

Cruise summary

1. Cruise Information :

- (1) Cruise number, Ship name: KR10-13, R/V Kairei
- (2) Title of the cruise: 2010FY "Seismic study at the Izu-Ogasawara region"
- (3) Chief Scientist [Affiliation]: Mikiya YAMASHITA [JAMSTEC]
- (4) Representative of Science Party [Affiliation]:
Yoshiyuki TATSUMI [JAMSTEC]
- (5) Title of proposal:
Crustal growth of the Izu-Ogasawara island arc
- (6) Cruise period, Port call:
2010/12/7-12/28, Yokosuka Port to JAMSTEC (Yokosuka)
- (7) Research Area: Izu-Ogasawara
- (8) Research Map:

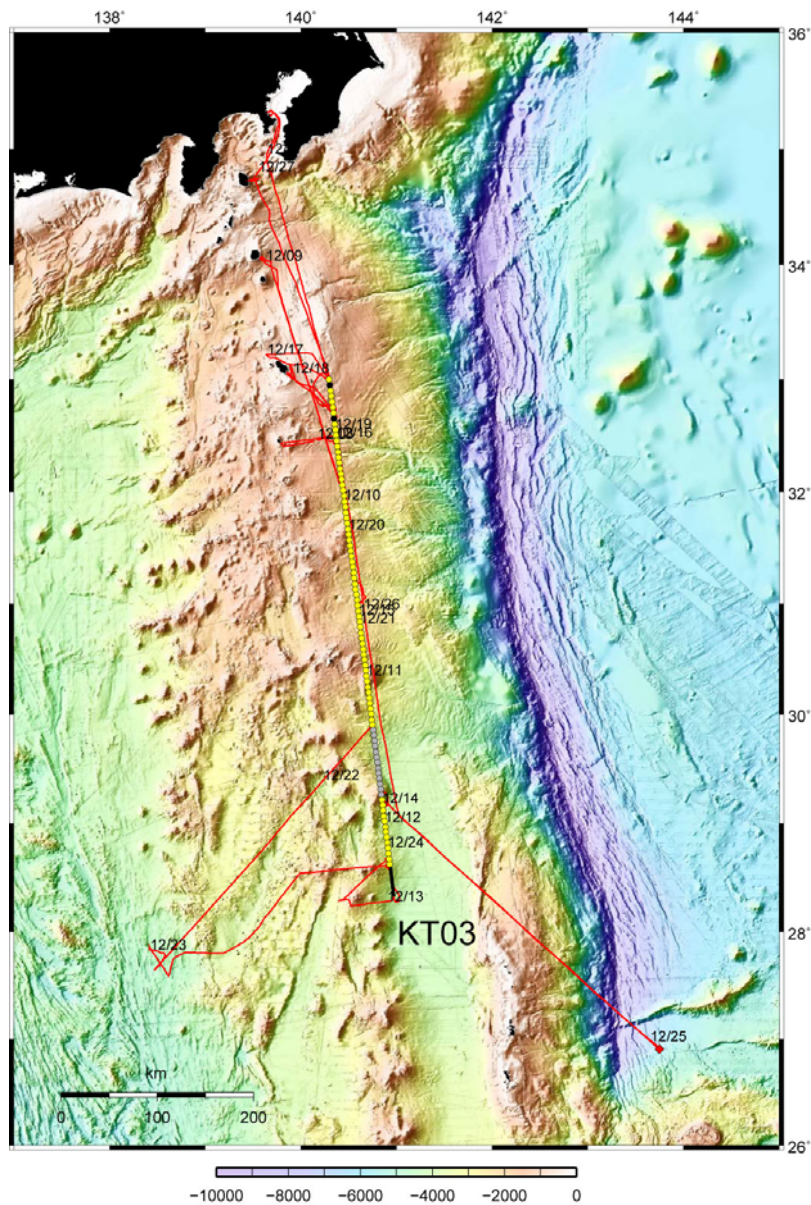


Fig.1 Ship track on KR10-13 cruise. Circles show the OBS.

2. Overview of Observation:

(1) Objectives:

IFREE has conducted seismic surveys intensively in the Izu-Ogasawara area to understand crustal evolution of oceanic arcs since 2004. The objectives of this cruise are to obtain the configuration of Oligocene paleo-arc by seismic refraction and reflection surveys using 90 OBSs conducted in the Izu-Ogasawara fore-arc region. Furthermore, we deployed 1 OBS in order to obtain the accurate aftershock distribution of M7.4 Ogasawara earthquake at 2010/12/22 02:19(JST) in the east of Bonin Islands.

(2) List of observation instruments:

1) Deployment and recovery of ocean bottom seismometers (OBSs)

90 OBSs were deployed on line KT03. 2 OBSs were lost because of no response from transponder. 13 OBSs were not recovered due to weather condition. 1 OBS for earthquake observation was deployed in the east of Bonin Island. It will be recovered in KR11-01 cruise.

2) Seismic refraction and reflection survey

Seismic refraction and reflection surveys were carried out on line KT03, the Izu-Ogasawara area, using the airgun array of 7,800 cu. inch and a 444-ch. hydrophone streamer.

3) Bathymetry observation

During this cruise, bathymetry data have been recorded continuously by SEABEAM2112.

4) Temperature, Conductivity and Depth observation for oceanic fine imaging in reflection experiment

We have conducted 20 XCTDs (eXpendable Conductivity, Temperature and Depth) and 5 XBTs (eXpendable-Bathy Thermographs).

(3) Preliminary results

Figure 2 shows the record section obtained in northern side of line KT03.

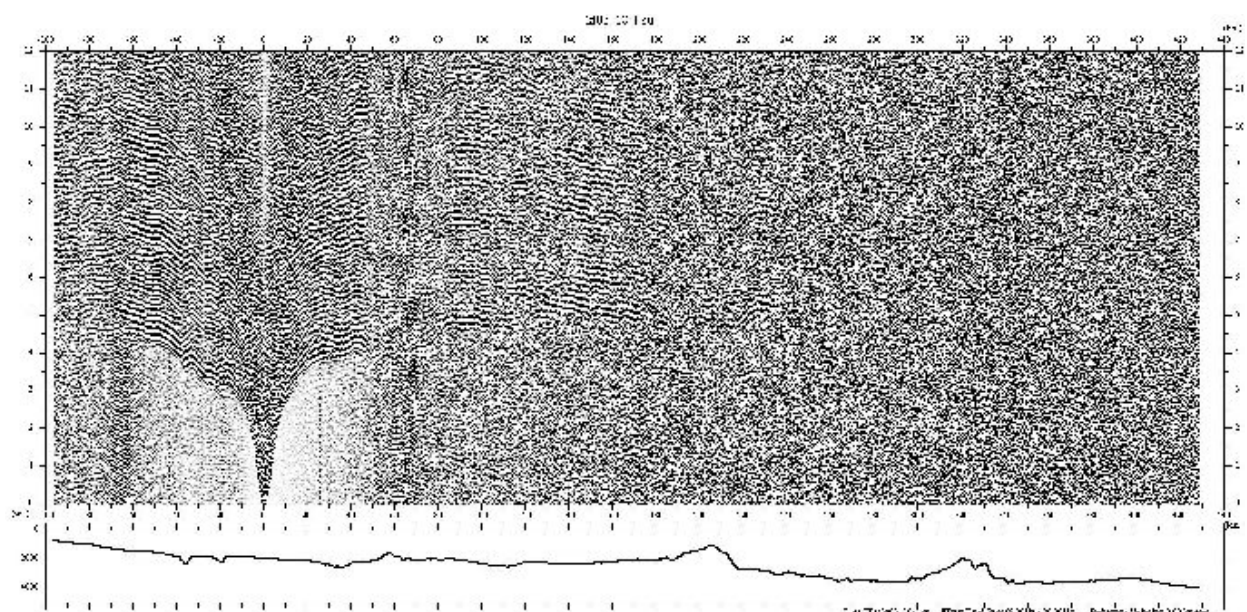


Fig. 2 Example of record section of OBS (No.18)