

## Cruise summary

### 1. Cruise information

- (1) Cruise number, ship name : KR10-09, R/V Kairei
- (2) Title of the cruise  
FY2010 Seismic structure survey in NW Pacific
- (3) Chief scientist [Affiliation] : FUJIE Gou [JAMSTEC]
- (4) Representative of science party [Affiliation]  
Yoshiyuki Tatsumi [JAMSTEC]
- (5) Cruise period, port call  
2010/07/01 – 2010/07/28, Yokosuka-Yokosuka
- (6) Research area  
NW Pacific

### (7) Research map

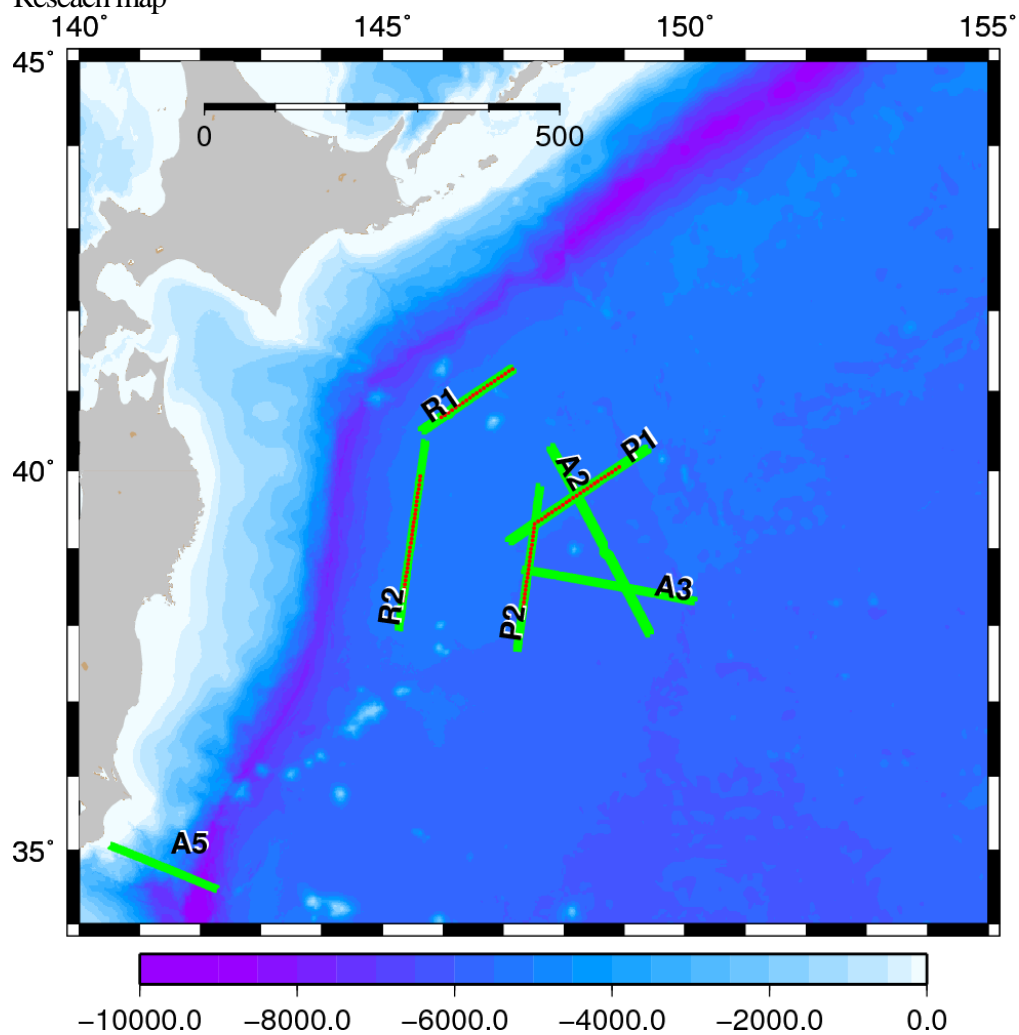


Fig. 1: Location map. Red circles represent OBSs. Green lines are airgun lines.

## 2. Overview of observation

### (1) Objectives

In the northwestern Pacific region, the old oceanic plate (Pacific plate) formed in the eastern Pacific ridge is subducting from the Japan and Kuril trenches. The subduction of the oceanic plate causes earthquakes and volcanoes in the island arc, and it is important to clarify the detailed structure of the oceanic plate.

Since 2009, we began a large-scale seismic structural study to reveal the detailed seismic structure within the incoming plate in the Northwestern Pacific region. This cruise was conducted as a part of this structure study and we established several survey profiles mainly to reveal the seismic structure variation along the trench axis.

### (2) Observations

#### 1) OBS deployment

One hundred one OBSs were deployed along P1, P2, R1 and R2.

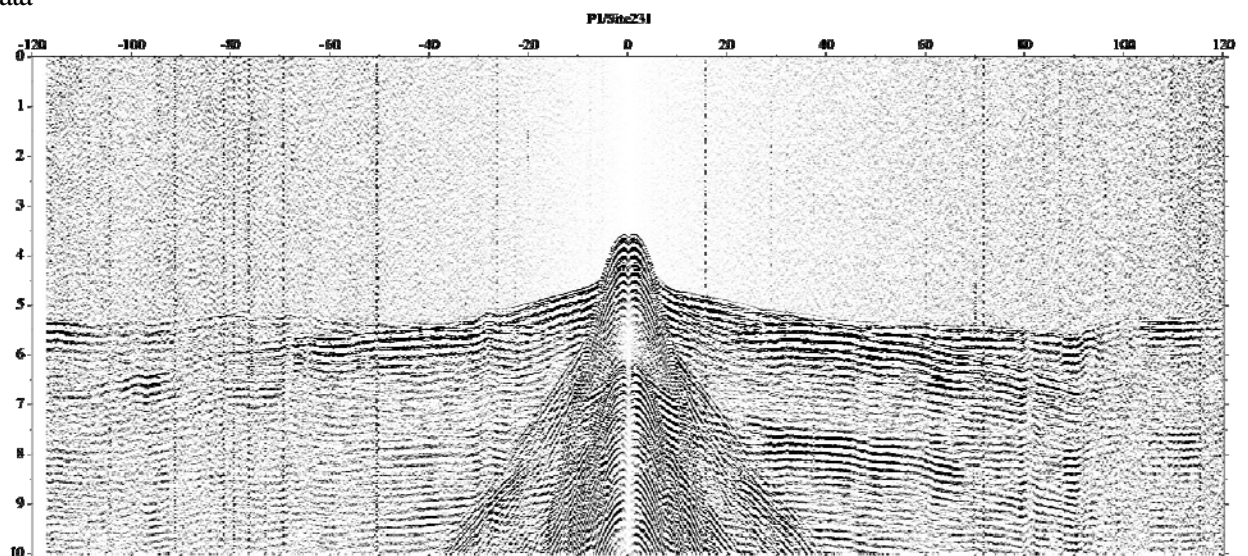
#### 2) Airgun shooting

We shot the airgun array of R/V Kairei along P1, P2, R1, R2, A2, A3 and A5 profiles. A 444-ch hydrophone streamer was towed during the shooting.

#### 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



*Fig. 2: Record section at Site 213 on profile P1. The vertical axis is reduced travel time and the reduction velocity is 8km/sec. The horizontal axis shows the offset between OBS and shots. Right side is east.*

