



R/V *Natsushima* Cruise Report

NT12-11

Seismic survey and seismicity study
in off Kii Peninsula, Nankai Trough

&

Site survey for D/V *Chikyu* in the Kumano Trough

May 3 – 10, 2012

Japan Agency for Marine-Earth Science and Technology

(JAMSTEC)

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1. Cruise Information

- (1) Cruise ID NT12-11
- (2) Name of vessel R/V *Natsushima*
- (3) Title of the cruise 2012FY “Seismic survey and seismicity study in off Kii Peninsula”
/ Site survey for D/V *Chikyu* in the Kumano Trough
- (4) Chief scientist Norio SHIMOMURA (JAMSTEC)
- (5) Title of proposal
 Proposal 1: Research for Interaction between the Tokai, Tonankai and Nankai Earthquakes
 –Seismic survey and seismicity study in off Kii Peninsula–
 Proposal 2: DONET Cable survey for D/V *Chikyu* in the Kumano Mud Volcano
- (6) Cruise period & port call
 May 3 – 10, 2012; from JAMSTEC (Yokosuka) to Yokosuka-shinkou (Yokosuka)
- (7) Research area off Kii Peninsula to Kumano-nada
- (8) Research area map

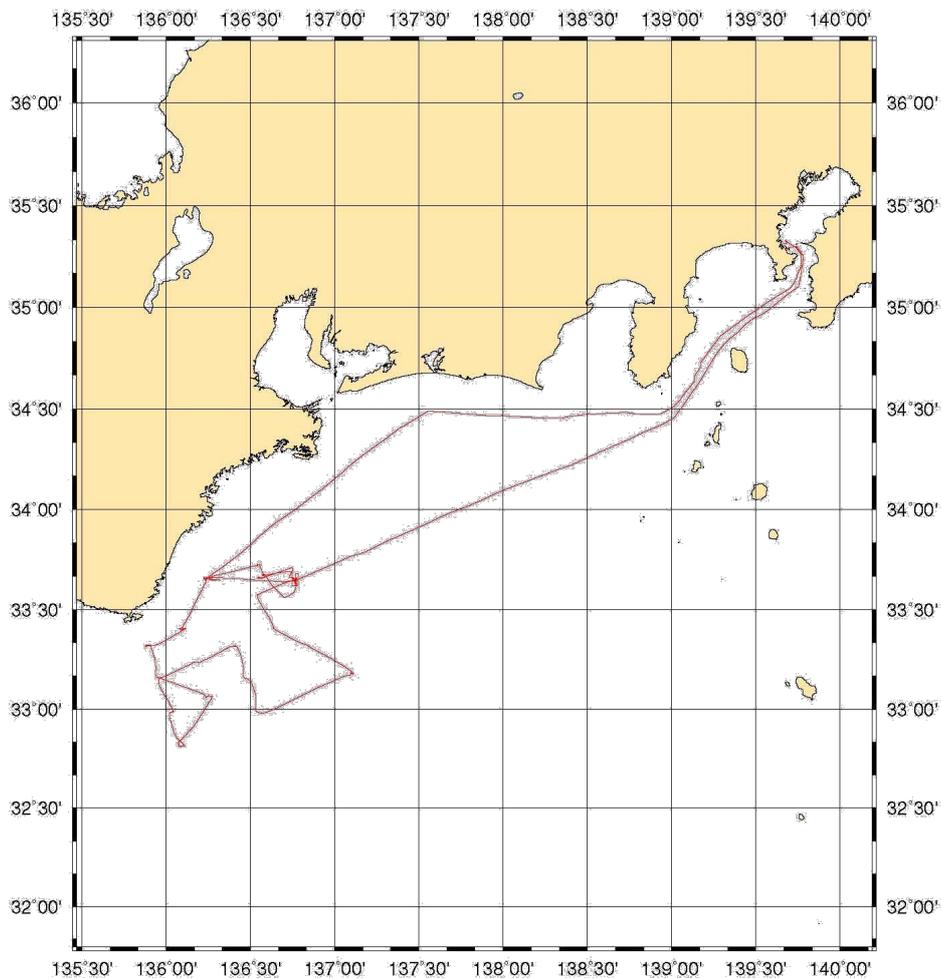


Fig. 1 Map of ship track in the NT12-11 Cruise.

2. Researchers

(1) Chief Scientist: Norio SHIMOMURA (JAMSTEC)

(2) Representative of Science Party

Proposal 1: Yoshiyuki KANEDA (JAMSTEC)

Proposal 2: Moe Kyaw (JAMSTEC)

(3) Science party list

Proposal 1:

Shuichi KODAIRA (JAMSTEC)

Narumi TAKAHASHI (JAMSTEC),

Yuka KAIHO (JAMSTEC),

Koichiro OBANA (JAMSTEC),

Gou FUJIE (JAMSTEC),

Ayako NAKANISHI (JAMSTEC),

Seiichi MIURA (JAMSTEC),

Takeshi SATO (JAMSTEC),

Jin-Oh PARK (JAMSTEC),

Tsutomu TAKAHASHI (JAMSTEC),

Yojiro YAMAMOTO (JAMSTEC),

Mikiya YAMASHITA (JAMSTEC),

Tetsuo NO (JAMSTEC),

Kazuhiko KASHIWASE (JAMSTEC),

Kaoru TAKIZAWA (NME Ltd.),

Naoto NOGUCHI (NME Ltd.),

Ami IWAKI (NME Ltd.)

Proposal 2:

Toshiro KAMINISHI* (JAMSTEC)

Hideaki MACHIYAMA* (JAMSTEC),

MOE Kyaw Thu (JAMSTEC),

Kan AOIKE (JAMSTEC),

Nobuhisa EGUCHI (JAMSTEC),

Fumio INAGAKI (JAMSTEC),

Katsuyoshi KAWAGUCHI (JAMSTEC)

**onboard scientist*

3. Overview of Observation:

(1) Objectives

1) Proposal 1

This research cruise was conducted as a part of the study of “Research program concerning interaction between the Tokai, Tonankai, and Nankai Earthquakes” funded by the Ministry of Education, Culture, Sports, Science, and Technology of Japan. The objectives of this cruise to reveal seismic structure and seismic activity in off Kii Peninsula, Nankai trough.

During the cruise of NT12-11_Leg2, 14 ocean bottom seismographs (OBSs) have been recovered. These OBSs were deployed during the cruise of KR11-09 by R/V Kairei in September 2011 and KY12-01 by R/V Kaiyo.

2) Proposal 2

In June 2012, a hybrid coring is planned by D/V *Chikyu* in the Kumano Daigo Knoll. In this cruise, we verify the location of DONET cables around the Kumano Daigo Knoll for the safety of D/V *Chikyu* drilling.

(2) List of observation instruments

1) Ocean bottom seismographs (OBSs)

During the cruise, 14 OBSs have been retrieved. One OBS was retrieved by HPD3000. Two OBS at site L11 and NT14 have not been recovered.

2) Others

During the cruise, bathymetry data have been recorded continuously.

(3) Cruise log

Date		Remarks
2012/5/3	Thu	Departure from JAMSTEC (Yokosuka) Stay at Yokosuka-Area4 to escape a low pressure area. Transit to survey area
2012/5/4	Fri	Transit to survey area. OBS recovery
2012/5/5	Sat	OBS recovery
2012/5/6	Sun	OBS recovery
2012/5/7	Mon	DONET Cable survey by HPD (Dive #1379)
2012/5/8	Tue	DONET Cable survey by HPD (Dive #1380)
2012/5/9	Wed	OBS recovery by HPD (Dive #1381). Transit to Yokosuka-shinkou (Yokosuka)
2012/5/10	Thu	Arrive at Yokosuka-shinkou (Yokosuka)

(4) Research Information

1) Proposal 1

a) OBS Recovery

During the cruise, 14 ocean bottom seismographs (OBSs) have been recovered. One OBS was retrieved by HPD3000. These OBSs were deployed during the cruise of KR11-09 by R/V Kairei in September 2011. Two OBSs have not been recovered.

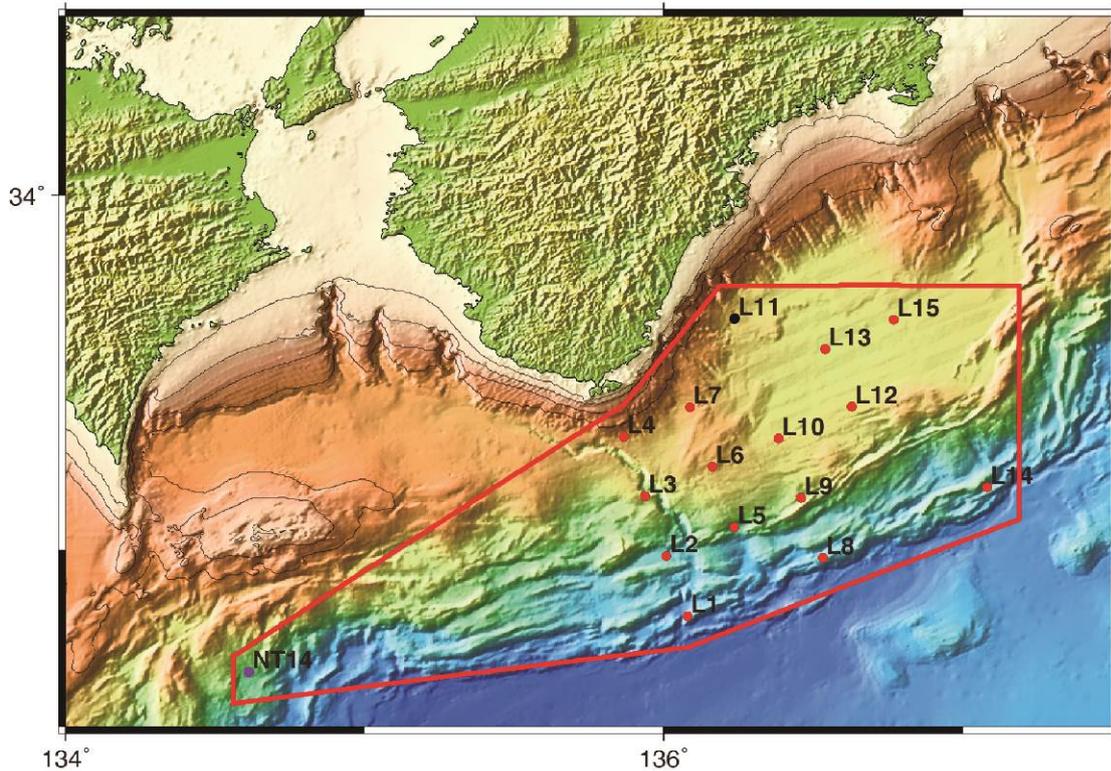


Fig.2 Map of the OBSs. Red circles are the OBSs recovered during the cruise NT12-11. Black and purple circles are unrecovered OBSs.

2) Proposal 2

Two diving surveys were carried out by ROV *Hyper-Dolphin 3000* (Fig. 3). The result from sea-floor observations, we've verified the position of DONET main and branch cables at the eastern and western sides of the Kumano Daigo Knoll.

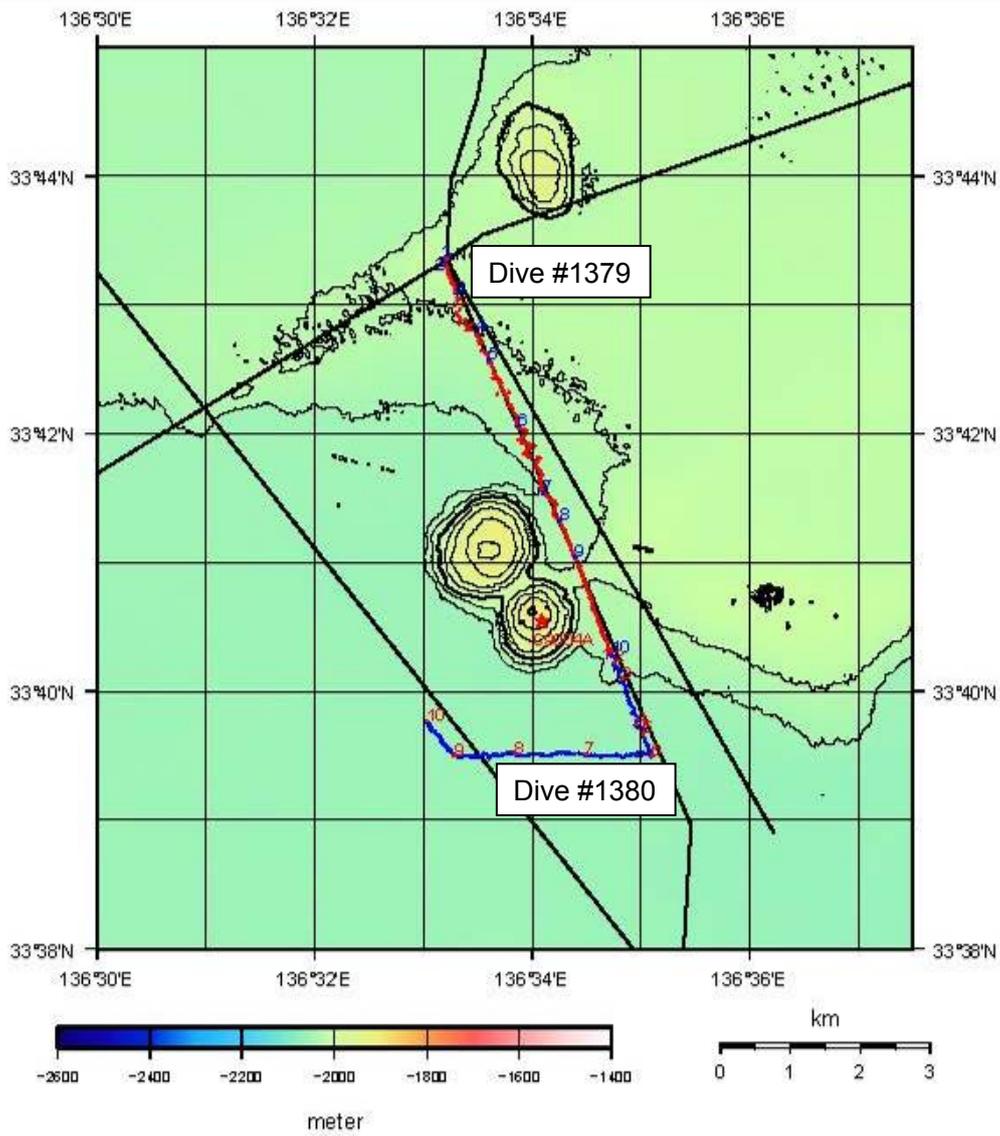


Fig.3 Diving survey tracks around the Kumano Daigo Knoll.

4. Notice on using:

This cruise report is a preliminary documentation as of the end of the cruise. It may not be corrected even if changes on content (i.e. taxonomic classifications) are found after publication. It may also be changed without notice. Data on the cruise report may be raw or not processed. Please ask the PI(s) for the latest information before using. Users of data or results of this cruise are requested to submit their results to Data Integration and Analysis Group (DIAG), JAMSTEC.