HOKKAIDO UNIVERSITY

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6

THE “USHIO MARU”

CRUISE 154
CRUISE 155
CRUISE 156

IN AUGUST-OCTOBER 2008

1. Cruise Itinerary

Cruise 154			
Departure from Hakodate	Aug.	31	, 2008
Start hydrographic research (US08392) and larvae net sampling	Sep.	1	
Arrival at Rausu		1	
Departure from Rausu		3	
Set profiling float		4	
Research by R.O.V.		6	
Arrival at Rausu		7	
Departure from Rausu		8	
Arrival at Kushiro		9	
Departure from Kushiro		10	
Finish hydrographic research (US08449) and larvae net sampling		13	
Return to Hakodate		15	
Total coverage 1497.1 miles			

Cruise 155			
Departure from Hakodate	Sep.	18	, 2008
Start hydrographic research (US08450)		18	
Start Tuna Long-line research		19	
Finish Tuna Long-line research		20	
Arrival at Hakodate		21	
Departure from Hakodate		22	
Arrival at Muroran		22	
Departure from Muroran		23	
Finish hydrographic research (US08463)		23	
Arrival at Muroran		23	
Departure from Muroran		24	
Return to Hakodate		25	
Total coverage 489.0 miles			

Cruise 156			
Departure from Hakodate	Oct.	27	, 2008
Start hydrographic research (US08464)		27	
Arrival at Muroran		27	
Departure from Muroran		28	
Retrieval Sediment trap system		28	
Arrival at Muroran		29	
Departure from Muroran		30	
Finish hydrographic research (US08477)		30	
Set mooring ADCP system		30	
Arrival at and departure from Mori		30	
Return to Hakodate		31	
Total coverage 273.2 miles			

2. Vessel Personnel

Captain:		Associate Professor	Hidekazu Yamaguchi
Crew :	Chief Officer	Assistant Professor	Osamu Kimura
	Second Officer	Assistant Professor	Naoto Kobayashi
	And 13 men		

Cruise 154

Research Staff :	Professor	(Laboratory of Marine Bioresource and Environment Sensing)	Seiichi Saitoh
	Assistant Professor	(Field Science Center for Northern Biosphere)	Jun Yamamoto
	Research Associate	(Field Science Center for Northern Biosphere)	Toshihiro Iwamori
Guest Scientist (Domestic) :	Professor	(Tokyo University of Agriculture)	Akihiro Shiomoto

Graduate Students :	Chair of Marine Bioresource and Environment Sensing :	3 persons
	Graduate School of the Fisheries Sciences :	1 person
	Graduate School of Environmental Science :	2 persons
Under Graduate Students :	Department of Fisheries Oceanography and Marine Science :	3 persons
	Department of Marine Production System Science :	1 person
	Department of Marine Biology :	1 person

Cruise 155

Research Staff :	Associate Professor	(Laboratory of Marine Environmental Science)	Isao Kudo
	Associate Professor	(Laboratory of Marine Bioresource and Environment Sensing)	Susumu Shimizu
	Research Associate	(Laboratory of Marine Environmental Science)	Kenji Toya

Graduate Students :	Chair of Marine Bioresource and Environment Sensing :	4 persons
	Chair of Marine Environmental Science :	4 persons
Under Graduate Students :	Department of Fisheries Oceanography and Marine Science :	6 persons
	Department of Applied Marine Science (Third grade) :	5 persons

Cruise 156

Research Staff :	Associate Professor	(Laboratory of Marine Environmental Science)	Isao Kudo

Graduate Students :	Chair of Marine Environmental Science :	1 person
	Graduate School of Environmental Science :	5 persons
Under Graduate Students :	Department of Fisheries Oceanography and Marine Science :	8 persons

3. 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 SBE9Plus and SBE-19).
Dynamic computations were made using a desk-top computer aboard the “Ushio Maru”.

Figure 1: Oceanographic stations (Cruise 154)

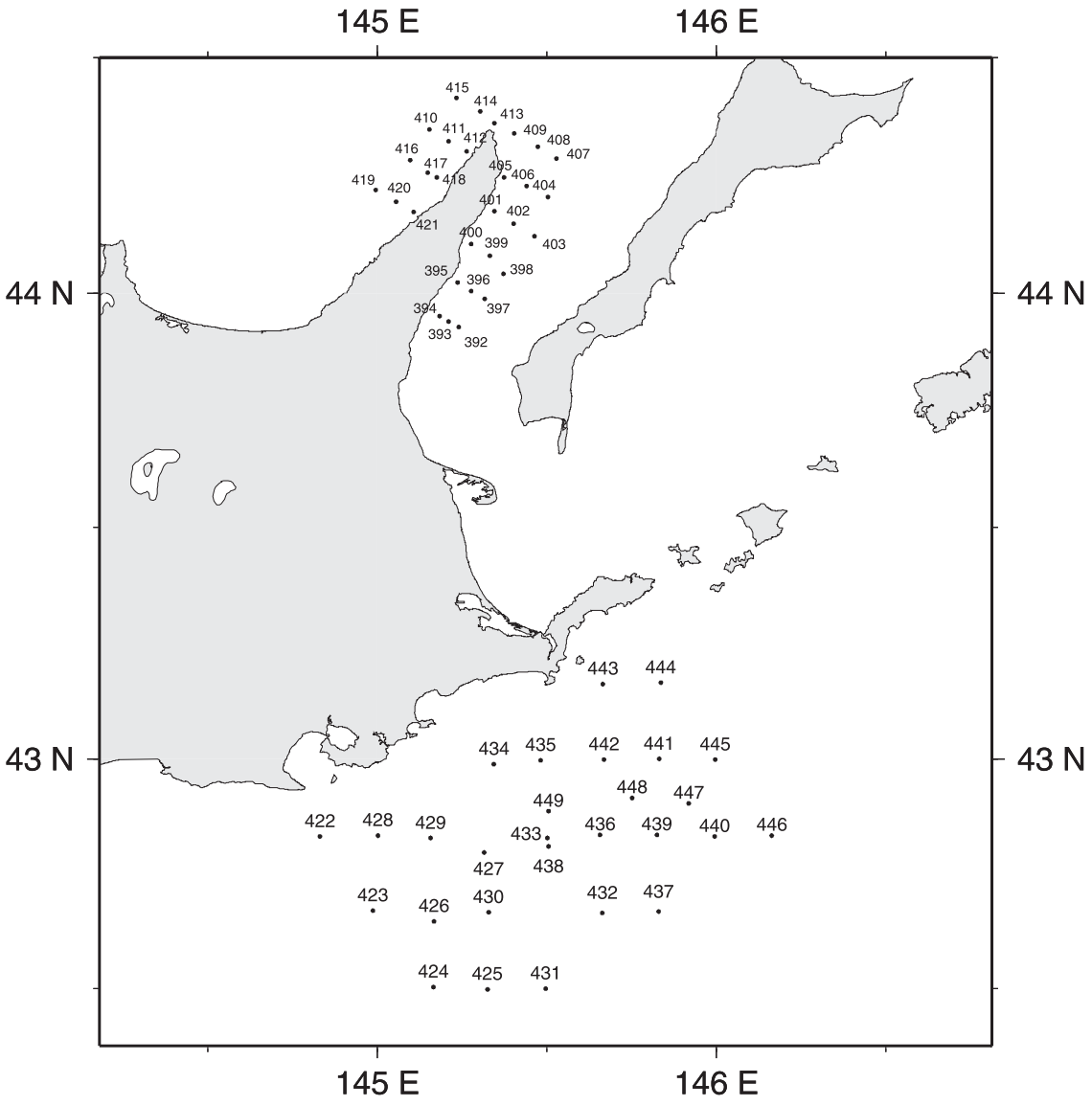

Figure 2: Oceanographic stations (Cruise 155)

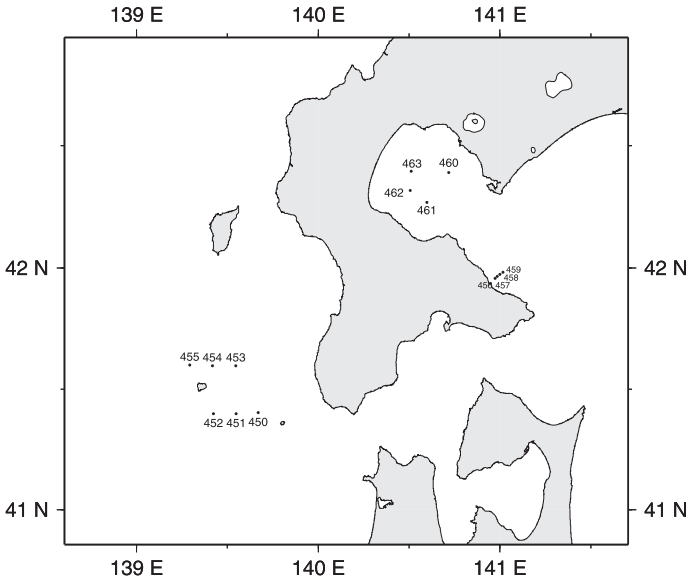

Figure 3: Oceanographic stations (Cruise 156)

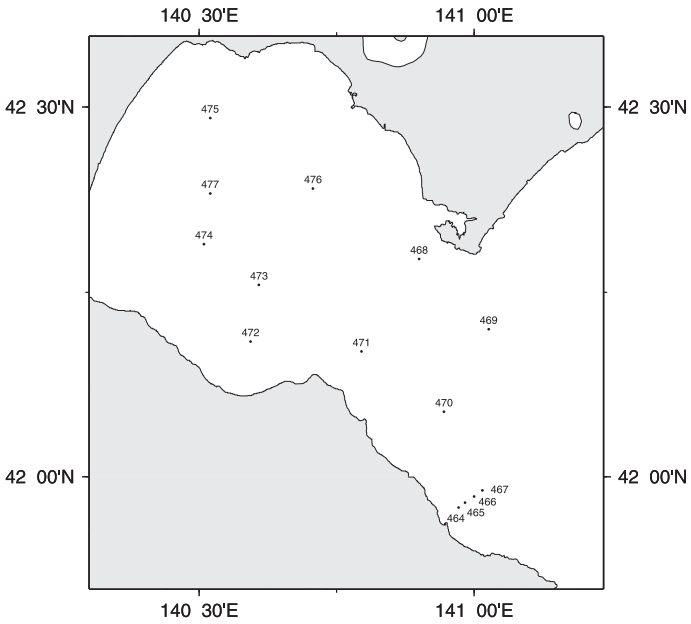

Table 1: List of oceanographic stations

Cruise 154

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US08392	43-55.7	145-14.4	9/1	1511-1515	81	NE -1	NE -1	NE -2	17.6	16.6	r	1012.5
US08393	43-56.4	145-12.6	9/1	1535-1538	84	NE -1	NE -1	NE -2	17.7	17.3	r	1012.6
US08394	43-57.1	145-11.0	9/1	1549-1553	82	North-1	NE -1	North-3	18.1	17.6	r	1012.5
US08395	44-01.4	145-14.2	9/3	0713-0726	336	South-1	East-1	South-2	18.4	17.5	f	1009.3
US08396	44-00.3	145-16.6	9/3	0755-0809	382	SSW-1	East-1	SSW-2	18.2	17.1	f	1009.2
US08397	43-59.3	145-19.0	9/3	0821-0830	272	South-1	East-1	South-3	18.4	17.4	f	1009.1
US08398	44-02.5	145-22.3	9/3	0911-0932	910	Calm	East-1	Calm	18.9	17.0	f	1009.0
US08399	44-04.8	145-19.9	9/3	0955-1017	716	South-1	East-1	South-2	18.9	17.1	f	1008.6
US08400	44-06.3	145-16.6	9/3	1050-1102	376	South-2	East-1	South-4	18.7	16.9	c	1007.6
US08401	44-10.5	145-20.7	9/3	1134-1138	136	Calm	East-1	Calm	18.6	16.4	f	1006.8
US08402	44-08.9	145-24.1	9/3	1208-1255	1473	South-2	East-1	South-4	18.4	16.9	r	1006.6
US08403	44-07.3	145-27.8	9/3	1402-1440	1200	South-2	East-1	South-4	18.7	17.5	o	1006.0
US08404	44-12.3	145-30.2	9/3	1523-1638	2075	South-2	East-1	South-4	19.1	17.3	f	1004.6
US08405	44-14.8	145-22.4	9/4	0641-0652	327	NNE-1	South-1	NNE-3	23.3	16.8	bc	1009.7
US08406	44-13.7	145-26.4	9/4	0715-0802	1566	NW -2	NW -1	NW -3	22.6	17.3	bc	1010.5
US08407	44-17.2	145-31.7	9/4	0910-1010	2077	NW -3	NW -1	NW -6	20.4	16.8	bc	1011.4
US08408	44-18.7	145-28.4	9/4	1025-1105	1516	WNW-2	NW -1	WNW-4	21.3	16.7	bc	1012.7
US08409	44-20.4	145-24.2	9/4	1140-1209	849	WNW-3	NW -1	WNW-5	21.4	16.6	bc	1013.5
US08410	44-20.9	145-09.2	9/5	0755-0827	1233	Calm	West-1	Calm	20.4	17.4	bc	1018.8
US08411	44-19.4	145-12.6	9/5	0900-0924	734	Calm	West-1	Calm	21.7	18.5	bc	1019.0
US08412	44-18.1	145-15.8	9/5	0942-0946	139	Calm	West-1	Calm	20.5	17.8	bc	1018.9
US08413	44-21.7	145-20.7	9/5	1026-1030	85	SSE-2	SE -1	SSE-4	17.3	17.0	f	1019.1
US08414	44-23.2	145-18.2	9/5	1047-1107	711	SE -2	SE -1	SE -4	19.0	18.6	f	1019.1
US08415	44-24.9	145-14.0	9/5	1146-1234	1419	East-2	SE -1	East-4	19.3	17.5	bc	1019.1
US08416	44-17.0	145-05.8	9/5	1350-1418	855	Calm	NE -1	Calm	22.5	19.3	bc	1018.7
US08417	44-15.4	145-08.9	9/5	1449-1505	575	Calm	NE -1	Calm	22.5	20.2	bc	1018.7
US08418	44-14.8	145-10.5	9/5	1516-1526	327	Calm	NE -1	Calm	22.7	20.3	bc	1018.7
US08419	44-13.2	144-59.7	9/6	0605-0629	684	Calm	North-1	Calm	20.0	18.8	bc	1019.5
US08420	44-11.7	145-03.3	9/6	0650-0711	460	Calm	North-1	Calm	20.6	18.8	bc	1019.5
US08421	44-10.4	145-06.4	9/6	0748-0755	215	Calm	North-1	Calm	20.8	18.7	bc	1019.4
US08422	42-49.9	144-49.8	9/10	1033-1042	99	East-1	SE -1	East-2	19.9	19.3	bc	1020.1
US08423	42-40.2	144-59.2	9/10	1211-1234	655	South-2	South-1	South-4	19.3	16.1	bc	1019.6
US08424	42-30.2	145-09.9	9/10	1357-1422	1947	South-2	SE -1	South-4	19.9	20.8	c	1019.2
US08425	42-29.9	145-19.5	9/10	1510-1531	2247	South-3	South-1	South-5	19.5	20.9	c	1019.0
US08426	42-38.8	145-10.0	9/10	1645-1707	1352	SW -2	South-1	SW -4	19.8	19.6	c	1019.0
US08427	42-47.8	145-18.9	9/10	1902-1929	605	SW-2	South-1	SW -4	19.2	19.3	bc	1019.8
US08428	42-50.0	145-00.1	9/11	0157-0205	109	SSW-2	South-1	SSW-4	18.3	17.4	bc	1019.1
US08429	42-49.7	145-09.4	9/11	0253-0302	133	South-2	South-1	South-4	17.1	15.1	bc	1019.1
US08430	42-40.0	145-19.7	9/11	0428-0453	1820	SSW-2	South-1	SSW-5	19.3	18.1	bc	1019.0
US08431	42-30.0	145-29.8	9/11	0607-0929	2524	SSW-2	South-1	SSW-4	20.1	19.0	bc	1019.1
US08432	42-39.9	145-39.8	9/11	0743-0806	2310	SSW-1	South-1	SSW-3	21.4	18.8	bc	1019.2
US08433	42-49.7	145-30.1	9/11	0922-0943	1175	South-1	South-1	South-3	20.9	17.0	bc	1018.8
US08434	42-59.3	145-20.6	9/11	1053-1059	70	South-1	South-1	South-3	20.5	16.2	bc	1018.5
US08435	42-59.8	145-28.9	9/11	1143-1152	87	South-1	South-1	South-3	21.0	16.5	bc	1018.1
US08436	42-50.1	145-39.4	9/11	1308-1329	1586	South-1	South-1	South-3	19.9	17.8	bc	1017.3
US08437	42-40.1	145-49.8	9/11	1452-1505	2591	South-2	South-1	South-4	21.2	19.7	bc	1016.7
US08438	42-48.6	145-30.3	9/11	1857-1923	415	SSE-1	South-1	SSE-2	19.1	17.4	bc	1017.6
US08439	42-50.1	145-49.5	9/12	0303-0327	2071	NE -1	South-1	NE -3	20.1	19.0	r	1012.8
US08440	42-49.9	145-59.7	9/12	0426-0449	2268	SSE-1	South-1	SSE-4	20.8	18.9	r	1012.1
US08441	43-00.0	145-49.9	9/12	0603-0626	710	SSE-1	South-1	SSE-3	20.5	17.7	f	1011.7
US08442	42-59.9	145-40.1	9/12	0711-0719	116	SSE-2	South-1	SSE-5	19.8	16.3	o	1010.5
US08443	43-09.7	145-39.9	9/12	0822-0830	55	SSE-2	South-1	SSE-5	19.1	16.1	r	1009.0
US08444	43-09.9	145-50.2	9/13	0723-0731	89	SW -1	SSE-1	SW -2	16.0	14.0	bc	1011.6
US08445	42-59.9	145-59.8	9/13	0842-0908	1661	SW -1	SSE-2	SW -3	18.7	17.9	bc	1012.5
US08446	42-50.0	146-09.8	9/13	1018-1040	2607	SW -1	SSE-2	SW-2	20.2	20.0	bc	1013.0
US08447	42-54.2	145-55.1	9/13	1243-1304	1895	South-1	SSE-2	South-2	22.1	18.6	bc	1012.6
US08448	42-54.9	145-45.1	9/13	1449-1509	993	South-1	SSE-2	South-2	20.2	17.7	bc	1012.2
US08449	42-53.2	145-30.3	9/13	1838-1856	381	South-1	SSE-2	South-2	18.6	16.0	c	1013.1

Cruise 155

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US08450	41-24.2	139-40.2	9/18	1523-1530	806	South-2	SE -1	South-4	26.1	24.5	bc	1012.5
US08451	41-23.9	139-32.9	9/18	1611-1622	1525	South-2	SE -1	South-4	25.6	24.3	bc	1012.1
US08452	41-23.9	139-25.4	9/18	1705-1713	2298	South-2	SE -1	South-4	25.4	24.3	bc	1011.6
US08453	41-35.8	139-32.8	9/19	1042-1051	1100	WNW-3	West-1	WNW-5	24.0	23.9	bc	1014.0
US08454	41-35.8	139-25.1	9/19	1130-1138	1750	NW -2	WNW-1	NW -5	22.1	24.2	c	1013.6
US08455	41-36.0	139-17.6	9/19	1217-1225	1602	NW -2	WNW-1	NW -5	22.3	24.1	bc	1013.6
US08456	41-57.4	140-58.4	9/22	1350-1354	80	ESE-2	East-1	ESE-4	20.8	20.0	c	1011.0
US08457	41-57.9	140-59.1	9/22	1359-1403	84	ESE-2	East-1	ESE-5	20.8	20.1	c	1010.5
US08458	41-58.4	141-00.0	9/22	1409-1413	88	ESE-2	East-1	ESE-5	20.5	20.0	c	1010.5
US08459	41-58.9	141-01.0	9/22	1420-1424	95	ESE-2	East-1	ESE-5	20.4	20.1	c	1010.5
US08460	42-23.4	140-43.1	9/23	0805-0815	58	SSW-2	SE -1	SSW-4	21.0	20.1	r	1001.7
US08461	42-16.1	140-35.9	9/23	0907-0917	91	WSW-2	SE -1	WSW-5	19.3	20.1	r	1001.8
US08462	42-19.0	140-30.4	9/23	1103-1111	93	WNW-3	SE -1	WNW-6	19.3	20.2	c	1002.1
US08463	42-23.7	140-30.7	9/23	1151-1157	95	NW -3	West-1	NW -5	19.6	19.9	bc	1002.0

Cruise 156

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US08464	41-57.5	140-58.3	10/27	1258-1302	80	West-3	ESE-1	West-5	11.1	14.0	c	1006.6
US08465	41-57.9	140-59.0	10/27	1307-1311	85	West-3	ESE-1	West-5	11.5	14.1	c	1007.1
US08466	41-58.4	141-00.0	10/27	1317-1321	89	WNW-2	ESE-1	WNW-4	11.3	14.0	r	1007.2
US08467	41-58.9	141-00.9	10/27	1327-1332	96	WNW-2	ESE-1	WNW-4	11.1	13.9	c	1007.2
US08468	42-17.7	140-54.0	10/28	0707-0710	56	West-2	WSW-1	West-5	10.8	14.4	c	1008.1
US08469	42-12.0	141-01.6	10/28	0805-0809	78	West-2	West-1	West-4	11.1	14.3	bc	1008.1
US08470	42-05.3	140-56.7	10/28	0901-0905	83	WSW-2	ESE-1	WSW-4	11.4	14.0	bc	1008.0
US08471	42-10.2	140-47.7	10/28	0959-1003	91	WSW-2	West-1	WSW-3	11.9	14.2	c	1007.6
US08472	42-11.0	140-35.6	10/28	1108-1112	80	WSW-3	West-1	WSW-5	13.2	14.3	c	1007.1
US08473	42-15.6	140-36.5	10/28	1200-1205	90	West-3	West-1	West-5	13.3	14.2	bc	1006.6
US08474	42-18.9	140-30.5	10/28	1407-1411	94	West-3	West-1	West-5	11.8	14.1	bc	1006.2
US08475	42-29.1	140-31.2	10/29	0630-0635	74	NW -2	West-1	NW -4	6.3	13.3	c	1007.0
US08476	42-23.4	140-42.4	10/29	0842-0846	62	West-2	NW -1	West-4	7.5	13.8	bc	1008.6
US08477	42-23.0	140-31.2	10/30	0829-0834	96	West-3	West-1	West-5	8.9	13.7	bc	1016.2

(*):Fixed position by Global Positioning System

Table 2: Oceanographic data

STATION US08392
LATITUDE 43-55.7 N
LONGITUDE 145-14.4 E
DEPTH (m) 81

Press.	Temp.	Salinity	Sigma-T
5	17.201	33.355	24.205
10	16.972	33.481	24.355
20	16.007	33.636	24.697
30	15.790	33.661	24.765
40	13.274	33.708	25.337
50	11.898	33.729	25.622
75	8.113	33.660	26.204

STATION US08393
LATITUDE 43-56.4 N
LONGITUDE 145-12.6 E
DEPTH (m) 84

Press.	Temp.	Salinity	Sigma-T
5	17.134	33.229	24.124
10	16.823	33.494	24.400
20	16.658	33.618	24.534
30	15.862	33.659	24.748
40	13.324	33.724	25.340
50	12.016	33.747	25.613
75	8.275	33.672	26.190

STATION US08394
LATITUDE 43-57.1 N
LONGITUDE 145-11.0 E
DEPTH (m) 82

Press.	Temp.	Salinity	Sigma-T
5	17.330	33.081	23.964
10	17.070	33.559	24.392
20	16.440	33.623	24.588
30	15.598	33.680	24.823
40	14.050	33.733	25.198
50	12.056	33.736	25.597
75	9.494	33.738	26.051

STATION US08395
LATITUDE 44-01.4 N
LONGITUDE 145-14.2 E
DEPTH (m) 336

Press.	Temp.	Salinity	Sigma-T
5	17.518	33.086	23.923
10	16.629	33.314	24.307
20	16.330	33.651	24.635
30	15.968	33.686	24.744
40	15.416	33.709	24.886
50	14.372	33.709	25.112
75	11.328	33.733	25.729
100	8.873	33.716	26.133
125	6.934	33.671	26.381
150	5.693	33.606	26.489
175	4.407	33.536	26.579
200	3.424	33.481	26.634
250	1.987	33.405	26.695
300	1.537	33.422	26.741

STATION US08396
LATITUDE 44-00.3 N
LONGITUDE 145-16.6 E
DEPTH (m) 382

Press.	Temp.	Salinity	Sigma-T
5	17.267	33.148	24.031
10	16.607	33.260	24.271
20	16.153	33.342	24.438
30	15.653	33.702	24.827
40	14.378	33.722	25.120
50	13.342	33.712	25.327
75	10.007	33.722	25.953
100	8.685	33.724	26.168
125	7.395	33.681	26.325
150	6.081	33.626	26.457
175	5.042	33.585	26.549
200	3.986	33.509	26.602
250	2.656	33.446	26.674
300	2.001	33.459	26.737

STATION US08397
LATITUDE 43-59.3 N
LONGITUDE 145-19.0 E
DEPTH (m) 272

Press.	Temp.	Salinity	Sigma-T
5	17.139	33.236	24.128
10	16.706	33.250	24.240
20	16.312	33.325	24.389
30	15.427	33.607	24.804
40	14.222	33.814	25.224
50	12.657	33.708	25.460
75	9.271	33.727	26.078
100	8.706	33.736	26.174
125	7.587	33.694	26.308
150	6.302	33.643	26.442
175	5.168	33.587	26.536
200	4.458	33.556	26.590

STATION US08398
LATITUDE 44-02.5 N
LONGITUDE 145-22.3 E
DEPTH (m) 910

Press.	Temp.	Salinity	Sigma-T
5	17.199	33.525	24.336
10	17.035	33.539	24.385
20	16.236	33.631	24.641
30	14.808	33.712	25.020
40	13.346	33.740	25.348
50	12.954	33.826	25.493
75	9.184	33.720	26.086
100	6.898	33.668	26.384
125	5.053	33.561	26.529
150	3.318	33.452	26.621
175	2.654	33.432	26.663
200	2.335	33.431	26.688
250	2.057	33.453	26.728
300	1.859	33.462	26.750
400	1.413	33.517	26.826
500	1.533	33.627	26.906

STATION US08399
LATITUDE 44-04.8 N
LONGITUDE 145-19.9 E
DEPTH (m) 716

Press.	Temp.	Salinity	Sigma-T
5	17.379	33.501	24.274
10	16.948	33.677	24.511
20	16.418	33.672	24.631
30	16.125	33.721	24.735
40	14.779	33.683	25.005
50	13.042	33.714	25.388
75	9.580	33.701	26.008
100	7.307	33.651	26.314
125	5.634	33.592	26.485
150	4.495	33.536	26.570
175	3.150	33.436	26.623
200	2.364	33.421	26.679
250	1.558	33.400	26.722
300	1.878	33.484	26.766
400	1.369	33.522	26.833
500	1.522	33.627	26.906
600	1.738	33.784	27.017

STATION US08400
LATITUDE 44-06.3 N
LONGITUDE 145-16.6 E
DEPTH (m) 376

Press.	Temp.	Salinity	Sigma-T
5	16.970	33.471	24.348
10	16.820	33.525	24.425
20	16.395	33.695	24.654
30	15.683	33.700	24.819
40	14.853	33.717	25.015
50	14.254	33.732	25.154
75	11.222	33.726	25.744
100	8.584	33.734	26.192
125	7.190	33.693	26.363
150	4.946	33.564	26.543
175	3.842	33.500	26.609
200	2.926	33.464	26.666
250	2.036	33.450	26.727
300	1.914	33.489	26.768

STATION US08401
LATITUDE 44-10.5 N
LONGITUDE 145-20.7 E
DEPTH (m) 136

Press.	Temp.	Salinity	Sigma-T
5	16.806	33.604	24.488
10	16.697	33.669	24.564
20	16.440	33.699	24.647
30	15.907	33.736	24.797
40	15.854	33.741	24.812
50	12.937	33.682	25.385
75	9.094	33.727	26.106

STATION US08402
LATITUDE 44-08.9 N
LONGITUDE 145-24.1 E
DEPTH (m) 1473

Press.	Temp.	Salinity	Sigma-T
5	17.309	33.280	24.122
10	16.965	33.513	24.381
20	16.678	33.649	24.553
30	14.711	33.704	25.035
40	12.862	33.707	25.419
50	10.569	33.725	25.859
75	7.165	33.635	26.321
100	5.810	33.602	26.471
125	5.292	33.585	26.520
150	4.635	33.561	26.575
175	3.330	33.461	26.626
200	2.375	33.419	26.676
250	1.525	33.405	26.728
300	1.757	33.479	26.771
400	1.430	33.532	26.837
500	1.568	33.625	26.902
600	1.726	33.763	27.001
700	2.071	33.971	27.141
800	2.201	34.100	27.235
900	2.215	34.175	27.293
1000	2.250	34.256	27.356
1200	2.237	34.384	27.459

STATION US08403
LATITUDE 44-07.3 N
LONGITUDE 145-27.8 E
DEPTH (m) 1200

Press.	Temp.	Salinity	Sigma-T
5	17.500	33.240	24.045
10	16.870	33.583	24.458
20	16.181	33.696	24.704
30	13.872	33.705	25.213
40	11.023	33.693	25.753
50	9.298	33.695	26.048
75	7.236	33.668	26.337
100	5.751	33.614	26.488
125	4.553	33.551	26.576
150	3.345	33.463	26.627
175	2.998	33.475	26.668
200	2.509	33.443	26.684
250	2.411	33.480	26.722
300	2.136	33.501	26.761
400	1.642	33.553	26.839
500	1.664	33.635	26.903
600	1.728	33.771	27.007
700	2.054	33.960	27.134
800	2.212	34.099	27.233
900	2.284	34.188	27.298
1000	2.296	34.258	27.354
1200	2.269	34.382	27.455
1500	2.162	34.467	27.531

STATION US08404
LATITUDE 44-12.3 N
LONGITUDE 145-30.2 E
DEPTH (m) 2075

Press.	Temp.	Salinity	Sigma-T
5	17.858	33.239	23.958
10	17.155	33.313	24.183
20	14.050	33.705	25.176
30	10.922	33.723	25.795
40	9.395	33.723	26.055
50	8.293	33.667	26.184
75	6.966	33.662	26.369
100	5.028	33.544	26.518
125	4.210	33.527	26.593
150	2.892	33.445	26.653
175	2.248	33.420	26.687
200	1.963	33.413	26.703
250	1.565	33.413	26.732
300	2.188	33.510	26.763
400	1.713	33.557	26.837
500	2.320	33.712	26.915
600	1.769	33.777	27.010
700	2.061	33.972	27.143
800	2.214	34.088	27.224
900	2.278	34.187	27.298
1000	2.251	34.270	27.367

STATION US08405
LATITUDE 44-14.8 N
LONGITUDE 145-22.4 E
DEPTH (m) 327

Press.	Temp.	Salinity	Sigma-T
5	16.843	33.675	24.535
10	16.763	33.681	24.558
20	16.563	33.694	24.614
30	15.579	33.718	24.856
40	14.432	33.764	25.141
50	11.823	33.731	25.637
75	9.221	33.717	26.078
100	7.865	33.712	26.282
125	6.103	33.647	26.471
150	4.532	33.553	26.580
175	3.605	33.497	26.629
200	3.157	33.466	26.647
250	2.346	33.450	26.703

STATION US08406
LATITUDE 44-13.7 N
LONGITUDE 145-26.4 E
DEPTH (m) 1566

Press.	Temp.	Salinity	Sigma-T
5	17.912	33.262	23.963
10	16.969	33.434	24.320
20	15.289	33.709	24.914
30	14.257	33.749	25.166
40	12.200	33.751	25.581
50	11.028	33.734	25.785
75	7.865	33.687	26.263
100	6.908	33.708	26.414
125	5.110	33.583	26.539
150	4.425	33.542	26.582
175	3.352	33.463	26.626
200	2.798	33.452	26.667
250	2.122	33.446	26.718
300	1.453	33.413	26.740
400	1.388	33.509	26.821
500	1.541	33.620	26.900
600	1.738	33.765	27.002
700	2.026	33.957	27.134
800	2.187	34.087	27.226
900	2.257	34.183	27.297
1000	2.282	34.271	27.365
1200	2.235	34.383	27.459

STATION US08407
LATITUDE 44-17.2 N
LONGITUDE 145-31.7 E
DEPTH (m) 2077

Press.	Temp.	Salinity	Sigma-T
5	17.161	33.680	24.463
10	17.145	33.683	24.470
20	16.723	33.694	24.577
30	14.471	33.764	25.133
40	13.042	33.766	25.428
50	12.443	33.796	25.569
75	10.899	33.812	25.868
100	9.488	33.747	26.059
125	6.696	33.636	26.385
150	5.322	33.607	26.534
175	3.467	33.476	26.626
200	2.888	33.472	26.676
250	2.080	33.459	26.731
300	1.950	33.478	26.756
400	1.451	33.522	26.827
500	1.596	33.629	26.903
600	1.754	33.778	27.011
700	2.088	33.985	27.151
800	2.178	34.088	27.227
900	2.273	34.187	27.299
1000	2.290	34.265	27.360
1200	2.263	34.385	27.458
1500	2.173	34.463	27.528

STATION US08408
LATITUDE 44-18.7 N
LONGITUDE 145-28.4 E
DEPTH (m) 1516

Press.	Temp.	Salinity	Sigma-T
5	16.981	33.712	24.531
10	16.947	33.714	24.540
20	16.422	33.756	24.694
30	15.148	33.871	25.070
40	13.767	33.755	25.274
50	13.229	33.779	25.401
75	12.279	33.889	25.673
100	10.134	33.781	25.977
125	7.221	33.654	26.328
150	5.352	33.597	26.522
175	4.222	33.549	26.609
200	3.537	33.583	26.704
250	2.777	33.524	26.726
300	2.693	33.566	26.767
400	1.832	33.570	26.839
500	1.731	33.644	26.905
600	1.768	33.774	27.007
700	2.052	33.955	27.130
800	2.183	34.094	27.232
900	2.266	34.180	27.293
1000	2.283	34.281	27.373
1200	2.256	34.393	27.465

STATION US08409
LATITUDE 44-20.4 N
LONGITUDE 145-24.2 E
DEPTH (m) 849

Press.	Temp.	Salinity	Sigma-T
5	16.798	33.592	24.481
10	16.745	33.591	24.493
20	16.589	33.604	24.539
30	16.032	33.693	24.735
40	14.714	33.788	25.100
50	13.281	33.744	25.364
75	11.458	33.751	25.720
100	9.131	33.732	26.104
125	6.912	33.666	26.380
150	5.245	33.642	26.571
175	4.022	33.573	26.648
200	2.478	33.452	26.694
250	2.245	33.488	26.741
300	2.140	33.519	26.774
400	1.842	33.571	26.838
500	1.657	33.658	26.922
600	1.731	33.768	27.005
700	2.034	33.940	27.120
800	2.194	34.076	27.216

STATION US08410
LATITUDE 44-20.9 N
LONGITUDE 145-09.2 E
DEPTH (m) 1233

Press.	Temp.	Salinity	Sigma-T
5	17.601	33.405	24.148
10	17.349	33.467	24.255
20	14.223	33.287	24.817
30	11.452	33.589	25.595
40	8.709	33.544	26.023
50	9.660	33.768	26.047
75	8.274	33.756	26.256
100	5.600	33.557	26.461
125	4.969	33.702	26.650
150	4.722	33.691	26.669
175	3.375	33.561	26.702
200	2.810	33.547	26.742
250	2.011	33.507	26.775
300	2.120	33.545	26.797
400	2.282	33.654	26.871
500	2.143	33.702	26.920
600	1.822	33.799	27.023
700	2.082	33.959	27.131
800	2.203	34.076	27.216

STATION US08411
LATITUDE 44-19.4 N
LONGITUDE 145-12.6 E
DEPTH (m) 734

Press.	Temp.	Salinity	Sigma-T
5	17.959	33.911	24.448
10	16.913	33.984	24.755
20	16.521	34.013	24.869
30	16.259	33.988	24.910
40	15.140	33.939	25.123
50	14.533	33.941	25.256
75	11.171	33.824	25.829
100	6.513	33.551	26.343
125	5.675	33.729	26.589
150	4.795	33.709	26.675
175	2.907	33.509	26.703
200	2.490	33.495	26.727
250	2.120	33.490	26.753
300	2.175	33.522	26.774
400	2.188	33.614	26.847
500	2.275	33.681	26.893
600	1.883	33.815	27.031

STATION US08412
LATITUDE 44-18.1 N
LONGITUDE 145-15.8 E
DEPTH (m) 139

Press.	Temp.	Salinity	Sigma-T
5	17.737	33.779	24.401
10	17.592	33.792	24.446
20	16.854	33.887	24.695
30	16.306	33.920	24.847
40	15.703	33.977	25.027
50	15.174	33.967	25.138
75	13.672	33.969	25.459

STATION US08413
LATITUDE 44-21.7 N
LONGITUDE 145-20.7 E
DEPTH (m) 85

Press.	Temp.	Salinity	Sigma-T
5	17.119	33.727	24.509
10	17.103	33.741	24.524
20	17.168	33.771	24.531
30	17.208	33.772	24.522
40	16.849	33.832	24.653
50	14.904	33.955	25.187

STATION US08414
LATITUDE 44-23.2 N
LONGITUDE 145-18.2 E
DEPTH (m) 711

Press.	Temp.	Salinity	Sigma-T
5	18.797	33.892	24.226
10	18.127	33.939	24.428
20	16.407	34.003	24.887
30	16.015	33.978	24.958
40	15.007	33.946	25.158
50	14.569	33.970	25.271
75	11.285	33.839	25.820
100	6.856	33.469	26.233
125	5.369	33.527	26.465
150	4.828	33.647	26.622
175	4.540	33.689	26.687
200	3.882	33.638	26.715
250	2.481	33.520	26.748
300	2.409	33.561	26.786
400	2.105	33.596	26.839
500	1.531	33.620	26.900

STATION US08415
LATITUDE 44-24.9 N
LONGITUDE 145-14.0 E
DEPTH (m) 1419

Press.	Temp.	Salinity	Sigma-T
5	17.859	33.394	24.077
10	16.800	33.354	24.298
20	13.464	33.324	25.002
30	9.435	33.283	25.705
40	10.728	33.806	25.894
50	10.543	33.857	25.966
75	7.406	33.582	26.246
100	1.239	33.097	26.501
125	0.346	33.181	26.620
150	0.449	33.236	26.659
175	0.423	33.257	26.678
200	0.640	33.297	26.698
250	0.572	33.340	26.736
300	0.996	33.426	26.780
400	1.401	33.536	26.842
500	1.718	33.663	26.921
600	1.763	33.778	27.010
700	2.073	33.962	27.134
800	2.230	34.090	27.224
900	2.295	34.185	27.295
1000	2.307	34.270	27.362

STATION US08416
LATITUDE 44-17.0 N
LONGITUDE 145-05.8 E
DEPTH (m) 855

Press.	Temp.	Salinity	Sigma-T
5	18.180	33.824	24.327
10	16.640	33.969	24.808
20	16.166	33.987	24.930
30	15.635	33.971	25.038
40	15.178	33.946	25.120
50	14.312	33.909	25.279
75	5.159	33.262	26.279
100	5.752	33.729	26.579
125	5.055	33.713	26.649
150	3.830	33.608	26.696
175	2.642	33.498	26.717
200	2.372	33.493	26.735
250	1.969	33.492	26.766
300	1.977	33.526	26.793
400	1.715	33.552	26.833
500	2.202	33.696	26.911
600	1.956	33.792	27.007
700	2.074	33.953	27.127

STATION US08417
LATITUDE 44-15.4 N
LONGITUDE 145-08.9 E
DEPTH (m) 575

Press.	Temp.	Salinity	Sigma-T
5	18.316	33.901	24.352
10	17.399	33.971	24.630
20	15.893	33.941	24.958
30	15.548	33.956	25.047
40	15.275	33.958	25.108
50	14.682	33.946	25.228
75	9.991	33.815	26.028
100	6.460	33.732	26.492
125	5.949	33.776	26.592
150	4.702	33.668	26.652
175	3.690	33.583	26.690
200	2.829	33.529	26.726
250	2.294	33.526	26.768
300	2.213	33.562	26.803
400	1.911	33.586	26.845

STATION US08418
LATITUDE 44-14.8 N
LONGITUDE 145-10.5 E
DEPTH (m) 327

Press.	Temp.	Salinity	Sigma-T
5	18.530	33.848	24.259
10	18.213	33.893	24.372
20	16.445	33.973	24.855
30	15.813	33.975	25.002
40	15.391	33.963	25.086
50	14.704	33.943	25.221
75	10.998	33.832	25.866
100	7.075	33.748	26.422
125	5.322	33.699	26.606
150	4.581	33.653	26.654
175	3.688	33.587	26.693
200	2.564	33.511	26.734
250	2.271	33.538	26.779

STATION US08419
LATITUDE 44-13.2 N
LONGITUDE 144-59.7 E
DEPTH (m) 684

Press.	Temp.	Salinity	Sigma-T
5	19.135	33.985	24.211
10	18.989	33.960	24.229
20	16.400	33.602	24.581
30	14.751	33.741	25.055
40	10.462	33.395	25.620
50	10.476	33.784	25.921
75	9.033	33.731	26.120
100	5.359	33.368	26.341
125	4.181	33.560	26.622
150	4.172	33.661	26.703
175	2.884	33.566	26.751
200	2.308	33.528	26.768
250	2.649	33.603	26.801
300	3.198	33.698	26.828
400	1.936	33.586	26.844
500	1.430	33.634	26.919

STATION US08420
LATITUDE 44-11.7 N
LONGITUDE 145-03.3 E
DEPTH (m) 460

Press.	Temp.	Salinity	Sigma-T
5	18.990	33.940	24.214
10	18.939	33.950	24.234
20	16.852	33.988	24.773
30	15.861	33.943	24.966
40	15.415	33.951	25.072
50	15.058	33.938	25.140
75	14.349	33.880	25.248
100	7.878	33.676	26.252
125	7.162	33.683	26.359
150	5.485	33.645	26.545
175	3.993	33.575	26.653
200	2.710	33.520	26.729
250	2.490	33.564	26.783
300	2.276	33.576	26.810

STATION US08421
LATITUDE 44-10.4 N
LONGITUDE 145-06.4 E
DEPTH (m) 215

Press.	Temp.	Salinity	Sigma-T
5	18.862	33.892	24.209
10	18.287	33.839	24.312
20	17.002	33.888	24.660
30	16.481	33.912	24.801
40	15.714	33.922	24.983
50	15.643	33.952	25.022
75	15.263	33.944	25.100
100	11.441	33.635	25.629
125	6.644	33.598	26.362

STATION US08422
LATITUDE 42-49.9 N
LONGITUDE 144-49.8 E
DEPTH (m) 99

Press.	Temp.	Salinity	Sigma-T
5	17.928	32.774	23.585
10	15.220	33.379	24.675
20	12.857	33.433	25.207
30	11.456	33.404	25.451
40	10.662	33.414	25.600
50	9.975	33.421	25.723
75	6.345	33.338	26.196

STATION US08423
LATITUDE 42-40.2 N
LONGITUDE 144-59.2 E
DEPTH (m) 655

Press.	Temp.	Salinity	Sigma-T
5	10.119	33.381	25.668
10	9.606	33.370	25.745
20	7.287	33.312	26.049
30	5.775	33.298	26.235
40	3.156	33.123	26.373
50	2.610	33.182	26.467
75	3.356	33.399	26.575
100	2.655	33.398	26.636
125	1.984	33.358	26.658
150	1.959	33.421	26.709
175	2.000	33.432	26.716
200	2.004	33.449	26.729
250	2.007	33.471	26.746
300	2.110	33.552	26.803
400	2.591	33.773	26.942
500	2.763	33.889	27.019

STATION US08424
LATITUDE 42-30.2 N
LONGITUDE 145-09.9 E
DEPTH (m) 1947

Press.	Temp.	Salinity	Sigma-T
5	21.003	33.091	23.041
10	20.794	33.320	23.270
20	18.094	33.234	23.896
30	7.592	32.798	25.603
40	5.182	32.984	26.057
50	3.790	33.069	26.271
75	2.432	33.169	26.472
100	2.134	33.255	26.563
125	2.027	33.331	26.632
150	2.001	33.384	26.677
175	2.065	33.448	26.723
200	2.314	33.536	26.774
250	2.391	33.615	26.832
300	2.456	33.694	26.890
400	2.970	33.897	27.007
500	2.737	33.966	27.083

STATION US08425
LATITUDE 42-29.9 N
LONGITUDE 145-19.5 E
DEPTH (m) 2247

Press.	Temp.	Salinity	Sigma-T
5	21.117	33.358	23.213
10	21.046	33.332	23.213
20	20.271	33.302	23.396
30	9.656	32.747	25.249
40	5.347	32.959	26.018
50	3.449	33.049	26.287
75	2.100	33.143	26.476
100	1.753	33.247	26.586
125	1.862	33.322	26.638
150	2.033	33.391	26.680
175	2.119	33.457	26.727
200	2.234	33.520	26.768
250	2.454	33.632	26.839
300	2.977	33.758	26.896
400	2.707	33.873	27.011
500	2.765	33.977	27.089

STATION US08426
LATITUDE 42-38.8 N
LONGITUDE 145-10.0 E
DEPTH (m) 1352

Press.	Temp.	Salinity	Sigma-T
5	19.804	32.612	22.992
10	19.194	32.883	23.355
20	11.317	32.746	24.962
30	5.187	32.995	26.064
40	3.955	33.071	26.256
50	3.170	33.124	26.372
75	2.144	33.213	26.529
100	1.971	33.280	26.596
125	1.928	33.340	26.647
150	1.936	33.386	26.684
175	1.807	33.409	26.711
200	1.932	33.459	26.742
250	2.026	33.525	26.788
300	2.298	33.620	26.843
400	2.698	33.799	26.953
500	2.858	33.931	27.045

STATION US08427
LATITUDE 42-47.8 N
LONGITUDE 145-18.9 E
DEPTH (m) 605

Press.	Temp.	Salinity	Sigma-T
5	19.385	32.587	23.081
10	16.978	32.639	23.708
20	9.189	32.845	25.400
30	4.780	33.033	26.140
40	3.537	33.091	26.313
50	2.852	33.143	26.415
75	2.123	33.228	26.543
100	2.067	33.299	26.604
125	2.004	33.356	26.655
150	1.963	33.394	26.688
175	1.883	33.414	26.710
200	1.925	33.440	26.728
250	1.943	33.496	26.771
300	2.147	33.555	26.802
400	2.337	33.681	26.889
500	2.737	33.829	26.973

STATION US08428
LATITUDE 42-50.0 N
LONGITUDE 145-00.1 E
DEPTH (m) 109

Press.	Temp.	Salinity	Sigma-T
5	15.551	33.325	24.559
10	13.331	33.457	25.131
20	11.820	33.452	25.421
30	10.350	33.407	25.649
40	10.188	33.447	25.707
50	8.801	33.399	25.896
75	5.361	33.351	26.326

STATION US08429
LATITUDE 42-49.7 N
LONGITUDE 145-09.4 E
DEPTH (m) 133

Press.	Temp.	Salinity	Sigma-T
5	14.990	33.228	24.608
10	11.848	33.289	25.289
20	10.883	33.467	25.603
30	9.171	33.475	25.897
40	6.287	33.469	26.307
50	5.900	33.387	26.291
75	5.598	33.385	26.326
100	4.988	33.406	26.413

STATION US08430
LATITUDE 42-40.0 N
LONGITUDE 145-19.7 E
DEPTH (m) 1820

Press.	Temp.	Salinity	Sigma-T
5	19.189	32.601	23.141
10	19.001	32.631	23.211
20	12.168	32.823	24.867
30	5.421	32.976	26.023
40	4.245	33.113	26.260
50	3.386	33.196	26.411
75	2.350	33.237	26.533
100	1.956	33.294	26.609
125	1.890	33.343	26.652
150	1.906	33.372	26.675
175	1.787	33.415	26.717
200	1.977	33.465	26.744
250	2.019	33.529	26.792
300	2.188	33.607	26.841
400	2.652	33.784	26.945
500	2.737	33.919	27.045

STATION US08431
LATITUDE 42-30.0 N
LONGITUDE 145-29.8 E
DEPTH (m) 2524

Press.	Temp.	Salinity	Sigma-T
5	19.298	32.573	23.092
10	18.606	32.557	23.254
20	14.700	32.688	24.254
30	8.374	32.987	25.638
40	4.504	33.016	26.156
50	3.423	33.092	26.324
75	2.100	33.213	26.533
100	1.966	33.325	26.632
125	1.799	33.357	26.671
150	1.787	33.404	26.709
175	1.985	33.475	26.751
200	2.057	33.518	26.780
250	2.200	33.605	26.838
300	2.427	33.707	26.902
400	2.768	33.875	27.007
500	3.329	34.055	27.101

STATION US08432
LATITUDE 42-39.9 N
LONGITUDE 145-39.8 E
DEPTH (m) 2310

Press.	Temp.	Salinity	Sigma-T
5	18.835	32.483	23.140
10	14.884	32.589	24.138
20	8.038	32.869	25.595
30	5.606	33.007	26.026
40	4.245	33.056	26.215
50	2.956	33.116	26.385
75	2.132	33.225	26.539
100	2.035	33.296	26.604
125	1.870	33.339	26.651
150	1.879	33.393	26.693
175	2.072	33.480	26.748
200	2.239	33.544	26.787
250	2.264	33.625	26.850
300	2.536	33.719	26.903
400	2.739	33.843	26.984

STATION US08433
LATITUDE 42-49.7 N
LONGITUDE 145-30.1 E
DEPTH (m) 1175

Press.	Temp.	Salinity	Sigma-T
5	15.637	33.193	24.439
10	12.354	33.116	25.059
20	8.484	33.244	25.822
30	5.886	33.244	26.179
40	4.092	33.165	26.317
50	2.968	33.187	26.441
75	2.220	33.257	26.558
100	2.115	33.311	26.610
125	1.957	33.332	26.639
150	1.849	33.372	26.679
175	1.960	33.407	26.698
200	1.884	33.435	26.727
250	1.981	33.498	26.770
300	2.079	33.553	26.806
400	2.525	33.722	26.906

STATION US08434
LATITUDE 42-59.3 N
LONGITUDE 145-20.6 E
DEPTH (m) 70

Press.	Temp.	Salinity	Sigma-T
5	15.697	33.311	24.517
10	13.966	33.408	24.964
20	11.867	33.449	25.410
30	10.691	33.424	25.603
40	10.147	33.433	25.703
50	9.586	33.416	25.784

STATION US08435
LATITUDE 42-59.8 N
LONGITUDE 145-28.9 E
DEPTH (m) 87

Press.	Temp.	Salinity	Sigma-T
5	16.600	33.191	24.220
10	15.774	33.264	24.463
20	12.380	33.410	25.282
30	11.670	33.451	25.448
40	9.440	33.354	25.759
50	7.895	33.377	26.015
75	6.592	33.384	26.201

STATION US08436
LATITUDE 42-50.1 N
LONGITUDE 145-39.4 E
DEPTH (m) 1586

Press.	Temp.	Salinity	Sigma-T
5	18.866	32.639	23.251
10	16.139	32.655	23.912
20	8.446	32.932	25.584
30	4.867	33.046	26.141
40	3.598	33.129	26.337
50	2.901	33.189	26.448
75	2.370	33.300	26.581
100	2.106	33.389	26.673
125	1.863	33.365	26.672
150	1.743	33.390	26.701
175	1.939	33.440	26.727
200	2.003	33.476	26.750
250	2.055	33.543	26.801
300	2.486	33.662	26.861
400	2.607	33.795	26.958
500	3.002	33.951	27.048

STATION US08437
LATITUDE 42-40.1 N
LONGITUDE 145-49.8 E
DEPTH (m) 2591

Press.	Temp.	Salinity	Sigma-T
5	20.494	32.935	23.058
10	19.384	33.459	23.746
20	8.664	32.843	25.481
30	5.600	33.008	26.027
40	4.398	33.120	26.250
50	3.771	33.156	26.342
75	2.620	33.219	26.496
100	2.216	33.341	26.626
125	2.098	33.392	26.676
150	2.125	33.452	26.722
175	2.060	33.485	26.754
200	2.040	33.518	26.781
250	2.263	33.609	26.837
300	2.679	33.740	26.908
400	2.799	33.883	27.011
500	3.026	34.014	27.095

STATION US08438
LATITUDE 42-48.6 N
LONGITUDE 145-30.3 E
DEPTH (m) 415

Press.	Temp.	Salinity	Sigma-T
5	17.055	33.040	23.997
10	16.363	33.199	24.280
20	9.713	33.060	25.484
30	4.916	33.046	26.136
40	4.601	33.827	26.789
50	3.157	33.931	27.017
75	2.151	33.311	26.607
100	2.346	33.370	26.639
125	1.985	33.354	26.654
150	1.919	33.378	26.678
175	1.827	33.400	26.703
200	1.956	33.445	26.729
250	1.982	33.514	26.783
300	2.196	33.603	26.838
400	2.607	33.767	26.935
500	2.890	33.898	27.015

STATION US08439
LATITUDE 42-50.1 N
LONGITUDE 145-49.5 E
DEPTH (m) 2071

Press.	Temp.	Salinity	Sigma-T
5	19.161	32.481	23.057
10	13.990	32.498	24.256
20	6.073	32.951	25.925
30	4.446	33.061	26.198
40	3.303	33.139	26.373
50	3.076	33.200	26.441
75	2.402	33.275	26.559
100	2.184	33.325	26.616
125	1.882	33.367	26.672
150	1.828	33.392	26.696
175	1.824	33.423	26.721
200	1.880	33.459	26.746
250	2.018	33.532	26.795
300	2.245	33.621	26.848
400	2.583	33.803	26.966
500	2.721	33.937	27.061

STATION US08440
LATITUDE 42-49.9 N
LONGITUDE 145-59.7 E
DEPTH (m) 2268

Press.	Temp.	Salinity	Sigma-T
5	19.277	32.467	23.016
10	14.593	32.546	24.167
20	8.176	32.903	25.601
30	5.863	33.051	26.029
40	4.608	33.277	26.352
50	3.255	33.182	26.411
75	2.167	33.363	26.648
100	2.028	33.322	26.625
125	2.055	33.382	26.672
150	2.047	33.426	26.707
175	2.018	33.463	26.739
200	1.979	33.494	26.767
250	2.228	33.585	26.820
300	2.377	33.663	26.870
400	2.677	33.829	26.979
500	2.737	33.951	27.071

STATION US08441
LATITUDE 43-00.0 N
LONGITUDE 145-49.9 E
DEPTH (m) 710

Press.	Temp.	Salinity	Sigma-T
5	16.979	32.627	23.699
10	15.019	32.849	24.310
20	8.681	33.018	25.615
30	5.874	33.101	26.068
40	3.768	33.313	26.467
50	2.865	33.260	26.508
75	2.139	33.248	26.557
100	2.158	33.328	26.620
125	1.991	33.372	26.668
150	1.832	33.378	26.685
175	1.834	33.408	26.708
200	1.871	33.441	26.733
250	1.954	33.481	26.758
300	2.055	33.538	26.797
400	2.473	33.697	26.890
500	2.635	33.816	26.972

STATION US08442
LATITUDE 42-59.9 N
LONGITUDE 145-40.1 E
DEPTH (m) 116

Press.	Temp.	Salinity	Sigma-T
5	15.346	33.023	24.372
10	13.573	33.182	24.870
20	9.371	33.182	25.636
30	5.904	33.250	26.182
40	5.583	33.540	26.450
50	4.774	33.395	26.428
75	3.873	33.356	26.491
100	3.623	33.354	26.514

STATION US08443
LATITUDE 43-09.7 N
LONGITUDE 145-39.9 E
DEPTH (m) 55

Press.	Temp.	Salinity	Sigma-T
5	14.812	33.330	24.726
10	13.539	33.414	25.056
20	11.660	33.438	25.439
30	11.006	33.443	25.562
40	10.474	33.444	25.656

STATION US08444
LATITUDE 43-09.9 N
LONGITUDE 145-50.2 E
DEPTH (m) 89

Press.	Temp.	Salinity	Sigma-T
5	14.643	32.750	24.315
10	12.739	33.407	25.211
20	10.259	33.408	25.665
30	9.253	33.416	25.838
40	8.852	33.427	25.910
50	7.900	33.346	25.989
75	6.285	33.339	26.204

STATION US08445
LATITUDE 42-59.9 N
LONGITUDE 145-59.8 E
DEPTH (m) 1661

Press.	Temp.	Salinity	Sigma-T
5	18.295	32.205	23.061
10	18.152	32.219	23.107
20	9.221	32.831	25.385
30	5.715	32.985	25.995
40	3.593	33.070	26.291
50	2.336	33.124	26.443
75	1.739	33.193	26.543
100	1.762	33.259	26.594
125	1.848	33.336	26.650
150	2.037	33.388	26.677
175	2.086	33.462	26.733
200	2.316	33.520	26.761
250	2.401	33.606	26.823
300	2.423	33.667	26.870
400	2.815	33.834	26.970
500	3.027	33.956	27.049

STATION US08446
LATITUDE 42-50.0 N
LONGITUDE 146-09.8 E
DEPTH (m) 2607

Press.	Temp.	Salinity	Sigma-T
5	20.178	32.781	23.023
10	20.173	32.840	23.070
20	10.791	32.920	25.191
30	5.590	32.978	26.004
40	3.931	33.072	26.260
50	3.428	33.170	26.386
75	2.132	33.197	26.517
100	2.023	33.295	26.604
125	2.153	33.378	26.661
150	2.128	33.440	26.712
175	2.189	33.503	26.758
200	2.284	33.557	26.794
250	2.289	33.633	26.854
300	2.831	33.779	26.925
400	2.961	33.922	27.028
500	3.486	34.099	27.120

STATION US08447
LATITUDE 42-54.2 N
LONGITUDE 145-55.1 E
DEPTH (m) 1895

Press.	Temp.	Salinity	Sigma-T
5	18.465	32.185	23.004
10	17.907	32.239	23.182
20	8.322	32.813	25.510
30	6.167	32.976	25.933
40	4.299	33.078	26.227
50	3.235	33.138	26.378
75	1.885	33.186	26.527
100	1.827	33.284	26.610
125	2.000	33.363	26.660
150	2.054	33.414	26.697
175	2.390	33.512	26.749
200	2.378	33.568	26.794
250	2.492	33.648	26.849
300	2.348	33.689	26.894
400	2.855	33.857	26.986
500	3.005	33.983	27.073

STATION US08448
LATITUDE 42-54.9 N
LONGITUDE 145-45.1 E
DEPTH (m) 993

Press.	Temp.	Salinity	Sigma-T
5	16.857	32.340	23.507
10	11.096	32.630	24.911
20	5.636	32.977	25.999
30	3.936	33.077	26.263
40	3.023	33.136	26.395
50	2.623	33.225	26.500
75	2.365	33.309	26.589
100	2.386	33.376	26.641
125	1.958	33.401	26.694
150	1.668	33.387	26.704
175	1.660	33.409	26.722
200	1.908	33.469	26.752
250	2.059	33.536	26.795
300	2.239	33.613	26.842
400	2.662	33.787	26.946
500	2.912	33.919	27.030

STATION US08449
LATITUDE 42-53.2 N
LONGITUDE 145-30.3 E
DEPTH (m) 381

Press.	Temp.	Salinity	Sigma-T
5	15.665	32.555	23.943
10	12.855	32.867	24.769
20	6.648	33.077	25.951
30	4.404	33.119	26.248
40	4.373	33.277	26.377
50	3.983	33.339	26.467
75	3.286	33.366	26.555
100	2.342	33.385	26.651
125	2.047	33.405	26.691
150	2.026	33.411	26.697
175	2.013	33.409	26.696
200	1.969	33.435	26.720
250	1.942	33.470	26.750
300	2.022	33.526	26.789

STATION US08450
LATITUDE 41-24.2 N
LONGITUDE 139-40.2 E
DEPTH (m) 806

Press.	Temp.	Salinity	Sigma-T
5	24.773	33.540	22.307
10	24.612	33.625	22.419
20	21.328	34.196	23.792
30	18.507	34.367	24.662
40	17.012	34.432	25.076
50	16.094	34.479	25.325
75	14.112	34.458	25.745
100	12.061	34.369	26.087
125	10.731	34.283	26.265
150	9.754	34.261	26.416
175	7.821	34.172	26.650

STATION US08451
LATITUDE 41-23.9 N
LONGITUDE 139-32.9 E
DEPTH (m) 1525

Press.	Temp.	Salinity	Sigma-T
5	24.433	33.609	22.461
10	24.073	33.718	22.649
20	23.130	34.051	23.177
30	18.854	34.352	24.563
40	16.988	34.438	25.086
50	15.835	34.503	25.403
75	13.086	34.411	25.919
100	11.252	34.315	26.196
125	10.432	34.269	26.307
150	9.635	34.240	26.420
175	8.527	34.200	26.566

STATION US08452
LATITUDE 41-23.9 N
LONGITUDE 139-25.4 E
DEPTH (m) 2298

Press.	Temp.	Salinity	Sigma-T
5	24.431	33.600	22.454
10	24.407	33.603	22.463
20	23.924	34.054	22.948
30	21.242	33.951	23.629
40	17.102	34.342	24.985
50	15.539	34.444	25.424
75	13.489	34.432	25.854
100	11.398	34.318	26.172
125	9.871	34.225	26.368
150	8.118	34.174	26.608
175	6.057	34.106	26.839

STATION US08453
LATITUDE 41-35.8 N
LONGITUDE 139-32.8 E
DEPTH (m) 1100

Press.	Temp.	Salinity	Sigma-T
5	24.145	33.683	22.602
10	24.126	33.682	22.607
20	23.921	33.956	22.875
30	18.552	34.354	24.640
40	16.521	34.438	25.195
50	15.445	34.476	25.469
75	12.777	34.410	25.980
100	10.497	34.272	26.298
125	9.447	34.218	26.434
150	7.332	34.144	26.699
175	5.198	34.068	26.914
200	3.555	34.059	27.082

STATION US08454
LATITUDE 41-35.8 N
LONGITUDE 139-25.1 E
DEPTH (m) 1750

Press.	Temp.	Salinity	Sigma-T
5	24.446	33.565	22.423
10	24.399	33.571	22.442
20	22.508	33.872	23.218
30	17.584	34.346	24.873
40	16.223	34.457	25.279
50	15.415	34.481	25.480
75	12.377	34.378	26.034
100	10.898	34.299	26.248
125	9.344	34.223	26.454
150	7.370	34.150	26.698
175	4.425	34.063	26.996
200	3.219	34.052	27.108

STATION US08455
LATITUDE 41-36.0 N
LONGITUDE 139-17.6 E
DEPTH (m) 1602

Press.	Temp.	Salinity	Sigma-T
5	24.104	33.670	22.604
10	24.047	33.699	22.643
20	23.617	34.032	23.021
30	17.630	34.351	24.865
40	16.066	34.454	25.313
50	14.776	34.471	25.613
75	11.967	34.353	26.092
100	10.506	34.258	26.286
125	9.135	34.210	26.477
150	6.623	34.123	26.779
175	4.434	34.064	26.996
200	2.877	34.051	27.138

STATION US08456
LATITUDE 41-57.4 N
LONGITUDE 140-58.4 E
DEPTH (m) 80

Press.	Temp.	Salinity	Sigma-T
5	20.302	33.373	23.442
10	20.154	33.308	23.431
20	17.288	33.379	24.203
30	15.695	33.491	24.656
40	13.051	33.330	25.089
50	9.743	33.127	25.532
75	9.290	33.830	26.156

STATION US08457
LATITUDE 41-57.9 N
LONGITUDE 140-59.1 E
DEPTH (m) 84

Press.	Temp.	Salinity	Sigma-T
5	20.329	33.356	23.422
10	20.227	33.346	23.441
20	17.756	33.546	24.218
30	14.169	33.283	24.825
40	11.213	33.378	25.474
50	9.292	33.439	25.850
75	9.635	33.896	26.151

STATION US08458
LATITUDE 41-58.4 N
LONGITUDE 141-00.0 E
DEPTH (m) 88

Press.	Temp.	Salinity	Sigma-T
5	20.307	33.321	23.401
10	20.285	33.328	23.412
20	18.662	33.604	24.039
30	13.968	33.374	24.938
40	13.793	33.985	25.445
50	11.813	33.972	25.826
75	10.303	34.017	26.133

STATION US08459
LATITUDE 41-58.9 N
LONGITUDE 141-01.0 E
DEPTH (m) 95

Press.	Temp.	Salinity	Sigma-T
5	20.305	33.388	23.453
10	20.283	33.384	23.456
20	19.152	33.683	23.976
30	14.493	33.326	24.790
40	13.234	33.993	25.566
50	12.052	33.997	25.801
75	10.082	33.958	26.124

STATION US08460
LATITUDE 42-23.4 N
LONGITUDE 140-43.1 E
DEPTH (m) 58

Press.	Temp.	Salinity	Sigma-T
5	20.337	32.374	22.673
10	20.339	32.378	22.675
20	18.610	33.103	23.669
30	15.930	33.272	24.434
40	12.325	33.389	25.276
50	9.993	33.578	25.843

STATION US08461
LATITUDE 42-16.1 N
LONGITUDE 140-35.9 E
DEPTH (m) 91

Press.	Temp.	Salinity	Sigma-T
5	20.387	32.347	22.638
10	20.396	32.363	22.648
20	18.089	33.033	23.744
30	16.484	33.206	24.258
40	13.383	33.366	25.051
50	10.072	33.476	25.750
75	5.437	33.377	26.338

STATION US08462
LATITUDE 42-19.0 N
LONGITUDE 140-30.4 E
DEPTH (m) 93

Press.	Temp.	Salinity	Sigma-T
5	20.115	32.431	22.773
10	20.134	32.452	22.784
20	17.919	33.104	23.840
30	16.974	33.727	24.543
40	12.052	33.171	25.159
50	8.353	33.296	25.883
75	6.099	33.426	26.297

STATION US08463
LATITUDE 42-23.7 N
LONGITUDE 140-30.7 E
DEPTH (m) 95

Press.	Temp.	Salinity	Sigma-T
5	20.158	32.498	22.813
10	20.147	32.507	22.823
20	17.631	33.011	23.838
30	16.046	33.421	24.523
40	12.209	33.048	25.034
50	8.853	33.326	25.830
75	5.524	33.398	26.344

STATION US08464
LATITUDE 41-57.5 N
LONGITUDE 140-58.3 E
DEPTH (m) 80

Press.	Temp.	Salinity	Sigma-T
5	14.451	33.449	24.894
10	14.353	33.439	24.907
20	14.238	33.444	24.935
30	14.186	33.478	24.973
40	14.157	33.615	25.084
50	14.041	33.803	25.253
75	8.267	33.933	26.396

STATION US08465
LATITUDE 41-57.9 N
LONGITUDE 140-59.0 E
DEPTH (m) 85

Press.	Temp.	Salinity	Sigma-T
5	14.416	33.482	24.927
10	14.396	33.482	24.931
20	14.088	33.527	25.030
30	14.222	33.680	25.120
40	14.262	33.834	25.231
50	12.882	33.792	25.481
75	7.934	33.913	26.430

STATION US08466
LATITUDE 41-58.4 N
LONGITUDE 141-00.0 E
DEPTH (m) 89

Press.	Temp.	Salinity	Sigma-T
5	14.247	33.521	24.993
10	14.201	33.524	25.005
20	14.389	33.786	25.167
30	14.941	34.054	25.256
40	13.512	33.794	25.355
50	11.815	33.780	25.676
75	7.990	33.894	26.406

STATION US08467
LATITUDE 41-58.9 N
LONGITUDE 141-00.9 E
DEPTH (m) 96

Press.	Temp.	Salinity	Sigma-T
5	14.292	33.665	25.094
10	14.421	33.835	25.198
20	14.915	34.100	25.297
30	13.946	33.740	25.224
40	13.103	33.881	25.505
50	11.791	33.871	25.751
75	9.510	34.019	26.267

STATION US08468
LATITUDE 42-17.7 N
LONGITUDE 140-54.0 E
DEPTH (m) 56

Press.	Temp.	Salinity	Sigma-T
5	15.159	35.018	25.956
10	14.974	34.024	25.225
20	14.983	34.025	25.224
30	14.981	34.025	25.225
40	14.940	34.017	25.228
50	11.780	33.662	25.591

STATION US08469
LATITUDE 42-12.0 N
LONGITUDE 141-01.6 E
DEPTH (m) 78

Press.	Temp.	Salinity	Sigma-T
5	14.619	34.022	25.300
10	14.658	34.044	25.309
20	14.769	34.110	25.336
30	14.448	34.016	25.332
40	11.342	33.761	25.749
50	10.696	33.823	25.913
75	9.127	33.994	26.310

STATION US08470
LATITUDE 42-05.3 N
LONGITUDE 140-56.7 E
DEPTH (m) 83

Press.	Temp.	Salinity	Sigma-T
10	14.305	33.662	25.090
20	14.334	33.711	25.121
30	13.872	33.771	25.264
40	13.032	33.906	25.539
50	12.472	33.972	25.701
75	8.963	33.975	26.322

STATION US08471
LATITUDE 42-10.2 N
LONGITUDE 140-47.7 E
DEPTH (m) 91

Press.	Temp.	Salinity	Sigma-T
5	14.414	33.507	24.947
10	14.420	33.529	24.962
20	14.371	33.616	25.040
30	14.518	33.772	25.129
40	13.448	33.728	25.318
50	12.861	33.779	25.475
75	8.777	33.792	26.207

STATION US08472
LATITUDE 42-11.0 N
LONGITUDE 140-35.6 E
DEPTH (m) 80

Press.	Temp.	Salinity	Sigma-T
5	14.494	33.449	24.885
10	14.504	33.544	24.956
20	14.504	33.556	24.966
30	14.494	33.577	24.984
40	14.510	33.601	24.999
50	14.321	33.593	25.033
75	8.852	33.703	26.126

STATION US08473
LATITUDE 42-15.6 N
LONGITUDE 140-36.5 E
DEPTH (m) 90

Press.	Temp.	Salinity	Sigma-T
5	14.447	33.663	25.060
10	14.433	33.659	25.060
20	14.439	33.660	25.060
30	14.383	33.737	25.130
40	13.266	33.745	25.367
50	12.688	33.758	25.493
75	9.755	33.809	26.063

STATION US08474
LATITUDE 42-18.9 N
LONGITUDE 140-30.5 E
DEPTH (m) 94

Press.	Temp.	Salinity	Sigma-T
5	14.447	33.648	25.048
10	14.446	33.648	25.049
20	14.472	33.654	25.048
30	14.579	33.713	25.071
40	14.280	33.846	25.237
50	12.978	33.839	25.498
75	7.993	33.700	26.254

STATION US08475
LATITUDE 42-29.1 N
LONGITUDE 140-31.2 E
DEPTH (m) 74

Press.	Temp.	Salinity	Sigma-T
5	14.344	33.729	25.133
10	14.323	33.732	25.140
20	14.351	33.749	25.147
30	14.293	33.862	25.246
40	12.983	33.912	25.554
50	11.859	33.878	25.745

STATION US08476
LATITUDE 42-23.4 N
LONGITUDE 140-42.4 E
DEPTH (m) 62

Press.	Temp.	Salinity	Sigma-T
5	14.154	33.547	25.032
10	14.176	33.631	25.093
20	14.176	33.652	25.109
30	14.191	33.691	25.135
40	12.089	33.698	25.561
50	11.567	33.903	25.818

STATION US08477
LATITUDE 42-23.0 N
LONGITUDE 140-31.2 E
DEPTH (m) 96

Press.	Temp.	Salinity	Sigma-T
5	14.134	33.775	25.213
10	14.151	33.784	25.216
20	14.164	33.783	25.213
30	14.247	33.819	25.223
40	14.258	33.874	25.263
50	11.773	33.753	25.663
75	6.336	33.495	26.320