SEPTEMBER WEATHER SUMMARY

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The weak ridge that moved over California during the last days of August strengthened during the first week of September. This allowed temperatures to warm to several degrees above normal, with triple-digit heat returning to the central and southern San Joaquin Valley. During the first week of September, Fresno topped the century mark five times, one more time than the entire month of August. Likewise, Bakersfield saw readings of 100+ four times during the first seven days of the month, also exceeding its August total by one day.

Monsoonal moisture was drawn into southern California by the clockwise circulation around the ridge center. Combined with the above-normal heat, this moisture triggered thunderstorms over the Southern Sierra Nevada, Tehachapi Mountains and the Kern County deserts, nearly every afternoon through September 7th. The flow aloft finally became westerly in response to an approaching trough, pushing the monsoonal moisture east of the central California interior.

The weather pattern changed abruptly on September 8th, as a strong upper-level trough reached California. The marine layer deepened to over 4000 feet in places along the coast, and spilled through the passes of the Coastal Range. The surge of marine air through Pacheco Pass generated wind gusts to 46 mph over the San Luis Reservoir during the late afternoon of the 8th, and continuing overnight, prompting the issuance of a Lake Wind Advisory for the Reservoir.

For the San Joaquin Valley, temperatures plummeted as marine air pushed in and became trapped by the surrounding mountains. Fresno went from a high of 100 on the 7th to a high of only 85 degrees on the 9th. Bakersfield saw an even stronger cool down, falling from a high of 101 on the 7th to a high of 84 degrees on the 9th.

This cool-down was short lived, as an upper-level ridge built into northern California on September 11th. This ridge combined with an upper-level low near the Nevada/Arizona border to generate an easterly flow aloft over central California. This flow in turn supported an offshore surface flow for warmer temperatures. Both Bakersfield and Fresno warmed 6 degrees from the 10th to the 11th. The warm weather continued for the next several days, with temperatures climbing into the mid to upper 90s on the 13th. The low that morning at both Bakersfield and Fresno was 70 degrees. This tied the record high minimum temperature for Fresno for September 13th, set only six years earlier in 2000.

Upslope showers developed near the crest of the Southern Sierra Nevada during the afternoon of September 13th, and drifted slowly westward. Although radar indicated a few moderate showers, there were no reports of measurable precipitation from either automated stations or spotters.

A dry, deep upper-level trough moved into central California during mid September, plunging temperatures to well below normal. Bakersfield's high on the 14th was 94 degrees; the next day it only reached 78, with the 16th a degree cooler. Fresno's high on the 15th was 75 degrees, some 18 degrees colder than the high of 93 the previous day. Temperatures in the Hanford warning/forecast area rebounded rapidly as high pressure built in behind the trough, with both Bakersfield and Fresno in the lower 90s on the 18th.

A sign of how cold the airmass associated with the trough was can be seen in the temperatures for Fresno on the 15th and 16th. The high at Fresno on the 15th was, as mentioned above, 75 degrees, only one degree above the record low maximum temperature for the date—74 degrees in 1982. The low for Fresno the next day was 50 degrees, again only one degree above the record low temperature for the 16th of 49 degrees, set in 1955. Bakersfield's low on the 16th was 51 degrees, also only a degree above the record low for the date (50 degrees, set in 1986), and the highs at Meadows Field on the 15th (78) and 16th (77) were both three degrees warmer than the record low maximum temperatures for those dates (75 and 74, respectively, both set in 1959).

Another upper-level trough brought a shot of cold air to the central California interior on September 22nd. Gusty winds developed during the morning hours, mainly in Merced County. Both Bakersfield and Fresno had highs of 81 degrees on the 22nd, down 6 degrees from the previous day. Smoke from the "Day" wildfire in Ventura County, was pulled into the central California interior on the 21st and 22nd by the southwest winds aloft ahead of the trough.

The trough moved into the Great Basin on the 23rd, but the south end of the system lingered over southern California. An upper-level ridge built into the Pacific Northwest, with the flow between the two systems creating an easterly offshore flow over the Southern Sierra Nevada and Tehachapi Mountains. Mountain Valley Airport near Tehachapi reported sustained wind speeds of 20-25 kts through much of the day, and these winds funneled through the Tehachapi Pass into the south end of the San Joaquin Valley. Winds gusted up to 32 mph at Meadows Field, Bakersfield, and the temperature at the airport was around 90 degrees most of the afternoon. The high at Meadows Field on the 23rd was 91 degrees, 10 degrees warmer than the previous day. The change in the flow aloft pushed the smoke out of most of the Hanford warning/forecast area.

The upper-level pattern remained stable into the 25th, then began to break down as the trough moved eastward and the ridge built south into California. At the same time, an upper-level low developed over the Pacific Ocean west of the southern California coast. This low drifted northeast toward Point Conception, bringing a southerly flow aloft to the region. Smoke from the "Day" wildfire in Ventura County again pushed back into the region, with areas of dense smoke reported in the Kern county mountains on the 26th. Isolated showers also developed near the crest of the Southern Sierra Nevada during the afternoon of the 26th as an upper-level disturbance moved across central California.

The upper-level ridge kept temperatures several degrees above normal into the last week of the month, then an approaching deep east Pacific trough spread high clouds over the

area on the 29th, and dropped temperatures around 10 degrees on the 30th, with Fresno and Bakersfield falling to around 80—about 5 degrees below normal.