



HOKKAIDO UNIVERSITY

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THE “OSHORU MARU” CRUISE 186
TO THE OFF HIYAMA AREA

IN JANUARY 2008

1. Cruise Itinerary

Cruise 186

Departure from Hakodate Jan. 15, 2008

Start hydrographic research (OS08001) 16

Finish hydrographic research (OS08020) 17

Return to Hakodate 19

Total coverage 291.0 miles

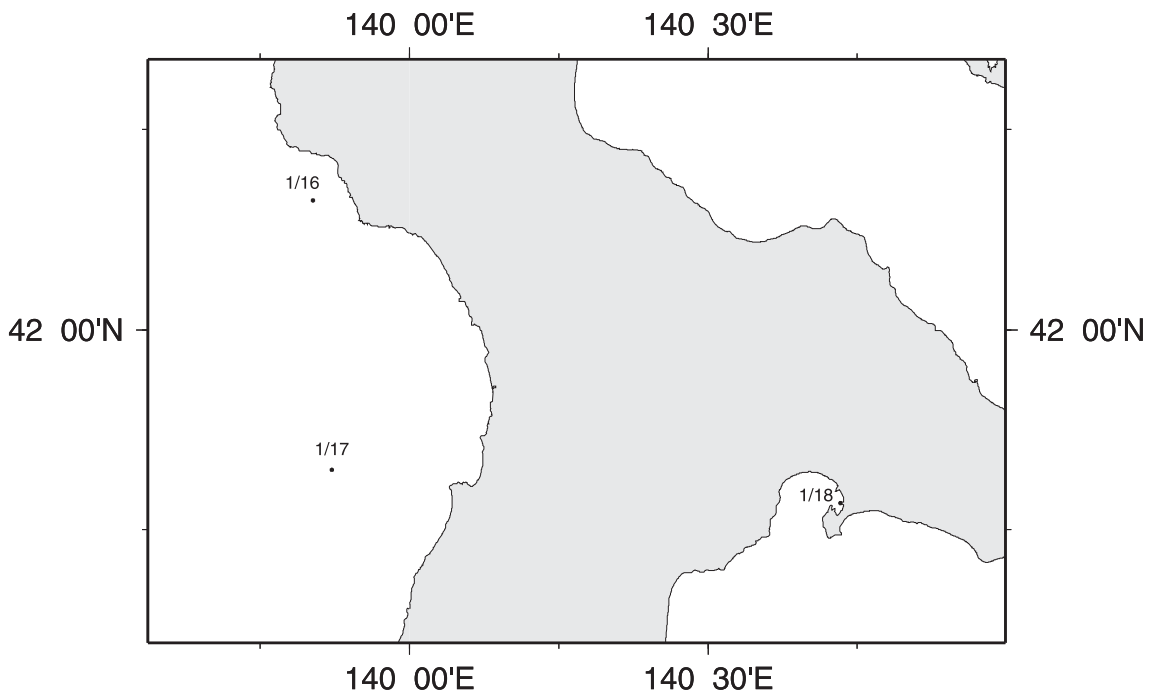


Figure 1: Noon position

2. Vessel Personnel

Captain:		Professor	Toshimi Meguro
Crew :	Chief Officer	Associated Professor	Yoshiyuki Kajiwara
	First Officer	Associated Professor	Shogo Takagi
	Second Officer	Instructor	Yoshihiko Kamei
	Jr. Second Officer	Instructor	Keiichiro Sakaoka
	Chief Engineer	Instructor	Junichi Kimura
	And 25 men		

Cruise 186

Research Staff:	Associate Professor	(Laboratory of Marine Bioresource Science)	
			Toshikuni Nakatani
Guest Scientist	Scientist	(Hokkaido Hakodate Fisheries Experimental Station)	
			Masamichi Watanobe
Under Graduate Students:	1 person		
	Total 33 persons		

3. Items of Research

Hydrographic observations:

Fig. 2 Table 1, 2

Studies on relation between eggs and larvae distribution and environment

Early life of walleye Pollock off Hiyama of northern Japan Sea

4. Data on Temperature, Salinity, and Computed Dynamic Depth Anomaly

Hydrographic work on deck and the data processing were made by the deck officers, crews, research staff and cadets of the “Oshoro Maru”.

Temperature and salinity were measured by CTD (Seabird SBE9Plus and SBE-19).

Dynamic computations were made using a desk-top computer aboard the “Oshoro Maru”.

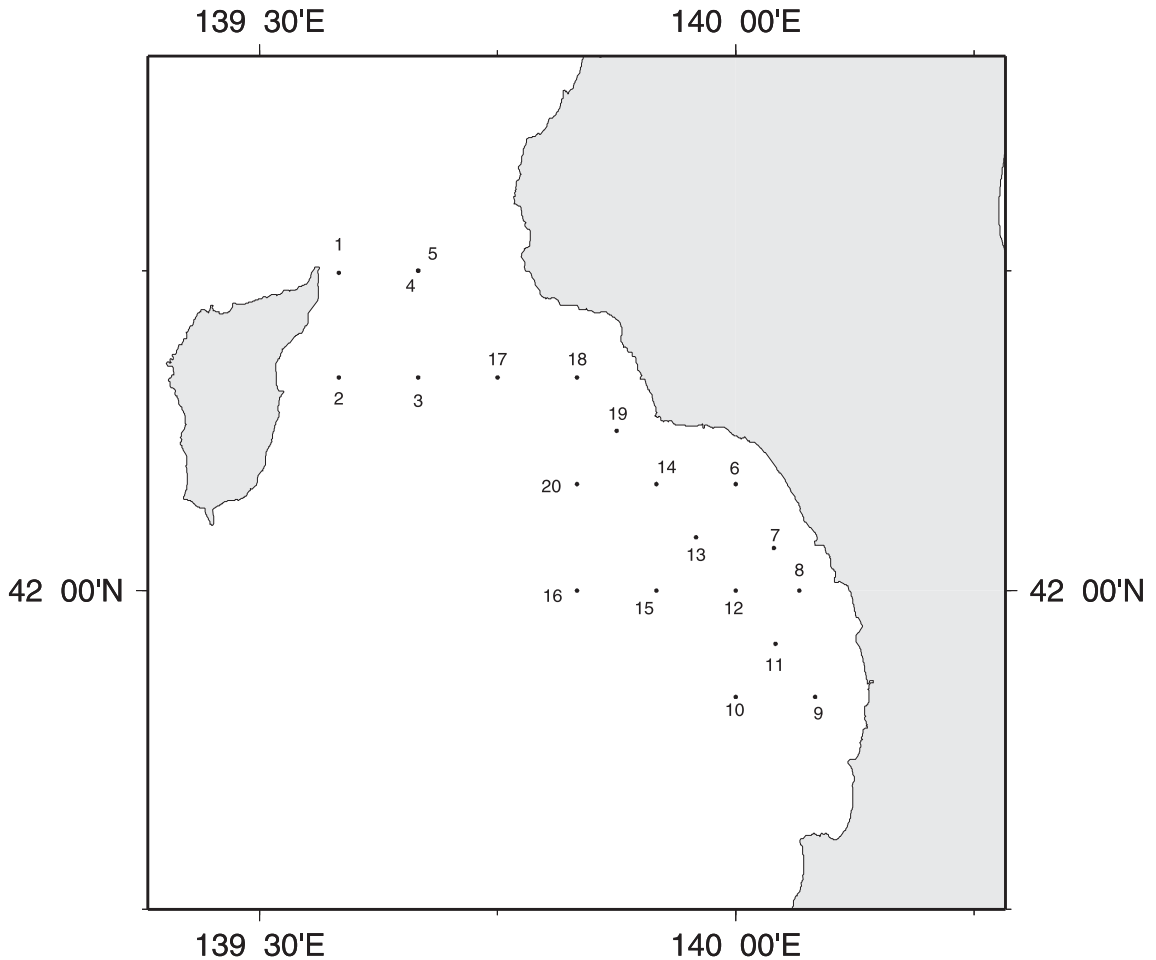


Figure 2: Oceanographic stations

Table 1: List of Oceanographic Stations

Station	Lat.(*)	Long.(*)	Date	S.M.T	T.Z.	Depth	COL.	TR.	S.S.T.	WR.	Remark
OS08001	42-14.9N	139-35.0E	1/16	0735	9	382	-	-	7.3	o	SBE-19plus
OS08002	42-10.0N	139-35.0E	1/16	0835	9	488	-	-	8.5	o	SBE-19plus

(*):Fixed position by Global Positioning system

Table 1: List of Oceanographic Stations

Station	Lat.(*)	Long.(*)	Date	S.M.T	T.Z.	Depth	COL.	TR.	S.S.T.	WR.	Remark
OS08003	42-10.0N	139-40.0E	1/16	0920	9	697	-	-	7.9	o	SBE-19plus
OS08004	42-15.0N	139-40.0E	1/16	1025	9	445	-	-	8.4	o	SBE-19plus
OS08005	42-15.0N	139-40.0E	1/16	1110	9	93	-	-	8.8	o	SBE-19plus
OS08006	42-05.0N	140-00.0E	1/16	1300	9	91	-	-	8.2	o	SBE-19plus
OS08007	42-02.0N	140-02.4E	1/16	1345	9	186	-	-	8.7	o	SBE-19plus
OS08008	42-00.0N	140-04.0E	1/16	1415	9	90	-	-	8.4	o	SBE-19plus
OS08009	41-55.0N	140-05.0E	1/16	1510	9	53	-	-	9.1	o	SBE-19plus
OS08010	41-55.0N	140-00.0E	1/16	1600	9	769	-	-	9.4	o	SBE-19plus
OS08011	41-57.5N	140-02.5E	1/16	1640	9	125	-	-	9.1	o	SBE-19plus
OS08012	42-00.0N	140-00.0E	1/16	1730	9	718	-	-	8.4	o	SBE-19plus
OS08013	42-02.5N	139-57.5E	1/16	1820	9	360	-	-	8.4	o	SBE-19plus
OS08014	42-05.0N	139-55.0E	1/16	1900	9	123	-	-	7.7	s	SBE-19plus
OS08015	42-00.0N	139-55.0E	1/16	2000	9	985	-	-	8.7	o	SBE-19plus
OS08016	42-00.0N	139-50.0E	1/16	2100	9	1107	-	-	8.9	o	SBE-19plus
OS08017	42-10.0N	139-45.0E	1/17	0745	9	340	-	-	8.1	bc	SBE-19plus
OS08018	42-10.0N	139-50.0E	1/17	0840	9	510	-	-	7.7	bc	SBE-19plus
OS08019	42-07.5N	139-52.5E	1/17	0925	9	260	-	-	8.2	bc	SBE-19plus
OS08020	42-05.0N	139-50.0E	1/17	1015	9	780	-	-	8.1	bc	SBE-19plus

(*) : Fixed position by Global Positioning system

Table 2: Oceanographic data

Station		OS08001	
Longitude		42-14.9N	
Latitude		139-35.0E	
Depth(m)		382	
Press.	Temp.	Sal.	SIG-T
5	7.572	34.146	26.666
10	7.571	34.146	26.666
20	7.405	34.138	26.684
30	7.172	34.132	26.712
40	7.158	34.135	26.715
50	7.087	34.131	26.723
75	6.942	34.126	26.738
100	6.876	34.123	26.745
125	6.699	34.119	26.766
150	6.472	34.123	26.799

Station		OS08002	
Longitude		42-10.0N	
Latitude		139-35.0E	
Depth(m)		488	
Press.	Temp.	Sal.	SIG-T
5	8.943	34.024	26.363
10	8.873	34.152	26.474
20	7.937	34.128	26.599
30	7.606	34.139	26.656
40	7.449	34.140	26.679
50	7.331	34.139	26.695
75	7.311	34.140	26.698
100	7.275	34.140	26.703
125	6.480	34.112	26.790
150	5.674	34.091	26.875

Station		OS08003	
Longitude		42-10.0N	
Latitude		139-40.0E	
Depth(m)		697	
Press.	Temp.	Sal.	SIG-T
5	8.100	34.146	26.589
10	8.092	34.147	26.590
20	8.123	34.148	26.586
30	8.121	34.147	26.586
40	7.705	34.137	26.640
50	7.567	34.134	26.657
75	7.398	34.134	26.681
100	6.813	34.106	26.740
125	6.115	34.099	26.826
150	3.934	34.053	27.040

Station		OS08004	
Longitude		42-15.0N	
Latitude		139-40.0E	
Depth(m)		445	
Press.	Temp.	Sal.	SIG-T
5	8.802	34.142	26.478
10	8.807	34.142	26.477
20	8.810	34.142	26.477
30	8.285	34.144	26.559
40	7.537	34.145	26.670
50	7.465	34.146	26.681
75	6.968	34.116	26.727
100	6.211	34.089	26.806
125	5.952	34.093	26.842
150	4.415	34.059	26.994

Station		OS08005	
Longitude		42-15.0N	
Latitude		139-40.0E	
Depth(m)		93	
Press.	Temp.	Sal.	SIG-T
5	8.687	34.141	26.495
10	8.704	34.142	26.493
20	8.706	34.142	26.493
30	8.702	34.141	26.493
40	8.687	34.141	26.495
50	7.780	34.094	26.595
75	4.030	34.062	27.037

Station		OS08006	
Longitude		42-05.0N	
Latitude		140-00.0E	
Depth(m)		91	
Press.	Temp.	Sal.	SIG-T
5	8.591	34.140	26.509
10	8.583	34.140	26.511
20	8.542	34.133	26.511
30	8.478	34.130	26.518
40	8.204	34.114	26.548
50	7.957	34.111	26.582
75	7.285	34.095	26.666

Station		OS08007	
Longitude		42-02.0N	
Latitude		140-02.4E	
Depth(m)		186	
Press.	Temp.	Sal.	SIG-T
5	8.992	34.147	26.452
10	8.994	34.147	26.451
20	9.018	34.148	26.448
30	9.010	34.147	26.449
40	8.979	34.145	26.453
50	8.515	34.119	26.505
75	7.242	34.091	26.669
100	5.396	34.066	26.889
125	3.993	34.069	27.046

Station		OS08008	
Longitude		42-00.0N	
Latitude		140-04.0E	
Depth(m)		90	
Press.	Temp.	Sal.	SIG-T
5	8.793	34.141	26.479
10	8.801	34.141	26.477
20	8.796	34.141	26.478
30	8.800	34.142	26.478
40	8.784	34.141	26.480
50	8.730	34.140	26.488
75	8.710	34.140	26.491

Station		OS08009	
Longitude		41-55.0N	
Latitude		140-05.0E	
Depth(m)		53	
Press.	Temp.	Sal.	SIG-T
5	9.457	34.156	26.384
10	9.482	34.158	26.382
20	9.366	34.152	26.396
30	9.256	34.153	26.414
40	9.073	34.148	26.440
50	8.927	34.148	26.463

Station	OS08010			
Longitude	41-55.0N			
Latitude	140-00.0E			
Depth(m)	769			
Press.	Temp.	Sal.	SIG-T	
5	9.786	34.166	26.337	
10	9.787	34.166	26.337	
20	9.796	34.166	26.335	
30	9.799	34.165	26.334	
40	9.797	34.165	26.334	
50	9.351	34.154	26.399	
75	7.543	34.082	26.619	
100	5.827	34.061	26.832	
125	4.494	34.072	26.996	
150	2.578	34.063	27.174	

Station	OS08011			
Longitude	41-57.5N			
Latitude	140-02.5E			
Depth(m)	125			
Press.	Temp.	Sal.	SIG-T	
5	9.587	34.161	26.366	
10	9.593	34.162	26.366	
20	9.591	34.162	26.367	
30	9.577	34.162	26.369	
40	9.551	34.161	26.372	
50	9.250	34.138	26.404	
75	6.752	34.073	26.723	
100	4.758	34.056	26.954	

Station	OS08012			
Longitude	42-00.0N			
Latitude	140-00.0E			
Depth(m)	718			
Press.	Temp.	Sal.	SIG-T	
5	8.819	34.141	26.474	
10	8.823	34.141	26.474	
20	8.816	34.140	26.474	
30	8.631	34.137	26.501	
40	8.578	34.137	26.509	
50	8.477	34.132	26.521	
75	6.724	34.074	26.727	
100	4.759	34.053	26.952	
125	3.527	34.042	27.071	
150	2.494	34.062	27.180	

Station	OS08013			
Longitude	42-02.5N			
Latitude	139-57.5E			
Depth(m)	360			
Press.	Temp.	Sal.	SIG-T	
5	8.782	34.150	26.487	
10	8.783	34.151	26.487	
20	8.739	34.147	26.492	
30	8.511	34.141	26.522	
40	8.498	34.142	26.525	
50	8.035	34.119	26.577	
75	6.723	34.090	26.740	
100	4.192	34.050	27.011	
125	2.810	34.049	27.143	
150	2.330	34.064	27.195	

Station	OS08014			
Longitude	42-05.0N			
Latitude	139-55.0E			
Depth(m)	123			
Press.	Temp.	Sal.	SIG-T	
5	8.140	34.134	26.573	
10	8.124	34.134	26.575	
20	8.133	34.133	26.574	
30	8.044	34.126	26.581	
40	7.773	34.111	26.609	
50	7.036	34.099	26.704	
75	5.134	34.063	26.917	
100	4.537	34.071	26.990	

Station	OS08015			
Longitude	42-00.0N			
Latitude	139-55.0E			
Depth(m)	985			
Press.	Temp.	Sal.	SIG-T	
5	9.186	34.157	26.428	
10	9.194	34.157	26.427	
20	9.183	34.157	26.430	
30	9.211	34.158	26.425	
40	9.214	34.157	26.424	
50	9.176	34.151	26.425	
75	7.792	34.094	26.593	
100	5.614	34.051	26.851	
125	3.587	34.047	27.070	
150	2.816	34.052	27.144	

Station	OS08016			
Longitude	42-00.0N			
Latitude	139-50.0E			
Depth(m)	1107			
Press.	Temp.	Sal.	SIG-T	
5	9.243	34.158	26.420	
10	9.257	34.158	26.418	
20	9.271	34.157	26.415	
30	9.271	34.158	26.415	
40	9.259	34.158	26.417	
50	9.237	34.157	26.421	
75	8.259	34.141	26.561	
100	6.230	34.067	26.786	
125	5.057	34.063	26.926	
150	3.451	34.053	27.087	

Station	OS08017			
Longitude	42-10.0N			
Latitude	139-45.0E			
Depth(m)	340			
Press.	Temp.	Sal.	SIG-T	
5	8.283	34.141	26.557	
10	8.287	34.141	26.556	
20	8.282	34.141	26.557	
30	8.249	34.137	26.559	
40	8.058	34.126	26.579	
50	7.932	34.122	26.595	
75	5.526	34.066	26.873	
100	4.473	34.066	26.993	
125	3.235	34.065	27.117	
150	2.373	34.059	27.188	

Station	OS08018			
Longitude	42-10.0N			
Latitude	139-50.0E			
Depth(m)	510			
Press.	Temp.	Sal.	SIG-T	
5	7.961	34.109	26.580	
10	7.983	34.113	26.580	
20	8.031	34.123	26.581	
30	8.027	34.123	26.582	
40	7.578	34.107	26.635	
50	5.933	34.065	26.822	
75	3.713	34.061	27.068	
100	3.027	34.063	27.135	
125	2.370	34.063	27.192	
150	2.059	34.066	27.219	

Station	OS08019		
Longitude	42-07.5N		
Latitude	139-52.5E		
Depth(m)	260		
Press.	Temp.	Sal.	SIG-T
5	8.578	34.147	26.517
10	8.590	34.147	26.515
20	8.594	34.147	26.514
30	8.599	34.148	26.514
40	8.578	34.147	26.516
50	7.527	34.107	26.641
75	6.099	34.059	26.797
100	3.559	34.059	27.082
125	2.857	34.063	27.150
150	2.285	34.063	27.198

Station	OS08020		
Longitude	42-05.0N		
Latitude	139-50.0E		
Depth(m)	780		
Press.	Temp.	Sal.	SIG-T
5	8.530	34.150	26.526
10	8.541	34.149	26.524
20	8.546	34.149	26.523
30	8.549	34.150	26.523
40	7.788	34.137	26.628
50	7.354	34.143	26.695
75	6.918	34.112	26.730
100	6.181	34.081	26.803
125	4.573	34.061	26.978
150	2.515	34.058	27.176