FEBRUARY 2009 WEATHER SUMMARY
FOR INTERIOR CENTRAL CALIFORNIA

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February began with an upper-level ridge of high pressure building into California. West of the ridge, a low-pressure trough deepened as it dropped out of the Gulf of Alaska. Once the ridge had moved inland on the 3rd and 4th, the combination of the ridge and trough set up a southerly flow over the state. These winds funneled through the passes of the Tehachapi Mountains into the south end of the San Joaquin Valley, with gusts in the far south end of the Valley reaching 55 mph. The winds warmed as they descended through the passes, bringing unseasonably warm temperatures to the San Joaquin Valley. Bakersfield set record highs on both the 3rd and the 4th, with the high of February 4th reaching 85 degrees. Fresno tied its record high of 74 on the 4th.

The upper-level trough moved into California on February 6th, heralding a change in the pattern to wetter than normal for the rest of the month. This was the first in a series of systems that would move through the state over the coming week. Bakersfield received a record rainfall of 0.73 inch on the 7th, nearly twice the old record of 0.41 inch (1993). A very cold airmass settled over interior California on the 8th, dropping snow levels into the Sierra Nevada foothills and setting the stage for an active weather day on the 9th.

The second, and stronger, upper-level trough moved into central California during the morning of February 9th. Snow levels plummeted during the morning, with snow falling on the San Joaquin Valley floor in western Kern County. Snow fell as far into the Valley as Maricopa, ad an inch of snow fell on Taft. Grocer Grade through the Temblors was closed due to snow, and a Winter Weather Advisory was issued for the southwestern San Joaquin Valley. Snow also fell on the Kern County desert floor near Rosamond.

Thunderstorms developed over the central San Joaquin Valley by late morning. Funnel clouds began being reported over Merced County at 11:20 AM PST, heralding the start of a 25-minute outbreak that saw at least 4, and probably 5, separate funnels. (Media, public and law-enforcement reports included some multiple sightings of the same funnel clouds, leading to the uncertainty in the number.) These funnel clouds developed from just south of Atwater to 14 miles southeast of the city of Merced. At 11:32 AM PST, the Oakland FAA Flight Service Office called with a report from a pilot over Merced County who had just observed one of the funnels briefly touch down in an open field 10 miles south of Castle Airport. Because of the brevity of the touchdown (only a few seconds) and fortunate lack of damage, this tornado was likely an EF-0 on the enhanced Fujita scale. This was the first tornado to touch down in the central/southern San Joaquin Valley (and the entire Hanford Warning/Forecast Area) since the Visalia tornado on January 27th, 2008. The last tornado to occur in Merced County was on March 28th, 2006.

After the trough moved east of California, the very cold airmass remained over the San Joaquin Valley, bringing frost to the area on the morning of February 10th. Subsequent

troughs moved into California on the 11th, 13th and 15th, as short-wave impulses rotated around an upper-level low off the northern California coast. The last of these troughs had a strong cold front that brought near-hurricane force winds to the Tehachapi Mountains during the night of February 15th-16th. A sustained wind speed of 74 mph was measured by the Grapevine Peak RAWS (remote automated weather station) at 10:13 PM PST on the 15th. (Hurricane sustained winds begin at 75 mph). Two hours later, the same RAWS recorded a gust to 103 mph. These gusty winds spread over the San Joaquin Valley and the Southern Sierra Nevada during the early morning hours. At 4:05 AM PST, the Panoche Road RAWS on the west side of the San Joaquin Valley measured a gust to 51 mph, and the Miami RAWS, in the Sierra in Madera County, saw a gust to 48 mph.

The low off the northern California coast drew a deep fetch of moisture into the state. As the cold air behind this strong front spread into the Tehachapi Mountains, rain changed to snow with falling snow levels. Interstate 5 through Tejon Pass was closed as the snow level fell below 4000 feet and snow began accumulating on the summit of Tejon Pass. This storm brought snow accumulations that ranged from 2-3 feet near Yosemite and Kings Canyon down to 0.5-1 foot in the Kern County mountains.

The low moved onshore into northern California early in the morning on February 17th. Precipitation continued through the day before ending that night. An upper-level ridge built into California behind the system, bringing a break in the precipitation, but also the return of patchy late night/morning fog to the San Joaquin Valley floor.

High clouds streaming into interior central California on February 20th heralded the arrival of the next winter storm. This storm moved through the region on the 21st and 22nd, bringing more rain and mountain snow. Over a foot of snow fell on the Southern Sierra Nevada from Yosemite south to Kings Canyon, while 8-10 inches fell in the Tulare County mountains. Skies cleared over the San Joaquin Valley on February 23rd, except for some clouds along the east side of the Valley and over the south end. A northwest flow over the San Joaquin Valley during the night of the 24th-25th pushed these clouds into the Valley-facing slopes of the Tehachapi Mountains and the Kern County portion of the Sierra Nevada, including the passes. As the clouds pushed into the Tehachapi Pass and contacted the surface, some dense fog developed and persisted through the night into daybreak.

An Arctic low developed over eastern Nunavut, near the Hudson Bay coast. A large trough rotating around this low dropped through British Columbia on the 24th and 25th, then moved quickly through the Pacific Northwest and California on the 25th and early 26th. Dry weather then settled into the region for the last few days of the month.

Both Bakersfield and Fresno had above normal rainfall during February. Meadows Field reported 1.71 inch of rain, which was 141.3% of the normal of 1.21 inch. Fresno-Yosemite International Airport received 2.43 inches of rain, which was 114.6% of normal. However, these amounts were not enough to make up for a dry January, and both cities remained below normal for both the calendar year to date and for the rain season to date.