# Cruise summary

1．Cruise Information：

（1） Cruise number, Ship name: KR11-E05, R/V Kairei

（2） Title of the cruise:　2011FY "Seismic survey in the Japan Trench region"

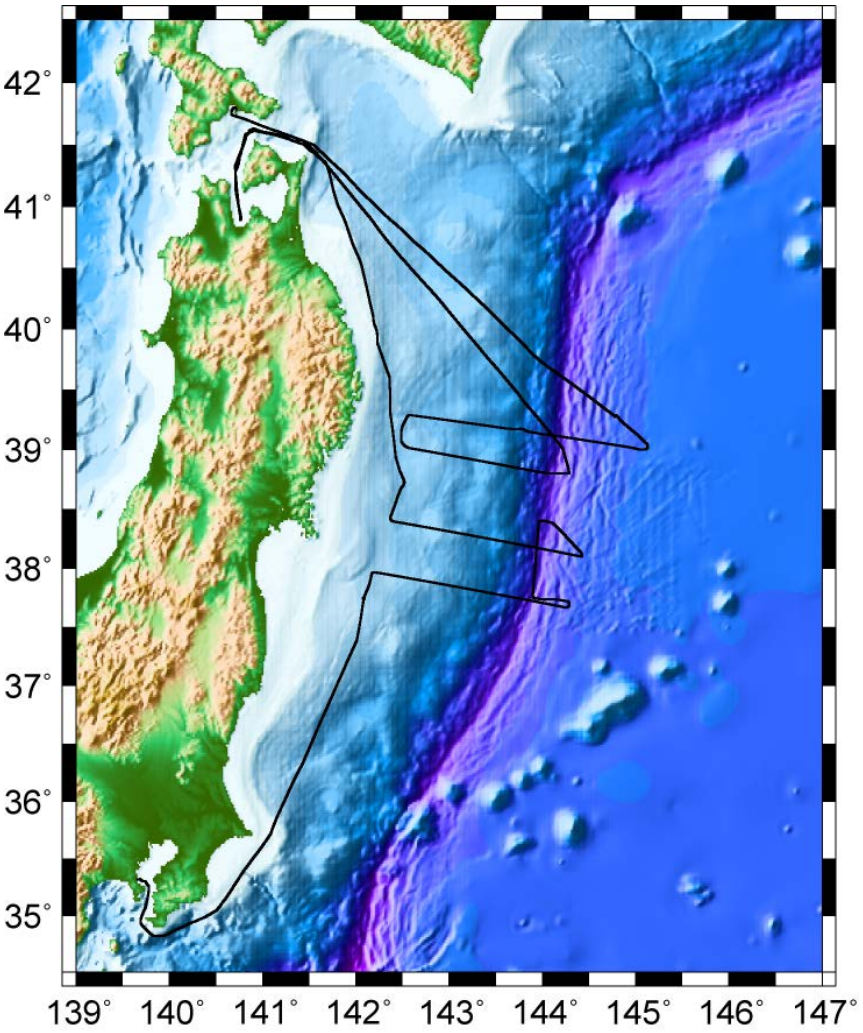
（3） Chief　Scientist [Affiliation]: Takeshi SATO [JAMSTEC]

（4） Cruise period, Port call:

2011/8/27-9/11, Hakodate to JAMSTEC (Yokosuka)

（5） Research Area: Japan Trench region

（6） Research Map:



2．Overview of　Observation：

（1）Objectives：

On 11 March 2011, the great earthquake (the 2011 Off the Pacific Coast of Tohoku Earthquake: Mw 9.0) occurred in the forearc area of the Japan Trench region. This earthquake caused devastating damages in the Tohoku and the Kanto regions. Especially, the huge tsunami struck to the Pacific coast in these regions and caused considerable damage. To understand the mechanism and tectonics around the source area of this great earthquake, it is very important to clarify the detailed crustal structure in the Japan Trench region. The objectives of this cruise are to reveal the detailed structure around the rupture zone of this great earthquake and transition of the structure in the subducted oceanic and continental plates from the trench landward.

（2）List of observation instruments：

1）Multi-channel seismic (MCS) reflection survey

On 5 lines (D03, D08, D16, D19 and S13 lines), the MCS reflection survey using a tuned air-gun array of 7,800 cubic inch and a 444 channel hydrophone streamer with a 12.5 m group interval was conducted. A volume of a tuned air-gun array on a part of D03, D16, and D19 lines is 7,200, 6,150, and 6,750 cubic inch, respectively, because of an air-gun system trouble. And, in one-third part on S13 line, a volume of a tuned air-gun array is 3,900 cubic inch because of a towed system trouble.

2）Bathymetry, Gravity and Geomagnetic observation

During this cruise, bathymetry, gravity and geomagnetic data have been recorded continuously by SEABEAM2112, gravity meter (KSS-31) and three-component magnetometer (SFG1214), respectively.

3）Temperature and Conductivity observation for the correction of sonic speed

Expendable Conductivity-Temperature-Depth (XCTD) and expendable-Bathy Thermograph (XBT) have been conducted to correct the sonic speed for the bathymetry data.