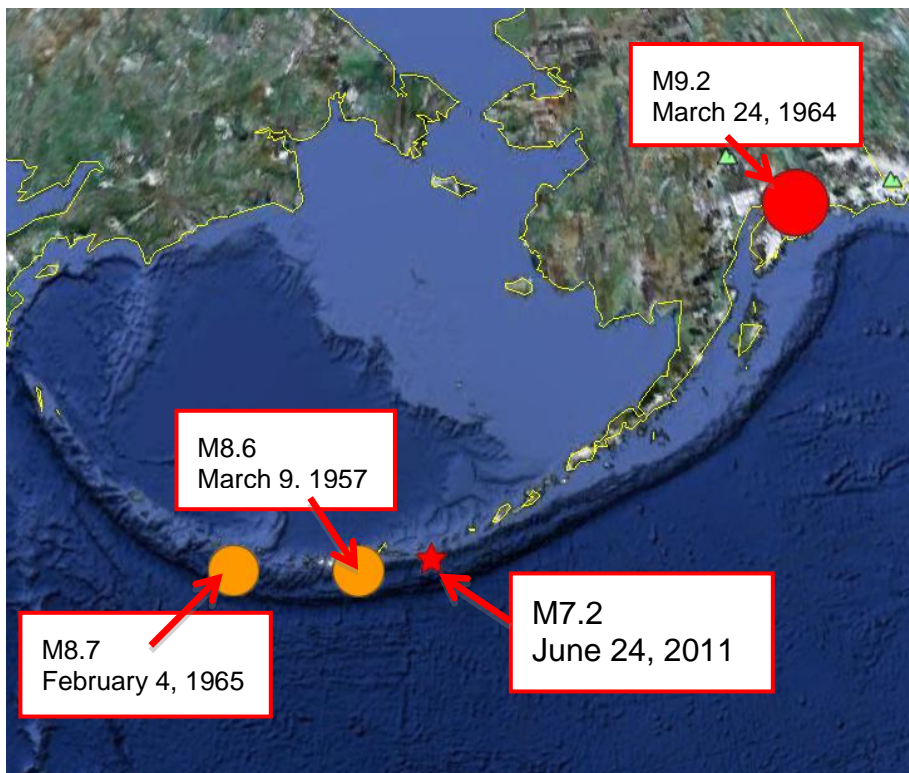


Major 7.2 Earthquake Near the Fox Islands in Aleutian Islands, Alaska
Friday, June 24, 2011 at 03:09:40 UTC (6:09:40 PM June 23 at epicenter)
Epicenter: Latitude 52.008°N, 171.859°W. Depth: 62.6 kilometers

Earthquake Summary:

A major earthquake occurred Thursday evening Portland time south of Kodiak Island, Alaska. The red star on the Google Earth map below shows the epicenter of the June 24 M7.2 earthquake as determined by the US Geological Survey National Earthquake Information Center. Also shown are epicenters of the three great Alaska earthquakes that have occurred since 1950. Historic earthquake activity near the epicenter (star) from 1990 to present is shown on the right-hand map.



Google Earth

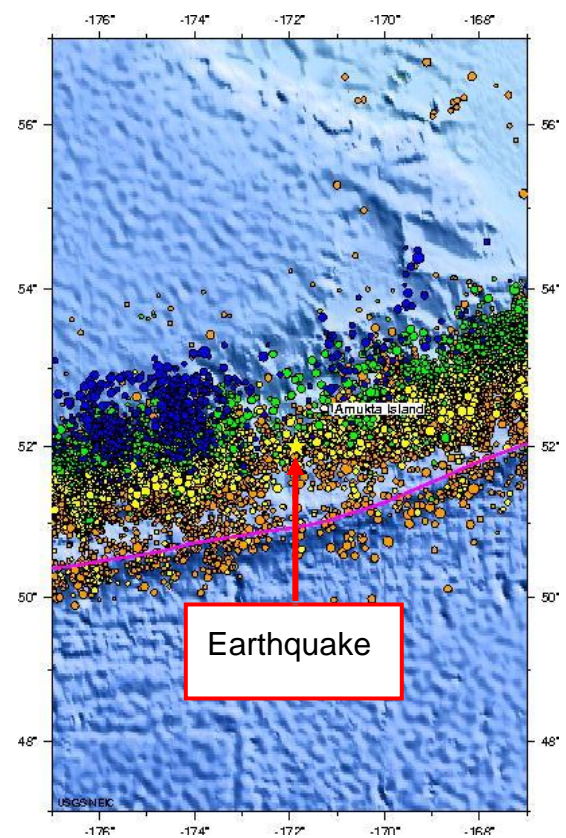
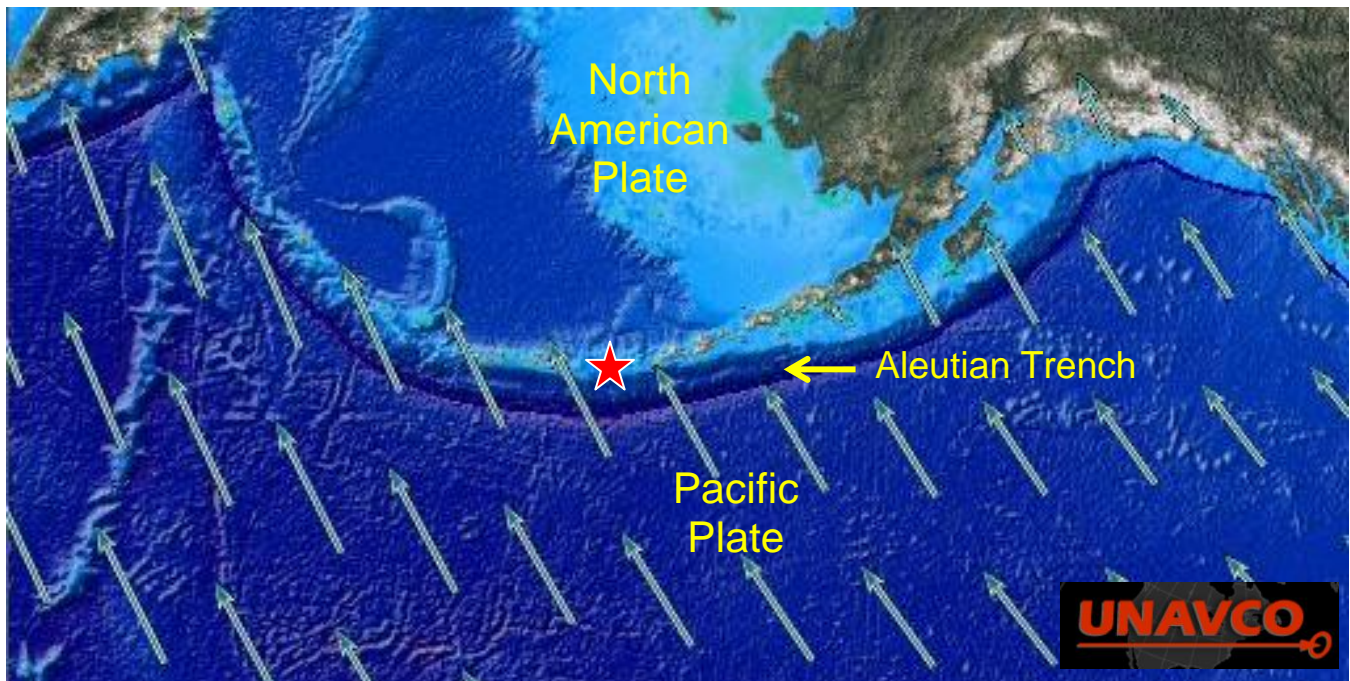


Image courtesy of the US Geological Survey

Regional Tectonics:

The June 24 earthquake occurred on the Aleutian subduction zone where the Pacific Plate subducts beneath the North American Plate. The map below shows the rate and direction of motion of the Pacific Plate with respect to the North American Plate near the Aleutian subduction zone. The rate of convergence at this plate boundary is about 7 cm/yr. This is a fairly high convergence rate and this subduction zone is very seismically active.

For comparison, the convergence rate of the Juan de Fuca Plate beneath the North American Plate at the Cascadia subduction zone is about 3.5 cm/year.



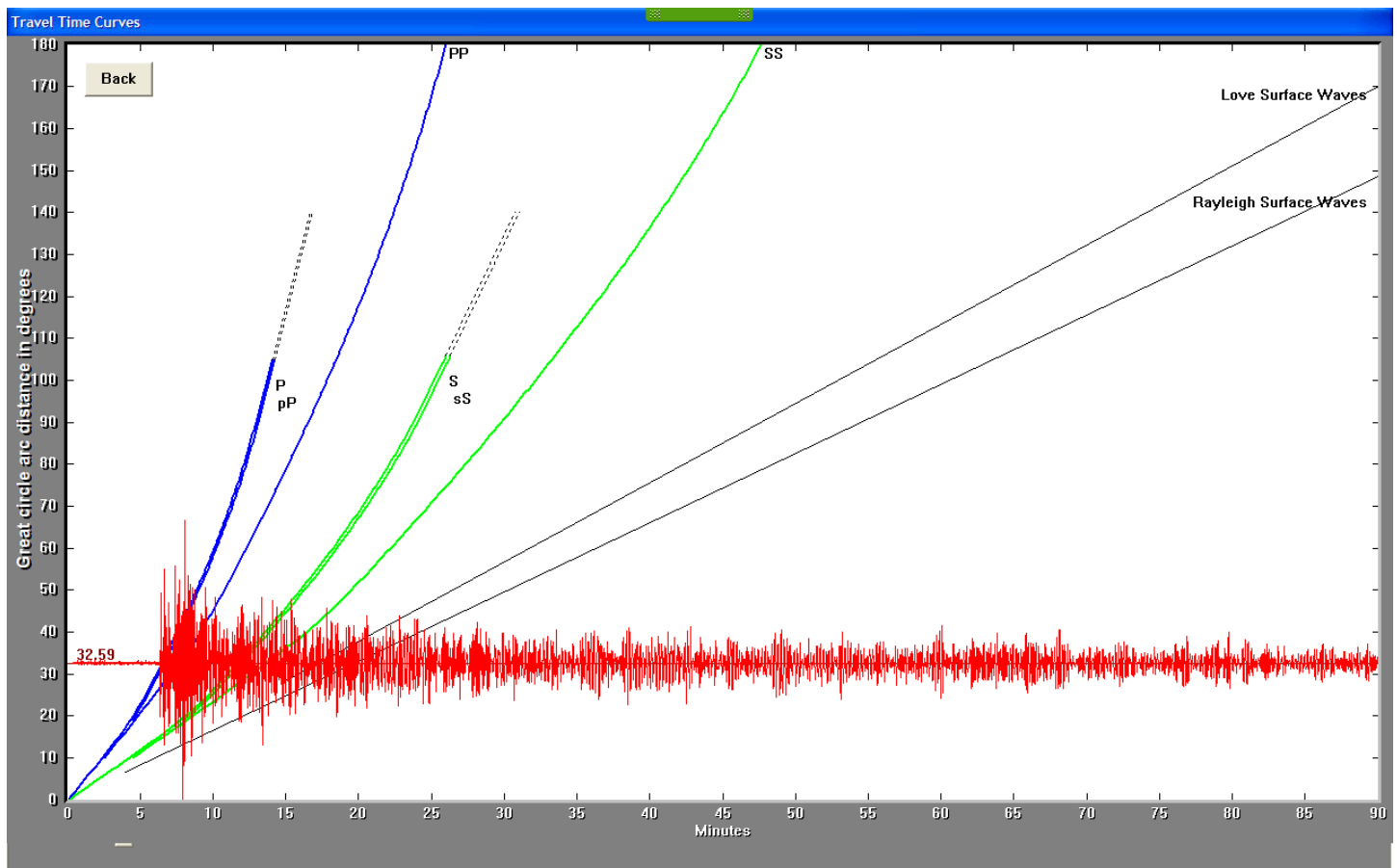
Seismogram Description:

The record of this magnitude 7.2 earthquake on the University of Portland seismometer is illustrated below. This earthquake occurred 32.49 degrees (3606 km) away from the recording station UPOR in Portland, Oregon.

P-waves are compressional waves that travel a curved path through the mantle. The P-waves arrived to the seismometer in Portland, Oregon 6 minutes 24 seconds (384 seconds) after the earthquake.

Traveling the same path as the P-wave, the S-waves (shear waves) travel at a slower velocity, arriving 11 minutes 35 seconds (695 seconds) after the earthquake.

The Surface waves traveled from the earthquake to Portland around the perimeter of the Earth and arrived 13 minutes 44 seconds (824 seconds) after the earthquake.



Teachable Moments are a service of the University of Portland and IRIS Education and Outreach