

COUNTY OF LOS ANGELES HAZARDS AND THREATS

FLOODS, MUDSLIDES, DEBRIS FLOWS, LANDSLIDES

History of Floods, Mudslides, Debris Flows, Landslides in Los Angeles County Operational Area

1770, 1772, 1780, 1810, 1815, 1821, 1822, 1825, 1839, 1840, 1841, 1842: Various reports from missions regarding significant flooding along the Los Angeles, Santa Ana and San Diego Rivers.

February 1852: Moderate flood resulted from unprecedented rain storms in the mountains, a severe flood year in Southern California.

December 24, 1861-January 23, 1862: Epic flood named the “Noachian Deluge of California.” It rained 30 consecutive days beginning on December 24. 35 inches fell in Los Angeles. The Los Angeles River’s mouth shifted from Venice to Wilmington.

November 21, 1884: A heavy winter storm brought four inches of rain to Los Angeles. Newly laid railroad track was washed away. There were numerous reports of mudslides.

July 14, 1886: 24 inches of rain fall in Los Angeles. At the time it was a record, but that short lived record would be surpassed on August 31, 1889 as 61 inches of rain fall in Los Angeles. The 24 inches of rain was a record for the month of July.

August 31, 1889: Los Angeles records its greatest rainfall in a 24-hour period as 61 inches fall. The rain fall was a record for the month of August.

July 20-21, 1902: A dying tropical cyclone brought two inches of rain the mountains and desert areas of Southern California during a very strong El Nino event of 1901-1902.

1914 San Gabriel Mountains Floods: In 1914, a four-day storm produced more than 19 inches of rain in the San Gabriel Mountains that resulted in the floods causing approximately \$10 million in damage.

April 5, 1926: 65 inches of rain fell that was recorded at Opid’s Camp in the San Gabriel Mountains. Flood waters damaged and closed highways in the San Gabriel Mountains.

February 11-17, 1927: Heavy warm rains melted the mountain snow fall and caused flooding in large areas of Long Beach.

1934 Crescenta Valley Flood and Mudslides: From December 30, 1933-January 1, 1934, on January 1, 1934, a few minutes after New Year’s, a major flood and mudslide terrorized the residents of La Crescenta Valley. Prior to the flood and mudslide, a fire in

the Angeles National Forest occurred that burned the forest to the ground. Then a winter rain storm hit and dumped more than 14 inches in two days. Observers told local newspaper reporters that day stated that a 20-foot wall of mud and rocks thundered out of the canyons blowing through flimsy check dams of chicken wire and rocks. The flood and mudslide was responsible for 45 deaths and destroyed more than 400 homes and Model "A" cars in La Crescenta and Montrose. Eyewitness accounts stated boulders up to 70 tons lay strewn about like ping pong balls.

To memorialize the lives that were lost that day, a brass plaque stands at Rosemont and Fairway Avenues, where an American Legion Hall, containing 12 refugees, was swept away.

February 6, 1937: A 24-hour record of 4.25" rain fell in Long Beach. Flooding caused fatalities. The Los Angeles Basin was flooded in many communities. Hodges Dam overtopped. Mountain snow melt added to the flooding.

1938 Los Angeles Basin Flood: The Los Angeles Basin Flood of 1938 was triggered by a series of rainstorms that delivered more than 10 inches of rain from February 27-March 4. The rainstorms hovered over the San Gabriel Mountains, saturated the soil which gave way sending massive debris and mudflows down the canyons, and eventually left its destruction comprised of mud and rocks onto the Los Angeles Basin.

Los Angeles County was not the most affected by the floods; Riverside and Orange "took the brunt of the waters" like "gargantuan saucers". (Los Angeles Times, 1938.) At the time, Los Angeles County was the most populous of the three; Orange and Riverside were mostly farming and ranching regions. Therefore, many people were spared by the distribution of floodwaters. Overall, the Los Angeles Basin Flood was responsible for \$70 million in damages including 115 deaths, destroyed 5,601 homes and damaged 1,500 homes.

Between February 27 and 28, 1938, a storm from the Pacific Ocean moved inland into the Los Angeles Basin, where its contents were stopped from progressing eastward by the San Gabriel Mountains. As the storm could progress no further, the area received almost constant rain on February 27-28, and early March 1, 1938, when it finally abated and began to clear. A total of 4.4 inches (11 cm) of rain had fallen thus far, and the storm had formed comparatively minor flooding that had flooded only a few buildings in the low-lying areas of the Los Angeles Basin.

Fifteen hours later on March 1, at approximately 8:45 p.m., the second storm entered the basin, creating gale-force winds along the coast and pouring even more rain into the region. Resultantly, the rains added more than 5 inches (13 cm) to the total rainfall amount. The storm ended on March 3, but damages remained huge.

Overall, the flood of 1938 was responsible for approximately \$70 million in damages including destroying 5,601 houses, damaging a further 1,500, killing upwards of 110 people, and stranding over 800 cars. Heavy silt content in floods buried roads and

streets in the area, stopping traffic for many days. The Little Rock Dam nearly collapsed during the flood, while another dam in Pickens Canyon produced such large flood releases that it inundated the Roosevelt district of Lancaster. The general hospital of Los Angeles County was threatened by rising floodwaters, which had inundated the hospital power generator. More than 20 structures were destroyed in the Arroyo Seco canyon, but there were no fatalities there.

September 24-26, 1939: A tropical storm referred to as “El Cordonazo” or “Lash of St. Francis” hit the Southern California area. The storm lost hurricane status shortly before moving on shore at San Pedro at tropical storm strength. 5.42” of rain fell in a 24-hour period; Mount Wilson recorded 11.60” of rain fall, a record for the month of September. In response, the weather bureau established a forecast office for Southern California which became operational in February 1940.

March 12-14, 1941: A heavy storm impacted the San Gabriel Mountains. In Wrightwood three houses were destroyed from a mudslide.

January 23-24, 1943: 26.12” rain fall fell in a 24-hour period at Hoeges Camp located in the San Gabriel Mountains, at the time setting the state 24 hour precipitation record. More than 28” fell for the storm at Camp Baldy.

September 2, 1945: A heavy thunderstorm hit Wrightwood. One residence destroyed and debris covered Lone Pine Road.

January 13-18, 1952: Heavy rains hit Southern California area. On January 18, 3.17” of rain fell in Los Angeles in a 24-hour period. The storm was responsible for eight deaths due to flooding in Los Angeles.

January 18-19, 1954: Debris flows reached as high as 10’ deep in Arcadia that caused fatalities. Large boulders smashed into houses. These debris and mudflows followed by wildfires in the San Gabriel Mountains.

January 25-27, 1956: 7.27” of rain fell from a heavy storm that impacted Los Angeles and Southern California.

December 1964: Flooding hit the Los Angeles area that was responsible 40 deaths.

August 16, 1965: Thunderstorms hit the mountain and desert areas of Southern California. A flash flood four feet deep damaged Highway 138 near Wrightwood.

December 2-7, 1966: Debris and mud flows and flooding damaged homes and roads in Wrightwood.

November 18-21, 1967: A sub tropical storm system produced 14” in mountains above Los Angeles. The storm was referred to as the worst storm since 1934. On November 19, 1.87” fell in a one hour period in Los Angeles, at the time the greatest one hour

rainfall on record. The storm caused flash flooding and mudslides. 400 people were stranded in the mountains due to closed highways.

June 15, 1969: Strong thunderstorms hit the San Gabriel Mountains. Flash floods washed out and closed several highways on the north slopes and in the desert, including Highway 138.

August 29-September 6, 1972: Hurricane Hyacinth moved as far west as 125 West before re-curving to the northeast. The remnants made landfall between Los Angeles and San Diego on September 3 with winds of 25 miles per hour and rainfall of up to one inch in the mountains. The tropical cyclone holds the distinction of traveling the farthest west before re-curving and making landfall in Southern California. This event occurred during the El Nino of 1972-1973.

1978 La Crescenta and Lake View Terrace Flood and Mudslide: In February 8-10 1978, 44 years after the 1934 flood and mudslide, disaster would strike once again as another major mudslide would hit La Crescenta. After several brush fires that had scorched the mountain terrains, the La Crescenta area received nine inches of heavy rain that month. According to eye witness accounts, the mudslide literally picked up 13 cars and traveled down the streets. The water and mud eventually ended up on Foothill Boulevard and Esko Avenue. There were even damaged cars that were located on Dominica Avenue in Lake View Terrace. Overall, 20 people died, 13 of them in the San Gabriel Mountains. There were widespread flooding, flash flooding and mudslides. Numerous homes were washed away.

March 3-4, 1978: Heavy rains caused 20 deaths due to flooding and mudslides in the Los Angeles area.

November 27-28, 1981: Nearly 2" of rain fell on the Los Angeles area.

October 2, 1986: A band of fast moving thunderstorms raced across the Los Angeles basin as 1.50" fell in Pasadena along with 3" of hail. 1.02" rain fell in Los Angeles, at the time a daily record, 1.01 fell in one hour.

November 17-18, 1986: An early storm brought heavy rain fall that contributed to a mudslide that blocked Malibu Canyon Road.

June 5-6, 1987: An unseasonable thunderstorm impacted the Antelope Valley as flash flooding, power outages and lightning triggered fires. More than 500,000 customers were without power.

October 31, 1987: Heavy rain contributed to several mudslides and sewage spills that closed an 80-mile stretch of coastline in Los Angeles.

December 4-5, 1987: A cold front crossed the Pacific Coastline bringing heavy rain fall. 1.02" of rain fell in Los Angeles from 5-7 p.m.

April 19-23, 1988: Heavy rain fell on the Los Angeles area. The rain fall caused flooding of roadways and intersections, mudslides and contributed to traffic accidents. During this rain fall period, three of the Los Angeles Dodgers baseball games were rained out as the team had 12 rainouts in the previous 26 years of the franchise's history. Trees fell down on power lines and caused power outages.

August 29-31, 1998: Strong thunderstorms dropped 0.77" in 45 minutes at Wrightwood.

February 11-14, 2003: 5.15" of heavy rains fall in Wrightwood and caused localized flooding.

February 5-10, 2009: A strong cold front dropped heavy rain fall in Southern California including flash flooding that occurred in La Habra Heights on February 5. One foot of water flooded Highway 60 near the Hacienda Boulevard exit.

November 12, 2009: At 10:30 p.m., a fast-forming storm cells unloaded intense rainfall on mountain slopes denuded by the Station Fire, the largest recorded wildfire in L.A. County history, triggered flows of mud, rock and boulders into a hillside community located in La Canada Flintridge. There were no injuries reported, and there was some minor damage to properties.

January 18, 2010: a series of powerful Pacific winter storms fueled by El Nino conditions pounded Los Angeles County and unleashed mud and debris flows that prompted evacuations, flooded businesses, and downed trees and power lines. There was little damage reported.

February 6, 2010: At 4:45 a.m. a rainstorm system triggered severe debris and mud flow on Manistee Drive and Ocean View Boulevard located in the community of Paradise Valley in La Canada Flintridge. At the time, approximately 800 homes in the Station Fire burned areas, the largest recorded wildfire in Los Angeles County history, including Acton, La Canada Flintridge, La Crescenta, and Sierra Madre were asked to evacuate. California Governor Arnold Schwarzenegger, U.S. Congressman David Drier, California Assemblyman Anthony Portantino, L.A. County Supervisor Michael D. Antonovich, and Mayor of La Canada Flintridge Laura Olhasso toured the Paradise Valley community of La Canada Flintridge that served as ground zero of the debris and mudflow on Saturday, February 7. No injuries were reported.

September 10, 2011: A heavy thunderstorm hovered over the unincorporated area of Lake Los Angeles as the "Buttes" were unable to hold on as it triggered a severe debris and mud flows that rolled down the hillsides where 16 homes sustained mud damage.