



R/V Kairei “Cruise Report”

KR13-01

Seismic survey at IODP JFAST site

Jan. 9, 2013-Jan.18, 2013

Japan Agency for Marine-Earth Science and Technology
(JAMSTEC)

•Contents

1: Cruise Information

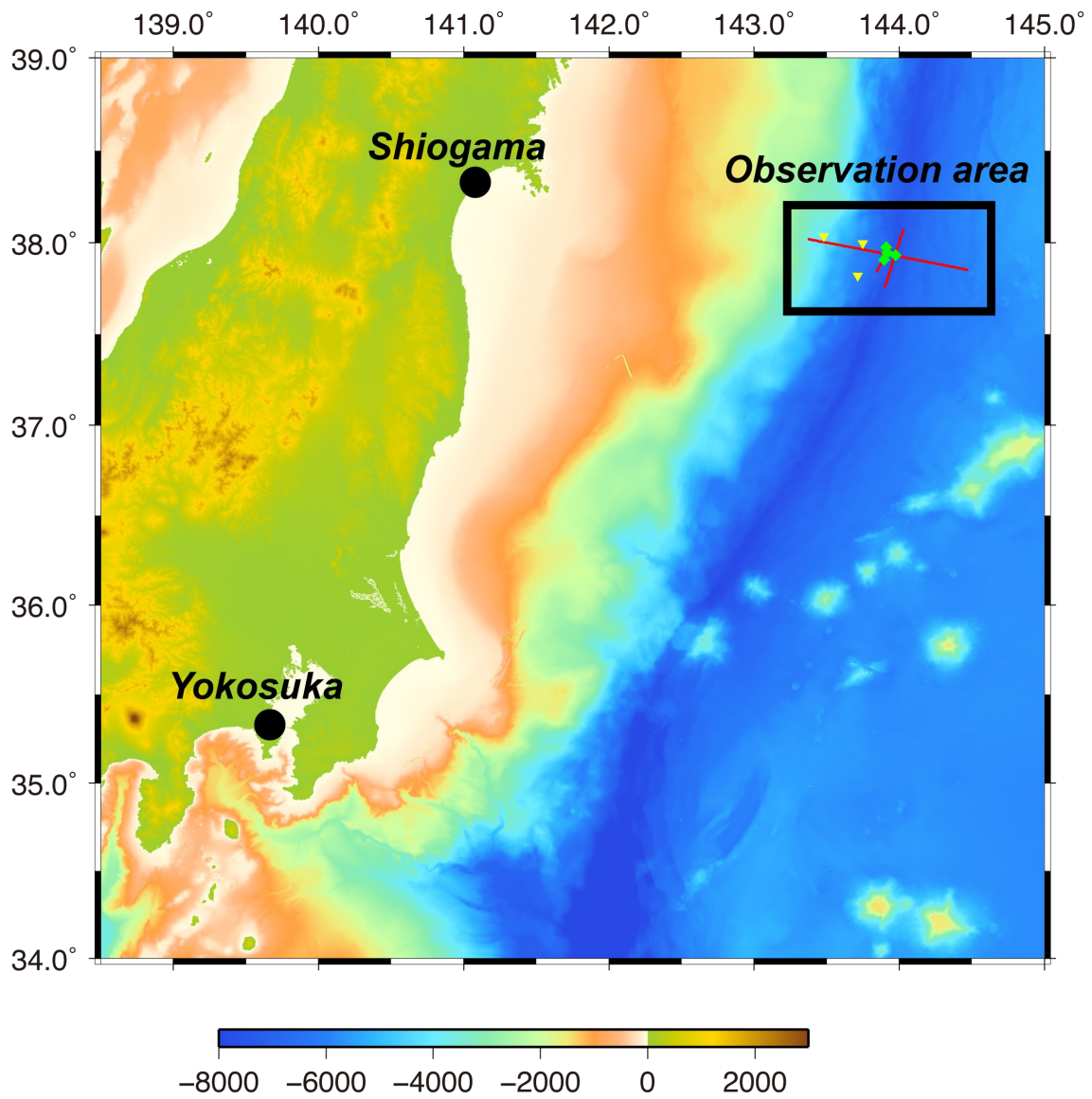
2: Researchers

3: Observation

4: Notice on using

1. Cruise Information

- Cruise ID: KR13-01
- Name of vessel: R/V Kairei
- Title of the cruise: Seismic survey at IODP JFAST site
- Cruise period: Jan. 9, 2013 – Jan. 18, 2013
- Ports of call: Shiogama ~ Sendai ~ JAMSTEC (Yokosuka)
- Research area: Japan Trench
- Research Map



Topography & Bathymetry (m)

2. Researchers

- Chief scientist: Shuichi KODAORA [JAMSTEC]
- Representative of the science party: Shuichi Kodaira [JAMSTEC]
- Science party (List) [Affiliation, assignment etc.]
 - Yoshiyuki KANEDA [JAMSTEC]
 - Mitsuhiro TORIUMI [JAMSTEC]
 - Narumi TAKAHASHI [JAMSTEC]
 - Yuka KAIHO [JAMSTEC]
 - Ayako NAKANISHI [JAMSTEC]
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 - Toshiya FUJIWARA [JAMSTEC]

3. Observation

- Observation

- Purpose

A purpose of this cruise is to obtain detailed seismic velocity structure at the IODP JFAST site by using multichannel reflection seismic system and ocean-bottom seismographs (OBSs). In order to acquire seismic refraction data around the JFAST site, we used newly developed ultra-deep ocean bottom seismographs in this survey. In addition to the seismic survey, three OBSs were deployed near the JFAST site to monitor aftershock activity of the earthquake occurred on 7/Dec./2012 just beneath the JFAST site.

- Observations

1) Seismic imaging

- Seismic reflection and refraction survey along the three profiles, JFD1, JFS12, JFS22
- Four OBSs were deployed around the JFAST site, JF1-4

2) Aftershock monitoring

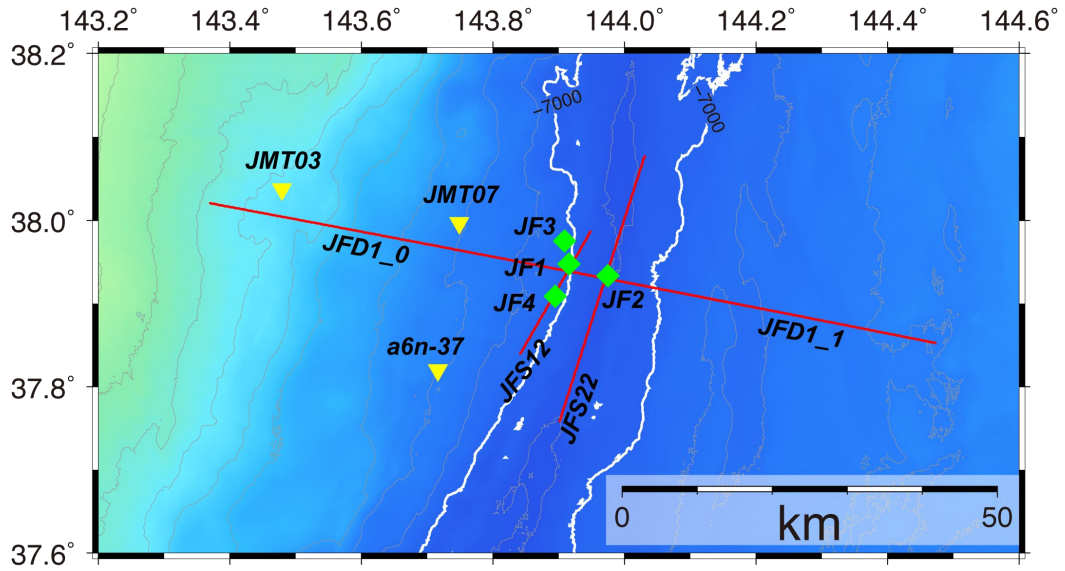
- Three OBSs were deployed at the trench-ward slope, JMT03, JMT07, a6n-37.

3) Bathymetry survey

- SEABEAM data were acquired along the ship track during this cruise

4) XCTD

- In order to acquire precise sonic velocity structure of water layer along the seismic profile, XCTD data were acquired.



- Methods, Instruments

1) Seismic survey

- Multichannel seismic reflection system mounted on KAIREI

- Ultra-deep OBS (Asakawa et al., 2013)

2) Aftershock monitoring

- JAMSTEC OBS

- MCS Line information

Line Name	DATE (UTC)	TIME (UTC)	VESSEL POSITION	
			Lat.	Lon.
JFD1_0	12/01/2013	05:50:49	38_01.23764'N	143_22.11811'E
	12/01/2013	13:28:24	37_53.99611'N	144_10.12332'E
JFD1_1	13/01/2013	10:28:42	37_54.60332'N	144_06.20865'E
	13/01/2013	13:42:19	37_51.15523'N	144_28.41541'E
JFS12_0	13/01/2013	06:00:40	37_50.32145'N	143_50.45674'E
	13/01/2013	08:05:24	37_59.23138'N	143_56.96339'E
JFS22_0	12/01/2013	20:22:41	38_04.64707'N	144_01.87930'E

	13/01/2013	03:01:43	37_45.46341'N	143_54.06805'E
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- OBS information

Site	Position			Remarks*
	Lat. (N)	Lon. (E)	Depth (m)	
JF1	37_56.8446	143_54.9741	6925	D (R: unable)
JF2	37_55.9962	143_58.5154	7448	D, R
JF3	37_58.5046	143_54.5551	7002	D, R
JF4	37_54.5421	143_53.7229	6886	D, R
JMT03	38_02.2203	143_28.7287	4131	D
JMT07	37_59.8020	143_44.9305	5947	D
a6n-37	37_49.2203	143_42.9637	5962	D

* D: Deployment, R: Recovery

4. Notice on Using

This cruise report is a preliminary documentation as of the end of the cruise. This report may not be corrected even if changes on contents (i.e. taxonomic classifications) may be found after its publication. This report may also be changed without notice. Data on this cruise report may be raw or unprocessed. If you are going to use or refer to the data written on this report, please ask the Chief Scientist for latest information. Users of data or results on this cruise report are requested to submit their results to the Data Management Group of JAMSTEC.