FEBRUARY 2010 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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February began with a weak upper-level ridge over the central California interior. The ridge kept a low-level inversion over the central and southern San Joaquin Valley, resulting in areas of Tule fog through the first four days of the month. The worst fog occurred during the morning of February 3rd, with a Dense Fog Advisory being issued.

An upper-level low-pressure trough moved into northern California on February 2nd. While the trough had a minimal impact on interior central California, it did provide enough dynamics to bring some very light rain to Naval Air Station Lemoore during the night of February 1st-2nd. The trough axis moved through central California late on February 2nd into the morning of the 3rd.

Computer forecast models on February 3rd began indicating that the storm forecast for the 6th-7th would be a cold system, with snow levels falling to around 4500 feet by the morning of the 7th. This prompted the issuance of a Winter Storm Watch for the Southern Sierra Nevada and the Tehachapi Mountains.

The Pacific storm moved into California during February 5th-7th, with the first rain actually occurring during the evening of the 4th in the warm sector ahead of the cold front. The storm brought up to an inch of rain to the central and southern San Joaquin Valley, and between 2 and 3 inches of rain to the Southern Sierra Nevada. A spotter at Hume Lake measured 1.08 inch of rain in an 18-hour period, from midnight to 6 PM on February 5th. For the 24-hour period from 10 PM on the 4th to 10 PM on the 5th, Wishon Dam recorded 1.53 inch of rain, and Oakhurst received 1.09 inch.

As the snow level dropped—bottoming out between 4000-4500 feet during the night of February 6th-7th—and the rain turned to snow, up to 2 feet of snow fell in the Southern Sierra Nevada above 6000 feet.

After a brief respite during the day of February 8th, the next storm arrived that evening. This storm took a more southerly track, resulting in Bakersfield getting 0.43 inch of rain, while Fresno only received 0.26 inch. The snow level ultimately fell down to the Grapevine, but by that time the main part of the storm was already moving east of the central California interior. Only an inch or two of snow fell on Interstate 5 through Tejon Pass and Highway 58 through Tehachapi Pass, with negligible impacts on travel between the San Joaquin Valley and the Southland.

The airmass aloft with this storm was cold, resulting in instability over the Kern County deserts on February 9th. There were several strikes in the eastern Kern County desert,

including the El Paso Mountains. One strike apparently struck the building housing NOAA Weather Radio Station WNG-659, damaging the transmitter and knocking the station off the air for several days.

High pressure returned to California on February 10th, bringing warmer temperatures. Only patchy fog formed that night, and again the next night, mainly along the Highway 198 corridor between NAS Lemoore and Visalia.

A weak upper-level trough moved through California during the evening of February 11th and the morning of the 12th. An upper-level ridge built into California behind the trough, and persisted for several days. Widespread dense fog developed over the San Joaquin Valley during the early morning of February 15th, but was confined to an area from the Highway 198 corridor north. The southern boundary of the fog was sharp in spots. For example, while the visibility at the Visalia Municipal Airport dropped below a quarter mile, the visibility at the Tulare Municipal Airport was still a mile. Above the fog, there were areas of clouds that moved into the Sierra foothills near Mariposa. Locally dense fog shrouded the Mariposa-Yosemite Airport shortly after sunrise, with the AWOS at the airport reporting visibilities of less than a quarter mile through mid morning.

The fog did not redevelop during the morning of February 16th, as an upper-level trough moved through California and brought mixing to the airmass. Dense fog reported only in the Hanford-Lemoore and Merced-Atwater areas. Dense fog was more widespread the following morning, pushing south northern Kern County.

The next Pacific storm reached the California coast on February 19th. This storm moved south, parallel to the coast, on the 19th and 20th, before moving inland over far southern California. As a result, the southern half of the Hanford warning/forecast area received more precipitation than the northern half, especially as moisture wrapping around the low-pressure system continued to move into the Kern County mountains and deserts.

The supply of low-level moisture also resulted in some dense fog development shortly before sunrise on the 21st. Clouds temporarily cleared over the east side of the San Joaquin Valley, especially over Tulare County, where visibilities fell as low as ¼ mile for a couple of hours near Porterville, and to ½ mile at Tulare.

Even as the low was dropping along the coast, an upper-level trough was moving south out of the Canadian prairie. This trough stalled over the northern Great Basin on the 20th, and disturbances moving around the edge of the trough kept scattered showers over the central California interior north of the wrap-around moisture. The trough resumed moving south on the 21st and 22nd, bringing a few moderate showers to the region and wind gusts of 35-45 mph to the Kern County deserts. The storm also brought a cold airmass aloft to the central California interior, with the snow level falling to 5000-5500 feet.

An upper-level ridge built into California during the afternoon of February 22nd, but was quickly weakened as yet another Pacific storm approached the California coast. This

storm brought locally heavy rain to Merced County during the afternoon of February 23rd, with minor street flooding reported in western Merced County during the evening hours. The storm moved east and southeast overnight, with heavy rainfall moving into Madera and Fresno. Rainfall totals for the central and southern San Joaquin Valley included:

3.15 inches at Collins Corner
2.99 inches at Chowchilla
0.96 inch at the Madera Municipal Airport
0.89 inch at the Merced Municipal Airport
0.78 inch at Fresno
0.62 inch at N.A.S. Lemoore
0.56 inch at Visalia
0.50 inch at the Hanford Municipal Airport
0.48 inch at the Porterville Municipal Airport
0.40 inch at Avenal
0.04 inch at Bakersfield

Precipitation over the San Joaquin Valley tapered off from the west during the morning of February 24th, although a few residual showers developed during the afternoon. High pressure aloft returned to California on the 25th, only to give way to another storm late in the afternoon the next day.

The last storm of the month moved into western Merced County during the afternoon of February 26th, and brought record rain to Fresno that evening. 0.76 inch of rain was measured at Fresno-Yosemite International Airport, breaking the old record for the 26th of 0.60 inch, set in 1930. The next day, Bakersfield broke its rainfall record with 0.51 inch; 0.46 inch having fallen through 10 AM. The old record for the 27th at Meadows Field was 0.29 inch, set in 1996. In the Southern Sierra Nevada, heavy snow fell above the 6000-foot level, with storm totals of 1-2 feet being reported.

Convection developed over northwestern Kern County by midday on February 27th. Two thunderstorms merged, and the resulting cell tracked across northern Kern County. The storm dropped small hail (pea-size to ½ inch) on roads near Wasco, creating very slippery road surfaces. A funnel cloud also was observed extending from the base of this storm.

The storm moved east of interior central California on the 28th as an upper-level ridge built off the coast. Despite more stable conditions, San Joaquin Valley fog development as kept to a minimum by low clouds that blanketed much of the Valley through the day.