AUGUST 2008 WEATHER SUMMARY

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Through most of the first 10 days of August, the central California interior was between high pressure centered over the Desert Southwest and a series of upper-level troughs in the eastern Pacific Ocean and the Pacific Northwest. This pattern kept a mainly southwest flow aloft over the state, and limited mountain and desert convection by keeping the bulk of the monsoonal moisture south and east of the region. Inyokern was the only station to report any precipitation on August 4th, and that was only a trace of rain. Central and southern San Joaquin Valley temperatures during the first part of the month were near to slightly above normal, generally ranging from the mid 90s to around 100. The main exception occurred on the 8th and 9th, when a strong offshore trough deepened the marine layer to around 3000 feet along the central California coast. This allowed marine air to push through the Sacramento Delta into the northern half of the San Joaquin Valley, as well as allowing marine air to also spill through the Pacheco Pass into western Merced County.

There was a sharp temperature demarcation in the central San Joaquin Valley on August 8th, as the high at the Madera Municipal Airport only reached 94 degrees, while Fresno, only about 20 miles to the south, saw the high temperature climb to 99.

As the trough moved through the region on August 9th, the coastal marine layer continued to deepen and spill into the San Joaquin Valley. Temperatures finally fell to a degree or two below normal, but this was short-lived. The trough moved east of California by the 11th, allowing a ridge to build into California for warmer temperatures. The ridge dominated the weather pattern over California the next few days, then the ridge center moved east. This turned the flow aloft southeast and brought another surge of monsoonal moisture into California. Thunderstorms developed over the mountains of Kern and Tulare Counties on August 14th, with Tehachapi receiving a trace of rain. The focus for convection moved northward up the Southern Sierra Nevada over the next few days (with Lodgepole getting 0.01 inch of rain on the 16th—the only measurable precipitation reported in the central California interior during August) as the flow aloft gradually turned southwesterly, and by the 17th, thunderstorms were confined to mainly north of Yosemite National Park.

The mechanism for turning the flow aloft was the shifting of the ridge core westward. This also brought the warmest temperatures of the month to Bakersfield and Fresno on August 15th, when Meadows Field reached 105, and the Fresno-Yosemite International Airport was two degrees warmer. These temperatures would not be matched for two weeks.

A sharp change in the weather pattern occurred on August 18th as a strong upper-level trough moved into California. Central and southern San Joaquin Valley high temperatures fell from near 100 degrees on the 17th to the mid 90s the next day, and into the mid to

upper 80s on the 19th. Both Bakersfield and Fresno had a high temperature of 88 on August 19th, the only day Fresno was under 90 for the entire month of August. With marine air over the south end of the San Joaquin Valley by the surrounding mountains, Bakersfield was even cooler on the 20th, reaching a high of only 87. These were the only two days in August that Meadows Field did not have a high of at least 90.

An upper-level ridge over the Southwestern United States built back into California on the 21st, and temperatures had warmed to above normal the next day. A weak trough dropped temperatures to near normal on August 26th, but the ridge quickly rebounded. As the ridge strengthened, temperatures warmed to around 10 degrees above normal by August 29th, with the highs at Bakersfield and Fresno matching the hottest day of the month (previously, the 15th). Bakersfield matched its hottest day again on August 30th, for three days at 105. Fresno hit 107 only twice, on the 15th and 29th.

August ended with the arrival of another deep upper-level trough, which brought a sharp cool down. Bakersfield had a high of only 93 degrees on the 31st, down 12 degrees for the high of 105 the previous day. The cooling was even stronger at Fresno, which dropped from a high of 106 on the 30th to a high of only 90 the next day—a fall of 16 degrees.