

## **FEBRUARY 2012 WEATHER SUMMARY FOR THE CENTRAL CALIFORNIA INTERIOR**

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February began with an upper-level trough moving through California. The trough brought gusty winds to the mountain and desert areas, with gusts to 40 mph continuing below the Tehachapi Pass into the evening hours of the 1<sup>st</sup>. However, it had no effect on the above-normal temperatures across the region, as highs at both Bakersfield and Fresno were 7 degrees above normal.

An upper-level ridge built into the state behind the trough. With a stable airmass in place, a stratus layer formed over the San Joaquin Valley on February 2<sup>nd</sup>. A dry northwest flow set up over California, with the central California interior between the departing trough to the east and the ridge to the west. This flow helped dissipate the stratus as the day progressed, with the last vestiges of the stratus lingering over the east side of the San Joaquin Valley and the adjacent foothills.

The ridge remained over California through February 6<sup>th</sup>, and then it gave way to an approaching upper-level trough. Patchy fog developed over Merced and Madera Counties during the morning of the 3<sup>rd</sup>; otherwise mostly clear skies prevailed across the region. Overnight temperatures fell into the 30s under the clear skies, but highs in the central and southern San Joaquin Valley warmed into the mid 60s to mid 70s each day from the 3<sup>rd</sup> through the 5<sup>th</sup>.

The upper-level trough moved into the central California interior on February 6<sup>th</sup>. Temperatures over the northern parts of the region cooled, but the south end of the San Joaquin Valley warmed into the mid 70s in strong pre-frontal warming. Strong southeast winds funneled through the passes of the Tehachapi Mountains into the far south end of the Valley, spreading as far north as Bakersfield. Winds gusted to 73 mph at Grapevine Peak on the 6<sup>th</sup>, and to 45 mph at Meadows Field. A dust storm was created near Lamont by the gusty winds with near-zero visibility. Gusts between 35-45 mph continued over the central and southern San Joaquin Valley continued on February 7<sup>th</sup>, and sustained wind speeds of 53 mph near Pine Mountain Club in the Tehachapi Mountains.

Clouds associated with the trough spread over the San Joaquin Valley on the 7<sup>th</sup> and kept nighttime temperatures mild. Both Bakersfield and Fresno set record high minimum temperatures for the date of 53 degrees, with the low at Meadows Field occurring only 25 minutes before midnight.

February 9<sup>th</sup> saw an upper-level ridge over California. The ridge continued the above-normal temperatures over the region, with Bakersfield setting a record high for the 9<sup>th</sup> of 77 degrees, and Fresno tied its record high of 71. The above-normal temperatures continued on the 10<sup>th</sup>, with Bakersfield and Fresno coming just short of their record highs.

This ridge was short-lived, as a series of upper-level troughs flattened the ridge beginning on February 11<sup>th</sup>, and brought colder weather to the region. The first trough brought a few showers to the central California interior around sunrise, and showers continued to develop through the day. In addition to the showers, clouds associated with the trough kept minimum temperatures well above normal, with both Bakersfield and Fresno having lows on the 11<sup>th</sup> in the lower 50s; neither city set a record.

As the first trough exited the region during the evening of February 11<sup>th</sup>, gusty winds developed over the Kern County mountains and desert. Gusts to 45 mph were reported behind the cold front. In the San Joaquin Valley, it was the lack of wind that produced a stable airmass over the Valley floor. Patchy fog developed shortly before sunrise on the 12<sup>th</sup>, with a few spots reporting visibilities of less than a quarter mile.

The second trough brought up to a foot of snow to the Southern Sierra Nevada on February 13<sup>th</sup>. Winds gusted between 45-55 mph over the Kern County mountain and desert areas during the afternoon and evening of the 13<sup>th</sup>, and a mid-day shower dropped quarter-inch hail on parts of Bakersfield.

A third trough, on February 15<sup>th</sup>, brought gusty winds to the west side of the San Joaquin Valley, with gusts to 40 mph reported through much of the morning. Eight inches of snow fell near Fish Camp, and 2 inches of snow were reported at Coarsegold. Highway 41 into the Southern Sierra Nevada was closed at Oakhurst due to snow.

Behind this final trough, cold air settled into the San Joaquin Valley. An upper-level ridge built into the state, bringing mostly clear skies and light winds. Radiational cooling resulted in late season frosts over the region during the early morning of February 16<sup>th</sup>.

An upper-level trough moved through the central California interior on February 18<sup>th</sup>. This trough brought spotty light showers to the region, and wind gusts to around 40 mph in the Kern County desert. The main impact on the central and southern San Joaquin Valley was another surge of cold air behind the cold front. High temperatures on February 19<sup>th</sup> were several degrees cooler than the previous day.

A trailing short-wave dropped through California on February 20<sup>th</sup>. This disturbance triggered a couple of afternoon showers near the Southern Sierra Nevada crest, but otherwise had no impact

on the central California interior. Temperatures in most locations around the region were a few degrees warmer as the cold air began to moderate.

An upper-level ridge built toward the California coast on the 22<sup>nd</sup>, and remained near the state the next several days. Temperatures warmed to above normal on February 22<sup>nd</sup>, and a few degrees warmer on the 23<sup>rd</sup> before leveling off the next day as the ridge remained just offshore. The upper-level ridge moved onshore on February 24<sup>th</sup> ahead of an approaching upper-level trough. This brought strong warming to the central and southern San Joaquin Valley, with both Bakersfield (81) and Fresno (77) breaking their record high temperatures for the date by one degree. For Fresno, this broke a record that had stood for 116 years, since 1896. For Bakersfield, this was only the second time this year that the high was in the 80s. The other time was January 2<sup>nd</sup>, when the high was 82 degrees.

The first in a series of three upper-level troughs reached the California coast on February 25<sup>th</sup>. Although this storm did not bring any precipitation to the central California interior, it did cool temperatures back to near normal for all areas except the deserts.

The second trough approached California the following day. This system split as it neared the coast, with the southern part diving southward parallel to the coast before turning onshore during the evening. As this system moved into southern California, it brought snow to the Kern County mountains. Up to 4 inches fell on the Tehachapi Mountains at the pass level, and Interstate 5 over the Grapevine was closed for several hours during the afternoon of February 27<sup>th</sup>. Trace amounts of snow fell on Grocer Grade in the Temblors and at Glennville in the Southern Sierra Nevada. Bakersfield received 0.12 inch of rain from the storm, nearly doubling its rainfall for February.

The northern part of this storm moved into northern California on the 27<sup>th</sup>. Upper-level disturbances rotating around the low moved into the central California interior during the late afternoon, triggering showers that continued into the late evening. One shower strengthened as it moved off the Diablo Range into the western San Joaquin Valley, and dropped hail on Interstate 5 northeast of Coalinga. Snow fell as low as the 3000-foot level in the Southern Sierra Nevada, and Lodgepole received 3 inches of new snow. Further north, Yosemite Valley reported an inch of snow.

The storm moved into the Great Basin during the early morning hours of February 28<sup>th</sup>. With available ground moisture, a few patches of fog formed in the central and southern San Joaquin Valley. Otherwise, it was dry in the San Joaquin Valley with temperatures near to a few degrees warmer than the previous day (except at the south end of the Valley where clouds cleared and there were several degrees of warming).

The third storm approached the northern California coast during the afternoon of February 28<sup>th</sup>. A strong upper-level jet dived under the low, and pushed the storm inland during the evening. This storm had better dynamics than its predecessors, and thunderstorms developed along the cold front while it was off shore, continuing as the front moved onto the coast. The storm mainly affected northern California, but it did drop slowly southward during the day on the 29<sup>th</sup>. Measurable rain finally reached Fresno late in the afternoon of February 29, and Kings and Tulare Counties shortly thereafter. It was locally windy on the west side of the San Joaquin Valley, and over the Kern County mountains and deserts. Nearly a foot of snow fell on the high country of Yosemite National Park, and the Park Service reported that 4 to 6 inches of snow fell of the floor of Yosemite Valley. Further south, up to 9 inches of snow fell in the Southern Sierra Nevada high country in Fresno County, and Lodgepole in Sequoia National Park reported 5 inches of new snow.

The rain that fell at Fresno-Yosemite International Airport on “Leap Day,” 0.27 inch, accounted for over a third of the total February rainfall at Fresno (0.75 inch), and was close to the total for February at Meadows Field, Bakersfield (0.29 inch). Despite the series of storms at the end of February, the central California interior’s rainfall remained well below normal, both for the month and for the rain season. Average temperatures for February were slightly above normal at both Bakersfield and Fresno.