

## Storm Data and Unusual Weather Phenomena - December 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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### 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, (CA-Z093) S SIERRA FOOTHILLS, (CA-Z094) TULARE CTY FOOTHILLS, (CA-Z095) KERN CTY MTNS, (CA-Z096) S SIERRA MTNS, (CA-Z097) TULARE CTY MTNS, (CA-Z098) INDIAN WELLS VLY, (CA-Z099) SE KERN CTY DESERT

12/01/14 00:00 PST	0	Drought
12/31/14 23:59 PST	0	

The California drought continued in full force during the month of December, 2014. Although there was heavy rain and snowfall across central California in early December, the later part of December was mainly dry. The U.S. Drought Monitor continued to report exceptional drought conditions across the entire Central California region. This extent of exceptional drought is extremely unusual for California. The 2013-2014 water year (July 1 - June 30) concluded with Fresno setting its second driest on record (4.81 inches) and Bakersfield setting its third driest (2.41 inches). For the calendar year, 2014 was the warmest year on record for Fresno and Bakersfield.

There continues to be significant media coverage on the on-going drought conditions. These reports include discussion of significant re-allocation of water resources from the east to west side of the San Joaquin Valley, farmers forgoing planting of some crops, a decrease in the snow-related tourism activity in the Southern Sierra Nevada, reduction in air quality due to persistent stagnant air, loss or reduction of ground water, wells drying up in several communities leaving them with no water, and an unprecedented increase in fire danger across the Southern Sierra Nevada and Tehachapi Mountains.

#### TULARE COUNTY --- 0.6 W JOHNSONDALE [35.97, -118.54]

12/02/14 05:55 PST	0	Heavy Rain
12/02/14 17:55 PST	0	Source: Mesonet

Mesonet station Johnsondale /JSNC1/ rainfall 2.60 inches in 12 hours.

#### FRESNO COUNTY --- 10.8 NE BALCH CAMP [37.01, -118.98]

12/02/14 06:00 PST	0	Heavy Rain
12/02/14 18:00 PST	0	Source: Mesonet

Mesonet station Wishon Dam /WSHC1/ rainfall 1.83 inches.

#### KERN COUNTY --- 2.9 ESE ALTA SIERRA [35.72, -118.50]

12/02/14 06:00 PST	0	Heavy Rain
12/02/14 18:00 PST	0	Source: Mesonet

Mesonet station Wofford Heights /WFHC1/ rainfall 1.98 inches.

#### MARIPOSA COUNTY --- 1.8 SE WAWONA [37.51, -119.63]

12/02/14 06:15 PST	0	Heavy Rain
12/02/14 18:15 PST	0	Source: Mesonet

Mesonet station Yosemite at Wawona /YWAC1/ rainfall 1.78 inches.

#### KERN COUNTY --- 2.4 NNE CLARAVILLE [35.45, -118.33]

12/02/14 06:17 PST	0	Heavy Rain
12/02/14 18:17 PST	0	Source: Mesonet

Mesonet station Claraville /CW8986/ rainfall 2.33 inches.

#### KERN COUNTY --- 7.1 ENE CLARAVILLE [35.47, -118.24]

12/02/14 06:30 PST	0	Heavy Rain
12/02/14 18:30 PST	0	Source: Mesonet

Mesonet station Burning Moscow /ABMC1/ rainfall 2.84 inches.

#### TULARE COUNTY --- 6.6 ESE CAMP NELSON [36.10, -118.52]

12/02/14 06:50 PST	0	Heavy Rain
12/02/14 18:50 PST	0	Source: Mesonet

Mesonet station Ponderosa /CW5634/ rainfall 1.88 inches.

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<b>TULARE COUNTY --- LODGEPOLE [36.60, -118.73]</b>				
	12/02/14 06:50 PST		0	Heavy Rain
	12/02/14 18:50 PST		0	Source: Mesonet
Mesonet station Sequoia National Park-Lodgepole /AT846/ Rainfall 2.10 inches.				
<b>(CA-Z096) S SIERRA MTNS</b>				
	12/02/14 10:00 PST		0	Heavy Snow
	12/03/14 07:00 PST		0	
<b>(CA-Z095) KERN CTY MTNS</b>				
	12/02/14 16:39 PST		0	High Wind (MAX 57 kt)
	12/02/14 17:39 PST		0	
<b>KERN COUNTY --- 3.5 WNW CLARAVILLE [35.43, -118.41]</b>				
	12/02/14 18:30 PST		0	Heavy Rain
	12/02/14 18:30 PST		0	Source: Mesonet
Mesonet station Piute Peak /APIC1/ rainfall 2.72 inches.				
<p>An upper level low and associated atmospheric river moved across central California December 2-3, 2014. This storm generated significant rainfall across the lower elevations. One-third to three-quarters of an inch of rain fell in the San Joaquin Valley and adjacent foothills, with 1 to 3 inches of rain along the west slopes of the Sierra Nevada below the snow line, which was generally above 8000 feet. Heaviest rain fell across Tulare County and Kern County in and around the Lake Isabella area. Up to two feet of snow fell in the high elevations of the Sierra Nevada. While there was significant concern about debris flows on burn scars due to the heavy rain, no problems were noted as rainfall intensity was not great enough. Strong winds were also observed at the base of the Grapevine along I-5.</p>				
<b>(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</b>				
	12/07/14 21:35 PST		0	Dense Fog
	12/11/14 01:00 PST		0	
<p>Stable conditions under a ridge of high pressure resulted in areas of dense fog developing in the San Joaquin Valley each night from December 7 through 11.</p> <p>On the evening of December 7, the dense fog began in the center of the valley from Merced to Hanford, then spread throughout the valley after midnight with widespread visibility less and 1/4 mile except at Fresno and Bakersfield. Visibility lowered to less than 200 feet at times, resulting in the California Highway Patrol pacing traffic on area highways. The fog cleared by mid-morning on December 8.</p> <p>Dense fog redeveloped quickly after sunset on December 8, and became widespread during the evening, including the Fresno and Bakersfield areas. Parts of Kings and Kern counties had near zero visibility. There were many school bus delays due to the fog. The dense fog lasted until around noon.</p> <p>The was a repeat of the dense fog on the evening of December 9 lasting until mid-morning on December 10. As a storm system approached the area bringing clouds across the region on afternoon of December 10, dense fog was limited only to the south end of the San Joaquin Valley, where visibility in Kern County fell to less than 1/4 mile for a only few hours, lifting around 2 am.</p>				
<b>(CA-Z096) S SIERRA MTNS, (CA-Z097) TULARE CTY MTNS</b>				
	12/11/14 10:00 PST		0	Heavy Snow
	12/12/14 18:00 PST		0	
<b>(CA-Z089) W CENTRAL S.J. VALLEY</b>				
	12/11/14 14:00 PST		0	Strong Wind (MAX 48 kt)
	12/12/14 02:00 PST		0.50M	
<b>(CA-Z095) KERN CTY MTNS</b>				
	12/11/14 15:00 PST		0	High Wind (MAX 91 kt)
	12/15/14 17:00 PST		0	
<b>MERCED COUNTY --- GUSTINE [37.25, -121.00]</b>				

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	12/11/14 18:00 PST		0	Heavy Rain
	12/12/14 18:00 PST		0	Source: Mesonet

Widespread reports of 1 to 2 inches of rain across Merced county with locally 2.5 inches of rain near Gustine. Reports of nuisance flooding included one lane closed on Highway 165 near Livingston, roadway flooding approximately 1.5 feet deep 6 mile southwest of Gustine and minor street flooding in the town of Gustine.

### FRESNO COUNTY --- (FAT) AIR TERMINAL [36.77, -119.72]

	12/11/14 21:00 PST		0	Heavy Rain
	12/12/14 18:00 PST		0	Source: Mesonet

Widespread rainfall amounts of 1 to 2 inches across the San Joaquin Valley portion of Fresno county with up to 2.5 inches in the foothills. Nuisance roadway flooding reported in Fresno and Clovis.

### KINGS COUNTY --- HANFORD [36.33, -119.65]

	12/11/14 21:00 PST		0	Heavy Rain
	12/12/14 18:00 PST		0	Source: Mesonet

Widespread rainfall amounts of 1 to 2 inches across the Kings county. Nuisance roadway flooding.

### MADERA COUNTY --- MADERA [36.97, -120.07]

	12/11/14 21:00 PST		0	Heavy Rain
	12/12/14 18:00 PST		0	Source: Mesonet

Widespread rainfall amounts of 1 to 2 inches reported across the San Joaquin Valley portion Madera county with up to 2.5 inches in the foothills. Nuisance flooding of roadways.

### TULARE COUNTY --- TULARE [36.22, -119.35]

	12/11/14 21:00 PST		0	Heavy Rain
	12/12/14 18:00 PST		0	Source: Mesonet

Widespread rainfall amounts of 1 to 2 inches across the San Joaquin Valley portion of Tulare county with up to 2.6 inches in the foothills. Nuisance roadway flooding reported near the city of Tulare.

### KERN COUNTY --- (BFL)MEADOWS FIELD AP [35.43, -119.05]

	12/11/14 23:00 PST		0	Heavy Rain
	12/12/14 18:00 PST		0	Source: Mesonet

Widespread rainfall amounts of 1 to 2 inches were reported across Kern County. Roadway flooding was reported along Interstate 5 at Copus Road. Flooding was also reported along Highway 99 west of Lamont, closing the highway for a few hours. Along highway 178, the heavy rain resulted in debris flow from a recent burn area and closed the east bound lane of the highway at the mouth of the Kern Canyon, east of Bakersfield.

### (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

	12/14/14 00:55 PST		0	Dense Fog
	12/15/14 08:00 PST		0	

A strong cold front moved into central California on Thursday, December 11 and continued to impact the region through December 13. This system brought strong southerly winds across the Tehachapi mountains and into the San Joaquin Valley from the afternoon of the 11th to the morning of the 12th. During this time, winds gusted 70 to 90 mph across the mountains of Kern county with one gust of 105 mph reported at Grapevine Peak RAWS. In the San Joaquin Valley, winds gusted 40 to 60 mph, with the strongest winds occurring across Merced county south through western Fresno county and throughout Kern county. There was widespread minor wind damage across Kern county, including trees toppled, power poles down, and fences blown over. One report included approximately 2000 almond trees down northwest of Bakersfield, with a valued loss of \$0.2M-0.5M. It was reported that 9,000 people lost power in the Bakersfield area during the storm.

This storm system also brought heavy rain and snow beginning late on December 11 and continuing through December 13. Rainfall amounts were generally 1 to 3 inches across the San Joaquin Valley, the lower elevations of the Sierra Nevada, the Sierra Foothills, and the mountains of Kern county. Even the desert portion of Kern county received a tenth of an inch to as much as 1.5 inches of rain. The heavy rain resulted in widespread nuisance flooding, notably in Gustine, the Fresno area, and the Bakersfield area. A portion of Highway 99 (Taft Highway underpass) was closed for a period due to flooding during the morning of Friday, December 12. While a Flood Watch was issued for the Rim Fire burn scar, no impacts were noted.

Snow was reported as low as 3600 feet where up to 2 inches of snow fell. Otherwise snow amounts ranged from about 8 inches to as much as 20 inches in the Sierra Nevada. NOHRSC analysis showed average snow water equivalent (SWE) in the Sierra increased from 0.4"

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to 1.1" and area covered by snow was up to 55.7% from 16.3%. A few inches of snow also fell across parts of Kern county.

As the storm departed, there areas of dense fog developed in the San Joaquin Valley, becoming widespread on December 13 and 14. Another storm system moved into the region on Monday, December 15. Although much weaker than the previous storm, it produced gusty winds in the Kern county mountains and light snow in the Sierra Nevada.

(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

12/21/14 00:01 PST	0	Dense Fog
12/24/14 09:00 PST	0	

High pressure helped create stable conditions in the San Joaquin Valley. After the recent rain, the stable conditions led to dense fog formation during the early morning hours on December 21, again on the morning of December 23 and December 24. The fog covered much of the central and southern San Joaquin Valley with visibility less than 1/4 mile. In some areas, visibility fell to less than 200 feet. The dense fog impacted the morning commute, including airline traffic at the Fresno-Yosemite International Airport where visibility dropped to 1/16 of a mile on December 21 and 1/8 mile for a few hours on December 23. Several minor accidents were reported by the CHP, but no known injuries.

(CA-Z099) SE KERN CTY DESERT

12/25/14 01:00 PST	40K	High Wind (MAX 70 kt)
12/25/14 03:20 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

12/27/14 03:00 PST	0	Frost/Freeze
12/27/14 09:00 PST	0	

A storm system that moved through just before Christmas brought gusty winds across the mountains and desert areas of Kern county as well as the west side of the San Joaquin Valley early in the morning on December 25. Wind gusts of 35 to 45 mph were common with a few gusts over 60 mph reported in the desert areas of Kern county. Following this system, colder air moved into the San Joaquin Valley, resulting in below freezing temperatures on the morning of December 27. Temperatures dropped to 29 to 32 degrees for several hours, however, no crop damage was reported.

(CA-Z095) KERN CTY MTNS

12/30/14 14:00 PST	0	Heavy Snow
12/30/14 22:00 PST	0	

(CA-Z096) S SIERRA MTNS

12/30/14 17:00 PST	50K	Strong Wind (MAX 48 kt)
12/31/14 13:00 PST	0	

A ridge of high pressure off the west coast along with a low pressure system dropping south through the inter-mountain west brought light precipitation to the Sierra Nevada on the 29th and 30th, with some rain and snow in the Kern county mountains as well. Although only a few inches of snow fell over the mountains of Kern county, it was enough to cause the closure of Interstate 5 by late afternoon on December 30. The snow also caused ice and snow covered roads on Highway 166 near Grocers Grade near the Kern-San Luis Obispo county line. This system also brought strong northeast winds over the Sierra Nevada on December 30 and 31, resulting in trees being blown down, power outages, and a ski lift being disabled, stranding 40 people on the lift.