



R/V Kaiyo Cruise Report

KY08-04

FY2008 seismic experiments in Izu-Ogasawara area

May 14, 2008 – June 9, 2008

Japan Agency for Marine-Earth Science and Technology

(JAMSTEC)

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(1) Cruise ID • vessel : KY08-04 • R/V Kaiyo

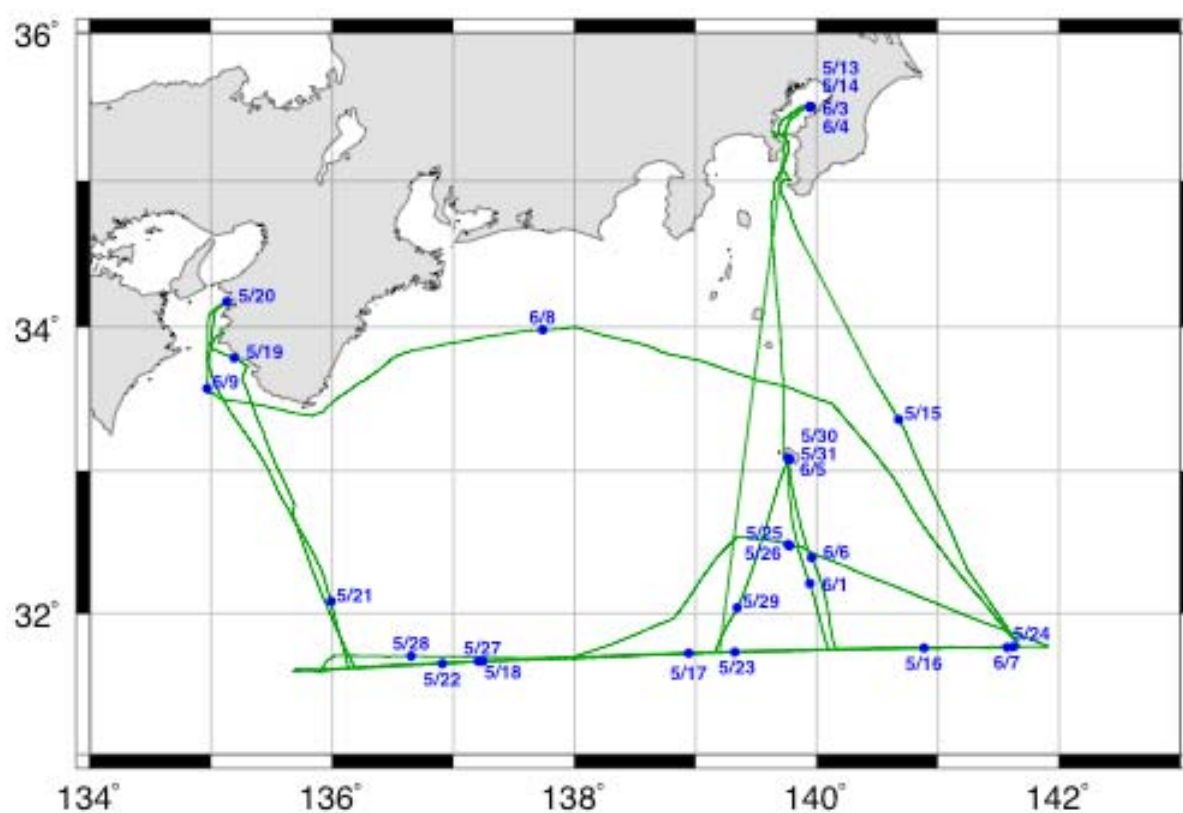
(3) Proposal ID and title : **J18-23** • Crustal growth of the Izu-Ogasawara oceanic island

arc -Seismic study for IODP Project IBM-

(4) Cruise period and port call : 2008.5.14~2008.6.9・Yokosuka~Yokosuka~Yura

(5) Survey area : Izu-Ogasawara

(6) Ship track :



2. Researchers

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(3) Science party list:

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3. Overview of Observation :

(1) Objectives :

To investigate the crustal growth of oceanic island arc, IFREE focus on Izu-Ogasawara seismic structure until FY2004. In this experiment, OBSs are laid out across the northern Ogasawara island arc to overlook deep crustal structure. These cruise data contribute the site characterization around the proposed drilling holes of IODP proposal "Project IBM".

(2) Approach

1) Refraction and reflection survey using OBS and Airgun

We deployed 110 OBSs of 5 km spacing on the survey line, which go across the Izu-Ogasawara arc- backarc at north of Sumisu Island. Airgun shooting was carried out with 200m spacing. During the airgun survey, relative airgun-water speed were about 3.5 ~ 4.5 knot. Reflection wave were recorded on board by 16ch MCS system. After the airgun shooting, all OBSs were retrieved.

2) High-density airgun shooting(canceled by bad weather)

High-density airgun shooting using G-gun array and 16ch MCS cable were planned after the OBS survey, but it was canceled by stormy condition.

3) Bathymetry mapping

During the cruise, bathymetry mapping are carried out along the survey line by SEABEAM system.

4) XBT(eXpendable Bathy Thermograph)

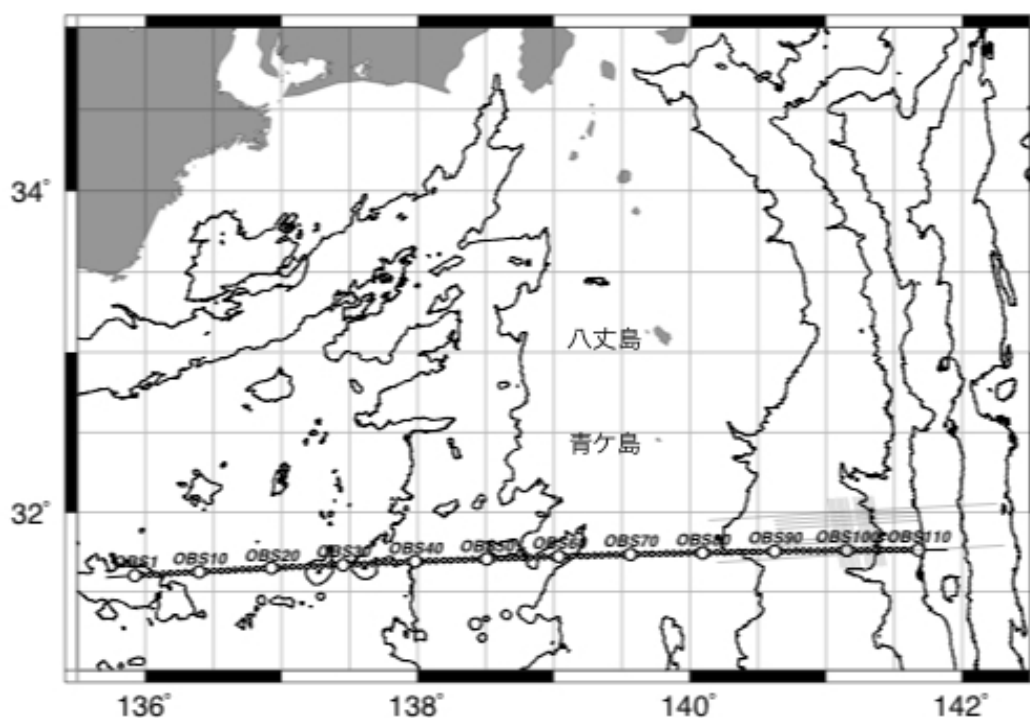
For the water-wave velocity correction of bathymetry mapping, the vertical distribution of water temperature is observed by free fall observation of XBT system, at both end and center of OBS survey line.

(3) Cruise log:

Date		Remarks
2008/5/14	Wed	Departure from Yokosuka, transit to survey area
2008/5/15	Thu	Arrival at survey area. OBS deployment #110~#105
2008/5/16	Fri	OBS deployment #104~#72
2008/5/17	Sat	OBS deployment #71~#40
2008/5/18	Sun	OBS deployment #39~#6, bad weather evacuation
2008/5/19	Mon	Bad weather evacuation near Aoga-shima

2008/5/20	Tue	Bad weather evacuation near Aoga-shima
2008/5/21	Wed	Transit to survey area, OBS deployment #5~#1, Airgun shooting
2008/5/22	Thu	Airgun shooting
2008/5/23	Fri	Airgun shooting
2008/5/24	Sat	Airgun shooting,
2008/5/25	Sun	Bad weather evacuation near Hachijo-jima
2008/5/26	Mon	OBS retrieval #39, #38
2008/5/27	Tue	OBS retrieval #37~#9
2008/5/28	Wed	OBS retrieval #8~#1, #40~#52
2008/5/29	Thu	OBS retrieval #53~#62, bad weather evacuation
2008/5/30	Fri	Bad weather evacuation near Hachijo-jima
2008/5/31	Sat	Bad weather evacuation near Hachijo-jima
2008/6/1	Sun	OBS retrieval #80~#65
2008/6/2	Mon	OBS retrieval #64, #63, transit to Tokyo bay
2008/6/3	Tue	Typhoon evacuation the at Tokyo bay
2008/6/4	Wed	Departure from Yokosuka, transit to Hachijo-jima
2008/6/5	Thu	Transit to survey area
2008/6/6	Fri	OBS retrieval #81~#96
2008/6/7	Sat	OBS retrieval #97~#110, transit to Yura
2008/6/8	Sun	Transit to Yura
2008/6/9	Mon	Arrival at Yura

(4) Survey line :



Black lines are survey line conducted in this cruise. White circles and black small circles show the OBS locations.

(5) Airgun shooting information

	Time (UTC)	Latitude (N)		Longitude (E)		Depth (m)	SP
First shot	2008/5/21 8:49	31°	35.3407'	135°	42.1757'	3548	996
First good shot	2008/5/21 8:49	31°	35.3407'	135°	42.17577'	3548	996
Last good shot	2008/5/24 3:01	31°	45.8492'	141°	53.1398'	6395	3930
Last shot	2008/5/24 3:01	31°	45.8492'	141°	53.1398'	6395	3930

(6) OBS list

Site	OBS deployed position			Remarks
	Lat (N)	Lon (E)	Depth	
1	31_35.9630	135_55.3004	3743	
2	31_36.1413	135_58.5007	3868	
3	31_36.2644	136_01.6545	3888	
4	31_36.4626	136_04.8473	3998	

5	31_36. 6561	136_08. 0476	4023
6	31_36. 7023	136_11. 2928	4128
7	31_36. 8734	136_14. 4306	4113
8	31_37. 0695	136_17. 5927	4138
9	31_37. 1804	136_20. 7610	4204
10	31_37. 3300	136_23. 9667	4231
11	31_37. 4682	136_27. 0859	4213
12	31_37. 5940	136_30. 2648	4329
13	31_37. 7784	136_33. 4209	4332
14	31_37. 9398	136_36. 5799	4263
15	31_38. 0844	136_39. 7569	4274
16	31_38. 2494	136_42. 8901	4194
17	31_38. 3664	136_46. 0508	4204
18	31_38. 5319	136_49. 1836	4224
19	31_38. 7275	136_52. 3566	4191
20	31_38. 8882	136_55. 5839	4189
21	31_39. 0288	136_58. 7680	4196
22	31_39. 1894	137_01. 8378	4208
23	31_39. 3394	137_04. 9943	4261
24	31_39. 5442	137_08. 1508	4314
25	31_39. 6295	137_11. 1917	4050
26	31_39. 7512	137_14. 3169	3461
27	31_39. 9024	137_17. 5016	3414
28	31_40. 0506	137_20. 7625	3751
29	31_40. 2612	137_23. 9156	4123
30	31_40. 3614	137_26. 9670	4194
31	31_40. 4444	137_30. 1462	4227
32	31_40. 5216	137_33. 3262	3536
33	31_40. 4922	137_36. 4148	2534
34	31_40. 7901	137_39. 5647	3376
35	31_40. 9777	137_42. 8023	4098
36	31_41. 0482	137_45. 9165	4105
37	31_41. 1578	137_49. 0910	4033
38	31_41. 2491	137_52. 2735	3910
39	31_41. 3482	137_55. 5538	4001
40	31_41. 3503	137_58. 7250	3998
41	31_41. 4616	138_01. 9223	3964
42	31_41. 5578	138_05. 0826	3890

43	31_41. 6384	138_08. 2412	3835
44	31_41. 7375	138_11. 4410	3819
45	31_41. 8501	138_14. 6352	3821
46	31_41. 9549	138_17. 7599	3782
47	31_42. 1359	138_21. 0061	3730
48	31_42. 2406	138_24. 1484	3659
49	31_42. 3039	138_27. 2472	3565
50	31_42. 3809	138_30. 4415	3255
51	31_42. 5176	138_33. 6349	2693
52	31_42. 5830	138_36. 8056	2225
53	31_42. 6468	138_39. 9837	2677
54	31_42. 7167	138_43. 1687	2354
55	31_42. 7811	138_46. 3502	2089
56	31_42. 8768	138_49. 5230	1765
57	31_42. 9919	138_52. 6629	2085
58	31_43. 0846	138_55. 8417	2158
59	31_43. 1508	138_59. 0233	2243
60	31_43. 2464	139_02. 1980	2223
61	31_43. 3277	139_05. 3817	2149
62	31_43. 4024	139_08. 5447	2039
63	31_43. 4942	139_11. 7082	1838
64	31_43. 5627	139_14. 8817	1680
65	31_43. 6415	139_18. 0572	1226
66	31_43. 7217	139_21. 2277	1300
67	31_43. 7934	139_24. 3990	1184
68	31_43. 8788	139_27. 5625	1061
69	31_43. 9423	139_30. 7275	1060
70	31_44. 0840	139_33. 8833	1081
71	31_44. 0926	139_37. 0977	1375
72	31_44. 1878	139_40. 2437	1529
73	31_44. 2165	139_43. 4125	1437
74	31_44. 2536	139_46. 5831	1271
75	31_44. 3321	139_49. 7518	1156
76	31_44. 3622	139_52. 9165	1143
77	31_44. 4557	139_56. 0896	1260
78	31_44. 5283	139_59. 2795	1329
79	31_44. 5856	140_02. 4447	1597
80	31_44. 6915	140_05. 6259	1675

81	31_44. 7308	140_08. 7839	1760
82	31_44. 8086	140_11. 9416	1812
83	31_44. 8164	140_15. 1224	1990
84	31_44. 8640	140_18. 2854	1955
85	31_44. 9130	140_21. 4622	1948
86	31_44. 9864	140_24. 6379	2015
87	31_45. 0232	140_27. 8090	2173
88	31_45. 0765	140_30. 9848	2244
89	31_45. 1084	140_34. 1536	2342
90	31_45. 1897	140_37. 3129	2437
91	31_45. 2371	140_40. 5191	2549
92	31_45. 2804	140_43. 6764	2696
93	31_45. 3034	140_46. 8573	2941
94	31_45. 3402	140_50. 0277	3158
95	31_45. 3588	140_53. 2039	3274
96	31_45. 4075	140_56. 3878	3192
97	31_45. 4434	140_59. 5462	2989
98	31_45. 4706	141_02. 7208	2925
99	31_45. 5108	141_05. 9078	2970
100	31_45. 5397	141_09. 0804	3009
101	31_45. 5690	141_12. 2409	3434
102	31_45. 6111	141_15. 4193	3669
103	31_45. 6372	141_18. 5962	3778
104	31_45. 6634	141_21. 7729	3965
105	31_45. 6634	141_24. 9245	4177
106	31_45. 6891	141_28. 0922	4331
107	31_45. 7209	141_31. 2811	4281
108	31_45. 7240	141_34. 4501	4554
109	31_45. 7877	141_37. 6210	4868
110	31_45. 7888	141_40. 8122	5520

4. Notice on using:

This cruise report is a preliminary documentation as of the end of the cruise. It may not be corrected even if changes on content (i. e. taxonomic classifications) are found after publication. It may also be changed without notice. Data on the cruise report may be raw or not processed. Please ask the PI(s) for the latest information before using. Users of data or results of this cruise are requested to submit their results

to Data Integration and Analysis Group (DIAG), JAMSTEC.