



HOKKAIDO UNIVERSITY

Title	6 THE "USHIO MARU" CRUISE 339, CRUISE 340, CRUISE 341 IN AUGUST -SEPTEMBER 2015
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THE " USHIO MARU "

CRUISE 339

CRUISE 340

CRUISE 341

IN AUGUST 2015

IN SEPTEMBER 2015

1.Cruise Itinerary

Cruise 339

Departure from Hakodate	Aug.	7, 2015
Start hydrographic research (US15348)		9
Arrival at Nemuro		9
Departure from Nemuro		10
Start marine mammals watching research		10
Finish marine mammals watching research		12
Finish hydrographic research (US15377)		12
Start squid jigging research		12
Finish squid jigging research		13
Return to Hakodate		13
Total coverage 1080.2 miles		

Cruise 340

Departure from Hakodate	Aug.	23, 2015
Start hydrographic research (US15378)		23
Start squid jigging research		23
Finish squid jigging research		24
Arrival at Hakodate		25
Departure from Hakodate		28
Finish hydrographic research (US15385)		30
Return to Hakodate		31
Total coverage 346.0 miles		

Cruise 341

Departure from Hakodate	Sep.	3, 2015
Start hydrographic research (US15386)		3
Set mooring current meter		3
Start squid jigging research		3
Start and finish seabirds sighting research		4
Finish squid jigging research		4
Arrival at Hakodate		5
Departure from Hakodate		6
Start skin diving research		6
Finish skin diving research and hydrographic research (US15403)		7
Sampling by NORPAC net		8
Return to Hakodate		8
Total coverage 381.8 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”.

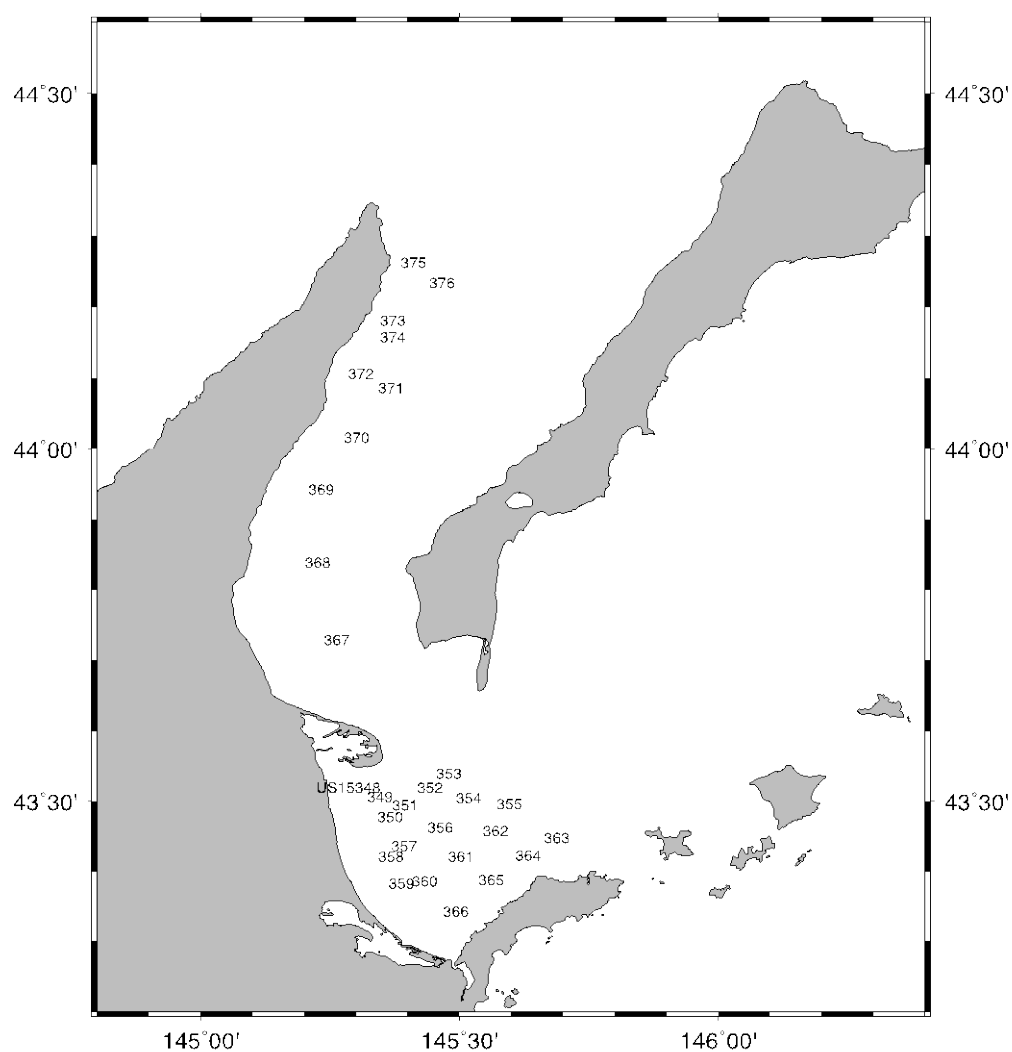


Figure 1. Oceanographic stations (Cruise 339)

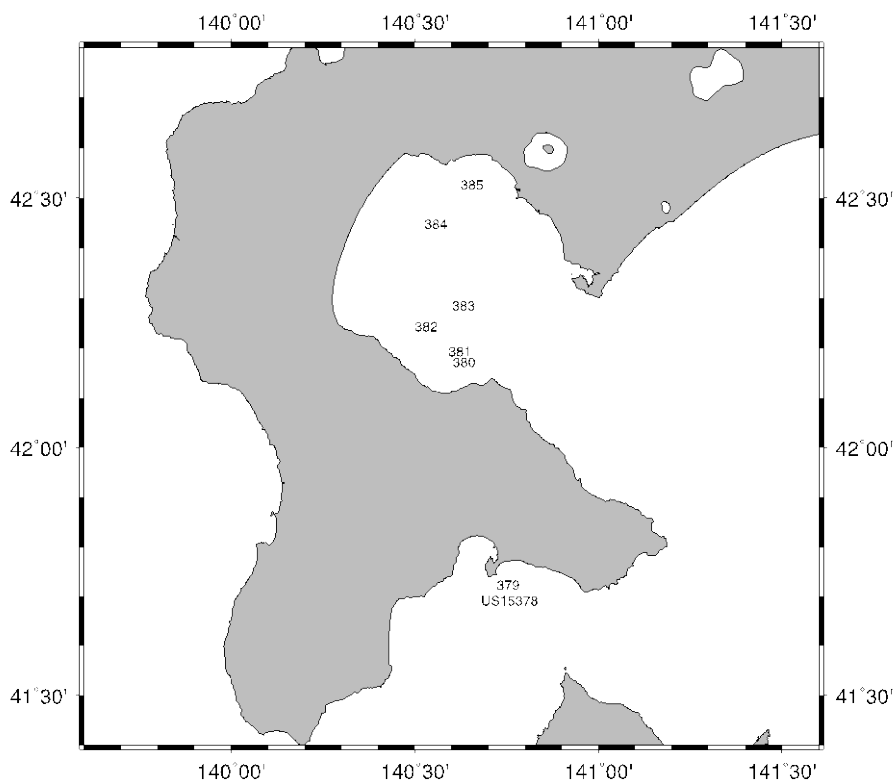


Figure 2. Oceanographic stations (Cruise 340)

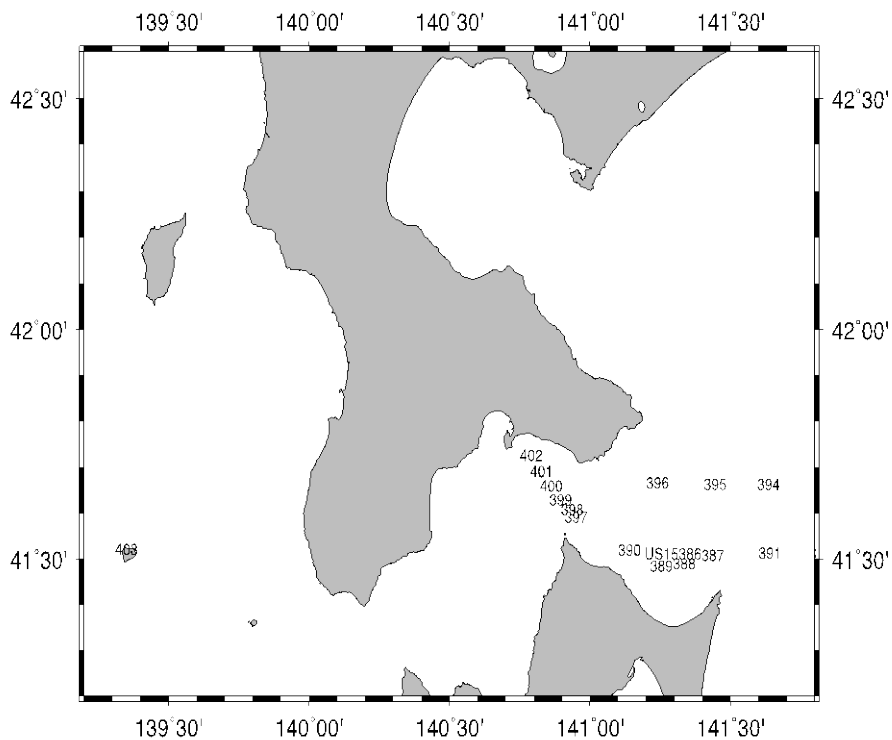


Figure 3. Oceanographic stations (Cruise 341)

Table 1. List of Oceanographic Station

Cruise 339												
Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth (m)	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US15348	43-30.7	145-20.9	8/9	0630-0635	7	South-2	South-1	South-4	18.5	17.2	c	1016.2
US15349	43-29.9	145-19.3	8/9	0651-0653	7	South-2	South-1	South-4	18.4	17.0	c	1016.1
US15350	43-28.2	145-20.5	8/9	0720-0723	9	South-2	South-1	South-4	18.4	17.1	c	1016.1
US15351	43-29.2	145-22.2	8/9	0739-0742	11	South-2	South-1	South-4	18.6	17.3	c	1016.1
US15352	43-30.7	145-25.1	8/9	0802-0804	12	SSW-2	NE-1	SSW-3	18.7	14.5	o	1016.1
US15353	43-31.9	145-27.3	8/9	0820-0823	17	South-2	NE-1	South-4	17.8	14.6	o	1016.1
US15354	43-29.8	145-29.6	8/9	0850-0852	22	SSW-2	NE-1	SSW-4	18.6	16.5	c	1016.1
US15355	43-29.3	145-34.3	8/9	0916-0919	29	SSW-2	NE-1	SSW-3	19.1	16.5	o	1016.1
US15356	43-27.3	145-26.3	8/9	1009-1011	19	SSW-2	NE-1	SSW-4	20.4	17.3	o	1016.0
US15357	43-25.7	145-22.1	8/9	1035-1038	10	SSW-2	NE-1	SSW-4	20.0	17.2	c	1015.6
US15358	43-24.8	145-20.6	8/9	1050-1052	9	SSW-2	NE-1	SSW-4	20.5	16.9	o	1015.6
US15359	43-22.5	145-21.8	8/9	1116-1118	11	SSW-2	NE-1	SSW-4	19.6	16.1	o	1015.6
US15360	43-22.7	145-24.5	8/9	1135-1138	13	SSW-2	NE-1	SSW-4	19.6	16.6	o	1015.7
US15361	43-24.8	145-28.7	8/9	1203-1206	20	SSW-2	NE-1	SSW-4	20.0	17.2	o	1015.4
US15362	43-27.0	145-32.7	8/9	1231-1233	26	SSW-2	NE-1	SSW-4	19.9	17.2	o	1015.4
US15363	43-26.4	145-39.8	8/9	1312-1315	29	SSW-2	NE-1	SSW-4	19.6	16.5	c	1015.4
US15364	43-24.9	145-36.5	8/9	1344-1347	26	SSW-2	NE-1	SSW-4	20.3	16.7	c	1015.1
US15365	43-22.8	145-32.2	8/9	1413-1415	18	SSW-2	NE-1	SSW-4	21.0	16.2	bc	1014.7
US15366	43-20.1	145-28.1	8/9	1443-1445	15	SSW-2	NE-1	SSW-4	21.3	16.2	bc	1014.7
US15367	43-43.3	145-14.3	8/10	0742-0745	17	calm	SE-1	calm	19.7	17.0	o	1013.6
US15368	43-49.9	145-12.1	8/10	0826-0830	44	SE-1	SE-1	SE-3	20.9	17.2	o	1013.6
US15369	43-56.1	145-12.5	8/10	0906-0910	79	South-1	SE-1	South-3	20.9	16.9	d	1013.5
US15370	44-00.5	145-16.6	8/10	0942-0956	424	South-1	SE-1	South-2	20.6	17.3	o	1013.5
US15371	44-04.7	145-20.6	8/10	1026-1046	1118	South-1	SE-1	South-3	20.4	15.6	r	1013.1
US15372	44-05.9	145-17.1	8/10	1106-1122	552	SSW-1	SE-1	SSW-4	19.1	15.5	m	1012.6
US15373	44-10.4	145-20.8	8/10	1153-1200	185	South-1	SE-1	South-4	19.2	15.9	o	1012.6
US15374	44-09.0	145-20.8	8/10	1218-1238	1080	SSW-1	SE-1	SSW-4	19.1	15.9	o	1012.5
US15375	44-15.3	145-23.2	8/10	1318-1324	198	SSW-2	SE-2	SSW-4	20.2	15.8	m	1012.1
US15376	44-13.6	145-26.5	8/10	1343-1401	1650	SSW-2	SE-2	SSW-4	18.4	15.6	o	1011.6
US15377	41-20.9	139-48.9	8/12	1804	50	North-1	NE-1	North-3	25.9	25.2	bc	1006.8
Cruise 340												
Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth (m)	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US15378	41-40.9	140-40.8	8/23	1905-1913	119	East-3	East-1	East-5	21.6	23.1	c	1012.1
US15379	41-42.8	140-43.4	8/24	1846-1853	95	ESE-3	East-1	ESE-4	20.1	22.3	o	1014.6
US15380	42-09.7	140-36.2	8/30	1052-1100	72	East-3	East-2	East-5	20.1	20.9	o	1016.6
US15381	42-11.0	140-35.5	8/30	1110-1118	78	East-3	East-2	East-5	20.5	20.9	c	1016.1
US15382	42-14.0	140-30.0	8/30	1249-1255	76	ENE-3	East-2	ENE-5	20.7	20.9	bc	1016.1
US15383	42-16.5	140-36.1	8/30	1337-1346	90	East-3	East-2	East-5	21.2	20.9	bc	1015.8
US15384	42-26.3	140-31.6	8/30	1609-1617	88	ESE-3	East-1	ESE-5	21.4	20.8	bc	1015.6
US15385	42-31.0	140-37.5	8/30	1714-1719	61	ESE-3	East-1	ESE-5	20.8	20.6	bc	1015.8

Cruise 341

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth (m)	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar (hPa)
US15386	41-29.9	141-11.6	9/3	1154-1211	265	WSW-3	WSW-1	WSW-5	23.2	21.3	bc	1011.7
US15387	41-29.7	141-23.8	9/3	1311-1320	108	West-3	West-1	West-4	26.8	21.0	bc	1011.6
US15388	41-28.6	141-17.7	9/3	1350-1401	225	West-3	WNW-1	West-3	25.2	21.0	bc	1011.5
US15389	41-28.3	141-12.8	9/3	1851-1857	146	West-3	WNW-1	West-4	22.5	21.0	c	1011.5
US15390	41-30.4	141-06.0	9/3	2215-2221	106	SE-1	NW-1	SE-2	23.1	21.1	o	1011.1
US15391	41-30.0	141-36.0	9/4	0716-0744	357	South-1	SE-1	South-2	21.6	20.1	o	1006.0
US15392	41-30.0	141-47.9	9/4	0832-0927	912	SE-2	SE-1	SE-4	21.2	20.7	o	1005.6
US15393	41-38.5	141-48.3	9/4	1009-1038	1077	SSW-2	SE-1	SSW-4	22.8	20.8	c	1005.1
US15394	41-39.0	141-35.7	9/4	1204-1209	110	WSW-2	SE-1	WEW-5	22.6	21.9	bc	1004.0
US15395	41-39.0	141-24.3	9/4	1333-1346	290	NW-2	SE-1	NW-4	20.1	21.5	d	1004.1
US15396	41-39.2	141-12.0	9/4	1500-1508	200	West-1	West-1	West-4	21.6	22.2	c	1004.1
US15397	41-34.7	140-54.6	9/4	1726-1732	48	NW-2	WNW-1	NW-3	22.6	22.8	bc	1006.1
US15398	41-35.7	140-53.8	9/4	1742-1748	62	West-2	WNW-1	West-3	22.6	22.6	bc	1006.2
US15399	41-37.0	140-51.3	9/4	1807-1814	96	WNW-2	WNW-1	WNW-4	22.5	22.7	bc	1006.4
US15400	41-38.8	140-49.3	9/4	1833-1849	333	West-3	West-1	West-5	22.0	22.7	c	1006.6
US15401	41-40.7	140-47.2	9/4	1909-1918	228	WNW-3	West-1	WNW-5	21.6	23.0	c	1007.1
US15402	41-42.8	140-45.0	9/4	1938-1943	83	NW-2	West-1	NW-3	21.4	22.7	c	1007.7
US15403	41-30.5	139-18.6	9/7	1903-1914	567	NNW-3	SE-1	NNW-4	22.4	23.0	bc	1014.8

(*): Fixed position by Global Positioning System

Table 2. Oceanographic data

STATION	US15348
LATITUDE	43-30.7 N
LONGITUDE	145-20.9 E
DEPTH (m)	7

Press.	Temp.	Salinity	Sigma-T
5	15.566	32.242	23.726

STATION	US15351
LATITUDE	43-29.2 N
LONGITUDE	145-22.2 E
DEPTH (m)	11

Press.	Temp.	Salinity	Sigma-T
5	16.878	32.123	23.123

STATION	US15354
LATITUDE	43-29.8 N
LONGITUDE	145-29.6 E
DEPTH (m)	22

Press.	Temp.	Salinity	Sigma-T
5	14.856	32.428	24.021
10	14.270	32.476	24.181

STATION	US15357
LATITUDE	43-25.7 N
LONGITUDE	145-22.1 E
DEPTH (m)	10

Press.	Temp.	Salinity	Sigma-T
5	14.552	32.252	23.949

STATION	US15349
LATITUDE	43-29.9 N
LONGITUDE	145-19.3 E
DEPTH (m)	7

Press.	Temp.	Salinity	Sigma-T
No Data			

STATION	US15352
LATITUDE	43-30.7 N
LONGITUDE	145-25.1 E
DEPTH (m)	12

Press.	Temp.	Salinity	Sigma-T
5	14.676	32.452	24.078

STATION	US15355
LATITUDE	43-29.3 N
LONGITUDE	145-34.3 E
DEPTH (m)	29

Press.	Temp.	Salinity	Sigma-T
5	16.542	32.229	23.494
10	13.454	32.615	24.456
20	12.045	32.607	24.723
25	11.125	32.576	24.867

STATION	US15358
LATITUDE	43-24.8 N
LONGITUDE	145-20.6 E
DEPTH (m)	9

Press.	Temp.	Salinity	Sigma-T
5	15.591	32.202	23.687

STATION	US15350
LATITUDE	43-28.2 N
LONGITUDE	145-20.5 E
DEPTH (m)	9

Press.	Temp.	Salinity	Sigma-T
5	15.328	32.336	23.847

STATION	US15353
LATITUDE	43-31.9 N
LONGITUDE	145-27.3 E
DEPTH (m)	17

Press.	Temp.	Salinity	Sigma-T
5	14.657	31.198	21.612
10	14.170	32.381	24.129

STATION	US15356
LATITUDE	43-27.3 N
LONGITUDE	145-26.3 E
DEPTH (m)	19

Press.	Temp.	Salinity	Sigma-T
5	16.140	32.213	23.573
10	14.501	32.323	24.015

STATION	US15359
LATITUDE	43-22.5 N
LONGITUDE	145-21.8 E
DEPTH (m)	11

Press.	Temp.	Salinity	Sigma-T
5	15.699	32.215	23.673

STATION	US15360		
LATITUDE	43-22.7	N	
LONGITUDE	145-24.5	E	
DEPTH (m)	13		
Press.	Temp.	Salinity	Sigma-T
5	16.595	32.016	23.319

STATION	US15361		
LATITUDE	43-24.8	N	
LONGITUDE	145-28.7	E	
DEPTH (m)	20		
Press.	Temp.	Salinity	Sigma-T
5	16.597	32.140	23.413
10	13.602	32.381	24.245

STATION	US15362		
LATITUDE	43-27.0	N	
LONGITUDE	145-32.7	E	
DEPTH (m)	26		
Press.	Temp.	Salinity	Sigma-T
5	17.090	32.193	23.340
10	13.142	32.422	24.369
20	11.284	32.548	24.816

STATION	US15363		
LATITUDE	43-26.4	N	
LONGITUDE	145-39.8	E	
DEPTH (m)	29		
Press.	Temp.	Salinity	Sigma-T
5	16.352	32.286	23.582
10	15.203	31.992	23.607
20	12.253	32.848	24.871
25	10.676	32.572	24.942

STATION	US15364		
LATITUDE	42-24.9	N	
LONGITUDE	145-36.5	E	
DEPTH (m)	26		
Press.	Temp.	Salinity	Sigma-T
5	16.265	32.293	23.607
10	11.882	32.376	24.574
20	10.401	32.650	25.050

STATION	US15365		
LATITUDE	43-22.8	N	
LONGITUDE	145-32.2	E	
DEPTH (m)	18		
Press.	Temp.	Salinity	Sigma-T
5	17.527	32.145	23.200
10	13.378	32.284	24.215

STATION	US15366		
LATITUDE	43-20.1	N	
LONGITUDE	145-28.1	E	
DEPTH (m)	15		
Press.	Temp.	Salinity	Sigma-T
5	15.830	32.283	23.697
10	13.495	32.359	24.249

STATION	US15367		
LATITUDE	43-43.3	N	
LONGITUDE	145-14.3	E	
DEPTH (m)	17		
Press.	Temp.	Salinity	Sigma-T
5	15.693	32.458	23.862
10	13.236	32.866	24.694

STATION	US15368		
LATITUDE	43-49.9	N	
LONGITUDE	145-12.1	E	
DEPTH (m)	44		
Press.	Temp.	Salinity	Sigma-T
5	17.002	32.588	23.664
10	14.788	32.658	24.213
20	13.358	33.180	24.912
30	12.441	33.325	25.204
40	10.596	33.456	25.645

STATION	US15369		
LATITUDE	43-56.1	N	
LONGITUDE	145-12.5	E	
DEPTH (m)	79		
Press.	Temp.	Salinity	Sigma-T
5	16.030	32.867	24.100
10	14.847	33.121	24.557
20	13.403	33.200	24.918
30	12.314	33.301	25.210
40	12.040	33.433	25.365
50	11.604	33.446	25.456

STATION	US15370		
LATITUDE	43-00.5	N	
LONGITUDE	145-16.6	E	
DEPTH (m)	424		
Press.	Temp.	Salinity	Sigma-T
5	16.415	33.022	24.133
10	16.003	33.150	24.324
20	13.191	32.936	24.756
30	12.852	33.392	25.176
40	12.022	33.429	25.365
50	11.316	33.462	25.521
75	9.664	33.547	25.874
100	8.003	33.521	26.112
125	6.125	33.485	26.340
150	4.733	33.426	26.457
175	3.213	33.303	26.512
200	2.408	33.278	26.561
250	1.571	33.290	26.633
300	1.437	33.370	26.706

STATION	US15371		
LATITUDE	44-04.7	N	
LONGITUDE	145-20.6	E	
DEPTH (m)	1118		
Press.	Temp.	Salinity	Sigma-T
5	15.403	33.015	24.354
10	14.334	33.334	24.830
20	13.837	33.531	25.086
30	12.725	33.500	25.285
40	11.977	33.529	25.451
50	11.132	33.531	25.608
75	9.366	33.477	25.867
100	8.045	33.491	26.082
125	7.117	33.527	26.242
150	4.716	33.348	26.397
175	3.184	33.294	26.507
200	2.181	33.268	26.570
250	1.735	33.307	26.635
300	1.507	33.359	26.692
400	1.470	33.508	26.815
500	1.618	33.658	26.925

STATION		US15372	
LATITUDE		44-05.9	N
LONGITUDE		145-17.1	E
DEPTH (m)		552	
Press.	Temp.	Salinity	Sigma-T
5	15.905	33.243	24.418
10	13.544	32.857	24.624
20	12.748	33.259	25.094
30	12.517	33.498	25.324
40	11.548	33.447	25.467
50	10.170	33.465	25.725
75	8.519	33.516	26.031
100	7.772	33.578	26.190
125	6.796	33.517	26.278
150	5.680	33.451	26.368
175	3.846	33.314	26.461
200	2.661	33.251	26.518
250	1.645	33.289	26.627
300	1.722	33.372	26.688
400	1.469	33.493	26.803

STATION		US15375	
LATITUDE		44-15.3	N
LONGITUDE		145-23.2	E
DEPTH (m)		198	
Press.	Temp.	Salinity	Sigma-T
5	16.052	33.484	24.570
10	15.893	33.481	24.604
20	15.365	33.436	24.687
30	13.556	33.313	24.974
40	12.367	33.504	25.357
50	11.105	33.578	25.650
75	10.417	33.617	25.801
100	8.078	33.561	26.132
125	6.765	33.538	26.299
150	5.872	33.502	26.385

STATION		US15378	
LATITUDE		41-40.9	N
LONGITUDE		140-40.8	E
DEPTH (m)		119	
Press.	Temp.	Salinity	Sigma-T
5	23.424	33.867	22.952
10	23.383	33.882	22.976
20	22.628	33.795	23.126
30	19.742	33.870	23.967
40	17.611	34.086	24.667
50	14.706	34.170	25.395
75	12.115	34.251	25.986

STATION		US15373	
LATITUDE		44-10.4	N
LONGITUDE		145-20.8	E
DEPTH (m)		185	
Press.	Temp.	Salinity	Sigma-T
5	16.395	33.294	24.346
10	15.494	33.277	24.535
20	13.696	33.452	25.053
30	12.993	33.545	25.267
40	11.707	33.616	25.569
50	10.429	33.586	25.775
75	8.004	33.584	26.161
100	7.403	33.568	26.235
125	6.945	33.563	26.294
150	5.957	33.519	26.388

STATION		US15376	
LATITUDE		44-13.6	N
LONGITUDE		145-26.5	E
DEPTH (m)		1650	
Press.	Temp.	Salinity	Sigma-T
5	16.098	33.333	24.443
10	16.027	33.373	24.490
20	15.621	33.386	24.592
30	14.352	33.407	24.882
40	12.710	33.425	25.230
50	11.395	33.478	25.520
75	8.736	33.555	26.028
100	8.584	33.654	26.129
125	6.913	33.607	26.333
150	6.383	33.594	26.393
175	5.903	33.539	26.410
200	4.429	33.475	26.529
250	3.123	33.415	26.609
300	1.645	33.351	26.676
400	1.457	33.468	26.784

STATION		US15379	
LATITUDE		41-42.8	N
LONGITUDE		140-43.4	E
DEPTH (m)		95	
Press.	Temp.	Salinity	Sigma-T
5	22.479	34.013	23.334
10	22.475	34.015	23.336
20	21.393	33.998	23.624
30	19.126	34.090	24.294
40	17.995	34.204	24.664
50	15.295	34.240	25.321
75	12.709	34.242	25.863

STATION		US15374	
LATITUDE		44-09.0	N
LONGITUDE		145-23.8	E
DEPTH (m)		1080	
Press.	Temp.	Salinity	Sigma-T
5	14.344	33.175	24.705
10	13.022	32.999	24.839
20	13.351	33.439	25.113
30	12.491	33.351	25.215
40	12.033	33.498	25.416
50	11.257	33.510	25.569
75	8.978	33.474	25.927
100	7.430	33.465	26.150
125	6.720	33.560	26.322
150	5.467	33.475	26.413
175	3.645	33.313	26.479
200	2.789	33.352	26.588
250	1.961	33.325	26.633
300	1.520	33.343	26.679
400	1.465	33.460	26.777
460	1.488	33.553	26.849

STATION		US15377	
LATITUDE		41-20.9	N
LONGITUDE		139-48.9	E
DEPTH (m)		50	
Press.	Temp.	Salinity	Sigma-T

XBT

STATION		US15380	
LATITUDE		42-09.7	N
LONGITUDE		140-36.2	E
DEPTH (m)		72	
Press.	Temp.	Salinity	Sigma-T
5	21.103	32.050	22.223
10	21.097	32.051	22.225
20	21.013	32.090	22.277
30	17.640	32.306	23.297
40	12.720	32.431	24.457
50	10.015	32.563	25.047

STATION	US15381		
LATITUDE	42-11.0	N	
LONGITUDE	140-35.5	E	
DEPTH (m)	78		
Press.	Temp.	Salinity	Sigma-T
5	21.026	32.060	22.250
10	21.022	32.059	22.251
20	21.021	32.059	22.251
30	17.738	32.243	23.225
40	12.349	32.389	24.496
50	8.928	32.500	25.172

STATION	US15384		
LATITUDE	42-26.3	N	
LONGITUDE	140-31.6	E	
DEPTH (m)	88		
Press.	Temp.	Salinity	Sigma-T
5	20.916	32.138	22.339
10	20.498	32.711	22.886
20	19.994	33.040	23.269
30	19.821	33.516	23.677
40	18.858	33.677	24.046
50	11.846	32.725	24.851
75	3.990	32.723	25.976

STATION	US15387		
LATITUDE	41-29.7	N	
LONGITUDE	141-23.8	E	
DEPTH (m)	108		
Press.	Temp.	Salinity	Sigma-T
5	21.129	33.930	23.645
10	21.122	33.930	23.645
20	21.110	33.931	23.650
30	21.100	33.932	23.654
40	21.091	33.936	23.659
50	20.924	33.933	23.702
75	14.155	34.185	25.525
90	11.931	34.250	26.019

STATION	US15382		
LATITUDE	42-14.0	N	
LONGITUDE	140-30.0	E	
DEPTH (m)	76		
Press.	Temp.	Salinity	Sigma-T
5	21.186	31.850	22.048
10	21.191	31.853	22.049
20	20.834	32.064	22.305
30	16.595	32.190	23.452
40	12.458	32.610	24.647
50	9.655	32.634	25.162

STATION	US15385		
LATITUDE	42-31.0	N	
LONGITUDE	140-37.5	E	
DEPTH (m)	61		
Press.	Temp.	Salinity	Sigma-T
5	20.802	32.363	22.541
10	20.799	32.406	22.574
20	20.635	32.572	22.744
30	20.645	33.161	23.190
40	19.569	33.386	23.643
50	11.710	32.618	24.791

STATION		US15388	
LATITUDE		41-28.6	N
LONGITUDE		141-17.7	E
DEPTH (m)		225	
Press.	Temp.	Salinity	Sigma-T
5	21.129	33.973	23.678
10	21.117	33.977	23.683
20	21.119	33.975	23.681
30	21.122	33.973	23.679
40	21.025	33.948	23.687
50	20.378	33.863	23.795
75	13.257	34.251	25.761
100	12.898	34.279	25.855
125	12.068	34.280	26.017
150	11.949	34.277	26.037
175	11.840	34.270	26.053
200	11.773	34.268	26.063

STATION	US15383		
LATITUDE	42-16.5	N	
LONGITUDE	140-36.1	E	
DEPTH (m)	90		
Press.	Temp.	Salinity	Sigma-T
5	21.081	31.957	22.158
10	21.069	31.957	22.161
20	19.935	32.735	23.052
30	16.016	32.813	24.062
40	13.114	33.012	24.831
50	10.779	32.996	25.254
75	4.193	32.794	26.012

STATION	US15386		
LATITUDE	41-30.0	N	
LONGITUDE	141-11.6	E	
DEPTH (m)	265		
Press.	Temp.	Salinity	Sigma-T
5	21.392	33.904	23.553
10	21.272	33.907	23.588
20	21.239	33.911	23.601
30	21.034	33.916	23.660
40	20.918	33.918	23.692
50	20.435	33.878	23.791
75	19.758	33.829	23.932
100	14.853	34.162	25.358
125	13.788	34.237	25.642
150	13.163	34.245	25.776
175	12.520	34.251	25.908
200	12.317	34.263	25.956
250	11.845	34.262	26.045

STATION		US15389	
LATITUDE		41-28.3	N
LONGITUDE		141-12.8	E
DEPTH (m)		146	
Press.	Temp.	Salinity	Sigma-T
5	21.220	33.959	23.642
10	21.217	33.956	23.640
20	21.111	33.937	23.655
30	20.329	33.841	23.792
40	19.597	33.767	23.911
50	18.481	33.849	24.272
75	15.031	34.150	25.310
100	14.163	34.236	25.563

STATION	US15390		
LATITUDE	41-30.4	N	
LONGITUDE	141-06.0	E	
DEPTH (m)	106		
Press.	Temp.	Salinity	Sigma-T
5	21.288	33.949	23.616
10	21.157	33.910	23.622
20	20.835	33.887	23.692
30	18.526	33.877	24.282
40	17.835	34.063	24.594
50	16.659	34.121	24.920
75	15.950	34.230	25.166

STATION	US15391		
LATITUDE	41-30.0	N	
LONGITUDE	141-36.0	E	
DEPTH (m)	357		
Press.	Temp.	Salinity	Sigma-T
5	20.461	33.630	23.595
10	20.488	33.672	23.620
20	20.479	33.679	23.628
30	20.466	33.727	23.668
40	20.435	33.729	23.678
50	20.514	33.791	23.704
75	19.830	33.708	23.821
100	17.509	33.901	24.549
125	12.222	33.809	25.426
150	10.830	33.876	25.930
175	10.312	33.885	26.028
200	9.373	33.808	26.125
250	5.685	33.546	26.442
300	3.170	33.608	26.759

STATION	US15392		
LATITUDE	41-30.0	N	
LONGITUDE	141-47.9	E	
DEPTH (m)	912		
Press.	Temp.	Salinity	Sigma-T
5	21.113	33.892	23.620
10	20.920	33.891	23.671
20	20.806	33.894	23.704
30	20.789	33.896	23.711
40	20.763	33.892	23.715
50	20.700	33.893	23.732
75	19.122	33.594	23.916
100	17.712	34.011	24.585
125	16.692	34.105	24.900
150	14.314	34.071	25.408
175	13.029	34.154	25.732
200	11.903	34.102	25.910
250	9.685	33.961	26.193
300	4.309	33.413	26.492
400	3.205	33.519	26.684
500	3.195	33.716	26.843
600	3.541	33.999	27.036

STATION	US15393		
LATITUDE	41-38.5	N	
LONGITUDE	141-48.3	E	
DEPTH (m)	1077		
Press.	Temp.	Salinity	Sigma-T
5	20.957	33.835	23.619
10	20.890	33.862	23.657
20	20.819	33.889	23.697
30	20.732	33.896	23.726
40	20.700	33.894	23.733
50	20.595	33.871	23.743
75	19.111	33.955	24.194
100	17.717	34.029	24.598
125	15.479	34.077	25.155
150	14.039	34.130	25.507
175	12.373	34.084	25.806
200	11.472	34.079	25.972
250	5.842	33.538	26.417
300	4.016	33.467	26.565
400	3.188	33.665	26.803
500	2.475	33.907	26.969

STATION	US15394		
LATITUDE	41-39.0	N	
LONGITUDE	141-35.7	E	
DEPTH (m)	110		
Press.	Temp.	Salinity	Sigma-T
5	21.788	33.909	23.448
10	21.614	33.909	23.496
20	21.568	33.915	23.513
30	21.568	33.917	23.515
40	21.221	33.896	23.594
50	20.942	33.940	23.702
75	20.396	33.938	23.848

STATION	US15395		
LATITUDE	41-39.0	N	
LONGITUDE	141-24.3	E	
DEPTH (m)	290		
Press.	Temp.	Salinity	Sigma-T
5	21.665	33.947	23.511
10	21.542	33.951	23.548
20	21.197	33.954	23.644
30	19.598	34.018	24.118
40	19.478	34.047	24.171
50	19.400	34.045	24.189
75	16.865	34.040	24.809
100	14.449	34.099	25.396
125	11.948	33.965	25.795
150	9.776	33.874	26.110
175	8.675	33.894	26.303
200	6.802	33.734	26.448

STATION		US15396	
LATITUDE		41-39.2	N
LONGITUDE		141-12.0	E
DEPTH (m)		200	
Press.	Temp.	Salinity	Sigma-T
5	22.133	33.921	23.361
10	22.077	33.922	23.377
20	22.039	33.922	23.388
30	21.993	33.922	23.401
40	21.921	33.915	23.416
50	21.831	33.919	23.444
75	19.097	34.033	24.257
100	15.056	34.064	25.238
125	11.346	33.624	25.642
150	7.327	33.778	26.411
165	6.849	33.771	26.471

STATION		US15399	
LATITUDE		41-37.0	N
LONGITUDE		140-51.3	E
DEPTH (m)		96	
Press.	Temp.	Salinity	Sigma-T
5	22.675	33.973	23.248
10	22.680	33.973	23.247
20	22.578	33.969	23.272
30	21.498	33.966	23.571
40	21.266	33.961	23.631
50	17.751	34.131	24.668
75	14.740	34.274	25.469

STATION		US15402	
LATITUDE		41-42.8	N
LONGITUDE		140-45.0	E
DEPTH (m)		83	
Press.	Temp.	Salinity	Sigma-T
5	22.172	33.910	23.342
10	21.354	33.947	23.596
20	20.710	34.006	23.816
30	18.874	34.090	24.358
40	18.786	34.110	24.395
50	18.421	34.118	24.493
75	13.669	34.240	25.668

STATION		US15397	
LATITUDE		41-34.7	N
LONGITUDE		140-54.6	E
DEPTH (m)		48	
Press.	Temp.	Salinity	Sigma-T
5	22.805	33.906	23.160
10	22.748	33.901	23.172
20	22.679	33.896	23.188
30	22.641	33.895	23.199
40	22.639	33.893	23.200

STATION		US15400	
LATITUDE		41-38.8	N
LONGITUDE		140-49.3	E
DEPTH (m)		333	
Press.	Temp.	Salinity	Sigma-T
5	22.645	33.938	23.230
10	22.391	33.979	23.333
20	21.228	33.981	23.656
30	18.891	34.087	24.351
40	18.284	34.125	24.532
50	17.584	34.180	24.745
75	14.208	34.276	25.584
100	13.296	34.298	25.790
125	12.815	34.293	25.882
150	12.341	34.275	25.961
175	11.626	34.264	26.087
200	11.383	34.270	26.137
250	11.273	34.269	26.157
300	11.261	34.270	26.160
310	11.251	34.269	26.161

STATION		US15403	
LATITUDE		41-30.5	N
LONGITUDE		139-18.6	E
DEPTH (m)		567	
Press.	Temp.	Salinity	Sigma-T
5	23.082	33.747	22.960
10	22.900	33.713	22.987
20	22.873	33.722	23.001
30	19.755	33.643	23.791
40	14.978	34.048	25.243
50	13.297	34.212	25.723
75	8.744	34.145	26.489
100	6.420	34.085	26.775
125	4.643	34.025	26.942
150	2.977	33.993	27.083
175	1.974	34.010	27.181

STATION		US15398	
LATITUDE		41-35.7	N
LONGITUDE		140-53.8	E
DEPTH (m)		62	
Press.	Temp.	Salinity	Sigma-T
5	22.549	33.920	23.243
10	22.584	33.915	23.230
20	22.418	33.923	23.283
30	22.386	33.928	23.295
40	22.246	33.926	23.333
50	19.788	33.972	24.033

STATION		US15401	
LATITUDE		41-40.7	N
LONGITUDE		140-47.2	E
DEPTH (m)		228	
Press.	Temp.	Salinity	Sigma-T
5	23.165	33.943	23.085
10	23.141	33.937	23.087
20	21.956	33.994	23.465
30	20.075	34.061	24.026
40	18.347	34.161	24.544
50	17.243	34.171	24.820
75	14.245	34.232	25.542
100	13.391	34.275	25.752
125	12.684	34.272	25.891
150	11.981	34.269	26.025
175	11.576	34.263	26.096
200	11.396	34.272	26.136