USGS Strong Motion Data For Joshua Tree Earthquake

On April 22, 1992 at 9:50pm PDT (April 23, 0450:22.3 G.M.T.), an ML = 6.1 earthquake near the community of Desert Hot Springs in Southern California triggered more than 45 accelerographs in the National Cooperative Strong-Motion Network operated by the U.S. Geological Survey. The main shock has been located at 33.94 deg. N. lat. and 116.34 deg. W. long.; depth is approximately 13 km.

Accelerographs at six stations within 30 km of the main shock epicenter produced peak horizontal ground motions in the range 0.12-0.53 g. The closest accelerograph was located at Fun Valley (epicentral distance = 6 km), and produced maximum accelerations of 0.53g, 0.37g, and 0.50g on the 135°, vertical, and 45° components, respectively. The accelerogram recorded at Indio (epicentral distance = 24 km), where the instrument is located in a one-story building, exhibits a prominent long-period, high-amplitude pulse (0.75 sec., 0.41g) on the horizontal (east-west) component nearly 8 seconds after triggering; this motion may be associated with damage reported at this site, which included several broken pipes, fallen ceiling tiles, and a toppled water heater and other items.

Minor Shaking Near Managua, Nicaragua

On April 27, 1992, an earthquake was recorded off the coast of Managua, Nicaragua at 8:29:54.2 G.M.T. Information obtained from the Geophysics Laboratory at Southern Methodist University, Dallas, Texas, indicated the earthquake was centered at latitude 12.237N by longitude 87.148W and 78 km deep. It measured 5.4 on the Richter Scale. There was no damage to building structures or injury to persons.

Seismic activity near Managua, Nicaragua, is of special interest since multiple faults pass directly through the capital city (and some buildings). They have been responsible for earthquakes in 1915, 1931, 1960, and 1972. One fault passes through a volcanic crater on the west side of Managua. On December 23, 1972, a 6.25 magnitude earthquake resulted in approximately 10,000 deaths and substantial building damage in spite of the moderate earthquake strength. It was estimated that 75% of the city population was rendered homeless. Poor construction practices which did not consider seismicity contributed substantially to the death toll and damage.

Information from the Consulate General for Nicaragua in Houston, Texas, indicates some seismic building code provisions have been adopted since 1972. Nevertheless, it was stated that economic and political conditions have prevented the adoption of any earthquake awareness programs. The primary response of the city was simply not to rebuild in heavily damaged areas. The Minister of Construction in Managua was not able to be reached for further information.

(Report submitted by David Teasdale (EERI 1988).)

Update on Philippines Earthquakes

The Philippine earthquakes of May 17, 1992 (magnitude 6.8 and 7.3) struck 40-75 km offshore of Eastern Mindanao, west of the Philippine Trench. The nearest city, Davao, 150 km from the epicenters, had no serious damage and there was no tsunami activity reported.

(This report was contributed by Vincent F. Porrazzo (EERI 1991).)