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R/V Natsushima Cruise Report

NT15-10

2015FY “Marine geological and geophysical surveys to investigate the nature of subduction zone mega earthquake and tsunamis: Seismicity observation in the outer rise and trench axis region”, Japan trench (OBS deployment)

June 23, 2015 – July 1, 2015

Japan Agency for Marine-Earth Science and Technology

(JAMSTEC)

Contents:

1．Cruise Information：

（1）Cruise number, Ship name: NT15-10, R/V Natsushima

（2）Title of the cruise: 2015FY “Marine geological and geophysical surveys to investigate the nature of subduction zone mega earthquake and tsunamis 5. Seismicity observation in the outer rise and trench axis region” (OBS deployment)

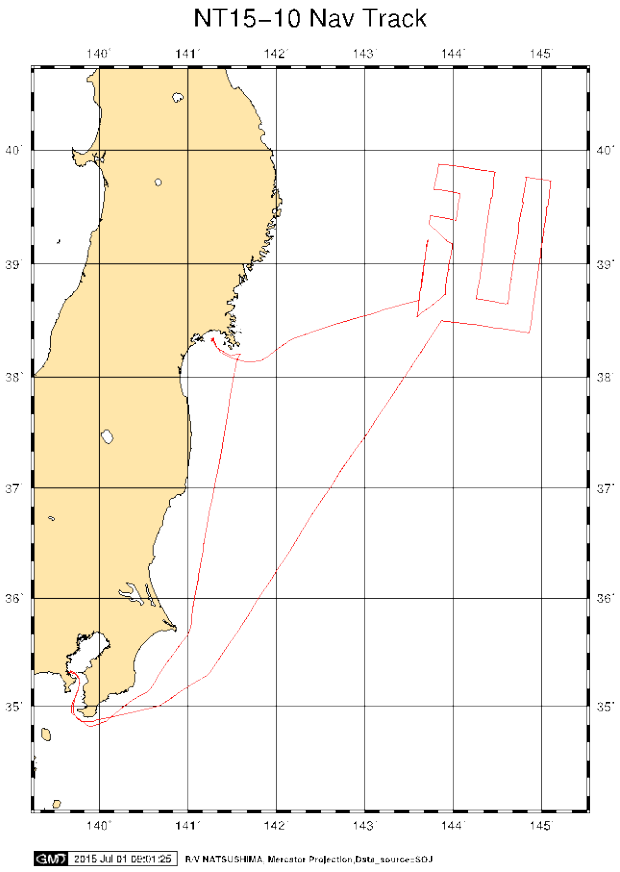
（3）Title of proposal: Marine geological and geophysical surveys to investigate the nature of subduction zone mega earthquake and tsunamis 5. Seismicity observation in the outer rise and trench axis region

（4）Cruise period, Port call:

2015/6/23-7/1, JAMSTEC (Yokosuka) to JAMSTEC (Yokosuka)

（5）Research Area: Japan trench area

（6）Ship track:



2．Researchers

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

（2）Representative of Science Party [Affiliation]:

Shuichi KODAIRA [JAMSTEC]

（3）Science party list:

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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 observation of natural earthquakes.

Historical large earthquake 1896 Meiji Sanriku and large tsunami earthquake 1933 Showa Sanriku are occurred in the northern part of Japan trench area. To reveal the seismicity, focal mechanism and peculiar events such as low frequency earthquakes in this area, earthquake observation was conducted. 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 seismometers (OBSs)

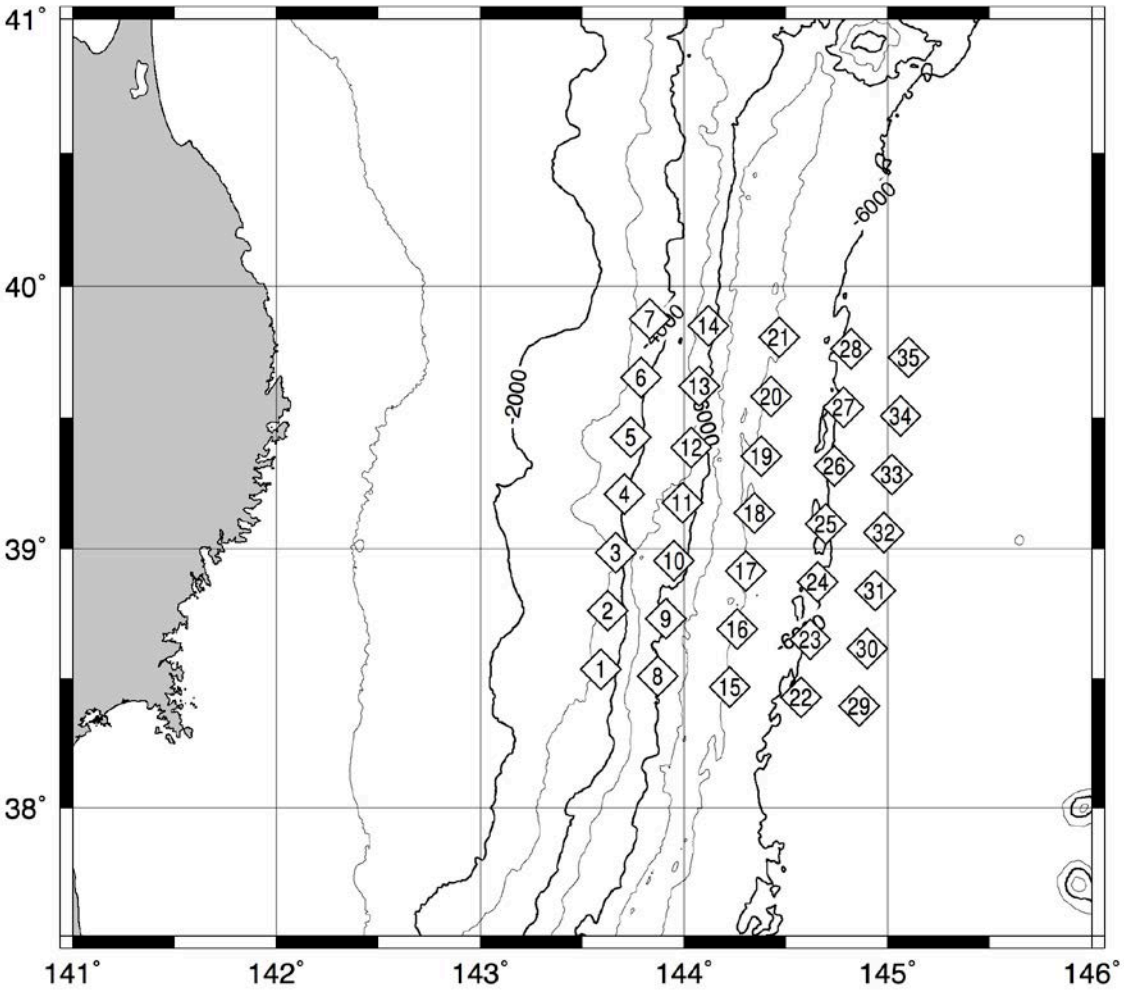
35 OBSs (recovery cruise is KY15-14) were deployed.

（3）Cruise log:

Date		Remarks
2015/6/23	Tue.	Departure from JAMSTEC (Yokosuka), and transit to survey area
2015/6/24	Wed.	Deployment of 3 OBSs
2015/6/25	Thu.	Deployment of 10 OBSs
2015/6/26	Fri.	Deployment of 12OBSs
2015/6/27	Sat.	Deployment of 10 OBSs
2015/6/28	Sun.	Standby due to weather condition
2015/6/29	Mon.	Standby due to weather condition
2015/6/30	Tue.	Transit to Yokosuka
2015/7/1	Wed.	Arrival at Yokosuka HQ

（4）Observations

1）Location map of OBSs



Diamonds show the deployed OBS positions.

2）Locations of recovered OBS

Site	OBS position					Remarks
	Latitude(N)		Longitude(E)		Depth(m)	
JSR01	38	32.2211	143	35.4685	3320	Deployed
JSR02	38	45.7645	143	37.5266	3414	Calibrated
JSR03	38	59.1034	143	39.9248	3342	Calibrated
JSR04	39	12.4855	143	42.3157	4062	Deployed
JSR05	39	25.5043	143	44.3012	3518	Deployed
JSR06	39	39.1909	143	47.3233	3515	Deployed
JSR07	39	52.5444	143	49.7701	3501	Deployed
JSR08	38	29.977	143	51.672	5814.4	Calibrated

JSR09	38	43.8843	143	54.5175	5795	Deployed
JSR10	38	57.2189	143	57.001	5564	Deployed
JSR11	39	10.5644	143	59.4367	5400	Deployed
JSR12	39	37.2437	144	1.9992	4994	Deployed
JSR13	39	50.9453	144	4.3489	5101	Deployed
JSR14	38	28.199	144	7.1432	5687	Deployed
JSR15	38	41.602	144	13.232	6843	Calibrated
JSR16	39	37.2437	144	15.589	6903.7	Calibrated
JSR17	38	54.8152	144	18.1789	6805	Deployed
JSR18	39	8.1724	144	20.5553	6896	Deployed
JSR19	39	21.2238	144	22.6197	6911	Deployed
JSR20	39	34.8679	144	25.509	6760	Deployed
JSR21	39	48.3521	144	27.9827	7030	Deployed
JSR22	38	25.599	144	34.245	5743.6	Deployed
JSR23	38	39.144	144	36.906	5884.1	Deployed
JSR24	38	52.299	144	39.049	5921.2	Deployed
JSR25	39	5.654	144	42.009	5943.7	Deployed
JSR26	39	18.959	144	44.065	5808	Calibrated
JSR27	39	32.471	144	47.011	5938.9	Calibrated
JSR28	39	45.753	144	49.175	5832.9	Calibrated
JSR29	38	23.707	144	51.297	5553.8	Calibrated
JSR30	38	36.971	144	53.78	5548.7	Calibrated
JSR31	38	50.283	144	56.213	5582.8	Calibrated
JSR32	39	3.614	144	58.784	5554.9	Calibrated
JSR33	39	17.	145	1.272	5601	Calibrated
JSR34	39	30.32	145	3.735	5592.8	Calibrated
JSR35	39	43.72	145	6.183	5545.5	Calibrated

* OBSs were recoverd in YK15-14 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.