APRIL 2009 WEATHER SUMMARY
FOR INTERIOR CENTRAL CALIFORNIA

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April began as an upper-level trough approached the California coast. This trough moved through California during the afternoon and evening of April 2nd, then into the Great Basin on the 3rd. The trough brought gusty winds to the Kern County mountain and desert areas, with gusts to around 60 mph at River Kern, Mojave and the China Lake NAWC that began in the late afternoon of the 2nd and persisted through midday of the 3rd. In the central and southern San Joaquin Valley, the upper-level trough caused gusts to 40 mph during the afternoon of April 3rd.

The trough also brought an unseasonably cold airmass to the San Joaquin Valley, with low temperatures on April 4th falling into the 30-32-degree range over the east side of the Valley.

As the trough moved east, an upper-level ridge moved into California, bringing around 10 degrees of warming to the central and southern San Joaquin Valley on the 5th. Southerly winds developed over the Tehachapi Mountains, and downsloped through the Tejon and Tehachapi Passes into the south end of the San Joaquin Valley. The winds warmed adiabatically as they descended, warming the south end of the Valley to the upper 80s on the 6th.

This warming was short lived, as a late-season winter storm reached interior central California on April 7th, bringing rain to the region and up to 19 inches of snow to the high country of the Southern Sierra Nevada (above 7000 feet). A narrow band of showers and thunderstorms developed over the San Joaquin Valley on the 7th and continuing into the 8th. Fresno received all of its measurable rain during this two day period, recording 0.72 inch of rain. As a measure of how narrow this precipitation band was, Madera (to the north of Fresno) and Hanford (to the south) only received a few hundredths of an inch of rain.

The next system dropped south along the California coast, then moved inland over southern California on April 10th. This storm brought showers and thunderstorms to Kern County and the west side of the San Joaquin Valley. This storm gave Bakersfield all of its measurable rain for the month—0.41 inch.

Another short-lived upper-level ridge built into California on April 11th-12th, then gave way to a mostly dry system that reached California on the 13th. This cold front brought strong winds to the west side of the San Joaquin Valley on April 14th, with dust storms occurring near Coalinga and Avenal. Both dust storms produced areas of near-zero visibility. Winds gusted to 41 mph at Meadows Field—Bakersfield—and to 35 mph at Fresno-Yosemite International Airport. The gusts at Meadows Field were only 4 mph less than the ASOS-era record for April of 45 mph, set on April 3rd, 1999. (Because the ASOS

measures winds in a different manner than older anemometers, wind records for ASOS sites only go back to the date the ASOS was commissioned).

Winds continued to gust to 35 mph through the morning of April 15th, and spread across the central Valley to the cities of Merced and Atwater. The winds then abated a bit, but increased again the next day. A gust to 40 mph was measured at Fresno-Yosemite International Airport on April 16th, only 1 mph less than the ASOS-era record gust for April of 41 mph on April 14th, 2002.

The storm brought only a trace of rain to Fresno and Bakersfield. The highest reported rainfall was only 0.06 inch at Mariposa Grove in the Southern Sierra Nevada southeast of Wawona.

The trough that brought the gusty winds to the San Joaquin Valley on April 14th-16th moved east and intensified, dropping up to 3 feet of snow on Wyoming and Colorado on the 16th through the 18th. While these states were hit by a late-season winter storm, California baked as an east-Pacific ridge built inshore, bringing record heat. Record high temperatures (and some record high minimum temperatures) were tied or broken for four consecutive days, beginning April 19th. The warmest day of this stretch was April 21st, when Bakersfield had a high of 99 degrees, and Fresno was only a degree cooler.

A weak closed upper-level low moved through the ridge and stalled near Point Conception. The low spun some mid-level moisture into the area, resulting in isolated thunderstorms over the Southern Sierra Nevada and Tehachapi Mountains during the late afternoon and evening hours of the 19th through the 21st. Convection was more widespread on April 22nd, developing not only over the Southern Sierra Nevada, but also over San Benito County and spreading east over the Coastal Range, and started earlier—around noon. However, the dry lower levels of the airmass kept the precipitation aloft, except for a few hundredths of an inch of rain that fell in the mountains.

An upper-level trough dropped into British Columbia on April 21st, then continued to move southward, weakening the ridge over California and bringing cooler temperatures on the 23rd. If not for this trough, both Fresno and Bakersfield might have tied for their earliest 100-degree day on record: April 23rd, 1910.

The trough brought a few sprinkles to the central California interior on the night of April 23rd-24th, then gave way to a weak upper-level ridge. The ridge, in turn, gave way to another trough that dropped into the Pacific Northwest on April 27th and deepened, digging into northern California. As the trough dug into the state, the marine layer along the central California coast deepened and spilled through the passes of the Coastal Range. This push of marine air, enhanced by subsidence aloft ahead of the trough, brought gusty winds to the central and southern San Joaquin Valley. There were numerous gusts to 25 mph, and a few gusts approached 40 mph.

The marine air pooled over the San Joaquin Valley on the 28th, resulting in high temperatures only in the mid 60s at most central and southern San Joaquin Valley

stations. An upper-level ridge moved over California on April 29th, bringing warming to the mountains and deserts. The trapped marine air over the San Joaquin Valley kept central and south Valley temperatures several degrees below normal. Warming continued on the last day of the month, with some stations in the Kern County deserts reaching the mid to upper 80s. Although the central and southern San Joaquin Valley warmed by as much as 6 degrees on April 30th, high temperatures mostly remained a couple of degrees below normal.

Although the thunderstorms that moved through Bakersfield and Fresno brought rainfalls that approached the normal totals for April, there was little impact on the ongoing below-normal rain season. Bakersfield had only 1 day with measurable rain for the entire month, although there were three days when trace amounts of rain fell. Fresno's measurable rain occurred over a 2-day period, with trace amounts falling on two other dates. For the year to date, Bakersfield had 2.44 inches of rain (64.2 percent of normal), and Fresno had 3.69 inches of rain (56.9 percent of normal). For the rain season to date (since July 1st, 2008), Bakersfield had 4.54 inches of rain (74.1 percent of normal), and Fresno had 7.11 inches of rain (67.0 percent of normal).

The preliminary temperature number for April showed that the average temperatures for Bakersfield and Fresno were slightly above normal. The average temperature for April at Bakersfield was 63.4 degrees, or 0.7 degree above the normal of 62.7. Fresno had an average temperature for the month of 62.0 degrees, or 0.8 degree above the normal of 61.2 degrees. (These numbers may be revised by the National Climatic Data Center.)