

= 2008 Chino Hills earthquake =

The 2008 Chino Hills earthquake occurred at 11 : 42 : 15 a.m. PDT on July 29 in Southern California . The epicenter of the magnitude 5 @. @ 5 earthquake was in Chino Hills , approximately 28 miles (45 km) east @- @ southeast of downtown Los Angeles . Though no lives were lost , eight people were injured , and it caused considerable damage in numerous structures throughout the area and caused some amusement park facilities to shut down their rides . The earthquake led to increased discussion regarding the possibility of a stronger earthquake in the future .

= = Earthquake = =

The Chino Hills earthquake was caused by oblique @- @ slip faulting , with components of both thrust and sinistral strike @- @ slip displacement . Preliminary reports cited the Whittier fault as the active cause , but the quake was later determined to have been generated by the " Yorba Linda trend , " as identified by Caltech seismologist Egill Hauksson . Its epicenter was within 3 miles (4 @. @ 8 km) of Chino Hills and its hypocenter was approximately 9 @. @ 1 miles (14 @. @ 6 km) deep . Initial estimations of the moderate main shock reported it as magnitude 5 @. @ 8 , but this was later revised to magnitude 5 @. @ 4 and in later months to a 5 @. @ 5 . The main shock was reportedly felt as far south as San Diego , and Tijuana , Mexico , and as far east as Las Vegas , Nevada . It was the strongest earthquake to occur in the greater Los Angeles area since the 1994 Northridge earthquake .

As reported by The Orange County Register , three microearthquakes , all less than magnitude 3 @. @ 0 , occurred in Anaheim Hills , 7 miles (11 km) southwest of Chino Hills , two months before the Chino Hills earthquake . There was an unusually low amount of seismic activity in Southern California in the week prior to the quake . Between July 20 and July 26 , 2008 , there were no earthquakes in Southern California exceeding magnitude 3 @. @ 0 , thus there was speculation that the wane in seismic activity was a precursor to a possible larger event .

= = = Impact = = =

The Chino Hills earthquake caused no deaths or significant damage due to the physical location of its epicenter . Most of the infrastructure in the Chino Hills area is relatively new and well suited to withstand a large quake . Unlike previous earthquakes in the region ? such as the 1994 Northridge earthquake and the 1987 Whittier Narrows earthquake , which caused serious structural damage and fatalities ? this quake caused only minor damage . However , the high volume of telephone use following the shock overloaded provider capacity and disrupted service into the afternoon .

Amusement rides at Disneyland , Six Flags Magic Mountain , Universal Studios Hollywood and Knott 's Berry Farm were evacuated and temporarily shut down . California State University , Fullerton suffered some damage in its older , inadequately engineered buildings . In Orange , the Chapman University School of Law was evacuated after a water pipe was ruptured . Pipes on a Macy 's department store in Westfield Topanga ruptured during the tremor flooding the store which closed for a couple of days in order to be repaired . A light fixture damaged by the shock started a small fire in the Westfield MainPlace Mall in Santa Ana ; since the fire was in an empty movie theater , nobody was harmed .

A gap was reported on California State Route 91 near Anaheim Hills , approximately 7 miles (11 km) southwest of the epicenter , but the California Department of Transportation concluded that the gap did not pose a danger . A minor landslide near the freeway caused some traffic congestion , but structural damage were reported . Caltrans replaced an expansion joint on an Interstate 5 truck overpass at the El Toro Y Interchange . The roof of Placentia 's public library nearly collapsed ; afterwards , the building was closed for repairs .

Electrical outages were reported in Chino , Chino Hills , Diamond Bar and Pomona . Over 2 @, @ 000 people lost power after a fire broke out at a La Habra power station , but electricity was restored that afternoon . Los Angeles International Airport reported a ground radar system outage along with

a broken water heater , causing flooding in the checked luggage preparation area of Terminal 7 . Minor injuries from falling ceiling tiles were reported at a medical clinic in Brea .

= = = Aftershocks = = =

Approximately 100 minor aftershocks and one presumed foreshock were reported within two days after the earthquake , 27 of which occurred within an hour after the earthquake . Four aftershocks of at least 3 @. @ 0 in magnitude were reported ? the first , nine minutes following the initial earthquake , was the largest at magnitude 3 @. @ 8 ; and two others , occurring over two hours later , were recorded at magnitude 3 @. @ 6 . Twenty @- @ eight aftershocks of at least 2 @. @ 0 were reported . One presumed foreshock , magnitude 1 @. @ 3 , occurred sixteen hours prior to the earthquake in the same location as the main shock .

= = = Response = = =

There was speculation that the Chino Hills earthquake may have been a foreshock to a larger earthquake . The Southern California Seismic Network 's Aftershock Probability Report , produced minutes after the event , stated that " Most likely , the recent mainshock will be the largest in the sequence . However , there is a small chance , approximately 5 ? 10 % , of an earthquake equal to or larger than this mainshock in the next 7 days . "

Geologists at the United States Geological Survey and Uniform California Earthquake Rupture Forecast suggest that an earthquake with a magnitude of 6 @. @ 7 or larger will almost definitely occur somewhere in the state within the next 30 years . California Governor Arnold Schwarzenegger said : " This earthquake reminds us to be prepared . [...] We were very fortunate that there were no serious injuries or property damage . " Additionally , registration for the Great Southern California ShakeOut , a regional earthquake drill scheduled to occur on Nov. 13 , 2008 , increased significantly in the aftermath of the earthquake .