DECEMBER 2012 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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The third in the series of storms that began affecting central California in late November reached the Hanford warning/forecast area on December 2nd. Ahead of the storm, there were midday showers across the region in the warm, moist unstable airmass between the departing second storm and the approaching third system. These showers produced between a tenth and a third of an inch of rain on the San Joaquin Valley floor, except for the south end of the Valley which remain rain shadowed. Bakersfield only received 0.03 inch of rain on December 1st.

The final cold front stalled over northern California during the night of December 1st-2nd, as a wave developed along the front. The front began moving into the central California interior during the early afternoon of the 2nd. Although the cold front moved rapidly southward, it brought locally heavy rain to the region, causing some road flooding. In the Sierra Nevada foothills, the new rain fell on saturated soil, triggering a few rock and mud slides.

With persistent cloud cover and a warm airmass in place, both Bakersfield and Fresno set record high minimum temperature records on December 1st and again on the 2nd. The low at Fresno on the 2nd was 60 degrees, not only breaking the previous record high minimum temperature for the date by 7 degrees, but also tying the record high minimum temperature for the month of December, last set on December 23rd, 1964. Fresno's string continued into December 3rd for four consecutive days with record high minimum temperatures. Bakersfield just missed its record high minimum temperature on the 3rd by one degree, ending its string of consecutive record high minimum temperatures at three days.

In Yosemite National Park, officials reported that over five feet of new snow fell on Tuolumne Meadows from the series of storms. At the lower elevations, Yosemite Falls was rejuvenated by the persistent rains.

With abundant ground moisture, the stage was set for the development of Tule fog in the central and southern San Joaquin Valley. Fog formed during the evening hours of December 3rd near Hanford, Porterville, Tulare and Visalia. The fog spread westward to Naval Air Station Lemoore, where the visibility dropped to zero shortly after 10 PM. The fog then spread northward through the Fresno area by 4 AM on December 4th, and continued into Merced shortly thereafter. The fog lingered in many areas into the late morning before finally lifting.

A weak storm system moved through northern California during the night of December 4th, and moved south the next day bringing a few showers to Merced and Mariposa Counties by noon.

Ahead of the storm, patchy dense fog developed in northern Kings County during the early morning hours of the 5th. This was a warm storm, and low temperatures on December 5th were again above normal. The low at the Fresno-Yosemite International Airport on the 5th was 52 degrees, tying the record high minimum temperature for the date. The low at Fresno the next day was even warmed, bottoming out at 55 degrees. This broke the old record high minimum temperature for the 6th by 3 degrees. For the seven days from November 30th through December 6th, Fresno broke or tied the record high minimum temperature on six days.

In the wake of the storm of December 5th-6th, an upper-level ridge formed over the eastern Pacific. The circulation around the ridge set up a northwest flow aloft over California, bringing cooler temperatures. "Cooler" was a relative term, however, as temperatures were still above normal.

The upper-level ridge also brought a stable environment to the central California interior. This triggered the development of night and morning fog over parts of the central and southern San Joaquin Valley on December 9th through the 11th. December 11th also saw the approach of the next Pacific storm system, which reached the central California interior that night. This storm brought up to 15 inches of new snow to the higher elevations of the Southern Sierra Nevada, and 3 inches of snow as far south as Frazier Park. Snow levels fell into the upper foothills in the cold airmass behind the front, dropping to around 3500 feet during the afternoon of the 12th.

The storm moved east of the region during the morning of December 13th, leaving only a few showers over the Kern County deserts. Behind the departing trough, another east-Pacific upper-level ridge built into the state, bringing more fog to the central and southern San Joaquin Valley.

The airmass was drier the next morning, and in the absence of fog, radiational cooling allowed lows in the central and southern San Joaquin Valley to drop into the upper 20s to around 30.

A warm airmass moved into California on December 17th, ahead of the next storm. Lows in the central and southern San Joaquin Valley were several degrees above normal. Fresno's low on the 17th was 52 degrees, tying the record high minimum temperature for the date.

A potent winter storm reached the central California interior on December 18th. This storm brought strong winds to the region, with gusts to 37 mph in the central San Joaquin Valley and gusts to 64 mph in the Kern County deserts and 71 mph in the Kern County mountains. The strong gusts played havoc on traffic traversing Highway 14 at the south end of Tehachapi Pass, with two "big rigs" blown over during the afternoon of the 18th.

The storm was relative dry, however, and snow accumulations were only 9 inches or less, mainly above the 6500 foot level.

The relatively dry airmass allowed for strong cooling for the central and southern San Joaquin Valley once the winds subsided during the evening of December 18th. Temperatures fell into the

mid to upper 20s in the coldest Valley locations, bringing the first significant freeze event to the central and southern San Joaquin Valley. Low temperatures the next morning were even colder by a few degrees, with the coldest spots dropping down to 21 degrees.

The next storm consisted of two components. The first reached California on December 22nd, with only a brief pause in the precipitation before the second component arrived. This was a wet storm, and 3-day rainfall amounts north of Kern County ranged from a third of an inch to around an inch and a third, while the south end of the San Joaquin Valley remained "rain-shadowed." In the Southern Sierra Nevada foothills, rainfall amounts approached 4 inches in the wettest locations, while up to 40 inches of snow fell in the high country of the Southern Sierra Nevada.

The storm moved east of the region on December 24th. With abundant ground moisture and light winds, the stage was set for dense fog development Christmas morning. The fog subsequently gave way to a cold storm that arrived during the afternoon of December 25th, quickly spreading through the region. By daybreak on the 26th, up to 4 inches of snow had fallen on Walker Pass, and secondary roads near Tehachapi were closed due to snow. Precipitation continued through the day on the 26th, and persisted over the mountains into the next morning, with icy conditions reported on Grapevine during the morning of December 27th. New snow accumulations of up to 14 inches fell on the Southern Sierra Nevada, and up to 7 inches fell in the Tehachapi Mountains.

An upper-level short-wave ridge brought another round of dense fog to the central and southern San Joaquin Valley during the morning of December 28th. The ridge gave way to yet another storm, which reached the central California interior during the evening of the 28th and continued into December 29th. Behind the storm, a northwest flow developed over the San Joaquin Valley. Upslope clouds formed along the valley-facing slopes of the Kern County mountains, triggering isolated snow showers that persisted into the morning of December 30th.

An upper-level short-wave dropped into the central California interior late on December 31st. This short-wave triggered a few sprinkles over Merced County shortly before midnight. Otherwise, 2012 ended on a dry note across the Hanford warning/forecast area.

2012 was unseasonably warm with below normal precipitation. Bakersfield had 4.41 inches of rain, or 68.2 percent of its annual average of 6.47 inches. Fresno reported 9.97 inches of rain in 2012, for 86.7 percent of its normal of 11.50 inches.

Fresno had its warmest year on record, with an average temperature of 66.7 degrees—2.3 degrees above the average annual temperature of 64.4 degrees. The last five months of the year ranked in the "top 10" for each month. August and September 2012 were the warmest for those months on record, and August 2012 also was the 5th warmest month on record overall.

Although Bakersfield was slightly warmer with an average temperature of 67.0 degrees, this was not enough to rank in the top 10 warmest years. The average annual temperature for Bakersfield is 65.2 degrees.