

Calculating tsunami risk for the US East Coast

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The greatest threat of a tsunami for the U.S. east coast from a nearby offshore earthquake stretches from the coast of New England to New Jersey, according to John Ebel of Boston College, who presented his findings today at the Seismological Society of America 2013 Annual Meeting.

The potential for an East Coast tsunami has come under greater scrutiny after a 2012 earthquake swarm that occurred offshore about 280 kilometers (170 miles) east of Boston. The largest earthquake in the 15-earthquake swarm, most of which occurred on April 12, 2012, was magnitude (M) 4.0.

In 2012 several other earthquakes were detected on the edge of the Atlantic [continental shelf](#) of North America, with magnitudes between 2 and 3.5. These quakes occurred off the coast of southern Newfoundland and south of Cape Cod, as well as in the area of the April swarm. All of these areas have experienced other [earthquake activity](#) in the past few decades prior to 2012.

The setting for these earthquakes, at the edge of the continental shelf, is similar to that of the 1929 M7.3 Grand Banks earthquake, which triggered a 10-meter tsunami along southern Newfoundland and left tens of thousands of residents homeless.

Ebel's preliminary findings suggest the possibility than an earthquake-triggered tsunami could affect the northeast coast of the U.S. The

evidence he cites is the similarity in tectonic settings of the U.S. [offshore earthquakes](#) and the major Canadian earthquake in 1929. More research is necessary, says Ebel, to develop a more refined hazard assessment of the probability of a strong offshore earthquake along the northeastern U.S. coast.

More information: Presentation title: "The hazard of offshore earthquakes and tsunami along the U.S. east coast" by John Ebel

Provided by Seismological Society of America

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