

AANDERAA NEWSFLASH

Japanese earthquake zones monitored by camera and sensor landers

[Newsflash available in Japanese >>](#)

The Japan Agency for Marine-Earth Science and Technology ([JAMSTEC](#)) has developed and used photo/multiparameter bottom landers in titanium to investigate environmental changes of the seafloor after the 2011 Tohoku earthquake. Two of these autonomous platforms (figure) were deployed in the Otsuchi Bay, northeastern Japan, one at 300m depth, the other at approximately 1000m.

These platforms combine advanced photographic and video capabilities with Aanderaa [multiparameter instruments](#) (SeaGuardII DCP) that measure [oxygen](#), [salinity](#), [temperature](#), [water depth](#), [suspended solids](#) (turbidity) and [multiple layer currents and particle reflections](#) (Doppler Current Profiling Sensor) above the seafloor.

During the 9-14 months deployments the platforms gave evidence of important fishing activities at the shallow station, seasonal exchanges of water masses, and dense marine "algae snowfall" from the spring bloom. They also revealed a larger earthquake that suspended sediments at the deeper site and monitored the biological recovery after the sedimentation.

The information from these deployments show that long-term monitoring combining photography/video and sensors give valuable continuous information about ongoing oceanographic, biological, chemical and sedimentation processes. [Read more about the project, the results and the techniques used.](#)



Photograph © Jamstec

Autonomous titanium lander with: (1) Argos transmitter for surface positioning; (2) Multiparameter instruments with battery; (3) LED light sources*; (4) Underwater positioning transmitter for ROV operations; (5) Flotation spheres in glass; (6) Acoustic release that drops weight for recovery; (7) HDTV camera in pressure case*; (8) Lithium-Ion battery pack*

*Developed and manufactured at Jamstec.

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