

## Debris from tsunami continues to wash up in Hawaii and on Coast

**QUESTION:** Whatever happened to debris from the March 11, 2011, tsunami in Japan traveling across the Pacific Ocean, and what about its effect on aquatic life?

**ANSWER:** The debris is still arriving on Hawaii's shores but the kind of debris is changing.

International Pacific Research Center scientist Nikolai Maximenko said heavy debris is now reaching Hawaii shores, including wood from houses broken apart in the disaster.

Tsunami debris has made landfall in Alaska, Washington, Oregon, California, Hawaii and British Columbia.

The tsunami caused by a magnitude-9.0 earthquake claimed nearly 16,000 lives and destroyed or damaged countless buildings, and debris is expected to continue over the next several years to reach the western shores of Canada and the United States, according to the National Oceanic and Atmospheric Administration.

The Japanese government has estimated that the tsunami swept about 5 million tons of debris into the ocean and that about 70 percent sank quickly.

The remaining debris was dispersed across the North Pacific, an area of ocean roughly three times the size of the contiguous 48 states, scientists said.

NOAA said that, so far, items confirmed to have come from the Japan tsunami include vessels, buoys, sports balls, floating piers and a motorcycle in a shipping container. Other types of debris that

could wash up include fishing nets, lumber, plastics, household items, foam pieces, and possibly chemical or oil drums.

Maximenko said that last week a wooden beam suspected of being tsunami debris washed up on the shore near Travaasa Hana hotel on the east end of Maui.

An 11.5-foot-long beam with complex notches was discovered on Shipwreck Beach on Kauai on Dec. 24.

About a month earlier, a similar beam was found on Kauai's Donkey Beach.

While many of these objects may fit the profile of tsunami debris, only a few can be traced back to the disaster with certainty, scientists said.

Maximenko said scientists have difficulty tracking the amount of debris, as well, because, as in the case of wood debris, many people do not know it is from Japan and do not report their observations.

He said scientists may need a lot of time to determine the impact of the tsunami debris on aquatic life because, while reports from the coastline or from the sea surface are scarce, reports from underwater observations are even more rare.

Maximenko said wind and currents are the two major factors influencing the drift of the tsunami debris. Large debris with exposure to the wind tends to wind up on the West Coast.

Heavy tsunami debris drifts on currents that converge between Hawaii and California to form the collection of rubbish known as the "garbage patch."