JULY 2007 WEATHER SUMMARY

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Strong high pressure aloft developed over the Desert Southwest at the beginning of July, and built westward into California. This brought a warming trend to the central California interior, with temperatures in the central and southern San Joaquin Valley reaching triple digits on Independence Day. (Coalinga had a high of 100 on July 3rd. All other Valley stations remained in the mid to upper 90s.)

Temperatures across central California warmed 7-10 degrees from July 3rd to the 4th, and again from the 4th to the 5th. The Southern Sierra Nevada and the Kern County deserts saw temperatures below 5000 feet push into the triple digits, with Yosemite Valley hitting 100 on the 3rd, 109 on the 4th, and 110 on the 5th. Lake Isabella had a high of 103 on July 3rd, rising to 112 degrees Independence Day, with the same high the next day. On the San Joaquin Valley floor, Fresno had a high of 104 on the 4th, followed by 111 on the 5th; and Bakersfield warmed from an Independence Day high of 100 degrees to a high of 108 the next day.

In the Indian Wells Valley, the China Lake Naval Weapons Test Center had a high of 110 degrees or greater on each of the first five days of July.

The unseasonable heat caused the development of cumulus clouds over the Southern Sierra Nevada crest on July 5th, despite the dry nature of the airmass, as the heated air rose and cooled to the saturation point. One thunderstorm formed over the Tulare County mountains north of Mount Whitney during the mid-afternoon.

A weak upper-level trough moved into northern California on July 6th, triggering isolated thunderstorms over the northern Sierra Nevada and east into northwestern Nevada. The trough did not alleviate the continued hot weather, as both Fresno and Bakersfield had highs of 11 degrees on the 6th. Fresno tied its record high for the date (set in 1984), while Bakersfield had its warmest July 6th since observations began at Meadows Field, but well short of its record high of 116 degrees in 1913. Fresno also had a record high minimum temperature of 78 degrees on July 6th, breaking the old record (also set in 1984) by 1 degree.

The coastal marine layer deepened on July 7th, and gusty winds through the Sacramento Delta brought a surge of marine air into the San Joaquin Valley. Temperatures dropped 9-11 degrees from the 6th to the 7th, although Bakersfield and Fresno remained in triple digits, at 102 and 101, respectively. Marine air spilling through the Coastal Range during the night of July 7th-8th caused wind gusts to 38 mph over the San Luis Reservoir.

An upper-level low developed off the central California coast on the 9th. Circulation around this low, combined with the flow around the upper-level ridge over the Desert Southwest, funneled some monsoonal moisture into the region from the south. The warm,

moist airmass resulted in a severe thunderstorm that formed over the high country in Yosemite National Park. Hail ranging in size from 0.50 to just over 0.75 inch in diameter fell during a 5-minute period. The moist airmass also resulted in a few sprinkles over the central and southern San Joaquin Valley, with Bakersfield seeing its first (few) raindrops of the season on July 10th.

Clouds associated with the monsoonal airmass helped cool the central California interior several degrees, with temperatures falling below normal from July 10th through the 12th. High pressure aloft over the Desert Southwest built into California, warming temperatures to near normal by the weekend of the 14th-15th, as well as bringing another push of monsoonal moisture into the region. Strong thunderstorms developed over the Southern Sierra Nevada crest during the late afternoon of July 15th, but no damage was reported.

An upper-level trough deepened off the California coast, turning the flow aloft southwest and keeping convection east of the Southern Sierra Nevada on the 16th. At the surface, the flow turned onshore, allowing marine air to push through the Sacramento Delta into the San Joaquin Valley. Temperatures dropped several degrees from July 16th to the 17th, with temperatures running below normal for the 17th-21st.

With the upper-level trough off the coast and high pressure over the western United States building back into California, temperatures warmed back to near normal on July 22nd. The flow aloft turned southerly, bringing an increase of monsoonal moisture into southern California. Thunderstorms developed as far north as San Bernardino County on the 21st, 22nd and 23rd, and spread into the Southern Sierra Nevada on the 24th with strong thunderstorms over Tulare County near Mineral King and over Mariposa County near Ostrander Lake. Temperatures warmed to above normal on the 24th, with Fresno hitting a high of 100 degrees for the first time since July 9th, and remaining at or above 100 for the remainder of the month. Bakersfield hit 102 on July 25th, for its first triple-digit day since July 9th. Bakersfield remained in triple digits through the end of the month except for the 30th, when the high reached only 99 degrees.