

Solomon Islands Earthquake and Tsunami of April 1, 2007

This report was compiled with the help of Lori Dengler, Humboldt State University, from the web sites listed below.

A magnitude 8.1 earthquake occurred April 1, 2007 at 20:39 UTC (7:39 a.m. local time April 2) in the New Georgia Island area of the Solomon Islands, 45 km SSE of the city of Gizo, the second largest city in the Solomon Islands (1999 pop. est. 62,739). Gizo is a popular tourist destination for dive boats. The earthquake produced strong ground shaking in the New Georgia Island region and was felt throughout the Solomon Islands and on Bougainville and western Papua New Guinea. A number of buildings in Gizo suffered definite earthquake

damage. First tsunami surges at Gizo arrived only minutes after the earthquake. Eyewitness accounts support the observation that there was no initial draw-down. It is unclear at present what the relative impacts of the ground shaking and tsunami were.

According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the government of the Solomon Islands estimates the casualty figure at 35, with the number of affected people estimated at 9,000. As of April 11, the tsunami-affected communities were camping on the hillsides, afraid to return to their coastal homes due to frequent tremors, although the frequency and magnitude of aftershocks are decreasing. In Gizo, tanks and water pipes have suffered damage and require urgent repair. Water and purification tablets are available, but water distribution is a problem due to considerable dis-

tances between water sources and the camps. In some other areas, the tsunami polluted local rivers.

The earthquake occurred along a northwest-southeast thrust fault and is consistent with a plate boundary rupture along the interface between the Australia/Woodlark/Solomon Sea plate subducting beneath the Pacific plate. The event was recorded on a number of tide gauges in the southwestern Pacific, with trace recordings at Pacific sites such as Hawaii, Adak, and several in California. The measured tsunami amplitudes are all small — much smaller than eyewitness accounts and damage in the Gizo area suggest. None of the instruments were in the near field of this tsunami. The closest tide gauge at Honiara, about 340 km from the epicenter, shows an initial positive wave. Tsunami survey data is needed to get accurate measurements of the water height near the source. Eyewitness accounts suggest peak water heights of at least 5 meters locally.

For more information, click on links from EERI's home page www.eeri.org and visit the following: ReliefWeb (<http://www.reliefweb.int/>); West Coast Alaska Tsunami Warning Center (<http://wcatwc.arh.noaa.gov/>), the Pacific Marine Environmental Laboratory (<http://nctr.pmel.noaa.gov/>), and the USGS (<http://earthquake.usgs.gov/eqcenter/>, <http://walrus.wr.usgs.gov/tsunami/solomon07/>).

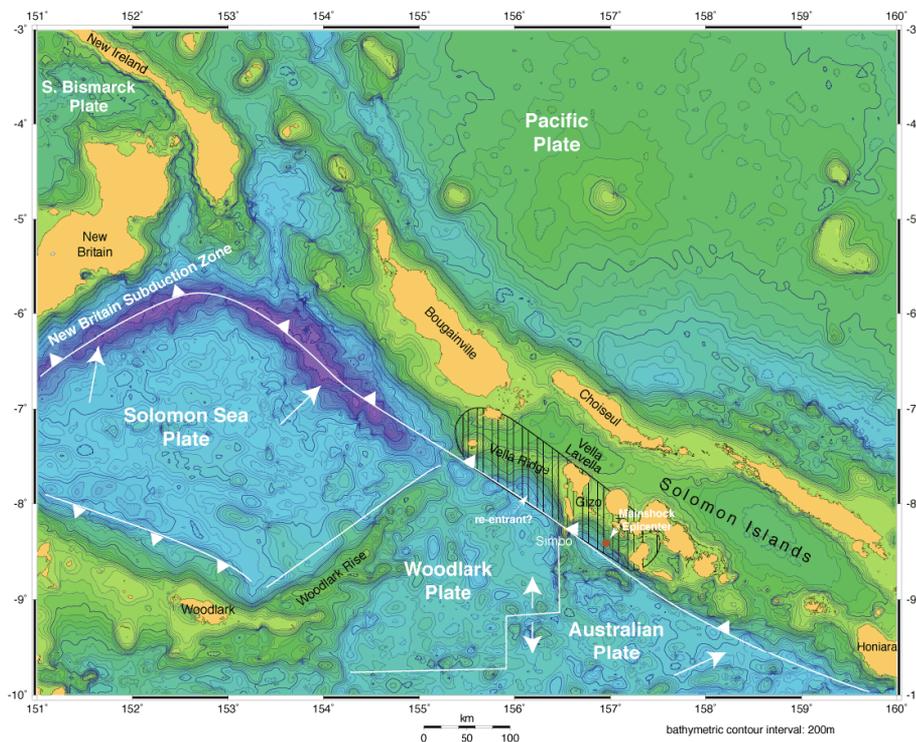
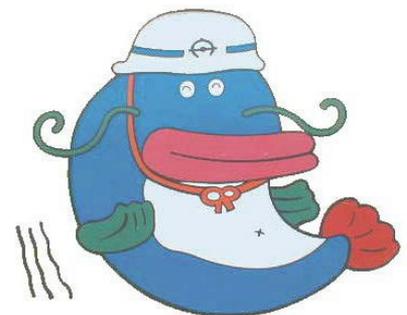


Plate tectonics of the Solomon Islands region. Single white arrows show direction of down-going plate toward Pacific plate. Double diverging arrows show spreading direction across the Woodlark Ridge that separates the Woodlark and Australian plates. Approximate area of fault that ruptured shown in hachure pattern (source: USGS).



The Namazu is being used to teach seismic safety in Chiba, Japan.