JANUARY 2008 WEATHER SUMMARY

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New Year Day arrived with a band of dense fog extending the length of the central and southern San Joaquin Valley, although drainage winds off the surrounding mountains kept the edges of the Valley fog free. East winds gusting to 25 mph through the Kern River Canyon also kept much of Kern County clear of fog. The fog was the result of an upper-level ridge that brought a stable airmass to the region. The ridge quickly gave way to a series of storms that stretched across the Pacific, bringing the first episode of significant precipitation to the region for the year,

The first storm arrived in the central California interior late on January 3rd. It stayed mostly over northern California, and its main impact on the region was to weaken the ridge in advance of the second, stronger storm. This storm arrived the next day, and brought heavy snow to the Southern Sierra Nevada, and rain to the San Joaquin Valley. Very strong winds developed on the west side of the San Joaquin Valley with this storm, with gusts to 66 mph recorded at Kettleman Hills during the afternoon of January 4th. The strongest winds occurred in the town of Avenal, where roofs were damaged, trees toppled and two gliders lifted off the tarmac and flipped over. Based on the observed damage, it was estimated that the highest gust could have exceeded 70 mph. Elsewhere in the central and southern San Joaquin Valley, there were gusts to 35 to 45 mph.

The third storm, which originated over Siberia, brought a very cold airmass to central California on the 5th and 6th. Snow fell down to 3500 feet, into the upper Sierra foothills. Total snow accumulations in the Southern Sierra Nevada for the three storms ranged from nearly 9 feet in the high country near Yosemite National Park, to 5 feet in the Tulare County mountains. Further south, as much as a foot of new snow at Frazier Park in the Tehachapi Mountains.

After a brief respite, yet another storm reached California on January 8th. Although this storm brought several inches of snow to the Southern Sierra Nevada, it was a warmer storm than its predecessors, and snow levels remained above 5000 feet.

In the wake of these storms, there was appreciable low-level moisture over the San Joaquin Valley. An upper-level ridge again brought a stable airmass to central California, but the result was the formation of a stratus layer during the night of January 11th-12th, rather than dense fog in the Valley. However, the stratus spread into the Sierra foothills, creating pockets of very low visibility where the stratus pushed into the slopes. The stratus layer remained over the central and southern San Joaquin Valley through the day of the 12th, with some patchy dense fog developing around sunrise, and continued into the morning of the 13th. Skies over the central and southern San Joaquin Valley finally cleared during the afternoon.

The ridge remained in place for several days, with widespread dense fog blanketing the central and southern San Joaquin Valley during the night of January 14th-15th. The fog

subsequently lifted into a stratus layer over the region by midday on January 15th. The stratus layer was deep enough to cause areas of low visibility not only in parts of the Southern Sierra Nevada foothills, but also along the Valley-facing slopes of the Tehachapi Mountains and locally into the passes, with the California Highway Patrol reporting visibilities as low as 300 feet near the town of Keene in the Tehachapi Pass. The stratus also produced a heavy drizzle over the south end of the San Joaquin Valley, with 0.01 inch of water falling at Meadows Field, Bakersfield.

The stratus broke up on the 16th, allowing patchy frost and locally dense fog to develop during the early morning hours. This weather continued through the morning of January 20th, then a dry cold front moved through the state, breaking down the ridge.

The next Pacific storm reached the central California interior on the 22nd, with snow falling as far south as Mount Pinos by sunset. The upper-level low stalled west of Monterey Bay, spinning moisture into the Hanford warning/forecast area from the south, with snow falling the length of the Southern Sierra Nevada and the Tehachapi Mountains. A persistent rain band over the west side of the San Joaquin Valley brought locally heavy rain to the Temblors and Diablo Range on January 23rd. Runoff from these mountains causing some road flooding in western Fresno and Kings Counties. Several inches of snow fell on the Grapevine beginning on the 22nd, and in the Los Angeles County mountains near Gorman. At Frazier Park, about 1000 feet higher than the Grapevine, a spotter measured 18 inches of fresh snow. Interstate 5 was closed at the Tejon Pass late in the afternoon of the 23rd, with one report estimating that the number of stranded cars was over a hundred. The Interstate remained closed through the 24th, before finally reopening the next morning.

The very cold airmass accompanying the storm even caused snow to fall on the Temblors and Diablo Range on the west side of the San Joaquin Valley. Two inches of snow fell at the 2000 foot level near the Fresno-Monterey County line. However, with the upper-level low remaining offshore, there initially was a fairly sharp boundary marking the edge of the precipitation. Rain was slow to spread into the eastern half of the San Joaquin Valley, and many locations in the Southern Sierra Nevada received less than a foot of new snow. When the precipitation band finally shifted eastward during the evening of the 23rd, locally heavy rains caused some street flooding in Fresno, Kings and Madera counties.

Another upper-level low dropped south along the coast, kicking the first low inland. This next low became nearly stationary southwest of Point Conception on the 26th. This low brought strong downslope winds through the Tejon Pass into the south end of the San Joaquin Valley. Southeast winds with sustained speeds of 68 mph were measured at the base of the Grapevine for about 2 hours late in the evening of January 26th, with a gust to 65 mph reported as far north as Bakersfield. The gust was on the east side of the city; the highest gust measured at Meadows Field was 49 mph.

Subtropical moisture spinning around the low brought heavy rain to the Tehachapi Mountains west of the Grapevine. Because of the subtropical nature of the moisture, the snow levels were high and warm rain fell on the nearly 2 feet of snow at Frazier Park

from the previous storm. As the ground saturated, mud slides developed on the mountain slopes, closing Frazier Mountain Park Road and triggering the issuance of a Flash Flood Warning for mud/debris flows. Runoff from the Tejon Pass flowed into the south end of the San Joaquin Valley, causing flooding of parts of the Copus and David Roads.

In the Kern County deserts, rain falling on the El Paso Mountains resulted in flooding of the Garlock and Red Rock-Randsburg Roads along the south flanks of the mountains.

The warm, unstable airmass also triggered outbreaks of severe weather over western Tulare County on the 27th. A severe thunderstorm developed south of Visalia shortly after noon, and spawned a tornado that knocked down trees and damaged a trailer park. The tornado, rated EF-0 on the Enhanced Fujita Scale, was the first tornado to hit the central or southern San Joaquin Valley since March 28th, 2006, when an EF-0 tornado touched down 1 mile southeast of the city of Merced. The last tornado to hit Tulare County had been an F-0 that touched down 5 miles southeast of Dinuba on October 20th, 2004.

A strong thunderstorm formed shortly after 4 PM, again south of Visalia, and passed over the east side of the city. This storm was weaker than the earlier thunderstorm, but did produce ¼-inch hail.

The storm continued through the 28th. Fresno recorded another third of an inch of rain that day, and winds gusted to 33 mph at Fresno-Yosemite International Airport. Very little rain fell over the south end of the Valley, with Bakersfield getting a total of only 0.01 inch of rain for the three-day event, although winds did gust to 37 mph at Meadows Field on the 28th. A weak upper-level trough, trailing the storm, moved through central California on the 29th, keeping unsettled weather over the region through the end of the month.