

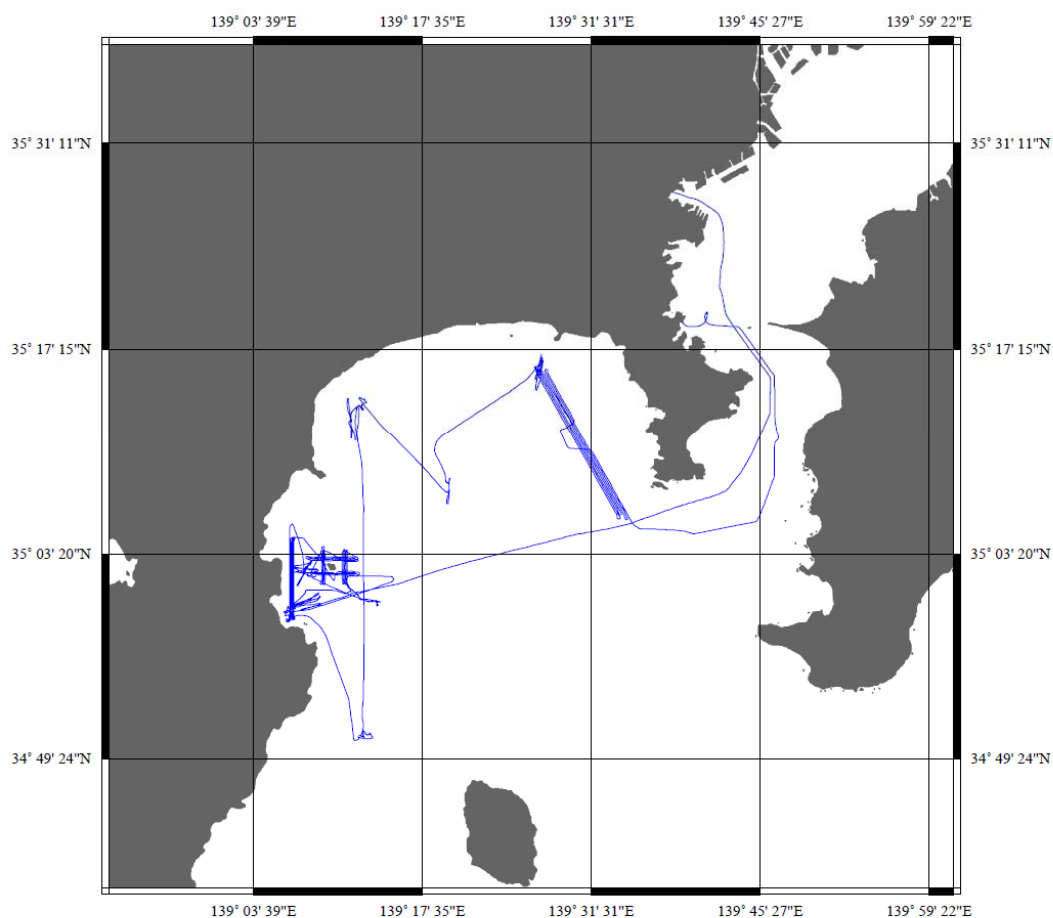
NT08-21 KO-OHO-O cruise Summary

By Kantaro Fujioka and onboard party

1. Cruise information

- (1) Cruise number : NT08-21 LEG1, LEG2
- (2) Ship name : R/V NATSUSHIMA
- (3) Title of cruise : Hyper Dolphin cruise
- (4) Chief scientist : Kantaro Fujioka (JAMSTEC)
- (5) Representative of Science Party : Shozo Tashiro (JAMSTEC)
- (6) Cruise period : 2008/09/25 - 2008/10/01
- (7) Port call : Yokohama — JAMSTEC
- (8) Research area : Sagami bay
- (9) Research map

NT08-21 TRACK MAP IN R/V NATSUSHIMA



2. Overview of Observation

During the KO-OHO-O (Key Observation and Outreaching of Hidden Ocean and Organisms) cruise Leg 1 & 2, the following results were obtained for the off Hatsushima, off Atagawa, off Odawara and Sagami knoll sites in the Sagami Bay, central Japan.

Bathymetric survey results

We took 1.5 mile Sea Bat swath mapping data with 200 m intervals and made a bathymetric map around the Hatsushima Island. We also made a swath survey as for the western part off the Miura Peninsula, 7 NW-SE swath lines of 10 miles long with 200 m intervals were recovered and a bathymetric map was made.

Hyper Dolphin Dive results

We had four dives by the use of Hyper Dolphin (HPD), Remotely Operated Vehicle (ROV), at off Hatsushima (#904), off Atagawa (#905), off Odawara (#906) and Sagami knoll.

The objectives of each dive were, 1) to make a perfect bio-geo traverse from the deeper part to the shallower one, 2) to search and capture the various kinds of animals for the exhibition, 3) to take the various kinds of rocks for the exhibition as a kind of onshore PR activity.

#904 Dive off Hatsushima

We had a long bio-geo traverse from the eastern slope of Hatsushima Island along the unnamed canyon south of the Hatsushima long-term station from a water depth of 1,234m to 120m.

1. Biological results

A colony of the chemosynthetic bivalve *Calyptogena soyoae* was newly found at 1013 m water depth, and specimens, including the bivalve, tubeworm, and planktonic ascidian, were collected.

2. Geological results

Two landslide heads were observed located at water depths of 410-670 m and 700-800 m. The basaltic lavas supposed to be an older Hatsushima volcano were observed with a succession of basalt, basaltic volcanic breccia, conglomerate, and alternation layers ascending order. All the volcanics show the trend of NE-SW with dip of eastward

suggesting the lavas come from the Hatsushima Island.

3. Visual records

We took high vision camera and 3D camera records along with bio-geo traverse line. We succeeded to get high quality visual records of Hatsushima long-term station, *Calyptogenia* colonies and other organisms.

#905 Dives off Atagawa

We had a swath line by HPD at the west off the O-shima Island for the sake of the visual observation of lava flows called “Atagawa-Oki” long lava flow.

1. Biological results

Sessile organisms on lava flows were observed. Soft corals and sponges were abundant during the survey, suggesting the large amount of suspension loads for filter feeders in the area. A detailed video observation of the deep-sea ascidian *Megalodicopia hians* was also made at 1,009 m water depth.

2. Geological results

We recognized three lava units in the surveyed area with water depths of, 992 m, 998 m, and 1,006 m, respectively. We also observed four various types of lava morphology and obtained good visual records of these lava morphology.

3. Visual results

We took high vision camera and 3D camera records along with bio-geo traverse line. We succeeded to get high quality visual records of various kind of morphology of lavas exposed along the swath lines.

#906 Dive at off Odawara

We had a short visit to find a giant hydroid which was found in 1985 by submersible “Shinkai 2000” at water depth of 580 m. We surveyed about one hour but could not find the giant hydroid. However we found thick soft sediments with much garbage on and within the sediments.

1. Biological results

Soft-bottom benthos mainly composed of echinoderms and cnidarians were recorded in photos and videos.

2. Geological results

We found new thick soft sediments around the survey area and observed much garbage on the surface and within the sediments. This may possibly indicate the effect of the last year's typhoon and heavy rain which may cause a flood to input sediments to the site as turbidity current.

3. Visual results

We took high vision camera and 3D camera along with bio-geo traverse line. We succeeded to get high quality visual records of sediment surface and benthic organisms.

#907 Dive at Sagami Knoll

We had a geo-bio traverse of the Sagami Knoll southern slope with the observation of mesopelagic organisms in the day and night.

1. Biological results

Many gelatinous organisms such as jellyfishes were recorded in videos. During the benthic survey, shell of *Calymene soyoeae* was found at 1,091 m water depth, indicating a possible existence of a colony of the chemosynthetic bivalve in the neighborhood.

2. Geological results

At the steep south slope of the Sagami knoll we observed several slope failures which may be caused quite recently. We also observed thick soft sediments on the terrace of the southern slope. We found a thick conglomerate layers consisting mostly of angular basalt cobbles with a few sustainment of matrices.

3. Visual results

We took high vision camera and 3D camera along with bio-geo traverse line. We succeeded to get high quality visual records of steep slope at the foot area of the Sagami knoll. We also obtained good quality records of the planktonic organisms at mesopelagic layer in the day and night.

All the results satisfied the participants to have onshore PR activity by the use of these data and samples.