EARTHQUAKE

The Loma Prieta, California Earthquake Of October 17, 1989

An M7.1 earthquake occurred at 5:04pm PDT, Monday, October 17, 1989 along the San Andreas Fault in the Santa Cruz Mountains approximately 10 miles northeast of Santa Cruz, 18 miles south of San Jose, and 50 miles southeast of San Francisco, California. This is the largest earthquake to occur in the San Francisco Bay area since the catastrophic San Francisco earthquake of 1906.

Investigations made within the first week of the earthquake indicate extensive damage, including liquefaction and ground spreading in San Francisco’s Marina district, structural failures throughout the Santa Cruz, Watsonville and Los Gatos areas, collapse of one 50-foot pavement span of the Bay Bridge, collapse of a 1.5 mile section of the 2-level I-880 through Oakland, other collapsed structures throughout Oakland and San Francisco, and the loss of fewer than 70 lives.

In 1988 the U.S. Geological Survey issued a report (Open File Report 88-398) in which the probability of an M6.5 or larger earthquake along this section of the San Andreas fault within the next 30 years was estimated to be approximately 3 in 10 (30%).

The magnitude 7.1 of the mainshock, initially reported as M6.9, makes the October 17 earthquake the fifth largest to jolt any part of California in recorded history. This was surpassed only by the 7.8-magnitude earthquake in Kern County in 1952, a 7.7-magnitude earthquake offshore of San Luis Obispo County in 1927, a magnitude 7.2 earthquake in 1923 that shook the northern California coastal areas, and the 1906 San Francisco earthquake.

This earthquake occurred near the southernmost limit of slip during the great 1906 San Francisco earthquake. However, this segment of the fault was relatively quiet until June 27, 1988, when an M5.1 earthquake occurred near Lake Elsom, and again on August 8, 1989, when an M5.2 earthquake occurred near Los Gatos. This October 17 earthquake occurred very near the 1988 and 1989 epicenters, and close to the Loma Prieta lookout for which this latest earthquake is being named.

As of 8pm PDT Tuesday October 23, over two thousand smaller aftershocks had occurred along a 35-mile-long stretch of the San Andreas Fault between Los Gatos and San Juan Bautista.

[Ed.: All information reported is current as of 10/24/89.]