From: Karen Renfro [mailto:k.a.renfro7@gmail.com]
Sent: Thursday, September 27, 2018 11:45 AM
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Subject: [External] Fwd: MORE NEW INFORATION FOR THE OCT. 9 APPEAL HEARING

CORRECTION & NEW INFORMATION:
Corrections and additions begin with paragraph 5 and include a third attachment.
Please discard our Sept. 26, 2018 letter.

September 27, 2018

The Honorable
William R. "Rusty" Bailey III,
Mayor of Riverside
3900 Main Street
Riverside, California 92522
CC: Riverside City Council

MORE NEW INFORMATION:
RIVERSIDE CITY COUNCIL HEARING OCTOBER 9, 2018
SPRINGBROOK HERITAGE ALLIANCE APPEAL OF
CENTER STREET COMMERCE CENTER PROJECT
P14-1033 & P14-1034, Initial Study & Mitigated Negative Declaration

Honorable Mayor and Members of the Riverside City Council:

Attached you will find some additional material regarding the potential flooding issues related to the Center Street Commerce Center Project. In researching this subject, we discovered that terms used by civil engineers to describe geographical features, though identical to terms commonly used by everyone else, seem to have different meanings. In this letter we will adhere to the *lingua franca*, "the common language" as expressed in the Tenth Edition of Merriam-Webster's Dictionary.

In Section 4.9 Hydrology & Water Quality on pages 61-64 of the Project MND, a FEMA rating of the site of the proposed warehouse is cited for the purpose of establishing that it is not located in a 100-year flood plain *because of the Santa Ana River levee.* However, we have been unable to discover a map of the area in question that shows the contour lines of the historical 100-year flood plain (pre-levee boundaries) for this stretch of the river.

Based on historical eyewitness accounts of storms of lesser-magnitude than the Flood of 1862, such as the pre-levee events of 1867, 1891, 1938 and 1969, when floodwaters reached and crossed Orange Street (elevations ranging from ~825 at Columbia Avenue to ~850 ft. at Center Street), we might conclude it more or less represents the 100-year high-water mark. Our elevations are taken from the USGS Map of San Bernardino South, 1967 (updated 1980).

In our previous letter, dated 9-24-2018, Springbrook Heritage Alliance established that while the levee protects the historic 100-year flood plain from the River, this is true only if the levee does not fail. And based on the City of Redlands "Dam Failure" policy posted on their website, we established that the Seven Oaks Dam may pose a threat in the case of a major earthquake when water levels are high. We also established that flooding also occurs in the historical flood plain from rainfall outside the levee because whatever isn't absorbed into the ground or captured by drains or arroyos must run to lower elevations as far as it can.

That means rainwater in the Springbrook Arroyo Watershed runs toward the River until it is halted at the levee. Then, the waters rise and back-up the grade as far as the precipitation causes it to go. Since the levee was built, major storms have been known to drop enough water to flood the Northside's North End as far as 835 ft. or more (based on USGA 1967 map of San Bernardino South Quadrant, updated 1980). A National Weather Service Report *A History of Significant Weather Events in Southern California* for years 1772-2016 published in May 2017 lists the Flood of Oct. 7, 1997 as a 100-year event, leaving 1.65" of rain in a little over an hour in the Inland Empire. According to local eyewitnesses, Orange Street has been the high-water mark for a number of floods, but we are unable at this time to establish this particular flood as one of them. The Weather Service lists other more-recent floods as of greater magnitude without rating them. The Weather Service report is attached below.

- In recent years, despite the presence of the levee, rainfall in the Northside floodplain has dropped enough water to completely submerge the site of the proposed warehouse without reaching Orange Street. Eyewitnesses have reported seeing it under water a number of times, but dates are not established. However, we do have rainfall records taken in the Northside neighborhood since Dec.

1991 which indicate this would not be a rare occurrence. Dates of heaviest precipitation in a 24-hour period include:

- Mar. 15, 2003: 3.03"
- Jan. 9, 2005: 2.40"
- Jan. 21, 2010: 2.02"
- Dec. 20 & 21, 2010: 6.19"
- Aug. 29, 2013: 1.98"
- Sept. 15, 2015: 1.08"
- Jan. 6, 2016: 1.82"
- Jan. 22, 2017: 1.78"

These last three recordings were for storms of very short duration. During these storms, the levee most certainly protected both the Northside floodplain and warehouse site from the River, but it did not protect either from the rain. The levee is not designed to stop the rain.

In this letter, we wish to establish that *unless* the levee is kept in good repair at all times and the dam isn't full when a major earthquake strikes, it is possible that a cataclysmic event on the order of the Flood of 1862 could occur--even without a 100-year, 500-year, or 1,000-year flood, depending upon how these floods are measured.

In her article "Pellissier Ranch Remote Sensing Investigation Conducted" in the Autumn 2018 issue of *Spanish Traces* (OSTA), Chloe Sutkowski of Cal Poly Pomona discusses the inundation from the Flood of 1862 shown on her map (p. 18). This map not only shows the high-water mark as reaching beyond present-day Orange Street at Center (elevation ~860), but also the site of the proposed warehouse completely submerged at an elevation of ~835 ft. Her article is attached below.

In the U.S. Army Corps of Engineers report on the Riverside 2 Levee System "Periodic Investigation Report No. 1" published in 2013, a map on page 4 shows the area of inundation to be expected if this section of the levee fails during a major storm or other flood event. The high-water mark is shown at Orange Street, about identical to Sutkowski's map. The site of the proposed warehouse would be well under water. The USACE report is attached below.

The catch-basin and other mitigations proposed in the plans for the warehouse to address run-off water issues are inadequate. And the impacts to the site and the surrounding area from flooding would not be "Less then Significant". The warehouse would cause more problems than it could solve.

We attach these documents for your convenience.

Respectfully yours,

Karen Renfro, Spokesman

Springbrook Heritage Alliance
P.O. Box 745
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(951)787-0617 voice only, no text
k.a.renfro@gmail.com\
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CC:
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Office of City Attorney
Office of City Clerk
Office of the Police Chief
Office of the Fire Chief
Office of the Public Works Director
Office of the Parks Director
Office of the Librarian
Office of the Museum Director
Director of the Community & Economic Development Department
Planning Division Manager
Current Planning Unit Supervisor
Senior Planner
Northside Specific Plan Team Manager
Springbrook Heritage Alliance
Northside Improvement Association
Spanish Town Heritage Association
Old Spanish Trail Association-Agua Mansa Chapter
Press Enterprise
Colton City News
Highgrove Happenings

From: Karen Renfro [mailto:k.a.renfro7@gmail.com]
Sent: Wednesday, September 26, 2018 10:22 PM
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Subject: [External] MORE NEW INFORATION FOR THE OCT. 9 APPEAL HEARING

September 25, 2018

The Honorable
William R. "Rusty" Bailey III,
Mayor of Riverside
3900 Main Street
Riverside, California 92522
CC: Riverside City Council

MORE NEW INFORMATION:
RIVERSIDE CITY COUNCIL HEARING OCTOBER 9, 2018
SPRINGBROOK HERITAGE ALLIANCE APPEAL OF
CENTER STREET COMMERCE CENTER PROJECT
P14-1033 & P14-1034, Initial Study & Mitigated Negative Declaration

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In this letter, we wish to establish that *unless* the levee is kept in good repair at all times and the dam isn't full when a major earthquake strikes, it is possible that a cataclysmic event on the order of the Flood of 1862 could occur--even without a 100-year, 500-year, or 1,000-year flood, depending upon how these floods are measured.

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In the U.S. Army Corps of Engineers report on the Riverside 2 Levee System "Periodic Investigation Report No. 1" published in 2013, a map on page 4 shows the area of inundation to be expected if this section of the levee fails during a major storm or other flood event. The high-water mark is shown at Orange Street, about identical to Sutkowski's map. The site of the proposed warehouse would be well under water. The USACE report is attached below.

The catch-basin propose in the plans for the warehouse and other mitigations would be, to put it mildly, would be woefully inadequate.

We attach these documents for your convenience.

Respectfully yours,

Karen Renfro, Spokesman
Springbrook Heritage Alliance
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Office of City Manager
Office of City Attorney
Office of City Clerk
Office of the Police Chief
Office of the Fire Chief
Office of the Public Works Director
Office of the Parks Director
Office of the Librarian
Office of the Museum Director
Director of the Community & Economic Development Department
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Springbrook Heritage Alliance
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Old Spanish Trail Association-Agua Mansa Chapter
Press Enterprise
Colton City News
Highgrove Happenings

US Army Corps of Engineers ®
Los Angeles District

RIVERSIDE 2 LEVEE SYSTEM

SAN BERNARDINO AND RIVERSIDE COUNTIES, CALIFORNIA
NLD SYSTEM ID # 3805010050

PERIODIC INSPECTION REPORT NO 1
GENERALIZED EXECUTIVE SUMMARY

FINAL SYSTEM RATING: UNACCEPTABLE
FINAL RATING DATE: JANUARY 18, 2013

PERIODIC INSPECTION REPORT PREPARED BY TETRA TECH, INC.
FOR THE U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

SUBMITTED: DECEMBER 2012
INSPECTED: APRIL 4, 2011

EXECUTIVE SUMMARY

This Executive Summary provides an introduction to the periodic inspection, an overview of the system, a summary of the major findings of the periodic inspection, and the overall rating for the system.

1.1 Scope and Purpose of Periodic Inspections

The purpose of the Riverside 2 Levee System periodic inspection is to identify deficiencies that pose hazards to human life or property. The inspection is intended to identify the issues in order to facilitate future studies and associated repairs, as appropriate.

This assessment of the general condition of the levee system is based on available data and visual inspections. Detailed investigation and analysis involving hydrologic design, topographic mapping, subsurface investigations, testing, and detailed computational evaluations is beyond the scope of this levee system inspection.

1.2 System Summary

Riverside 2 Levee System is located in the Cities of Colton and Riverside; in the Counties of San Bernardino and Riverside, respectively; in the State of California. Riverside 2 Levee System forms the east/left bank levee (looking downstream) of the Santa Ana River. Riverside 2 Levee System is composed of two levee segments (see Figure 1). These segments are referred to as Segments 2a and Segment 2b. Segment 2a was constructed by Riverside County is not part of the United States Army Corps of Engineers (USACE) Rehabilitation and Inspection Program (RIP), and therefore not under the authority of USACE. It starts approximately 4,573 feet upstream of Main Street (Station 399+75), and extends downstream to Station 339+00. Segment 2b was constructed by the USACE. It starts at Station 339+00, and extends to approximately 483 feet downstream of Mission Boulevard (Station 200+30). Riverside 2 Levee System is entirely operated and maintained by the Riverside County Flood Control and Water Conservation District (RCFC & WCD). The National Levee Database (NLD) System ID Number for Riverside 2 Levee System is 3805010050.

The RCFC & WCD is the Local Sponsor for the Riverside 2 Levee System.

1.3 Summary of Major Deficiencies Found

The levee system was inspected on April 4, 2011. During the periodic inspection of the system, several deficiencies were noted for which remedial actions are required. Specifically, severe bank erosion from the December 2010 storm flows was found and is currently under the USACE RIP process for repair. The following main deficiencies were noted during the periodic inspection of the project features:

- Levee Embankments
    - Segments 2a and 2b: Significant vegetation growth (brush and tall grass) was present within the vegetation-free zone. The vegetation-free zone extends 15 feet outward from both the landward and riverward toes of the levee prism.
    - Segments 2a and 2b: Unpermitted encroachments, which could negatively impact the integrity of the levee, were observed along both segments.

- Segments 2a and 2b: Significant erosion has occurred along the toe of the riverward slope, and could compromise the stability of the levee. It is understood that USACE RIP is in the process of repairing Segment 2b from erosion on the riverside of the levee.
- Segments 2a and 2b: Due to concentration of local runoff, significant erosion gullies have formed on both the riverward and landward slopes of the levee.
- Segment 2b: There are no maintenance records which indicate that the weep holes associated with the concrete slope paving have been regularly cleaned.

- Interior Drainage System
  - Segment 2b: The inlets and outlets of some of the side-drainage structures were obstructed by debris.
  - Segment 2b: Within the past five years, the condition of each side-drainage structure has not been verified using either videotaping by television camera or other visual-inspection method.

1.4 Overall Rating

The Levee Safety Officer, Los Angeles District, has determined the overall system rating of Riverside 2 Levee to be "Unacceptable." An "Unacceptable" system rating is defined as:

> *The Periodic Inspection has identified one (or more) System Components which are rated Unacceptable and require immediate correction. The deficiency (or deficiencies) identified have resulted in an Unacceptable System rating and seriously impair the functioning of the flood protection system and pose unacceptable risk to public safety.*

The Local Sponsor will be notified of the overall rating of the levee system by letter with instructions to correct the "Unacceptable" rated items not related to the RIP repair as soon as possible. A public notification will be made regarding this levee system and the periodic inspection rating.

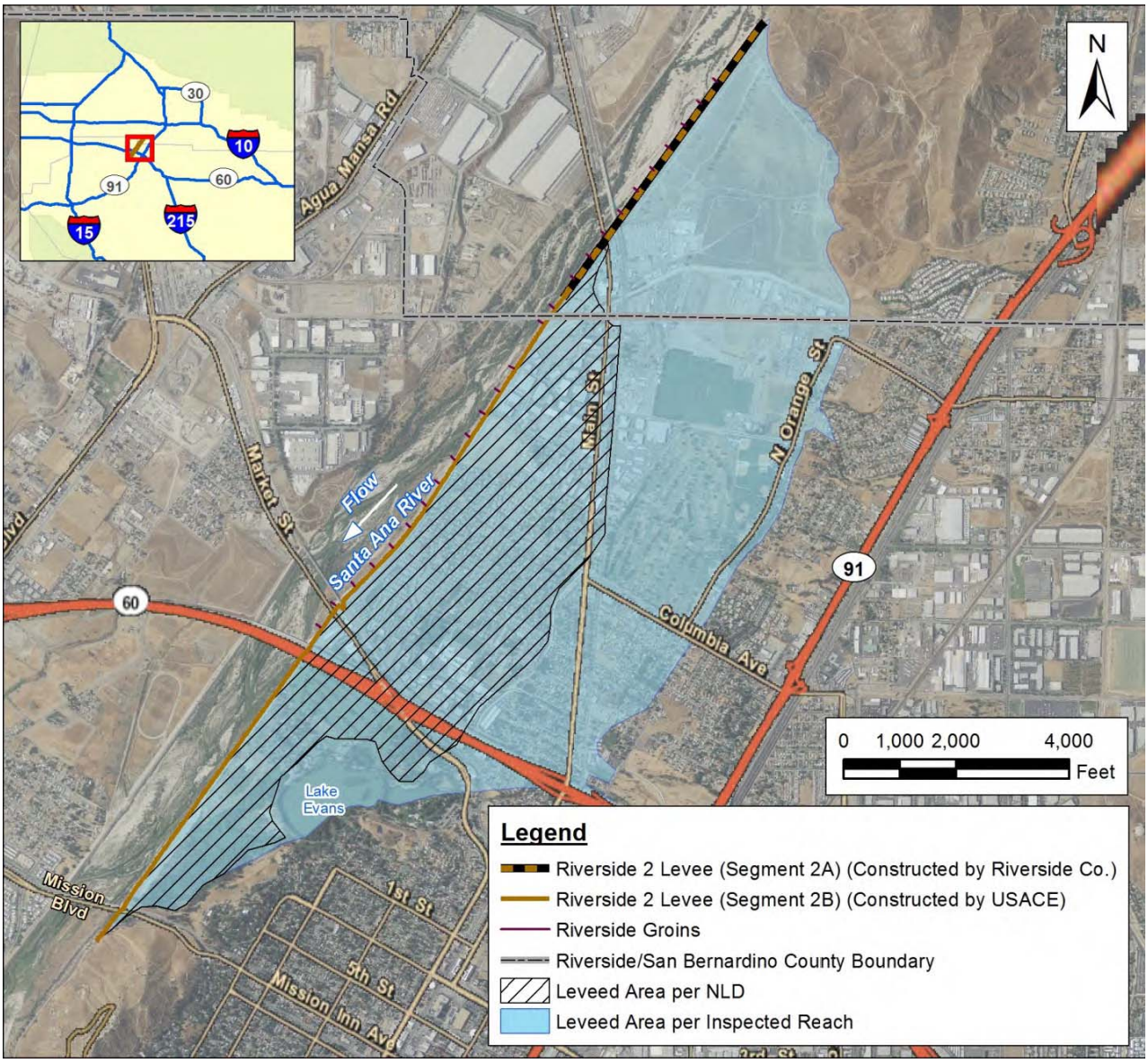

Figure 1. Riverside 2 Levee System

Pellissier Ranch Remote Sensing Investigation Conducted

This sensing investigation was proposed by the Spanish Town Heritage Foundation (STHF) in Riverside, California. Old Spanish Trail Association Tecopa Chapter President Jack Pritchett referred members of the STHF to Dr. Jascha Polet at California Polytechnic University Pomona. Dr. Polet and graduate student Chloe Sutkowski toured the Adobe and the adjacent Pellissier Ranch, and were excited to take on the project. Riverside Public Utilities (RPU), owner of Pellissier Ranch, granted permission to conduct the ground sensing radar project. A student team led by Chloe Sutkowski worked the area for several weekends. More work will be necessary to complete the project.

By Chloe Sutkowski

Abstract
Pellissier Ranch in Riverside, California, is a potential resting place of artifacts from the Inland Empire's first settlement, La Placita de Los Trujillos. The Great Flood of the Santa Ana River in 1862 washed away the entire settlement in a single night. Geophysical surveys are being employed at the site to non-invasively search the subsurface for buried artifacts. As Pellissier Ranch covers an immense area, remote sensing will be employed to narrow the search area to locations that would be likely deposit locations from the overwhelmed river. Digital Elevation Models were acquired from the USGS and used to derive raster datasets of slope, contour lines, flow direction, and flow accumulation. From the combined analysis of the three datasets, it is likely that the northeast portion of the site experienced the least force from the overwhelmed Santa Ana River and is best to prioritize in the search for buried artifacts.

Introduction
Pellissier Ranch is currently a vacant lot covered in tall grasses year-round. The northern half is in San Bernardino County, and the southern half in Riverside County. The most recent owner had been Antoine Pellissier, who purchased the land in 1905 and developed it as a vineyard. Shortly after, the dry laws came into effect and it ruined Pellissier's business, forcing him to abandon the land as it has remained until present day. Before it came into his possession, it belonged to the Inland Empire's first settlers and was known as La Placita de Los Trujillos (La Placita).

Lorenzo Trujillo was the leader of this settlement. A wealthy rancher in the area had given the land conditionally to Trujillo and the group of settlers he traveled with under the condition that they would protect the land and property of the rancher from hostile Native American raids. From 1843 to 1862, the settlement flourished. La Placita rested along the Santa Ana River and its soil was very fertile. The inhabitants were hard-working, community-oriented people. However, in 1862, January experienced two weeks of unceasing rain, leading to the complete overwhelming of the Santa Ana River. "What had been the largest settlement between New Mexico and Los Angeles in the mid-1800s was washed away in a single night" (Vickery, 1977). All the structures were adobe and stood no chance against the fury of the river.

While the structures themselves, excluding the possible existence of foundations, were entirely washed away, all that had filled the structures should have persisted. "Metal cookware, utensils, farming equipment, and wooden objects" (Brumgardt and Putney, 1977) that would have filled these homes and structures of La Placita would not have dissolved as adobe would have in water. Therefore, it is likely that many of the artifacts from this ancient settlement still exist in the subsurface somewhere. Since Pellissier Ranch was ground zero for La Placita, it is likely that many of the artifacts are in the subsurface there.

At approximately 1,000 acres, Pellissier Ranch requires a vast amount of time to survey in its entirety. With development plans approaching, it is important that artifacts be located as quickly as possible to preserve the history potentially buried there. To accomplish this, ArcMap 10.5 (ERSI, 2017) was utilized to remotely determine most likely locations of deposited artifacts. The archaeological geophysics survey to follow this study will be the first at this site, and the remote imaging done in this study is the first attempt at determining likely artifact deposit locations.

Method
This study gathered digital elevation model (DEM) data from the United States Geological Survey (USGS) of Pellissier Ranch. Their "The National Map" GIS resource for topographic information was able to provide the DEM raster datasets used in this study.

[Both Method and Results section of the report have been abbreviated for this article. See http://spanishtownhf.org/wp-content/uploads/2018/06/Pellissier_Ranch_GIS_Survey.pdf for more detailed information.]

Results
The Contour tool, set at an interval of 10', was able to delineate the lowest elevations in the area (figure below). A decreasing slope is observed from the northeast corner of the map down to the southwest corner. The lowest elevation (in the river) is present in the southwest corner at 250', while the highest is in the northeast at 290'. The decrease of 40' in elevation occurs in this shown area (~10 km). In the middle of the map, it is seen that the river flows through a relatively narrow portion were its maximum width is limited to 500 meters. Areas of the river directly above and below this point are almost three times the width at around 1300 meters.

Discussion
When looking at both the slope raster and the contour raster, a path for an overwhelmed Santa Ana River can be hypothesized. The northeast portion of the map has a wide area which would have allowed the Santa Ana River to spill into it as it travels along its path. As it reaches the middle portion of the map, topographic highs on either side of the river force it through a relatively narrow width.

An overwhelming of the river would cause a heavy build-up and strong flow through this portion as it forces itself through. Once making it through this narrow portion, the river would have spilled over in great force, with its flow towards the lowest elevation (the 250' elevation contour in the southwest corner). The greater width past the narrow portion would be filled; this includes Pellissier Ranch.

A limitation in this study was not being able to access Riverside County DEM datasets. San Bernardino County, which contains the northern half of Pellissier Ranch and all areas north of it, provided free and easily accessible datasets. Riverside County, which contains the southern half of Pellissier Ranch, did not have DEM datasets easily accessible to the public. While San Bernardino's datasets included enough of the northern border of Riverside County to show the entire Pellissier Ranch and a little south of it, a more conclusive study would have included areas further south.

This would have better shown how far south artifacts might have been taken before being deposited. Based on the two derived raster datasets in this study, it's possible to hypothesize that the Santa Ana River did indeed inundate the entire extent of Pellissier Ranch, which was once La Placita. The strongest force would have been experienced in areas in the southwest portion of

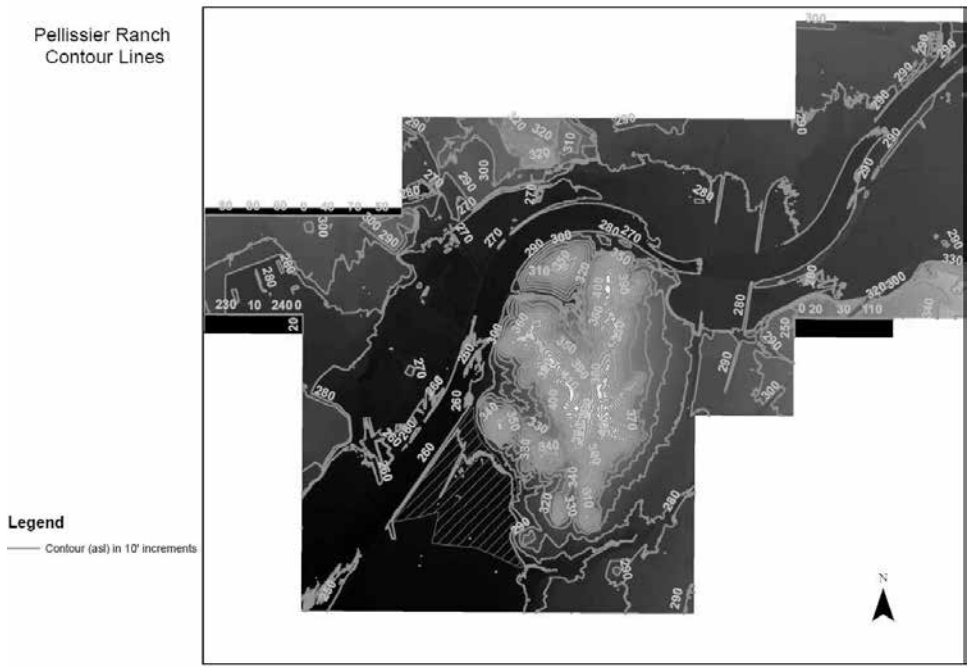

Figure shows the contour raster dataset derived from the DEM raster dataset. Increments of contour lines = 10'.

the ranch due to the elevation and slope gradient seen in the river. An improved resolution for this survey could be accomplished with a drone, which would provide more minute changes in elevation to derive Flow Accumulation raster datasets of Pellissier Ranch from.

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Pando, *cont. from page 3*

Pando is believed to be the largest, most dense organism ever found at nearly 13 million pounds. The clone spreads over 106 acres, consisting of over 40,000 individual trees. The exact age of the clone and its root system is difficult to calculate, but it is estimated to have started at the end of the last ice age. Some of the trees are over 130 years old. It was first recognized by researchers in the 1970s and more recently proven by geneticists. Its massive size, weight, and prehistoric age have caused worldwide fame.

In the summer the green, fluttering leaves symbolize relief from summer's heat, and in autumn the orange and yellow leaves add to the fall spectacular that is the Fish Lake Basin. Visitors from many states, as well as other nations, have travelled to central Utah to see and experience Pando, especially during the fall. In 2006 the U.S. Postal Service honored the Pando Clone as one of the "40 Wonders of America" with a stamp in its commemoration.

Specialists are concerned with Pando, however, because the clone is showing signs of decline. Two reasons for this decline are thought to be lack of regeneration, as well as insects and disease.

The lack of regeneration may be due to over-grazing by deer and other ungulates. Insects such as bark beetles and disease such as root rot and cankers are attacking the overstory trees, weakening and killing them. A lack of regeneration combined with weakening and dying trees, in time, could result in a smaller clone or a complete die-off of the existing pando.

The Forest Service, in cooperation with partner organizations, are working to study Pando in order to address the issues of decline. Over the years, foresters have tested different methods to stimulate the roots to encourage new sprouting. Research plots have been set up in all treated areas to track Pando's progress. With each treatment, foresters have been able to learn from Pando and adapt. ♦

Ruth Friesen Resigns as Spanish Traces Editor

This edition will be my last issue as Editor of *Spanish Traces*. I have made the decision to lessen my work load in order to focus on the necessary research required for a book I am writing about an aspect of my family history. The timing, coinciding with John Hiscock's departure, is not related in any way to his decision.

I began my tenure as Editor with the Autumn 2011 issue, and took the journal from a tabloid-appearing publication to a polished coffee-table-worthy journal. Together with Steven Heath, we wrote *Driving the Old Spanish Trail through Utah and Arizona* in 2015. I have enjoyed learning about the Old Spanish Trail, and have met so many wonderful, dedicated Trail enthusiasts. Thank you for the opportunity to serve the Association.

A History of Significant Weather Events in Southern California
Organized by Weather Type

Updated May 2017

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
1770, 1772, 1780, 1810, 1815, 1821, 1822, 1825, 1839, 1840, 1841,1842		Various reports from missions indicate significant flooding along the Los Angeles, Santa Ana and San Diego Rivers, often changing the entire courses.
2.1850		"Moderate floods occurring in the Santa Ana River Basin."
2.1852		"Moderate flood resulted from unprecedented rain in the mountains. A severe flood year in Southern California".
10.2.1858	Category 1 hurricane hits San Diego, the only actual hurricane on record to strike the U.S. West Coast. Implied winds of 75 mph.	Extensive wind damage to property (F2). Streets swept clean by heavy rains.
12.24.1861-1.23.1862	Epic floods termed the "Noachian Deluge of California". 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 LA River mouth shifted from Venice to Wilmington. 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.
3.30.1867	Heavy rains hit San Bernardino County.	Flooded barley fields. Several homes were destroyed or damaged. Lumber mills in Mill Creek and Santa Ana canyons were destroyed.
4.1867	A thunderstorm over Cajon Pass dropped heavy rain for 30 minutes.	Flash flooding and debris flows four feet deep rushed down the canyon and destroyed a road leading to mountain mills.

12.1867	Torrential rains hit the San Bernardino Mountains. Lytle Creek and Cajon Creek united to form a river 180 feet wide in places, and 15 to 20 feet deep. Warm Creek and City Creek united and was half a mile wide. The Santa Ana was raging.	Farm lands, orchards, vineyards and buildings were destroyed.
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.	
1.1876	Heavy rains.	A great flood occurred inundating wide areas between Anaheim and Westminster.
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. This helped produce the wettest February in San Diego history (9.05"). It is the third wettest month on record (wettest: 9.26" in 12.1921). The 1883-84 season ended as the wettest in San Diego history with 25.97".	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. The Santa Ana River cut a new channel to the sea three miles southeast.
7.1884	A heavy thunderstorm struck the Cajon Pass area.	Flash flood waters rose to 50 feet deep. Severe erosion occurred ripping out an orchard, railroad lines and roads.
11.21.1884	A heavy winter storm brought four inches of rain to LA, and six inches to Cajon Pass.	Newly laid railroad track was washed out. Numerous mud slides.
7.14.1886	LA records its greatest 24 hr rainfall amount for July: 0.24".	
12.1886-1.1887	Heavy winter rains inundate western San Bernardino. One night in 1.1887 11 inches of rain fell in Cajon Pass.	A blocked culvert swamps entire San Bernardino neighborhoods. Railroads were buried in mud in Cajon Pass.
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. Rain fell on snow in the San Bernardino Mountains. 4.53" fell in San Bernardino on 2.23.	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. San Bernardino and Riverside became isolated as all railroad and highway bridges were out for two to three weeks. Lake Elsinore overflowed.

8.11.1891	Thunderstorms above Redlands and Rialto dropped intense rain.	Flash floods in the Zanja drainage crossed a street at ten feet deep. Some squatters and Indians were drowned and their tents and belongings were washed into Redlands. Rialto and San Bernardino also reported debris flows.
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).	
3.23.1893	Heavy rain around San Bernardino.	Railroads were washed out as was a bridge in town.
12.1894	Heavy rain.	A flood took out a trestle between Rialto and San Bernardino. Mill Creek and the Santa Ana River also flooded.
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.	
4.1.1903	At least 3.06 inches of rain fell in San Bernardino. Rain fell on snow in the high country.	Bridges and roads were washed out. A man using a cable car fell into the Santa Ana River and drowned.

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.
2.4-6.1905	Heavy rains caused the San Diego River to run for the first time in six years. 4.23" fell in San Diego in 43 hours.	
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. 7.48" fell 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. Six day storm totals: 13.83" at Cuyamaca, 3.29" 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.	
12.1906	A heavy storm dropped 2.5 inches on San Bernardino in 24 hours.	Runoff flooded San Bernardino. A railroad was washed out between Highland and Redlands.
1.10.1907	A warm rain fell on snow.	Flood around San Bernardino.

1.21-22.1909	4.53 inches of rain fell in San Bernardino. At Pine Crest (Crestline) 7.00 inches fell in 24 hours. At Waterman Canyon 4.11" in 24 hours.	Lytle Creek, Waterman Canyon and the Santa Ana River all flooded. Railroad damage occurred in Mill Creek and Colton.
8.30.1909	Heavy thunderstorm in the San Bernardino Mountains.	Flood waters damaged businesses in San Bernardino.
12.31.1909-1.1.1910	Heavy rain storm. 4.23" of rain fell in San Bernardino.	Lytle Creek and the Santa Ana River flooded at its highest stage in 20 years. Railroads were severely damaged. Colton was isolated. Damage in San Bernardino was the "worst in history" and homes in the west of the city were flooded. Highways, water supplies and other utilities were damaged. A train from LA plunged into the Santa Ana River in Colton.
1.18.1914	Heavy rain storm. Almost 9 inches of rain fell at Lytle Creek, 0.64 inch in San Bernardino. (Flooding rains continued through 2.21).	Colton was flooded and isolated. Orchards, highways and railroads damaged all over the northern Inland Empire. One was killed.
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. 8.5" fell during this period in San Bernardino. 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. 12.73" fell in the Morena neighborhood of San Diego from 1.10-1.13. 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. Ontario and Redlands were isolated and roads, railroads and bridges were washed out.

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. From 12.17 to 12.27, 30.64" fell at Squirrel Inn at Lake Arrowhead.	Flooded roads, bridges, railroads. Lake Arrowhead rose seven feet.
1.1-2.1922	Heavy rains. 2.5 inches fell in San Bernardino.	Flooded roads, bridges, railroads. Santa Ana River rose three feet.

7.18.1922	7.10” of rain fell in Campo.	Probably some flash flooding.
10.4-5.1925	On 10.4 2.95” fell at San Diego, the second wettest calendar day on record and the wettest in October. On 10.5 2.75” fell in Palm Springs, the greatest daily amount on record for October.	
4.5.1926	3.23” at San Diego, the second wettest calendar day on record. Other short-period rainfall records broken: 0.28” in five minutes, 0.75” in 30 minutes, 1.16” in one hour, and 2.09” in 2 hours. 0.65” fell in one minute at Opid’s Camp in the San Gabriel Mountains, the greatest one minute rainfall in state history. 3.85” fell in San Bernardino, the greatest April rainfall in 45 years. Monthly single day rainfall records were set in Julian (3.70”), Riverside (3.07”), and Indio (0.76”).	Floodwaters and mud up to four feet deep inundated the eastern part of downtown San Diego and National City, displacing 150 families. Flood waters damaged and closed all highways in the San Gabriel and San Bernardino Mountains.
2.11-17.1927	Continual rain for 6 days. 25.38” fell at Henshaw Dam (14.18” on 2.16), 21.86” at Cuyamaca, 13.10” at El Capitan, 10.70” at El Cajon, 9.54” at La Mesa and 6.33” at San Diego. 8.30” fell in San Bernardino and 5.60” in Riverside. On 2.15 5.28” fell in Elsinore, the greatest daily rainfall on record. On 2.17, 12.81” at Cuyamaca, 2.65” at El Capitan, 2.20” at El Cajon, 1.47 at La Mesa. On 2.14 at midday, San Diego received 0.80” in 45 minutes, and 0.25” in 5 minutes. 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. In San Diego’s north county, roads and bridges were wiped out, stranding residents for days. The San Dieguito River washed out a section of hwy. 101. San Diego and Tijuana were isolated for several days. Crops were carried out to sea. In Solana Beach Children rowed down Cedros Ave in makeshift canoes. Large areas of Long Beach, Fullerton and Anaheim inundated.

9.18.1929	A tropical cyclone moved north northwest 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.	
5.1930	Three inches of rain fell from a single cloudburst in the Encinitas – Olivenhain area.	A haystack was washed to the ocean.
12.29.1931	Heavy rains hit the San Bernardino Mountains.	Waterman and East Twin Creeks were raging torrents, causing several mudslides and washing several cabins from their foundations. Thirteen mudslides along Rim of the World Drive.
2.9.1932	A heavy rainstorm hit San Diego's north county and the Inland Empire.	2.5 feet of water spilled over Hodges Dam, flooding the San Dieguito Valley. All roads were impassable and so was the railroad at Sorrento Valley. One woman drowned in Loma Linda when her bus was caught in floodwaters. Some highways and bridges were closed. The Santa Ana River ran 500 feet wide at Riverside.
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 and four day storm total was 7.10". 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.	
2.4-7.1937	2.71” of rain fell in San Diego on 2.6, 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 Kelly's Kamp 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.
7.27-28.1939	A severe thunderstorm hit Needles with 1.46" in nine hours from 6 pm to 3 am.	Flash floods and debris flows damaged homes and businesses.
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.
9.8.1939	A thunderstorm dropped 2.70" of rain on Needles. This was the first in a series of storms to hit Needles with 8.50" this month, almost double the entire seasonal average.	Flash floods and debris flows washed through city streets and washed out railroads and highways. Several residences and a few businesses were damaged.
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, 3.62" Needles, 1.51" Palm Springs. A thunderstorm preceding the tropical storm dropped 6.45" in 6 hours at Indio on 9.24. Needles measured 8.50" this month, about double the seasonal average.	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. Chula Vista recorded a one day rainfall of 3.67", the highest for any day on record and only the second rainstorm of more than 3" on record in a single day. Elsinore (3.34") and Indio (2.36") set daily records for the December.	Heavy rains loosened soil in Del Mar that led to a landslide along a train track, derailing the train and killing three.
3.12-14.1941	A heavy storm hit the San Gabriel Mountains and Mojave Desert. Victorville received 1.78". Further south, San Diego received 3.35", the largest three-day rainfall total on record in March.	The Mojave River flooded homes in the Oro Grande Wash. In Wrightwood three houses were destroyed from a mudslide in Heath Canyon. Mud and debris 6' deep covered Lone Pine Road.

8.9.1941	A heavy thunderstorm struck Needles.	Flash floods and debris flows damaged streets and highways. Several motorists were stranded, but no one was hurt.
8.10.1941	Thunderstorms in eastern Coachella Valley.	Buildings damaged. Water 30" deep in Mecca.
10.13.1942	A midnight thunderstorm hit Upland with 2.25" of rain in just over one hour.	Mud and debris washed down Euclid Avenue and flooded at least one home. Four calves at an Ontario dairy were washed away.
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. More than 28" fell for the storm at Camp Baldy, 14.28" in Upland, 7.23" in San Bernardino, 4.56" at Palm Springs, and about 3" in Victorville.	Lytle Creek flooded, killing one and forcing 150 families in San Bernardino and Colton to evacuate. Other roads and bridges in this area were damaged or undermined. All highways surrounding Victorville were blocked.
2.21-24.1943	Heavy rainstorms hit the San Bernardino Mountains and Inland Empire. Over four days Lake Arrowhead received 13.36" and Perris 4.87".	Damage was light because of recent work done on flood channels.
3.3-5.1943	A major storm struck the San Bernardino Mountains and nearby areas. During one eleven hour period, 5.25" of rain fell in Crestline. Victorville had a storm total of 1.82".	Only minor flood damage and closed roads around Fontana.
10.9.1943	An incredible thunderstorm complex brought 3.90" of rain to Twentynine Palms in about three hours.	Flash floods and debris flows blocked roadways and trapped vehicles. One house was seriously damaged.
12.10.1943	2.56" of rain fell at San Diego, the eighth wettest day on record and the second wettest December day.	
2.21.1944	A heavy storm struck San Bernardino County.	Minor flooding problems around Lytle Creek. A few bridges were washed out around Victorville.
8.18.1945	Remnants of a hurricane produced thunderstorms in eastern Coachella Valley.	Extensive damage at Oasis. Water 18" deep in Mecca.

9.2.1945	A heavy thunderstorm hit Wrightwood.	One residence was destroyed and debris covered Lone Pine Road.
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.	Minor flooding closed some roads and bridges around San Bernardino.
7.30.1946	A heavy thunderstorm struck Twentynine Palms.	One house was destroyed by a wall of water. The garage and car in it were carried a half mile away.
9.29-10.1.1946	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. On 9.29 a particular cloudburst dropped 3" of rain in 30 minutes in San Bernardino.	On 9.29 around San Bernardino, farmlands, orchards and vineyards were eroded and some roads were damaged. Many homes were flooded.
8.8.1947	A heavy thunderstorm struck Needles.	Serious damage done to highways and railroads, including highway 66.
2.5.1948	Steady rain and mountain snow hit Southern California after a long dry spell. San Bernardino recorded 2.14" from this storm. Only 5.75" was recorded before this storm in the previous year.	
6.2.1948	An unseasonal thunderstorm brought heavy rain to San Bernardino.	Streets in northern San Bernardino flooded.
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.

7.6.1950	A heavy thunderstorm erupted over the Yucaipa Ridge area.	The rain fell on denuded slopes from a 640 acre wildfire on 6.30 in Oak Glen. Mud and debris flowed into Yucaipa.
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.	
1.13-18.1952	Heavy rain hits Southern California in a few waves of storms. 5.52" fell in San Bernardino over the six days. On 1.18 3.17" fell in LA in 24 hours.	At least 8 died in flooded LA. Other flooding was reported in Upland and Ontario.
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.	
11.30.1952	Heavy rain dropped almost one inch in Upland.	Flooding was reported in Upland and homes were flooded in Ontario.
1.18-19.1954	Heavy rain "averaged" about 3 inches around Upland and Rancho Cucamonga and more than 4 inches in the mountains.	Floods and debris flows struck these communities and blocked or damaged roads. Debris flows at least 10' deep in Arcadia nearly killed people. Large boulders smashed into homes. These debris flows followed wildfires in the San Gabriel Mountains.
1.24-25.1954	A second heavy rain storm in a week struck Southern California.	Flood waters came down San Antonio Canyon into Upland and Rancho Cucamonga. A rescue was made of a couple. Debris flows up to two feet deep and flooding struck these communities. Rock slides closed Rim of the World Highway and City Creek Canyon.

7.12.1954	Heavy thunderstorms struck the Morongo Basin.	Flash floods hit Morongo Valley, Yucca Valley, and Twentynine Palms. Numerous roads were severely damaged and closed. Some roads were left covered in sand and mud.
7.16-19.1954	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.	On 7.16 a severe thunderstorm struck the Daggett area east of Barstow. Eight miles of Hwy. 66 were flooded. The highway was also flooded near Hinkley with 18" of water.
11.10.1954	A heavy storm dumped 2" of rain on San Bernardino and up to 6" in the nearby mountains.	Flash floods and debris flows covered the mountains. Floodwaters inundated many parts of San Bernardino and mud slides blocked and damaged mountain roads.
7.19.1955	Heavy thunderstorms struck desert areas of Twentynine Palms and Barstow. One cloudburst hit Cherry Valley with 3" of rain in 30 minutes.	A 75' stream of water crossed Hwy. 66 at Hodge, southwest of Barstow. Washouts were also reported around Twentynine Palms.
7.28.1955	A heavy thunderstorm dropped more than 2" of rain in Needles.	Flooding at a railroad underpass 10' deep made a small lake. Rushing water a quarter mile wide trapped a car, but occupants were rescued.
8.4.1955	Thunderstorms strike Barton Flats and Needles.	Flash floods washed out a road and caused minor slides around Barton Flats. In Needles, flash floods washed out Hwy. 66 and damaged railroads. 100 people were made homeless as many washes turned into raging torrents.
8.14.1955	Heavy thunderstorms struck Forest Home (now Forest Falls) and Barstow.	Torrents of water up to 6' deep swept down Mill Creek Canyon leaving up to 5' of sand and rocks on the road. Huge boulders rolled onto the roadways.
8.23.1955	Heavy thunderstorms hit the San Bernardino Mountains and deserts.	Highways 66 and 91 were blocked by "wide rivers" of flash flood waters. Rocks and mud covered roadways west of Barstow and in Forest Home (Forest Falls).

1.25-27.1956	A heavy storm in Southern California dropped 13.74" in Lake Arrowhead, 7.97" in LA, 7.27" in Santa Ana, 7.06" in San Bernardino, 4.00" in Riverside, 1.14" in San Diego, and 0.74" in Palm Springs.	Around San Bernardino, local floods filled streets and channels, and blocked many roadways. Mud and rocks covered some roads, causing damage. This damage occurred after fires denuded nearby mountain slopes.
4.18.1956	Heavy thunderstorms struck Barstow and Victorville with an estimated 1.25" of rain. One quarter inch hail was also reported covering the ground.	A wall of water two feet deep damaged 40 homes in west Barstow.
7.23-28.1956	Strong monsoon flow hit the region with thunderstorms each day, even west of the mountains. On 7.24 an evening thunderstorm hit Barstow with an estimated one inch of rain in 30 minutes. Heavy rain also hit Joshua Tree city. On 7.25 1.26" fell in Riverside, 1.05" Yucaipa, 1.01" Lytle Creek, 1.15" Upland. Almost 0.5" in five minutes at Glendora.	On 7.23 water two feet deep covered spots in Apple Valley. Many dry desert lakes were filled. On 7.24 roads were washed out in Joshua Tree city. On 7.25 flash flooding hit San Bernardino, Riverside and Ontario. In Apple Valley, floodwaters reached depths of 2-3'. On 7.26 through 7.28 successive thunderstorms brought flash floods and mudslides to the Barton Flats area, damaging and closing roads.
2.27.1957	A heavy rainstorm drenched the Southland.	Burn areas from fires the previous November in the San Bernardino foothills led to severe debris flows and flash floods into Highland. A block of homes were inundated as well as most of a school grounds. City Creek ran black from ash and soot.
7.12.1957	A heavy thunderstorm struck Redlands at 235 pm with 1" of rainfall in 30 minutes. Lightning, hail and "winds, which blew alternately from every point of the compass" accompanied the storm. Just after 3 pm the sun was out and streets were dry.	Within 10 minutes streets were flooded in Redlands. One girl drowned while swept nearly a mile down a storm drain.

10.11.1957	Heavy rain hit San Bernardino. Rainfall of 0.5" hit during 10 minutes at Del Rosa Ranger Station (a 40 year occurrence). Total was 1.37" at the site from 10.11 to 10.14.	The rains eased the fire threat. But burn areas from fires the previous August led to debris flows into the northern San Bernardino area. Tons of mud and debris were deposited in dozens of homes and yards from Little Mountain to Del Rosa.
2.3-4.1958	A heavy rain storm drenched San Bernardino with nearly four inches. Almost two inches fell in Redlands.	Warm Creek overflowed with ash blackened water near Tippencoe Av. More debris washed into the Del Rosa area. A bad flood occurred in Fontana.
4.2-3.1958	A heavy rainstorm struck the northern Inland Empire. 2.80" fell in San Bernardino, 2.25" in Redlands.	Heavy runoff caused flooding in San Bernardino, Fontana and in Hesperia. Creeks exceeded banks and numerous roads were blocked by water, mud and boulders.
7.28-30.1958	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. On 7.29 a thunderstorm hit the Barton Flats and Forest Home (now Forest Falls) area with 2" of rain. On 7.30 a severe thunderstorm brought heavy rain and large hail to Barstow. It was called "the worst storm in 60 years". Another thunderstorm struck Twentynine Palms on 7.30.	On 7.29 several walls of mud rolled off fire-denuded hills onto the road in several places along the highway in Barton Flats and Forest Home. 5 cars were trapped. A flash flood struck Barstow on 7.30 and actually moved a house off its foundation. Residents had to escape through windows from flooded houses in Lenwood. Tons of mud engulfed hwy 66. In Twentynine Palms floodwaters and mud flowed through the streets and into a few buildings.
8.15.1958	A severe thunderstorm dropped heavy rain and large hail in the Oak Glen area.	Tons of mud flowed from a burn area from a fire one month previous. The mud covered orchards, Oak Glen road and left mud up to three feet deep across a 500 foot length below Ford Canyon.

9.5.1958	A heavy thunderstorm struck the Lucerne Valley area.	Floodwaters covered Rabbit Springs Rd. up to one foot deep for over a mile.
1.4-5.1959	Big winter storm.	Considerable property damage from flooding and mud slides. Rattlesnake Creek in Poway inundated the town.
2.14-16.1959	Heavy rain.	Flooding in San Diego.
8.5.1959	A heavy thunderstorm dropped 0.63 inch in Needles.	Flash floods damaged desert highways east of Needles. A car and trailer were swept away without a trace, but occupants were saved.
8.17.1959	A heavy thunderstorm dropped 1.5 inches in Needles and 1 inch at the Needles airport.	One died and three were missing in disastrous flooding. Bridges, highways and railroads were washed out across a wide area. Cars were swept away. Waves up to 22 feet were observed coming down Sacramento Wash. This was considered the greatest runoff of record from any desert watershed in San Bernardino County history.
9.13.1959	An intense thunderstorm hit east of Joshua Tree City between noon and 1 pm.	Heavy debris flows came from the canyons and damaged numerous homes. Sand more than three feet deep covered some properties.
4.27-28.1960	Heavy rain.	1 drowning death and 3 traffic deaths. Flooding and closed highways.
7.22.1960	A thunderstorm strikes Forest Home (now Forest Falls).	A debris flow blocked the road and trapped one car.
9.1.1960	A noon thunderstorm hit the Barstow area.	Flash floods damaged highways around Lenwood. Mud and debris were deposited on Barstow streets.

9.2.1960	A thunderstorm dropped more than two inches of rain on San Bernardino. Other thunderstorms struck Twentynine Palms.	Homes and businesses were flooded in east San Bernardino and Loma Linda. Streets and highways were washed out in Twentynine Palms.
9.9-11.1960	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 on 9.9 and 9.10. On 9.10 a thunderstorm hit Forest Home (now Forest Falls) with 1.08 inches of rain in three hours, but was harder nearby. A severe thunderstorm struck Redlands. On 9.11 a thunderstorm hit the area east of Lucerne Valley.	Debris blocked the highway in Forest Home. Streets and lawns were flooded in Redlands. Flash flooding four feet deep washed out a section of road and stranded several vehicles east of Lucerne Valley.
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. Another heavy thunderstorm hit south of Yucca Valley.	Los Coches and Quail Creeks flood Lakeside. Flash floods hit the area south of Yucca Valley and also blocked Hwy. 62 with mud and debris up to two feet deep.
8.15.1961	An early morning thunderstorm struck the entire Morongo Basin with up to 2.23 inches of rain between 1 and 3 am.	Extensive flash flooding washed out roads, isolating Joshua Tree National Monument. Ten homes in southeast Joshua Tree were flooded.
8.19.1961	Thunderstorms hit Barstow, Redlands and Calimesa.	Roads and highways were eroded. A few homes in Redlands were sitting in two to three feet of water.
8.23.1961	Thunderstorms hit Angelus Oaks and Forest Home (now Forest Falls), and across the high desert including Victorville and Lucerne Valley.	Roads were closed because of water and mud, up to five feet deep at the "Y" between Forest Home and Camp Angelus. One family was trapped in mud attempting to drive through it. Homes around Bell Mountain northeast of Victorville were smothered in mud. Water rose to 12 feet deep in this area.

11.20.1961	The first major rainstorm of the season caused major issues from Los Angeles to San Bernardino.	Near LA, severe damage to homes and several roadways occurred when heavy rains fell over areas freshly scarred by wildfires, resulting in mudslides and debris flows. In San Bernardino, water and rocky debris came down the canyons into orange groves and Patton Hospital grounds, causing damage to fences and trees.
12.2.1961	A heavy rain fell in Fontana and Rialto.	Floodwaters rushed down Lytle Creek Wash and into some homes in San Bernardino and Fontana. Many streets closed because of flooding.
1.21-22.1962	The heaviest winter storm in 13 years struck the San Bernardino area with 2.93 inches in Ontario and about two inches in San Bernardino.	Minor flooding of streets and neighborhoods.
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. On 2.19 flooding was reported in Montclair, Ontario and San Bernardino.
8.20.1962	A heavy thunderstorm struck Twentynine Palms.	Highway 62 was flooded.
9.24.1962	Thunderstorms hit the San Bernardino Mountains and high desert around Barstow.	Flash flooding occurred east of Barstow.
9.25.1962	Scattered thunderstorms around Needles.	Flash flooding closed several highways around Needles.
2.9-11.1963	A strong winter storm hit the region with heavy rain.	Many homes and highways were flooded. Slides blocked all mountain highways, some with large boulders.
8.7.1963	Thunderstorms struck Newberry, Yucca Valley and Twentynine Palms.	Floods coming off lava beds south of Newberry put 10 inches of mud in the homes of 30 families. Widespread losses were also felt by livestock and agriculture. A lumber yard was buried in mud.

8.8.1963	A heavy thunderstorm struck Victorville - Desert Knolls with 1.67" in two hours and Victorville with 0.81".	No deaths or injuries occurred in the flash floods, but there were rescues of motorists. Some flooding was three feet deep in Apple Valley, four to five feet deep on Old Woman Springs Road.
8.10.1963	A heavy thunderstorm struck Lenwood and Barstow.	In Lenwood a boy was swept 200 feet by a flash flood before clinging to a telephone pole. The same flash flood carried a loaded trailer 150 feet off the highway.
8.14.1963	A terrible thunderstorm hit Oak Glen with about two inches of rain within three hours. The thunderstorm was heavier to the north along Yucaipa Ridge.	Disastrous debris flows damaged numerous homes, farms, roads, and a church. Two boys were rescued from the flooding creek.
8.17.1963	A heavy thunderstorm hit the tiny town of Rice (east of Joshua Tree NM)	The flash flood washed out roads and railroads.
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. 3.86" fell in San Bernardino, 3.44" in Riverside, 2.66" in Victorville and Cuyamaca, 1.90" in San Diego, 1.88" in Indio, and 1.62" in Santa Ana.	Disastrous flooding and erosion hit a northern San Bernardino neighborhood.
10.18.1963	Strong thunderstorms hit the Twentynine Palms area.	Flash floods and debris flows moved into several homes and yards. Roads were left impassable.
11.19-20.1963	Heavy rains hit Southern California with 1.5 to 3 inches. 3.12 inches fell in Newport Beach and 3.06 inches fell in Laguna Beach. Each is a daily record for any November day.	6 injured in local flooding and numerous traffic accidents.
1.21-22.1964	A strong winter storm dropped 1.5 inches of rain on San Bernardino and Redlands and up to 5 inches in Lake Arrowhead.	A flash flood in Upland damaged a road.
12.1964		40 dead from flooding in LA and Orange Counties.
4.8-10.1965	A heavy rain storm dropped 1.5 to 2 inches across the coastal basin, but up to 8 inches in the San Bernardino Mountains.	Flash floods caused damage in Yucaipa.

8.8.1965	A sudden thunderstorm dropped “several inches of rain” on the foothills south of Lucerne Valley.	A flash flood covered a 50 foot wide canyon floor with four feet of water. 21 members of a Riverside jeep club were stranded. Three jeeps were demolished, one being swept 300 feet down the canyon.

8.11.1965	A heavy thunderstorm struck Redlands.	Flash floods went into some homes and businesses in Redlands. Two youths were rescued after being swept nearly two miles down a storm drain system.
8.14.1965	A heavy thunderstorm struck Yucaipa.	A flash flood came down Wildwood Canyon for an hour, washing out some roads and flooding streets. A pickup truck driver was swept about 1200 feet, but climbed out unhurt.
8.16.1965	Thunderstorms hit the mountains and deserts.	A flash flood four feet deep damaged highway 138 near Wrightwood.
11.22-25.1965	Heavy storms drawing tropical moisture in the mountains and desert. Storm totals: 20" at Mt. San Gorgonio, 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.	15 died all over Southern California. The entire region was hit hard with severe flooding, including road and bridge washouts and debris flows. Santee was inundated. Two drowned attempting to cross the Whitewater River. Five died in Tijuana. One died in Rancho Cucamonga, another drowned in San Bernardino and three drowned in Lytle Creek flooding. Record flood levels on Tahquitz Creek. Largest flood on Whitewater River since 1938. Spring Valley Creek floods in southeast San Diego. The Sweetwater River floods parts of National City and Chula Vista.
12.10.1965	1.36" fell in San Diego in one hour, the greatest one hour rainfall on record.	
12.29-31.1965	A warm storm of torrential rains melted mountain snow. One report said more than 13" fell in 24 hours at Mt. Baldy. Nearly 9" did fall in Lake Arrowhead. 1.5 to 3" fell in the coastal lowlands.	One drowned in Lytle Creek. Disastrous flooding and debris flows occurred in the Lytle Creek and Scotland communities, Baldy Village, and in Waterman Canyon. Two boys were rescued from the Santa Ana River in Colton. Numerous roads were washed out in the high desert and the mountains.

12.2-7.1966	Heavy rain. On 12.5 6.66” fell at Idyllwild. On 12.6 9.42” fell at Big Bear Lake. Storm totals for the period: 27.79” in Lake Arrowhead (believed to be a 100 year rainfall), 23.73” in Palomar Mountain, 18.72” in Big Bear Lake, 17.85” in Idyllwild, 9.14” in San Bernardino, 7.63” in Redlands, 6.21” in Santa Ana, 5.19” in Riverside, 2.99” in San Diego, 2.73” in Palm Springs, but only 0.66” in Victorville and 0.28” in Barstow!	At least two homes were destroyed by floods and debris flows in Mill Creek Canyon. Debris flows and floods damaged homes and roads in Wrightwood and Lytle Creek. Homes and businesses were flooded in Redlands and Palm Springs. Many roads across the region were flooded and washed out. Scuba divers could not recover a Montclair man believed drowned in floodwaters.
1.21-25.1967	Two back to back storms brought 9.24” of precipitation to Lake Arrowhead, 5.46” to Palomar Mountain, 4.86” to Big Bear Lake, 4.24” of rain to San Bernardino, 4.04” to Idyllwild, 2.81” to Santa Ana, and 2.13” to San Diego.	Several roads were flooded and closed for a time.
3.11-14.1967	A series of storms brought heavy rain of 8.52” to Lake Arrowhead and 8.06” to Lytle Creek. Only 1.12” fell in the San Bernardino area during this time, and none in Victorville.	The Mojave River flooded a couple of roads and washed out construction sites in the desert.
7.5.1967	A heavy thunderstorm produced a rainfall of 1.25 inches in one hour at Twentynine Palms.	Highway 62 was washed out and closed east of town.
7.13.1967	Thunderstorms hit the high desert and parts of the San Bernardino Mountains. 0.29” fell in Victorville.	Flash floods filled streets in Victorville and the Oro Grande Wash overflowed, flooding at least two homes. A debris flow resulted on Highway 38 in Barton Flats.
7.14.1967	Heavy thunderstorms struck the high desert for the second day in a row.	Major highways were flooded and washed out west of Victorville.
8.16-17.1967	Thunderstorms in the lower desert. 2.5” in 1.5 hours at Cathedral City, 0.75” at Indio.	
8.23.1967	Numerous thunderstorms hit southwest San Bernardino County.	Flash floods swept through Yucaipa, Redlands, Wrightwood, Lucerne Valley and Adelanto. In Yucaipa huge chunks of pavement were washed into homes, causing damage.

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. The Fort Irwin road north of Barstow was flooded, isolating the army base.
9.6.1967	A heavy thunderstorm struck the west Barstow area.	Flash floods hit a neighborhood in west Barstow. Some homes and yards were filled with up to three feet of mud.
11.18-21.1967	A moist subtropical storm system produced 14"+ in mountains above LA, 7.96" in LA. Called "worst since 1934." On 11.19 1.87" fell in one hour in LA, the greatest one hour rainfall on record. 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, including homes in Ontario and Chino on 3.7. Debris flows closed several highways.
6.7.1968	Heavy thunderstorms struck the high desert.	Flash flooding closed several roads in the Barstow and Yermo areas.
7.22.1968	A heavy thunderstorm struck Needles with 1.50 inches of rain.	Flash flooding damaged numerous buildings, streets and 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. 21dead 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.
6.15.1969	Strong thunderstorms struck the San Bernardino and San Gabriel Mountains.	Flash floods washed out and closed several highways on the north slopes and in the desert, including Hwy. 138 in Pinon Hills.
7.27.1969	A heavy thunderstorm hit Lucerne Valley.	Flash floods and debris flows moved several cars of f the highway and caused damage to some homes. A three foot wall of water ripped out three miles of highway.

9.16.1969	A heavy thunderstorm hit Barstow.	Flash flooding flowed through the streets of Barstow. Water washed into 40 homes.
3.1-2.1970	A strong storm hit the region. 5.22" fell in Lytle Creek, 3.12" in Lake Arrowhead, 2.60" in Redlands, 1.87" in San Bernardino, 1.79" in Riverside, 1.66" in Palm Springs, and 1.35" in Santa Ana.	One died in floodwaters in Chino. Extensive flooding occurred all over the northern Inland Empire.
8.15.1970	Heavy thunderstorms hit the desert.	Flash flooding wiped out highway 95 north and south of Needles, as well as highway 66 in Helendale.
11.25-30.1970	A series of storms struck the region following large destructive wildfires in the San Bernardino and San Gabriel Mountains earlier in the fall. 9.17" of precipitation fell in Lake Arrowhead, 7.22" in Lytle Creek, 5.11" in Big Bear Lake, 5.02" in Palomar Mountain, 3.56" in San Bernardino, 2.63" in Redlands, 2.51" in Santa Ana, 2.05" in San Diego.	Flooding inundated streets and highways in the Rancho Cucamonga area. At least 60 homes were damaged by floods and debris flows.
12.17-22.1970	A series of storms brought heavy rains to the region. 7.03" was recorded in Palomar Mountain, 6.93" in Lytle Creek, 6.35" in Lake Arrowhead, 5.38" in Idyllwild, 4.72" in Big Bear Lake, 2.81" in San Bernardino, 2.67" in Santa Ana, 2.27" in Riverside, and 1.84" in San Diego.	Several roads were flooded and washed out in the northern Inland Empire, exacerbated by the extensive burn areas from earlier in the fall.
3.14.1971	A thunderstorm brought 1.11" of rain to San Bernardino in a short time.	No flooding damage resulted.
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.

12.22-28.1971	A series of wet storms hit the region during this week. 19.44" fell in Lake Arrowhead, 15.26" in Lytle Creek, 12.31" in Big Bear Lake, 7.49" in Palomar Mountain, 5.45" in San Bernardino, 4.98" in Santa Ana, 3.92" in Redlands, 3.04" in Riverside, 2.28" in San Diego, 1.24" in Palm Springs, and 1.02" in Victorville,	Extensive street flooding occurred across the region.
6.7.1972	Thunderstorms struck the Barstow and Helendale area with about 0.5" of rainfall in a short time.	Several structures and many streets and yards were inundated with water and debris.
8.2.1972	Thunderstorms hit San Bernardino County.	Flash floods covered portions of highways with mud, including a stretch of Interstate 15 between Barstow and Baker for eight hours. Highway 95 near Needles was also closed by flash flooding.
8.12.1972	Tropical Storm Diane sent moisture into the region which produced thunderstorms across Southern California. 2.1 inches of rain fell in Lucerne Valley in less than one hour. 0.38" fell in Riverside, and 0.31" in Big Bear Lake.	Flash floods left a foot of silt on downtown Lucerne Valley and closed several highways, including Interstate 15 northeast of Barstow.
8.13.1972	Tropical Storm Diane sent moisture into the region which produced a thunderstorm in the Afton area, about 40 miles northeast of Barstow. Visibility was reduced to near zero.	Flash floods covered Interstate 15 and closed it for half a day. Other roads and railroads were washed out.
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.	Flash flooding on 9.3 resulted in closing Interstate 40 at Ludlow, east of Barstow, for two hours. Railroads were damaged as well.

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.	
10.19.1972	A violent thunderstorm struck Redlands with two hours of heavy rain and hail. Officially at the Redlands gauge, 0.55 inch fell.	Intersections in Redlands were flooded.
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. In Topanga Canyon, heavy rains fell over a recent burn scar, producing a series of mudslides that trapped hundreds of residents.
12.3-4.1974	Heavy rain.	Considerable flooding of low lying areas of Orange County. Forester Creek in El Cajon floods.
3.9.1974	Heavy rains pummeled the region.	In Hollywood, 200 pound manhole covers were lifted out of the streets due to excess water pressure in the drainage system.
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. On 9.10 2.8" fell in 3 hrs in Borrego Valley and 1.74" fell this day in LA, a daily record. 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.
10.22.1976	An isolated and powerful thunderstorm dropped torrential rain on Jamul. 3.84 inches was recorded in four hours from 2 to 6 pm, 1.85 of which occurred between 3 and 4 pm.	High runoff produced local flooding.
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. On 8.17 2.06" fell in LA, the wettest August day.	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.
1.16.1978	A Pacific storm brought heavy rains.	Flooding killed 2 people and damaged roads, car lots and hotels in Mission Valley. De Luz became isolated. A mobile home park in Chula Vista was evacuated by motorboat.
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 where a 15 foot wall of water devastated the town. Widespread flooding, flash flooding, and mud slides. Numerous homes washed away.
3.4-5.1978	Torrential rains hit the region and northern Baja California. Two day totals of around 10" fell in the San Bernardino Mountains, 6" in the northern Inland Empire.	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.
11.11-13.1985	Heavy rain from a cold, slow-moving storm with embedded thunderstorms produced 4.25” in Julian, 3.42” in La Mesa, 2.63” in SDSU, 2.44” in Vista, 2.40” in Lemon Grove, 2.39” in Alpine, 2.19” in Poway, 2.13” in Chula Vista, and 1.84” in San Diego	Flooding in Spring Valley, Mission Valley. Erosion damage in La Mesa.
11.24-26.1985	A slow moving low grabbing moisture from Hawaii dropped 2.57” in San Diego, 3.49” at Cuyamaca, 2.68” in Escondido, 2.62” in Julian, 2.49” in Pt. Loma and 2.48” in Santee.	Numerous areas were flooded and power outages were common. Especially hard hit was Mission Valley.
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.	Flooding occurred in low roadways in Mission Valley.

10.2.1986	A band of fast moving thunderstorms raced across the LA basin, through the San Bernardino Mountains and into the upper desert. 1.50” fell in Pasadena along with 3” of accumulated hail. 1.02” in LA, a daily record, 1.01” fell in one hour. San Diego County was largely spared, with only 0.22” at Palomar Mountain.	
10.9-10.1986	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. Numerous streets flooded in south and east parts of San Diego County. Power outages occurred from lightning strikes.
11.17-18.1986	Early season storm brought 1.16” to San Diego, more rain that 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.	
6.5-6.1987	Unseasonable thunderstorms hit LA County, mostly the Antelope Valley.	Flash flooding, power outages and lightning caused fires were the result. More than 500,000 were without power.
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	The remains of Tropical Storm Selma interacted with a cold front over Southen California to produce widespread heavy rainfall. 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. Normal for the season is 2.33” (1971-2000 normal). April average is only 0.12”.	

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. Mt. Wilson recorded a ten day rainfall of 20.05”, while L.A. recorded 7.96”, and San Diego recorded 3.33”.	Flash flooding, mud slides, and road closures also occurred. Two were killed in an avalanche at Mt. Baldy. A young couple and their child were killed when a mudslide buried their home. Off the coast, a U.S. Marine helicopter went down in heavy rain and wind, killing one and injuring eight.
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. On 1.8 a bridge over the San Gorgonio River was destroyed near Banning and a dike failure near Whitewater flooded several area roads with mud and debris. Rising waters around the city of Desert Hot Springs cut off roadways leaving the city isolated. In the Inland Empire, the Santa Ana River spilled its banks, inundated parts of Norco and the Corona Municipal Airport.
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. Extensive flooding also occurred in Canyon Lake, Elsinore, Murrieta and Temecula. In Murrieta alone, nearly

		500 people were stranded or 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: 13” in Lake Arrowhead, 9” at Palomar Mountain, 6+” at Cuyamaca, 2-5” in coastal areas.	Urban and river flooding occurred across the region. In Crestline, Lake Gregory overflowed, flooding a portion of the city. Two people died as a result of the flooding in the region. Flooding occurred from Oceanside to Encinitas. Homes were damaged along the 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.	Widespread flooding of area creeks and drainage canals. The communities of Laguna Beach and Sun City were especially hard hit, with flood damages exceeding $55 million.An additional $6.5 million

		in damages occurred in San Diego County. President Clinton issued a Federal Disaster Declaration for the Region.
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.
3.2-13.1995	A series of storms that brought heavy rain to the entire state over a 12-day period came to an end on this day. Rainfall totals for the period exceeded 15 inches in the mountains of San Diego County and 12 inches in the San Gabriel and San Bernardino Mountains. Idyllwild recorded its wettest 12 day period in March, with 15.29 inches of rainfall.	See damage reports above.
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	A stationary line of thunderstorms brought the heaviest rain in 70 years to portions of Orange County. Widespread 4 to 8" rainfall totals, with as much as 10" in Mission Viejo. Over 4" in Corona. Heavy downpours in Victor Valley. On 12.6 Newport Beach and Laguna Beach reported respective rainfall totals of 6.00" and 5.50", both all-time records for a single day by more than an inch.	Widespread flooding in Orange County. Mud slides and coastal erosion. Flooding in Corona and several communities of Victor Valley. Mud flow through Adelanto. In the days after the storm local beaches were littered with debris from the floods.
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	A powerful storm during this El Niño year brought 1-2" of rain to coastal areas, 3-5" in valleys and foothills.	The San Luis Rey River left its banks in Pauma Valley, and numerous area roads were closed due to mudslides, high water and damaged bridges. A hillside slid into a restaurant in Laguna Beach, and a large sink hole forced the closure of Santiago Canyon Road for several days.
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. In Laguna Beach, two hillsides gave way, sending a river of mud and water through homes and cars. Two men

		were killed and 300 homes were damaged. In San Diego County, 200 people were evacuated from three mobile home parks in Oceanside, and portions of Camp Pendleton were flooded.
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	A storm off the coast tapped subtropical moisture and pulled it northward to produce 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. On 2.13 a man drowned when he attempted wade across the rain-swollen Tijuana River.
3.15.2003	A slow moving cold front dropped 3-7" of rain across Southern California.	Over 1,000 traffic accidents and six deaths were attributed to standing water on roads. Some freeways were covered by water two to three feet deep. In the desert, the Mojave River overflowed its banks, flooding several major roads between Hesperia and Apple Valley.
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.
11.13.2003	A thunderstorm dropped 5.3 inches of rain and hail in the Watts, Compton and South Gate area of Los Angeles. The hail accumulated more than a foot deep in spots.	Flooding damaged dozens of homes, schools and hospitals and some roofs collapsed under the hail. Hundreds of motorists were stranded and power was knocked out to more than 100,000 homes and businesses. Residents shoveled hail and slush from streets.
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).
8.15.2004	A thunderstorm dropped 1-2" of rain on Death Valley in a short time.	Flash flooding and debris flows along Hwy 190 killed 2 in a pickup truck that was washed off the highway. About 3 miles of road was totally washed away and the National Park was closed for 10 days. 13 miles of Hwy 190 was closed nearly 9 months for repairs to 13 miles of damaged roads.

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.

1.7-11.2005	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.	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.

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.
3.22.2007	A strong thunderstorm caused erratic winds over Lake Henshaw.	Three elderly fisherman lost their lives on a boat in Lake Henshaw.
7.25.2007	A late night thunderstorm dropped heavy rain in Indio Hills.	A flash flood damaged Dillon Rd. A family of seven needed a rescue.

8.26.2007	Remnants of Hurricane Dean produced thunderstorms and heavy rain in the morning, then again in the afternoon. In Escondido nearly 2 inches fell in less than 90 minutes in the morning.	Flash flooding occurred near Borrego Springs and Ocotillo Wells, rendering several roads impassable. Several park visitors were trapped near the Borrego Badlands.
11.30-12.1-2007	Heavy rain from cutoff low with a tropical connection. Up to six inches of rain fell on Palomar Mountain and Forest Falls. On 11.30, 2.53 inches fell in Ramona, the greatest daily rainfall on record for November.	A debris flow (including large trees) over the Poomacha Burn area buried a house in mud, caused serious damage to several vehicles and highway 76. The flow was estimated at 15 feet high, 150-200 feet wide.
1.27.2008	Heavy rain hits the region.	Several debris flows were triggered in the Poomacha and Witch Creek burn areas. Portions of highways 78 and 76 were closed.
2.3.2008	A strong winter storm brought locally heavy rain.	Heavy rains resulted in a debris flow from the Soboba Burn Area north of San Jacinto. Several cars were destroyed and one person was rescued.
5.22.2008	Heavy rain from thunderstorms was produced by a very cold and unstable storm from the north.	Several debris flows occurred. In the Santiago burn area of eastern Orange County, damage was done to homes and businesses. 28 residences were flooded and damaged in northeast Moreno Valley. Minor damage occurred in the Witch Creek burn area around Ramona.
7.20.2008	A rare early morning thunderstorm hit the Coachella Valley. On the edge of the storm in Cathedral City, 1.25” in 30 minutes fell.	15 to 20 businesses and several homes were damaged at a trailer home park. Highway 111 was closed because of mud and rocks.
8.30.2008	Heavy thunderstorms struck the San Jacinto Mountains and near Forest Falls.	Flash floods up to 3’ deep carried rocks and mud and covered many roads in Idyllwild-Fern Valley.

2.5-10.2009	A strong cold front produced heavy rain across Southern California. 2 inches fell near the coast and up to 6 inches fell in the foothills.	On 2.5, flash flooding occurred near La Habra Heights. One foot of water flooded Highway 60 near the Hacienda exit.
9.2.2009	A strong thunderstorm produced 0.55 inch of rain in 24 minutes in Moreno Valley. Heavy thunderstorms moved through northern San Diego County, with over an inch reported in Ramona and San Diego Country Estates.	Minor flash flooding resulted in Moreno Valley. Four inches of mud and water was reported on Highway 78 near Witch Creek.
9.5.2009	A nearly stationary thunderstorm with heavy rain and strong winds occurred near the town of Ocotillo Wells. A dew point of 75 was observed with a temperature of 105. According to radar data, storm tops exceeded 60 thousand feet and golf ball size hail was possible. This massive desert storm could be easily seen from the coast.	Flash flooding near Ocotillo Wells along Fish Creek Wash and Split Mountain Road. 16 downed power poles along Split Mountain Road.
1.18-22.2010	A very wet and dynamic series of storms dropped two to four inches of rainfall in the deserts, to four to eight inches west of the mountains, to six to 12 inches on the coastal slopes.	Widespread flooding resulted across the region. Some of the worst flash flooding occurred in the high desert on the 1.21 due to the prolonged heavy rainfall. Scores of homes and several schools sustained damage, and many roads were washed out in Hesperia, Apple Valley, Victorville and Adelanto. Numerous swift water rescues were needed, one of which likely saved four teens trapped in a storm water drain. Two deaths in Tijuana were attributed to the flooding.
8.25.2010	Powerful thunderstorms hit Forest Falls and Hemet with heavy rain.	Flash floods resulted.

8.26.2010	Powerful thunderstorms hit Wrightwood and Warner Springs with heavy rain.	Flash floods resulted.
12.17-22.2010	A very wet period developed as strong westerly flow across the Pacific tapped a pool of deep subtropical moisture near Hawaii, resulting in days of moderate to heavy rainfall. Four to 12 inches of rain fell in the coastal and valley areas over six days, 12 to 28 inches in the mountains, up to 9 inches in the high desert and less than 4 inches in the lower desert.	Major landslides and flash flooding impacted the communities of Laguna Beach, Apple Valley, along the Whitewater Channel in the Coachella Valley near Palm Springs, Highland, Corona, Loma Linda, La Jolla, and the city of San Diego from 12.21 to this day. Qualcomm Stadium was flooded, but was miraculously drained and prepared for the Poinsettia Bowl held there on 12.23.
7.31.2012	A strong thunderstorm produced heavy rain in the Split Mountain area of the Anza Borrego Desert.	A 15-foot wall of water rushed through Split Mountain Road in Fish Creek. Two hikers, a man and his son, were caught in the canyon, but were able to get to higher ground and were unharmed. Their pickup truck, however, was washed 1.5 miles down the canyon and destroyed.
8.17.2012	A massive thunderstorm dropped 5.36” of rain on Yucaipa Ridge.	Runoff caused several mudslides down the hill in Forest Falls, one was 5 feet deep.
8.30.2012	Thunderstorms erupted in the mountains above Cathedral City. A thunderstorm produced 1.53” in one hour at March AFB in Riverside.	Major flash flooding in Cathedral City included 1 to 2 feet of rapidly moving water, closing several roads. Water forced mud and debris into several businesses in town, causing significant damage. Flash flooding in Moreno Valley went into a few homes. A rescue was needed to save a stranded motorist. Several roads and freeways were closed because of water and/or mud.

9.11.2012	A stationary thunderstorm brought persistent, heavy rain to Mecca. 3 to 5" of rain fell in just a couple hours (more than a year's worth).	Floodwaters damaged a school, a mobile home park and several orchards.
12.13.2012	Heavy rain from a winter storm spread rainfall across the San Diego metro area of 1.25 to 2 inches.	The rain triggered an eight-ton, six-foot diameter boulder to roll into a Poway home. There were also numerous flood related issues on the roadways, including a few that required swift water rescues. High tide and flooding runoff combined to flood PCH in Seal Beach and Sunset Beach. Some garages were inundated.
7.21.2013	Thunderstorms erupted across the mountains and deserts. Radar estimated two to four inches of rainfall in one hour for some of the storms.	The newly vulnerable burn scar of the Mountain fire got brief heavy rain on the 21st that produced a flash flood and a debris flow called an "ash flow." One of these flowed into a pond, displaced the water, and killed the resident fish. Several other desert roads near Sky Valley, Mecca, and Borrego Springs were rendered impassable from the water and debris. In Big Bear City, some of these floodwaters entered a few homes. In remote Anza Borrego Desert State Park, three vehicles were washed downstream.
8.18.2013	Heavy thunderstorms developed in the high desert. Radar estimated rainfall west of Victorville at seven inches.	Floodwaters damaged and closed several highways west of Phelan and in Apple Valley, and filled the El Mirage Dry Lake.
8.23.2013	Heavy thunderstorms on the San Jacinto Mountains.	Debris and water came down from the Mountain Fire burn into Palm Springs.
8.25.2013	Monsoon thunderstorms. Agua Caliente recorded over two inches of rainfall incredibly in 35 minutes.	Floodwaters filled the Whitewater channel, which goes through several golf courses and crosses many roads from Palm Springs to La Quinta. Flash floods also in the Anza Borrego Desert.

8.29.2013	Thunderstorms struck Riverside and the San Bernardino Mountains where over one inch of rain fell in 20 minutes.	Riverside was inundated with flooding of streets up to two feet deep. Riverside City College canceled classes. Flash floods occurred around the Perris area and along Highway 18 in the San Bernardino Mountains
9.6-7.2013	Thunderstorms developed in the mountains and deserts and Inland Empire each day. Pea to dime sized hail and damaging winds also accompanied these storms.	On 9.6, mud and water covered the highway near Warner Springs, stranding multiple vehicles stuck in the mud. Minor road flooding near Pine Valley and just east of Lucerne Valley. On 9.7, normally dry Mill Creek near Forest Falls ran deep and wide, stranding campers. There was flooding in Campo, east of Julian, Ocotillo, and in Cathedral City along the Whitewater Wash.
2.28-3.1.2014	A very wet storm was the only significant storm of the 2013-14 wet season. Rainfall ranged from 1 inch at the coast to up to 8 inches in the mountains. Up to 1 inch fell in the desert. Yucaipa Ridge measured over 11 inches.	Urban and flash flooding with mud/debris flows, causing numerous road closures and swift water rescues in and around Anaheim, San Diego-Fashion Valley, Escondido, Fallbrook and Lake Elsinore. Mud slides closed Hwy. 74 (Ortega Highway) stemming from the Falls Fire burn scar. Many road closures in the Coachella Valley where rivers saw rises of 2 to 5 feet, in some instances within 12 hours. On 3.1, flooding resulted in Oceanside, Temecula, Sea World San Diego, as well as minor street flooding in Mission Viejo.
5.23.2014	Thunderstorms over the San Diego County mountains drifted over the adjacent deserts.	Flash flooding occurred along and north of Highway 78, south of Borrego Springs.
7.5.2014	Thunderstorms erupted in the Inland Empire, San Bernardino Mountains, and the High Desert.	Flash flooding closed roads in the High Desert along I-15 and Hwy. 247, and required a swift water rescue in Yucaipa. On 7/5 flash flooding occurred along Hwy. 247 in Landers.

7.27.2014	Thunderstorms erupted in the mountains of San Diego County and even along the coast.	Flash flooding occurred in La Jolla Shores and near Warner Springs along Hwy 79.
8.3.2014	Heavy thunderstorms hit the Inland Empire, the mountains and the lower desert. Mt. Baldy Village got 4.40 inches, with four inches falling in 60 minutes.	Flash flooding and debris flows were common. Road closures and damage.
8.12.2014	A heavy thunderstorm struck east of Julian.	A debris flow blocked Hwy. 78 east of Julian on the Banner Grade that was one to two feet deep. The Banner Fire burn scar contributed to this flow.
9.7-8.2014	Weakening Hurricane Norbert brought moisture to produce thunderstorms mainly in Riverside and San Diego Counties. Rainfall amounts of 1 to 2 inches fell over the city of Riverside, San Bernardino and Hemet, while the mountains in that county saw up to 0.60" near Sky Valley. Early morning thunderstorms on 9.8 drenched parts of the the Coachella Valley which received 0.33" up to just over 3 inches near the lower foothill in Thousand Palms and La Quinta.	Widespread flash flooding, most notably in the Coachella Valley on 9.8. Mud and water closed roads and stranded vehicles in La Quinta, Palm Desert, and Thousand Palms. Homes in La Quinta were surrounded by water. Moving water was 3 feet deep on roads and 4 to 5 feet of standing water submerged vehicles. Mud was several feet deep on Varner Road.
12.3-4.2014	A Pacific storm brought moderate to heavy rain. Two-day rainfall totals of 1-2" were recorded west of the mountains, while the southern slopes of the San Bernardino County mountains saw up to 5" of rain (isolated amount of 14.5" at Yucaipa Ridge).	Flooding resulted, with mud, debris and water closing several roadways and stranding vehicles. Mud with debris 10 feet high piled up on Soboba Rd. north of San Jacinto. A swift water rescue was needed.
12.12-13.2014	A strong Pacific storm brought heavy rain. Widespread rainfall amounts of 1 to 1.5" in the coast and valley areas. Mountain locations got up to 4".	River rises in the San Diego River resulted in a levee breach which flooded the parking lot of Qualcomm Stadium. Several other roadways in San Diego County were closed due to flooding with mud and debris in the road, especially near the Tijuana River Valley.

5.14.2015	A strong late-season winter storm, along with some thunderstorms, hit the region. San Diego reported 1.30" of rain in one hour. A nine-minute period within that main hour, totaled 0.71", which is near the 1/100 return interval.	Flooding in Mission Hills and Midway District of San Diego was up to 4 feet deep. Several swift water rescues.
7.6.2015	Monsoon thunderstorms hit the mountains and upper desert. A few spots received up to around one-third of an inch, including a portion of the Lake Fire burn area south of Big Bear Lake.	Several debris flows resulted, including one consisting mostly of ash and mud over portions of Highway 38, up to a foot deep in some areas.
7.18-19.2015	Moisture from Hurricane Dolores, along with monsoon moisture resulted in showers and thunderstorms over most Southern California. Rainfall ranged from 0.5-4", including a record 1.71" at San Diego on 7.18 (unprecedented rainfall: single-day and July monthly total). The San Diego River at Fashion Valley had 2 crests above monitor stage, 7.7 feet on the 18th and 8.8 feet on 7.19. On 7.19 over 6" of rain fell over several hours just west of Desert Center.	A debris flow hit the burn scar of Silverado Canyon. Flash floods hit Moreno Valley, Perris, and La Mesa on 7.19. A wet microburst struck Tierrasanta on 7.18, causing wind damage. A haboob caused wind damage in the Anza Borrego Park and in Palm Desert. The rain caused the first rain-out of a Los Angeles Angels baseball game since 1995, and a rare 2-hour rain delay at the San Diego Padres baseball game. Over 2000 lightning strikes were reported on 7.18, some starting small brush fires. Near Desert Center on 7.19 eastbound lanes of Interstate 10 collapsed where they crossed a heavily flowing wash. A vehicle drove into the hole in the collapsed bridge, trapping the driver and requiring rescue. I-10 was closed in both directions causing huge traffic backups.
7.29-30.2015	Scattered thunderstorms occurred mainly over the mountains and deserts with wide-ranging rainfall totals from a few tenths of an inch to locally over 2".	Flash flooding occurred in Idyllwild, Timoteo Canyon, Calimesa and Moreno Valley.
9.7-8.2015	Subtropical moisture from remnants of Hurricane Linda brought thunderstorms to most of the region. Additional thunderstorms on 9.8 developed over the mountains and	Flash floods hit Victorville (which included a swift water rescue). Another flash flood in Forest Falls also had a swift water rescue, but also one drowning death. On 9.8

	spread into the Inland Empire and Orange County, as well as near I-15 in San Diego County. Hail was mostly nickel-sized, but a few larger. A small dust storm hit Riverside.	several trees and poles were downed in the Riverside area from the dust storm.
9.15.2015	A Pacific trough tapped into remnant moisture from tropical cyclone Linda. 1-2” of rain was common across the entire region.	Major traffic jam during the morning commute in LA and Orange County, along with a debris flow in Silverado Canyon, and widespread urban flooding.
10.16.2015	Strong thunderstorms hit northern Ventura and LA counties.	Flash flooding and mud and debris flows occurred in the San Gabriel Mountains, Cuyama, and the Antelope Valley.
10.18.2015	Thunderstorms dropped very heavy rainfall in Death Valley. Scotty's Castle measured 2.72 inches of rain in roughly five hours.	Major flash flooding hit the Grapevine Canyon area of Death Valley National Park . Mesquite Springs Campground and Grapevine Ranger Station were evacuated; eight vehicles full of visitors and three park rangers were stranded overnight near Ubehebe Crater. Trenches up to six feet deep were cut into Scotty's Castle Road. 24 power poles were downed. Mud and debris damaged or destroyed the water supply infrastructure, stables, visitors center, and the cookhouse.
11.3-4.2015	A wet winter storm brought locally heavy rain to Southern California. San Diego recorded a one-day total of 1.09” on 11.3, setting a daily rainfall record. 0.10” to 1.5” fell elsewhere, heaviest in southern San Diego County. Hail of one quarter inch was reported in Dana Point and southern San Diego County.	Urban flooding in Spring Valley and Lemon Grove with water up to the doors of some vehicles and several roads closed.
1.5-7.2016	A strong, low latitude jet stream brought a series of storms through Southern California with periods of moderate to heavy rain. Three-day rainfall totals were around 2-7” for the coast, valley and foothill areas, and 1-3” for the deserts. After several years of drought, this was the only	Flooding resulted nearly everywhere, with southwestern San Diego County being hardest hit. Floods buried cars in Ocean Beach and Mission Valley. High water rescues occurred on 1.6 around San Diego. Small mudslides, including boulders on highways were

	precipitation event of significance during an otherwise disappointing strong El Niño season.	reported near Ramona, Redlands, Crestline, Orange, Rancho San Diego and De Luz. Three debris flows in Silverado Canyon below a burn scar.

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.	
1848	Snow fell "to the depth of several feet, and covered the plains for a long time." (referring to the San Bernardino Valley).	"Several thousand head of cattle were destroyed."
1.30-2.3.1873	44" snow fell in Grass Valley (Lake Arrowhead).	Residents quickly made snowshoes.
1.12-14.1882	15" at San Bernardino. 3' in Campo over four days producing 8' drifts. 25" 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.
2.28.1891	18" at Big Bear Lake.	
2.1901	A blizzard dumped 6' of snow and piled up drifts 8' deep in Campo.	
1.10.1907	A warm rain fell on deep snow at Big Bear Lake. Four feet of snow remained and then froze again.	Trees were loaded with ice, snapping in the wind. Large Oaks and Cedars were downed. Telephone lines broke at every span.
4.21-22.1908	0.6" fell in Santa Ana, the greatest snowfall on record.	
12.20.1909	A trace of snow was reported in Palm Springs. This is the only report of accumulating snowfall in the city during the month of December since records began.	

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.	
2.21.1944	A heavy snowstorm struck the San Bernardino Mountains.	Several snow slides, some 50 to 60 feet high, obliterated parts of the Rim of the World Highway.
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, even El Centro. Palomar Mountain recorded 74 inches from 1.9 to 1.15, the heaviest snowfall in history. 48 inches fell in Lake Arrowhead at the same time.	Snarled all kinds of transportation. Power outages and emergencies. Plane crash kills 5 and injures 1 near Julian. Camping group stranded at Cuyamaca.
1.13-18.1952	Heavy snow in several waves hit the San Bernardino Mountains. 40” fell in Lake Arrowhead (with a snow depth of 46”), 37” in Big Bear Lake.	All mountain roads were blocked and closed because of snow slides.

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.
11.16.1958	Borrego Springs recorded a trace of snowfall, the earliest snowfall on record and the only November snowfall on record.	
1.20-22.1962	A big snow storm extended to lower elevations, producing two inches in Victorville, Barstow and Yucaipa. 27 inches fell in Big Bear Lake and 24 inches in Lake Arrowhead.	Highways closed.
12.9.1963	Heavy snow in the mountains.	5 killed, 6 injured. Highways blocked.
1.20-21.1964	17 inches of snow fell in Big Bear Lake and Idyllwild.	Heavy snows closed schools and roads.
3.22-24.1964	Big snow storm. Three-day totals: 29” in Idyllwild (22” on 3.24, the greatest daily snowfall on record), 26” at Lake Arrowhead, 23” at Palomar Mtn., 18” at Big Bear Lake.	
4.7-11.1965	A strong late-season storm dropped heavy snow in the mountains, including 50 inches in Lake Arrowhead, 24 inches in Idyllwild, and 13 inches in Palomar Mountain.	Mountain roads were closed.
1.21-25.1967	Two back to back storms brought 24” at Big Bear Lake, 20” at Lake Arrowhead, and 8” at Idyllwild and Palomar Mountain.	Roads were closed for a time.
3.11-14.1967	Heavy snow in the mountains, up to two feet fell in Big Bear Lake. But only one inch at Lake Arrowhead and Idyllwild.	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.	
11.25-30.1970	A series of storms dropped up to 18” in the San Bernardino Mountains.	
12.17-22.1970	A series of storms dropped heavy snow in the San Bernardino Mountains. 32” fell in Idyllwild, 28” in Big Bear Lake, 26” in Palomar Mountain, and 24” in Lake Arrowhead.	
12.26-28.1971	A series of heavy storms started out warm on previous days, but then turned colder to produce up to two feet of snow at Lake Arrowhead, 20” at Palomar Mountain, 15” at Big Bear Lake, 13” at Idyllwild, and 6” at Cuyamaca.	Snow closed the Morongo Pass at Yucca Valley for a time.
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. 18” fell in Idyllwild, the greatest daily snowfall on record for January, and the third greatest snowfall on record. On 1.4, flurries were reported in Palm Springs.	5-12’ drifts blocked many mountain roadways. Structures and a few roofs collapsed due to the weight of snow. More than 6,000 residents were isolated by the snow. Power lines and trees snapped.
3.9.1974	Heavy snow in the mountains and a snow level below 4,000 feet.	The Tejon Pass north of L.A. was closed for 11 hours due to heavy snowfall.
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.	
11.11-13.1985	A cold, slow-moving storm dropped 14” in Mt. Laguna, 5” in Julian and through the San Gabriel Mountains, and snow fell as low as Alpine (1800’).	Interstates were closed for a time.
12.10-11.1985	A cold storm brought heavy snow to the mountains and light snow to lower elevations. 17” in Mt. Laguna, 15” in Julian, 12” in Palomar Mountain, and up to 4” in Victorville and Warner Springs.	Highways and schools were closed in the mountains and in parts of the upper desert.
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	Heavy snow in the San Gabriel Mountains. 14” at Mt. Laguna.	Seven deaths in the San Gabriel Mountains. Four died when a small plane got lost in the fog and collided with the mountain and three froze to death when their car became stranded in the snow.

12.15.1988	A strong cold front brought 5-8” of snow to elevations as low as 3500 ft.	The snow forced the closure of I-5 and I-15 through the Tejon and Cajon Passes. A multi-car accident in the Cajon Pass killed two, while nearly 50 tractor trailers jack-knifed in the Tejon Pass.
2.7-9.1989	Snow at the beaches in LA to the desert in Palm Springs. 15” in the mountains. 3” at Palmdale. 1-3” from Calabasas to Simi Valley to Santa Clarita.	Major road closures. Numerous traffic accidents. At one point all the principal highways in/out of the L.A. Basin (including Interstates 5, 10, 15 and Highway 14) were closed due to snow. Approximately 25% of the strawberry crop and 35% of the lemon crop was lost.
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	Heavy snow in the mountains. Green Valley Lake 13”, Wrightwood and Arrowbear received 12”.	
2.14.1990	Snowflakes 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.
12.27-29.1991	Powerful back to back storms brought up to two feet of new snow to the area mountains.	
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	A cold storm drove south down the West Coast resulting low elevation snow in Southern California. 3” of snow fell in Apple Valley, the greatest daily snow amount for March. 1” in Hesperia.	
2.25.2003	A cold area of low pressure brought heavy snow to the local mountains, with 10 to 20 inches of snowfall above 5,500 feet. Snow levels fell as low as 3,200 feet, resulting in snow accumulations on Interstate 15 through the Cajon Pass.	I-15 in Cajon Pass was closed for a time.
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 All the mountain highways were Big Bear Lake, Lake Arrowhead and closed the Palm Springs Tram. 27" at Pine Cove and Idyllwild, 25" at Cuyamaca, 13" in Warner Springs, 12" in Pine Valley.	One immigrant was killed and seven injured near Pine Valley. Roof damage in Guatay.
1.12-13.2007	3" in Yucaipa. 1" snow in Highland, and Redlands on 1.12. Trace amounts of snow as low as 500' in elevation in the Inland Empire. On 1.13 a trace of snow was reported in Rancho Bernardo, Escondido, Chula Vista, El Cajon and La Mesa. Wrightwood received 24-38".	I-15 and Hwy. 138 were closed. A few people were killed in avalanches at Mountain High Ski Resort.

2.14.2008	Heavy snow struck mainly San Diego County, including the inland valleys. Snow fell as low as 1000 feet elevation. 8” fell in the mountains of the county. Up to 4” fell in the higher inland valleys.	Highways were closed at higher elevations. Hundreds of motorists were stranded overnight because of closed highways.
5.22.2008	A very late season snowstorm dropped several inches of snow in the mountains, and as low as 5000 feet elevation.	
12.15-17.2008	A snowstorm of a magnitude that hasn't occurred since 1979 descended on the mountains and high deserts. Impressive snow totals include 54” at Big Bear, almost 36” at Wrightwood, 20” at Pinon Hills, and 16” at Hesperia, Idyllwild and Julian.	Interstate 15 was closed from San Bernardino to the Nevada state line for many hours.
2.16.2009	A snowstorm brought amounts of up to 18 inches in the mountains, bringing the snow depth in Big Bear City to 45 inches.	Several highways in the mountains, including I-15 through the Cajon Pass, were closed due to snow.
1.18-22.2010	A series of storms brought snowfall of 40 to 60 inches to the higher resorts, with up to seven feet at the highest ski resorts.	
12.17-22.2010	Heavy wet snow accumulated to 40 to 60 inches at the higher resorts, with up to seven feet at the highest ski resorts. On 1.21 Big Bear received 29”, a daily record for the month.	
2.26.2011	Heavy snow in the mountains. 20 inches fell in Wrightwood and Big Bear Lake, and 18 inches in Palomar Mountain. Light snow stuck to the ground as low as 1000 feet elevation in Ramona and Jamul.	
2.27.2012	A cold upper low brought very low snow levels to the region. Up to an inch of snow was reported on the outskirts of Ramona at 1,800 feet. Higher elevations in the San Bernardino and Riverside County Mountains received 14-20 inches of powdery snow.	Pass level snows of two to four inches along Interstates 8 and 15 resulted in closures.

3.17-19.2012	A heavy snowstorm dumped deep snow in the mountains. Ski resorts, Arrowbear Lake, and the top of Palm Springs Tramway reported over two feet of snow. 15 inches fell at Big Bear Lake, 14 inches in Mt. Laguna, up to 13 inches in Wrightwood, 11 inches in Pine Cove, 10 inches in Forest Falls and Idyllwild. A trace of snow fell as low as 1500 feet in Hemet.	Numerous traffic accidents on the snowy and icy highways.
4.13.2012	A late season storm dropped over a foot of snow in the mountains. 16 inches fell at Arrowbear Lake, 14 at Snow Summit, Onyx Summit at Forest Falls, 12 inches at Mt. San Jacinto Ranger Station, 10 inches at Wrightwood, Big Bear City, and Idyllwild, and 9 inches at Mt. Laguna.	
2.7-8.2013	A cold winter storm dropped over a foot of snow at higher elevations in the San Bernardino Mountains, 10-12 inches at Lake Arrowhead and Running Springs, and up to ten inches in the Laguna Mountains. Snow accumulated as low as 2000 feet elevation, including one to three inches of snow in Yucaipa and Beaumont.	
2.20.2013	A cold upper low from the Gulf of Alaska brought heavy snow and thunderstorms to the region. Mountain locations above 5,000 feet reported 10-17 inches of powdery snow. The cold nature of the storm helped snow levels fall to 2,000 feet, with two to three inches accumulating in Hesperia and Apple Valley.	
2.28-3.1.2014	A heavy storm, the only significant storm of the 2013-14 wet season dropped 8 to 10 inches in the Big Bear Lake and Onyx Peak areas.	

12.30-31.2014	A very cold and potent low pressure system dropped very low-elevation snow. Snow levels dropped to as low as 1000 feet. 10 to 18 inches fell across Palomar Mountain, 6 to 9 inches from Warner Springs to Julian, 2 to 4 inches in Temecula, Wildomar, and Lake Elsinore, and 4 to 8 inches across Highway 74 and Horsethief canyon in the Santa Ana Mountains.	Several road closures resulted, including Highway 74 and Highway 18, and vehicles were stranded.
1.5-7.2016	A series of winter storms brought the mountains 6 to 30" of snow, most of which fell above 5000 feet. The highest amounts were in the San Bernardino and Riverside County Mountains, with 20 to 30 inches in several locations.	Road closures and stranded residents for a time.

Severe Thunderstorms: Large Hail, Strong Thunderstorm Winds, and Damaging Lightning (See flash flooding in heavy rain section)

Date(s)	**Weather**	**Adverse Impacts**
3.21.1912	A heavy hail storm in San Diego put hail on the ground that remained there 3 hours.	
2.28-3.3.1938	Thunderstorms.	1 killed by lightning in Corona.
7.27.1939	A severe thunderstorm dropped hail greater than one inch in diameter in Needles.	
9.20.1939	Lightning struck two street cars and other structures.	Several small fires started in the city. Damage to structures.
12.2.1944	A heavy hail storm hit east San Diego and Linda Vista.	

7.27.1946	Hail piled up to 1.5" between Wrightwood and Big Pines.	Some property damage was caused by the heavy rain and hail.
6.2.1948	Two lightning bolts struck northern San Bernardino during a rare June thunderstorm.	
7.16.1954	A severe thunderstorm struck the Daggett area east of Barstow.	In addition to the heavy rains and flooding, this storm produced damaging winds. These "gales" knocked down several power poles and were "hurled across the highway". A mobile home was overturned and "ripped to pieces".
7.24.1956	A severe thunderstorm dropped hail "almost the size of baseballs" and very strong winds at Joshua Tree National Monument.	A Marine Corps party was pelted.
10.20-21.1957	Widespread thunderstorms. Hail drifted to 18" in East LA.	
7.30.1958	A severe thunderstorm struck Barstow with hail greater than one inch in diameter.	The hail damaged roofs, cars and windows.
8.15.1958	A severe thunderstorm struck Oak Glen with hail two inches in diameter.	Damage to the apple crop was extensive.
7.21.1960	A thunderstorm struck the San Bernardino Mountains.	Lightning sparked 24 fires.
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. A severe thunderstorm also hit San Bernardino.	Considerable damage to houses. Winds in San Bernardino blew roofs off houses, smashed windows and blew down dozens of power poles.
9.10.1960	A severe thunderstorm struck Redlands at 3 pm with strong winds.	Trees were uprooted.
10.8.1961	Hail up to 2" deep covered Mt. Helix area.	
8.20.1962	A severe thunderstorm struck Twentynine Palms.	Trees were blown down and winds broke windows.

11.25.1965	A severe thunderstorm in Pomona produced golf ball size hail.	
12.12.1965	Hail up to 4” deep covered Pt. Loma.	
7.13.1967	A strong thunderstorm produced damaging winds in the high desert.	Telephone and power poles were knocked down, causing widespread power outages.
12.13.1967	Marble size hail hit Palomar Mountain from thunderstorms preceding a major snow storm.	
3.7.1968	Lightning struck southwest San Bernardino County.	Three citrus trees were struck.
3.21.1969	A severe thunderstorm rolled through southern San Diego County with strong winds.	Wind gusts damaged four gliders at Brown Field.
9.16.1969	Several lightning storms struck the San Bernardino area.	Lightning strikes caused power failures. Power poles were set on fire. Several forest fires were also set, but quickly contained.
3.14.1971	A thunderstorm contained many cloud to ground lightning strikes.	Lightning strikes caused power outages.
8.15.1971	Heavy thunderstorms strike the Joshua Tree region.	Flash flooding put debris and mud up to three feet deep on several highways around and west of Joshua Tree city.
8.21.1971	A heavy thunderstorm hit Needles with nearly two inches of rainfall.	Flash flooding and debris flows wiped out several roads and swept several vehicles off roads.
10.24.1971	Isolated and briefly heavy thunderstorms struck the region. 1.58” fell in San Bernardino, 0.12” in Riverside, nothing in Redlands. Some places reported drifts of hail.	Streets flooded with up to two feet of water and/or became slippery with hail. Numerous traffic accidents resulted.
12.22-28.1971	A series of storms hit the region over one week. 19.44” of precipitation fell in Lake Arrowhead, 15.26” in Lytle Creek, 5.45” in San Bernardino, 4.98” in Santa Ana, 3.92” in Redlands, 3.04” in Riverside, and 2.28” in San Diego.	Flooding of highways and streets, including debris flows in the mountains.
8.12.1972	Lightning struck the Riverside and Norco area.	One boy was killed. Several power outages occurred.

1.30-31.1979	Golf ball size hail.	
4.20.1981	A thunderstorm with lightning in Cypress.	One lightning strike injured three on the Cypress College Campus.
3.21.1980	Thunderstorms over the region dropped hail on Long Beach, Fullerton, and Banning.	
1.20.1982	Hacienda Heights was hit by a thunderstorm downburst. 1 to 1.75" hail fell in Santa Barbara.	Damage to homes and power lines in Hacienda Heights.
3.12.1982	A thunderstorm produced lightning strikes and hail that piled up in La Mesa and along I-8 near Pine Valley.	Lightning smashed a huge hole in a La Mesa home, throwing a resident, breaking a window and burning carpet. Another bolt struck a nearby flagpole. Other strikes started a small fire in Alpine. Hail caused accidents along I-8 in Pine Valley.
4.1.1982	Strong storm winds hit Encinitas – Leucadia.	Trees were downed, greenhouses destroyed.
10.12.1985	A thunderstorm produced wind gusts close to 80 mph near Encinitas.	Tree and power pole damage was widespread, and the roof was ripped off a duplex.
8.12.1986	A severe thunderstorm struck Needles.	Streets were flooded and stranded motorists. Winds blew out windows of several businesses and ripped off a roof of an apartment building.
10.2.1986	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), nearly 1" in Lake Arrowhead in 40 minutes, 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. San Diego County was largely missed, with only 0.22" reported at Palomar Mountain.	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.
4.25.1989	Thunderstorms dumped snow, hail, rain and lightning on Banning, Beaumont, Calimesa, Cherry Valley and Cabazon. Beaumont received 1.55 inches of precipitation.	Lightning struck three homes in Beaumont and Cherry Valley. Pea-size hail fell throughout the pass, damaging half the area's cherry crop.
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.
9.4.1991	A thunderstorm complex produced golf ball sized hail across parts of the San Bernardino Mountains. The Big Bear Lake area reported hail up to 2.5" deep.	
1.18.1993	Lightning struck Huntington Beach.	One man was killed by the lightning while digging a trench.
2.27.1993	An intense thunderstorm in Newbury Park (near Thousand Oaks) produced up to five inches of hail	Incredibly, highway 101 was closed due to ice on the roadway.
4.26.1994	Thunderstorms produced widespread hail from LA to Riverside. A strong thunderstorm produced large hail up to 0.75 inch in diameter from San Dimas to Ontario.	One to two inches of accumulating hail forced the closure of a section of I-215.

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.	
4.2.1997	A particularly ferocious bolt of lightning struck the Skyline area of San Diego.	Lightning struck a palm tree, utility pole and concrete wall. The resulting shockwave shattered all the windows of the home on the property, sent dishes and glasses cascading from cupboards, and knocked pictures off the walls. Windows were broken in fifteen nearby homes, an elementary school, and a high school two blocks away.
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. 0.75" 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, backing up traffic 17 miles.
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.
3.18.2002	Lightning struck an airplane that was on approach to San Diego.	
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.	
11.13.2003	A thunderstorm dropped 5.3 inches of rain and hail in the Watts, Compton and South Gate area of Los Angeles. The hail accumulated more than a foot deep in spots.	Flooding damaged dozens of homes, schools and hospitals and some roofs collapsed under the hail. Hundreds of motorists were stranded and power was knocked out to more than 100,000 homes and businesses. Residents shoveled hail and slush from streets.

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.
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.
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.
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, ¾” 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 ¾” 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.
10.17.2005	A supercell thunderstorm produced penny size hail in Yorba Linda.	
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	¾” 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.
3.27.2007	A microburst hit the Fullerton Airport. Top recorded winds were only 30 mph, but spotters estimated winds of at least 45 mph. Another thunderstorm wind hit Encinitas.	A roof of an aviation building was lost. In Encinitas a large Eucalyptus tree fell onto three cars in Encinitas, causing two injuries.
8.31.2007	A severe thunderstorm in Lake Elsinore produced severe winds. Another heavy thunderstorm hit Wrightwood. Other thunderstorms dropped a blanket of hail over vast areas between Big Bear and San Gorgonio.	In Lake Elsinore, the thunderstorm winds downed trees, power lines and caused roof damage. In Wrightwood, a debris flow damage roads along Sheep Creek, trapping motorists. A big accumulation of small hail was seen for many days at the top of Mt. San Gorgonio.
9.1.2007	Severe thunderstorms struck from Lake Henshaw to Oak Grove.	Severe winds broke off large oak branches. Damage to vehicles. Debris on the highway caused an accident.
9.2.2007	A severe microburst struck downtown Ramona.	Numerous trees and power poles were blown over. A few outbuildings, fences, signs, etc., were damaged or destroyed.
5.22.2008	Thunderstorms deposited several inches of hail from Redlands to Perris. Several reports of nickel size hail in Moreno Valley and dime size hail in Murrieta.	Snowplows were called to clear the hail. Awnings, trees and vehicles were damaged.

8.4.2008	A severe thunderstorm produced dime to nickel sized hail in La Quinta, as well as a 63 mph wind gust.	
8.25.2008	A severe thunderstorm developed over Baja California and produced damaging microbursts as it moved north over Campo. Measured wind speeds were 52 mph, but estimated winds were at least 58 mph. Nickel sized hail fell just northwest of Ranchita.	Trees were downed in Campo.
8.30.2008	A severe thunderstorm developed over Idyllwild-Fern Valley and dropped hailstones in size from marbles to walnuts (1.5" diameter).	Hail injured two during an already progressing search and rescue operation at Suicide Rock. These are the only documented injuries resulting from direct hail impact in California history. Also, a helicopter made an emergency landing.
9.11.2008	A thunderstorm produced strong outflow measured at 67 mph in La Quinta. Another thunderstorm produced golf ball sized hail in Ranchita.	
5.29.2009	Strong thunderstorms produced a microburst or gustnado in Hesperia.	The winds damaged four horse shelter roofs in Hesperia. One roof was completely removed from the shelter. Winds also knocked over power lines in Hesperia and Victorville. Lightning from the thunderstorm also began a small brush fire near Yucca Valley.

6.3.2009	Low pressure off the central California coast triggered bands of convection and numerous thunderstorms that produced over 1500 cloud to ground lightning strikes, gusty winds, and a few hail storms over Southern California. Hail up to one inch in diameter fell in Carmel Valley. Rainfall was very light in all areas.	Strong winds felled a tree onto a passing vehicle in Big Bear Lake, crushing the car and killing the driver. Lightning struck and killed a woman in Fontana. Six were severely burned and injured when lightning struck a fence next to them in San Bernardino. Lightning struck a palm tree in San Marcos, which critically injured a man underneath. Apartments in Riverside were struck by lightning, starting a fire. About 70 small brush fires were started by lightning across the region.
7.19.2009	Severe thunderstorm winds struck La Quinta foothills with gusts measuring 61 mph.	
8.25.2010	Strong thunderstorm winds estimated at 60 mph struck Lake Elsinore.	Power poles were knocked down, trampolines were thrown. Live power lines trapped a bus full of people.
8.26.2010	One inch diameter hail struck Sunshine Summit near Warner Springs.	
10.19.2010	Lightning struck a home in Riverside.	A six inch hole resulted in the roof.
4.13.2012	A severe thunderstorm hit Anaheim Hills. Fremont Canyon later reported wind gusts to 63 mph. Thunderstorm winds hit south Hemet. Lightning struck downtown San Diego.	Strong winds once considered a tornado damaged a shopping center in Anaheim Hills. Winds knocked down a tree and ripped off an awning structure on a mobile home in Hemet. The lightning in downtown San Diego damaged the roof of a building and knocked out its power.
8.11.2012	Strong microburst winds from thunderstorms hit south Corona (measured at 88 mph) and Temecula (estimated winds 65 mph).	Residential property damage to fences and trees.
8.12.2012	Strong wet microburst winds hit east Perris. This same thunderstorm produced a land spout over nearby Nuevo.	Several power poles were snapped off completely, trapping several vehicles. Roof damage was observed.

8.29.2013	Severe thunderstorm winds estimated at 70 mph hit Riverside.	Trees in Riverside were toppled.
7.4.2014	Strong thunderstorm gusts estimated at 56 mph hit Yucaipa.	One roof collapsed and another roof was damaged.
7.27.2014	Rare thunderstorms struck along the coast.	Lightning struck a palm tree in Encinitas. The resulting fire burned the side of a home.
8.20.2014	Thunderstorms in Nuevo and in Menifee dropped hail one inch in diameter. Lightning struck a building and some palm trees in Riverside.	Lightning knocked out power at a community college and ignited palm trees.
8.21.2014	Hail over one inch in diameter fell at the Mt. Laguna Observatory. A dust storm or haboob struck the Borrego Desert and the Coachella Valley.	
9.16.2014	Thunderstorms from former hurricane Odile produced strong wind gusts exceeding 50 mph across parts of the Inland Empire and San Diego County.	Power lines and numerous large trees were downed (across roadways and onto vehicles) around El Cajon, Mission Valley, and Wildomar. 30 buildings damaged in the city of San Diego.
3.2.2015	A series of thunderstorms dropped up to 1 inch depth accumulation of 0.5-inch diameter hail on Huntington Beach.	The hail covered the beach near Huntington Beach Pier and numerous roads within the city of Huntington Beach.
6.30.2015	Lightning struck the ground across inland San Diego County.	Fires were started by lightning in Poway, Vista, and La Mesa. A power pole in Ramona was downed by lightning.
7.18.2015	Isolated intense thunderstorms developed across far southern Imperial County, partly due to an infusion of tropical moisture from former hurricane Dolores. Large hail of 1.25 inches was observed in the town of Heber, just to the south of El Centro.	No damage was reported due to the large hail.
7.30.2015	Severe thunderstorms erupted in the Inland Empire and Coachella Valley. Quarter-sized hail was reported in Calimesa and a microburst hit Palm Desert.	Calimesa suffered wind damage and Palm Desert incurred damage from the microburst.

10.15.2015	Strong thunderstorms generated gusty and damaging winds estimated at least 60 mph along the western side of the Salton Sea.	Winds blew down over 10 power poles several miles to the northwest of the town of Salton City.
10.16.2015	Strong thunderstorms dropped golf ball sized hail in Leona Valley and quarter sized hail in Palmdale.	
1.7.2016	Thunderstorms struck the San Diego area. Pea size hail was reported from Carlsbad to Poway. Strong thunderstorm gusts exceeded 60 mph across the coast and valleys. An airplane was struck by lightning on approach to San Diego airport, but no damage or injuries were reported.	Strong thunderstorm winds damaged 8 buildings and downed power lines in Vista. A building roof collapsed in Miramar and also at a horse stable in Bonsall. Many trees in Sabre Springs were snapped, some as thick as 18". A tree in Poway fell on a car.
3.7.2016	Two lines of thunderstorms came ashore in Orange and San Diego Counties.	Thunderstorm winds caused considerable damage with numerous trees down blocking roadways and damage to roofs, windows, and cars. A lightning strike caused a roof fire at a house in Laguna Niguel.
3.11.2016	A line of convective showers with minimal lightning, but strong winds, moved through the area. Several locations reported 46-55 mph gusts.	Trees and power lines were downed in Riverside and near Edom Hill.
10.23-24.2016	A widespread elevated thunderstorm event occurred across Southern California lasting 24 hours and producing 2,500 cloud-to-ground strikes.	Several power poles were downed or burned due to lightning strikes. One strike hit a football player in El Cajon, but he survived.

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 waterspout comes ashore to become a tornado in National City resulting in the most damaging tornado on record in San Diego County.	8 injured. Two homes were totally destroyed. Roofs were torn off homes and numerous roofs were damaged. One shingle was driven into the side of a building "as if it had been shot from a gun." Trees were downed and power was knocked out.
4.27.1931	A waterspout and two funnel clouds were sighted 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 one mile inland.
1.29.1957	Waterspout off Ocean Beach. Two funnel clouds observed over North Island (possibly the waterspout) and Mt. Soledad – La Jolla.	

6.18.1957	A “twister” struck La Mesa, occurring during a very hot Santa Ana event. Without a thunderstorm present, this was most likely a strong dust devil.	A boat was knocked its trailer, and damage was done to two roofs.
10.20-21.1957	Waterspouts were sighted off Point Mugu and Oceanside.	
4.1.1958	Tornado in Laguna Beach.	
4.2.1958	Tornado in San Bernardino.	A roof was ripped off a garage at Baseline and Sterling.
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.	Trees were uprooted and power poles were toppled.
3.9.1962	Two waterspouts were reported off the coast of San Diego.	
3.7.1964	Two waterspouts were observed, one off Oceanside and one off La Jolla. A strong fire whirl (whirlwind induced by strong rising air in the vicinity of the fire) formed near a brush fire in Santa Barbara.	Winds from the fire whirl downed several trees and severely damaged two homes, three cars, a chicken coop and a barn.
12.13.1965	Waterspout observed around 1 pm. Location unknown.	
4.8.1965	Tornado in Costa Mesa.	
11.25.1965	A severe thunderstorm in Pomona produced golf ball size hail and a tornado that tracked through residential areas and the local fairgrounds. The track of the tornado was estimated at one mile in length and up to 75 yards wide.	
11.7.1966	Tornadoes in Newport Beach and Costa Mesa.	Property Damage.

7.22.1966	Tornado in Victorville.	
3.31.1967	A waterspout was reported by Marine Corps weather observers in the vicinity of Catalina Island.	
2.5.1969	A waterspout was observed off the coast of San Diego.	
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.	
10.19.1972	A brief weak tornado touched down near Beaumont.	
2.23.1973	Tornado near San Diego.	
3.7.1974	Several funnel clouds were reported in the vicinity of San Clemente Island.	
7.20.1974	Tornado in Hemet.	Property damage.
10.22.1974	Tornado in Yucca Valley.	Property damage.
10.29.1974	A waterspout moved ashore to become a tornado in Encinitas.	It destroyed a horse shelter.
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.
3.4-5.1978	On 3.4 a rare Tornado Watch was issued for sections of Orange, Riverside and San Bernardino Counties. Fortunately no tornadoes were reported, but numerous waterspouts occurred off the coast. A funnel cloud was reported from the El Toro Marine Base on 3.5.	
12.19.1978	A waterspout moved onshore in Oceanside, becoming a tornado.	It produced a three-quarter mile path of damage through the business district with minor damage to businesses, trees, and vehicles. Three injuries were also reported.
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.
2.17.1980	Waterspout off Camp Pendleton.	
2.20.1980	Tornado in Clairemont - San Diego.	Considerable property damage.
3.21.1980	A funnel cloud was observed south of San Diego, and several others around the San Diego county.	
1.20.1982	An F1 tornado hit Riverside.	Damage to several homes.
3.17-18.1982	Tornado at Lindbergh Field - San Diego and at Loma Portal – Pt. Loma.	A roof was ripped off a home near Mission Bay.

3.29.1982	An F1 tornado touched down in San Gabriel for about two blocks.	It uprooted numerous trees, damaged signs and roofs, and downed power lines.
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.	Damage to a mobile home.
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.	$250,000 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 0.5 mile northeast of Disneyland struck at 530 am and was determined F1 strength. Its track was 1.25 miles in length and was 20-40 yards wide.	Property damage of shattered windows and torn roofs.
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.
3.12.1990	A funnel cloud was observed 5 miles south of Lindbergh Field.	

3.19.1990	A funnel cloud was observed over the San Diego neighborhood of San Carlos.	
3.25.1990	A waterspout was observed off the coast of Oceanside.	
4.16.1990	A strong spring storm produced a funnel cloud near Point Mugu and two waterspouts off the coast of Oceanside.	
2.28.1991	Tornado in Irvine and Tustin. A waterspout observed off La Jolla.	Damage to 40 homes in Irvine.
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.
3.20.1992	A small tornado moved from Montecito Heights (LA) into Monterey Park with winds estimated at 100 mph.	
12.7.1992	Tornadoes of F1 strength in Anaheim and Westminster. A waterspout came ashore and became a tornado in Carlsbad. Another waterspout was sighted 11.5 miles off Mission Beach.	In Anaheim and Westminster cars were overturned, mobile homes destroyed and numerous trees and powerlines were downed. Three carports and two mobile homes damaged in Carlsbad.
12.29.1992	Tornado in San Clemente.	Property damage.
1.14.1993	An F1 tornado struck Buena Park.	Windows were blown out and trees, fences and street signs were downed. No injuries were reported.

1.17.1993	An F0 tornado touched down in Lake Forest.	Minor damage on 31 homes and several trees uprooted.
1.18.1993	An F0 tornado struck Huntington Beach. Funnel cloud in Hemet.	Damage to six homes in Huntington Beach.
1.30.1993	Funnel cloud observed over Mission Bay.	
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. A weak tornado also touched down in Sun Valley in the San Fernando Valley.	Roof and window damage and trees blown down in Orange County.
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	A waterspout moved onshore on Moonlight Beach in Encinitas, becoming and EF1 tornado.	Damage to local business and several vehicles was reported, but no injuries.
2.9.1998	Tornado in Cardiff - Encinitas and Rancho Santa Fe.	Minor damage.

2.15.1998	A tornado struck Camp Pendleton.	Property damage at a mobile home park.
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.	
4.17.2004	Several funnel clouds were spotted off San Clemente.	
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 at Encinitas’ Moonlight 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.	
12.4.2004	A funnel cloud, possibly a waterspout, was observed off San Clemente.	
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.	

11.27.2005	A funnel cloud was observed from Dana Point.	
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.	
10.13.2006	Several funnel clouds and waterspouts were observed off the coast of Catalina Island.	
3.27.2007	A funnel cloud was spotted off the La Jolla coast.	
9.22.2007	As many as eight waterspouts and countless more funnel clouds were seen in one hour along the coast of Orange and San Diego Counties.	Two waterspouts came ashore. One at Cardiff blew over tents. Another came ashore at Newport Beach.
3.15.2008	Funnel cloud southwest of Balboa Park.	
4.26.2008	A strong dust devil developed in Montclair.	Damage was done to several large tents at an elementary School. 14 were injured.
5.22.2008	Four tornadoes touched down near Moreno Valley. One was rated EF-2, which was the strongest California tornado since the Sunnyvale tornado in 1998, and was on the ground for an exceptional 21 minutes.	9 railroad cars were derailed. A semi truck was lifted 30-40 feet in the air and severely injured the driver. Damage to roofs, trailers and sheds.
9.17.2008	A tornado was observed in Johnson Valley, but no damage was reported.	

2.7.2009	Three waterspouts were reported eight miles south of San Pedro. Another waterspout was spotted about 20 miles west of Encinitas.	
11.28.2009	A waterspout was observed off Moonlight Beach in Encinitas.	
1.19.2010	A tornado went through Seal Beach and Huntington Beach causing, and wind gusts reached 60 mph in San Clemente. Several waterspouts and very strong winds of 93 mph were also reported in Newport Beach and Huntington Beach.	Local damage including boats in Huntington Harbor.
2.9.2010	A waterspout was observed south of Coronado.	
3.6.2010	Two funnel clouds were observed by the John Wayne Airport. Five funnel clouds were observed by a police helicopter off the coast of Crystal Cove.	
9.14.2011	A funnel cloud was observed near Warner Springs.	
12.12.2011	As many as five waterspouts were observed off La Jolla. Three off Windandsea Beach, and possibly two others off La Jolla Shores. Farther inland, a funnel cloud was spotted over La Mesa.	
2.14.2012	At Huntington Beach three funnel clouds were observed about 4 miles offshore, but dissipated without lowering to the water.	
4.13.2012	A waterspout was observed just south of San Clemente Pier. It broke apart as soon as it hit the beach at Cottons Point. Top wind gust at the pier was 71 mph. Another waterspout was observed just off the coast of Oceanside.	
8.12.2012	A land spout was observed in Nuevo and east Perris. A funnel cloud was observed north of Lake Elsinore in the Alberhill area. This was part of the same thunderstorm complex, but not	No damage was reported from the land spout.

	associated with the land spout.	
9.9.2012	A land spout was observed near Perris.	No damage reported.
10.11.2012	A waterspout was observed about 200 yards off the coast of Carlsbad. Numerous pilot reports were received of waterspouts off the coast in the vicinity of North Island and Imperial Beach.	No landfall or damage reported.
12.29.2012	Numerous funnel clouds were reported off the southern Orange County coast. Two waterspouts were reported, one off Dana Point, the other off Oceanside.	
12.30.2012	A waterspout was reported off Oceanside. A funnel was reported over Fallbrook.	
8.18.2013	Thunderstorms near Helendale created a landspout tornado.	
9.7.2013	Two funnel clouds were reported around Perris.	
11.22.2013	A waterspout was observed just off San Clemente Island, and funnel clouds were observed in Encinitas and just off the coast in Oceanside.	
4.2.2014	A waterspout was near North Island Naval Air Station.	
5.12.2014	A dust devil in Fullerton came abruptly out of the west with estimated wind gusts of 60 mph.	It carried large amounts of dust and leaves, and damaged portions of roof shingles on a few homes.
9.16.2014	A funnel cloud was observed just north of Big Bear Lake.	
3.1.2015	Pilots reported several waterspouts about 25 miles southwest of Los Angeles International Airport.	
3.2.2015	A funnel cloud was observed over Perris.	
4.21.2015	A tornado touched down in just north of Desert Center. It was confirmed as an EF0.	Several windshields were broken from flying rocks and a number of solar panels were destroyed.

6.5.2015	A landspout tornado was observed in Phelan.	
5.7.2015	A funnel cloud was reported near San Bernardino.	
7.19.2015	Two landspout tornadoes were observed in open desert just north of Landers.	
8.6.2015	A severe thunderstorm struck near Mecca, producing a copious amount of lightning and very strong, damaging winds, including a brief EF1 tornado.	Over 100 power poles were damaged or destroyed. A car was flipped.
10.17.2015	A brief landspout touched down in Menifee.	
1.6.2016	A waterspout was observed off the coast at Cardiff.	
1.7.2016	A funnel cloud was sighted by several people in south San Clemente.	One house was damaged, but most likely from a wet microburst.
4.10.2016	A funnel cloud was reported northwest of the Perris Airport.	

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

Date(s)	**Weather**	**Adverse Impacts**
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.
11.19-29.1956	A strong and prolonged Santa Ana wind event started on 11.19 and ended on 11.29. On 11.20 a 100 mph gust was recorded at a forest lookout near Saugus.	A fire north of Descanso started on 11.19, killed 11 and burned 44,000 acres. Two wooden bridges and a power plant were destroyed.
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. 12 of 33 passengers on an airplane over Ontario were hurt by a downdraft in extreme turbulence. Paint was completely stripped off of windward sides of 4 cars stalled in a Fontana sandstorm.
1.4-5.1959	A strong Pacific Storm brought very strong and damaging winds to the region.	Boats were damaged in harbors across Southern California, 400 chickens were killed in their cages at a poultry farm in Vista and a dust storm in Barstow led to a 15-car pileup that injured 18 people.
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.
4.20.1962	Strong winds whipped through the region.	Winds toppled trees, snapped power lines, dislodged roofs, broke plate glass windows, and downed store signs. In the deserts, traffic was restricted by blowing dust and sand, with some vehicles suffering paint damage due to the blowing sand.

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, particularly along the coast.	Hundreds of trees downed. Power lines downed.
3.16.1964	Strong Santa Ana winds hit the region.	Winds downed trees and power lines, damaged homes, overturned parked planes, and fanned wildfires. Damages from the fires alone reached into the millions of dollars. The same areas were hit by mudslides and debris flows a week later when heavy rains fell over recently burned ground.
1.16.1966	Strong Santa Ana winds surfaced over the coast and valleys.	The winds destroyed several pleasure boats, damaged construction sites and the local avocado/citrus crop, and led to the closure of several highways. One man was killed when struck by a falling tree.
4.11.1966	Strong winds surfaced in the deserts.	The winds disrupted travel along Interstate 10 and Highway 111, and sand blasted cars and homes in Palm Springs and Indio.
12.2-3.1966	Strong storm winds.	Power outages.
3.8.1968	Strong storm winds.	Winds downed trees, damaged utility lines, unroofed buildings and disrupted traffic.
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.
2.18.1970	Strong Santa Ana winds hit the region with gusts as high as 85 mph.	The winds toppled signs, damaged boats, overturned parked planes, broke windows, and lead to a temporary closure of Interstate 10.
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.
3.9.1974	Strong storm winds hit the region.	Power to the entire town of Needles was knocked out for several hours.
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.	
12.20.1977	Very strong Santa Ana winds gusted to 90 mph in the mountains of San Diego County.	A truck driver was killed on I-8. A girl in La Mesa was injured when a tree fell on her. Some brush fires were fanned. Widespread crop damage was suffered in northern San Diego County to avocados, strawberries, etc. Numerous trees and power poles were knocked down. In Ramona entire barns were destroyed.
2.10.1978	A powerful Pacific storm brought coastal winds measured as high as 92 mph.	Severe wind damage to area harbors. The Port of Los Angeles was closed for 10 hours until debris clogging the port could be cleared. In Oceanside 70 mph winds ripped a bait shop from the municipal pier.
10.9.1982	Santa Ana winds gusted to 60 mph.	A major wildfire moved across the Santa Monica Mountains.
11.30-12.1.1982	Widespread strong wind with a big storm.	Power out to 1.6 million homes.
4.5.1983	Strong storm winds struck Anaheim.	The winds at Disneyland jolted the cable off a guide wheel on the Skyway gondola lift, prompting an automatic shutdown. Elsewhere in Anaheim winds knocked a man through a glass window.

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.
3.1.1985	Strong storm winds struck San Diego County.	Trees and antennas were toppled, causing numerous power outages.
11.12.1985	Strong storm winds gusted to nearly 80 mph along the San Diego County coast.	Lots of tree damage, power outages and roof damage in La Jolla. One tree fell on two cars in Hillcrest. Winds capsized a sailboat off Carlsbad, killing one.
12.9.1985	Strong storm winds of at least 35 mph along the San Diego County coast.	Several boats in Mission Bay were capsized. Numerous trees down causing power outages, one on a car on Hwy. 163, another on a parked car in Coronado.
1.6.1986	Santa Ana winds gusted to 60 mph at Ontario International and 100 mph at Rialto Airport.	Three truck drivers were killed when their rigs were overturned by the winds.
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.).	In Los Angeles and San Bernardino Counties, the winds started five major fires, uprooted trees, downed power lines leaving half a million people without power, ripped entire roofs from homes, destroyed five floats for the Tournament of Roses Parade, and stripped the fruit off 50-100 acres of orange and avocado trees. Estimated damage was $20 million.
1.11.1989	High pressure over Nevada and Utah brought Santa Ana winds with gusts of 80 to 100 mph to communities in the northern Inland Empire.	The winds shredded a blimp moored at Ontario International Airport. In Rancho Cucamonga the winds removed part of the roof at

		the San Bernardino County Sheriff's substation. Powerlines downed by the winds ignited two small wildfires near Ramona and Trabuco Canyon.
2.4.1989	A strong surface low and cold front brought strong winds to the region. Winds reached 71 mph in Crestline, 63 mph in Daggett, and 58 mph in Victorville. Blizzard conditions were reported from Big Bear Lake.	
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.
2.1.1990	Strong winds following a cold front caused widespread power outages in Palm Springs, Hemet, Riverside, and Victorville.	A window was blown out of a high rise in L.A., resulting in minor injuries to a pedestrian.
12.19.1990	A cold upper low brought strong winds to the Coachella Valley, where winds gusted to 60 mph. Palm Springs Airport had a gust of 55 mph.	Winds cut power to thousands, toppled trees and utility poles.
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.
12.19-21.1991	Strong northerly winds resulted from a deep low pressure system over Arizona. Top gusts reached 63 mph in the Santa Monica Mountains, 52 mph in Van Nuys, and 36 mph at LAX airport.	
2.28.1991	Strong storm winds hit the San Diego area.	Boats were torn from moorings at Harbor Island, San Diego Bay, and extensive roof damage was done to the San Diego Convention Center.

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.
11.2-4.1993	Santa Ana winds gusted to over 60 mph.	The Old Topanga fire burned from Calabasas to the ocean consuming hundreds of homes.
12.24.1993	Santa Ana winds: gust 75 mph at Ontario.	
2.1.1994	A strong area of high pressure over the Great Basin brought gusty Santa Ana winds to the region. In Rialto wind gusts reached 65 mph.	Tree and power line damage.
3.21.1995	Intense mountain wave activity produced strong winds in the Palm Springs area.	The winds kicked up dust and sand along Interstate 10, reducing visibility to near zero at times. Numerous power lines were also downed, cutting power to 82,000 customers in Palm Springs.
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.	
1.6.1997	Storm winds: gust 99 mph at Fremont Canyon, 58 mph elsewhere.	Tree damage was widespread with more than 1,000 trees downed in Mission Viejo alone. The regional power grid also took a hit with more than 900,000 people losing power, the largest interruption in service since 1983. Several TV and radio stations were knocked off the air.
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 (unofficial) at Pine Valley, 87 Upland.	The winds toppled hundreds of trees, damaged scores of homes and vehicles, blew big-rigs off the road, raised clouds of choking dust/sand, and snapped power poles, sending tens of thousands of customers into darkness. Two construction workers were killed, one in Riverside when a wind-blown panel knocked him off a water tower, and another in Irvine when he was struck in the head by a piece of wind-blown plywood. A fish farm in Sun City sustained $1 million in structural damage and avocado farmers lost 5.4 million pounds of avocados. Fashion Island's 112-foot Christmas tree was stripped of its world's-largest title, when a gust sheared 30 feet off the top. 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.	Across the northern Inland Empire numerous downed trees and powerlines were reported and power was knocked out to 180,000 customers. Seventeen trucks were

		blown over along Interstate 15 and Highway 60. Blowing dust forced the closure of Ontario International Airport.
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.	On 2.11 a freshly plowed field below the San Gorgonio pass was stripped of topsoil, resulting in a dust storm near Beaumont. Elsewhere in Riverside County numerous trees and power lines were downed, and a large commercial building was destroyed. In San Diego County, several tractor trailers and numerous highway signs were toppled along Interstate 8 forcing temporary closure.
4.3.1999	Strong winds along the coast and in the coastal waters.	The winds ripped sails and parted lines on several yachts racing between Catalina Island and Newport, grounded two small boats and capsized two others (killing one and requiring three rescues). Strong winds also caused blowing sand and reduced visibilities from Seal Beach to San Clemente, and damaged road signs along the Pacific Coast Highway.
4.22.1999	Strong winds developed in Apple Valley, Yucca Valley, and the Coachella Valley.	Blowing dust and sand produced near zero visibility, resulting in road closures, damage to car windshields, and exceptionally high air pollution readings. A roof was partially torn from a house in Palm Springs and trees/power lines were downed along the Oro Grande Wash between Hesperia and Victorville.
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.
3.31-4.1.2000	Santa Ana winds blew through the Inland Empire and Orange County during the early morning. Top gusts were 93 mph at Mission Viejo and 67 mph in Anaheim Hills.	The winds damaged powerlines in Yucaipa and toppled 25 power poles in Sun City (now Menifee).
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.	On 2.9 the winds blew over big rigs, downed trees, damaged several homes, destroyed 12 million pounds of avocados in northern San Diego County and started numerous wildfires. Most of the wildfires were caused by downed power lines, with the largest being the Gavilan Fire near Fallbrook that burned 5,763 acres and 45 homes.
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, including the Cedar, Paradise and Otay Fires consumed hundreds of thousands of acres, killed over 20 people and caused over one billion dollars in damage. The Cedar Fire itself consumed 273,246 acres, destroyed over 2,800 structures and cause 15 fatalities. The Cedar Fire remains the largest recorded wildfire in California history, and the second costliest fire in U.S. History (the costliest fire was the Oakland Fire of 1991). Though overshadowed by the Cedar Fire, the Old Fire also began in the San Bernardino Mountains on this day, and would consume 91,281 acres and kill six before it was extinguished.
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	Strong offshore 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. Trees and powerlines were knocked down. The top of a 65-foot Christmas tree at the Victoria Gardens shopping complex in Rancho Cucamonga was snapped off by the winds.
12.29.2004	A historically strong squall line rolled through San Diego County. A gust from the south of 58 mph was measured at Lindbergh Field (the strongest December wind on record) and Tijuana, and 56 mph at North Island. Wind gusts to 69 mph at Julian, 60-65 mph gusts in the Inland Empire and 60 mph at Alpine.	The winds downed a 200 foot broadcast tower and caused widespread damage to trees, power poles, and homes.
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.
1.5-8.2007	Offshore winds: Gusts to 84 mph at Fremont Canyon, 64 mph at Rancho Cucamonga, 63 mph at El Cariso, 62 mph at Rialto and 55 mph at Ontario.	Downed power poles, tree limbs. Trees fell on to homes and cars in Lake Arrowhead.
10.21-23.2007	Very strong Santa Ana winds. A gust of 85 mph was recorded at Fremont Canyon, 79 mph at San Bernardino, 75 mph at Descanso and Mira Loma, 74 mph at Fallbrook and Rancho Cucamonga. Some locations experienced winds over 50 mph for more than 36 consecutive hours.	Winds caused at least $60 million in damage and destruction to buildings, fences, vehicles, etc. The devastating wildfires of 2007 were fanned by these winds. These fires caused the largest mass evacuation in California history. On 10.23 the Poomacha Fire sprang to life as a result of a house fire. It would ultimately scorch 49,410 acres and destroy 216 structures.
2.3.2008	Wind gusts associated with a powerful winter storm exceeded 70 mph.	The winds caused considerable damage in the mountains and deserts.

11.15-19.2008	Santa Ana winds gusted over 70 mph in the Santa Ana mountains and over 60 mph in the northern Inland Empire.	Freeway Complex Fire from Corona through Chino Hills and Yorba Linda burned more than 30,000 acres.
1.9.2009	Santa Ana wind gusts of up to 83 mph at Fremont Canyon.	Winds downed trees and power lines, overturned semi-trucks, and damaged roofs.
3.22.2009	Strong onshore winds in the mountains and deserts with gusts 73 mph at Burns Canyon.	Winds knocked down trees, freeway signs, and power lines in the mountains and deserts. Two fires were reported in La Quinta, which caused damage to structures and trees.
4.3.2009	Strong onshore winds produced a gust of over 70 mph in Lucerne Valley.	The high winds resulted in downed power lines and minor roof damage. A 50 acre brush fire in Palm Springs damaged two homes and led to the evacuation of 50 other homes. The fire began in the late afternoon, burning desert scrub near a residential neighborhood and was contained later that evening.
12.13.2009	A winter storm brought strong winds to Apple and Yucca Valleys. Peak gusts approached 100 mph.	Numerous downed trees and power outages.
1.19.2010	Strong storm winds struck the region. Wind gusts reached 60 mph in San Clemente. Several waterspouts and very strong winds of 93 mph were also reported in Newport Beach and Huntington Beach. A tornado occurred in Seal Beach and Huntington Beach.	A tree fell onto a mobile home in Lakeside, causing one fatality. Local damage including boats in Huntington Harbor.
3.20.2011	Strong storm winds hit the mountains and desert. Gusts reached 110 mph at Burns Canyon.	Significant roof damage was incurred in Apple Valley.
4.21.2011	Strong winds impacted the Palm Springs airport.	Gusts flipped a Cessna 172 aircraft as it was exiting the runway shortly after landing. Peak wind gusts were near 45 mph at the time.

1.7-8.2012	Offshore winds: Gusts to 82 mph at Fremont Canyon, 74 mph in Crestline, 66 mph at Santiago Peak, 60 mph at Ontario.	Trees and power lines down. Overturned big rigs.
1.21.2012	Strong onshore winds and mountain waves: 99 mph at Burns Canyon, 66 at Palm Springs, and 60 mph at Thermal.	More than 400 trees blown down, some causing property damage to cars and buildings. Power poles also down. Widespread blowing dust inhibiting travel and prompting road closures. A golf tournament suffered damage.
3.6-7.2012	A strong cold front moved through the region, bringing strong mountain wave activity to the deserts. Winds gusted as high as 80 mph, resulting in road closures and damage to a few mobile homes. Wind gusts reached 63 mph at Borrego Springs and 62 mph at Ocotillo Wells.	Property damage to homes, park structures, and RVs. A golf cart was hurled into a mobile home. Road closures due to blowing sand and dust.
4.13.2012	Strong onshore winds. Peak gust of 83 mph at Burns Canyon.	
1.10.2013	Strong offshore winds reached 76 mph at Sky Valley and 73 mph at Volcan Mountain.	
4.8.2013	A wind storm brought reported gusts to 87 mph in Johnson Valley and measured gusts of 83 mph in Borrego Springs and 80 mph in Sky Valley.	Numerous trees, power poles and big rigs were knocked down in the Coachella Valley and the Palm Springs Airport lost power for a time. Blowing roof shingles and sand caused property damage in Borrego Springs. Other property damage was reported at the Anza Borrego Desert State Park headquarters and in Ocotillo Wells.
12.9.2013	Strong offshore winds peaked at 86 mph at Fremont Canyon.	

2.28-3.1.2014	A strong storm hit Southern California with westerly winds. A report of a 102 mph wind gust came from the Bear Mountain ski resort weather equipment on 2.28. Thunderstorm wind gusts.	Numerous large trees and power poles toppled, as well as damage at John Wayne Airport. Thunderstorms on the 2.28 downed several trees and damaged power lines and other structures.
4.30-5.1.2014	This strongest and most widespread offshore wind event in years occurred very late in the season. Gusts reached as high as 100 mph at Sill Hill near Cuyamaca Peak. Numerous other stations measured speeds that exceeded 60 mph.	Numerous trees and power lines were downed in the San Diego County interior. A Garden Grove school incurred roof damage. The Etiwanda fire near Rancho Cucamonga broke out.
5.12-5.15.2014	A strong late-season Santa Ana wind event raked the region. Winds gusted to 40 to 45 mph in parts of the coast and valleys, and 60 to 80 mph in the foothills.	The winds knocked down many trees and power lines, and blew off some roof tiles. Numerous fires erupted especially in San Diego County, burning over 27,000 acres and causing more than $50 million in property damage. The Poinsettia fire in Carlsbad and the Cocos Fire in San Marcos damaged homes, but no serious injuries or deaths resulted.
1.5-7.2016	A series of winter storms brought strong storm winds exceeding 60 mph across some coastal and valley areas.	Damage resulted mainly from thunderstorm wind gusts.
1.31.2016	A powerful storm with a surface low that rapidly deepened in the Southern California Bight brought an exceptionally strong cold front with widespread damaging wind gusts of 40-70 mph from the coast to the mountains. A broken line of thunderstorms formed along the front and combined with post frontal winds.	Over 500 downed trees caused extensive damage. One woman was killed and two were injured when a pine tree eight feet in diameter crushed four cars in Pacific Beach.
3.28.2016	Mountain wave activity produced winds in excess of 50 mph that generated a dust storm with near zero visibility along Highway 247 in Lucerne Valley.	A multicar pileup ensued, involving more than a dozen vehicles and injuring 28 people.

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.	
9.16.1909	100° in San Diego, the hottest day since 9.22.1883 (26 years). It occurred at 9 am.	
4.23.1910	100° in LA, a record for April.	
7.10.1913	134° at Death Valley, the hottest reading on record on earth. And the nation's highest temperature on record for July. Sandstorm conditions accompanied the heat.	
9.17.1913	110° at San Diego**,** the highest temperature on record until 9.26.1963. Santa Ana conditions. An unofficial report of 127° came from San Bernardino.	One died, a carpenter working outside. A few small fires occurred, including one downtown that destroyed one house.
6.16.1917	124° at Mecca climaxes the most destructive heat wave of record in California history.	
7.6-8.17.1917	A prolonged hot spell hit Death Valley with 43 consecutive days of temperatures 120° or higher.	
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. On 9.22 the low temperature in LA was 84°, the highest minimum on record.	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. On 9.1 it was 110° in LA, an all time record, and 104° in San Diego.	
7.17.1960	101° at Idyllwild.	
10.14.1961	Hot Santa Ana winds drove the temperature to 110° in Long Beach, the hottest in the nation, 107° in San Diego, 105° in LA, and over 100° in many coastal and inland locations. It was 88° at San Nicolas Island.	
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.
10.22.1964	Santa Ana conditions produced a high temperature of 104° at San Diego.	
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. 101° in Santa Ana, 100° at LA, each the all-time November high. 97° at San Diego and Vista.	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.	
10.6.1971	Santa Ana conditions produced a high of 101° at San Diego. It was 103° in La Mesa, 101° in National City, but only 84° at Imperial Beach!	A fire of 1000 acres burned southeast of Poway.
7.28-30.1972	100° at Palomar Mountain.	
11.12.1974	Santa Ana conditions warmed up Imperial Beach to 96°, the hottest in the nation that day. It was 91° at San Diego.	
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.	
10.2-4.1980	On 10.3 it was 101° in Victorville, the highest temperature on record for October. It was 115° in Indio and 113° in Borrego Springs. Each is the highest temperature on record for October, and each also occurred the previous day on 10/2. A 103 degree reading in Campo set the monthly high temperature record for October.	
9.4-19.1984	Tropical air from weakening hurricane Marie brought hot conditions to the region. 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. On 9.9 San Diego reached 100°, the	Poor air quality and high humidity caused numerous health problems.

	hottest day since 9.15.1979.	
6.30.1985	100+° in parts of the city of San Diego.	Fire in Normal Heights - San Diego.
2.27.1986	Indio, Thermal and Mecca each reached 100°, the highest temperature on record for any day in February and the only 100 degree readings in February in Southern California.	
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. On 10.3 unofficial readings of 109° in El Cajon and 106° in Chula Vista, Fallbrook and Santee were reported. It was officially 104° in San Diego and Vista. The Vista reading represents a monthly high temperature record. On 10.4 Chula Vista reached 101°, tying the record high for October.	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.	
8.17.1992	Tropical air brought high temperatures and heat index values to LA for a week. On this day it was 99° with a heat index of 110°.	
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.	
1.12.1996	Elsinore topped out with an afternoon high temperature of 91°, a record for January. This is one of only three times the city has seen a 90 degree reading in January since records began in 1897.	
2.13.1997	Strong Santa Ana winds peaked with an 85 mph gust in Fremont Canyon.	Numerous downed trees and power lines were reported.
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).	

3.21.2004	This day fell in the middle of a three-day heat wave in the deserts, brought on by a strong area of high pressure over the Western US. Thermal recorded its highest temperature in March with a reading of 103°, while Mecca reached 107°.	
4.26-27.2004	Record highs for April were set. On 4.26: 103° at Wild Animal Park, 100° at Yorba Linda. On 4.27 it was 85° at Idyllwild.	
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.
7.3-6.2007	A major heat wave struck the mountains and deserts. A strong persistent marine layer precluded the heat wave from impacting the coasts and valleys. 119° in Ocotillo Wells, 116° in Palm Springs and Indio, 115° in Anza Borrego, 107° in Julian, 103° at Lake Cuyamaca, 100° at Idyllwild, 97° at Palomar Mountain, 94° at Big Bear Lake (ties all time high) and Mt. Laguna.	Some heat illnesses, poorly documented.

9.1-3.2007	A heat wave with a monsoon flavor. Temperatures exceeded 95° in the coasts and the mountains, 105° in the valleys, 110° in the Inland Empire and high deserts, and 115° in the lower deserts.	At least six deaths from heat related illnesses.
1.12.2009	The minimum temperature at Santa Ana of 73° not only set a record high minimum temperature for the date and month, but also for the entire winter season. Incredibly, the minimum is tied for the 23rd highest minimum temperature on record (and this was in January!). This reading was 26 degrees higher than the average low temperature and three degrees higher than the average *high* temperature. Persistent Santa Ana winds and strong high pressure were the causes.	
9.27.2010	Strong high pressure and offshore flow led to record high temperatures for many stations. Los Angeles reached their all-time high temperature of 113°. Santa Ana's 112° just missed the all-time mark by one degree. Numerous high temperature records for the month of September were broken. This fall heat followed the coolest summer since 1933.	
11.3-4.2010	Strong high pressure and offshore flow led to all-time November record high temperatures. At San Diego it reached 100° on 11.4, the highest temperature on record in November, and the only time it has reached the century mark in November. This was also the first time a 100 degree reading was reached in more than 21 years. In Riverside, the temperature of 99° on 11.3 tied and the 101° reading on 11.4 broke all time November records. On 11.3 it was 101° in Santa Ana, equaling the highest November temperature on record. And it was 96° in Laguna Beach, the second highest November temperature on record.	

06.28-30.2013	A heat wave on the order of a 20 year event enveloped the west and Southern California. Death Valley hit highest U.S. June temperature ever recorded: 129° on 6.30. Other desert cities like Palm Springs, Thermal, and Borrego Springs tied or set new June records and came within one degree of the all-time highest temperature on record on 6.29.	
4.30-5.1.2014	On 4.30 temperatures soared past 90° along the coast, breaking many daily high temperature records. Winds kept the minimum temperature in Anaheim at 77°. On 5.1 temperatures at all lower elevation stations were in the 90s, with Chula Vista topping the list at 100°.	
5.13-15.2014	Strong high pressure and a strong late-season Santa Ana wind event combined to bring record high temperatures exceeding 100° to most of the lower elevations these days. Many all-time high temperature records for the month of May were broken. The hottest day was 5.15 when it was 106° in Yorba Linda and San Diego Wild Animal Park.	
3.13-16.2015	Strong high pressure and Santa Ana conditions boosted temperatures into the 90s across the coast and valleys each day, and cooling only into the 60s at night. Numerous daily high maximum and daily high minimum records were set. The warmest day on 3.13 was 96° in Santa Ana. Highest minimum temperatures were 68° in Santa Ana and San Diego on 3.15.	

2.2016	February 2016 will go down as the warmest February in history. In San Diego the average high temperature was 74.4°, a whopping 9.4° above average and close to the average high temperature in July. The average temperature was 63.9°, four degrees above average and close to the average May temperature.	

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.	
1.15.1911	Very cold weather descended on the region sending overnight lows off a cliff. The all-time lowest temperature on record was recorded in Riverside with a morning low of 18°.	

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.	
1.19-25.1937	An incredibly intense and long lasting cold snap. On 1.22 it was 30° at San Diego, 29° at Newport Beach, 23° at Santa Ana (also on 1.19), 22° at Escondido, 21° at Riverside, 19° at Palm Springs, 17° at San Bernardino, 13° at Indio, 2° at Cuyamaca, 0° at Squirrel Inn and Seven Oaks, -25° at Big Bear Dam.	Widespread damage to crops, including citrus.
11.12.1938	24° in Escondido, 14° at Descanso, and 10° at both Palomar Mountain and Cameron (near Mt. Laguna).	
1.4.1949	8° at Palomar Mountain.	
1.25.1949	-4° at Cuyamaca.	The lowest temperature ever recorded in San Diego County.
1.13-14.1963	The Western US chilled out more than usual when a massive arctic air mass descended on the region for two days. The cold dry air mass filtered through the mountains into Southern California, helping Alpine (19°) and Vista (21°) set all-time record low temperatures on 1.13. All-time record low temperatures were set on 1.14 as well in Elsinore (15°), Oceanside (20°), and Chula Vista (24°). It was 22° in Palm Springs, the second lowest temperature on record.	Damage to local citrus, avocado and flower crops.
1.4-5.1971	On 1.4: 29° at Pt. Loma and Chula Vista, 28° in La Mesa, 26° in El	Ice skating was done on Lake Cuyamaca.

	Cajon, 24° in Lakeside, 8° at Mt. Laguna, and 5° at Palomar Mountain. On 1.5, 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.	
12.21-23.1990	An arctic air mass produced record cold and a low temperature of 29° at Redondo Beach on 12.22.	
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.
1.12-18.2007	A cold snap settled over Southern California. Some remarkable records were set, particularly on 1.13-14. -7° at Fawnskin, -2° at Big Bear City and Wrightwood, 5° at Hesperia and Mt. Laguna, 10° at Borrego Airport, 12° at Campo, 16° at Ramona, 18° at Thermal, 19° in Hemet, 20° at Camp Pendleton.	$114.7 million in crop damage in San Diego Co. $86 million in Riverside Co. $11.1 in San Bernardino Co. $600 thousand damage from broken pipes in San Bernardino Co. All 3 counties declared disaster areas.
1.12-13.2013	A cold and dry air mass produced a significant freeze in all areas away from the coast. Low temperatures dropped to the 30s near the coast, 20s inland and in the low deserts, and the low teens in the high desert. A frigid minus 8 degrees was recorded at Big Bear City - Shea Meadows.	Water pipe damage in the high desert.

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.	
5.5.1918	Strong rip currents hit Ocean Beach.	13 men, including 11 servicemen, drown. More than 60 are rescued by lifeguards.
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 2025 kts.	On 5.23 docks near Pt. Loma were destroyed. A barge broke in half in Quivira Basin of Mission Bay. Extensive damage to docks throughout the harbor. Ferry service to Coronado was disrupted. In LA: a scuba diver drowned, major damage to small craft, $1 million damage.
1.16.1961	High surf combined with very high tides.	Damage to homes, roads and commercial property in Ventura and Surfside.
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.

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.
12.19.1994	Surf reaching nine feet hit Ventura.	The surf removed several pilings from the Ventura Pier with damages over $20,000.
12.13.1995	Ocean swells of 15-20 feet from a storm over the north Pacific arrived along the coast.	The historic Ventura Pier sustained $1.5 million in damage as 420 feet of decking and 150 pilings were torn away and washed up on nearby beaches.
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.	
9.14.1997	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.	5 people were swept off a jetty at the Wedge and carried 300 yards out to sea before they were rescued by a passing boat.
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	Very high surf, up to 20 feet, pounded the beaches of Orange and San Diego Counties.	Severe beach erosion was reported, along with damage to the Ocean Beach and Seal Beach piers and 32 homes in San Clemente.
2.8.1998	Surf in excess of 15 feet hit Orange County.	Five mobile homes collapsed in the surf in San Clemente. The Balboa Pier in Newport Beach was also damaged.
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.	
2.24-25.2008	High surf of 15' struck the beaches.	Damage was done at the Ocean Beach pier.

7.24-26.2009	A long period four foot south swell generated high surf and strong rip currents. Eight to ten foot surf with sets to twelve feet were observed at many south facing beaches, and sets up to twenty feet reported in the most favorable locations. The high surf also generated strong rip currents, which were responsible for hundreds, perhaps even thousands, of rescues throughout Southern California.	Structural damage and one death occurred.
2.27.2010	A tsunami was generated from a Chile earthquake of 8.8.	Sections of a Shelter Island dock were damaged. Several vessels broke moorings in San Diego Bay.
1.11.2013	Very high “king” tides around 7.5 feet hit the coast.	Some beach areas became inundated with sea water in Seal Beach, La Jolla Shores, and Imperial Beach.
8.26-28.2014	A large southerly swell from Hurricane Marie produced surf of 15 to 18 feet from Newport Beach and Huntington Beach. The Wedge at Newport Beach had sets of 25 to 30 feet.	Coastal flooding occurred at Seal Beach on the 8.26, and reached into some homes. South Laguna Beach reported major beach erosion.
11.24.2015	The highest astronomical tides of the year, King Tides, combined with 3 to 4 foot surf.	Coastal flooding resulted in Seal Beach, La Jolla, Mission Beach, Del Mar, and Imperial 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.	
8.1939	Sea surface temperatures off the Southern California coast are in the upper 70s during August, with some reports of 80° near San Diego.	
3.3.1983	Lowest barometric pressure at San Diego: 29.37". This lasted until 1.21.2010 when the pressure fell to 29.15".	
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". This lasted until 1.21.2010 when the pressure dropped to 29.07".	
12.31.1989	Santa Maria reported their driest year of record with just 3.3"of precipitation.	
3.20.1992	Dense fog developed in the Cajon Pass, with visibility reportedly reduced to 20 feet or less at times.	The fog caused a pileup in the Cajon Pass involving more than 100 vehicles.
11.25.1995	Dense fog developed along the San Diego County coast.	The fog produced two massive accidents. The largest was a 100-car pileup on Interstate 5 several miles north of Oceanside that injured 30 people. The other involved 40 cars and occurred along Interstate 805 in University City.
11.29.1997	A pocket of dense fog developed along Interstate 15 near Elsinore.	In the span of 45 minutes, seven accidents involving 23 vehicles occurred along a half-mile stretch of the highway, which was closed for five hours.
2.14.2000	Dense fog at Cajon Pass.	71 vehicle pile-up on I-15. 22 injured. I-15 closed for 4 hours.

12.3.2000	Dense fog caused several fatal car accidents in San Diego County.	One man involved in the accidents jumped over a guard rail to escape traffic. Unaware he was on a bridge, he fell 70 feet to the road below.
1.26.2001	A deep marine layer produced dense fog in the Cajon Pass.	78 vehicle accidents resulted. The largest was a 26 car pileup that sent nine to the hospital.
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.
4.1.2004	Dense fog in the Cajon Pass.	Fog led to 15 separate crashes that involved a total of 66 vehicles and injured 24 people.
3.15.2003	Dense fog along the coastal slopes of the San Bernardino Mountains.	The fog contributed to two pileups in the Cajon Pass involving a total of 56 cars.
7.28.2006	The ocean temperatures off San Diego County were well above normal during July. Normal temps are around 70°, but Del Mar sea temps averaged over 72° for the month. On 7.28 the reading was 81.1°.	Lifeguards broadcast the high sea temp reading to the people on the beach, who applauded "…like they had won a sweepstakes."
6.11.2009	Dense fog in the mountains near San Bernardino.	Two multiple-car pileups occurred in the Cajon Pass on I-15. At least 30 vehicles were involved, and 15 injuries were reported. Along Highway 18, two related accidents occurred in the dense fog, resulting in one indirect death.
1.21.2010	The lowest barometric pressure readings in history in LA and San Diego. In LA pressure fell to 29.07", breaking the record of 29.25" on 1.17.1988. In San Diego the pressure fell to 29.15", breaking the record of 29.37" set on 3.3.1983.	