially due to the thunderstorms of August 18th-19th. Smoke from wildfires was a persistent problem through the month of August. At the beginning of the month, night-time drainage winds carried smoke from the Aspen fire into the San Joaquin Valley. For the latter half of the month, smoke from the massive Rim fire near Yosemite, and to a lesser extent the Fish fire in Tulare County, was a major concern for interior central California, as high pressure moved well into central California. The nearly calm surface and mid-level winds were too light to scour the smoke and haze that was trapped over much of the San Joaquin Valley.

Fresno had 13 triple-digit days in August—giving it the 15th warmest August on record—while Bakersfield only experienced four triple digit days in August. For the year through August 31st, Fresno had 46 days with highs of 100 degrees or higher, while Bakersfield had 33 such days. Fresno had its warmest "meteorological summer" (June 1st to August 31st) on record, while Bakersfield tied its seventh warmest "meteorological summer."