



R/V *Kaimei* “Cruise Report”
KM25-03



Detailed investigation of the offshore seismogenic faults:
seismic surveys and observations for crustal deformation

Nankai Trough

April 6,2025 – April 21,2025

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

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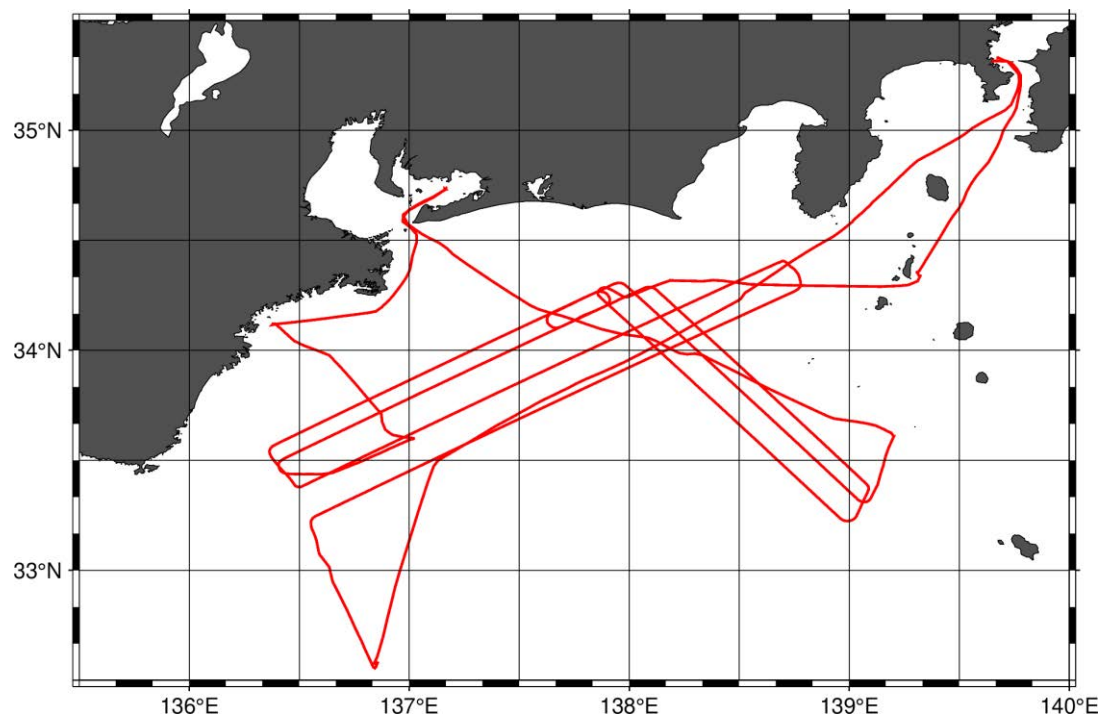
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Acknowledgement

1. Cruise Information

- Cruise ID: KM25-03
- Name of vessel: R/V Kaimei
- Title of cruise: Detailed investigation of the offshore seismogenic faults: seismic surveys and observations for crustal deformation
- Chief Scientist [Affiliation]:
Yasuyuki Nakamura [JAMSTEC]
- Cruise period:
6 April 2025 – 21 April 2025
- Ports of departure / arrival: Yokosuka - Yokosuka
- Research area: Nankai Trough
- Research map



2. Research Proposal and Science Party

- Title of proposal: Detailed investigation of the offshore seismogenic faults: seismic surveys and observations for crustal deformation
- Representative of Science Party [Affiliation]: Seiichi Miura [JAMSTEC]
- Science Party (List) [Affiliation, assignment etc.]
 - Seiichi Miura [JAMSTEC]
 - Gou Fujie [JAMSTEC]
 - Koichiro Obana [JAMSTEC]
 - Yasushi Ishihara [JAMSTEC]
 - Yasuyuki Nakamura [JAMSTEC]
 - Ayako Nakanishi [JAMSTEC]
 - Kazuya Shiraishi [JAMSTEC]
 - Ryuta Arai [JAMSTEC]
 - Yanfang Qin [JAMSTEC]
 - Ryoichiro Agata [JAMSTEC]
 - Tetsuo No [JAMSTEC]
 - Ryo Miura [JAMSTEC]
 - Yuka Kaiho [JAMSTEC]
 - Tsutomu Takahashi [JAMSTEC]
 - Takashi Tonegawa [JAMSTEC]
 - Takane Hori [JAMSTEC]
 - Takeshi Iinuma [JAMSTEC]
 - Yojiro Yamamoto [JAMSTEC]
 - Shuichi Kodaira [JAMSTEC]
 - Ryota Hino [Tohoku Univ.]
 - Motoyuki Kido [Tohoku Univ.]
 - Kazuo Nakahigashi [Tokyo University of Marine Science and Technology]
 - Jin-Oh Park [Univ. Tokyo]
- Onboard Science Party (List) [Affiliation, assignment etc.]
 - Yasuyuki Nakamura [JAMSTEC]: Chief Scientist
 - Ryo Miura [JAMSTEC]: Associate Chief Scientist
 - Naoto Noguchi [NME]: Chief Marine Technician
 - Hikaru Iwamaru [NME]: Marine Technician, Chief Navigator
 - Yoshiki Horiuchi [NME]: Marine Technician, Chief Observer, Navigator
 - Kimiko Serizawa [NME]: Marine Technician, Chief QC/Processor
 - Toshimasa Nasu [NME]: Marine Technician, Chief Gunner
 - Natsune Iho [NME]: Marine Technician, Navigator
 - Masayuki Toizumi [NME]: Marine Technician, Observer
 - Kakeru Harayama [NME]: Marine Technician, Observer
 - Tatsuya Sugiyama [NME]: Marine Technician, Observer
 - Makoto Ito [NME]: Marine Technician, QC/Processor
 - Masanori Yokoi [NME]: Marine Technician, QC/Processor
 - Hiroto Jimba [NME]: Marine Technician, Gunner
 - Yuuki Owatari [NME]: Marine Technician, Gunner
 - Satoshi Okazaki [NME]: Marine Technician, Gunner

3. Research/Development Activities

3.1 Background and objectives

This survey was originally planned to conduct the seismic reflection survey in the Nankai Trough and southern Japan Trench, and the GNSS-A geodetic observations in the Japan Trench to achieve the mid-term goal "Understanding the seismogenic zone by offshore surveys and observations." Due to circumstances such as bad weather during the cruise, we conducted a multi-channel seismic survey to delineate the subsurface structure in the Nankai Trough and did not carry out other surveys and observations.

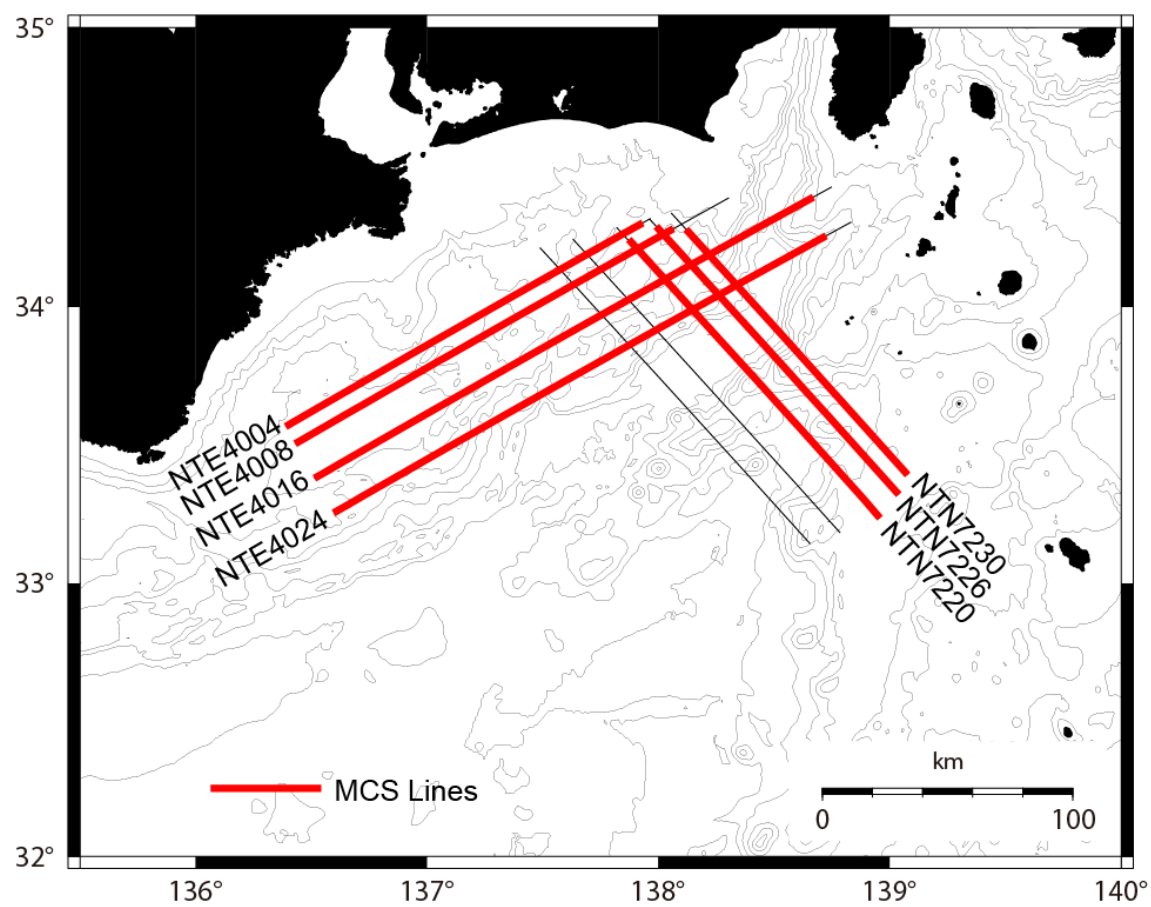
3.2 List of observations

- (1) 2D reflection seismic survey (MCS)
R/V *Kaimei* towed a streamer cable (5100-5250 m long) at 25 m depth, and the air gun arrays (10600 inch³ in total) at 10 m depth along the survey lines. Air guns were fired every 50 m.
- (2) XCTD
Three XTD casts were conducted during the cruise to obtain accurate velocity profiles in the water column.
- (3) Bathymetry and magnetic measurements
Bathymetry and magnetometer data were recorded during the cruise.

3.3 List of equipment used during the cruise

2D MCS system
XCTD-4
Multibeam echo sounder EM122
Three-component magnetometer SFG-2015

3.4 Line and site map



3.5 Seismic line list

MCS survey lines

NO.	LINE NAME	DATE (UTC)	TIME (UTC)	F.S.P.	VESSEL POSITION		NUMBER OF SHOT FGSP - LGSP (SP# Increment)	LENGTH FGSP - LGSP (km)	DIRECTION (°)	Mode (m)
				F.G.S.P.						
				L.G.S.P.						
				L.S.P.	Lat.	Lon.				
1	NTE4004-1005	2025/04/10	09:49:56	1001	33_34.19496'N	136_23.37822'E	3286	164.25	59.1°	Distance (50m)
		2025/04/10	09:49:56	1001	33_34.19496'N	136_23.37822'E				
		2025/04/11	08:00:10	4286	34_18.16686'N	137_55.99080'E	1			
		2025/04/11	08:00:10	4286	34_18.16686'N	137_55.99080'E				
2	NTE4004-2008	2025/04/17	06:35:04	4104	34_15.69096'N	137_50.64396'E	392	19.55	239.1°	Distance (50m)
		2025/04/17	06:43:12	4079	34_15.35334'N	137_49.93866'E				
		2025/04/17	08:52:21	3688	34_10.18284'N	137_38.84088'E	-1			
		2025/04/17	08:52:21	3688	34_10.18284'N	137_38.84088'E				
3	NTE4008-1007	2025/04/16	10:21:42	1001	33_30.45594'N	136_25.85880'E	3104	155.15	59.1°	Distance (50m)
		2025/04/16	10:21:42	1001	33_30.45594'N	136_25.85880'E				
		2025/04/17	05:00:05	4104	34_11.97126'N	137_53.27010'E	1			
		2025/04/17	05:00:05	4104	34_11.97126'N	137_53.27010'E				
4	NTE4008-2009	2025/04/17	10:22:43	3700	34_06.61728'N	137_41.81952'E	752	37.55	59.1°	Distance (50m)
		2025/04/17	10:32:12	3729	34_07.00974'N	137_42.63564'E				
		2025/04/17	14:45:03	4480	34_16.92450'N	138_03.95646'E	1			
		2025/04/17	14:45:03	4480	34_16.92450'N	138_03.95646'E				
5	NTE4016-1004	2025/04/08	15:31:19	5580	34_23.62002'N	138_40.00296'E	4580	228.95	239.2°	Distance (50m)
		2025/04/08	15:31:19	5580	34_23.62002'N	138_40.00296'E				
		2025/04/10	06:26:04	1001	33_22.84134'N	136_30.67050'E	-1			
		2025/04/10	06:26:04	1001	33_22.84134'N	136_30.67050'E				

6	NTE4024-1001	2025/04/07	11:55:39	1001	33_15.39018'N	136_35.81352'E	4502	225.05	59.2°	Distance (50m)
		2025/04/07	11:55:39	1001	33_15.39018'N	136_35.81352'E				
		2025/04/08	10:39:39	5502	34_15.07326'N	138_42.78102'E				
		2025/04/08	10:45:57	5527	34_15.39756'N	138_43.49580'E				
7	NTN7220-1011	2025/04/18	10:15:57	1001	33_14.29332'N	138_57.36882'E	3017	150.80	315.9°	Distance (50m)
		2025/04/18	10:15:57	1001	33_14.29332'N	138_57.36882'E				
		2025/04/19	05:46:15	4017	34_14.67108'N	137_51.83094'E				
		2025/04/19	05:46:15	4017	34_14.67108'N	137_51.83094'E				
8	NTN7226-1006	2025/04/11	08:44:40	3895	34_17.27496'N	137_59.51106'E	2895	144.70	135.9°	Distance (50m)
		2025/04/11	08:44:40	3895	34_17.27496'N	137_59.51106'E				
		2025/04/12	00:55:31	1001	33_19.28286'N	139_02.35824'E				
		2025/04/12	00:55:31	1001	33_19.28286'N	139_02.35824'E				
9	NTN7230-1010	2025/04/17	15:23:04	3650	34_16.70172'N	138_07.16358'E	2650	132.45	135.9°	Distance (50m)
		2025/04/17	15:23:04	3650	34_16.70172'N	138_07.16358'E				
		2025/04/18	07:00:57	1001	33_23.58372'N	139_04.65582'E				
		2025/04/18	07:00:57	1001	33_23.58372'N	139_04.65582'E				

4. Cruise Log

Date	Log
2025/4/6	Departure from Yokosuka port (JAMSTEC wharf). Transit to the survey area.
2025/4/7	MCS system deployment. MCS survey (NTE4024 [SW to NE]).
2025/4/8	MCS survey (NTE4024 [SW to NE]).
2025/4/9	MCS survey (NTE4016 [NE to SW]).
2025/4/10	MCS survey (NTE4016 [NE to SW], NTE4004 [SW to NE]).
2025/4/11	MCS survey (NTE4004 [SW to NE], NTN7226 [NW to SE]).
2025/4/12	MCS survey (NTN7226 [NW to SE]). MCS system retrieval. Transit to the waiting area.
2025/4/13	Wait on weather in Mikawa Bay
2025/4/14	Wait on weather in Mikawa Bay
2025/4/15	Transit to off Owase. Wait on weather off Owase.
2025/4/16	Transit to the survey area. MCS system deployment. MCS survey (NTE4008 [SW to NE]).
2025/4/17	MCS survey (NTE4008 [SW to NE], NTE4004 [NE to SW], NTE4008 [SW to NE]).
2025/4/18	MCS survey (NTN7230 [NW to SE], NTN7220 [SE to NW]).
2025/4/19	MCS survey (NTN7220 [SE to NW]). MCS system retrieval. Transit to Yokosuka port.
2025/4/20	Transit to Yokosuka port.
2025/4/21	Arrival at Yokosuka port (JAMSTEC wharf). End of KM25-03 cruise.

● 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.

<https://www.godac.jamstec.go.jp/darwin/en/note.html#report>
E-mail: submit-rv-cruise@jamstec.go.jp

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