

Storm Data and Unusual Weather Phenomena - February 2009

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|----------|-----------|-------------------|---------------------|------------------------|
|----------|-----------|-------------------|---------------------|------------------------|

CALIFORNIA, South Central

| | | | | |
|---|--------------------|--|---|-----------|
| (CA-Z089) W CENTRAL S.J. VALLEY, (CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z092) SE S.J. VALLEY | | | | |
| | 02/01/09 03:00 PST | | 0 | Dense Fog |
| | 02/01/09 11:00 PST | | 0 | |

| | | | | |
|--|--------------------|--|-------|-------------------------|
| (CA-Z092) SE S.J. VALLEY, (CA-Z095) KERN CTY MTNS | | | | |
| | 02/03/09 23:30 PST | | 0.20K | Strong Wind (MAX 49 kt) |
| | 02/05/09 12:00 PST | | 0 | |

February began with an upper-level ridge of high pressure building into California, which promoted dense fog development around the valley during the morning of the 1st of the month. 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.

| | | | | |
|--|--------------------|--|---|--------------|
| (CA-Z095) KERN CTY MTNS, (CA-Z096) S SIERRA MTNS, (CA-Z097) TULARE CTY MTNS | | | | |
| | 02/06/09 06:00 PST | | 0 | Winter Storm |
| | 02/09/09 15:00 PST | | 0 | |

| | | | | |
|--|--------------------|--|---|-------------------------|
| TULARE COUNTY --- 1.1 E GOSHEN [36.35, -119.40] | | | | |
| | 02/06/09 15:00 PST | | 0 | Funnel Cloud |
| | 02/06/09 15:00 PST | | 0 | Source: Trained Spotter |

A trained spotter reported a funnel cloud just north of Visalia.

| | | | | |
|---|--------------------|--|---|----------------|
| (CA-Z091) SW S.J. VALLEY, (CA-Z093) S SIERRA FOOTHILLS, (CA-Z094) TULARE CTY FOOTHILLS | | | | |
| | 02/08/09 22:00 PST | | 0 | Winter Weather |
| | 02/09/09 15:00 PST | | 0 | |

| | | | | |
|--|--------------------|--|-------|-------------------------|
| (CA-Z095) KERN CTY MTNS, (CA-Z098) INDIAN WELLS VLY, (CA-Z099) SE KERN CTY DESERT | | | | |
| | 02/09/09 01:00 PST | | 0.30K | Strong Wind (MAX 48 kt) |
| | 02/10/09 00:00 PST | | 0 | |

| | | | | |
|--|--------------------|--|---|--------------------------------------|
| MERCED COUNTY --- 6.5 SW MERCED ARPT [37.21, -120.60] | | | | |
| | 02/09/09 11:32 PST | | 0 | Tornado (EF0, L: 0.10 mi , W: 20 yd) |
| | 02/09/09 11:34 PST | | 0 | Source: Other Federal Agency |

The Federal Aviation Administration office located in Oakland, CA, relayed a pilot report of a brief touchdown of a tornado 10 miles south of Merced Castle Airport. The tornado only last for a couple minutes and caused no property damage. The tornado was rated EF0. The pilot reported the tornado quickly lifted and dissipated. At the time of the report, the funnel had lifted and was dissipating. The touchdown occurred during a period of several funnel cloud reports over an area from Atwater to southeast of Merced Municipal Airport (KMCE).

| | | | | |
|---|--------------------|--|---|--------------|
| (CA-Z089) W CENTRAL S.J. VALLEY, (CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z092) SE S.J. VALLEY | | | | |
| | 02/10/09 03:00 PST | | 0 | Frost/Freeze |
| | 02/10/09 08:00 PST | | 0 | |

An upper-level low pressure system 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). Heavy snowfall occurred in the Sierra Nevada from Yosemite to Sequoia. Reports of snowfall topped over one foot in some portions of the high country on the 6th. 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, and 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. Additional

Storm Data and Unusual Weather Phenomena - February 2009

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|----------|-----------|-------------------|---------------------|------------------------|
|----------|-----------|-------------------|---------------------|------------------------|

snowfall of one foot or more occurred on the 8th and 9th with the second wave of precipitation across the high mountains of the Sierra Nevada. Snow accumulations of 2 to 4 inches also occurred in the Sierra Foothills between 2000 to 4000 feet.

Thunderstorms developed over the central San Joaquin Valley by late morning. Funnel clouds were 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.

(CA-Z093) S SIERRA FOOTHILLS, (CA-Z095) KERN CTY MTNS, (CA-Z096) S SIERRA MTNS

| | | |
|--------------------|---|----------------|
| 02/11/09 12:00 PST | 0 | Winter Weather |
| 02/13/09 20:00 PST | 0 | |

MADERA COUNTY --- 0.6 E CHOWCHILLA [37.12, -120.26]

| | | |
|--------------------|---|----------------|
| 02/13/09 12:00 PST | 0 | Funnel Cloud |
| 02/13/09 12:00 PST | 0 | Source: Public |

The public reported a funnel cloud near the city of Chowchilla. The report was relayed by local broadcast media.

(CA-Z092) SE S.J. VALLEY, (CA-Z095) KERN CTY MTNS

| | | |
|--------------------|---|-----------------------|
| 02/15/09 08:13 PST | 0 | High Wind (MAX 90 kt) |
| 02/16/09 05:13 PST | 0 | |

(CA-Z089) W CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z093) S SIERRA FOOTHILLS

| | | |
|--------------------|-------|-------------------------|
| 02/15/09 10:50 PST | 0.30K | Strong Wind (MAX 43 kt) |
| 02/16/09 16:00 PST | 0 | |

(CA-Z095) KERN CTY MTNS, (CA-Z096) S SIERRA MTNS, (CA-Z097) TULARE CTY MTNS

| | | |
|--------------------|---|--------------|
| 02/16/09 04:00 PST | 0 | Winter Storm |
| 02/17/09 16:00 PST | 0 | |

KERN COUNTY --- 2.2 NW BUTTONWILLOW [35.42, -119.50]

| | | |
|--------------------|---|-------------------------|
| 02/16/09 11:45 PST | 0 | Funnel Cloud |
| 02/16/09 11:45 PST | 0 | Source: Law Enforcement |

A California Highway Patrol reported a funnel cloud near Buttonwillow.

Repetitive low pressure systems 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. The wind sensor actually stopped providing wind data briefly after the gust to 103 mph, so there is a chance that the communications of the system briefly failed and maximum wind gusts might have been even higher if they were able to have been recorded. 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.

(CA-Z096) S SIERRA MTNS

Storm Data and Unusual Weather Phenomena - February 2009

| Location | Date/Time | Deaths & Injuries | Property & Crop Dmg | Event Type and Details |
|-------------------------|--------------------|-------------------|---------------------|------------------------|
| | 02/22/09 04:00 PST | | 0 | Winter Storm |
| | 02/23/09 12:00 PST | | 0 | |
| <hr/> | | | | |
| (CA-Z095) KERN CTY MTNS | | | | |
| | 02/25/09 00:00 PST | | 0 | Dense Fog |
| | 02/25/09 17:00 PST | | 0 | |

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.