

Update on the Whereabouts of the March 2011 Tsunami Debris

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Honolulu, December 4, 2012

Twenty months after the Japan tsunami, little is known about the debris still floating in the North Pacific from the disaster. Fragmentary reports have come and are continuing to come from research vessels, small boats, and from sightings on coastlines, where debris washes ashore without warning. In this situation, numerical models, carefully tuned to use the little data available, continue to provide the main framework for tsunami debris planning and mitigation.

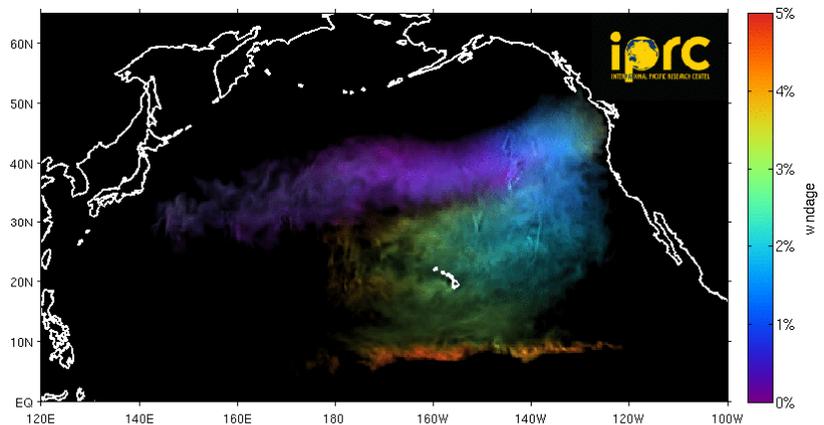
According to the IPRC tsunami debris model, the composition of the debris has changed: most of the high-windage objects (light objects, sticking out of water enough to be driven mainly by the wind) have mostly gone on shore along the US/Canada coast (especially, in Alaska). A field of the residual high-windage debris has collected temporarily south of Hawaii, around 10N, but should soon move west.

Intermediate-windage debris (moved by both winds and by currents), which did not wash ashore on the west coast this summer, has recirculated south and is now moving west, toward and through the Hawaiian Island chain

Currently, most of the reports are coming from Hawaii, which is close to the center of the large area, in which tsunami debris is scattered in very low concentrations. A broad and slow current pushes the debris westward, bringing debris to all the islands, one piece at a time. This inflow will continue for at least the next six months or longer. Debris drifting around or between the islands will continue west and northwest and some may even reach Asia.

Most reports have been about high- and medium-windage objects, which are more visible in the ocean. Little is known about the composition and amount of low-windage debris (objects sitting deeper in the water and driven mainly by ocean currents). According to the IPRC model, low-windage objects are still drifting towards the Alaska-to-Oregon coastline, with maximum concentration around 35N north of the Hawaiian Islands.

British Columbia, Washington, and Oregon, after a break in debris flow in the last few months, may receive more debris again, blown by wintertime storms and winds. This debris is expected to be heavier, less visible, and more submerged in water than the objects washed on shore there from last December through this past summer.



IPRC Tsunami Debris Model showing the whereabouts of debris of mixed windages end of November 2012. Image source, Nikolai Maximenko and Jan Hafner.