JUNE 2013 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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June began warm and dry with an upper-level ridge dominating the central California weather. Temperatures warmed to several degrees above normal on June 1st, and several central and southern San Joaquin Valley sites broke the 100-degree mark on the 2nd. Humidities were in the single digits or teens across the mountains of Kern and Tulare County on June 1st and 2nd, and a Red Flag Warning was issued for parts of the Kern County mountains on June 2nd. A couple of stations reported between 10 and 12 hours of humidities at or below 10 percent both days, heightening the fire danger.

An upper-level low began developing off the central California coast on June 23nd, deepening the marine layer. Marine air spilled through Pacheco Pass, causing gusts to 25 mph through and below the Pass and into northwestern Merced County. The marine layer continued to deepen through the night of June 2nd-3rd, and this influx of cooler air dropped central and southern San Joaquin Valley high temperatures back into the 90s on the 3rd.

The low also spun some mid-level moisture over the Southern Sierra Nevada, triggering thunderstorms over the high country, mainly from Kings Canyon northward. With the low southwest of the region and an upper-level ridge north of the central California interior, there was an easterly flow over the Southern Sierra Nevada. This flow pushed debris clouds from the thunderstorms into the east side of the San Joaquin Valley.

The pattern remained mostly unchanged into June 4th. Consequently, afternoon thunderstorms again developed over the high country of the Southern Sierra Nevada. The thunderstorms formed earlier in the afternoon than on the 3rd, and a few lightning strikes occurred over the mountains in northern Tulare County. However, the strongest storms again were north of Kings Canyon, especially over and around Yosemite National Park. (The Weather Forecast Office in Sacramento issued a Severe Thunderstorm Warning for one storm over Tuolumne County, just north of the Park.)

Afternoon and early evening thunderstorms became a daily occurrence over the Southern Sierra Nevada the next several days. High pressure aloft moved over northern California, setting up an easterly flow over the Sierra Nevada crest. As a result, thunderstorms that formed near the crest drifted westward toward the lower elevations. The high pressure dropped south on June 8th, bringing a strong warming to the region. Fresno had a high of 108 degrees, with Bakersfield a

degree cooler. Fresno's high broke the record for the 8th (formerly 105 in 1973), while Bakersfield tied its record high for the date (also set in 1973). Both cities also set record high minimum temperatures for the date.

Thunderstorms developed near Yosemite National Park during the afternoon of June 9th. This was not the only hazard in the central California interior, as an approaching low-pressure system deepened the marine layer. Marine air spilling through the passes of the Temblors and Diablo Range triggered gusts as high as 48 mph on the west side of the San Joaquin Valley from the afternoon of the 9th into the early morning hours of June 10th.

Ahead of the low-pressure system, very dry air moved over the Kern County mountains. Relative humidities fell below 10 percent for as long as 14 hours, greatly increasing the fire danger already exacerbated by extremely dry fuels.

A cold front that moved through the central California interior during the morning of June 10th triggered thunderstorms over the northern part of the region. Although convection in the central San Joaquin Valley was confined mostly to Merced and Madera Counties, local television stations showed footage of light rain in parts of the city of Fresno. None of this rain fell at the Fresno-Yosemite International Airport, leaving the official rainfall at zero.

Cold air behind the front dropped temperatures from well above normal on June 8th to well below normal on the 10th. The high at Fresno on the 10th was only 86 degrees, down 22 degrees from only two days earlier. The Merced Regional Airport only reached a high of 81 degrees, down 25 degrees from June 8th, as did the Madera Municipal Airport (down 26 degrees from the 8th). Even Meadows Field, Bakersfield could not get out of the 80s, reaching a high of 87 degrees.

Temperatures began warming on June 11th as the cold air over the San Joaquin Valley began mixing out. This warming was short-lived, as another low-pressure system arrived during the afternoon of June 12th, bringing another push of marine air to the central and southern San Joaquin Valley. Highs in the central and south Valley on the 13th were only in the mid 80s to lower 90s. This low-pressure system moved east of the region on June 14th, allowing high pressure aloft to move over the state. Temperatures warmed sharply on June 15th, with highs in the central and southern San Joaquin Valley reaching the mid to upper 90s.

A developing low pressure system over the eastern Pacific approached the coast on June 16th. The marine layer again deepened, with marine air spilling through the Pacheco Pass into northwestern Merced County. The associated low-pressure trough moved through California the next few days, bringing gusty winds to the Kern County mountains and deserts as upper-level disturbances moving through the trough triggered gusts as high as 63 mph. The trough also

brought cooler temperatures to the region, and highs in the central and southern San Joaquin Valley on June 18th and 19th were only in the 80s.

The trough moved east of the region on June 21st, and high pressure aloft brought warmer temperatures to the region. The high pressure also meant that the 21st was dry. This continued the streak of dry June 21st's for Fresno dating back to the beginning of daily rainfall records in 1881. June 21st remains the only day for which the official rainfall for Fresno is **zero**, a 133-year stretch and counting.

Even with high pressure over the area, winds gusted to 55 mph in the Kern County desert during the evening of June 21st.

A Pacific storm approached the California coast on June 23rd, bringing clouds to the region that helped lower temperatures several degrees. High temperatures in the central and southern San Joaquin Valley on the 23rd ranged from 79 at the Merced Regional Airport to 90 at Coalinga. Winds also increased in the Kern County desert and the Indian Wells Valley ahead of the storm, with gusts of 45-55 mph during the afternoon and evening hours.

Cool marine air filled the central and southern San Joaquin Valley on June 24th. The high at Fresno only reached 82 degrees, the lowest high temperature for Fresno for the month. The weather quickly changed as high pressure aloft began building into California from the Desert Southwest. Fresno's high on the 25th was 12 degrees warmer than the previous day, topping out at 94 degrees.

As the high pressure aloft strengthened over California, temperatures increased daily. Fresno ended the month with a high of 109 degrees, the warmest day of the month. Bakersfield reached 106 on both the 29th and 30th, although these were not the warmest days in June at Meadows Field; the high on June 8th was 107 degrees.

Scattered thunderstorms developed along the Southern Sierra Nevada crest on June 27th and 28th. There were only a couple of thunderstorms over the Southern Sierra Nevada on the 29th, and no convection on June 30th. The last day of the month did see a surge of subtropical moisture that pushed northward through southern California. This moisture triggered a couple of showers and a thunderstorm over the Pine Mountain Club area of the western Tehachapi Mountains during the late afternoon hours.

Fresno finished the 2012-2013 rain season with a total of 5.67 inches of rain. This was Fresno's fifth driest rain season on record. Bakersfield only had 3.15 inches of rain for the entire season, for its sixth driest rain season. Fresno also had its fourth warmest June on record, while Bakersfield had its 17th warmest June.