

# **A History of Significant Weather Events in Southern California**

## **Organized by Weather Type**



Compiled January 2007

The following weather events occurred in or near the forecast area of the National Weather Service in San Diego, which includes Orange and San Diego Counties, southwestern San Bernardino County, and western Riverside County. Some events from Los Angeles and surrounding areas are included. Events were included based on infrequency, severity, and impact.

Note: This listing is not comprehensive.

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## Heavy Rain: Flooding and Flash Flooding, Mud Slides, Debris Flows, Landslides

Date(s)	Weather	Adverse Impacts
1825	A great flood changed the course of the Santa Ana River.	
10.2.1858	Category 1 hurricane hits San Diego, the only actual hurricane on record to strike California. Implied winds of 75 mph.	Extensive wind damage to property (F2). Streets swept clean by heavy rains.
1861-1862	Epic floods. It rained 30 days in succession, beginning 12.24.1861 to 1.23.1862. 35" fell in LA. In San Diego over 7" fell in January alone.	The Santa Ana River in Anaheim ran 4' deep and spread in an unbroken sheet to Coyote Hills, 3 miles beyond (present Fullerton). The worst flooding in San Diego County occurred after six weeks of rain. All of Mission Valley was underwater, Old Town was evacuated. The tide backed its waters into the San Diego River and cut a new channel into the bay. 20 died in Orange County.
8.11-12.1873	1.95" fell in San Diego from a tropical storm. 1.80" fell on 8.12, the wettest calendar day in August on record. 1.72" fell in Paradise Valley (SE San Diego). Nearly 3" fell in "Cajon Ranch". This was called the greatest summer rainfall in history. The previous daily August rainfall record was 0.31" in 1867.	1' of water was reported on the ground at "Cajon Ranch".
12.4.1873	2.52" of rain fell in San Diego, the ninth wettest calendar day on record and the third wettest December day.	
11.9.1879	2.68" of rain fell in San Diego, the fifth wettest calendar day on record and the wettest November day.	
12.29-30.1879	4.23" fell in San Diego in 48 hours, the heaviest storm in 30 years.	

12.18.1880	Heavy rains.	San Diego streets flooded.
1.12.1882	2.49" of rain fell in San Diego, the tenth wettest calendar day on record and the second wettest January day. 4.75" fell in Poway.	
2.14-20.1884	5+" of rain falls in Spring Valley. Fallbrook gets heavy rain (more than 15" in the month). Rains continued all during the spring with disastrous results. The season ended as the wettest in San Diego history.	Flooding and damage to crops, livestock and railroads in the area, including Temecula Canyon. San Diego River "booming" through Mission Valley on 3.10.1884.
7.14.1886	LA records its greatest 24 hr rainfall amount for July: 0.24".	
8.31.1889	LA records its greatest 24 hr rainfall amount for August: 0.61".	
10.12.1889	A monsoon-type thunderstorm brought 7.58" to Encinitas in 8 hrs. 0.44" fell in San Diego.	
2.19-23.1891	33" of rain was reported in Descanso in a 60 hour period. 2.56" in San Diego. From 2.16 to 2.25, a total of 4.69" fell in San Diego. Reverend Father Ubach of St. Joseph's had prayed for rain on 2.2.1891.	Heavy damage and losses to homes, land, livestock, transportation and power throughout the Tijuana and San Diego River Basins. The worst was flooding along the Tijuana River where all structures were swept away and a man was killed. Three prospectors died at Table Mountain in Baja California.
8.12.1891	Two thunderstorm cells merge. 16.10" at Campo; 11.50" in 80 minutes, a record 80 minute rainfall for the state (and at one time the record 80 minute rainfall for the nation).	
12.9.1898	Heavy rain.	Railroad washed out and ½ mile covered in mud in Rose Canyon, near Pacific Beach. A trestle in Chollas was washed out. "Several hundred dollars" in damage.

7.20-21.1902	A dying tropical cyclone brought 2” of rain to the mountains and deserts of Southern California during a very strong El Niño event of 1901-02.	
7.25.1902	0.83 inch of rain fell in San Diego, the wettest calendar day in July on record.	
1905-1907	Heavy rainfall in 1905 in the Colorado River basin.	The Colorado River swells and eventually breaches an Imperial Valley dike. It took nearly two years to finally control the River’s flow into the Salton Basin and stop the flooding. The result of the sudden influx of water and the lack of natural drainage from the basin resulted in the formation of the Salton Sea.
3.15.1905	0.94” fell in San Diego in 30 minutes, the greatest 30 minute rainfall on record.	
3.24-25.1906	2.36” of rain fell in San Diego on 3.24, the wettest calendar day in March on record. Almost 1” in three hours. 5.10” at Cuyamaca, 4” at Escondido, Oceanside and Ramona, 3” in El Cajon and Lakeside. Storm totals: 6.41” in Oceanside, 6.30” in Escondido, and 2.78” in San Diego.	Widespread flooding in Fallbrook. Streets flooded and roads washed out in the San Diego Metro area.
8.18-19.1906	A tropical storm came up into the Gulf of California and the southwestern United States, giving the mountains and deserts heavy rainfall. Needles received 5.66” of rain, twice the normal of seasonal rainfall. This occurred during the El Niño of 1905-06.	

8.26.1915	The remnants of a tropical cyclone moved northward across northern Baja California into the deserts of southern California with rainfall of 1 inch at Riverside. This occurred during the strong El Niño of 1914-15.	
1.14-21.1916	Widespread heavy rains in Southern California. 16.71” in 24 hours at Squirrel Inn (near Lake Arrowhead) during 1.16 and 1.17, a record 24 hour rainfall for California until 1943. More than 9” fell in two storms in the Coachella Valley. Previous storms had deposited deep snow in the mountains, adding to the runoff.	Widespread flooding. At least 22 dead. Roofs in Chula Vista, poultry farm in Vista, boats in Coronado and Newport damaged. Most cities completely inundated. Pine trees from Palomar Mountain floating down San Luis Rey River through Oceanside. The cities of Indio, Coachella and Mecca underwater.
1.25-30.1916	Heavy rain exacerbates the flooding earlier in the month. Monthly rainfall totals for 1.1916 ranged from 7.56” at San Diego to 57.91” at Dorman’s Ranch (in San Bernardino Mtns., 2,500’ elev.) 5” fell in less than 12 hours in San Diego.	Most extensive flooding in Southern California to date and resulted in 28 total deaths in the region, 22 in San Diego County. This is the most destructive and deadly weather event in San Diego County History. The Lower Otay dam broke sending a 40’ wall of water downstream, killing 15. A few others drowned in Mission Valley and in the San Luis Rey River. The Sweetwater Dam also broke. Every large bridge in San Diego County but one was seriously damaged or destroyed. Four drowned in Orange County, two in a cottage floating down the Santa Ana River. Two drowned in San Bernardino County. Total damage was nearly \$8 million (1916 dollars).
8.20-21.1921	The remnants of a tropical cyclone tracked northward into western Arizona from central Baja California generating rainfall of up to 2” in the deserts and southern mountains of southern California. This occurred during the La Niña of 1920-21.	

9.30.1921	4" of rain fell on the deserts of Southern California as a result of a dying tropical cyclone that crossed Baja California and moved into southwestern Arizona. 1.23" of rain fell in San Diego, the wettest calendar day in September on record.	
12.24-26.1921	Heavy storm. 6.76" in LA. On 12.26 2.10" fell in Redlands, 1.71" in San Bernardino.	Flooded roads, bridges, railroads.
10.4.1925	2.95" fell at San Diego, the second wettest calendar day on record and the wettest in October.	
4.5.1926	3.23" at San Diego, the wettest calendar day on record. 0.65" fell in one minute at Opid's Camp in the San Gabriel Mountains.	
2.11-17.1927	Continual rain for 6 days. 21.86" fell at Cuyamaca, 13.10" at El Capitan, 10.70" at El Cajon, 9.54" at La Mesa and 6.33 at San Diego. On 2.17, 12.81" at Cuyamaca, 2.65" at El Capitan, 2.20" at El Cajon, 1.47 at La Mesa. Heavy warm rains melted mountain snows. Snow Creek recorded 7" of rain in one day.	Unprecedented flow of the Whitewater River. Floods washed out roads and bridges in Thousand Palms and Palm Desert. Levees broken, Thermal inundated. Several San Diego County dams overtopped, causing widespread flooding downstream. Bridges and roads were washed out in east San Diego metro area. Large areas of Long Beach, Fullerton and Anaheim inundated.
9.18.1929	A tropical cyclone moved north northwestward just off the west coast of Baja California, dissipating off the coast of northern Baja California. Rainfall of up to 4" occurred in the southern mountains and deserts of southern California on 9.18.	

9.28-10.1.1932	Four days of heavy rains from a dying tropical cyclone brought flooding to parts of the mountains and deserts of southern California. Rainfall of 4.38" fell at Tehachapi in 7 hours on 9.30. This occurred during the El Niño year of 1932-33.	Flooding to parts of the mountains and deserts. Floods on Agua Caliente and Tehachapi Creeks around Tehachapi resulted in 15 deaths.
12.30-1.1.1934	A major storm. 7.36" in 24 hrs at LA (8.26" storm total since 12.30.1933). Storm totals in southern slopes of mountains topped 12" (heaviest: 16.29" in Azusa). Daily totals on 1.1: 6.21" at Fullerton, 6.90" Placentia, 5.16" Yorba Linda, 4.69" Buena Park, 5.04" Anaheim, 5.38" Orange , 4.81" Garden Grove, 3.24" Newport Beach, 2.96" Laguna Beach, 3.55" San Juan Cap., 3" San Clemente, 2.65" Redlands, 2.68" Oceanside, 1.56" Carlsbad, 2.44" Escondido, 0.67" San Diego , 0.48" Victorville.	45 die all over Southern California in floods. Walls of water and debris up to 10' high were noted in some canyon areas.
8.25.1935	A tropical cyclone tracked northward across southern and central Baja California. The remnants spread into Arizona generating rainfall of up to 2" in the southern valleys, mountains, and deserts.	
8.9.1936	A tropical cyclone tracked north northwestward across the Gulf of California with the remnants tracking northward into western Arizona. Locally heavy rainfall occurred in the mountains surrounding LA.	
2.6.1937	2.71" of rain fell in San Diego, the third wettest calendar day and the wettest February day on record. 2.60" fell in 12 hours. For the storm, 8.20" fell in Descanso, 5.70" in Escondido. 4.25" fell in Long Beach, a 24-hr record.	Flooding kills several. LA basin flooded in many communities. Hodges Dam overtopped. Mountain snowmelt added to the flooding.



2.27-3.4.1938	Storm of tropical origin. 11.06" at LA. More than 30" at several mountain stations of San Gabriel and San Bernardino Mountains (32.2" at 8,300' elev.). More than 22" in the Santa Ana River headwaters. Considerable snow was melted, adding to the runoff. This led to unprecedented flood control efforts, including a network of dams and canals and concrete channels. On 3.3 2.80" fell at Descanso, 2.47" at Escondido, where the storm total was 6.95".	210 reported dead or missing in flooding across Southern California. 45 in Orange County, of which 43 perished in Mexican-American Atwood from an 8 ft. wall of water. Hundreds injured. Santa Ana River floods, inundates nearly all of northern Orange County. Catastrophic damage to more than 1,500 residences. 400 cabins and buildings washed away in and around San Antonio Canyon. Whitewater River floods, isolates Palm Springs.
9.4-6.1939	The remnants of a hurricane tracked northeastward across northern Baja California into southwest Arizona generating rainfall of up to 7" on the mountains and deserts. Blythe received more rain than would normally fall in 1 year and Imperial received more rain than would normally fall in 2 years. Four tropical cyclones would impact Southern California during the month of September 1939, an unprecedented occurrence. 1.21" fell in San Diego.	Floods through eastern canyons inundate Thermal with 3' of water. Extensive damage in Mecca.
9.11-12.1939	4" of rain fell across the deserts and mountains as a dying tropical cyclone moved across Baja California into southwestern Arizona. This was the second tropical cyclone to affect California during the busy month of September 1939. A strong El Niño contributed to the activity.	
9.19-21.1939	A tropical cyclone moving northwestward, just off the west coast of Mexico, moved into southern Baja California and dissipated. The moisture from this tropical cyclone generated rainfall of up to 3" in the deserts and mountains.	

9.24-26.1939	“El Cordonazo” or “The Lash of St. Francis” a tropical storm hits Southern California and causes the greatest September rainfall ever. The storm lost hurricane status shortly before moving onshore at San Pedro at tropical storm strength. Torrential rains: LA 5.42” in 24 hours, Mt. Wilson 11.60” (also records for the month of September). Nearly 7” in three hours at Indio from one thunderstorm. 9.65” at Raywood Flat, 1.51” Palm Springs. A thunderstorm preceding the tropical storm dropped 6.45” in 6 hours at Indio on 9.24.	45 killed in floods all over Southern California, and 48 more at sea. \$2 million damage to structures along the coast and to crops. Eastern Coachella Valley under 2’ of water. Californians were generally unprepared and were alerted to their vulnerability to tropical storms. In response, the weather bureau established a forecast office for southern California, which began operations in February of 1940.
11.27.1939	0.65” rain fell in San Diego in 15 minutes, the greatest 15 minute rainfall on record.	
12.23-24 .1940	3.62” at San Diego, the greatest 24 hour rainfall on record.	Heavy rains loosened soil in Del Mar that led to a landslide along a train track, derailing the train and killing three.
8.10.1941	Thunderstorms in eastern Coachella Valley.	Buildings damaged. Water 30” deep in Mecca.
1.23-24.1943	26.12” fell in 24 hours at Hoegees Camp in the San Gabriel Mountains, setting the state 24 hour precipitation record. 4.56” at Palm Springs.	
12.10.1943	2.56” of rain fell at San Diego, the eighth wettest day on record and the second wettest December day.	
8.18.1945	Thunderstorms in eastern Coachella Valley.	Extensive damage at Oasis. Water 18” deep in Mecca.
9.9-10.1945	A tropical cyclone moving north northwestward just off the west coast of Baja California dissipated off the coast of northern Baja California. Showers produced rainfall up to 2” in the mountains.	

12.22.1945	2.60" of rain fell in San Diego, the sixth wettest calendar day and the wettest December day on record.	
9.30-10.1.1946	A tropical storm moved northward into northern Baja California and dissipated with rainfall of up to 4" in the mountains on 9.30 and exceeding 4" in the mountains on 10.1. This occurred during the El Niño of 1946-47.	
7.23.1948	Thunderstorms in Palm Desert and La Quinta.	Homes flooded. Erosion damage to roads and canals.
2.6.1950	Heavy rain.	Chino Creek inundates Hwy 71 from Corona to Ontario.
8.27-29.1951	A hurricane moving north northwestward just off the west coast of Baja California moved northeastward into northern Baja California and dissipated. Moisture from this tropical cyclone resulted in rainfall of 2 to 5" in the mountains and deserts. Many roads were washed out in the Imperial Valley, but otherwise no major damage occurred in southern California. This occurred during the El Niño of 1951-52.	
1.18.1952	3.98" in LA, 3.17" in 24 hours.	At least 8 dead in flooding.
9.19-21.1952	A west-northwestward moving tropical storm southwest of Baja California dissipated. Moisture from this storm resulted in rainfall of up to 2" in the mountains and deserts, with most falling on 9.19. This occurred during the El Niño of 1951-52.	

7.17-19.1954	A northward moving hurricane made landfall in central Baja California with the remnants moving into Arizona. Rainfall of up to 2" occurred in the mountains and deserts. This occurred during the El Niño of 1953-54.	
7.25.1956	Thunderstorms: 1.26" Riverside, 1.05" Yucaipa, 1.01" Lytle Creek, 1.15" Upland. Almost 0.5" in five minutes at Glendora.	Flash flooding in San Bernardino, Riverside and Ontario.
7.28-29.1958	Moisture from a west northwestward moving tropical storm which dissipated west of central Baja California generated up to 2" of rainfall in the deserts and mountains. This occurred during the El Niño of 1957-58.	
1.4-5.1959	Big winter storm.	Roof damage and animals killed at San Diego. Considerable property damage from flooding and mud slides. Rattlesnake Creek in Poway inundates the city.
2.14-16.1959	Heavy rain.	Flooding in San Diego.
4.27-28.1960	Heavy rain.	1 drowning death and 3 traffic deaths. Flooding and closed highways.
9.9-10.1960	North northwestward moving Hurricane Estelle dissipated west of the central Baja California coast. The heaviest rains were over the San Diego County Mountains with 3.40" recorded at Julian.	
11.5.1960	Heavy rain, mainly from Orange County northward.	1 drowning death, 2 injuries. Flooding, mud slides, and property damage. Power outages.
8.4.1961	Heavy thunderstorm near El Capitan Reservoir: 1.75" in 90 minutes.	Los Coches and Quail Creeks flood Lakeside.

2.7-26.1962	A very wet period for Southern California. 20"+ in wettest mountain locations.	20 killed, 15 injured in flooding, mud slides. Property damage, trees down, boats damaged.
2.9-11.1963	Heavy rain.	Flooded highways and homes.
9.17-19.1963	Northeastward moving Tropical Storm Katherine made landfall in northern Baja California with rainfall of up to 6.50" in the mountains. 1.90" fell in San Diego.	
11.19-20.1963	Heavy rain.	6 injured in local flooding and numerous traffic accidents.
12.1964		40 dead from flooding in LA and Orange Counties.
11.22-25.1965	Heavy storms drawing tropical moisture in the mountains and desert. Storm totals: 20" at Mt. San Geronio, 16: at Mt. San Jacinto, 9.59" at Cuyamaca, 6-9" at Banning-Cabazon, over 4" at Palm Springs, less than 1" near the Salton Sea. One day total over 9" at Snow Creek.	All of Southern California hit by road and bridge washouts, landslides, and floods. Santee was inundated. Two drown attempting to cross the Whitewater River. Five died in Tijuana. Record flood levels on Tahquitz Creek. Largest flood on Whitewater River since 1938. Spring Valley Creek floods in southeast San Diego.
12.10.1965	1.36" fell in San Diego in one hour, the greatest one hour rainfall on record.	
12.2-3.1966	Heavy rain.	Local flooding at the coast. Damage to buildings and highways. Flooding in Palm Springs.
12.5-6.1966	6.66" at Idyllwild on 12.5, 9.42" at Big Bear Lake on 12.6.	Flooding. Highway damage.
8.16-17.1967	Thunderstorms in the lower desert. 2.5" in 1.5 hours at Cathedral City, 0.75" at Indio.	

8.30-31.1967	Hurricane Katrina crossed the southern tip of Baja California, then traversed almost the entire length of the Gulf of California before making landfall again and rapidly weakening. 2"+ of rain fell on parts of the lower desert. 2" at La Quinta on 8.30.	La Quinta cut off for several hours. 150 homes damaged by floods in Palm Desert and Indian Wells. Numerous roads washed out in Coachella Valley.
11.18-21.1967	14"+ in mountains above LA, 7.96" in LA. Called "worst since 1934." On 11.21 0.51" in San Diego in 10 minutes, the greatest 10 minute rainfall on record.	2 killed. Flash flooding and mud slides. 400 stranded in mountains due to closed highways.
12.12-15.1967	Heavy rain.	2 drowning deaths in San Diego County.
3.6-8.1968	Heavy rain.	1 drowning death. Local flooding. Damage to buildings, homes, and schools. Landslides closed several highways.
1.18-28.1969	Heavy rains of tropical origin hit in two waves, one beginning 1.18 and the other 1.23. The totals: as much as 50" of rain at 7,700' elev., 37.5" at Lake Arrowhead, 31" of rain on south slopes of Mt. San Gorgonio, 15.5" at San Jacinto Peak, 13.4" in LA, ~10" at Banning, less than 1" from Indio southeast. 11.72" at Forest Falls on 1.25.	87 reported dead from flooding and mud slides all over California. Scores dead in traffic accidents. Hundreds of homes and buildings destroyed in slides, including 14 destroyed and 11 damaged homes in Mt. Baldy Village. 50 homes near Forest Home (Forest Falls) were damaged by flooding. Highways and railroads washed out. Power outages. Cucamonga Creek itself caused \$10 million in damage. The Mojave River took out numerous bridges and flooded farmlands in the upper desert.

2.16-26.1969	Heavy rain continued. Up to 30" of rain on south slopes of Mt. San Gorgonio, 13" northwest of Mt. San Jacinto, ~10" at Banning, less than 1" in eastern Coachella Valley. 5-15" of rain in the lowlands from 2.22 to 2.25. 9.25" at Forest Falls on 2.24.	The death and destruction continued from the previous month. 21 dead from flooding and mud slides all over California. An entire family was killed in Mt. Baldy Village when a mud slide hit their home. Extensive damage to crops, farmland and livestock. Creeks around Yucaipa all left their banks and substantial flooding occurred to residences and businesses. In the upper desert farmlands became lakes and more than 100 homes along the Mojave River were damaged. Roads and bridges recently repaired from previous month's damage either washed out or were destroyed again.
9.30-10.1.1971	Caribbean Sea Hurricane Irene crossed Nicaragua and reformed in the eastern Pacific as Hurricane Olivia. Olivia recurved to the northeast and made landfall in central Baja California with rainfall of up to one inch in the southern deserts. This occurred during the La Niña of 1970-71.	
11.16.1971		Poway Creek floods Poway.
8.29-9.6.1972	Hurricane Hyacinth moved as far west as 125 West before recurving to the northeast. The remnants made landfall between Los Angeles and San Diego on the 9.3 with winds of 25 mph and rainfall of up to one inch in the mountains. This tropical cyclone holds the distinction of traveling the farthest west before recurving and making landfall in Southern California. This occurred during the El Niño of 1972-73. 0.44" measured in San Diego.	

10.6.1972	Hurricane Joanne recurved making landfall in northern Baja California, maintaining tropical storm strength into Arizona and generating rainfall up to 2” in the southeast deserts. This occurred during the strong El Niño of 1972-73.	
1.16-18.1973	Local amounts up to 3” on 1.16 and an additional 3” on 1.18.	Local flooding, mud slides, power outages.
2.10-11.1973	1-2” at coast, 3-7” coastal valleys, up to 12” at Mts. Wilson and Baldy. 6” in 6 hours at Mt. Wilson on 2.11.	Flooding and mud slides closed many roads.
1.3-5.1974	Heavy rain.	1 drowning death near Temecula. Many highways closed due to flooding and mud slides.
12.3-4.1974	Heavy rain.	Considerable flooding of low lying areas of Orange County. Forester Creek in El Cajon floods.
2.4-10.1976	Heavy rain period. 4.30” at San Diego.	
9.9-12.1976	Record rains, flooding from Tropical Storm Kathleen (a 160+ year event). 14.76” on south slopes of Mt. San Gorgonio, 8” Mt. San Jacinto, 10.13” Mt. Laguna, 4+” in Little San Bernardino Mountains, 1.8”-2.8” in the Coachella Valley. Deep Canyon (above La Quinta) recorded 2.96” in 3 hours on 9.10. Rainfall in the Santa Rosa Mountains above the Coachella Valley called “heaviest in recorded history.” 1” in San Diego. 2.8” fell in 3 hrs in Borrego Valley on 9.10. This occurred during the El Niño of 1976-77.	6 buried and killed in sand in Ocotillo. Much of the Imperial Valley flooded. I-8 and other highways ripped out in several locations in the mountains and desert. Floods of record attained at numerous streams above the Coachella Valley. Widespread property damage on the eastern slopes of the peninsular range and the adjacent deserts.
9.23.1976	A thunderstorm dropped 4” of rain in 3 hrs in Borrego Valley. Only 1.2” fell at the Anza Borrego Desert Park headquarters.	Damage and erosion to fields, property and the airport.



5.8.1977	1.49" of rain fell in San Diego, the wettest calendar day in May on record.	
8.15-17.1977	Hurricane Doreen tracked north northwestward along the west coast of Baja California, dissipating over the coastal waters. Most areas received at least 2" of rainfall with up to 8" in the mountains. This occurred during the El Niño of 1977-78. Heavy rainfall included 4.9" Mt. Laguna, 4.5" Borrego Palm Canyon, 4.0" Palomar Mtn. and Lake Henshaw, 3.26" Borrego Springs (2.53" in 6 hrs on 8.16, a 100 year event), 2"+ Palm Springs, 4.5" Salton Sea in several hours. 2.13" at San Diego for the period, 1.44" on 8.16.	4 dead and \$25 million in damage in Southern California. Debris flows and flooding from Henderson Canyon into Borrego Springs De Anza neighborhood, damaging 100 homes. Mud flows up to 5' deep. Flooded roads in desert areas. Floods and crop damage at the Salton Sea.
9.10.1977	Heavy rains in Little San Bernardino Mountains (Joshua Tree NP) produced a rainfall of nearly 5" fell in 1 hour above the Thousand Palms Wash.	Floods down Thousand Palms Wash caused extensive damage to Thousand Palms area, nearly destroying the oasis in the valley. The California Aqueduct that runs just north of the preserve was clogged with debris, resulting in the flood of nearly a billion gallons of water through this area.
10.6-7.1977	Hurricane Heather recurved with the remnants tracking across northern Baja California into Arizona. There was rainfall up to 2" in the southern mountains and deserts. This occurred during the El Niño of 1977-78.	
12.27.1977	Heavy rain.	Mud slide in mountains northeast of Redlands buries a car killing 1 and injuring 3.

2.8-10.1978	Heavy rain: 16.4" at Lytle Creek, 13.64" Lake Arrowhead, 11.97" Wrightwood, 11.15" Devore, 10.4" Santiago Peak, 8.5" Crestline, 5" Ontario, 4.79" Big Bear Lake, 3.83" Santa Ana.	20 killed all over Southern California, 13 of them in Hidden Springs in the San Gabriel Mountains. Widespread flooding, flash flooding, and mud slides. Numerous homes washed away.
3.4-5.1978	Heavy rain.	20 deaths from flooding and mudslides in LA area. 3 drowning deaths and disastrous flooding in Lakeside. 26 dead and 600 left homeless in Tijuana and Ensenada.
9.5-6.1978	Hurricane Norman recurved with the remnants tracking into southern California from the south southwest. Rainfall exceeded 3" in the mountains. This occurred during the El Niño of 1977-78.	
1.30-31.1979	2-4" rainfall in 24 hours over much of coastal Southern California. 2.57" of rain fell in San Diego on 1.31, the seventh wettest calendar day and the wettest January day on record. 4.82" fell in National City, 4.25" in La Mesa, 3.30" at SDSU, 3.78" in El Cajon.	Flooding along Silver Strand highway, in Fashion Valley, also in Spring Valley, Lemon Grove, Lakeside and Carlsbad. Lake Hodges overflowed.
7.20.1979	Big thunderstorm in Palm Desert and Rancho Mirage.	Debris flow killed one and caused \$7 million damage. Flash flooding hit hundreds of homes in Rancho Mirage, Palm Desert and La Quinta. Some residents swept out of their homes at night.
2.13-21.1980	Six storms hit Southern California. 31.69" in Mt. Wilson, 25.56" in Palomar Mtn., 24.34" in Cuyamaca, 20.65" in Julian, 18.27" in Mt. Laguna, 12.88" in Ramona, 12.75" in LA, 10.09" in Escondido, 6.80" in La Mesa, 4.47" in San Diego.	30 killed in widespread floods and mud slides. Post-fire flooding overwhelmed a basin below Harrison Canyon in north San Bernardino four times. Forty homes were damaged or destroyed there. Roads and hundreds of homes destroyed or damaged. Mission Valley completely inundated between Friars Rd. and I-8.

3.1-3.1981	3" along coast and 5-6" in local mountains.	Widespread street flooding and mud slides. Power outages.
11.27-28.1981	Nearly 2" in LA area.	Highway deaths.
3.16-18.1982	2-4" in San Diego County. 2.13" of rain fell in 24 hours in Pt. Loma from 3.17-3.18.	Local flooding closed many streets.
9.17-18.1982	The remnants of Hurricane Norman tracked northeastward across northern Baja California into Arizona with scattered rainfall amounts up to 1 inch in the southern mountains and deserts. This occurred during the strong El Niño of 1982-83.	
9.24-26.1982	The remnants of Hurricane Olivia recurved northeastward across Southern California with rainfall up to 4" in the mountains. This occurred during the strong El Niño of 1982-83.	
12.8-9.1982	Heavy rain in eastern San Diego County.	Flooding; disastrous flooding in Ocotillo.
2.24-28.1983	Heavy rain.	Extensive street flooding. Damage to 30 cars and an apartment building in Anaheim.
3.1-3.1983	Heavy rain. Up to 18" precipitation from Santa Barbara to LA. On 3.1 0.33" fell in 5 minutes in San Diego, the greatest 5 minute rainfall on record.	
4.17-20.1983	Heavy rain.	Street flooding and mud slides.
9.20-21.1983	Northward moving Hurricane Manuel dissipated off the west coast of northern Baja California with up to 3" of rainfall in the southern mountains and deserts. This occurred during the strong El Niño of 1982-83.	
2.18-19.1984	Heavy rain.	Mud slides in Orange County up to 2' deep.

2.14-17.1986	Heavy rain.	1 death from flash flooding.
3.15-16.1986	Heavy rain in Orange County.	Mud slides along the coast.
9.24-25.1986	Unseasonable rainfall hit San Diego County: 1.04" at San Diego, 5.14" in Palomar Mountain, 2.07" in Julian, 1.88" in Mt. Laguna, 1.61" in Lemon Grove, 1.58" in Pt. Loma, 1.57" in Vista, 1.47" in SDSU.	
10.10.1986	Thunderstorms dropped 2.40" at Mt. Laguna, 2.10" at Campo, 2.03" at Julian, 1.90" at El Cajon, 1.50" at Alpine, 1.39" at San Diego, 0.41" at Miramar. Most of these became daily rainfall records. Hail the size of marbles was reported in San Diego's east county.	Rainwater flooded through a leaky roof at downtown San Diego police headquarters.
11.17-18.1986	Early season storm brought 1.16" to San Diego, more rain than falls in than a normal November. Montgomery Field 1.49", 1.21" at Mt. Laguna, 1.07" at Miramar, 1.03" in Oceanside and 0.41" in Chula Vista.	Numerous traffic accidents, a few power outages. The San Diego River flooded causing many road closures in Mission Valley. Street flooding occurred in North Park and Midway areas and in Encinitas. A mudslide blocked Malibu Canyon road. A traffic accident claimed two lives in LA.
12.20.1986	Thunderstorm and heavy rain for two hours. 0.70" Oceanside, >0.5" Alpine, 0.32" in San Diego.	Power outages occurred from lightning strikes and power lines blown down.

1.4-5.1987	Heavy rain and snow from powerful Pacific storm: 1-2"+ in the northern Inland Empire, 2.20" at Chino. 1.68" at San Diego, Cuyamaca Park 2.73", Julian 2.59", Lemon Grove 1.52", National City 1.40", El Cajon 1.34", Escondido 1.30", Coronado 0.95" and Del Mar 0.80".	Two died on slick roads in San Diego County. The San Diego River flooded Mission Valley, stranding cars and closing roads, including Friars Rd. Lots of street flooding in Pacific Beach, Sorrento Valley and Spring Valley near the Sweetwater River. Sewage spilled into Mission Bay. Road washouts in the high desert. Scattered power outages. Mud slides occurred on the Sunrise Highway. A mud slide in Pomona blocked traffic on the 60 freeway.
5.15.1987	The monsoon made a very early visit. Thunderstorms arrived in the mountains and deserts. 0.20 inch fell in Mt. Laguna.	
9.22-23.1987	Thunderstorms developed on this day and on 9.23 from San Diego to El Cajon from the remnants of Hurricane Norma. Rainfall was 0.55 inch in two hours at Lemon Grove and 0.97 inch total. 0.70 inch fell at Lindbergh Field, a record for the date.	Very frequent lightning caused numerous power outages and property damage, and ignited small fires. Lots of street flooding. Road washouts in the high desert.
10.5-12.1987	Heavy rain from Hurricane Ramon: 0.75" at coast, 2" in mountains, 2.14" at Camp Pendleton, 2.08" in Fallbrook, 0.69" at Lindbergh Field.	Scattered flooding and power outages. A Palomar Mountain fire was extinguished.
10.22.1987	Heavy rain with amounts ranging up to 5" at Blue Jay. Heavy rain also in northern San Diego County: 0.95" in Palomar Mountain.	Flash flooding resulted in 2 deaths, 10 injuries, and more than a million dollars damage in Blue Jay. Flash flooding and debris/mud flows in Pauma Valley (exacerbated by a previous fire on southwest slopes of Palomar Mountain). A building destroyed, 4 homes evacuated.
10.31.1987	Heavy rain. Mt. Wilson received 3.14" of rain in 24 hours. 2.34" in Mt. Laguna, 1.1" in El Cajon.	Numerous mudslides. 3 die and 25 are injured in weather-related auto accidents. Sewage spills closed an 80-mile stretch of beaches in LA.

11.4-5.1987	Low pressure of the California coast produces heavy rain and thunderstorms. 2.02" fell in Palomar Mountain and 1.16" in San Diego.	Numerous flooded roadways and intersections around San Diego. A roof collapsed in San Diego. Minor mud slides on I-8 at SDSU, Mission Valley and near Temecula. Flash flooding stranded 8,000 in Death Valley.
12.4-5.1987	A cold front crossing the Pacific Coast brought heavy rain. Mt. Wilson was drenched with 2.17" in 6 hours. 1.02" fell at LA between 5 and 7 pm and rain rates of 1" per hour were reported for a time at John Wayne Airport, and 0.61" fell in 30 minutes in San Diego all on 12.4. Storm totals: 1.5" in San Diego, 1.05" in Montgomery Field, 0.89" in La Mesa, 0.82" San Diego State Univ, Miramar 0.75", Chula Vista 0.32".	Flooding in downtown LA prompted some evacuations. Flooded intersections, power outages, tree damage, numerous traffic accidents. Flooding, including water into some houses, was reported in Fallbrook. More flooding was reported all across San Diego County, including downtown San Diego, where numerous motorists were trapped in their vehicles. A mudslide closed Valley Center Road and Lake Wohlford Road.
12.16-17.1987	A heavy rain storm hit San Diego County. 2.01" in Oceanside, 2" in El Cajon and La Mesa, 1.97" National City, 1.85" Poway, 1.73" Montgomery Field.	Minor flooding in Mission Valley.
2.2.1988	A dying subtropical system drops 4" in the mountains of San Diego County. More than 4" fell in Imperial Beach in 24 hours and 3.71" in 8 hrs. 1.5" fell in Chula Vista. 1.25" fell in San Diego and less than an inch fell in other parts of San Diego County.	Standing water 5' deep in some intersections. 50 homes in Imperial Beach flooded. Some homes flooded with 3-6' of water. \$0.5 million in damage. 30 families displaced by flooded homes. Power outages, road closures.
4.15.1988	1.53" of rain in 24 hrs. at Death Valley.	

4.19-23.1988	Heavy rain. 4.15" of rain fell in 24 hours at Mt. Wilson. 1.75" fell at Cuyamaca Rancho State Park on from 2.22 to 2.23. 0.79" at San Diego.	Flooding, mud slides, and numerous traffic accidents. 26 injured in major collision around LA. Flooding of intersections and several road closures occurred all over San Diego, Orange and LA Counties. A Mission Valley hotel was flooded. Los Penasquitos Creek flooded a portion of Poway. Street flooding occurred in southern San Diego County along with downed trees, power outages, and overflowed sewer lines. 3 straight Dodgers games rained out (only 12 rainouts in previous 26 years). Trees fell on power lines causing power outages.
12.16.1988	Strong Pacific storm. 2" in 6 hours during the early morning at Mt. Wilson and a storm total of more than 3.5".	
8.7-11.1989	One of the most severe convective outbreaks of record in Southern California climaxed on 8.11.	
2.4.1990	Heavy rain in the San Bernardino area.	1 death from flooding.
6.9-10.1990	Rain and thunderstorms from Hurricane Boris. 0.37" at San Diego in 30 minutes, 1.41" Mt. Laguna, 0.98" Escondido, 0.87" Fallbrook. 0.49" fell in San Diego on 6.10, the wettest calendar day in June on record.	
2.27-3.1.1991	Series of storms produced 3-6" at lower elevations, 11-14" in the mountains. 9.58" at Palomar Mountain.	2 dead, 6 injured. Urban flooding, mud slides, and road washouts. Flood waters 5' deep at Desert Hot Springs.

3.17-22.1991	A vigorous storm produced 1-8" in lower elevations, up to 14" in the mountains. 4" fell in Santa Barbara. On 3.19 1.58" at Lindbergh Field in 24 hours. More than 1" in Poway, Alpine, Julian, Campo and Ramona. On 3.21 1.98" fell in La Mesa, 0.81" at Lindbergh Field.	Local flooding and mud slides. Mud and rock slides along Del Dios highway on 3.19. On 3.20 Hwy. 78 was closed for a long time due to flooding. Streets in Mission Valley flooded. On 3.21 mud slides, road washouts and power outages were reported at Rincon Indian Res.
3.26-27.1991	A strong winter storm produced 1.80" in 24 hours in Escondido, 1.71" in Poway, 1.56" in Fallbrook, 1.55" in La Mesa, 1.52" in Ramona, 1.48" in El Cajon, 1.09" in San Diego.	Golf courses and shopping centers flooded by the San Diego River in Mission Valley. Flooding damaged apartments in North Park. Flooding damaged Highway 78 east of the San Diego Wild Animal Park.
7.30-31.1991	Monsoon flow spawned thunderstorms that drenched the region. On 7.30, 0.77" fell in La Mesa, 0.58" in El Cajon, 0.56" in Santee, 0.33" in Balboa Park, 0.23" in San Diego Mission Valley and Lindbergh Field. On 7.31 Ocotillo was hit with 6" rain in two hours.	Part of a store and a house were flooded and buried in mud and sand. Imperial highway was washed out. On 7.30 Mobile homes were flooded in La Mesa and homes and streets were flooded in East City Heights and Mission Gorge. Trees downed, power outages.
12.27-29.1991	Back to back storms dropped 2-7" at lower elevations.	Flooding of low lying areas, mud slides, and closed highways.
1.5-7.1992	1-2" at lower elevations.	Flooding and mud slides.
2.5-16.1992	A series of many intense storms brought heavy rain. A total of 20"+ in the mountains and 8-16"+ at lower elevations.	2 killed in avalanche at Mt. Baldy. Flash flooding, mud slides, and road closures.
3.1-7.1992	A series of storms brings 1-4".	Local flooding.
3.20-23.1992	A series of storms brings 1-5".	Local flooding.
4.1.1992	Heavy rain from thunderstorms. 3" in less than 1 hour at Escondido.	Flash flooding.



8.13.1992	Massive outbreak of tropical moisture created thunderstorms with some of the heaviest rainfall rates in history. 6.5" in 90 minutes at Palomar Mountain, 4" in 2 hours at Mt. Laguna.	
12.4-7.1992	Big storm produces 0.5-6" from the coast to the mountains.	Local flooding. Mud slides, standing water, and road closures.
1.1993	Subtropical moisture joined a strong upper level low in the Pacific. A series of storms produced 20-50" of precipitation in the mountains and up to 12" at lower elevations over a two week period (1.6-1.18). One of the longest periods of consecutive days of rain on record (13) and measurable rain fell nearly every day from 1.2 to 1.19.	Flooding and flash flooding, mud slides, etc.
1.5-10.1993	14+" of rain fell in Cuyamaca and Palomar Mountain. 6+" in Escondido.	The State declared San Diego County a disaster area.
1.12-18.1993	A second stormy period in the month dropped 18+" at Palomar Mountain, 12+" at Cuyamaca and De Luz. 11.62" fell at De Luz in 48 hours on 1.16-1.17.	Heavy flooding occurred on the Santa Margarita and San Luis Rey Rivers. Hwy. 76 was washed out near I-15. The airports at Camp Pendleton and Oceanside sustained flood damage. In Tijuana, homes and streets were flooded along the Tijuana River. 5 died and 139 people were caught in floodwaters, 600 were evacuated.
2.7-10.1993	1-5" near the coast, up to 10" in the mountains, 0.5-1.5" in the deserts.	Widespread flooding.
2.18-20.1993	Heavy rain: 9" at Palomar Mountain, 6+" at Cuyamaca, 1-3" at the coastal areas and valleys of San Diego County.	Flooding from Oceanside to Encinitas. Homes damaged along Mojave River in Hesperia.
3.25-26.1993	Heavy rain.	Local flooding, mud, debris, and road closures in Orange County.

6.5.1993	A strong, late season spring storm moved into California. The 0.76" of rain at LA set a new daily rainfall record for June. Lake Gregory was deluged with 3.24" of rain. 1" in Palomar Mountain.	
8.25-26.1993	Rain and thunderstorms from Hurricane Hilary. 3-4" in two hours from heavy thunderstorms in the San Bernardino Mountains, Morongo Valley, and Desert Hot Springs.	Flash flooding in Yucaipa and Morongo Valley.
1.3-4.1995	Heavy rain.	Flash flooding in Seal Beach, Norco, and Oceanside.
1.10-11.1995	Heavy rain.	Extensive flooding in Orange County.
1.14.1995	8-9" in northern Inland Empire.	Extensive flooding in Yucaipa. Many roads closed.
2.14.1995	3" of rain fell in San Diego County.	The San Diego River overflowed onto adjacent streets in Santee, forcing some residents to evacuate their homes. In eastern San Diego, heavy rains flooded some homes. One woman drowned in her basement when it became submerged with 5' of water.
3.4.1995		The La Conchita mud slide (near Santa Barbara) destroyed nine houses within a few seconds.
3.5-6.1995	6" in 24 hours, 10.34" in 48 hours at Idyllwild. 8.57" in 24 hours and 14.58" in 48 hours at Palomar Mountain.	Floodwaters washed out a stretch of I-5, closing it for over a week. The overall toll from a series of Pacific storms: 27 killed, \$3 billion in damage. 10,000 homes were damaged.
3.11.1995	3.07" at Banning - Beaumont, 2.75" at Murrieta, 2.10" at Moreno Valley, 1.23" at Riverside, 0.84" at Palm Springs, 7.73" at Wrightwood in 48 hours.	Section of I-5 washed out, lots of local flooding.

2.25-28.1996	0.5-1.5" in coastal areas.	
12.21-22.1996	2" in coastal areas, 2-5" in inland valleys and foothills.	
1.12-13.1997	1-3" in coastal areas and valleys.	
2.23-24.1997	Heavy rain.	Widespread flooding in coastal cities and Inland Empire. Homes stranded in De Luz. Cliff erosion in Del Mar and Solana Beach.
9.2.1997	Thunderstorm at Pine Cove drops 3.7" in one hour.	
9.4.1997	Hurricane Linda became the strongest storm recorded in the eastern Pacific with winds estimated at 180 mph and gusts to 218 mph. For a time it threatened to come ashore in California as a tropical storm, but the storm turned away, affecting the region with added moisture for showers and thunderstorms. This occurred during the strong El Niño of 1997-98. 2.5" per hour rain rates were recorded at Forest Falls.	Disastrous flooding and debris flows at Forest Falls: \$3.2 million damage, 2 houses destroyed, 77 damaged, car-size boulders, wall of mud 150' wide and 15' tall. Flooding damage also at Oak Glen.
9.24-26.1997	Heavy rain and thunderstorms from Hurricane Nora. 5.50" at Mt. San Jacinto, 4.70" Mt. Laguna, 4.41" Mt. San Gorgonio, 3-4" at several locations in mountains, 3.07" Twentynine Palms, 1.5-2" at Coachella and Borrego Valleys, 2.88" Hemet, 1-2" in many inland areas.	Flooding in Palm Springs, Borrego Springs and Spring Valley. Traffic deaths.
10.7.1997	Heavy rain in Inland Empire. Storm was of 100 year intensity. 1.65" in 1 hour and 15 minutes, 0.31" in 3 minutes at Hemet.	Floods and debris flows. \$2.5 million damage. Large trees, mud and boulders swept down canyons. Homes, apartments flooded at north San Bernardino and Highland.

12.6-8.1997	Heavy rains of 4-8" across Orange County, heaviest in 70 years. 10" at Mission Viejo, over 4" Corona. Heavy downpours in Victor Valley.	Widespread flooding in Orange County. Mud slides and coastal erosion. Flooding in Corona and several communities of Victor Valley. Mud flow through Adelanto.
1.8-10.1998	Heavy rain of 2".	Floods and mud in Del Dios (near Escondido).
2.3-4.1998	Heavy rain of 3".	Flooding, mud slides, power outages.
2.6-9.1998	Heavy rain. Up to 3" rainfall over all of Southern California.	Catastrophic and widespread flooding, especially in Newport Beach and Irvine. Lots of property damage in southern Orange County. Evacuations and swift water rescues. Landslides, mud slides, and sink holes. Roads, bridges, and railroads damaged.
2.14-15.1998	1-2" in coastal areas, 3-5" in valleys and foothills.	Flooding and mud slides.
2.23-24.1998	Heavy rain. 2-5" rainfall over all of Southern California.	2 dead, 2 injured. \$100 million estimated damage. Power outages. Catastrophic and widespread flooding. Hundreds of homes damaged. Numerous evacuations and swift water rescues. Landslides, mud slides, and sink holes. Roads, bridges, and railroads damaged. Livestock and crop loss.
3.25.1998	3.5" in 4 hours at San Clemente.	Flooding.
5.12.1998	Rain in San Diego.	First rain-out of a San Diego Padres game in Mission Valley in over 15 years.
7.20.1998	Heavy thunderstorms. 1.11" fell at Cuyamaca.	Flooding at Mission Beach and Barton Flats in San Bernardino Mountains.
8.12-14.1998	Strong thunderstorms in Apple Valley.	Flash flooding.

8.29-31.1998	Strong thunderstorms. 0.77" in 45 minutes at Wrightwood, 1.5" at Apple Valley, 0.68" in 30 minutes at Forest Falls.	Flash flooding in Hemet. Homes and roads flooded with 4 to 6" of water in Hesperia and Apple Valley. Rock slides in Mill Creek. Flooding of roads in Sugarloaf and Forest Falls.
7.8.1999	Heavy thunderstorms.	Flooding in San Jacinto, Palm Springs, Cathedral City, and Palm Desert.
7.11-13.1999	Heavy thunderstorms in and around the higher mountains. 1.65" in less than 30 minutes at Lake Henshaw, 1.57" in 20 minutes at Big Bear City, 1.40" in 30 minutes at Sugarloaf, 1.6" in 85 minutes at Forest Falls, 1" in 1 hour at Pine Cove, 1" in 25 minutes at Shelter Valley. 1" per hour rain rate at Phelan. 1.8" in 25 minutes at Forest Falls again on 7.13.	2 dead, dozens injured, 6 homes destroyed, many more damaged, 20' high wall of water moving at 45 mph moving 70-ton boulders at Forest Falls. Buildings washed away at Jenks Lake. Disastrous flooding and mud slides at Oak Glen, Big Bear City, and Apple Valley. Flooding in Yucca Valley area, Beaumont area and Palm Springs. Roadways closed due to flash flooding.
7.21.1999	Heavy thunderstorms near Borrego Springs.	Flash flooding damage at Borrego Springs and Ocotillo Wells.
2.10.2000	Heavy rain.	3 killed, 8 injured from flooding and mud slides.
2.21-23.2000	Heavy rain.	Lots of flooding, mud slides. Roads washed out in Hemet.
4.17-18.2000	Up to 2" at lower elevations.	
6.21.2000	Heavy rains (about one inch) at La Jolla Indian Reservation near Palomar Mountain on a recently burned area.	Flooding and mudslides along Hwy. 76. 200' of highway covered by up to 18" of mud.
8.24.2000	Thunderstorm drops 0.76" at Palomar Mountain.	Mudslide closes Highway 76.
8.29.2000	Desert thunderstorms: 1.5" in 45 minutes at Borrego Springs.	Flash flooding, mud in homes, roads damaged in Borrego Springs area. Flash floods, mud, and debris covered roads from Yucca Valley to Palm Springs and Oasis.

9.7.2000	Heavy thunderstorm in Morongo Valley.	Flash flooding.
1.10-11.2001	Heavy winter storm. Two to four" of rain. 1.74" of precipitation (some snow) at Phelan.	Flash flooding from Seal Beach to Garden Grove to Costa Mesa. Several mud slides in San Diego County
2.11-13.2001	Heavy winter storm. 2-5" at Orange County and the western Inland Empire. 1-2" over the rest of the lowlands.	Extensive urban flooding and mud slides. Trees and power lines knocked down.
7.6.2001	Strong thunderstorms in eastern Coachella Valley.	Roads inundated. Damage and erosion around Oasis.
7.7.2001	Strong thunderstorms in Victor and Lucerne Valleys. 0.25" in five minutes at Lucerne Valley.	Roads closed due to flash flooding, mud slides.
9.2-3.2001	Thunderstorms generated from remnants of Hurricane Flossie. 2.1" in 1 hour at Lake Cuyamaca.	Flash floods and mud slides in the San Bernardino Mountains and Lake Cuyamaca.
9.30-10.1.2001	Thunderstorms in mountains and inland valleys.	Flooding in Beaumont.
2.11-14.2003	Heavy rain: 10.15" at Forest Falls, 9.75" Lytle Creek, 8.47" Lake Arrowhead, 7.60" Santiago Peak, 6.86" Mira Loma, 5.15" Wrightwood, 3.95" Hesperia, 3.87" Lake Elsinore, 3" Lindbergh Field.	Localized flooding.
8.1.2003	Thunderstorms in Borrego Valley. Estimated 2.5-3" rain in 2 hours.	Flash flooding: 4 ft of water running in San Felipe Wash. 1 car and family stranded in Borrego Palm Canyon. Half of Ocotillo Wells Airport runway inundated, debris on Hwy. 78.

8.20.2003	Thunderstorms. 3" at Yucca Valley, 2.63" in 1 hr, 7 min. at San Felipe Valley, 1.92" in 2 hours at Ocotillo Wells.	Flash Flooding. 5 residences flooded in Yucca Valley. 3 dead and 2 swift water rescues from trapped vehicles in 29 Palms. Numerous washes flooded. Hwy. S2 near Warner Springs closed to flooding.
8.24.2003	Thunderstorms. 2" at Pine Valley in 35 min.	Flash Flooding east of Alpine and in Pine Valley.
8.25-27.2003	Thunderstorms in the mountains.	Flooding closes Hwy. 38 in Big Bear City, roads near Guatay, routes S2 and S22 near Ranchita, Hwy. 78 east of Julian (rock and mud slides), streets in Borrego Springs and Campo.
9.2-3.2003	Thunderstorms in mountains and deserts. Rain rates over 1 inch per hour with many of them.	Flash flooding and roadways flooded in Lake Henshaw area, Palm Canyon near Palm Springs, Yucca Valley, Idyllwild, Santa Ysabel, Mt. Laguna and Borrego Springs.
12.25.2003	Heavy rain. 8.58" at Lytle Creek, 5.79" Devore, 5.59" Santiago Peak, 5.40" Forest Falls, 3.94" Volcan Mountain. 0.35"-2.5" fell at lower elevations.	15 dead in mudslides in areas burned by wildfires in Oct 2003: 13 in a church camp in Waterman Canyon north of San Bernardino, 2 in a campground in Devore.
8.13-14.2004	Monsoon thunderstorms produced 0.71" in 30 minutes in Phelan, 0.63" in 8 minutes at Volcan Mountain (north of Julian), 0.66" in 11 minutes in San Felipe Valley (south of Borrego Springs).	Flash flooding. On 8.13 flash floods in Wildomar, Sage, and La Quinta. Hwy. 78 near Yaqui Pass closed. On 8.14 severe flash flooding of homes in Spring Valley Lake (Victorville) and Hesperia. Vehicles trapped in 5' water. Water 8' deep inundated a railroad causing major delays (a 60 train backup extending to Cajon Pass).

9.10-11.2004	Thunderstorms in Borrego Palm Canyon produced a wall of mud 8-10' high and 150 yards wide. Training thunderstorms over Johnson Valley.	Severe flash flooding. In Borrego Springs 70-90 homes damaged, a campground was washed out and major damage occurred at a golf course. In Johnson Valley, Hwy. 247 was washed out in numerous sections. Minor damage to homes.
10.20,27.2004	Monthly record rainfall received in one day, and in 6 hours in many locations of Orange Co. Totals for last two weeks of Oct: 4-8" in lower elevations, up to 14" at Lake Arrowhead. 2.70" fell at Lindbergh Field, the fourth most on a calendar day on record.	On 10.20: Widespread flooding. Bridge washed out near Wrightwood. One killed in floodwaters near Lytle Creek. Many mountain roads impassable with mud and rockslides. Railroad tracks washed out, derailing train. Horses neck deep in flood waters. Golf course rescue. 10.27: 7 rescued from vehicles in flooded intersection in Sun City. 12 vehicles trapped in mud at Scissors Crossing (east of Julian). Homeless man rescued in San Diego River. Several vehicles stuck in San Jacinto River floodwaters near Perris.
12.28-29.2004	Heavy rain from a big storm. 1.10 in 40 minutes at San Diego Country Estates (east of Ramona).	Flash flooding in Waterman Canyon and other mountain areas. Debris flow in San Diego Country Estates. Flooding on Lytle Creek road and Hesperia.
12.31.2004	Mud slides occurred on Hwy. 138 and on Hwy. 18 in the San Bernardino Mountains.	Hwy. 138 closed for three days.



<p>1.7-11.2005</p>	<p>Five consecutive days of heavy precipitation all over Southern California. More than 30" of precipitation in the San Bernardino Mountains. 4-10" at lower elevations. 31.75" of precipitation fell at Lake Arrowhead, 29.70" at Lytle Creek, 19.86" at Devore, and 15.09" at Palomar Mountain. This followed heavy storms in late Dec and early Jan.</p>	<p>Widespread and catastrophic flooding and damage totaling \$100 million. A mountain slope failed on top of La Conchita. Damage to crops, golf courses, and there were sewage spillages. A state of emergency was declared for all four counties. On 1.10 a woman and her unborn child were swept away by City Creek in Highland and killed. Debris flows in City Creek. Lytle Creek grew to 200' wide and flooded homes. 350 homes were flooded in Placentia. Numerous rescues needed across the region. Debris flows across I-215 in Devore. In Big Bear City, 111 homes, schools and businesses were flooded. On 1.9 mudslides destroyed three homes, damaged 7 others in Lake Arrowhead area. Mudslides in Anaheim caused damage. I-15 in Temecula damaged and closed by mudslides and flooding. Ortega Highway closed. Homes were flooded in southern Inland Empire and Valley Center. San Luis Rey River flooded and washed out Pacific St. in Oceanside, cresting above flood stage twice, peaking at 20.7' on 1.11. On 1.11 a hotel in Crestline was destroyed by mudslide. A tree killed one in San Diego. Felled trees caused extensive damage in San Diego County. By 1.11 numerous highways in the San Bernardino Mountains were closed. The Mojave River flooded 3 homes and other structures, and caused extensive damage in Hesperia and Oro Grande. On 1.14 a forced release of water at Prado Dam flooded the Santa Ana River valley and damaged the Corona Airport.</p>
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2.18-23.2005	Heavy storm rains dumped 3-6" near the coast and valleys, 6-12" in the mountains, more than 2" in the deserts. 18.79" fell at Lytle Creek, 12.33" at Lake Arrowhead and 6.80" at Fullerton.	Dairy Farm losses in the northern Inland Empire. Most back roads damaged in the San Bernardino Mountains beyond use. Lake Hodges, which was only 17% of capacity in October, began to spill. San Diego River flooded, killing one. On 2.21 an earthen dam near Wrightwood gave way, flooding and causing extensive damage downstream. Numerous mudslides across the region damaged many homes. A landslide sent boulders into a home in Silverado Canyon and killed one.
6.1.2005	An enormous landslide occurred in Laguna Beach. Caused by saturated soils from the previous winter's epic rains.	15 homes were destroyed or severely damaged. Minor injuries. \$27 million estimated damage.
7.23.2005	Thunderstorms produced rain rates in Hemet of 1.5" in 30 minutes, and 1 inch in 15 minutes.	Flash flooding in Hemet area. Residences and businesses were flooded.
7.24.2005	Heavy thunderstorms hit the mountains and deserts. 2.30" fell in Mt. Laguna in 40 minutes. 0.72" fell in Cuyamaca in 36 minutes. 5.58" fell in 12 hours in Victorville.	Flash floods hit Lucerne Valley and highway 247. Vehicles swept off roads and rescues needed. Roads washed out in Apple Valley. Three major mud slides hit Forest Falls. Flash flooding also in Phelan, Hemet, and east of Julian.
7.29.2005	Intense rain from thunderstorms hit the mountains and deserts. 0.91" hit Mt. Laguna in 28 minutes, 0.63 in 14 minutes. 0.5" hit San Felipe Wash in 10 minutes.	Flash flooding was reported in the Mt. San Jacinto Wilderness, also in Ranchita and Warner Springs.
7.30.2005	Intense thunderstorms hit the mountains and deserts.	Flash flooding in the wilderness area of Mt. San Gorgonio, Barton Flats, Lucerne Valley and Idyllwild. The Banning airport was flooded.

7.31.2005	Thunderstorms produced 0.52" in 13 minutes fell at Lake Morena. 0.75" fell in 22 minutes at Yucaipa Ridge.	Flash flooding occurred in Big Bear City, Anza, and south of Warner Springs.
6.28.2006	A heavy thunderstorm produced 1.25" in 15 minutes at Loma Tova, just south of the border east of Tecate.	Visibility was reduced to near zero in the heavy rain along Interstate 8.
7.7.2006	Thunderstorms dropped 0.75" in 15 minutes and 1.22" in 40 minutes at Yucaipa Ridge.	Flooding occurred along some Mill Creek tributaries. Mud and rock debris covered parts of Valley of the Falls Drive.
9.2.2006	A thunderstorm near Pinyon Pines dropped 1.14" in 30 minutes.	Flash flooding occurred in Pinyon Flats, eroding roads. Mudslides trapped several vehicles on Hwy. 74.
9.3.2006	A microburst hit northeast of Sun City.	Power lines and poles were knocked down. Power outages resulted.
9.4.2006	A thunderstorm dropped heavy rain along the Elsinore Convergence Zone.	Significant mudslides (debris flows) occurred in north San Jacinto, trapping 19 vehicles. A few homes and businesses were damaged.
9.6.2006	Heavy thunderstorms occurred along the Elsinore Convergence Zone near Hemet.	Flash floods closed roads in Hemet, cars were stalled, a mudslide along Hwy. 74.
10.13.2006	A thunderstorm dropped 0.51" in 5 minutes and 1.81" in 30 minutes in San Bernardino.	18 homes and businesses and two vehicles were damaged by flooding. Big sinkholes were left in a road. One swift water rescue. Mud and debris were left on roads.

## Heavy Snow, Rare Snow at Low Elevations

Date(s)	Weather	Adverse Impacts
12.1847	Light snow in hills above Old Town San Diego. Greater amounts to the east.	
1.12-14.1882	15" at San Bernardino. 3' in Campo over four days producing 8' drifts. 2-5" in outlying San Diego, including: 4" along Poway Grade, 3" at El Cajon, 1" Poway (disappearing in a few hours). The foothills above Poway stayed white for 2 or 3 days. Light snow in Del Mar. 5" in Riverside. 20" in Campo on 1.13. Snow flakes, but not sticking at San Diego.	Birds and livestock killed, telegraph lines down. Citrus damage.
4.21-22.1908	0.6" fell in Santa Ana, the greatest snowfall on record.	
11.27.1919	Snow brought a white mantle to area hills and valleys around San Diego. 8" in Morena 8", 5" at Carrizo Gorge, and 4" at Warner Springs.	
1.11.1930	2" at Palm Springs.	
1.15.1932	Up to 2" snow all over the LA Basin (called the heaviest on record). 1" at LA Civic Center and beaches at Santa Monica whitened. 18" in Julian, 17" at Mt. Laguna, 14" at Cuyamaca, and 6" at Descanso.	
1.21.1937	Snow flurries at San Diego. Trace amounts stuck to northern and eastern parts of the city.	
2.11.1946	Snow flurries in many parts of San Diego.	

1.9-11.1949	Snow in lowlands: 14" Woodland Hills, 8" La Canada and Catalina Island (2,100'), 6" Altadena, 5" Burbank, 4" Pasadena, 1" Laguna Beach and Long Beach.. A trace in San Diego, the only time since 1882. 3' Mt. Laguna, 18" Cuyamaca, 1' Julian, 4-8" as low as 1000' elevation. A light covering in La Jolla, Point Loma, Miramar, Escondido, Spring Valley, and other outlying San Diego areas.	Snarled all kinds of transportation. Power outages and emergencies. Plane crash kills 5 and injures 1 near Julian. Camping group stranded at Cuyamaca.
4.13.1956	A cold snowstorm brought 1' to Mt. Laguna, at least 6" at Palomar Mountain, 1.5" at Julian.	
1.29.1957	24" at Mt. Laguna, 21" at Palomar Mtn., 20" at Lake Cuyamaca, 12" at Julian, 10" at Mesa Grande, 6" at Lake Henshaw.	The snowstorm stranded 200 people north of LA.
1.20-21.1962	Snow to lower elevations.	Highways closed.
12.9.1963	Heavy snow in the mountains.	5 killed, 6 injured. Highways blocked.
3.22-24.1964	Big snow storm. Totals: 29" in Idyllwild (22" on 3.24), 26" at Lake Arrowhead, 23" at Palomar Mtn., 18" at Big Bear Lake.	
3.12-13.1967	Heavy snow in the mountains.	Highways closed.
12.13-19.1967	50" at Mt. Laguna in 24 hours on 12.18 and 12.19, 38" Idyllwild, 2' Palomar Mountain, 12-18" in higher elevations. 6" Temecula, 5" Fallbrook, 4.5" Anza Borrego State Park, 3" Borrego Springs, 2" Carlsbad on 12.13. Light covering over many San Diego mesas. Mt. Laguna recorded an 8 day total of 96.5".	1 freezing death. Numerous schools and highways closed. Transportation disrupted and chains were required on Hwy. 395 just north of Mission Valley. Power outages.
2.20-25.1969	Heavy snow in mountains approach greatest depths on record.	

3.11.1973	8" fell at Mt. Laguna and 4" at Palomar Mountain.	
1.3-5.1974	Over 18" in San Bernardino Mountains. 17" fell in Victorville on 1.5, the greatest daily amount on record. On 1.4, flurries were reported in Palm Springs.	Structures and a few roofs collapse due to weight of snow. Power lines and trees snapped.
11.28-29.1975	First winter storm of season was heavy. Up to 2' in San Bernardino Mountains, 16" at Big Bear Lake.	20 stranded campers rescued after a few days.
3.2-4.1976	20" at Running Springs.	
1.30-2.2.1979	Widespread snow. 2" at Palm Springs. 56" fell in Big Bear Lake, the greatest snowfall on record. On 1.31, snow fell heavily in Palm Springs and 8" fell at Lancaster. Snow and rain mix at Borrego Springs. Mt. Laguna 2' and Julian 1'.	On 1.31, all major interstates into LA (I-5, I-15, and I-10) were closed. Snow drifts shut down Interstate 10 on both sides of Palm Springs, isolating the city. Schools were closed and hundreds of cars were abandoned.
11.27-28.1981	3' at Big Bear Lake.	
3.18.1982	25" at Palomar Mountain.	
2.18-19.1984	Up to 16" in the mountains.	
12.18-19.1984	A major snowstorm brings up to 16" to the mountains and upper deserts, including 13" to Lancaster.	Edwards AFB and Interstate 5 (from Castaic to the San Joaquin Valley) were both closed.
12.28.1984	A rain and snow mix fell in Borrego Springs.	
2.2.1985	Up to 2" snow in Palm Springs.	
3.2.1985	Snow fell briefly in Escondido. Ice pellets fell in Poway, Coronado, La Mesa, and Escondido, with hail in Linda Vista and downtown San Diego.	
3.15-16.1986	3' in the San Bernardino Mountains.	

10.3.1986	Rain and thunderstorms hit LA area. 1.50" in Pasadena, 1.02" in LA. 3" of hail piled up in Pasadena.	Classes were cancelled at CSU-Northridge because of hail. Several serious traffic accidents in Pasadena.
1.4.1987	A ski resort in Big Bear received up to 2' of snow at the higher lifts. Up to 15" occurred elsewhere in the San Bernardino Mountains. 9" in Mt. Laguna, 4" in Cuyamaca Park and a few inches in Julian.	
2.22-25.1987	24" at Mt. Laguna, 22" at Cuyamaca, 12-17" in the San Bernardino Mountains (17" at Big Bear Lake), 6" Pine Valley, 3" Lake Morena. 4" fell in one hour at Lake Hughes. Snow pellets to coastal areas: 2-3" at Huntington Beach, measurable sleet and hail at San Diego Bay front. On 2.25 light snow was recorded in Tarzana, Northridge, Torrance, Fontana and Redlands.	Roads and schools were closed in mountain areas. An aircraft accident in a snow squall near Anza killed four.
12.16-17.1987	Snow fell for two minutes at Malibu Beach on 12.16. A foot of snow fell in the mountains north and east of LA. 24" of snow fell in Julian. 9" of snow fell at Mt. Laguna on 12.17.	Disneyland was closed due to the weather for only the second time in 24 years. Other theme parks and I-5 and I-15 were closed on stretches through the mountains stranding motorists in the Southland. Numerous accidents killed some motorists. Snow cancelled all schools in the mountains of San Diego County and sent 16,000 students home in the Santa Clarita Valley.
12.24.1987	Snow flurries over the entire San Diego metro area, but not a flake officially at San Diego. Heavy snow in the Laguna Mountains.	
1.17-18.1988	14" at Mt. Laguna.	

2.7-9.1989	Snow at the beaches in LA to the desert in Palm Springs. 15" in the mountains. 3" at Palmdale.	Major road closures. Numerous traffic accidents.
1.16-17.1990	Snow flurries within San Diego city limits. None officially at San Diego. 14" at Mt. Laguna. 10-16" in mountains.	
2.4.1990	10-13" in the mountains.	
2.14.1990	Snow flakes reported all over the San Diego metro area.	
2.16-18.1990	3-4' in the mountains. 48" at Green Valley and 46" at Big Bear Lake.	Avalanche at Wrightwood buries 10 hikers, injuring 1.
2.27-3.1.1991	Back to back storms dump 2-3' in the Big Bear area, up to 2' elsewhere in the mountains.	Highways closed.
3.17-20.1991	2-5' in the mountains. On 3.19 1' of snow fell at Mt. Laguna, 6" at Palomar Mountain and Cuyamaca.	Schools and roads closed in the mountains, including I-8 from Alpine to Imperial County. Downed trees and power outages.
3.26-27.1991	36" at Lake Arrowhead, 27" Big Bear Lake, and 18.5" Idyllwild. 18" fell at Mt. Laguna.	An avalanche of snow isolated 100 people in Big Bear Lake by blocking Highway 18.
1.5-7.1992	6-20" in the mountains, 2-8" in foothills and high desert floors.	
12.4-7.1992	6" to 2' in the mountains.	
2.7-10.1993	8-18" in the mountains.	
1.3-4.1995	6-12" in the mountains. Snow in the high desert: 2" of heavy, wet snow at 2300'.	
3.11.1995	Over 20" at Bear Mountain.	
12.23.1995	12" in the San Bernardino Mountains, 8" on the high desert floors.	
1.22-23.1996	12" above 4000'.	



2.25-28.1996	10" at Idyllwild, 2" Yucaipa, a dusting at Hemet and Corona. 1-2' in mountains, up to 6" in high desert.	
3.12-13.1996	8-12" in the San Bernardino Mountains.	
1.12-15.1997	18" at Mt. Laguna. 18"-3' snow above 2500'. Ski resort at Snow Valley open until 5.18, the latest in 78 year history.	13 illegal immigrants die near Pine Valley.
2.23-24.1998	1-2' above 6000', 3-4' above 7000'.	Trees and power lines down.
3.28-29.1998	Coldest storm of the year. 1-3' above 5000', 4-8" above 3000'. Ice pellets and hail 1" deep in some coastal and foothill areas.	Considerable damage to crops. Serious traffic accidents.
4.1.1998	Up to 3' of powder at ski resorts. 18" at Pine Cove.	
1.26.1999	22" over a large area around Running Springs, 18" at Angelus Oaks.	Road closures.
4.1-2.1999	18" in 12 hours at Mt. Laguna. 7-9" at Pine Valley and Descanso, 2" at Boulevard, "heavy snow" reported at Cherry Valley (3000'), 1" at Homeland (1,700').	8 illegal immigrants found dead near Descanso, 2 just over the border. 50 survived wearing only light clothing and tennis shoes and had never experienced snow; they had been on foot for 3 days.
6.2-3.1999	Latest measurable snow on record for area mountains. 3" at Mt. Laguna, 1" Wrightwood.	
2.21-23.2000	18" at Forest Falls.	
3.4-6.2000	Up to 17" in 24 hours in the mountains. 14" at Forest Falls.	3 illegal immigrants dead south of Mt. Laguna.
4.17-18.2000	Late winter storm: 18" at Wrightwood.	
1.10-11.2001	13-18" in Idyllwild area. 3" in Phelan.	

2.6-14.2001	Over a week of heavy snow called "most in a decade": 5' at Blue Jay and Mountain High, 2' Snow Summit, 5-12" at Apple Valley. Mountain High reports 12" on 2.6, 10" on 2.11, 36" on 2.12, 30" on 2.13, 8" on 2.14.	Roof of ice rink caves in at Blue Jay.
2.28.2001	32" at Mountain High.	
1.28-29.2002	Light snow in southern Inland Empire.	
3.18.2002	3" in Apple Valley, the greatest daily snow amount for March. 1" in Hesperia.	
10.27.2004	2' in Big Bear, most of which fell in 12 hour period.	A few local ski resorts opened on the earliest date in their history.
11.20-22.2004	Thundersnow started in the upper desert late on 11.20 and snow continued at times for two days. Widespread reports of 2' with drifts to 3' at Wrightwood, Lake Arrowhead, Big Bear and Palm Springs Tramway. Snow level as low as 1,000'. 18-20" in foothills south of Yucca Valley, 14" in Phelan, 9-12" in Hesperia and Apple Valley, 9" in Yucaipa and Calimesa, up to 3" throughout southern Inland Empire.	Tree damage in lower elevations caused house damage and power outages. Snow lined I-10 near Calimesa for a few days.
1.3-4.2005	Heavy snow fell as low as 2500'. Up to 1' at higher elevations, up to 10" in the San Diego County mountains. Big Bear Lake completely froze over by 1.5.	
1.7-8.2005	Heavy snow up to several feet fell in the mountains.	200 motorists were rescued on Hwy. 18 west of Big Bear Lake.
2.19-23.2005	A strong winter storm brought 4-8' to Mt. Baldy and Mountain High ski resorts. Reports of 10' on the highest peaks. Only 1-2' of new snow at Big Bear ski resorts. Big Bear Lake only measured 9".	Lift chairs and shacks had to be dug out of the snow at Mountain High.

3.10-11.2006	Snow fell as low as 1500'. 36" fell at Big Bear Lake, Lake Arrowhead and the Palm Springs Tram. 27" at Pine Cove and Idyllwild, 25" at Cuyamaca, 13" in Warner Springs, 12" in Pine Valley.	All the mountain highways were closed. Roof damage in Guatay. One immigrant was killed and seven injured near Pine Valley.
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**Severe Thunderstorms: Large Hail, Strong Thunderstorm Winds, and Killer Lightning** (See flash flooding in heavy rain section)

<b>Date(s)</b>	<b>Weather</b>	<b>Adverse Impacts</b>
2.28-3.3.1938	Thunderstorms.	1 killed by lightning in Corona.
9.20.1939	Lightning struck two street cars and other structures.	Several small fires started in the city. Damage to structures.
10.20-21.1957	Widespread thunderstorms. Hail drifted to 18” in East LA.	
9.2.1960	Golf ball size and baseball size hail at Boulevard area. 2-3” precipitation. Hail diameter measured at 2.75” and weighed over 1 lb., some stones estimated larger. 2.75” hail also in Riverside County. This is the largest known hail to hit Southern California.	Considerable damage to houses.
10.8.1961	Hail up to 2” deep covered Mt. Helix area.	
12.13.1967	Marble size hail hit Palomar Mountain from thunderstorms preceding a major snow storm.	
1.30-31.1979	Golf ball size hail.	
4.1.1982	Strong storm winds hit Encinitas – Leucadia.	Trees were downed, greenhouses destroyed.
10.3.1986	Rain and thunderstorms hit LA area. 1.50” in Pasadena (in a little more than 1 hour), 1.02” in LA (in less than 1 hour) and 0.77” in Monrovia. 3” of hail piled up in Pasadena. Wind gusts to 35 mph. Hail nearly ½” in diameter in Westwood. In Blythe, winds gusted over 50 mph and 0.79” fell in 30 minutes.	Classes were cancelled at CSU-Northridge from power outages and several serious traffic accidents resulted in Pasadena because of hail. Minor flooding.
10.10.1986	Hail the size of marbles was reported during a Pacific storm with thunderstorms embedded in San Diego’s east county.	

2.23.1987	Thunderstorms with hail and lightning hit San Diego, Coronado and Encinitas.	2" of sleet and hail piled up in downtown San Diego (a snowman was built at Seaport Village). Lightning struck a transformer in Logan Heights, knocking out power.
6.6.1987	Rare June thunderstorms hit the LA region and Mojave Desert. A severe thunderstorm hit Palmdale and Lancaster. 1" diameter hail at Mt. Pinos in northern LA County, ¾" hail at Palmdale, 1/2" hail hit Pine Mountain near the LA-Kern county line. Lightning struck the Santa Monica Bay.	Power was knocked out. Lightning sparked small fires. In Lancaster, mobile homes were damaged by strong winds (possible tornado?) and lightning. Two-by-fours were driven into the roofs of mobile homes. Utility poles were uprooted and broken in half.
9.1-2.1987	Remnants of tropical storm Lidia brought thunderstorms to the San Diego Valleys with lightning and strong damaging winds (possibly a tornado). 35 mph winds were reported at Pt. Loma.	On 9.1 lightning struck a power pole in El Cajon, which ruptured gas lines. Another bolt started a house fire. Lightning caused several small fires. What was reported as a dust devil was probably a microburst or a tornado damaged awnings and other items to mobile homes near Lake Jennings. In El Cajon a tree with an 8-inch trunk was snapped in half. On 9.2 a woman was struck by lightning near Lake Henshaw. Ten fires were started by lightning in the mountains of San Diego County.
9.22-23.1987	Frequent lightning and thunderstorms from Hurricane Norma in the San Diego area. Numerous lightning strikes in Escondido. 0.55" in two hours at Lemon Grove, 0.97" total. 0.68" at Lindbergh Field.	Numerous power outages, property damage from lightning strikes, and small fires ignited.

12.4.1987	Thunderstorm winds gusted to 60 mph in Westminster and 55 mph at Newport Beach.	In Westminster winds damaged 40 mobile homes, 9 of which were ripped out of the ground, leaving 24 people homeless. Winds knocked down power lines in Newport Beach. Lightning struck a radio tower in Newport Beach, knocking the station off the air, and knocked out power to the area.
4.23.1988	An intense winter-like storm brought thunderstorms.	9 girls at Tustin were injured (burned and thrown to the ground) when lightning struck the tree under which their softball team had taken shelter from the rain.
3.20.1991	Lightning struck North Park – San Diego. Hail reported in El Cajon, Miramar and University City.	Power knocked out by lightning struck transformer. A house fire was started.
7.30.1991	Lightning struck San Diego in City Heights.	Several grass fires were started. A big power outage occurred.
4.26.1994	Large hail up to 0.75” from San Dimas to Ontario.	Section of I-215 closed.
5.24.1996	A cold storm system came from the north and produced thunderstorms. Streets were buried in pea-size hail in Fallbrook. “Ping pong size” hail also fell there. Lightning strikes were common.	Crop damage around Fallbrook from the hail. Lightning struck two palm trees in Oceanside and burned like torches. Power was knocked out.
7.10.1996	Lightning hit the San Diego region.	Power was knocked out in central San Diego, the zoo and other metro areas.
1.12-13.1997	Dime size hail up to 1' deep over a small area in Buena Park and Cypress.	
2.17.1997	Marble size hail at Yucaipa.	
5.18.1997	Wet microburst in Apple Valley (in addition to two tornadoes).	Building and structure damage. Power lines arcing down and producing fires.
8.3.1997	Dime size hail at Campo.	

9.1-2.1997	Strong thunderstorm winds: three gusts to 104 mph at Twentynine Palms. Apple Valley gust 62 mph.	Large tree blown down in Apple Valley.
9.4.1997	Thunderstorms from Hurricane Linda: golf ball size hail in Forest Falls area.	
3.28.1998	Microburst in Lake Elsinore.	Tree uprooted, extensive roof damage.
4.1.1998	Grape size hail piled up 2" deep at Laguna Niguel.	
7.20.1998	Thunderstorms erupted near the coast and in the mountains.	Lightning sparked at least five fires in San Diego County. Strikes also hit a Clairemont home, and two trees in Pacific Beach. Lightning also caused a few power outages.
8.12-14.1998	Downburst in Hemet with winds 70 mph and 0.75" hail. Strong winds in Apple Valley. Golf ball size hail at Cajon Pass. 1.6" rain in 30 minutes at Boulevard.	Buildings damaged, trees and power lines down in Hemet.
8.29-31.1998	Severe thunderstorms. Wind gust of 86 mph at Sage (south of Hemet), gust 50 Rialto, 45 San Marcos.	Downed trees and power lines. Fires started by lightning near Barona Ranch.
9.2.1998	Severe thunderstorms at Hemet and San Marcos from Hurricane Isis. Strong winds from thunderstorms in Orange County with gusts to 40 mph.	Large fires in Orange County.
12.6.1998	Thunderstorm in Los Alamitos and Garden Grove: gusts 50-60 mph called "almost a tornado."	
7.13.1999	0.75" hail at Forest Falls.	
3.5-6.2000	Golf ball size hail at Garden Grove, Santa Ana, and Running Springs. Strong thunderstorm winds at the coast: gust 60 mph at Huntington Beach.	Property damage and trees downed along the coast from Huntington Beach to Sunset Cliffs.

4.18.2000	A severe thunderstorm brought downburst winds estimated at 80 to 100 mph from Bellflower to Diamond Bar. ¾" hail was reported in Downey.	Severe damage to factories and mobile home parks in Paramount (one mobile home was blown over). Wind damage was done to trees, power lines and numerous buildings along the entire path. In Norwalk, a large Eucalyptus fell onto I-5, closing the freeway for 3 hours.
8.1.2000	0.5" hail at Lake Arrowhead.	
8.29.2000	Thunderstorm wind gust to 61 mph at Borrego Springs.	
9.7.2000	"Big" hail strikes Forest Falls. Lightning strikes Oceanside High School.	
2.13.2001	Thunderstorm gust to 89 mph in east Orange.	
2.27.2001	Dime size hail in Mira Mesa, and 8" of graupel (soft hail) pile up on I-15.	Traffic delays.
7.3.2001	A microburst hit Hesperia creating a wall of sand and dust and a moaning sound.	A radio tower was toppled and other property was damaged.
8.8.2001	Strong thunderstorm in Twentynine Palms.	Damages.
9.2-3.2001	Strong thunderstorms from Hurricane Flossie. Hail up to 0.5" in Pine Valley.	1 boy killed by lightning in Apple Valley. 1 man killed and 1 boy injured by lightning at Cuyamaca Rancho State Park. Trees fell on a house in Beaumont.
9.30-10.1.2001	Thunderstorms in mountains and inland valleys.	1 killed by lightning at Cuyamaca Rancho State Park.
8.24.2003	Thunderstorms produce nickel size hail in Pine Valley, strong winds at Lake Henshaw.	Major tree damage at Lake Henshaw.
8.25.2003	0.75" hail at Big Bear City.	
9.2.2003	1.25" hail at Descanso.	



9.4.2003	1.75" hail in Joshua Tree and 29 Palms. 0.75" hail in Julian area.	
8.13-14.2004	Monsoon thunderstorms in the valleys, mountains and deserts. Lightning struck a house in Murrieta. Lightning struck a tree in Victorville. Golf ball size (1.75") hail in Yucca Valley. Nickel size (0.88") hail in Phelan.	Lightning in Murrieta ignited house fire. Hail dented cars in Yucca Valley. Lightning in Victorville struck a tree and it fell over onto a limousine, trapping 15 occupants.
9.11.2004	1" hail in Borrego Springs, accompanied by 60 mph gust in Borrego Springs. This could have been stronger, but the anemometer was destroyed. Strong winds in La Quinta.	Window broken by hail. Strong winds knocked down six power poles. In La Quinta: 138 trees knocked down at one golf course with building damage, more trees down at other golf courses. Roof tiles blown off. Damage to power poles and transformers.
1.3.2004	Numerous lightning strikes from Norco to Devore.	1 injured in Fontana from flying glass when a 100' tree was struck and fell on a house.
2.19.2005	¾" hail reported in Anaheim. In Laguna Hills thunderstorm winds had estimated gusts of 81 mph.	Winds blew down fences and trees and damaged a mobile home in Laguna Hills.
2.22.2005	Thunderstorm wind gusts to 68 mph in Newport Beach. 1" hail hit Costa Mesa.	
2.24.2005	Numerous thunderstorms in the Inland Empire.	Lightning struck a girl in Moreno Valley.
4.28.2005	A squall line raced ashore in Orange County with 70 mph winds.	Homes and businesses damaged in Dana Point, San Clemente and San Juan Capistrano. Numerous trees felled.
7.22-23.2005	Lightning strikes. Thunderstorms reaching the coast in San Diego County. Hail to the size of nickels (0.88") fell in Hemet. 60-70 mph winds hit the Hemet and Menifee region.	Lightning sparked fires near Big Bear Lake on 7.22 and 15 fires in San Diego County, including Vista on 7.23, burning 150 acres and causing power outages. The winds in Hemet and Menifee downed trees and flung lawn furniture.

7.24.2005	Thunderstorm winds were estimated to 60 mph at Canyon Lake.	A fence was blown over.
7.29.2005	Nickel size (0.88") hail hit Buckman Springs, 3/4" hail hit Big Bear Lake, Ranchita, and the Boulevard-Jacumba area along I-8. Multiple reports of 60 mph wind gusts in Ranchita.	
7.30.2005	1.5" hail hit Forest Falls and 3/4" hail hit Big Bear City.	
9.20.2005	Numerous thunderstorms hit northern San Diego County.	Lightning was the big problem, knocking out power, starting a number of tree fires from Carlsbad to Escondido, and producing damage to a school in Valley Center.
3.10-11.2006	Large hail fell with a big winter storm. On 1.10 1" hail fell in Escondido. Hail was widespread throughout San Diego county and even accumulated. On 1.11 a supercell thunderstorm went through northern San Diego County leaving 1" hail again in Escondido, and 0.5" hail accumulated to 1" deep from Carlsbad to Escondido.	
4.5.2006	3/4" hail fell in Corona.	Lightning caused damage to two homes in Rialto. Thunderstorm winds blew down trees in Mira Loma.
7.9.2006	Lightning sparked the Sawtooth and Millard Wildfires near Morongo Valley and Banning.	The Sawtooth burned 62,000 acres, caused considerable damage in Pioneertown and killed a man. The Millard Fire burned 24,000 acres.
7.5.2006	A thunderstorm produced one inch hail and 40-50 mph winds near Boulevard and Tierra del Sol.	
7.22.2006	Strong thunderstorm winds hit Lake Elsinore.	A 40' tree was blown over.

7.23.2006	Strong thunderstorm winds hit Menifee. Lightning sparked the Coyote Fire southeast of Anza.	Numerous trees were blown down, some of which fell on homes. The Coyote Fire burned 460 acres.
7.26.2006	A thunderstorm produced one inch hail southeast of Julian.	
9.2.2006	Thunderstorm winds were estimated at 58 mph in the Coachella Valley. Nickel size hail fell near Campo. Lightning sparked two fires near Warner Springs.	In the Coachella Valley damage was done to trees, power lines and street signs.
9.6.2006	Strong thunderstorms produced strong winds estimated at 70 mph.	Damage to trees, buildings, power lines occurred from San Jacinto to Temecula. Extensive damage to wineries.

## Tornadoes, Funnel Clouds, Waterspouts, and Damaging Dust Devils

Date(s)	Weather	Adverse Impacts
12.9.1898	A waterspout was observed off Mt. Soledad – La Jolla and Pt. Loma for 10 minutes. This was considered the first such thing in history on this stretch of coast. It was reported to move ashore a few thousand yards.	Vegetation was washed out, leaving bare rock exposed in considerable areas on the south slope of Mt. Soledad.
3.11.1909	Two waterspouts observed several miles off Pt. Loma for 20 minutes.	
4.5.1926	A tornado hit San Diego. Waterspout comes ashore in National City resulting in the most damaging tornado on record in San Diego County.	8 injured. Roofs torn off homes.
4.27.1931	A waterspout and two funnel clouds were sited off the coast of San Diego during the morning.	
9.20.1939	Two tornadoes reported in San Diego.	Damage to garage. Debris.
3.16.1952	Tornado in Santa Monica.	3 dead in storm; damage.
6.25.1954	Tornado northeast of Victorville.	
4.6.1955	Tornado north of Moreno Valley.	
4.13.1956	Strong storm winds hit Chula Vista. Counted officially as a tornado (one witness, a Texas native, claimed it was).	Roof damage done to 60 homes and extensively to a school. Two injured by flying glass. Trees uprooted, TV antennas toppled and windows shattered. 10 fish were sucked out of San Diego Bay and deposited on the ground.
1.29.1957	Waterspout off Ocean Beach. Two funnel clouds observed over North Island (possibly the waterspout) and Mt. Soledad – La Jolla.	
10.20-21.1957	Waterspouts were sighted off Point Mugu and Oceanside.	

4.1.1958	Tornado in Laguna Beach.	
5.3.1959	A tornado hit North Island Naval Air Station.	Metal shelter was picked up. Power lines and trees down, debris scattered.
10.8.1961	At least 10 waterspouts were observed between Del Mar and Oceanside. A waterspout moved ashore to become a tornado in Carlsbad. Three of the waterspouts were observed off Del Mar.	Roof ripped off, trees felled, fences downed in Carlsbad and Oceanside. Three injured from flying objects. Boats torn from moorings in Oceanside. Damage to Carlsbad SDG&E electric generator plant.
2.19.1962	Tornado in Irvine.	
3.7.1964	Two waterspouts observed, one off Oceanside and one off La Jolla.	
12.13.1965	Waterspout observed around 1 pm. Location unknown.	
4.8.1965	Tornado in Costa Mesa.	
11.7.1966	Tornadoes in Newport Beach and Costa Mesa.	Property Damage.
7.22.1966	Tornado in Victorville.	
11.30.1970	A waterspout and three small funnel clouds reported six miles west of San Diego.	
2.23.1971	A tornado 10 miles east of Brown Field, Otay Mesa, near Mt. San Miguel. At least six funnel clouds in Chula Vista, Brown Field, and San Ysidro. A waterspout off Imperial Beach.	No damage reported.
10.17.1971	Waterspout observed for 10 minutes just west of Pt. Loma.	
2.23.1973	Tornado near San Diego.	
7.20.1974	Tornado in Hemet.	Property damage.
10.22.1974	Tornado in Yucca Valley.	Property damage.

10.29.1974	Tornado in Encinitas.	
9.4-6.1976	Six tornadoes. 5 around El Mirage, west of Adelanto, one near Mt. Baldy.	Property damage.
3.16.1977	Tornado skipped from Fullerton to Brea.	4 injured. Damage to 80 homes.
1.5.1978	Tornado in Costa Mesa at 9 pm.	Trees fell and caused roof damage. Roof damage, power lines down.
1.11.1978	Two waterspouts and several waterspouts were reported off the coast of La Jolla.	
2.9.1978	Tornado in Irvine.	
2.10.1978	Tornadoes in El Segundo and in Huntington Beach.	In El Segundo, trees were hurled onto parked cars. Power poles were knocked down along a one mile path. In Huntington Beach 6 injured; \$3 million property damage.
3.5.1978	A funnel cloud was reported from the El Toro Marine Base.	
12.19.1978	Tornado in Oceanside.	3 injured. \$15,000 damage to vehicles and structures.
1.5.1979	A waterspout came ashore and became a tornado at Mission Beach.	Several boats were tossed and damaged. A catamaran was tossed 50' on to the boardwalk, damaging it.
1.18.1979	Tornadoes in Tierrasanta and Midway - San Diego. The same tornado or other tornadoes may have hit Mission Hills and Encanto.	Ripped up signs, sidings, street lights, etc., and dropping debris in traffic in Midway. Lots of property damage in Midway, Encanto and Mission Hills. Property damage in Tierrasanta.
1.31.1979	Tornado in Santa Ana, possibly elsewhere.	Numerous power outages.
2.20.1980	Tornado in Clairemont - San Diego.	Considerable property damage.
1.20.1982	Tornado in Riverside.	

3.17-18.1982	Tornado at Lindbergh Field - San Diego and at Loma Portal – Pt. Loma.	
9.7.1982	Tornado in Landers.	Property damage.
11.9.1982	Seven tornadoes touched down in the LA Basin. Three of the tornadoes began as waterspouts at Pt. Mugu, Malibu and Long Beach. The Long Beach waterspout moved ten miles inland, becoming an F2 tornado. Another tornado reached F2 strength in Van Nuys. Two other tornadoes were in Garden Grove and Mission Viejo.	Property damage, especially with the Long Beach waterspout/tornado.
3.1.1983	Two tornadoes around LA, an F2 and an F0.	In all, 30 people were injured and 100 homes were damaged. At 8 pm one F2 tornado damaged seven businesses and 50 homes in South Central LA, caused 30 injuries and lifted about one mile before reaching the civic center. The F0 tornado injured a motorist when his Cadillac was lifted 15' and carried across a highway in San Marino.
8.1.1983	Tornado in Landers.	Property damage.
9.28.1983	Six funnel clouds sited off the coast of San Diego.	
1.13.1984	Tornado in Huntington Beach.	Property damage.
1.27.1985	Funnel cloud west of Lindbergh Field.	
2.3-4.1985	Tornado in Tierrasanta and Allied Gardens - San Diego. Funnel clouds at Brown Field.	Eight mobile homes damaged. Roofs torn off. Other property damage.
9.18.1985	Tornado around the north shore of the Salton Sea.	

11.12.1985	Waterspout came ashore in Encinitas, becoming a tornado.	\$100,000s in damage. Forty greenhouses damaged or destroyed, roof flung on car, destroying it. Trees down. Other property damage.
11.25.1985	Funnel cloud sited at Imperial Beach.	
2.25.1986	Waterspout reported 5 miles west of Lindbergh Field – San Diego and reported from Silver Strand. 2 funnel clouds were reported near Pacific Beach.	
3.16.1986	Tornado in Anaheim near Disneyland.	Property damage.
2.22-24.1987	Tornadoes and waterspouts in the Huntington Beach area.	
2.25.1987	Several funnel clouds and waterspouts around San Diego County. One waterspout was 7 miles west of Crystal Pier in Pacific Beach, another 7 miles west of the San Diego River channel. A funnel cloud was observed off Imperial Beach.	Waterspouts damaged many boats in Coronado harbors. A waterspout picked up a dropped a 30', 5-ton cabin cruiser. A dinghy was also tossed and reported to have been in the air for 15-20 seconds.
7.27.1987	Tornado in Twentynine Palms.	
9.1.1987	Thunderstorms hit San Diego Valleys with lightning and strong damaging winds (possibly a tornado).	What was reported as a dust devil was probably a microburst or a tornado damaged awnings and other items to mobile homes near Lake Jennings. In El Cajon a tree with an 8-inch trunk was snapped in half.
9.24.1987	Two funnel clouds were reported around Earp (on Colorado River).	
1.18.1988	Tornadoes in Mission Viejo and San Clemente.	Property damage. A baseball dugout was blown 150 yards into the middle of a city street.
1.14.1990	Tornado in East City Heights - San Diego. A waterspout turned tornado hit Shelter Island – San Diego.	Property damage. Boats tossed in Shelter Island.



2.28.1991	Tornado in Tustin.	
3.19-20.1991	Tornadoes in East City Heights and San Carlos areas of San Diego on 3.19. Tornadoes in Riverside and Muscoy (near San Bernardino) on 3.20. Also on 3.20 a waterspout came ashore to become a tornado at Camp Pendleton. Two other waterspouts were seen off the coast there.	Property damage in San Diego. In San Carlos pines were ripped out by roots, palm and cottonwood trees snapped in half. Cars were smashed by falling objects, debris and patio furniture was strewn throughout the neighborhood, including a refrigerator. A car was moved 60' by a falling palm.
3.26-27.1991	On 3.26 tornado at Vandenberg AFB. On 3.27 Tornadoes in Huntington Beach and rural San Marcos. The tornado in Huntington Beach cut a five-mile swath.	In Huntington Beach the roofs were taken off of six homes. Dozens of other homes were damaged and 50 mobile homes were severely damaged.
2.15.1992	Tornado in Camp Pendleton.	Property damage.
12.7.1992	Tornadoes in Anaheim, Westminster, and Carlsbad. Waterspout 8 miles off San Diego coast. Another one 11.5 miles off Mission Beach.	Property damage. Three carports and two mobile homes damaged in Carlsbad.
12.29.1992	Tornado in San Clemente.	Property damage.
1.18.1993	Tornado in Orange County. Funnel cloud in Hemet.	Property damage.
2.8.1993	Tornado in Brea.	Property damage.
3.26-28.1993	Funnel clouds near Temecula and a funnel cloud in Moreno Valley.	
11.11.1993	Tornado in Portola Hills (near Tustin).	2 injuries; property damage.
2.7.1994	Tornado from Newport Beach to Tustin.	Roof and window damage. Trees blown down.
4.26.1994	Waterspout 11 miles southwest of Camp Pendleton.	
8.12.1994	Tornado in Valle Vista (east of Hemet) and several funnel clouds in Hemet.	Trees uprooted. Power poles blown over. A home damaged and a trailer destroyed.

12.13.1994	Two waterspouts about 0.5 mile off Newport Beach.	
12.13.1995	Funnel cloud near Fullerton airport.	
3.13.1996	Funnel cloud in Irvine, two southwest of Moreno Valley, and one northwest of Hemet.	
5.25.1996	Funnel cloud 10 miles west of Lindbergh Field - San Diego.	
12.22.1996	Tornado in Cabazon.	Threw a 5 ton mobile home 30'. Minor damage to six other mobile homes.
1.12.1997	A waterspout 2 miles southwest of Lindbergh Field - San Diego came ashore at Shelter Island.	Damage to resort.
2.28.1997	Funnel cloud in Kearny Mesa - San Diego.	
4.2.1997	Funnel cloud 5 miles west of Lindbergh Field - San Diego.	
5.11.1997	Tornado in Apple Valley.	Catastrophic damage to buildings, structures, trees, power lines.
5.18.1997	Two tornadoes in Apple Valley and a wet microburst. Estimated 130-140 mph winds.	Building and structure damage. Power lines arcing down and producing fires.
5.20.1997	Tornado 7 miles east of Borrego Springs.	
6.6.1997	Tornado in Hesperia.	Destroyed a large fountain.
6.13.1997	Funnel cloud 2 miles northwest of Lindbergh Field - San Diego.	
8.6.1997	Funnel cloud in Pine Valley.	

11.10-11.1997	A waterspout came ashore at Newport Pier 11.10 and quickly dissipated over western Costa Mesa. Winds were estimated at 60 to 70 mph. Tornado in Irvine 11.11, and another funnel developed.	Minor power outages. Little damage. A fisherman was blown from one end of the Newport pier to another. Property and vehicle damage in Irvine from flying debris. Ten cars were thrown a few feet.
11.30.1997	Waterspout 6 miles south of Newport Beach.	
12.8.1997	Funnel cloud in Del Mar.	
12.21.1997	Waterspout and tornado in Huntington Beach developed from a supercell thunderstorm.	Considerable damage to boats, houses, and city property.
1.2.1998	Funnel cloud southwest of Chula Vista.	
1.9.1998	Waterspout 3 miles off Laguna Beach. Tornado at Long Beach	Property damage in Long Beach.
1.29.1998	Waterspout moves ashore on Moonlight Beach and becomes a tornado at Encinitas	Property damage.
2.9.1998	Tornado in Cardiff - Encinitas and Rancho Santa Fe.	Minor damage.
2.17.1998	Waterspout off Point Loma.	
2.24.1998	Tornado in Huntington Beach. Waterspout off Mission Beach.	Property damage, power outage. Roof travels 1/4 mile.
3.13-14.1998	Numerous waterspouts between Long Beach, Huntington Beach and Catalina. Funnel clouds in Phelan and Hesperia.	
3.28.1998	Funnel cloud in Dulzura.	
3.31-4.1.1998	Numerous funnel clouds reported near Orange and San Diego County coasts, two of which became waterspouts off Orange County. One waterspout briefly hit the coast south of the Huntington Beach Pier.	

5.5.1998	“Apparent” tornado in San Bernardino and Rialto	Shredded metal siding in Rialto.
5.6.1998	Waterspout 1 mile west of North Island.	
5.13.1998	Tornado in Homeland. Funnel clouds in Homeland and Moreno Valley.	Damage to mobile homes in Homeland.
6.6.1998	Two funnel clouds off Dana Point.	
9.2.1998	Funnel cloud in Pomona.	
9.27.1998	Funnel cloud over Mission Beach.	
12.5.1998	Funnel cloud 2 miles southwest of Imperial Beach.	
1.25.1999	Funnel cloud 1 mile off Costa Mesa coast.	
4.1-3.1999	Waterspout 6 miles off Newport Beach on 4.1. Funnel cloud 3 miles west of La Jolla on 4.2. Waterspout 3 miles southwest of Oceanside on 4.3.	
4.7.1999	Funnel cloud 2 miles west of La Jolla.	
4.12.1999	Funnel cloud northeast of Temecula.	
6.3-4.1999	Funnel cloud 1 mile off San Clemente. Waterspout off Laguna Beach.	
7.10.1999	Funnel cloud in Hesperia.	
7.12.1999	Tornado 6 miles east of Julian. Recorded wind speeds 43 mph.	Building and structure damage. Trees uprooted and knocked over.
7.21.1999	Tornado in Shelter Valley.	Property damage.
12.31.1999	Funnel clouds in Santa Ana and Oceanside. Waterspout off Costa Mesa coast.	
2.21.2000	Tornado at Anaheim Hills.	Property damage.
3.3.2000	Waterspout 3 miles west of La Jolla.	

3.7.2000	Waterspout 10 Miles West of San Clemente. Funnel cloud 2 miles west of La Jolla.	
6.14.2000	Funnel cloud in Phelan.	
6.23.2000	Two funnel clouds around Hesperia.	
6.25.2000	Funnel cloud 12 miles west of Ocean Beach.	
8.25.2000	Funnel cloud came within 200' of the ground in Jacumba.	
9.7.2000	Funnel cloud over Carlsbad.	
10.28.2000	Funnel clouds around Newport Beach and Costa Mesa.	
11.10.2000	Tornado in southeast Poway.	Damage to 8 houses, trees uprooted and knocked down, vehicles moved.
1.10-12.2001	Funnel cloud at Orange County Airport, Newport Beach on 1.10, and Kearny Mesa - San Diego on 1.11. Waterspout 3 miles west of Chula Vista on 1.11 and 12 miles west of Mission Beach on 1.12.	
2.10-11.2001	Waterspout 2 miles west of La Jolla and a funnel cloud 3 miles northwest of La Jolla on 2.10. Waterspout 3 miles off Laguna Beach and two waterspouts 1 mile west of Ocean Beach on 2.11.	
2.13-14.2001	Funnel clouds in Palm Desert on 2.13 and 9 miles west of Oceanside on 2.14.	
2.24.2001	Tornado in Orange.	Damage to a warehouse, 6 structures, fences, and telephone wires.
2.27.2001	Several funnel clouds in Escondido. A waterspout 10 miles west of San Diego - Lindbergh Field.	

3.6.2001	Funnel cloud in Yorba Linda.	
4.9.2001	Two funnel clouds 4 miles southwest of San Diego - Lindbergh Field.	
5.28.2001	Two brief waterspouts 5 miles west of Laguna Beach.	
7.3.2001	Dust devil in Hesperia (may be a microburst or other thunderstorm wind).	Blows off roof.
7.7.2001	Tornado at Twentynine Palms and Joshua Tree.	Minor damage to homes and businesses in Joshua Tree.
8.15.2001	Dust devil in Menifee.	Damage to shed.
8.17.2001	Funnel cloud in Dulzura.	
2.17.2002	Two funnel clouds around Carlsbad.	
3.24.2002	Two funnel clouds around Carlsbad.	
5.20.2002	Three funnel clouds and one waterspout off the coast near Dana Point.	
10.26.2002	Funnel cloud 5 miles northeast of Borrego Springs.	
5.27.2003	Dust devil in Sugarloaf.	Damage to three vehicles.
9.4.2003	Tornado in Joshua Tree - Yucca Valley.	Extensive damage (\$25K) to one residence. Minor damage to 11 other residences. No injuries.
11.1.2003	Large waterspout between Laguna Beach and Catalina Island.	
8.14.2004	Tornadoes hit Yucca Valley and Phelan.	
9.5.2004	A strong dust devil hit Vista.	Ripped a sign off a fence and threw it 40' away over a house.
10.17.2004	A tornado hit Oceanside. It was a waterspout that came ashore. Funnel cloud occurred near Carlsbad at Moon Beach.	Damage to structures, trees, windows, etc.

10.20.2004	Several funnel clouds offshore from San Clemente.	
10.21.2004	A waterspout was 2 miles southwest of North Island.	
12.28.2004	Tornadoes in Long Beach, Inglewood and Whittier. A funnel cloud was reported in Fullerton. A waterspout was reported 10 miles west of Oceanside Harbor.	The tornadoes caused minor damage to trees and roofs.
1.2-4.2005	On 1.2: Funnel clouds were reported 10 miles west of Huntington Beach pier, off Dana Point and northwest of San Diego Bay. On 1.3: Funnel clouds were reported in Fullerton and Huntington Beach. On 1.4: A funnel cloud was reported in Costa Mesa.	
1.9.2005	A tornado hit Hemet. A funnel cloud was reported in Mira Loma.	The tornado picked up a storage shed in Diamond Valley and threw it into a power pole.
2.19.2005	A waterspout moved ashore (within 100 yards of the pier) and became a tornado in Huntington Beach. Multiple waterspouts were reported. A super cell thunderstorm moved ashore in Oceanside and spawned an F1 tornado that moved through Fallbrook, Rainbow and Temecula.	The tornado in Huntington Beach damaged and downed trees and power poles. Extensive damage to cars, trees, roofs, fences, etc. in Fallbrook, Rainbow and Temecula.
2.22-23.2005	On 2.23 A tornado hit Chula Vista. On 2.22 funnel clouds were reported in San Diego – Clairemont, Dana Point, north of Victorville, and Mira Loma. On 2.23 funnel clouds were reported in La Jolla and Spring Valley.	The tornado stopped traffic on the 805 freeway.
2.26.2005	A landspout-tornado hit Lake Elsinore, lasting about 5 minutes.	
3.4.2005	A tornado hit Fontana. A funnel cloud was reported in Carmel Valley – Del Mar.	The tornado felled several trees and power lines. Roof damage to three homes. Roof taken off of building.

4.28.2005	Funnel clouds were reported in Hemet and in Carlsbad.	
5.6.2005	A waterspout was spotted off Imperial Beach. A funnel cloud was reported near Tustin.	
7.23.2005	A tornado struck Hemet.	Trees downed.
7.29-30.2005	Thunderstorms produced funnel clouds in Mt. Laguna on 7.29 and in the San Gorgonio Wilderness on 7.30.	
2.18.2006	A waterspout was observed 6 nautical miles off Dana Point.	
3.10-11.2006	On 3.10 a waterspout came ashore in Encinitas (becoming a tornado). On 3.11 a supercell thunderstorm produced a waterspout off south Carlsbad. A tornado was later reported in north Ramona from this storm.	In Encinitas a tree fell over a railroad track and halted traffic. In Ramona trees were downed and some property damage was incurred.
4.5.2006	A funnel cloud was spotted in Riverside near Highway 60 and I-215.	
4.14.2006	A funnel cloud was observed over Del Mar.	



**Strong winds** (for thunderstorm related winds, see severe thunderstorms)

<b>Date(s)</b>	<b>Weather</b>	<b>Adverse Impacts</b>
10.2.1858	Category 1 hurricane hits San Diego. Implied winds of 75 mph.	Extensive wind damage to property (F2).
8.11-12.1873	A tropical storm hit San Diego with winds that “stiffened up to quite a gale”.	Damage to roof tops and felled trees.
11.13.1880	Severe Santa Ana winds and sandstorms in Southern California.	Extensive damage.
2.24.1891	Strong and continuous storm winds blew at 40 mph.	Boats were smashed on shore. A roof was taken off a warehouse.
1.27.1916	All wind velocity records were broken in San Diego. Peak wind 54 mph, with a max gust to 62 mph. Average speed for the day was 26.2 mph.	
1.10.1918	Strong offshore winds. Peak wind at San Diego was north at 31 mph at 6:38 am.	Skies were full of dust with 300 yards visibility. At noon visibility was only a few miles.
11.25.1918	Strong windstorm produced a wind gust of 96 mph at Mt. Wilson.	
5.23.1932	Strong winds and low humidity.	12 serious brush fires resulted, blackening nearly 2000 acres in San Diego County. The biggest fire was in Spring Valley.
3.5.1933	Strong east winds.	A fire in De Luz area spread rapidly westward and scorched more than 800 acres.
9.24-25.1939	Tropical storm lost hurricane status shortly before moving onshore at San Pedro. Sustained winds of 50 mph.	48 dead from sinking boats.
2.11.1946	Icy cold winds in mountains of San Diego County with gust 72 mph.	

1.10.1949	Cold winter storm. Gust to 75 mph in the mountains of San Diego County, gust to 40 mph in San Diego.	Plane crash kills 5 and injures 1 near Julian.
4.13.1956	Strong storm winds hit Chula Vista. Possible tornado (one witness, a Texas native, claimed it was).	Roof damage done to 60 homes and extensively to a school. Two injured by flying glass. Trees uprooted, TV antennas toppled and windows shattered. 10 fish were sucked out of San Diego Bay and deposited on the ground.
11.21-22.1957	Extremely destructive Santa Ana winds.	Winds produced a 28,000 acre brush fire on a 40-mile front west of Crystal Lake. People were ordered off streets in some areas due to flying debris.
11.5-6.1961	Strong Santa Ana winds fanned fires in Bel Air and Brentwood. 74° at 10 pm at LA, 5° dew point. 3% relative humidity in Burbank on 11.6.	Fire in Topanga Canyon. 103 injured firemen, \$100 million economic losses including 484 buildings (mostly residential) and 6,090 acres destroyed.
9.26.1963	Santa Ana winds. Gusts over 50 mph in the mountains of San Diego County.	Hottest heat wave west of mountains in the county on record.
11.19-20.1963	Strong storm winds.	Hundreds of trees downed. Power lines downed.
12.2-3.1966	Strong storm winds.	Power outages.
1.18-28.1969	Strong storm winds.	4 dead from falling trees. Power outages.
2.20-25.1969	Strong storm winds.	Telephone, power, and gas outages.
9.26-29.1970	Gusts to 60 mph at Cuyamaca Rancho State Park.	The Laguna Fire. 8 killed, 400 homes destroyed, 185,000 acres burned as of 9.28 from Cuyamaca to Alpine.
2.10-11.1973	Strong storm winds. 57 mph at Riverside, 46 Newport Beach.	Some 200 trees uprooted in Pacific Beach alone.

3.25.1975	Wind gust of 101 mph at Sandberg, a California record.	
2.4-10.1976	Strong storm winds: 64 mph at Palmdale.	
9.10.1976	Hurricane Kathleen brought the southwest the highest sustained winds ever associated with an eastern Pacific tropical cyclone with sustained winds of 57 mph at Yuma.	
11.30-12.1.1982	Widespread strong wind with a big storm.	Power out to 1.6 million homes.
3.1.1985	Strong storm winds struck San Diego County.	Trees and antennas were toppled, causing numerous power outages.
3.26.1984	Ferocious winds strafed the Mojave Desert with winds of 60-90 mph. Peak wind at Mojave 103 mph, Daggett 66 mph.	Power outages, road closures. A CHP officer reported a car door ripped off and hit by a sizable rock near Indio and another car had its windows blown out.
11.23.1986	Strong Santa Ana winds hit LA and mountain foothills. Gusts to 54 mph were recorded, but estimated gusts were 70 mph. Only 30-40 mph gusts were estimated at Mt. Laguna.	An unfinished house in Glendale was blown to bits. Numerous beach rescues were needed for sailors and windsurfers. Two sailboat masts were snapped in a boat race at Channel Islands.
1.20.1987	Wind gusts to 80 mph below Cajon Pass, 70 mph in San Bernardino, 60 mph at Mt. Laguna and 40 mph in El Toro.	Thick dust clouds. Trucks blown over. Trees down. A hundred power poles were down in the Inland Empire. Numerous power outages. Schools closed in Fontana as a result of power outages. A mobile classroom was knocked over. Brush fires were started.

2.6-7.1987	Santa Ana winds: Gusts up to 75 mph Cuyamaca and Palomar Mountain areas. Gusts to 60 mph hit Brown Field and Warner Springs, 40 mph in Julian and Valley Center. 35 mph at San Diego.	Plane flipped over at Brown Field. Winds forced a sailboat into the rocks at Pt. Loma. I-8 was closed for two hours in eastern San Diego County. Trees, power lines and fences were downed, causing damage and power outages. A highway sign fell on cars.
2.23-24.1987	Storm winds were clocked at 50 mph in Mt. Laguna. Gusts reached 34 mph at San Diego.	
3.15.1987	Widespread strong storm winds. Gusts to 40 mph at San Diego with sustained winds 25-35 mph all day.	Power outages all over San Diego metro area. Motor homes toppled in the desert. A light standard fell over onto cars in Coronado. Boats flipped over in harbors. A 22' boat turned over at Mission Beach jetty. Catalina cruise ships were delayed, stranding 1,200 tourists there.
11.18.1987	Santa Ana winds buffeted the mountains and valleys.	
12.4-5.1987	Strong Pacific storm brought gale force winds along the coast exceeding 40 mph.	Trees down, power outages.
12.12-13.1987	Strong Santa Ana winds in San Bernardino, with gusts to 60 mph. Gusts up to 80 mph around San Bernardino. Strong damaging winds in San Diego County. 38 mph recorded at San Diego.	80 power poles were blown down within a ½ mile stretch in Fontana and Rancho Cucamonga. One was injured when a tree fell on a truck. Downed tree limbs damaged cars, homes and gardens. Power poles and freeway signs were damaged. A parked helicopter was blown down a hillside in Altadena. Trees blown down and power outages in San Diego County. One was killed by a Eucalyptus tree falling on a truck in Spring Valley.

12.15.1987	Strong storm winds of 100 mph at Wheeler Ridge in the Tehachapi Mountains. 80 mph in San Bernardino Co. Up to 70 mph gusts at Pt. Arguello and gusts up to 60 mph gusts were clocked in Orange Co. and the San Gabriel Mountains.	One truck overturned.
12.17.1987	A strong Alaskan storm brought strong winds.	Boats broke free of moorings at Shelter Island, San Diego.
1.17.1988	Major Pacific storm produced a gust to 64 mph from the west at San Diego - Lindbergh Field, highest wind on record.	Trees uprooted in the San Diego area. Boats in San Diego harbor damaged intensively. Apartment windows were ripped out in Imperial Beach, where damage estimated \$1 million. Trees were knocked down and debris was strewn all around San Diego and the zoo. Zoo was closed for the first time in 72 years to remove damage. Kelp beds were damaged.
1.21-22.1988	Strong offshore winds following a major Pacific storm. Gusts to 80 mph at the Grapevine and gusts to 60 mph at Ontario on the night of 1.21. Gusts were reported up to 80 mph in San Diego County on 1.22.	Power poles, road signs big rigs knocked down in the Inland Empire. In San Diego County, 6 were injured, roofs were blown off houses, trees were toppled and crops destroyed. A barn was demolished and a garage crushed by a giant tree in Pine Valley. 20 buildings were destroyed or damaged at Viejas. Avocado and flower crops were destroyed in Fallbrook and Encinitas, respectively. Five greenhouses were destroyed in Encinitas.

2.16-19.1988	Very strong Santa Ana winds: Gusts of 90 mph at Newport Beach, 70+ mph in the San Gabriel Mountain foothills on 2.17. Gusts to 76 mph at Monument Peak - Mt. Laguna on 2.18. Gust 63 at Ontario on 2.17, gust 50 at Rancho Cucamonga on 2.16.	Numerous trees and power lines downed and power outages all near the foothills of the San Gabriel and San Bernardino Mountains. On 2.19 in Pauma Valley a mobile home was overturned and shingles were torn off roofs. Fontana schools were closed due to wind damage at schools. Three were killed when a big rig truck overturned and burned, one was killed having stepped on a downed power line). Power outages hit 200,000 customers in LA and Orange counties. Minor structural damage occurred to signs, etc. Grass fires resulted. Roof damage was widespread in communities around Glendale and Pasadena. Planes flipped in Burbank and at John Wayne airports. Boats were torn from moorings in Newport Harbor.
5.29.1988	Gale force winds hit the coast. Gusts to 60 mph in the mountains, 45 mph at LAX. Gusts to 40 mph at San Diego.	Hang glider crashed and died. Power went out. Brush fires started.
11.30.1988	Santa An winds gusted to 75 mph at Laguna Peak (Ventura Co.).	
12.8.1988	Strong Santa Ana winds across Southern California. Gust 92 mph at Laguna Peak (Ventura Co.).	Winds fanned several major fires. Buildings unroofed, trees and power lines brought down. Estimated damage \$20 million.
11.28.1989	Strong Santa Ana winds. Gusts to 70 mph at the Rialto Airport.	Several tractor- trailer trucks were overturned east of Los Angeles.
12.11.1989	Strong Santa Ana winds. Gusts to 100 mph near the Grapevine.	Winds reduced visibilities to near zero in the desert areas, and closed major interstate highways east of Ontario.

3.18-19.1991	Storm winds gusted to 125 mph on Laguna Peak (Ventura Co.). Winds of 60 mph in San Carlos area of San Diego, probably a tornado.	Extensive damage in San Carlos area of San Diego.
10.26-27.1993	Santa Ana winds: gust 62 mph at Ontario.	Twenty fires ravaged Southern California including in Laguna Hills. 4 dead, 162 injured, \$1 billion economic losses in property alone and 194,000 acres were destroyed.
12.24.1993	Santa Ana winds: gust 75 mph at Ontario.	
12.14.1996	Santa Ana winds: gust 111 mph at Fremont Canyon, gust 92 Rialto.	2 killed from flying debris.
12.21-22.1996	Storm winds 40-50 mph.	
1.5-6.1997	Storm winds: gust 99 mph at Fremont Canyon, 58 mph elsewhere.	
1.29.1997	Santa Ana winds: gust 100 mph at Fremont Canyon, 87 Rialto.	Big rigs blown over.
8.20.1997	The remnants of Tropical Storm Ignacio tracked northward moving inland in central California with gale force winds over portions of the Southern California coastal waters. This occurred during the strong El Niño of 1997-98.	
10.14.1997	Santa Ana winds: gusts 87 mph in central Orange County.	Large fire in Orange County.
12.10-12 .1997	Santa Ana winds: gust 96 mph at Pine Valley, 87 Upland.	2 killed from flying debris. Property damage in Sun City. Crop damage. Boats damaged and sunk at Coronado and Avalon.
12.18-22 .1997	Gusts 60 mph at Rialto. Gusts 67 mph at Idyllwild and below Cajon Pass.	1 killed. Fire, trees down, and widespread wind damage.
12.29 .1997	Gusts 60+ mph at Santa Ana.	

2.3-4.1998	Strong storm winds: gust 60 mph at Newport Harbor, 51 San Clemente.	
2.23-24.1998	Strong widespread storm winds 40-60 mph.	Trees and power lines knocked down. Damage.
3.28-29.1998	Strong storm winds in Orange County: sustained 30-40 mph. Gust 70 mph at Newport Beach, gust 60 Huntington Beach. Gusts to 60 mph in the mountains.	Trees down, power out, and damage across Orange and San Diego Counties. 1 illegal immigrant dead in Jamul.
12.9-10.1998	Santa Ana winds: gust 101 mph at Modjeska Canyon, gust 93 Fremont Canyon, 52 Santa Ana, 83 Ontario.	Trees and power lines down. Overturned vehicles. Property damage.
1.21.1999	Gust 80 mph in the Salton Sea area. Gusts up to 70 mph in the Coachella Valley, 47 Palm Springs, 36 Thermal.	
2.10-12.1999	Santa Ana winds: gust 85 mph at Rialto, gusts to 80 mph reported from I-8.	I-8 closed.
5.13.1999	Strong winds: sustained 61 mph at Borrego Springs.	Roof and tree damage.
11.22.1999	Gust 80 mph at Highland.	
12.3.1999	Santa Ana winds: gust 90 mph at San Bernardino, 68 Fontana.	
12.10-11.1999	Gust 60 mph at Palm Springs.	
12.21-22.1999	Santa Ana winds: gust 68 mph at Campo, 53 Huntington Beach, 44 Orange.	House and tree damage in Hemet.
1.5-6.2000	Santa Ana winds: gust 93 mph at Fremont Canyon, 60 Ontario, 58 Devore.	I-15 closed.
2.19.2000	Santa Ana winds: gust 92 mph at Fremont Canyon.	
2.21-23.2000	Winter storm winds: gust 75 mph along Highway 91.	Trees down at Lake Arrowhead.



4.1.2000	Santa Ana winds: gust 93 mph at Mission Viejo, 67 Anaheim Hills.	
4.17-18.2000	Late winter storm: gust 68 mph in the mountains of San Diego County.	
11.7.2000	Santa Ana winds: gust 82 mph at Fremont Canyon.	
12.25-26.2000	Santa Ana winds: gust 87 mph at Fremont Canyon.	Damage and injuries in Mira Loma, and Orange and Riverside Counties.
1.2-3.2001	Santa Ana winds: gust 52 mph at Ontario, 60 Rialto.	Viejas Fire. 5,500 acres burned. Trees and power lines down.
1.10-11.2001	Winter storm: gust 71 mph at Phelan.	
2.7.2001	Winter storm: gusts 50 mph at Palm Springs and Thermal, 54 Fish Creek.	
11.27.2001	Strong Santa Ana winds extend offshore from the coast.	Damage. A boat accident off Newport Beach.
12.7-8.2001	Santa Ana winds: gust 87 mph at Fremont Canyon.	Potrero Fire.
1.24.2002	Santa Ana winds.	
2.8-10.2002	Santa Ana winds: gust 80 mph at Descanso, 78 Fremont Canyon, 76 San Bernardino.	Fire in Fallbrook area.
1.6-7.2003	Very widespread Santa Ana winds: gust 100 mph at Fremont Canyon, 90 Ontario, 80 Upland, 72 Trabuco Canyon, 70 Riverside, 58 Miramar.	2 dead, 11 injured. Widespread property damage, road closures, power outages, trees down, wildfires, crop damage.
10.25-27.2003	Santa Ana Winds: gust 56 mph at Descanso, 46 Anza, 45 Ontario, 43 Fremont Canyon, 41 Beaumont, 40 Campo.	Unprecedented wildfires consumed hundreds of thousands of acres, killed over 20 people, caused over one billion dollars in damage.
10.20.2004	A storm wind of 39 mph was measured at Lindbergh Field from the south, the strongest October wind on record.	

11.21.2004	A cold storm brought wind gusts to 84 mph to Fremont Canyon.	
12.16.2004	Santa Ana winds sustained 51 mph with gusts to 78 mph at Fremont Canyon. Gusts to 69 mph northwest of San Bernardino and 66 mph near Pine Valley.	Big rigs blown over, closing a freeway for a short time. Other damage.
12.29.2004	A storm wind of 58 mph was measured at Lindbergh Field on 12.29 from the south, the strongest December wind on record. Wind gusts to 69 mph at Julian, 60-65 mph gusts in the Inland Empire and 60 mph at Alpine.	Widespread wind damage across the coasts and valleys.
2.3.2005	Strong storm winds of 70 mph hit the region.	Homes in Idyllwild were damaged by felled trees. Downed power lines in the Inland Empire. Big rig overturned on I-8.
4.7.2005	Strong winds in the Coachella Valley. Gust of 52 mph at Thermal, but likely stronger in the region.	Reduced visibility in La Quinta led to a 12 car pileup accident.
1.2.2006	Post frontal winds more than 50 mph widespread across the region.	The "M" above Moreno Valley was demolished. Trees were downed, power lines, power poles, on to houses and cars. In Crestline there were 20 homes left uninhabitable. In San Diego Bay boats broke loose from their moorings.
1.22-24.2006	Santa Ana wind event. Peak winds occurred on 1.24 at Fremont Canyon at 71 mph. During these days, wind gusts exceeded 60 mph on 19 hourly observations.	7 big rigs overturned in Fontana. Downed power lines and trees caused power outages and property damage. Roof of a car port torn off in Hemet. Dust storm closed Ramona Expressway.
2.6-7.2006	Santa Ana winds blew.	The Sierra Fire east of Orange burned nearly 11,000 acres. Eight minor injuries.

10.26.2006	Offshore winds blew to 40 mph in the Banning Pass.	The Esperanza Fire was started by an arsonist. It burned 40,200 acres from Cabazon to San Jacinto. It destroyed 34 homes and killed 5 firefighters.
11.29.2006	Offshore winds gusted to 73 mph at Fremont Canyon (sustained 54 mph), 58 mph at Ontario.	Widespread property damage and power outages as a result of downed power lines, poles and trees.
12.3.2006	Offshore winds gusted to 92 mph with seven gusts over 75 mph in northwest San Bernardino. Gusts to 75 mph at Fremont Canyon.	Downed power lines sparked a small fire in the Inland Empire. 16 power poles were downed in Valley Center.
12.27.2006	Strong storm winds hit the coast. Gusts hit 54 mph at La Jolla, 52 mph at Torrey Pines and San Clemente Island, 51 mph at Pt. Loma, 49 mph at Huntington Beach, 46 mph at North Island and 40 mph at San Diego Lindbergh Field.	Numerous trees were downed, damaging several vehicles.

## Extreme Heat

Date(s)	Weather	Adverse Impacts
6.17.1859	133° in Santa Barbara from hot offshore (sundowner) winds. Accuracy discredited as temperature sensor was in full sun.	Roasted fruit on one side.
6.11.1877	112° observed in LA. It would be the all-time record, but official records didn't begin until 20 days later.	
3.28-29.1879	95° on 3.28 and 99° on 3.29 at San Diego. 99° in LA on 3.29.	
7.25.1891	109° in LA.	
5.27.1896	124° at Salton (City), the national maximum temperature for May.	
4.25.1898	118° at Volcano Springs (east side of Salton Sea, before the sea), the national maximum temperature for April. It was 117° at Salton (on the west side of the "sea").	
6.23.1902	129° at Volcano Springs (east side of Salton Sea, before the sea), the national maximum temperature for June. It was 127° at Salton (on the west side of the "sea").	
11.12.1906	105° at Craftonville (now Crafton Hills, near Redlands), the national maximum temperature for November.	
4.23.1910	100° in LA, a record for April.	
7.10.1913	134° at Death Valley, the hottest reading on record for the Western Hemisphere. And the nation's highest temperature on record for July. Sandstorm conditions accompanied the heat.	
9.17.1913	110° at San Diego.	

6.16.1917	124° at Mecca climaxes the most destructive heat wave of record in California history.	
2.25.1921	92° in LA, the hottest ever in February.	
9.16-17.1929	A hot spell hits San Diego. 111° in the coastal valleys. A reading of 94° was at San Diego at 4 am on 9.17.	
12.8.1938	100° at La Mesa, the national maximum temperature for December.	
9.18-22.1939	95+° records at San Diego each day, highest of 106° on 9.21. LA reaches 100° for seven consecutive days, peaking at 107° on 9.20. On 9.20 it was 107° in Escondido and 104° in the San Diego - College area.	Eight heat-related deaths in LA.
7.10.1940	97° at Santa Ana, 96° Laguna Beach.	
9.2.1950	126° at Mecca, the national maximum temperature for September.	
8.31-9.7.1955	Heat wave. 110° in LA on 9.1, an all time record.	
7.17.1960	101° at Idyllwild.	
9.26.1963	113° at El Toro, the hot spot in the nation for the date. 111° at Lindbergh Field, highest temperature on record (95° at 8 am). 112° at El Cajon, 109° at Imperial Beach, 108° at Carlsbad, Oceanside, Santee and Chula Vista, 107° at SDSU, Lemon Grove, La Mesa and Escondido, (only) 96° at Coronado.	Crop damage and animals killed. Schools dismissed, workers sent home, etc. Surf temperature dropped from 70° to 64° in one day due to the increased upwelling caused by offshore winds.
10.20-29.1965	A very long heat wave. A peak of 104° at San Diego on 10.22. LA had 10 consecutive days with afternoon highs reaching 100 degrees.	

11.1.1966	101° at LA airport, 100° at LA, the all time November high, 97° at San Diego.	Santa Ana winds fan fires, which killed 16 fire fighters.
8.22.1969	110° at Cuyamaca.	
9.25-30.1970	Drought in southern California came to a climax. Hot Santa Ana winds sent the temperature soaring to 105° at LA and 97° at San Diego on 9.25.	The Laguna Fire consumed whole communities of interior San Diego County were. Half a million acres were burned, and the fires caused fifty million dollars damage.
8.11-13.1971	100° at Palomar Mountain.	
9.12.1971	103° in LA.	
7.28-30.1972	100° at Palomar Mountain.	
6.9-13.1979	Five consecutive days of 90+° at San Diego, peaking with 101° on 6.10. Minima between 69° and 72°.	
7.10.1979	123° at Palm Springs.	
9.4-19.1984	Record minima set each day except one at San Diego, ranging from 73° to the highest minimum of all time of 78° on 9.9. 100° maximum on 9.8.	
6.30.1985	100+° in parts of the city of San Diego.	Fire in Normal Heights - San Diego.
2.6.1987	A Santa Ana event brought warm weather to the coast: 82° at San Diego, 84° at Oceanside.	
4.21-22.1987	A rare springtime weak Santa Ana event brought 90°+ temperatures. 97° in El Cajon, 95° in Spring Valley, 94° in Santee, 93° at SDSU, Miramar, La Mesa, LA and Borrego Springs. It was 91° in Poway, Escondido and Fallbrook, and 87° in San Diego.	Numerous small brush fires erupted in the San Diego valleys.

9.1.1987	A tropical air mass (remnants of tropical storm Lidia) brought heat to the region: 109° at the Wild Animal Park, 106° in El Cajon, 105° in Escondido and Santee, 99° at SDSU, 89° in National City and 83° at San Diego.	
10.3-4.1987	108° in LA on both days, a record for October. It was 109° in El Cajon, 106° in Chula Vista, Fallbrook and Santee, and 104° in San Diego on 10.3.	Dry weather and winds fuel the Palomar Mountain fire.
2.10-11.1988	Record heat from Santa Ana conditions: On 2.10: 92° at San Juan Capistrano, the nation's high, 90° at Lemon Grove, 88° at Los Angeles and Escondido. On 2.11: 83° in San Diego, 87° in many locations around San Diego.	
3.25-26.1988	Santa Ana conditions brought temps in the 90s all over the region and record heat: 102° in Santee on 3.25, 97° throughout the San Diego Valleys, 95° in LA and Santa Maria, 90° in San Diego.	Several brush fires resulted.
4.6-7.1989	Daily high temperature records broken at ALL recording stations in Southern California. Many monthly record high temperatures set for April: Some highlights: 112° Palm Springs, 106° LA, 104° Riverside, 103° Escondido, 101° Tustin, 98° San Diego, 95° Victorville, 76° Big Bear Lake. Part of major heat wave from late March into mid April.	
7.4.1989	115° at Dulzura.	
5.5.1990	The high of 101° in downtown LA was 8 degrees higher than their previous record for the date.	
7.28.1991	120° in Borrego Springs, 100° in Campo.	

8.12.1991	Tropical storm Hilda sent hot humid air into the region. 94° at San Diego.	
8.1.1993	123° at Palm Springs.	
2.20.1995	95° in LA, the highest temperature on record for February.	
7.27-29.1995	Heat wave: 123° at Palm Springs on 7.28-29. 120° at Coachella, 113° San Jacinto, 112° Riverside, 111° Banning, Moreno Valley, and Sun City. 110° at Yucaipa on 7.27.	
8.2-7.1997	Heat wave: 121° at Thermal, 113° Brea, 110° Riverside and Ontario, 101° Julian. Low of 93° at Palm Springs on 8.5.	5 deaths.
7.16.1998	120° at Palm Springs, 118° Borrego Springs (127° Death Valley).	
7.27.1998	123° at Thermal, 119° at Borrego Springs, 118° Palm Springs.	
8.29-31.1998	Record heat near coast. 112° at Yorba Linda and the Wild Animal Park, 110° at El Cajon, Hemet and Riverside, 108° at Ramona, 106° in Vista and Escondido, over 100° in most of Orange County. 114° at Dulzura on 8.29.	Firefighters were slowed while battling blazes at Lake Jennings and Camp Pendleton.
5.7-9.2001	Heat wave. 109° at Palm Springs, Thermal, and Borrego Springs, 103° at Hemet, 102° San Bernardino.	
9.1.2002	Tropical heat wave: 118° at Dulzura, 113° Temecula, 112° Riverside and Menifee. Sharp temperature gradients: 77° at Newport Beach to 107° Santa Ana (10 miles), 72° Oceanside Harbor to 87° Oceanside Airport (2 miles), 81° Sea World to 91° San Diego - Lindbergh Field (3 miles).	



7.10-20.2005	Strong high pressure brought a lengthy heat wave to the region. 121° in Thermal, 120° in Palm Springs and Borrego Springs, 116° in Hesperia. Big Bear Lake tied their all-time record at 94° on 7.18. 98° at Idyllwild. Low temperature at Indio was 90° on 7.13.	One death in the Anza Borrego Desert. Near record power consumption.
7.22.2006	A major heat wave with humidity, in some ways unprecedented, hit Southern California. 121° in Palm Springs, 120° at Indio and Thermal, 114° at Ontario and the Wild Animal Park, 113° at El Cajon. It was 112° at Escondido and 109° in La Mesa (both highest all time). Record minimum temperatures were recorded in most places. Desert locations reported the all-time warmest month on record. Sea temperatures hit 80°.	16 were killed from the heat, and many more were treated. Some power outages occurred.

## Extreme Cold

Date(s)	Weather	Adverse Impacts
1.9.1888	Cold wave. Freezing temperatures in citrus growing areas.	Loss of citrus crop.
12.23-30.1891	Cold wave.	0.5" thick ice in San Diego pools, 1" thick ice on oranges on trees in Mission Valley.
12.17.1897	26° at Riverside.	
1.6-7.1913	25° at San Diego on 1.7, the lowest temperature on record. 28° on 1.6 with a high temperature of only 45°, the lowest maximum temperature on record. Also on 1.7: 4° at Campo, 9° Cuyamaca, 13° Alpine , 15° Julian and Lakeside, 20° El Cajon, 22° Lemon Grove, 24° La Mesa, and 26° Chula Vista.	Killing freeze all over San Diego County and many crops and fruit lost. Water pipes frozen, trolley lines disrupted, fishing nets unusable. Ice skating in a San Diego fountain on ice 0.75" thick. Extreme damage to citrus crop all over California. This directly led to the establishment of the U.S. Weather Bureau's Fruit Frost forecast program.
12.14.1920	Frost was observed at the bay side in San Diego.	
1.22.1937	19° at Palm Springs.	
1.4.1949	8° at Palomar Mountain.	
1.25.1949	-4° at Cuyamaca.	The lowest temperature ever recorded in San Diego County.
1.5.1971	1° at Idyllwild.	
1.29.1979	-25° in Big Bear Lake.	The lowest temperature ever recorded in Southern California.
1.16-18.1987	A very cold air mass remained over the region. It was 10° at Mt. Laguna, 17° at Bonsall, 22° at Valley Center, 24° in Poway, 26° in El Cajon, 31° in Chula Vista and 36° at San Diego. On 1.17 it was 24° in Fallbrook, 28° in Del Mar	Substantial avocado crop loss in the millions of dollars. Two homeless died of hypothermia on 1.17.

2.22-25.1987	Lows below 40° at Lindbergh for three consecutive days (coldest stretch since 1978).	
12.14-15.1987	13° in Mt. Laguna, 18° in Campo, 23° in Valley Center, 24° in Escondido, 28° in El Cajon, 31° in Del Mar, 32° in Imperial Beach, 33° in Chula Vista.	Minor damage to crops.
12.25-26.1987	9° at Mt. Laguna and 22° in Valley Center on 12.25. On 12.26: 15° in Julian and Mt. Laguna, 16° in Campo, 22° in Poway, 26° in El Cajon, 30° in Del Mar, 37° at San Diego.	Extensive damage to avocado and citrus crop.
12.24-30.1988	A week of subfreezing temperatures in Southern California.	5 people died as a result of the cold.
2.14.1990	A wind chill of -25° was reported at Mt. Laguna. High temperature was 52° at San Diego – Lindbergh Field.	
6.3.1999	The high temperature of 38° at Mt. Wilson became the lowest high temperature on record for June.	
12.26.1997	0° at Big Bear Lake, 4° Big Bear Airport.	
12.7.1998	30° at Capistrano Beach and Dana Point, 29° at Mission Viejo and San Clemente.	
6.3.1999	Unseasonably cold air mass brings record cold so late in the season. Highs of 42° at Palomar Mountain and Mt. Laguna.	
2.14.2001	0° at Wrightwood.	
1.30-31.2002	13° at Shelter Valley, 17° Campo, 22° Ramona, 28° Escondido.	Crops damaged in northern San Diego County.

12.1-3.2004	30s at the coast, 20s in inland valleys and deserts, teens and single digits in the mountains. 8° on all three mornings at Big Bear. Wrightwood dipped to 9°.	Crops were damaged.
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## High Surf, Stormy Seas, Tsunamis, Coastal Flooding and Erosion

Date(s)	Weather	Adverse Impacts
7.10.1855	An earthquake in LA causes two large swell to hit Dana Point.	
8.23.1856	A 7.8 magnitude earthquake in Japan. San Diego Bay rises 12' over the high water mark.	
5.27.1862	A 5.9 magnitude earthquake causes landslides into San Diego Bay and 3-4' wave runup.	
8.13.1868	Two earthquakes near 8.5 magnitude off Chile produce 2.64' wave height in San Diego.	
8.7.1906	Tsunami in San Diego from local sea quake.	
1927	A tsunami hit Southern California, raising the ocean by 6'.	
8.21.1934	Tsunami in San Diego with 20' maximum amplitude from local sea quake.	
12.12.1937	High surf.	Three piers ripped out from LA to Santa Barbara.
9.24.1939	Tropical storm. 50 mph winds. Extremely large waves.	48 dead from sinking boats. Harbors damaged.
4.1.1946	An 7.8 magnitude earthquake hits the Aleutian Islands. Newport Harbor shows a 5' drop in tide. San Pedro shows a 2.5' jump in tide.	
1.4-5.1959	High surf from a big storm.	Coastal damage in San Diego and Orange Counties. Boats and harbors damaged.

5.22-24.1960	An 8.5 magnitude earthquake hits Chile. Waves 8' above normal hit San Diego. Tide currents estimated at 20-25 kts.	Docks near Pt. Loma were destroyed. A barge broke in half. Extensive damage to docks throughout the harbor. In LA: scuba diver drowned, major damage to small craft, \$1 million damage.
2.9-11.1963	High surf from a big storm.	Damage to coastal homes and structures.
3.28.1964	An 8.4 magnitude earthquake hits Alaska. Tsunami reaches all of California. 2' maximum amplitude in San Diego, 6.4' rise in 10 minutes.	Damage.
11.29.1975	A 7.2 magnitude earthquake hits Hawaii. Tsunami hits Catalina. 2.4' maximum amplitude in San Diego.	Damage.
2.13-21.1980	Large waves hit coast. Coastal flooding at Mission Beach; water over boardwalk and into houses.	
1.22-29.1983	A series of storms produces surf up to 20' high. High tides and surf produce the peak of the damage on 1.26.	On 1.26 several piers were heavily damaged in Santa Monica, Seal Beach and Crystal Pier in Pacific Beach. Flooding damage to numerous businesses and homes in Malibu, Venice, Redondo Beach. Residents were evacuated from Seal Beach and Sunset Beach. Several injuries to people swept off rocks.
3.2-3.1983	Waves 15-20' hit the coast around LA.	
2.14-17.1986	High surf from a big storm.	2 drowning deaths.
12.1-2.1986	High tides of 7.7' at San Diego.	Minor flooding at La Jolla Shores' parking lot. A few beach closures. On 12.1 minor flooding (4" of sea water) along Pacific Coast Hwy. in Huntington Beach from rising tides prompted lane closures.

12.31.1986	High tide in San Diego 7.8'. In Eureka the tide was 9.1', thought to be the highest in a century.	Luckily the weather was fine and surf was small. Minor flooding at coastal low spots on Mission Beach and Ocean Beach. Water lapping at the curbs of streets in Balboa Island, Newport Beach.
1.12.1987	Waves of 6-9' with sets up to 12' hit the coast.	One suspected drowning. 11' boat swamped.
2.2-4.1987	On 2.2 5-6' waves hit the coast.	Large surf inundated Seacoast Dr. in Imperial Beach. A man and his son were swept off Sunset Cliffs and died.
2.6.1987	A 20' rogue wave capsized a sportfishing boat off San Quintin, Baja.	10 of 12 boaters died.
12.16.1987	Stormy seas resulted from a strong Alaskan storm.	6 were rescued and 3 feared dead in a sinking of a fishing boat near Santa Barbara Island. A barge and fishing boat uprooted moorings and smashed into a wharf, and three sailboats were thrown onto the beach in Santa Barbara.
1.18-19.1988	Surf rose to 20' along beaches, some breakers to 25'.	8 killed, 3 reported missing all over Southern California. More than \$68 million damage caused by surf. Boulders protecting Mission Bay were washed away. Asphalt and dunes were washed out in Coronado. Mission Beach condos flooded by ocean water and kelp; 3' of kelp landed in a front yard and more kelp went through a garage window! A boat was capsized. 7 beach swimmers were missing and 4 presumed drowned on 1.21.

2.17.1988	Santa Ana winds reach 60 mph in LA and Orange Counties.	3 killed when truck overturned and burned. 1 killed having stepped on a downed power line. Power outages (200,000 customers in LA and Orange Co.). Minor structural damage to signs, etc. Grass fires.
4.30.1988	An earthquake 46 miles west of San Diego generates large surf of 14' with sets to 20'.	
5.29.1988	Gale force winds cause stormy seas.	Avalon Harbor was closed after several boats were driven ashore or scattered. One boater presumed dead. In Mission Bay one was injured when a catamaran was capsized. Piers were closed and surf claimed part of a restaurant in Redondo Beach. Boats were capsized around San Pedro. Two boaters died. Several boats were smashed against the rocks in Avalon Harbor.
3.19.1991	Strong storm winds created large waves and surf.	A 33' sailboat was blown aground and destroyed at Pt. Loma.
7.24-26.1996	7-10' surf with sets to 12' generated by an intense South Pacific storm south of Tahiti.	500+ rescues made at Southern CA beaches.
8.17-19.1997	Tropical storm Ignacio produces 18' waves in Orange County.	
9.4.1997	Hurricane Linda became the strongest storm recorded in the eastern Pacific with winds estimated at 180 mph and gusts to 218 mph. For a time it threatened to come ashore in California as a tropical storm, but the storm turned away, affecting the state with high surf: 15-18' waves at the Wedge at Newport Beach.	
9.25-26.1997	Hurricane Nora produces waves 20'+ at Seal Beach.	Tidal flooding over a 14 block stretch in Seal Beach.



12.7-8.1997	Coastal erosion in Laguna Beach.	
1.30.1998	High surf.	Coastal damage.
2.23-28.1998	High surf from a big storm combined with high tides.	Coastal damage and flooding (damage to Ocean Beach Pier). Several homes destroyed in San Diego County. Rocks were on highway 101 in Cardiff. Parking lots of restaurant row were littered with rocks and debris up to 1' deep. Restaurants forced to cover windows with plywood.
10.27.2000	Heavy rain and very high tides.	Coastal inundation and flooding at Sunset Beach (Seal Beach).
1.9.2001	Very high tide, but only 4' surf.	Surfside in Seal Beach flooded.
11.27.2001	Strong winds off the coast.	Boat accident off Newport Beach.
9.5-6.2004	Large surf from Hurricane Howard. Waves 6-12' throughout Orange County. Water temperature 72°.	More than 1,000 rescues during the hottest day of the year at the beach. Estimated 575,000 beach visitors.
1.8.2005	Large waves on top of very high tides greater than 7'.	Coastal flooding of PCH and boardwalk at Seal Beach.
12.21.2005	A powerful storm in the east Pacific generated large surf with sets of 20'.	Broken surfboards, rescues, beach erosion. All piers were shut down. Surf flooded a parking lot in Carlsbad and floated several cars. Boardwalk damage in Dana Point. Tow-in surfing occurred 1.5 miles off Seal Beach.
12.27.2006	Strong storm winds generated large surf. Highest sets were 10-16'. Surf was reported at 10-12' with a 3 second period at Newport Beach.	

## Miscellaneous: Dense fog, barometric pressure, dry spells, etc.

Date(s)	Weather	Adverse Impacts
2.17.1883	Highest barometric pressure at San Diego: 30.53”.	
8.16.1909	A dry spell began in Bagdad, central San Bernardino County, lasted until 5.6.1912, a stretch of 994 days! (Southern Pacific RR employees kept this debated record).	
5.6.1912	It rained in Bagdad, ending a national record dry stretch of 994 consecutive days that began on 8.16.1909. (Southern Pacific RR employees kept this debated record).	
10.3.1912	A dry spell began in Bagdad, CA, lasting 767 days and ended on 11.9.1914. (Southern Pacific RR employees kept this debated record).	
11.9.1914	In Bagdad, rain finally fell ending an incredible dry spell at 767 days that started on 10.3.1912. (Southern Pacific RR employees kept this debated record).	
12.31.1929	Greenland Ranch, in Death Valley, California, went the entire year without measurable precipitation.	
3.3.1983	Lowest barometric pressure at San Diego: 29.37”.	
12.15.1969	Dense fog in Orange County.	100+ vehicle pile up on I-5.
11.10.1980	Dense fog in San Bernardino.	24 vehicle pile up on I-15. 7 dead, 17 injured.
2.21.1985	A sticky white rain fell across Southern California. Apparently, strong winds blew dust from the dry Owens and China Lakes and mixed with rain clouds.	Everything was covered with fine white grit, slightly alkaline, but non-toxic.

1.17.1988	Lowest barometric pressure at Los Angeles: 29.25".	
12.31.1989	Santa Maria reported their driest year of record with just 3.3" of precipitation.	
2.14.2000	Dense fog at Cajon Pass.	71 vehicle pile up on I-15. 22 injured. I-15 closed for 4 hours.
10.24.2001	Dense fog in Inland Empire.	39 vehicles pile up in 13 separate accidents on I-215 in Perris. 8 injured.
11.3.2002	Dense fog in south LA.	194 vehicles were involved on two pileups on the 710 freeway. 0 deaths and 41 injuries.