



R/V Kairei Cruise Report

KR19-01

OBS recovery for Crustal Structure Survey in Nankai
Trough

Nankai Trough

January 15, 2019- January 29, 2019

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

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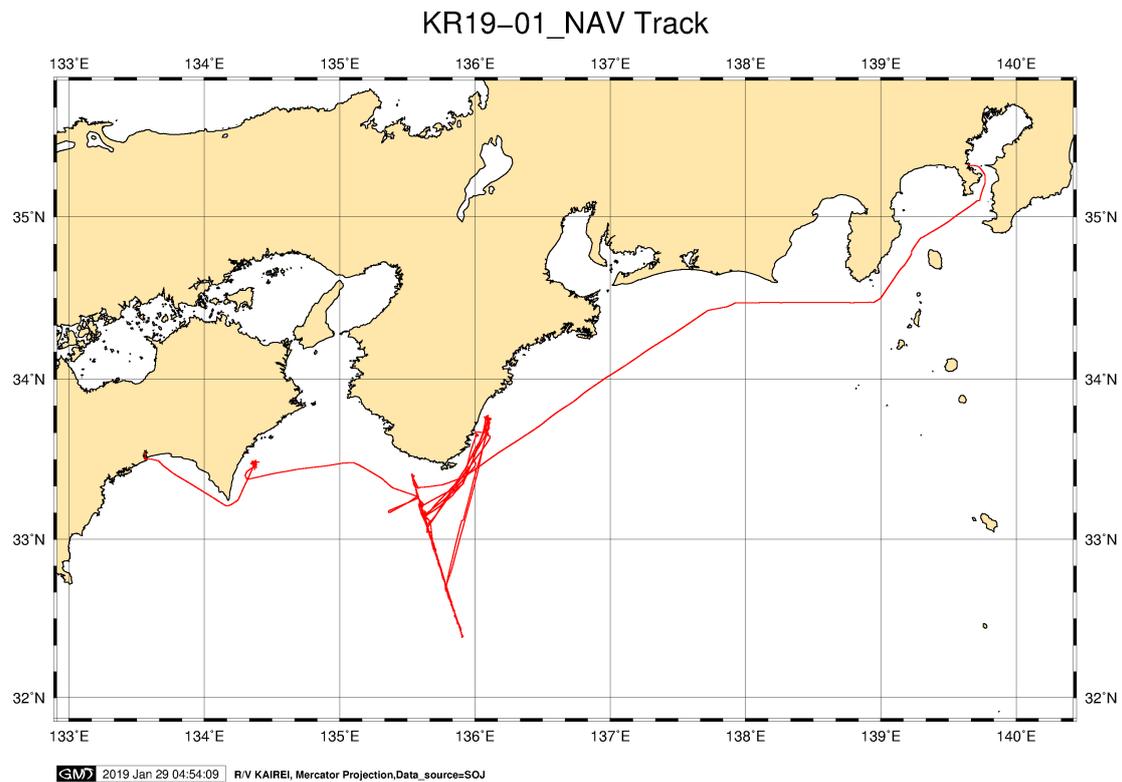
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1. Cruise Information

- Cruise ID: KR19-01
- Name of vessel: R/V Kairei
- Title of the cruise: OBS recovery for crustal structure survey in Nankai Trough
- Title of proposal:
Observation and monitoring of large scale seafloor deformation for national land resilience
- Cruise period:
January 15, 2019 – January 29, 2019
- Ports of departure / call / arrival:
Yokosuka (JAMSTEC) – Kochi
- Research area: Nankai Trough
- Research Map



2. Researchers

- Chief scientist [Affiliation]:
 - Koichiro Obana [JAMSTEC] (onboard)
- Representative of the science party: Shuichi Kodaira [JAMSTEC]
- Science party:
 - Shuichi Kodaira [JAMSTEC]
 - Seiichi Miura [JAMSTEC]
 - Yasuyuki Nakamura [JAMSTEC]
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 - Yojiro Yamamoto [JAMSTEC]
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 - Narumi Takahashi [JAMSTEC]
 - Masaru Nakano [JAMSTEC]
 - Toshinori Saijo [JAMSTEC] (onboard)

3. Observation

(1) Objectives:

This research cruise was planned to conduct the “Large-scale and high-resolution mapping of the submarine fault system around the rupture segment boundary in the Nankai Trough”, as a part of the Project “Observation and monitoring of large scale seafloor deformation for national land resilience”. In this, cruise, we recovered the ocean bottom seismographs deployed for the crustal structure survey in Nankai Trough.

(2) List of observations:

- 1) OBS recovery for structural survey

We recovered 96 of 99 OBSs deployed for structural survey conducted KM18-10 cruise by R/V Kaimei. Two of the remaining OBSs did not respond to the acoustic command from R/V Kairei. The other one accepted the acoustic command but did not float up.

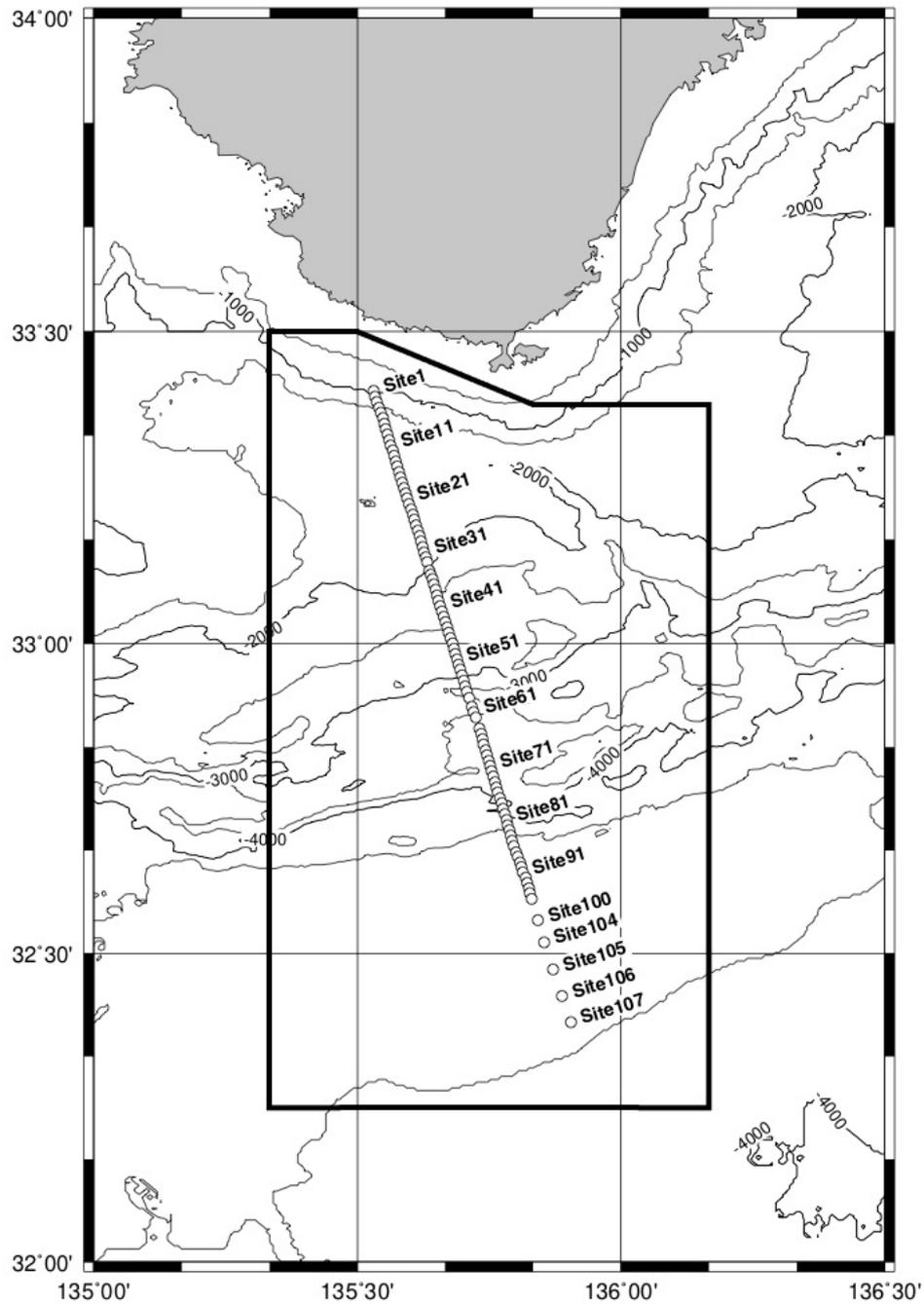


Figure 1. OBS locations. Site59, 63, 97-99, and 101-103 were not deployed.

Table 1: OBS positions (calibrated position on the seafloor)

Site	Lat. (N)	Lon. (E)	Depth(m)	Note
Site01	33° 24.29'	135° 31.86'	1079	
Site02	33° 23.74'	135° 32.04'	1189	
Site03	33° 23.23'	135° 32.24'	1383	
Site04	33° 22.67'	135° 32.45'	1499	
Site05	33° 22.19'	135° 32.70'	1550	
Site06	33° 21.67'	135° 32.90'	1570	
Site07	33° 21.18'	135° 33.07'	1705	
Site08	33° 20.68'	135° 33.26'	1731	
Site09	33° 20.13'	135° 33.43'	1727	
Site10	33° 19.59'	135° 33.65'	1686	
Site11	33° 19.07'	135° 33.84'	1612	
Site12	33° 18.60'	135° 34.06'	1582	
Site13	33° 18.06'	135° 34.21'	1576	
Site14	33° 17.55'	135° 34.41'	1602	
Site15	33° 17.03'	135° 34.58'	1572	
Site16	33° 16.50'	135° 34.74'	1581	
Site17	33° 15.99'	135° 34.91'	1590	
Site18	33° 15.46'	135° 35.12'	1586	
Site19	33° 14.95'	135° 35.31'	1593	
Site20	33° 14.47'	135° 35.53'	1575	
Site21	33° 13.94'	135° 35.67'	1573	
Site22	33° 13.40'	135° 35.88'	1577	
Site23	33° 12.92'	135° 36.10'	1558	#
Site24	33° 12.38'	135° 36.29'	1599	
Site25	33° 11.89'	135° 36.48'	1604	
Site26	33° 11.35'	135° 36.70'	1643	
Site27	33° 10.84'	135° 36.88'	1689	
Site28	33° 10.34'	135° 37.05'	1721	
Site29	33° 9.85'	135° 37.25'	1758	#
Site30	33° 9.28'	135° 37.43'	1808	

Site31	33°	8.78'	135°	37.59'	1835	
Site32	33°	8.31'	135°	37.79'	1873	
Site33	33°	7.84'	135°	37.94'	1966	
Site34	33°	6.99'	135°	38.19'	2092	
Site35	33°	6.61'	135°	38.37'	2228	
Site36	33°	6.19'	135°	38.53'	2300	
Site37	33°	5.68'	135°	38.70'	2375	
Site38	33°	5.16'	135°	38.89'	2410	
Site39	33°	4.63'	135°	39.07'	2421	*
Site40	33°	4.10'	135°	39.22'	2479	
Site41	33°	3.61'	135°	39.44'	2506	
Site42	33°	3.08'	135°	39.63'	2508	
Site43	33°	2.57'	135°	39.81'	2515	
Site44	33°	2.05'	135°	40.00'	2528	
Site45	33°	1.54'	135°	40.22'	2628	
Site46	33°	1.04'	135°	40.40'	2712	
Site47	33°	0.51'	135°	40.58'	2753	
Site48	32°	60.00'	135°	40.79'	2797	
Site49	32°	59.49'	135°	40.98'	2840	
Site50	32°	58.95'	135°	41.14'	2870	
Site51	32°	58.46'	135°	41.34'	2923	
Site52	32°	57.94'	135°	41.49'	2840	
Site53	32°	57.44'	135°	41.68'	2860	
Site54	32°	56.90'	135°	41.89'	3097	
Site55	32°	56.41'	135°	42.08'	3265	
Site56	32°	55.85'	135°	42.29'	3503	
Site57	32°	55.32'	135°	42.48'	3547	
Site58	32°	54.74'	135°	42.69'	3394	
Site60	32°	53.86'	135°	43.03'	3474	
Site61	32°	53.34'	135°	43.24'	3552	
Site62	32°	52.82'	135°	43.46'	3628	
Site64	32°	51.79'	135°	43.89'	3677	

Site65	32°	51.26'	135°	44.05'	3672	
Site66	32°	50.70'	135°	44.20'	3749	
Site67	32°	50.22'	135°	44.33'	3743	
Site68	32°	49.66'	135°	44.61'	3790	
Site69	32°	49.17'	135°	44.77'	3729	
Site70	32°	48.65'	135°	44.95'	3651	
Site71	32°	48.16'	135°	45.11'	3545	
Site72	32°	47.62'	135°	45.28'	3546	
Site73	32°	47.12'	135°	45.44'	3630	
Site74	32°	46.58'	135°	45.65'	3866	
Site75	32°	46.08'	135°	45.84'	3817	
Site76	32°	45.58'	135°	45.96'	3908	
Site77	32°	45.06'	135°	46.21'	4025	
Site78	32°	44.56'	135°	46.45'	4024	
Site79	32°	43.99'	135°	46.60'	4028	
Site80	32°	43.48'	135°	46.76'	4006	
Site81	32°	42.96'	135°	46.95'	4219	
Site82	32°	42.41'	135°	47.11'	4354	
Site83	32°	41.94'	135°	47.33'	4515	
Site84	32°	41.42'	135°	47.46'	4675	
Site85	32°	40.91'	135°	47.63'	4687	
Site86	32°	40.40'	135°	47.82'	4708	
Site87	32°	39.83'	135°	48.05'	4698	
Site88	32°	39.34'	135°	48.24'	4727	
Site89	32°	38.82'	135°	48.50'	4709	
Site90	32°	38.38'	135°	48.65'	4708	
Site91	32°	37.87'	135°	48.83'	4719	
Site92	32°	37.33'	135°	49.18'	4722	
Site93	32°	36.83'	135°	49.33'	4709	
Site94	32°	36.31'	135°	49.53'	4705	
Site95	32°	35.82'	135°	49.66'	4712	
Site96	32°	35.23'	135°	49.84'	4702	

Site100	32°	33.20'	135°	50.60'	4698	
Site104	32°	31.02'	135°	51.27'	4695	
Site105	32°	28.43'	135°	52.27'	4689	
Site106	32°	25.88'	135°	53.32'	4645	
Site107	32°	23.32'	135°	54.33'	4559	

* OBS accepted the acoustic command but did not float up.

OBS without response.

Site59, 63, 97-99, and 101-103 were not deployed.

2) Bathymetry, magnetics and gravity observation

During the cruise, bathymetry, magnetics and gravity data have been recorded continuously by multi-beam echo sounder (MBES), three-component magnetometer and gravity meter, respectively.

(3) Cruise Log

Date	Remarks
2019/1/15	Departure from Yokosuka.
2019/1/16	OBS recovery (Site01-12)
2019/1/17	OBS recovery (Site13-22, 24-28, 30)
2019/1/18	Wait on weather off Shingu. OBS recovery (Site106, 107).
2019/1/19	OBS recovery (Site87-96, 100, 104, 105)
2019/1/20	OBS recovery (Site84-86). Wait on weather off Shingu.
2019/1/21	Wait on weather off Shingu. OBS recovery (Site80-83).
2019/1/22	OBS recovery (Site60-62, 64-79).
2019/1/23	OBS recovery (Site40-58). Calibration of OBS positions (Site31-39).
2019/1/24	Wait on weather off Shingu.
2019/1/25	OBS recovery (Site31-38). Attempt to recover the OBSs without response (Site23, 29) and with response but not floating up (Site 39).
2019/1/26	Wait on weather off Shingu.
2019/1/27	Wait on weather off Shingu. Attempt to recover the OBS with response but not floating up (Site 39).

2019/1/28	Attempt to recover the OBSs without response (Site23, 29). Transit to Kochi.
2019/1/29	Arrival at Kochi.

● **4. Notice on Using**

Notice on using: Insert the following notice to users regarding the data and samples obtained.

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.