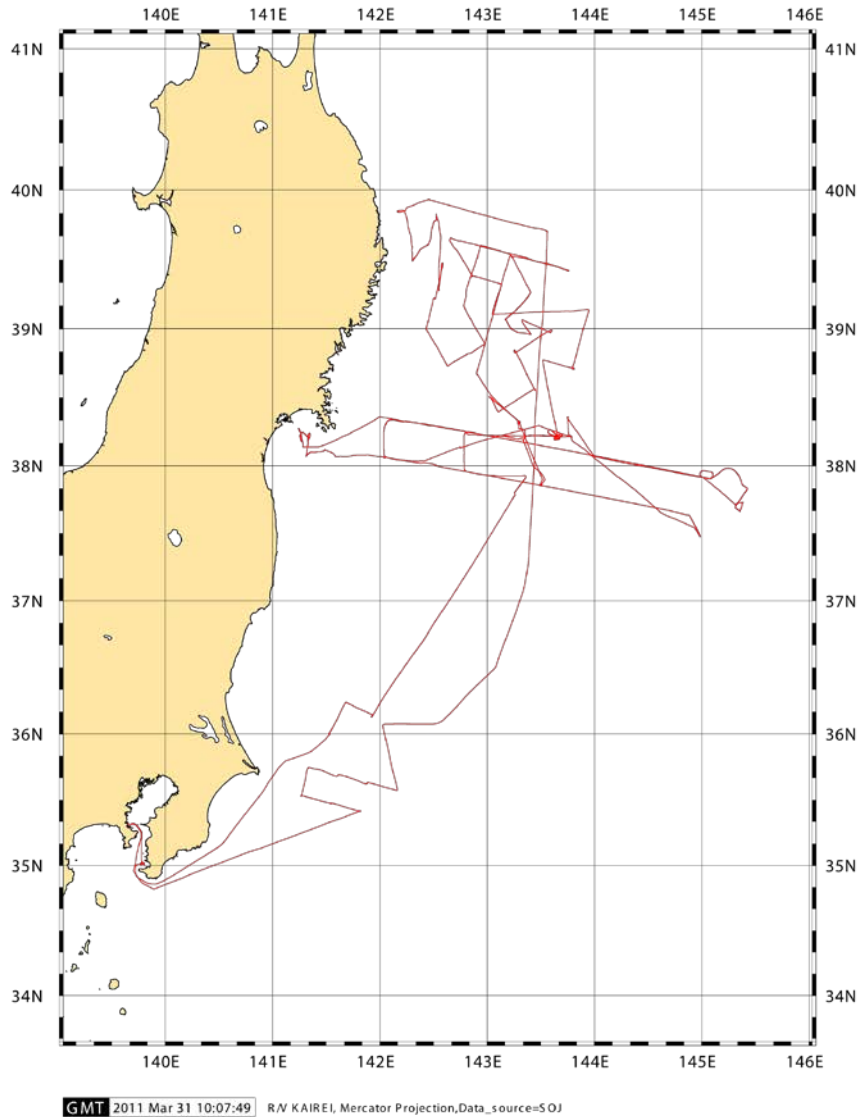


Cruise Summary

1. Cruise Information :

- (1) Cruise number, Ship name: KR11-05Leg2, R/V Kairei
- (2) Title of the cruise:
Urgent study of the 2011 off the Pacific coast of Tohoku Earthquake
- (3) Title of proposal:
Urgent study of the 2011 off the Pacific coast of Tohoku Earthquake
- (4) Cruise period, Port call:
2011/03/14-03/31, JAMSTEC (Yokosuka) to JAMSTEC (Yokosuka)
- (5) Research Area: Nihon kaiko region
- (6) Research Map:

KR 11-05_LEG2_Nav Track



2. Researchers

(1) Chief Scientist [Affiliation]: Yuka KAIHO [JAMSTEC]

(2) Representative of Science Party [Affiliation]:

Yoshiyuki Kaneda[JAMSTEC]

(3) Science party list:

Shuichi KODAIRA [JAMSTEC]

Narumi TAKAHASHI [JAMSTEC]

Koichiro OBANA [JAMSTEC]

Yuka KAIHO [JAMSTEC]

Gou FUJIE [JAMSTEC]

Seiichi MIURA [JAMSTEC]

Takeshi SATO [JAMSTEC]

Mikiya YAMASHITA [JAMSTEC]

Tetsuo NO [JAMSTEC]

Tsutomu TAKAHASHI [JAMSTEC]

Naoto NOGUCHI [JAMSTEC]

Toshiya FUJIWARA [JAMSTEC]

Ryota HINO [Tohoku Univ./JAMSTEC]

Masanao SHINOHARA [ERI, Univ. of Tokyo]

Kazuo NAKAHIGASHI [ERI, Univ. of Tokyo]

3. Overview of Observation :

(1) Objectives :

A massive earthquake of magnitude of 9.0 occurred Friday 11 March (The 2011 off the Pacific coast of Tohoku Earthquake), off the Pacific coast of the Tohoku Region, causing devastating damages in the Tohoku and Kanto region. No earthquake in such scale occurred before in Japan. A crustal deformation is estimated to be in the scale of more than several meters at the bottom of the ocean, which caused a huge tsunami. Tsunami occurred in a vast area for hundreds of kilometers from off Iwate Prefecture to Ibaraki Prefecture.

Such huge earthquakes have been repeatedly occurring, with focal area from shore of Tohoku to Japan Trench. Large numbers of aftershocks will occur around the wide focal areas. Attention to the aftershocks has to be paid in a long-term for this earthquake with magnitude of 9.

To reveal precise aftershock distribution urgently, R/V kairei cruise KR11-05 Leg2 were conducted. 39 OBS(Ocean Bottom Seismometer)s were deployed covering the whole source region. Already deployed 6 OBS and 1 OBP(Ocean bottom presser gauge) were recovered. Furthermore, MCS(Multi-Channel Seismic) survey was carried out.

(2) List of observation instruments :

1) Deployment of ocean bottom seismometers (OBSs)

39 OBSs (23:JAMSTEC, 16: ERI) were deployed focal area from shore Tohoku to Japan Trench.

2) Recovery of OBSs and OBP(Ocean bottom presser gauge)

3 OBSs and 1 OBP were recovered at off Miyagi. 3 OBSs were recovered at off Ibaraki.

3) Multi-channel seismic (MCS) reflection survey

On 2 lines (Off miyagi area:tTH03 and TH04, 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. Shot spacing is 50m for the MCS survey.

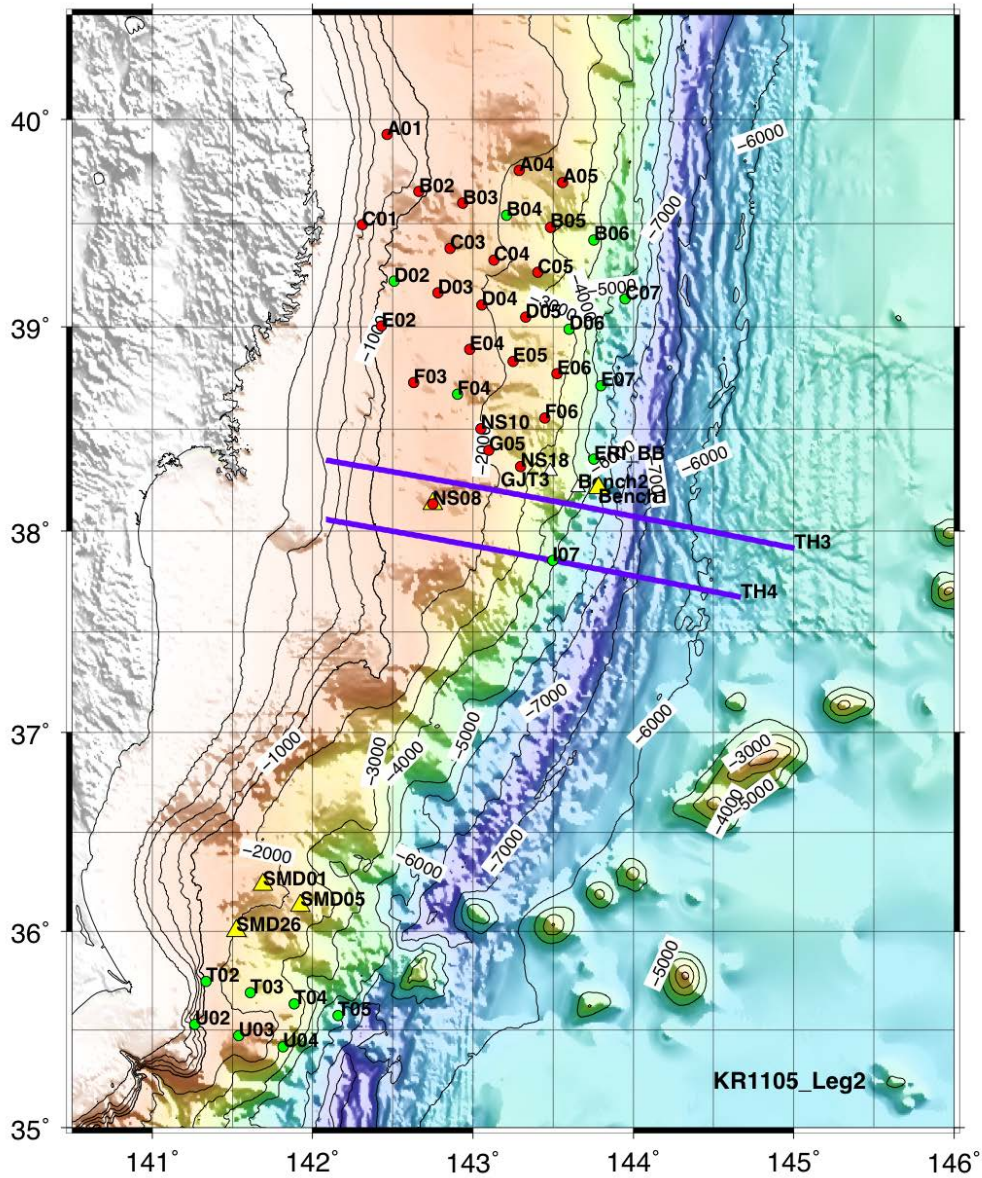
4) Bathymetry, Gravity and Geomagnetic observation

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) Cruise log:

Date		Remarks
2011/03/14	Mon	Departure from JAMSTEC (Yokosuka), and transit to survey area
2011/03/15	Tue	Deployment of 7 OBSs and transit to off Tohoku
2011/03/16	Wed	Deployment of 4 OBSs
2011/03/17	Thu	Deployment of 8 OBSs
2011/03/18	Fri	Deployment of 5 OBSs and recovery of 2 OBSs
2011/03/19	Sat	Deployment of 5 OBSs
2011/03/20	Sun	Deployment of 6 OBSs
2011/03/21	Mon	Deployment of 3 OBSs and calling of 2 OBSs and 1 OBP
2011/03/22	Tue	MCS survey on TH03 line(50m shot)
2011/03/23	Wed	MCS survey on TH03 line(50m shot)
2011/03/24	Thu	MCS survey on TH04 line(50m shot)
2011/03/25	Fri	Recovery and deployment of 1 OBS, recovery of 1 OBP and calling of 1 OBP. BBOBS were recovered at shore area. Transit to Ishino-maki bay for storm evacuation.
2011/03/26	Sat	Stay at Ishino-maki bay
2011/03/27	Sun	Transit to survey area. Calling the OBP.
2011/03/28	Mon	MCS survey on TH03 line landward side(50m shot)
2011/03/29	Tue	MCS survey on TH04 line landward side(50m shot) Transit to off Ibaraki
2011/03/30	Wed	Recovery of 3 OBS Transit to JAMSTEC
2011/03/31	Thu	Arrival at JAMSTEC (Yokosuka)

(4) OBS and MCS survey map



White circles show the deployed OBS positions. Red circles show the JAMSTEC OBSs and green circles show ERI OBSs. Yellow triangles show recovered instruments sites. Purple lines are MCS(50m shot) lines.