



HOKKAIDO UNIVERSITY

Title	2. The "Ushio Maru" Cruise 249, 250, 251 in February 2012
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THE " USHIO MARU "

CRUISE 249

CRUISE 250

CRUISE 251

IN FEBRUARY 2012

1. Cruise Itinerary

Cruise 249

Departure from Hakodate	Feb. 2, 2012
Start hydrographic research (US12066)	2
Finish hydrographic research (US12080)	3
Return to Hakodate	4
Total coverage 188.3 miles	

Cruise 250

Departure from Hakodate	Feb. 8, 2012
Arrival at Usujiri	8
Departure from Usujiri	11
Hydrographic research (US12081 - US12084)	11
Return to Hakodate	11
Total coverage 98.5 miles	

Cruise 251

Departure from Hakodate	Feb. 16, 2012
Start hydrographic research (US12085)	16
Arrival at Fukushima	16
Departure from Fukushima	17
Arrival at Hakodate	17
Departure from Hakodate	18
Finish hydrographic research (US12123)	19
Return to Hakodate	20
Total coverage 260.8 miles	

2. 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 “Ushio Maru”. Temperature and salinity were measured by CTD (Seabird SBE-9Plus and SBE-19). Dynamic computations were made using a desk-top computer aboard the “Ushio Maru”.

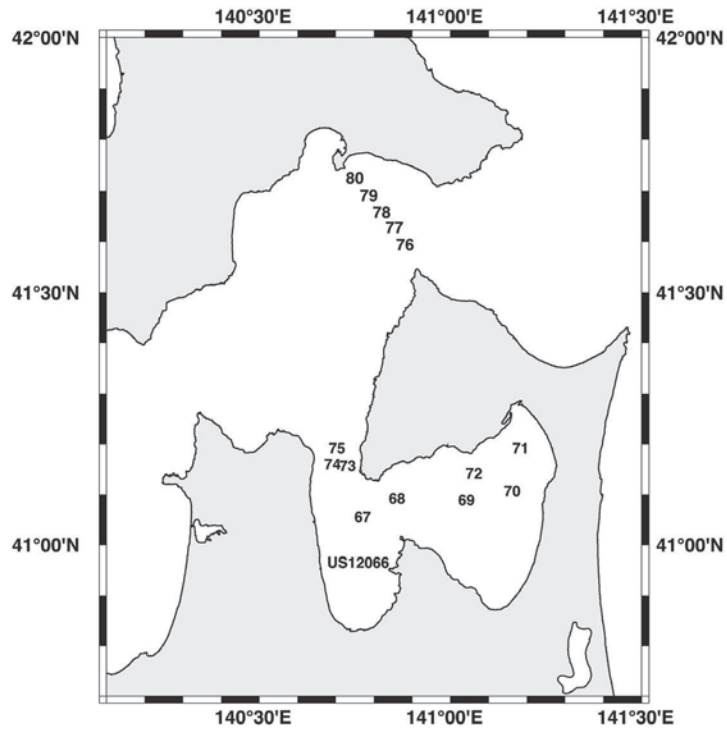


Figure 1. Oceanographic stations (Cruise 249)

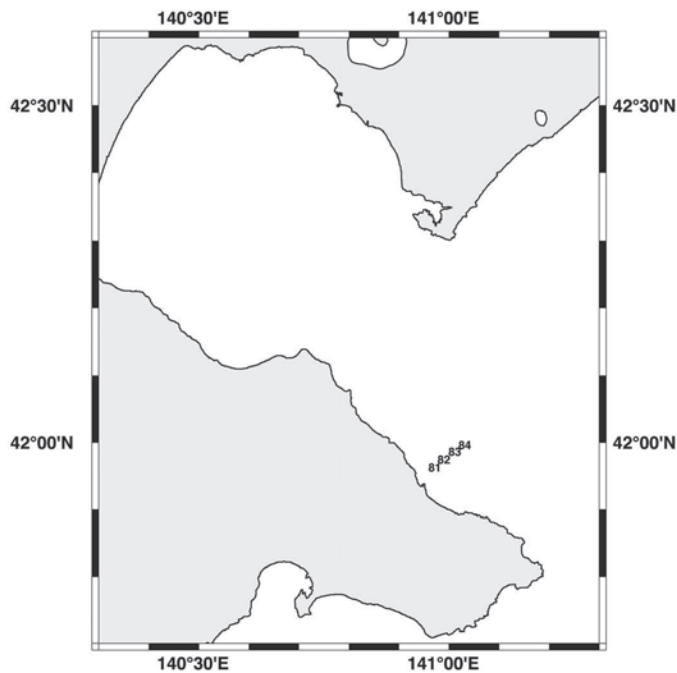


Figure 2. Oceanographic stations (Cruise 250)

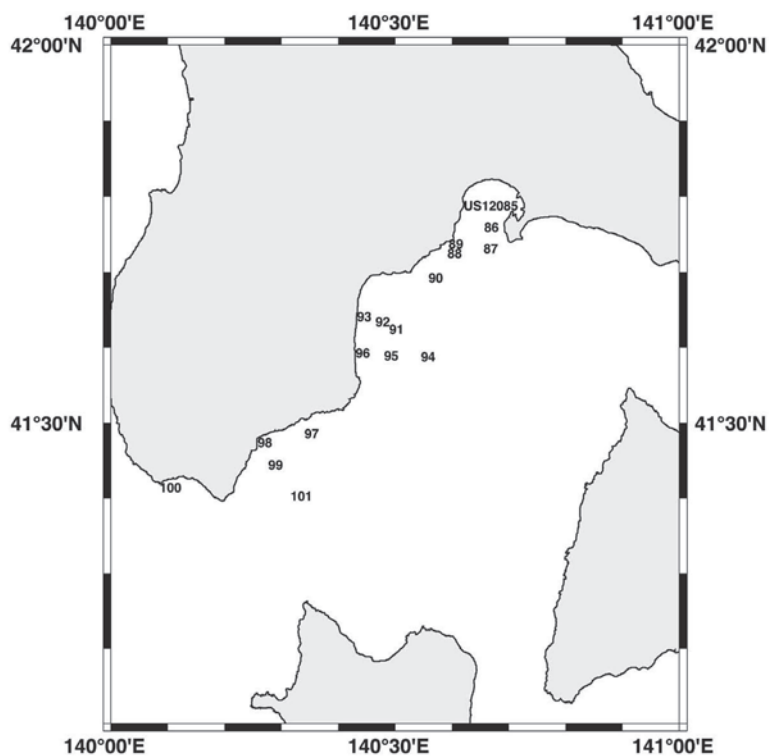


Figure 3. Oceanographic stations (Cruise 251-1)

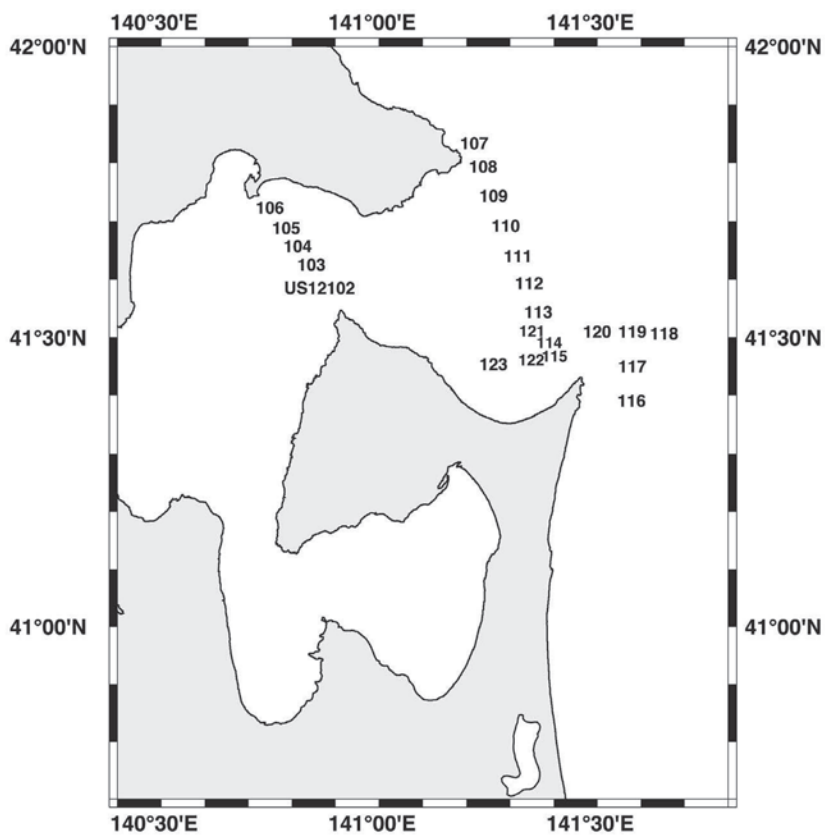


Figure 4. Oceanographic stations (Cruise 251-2)

Table 1. List of Oceanographic Station

Cruise 249												
Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth (m)	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US12066	40-57.3	140-45.5	2/2	1642-1648	51	West-3	NW -1	West-5	-1.8	4.7	bc	1009.5
US12067	41-02.7	140-46.2	2/2	1824-1832	52	NW -3	NNW-1	NW -5	-2.7	5.2	bc	1010.6
US12068	41-04.9	140-51.6	2/2	1906-1912	54	NW -3	NW -1	NW -5	-2.3	3.5	c	1011.1
US12069	41-04.7	141-02.5	2/3	0651-0656	48	WNW-4	WNW-1	WNW-6	-2.3	2.5	o	1013.3
US12070	41-05.8	141-09.7	2/3	0814-0819	39	NW -3	WNW-1	NW -5	-3.0	2.2	s	1014.5
US12071	41-10.9	141-11.0	2/3	0852-0857	30	West-3	West-1	West-5	-2.8	2.3	c	1014.6
US12072	41-07.9	141-03.7	2/3	0936-0942	38	West-3	West-1	West-5	-3.1	1.9	c	1015.1
US12073	41-08.8	140-43.9	2/3	1116-1123	61	West-3	West-1	West-5	-3.5	3.2	s	1015.7
US12074	41-09.0	140-41.5	2/3	1140-1146	53	West-3	NW -1	West-5	-3.4	4.7	s	1015.6
US12075	41-10.9	140-42.2	2/3	1201-1206	75	WNW-3	NW -1	WNW-5	-2.6	8.4	s	1015.0
US12076	41-35.0	140-52.9	2/3	1550-1552	36	West-2	West-1	West-4	-1.5	8.4	bc	1014.4
US12077	41-37.0	140-51.2	2/3	1610-1614	95	West-3	East-1	West-5	-2.4	8.6	bc	1014.1
US12078	41-38.8	140-49.2	2/3	1631-1642	340	WNW-3	East-1	WNW-5	-2.6	8.6	bc	1014.2
US12079	41-40.8	140-47.2	2/3	1701-1709	228	NW -3	East-1	NW -5	-3.1	8.6	bc	1014.2
US12080	41-42.8	140-45.0	2/3	1726-1730	84	West-2	East-1	West-4	-2.5	8.1	bc	1014.2
Cruise 250												
Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth (m)	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US12081	41-57.4	140-58.3	2/11	0952-0956	78	NW -2	NW -1	NW -4	-4.9	2.2	bc	1018.7
US12082	41-58.1	140-59.4	2/11	1005-1009	86	NW -2	NW -1	NW -4	-4.7	1.7	bc	1018.6
US12083	41-58.8	141-00.7	2/11	1017-1021	94	NW -2	NW -1	NW -4	-4.8	1.7	bc	1018.7
US12084	41-59.4	141-01.9	2/11	1029-1034	100	NW -3	NW -1	NW -5	-4.6	1.8	bc	1018.7
Cruise 251												
Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth (m)	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US12085	41-46.9	140-40.1	2/16	0852-0854	20	WNW-2	SW -1	WNW-4	-5.4	4.9	bc	1015.6
US12086	41-45.2	140-40.2	2/16	0912-0914	45	West-2	SW -1	West-4	-5.0	6.0	s	1015.6
US12087	41-43.5	140-40.1	2/16	0934-0937	68	NW -2	SW -1	NW -4	-5.2	6.5	s	1015.7
US12088	41-43.7	140-36.3	2/16	1003-1005	31	WNW-2	SW -1	WNW-4	-5.5	7.0	s	1015.6
US12089	41-44.0	140-35.8	2/16	1010-1012	10	NW -2	SSW-1	NW -4	-5.3	7.1	s	1015.6
US12090	41-41.2	140-34.3	2/16	1048-1050	41	WNW-2	SSW-1	WNW-4	-4.5	7.1	s	1015.5
US12091	41-37.2	140-30.0	2/16	1129-1131	31	WNW-3	West-1	WNW-5	-3.7	6.2	bc	1014.6
US12092	41-37.7	140-28.7	2/16	1148-1151	21	West-3	South-1	West-5	-4.1	6.2	bc	1014.6
US12093	41-38.1	140-26.3	2/16	1208-1210	13	West-3	SSE-1	West-5	-4.2	6.0	s	1014.6
US12094	41-34.9	140-33.5	2/16	1257-1300	60	West-3	SW -1	West-5	-3.3	8.3	bc	1014.5
US12095	41-35.0	140-29.6	2/16	1336-1339	42	WNW-3	SW -1	WNW-5	-4.5	7.8	s	1014.6
US12096	41-35.2	140-26.3	2/16	1411-1412	13	West-3	South-1	West-5	-4.6	7.6	s	1014.2
US12097	41-28.8	140-21.2	2/16	1525-1529	65	West-3	SW -1	West-5	-4.5	8.1	s	1014.6
US12098	41-28.2	140-16.1	2/16	1611-1613	17	West-2	SSW-1	West-4	-4.8	7.9	s	1015.0
US12099	41-26.3	140-17.4	2/17	0650-0653	68	NW -1	South-1	NW -3	-5.4	8.0	o	1012.1
US12100	41-24.5	140-06.3	2/17	0753-0756	59	NW -3	West-1	NW -5	-4.5	7.0	s	1012.5
US12101	41-23.8	140-20.1	2/17	0915-0919	95	West-3	SW -2	West-5	-3.2	7.9	bc	1012.6
US12102	41-34.5	140-51.8	2/17	1149-1152	59	NW -3	West-2	NW -5	-3.2	5.8	bc	1011.1
US12103	41-36.9	140-50.7	2/17	1209-1213	84	West-4	West-2	NW -6	-2.8	8.5	s	1010.6
US12104	41-38.8	140-48.8	2/17	1229-1240	345	West-3	West-1	West-5	-3.9	8.5	s	1010.6
US12105	41-40.7	140-47.2	2/14	1256-1305	229	WNW-3	West-1	WNW-5	-4.3	8.5	s	1010.5
US12106	41-42.8	140-45.0	2/17	1323-1327	85	West-3	West-1	West-5	-3.9	8.3	bc	1010.1
US12107	41-49.4	141-13.1	2/18	1118-1132	170	NW -2	NE -1	NW -4	-2.2	3.0	bc	1011.9
US12108	41-47.0	141-14.3	2/18	1153-1200	196	West-1	NE -1	West-3	-2.2	2.9	bc	1012.1
US12109	41-44.0	141-15.7	2/18	1222-1230	228	NW -2	NNW -1	NW -4	-1.9	2.8	c	1012.0
US12110	41-40.9	141-17.4	2/18	1255-1301	232	NW -2	NNW-1	NW -4	-2.0	7.6	c	1012.0
US12111	41-37.8	141-19.1	2/18	1324-1332	217	NNW-3	NNW-1	NNW-5	-2.0	5.1	c	1012.0
US12112	41-35.0	141-20.6	2/18	1353-1404	316	NNW-3	NNW-1	NNW-5	-1.3	8.0	c	1012.0
US12113	41-32.0	141-21.9	2/18	1426-1446	258	NW -2	North-1	NW -4	-1.6	7.9	bc	1012.1
US12114	41-28.9	141-23.4	2/18	1509-1513	94	West-3	North-1	West-5	-2.0	7.8	bc	1012.7
US12115	41-27.5	141-24.1	2/18	1525-1528	52	WNW-3	NW -1	WNW-5	-0.7	7.3	s	1012.7
US12116	41-22.8	141-34.7	2/19	0605-0620	365	West-2	NNW-1	West-4	-2.3	7.8	s	1018.1
US12117	41-26.4	141-34.8	2/19	0650-0708	348	West-3	NW -1	West-5	-2.2	7.9	s	1018.6
US12118	41-29.8	141-39.2	2/19	0742-0802	594	NW -3	NW -1	NW -5	-2.2	7.8	s	1019.1
US12119	41-30.0	141-34.8	2/19	0824-0828	112	NNW-2	NW -1	NNW-4	-2.9	6.7	bc	1019.5
US12120	41-30.0	141-30.0	2/19	0853-0857	62	NNW-3	NW -1	NNW-5	-2.9	7.7	bc	1019.6
US12121	41-30.1	141-21.0	2/19	0942-0950	230	NW -2	NW -1	NW -4	-3.5	8.0	s	1019.6
US12122	41-27.1	141-20.9	2/19	1010-1014	86	West-2	NW -1	West-4	-3.0	7.9	s	1019.6
US12123	41-26.6	141-15.7	2/19	1042-1051	86	West-2	NW -1	West-4	-2.8	7.9	s	1019.6

(*) : Fixed position by Global Positioning System

Table 2. Oceanographic data

STATION US12066			
LATITUDE		40-57.3	N
LONGITUD		140-45.5	E
DEPTH (m)		51	
Press.	Temp.	Salinity	Sigma-T
5	4.773	33.310	26.361
10	4.783	33.306	26.357
20	4.783	33.301	26.352
30	4.796	33.302	26.352
40	4.855	33.312	26.353

STATION US12069			
LATITUDE		41-04.7	N
LONGITUD		141-02.5	E
DEPTH (m)		48	
Press.	Temp.	Salinity	Sigma-T
5	2.757	33.029	26.333
10	2.753	33.032	26.335
20	2.762	33.037	26.339
30	2.794	33.043	26.341
40	2.801	33.044	26.341

STATION US12072			
LATITUDE		41-07.9	N
LONGITUD		141-03.7	E
DEPTH (m)		38	
Press.	Temp.	Salinity	Sigma-T
5	2.136	32.904	26.282
10	2.154	32.907	26.283
20	2.365	32.947	26.299
30	2.976	33.059	26.338

STATION US12075			
LATITUDE		41-10.9	N
LONGITUD		140-42.2	E
DEPTH (m)		75	
Press.	Temp.	Salinity	Sigma-T
5	8.716	33.978	26.363
10	8.717	33.975	26.360
20	8.726	33.973	26.357
30	8.698	33.969	26.358
40	8.681	33.966	26.359
50	8.634	33.957	26.359

STATION US12078			
LATITUDE		41-38.8	N
LONGITUD		140-49.2	E
DEPTH (m)		340	
Press.	Temp.	Salinity	Sigma-T
5	8.906	33.923	26.290
10	8.934	33.972	26.324
20	8.958	34.005	26.346
30	8.959	34.004	26.345
40	8.957	34.002	26.343
50	8.926	34.004	26.350
75	8.878	34.005	26.359
100	8.775	34.006	26.375
125	8.730	34.005	26.382
150	8.528	34.009	26.416
175	8.230	34.018	26.468
200	8.180	34.017	26.475
250	8.063	34.025	26.499
300	7.646	34.032	26.565

STATION US12067			
LATITUDE		41-02.7	N
LONGITUD		140-46.2	E
DEPTH (m)		52	
Press.	Temp.	Salinity	Sigma-T
5	4.599	33.230	26.316
10	4.662	33.251	26.326
20	4.837	33.334	26.373
30	5.462	33.449	26.392
40	5.654	33.472	26.387

STATION US12070			
LATITUDE		41-05.8	N
LONGITUD		141-09.7	E
DEPTH (m)		39	
Press.	Temp.	Salinity	Sigma-T
5	2.253	32.868	26.244
10	2.281	32.900	26.268
20	2.362	32.959	26.309
30	2.398	32.963	26.310

STATION US12073			
LATITUDE		41-08.8	N
LONGITUD		140-43.9	E
DEPTH (m)		61	
Press.	Temp.	Salinity	Sigma-T
5	4.254	33.137	26.278
10	4.276	33.248	26.365
20	4.312	33.257	26.368
30	4.363	33.264	26.368
40	4.369	33.259	26.364
50	4.655	33.308	26.372

STATION US12076			
LATITUDE		41-35.0	N
LONGITUD		140-52.9	E
DEPTH (m)		36	
Press.	Temp.	Salinity	Sigma-T
5	8.948	33.996	26.340
10	8.952	33.994	26.338
20	8.958	33.994	26.337
30	8.960	33.995	26.337

STATION US12079			
LATITUDE		41-40.8	N
LONGITUD		140-47.2	E
DEPTH (m)		228	
Press.	Temp.	Salinity	Sigma-T
5	8.952	34.013	26.353
10	8.964	34.012	26.350
20	8.961	34.012	26.351
30	8.970	34.012	26.349
40	8.963	34.010	26.349
50	8.970	34.010	26.348
75	8.874	34.003	26.358
100	8.662	34.009	26.396
125	8.352	34.017	26.449
150	8.190	34.022	26.477
175	8.072	34.024	26.497
200	7.675	34.024	26.555

STATION US12068			
LATITUDE		41-04.9	N
LONGITUD		140-51.6	E
DEPTH (m)		54	
Press.	Temp.	Salinity	Sigma-T
5	3.677	33.016	26.240
10	3.704	33.056	26.269
20	3.764	33.105	26.302
30	3.703	33.105	26.308
40	3.329	33.072	26.317

STATION US12071			
LATITUDE		41-10.9	N
LONGITUD		141-11.0	E
DEPTH (m)		30	
Press.	Temp.	Salinity	Sigma-T
5	2.516	32.914	26.261
10	2.571	33.008	26.331
20	2.602	33.011	26.331

STATION US12074			
LATITUDE		41-09.0	N
LONGITUD		140-41.5	E
DEPTH (m)		53	
Press.	Temp.	Salinity	Sigma-T
5	6.858	32.628	25.569
10	8.193	33.819	26.317
20	8.236	33.917	26.388
30	8.030	33.877	26.387
40	8.014	33.882	26.394

STATION US12077			
LATITUDE		41-37.0	N
LONGITUD		140-51.2	E
DEPTH (m)		95	
Press.	Temp.	Salinity	Sigma-T
5	8.975	33.968	26.314
10	8.972	34.001	26.340
20	8.974	33.998	26.337
30	8.975	33.999	26.338
40	8.966	33.998	26.339
50	8.960	33.998	26.340
75	8.965	33.998	26.339

STATION US12080			
LATITUDE		41-42.8	N
LONGITUD		140-45.0	E
DEPTH (m)		84	
Press.	Temp.	Salinity	Sigma-T
5	8.409	34.018	26.441
10	8.405	34.019	26.443
20	8.403	34.019	26.443
30	8.354	34.020	26.451
40	8.354	34.021	26.452
50	8.348	34.019	26.451
75	7.958	34.011	26.504

STATION US12081			
LATITUDE 41-57.4 N			
LONGITUD 140-58.3 E			
DEPTH (m) 78			
Press.	Temp.	Salinity	Sigma-T
5	2.443	32.967	26.309
10	2.433	32.966	26.309
20	3.545	33.312	26.487
30	6.412	33.796	26.549
40	6.681	33.790	26.509
50	6.167	33.730	26.528
75	5.921	33.714	26.547

STATION US12084			
LATITUDE 41-59.4 N			
LONGITUD 141-01.9 E			
DEPTH (m) 100			
Press.	Temp.	Salinity	Sigma-T
5	2.228	32.888	26.263
10	2.232	32.892	26.266
20	5.502	33.699	26.586
30	6.827	33.764	26.468
40	7.000	33.784	26.461
50	7.157	33.821	26.468
75	7.136	33.824	26.474

STATION US12087			
LATITUDE 41-43.5 N			
LONGITUD 140-40.1 E			
DEPTH (m) 68			
Press.	Temp.	Salinity	Sigma-T
5	7.189	33.955	26.570
10	7.176	33.957	26.573
20	7.329	34.016	26.598
30	7.275	34.019	26.608
40	7.254	34.018	26.610
50	7.174	34.015	26.619

STATION US12090			
LATITUDE 41-41.2 N			
LONGITUD 140-34.3 E			
DEPTH (m) 41			
Press.	Temp.	Salinity	Sigma-T
5	7.461	33.965	26.539
10	7.470	34.001	26.566
20	7.473	34.029	26.587
30	7.479	34.029	26.587

STATION US12093			
LATITUDE 41-38.1 N			
LONGITUD 140-26.3 E			
DEPTH (m) 13			
Press.	Temp.	Salinity	Sigma-T
5	6.094	33.797	26.590
10	6.104	33.800	26.591

STATION US12096			
LATITUDE 41-35.2 N			
LONGITUD 140-26.3 E			
DEPTH (m) 13			
Press.	Temp.	Salinity	Sigma-T
5	7.171	33.924	26.547
10	7.191	33.923	26.544

STATION US12082			
LATITUDE 41-58.1 N			
LONGITUD 140-59.4 E			
DEPTH (m) 86			
Press.	Temp.	Salinity	Sigma-T
5	2.146	32.890	26.271
10	2.158	32.894	26.273
20	2.412	32.962	26.307
30	6.573	33.781	26.516
40	7.190	33.835	26.475
50	7.288	33.845	26.469
75	6.127	33.727	26.531

STATION US12085			
LATITUDE 41-46.9 N			
LONGITUD 140-40.1 E			
DEPTH (m) 20			
Press.	Temp.	Salinity	Sigma-T
5	6.535	33.800	26.536
10	6.589	33.811	26.537

STATION US12088			
LATITUDE 41-43.7 N			
LONGITUD 140-36.3 E			
DEPTH (m) 31			
Press.	Temp.	Salinity	Sigma-T
5	7.417	33.826	26.436
10	7.438	33.937	26.521
20	7.442	34.011	26.578

STATION US12091			
LATITUDE 41-37.2 N			
LONGITUD 140-30.0 E			
DEPTH (m) 31			
Press.	Temp.	Salinity	Sigma-T
5	6.648	33.955	26.643
10	6.650	33.953	26.641
20	6.656	33.953	26.640
30	6.669	33.953	26.639

STATION US12094			
LATITUDE 41-34.9 N			
LONGITUD 140-33.5 E			
DEPTH (m) 60			
Press.	Temp.	Salinity	Sigma-T
5	8.823	33.974	26.343
10	8.824	33.973	26.342
20	8.826	33.973	26.341
30	8.826	33.974	26.342
40	8.815	33.974	26.344
50	8.711	33.976	26.362

STATION US12097			
LATITUDE 41-28.8 N			
LONGITUD 140-21.2 E			
DEPTH (m) 65			
Press.	Temp.	Salinity	Sigma-T
5	8.448	33.939	26.373
10	8.470	34.019	26.433
20	8.479	34.027	26.437
30	8.484	34.025	26.435
40	8.488	34.026	26.435
50	8.481	34.028	26.438

STATION US12083			
LATITUDE 41-58.8 N			
LONGITUD 141-00.7 E			
DEPTH (m) 94			
Press.	Temp.	Salinity	Sigma-T
5	2.137	32.881	26.264
10	2.225	32.924	26.291
20	4.757	33.439	26.464
30	6.930	33.793	26.477
40	7.071	33.797	26.461
50	7.107	33.801	26.460
75	6.561	33.727	26.474

STATION US12086			
LATITUDE 41-45.2 N			
LONGITUD 140-40.2 E			
DEPTH (m) 45			
Press.	Temp.	Salinity	Sigma-T
5	6.589	33.719	26.465
10	6.594	33.782	26.514
20	7.287	33.979	26.574
30	7.365	33.994	26.575
40	7.390	34.005	26.581

STATION US12089			
LATITUDE 41-44.0 N			
LONGITUD 140-35.8 E			
DEPTH (m) 10			
Press.	Temp.	Salinity	Sigma-T
5	7.066	33.810	26.473
10	7.083	33.954	26.583

STATION US12092			
LATITUDE 41-37.7 N			
LONGITUD 140-28.7 E			
DEPTH (m) 21			
Press.	Temp.	Salinity	Sigma-T
5	6.341	33.899	26.639
10	6.336	33.900	26.641
20	6.350	33.902	26.640

STATION US12095			
LATITUDE 41-35.0 N			
LONGITUD 140-29.6 E			
DEPTH (m) 42			
Press.	Temp.	Salinity	Sigma-T
5	8.148	34.000	26.467
10	8.155	34.000	26.465
20	8.160	34.000	26.465
30	8.158	34.001	26.465
40	8.167	34.001	26.465

STATION US12098			
LATITUDE 41-28.2 N			
LONGITUD 140-16.1 E			
DEPTH (m) 17			
Press.	Temp.	Salinity	Sigma-T
5	7.655	33.770	26.358
10	7.675	33.857	26.424

STATION US12099			
LATITUDE	41-26.3	N	
LONGITUD	140-17.4	E	
DEPTH (m)	68		
Press.	Temp.	Salinity	Sigma-T
5	8.256	34.007	26.456
10	8.136	34.010	26.477
20	7.986	34.022	26.508
30	7.952	34.026	26.516
40	7.953	34.025	26.515
50	7.957	34.026	26.515

STATION US12100			
LATITUDE	41-24.5	N	
LONGITUD	140-06.3	E	
DEPTH (m)	59		
Press.	Temp.	Salinity	Sigma-T
5	7.165	34.023	26.626
10	6.830	34.031	26.679
20	6.592	34.059	26.733
30	6.411	34.054	26.752
40	6.302	34.061	26.772
50	6.252	34.066	26.783

STATION US12101			
LATITUDE	41-23.8	N	
LONGITUD	140-20.1	E	
DEPTH (m)	95		
Press.	Temp.	Salinity	Sigma-T
5	7.282	34.032	26.618
10	7.183	34.036	26.634
20	7.041	34.029	26.648
30	6.840	34.047	26.690
40	6.900	34.052	26.685
50	6.845	34.047	26.690
75	6.953	34.047	26.675

STATION US12102			
LATITUDE	41-34.5	N	
LONGITUD	140-51.8	E	
DEPTH (m)	59		
Press.	Temp.	Salinity	Sigma-T
5	8.765	33.985	26.360
10	8.769	33.984	26.359
20	8.777	33.986	26.359
30	8.780	33.986	26.359
40	8.779	33.987	26.360
50	8.786	33.988	26.360

STATION US12103			
LATITUDE	41-36.9	N	
LONGITUD	140-50.7	E	
DEPTH (m)	84		
Press.	Temp.	Salinity	Sigma-T
5	8.924	33.990	26.339
10	8.925	33.991	26.340
20	8.938	33.991	26.338
30	8.943	33.989	26.336
40	8.922	33.990	26.340
50	8.927	33.991	26.339
75	8.870	33.988	26.346

STATION US12104			
LATITUDE	41-38.8	N	
LONGITUD	140-48.8	E	
DEPTH (m)	345		
Press.	Temp.	Salinity	Sigma-T
5	8.891	33.993	26.347
10	8.902	33.989	26.342
20	8.900	33.989	26.342
30	8.898	33.990	26.343
40	8.868	33.989	26.348
50	8.841	33.991	26.353
75	8.721	33.990	26.371
100	8.688	33.991	26.377
125	8.596	33.995	26.394
150	8.594	33.994	26.394
175	8.484	33.997	26.413
200	8.476	33.998	26.415
250	8.450	33.997	26.418
300	8.337	33.993	26.432

STATION US12105			
LATITUDE	41-40.7	N	
LONGITUD	140-47.2	E	
DEPTH (m)	229		
Press.	Temp.	Salinity	Sigma-T
5	8.756	33.982	26.359
10	8.760	33.982	26.358
20	8.764	33.982	26.358
30	8.767	33.982	26.358
40	8.733	33.983	26.363
50	8.684	33.985	26.373
75	8.523	33.982	26.396
100	8.378	33.988	26.423
125	8.164	33.995	26.460
150	8.060	34.001	26.480
175	8.003	34.002	26.489
200	7.967	33.998	26.492

STATION US12106			
LATITUDE	41-42.8	N	
LONGITUD	140-45.0	E	
DEPTH (m)	85		
Press.	Temp.	Salinity	Sigma-T
5	8.458	33.982	26.406
10	8.477	33.984	26.404
20	8.480	33.981	26.402
30	8.480	33.983	26.403
40	8.434	33.992	26.417
50	8.223	33.988	26.446
75	8.018	33.981	26.471

STATION US12107			
LATITUDE	41-49.4	N	
LONGITUD	141-13.1	E	
DEPTH (m)	170		
Press.	Temp.	Salinity	Sigma-T
5	3.294	33.071	26.319
10	3.293	33.072	26.320
20	3.293	33.072	26.320
30	3.284	33.072	26.321
40	3.283	33.073	26.322
50	3.280	33.072	26.322
75	3.491	33.119	26.339
100	4.039	33.330	26.454
125	4.132	33.468	26.554
150	3.349	33.464	26.627

STATION US12108			
LATITUDE	41-47.0	N	
LONGITUD	141-14.3	E	
DEPTH (m)	196		
Press.	Temp.	Salinity	Sigma-T
5	3.256	33.062	26.315
10	3.255	33.064	26.317
20	3.241	33.063	26.318
30	3.241	33.065	26.319
40	3.234	33.064	26.319
50	3.232	33.066	26.321
75	3.348	33.090	26.329
100	3.739	33.187	26.370
125	5.094	33.539	26.507
150	4.458	33.436	26.495
175	3.560	33.456	26.601

STATION US12109			
LATITUDE	41-44.0	N	
LONGITUD	141-15.7	E	
DEPTH (m)	228		
Press.	Temp.	Salinity	Sigma-T
5	3.160	33.058	26.321
10	3.159	33.058	26.321
20	3.147	33.056	26.320
30	3.329	33.091	26.332
40	3.394	33.098	26.331
50	3.648	33.176	26.370
75	4.888	33.411	26.428
100	6.428	33.680	26.455
125	6.444	33.734	26.496
150	6.591	33.824	26.547
175	5.328	33.698	26.605
200	2.786	33.512	26.716

STATION US12110			
LATITUDE	41-40.9	N	
LONGITUD	141-17.4	E	
DEPTH (m)	232		
Press.	Temp.	Salinity	Sigma-T
5	7.730	33.873	26.428
10	7.798	33.892	26.433
20	7.795	33.888	26.431
30	7.709	33.860	26.421
40	7.570	33.854	26.436
50	7.611	33.858	26.434
75	7.214	33.844	26.479
100	7.112	33.825	26.478
125	6.684	33.794	26.511
150	5.754	33.724	26.575
175	4.692	33.693	26.673
200	2.889	33.665	26.829

STATION US12111			
LATITUDE 41-37.8 N			
LONGITUD 141-19.1 E			
DEPTH (m) 217			
Press.	Temp.	Salinity	Sigma-T
5	7.966	33.913	26.425
10	8.032	33.914	26.416
20	8.041	33.920	26.420
30	7.465	33.785	26.397
40	7.787	33.920	26.457
50	8.083	33.975	26.456
75	6.792	33.729	26.446
100	6.318	33.682	26.471
125	6.427	33.779	26.533
150	5.003	33.610	26.573
175	3.881	33.535	26.633
200	3.483	33.601	26.724

STATION US12112			
LATITUDE 41-35.0 N			
LONGITUD 141-20.6 E			
DEPTH (m) 316			
Press.	Temp.	Salinity	Sigma-T
5	8.487	33.984	26.402
10	8.497	33.982	26.400
20	8.385	33.959	26.398
30	8.166	33.934	26.412
40	8.105	33.932	26.420
50	8.122	33.938	26.422
75	8.152	33.946	26.423
100	7.978	33.920	26.429
125	7.666	33.913	26.469
150	7.601	33.904	26.471
175	7.583	33.907	26.476
200	7.553	33.905	26.479
250	7.293	33.889	26.503
300	5.333	33.610	26.535

STATION US12113			
LATITUDE 41-32.0 N			
LONGITUD 141-21.9 E			
DEPTH (m) 258			
Press.	Temp.	Salinity	Sigma-T
5	8.252	33.976	26.432
10	8.255	33.976	26.432
20	8.240	33.975	26.433
30	8.233	33.975	26.434
40	8.213	33.974	26.436
50	8.202	33.974	26.438
75	8.172	33.978	26.445
100	8.166	33.979	26.447
125	8.155	33.980	26.450
150	8.121	33.982	26.456
175	8.129	33.981	26.455
200	8.126	33.982	26.455

STATION US12114			
LATITUDE 41-28.9 N			
LONGITUD 141-23.4 E			
DEPTH (m) 94			
Press.	Temp.	Salinity	Sigma-T
5	7.790	33.888	26.431
10	7.779	33.888	26.433
20	7.958	33.948	26.454
30	8.100	33.969	26.450
40	8.133	33.974	26.448
50	8.151	33.983	26.453
75	8.090	33.980	26.460

STATION US12115			
LATITUDE 41-27.5 N			
LONGITUD 141-24.1 E			
DEPTH (m) 52			
Press.	Temp.	Salinity	Sigma-T
5	8.199	33.582	26.131
10	8.215	33.929	26.401
20	8.184	33.905	26.387
30	7.737	33.835	26.397
40	7.660	33.834	26.408

STATION US12116			
LATITUDE 41-22.8 N			
LONGITUD 141-34.7 E			
DEPTH (m) 365			
Press.	Temp.	Salinity	Sigma-T
5	8.248	33.957	26.417
10	8.184	33.946	26.419
20	8.190	33.950	26.421
30	8.198	33.951	26.420
40	8.152	33.947	26.424
50	8.138	33.948	26.427
75	8.131	33.948	26.428
100	8.114	33.946	26.429
125	8.131	33.948	26.428
150	8.162	33.952	26.426
175	8.124	33.947	26.428
200	8.131	33.947	26.427
250	8.178	33.958	26.429
300	8.174	33.959	26.430

STATION US12117			
LATITUDE 41-26.4 N			
LONGITUD 141-34.8 E			
DEPTH (m) 348			
Press.	Temp.	Salinity	Sigma-T
5	8.289	33.964	26.417
10	8.302	33.964	26.415
20	8.304	33.964	26.415
30	8.274	33.962	26.418
40	8.280	33.965	26.419
50	8.248	33.961	26.421
75	8.238	33.961	26.422
100	8.164	33.964	26.436
125	8.191	33.966	26.433
150	8.201	33.960	26.427
175	8.191	33.964	26.431
200	8.165	33.966	26.437
250	8.160	33.967	26.439
300	8.160	33.969	26.440

STATION US12118			
LATITUDE 41-29.8 N			
LONGITUD 141-39.2 E			
DEPTH (m) 594			
Press.	Temp.	Salinity	Sigma-T
5	8.102	33.979	26.457
10	8.106	33.978	26.456
20	8.114	33.976	26.453
30	8.108	33.979	26.456
40	8.107	33.978	26.456
50	8.108	33.979	26.456
75	8.103	33.977	26.455
100	8.103	33.977	26.455
125	8.004	33.961	26.457
150	7.792	33.934	26.467
175	7.810	33.938	26.468
200	7.693	33.918	26.469
250	7.417	33.882	26.480
300	7.116	33.827	26.479
400	3.624	33.690	26.782
500	3.208	33.874	26.967

STATION US12119			
LATITUDE 41-30.0 N			
LONGITUD 141-34.8 E			
DEPTH (m) 112			
Press.	Temp.	Salinity	Sigma-T
5	7.392	33.780	26.404
10	7.395	33.858	26.465
20	7.400	33.862	26.467
30	7.401	33.862	26.467
40	7.405	33.862	26.466
50	7.390	33.859	26.466
75	7.355	33.853	26.466
100	7.338	33.849	26.465

STATION US12120			
LATITUDE 41-30.0 N			
LONGITUD 141-30.0 E			
DEPTH (m) 62			
Press.	Temp.	Salinity	Sigma-T
5	7.882	33.932	26.452
10	7.885	33.930	26.450
20	7.893	33.934	26.452
30	7.930	33.941	26.452
40	7.936	33.939	26.450
50	7.952	33.942	26.450

STATION US12121			
LATITUDE 41-30.1 N			
LONGITUD 141-21.0 E			
DEPTH (m) 230			
Press.	Temp.	Salinity	Sigma-T
5	8.268	33.858	26.337
10	8.181	33.960	26.430
20	8.069	33.954	26.442
30	8.069	33.951	26.440
40	8.075	33.967	26.452
50	8.083	33.977	26.458
75	8.061	33.992	26.473
100	8.007	33.984	26.475
125	7.892	33.991	26.497
150	7.864	33.997	26.506
175	7.878	33.994	26.502
200	7.752	33.993	26.519

STATION US12122			
LATITUDE 41-27.1 N			
LONGITUD 141-20.9 E			
DEPTH (m) 86			
Press.	Temp.	Salinity	Sigma-T
5	8.227	33.971	26.432
10	8.295	33.972	26.422
20	8.325	33.979	26.423
30	8.306	33.974	26.422
40	8.232	33.963	26.425
50	8.218	33.962	26.426
75	7.499	33.770	26.380

STATION US12123			
LATITUDE 41-26.6 N			
LONGITUD 141-15.7 E			
DEPTH (m) 86			
Press.	Temp.	Salinity	Sigma-T
5	8.288	33.975	26.426
10	8.306	33.975	26.423
20	8.272	33.975	26.428
30	8.219	33.976	26.437
40	8.174	33.978	26.446
50	8.175	33.979	26.446
75	8.085	33.981	26.461