

## NOVEMBER WEATHER SUMMARY

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The cold air brought by an upper-level low that moved across central California on October 28<sup>th</sup>-29<sup>th</sup> gave November a chilly start, with central and southern San Joaquin Valley lows on November 1<sup>st</sup> in the mid 30s to mid 40s.. A weak upper-level trough passed mainly north of the region on the 2<sup>nd</sup>, bringing very light precipitation to the northern half of the Hanford warning/forecast area. Fresno recorded 0.01 inch of rain from the system, while only trace amounts fell at the airports in Merced and Madera.

Although low-level moisture from the system was limited, it was enough to trigger fog formation in the San Joaquin Valley on November 4<sup>th</sup>, with dense fog covering much of the Valley north of Bakersfield on the next day. Lingering clouds over the south end of the San Joaquin Valley, that had limited dense fog formation near Bakersfield, pushed onto the north slopes of the Tehachapi Mountains and filled the passes. The visibility in Tehachapi in the early morning of the 5<sup>th</sup> fell to only a few feet.

An upper-level ridge lingered over California through the 9<sup>th</sup>, but high clouds streaming over the ridge, and a weak short-wave that moved through the region on the 7<sup>th</sup>, kept dense fog development patchy. A Pacific storm moved into California on November 10<sup>th</sup>, and through the Central California Interior on Veterans' Day. This storm brought another round of mainly light precipitation to the region, but its main impact was to moisten the lower levels of the airmass over the San Joaquin Valley, allowing the next trough to bring measurable rain to much of the region. This next storm arrived on November 13<sup>th</sup>, and had a sharp southern edge to the precipitation. Fresno's 2-day storm total for the 13<sup>th</sup>-14<sup>th</sup> was 0.16 inch, which accounted for two-thirds of its total precipitation for the month. Thirty miles to the south, only a trace of rain fell at Hanford Municipal Airport from the system. Bakersfield also saw only a trace of rain; measurable rain did not fall at Meadows Field until November 27<sup>th</sup>.

The storm also brought gusty winds to the Kern County mountains and deserts on the 13<sup>th</sup>-14<sup>th</sup>, with numerous gusts between 50-60 mph being reported.

High pressure aloft move into central California behind the trough, bringing a return of dense fog to the central and southern San Joaquin Valley beginning the night of November 18<sup>th</sup>-19<sup>th</sup>, and again the following night. The fog lifted into a layer of low stratus during the day on the 20<sup>th</sup>, and persisted into the night for a brief respite from the fog.

A low-level northwest flow pushed clouds over the San Joaquin Valley into the passes of the Tehachapi Mountains on the morning of the 23<sup>rd</sup>, creating areas of low visibility in the Tehachapi and Tejon Passes for the Thanksgiving Day morning and affecting travel on Interstate 5 over the Grapevine as well as Highway 58. The winds kept the west side of the San Joaquin Valley clear the night of the 24<sup>th</sup>-25<sup>th</sup>, allowing temperatures to fall

below freezing. Clouds did bank over the east side of the Valley, moderating overnight low temperatures there.

The next Pacific storm reached the Hanford warning/forecast area during the latter half of the Thanksgiving holiday weekend. It was this system that, as mentioned above, brought Bakersfield its only measurable rain for the month, a mere 0.02 inch. As with the previous storm, there was a strong precipitation gradient, with the northern and western regions getting most of the precipitation. The airport at Merced had a storm total of 0.22 inch of rain, and Hanford Municipal Airport recorded 0.16 inch, but only 0.06 inch fell at Fresno Yosemite International Airport. A similar gradient was seen in the Southern Sierra Nevada, where several inches of snow fell in the high country of Yosemite National Park, but snowfall tapered off sharply to the south, with only 2 inches falling at Lodgepole in Sequoia National Park.

A strong surface high over Idaho brought an unseasonably cold Canadian airmass to California in the wake of the storm, dropping temperatures markedly. Upslope clouds over the Tehachapi Mountains during the morning of November 28<sup>th</sup> brought a mix of rain and snow to the higher elevations of the Grapevine, impacting travel on Interstate 5. Widespread frost developed in the central and southern San Joaquin Valley on the morning of the 29<sup>th</sup>, as morning lows fell into the upper 20s to lower 30s. High temperatures on the 29<sup>th</sup> for the central and south Valley never climbed above the lower 50s, and Bakersfield's high of only 51 tied its 60-year-old record for the record low maximum temperature. This set the stage for November to close with a hard freeze over portions of the central and southern San Joaquin Valley during the morning of November 30<sup>th</sup>, with widespread low temperature readings in the mid 20s. Temperatures in the Kern County deserts plummeted into the teens to lower 20s, for that area's first hard freeze of the season.