



## S/V Yokosuka Cruise Report

YK14-E02

2014FY “Marine geological and geophysical surveys to unravel the subduction zone great earthquakes and tsunamis : Seismic refraction and reflection survey in the outer rise region”, Japan trench (OBS deployment and retrieve)

Nov. 30, 2014 – Dec. 12, 2014

Japan Agency for Marine-Earth Science and Technology

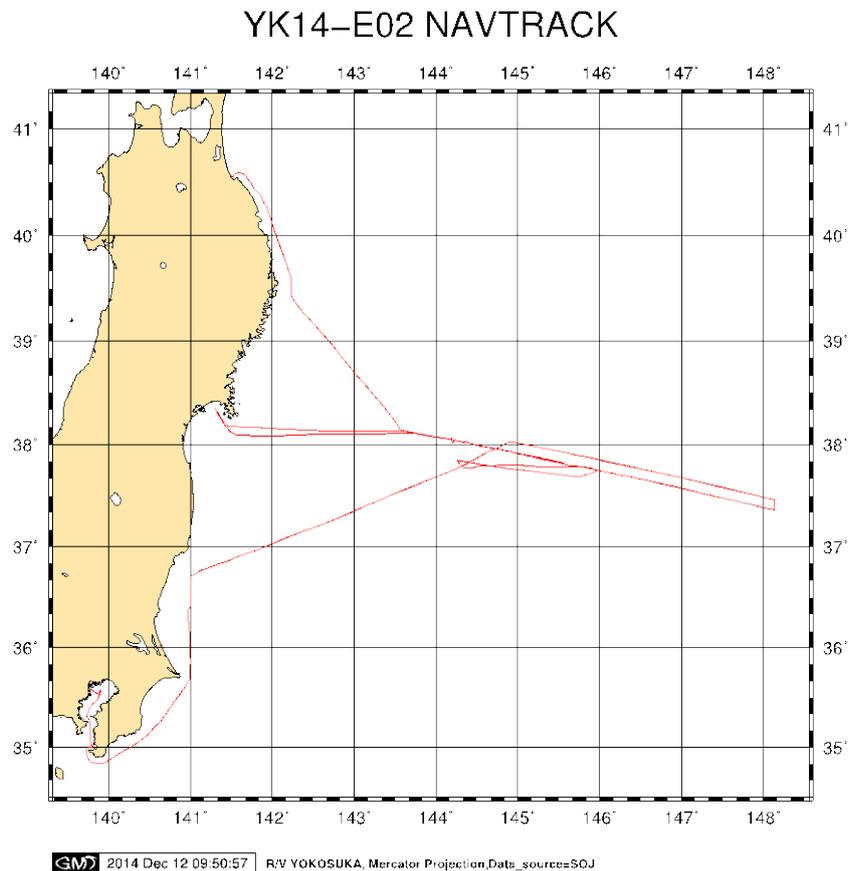
(JAMSTEC)

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1. Cruise Information :

- (1) Cruise number, Ship name: YK14-E02, M/V Yokosuka
- (2) Title of the cruise: 2014FY “Marine geological and geophysical surveys to unravel the subduction zone great earthquakes and tsunamis : Seismic refraction and reflection survey in the outer rise region” (OBS deployment and retrieve)
- (3) Title of proposal: Marine geological and geophysical surveys to unravel the subduction zone great earthquakes and tsunamis : Seismic refraction and reflection survey in the outer rise region
- (4) Cruise period, Port call:  
2014/11/30-12/12, Hachinohe to Tokyo
- (5) Research Area: Japan trench area
- (6) Ship track:



2. Researchers

- (1) Chief Scientist [Affiliation]: Yuka KAIHO [JAMSTEC]
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### 3. Overview of Observation :

#### (1) Objectives :

The objectives of this cruise are to reveal the nature of subduction zone mega earthquake through the crustal structure survey in the northern focal area of 2011 Off the Pacific coast of Tohoku Earthquake area and outer rise of adjacent oceanic plate.

Especially, large tsunami Earthquake such as 1933 Showa Sanriku, is concerned at outer rise area. Results of this study will contribute to understand the nature of subduction zone great earthquakes, outer rise earthquakes and incidental Tsunamis.

#### (2) List of observations :

##### 1) Deployment of ocean bottom seismometer (OBS)

1 OBS were deployed.

##### 2) Retrieve of ocean bottom seismometers (OBSs)

53 OBS were retrieved.

##### 3) Swath bathymetry mapping along survey line

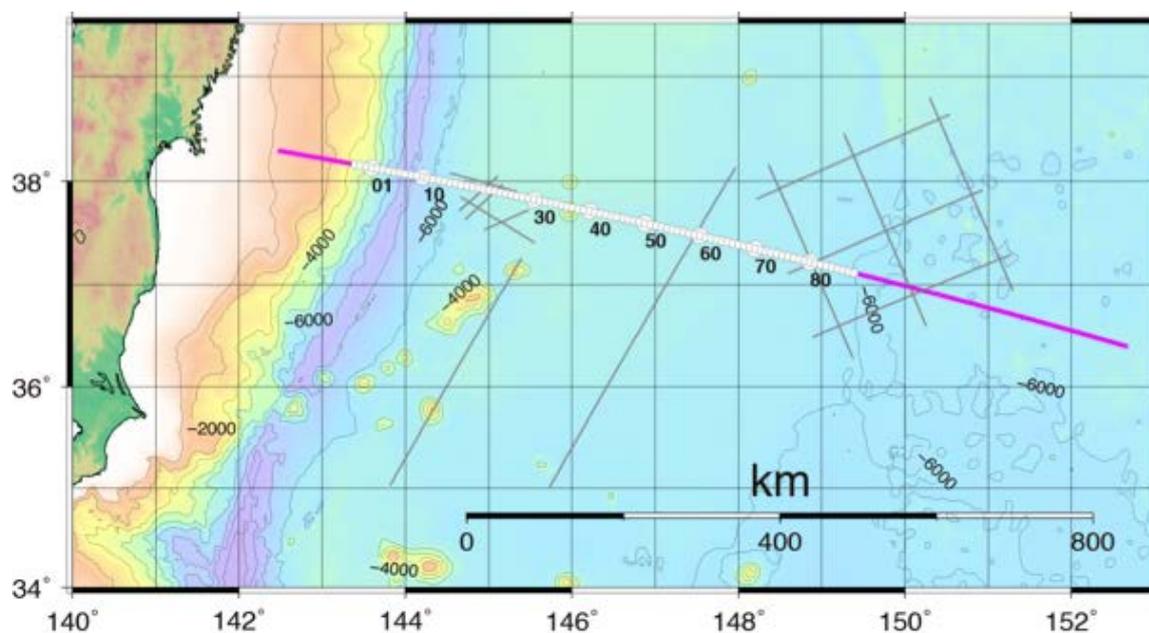
Swath mapping were carried out along the north side of survey line.

(3) Cruise log:

Date		Remarks
2014/11/30	Sun.	Departure from Hachinohe, transit, OBS Deployment and Retrieve
2014/12/1	Mon.	Standby due to weather condition
2014/12/2	Tue.	Standby due to weather condition
2014/12/3	Wed.	Standby due to weather condition
2014/12/4	Thu.	Transit and retrieve of 5 OBSs
2014/12/5	Fri.	Standby due to weather condition and Rretrieve of 4 OBSs
2014/12/6	Sat.	Standby due to weather condition and Retrieve of 8 OBSs
2014/12/7	Sun.	Standby due to weather condition
2014/12/8	Mon.	Retrieve of 21 OBSs
2014/12/9	Tue.	Retrieve of 13 OBSs and Swath mapping
2014/12/10	Wed.	Swath mapping /Transit
2014/12/11	Thu.	Transit
2014/12/12	Fri.	Arrival at Tokyo

(4) Observations

1) Location map of OBSs



Circles show the OBS positions.

2) Locations of recovered OBS

Site	OBS deployed position					Remarks
	Latitude(N)		Longitude(E)		Depth(m)	
01_1	38	8.0	143	35.9	4368	Recovered
01_2	38	8.0	143	36.0	4407	Deployed Recovered
2	38	7.3	143	40.0	4865	Recovered

3	38	6.8	143	44.0	5554	Recovered
10_2	38	2.4	144	13.0	6490	Recovered
12_2	38	1.2	144	20.4	6153	Recovered
14	37	60.0	144	28.5	5869	Recovered
15_2	37	59.3	144	32.5	5854	Recovered
15_3	37	59.3	144	32.6	5854	Recovered
16	37	58.7	144	36.5	5708	Recovered
17	37	58.0	144	40.5	5643	Recovered
18	37	57.4	144	44.6	5533	Recovered
20	37	56.1	144	52.6	5443	Recovered
21	37	55.4	144	56.6	5489	Recovered
22	37	54.8	145	0.6	5421	Recovered
23	37	54.2	145	4.7	5440	Recovered
24	37	53.5	145	8.7	5468	Recovered
25	37	52.8	145	12.7	5466	Recovered
26	37	52.2	145	16.7	5478	Recovered
27	37	51.5	145	20.7	5426	Recovered
28	37	50.9	145	24.7	5415	Recovered
34	37	46.8	145	48.8	5377	Recovered
35	37	46.2	145	52.8	5068	Recovered
36	37	45.5	145	56.8	4109	Recovered
37	37	44.8	146	0.8	3942	Recovered
38	37	44.1	146	4.8	5359	Recovered
39	37	43.4	146	8.8	5564	Recovered
40	37	42.7	146	12.8	5546	Recovered
41	37	42.0	146	16.8	5540	Recovered
42	37	41.4	146	20.8	5540	Recovered
43	37	40.6	146	24.8	5526	Recovered
44	37	40.0	146	28.8	5536	Recovered
45	37	39.3	146	32.8	5560	Recovered
46	37	38.5	146	36.8	5575	Recovered
47	37	37.8	146	40.8	5601	Recovered
48	37	37.1	146	44.8	5556	Recovered
49	37	36.4	146	48.7	5706	Recovered
50	37	35.7	146	52.7	5687	Recovered
51	37	35.0	146	56.7	5689	Recovered
52	37	34.3	147	0.7	5697	Recovered

53	37	33.6	147	4.6	5688	Recovered
54	37	32.9	147	8.6	5686	Recovered
55	37	32.1	147	12.7	5680	Recovered
56	37	31.4	147	16.6	5686	Recovered
57	37	30.7	147	20.6	5672	Recovered
58	37	29.9	147	24.6	5687	Recovered
59	37	29.2	147	28.5	5673	Recovered
60	37	28.5	147	32.5	5633	Recovered
61	37	27.7	147	36.5	5658	Recovered
62	37	27.0	147	40.4	5661	Recovered
63	37	26.3	147	44.4	5645	Recovered
64	37	25.5	147	48.4	5668	Recovered
65	37	24.8	147	52.4	5660	Recovered
66	37	24.0	147	56.3	5657	Recovered
67	37	23.3	148	0.3	5673	Recovered
68	37	22.6	148	3.8	5676	Recovered
69	37	21.8	148	8.2	5689	Recovered

\*Remaining OBSs of this survey were recovered in KR14-E02 cruise.

#### 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.