



HOKKAIDO UNIVERSITY

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9.

THE "OSHO RO MARU" CRUISE 248 TOHOKU OFF

IN OCTOBER 2012

1. Cruise Itinerary

Cruise 248		
Departure from Hakodate	Oct.	9, 2012
Start hydrographic research (OS12138) and gillnet research (OSG1207)		10
Finish gillnet research (OSG1208)		13
Arrival at Tokyo		16
Departure from Tokyo		20
Arrival at Oshima		21
Departure from Oshima		22
Finish hydrographic research (OS12151)		24
Return to Hakodate		26
Total coverage 582.7miles		

2. Vessel Personnel

Crew:	Captain: Associate Professor	Shogo Takagi And 30 persons
Research Staff:	Professor (Laboratory of Marine Bioresource and Environment Sensing) Hakodate-Tokyo	Yasuzumi Fujimori
	Associate Professor (Laboratory of Marine Bioresource and Environment Sensing) Hakodate-Tokyo	Toru Mukai
	Assistant Professor (Field Science Center for Northern Biosphere, Hokkaido University) Hakodate-Tokyo	Jun Yamamoto
	Associate Professor (Laboratory of Marine Industrial Science and Technology) Tokyo-Hakodate	Hiroki Yasuma
	Assistant Professor (Laboratory of Marine Environmental Science) Tokyo-Hakodate	Hiromichi Ueno
	Associate Professor (Faculty of Environmental Earth Science, Hokkaido University) Hakodate-Tokyo	Yutaka Watanabe
	Professor (Kasetsart University) Hakodate-Tokyo	Anongponyoskun Monton
Teaching Assistant:		4 persons
Under Graduate Students:		26 persons
Graduate Students:		3 persons
Total 40 persons		

3. Items of Training and Research

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

Hydrographic work on deck and the data processing were made by the deck officers, Science officer, crews, research staff and cadets of the “Oshoro maru”. Temperature and salinity were measured by CTD (Seabird SBE-9Plus and SBE-19Plus) and X-CTD. Water and Plankton sampling were also carried out at almost hydrographic stations.

Fig. 1, Table 1,2

Saury gillnets research:

Tow operations of gillnet Researches were carried out. These operations were supervised by the captain, Deck officers, Science officer, crews, research staffs, and cadets were engaged in the work.

Table 3, 4

Fig 1. Oceanographic Stations

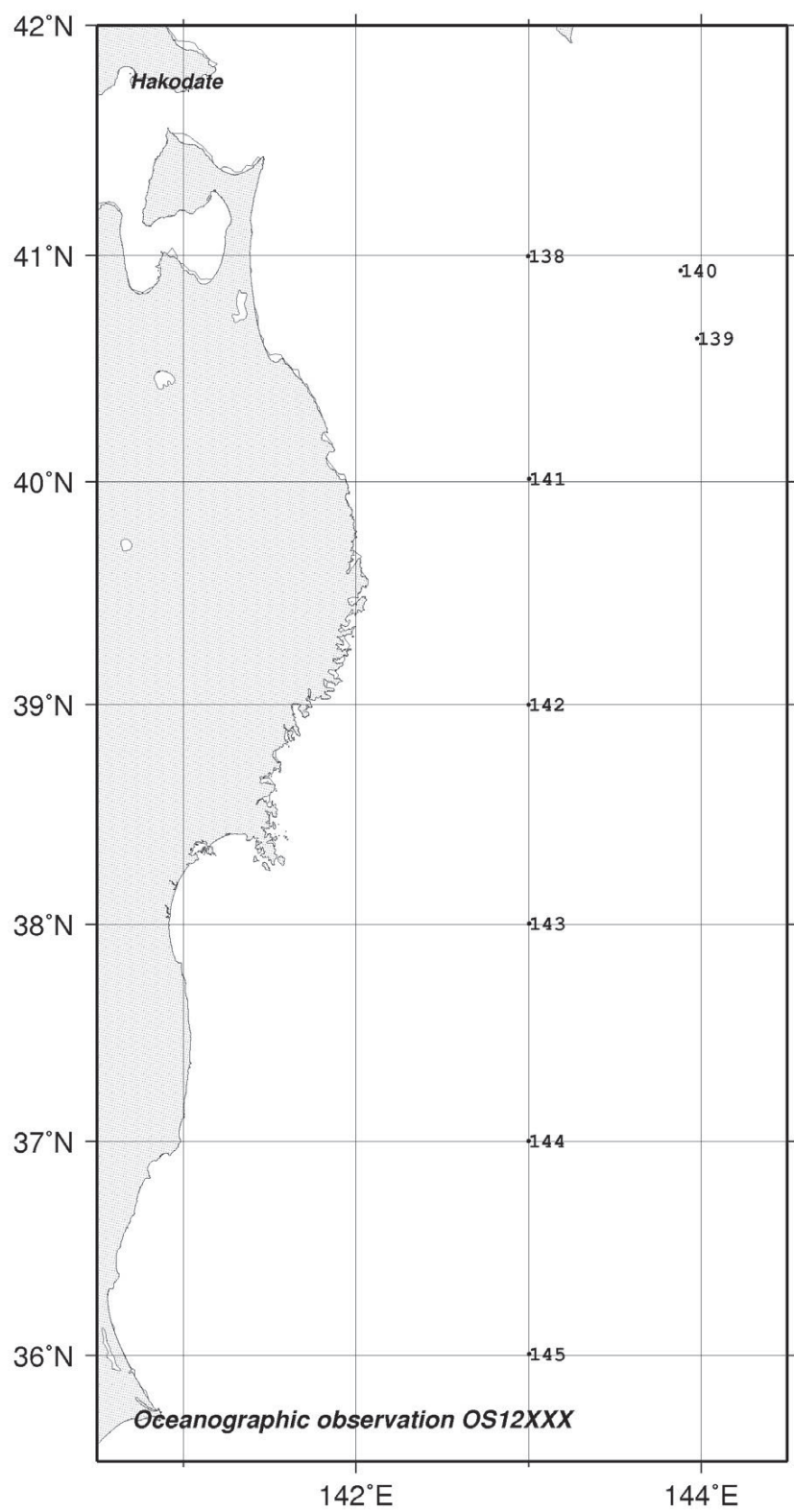


Table 1. List of Oceanographic station

Station	Lat.	Long.	Date (GMT)	Hour (GMT)	T.Z.	Depth	Col.	Tr.	SST	Wr.	Gear
OS12138	40–59.83N	142–59.85E	10/9	23:32	9	1890	–	–	22.4	o	19Plus–4636
OS12139	40–38.07N	143–58.58E	10/10	13:18	9	4082	–	–	19.3	o	9Plus–0769
OS12140	40–55.94N	143–52.81E	10/11	23:05	9	3655	–	–	18.7	bc	9Plus–0769
OS12141	40–00.72N	143–00.10E	10/13	5:11	9	1305	–	–	20.8	bc	XCTD
OS12142	39–00.01N	143–00.08E	10/13	10:31	9	1630	–	–	20.7	o	19Plus–4636
OS12143	38–00.21N	143–00.24E	10/13	16:51	9	1860	–	–	23.0	o	19Plus–4636
OS12144	37–00.11N	142–59.98E	10/13	23:07	9	5120	–	–	25.4	bc	19Plus–4636
OS12145	36–00.38N	143–00.14E	10/14	7:10	9	4900	–	–	25.4	bc	9Plus–0769
OS12146	38–59.97N	141–59.87E	10/23	20:59	9	198	–	–	19.4	bc	9Plus–0769
OS12147	39–00.02N	141–55.20E	10/23	22:00	9	142	–	–	19.7	bc	9Plus–0769
OS12148	39–29.65N	142–10.93E	10/24	1:20	9	234	–	–	19.6	bc	9Plus–0769
OS12149	39–29.98N	142–06.22E	10/24	2:32	9	150	–	–	20.2	b	9Plus–0769
OS12150	39–59.61N	142–06.11E	10/24	6:10	9	127	–	–	20.3	b	9Plus–0769
OS12151	39–59.95N	142–14.68E	10/24	7:17	9	213	–	–	19.5	bc	9Plus–0769

Table 2. Oceanographic data

Station OS12138 Latitude 40-59.83N Longitude 142-59.85E Depth(m) 1890m				Station OS12139 Latitude 40-38.07N Longitude 143-58.58E Depth(m) 4082m				Station OS12140 Latitude 40-56.08N Longitude 143-52.85E Depth(m) 3655m			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
20	23.282	33.528	22.737	5	18.556	33.869	24.269	10	18.038	33.317	23.974
30	21.470	33.694	23.372	10	18.559	33.867	24.266	20	18.029	33.316	23.975
50	16.765	34.006	24.807	20	18.523	33.855	24.266	30	17.729	33.349	24.074
75	12.564	34.034	25.731	30	17.837	33.872	24.448	40	15.731	33.669	24.784
100	11.497	34.121	26.001	40	15.086	34.090	25.252	50	13.441	34.074	25.587
150	9.967	34.107	26.260	50	14.092	34.138	25.502	75	10.377	33.959	26.075
200	7.841	33.933	26.459	75	11.793	34.145	25.964	100	9.982	34.131	26.276
300	2.746	33.520	26.726	100	10.536	34.132	26.182	125	9.073	34.054	26.366
400	3.240	33.766	26.878	125	9.620	34.092	26.307	150	8.044	33.859	26.371
500	3.486	33.953	27.004	150	8.938	34.054	26.387	175	6.469	33.696	26.462
600	3.521	34.069	27.093	175	8.599	34.014	26.409	200	5.671	33.643	26.521
				200	8.382	33.986	26.420	250	4.386	33.573	26.611
				250	8.222	33.964	26.427	300	2.763	33.467	26.682
				300	5.847	33.682	26.530	400	2.391	33.575	26.800
				400	1.703	33.302	26.633	500	2.975	33.777	26.911
				500	3.700	33.715	26.794	600	3.072	33.894	26.996
				600	2.999	33.753	26.890	700	3.468	34.089	27.114
				700	3.179	33.912	27.000	800	3.389	34.183	27.197
				800	3.517	34.093	27.112	900	3.347	34.277	27.276
				900	3.222	34.160	27.194	1000	3.002	34.308	27.332
				1000	3.153	34.272	27.290				

Station OS12141			
Latitude 40-00.72N			
Longitude 143-00.10E			
Depth(m) 1305m			
Depth	Temp.	Sal.	SIG-T
5	20.336	33.690	-
10	20.336	33.713	-
20	20.336	33.719	-
30	20.296	33.716	-
40	14.681	33.632	-
50	12.117	33.810	-
75	10.068	33.899	-
100	8.578	33.875	-
125	6.954	33.766	-
150	4.653	33.515	-
175	4.429	33.545	-
200	3.872	33.538	-
250	3.449	33.606	-
300	2.969	33.637	-
400	3.412	33.838	-
500	3.542	34.009	-
600	3.482	34.130	-
700	3.341	34.223	-
800	3.130	34.301	-
900	3.029	34.372	-
1000	2.878	34.412	-

Station OS12142			
Latitude 39-00.01N			
Longitude 143-00.08E			
Depth(m) 1630m			
Press.	Temp.	Sal.	SIG-T
20	20.124	33.509	23.592
30	20.121	33.512	23.595
50	15.095	33.706	24.954
75	11.137	33.861	25.864
100	10.539	34.112	26.166
150	8.617	34.004	26.399
200	7.373	33.865	26.473
300	3.109	33.476	26.659
400	3.275	33.689	26.813
500	3.993	33.960	26.960
600	4.005	34.110	27.078
700	3.852	34.190	27.157
800	3.437	34.253	27.248
900	3.245	34.320	27.320
1000	3.009	34.363	27.376

Station OS12143			
Latitude 38-00.21N			
Longitude 143-00.24E			
Depth(m) 1860m			
Press.	Temp.	Sal.	SIG-T
20	22.589	34.113	23.378
30	22.589	34.112	23.377
50	20.500	34.400	24.171
75	16.228	34.119	25.018
100	15.047	34.441	25.531
150	12.385	34.424	26.068
200	9.637	34.132	26.335
300	8.157	34.058	26.511
400	5.349	33.854	26.726
500	3.991	33.819	26.848
600	4.515	34.077	26.997
700	4.110	34.144	27.094
800	3.801	34.238	27.200
900	3.469	34.292	27.276

Station OS12144			
Latitude 37-00.11N			
Longitude 142-59.98E			
Depth(m) 5120m			
Press.	Temp.	Sal.	SIG-T
20	24.996	34.319	22.828
30	24.997	34.319	22.828
50	25.000	34.319	22.827
75	24.696	34.428	23.001
100	19.338	34.508	24.558
150	16.559	34.638	25.340
200	14.262	34.513	25.756
300	10.031	34.259	26.368
400	7.505	34.263	26.767
500	5.649	34.265	27.015
600	4.384	34.256	27.154
700	4.104	34.348	27.257
800	3.422	34.330	27.311
900	3.118	34.371	27.372

Station OS12145			
Latitude 36-0.48N			
Longitude 143-0.15E			
Depth(m) 4900m			
Press.	Temp.	Sal.	SIG-T
5	24.909	34.353	22.880
10	24.912	34.352	22.879
20	24.930	34.373	22.889
30	24.942	34.390	22.898
40	24.942	34.389	22.897
50	24.943	34.390	22.898
75	24.926	34.394	22.906
100	23.124	34.561	23.565
125	21.622	34.575	24.000
150	20.452	34.745	24.447
175	19.151	34.723	24.771
200	17.995	34.661	25.014
250	15.755	34.547	25.455
300	13.990	34.501	25.803
400	10.117	34.305	26.389
500	7.497	34.233	26.745
600	6.594	34.242	26.877
700	5.362	34.273	27.056
800	4.528	34.297	27.171
900	4.028	34.326	27.247
1000	3.675	34.383	27.329
1200	2.917	34.434	27.441
1500	2.401	34.515	27.550
2000	1.959	34.594	27.649
2500	1.705	34.637	27.704
3000	1.580	34.658	27.730
3500	1.524	34.670	27.743
4000	1.489	34.679	27.753

Station OS12146			
Latitude 38-59.99N			
Longitude 141-59.86E			
Depth(m) 198m			
Press.	Temp.	Sal.	SIG-T
5	18.830	33.657	24.038
10	18.824	33.658	24.040
20	18.828	33.658	24.039
30	18.838	33.658	24.036
40	18.838	33.658	24.036
50	18.837	33.658	24.036
75	17.711	33.727	24.368
100	16.009	33.975	24.957
125	14.855	34.054	25.274
150	13.537	34.153	25.629
175	12.329	34.138	25.857

Station OS12147				Station OS12148				Station OS12149			
Latitude 39-0.02N				Latitude 39-29.63N				Latitude 39-29.98N			
Longitude 141-55.20E				Longitude 142-10.94E				Longitude 142-06.23E			
Depth(m) 142m				Depth(m) 234m				Depth(m) 150m			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	19.087	33.673	23.985	5	19.590	33.682	23.863	5	19.575	33.692	23.875
10	19.075	33.672	23.988	10	19.590	33.682	23.863	10	19.462	33.682	23.897
20	19.090	33.672	23.983	20	19.584	33.682	23.865	20	19.135	33.665	23.967
30	19.090	33.670	23.982	30	19.585	33.682	23.865	30	19.012	33.664	23.997
40	18.877	33.670	24.036	40	19.582	33.683	23.866	40	18.864	33.660	24.032
50	18.038	33.713	24.277	50	18.377	33.768	24.236	50	18.715	33.672	24.078
75	17.029	33.810	24.594	75	14.611	34.119	25.377	75	17.950	33.755	24.331
100	16.068	33.994	24.958	100	13.793	34.144	25.569	100	15.162	34.059	25.211
125	14.731	34.077	25.318	125	12.681	34.161	25.806	125	13.665	34.144	25.595
				150	10.806	34.130	26.132				
				175	9.647	34.049	26.268				
				200	7.471	33.850	26.447				

Station OS12150				Station OS12151			
Latitude 39-59.58N				Latitude 39-59.92N			
Longitude 142-06.12E				Longitude 142-14.69E			
Depth(m) 127m				Depth(m) 213m			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	18.633	33.707	24.125	5	18.833	33.700	24.070
10	18.637	33.707	24.125	10	18.832	33.701	24.071
20	18.643	33.706	24.122	20	18.835	33.700	24.070
30	18.630	33.706	24.126	30	18.765	33.698	24.086
40	18.559	33.705	24.142	40	18.722	33.701	24.098
50	18.335	33.711	24.202	50	18.616	33.702	24.126
75	17.092	33.876	24.630	75	17.152	33.813	24.567
100	15.332	34.134	25.231	100	15.291	34.202	25.293
				125	12.238	34.179	25.906
				150	11.532	34.147	26.014
				175	11.554	34.147	26.010
				200	11.583	34.147	26.005

Table 3 Data on gill net research during the "Oshoro Maru" Cruise #248

No. of research		OSG 1207	OSG 1208
Date		10-Oct.	12, 13-Oct.
position of net set	Lat. (N)	40-30.8	40-57.2
	Long. (E)	143-59.4	143-53.4
Time(S.M.T.*1)	net set	16:30-16:35	16:53-16:57
	net haul	19:55-20:10	06:00-06:05
D.S.*2		280	305
Wr*3		bc	bc
S.T.*4 (°C)		19.5	17.7
Wind (force)		ESE-5	WNW-7
Pacific saury		-	3
Japanese sardine			
Mackerels			

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

*2 D.S. : Direction of net set.

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

*4 S.T. : Surface temperature

table 4 Drift Gillnet Sampling

	Mesh size (mm)	37	25	37	33	42	48	25	37	33	42	Total
OSG1207	Number	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	5
OSG1208	of tan	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	5

