



HOKKAIDO UNIVERSITY

Title	1. The "Oshoro maru" Cruise 252 to West of the Tsugaru Strait and Iwate off in March 2013
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THE "OSHO RO MARU" CRUISE 252 TO WEST OF THE TSUGARU STRAIT and IWATE OFF

IN MARCH 2013

1. Cruise Itinerary

Cruise 252

Departure from Hakodate	Mar.	7	2013
Start hydrographic research (OS13001)		8	
Deploy mooring system		9	
Finish hydrographic research (OS13013)		12	
Return to Hakodate		13	
Total coverage 795.0 miles			

2. Vessel Personnel

Crew:	Captain:	Associate Professor	Shogo Takagi
			And 29 men
Research Staff:	Associate Professor	(Laboratory of Marine Biodiversity, Hokkaido University)	Atsushi Yamaguchi
	Assistant Professor	(Field Science Center for Northern Biosphere, Hokkaido University)	Yoko Mitani
	Research scientist	(Mutsu Institute, JAMSTEC)	Hajime Kawakami
	Technical scientist	(Mutsu Institute, JAMSTEC)	Masahide Wakita
	Graduate Students		5 persons
	Under Graduate Students		5 persons
			Total 15 persons

3. Items of Research

Hydrographic observations (Temperature, Salinity, and Computed Dynamic Depth Anomaly)

Hydrographic work on deck and the data processing were made by Science officer, deck officers, crews, research staff and cadets of the “Oshoro maru”. Temperature and salinity were measured by CTD (Seabird SBE-19Plus). Sea water samplings by Niskin bottles. Plankton sampling by NORPAC-net and VMPS-net at almost hydrographic stations.

Fig.1 table-1, 2

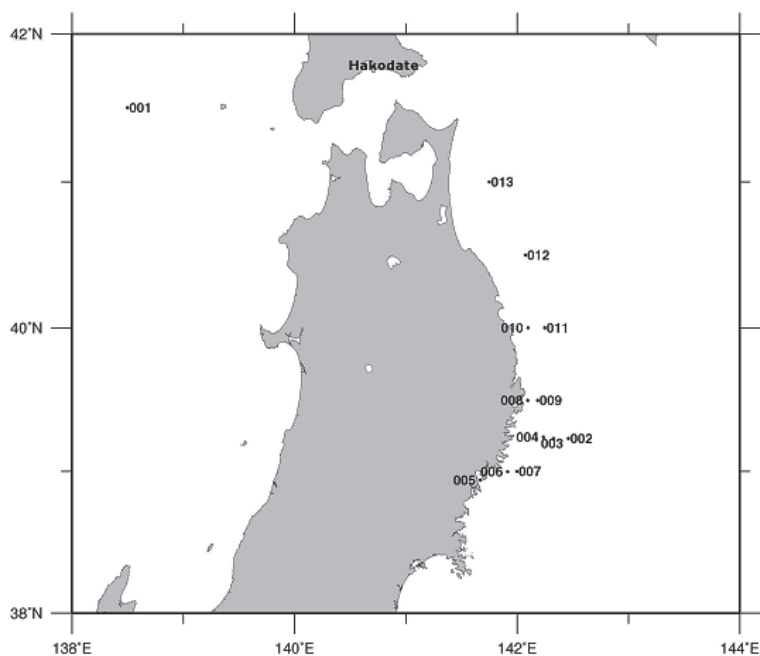


Fig. 1 Oceanographic Stations

Table 1. List of Oceanographic station

Station	Lat.	Long.	Date (GMT)	Hour (GMT)	T.Z	Depth	Col.	Tr.	SST	Wr.	Gear
OS13001	41-30.22N	138-29.94E	3/7	17:31	9	3710	-	-	8.6	bc	9plus-0769
OS13002	39-13.78N	142-27.61E	3/9	15:44	9	1040	-	-	0.7	bc	9plus-0769
OS13003	39-13.85N	142-19.65E	3/9	18:33	9	842	-	-	0.9	bc	9plus-0769
OS13004	39-14.46N	142-14.07E	3/9	20:59	9	536	-	-	3.6	o	9plus-0769
OS13005	38-56.33N	141-40.26E	3/10	6:07	9	52	-	-	6.7	bc	9plus-0769
OS13006	38-59-89N	141-54.82E	3/11	7:47	9	141	-	-	5.0	bc	9plus-0769
OS13007	39-00.03N	141-59.93E	3/11	9:01	9	204	-	-	4.4	bc	9plus-0769
OS13008	39-29.78N	142-05.79E	3/11	12:33	9	144	-	-	5.6	bc	9plus-0769
OS13009	39-29.87N	142-11.02E	3/11	13:28	9	241	-	-	0.7	bc	9plus-0769
OS13010	40-00.00N	142-06.01E	3/11	17:22	9	130	-	-	6.3	bc	9plus-0769
OS13011	39-59.93N	142-14.89E	3/11	18:55	9	229	-	-	2.2	bc	9plus-0769
OS13012	40-30.02N	142-04.41E	3/12	7:38	9	274	-	-	6.1	bc	9plus-0769
OS13013	40-59.95N	141-44.89E	3/12	11:37	9	497	-	-	6.2	o	9plus-0769

Table 2. Oceanographic data

Station OS13001				Station OS13002				Station OS13003			
Latitude 41-30.22N				Latitude 39-13.78N				Latitude 39-13.85N			
Longitude 138-29.94E				Longitude 142-27.61E				Longitude 142-19.65E			
Depth(m) 3710				Depth(m) 1040				Depth(m) 842			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	7.688	33.968	26.509	5	0.673	32.873	26.354	5	0.968	32.823	26.297
10	7.681	33.968	26.510	10	0.669	32.872	26.354	10	0.924	32.820	26.298
20	7.683	33.969	26.510	20	0.716	32.878	26.356	20	0.948	32.822	26.297
30	7.672	33.969	26.512	30	0.924	32.918	26.376	30	0.754	32.814	26.302
40	7.632	33.970	26.519	40	1.056	32.948	26.392	40	0.660	32.836	26.325
50	7.546	33.971	26.532	50	0.956	33.011	26.449	50	0.657	32.864	26.348
75	6.703	34.042	26.704	75	1.093	33.076	26.493	75	0.601	32.944	26.415
100	5.979	34.051	26.806	100	0.807	33.069	26.504	100	0.815	32.997	26.446
125	4.564	34.066	26.984	125	0.739	33.078	26.515	125	1.085	33.063	26.483
150	3.230	34.054	27.109	150	0.854	33.095	26.522	150	1.335	33.127	26.518
175	2.395	34.057	27.185	175	1.504	33.183	26.551	175	1.836	33.195	26.538
200	1.824	34.047	27.222	200	2.446	33.312	26.584	200	1.812	33.222	26.561
250	1.422	34.059	27.260	250	2.115	33.347	26.639	250	3.512	33.493	26.635
300	1.039	34.054	27.282	300	2.270	33.515	26.761	300	3.458	33.557	26.691
400	0.854	34.066	27.304	400	2.852	33.760	26.908	400	2.429	33.551	26.777
500	0.716	34.071	27.316	500	3.102	33.920	27.014	500	3.030	33.797	26.922
600	0.613	34.073	27.324	600	3.336	34.026	27.077	600	3.176	33.964	27.042
700	0.533	34.074	27.330	700	3.339	34.159	27.182	700	3.342	34.078	27.118
800	0.454	34.074	27.334	800	3.353	34.222	27.231	800	3.279	34.241	27.253
900	0.384	34.073	27.337	900	3.057	34.325	27.341				
1000	0.344	34.072	27.339	1000	2.843	34.390	27.412				
1200	0.281	34.071	27.342								
1500	0.242	34.070	27.343								
2000	0.225	34.070	27.344								
2500	0.242	34.071	27.343								
3000	0.274	34.071	27.342								

Station OS13004				Station OS13005				Station OS13006			
Latitude 39-14.46N				Latitude 38-56.33N				Latitude 38-59.91N			
Longitude 142-14.07E				Longitude 141-40.24E				Longitude 141-54.84E			
Depth(m) 536				Depth(m) 52.000				Depth(m) 141.000			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	3.638	33.215	26.402	5	6.668	33.602	26.362	5	4.962	33.470	26.467
10	3.638	33.216	26.402	10	6.667	33.605	26.365	10	4.969	33.470	26.466
20	3.666	33.221	26.404	20	6.663	33.699	26.439	20	4.969	33.470	26.466
30	3.726	33.231	26.406	30	6.613	33.727	26.468	30	4.971	33.470	26.466
40	3.841	33.253	26.412	40	6.576	33.735	26.479	40	4.972	33.470	26.465
50	3.822	33.254	26.415					50	5.049	33.495	26.477
75	3.905	33.269	26.418					75	5.129	33.515	26.483
100	4.142	33.310	26.427					100	5.183	33.526	26.486
125	4.719	33.418	26.452					125	5.2	33.539	26.494
150	4.783	33.470	26.486								
175	4.251	33.488	26.557								
200	5.270	33.644	26.569								
250	5.367	33.662	26.572								
300	4.746	33.594	26.589								
400	2.861	33.483	26.686								
500	2.500	33.552	26.772								

Station OS13007				Station OS13008				Station OS13009			
Latitude 39-0.02N				Latitude 39-29.76N				Latitude 39-29.84N			
Longitude 141-59.97E				Longitude 142-05.80E				Longitude 142-11.03E			
Depth(m) 204				Depth(m) 144				Depth(m) 241			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	4.362	33.362	26.446	5	5.635	33.594	26.486	5	0.662	32.812	26.305
10	4.353	33.359	26.445	10	5.639	33.594	26.486	10	0.666	32.812	26.306
20	4.362	33.361	26.445	20	5.653	33.595	26.485	20	0.717	32.816	26.306
30	4.609	33.402	26.452	30	5.664	33.597	26.485	30	0.69	32.815	26.306
40	4.742	33.422	26.453	40	5.669	33.598	26.486	40	0.738	32.822	26.31
50	4.869	33.444	26.456	50	5.668	33.598	26.485	50	0.712	32.823	26.312
75	5.088	33.49	26.468	75	5.673	33.598	26.485	75	1.389	32.96	26.38
100	5.558	33.574	26.48	100	5.76	33.621	26.492	100	4.033	33.393	26.505
125	5.677	33.596	26.483	125	5.819	33.632	26.494	125	4.742	33.489	26.506
150	5.933	33.662	26.504					150	5.152	33.553	26.511
175	6.004	33.683	26.512					175	5.108	33.56	26.521
								200	4.184	33.456	26.54
Station OS13010				Station OS13011				Station OS13012			
Latitude 39-59.99N				Latitude 39-59.92N				Latitude 40-30.03N			
Longitude 142-06.0E				Longitude 142-14.89E				Longitude 142-04.38E			
Depth(m) 130				Depth(m) 229				Depth(m) 274			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	6.288	33.742	26.522	5	2.1	33.002	26.364	5	6.064	33.719	26.532
10	6.288	33.741	26.522	10	2.065	32.997	26.362	10	6.058	33.719	26.533
20	6.287	33.742	26.522	20	2.136	33.008	26.365	20	6.077	33.725	26.536
30	6.294	33.742	26.521	30	2.365	33.044	26.377	30	6.125	33.736	26.538
40	6.302	33.743	26.521	40	2.905	33.135	26.404	40	6.129	33.737	26.538
50	6.313	33.744	26.52	50	4.708	33.446	26.475	50	6.198	33.752	26.541
75	6.327	33.745	26.52	75	5.562	33.597	26.497	75	6.221	33.755	26.541
100	6.337	33.748	26.521	100	5.906	33.658	26.504	100	6.24	33.759	26.542
				125	6.075	33.686	26.505	125	6.248	33.762	26.543
				150	6.073	33.685	26.505	150	6.207	33.756	26.544
				175	6.092	33.689	26.505	175	6.167	33.75	26.544
				200	6.008	33.7	26.525	200	6.135	33.746	26.545
								250	6.168	33.754	26.547
Station OS13013											
Latitude 40-59.94N											
Longitude 141-44.86E											
Depth(m) 497											
Press.	Temp.	Sal.	SIG-T								
5	6.192	33.697	26.499								
10	6.197	33.697	26.498								
20	6.195	33.697	26.499								
30	6.201	33.698	26.498								
40	6.176	33.7	26.503								
50	6.159	33.699	26.505								
75	6.163	33.701	26.506								
100	6.165	33.701	26.506								
125	6.171	33.702	26.506								
150	6.168	33.701	26.505								
175	6.177	33.703	26.506								
200	6.207	33.71	26.507								
250	6.29	33.743	26.523								
300	6.313	33.778	26.547								
400	5.769	33.856	26.677								

