

## Storm Data and Unusual Weather Phenomena - January 2010

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

01/02/10 00:00 PST			0	Dense Fog
01/02/10 10:00 PST			0	

January began with a weak upper-level ridge over the central California interior. The ridge kept a low-level inversion over the central and southern San Joaquin Valley, resulting in areas of Tule fog through the first four days of the month.

A weak upper-level disturbance that traversed the region New Year's Day provided enough lift to squeeze some very light rain out of the stratus; Fresno recorded a trace of rain to start the new year.

Another disturbance, moving through central California on January 4th-5th caused a brief break in the fog over the San Joaquin Valley, but the fog returned on the 6th, keeping Valley and lower foothills a few degrees below normal. High pressure remained over the area for much of the first half of this month keeping dry weather over the district, including fog and stratus over the San Joaquin Valley and warmer than normal temperatures in the foothills and mountains.

(CA-Z096) S SIERRA MTNS

01/12/10 16:00 PST			0	Winter Storm
01/13/10 16:00 PST			0	

(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

01/15/10 03:00 PST			0	Dense Fog
01/15/10 12:00 PST			0	

An upper-level trough moved through the northern half of California on the 12th-13th bringing some light precipitation to much of the forecast area. After a three-day break, the most significant weather that has occurred in quite some time struck the central California interior. Heavy snowfall occurred in the Southern Sierra Nevada with Tenaya Lake reporting 13.0 inches, Kaiser Point reporting 16.0 inches, and Camp Nelson coming in with 6.0 inches.

Heavy Tule Dense fog occurred in the San Joaquin Valley on the morning of the 15th.

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

01/17/10 22:00 PST			0.15M	Winter Storm
01/22/10 16:00 PST			0	

(CA-Z089) W CENTRAL S.J. VALLEY, (CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z095) KERN CTY MTNS

01/18/10 07:13 PST		1	1.15M	High Wind (MAX 83 kt)
01/20/10 16:00 PST			0	

Direct Fatalities: M21PH

(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

01/18/10 10:00 PST			0.77M	Strong Wind (MAX 45 kt)
01/20/10 16:00 PST			0	

KERN COUNTY --- (BFL)MEADOWS FIELD AP [35.43, -119.05], CALIF CITY CIVIC CTR [35.13, -117.97], 2.7 N ROSAMOND ARPT [34.91, -118.19], 1.3 WSW STEVENS [35.32, -119.17]

01/18/10 13:55 PST			0.10M	Flood (due to Heavy Rain)
01/18/10 16:55 PST			0	Source: Law Enforcement

At 1355 PST law enforcement officials reported flooding on Union Ave at 17th St. At 1438 PST law enforcement reported flooding on Edison Highway just east of Fairfax Rd. At 1557 PST law enforcement reported 1 lane of Redrock-Randsburg Rd blocked by mud.

FRESNO COUNTY --- 2.2 W (FCH) CHANDLER AF [36.73, -119.86], 1.1 W (FCH) CHANDLER AF [36.73, -119.84]

01/18/10 15:24 PST			0	Tornado (EF0, L: 0.53 mi , W: 15 yd)
01/18/10 15:30 PST			0	Source: Trained Spotter

## Storm Data and Unusual Weather Phenomena - January 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>A brief EF0 tornado—the first of the year for interior central California—was reported on the west side of Fresno at 3:23 PM during the afternoon of the Martin Luther King, Jr. holiday on the 18th. There was no damage reported with this tornado. The following write-up is from the tabular January climate summary for Bakersfield and Fresno.</p> <p>The January 18th Fresno tornado: Thunderstorms over the central San Joaquin Valley during the mid afternoon of January 18th spawned a brief tornado 5 miles southwest of the city of Fresno. At 1523 pst, a weather spotter reported a tornado north of Highway 180. Video of the tornado showed a rain-wrapped funnel extending from a rotating supercell, and National Weather Service doppler radar indicated a velocity couplet near the time and location of the report. The tornado was rated EF0 on the enhanced fujita scale. This tornado was the first tornado in the central and southern San Joaquin Valley since the Atwater tornado of February 9th, 2009. The last tornado in Fresno county was on May 9th, 2005, near the city of Fowler.</p>				
<b>KERN COUNTY --- 0.6 W RANDBURG [35.37, -117.66], 2.0 N RANDBURG [35.40, -117.65], 2.0 E RANDBURG [35.37, -117.61], 2.0 SE RANDBURG [35.35, -117.62]</b>				
	01/18/10 15:57 PST		10K	Flash Flood (due to Heavy Rain)
	01/18/10 17:57 PST		0	Source: Law Enforcement

Red Rock Randsburg Road closed due to a heavy mudflow.

<b>FRESNO COUNTY --- 0.9 SE COALINGA [36.14, -120.36], 1.7 SE COALINGA [36.13, -120.35], 1.2 SSW ORA [36.13, -120.34], 0.9 SW ORA [36.14, -120.34]</b>				
	01/19/10 11:03 PST		15K	Flood (due to Heavy Rain)
	01/19/10 20:00 PST		0	Source: Law Enforcement

Law enforcement reported flooding at Highway 33 and Merced Avenue.

<b>(CA-Z095) KERN CTY MTNS</b>				
	01/19/10 12:00 PST		0	Winter Weather
	01/19/10 21:00 PST		0	

<b>KINGS COUNTY --- 5.0 SW (NLC)NAS LEMOORE [36.28, -119.99], 25.0 W (NLC)NAS LEMOORE [36.33, -120.38], 50.0 WNW (NLC)NAS LEMOORE [36.61, -120.76], 30.0 NW (NLC)NAS LEMOORE [36.64, -120.31]</b>				
	01/19/10 14:00 PST		25K	Flood (due to Heavy Rain)
	01/19/10 20:00 PST		0	Source: Law Enforcement

Local highway officials reported flooding of the southbound lanes of Interstate 5 from Hwy 269 to the Fresno County line.

<b>KERN COUNTY --- TAFT [35.13, -119.48], (BFL)MEADOWS FIELD AP [35.43, -119.05], BAKERSFIELD SOUTH [35.33, -119.00], MARICOPA [35.07, -119.40]</b>				
	01/19/10 17:00 PST		35K	Flood (due to Heavy Rain)
	01/19/10 20:00 PST		0	Source: Law Enforcement

CHP reported flooding of Herring Rd exit on Hwy 99 and flooding of Hwy 33 From Hwy 46 to Lerdo Hwy.

<b>FRESNO COUNTY --- 3.0 E COALINGA [36.15, -120.32], 6.0 NE COALINGA [36.21, -120.29], 2.4 SW CALFAX [36.33, -120.13], 3.9 N HURON [36.26, -120.10]</b>				
	01/20/10 15:00 PST		20K	Flood (due to Heavy Rain)
	01/21/10 15:00 PST		0	Source: Department of Highways

Local highway officials reported flooding on Hwy 198 at Hwy 269.

By January 13th, the medium-range forecast models were becoming consistent in predicting a major precipitation event that would affect interior central California beginning the 17th and continuing for several days. A series of Special Weather Statements were issued to prepare emergency officials and the public on the upcoming change in the weather, followed by Winter Storm Watches for the Southern Sierra Nevada and the Tehachapi Mountains, beginning January 16th and upgraded to Warnings the next day.

Global composite satellite loops on January 17th showed a series of at least 5 distinct storms stretching roughly along the 40-degree latitude line from the California coast westward across the Pacific and into northeastern China. This line of storms had similarities to the storms of January-February 1998 that brought flooding to the central and southern San Joaquin Valley, but there were some significant differences.

While both events occurred during El Ninos, the 1998 event brought warm, subtropical moisture that eroded the mountain snowpack and appreciably added to the runoff. While the event of January 2010 was similarly moisture-laden, surges of cold air kept snow levels low, and snow even fell on the Southern Sierra Nevada foothills on January 21st-22nd. In addition, the spacing between the storms in the

## Storm Data and Unusual Weather Phenomena - January 2010

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

recent event allowed for several-hour breaks between the first few storms, enabling the ground to absorb some of the moisture before the runoff from the next storm hit. This is not to say that was not some flooding in the central and southern San Joaquin Valley, but most was either due to clogged storm drains or occurred in normally flood-prone areas.

The first storm moved rapidly through central California during the afternoon and evening of January 17th. Despite its fast movement, the storm dropped around a half inch of rain over much of the central and southern San Joaquin Valley.

A stronger storm followed the next day, bringing severe weather to the central California interior. Strong winds over the Tehachapi Mountains ahead of the storm caused the first of two storm-related fatalities during the week-long event. At about 9:30 AM, winds toppled a tree near Pine Mountain Club, west of Frazier Park. The tree fell onto a house, killing the occupant. Later that day, a brief EF0 tornado—the first of the year for interior central California—was reported on the west side of Fresno at 3:23 PM during the afternoon of the Martin Luther King, Jr. holiday on the 18th. There was no damage reported with this tornado. The following write-up is from the tabular January climate summary for Bakersfield and Fresno.

The January 18th Fresno tornado: Thunderstorms over the central San Joaquin Valley during the mid afternoon of January 18th spawned a brief tornado 5 miles southwest of the city of Fresno. At 1523 pst, a weather spotter reported a tornado north of Highway 180. Video of the tornado showed a rain-wrapped funnel extending from a rotating supercell, and National Weather Service doppler radar indicated a velocity couplet near the time and location of the report. The tornado was rated EF0 on the enhanced fujita scale. This tornado was the first tornado in the central and southern San Joaquin Valley since the Atwater tornado of February 9th, 2009. The last tornado in Fresno county was on May 9th, 2005, near the city of Fowler.

The third storm reached interior central California on the 19th, and an upper-level disturbance rotating around the low moved into southern California, bringing snow to the Tehachapi Mountains. Snow levels with this storm were lower than expected—down to around 4000 feet. Runoff resulted in some road flooding, and creeks in rural areas ran high. The other storm-related fatality occurred that evening, when a man drove around barriers in an attempt to cross a flooded road near the Merced County-Stanislaus County line. The road had been flooded by the Orestimba Creek, and the driver was swept away by the fast current.

Storm number 4 reached central California around midday of January 20th, and pushed across the region during the afternoon and evening hours. This storm dropped snow on the Grapevine and triggered isolated early evening thunderstorms. Also, strong winds occurred in the central valley. Bakersfield reported a wind gust around noon of 46 mph; Merced had a 48 mph sustained wind with a 61 mph wind gust around 2:00 PM that afternoon. There were numerous reports of wind damage, including downed trees and broken roof shingles, throughout the valley that week, especially on the 20th.

The last storm of the series arrived on the 21st, bringing very cold air to the region. Snow levels dropped to around 2200 feet, with snow falling in the towns of Mariposa and Oakhurst. Both the Grapevine and Tehachapi Pass were closed for several hours by the snow, hindering travel between the San Joaquin Valley and southern California. This was a very deep low pressure system, and all-time low pressure records were set in both Bakersfield and Fresno; both reported 28.94 inches of mercury. This storm also brought very strong winds to the Kern County Mountains where 10 inch diameter tree branches were downed in the Grapevine area due to winds approaching 70 mph in gusts there.

The cold pool of air moved over the area on the afternoon of January 22nd, triggering strong convective showers, one of which blanketed parts of the city of Clovis with about 2-3 inches deep of pea-size hail on the ground; a funnel cloud was reported near Clovis Ave and State Route 168 in Clovis.

By the time the last storm moved east of the region, the total rainfall amounts in the central and southern San Joaquin Valley mostly were between 1.5 and 2.5 inches, with a few locations around 3 inches. Snowfall amounts in the Southern Sierra Nevada and Tehachapi Mountains were measured in feet, with the heaviest snowfalls reaching around 10 feet of new snow.