# News Tip

**August 6, 2002**

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Editor: **Josh Chamot**

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## Team in South Pacific Studies Source of Historic Tsunami

Researchers are scouring the South Pacific and interviewing elderly islanders to find out what caused a historic tsunami. The massive tidal wave originated in the Aleutian Islands of Alaska on April 1, 1946, but had repercussions thousands of miles away. It produced the highest waves ever recorded in Hawaii, where it killed 159 people.

Seeking information about the damage from the giant waves, Costas Synolakis of the University of Southern California, Los Angeles, and Emile Okal of Northwestern University in Evanston, Illinois, are investigating the fog-shrouded Aleutians - the area of the epicenter - and tropical islands much farther south. The National Science Foundation (NSF) is supporting this research.

On the treeless Aleutian islands of

Ronald Wilson (left), 65, describes locations where the 1946 tsunami deposited driftwood on treeless Sanak Island in the Aleutians.

Interview with Ronald Wilson, 65, an eyewitness of the 1946 tsunami. On the picture, Mr. Wilson (left) points to a topo map of the Island of Sanak, and describes to Professor Emile Okal of Northwestern University (right) locations where the tsunami deposited driftwood on this otherwise treeless island. The field location is shown by the symbol on the map of Alaska in the background. *Photo credit: Costas Synolakis, University of Southern California, Los Angeles*
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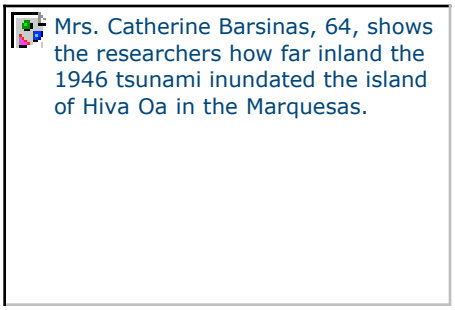
Unimak and Sanak, the scientists have mapped large logs of driftwood deposited up to 2 kilometers (1.25 miles) inland, at altitudes reaching 42 meters (138 feet).

The team has also interviewed scores of elderly residents from the Marquesas Islands, a chain in French Polynesia; remote Easter Island, more than 3,700 kilometers (2,300 miles) west of the coast of Chile; and the Juan Fernandez Islands, about 700 kilometers (435 miles) west of Chile. The researchers translated people's memories of the 1946 flood levels into a quantitative database.

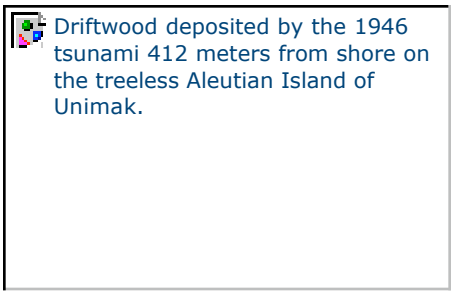
The researchers suspect the underlying geophysical activity included both a very slow seismic rupture and a major underwater landslide near the epicenter. They plan to report their findings at a future meeting of the American Geophysical Union. The data will feed models for predicting the effects from future Pacific tsunamis on Hawaii and on the mainland U.S. coast. **[Amber Jones]**

For more information, see:
http://www.usc.edu/dept/tsunamis/1946
and
http://www.earth.nwu.edu/people/emile/



Mrs. Catherine Barsinas, 64, shows the researchers how far inland the 1946 tsunami inundated the island of Hiva Oa in the Marquesas.

Interview with Mrs. Catherine Barsinas, 64, a witness of the damage wrought on the Island of Hiva Oa by the large 1946 Aleutian tsunami. The witness has led the researchers along a road up a valley to the exact limit of inundation by the wave. The distance to the shore (328 m) and altitude (6.7 m) of this location were measured using surveying methods and entered into the database which will allow researchers to model the generation and propagation of the tsunami across the Pacific Ocean.
From left to right: Daniel Rousseau (Summer Intern, University of Southern California) recording the interview on video tape; Mrs. Barsinas; Professor Costas Synolakis (University of Southern



Driftwood deposited by the 1946 tsunami 412 meters from shore on the treeless Aleutian Island of Unimak.

Driftwood identified as watermark from inundation by 1946 tsunami on Unimak Island. On this treeless island, this stump was deposited at an altitude of 40 m, and a distance of 412 m from the shore (visible at far right). Left to right: Dr. George Plafker (US Geological Survey, retired; Prof. Emile Okal, Northwestern University; Professor Costas Synolakis, University of Southern California). In the distance, partly shrouded in clouds, Shishaldin Volcano.
*Photo credit: S. Egli*
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**Note About Images**