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# Press Releases

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JAMSTEC

## **Resuspension of Shelf Sediments and Lateral Transport of Particles off Fukushima Coast ~Decrease in Cesium Level in Coastal Sediments~**

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An international team of scientists of the Japan Agency for Marine-Earth Science and Technology (JAMSTEC: Asahiko Taira, President) and the Woods Hole Oceanographic Institution has collected sinking particles using time-series sediment traps deployed at 500 and 1,000m at a site 115km southeast of Fukushima Daiichi Nuclear Power Plant (FDNPP) since July 2011.

Based on the measurement of the level of radiocesium released with the accident, they found that radiologically contaminated seafloor sediment off Fukushima is laterally transported to the open ocean. Radiocesium derived from the FDNPP accident was still detected in particles in July 2014, even after three years of the accident. In addition, typhoons likely triggered resuspension of radiocesium in the seafloor sediments and lateral transport offshore with currents.

These study results will help estimate how long it takes to decrease the level of radiocesium in seafloor sediments near the Fukushima Daiichi Nuclear Power Plant.

These study results were posted on the American Chemical Society's journal, *Environmental Science and Technology* on August 18<sup>th</sup> (JST).

Title: Tracking the fate of particle associated Fukushima Daiichi cesium in the ocean off Japan

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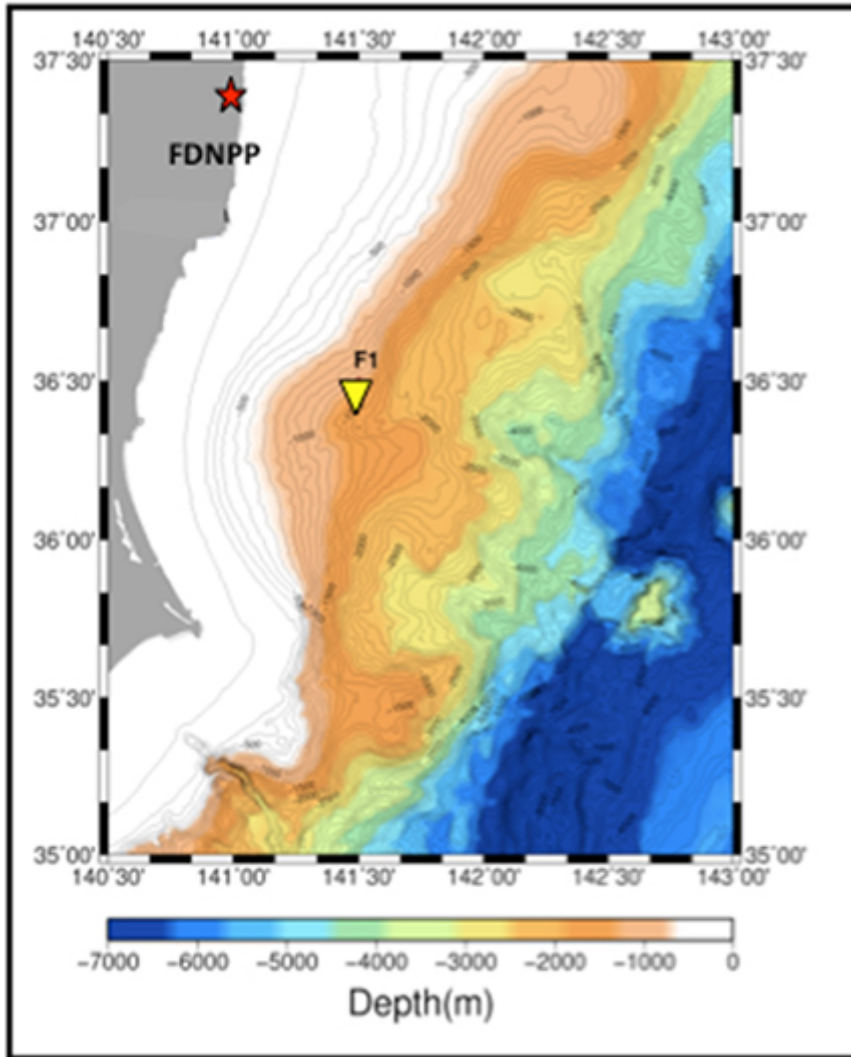


Figure 1: Observation site F1 (36°27.5' N, 141°28.0' E)

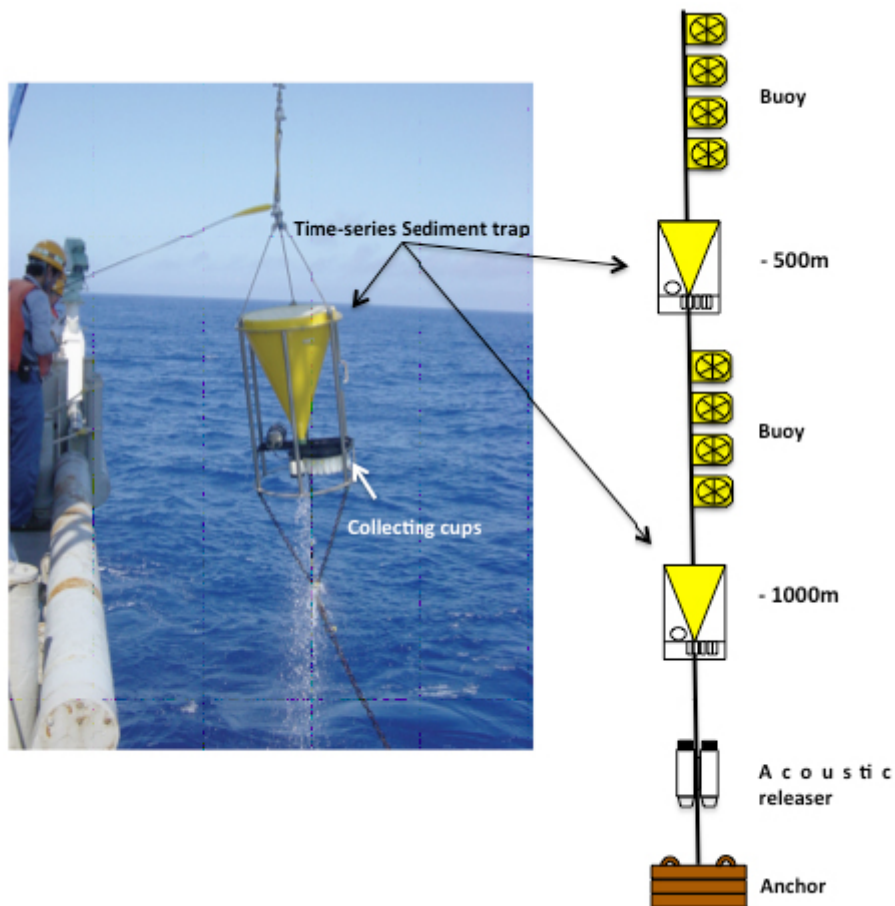


Figure 2: Time-series sediment trap

Time-series sediment trap is scientific gear consisting of a funnel with a collecting cup at the bottom. They are placed in the water to collect settling particles (marine snow) falling toward the sea floor.

A total of 21 collecting cups is installed on the rotating plate, which is rotated to replace the collecting cup following an initialized time interval schedule. They are installed at specific depth on a taut mooring cable with buoy. To collect time-series samples, they are usually moored for a year. When a ship returns to retrieve the trap, a remote-controlled acoustic release is activated to release the anchor, and the mooring system with traps floats to the surface with its samples. Collected samples are preserved in a refrigerator onboard. On return to land, radioactive substances and other components in the marine snow are chemically analyzed.

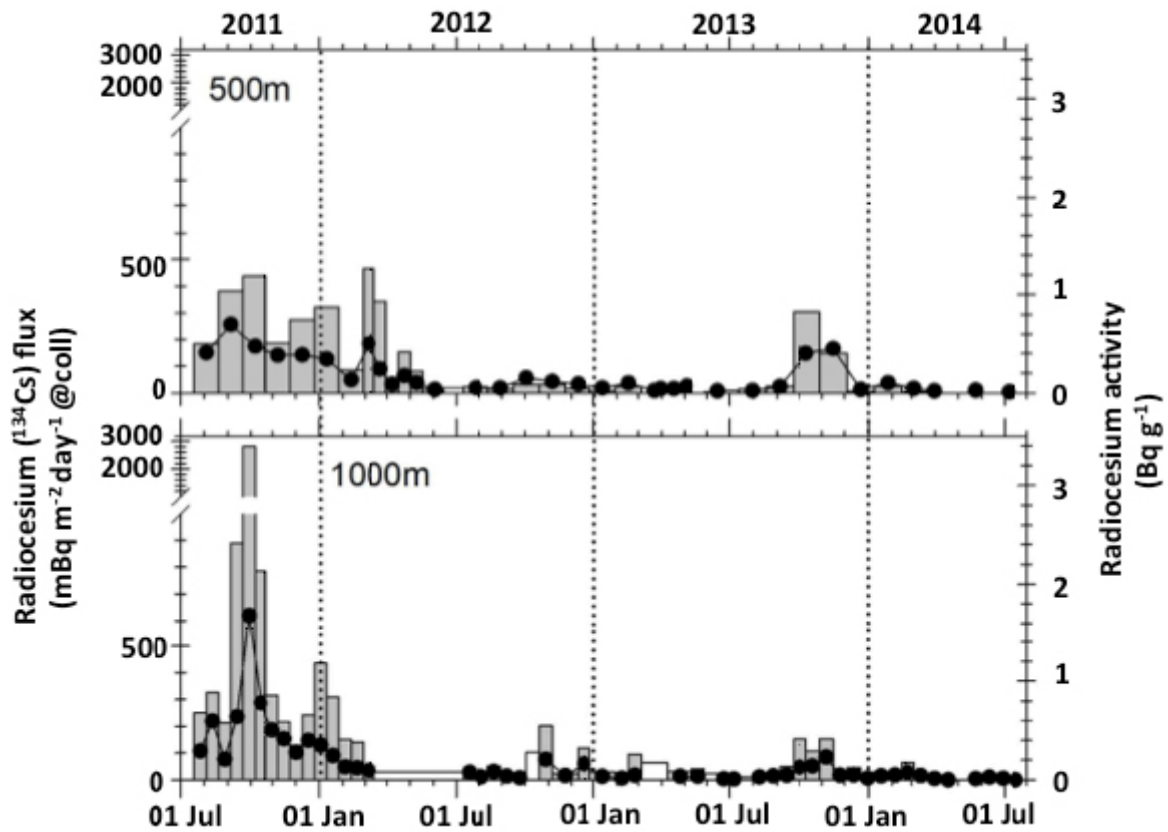


Figure 3: Three-year record of  $^{134}\text{Cs}$  flux at time of sample collection from 500 m (upper panel) and 1,000 m (lower panel) . Shown here are activity flux (gray bars) and specific activity (filled circles and line).

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