

Storm Data and Unusual Weather Phenomena - May 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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CALIFORNIA, South Central

(CA-Z096) S SIERRA MTNS

05/01/09 16:00 PST		0	Winter Storm
05/02/09 02:30 PST		0	

(CA-Z097) TULARE CTY MTNS

05/01/09 16:00 PST		0	Winter Weather
05/02/09 02:30 PST		0	

May began with a strong upper-level trough moving into California, bringing locally heavy showers to the region. The trough tapped into a deep fetch of subtropical moisture, resulting in high snow levels—above 9000 feet for much of the event, and ultimately no lower than 8200 feet. Fresno received 0.40 inch of rain on May 1st, more than the normal of 0.39 inch for the entire month. Bakersfield received nearly as much, with the rain gauge at Meadows Field measuring 0.35 inch; the normal for the month of May at Bakersfield is 0.24 inch. In the Southern Sierra Nevada, Yosemite Valley received just over 2 inches of rain, and over 1.8 inch of rain fell as far south as Lodgepole in Sequoia National Park. In the high country of the Southern Sierra Nevada, snow did fall, with up to 15 inches at Upper Burnt Corral (9,700 feet). The rain tapered off on May 2nd, as a weak short-wave move through the region behind the main trough, and only a few showers lingered into the 3rd.

(CA-Z095) KERN CTY MTNS, (CA-Z099) SE KERN CTY DESERT

05/05/09 10:57 PST		1.50K	Strong Wind (MAX 49 kt)
05/06/09 23:27 PST		0	

A low pressure trough moved into central California on May 5th, bringing only light precipitation to the Southern Sierra Nevada. This trough did, however, tighten surface pressure gradients across the region, producing gusts to 52 mph at River Kern and sustained winds of 32 mph at Edwards AFB.

(CA-Z099) SE KERN CTY DESERT

05/12/09 16:47 PST		0	High Wind (MAX 63 kt)
05/12/09 22:00 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

05/15/09 11:00 PST		0	Heat
05/16/09 20:00 PST		0	

Temperatures slowly warmed through May 6th, then the central and southern San Joaquin Valley cooled a few degrees on the 7th as a push of marine air filled the Valley. This pool of marine air rapidly mixed out, and Fresno had a high of 90 degrees on May 9th. Temperatures then leveled off for a couple of days, before the next low-pressure system brought cooling to interior central California on the 12th. This low-pressure trough also brought strong winds to the Kern County desert, with gusts to 47 mph at Edwards AFB during the afternoon of May 12th, and gusts as high as 73 mph at Mojave that evening.

Weak high pressure over the state brought another slow warming trend to the region. Fresno again reached 90 on May 15th, but Bakersfield still had not reached 90 by that point. Things changed abruptly the next day, as the ridge strengthened over the state and temperatures jumped as much as 10 degrees. Bakersfield went from a high of 88 on May 15th to 99 the next day, and topped out at a record-setting 105 degrees on May 17th. Fresno was even warmer, reaching 106, as did Naval Air Station, Lemoore. Castle Airport in Merced County reached 108 degrees, and Coalinga sizzled at 110 degrees.

KERN COUNTY --- 0.9 SW EDWARDS [34.91, -117.93]

05/18/09 13:04 PST		0	Thunderstorm Wind (MG 64 kt)
05/18/09 13:30 PST		0	Source: Other Federal Agency

Thunderstorm outflow caused winds to gust up to 74 mph near Edwards Air Force Base. Winds were measured on a NASA wind tower at 33 feet. Winds lasted for 30 minutes or more.

KERN COUNTY --- (EDW)EDWARDS AFB [34.92, -117.90]

05/18/09 13:40 PST		0	Thunderstorm Wind (MG 52 kt)
05/18/09 13:50 PST		0	Source: ASOS

TULARE COUNTY --- 2.8 S MINERAL KING [36.41, -118.58]

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	05/18/09 15:00 PST		0	Funnel Cloud
	05/18/09 15:00 PST		0	Source: Trained Spotter

A trained spotter reported a funnel cloud.

KERN COUNTY --- 3.6 WNW INYOKERN AIRPORT [35.69, -117.89]				
	05/18/09 15:13 PST		0	Thunderstorm Wind (MG 63 kt)
	05/18/09 15:18 PST		0	Source: Mesonet

Thunderstorm outflow generated severe wind gusts.

MARIPOSA COUNTY --- 3.0 NNE MIDPINES [37.59, -119.90]				
	05/18/09 15:48 PST		1.50K	Thunderstorm Wind (EG 50 kt)
	05/18/09 15:55 PST		0	Source: Law Enforcement

California Highway Patrol reported 3 trees downed across SR 140 near Briceburg.

TULARE COUNTY --- 17.2 ENE JOHNSONDALE [36.09, -118.26]				
	05/18/09 17:21 PST		0	Thunderstorm Wind (MG 51 kt)
	05/18/09 17:26 PST		0	Source: Mesonet

Severe criteria wind gusts from a severe thunderstorm.

While high pressure was strengthening over the West Coast, an upper-level low off Baja California began spinning subtropical moisture into California from the southeast. A few thunderstorms developed over the Southern Sierra Nevada on the 17th, but convection was widespread across the region the next day. By the afternoon of May 18th, thunderstorms had developed over the Kern County desert near Edwards Air Force Base, and over extreme southeastern San Luis Obispo County. The latter storm drifted north into the far western portion of Kern County. Four Severe Thunderstorm Warnings were issued during the afternoon; two verified, including the storm near Edwards Air Force Base. There was a lull in the activity around sunset, then an upper-level disturbance moved northwest along the Southern Sierra Nevada, triggering another round of thunderstorms. The strongest storms were over the mountains of Madera and Mariposa Counties, and as these thunderstorms collapsed, outflow winds caused more storms to develop. Ultimately, the thunderstorms propagated westward into Merced County before finally ending late in the evening. Rainfall from these storms mostly was under a tenth of an inch, although Yosemite Valley recorded 0.33 inch, with a quarter inch of rain falling in one hour.

MADERA COUNTY --- COARSEGOLD [37.27, -119.70], 1.0 SW COARSEGOLD [37.26, -119.71], 2.0 S COARSEGOLD [37.24, -119.70], 1.0 E COARSEGOLD [37.27, -119.68]				
	05/27/09 15:30 PST		0	Flash Flood (due to Heavy Rain)
	05/27/09 15:50 PST		0	Source: Trained Spotter

A trained SKYWARN spotter reported 1 inch of rain in only 45 minutes in Coarsegold. Several mudslides reported on SR 41 near Coarsegold.

MADERA COUNTY --- 0.7 S COARSEGOLD [37.26, -119.70]				
	05/27/09 15:40 PST		30K	Hail (1.50 in)
	05/27/09 15:40 PST		0	Source: Trained Spotter

A trained SKYWARN weather spotter reported numerous windshields broken in the Coarsegold area and along SR 41 near the Chukchansi Report.

MADERA COUNTY --- 0.7 S COARSEGOLD [37.26, -119.70]				
	05/27/09 15:45 PST		0	Hail (0.88 in)
	05/27/09 15:45 PST		0	Source: Broadcast Media

Local broadcast media reported Nickel size hail near Coarsegold.

MADERA COUNTY --- 4.5 NNW ONEALS [37.19, -119.73]				
	05/28/09 16:30 PST		0	Hail (0.75 in)
	05/28/09 16:40 PST		0	Source: Trained Spotter

A spotter at Yosemite Lakes reported penny size hail.

MARIPOSA COUNTY --- 1.3 WSW YOSEMITE VLG [37.74, -119.60]				
	05/28/09 16:30 PST		0	Hail (0.75 in)
	05/28/09 16:30 PST		0	Source: Public

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A spotter reported penny sized hail in Yosemite National Park.				
TULARE COUNTY --- 0.9 SW PORTERVILLE [36.06, -119.03]				
	05/28/09 19:00 PST		12K	Thunderstorm Wind (EG 55 kt)
	05/28/09 19:10 PST		0	Source: Law Enforcement
Law enforcement in Porterville reported a roof blown off a barn due to outflow winds from a severe thunderstorm.				
TULARE COUNTY --- 3.0 E VISALIA [36.33, -119.25]				
	05/28/09 19:30 PST		2K	Thunderstorm Wind (EG 50 kt)
	05/28/09 19:35 PST		0	Source: NWS Employee
NWS Employee reported trees down and near zero visibility in blowing dust along SR 198 just east of Visalia.				
TULARE COUNTY --- OROSI [36.55, -119.28]				
	05/28/09 19:37 PST		1.50M	Thunderstorm Wind (EG 50 kt)
	05/28/09 19:42 PST		0	Source: NWS Storm Survey
NWS officials toured damage around the town of Orosi in Tulare County. Extensive wind damage from thunderstorm outflow in the town was evident. Several homes exhibited minor roof damage. Fences and trees were damaged or downed. Property damages were estimated. NWS concluded that a gust front tornado, commonly called a gustnado, occurred in this location, based on damage pattern as well as patterns indicated in tall dry grass and tree trunks and tops, and eyewitness accounts. Gust front tornadoes can occur in the outflow of a severe thunderstorm and are not considered to be true tornadoes. Winds were estimated at 60 mph.				
TULARE COUNTY --- 4.2 S LINNELL [36.62, -119.21]				
	05/28/09 19:40 PST		0.13M	Hail (1.50 in)
	05/28/09 19:50 PST		0	Source: Trained Spotter
A trained NWS spotter reported ping pong ball sized hail (1.5 inches in diameter) 6 miles east of Orange Cove. The large hail caused broken windows, roof damage, dented metal and damaged windshields on cars.				
TULARE COUNTY --- 0.6 E CINOWTHS CORNER [36.33, -119.32]				
	05/28/09 19:45 PST		0	Hail (1.00 in)
	05/28/09 19:50 PST		0	Source: Trained Spotter
A trained spotter reported quarter sized hail on the west side of Visalia.				
TULARE COUNTY --- GOSHEN [36.35, -119.42]				
	05/28/09 20:05 PST		1K	Thunderstorm Wind (EG 50 kt)
	05/28/09 20:05 PST		0	Source: Trained Spotter
A three foot diameter tree was downed by severe thunderstorm winds.				
FRESNO COUNTY --- 0.9 NE ORANGE COVE [36.64, -119.31]				
	05/28/09 20:13 PST		60K	Thunderstorm Wind (EG 50 kt)
	05/28/09 20:18 PST		0	Source: County Official
County officials reported a large tree downed onto a house from severe thunderstorm winds.				
KINGS COUNTY --- HANFORD [36.33, -119.65]				
	05/28/09 20:15 PST		7K	Thunderstorm Wind (EG 55 kt)
	05/28/09 20:20 PST		0	Source: NWS Employee
NWS Employee reported 2 large trees downed in Hidden Valley Park in Hanford.				
FRESNO COUNTY --- REEDLEY [36.60, -119.45]				
	05/28/09 20:22 PST		2K	Thunderstorm Wind (EG 50 kt)
	05/28/09 20:32 PST		0	Source: County Official
Officials reported a large tree downed in Reedley due to severe thunderstorm winds.				
KINGS COUNTY --- 0.6 W SHORT ACRES [36.35, -119.66]				

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	05/28/09 20:25 PST		12K	Thunderstorm Wind (EG 55 kt)
	05/28/09 20:30 PST		0	Source: Public

The public reported three tree trunks sheared. One tree fell on a canopy. The other two trees were sheared about 5 feet above the ground.

KINGS COUNTY --- 1.1 E ROSSI [36.30, -119.81]

05/28/09 20:40 PST	50K	Thunderstorm Wind (EG 50 kt)
05/28/09 20:50 PST	0	Source: NWS Employee

NWS Employee reported several power poles knocked down by high thunderstorm winds on the west side of Lemoore.

FRESNO COUNTY --- 0.9 SE HAMMOND [36.76, -119.77]

05/28/09 20:44 PST	3K	Thunderstorm Wind (EG 50 kt)
05/28/09 20:50 PST	0	Source: Emergency Manager

A large tree was downed due to severe thunderstorm winds at the corner of Lincoln and Orange Streets in Fresno.

FRESNO COUNTY --- 1.1 E SANGER [36.70, -119.55]

05/28/09 20:45 PST	0	Thunderstorm Wind (EG 50 kt)
05/28/09 20:50 PST	0	Source: Emergency Manager

Emergency Management reported a large tree downed in the town of Sanger.

FRESNO COUNTY --- RIVERDALE [36.43, -119.87]

05/28/09 20:55 PST	2.50K	Thunderstorm Wind (EG 50 kt)
05/28/09 21:00 PST	0	Source: County Official

County government reported a large tree downed in Riverdale.

KERN COUNTY --- 4.5 SSE RUNNINGTON [34.91, -118.04]


05/29/09 12:45 PST	0	Thunderstorm Wind (MG 62 kt)
05/29/09 12:50 PST	0	Source: Other Federal Agency

Outflow winds from a severe thunderstorm. Report relayed by NASA employees.

An upper-level ridge built into California beginning May 27th, bringing another warming trend to interior central California. Fresno warmed to 99 degrees on the 27th, and reached 102 the next day. A weak low off Baja California spun mid-level moisture into California from the south, and the combination of heat and moisture triggered strong thunderstorms over the Southern Sierra Nevada and the Tehachapi Mountains each afternoon and evening, beginning on May 27th and continuing through the end of the month. Hail up to 1.5 inch in diameter fell near the town of Orange Cove on the evening of the 28th, and as thunderstorms over the Sierra Nevada, and over San Luis Obispo County, collapsed, outflow winds pushed across the San Joaquin Valley, triggering thunderstorms over the eastern and central Valley. Two of the storms merged into a strong system that produced gusty winds that toppled numerous trees on the Valley floor, as well as 1-inch hail near Visalia. Strong winds also triggered a gust-front tornado (gustnado) that damaged a mobile home park in Orosi.

Convection was weaker on May 29th, as thunderstorms developed earlier and several of the storms were pushed north of the region by a more southeasterly flow aloft. However, this southeast flow also carried thunderstorms from northeastern Los Angeles and northwestern San Bernardino Counties into southeastern Kern County near Rosamond, Edwards AFB, and Boron. One thunderstorm collapsed as it passed west of Edwards AFB in the early afternoon, generating outflow winds that were measured at a peak of 62 knots (71 mph).

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Extensive damage occurred in and around an Orosi mobile home park. This photo shows partial damage to a roof.

Storm Data and Unusual Weather Phenomena - June 2009

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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CALIFORNIA, South Central

(CA-Z096) S SIERRA MTNS

06/01/09 00:00 PST	0	Wildfire
06/30/09 23:59 PST	0	

Thunderstorms developed over western Fresno County during the evening of June 4th, and rapidly grew in intensity. One severe thunderstorm had a reflectivity of 73 dBz, and a VIL (vertically integrated liquid) of 43 g/kg. Hail up to an inch in diameter fell near the town of Helm, and outflow winds were estimated at around 60 mph.

The low finally moved onshore on the 5th, and lifted northeast into northern Nevada that evening. An upper-level trough remained over California, with an unseasonably cold airmass aloft. Upper-level impulses moving through the trough continued the threat of afternoon and evening mountain convection, with isolated light showers drifting over the San Joaquin Valley at times. Temperatures fell to some 10-15 degrees below normal, and stayed well below normal for the next week.

The "Grouse" wildfire that was sparked by lightning on May 30th continued through the month of June. The ignition time was 1400 PST on May 30th, the location was 3 miles southwest of Yosemite Valley in Mariposa County. The size of the fire was 3047 acres. The cost to containment was \$2.9 million. The containment date was July 13th.