

Seismic sea waves

October 28, 1960

A 24-ton boulder that was rolled 200 yards inland, and parking meters bent to the ground as if a giant grass roller had passed over them were among the bits of evidence that were used by scientists to estimate the force of the seismic sea wave that devastated downtown Hilo, Hawaii, early in the morning of May 23, 1960.

The waves were set off by an earthquake near Chile. Dr. William G. Van Dorn, Research Engineer at The University of California's Scripps Institution of Oceanography, was one of the first experts to arrive at Hilo. An expert on seismic sea waves, or tsunamis, Van Dorn joined other scientists in assessing the force of the disaster, which took 60 lives and caused millions of dollars worth of damage. Approximately two square miles of downtown Hilo were completely destroyed.

They found that the average elevation reached by the water was 16 feet above sea level. It moved in over the waterfront not as a wave, but as a sheer tumbling wall of water and debris about ten feet high. It smashed its way inland as far as three-quarters of a mile. Its speed was estimated at 20 miles an hour; residents near the shore who had ignored the warning sirens had only two or three minutes to escape.

Meters in the parking lot along the sea front were flattened as a chain-link fence on the seaward side as the waves swept over them. Boulders that made up the rip-rap facing of the harbor were swept hundreds of yards inland. Star pine trees were as neatly sheared of their lower branches as if a giant hedge clipper had been at work.

Scientists of the U. S. Coast and Geodetic Survey, which is making an exhaustive study of Chilean tsunami, have found that at almost every location in the eastern Pacific it was probably the largest of the century. Harbors were set sloshing far up into California. Because of peculiar local conditions in the harbor Hilo was the populated community hardest hit. Hilo has suffered repeated heavy damage from tsunamis during the past century.