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How Shifting Plates Caused the Earthquake and Tsunami in Japan

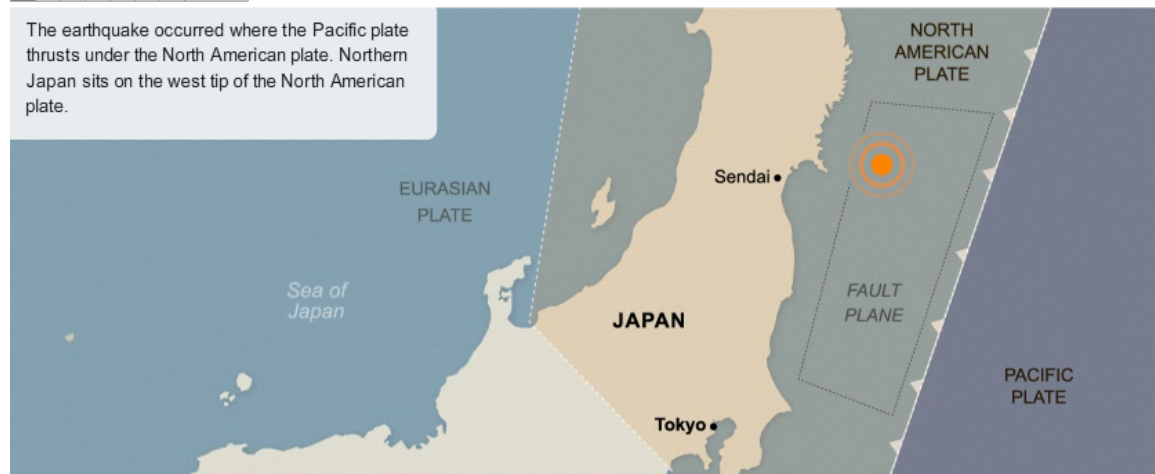
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Shifting plates and rising water

The sudden movement of the Pacific tectonic plate under the North American plate caused a massive earthquake and a tsunami.

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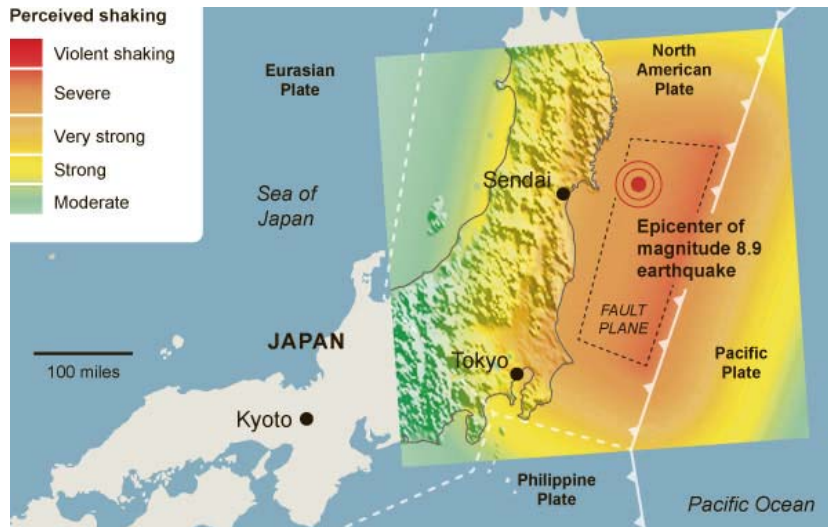
The earthquake occurred where the Pacific plate thrusts under the North American plate. Northern Japan sits on the west tip of the North American plate.



Source: U.S. Geological Survey

Perceived shaking

- Violent shaking
- Severe
- Very strong
- Strong
- Moderate



Magnitude of shaking

An 8.9-magnitude earthquake struck the coast of Japan on Friday at a depth of about 17 miles below the earth's surface. Dozens of aftershocks, some of magnitude 6.0 or greater, were felt after the quake.

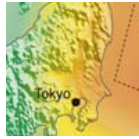
Source: U.S. Geological Survey

Predicted tsunami wave heights

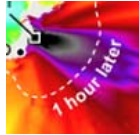
The tsunami set off warnings for much of the Pacific basin including the west coast of the United States



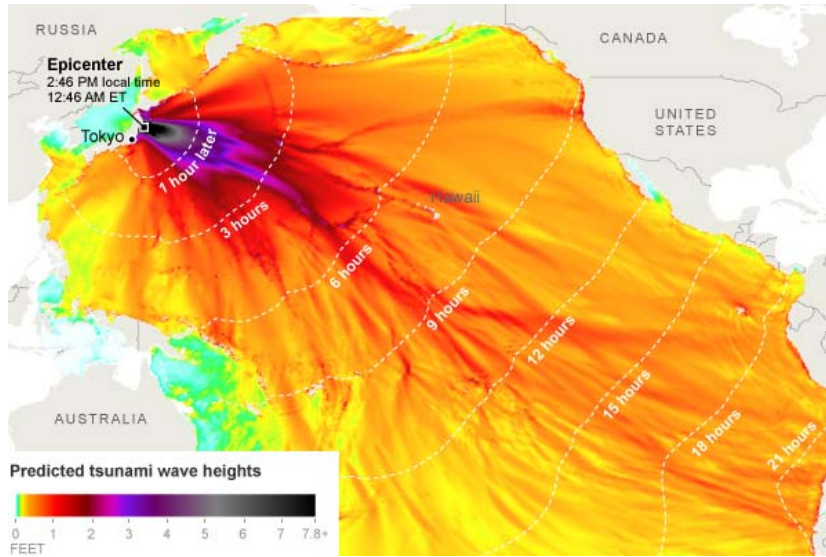
Shifting plates



Shaking magnitude



Tsunami



and South America. Officials say waves have not caused major damage in Hawaii and pose no flooding danger in California.

Source: NOAA Center for Tsunami Research, Pacific Marine Environmental Laboratory

By JOE BURGESS, JONATHAN CORUM, AMANDA COX, MATTHEW ERICSON, XAQUÍN G.V., ALAN McLEAN, TOMOE MURAKAMI-TSE, HAEYOUN PARK, GRAHAM ROBERTS, AMY SCHOENFELD, ARCHIE TSE, JOE WARD and JEREMY WHITE | [Send Feedback](#)

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