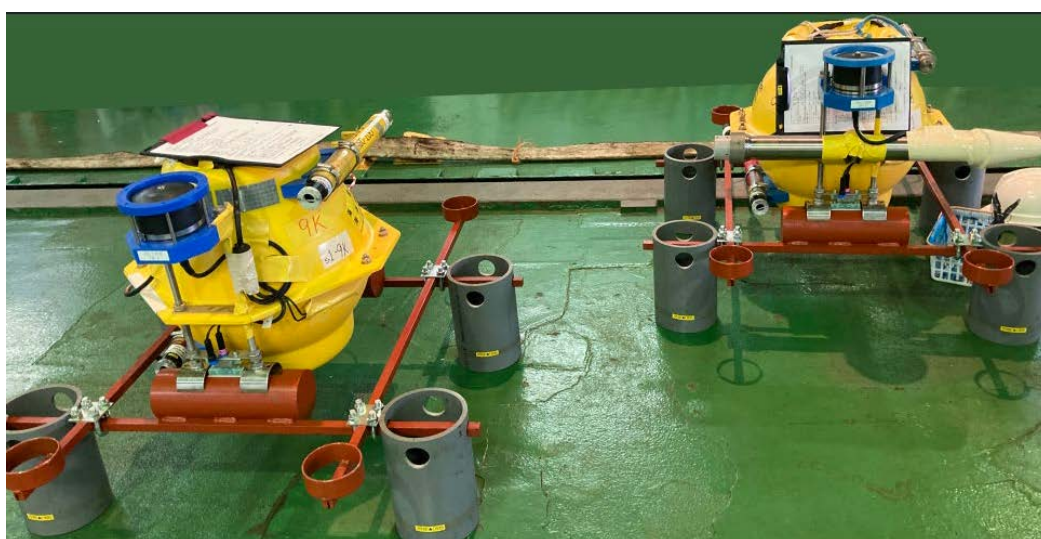




S/V Yokosuka Cruise Report

YK22-14



3D seismic survey to image plate boundary faults in the
subduction zone

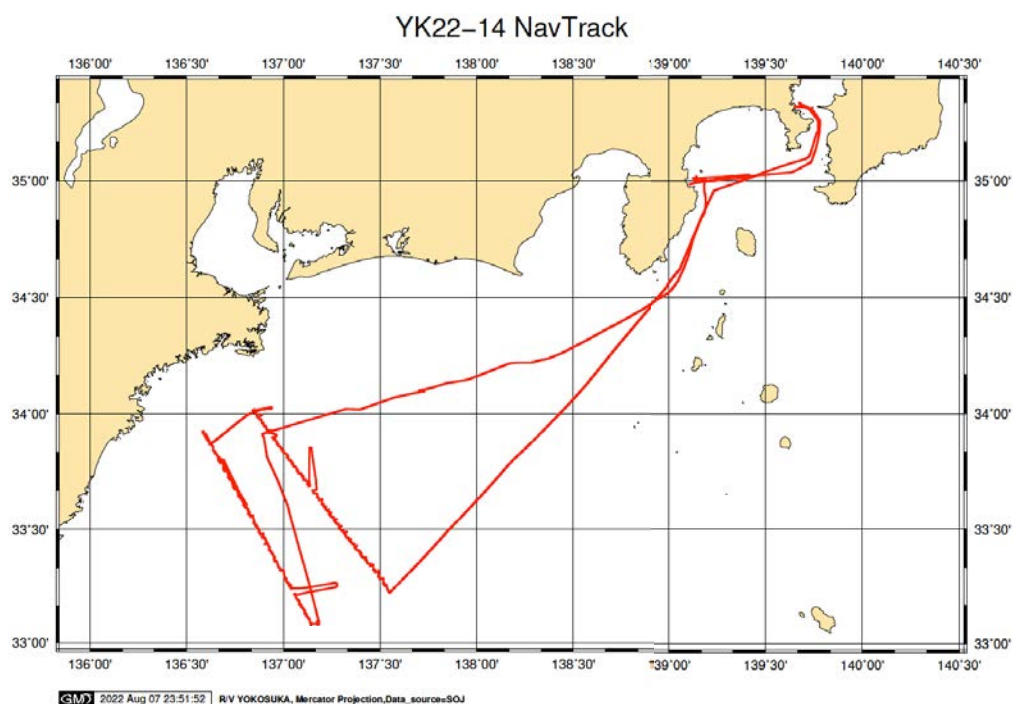
Nankai Trough

Aug.01,2022-Aug.08,2022

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

1. Cruise Information

- Cruise ID: YK22-14
- Name of vessel: S/V YOKOSUKA
- Title of cruise: 3D seismic survey to image plate boundary faults in the subduction zone
- Chief Scientist: Yuka Kaiho (JAMSTEC)
- Cruise period: 2022/08/01 - 2022/08/08
- Ports of departure / call / arrival: Yokosuka - Yokosuka
- Research area: Nankai Trough
- Research map



2. Research Proposal and Science Party

- Title of proposal: P22-09_1 3D seismic survey to image plate boundary faults in the subduction zone
- Representative of Science Party: Seiichi Miura [JAMSTEC]
- Science Party (List) [Affiliation, assignment etc.]

Shuichi Kodaira [JAMSTEC]

Seiichi Miura [JAMSTEC]

Yasushi Ishihara [JAMSTEC]

Gou Fujie [JAMSTEC]

Yasuyuki Nakamura [JAMSTEC]

Yuka Kaiho [JAMSTEC]

Ayako Nakanishi [JAMSTEC]

Ryuta Arai [JAMSTEC]

Kazuya Shiraishi [JAMSTEC]

Tetsuo No [JAMSTEC]

Xin Liu [JAMSTEC]

Yanfang Qin [JAMSTEC]

Kaoru Takizawa [JAMSTEC]

Ryo Miura [JAMSTEC]

Koichiro Obana [JAMSTEC]

Tsutomu Takahashi [JAMSTEC]

Takashi Tonegawa [JAMSTEC]

Takane Hori [JAMSTEC]

Takeshi Iinuma [JAMSTEC]
Yojiro Yamamoto [JAMSTEC]
Fumiaki Tomita [JAMSTEC]
Ryota Hino [Tohoku University]
Motoyuki Kido [Tohoku University]
Yusaku Ohta [Tohoku University]
Masanao Shinohara [Tokyo University]
Kimihiro Mochizuki [Tokyo University]

3. Research Activities

This research cruise was planned to conduct the “3D seismic survey to image plate boundary faults in the subduction zone”. In this, cruise, we deployed the ocean bottom seismographs for the crustal structure survey in Nankai Trough.

(1) OBS deployment for seismic survey

We deployed 100 OBSs along the two survey lines for structural survey off Kumano. These OBSs were recovered in Daiichi-Kaiyo Maru cruises. Airgun shooting were carried out in KM22-14 cruises.

Table 1: OBS positions

Site	Lat.(N)		Lon.(E)		Depth(m)
	Deg.	Min.	Deg.	Min.	
001	33	5.1119	137	8.5732	4272.29
001-9K(※)	33	5.1231	137	8.5702	4269.14
002	33	5.8472	137	8.0937	4302.37
003	33	7.4220	137	6.8712	4328.12
004	33	8.2312	137	6.4057	3938.58
005	33	9.8561	137	5.3857	3426.03
006	33	10.7050	137	4.8080	3686.66
007	33	12.2567	137	3.8695	3095.78
008	33	13.0719	137	3.3656	3481.15
009	33	14.5449	137	2.3387	3578.39
010	33	15.3137	137	1.8400	3460.76
011	33	16.9355	137	0.7547	3183.38
012	33	17.6989	137	0.2667	3033.85
013	33	19.2698	136	59.2316	2717.96
014	33	20.0835	136	58.7062	2685.77
015	33	21.6663	136	57.6994	2444.61
016	33	22.4689	136	57.1364	2294.17
017	33	24.0298	136	56.0833	2009.39
018	33	24.8401	136	55.5900	1908.9
019	33	26.3889	136	54.5483	1787.28
020	33	27.9387	136	53.5030	1920.61
021	33	28.7701	136	53.0004	1983.41

022	33	29.5572	136	52.4490	2031.45
023	33	31.0945	136	51.4424	2111.82
024	33	31.9114	136	50.9228	2071.37
025	33	33.4428	136	49.8674	2072.41
026	33	34.2291	136	49.3450	2078.02
027	33	35.7693	136	48.2756	2066.17
028	33	36.5742	136	47.7476	2062.74
029	33	38.1919	136	46.7062	2077.1
030	33	38.9914	136	46.1593	2080.63
031	33	40.5281	136	45.1174	2065.02
032	33	41.3400	136	44.5880	2061.01
033	33	42.9194	136	43.5125	2005.74
034	33	43.7110	136	42.9999	2037.92
035	33	45.1816	136	42.1551	2023.67
036	33	45.9889	136	41.5715	2031.28
037	33	47.3316	136	40.5554	2031.21
038	33	48.3629	136	39.8822	2057.95
039	33	49.9157	136	38.8612	2041.44
040	33	50.7511	136	38.2963	2007.39
041	33	52.2515	136	37.2103	1970.4
042	33	53.0278	136	36.6909	1972.09
043	33	54.5436	136	35.5653	1951.59
044	33	55.4399	136	35.1192	1923.36
045	34	0.9338	136	50.6459	934.71
046	34	0.3579	136	51.1445	922.09
047	33	59.1823	136	52.1846	846.9
048	33	58.5891	136	52.7117	829.45
049	33	57.5700	136	53.6692	986.23
050	33	56.8778	136	54.2607	862.23
051	33	55.7214	136	55.2864	862.71
052	33	55.1232	136	55.6931	911.97
053	33	53.9810	136	56.7386	1211.74
054	33	53.3730	136	57.2638	1344.96
055	33	52.1787	136	58.2252	1531.56
056	33	51.6278	136	58.7639	1732.83
057	33	50.4689	136	59.8145	1976.84
058	33	49.9105	137	0.3249	2065.26

059	33	48.7196	137	1.3286	1964.87
060	33	48.1549	137	1.8778	2016.36
061	33	46.9714	137	2.8860	1998.03
062	33	46.4321	137	3.3304	2016.76
063	33	45.2748	137	4.4279	1995.68
064	33	44.6719	137	4.9169	2000.51
065	33	43.4967	137	5.9771	1962.4
066	33	42.9035	137	6.5072	1989.35
067	33	41.7644	137	7.4927	1983.29
068	33	41.1897	137	8.0269	1995.06
069	33	40.0559	137	9.0570	1653.81
070	33	39.4642	137	9.5997	1346.45
071	33	38.3117	137	10.5689	1385.16
072	33	37.6174	137	11.2805	1912.26
073	33	36.5771	137	12.1557	1912.29
074	33	36.0307	137	12.6820	2320.32
075	33	34.8346	137	13.8330	2555.9
076	33	34.2364	137	14.3694	2523.3
077	33	33.1441	137	15.3781	2615.47
078	33	32.5711	137	15.9032	2660.5
079	33	31.3489	137	16.8800	3064.66
080	33	30.7499	137	17.4196	3265.18
081	33	29.6272	137	18.4396	3282.03
082	33	29.0418	137	18.9725	3204.47
083	33	27.8308	137	19.8743	3017.7
084	33	27.2900	137	20.5480	3265.01
085	33	26.1947	137	21.7051	3292.73
086	33	25.6134	137	22.2594	3520.98
087	33	24.5215	137	23.2974	3633.09
088	33	23.9132	137	23.8396	3636.96
089	33	22.5502	137	25.0380	4114.6
090	33	22.1575	137	25.3293	3916.15
091	33	21.0036	137	26.3616	4149.18
092	33	20.4202	137	26.9297	4097.86
093	33	19.3010	137	27.9397	3945.55
095	33	18.7236	137	28.4228	4073.77
096	33	17.5355	137	29.4946	4159.75

097	33	16.9555	137	29.9883	4119.6
098	33	15.7963	137	31.0314	3966.37
099	33	15.2344	137	31.4888	4027.38
100	33	14.0254	137	32.5579	3986.66

※001-9K: Deployment test site, see (2)

(2) Deployment test of newly developed OBS

In this cruise, deployment test of newly developed OBS were carried out.

New type OBS use 9000m pressure-resistant glass sphere container replacing with ceramic sphere.

These OBS were recovered in Daiichi-Kaiyo Maru cruises.

(3) Bathymetry and magnetics observation

During the cruise, bathymetry and magnetics data have been recorded continuously.

4. Cruise Log

Date	Event	Note
8/1/2022	Departure from JAMSTEC No.1 wharf, Yokosuka transit	
8/2/2022	transit OBS deployment(OBS100~71)	
8/3/2022	OBS deployment(OBS70~41)	
8/4/2022	OBS deployment(OBS40~13)	
8/5/2022	OBS deployment(OBS12~1, 1-9K)	OBS001-9K and OBS001 were deployed at same site.
8/6/2022	transit	
8/7/2022	transit	
8/8/2022	Arrived at Nissan No.6 wharf, Yokosuka	

5. Notice on Using

This cruise report is a preliminary documentation as of the end of cruise.

This report is not necessarily corrected even if there is any inaccurate description (i.e. taxonomic classifications). This report is subject to be revised without notice. Some data on this report may be raw or unprocessed. If you are going to use or refer the data on this report, it is recommended to ask the Chief Scientist for latest status.

Users of information on this report are requested to submit Publication Report to JAMSTEC.

<http://www.godac.jamstec.go.jp/darwin/explain/1/e#report>

E-mail: submit-rv-cruise@jamstec.go.jp