Storm Data and Unusual Weather Phenomena - December 2018

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

CALIFORNIA, South Central

(CA-Z092) SE S.J. VALLEY

	12/01/18 07:35 PST	0	Dense Fog
	12/01/18 09:15 PST	0	

Patches on dense fog formed during the morning of December 1 in Tulare County. The fog completely dissipated by late morning as an incoming frontal boundary mixed out the atmosphere. Rain and higher elevations snow spread across the region by the afternoon of December 1 with much of the San Joaquin Valley picking up between one and two tenths of an inch of rainfall. Much of the Southern Sierra Nevada picked up between a quarter to three quarters of an inch of precipitation while elevations above 5000 feet picked up between 5 and 10 inches of snowfall north of Kings Canyon and between 3 and 5 inches of snowfall south of Kings Canyon.

(CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z092) SE S.J. VALLEY

	12/02/18 04:55 PST	0	Dense Fog
	12/02/18 09:56 PST	0	

As the low pressure system that was responsible for the light to moderate precipitation across the area on December 1 moved out of the area on the morning of December 2, high pressure built inland and brought clearing skies and decreased winds to the San Joaquin Valley. With residual moisture from the previous day's storm in place dense fog formed during the morning in portions of the central and south San Joaquin Valley. The fog lifted by late morning.

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

	12/04/18 12:13 PST	0	High Wind (MAX 60 kt)
	12/05/18 08:00 PST	0	

(CA-Z095) KERN CTY MTNS

	12/04/18 19:00 PST	1K	Strong Wind (MAX 48 kt)
	12/04/18 19:00 PST	0	

A large low pressure system dropped slowly southward off the California coast on December 4 and 5. This resulted in a strong offshore pressure gradient over central California which produced strong winds in the downslope prone areas in Kern County. Several reports of peak gusts exceeding 40 mph were reported in the Kern County Mountains and the south end of the San Joaquin Valley between the late morning of December 4 through the early morning of December 5.

(CA-Z095) KERN CTY MTNS

	12/06/18 07:00 PST	0.25M	Winter Weather
	12/06/18 15:00 PST	0	

The low pressure system which was responsible for the strong winds in portions of the central California interior on December 4 and 5 made an eastward turn on December 6 and pushed inland across southern California. This resulted in showers pushing inland across southern California during the morning of December 6. Instability which resulted from the proximity of the low resulted in the snow level lowering to 4000 feet, and while accumulations were generally light, the snow produced hazardous travel conditions which resulted in several accidents and vehicles becoming stuck. Several roads were closed in the Kern County Mountains (including Interstate 5 in the Grapevine area) until the damaged and disabled vehicles could be removed by early afternoon when the snow tapered off.

(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

	12/07/18 00:10 PST	0	Dense Fog
	12/07/18 10:50 PST	0	

As the low pressure system that was responsible for the strong winds on December 4 and 5 and the snow which disrupted travel over the Kern County Mountains on December 6 moved east of our area, high pressure built in bringing clearing skies and diminished winds to the San Joaquin Valley on the morning of December 7. This resulted in the formation of widespread dense fog over the San Joaquin Valley which adversely impacted travel on several major highways including on State Routes 99, 41, 180 and 152 and caused several school districts to ether delay morning bus service or open late. The fog dissipated in most of the valley by late morning.

(CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z092) SE S.J. VALLEY

	12/08/18 01:40 PST	0	Dense Fog
	12/09/18 00:55 PST	0	

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

High pressure strengthened over the area on December 8. With winds remaining light in the San Joaquin Valley and skies having cleared out the previous afternoon. Widespread dense fog developed in the San Joaquin Valley during the early morning hours impacting travel along several of the major highways in the valley. While the fog lifted into a low clouds deck across most the the valley, the dense fog persisted in the Merced and Atwater areas into the afternoon and reformed during the evening. Visibility finally improved during the early morning of December 9 as the fog lifted into a low cloud deck.

(CA-Z095) KERN CTY MTNS

	12/10/18 16:35 PST	0	Dense Fog
	12/11/18 08:35 PST	0	

As the low cloud deck that had persisted over the San Joaquin Valley for the previous 3 days continued to lift, the low clouds spread out and formed a a layer of dense fog in upslope areas in the Kern County Mountains during the afternoon on December 10 which impacted travel on Interstate 5 and State Route 58. The fog burned off by late morning on December 11.

(CA-Z095) KERN CTY MTNS

	12/12/18 06:32 PST	0	High Wind (MAX 57 kt)
	12/12/18 07:14 PST	0	

A strong low pressure system moved through the Pacific Northwest on December 11 and 12. A cold front associated with this system dropped southward through Central California during the morning of December 12. While this system was dry and did not have any precipitation associated with it, it did produce strong winds over the Kern County Mountains and Deserts for a brief period. Several stations reported gusts exceeding 35 mph while a few low impact indicator sites reported wind gusts above 50 mph.

(CA-Z092) SE S.J. VALLEY

	12/14/18 01:52 PST	0	High Wind (MAX 63 kt)
	12/14/18 01:52 PST	0	

A strong southwest jet mixed down to the mountains in Kern County during the early morning of December 14. Downslope winds then developed over the Grapevine area and impacted travel along Interstate 5. Only a few stations had wind gusts exceeding 45 mph, but the California Highway Patrol station near Grapevine measured a peak gust of 73 mph. The winds diminished by late morning.

MERCED COUNTY --- 12.1 W SANTA NELLA [37.07, -121.22], 12.0 W SANTA NELLA [37.07, -121.22], 12.2 W SANTA NELLA [37.07, -121.22], 12.2 W SANTA NELLA [37.07, -121.22]

	12/16/18 21:42 PST	0	Debris Flow
	12/16/18 23:42 PST	0	Source: Law Enforcement

California Highway Patrol reported large rocks on on State Route 152 at Dinosaur Point.

FRESNO COUNTY --- 4.3 NW OXALIS [36.97, -120.60], 4.2 NW OXALIS [36.97, -120.60], 4.3 NW OXALIS [36.97, -120.60], 4.3 NW OXALIS [36.97, -120.60]

	12/16/18 22:08 PST	0	Flood (due to Heavy Rain)
	12/17/18 00:08 PST	0	Source: Law Enforcement

California Highway Patrol reported flooding at the intersection of Shain Ave. and Brannon Ave. near Dos Palos.

MERCED COUNTY --- 1.5 E DOS PALOS [37.05, -120.60], 1.6 E DOS PALOS [37.05, -120.60], 1.7 E DOS PALOS [37.05, -120.60], 1.6 ENE DOS PALOS [37.05, -120.60]

	12/16/18 22:10 PST	0	Flood (due to Heavy Rain)
	12/17/18 00:10 PST	0	Source: Law Enforcement

California Highway Patrol reported flooding at the intersection of Indiana Rd. and Santa Rita Grade near Dos Palos.

MARIPOSA COUNTY --- 2.2 W MARIPOSA [37.48, -120.01], 2.2 W MARIPOSA [37.48, -120.01], 2.2 W MARIPOSA [37.48, -120.01], 2.3 W MARIPOSA [37.48, -120.01]

	12/17/18 08:25 PST	0	Flood (due to Heavy Rain)
	12/17/18 09:25 PST	0	Source: Law Enforcement

California Highway Patrol reported moving water on Yaqui Gulch road at 4900 block just to the south of State Route 140.

A cold front that was associated with a moist upper trough pushed across central California on December 17. This system brought moderate to locally heavy rainfall from Fresno County northward the late evening of December through the morning of December 17 where several stations reported a half inch to an inch and a quarter of rainfall, and there were several reports of mainly nuisance flooding during this time period. The precipitation mainly fell as snow above 6500 feet where several stations in the Southern Sierra

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Nevada north of Fresno County picked up between 3 and 6 inches of new snow. Further south the rainfall was less plentiful with most locations receiving between a few hundredths of an inch to a quarter of an inch of rain by the time the precipitation ended by early afternoon on December 17.

(CA-Z095) KERN CTY MTNS

12/17/18 20:13 PST	0	Dense Fog
12/18/18 00:03 PST	0	

Upslope flow behind the departing trough banked up against the Tehachapi Mountains during the evening of December 17 producing areas of dense fog which impacted travel along the major passes for a few hours. Visibility was reduced to a few hundred feet in the Grapevine area where California Highway Patrol paced traffic for nearly four hours on Interstate 5. The fog lifted into a stratus deck around midnight on December 18 and visibility along the passes rapidly improved.

(CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY

12/18/18 07:00 PST	0	Dense Fog
12/18/18 10:15 PST	0	

High pressure built inland into Central California during the morning of December 18. With light winds and clearing skies, dense fog developed toward daybreak along the State Route 99 corridor between Atwater and Fresno and briefly around Hanford. The fog dissipated by late morning.

(CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z092) SE S.J. VALLEY

12/19/18 00:15 PST	0	Dense Fog
12/19/18 08:54 PST	0	

High pressure prevailed over California on December 19. While stratus kept fog from forming in Merced County and in the south end of the valley, dense fog prevailed over portions of the central and south San Joaquin Valley for much of the morning, but had dissipated at most locations by around 900 am PST.

(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

12/19/18 19:25 PST	0	Dense Fog
12/20/18 11:53 PST	0	

A strong upper ridge was centered over California on the morning of December 20. With clear skies, light winds and inversion conditions all present, an area dense fog formed over the San Joaquin Valley from south of Fresno to north of Wasco. Several observations of visibility below an eighth of a mile were reported by airport equipment or by law enforcement, and as a result of the dense fog, traffic was paced on some of the major highways and several school districts either had delayed openings or delayed bus service. The fog finally lifted by late morning and visibility improved during the afternoon.

(CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY, (CA-Z092) SE S.J. VALLEY

12/21/18 00:30 PST	0	Dense Fog
12/21/18 10:55 PST	0	

Although the upper ridge that was centered over California weakened and shifted east during the morning of December 21, areas of dense fog formed in the central and south San Joaquin Valley and impacted travel along the State Route 99 corridor between Merced and Visalia. Only a few school districts in Tulare County delayed bus service as the fog coverage was not as extensive as during the previous morning. The fog dissipated by late morning as a cold front moved through the area.

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

12/22/18 04:35 PST	0	Dense Fog
12/22/18 07:40 PST	0	

A cold front pushed southward through central California during the afternoon of December 21. A brisk northwest flow behind the front resulted in upslope low clouds and areas of dense fog in the south end of the San Joaquin Valley and along the valley facing slopes of the Tehachapi Mountains during the morning of December 22. Traffic was impacted for a few hours along States Route 99 and 58 in Bakersfield and along State Route 58 in Tehachapi. The low clouds and fog lifted by late morning.

(CA-Z095) KERN CTY MTNS

12/23/18 19:15 PST	0	Dense Fog
12/24/18 01:55 PST	0	

Dense fog formed in the Tehachapi area during the evening of December 23 as a result of upslope clouds banking up along the nearby valley facing mountain slopes. The fog impacted travel along State Route 58 for a few hours before dissipating overnight.

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
(CA-Z095) KERN CTY MTNS				
	12/25/18 03:14 PST		0	High Wind (MAX 63 kt)
	12/25/18 05:27 PST		0	
(CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z092) SE S.J. VALLEY				
	12/25/18 05:50 PST		0	Dense Fog
	12/25/18 08:35 PST		0	

A low pressure system moved through central California during the evening of December 24 and the morning of December 25. The "Christmas Storm" produced half and inch to an inch of liquid precipitation across much of the Southern Sierra Nevada while most of the San Joaquin Valley picked up between one and three tenths of and inch of rain while the Tehachapi Mountains picked up between a quarter to half an inch of liquid precipitation. The precipitation fell mainly as snow above 6000 feet, but amounts were generally light. A few stations along the southern Sierra crest picked up between 4 and 6 inches of new snow. This system also produced strong winds on Christmas morning over the Kern County Mountains and deserts where several locations reported gusts exceeding 40 mph while a few low impact indicator sites measured gusts near 70 mph. Finally, as winds diminished behind the system in the San Joaquin Valley, area of dense fog formed toward daybreak near Fresno and Porterville; but the fog dissipated by late morning.

(CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY				
	12/27/18 02:35 PST		0	Dense Fog
	12/27/18 09:35 PST		0	
(CA-Z095) KERN CTY MTNS				
	12/27/18 03:14 PST		0	High Wind (MAX 52 kt)
	12/27/18 03:14 PST		0	
(CA-Z095) KERN CTY MTNS				
	12/27/18 09:35 PST		0	Avalanche
	12/27/18 13:15 PST		0	

Areas of dense fog formed during the morning of December 27 as clear skies and light winds prevailed over the San Joaquin Valley. The fog resulted in some minor vehicle accidents in the Fresno area as the fog reduced visibility to a few hundred feet. However, the fog dissipated in the San Joaquin Valley by late morning as a cold front pushed southward through central California. Areas of dense fog persisted through the early afternoon along the valley facing slopes of the Tehachapi Mountains as a result of strong upslope flow that accompanied the front. The cold front also produced a period of gusty winds along the west side of the San Joaquin Valley as well as along and below the passes in Kern County where several stations measured gusts above 35 mph.

(CA-Z090) E CENTRAL S.J. VALLEY, (CA-Z091) SW S.J. VALLEY				
	12/28/18 02:55 PST		0	Dense Fog
	12/28/18 10:15 PST		0	
(CA-Z096) S SIERRA MTNS				
	12/28/18 07:52 PST		0	High Wind (MAX 58 kt)
	12/28/18 07:52 PST		0	

A dry shortwave dropped southward just to the east of the Sierra crest as an upper trough deepened over the Desert Southwest during the morning of December 28. Meanwhile, an upper ridge pushed inland into northern California setting up a period of strong offshore Mono type winds along the crest of the Southern Sierra Nevada. This resulted in a closure of the China Peak ski resort as winds gusted around 55 mph at the top of the lifts. Meanwhile the center of the San Joaquin Valley was sheltered form the winds and clear skies overnight some locally dense fog formed and impacted traffic along State Route 99.

(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				
	12/29/18 02:00 PST		0	Frost/Freeze
	12/30/18 08:00 PST		0	

A cold and dry northerly flow aloft prevailed over Central California ahead of an offshore upper ridge. This resulted in strong radiational cooling taking place in the San Joaquin Valley on the mornings of December 29 and December 30 with the dry low level air resulting inhibiting fog formation. As result, temperatures dropped below the freezing mark across much of the San Joaquin Valley on both mornings resulting in this being the first widespread freeze of the season in the valley.

(CA-Z093) S SIERRA FOOTHILLS

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	12/31/18 08:14 PST		0	High Wind (MAX 59 kt)
	12/31/18 08:14 PST		0	
(CA-Z093) S SIERRA FOOTHILLS				
	12/31/18 08:42 PST		1.50K	Strong Wind (MAX 43 kt)
	12/31/18 11:31 PST		0	

A strong shortwave trough dropped down through the Great Basin during the morning of December 31. With high pressure pushing inland into northern California behind the trough, offshore Mono type winds developed over the higher elevations of the southern Sierra Nevada which down-sloped into the foothills. This resulted in several drought weakened trees being knocked down in the foothills near North Fork and Oakhurst where locally strong wind gusts exceeding 60 mph were reported.