



HOKKAIDO UNIVERSITY

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1.

THE "OSHORO MARU" CRUISE 240-1
TO EAST OF THE TSUGARU STRAIT

IN MARCH 2012

1. Cruise Itinerary

Cruise 240-1

Departure from Hakodate	Mar.	6	2012
Hydrographic research (OS12001-OS12008)		8	
Bottom Trawl research (OST1201)		8	
Arrival at Aomori		9	
Departure from Aomori		10	
Return to Hakodate		11	
Total coverage 315.3 miles			

2. Vessel Personnel

Crew:	Captain	Associate Professor	Shogo Takagi
			And 28 persons
Research Staff:	Associate Professor	(Laboratory of Marine Bio resource and Environment Sensing)	Tohru Hirawake
	Associate Professor	(Laboratory of Marine Industrial Science and Technology)	Hiroki Yasuma
	Teaching Assistant:		3 persons
	Under Graduate Students:		24 persons
Total 29 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.

Fig. 1, Table 1, 2

Bottom trawl research

One operation of the stern otter trawl were carried out. These operation were supervised by the captain, deck officers, crews, research staff, and cadets were engaged in the work.

Table 3, 4

Table 1. List of Oceanographic station

Station	Lat.	Long.	Date (GMT)	Hour (GMT)	T.Z.	Depth	Col.	Tr.	SST	Wr.	Gear
OS12001	42-14.67N	141-36.69E	2012/3/7	23:57	9	617	-	-	0.8	bc	19Plus-4636
OS12002	42-09.90N	141-36.72E	2012/3/8	0:57	9	706	-	-	1.2	bc	19Plus-4636
OS12003	42-05.19N	141-36.48E	2012/3/8	2:34	9	733	-	-	1.0	bc	19Plus-4636
OS12004	42-00.04N	141-36.88E	2012/3/8	3:39	9	765	-	-	1.4	bc	19Plus-4636
OS12005	41-55.16N	141-37.26E	2012/3/8	10:43	9	790	-	-	1.6	s	19Plus-4636
OS12006	41-49.99N	141-37.00E	2012/3/8	11:49	9	719	-	-	0.9	s	19Plus-4636
OS12007	41-44.47N	141-36.43E	2012/3/8	13:36	9	529	-	-	1.1	s	19Plus-4636
OS12008	41-39.68N	141-37.06E	2012/3/8	14:43	9	300	-	-	0.8	c	19Plus-4636

Fig.1 Oceanographic stations

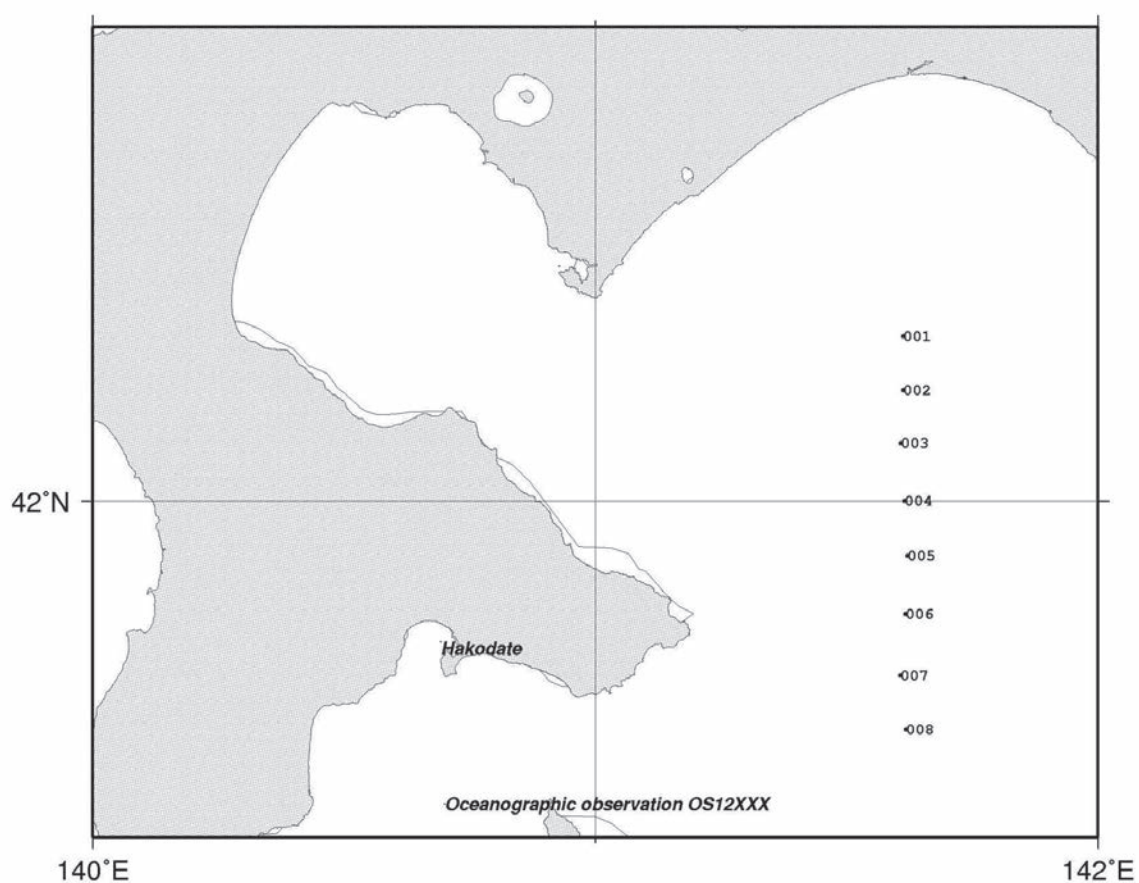


Table 2. Oceanographic data

Station OS12001				Station OS12002				Station OS12003			
Latitude 42-14.67N				Latitude 42-09.90N				Latitude 42-05.19N			
Longitude 141-36.69E				Longitude 141-36.72E				Longitude 141-36.49E			
Depth(m) 617m				Depth(m) 706m				Depth(m) 733m			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	0.425	32.629	26.171	5	0.797	32.743	26.243	5	0.675	32.692	26.208
10	0.707	32.697	26.211	10	0.789	32.739	26.240	10	0.606	32.696	26.216
20	0.825	32.720	26.222	20	0.874	32.765	26.256	20	0.838	32.754	26.249
30	0.867	32.748	26.243	30	1.466	32.897	26.324	30	1.284	32.839	26.290
40	0.975	32.779	26.261	40	2.648	33.093	26.393	40	1.352	32.878	26.317
50	1.016	32.789	26.267	50	2.952	33.132	26.399	50	1.382	32.883	26.319
75	1.188	32.830	26.289	75	2.252	33.085	26.418	75	2.782	33.095	26.383
100	2.710	33.109	26.401	100	3.387	33.232	26.439	100	3.462	33.222	26.424
125	4.138	33.347	26.457	125	3.508	33.268	26.456	125	4.627	33.413	26.458
150	5.327	33.545	26.484	150	3.952	33.356	26.484	150	5.252	33.522	26.474
175	5.238	33.552	26.500	175	4.000	33.391	26.507	175	5.326	33.548	26.487
200	4.513	33.473	26.518	200	4.134	33.430	26.524	200	5.052	33.530	26.504
250	3.987	33.467	26.568	250	3.253	33.401	26.586	250	3.729	33.419	26.555
300	3.427	33.464	26.620	300	3.240	33.477	26.648	300	3.138	33.453	26.638
400	2.713	33.600	26.792	400	2.676	33.592	26.789	400	2.558	33.551	26.766
500	3.031	33.774	26.904	500	3.071	33.791	26.914	500	2.955	33.735	26.879

Station OS12004				Station OS12005				Station OS12006			
Latitude 42-00.04N				Latitude 41-55.16N				Latitude 41-49.99N			
Longitude 141-36.88E				Longitude 141-37.26E				Longitude 141-37.00E			
Depth(m) 765m				Depth(m) 790m				Depth(m) 719m			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	0.941	32.804	26.283	5	1.435	32.804	26.252	5	0.672	32.659	26.182
10	0.964	32.810	26.287	10	1.379	32.801	26.253	10	0.698	32.657	26.179
20	1.052	32.833	26.300	20	1.391	32.804	26.255	20	0.395	32.669	26.205
30	1.402	32.891	26.324	30	1.320	32.834	26.284	30	0.677	32.756	26.260
40	1.456	32.897	26.325	40	1.576	32.915	26.331	40	1.142	32.836	26.297
50	1.552	32.913	26.332	50	1.713	32.933	26.336	50	1.874	32.941	26.332
75	1.433	32.999	26.409	75	1.644	33.008	26.402	75	3.539	33.198	26.398
100	4.519	33.408	26.466	100	3.188	33.226	26.452	100	5.203	33.480	26.447
125	4.253	33.375	26.467	125	5.081	33.515	26.489	125	6.043	33.644	26.476
150	3.799	33.331	26.479	150	5.086	33.515	26.488	150	5.712	33.617	26.495
175	4.128	33.390	26.492	175	4.902	33.498	26.496	175	4.742	33.490	26.507
200	3.613	33.349	26.511	200	3.778	33.356	26.500	200	3.982	33.395	26.511
250	2.643	33.261	26.528	250	3.220	33.315	26.521	250	3.399	33.386	26.560
300	3.175	33.358	26.559	300	3.287	33.358	26.549	300	3.202	33.397	26.587
400	2.820	33.537	26.733	400	2.791	33.530	26.730	400	2.728	33.550	26.751
500	2.829	33.680	26.846	500	2.894	33.701	26.857	500	2.897	33.701	26.857

Station OS12007
Latitude 41-44.47N
Longitude 141-36.43E
Depth(m) 529m

Press.	Temp.	Sal.	SIG-T
5	0.692	32.653	26.176
10	0.417	32.653	26.192
20	0.576	32.689	26.212
30	1.275	32.856	26.304
40	2.425	33.028	26.359
50	2.979	33.165	26.422
75	4.273	33.378	26.468
100	5.184	33.522	26.483
125	4.275	33.429	26.508
150	4.487	33.477	26.524
175	3.804	33.407	26.538
200	3.413	33.374	26.550
250	3.280	33.401	26.584
300	3.664	33.446	26.583
400	2.718	33.570	26.768

Station OS12008
Latitude 41-39.69N
Longitude 141-37.06E
Depth(m) 300m

Press.	Temp.	Sal.	SIG-T
5	0.648	32.672	26.194
10	0.668	32.672	26.193
20	2.168	33.007	26.362
30	5.229	33.571	26.517
40	5.208	33.566	26.514
50	5.241	33.572	26.516
75	5.177	33.561	26.514
100	5.153	33.555	26.513
125	5.215	33.568	26.516
150	5.125	33.550	26.511
175	5.695	33.669	26.538
200	5.151	33.546	26.506

Table 3: Data on Bottom trawl research during the Oshoromaru Cruise#240

No. of research	Date and time of net tow (S.M.T.*1)	Position		T.D.*2	D.S.*3	Speed of tow (K't)	Bottom depth (m)	Wr.*4	Wind	S.T.*5 (°C)
		Lat. (N)	Long. (E)							
OST1201	Mar. 8 1330-1655	42-01.8	141-37.4	+9h	160	3.5	855-885	bc	calm	1.7

*1 S.M.T. : Ship's Mean Time.

*2 T.D. : Time Difference between Greenwich Mean Time (G.M.T.) and Ship's Mean Time (S.M.T.).

*3 D.S. : Direction of tow.

*4 Wr. : Weather (bc: 25-75% clouded).

*5 S.T. : Surface temperature

Table 4. Data on catches by bottom trawl research

Japanese name	Scientific name	OST1201	
		Number	Weight(kg)
Itohikidara	<i>Laemonema longipes</i>	20	13.4
Shirogenge	<i>Bothrocara molle</i>	19	7
Karafutosokodara	<i>Coryphaenoides cinereus</i>	865	164.2
Kanadadara	<i>Antimora microlepis</i>	87	23.6
Irakoanago	<i>Synaphobranchus kaupi</i>	13	6.8
Yukihoraanago	<i>Ilyophis nygeli</i>	2	0.02
Kichiji	<i>Sebastolobus macrochir</i>	146	27
Nezumiginpo	<i>Lumpenella longirostris</i>	14	0.9
Mamehadaka	<i>Lampanyctus jordani</i>	2	0.04
Benizuwaigani	<i>Chionoecetes japonicus</i>	9	9
Nunedara	<i>Coryphaenoides pectoralis</i>	68	221
Aburagarei	<i>Atheresthes evermanni</i>	6	19
Kurosokogisu	<i>Notacanthus chemnitzii</i>	3	2.4
Hoteieso	<i>Photoneustes albipennis</i>	4	0.45
Dosuika	<i>Berryteuthis magister</i>	6	3.55
Yanagidako	<i>Octopus conispadiceus</i>	21	5.35
Sokoganngiei	<i>Bathyraxia bergi</i>	9	7
Suketoudara	<i>Theragra chalcogramma</i>	4	1.25
Akadonko	<i>Ebinania vermiculata</i>	4	3.65
Ganko	<i>Dasycottus setiger</i>	1	0.03
Togerakudaankou	<i>Oneirodes thompsoni</i>	1	0.05
Mikadohadaka	<i>Lampanyctus regalis</i>	1	0.06
Kohirehadaka	<i>Stenobrachius leucopsarus</i>	1	0.01
Kurosokoiwasi	<i>Pseudobathylagus milleri</i>	14	0.83