

Storm Data and Unusual Weather Phenomena - January 2008

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

01/01/08 00:00 PST		0	Dense Fog
01/01/08 12:00 PST		0	

An upper level ridge of high pressure over California resulted in a band of dense fog extending the length of the central and southern San Joaquin Valley during the morning of the 1st. Visibilities as low as 50 feet were reported just south of Fresno. The rest of the area was generally below 1/4 mile.

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

01/03/08 18:00 PST		0	Winter Storm
01/06/08 22:00 PST		0	

(CA-Z089) W CENTRAL S.J. VALLEY, (CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z092) SE S.J. VALLEY, (CA-Z093) S SIERRA FOOTHILLS, (CA-Z094) TULARE CTY FOOTHILLS, (CA-Z095) KERN CTY MTNS, (CA-Z098) INDIAN WELLS VLY

01/04/08 01:59 PST		1K	Strong Wind (MAX 49 kt)
01/06/08 16:31 PST		7K	

(CA-Z091) SW S.J. VALLEY

01/04/08 10:50 PST		4.50M	High Wind (MAX 65 kt)
01/04/08 19:50 PST		2	

(CA-Z095) KERN CTY MTNS

01/06/08 00:00 PST		0	Winter Weather
01/07/08 00:00 PST		0	

The first major winter storm of the new year arrived on the 4th, 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 in Kings County, where roofs were damaged, trees toppled and two glider planes lifted off the tarmac and flipped over at the local airport. Based on surveys of the sustained property damage, top winds were estimated at 70-75 mph. This high wind event was caused by an increase in local winds due to a combination of strong large-scale winds ("synoptic winds" due to the Pacific storm pattern) and the interaction of the nearby Coastal Mountain range, which likely involved a mountain range-induced cloud called a "rotar cloud". Two direct injuries also occurred in Avenal during the wind event.

Elsewhere across the central and southern San Joaquin Valley, wind gusts of 45 to 50 mph were common on the 4th. Strong winds also occurred in the Foothills of the Sierra Nevada and the Kern County Desert. Strong winds are fairly uncommon in the foothills, and during this event, wind gusts were measured to 45 mph at Shadequarter, and 69 mph at Miami in the Sierra Nevada Foothills. More common are strong winds in the Kern County Desert, nonetheless gusts to 69 mph were recorded at Indian Wells Canyon. Strong winds were also common across the Southern Sierra Nevada and the Tehachapi Mountains. Peak winds up to 100 mph likely occurred at the crest of the Southern Sierra Nevada, however weather observations confirming those values were not available due to the scarcity of data in the highest elevations.

This winter storm event was actually a double-barrel system, as the second major storm arrived on the heels of the first one. This second storm originated over Siberia, and brought a very cold airmass to central California on the 5th and 6th. Snow fell down to 3000 feet, into the upper Sierra foothills. Total snow accumulations in the Southern Sierra Nevada for the two major 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 one foot of new snow fell at Frazier Park in the Tehachapi Mountains of Kern County.

Storm Data and Unusual Weather Phenomena - January 2008

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



Widespread roof damage at Avenal High School. High winds were caused by a combination of strong large-scale winds and the local development of a mountain rotor cloud. Peak winds estimated at 70-75 mph. Photo courtesy CA Office of Emergency Services.

KERN COUNTY --- 5.7 NE EDISON [35.40, -118.79]

01/07/08 13:45 PST	0	Funnel Cloud
01/07/08 13:47 PST	0	Source: Broadcast Media

Local TV meteorologist relayed report of a funnel cloud just to the east of Bakersfield.

(CA-Z096) S SIERRA MTNS

01/08/08 10:00 PST	0	Winter Weather
01/08/08 22:00 PST	0	

The next in a series of winter storms reached California on the 8th. Although this storm brought several inches of snow to the Southern Sierra Nevada, with the largest amount at 11 inches at Tenaya Lake. It was a warmer storm than its predecessors, and snow levels remained above 5000 feet.

(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

01/14/08 22:00 PST	0	Dense Fog
01/15/08 15:00 PST	0	

Precipitation from a series of winter storms brought enough low-level moisture for widespread dense fog to form in the central and southern San Joaquin Valley from the evening of the 14th into the afternoon of the 15th. Several locations had visibilities as low as 50 feet at times.

Storm Data and Unusual Weather Phenomena - January 2008

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
(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				
	01/18/08 00:00 PST		0	Frost/Freeze
	01/18/08 09:30 PST		0	
<p>A dry offshore flow, combined with clear skies, resulted in temperatures falling into the upper 20s to lower 30s across the central and southern San Joaquin Valley on the morning of the 18th.</p>				
(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				
	01/18/08 00:00 PST		0	Dense Fog
	01/19/08 10:00 PST		0	
<p>Low-level moisture trapped below a strong temperature inversion resulted in dense fog in the central and southern San Joaquin Valley on the mornings of the 18th and 19th with visibilities as low as 50 feet in some areas.</p>				
(CA-Z089) W CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z093) S SIERRA FOOTHILLS, (CA-Z096) S SIERRA MTNS, (CA-Z097) TULARE CTY MTNS				
	01/22/08 20:35 PST		0	Winter Weather
	01/24/08 04:00 PST		0	
(CA-Z095) KERN CTY MTNS				
	01/23/08 06:00 PST		0	Winter Storm
	01/24/08 00:00 PST		0	
FRESNO COUNTY --- FIVE PTS [36.43, -120.10], 4.1 WSW BIOLA [36.78, -120.09], 4.1 N PINEDALE [36.89, -119.79], 2.5 SE (FCH) CHANDLER AF [36.71, -119.78]				
	01/23/08 07:33 PST		0	Flood (due to Heavy Rain)
	01/24/08 00:00 PST		0	Source: Broadcast Media
<p>Highway 269 closed due to high water between Highway 198 and Huron, several county or local roads also flooded in western Fresno County. A few Fresno city roads also flooded out later in the evening of the 23rd.</p>				
MADERA COUNTY --- 1.4 N MADERA MUNI ARPT [37.00, -120.12], 2.4 ESE DAIRYLAND [37.01, -120.28], 3.9 S CHOWCHILLA [37.06, -120.27], 0.5 WNW FAIRMEAD [37.08, -120.21]				
	01/23/08 19:10 PST		0	Flood (due to Heavy Rain)
	01/24/08 00:00 PST		0	Source: Law Enforcement
<p>The CHP reported high water on Avenue 18 1/2, just west of Highway 99.</p>				
KINGS COUNTY --- 1.3 WSW HANFORD MUNI ARPT [36.31, -119.65], 2.5 E HANFORD MUNI ARPT [36.32, -119.59], 1.2 ENE SHORT ACRES [36.36, -119.63], 1.2 WNW SHORT ACRES [36.36, -119.67]				
	01/23/08 19:20 PST		5K	Flood (due to Heavy Rain)
	01/24/08 00:00 PST		0	Source: NWS Employee
<p>NWS Employees reported street flooding in the city of Hanford. One lane of 10th Avenue was flooded near the Corporate Yard. Additional flooding reported on the north side of town near the Centennial Plaza.</p>				
<p>A Pacific storm reached the central California interior on the 22nd, with heavy snow falling across 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 the 23rd. Runoff from these mountains caused 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 one hundred. The Interstate remained closed through the 24th, before finally reopening the next morning.</p>				
<p>The very cold airmass accompanying the storm caused snow to fall on the Temblors and Diablo Range on the west side of the San Joaquin Valley during the afternoon of the 23rd. Two to four inches of snow fell down to elevations between 1500 to 2000 feet. Local media reported Highway 198 closed west of Coalinga due to snow. Traffic Management indicated the closure was from Firestone Avenue west to the Monterey County line. Temporary closures also occurred on Highways 41, 46, and 166 due to snow, effectively shutting down exit routes from the San Joaquin Valley to the west, with exit routes to the south already shut down along the Grapevine and Tehachapis. Los Gatos Creek Road and Parkfield Grade were also closed during the afternoon of the 23rd due to the snow.</p>				
<p>However, with the upper-level low remaining offshore, there initially was a fairly sharp boundary marking the edge of the precipitation between the western valley and the eastern valley. Rain was slow to spread into the eastern half of the San Joaquin Valley, and many</p>				

Storm Data and Unusual Weather Phenomena - January 2008

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

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.

(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, (CA-Z095) KERN CTY MTNS, (CA-Z098) INDIAN WELLS VLY

01/25/08 11:04 PST	6K	Strong Wind (MAX 49 kt)
01/28/08 20:00 PST	2K	

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

01/26/08 14:40 PST	0	Winter Storm
01/28/08 03:45 PST	0	

(CA-Z091) SW S.J. VALLEY, (CA-Z092) SE S.J. VALLEY

01/26/08 21:30 PST	0	High Wind (MAX 59 kt)
01/27/08 04:00 PST	0	

KERN COUNTY --- 1.6 NW RIDGECREST [35.64, -117.70], 1.7 NW RIDGECREST [35.64, -117.70], 1.8 NW RIDGECREST [35.65, -117.70], 1.7 NW RIDGECREST [35.65, -117.70]

01/27/08 02:53 PST	1K	Flood (due to Heavy Rain)
01/27/08 05:53 PST	0	Source: Law Enforcement

California Highway Patrol reported Garlock Rd flooded and washed out in parts.

KERN COUNTY --- 1.6 WNW FRAZIER PARK [34.83, -118.98], 0.9 W LEBEC [34.83, -118.88], 2.0 SSW LEBEC [34.80, -118.89], 1.8 WSW FRAZIER PARK [34.81, -118.98]

01/27/08 04:01 PST	25K	Flash Flood (due to Heavy Rain / Snow Melt)
01/27/08 06:31 PST	0	Source: Emergency Manager

California Highway Patrol and local Emergency Management reported several mudslides on the Frazier Mountain Park Road. This flash flood event was caused by locally heavy rainfall combined with rapid snowmelt from recent heavy snow events.

KERN COUNTY --- 1.5 E KERTO [35.10, -119.30], 1.2 ENE PENTLAND [35.06, -119.30], 5.7 WSW LAKEVIEW [35.06, -119.21], 4.8 W LAKEVIEW [35.10, -119.20]

01/27/08 06:08 PST	5K	Flood (due to Heavy Rain)
01/27/08 12:08 PST	0	Source: Law Enforcement

California Highway Patrol reported a large amount of water and mud on Copus Road just east of Basic School Road, and also on State Route 166 just east of Basic School Road.

TULARE COUNTY --- 1.5 NNW LOMA [36.29, -119.36]

01/27/08 12:00 PST	20K	Thunderstorm Wind (EG 50 kt)
01/27/08 12:02 PST	0	Source: NWS Employee

Several small trees down in the southwest portion of the city of Visalia due to a severe thunderstorm.

TULARE COUNTY --- 1.0 E GOSHEN JCT [36.33, -119.36], 0.6 N CINOWTHS CORNER [36.34, -119.33]

01/27/08 12:10 PST	0.75M	Tornado (EF0, L: 2.03 mi , W: 50 yd)
01/27/08 12:17 PST	0	Source: NWS Storm Survey

Storm Data and Unusual Weather Phenomena - January 2008

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>Official NWS survey in the City of Visalia indicated an EF0 (Enhanced Fujita Scale: maximum estimated wind speeds 60 to 70 mph) tornado touched down and caused minor damage on the west side of Visalia just after noon on January 27, 2008. The damage assessment indicated that this weak tornado was associated with a small severe thunderstorm that developed just southwest of Visalia and moved northeast across the west portion of the city and to the northeast of the city between about noon and 1230 pm on January 27, 2008. The damage survey indicated the tornado touched down near a mobile home park along Akers Street on the west side of the city. Damage occurred across the park with several medium to large sized shallow rooted trees uprooted, fences downed, branches removed, and shingles and carports damaged. Several medium sized trees were downed onto homes or garages causing moderate damage to those homes. The tops of several trees were damaged and some fences were blown in different directions, suggesting this event was caused by a weak tornado, in addition to the discovery of a small damage path. National Weather Service doppler radar also indicated rotation within the lowest levels of the storm at the time of the event. Eyewitness accounts of a loud roaring noise, funnel clouds, and large debris/dust clouds also occurred near the mobile home park and contributed to the storm survey. The tornado likely continued for up to two miles to the northeast as additional similar damage was discovered along Goshen Avenue near the Visalia Municipal Golf Course. Minor damage also occurred in other parts of Visalia with a few utility poles and trees and branches downed, likely from straight-line wind damage due to the outflow of the severe thunderstorm.</p>				

TULARE COUNTY --- 0.6 E CINOWTHS CORNER [36.33, -119.32]

01/27/08 12:15 PST	25K	Thunderstorm Wind (EG 50 kt)
01/27/08 12:25 PST	0	Source: Trained Spotter

Trained SKYWARN spotter reported approximately 10 medium to large trees uprooted along Goshen Avenue on the north side of Visalia.

TULARE COUNTY --- 0.9 NE MONSON [36.51, -119.32]

01/27/08 12:30 PST	15K	Thunderstorm Wind (EG 50 kt)
01/27/08 12:40 PST	0	Source: NWS Employee

Off-duty NWS employee reported trees downed in the town of Oroshi, just north of Visalia and south of Orange Cove.

FRESNO COUNTY --- 4.4 WSW DUNLAP [36.70, -119.19]

01/27/08 12:45 PST	50K	Thunderstorm Wind (EG 56 kt)
01/27/08 12:52 PST	0	Source: Public

The public reported wind damage to trees and property at a ranch near the town of Squaw Valley. Several trees and branches were uprooted, damage occurred to several outbuildings on the property. This severe thunderstorm originally developed near Visalia and produced a small tornado, and then continued to travel to the north-northeast and affect other communities.

TULARE COUNTY --- 2.8 SSE PAIGE [36.14, -119.41]

01/27/08 16:00 PST	11K	Thunderstorm Wind (EG 50 kt)
01/27/08 16:10 PST	0	Source: Trained Spotter

Trained spotter reported trees downed on Road 64 at Ave 184 near the city of Tulare. This storm continued east-northeast and caused additional minor damage near Visalia and Woodlake.

TULARE COUNTY --- 2.9 WNW LINDCOVE [36.36, -119.12]

01/27/08 16:45 PST	22K	Thunderstorm Wind (EG 50 kt)
01/27/08 16:50 PST	0	Source: Law Enforcement

Local law enforcement reported 3 utility poles downed near the intersection of Road 212 and Ave 314 near the town of Woodlake. This severe thunderstorm actually developed near the city of Tulare, and tracked east-northeast to affect several more communities.

During an already very active month, the final storm of January left a considerable impact on many communities in Central California. An upper-level low pressure system dropped south along the California coast, kicking a low pressure system inland. This weather system 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 Airport was 49 mph.

This storm also had enough cold air, initially, to produce heavy snowfall in the Sierra Nevada. Totals ranged generally between 12 to 30 inches in the higher terrain during the first two days of this storm event, January 26-27.

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 and debris flows. Rainwater runoff from the Tejon Pass flowed into the south end of the San Joaquin Valley, causing flooding on parts of Copus and David Roads as well.

In the Kern County desert, heavy rain falling on the El Paso Mountains resulted in flooding of the Garlock and Red Rock Roads along the

Storm Data and Unusual Weather Phenomena - January 2008

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

south flanks of the mountains in Kern County.

The warm, unstable airmass also triggered outbreaks of severe thunderstorms over portions of the San Joaquin Valley on the 27th, especially in Tulare and Fresno Counties. A severe thunderstorm developed south of Visalia shortly after noon, and spawned a weak tornado that knocked down trees and severely damaged a trailer park. The tornado, rated EF-0 on the Enhanced Fujita Scale with peak winds of 70 mph, was the first tornado to hit the San Joaquin Valley since March 28, 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 20, 2004.

A strong thunderstorm formed shortly after 4 PM on the 27th, again just south of Visalia, and then passed over the east side of the city. This storm was weaker than the earlier thunderstorm, but did produce one-quarter inch hail and damaging wind gusts.

The large Pacific 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 low pressure trough, trailing the storm, moved through central California on the 29th, keeping unsettled weather over the region right through the end of the month.



Image shows damage scene at mobile home park the day after the tornado hit. Tops of trees in background of picture show damage. Image courtesy NWS Hanford, CA.

(CA-Z095) KERN CTY MTNS, (CA-Z098) INDIAN WELLS VLY, (CA-Z099) SE KERN CTY DESERT

01/29/08 18:00 PST

1.50K

Strong Wind (MAX 49 kt)

01/30/08 10:00 PST

3K

Storm Data and Unusual Weather Phenomena - January 2008

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
(CA-Z096) S SIERRA MTNS	01/31/08 11:00 PST		0	Winter Weather
	01/31/08 23:59 PST		0	

Gusty winds persisted in the Kern County Mountains and Desert from January 28 to 30, as a strong Pacific storm slowly exited the region. Wind gusts of 60 to 70 mph were measured at several location such as Laurel, Edwards AFB, Indian Wells, and Jawbone Canyon.

Upslope winds into the Sierra Nevada also caused heavy snowfall of up to 15 inches to occur in the Southern Sierra Nevada on the 30th and 31st of January.