Cruise summary

1. Cruise Information

(1) Cruise Number, Ship name : KR15-07, R/V Kairei

(2) Title of the Cruise
FY2015 Seismic survey and observations in Japan Trench region

(3) Chief Scientist [Affiliation] : FUJIE Gou [JAMSTEC]

(4) Representative of Science Party [Affiliation]
Shuichi Kodaira [JAMSTEC]

(5) Cruise period, Port call
2015/05/15 – 2015/06/08, Yokosuka-Yokosuka

(6) Research Area
Japan Trench region

(7) Research Map

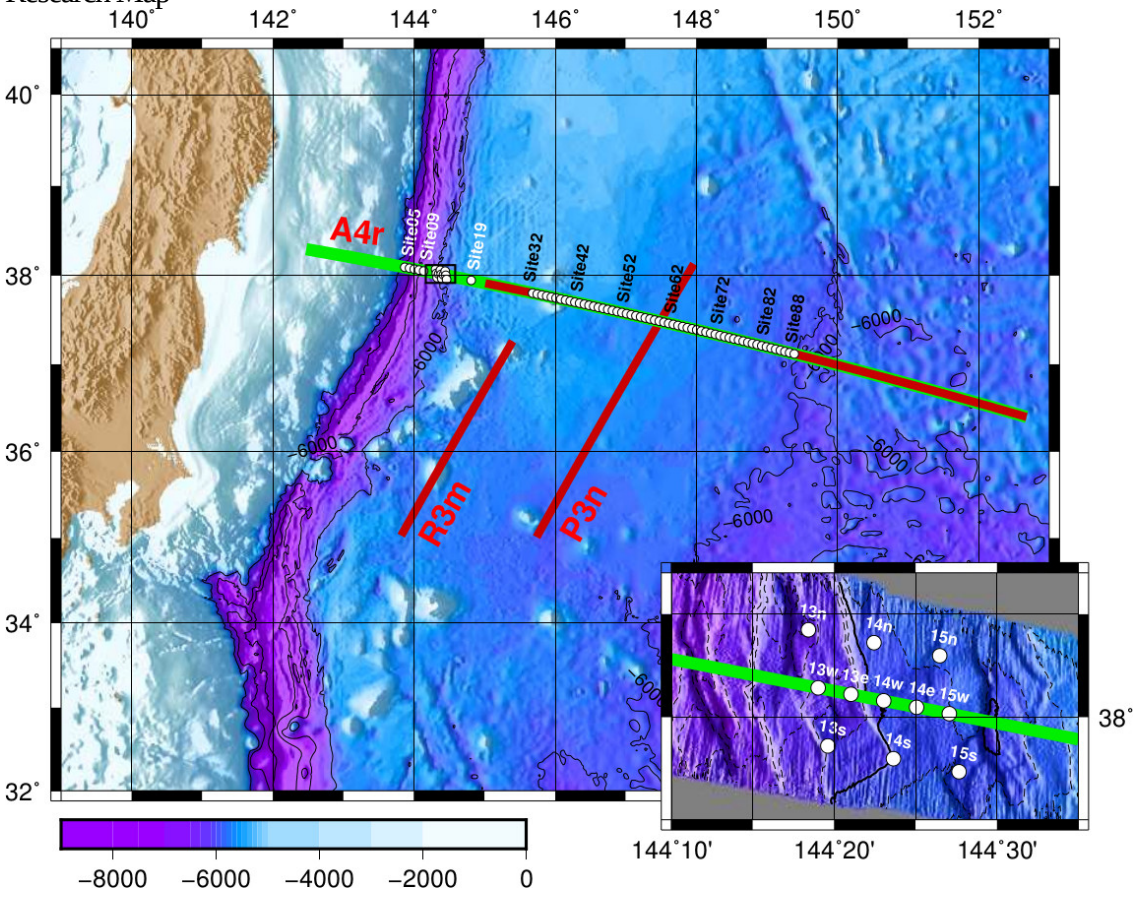

Figure 1. Location map of KR15-07 cruise. Red line represents planned OBS-refraction and MCS reflection survey lines and small white circles are OBSs for the wide-angle seismic refraction survey.

2. Overview of Observation

(1) Objectives

On 11 March 2011, the great 2011 Tohoku-oki earthquake (Mw 9.0) was occurred in the Japan Trench region. This was the greatest earthquake that has been observed in Japan, and it caused devastating damages in the eastern Japan. To evaluate the hazard of the large interpolate and outer rise earthquakes next to the rupture zones of the 2011 Tohoku-oki earthquake, we conducted seismic structure survey in the Japan Trench region.

(2) Observations

1) OBS deployment
We deployed 69 OBSs for wide-angle seismic refraction and reflection survey and 6 OBSs for earthquake observation.

2) Airgun shooting.
We shot the airgun array of R/V Kairei along A4r.

3) Bathymetry, magnetics and gravity observation.
During the cruise, bathymetry, magnetics and gravity data have been recorded continuously by SEABEAM2112.004, three component magnetometer and gravity meter, respectively.

3. Data

We deployed 69 OBSs for wide-angle seismic structure study and 6 OBSs for seismic observation. We shot an airgun array of Kairei from the western end of A4r to Site88. All the recovered OBSs recorded wide-angle reflections and refractions clearly. The on-board time-migrated sections along A4r were generally of good quality.