



HOKKAIDO UNIVERSITY

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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)

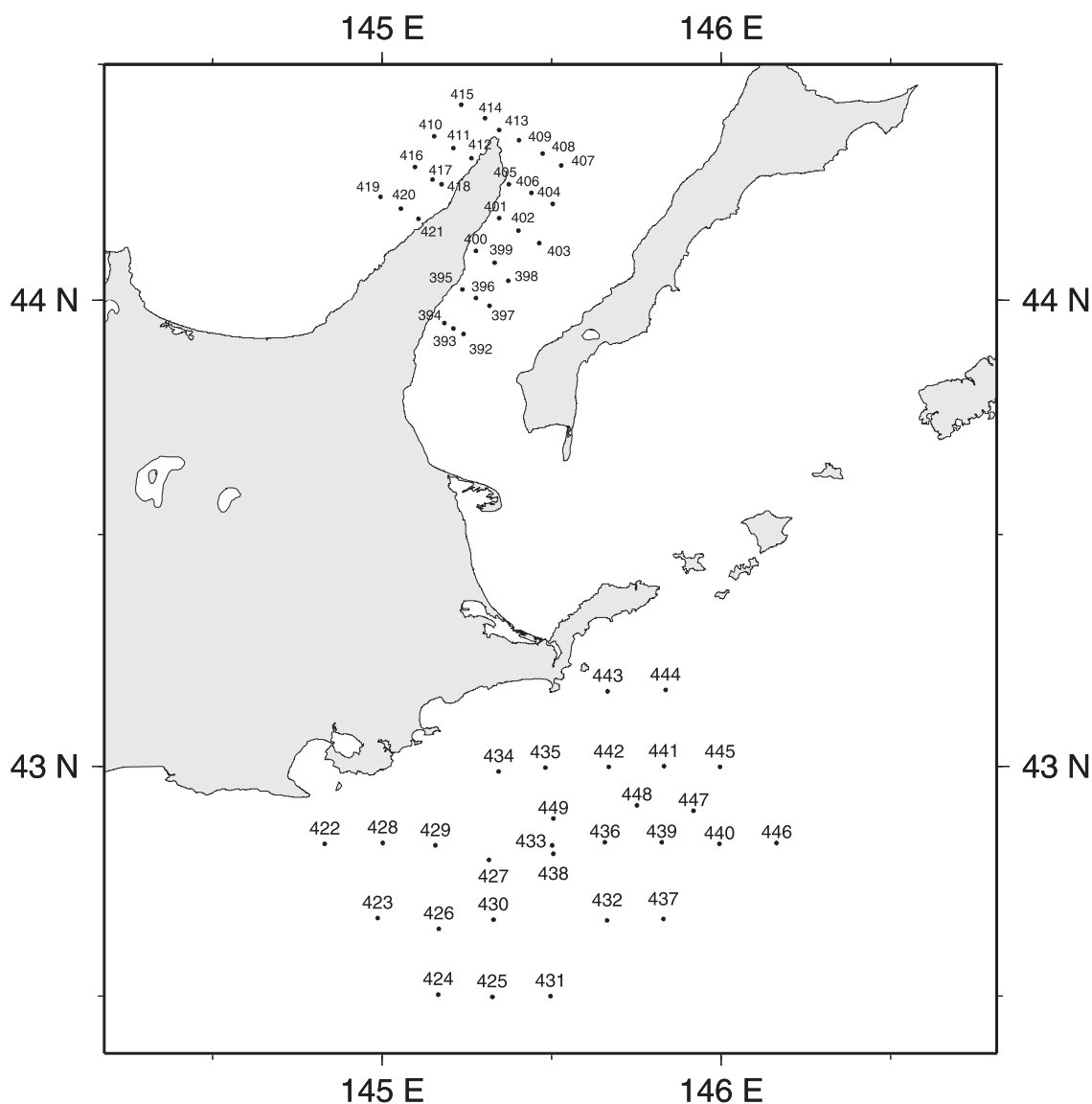


Figure 2: Oceanographic stations (Cruise 155)

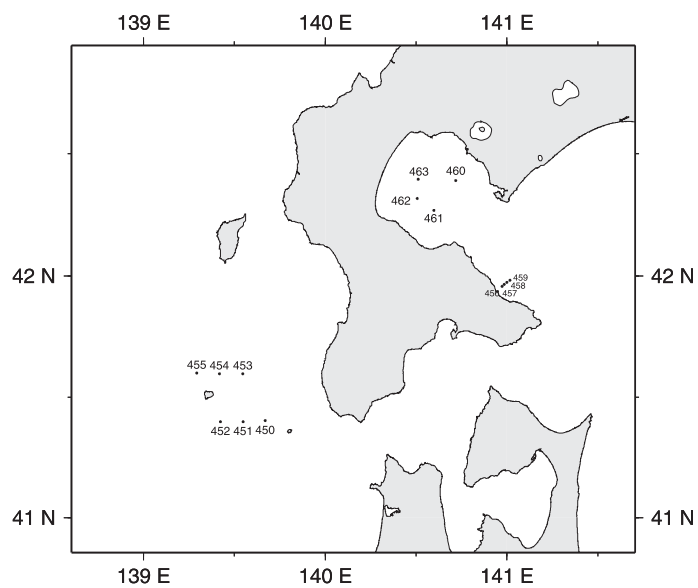


Figure 3: Oceanographic stations (Cruise 156)

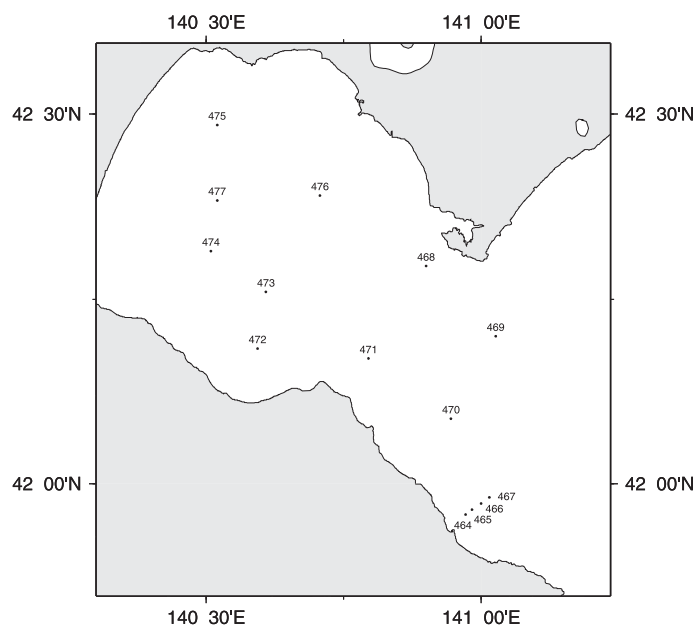


Table 1: List of oceanographic stations

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				STATION US08393 LATITUDE 43-56.4 N LONGITUDE 145-12.6 E DEPTH (m) 84				STATION US08394 LATITUDE 43-57.1 N LONGITUDE 145-11.0 E DEPTH (m) 82			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.201	33.355	24.205	5	17.134	33.229	24.124	5	17.330	33.081	23.964
10	16.972	33.481	24.355	10	16.823	33.494	24.400	10	17.070	33.559	24.392
20	16.007	33.636	24.697	20	16.658	33.618	24.534	20	16.440	33.623	24.588
30	15.790	33.661	24.765	30	15.862	33.659	24.748	30	15.598	33.680	24.823
40	13.274	33.708	25.337	40	13.324	33.724	25.340	40	14.050	33.733	25.198
50	11.898	33.729	25.622	50	12.016	33.747	25.613	50	12.056	33.736	25.597
75	8.113	33.660	26.204	75	8.275	33.672	26.190	75	9.494	33.738	26.051

STATION US08395 LATITUDE 44-01.4 N LONGITUDE 145-14.2 E DEPTH (m) 336				STATION US08396 LATITUDE 44-00.3 N LONGITUDE 145-16.6 E DEPTH (m) 382				STATION US08397 LATITUDE 43-59.3 N LONGITUDE 145-19.0 E DEPTH (m) 272			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.518	33.086	23.923	5	17.267	33.148	24.031	5	17.139	33.236	24.128
10	16.629	33.314	24.307	10	16.607	33.260	24.271	10	16.706	33.250	24.240
20	16.330	33.651	24.635	20	16.153	33.342	24.438	20	16.312	33.325	24.389
30	15.968	33.686	24.744	30	15.653	33.702	24.827	30	15.427	33.607	24.804
40	15.416	33.709	24.886	40	14.378	33.722	25.120	40	14.222	33.814	25.224
50	14.372	33.709	25.112	50	13.342	33.712	25.327	50	12.657	33.708	25.460
75	11.328	33.733	25.729	75	10.007	33.722	25.953	75	9.271	33.727	26.078
100	8.873	33.716	26.133	100	8.685	33.724	26.168	100	8.706	33.736	26.174
125	6.934	33.671	26.381	125	7.395	33.681	26.325	125	7.587	33.694	26.308
150	5.693	33.606	26.489	150	6.081	33.626	26.457	150	6.302	33.643	26.442
175	4.407	33.536	26.579	175	5.042	33.585	26.549	175	5.168	33.587	26.536
200	3.424	33.481	26.634	200	3.986	33.509	26.602	200	4.458	33.556	26.590
250	1.987	33.405	26.695	250	2.656	33.446	26.674				
300	1.537	33.422	26.741	300	2.001	33.459	26.737				

STATION US08398 LATITUDE 44-02.5 N LONGITUDE 145-22.3 E DEPTH (m) 910				STATION US08399 LATITUDE 44-04.8 N LONGITUDE 145-19.9 E DEPTH (m) 716				STATION US08400 LATITUDE 44-06.3 N LONGITUDE 145-16.6 E DEPTH (m) 376			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.199	33.525	24.336	5	17.379	33.501	24.274	5	16.970	33.471	24.348
10	17.035	33.539	24.385	10	16.948	33.677	24.511	10	16.820	33.525	24.425
20	16.236	33.631	24.641	20	16.418	33.672	24.631	20	16.395	33.695	24.654
30	14.808	33.712	25.020	30	16.125	33.721	24.735	30	15.683	33.700	24.819
40	13.346	33.740	25.348	40	14.779	33.683	25.005	40	14.853	33.717	25.015
50	12.954	33.826	25.493	50	13.042	33.714	25.388	50	14.254	33.732	25.154
75	9.184	33.720	26.086	75	9.580	33.701	26.008	75	11.222	33.726	25.744
100	6.898	33.668	26.384	100	7.307	33.651	26.314	100	8.584	33.734	26.192
125	5.053	33.561	26.529	125	5.634	33.592	26.485	125	7.190	33.693	26.363
150	3.318	33.452	26.621	150	4.495	33.536	26.570	150	4.946	33.564	26.543
175	2.654	33.432	26.663	175	3.150	33.436	26.623	175	3.842	33.500	26.609
200	2.335	33.431	26.688	200	2.364	33.421	26.679	200	2.926	33.464	26.666
250	2.057	33.453	26.728	250	1.558	33.400	26.722	250	2.036	33.450	26.727
300	1.859	33.462	26.750	300	1.878	33.484	26.766	300	1.914	33.489	26.768
400	1.413	33.517	26.826	400	1.369	33.522	26.833				
500	1.533	33.627	26.906	500	1.522	33.627	26.906				
				600	1.738	33.784	27.017				

STATION US08401 LATITUDE 44-10.5 N LONGITUDE 145-20.7 E DEPTH (m) 136				STATION US08402 LATITUDE 44-08.9 N LONGITUDE 145-24.1 E DEPTH (m) 1473				STATION US08403 LATITUDE 44-07.3 N LONGITUDE 145-27.8 E DEPTH (m) 1200			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	16.806	33.604	24.488	5	17.309	33.280	24.122	5	17.500	33.240	24.045
10	16.697	33.669	24.564	10	16.965	33.513	24.381	10	16.870	33.583	24.458
20	16.440	33.699	24.647	20	16.678	33.649	24.553	20	16.181	33.696	24.704
30	15.907	33.736	24.797	30	14.711	33.704	25.035	30	13.872	33.705	25.213
40	15.854	33.741	24.812	40	12.862	33.707	25.419	40	11.023	33.693	25.753
50	12.937	33.682	25.385	50	10.569	33.725	25.859	50	9.298	33.695	26.048
75	9.094	33.727	26.106	75	7.165	33.635	26.321	75	7.236	33.668	26.337
				100	5.810	33.602	26.471	100	5.751	33.614	26.488
				125	5.292	33.585	26.520	125	4.553	33.551	26.576
				150	4.635	33.561	26.575	150	3.345	33.463	26.627
				175	3.330	33.461	26.626	175	2.998	33.475	26.668
				200	2.375	33.419	26.676	200	2.509	33.443	26.684
				250	1.525	33.405	26.728	250	2.411	33.480	26.722
				300	1.757	33.479	26.771	300	2.136	33.501	26.761
				400	1.430	33.532	26.837	400	1.642	33.553	26.839
				500	1.568	33.625	26.902	500	1.664	33.635	26.903
				600	1.726	33.763	27.001	600	1.728	33.771	27.007
				700	2.071	33.971	27.141	700	2.054	33.960	27.134
				800	2.201	34.100	27.235	800	2.212	34.099	27.233
				900	2.215	34.175	27.293	900	2.284	34.188	27.298
				1000	2.250	34.256	27.356	1000	2.296	34.258	27.354
				1200	2.237	34.384	27.459	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				STATION US08405 LATITUDE 44-14.8 N LONGITUDE 145-22.4 E DEPTH (m) 327				STATION US08406 LATITUDE 44-13.7 N LONGITUDE 145-26.4 E DEPTH (m) 1566			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.858	33.239	23.958	5	16.843	33.675	24.535	5	17.912	33.262	23.963
10	17.155	33.313	24.183	10	16.763	33.681	24.558	10	16.969	33.434	24.320
20	14.050	33.705	25.176	20	16.563	33.694	24.614	20	15.289	33.709	24.914
30	10.922	33.723	25.795	30	15.579	33.718	24.856	30	14.257	33.749	25.166
40	9.395	33.723	26.055	40	14.432	33.764	25.141	40	12.200	33.751	25.581
50	8.293	33.667	26.184	50	11.823	33.731	25.637	50	11.028	33.734	25.785
75	6.966	33.662	26.369	75	9.221	33.717	26.078	75	7.865	33.687	26.263
100	5.028	33.544	26.518	100	7.865	33.712	26.282	100	6.908	33.708	26.414
125	4.210	33.527	26.593	125	6.103	33.647	26.471	125	5.110	33.583	26.539
150	2.892	33.445	26.653	150	4.532	33.553	26.580	150	4.425	33.542	26.582
175	2.248	33.420	26.687	175	3.605	33.497	26.629	175	3.352	33.463	26.626
200	1.963	33.413	26.703	200	3.157	33.466	26.647	200	2.798	33.452	26.667
250	1.565	33.413	26.732	250	2.346	33.450	26.703	250	2.122	33.446	26.718
300	2.188	33.510	26.763					300	1.453	33.413	26.740
400	1.713	33.557	26.837					400	1.388	33.509	26.821
500	2.320	33.712	26.915					500	1.541	33.620	26.900
600	1.769	33.777	27.010					600	1.738	33.765	27.002
700	2.061	33.972	27.143					700	2.026	33.957	27.134
800	2.214	34.088	27.224					800	2.187	34.087	27.226
900	2.278	34.187	27.298					900	2.257	34.183	27.297
1000	2.251	34.270	27.367					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				STATION US08408 LATITUDE 44-18.7 N LONGITUDE 145-28.4 E DEPTH (m) 1516				STATION US08409 LATITUDE 44-20.4 N LONGITUDE 145-24.2 E DEPTH (m) 849			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.161	33.680	24.463	5	16.981	33.712	24.531	5	16.798	33.592	24.481
10	17.145	33.683	24.470	10	16.947	33.714	24.540	10	16.745	33.591	24.493
20	16.723	33.694	24.577	20	16.422	33.756	24.694	20	16.589	33.604	24.539
30	14.471	33.764	25.133	30	15.148	33.871	25.070	30	16.032	33.693	24.735
40	13.042	33.766	25.428	40	13.767	33.755	25.274	40	14.714	33.788	25.100
50	12.443	33.796	25.569	50	13.229	33.779	25.401	50	13.281	33.744	25.364
75	10.899	33.812	25.868	75	12.279	33.889	25.673	75	11.458	33.751	25.720
100	9.488	33.747	26.059	100	10.134	33.781	25.977	100	9.131	33.732	26.104
125	6.696	33.636	26.385	125	7.221	33.654	26.328	125	6.912	33.666	26.380
150	5.322	33.607	26.534	150	5.352	33.597	26.522	150	5.245	33.642	26.571
175	3.467	33.476	26.626	175	4.222	33.549	26.609	175	4.022	33.573	26.648
200	2.888	33.472	26.676	200	3.537	33.583	26.704	200	2.478	33.452	26.694
250	2.080	33.459	26.731	250	2.777	33.524	26.726	250	2.245	33.488	26.741
300	1.950	33.478	26.756	300	2.693	33.566	26.767	300	2.140	33.519	26.774
400	1.451	33.522	26.827	400	1.832	33.570	26.839	400	1.842	33.571	26.838
500	1.596	33.629	26.903	500	1.731	33.644	26.905	500	1.657	33.658	26.922
600	1.754	33.778	27.011	600	1.768	33.774	27.007	600	1.731	33.768	27.005
700	2.088	33.985	27.151	700	2.052	33.955	27.130	700	2.034	33.940	27.120
800	2.178	34.088	27.227	800	2.183	34.094	27.232	800	2.194	34.076	27.216
900	2.273	34.187	27.299	900	2.266	34.180	27.293				
1000	2.290	34.265	27.360	1000	2.283	34.281	27.373				
1200	2.263	34.385	27.458	1200	2.256	34.393	27.465				
1500	2.173	34.463	27.528								

STATION US08410 LATITUDE 44-20.9 N LONGITUDE 145-09.2 E DEPTH (m) 1233				STATION US08411 LATITUDE 44-19.4 N LONGITUDE 145-12.6 E DEPTH (m) 734				STATION US08412 LATITUDE 44-18.1 N LONGITUDE 145-15.8 E DEPTH (m) 139			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.601	33.405	24.148	5	17.959	33.911	24.448	5	17.737	33.779	24.401
10	17.349	33.467	24.255	10	16.913	33.984	24.755	10	17.592	33.792	24.446
20	14.223	33.287	24.817	20	16.521	34.013	24.869	20	16.854	33.887	24.695
30	11.452	33.589	25.595	30	16.259	33.988	24.910	30	16.306	33.920	24.847
40	8.709	33.544	26.023	40	15.140	33.939	25.123	40	15.703	33.977	25.027
50	9.660	33.768	26.047	50	14.533	33.941	25.256	50	15.174	33.967	25.138
75	8.274	33.756	26.256	75	11.171	33.824	25.829	75	13.672	33.969	25.459
100	5.600	33.557	26.461	100	6.513	33.551	26.343				
125	4.969	33.702	26.650	125	5.675	33.729	26.589				
150	4.722	33.691	26.669	150	4.795	33.709	26.675				
175	3.375	33.561	26.702	175	2.907	33.509	26.703				
200	2.810	33.547	26.742	200	2.490	33.495	26.727				
250	2.011	33.507	26.775	250	2.120	33.490	26.753				
300	2.120	33.545	26.797	300	2.175	33.522	26.774				
400	2.282	33.654	26.871	400	2.188	33.614	26.847				
500	2.143	33.702	26.920	500	2.275	33.681	26.893				
600	1.822	33.799	27.023	600	1.883	33.815	27.031				
700	2.082	33.959	27.131								
800	2.203	34.076	27.216								

STATION US08413 LATITUDE 44-21.7 N LONGITUDE 145-20.7 E DEPTH (m) 85				STATION US08414 LATITUDE 44-23.2 N LONGITUDE 145-18.2 E DEPTH (m) 711				STATION US08415 LATITUDE 44-24.9 N LONGITUDE 145-14.0 E DEPTH (m) 1419			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.119	33.727	24.509	5	18.797	33.892	24.226	5	17.859	33.394	24.077
10	17.103	33.741	24.524	10	18.127	33.939	24.428	10	16.800	33.354	24.298
20	17.168	33.771	24.531	20	16.407	34.003	24.887	20	13.464	33.324	25.002
30	17.208	33.772	24.522	30	16.015	33.978	24.958	30	9.435	33.283	25.705
40	16.849	33.832	24.653	40	15.007	33.946	25.158	40	10.728	33.806	25.894
50	14.904	33.955	25.187	50	14.569	33.970	25.271	50	10.543	33.857	25.966
				75	11.285	33.839	25.820	75	7.406	33.582	26.246
				100	6.856	33.469	26.233	100	1.239	33.097	26.501
				125	5.369	33.527	26.465	125	0.346	33.181	26.620
				150	4.828	33.647	26.622	150	0.449	33.236	26.659
				175	4.540	33.689	26.687	175	0.423	33.257	26.678
				200	3.882	33.638	26.715	200	0.640	33.297	26.698
				250	2.481	33.520	26.748	250	0.572	33.340	26.736
				300	2.409	33.561	26.786	300	0.996	33.426	26.780
				400	2.105	33.596	26.839	400	1.401	33.536	26.842
				500	1.531	33.620	26.900	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				STATION US08417 LATITUDE 44-15.4 N LONGITUDE 145-08.9 E DEPTH (m) 575				STATION US08418 LATITUDE 44-14.8 N LONGITUDE 145-10.5 E DEPTH (m) 327			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	18.180	33.824	24.327	5	18.316	33.901	24.352	5	18.530	33.848	24.259
10	16.640	33.969	24.808	10	17.399	33.971	24.630	10	18.213	33.893	24.372
20	16.166	33.987	24.930	20	15.893	33.941	24.958	20	16.445	33.973	24.855
30	15.635	33.971	25.038	30	15.548	33.956	25.047	30	15.813	33.975	25.002
40	15.178	33.946	25.120	40	15.275	33.958	25.108	40	15.391	33.963	25.086
50	14.312	33.909	25.279	50	14.682	33.946	25.228	50	14.704	33.943	25.221
75	5.159	33.262	26.279	75	9.991	33.815	26.028	75	10.998	33.832	25.866
100	5.752	33.729	26.579	100	6.460	33.732	26.492	100	7.075	33.748	26.422
125	5.055	33.713	26.649	125	5.949	33.776	26.592	125	5.322	33.699	26.606
150	3.830	33.608	26.696	150	4.702	33.668	26.652	150	4.581	33.653	26.654
175	2.642	33.498	26.717	175	3.690	33.583	26.690	175	3.688	33.587	26.693
200	2.372	33.493	26.735	200	2.829	33.529	26.726	200	2.564	33.511	26.734
250	1.969	33.492	26.766	250	2.294	33.526	26.768	250	2.271	33.538	26.779
300	1.977	33.526	26.793	300	2.213	33.562	26.803				
400	1.715	33.552	26.833	400	1.911	33.586	26.845				
500	2.202	33.696	26.911								
600	1.956	33.792	27.007								
700	2.074	33.953	27.127								

STATION US08419 LATITUDE 44-13.2 N LONGITUDE 144-59.7 E DEPTH (m) 684				STATION US08420 LATITUDE 44-11.7 N LONGITUDE 145-03.3 E DEPTH (m) 460				STATION US08421 LATITUDE 44-10.4 N LONGITUDE 145-06.4 E DEPTH (m) 215			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	19.135	33.985	24.211	5	18.990	33.940	24.214	5	18.862	33.892	24.209
10	18.989	33.960	24.229	10	18.939	33.950	24.234	10	18.287	33.839	24.312
20	16.400	33.602	24.581	20	16.852	33.988	24.773	20	17.002	33.888	24.660
30	14.751	33.741	25.055	30	15.861	33.943	24.966	30	16.481	33.912	24.801
40	10.462	33.395	25.620	40	15.415	33.951	25.072	40	15.714	33.922	24.983
50	10.476	33.784	25.921	50	15.058	33.938	25.140	50	15.643	33.952	25.022
75	9.033	33.731	26.120	75	14.349	33.880	25.248	75	15.263	33.944	25.100
100	5.359	33.368	26.341	100	7.878	33.676	26.252	100	11.441	33.635	25.629
125	4.181	33.560	26.622	125	7.162	33.683	26.359	125	6.644	33.598	26.362
150	4.172	33.661	26.703	150	5.485	33.645	26.545				
175	2.884	33.566	26.751	175	3.993	33.575	26.653				
200	2.308	33.528	26.768	200	2.710	33.520	26.729				
250	2.649	33.603	26.801	250	2.490	33.564	26.783				
300	3.198	33.698	26.828	300	2.276	33.576	26.810				
400	1.936	33.586	26.844								
500	1.430	33.634	26.919								

STATION US08422 LATITUDE 42-49.9 N LONGITUDE 144-49.8 E DEPTH (m) 99				STATION US08423 LATITUDE 42-40.2 N LONGITUDE 144-59.2 E DEPTH (m) 655				STATION US08424 LATITUDE 42-30.2 N LONGITUDE 145-09.9 E DEPTH (m) 1947			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.928	32.774	23.585	5	10.119	33.381	25.668	5	21.003	33.091	23.041
10	15.220	33.379	24.675	10	9.606	33.370	25.745	10	20.794	33.320	23.270
20	12.857	33.433	25.207	20	7.287	33.312	26.049	20	18.094	33.234	23.896
30	11.456	33.404	25.451	30	5.775	33.298	26.235	30	7.592	32.798	25.603
40	10.662	33.414	25.600	40	3.156	33.123	26.373	40	5.182	32.984	26.057
50	9.975	33.421	25.723	50	2.610	33.182	26.467	50	3.790	33.069	26.271
75	6.345	33.338	26.196	75	3.356	33.399	26.575	75	2.432	33.169	26.472
				100	2.655	33.398	26.636	100	2.134	33.255	26.563
				125	1.984	33.358	26.658	125	2.027	33.331	26.632
				150	1.959	33.421	26.709	150	2.001	33.384	26.677
				175	2.000	33.432	26.716	175	2.065	33.448	26.723
				200	2.004	33.449	26.729	200	2.314	33.536	26.774
				250	2.007	33.471	26.746	250	2.391	33.615	26.832
				300	2.110	33.552	26.803	300	2.456	33.694	26.890
				400	2.591	33.773	26.942	400	2.970	33.897	27.007
				500	2.763	33.889	27.019	500	2.737	33.966	27.083

STATION US08425 LATITUDE 42-29.9 N LONGITUDE 145-19.5 E DEPTH (m) 2247				STATION US08426 LATITUDE 42-38.8 N LONGITUDE 145-10.0 E DEPTH (m) 1352				STATION US08427 LATITUDE 42-47.8 N LONGITUDE 145-18.9 E DEPTH (m) 605			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	21.117	33.358	23.213	5	19.804	32.612	22.992	5	19.385	32.587	23.081
10	21.046	33.332	23.213	10	19.194	32.883	23.355	10	16.978	32.639	23.708
20	20.271	33.302	23.396	20	11.317	32.746	24.962	20	9.189	32.845	25.400
30	9.656	32.747	25.249	30	5.187	32.995	26.064	30	4.780	33.033	26.140
40	5.347	32.959	26.018	40	3.955	33.071	26.256	40	3.537	33.091	26.313
50	3.449	33.049	26.287	50	3.170	33.124	26.372	50	2.852	33.143	26.415
75	2.100	33.143	26.476	75	2.144	33.213	26.529	75	2.123	33.228	26.543
100	1.753	33.247	26.586	100	1.971	33.280	26.596	100	2.067	33.299	26.604
125	1.862	33.322	26.638	125	1.928	33.340	26.647	125	2.004	33.356	26.655
150	2.033	33.391	26.680	150	1.936	33.386	26.684	150	1.963	33.394	26.688
175	2.119	33.457	26.727	175	1.807	33.409	26.711	175	1.883	33.414	26.710
200	2.234	33.520	26.768	200	1.932	33.459	26.742	200	1.925	33.440	26.728
250	2.454	33.632	26.839	250	2.026	33.525	26.788	250	1.943	33.496	26.771
300	2.977	33.758	26.896	300	2.298	33.620	26.843	300	2.147	33.555	26.802
400	2.707	33.873	27.011	400	2.698	33.799	26.953	400	2.337	33.681	26.889
500	2.765	33.977	27.089	500	2.858	33.931	27.045	500	2.737	33.829	26.973

STATION US08428 LATITUDE 42-50.0 N LONGITUDE 145-00.1 E DEPTH (m) 109				STATION US08429 LATITUDE 42-49.7 N LONGITUDE 145-09.4 E DEPTH (m) 133				STATION US08430 LATITUDE 42-40.0 N LONGITUDE 145-19.7 E DEPTH (m) 1820			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	15.551	33.325	24.559	5	14.990	33.228	24.608	5	19.189	32.601	23.141
10	13.331	33.457	25.131	10	11.848	33.289	25.289	10	19.001	32.631	23.211
20	11.820	33.452	25.421	20	10.883	33.467	25.603	20	12.168	32.823	24.867
30	10.350	33.407	25.649	30	9.171	33.475	25.897	30	5.421	32.976	26.023
40	10.188	33.447	25.707	40	6.287	33.469	26.307	40	4.245	33.113	26.260
50	8.801	33.399	25.896	50	5.900	33.387	26.291	50	3.386	33.196	26.411
75	5.361	33.351	26.326	75	5.598	33.385	26.326	75	2.350	33.237	26.533
				100	4.988	33.406	26.413	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				STATION US08432 LATITUDE 42-39.9 N LONGITUDE 145-39.8 E DEPTH (m) 2310				STATION US08433 LATITUDE 42-49.7 N LONGITUDE 145-30.1 E DEPTH (m) 1175			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	19.298	32.573	23.092	5	18.835	32.483	23.140	5	15.637	33.193	24.439
10	18.606	32.557	23.254	10	14.884	32.589	24.138	10	12.354	33.116	25.059
20	14.700	32.688	24.254	20	8.038	32.869	25.595	20	8.484	33.244	25.822
30	8.374	32.987	25.638	30	5.606	33.007	26.026	30	5.886	33.244	26.179
40	4.504	33.016	26.156	40	4.245	33.056	26.215	40	4.092	33.165	26.317
50	3.423	33.092	26.324	50	2.956	33.116	26.385	50	2.968	33.187	26.441
75	2.100	33.213	26.533	75	2.132	33.225	26.539	75	2.220	33.257	26.558
100	1.966	33.325	26.632	100	2.035	33.296	26.604	100	2.115	33.311	26.610
125	1.799	33.357	26.671	125	1.870	33.339	26.651	125	1.957	33.332	26.639
150	1.787	33.404	26.709	150	1.879	33.393	26.693	150	1.849	33.372	26.679
175	1.985	33.475	26.751	175	2.072	33.480	26.748	175	1.960	33.407	26.698
200	2.057	33.518	26.780	200	2.239	33.544	26.787	200	1.884	33.435	26.727
250	2.200	33.605	26.838	250	2.264	33.625	26.850	250	1.981	33.498	26.770
300	2.427	33.707	26.902	300	2.536	33.719	26.903	300	2.079	33.553	26.806
400	2.768	33.875	27.007	400	2.739	33.843	26.984	400	2.525	33.722	26.906
500	3.329	34.055	27.101								

STATION US08434 LATITUDE 42-59.3 N LONGITUDE 145-20.6 E DEPTH (m) 70				STATION US08435 LATITUDE 42-59.8 N LONGITUDE 145-28.9 E DEPTH (m) 87				STATION US08436 LATITUDE 42-50.1 N LONGITUDE 145-39.4 E DEPTH (m) 1586			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	15.697	33.311	24.517	5	16.600	33.191	24.220	5	18.866	32.639	23.251
10	13.966	33.408	24.964	10	15.774	33.264	24.463	10	16.139	32.655	23.912
20	11.867	33.449	25.410	20	12.380	33.410	25.282	20	8.446	32.932	25.584
30	10.691	33.424	25.603	30	11.670	33.451	25.448	30	4.867	33.046	26.141
40	10.147	33.433	25.703	40	9.440	33.354	25.759	40	3.598	33.129	26.337
50	9.586	33.416	25.784	50	7.895	33.377	26.015	50	2.901	33.189	26.448
				75	6.592	33.384	26.201	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				STATION US08438 LATITUDE 42-48.6 N LONGITUDE 145-30.3 E DEPTH (m) 415				STATION US08439 LATITUDE 42-50.1 N LONGITUDE 145-49.5 E DEPTH (m) 2071			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	20.494	32.935	23.058	5	17.055	33.040	23.997	5	19.161	32.481	23.057
10	19.384	33.459	23.746	10	16.363	33.199	24.280	10	13.990	32.498	24.256
20	8.664	32.843	25.481	20	9.713	33.060	25.484	20	6.073	32.951	25.925
30	5.600	33.008	26.027	30	4.916	33.046	26.136	30	4.446	33.061	26.198
40	4.398	33.120	26.250	40	4.601	33.827	26.789	40	3.303	33.139	26.373
50	3.771	33.156	26.342	50	3.157	33.931	27.017	50	3.076	33.200	26.441
75	2.620	33.219	26.496	75	2.151	33.311	26.607	75	2.402	33.275	26.559
100	2.216	33.341	26.626	100	2.346	33.370	26.639	100	2.184	33.325	26.616
125	2.098	33.392	26.676	125	1.985	33.354	26.654	125	1.882	33.367	26.672
150	2.125	33.452	26.722	150	1.919	33.378	26.678	150	1.828	33.392	26.696
175	2.060	33.485	26.754	175	1.827	33.400	26.703	175	1.824	33.423	26.721
200	2.040	33.518	26.781	200	1.956	33.445	26.729	200	1.880	33.459	26.746
250	2.263	33.609	26.837	250	1.982	33.514	26.783	250	2.018	33.532	26.795
300	2.679	33.740	26.908	300	2.196	33.603	26.838	300	2.245	33.621	26.848
400	2.799	33.883	27.011	400	2.607	33.767	26.935	400	2.583	33.803	26.966
500	3.026	34.014	27.095	500	2.890	33.898	27.015	500	2.721	33.937	27.061

STATION US08440 LATITUDE 42-49.9 N LONGITUDE 145-59.7 E DEPTH (m) 2268				STATION US08441 LATITUDE 43-00.0 N LONGITUDE 145-49.9 E DEPTH (m) 710				STATION US08442 LATITUDE 42-59.9 N LONGITUDE 145-40.1 E DEPTH (m) 116			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	19.277	32.467	23.016	5	16.979	32.627	23.699	5	15.346	33.023	24.372
10	14.593	32.546	24.167	10	15.019	32.849	24.310	10	13.573	33.182	24.870
20	8.176	32.903	25.601	20	8.681	33.018	25.615	20	9.371	33.182	25.636
30	5.863	33.051	26.029	30	5.874	33.101	26.068	30	5.904	33.250	26.182
40	4.608	33.277	26.352	40	3.768	33.313	26.467	40	5.583	33.540	26.450
50	3.255	33.182	26.411	50	2.865	33.260	26.508	50	4.774	33.395	26.428
75	2.167	33.363	26.648	75	2.139	33.248	26.557	75	3.873	33.356	26.491
100	2.028	33.322	26.625	100	2.158	33.328	26.620	100	3.623	33.354	26.514
125	2.055	33.382	26.672	125	1.991	33.372	26.668				
150	2.047	33.426	26.707	150	1.832	33.378	26.685				
175	2.018	33.463	26.739	175	1.834	33.408	26.708				
200	1.979	33.494	26.767	200	1.871	33.441	26.733				
250	2.228	33.585	26.820	250	1.954	33.481	26.758				
300	2.377	33.663	26.870	300	2.055	33.538	26.797				
400	2.677	33.829	26.979	400	2.473	33.697	26.890				
500	2.737	33.951	27.071	500	2.635	33.816	26.972				

STATION US08443 LATITUDE 43-09.7 N LONGITUDE 145-39.9 E DEPTH (m) 55				STATION US08444 LATITUDE 43-09.9 N LONGITUDE 145-50.2 E DEPTH (m) 89				STATION US08445 LATITUDE 42-59.9 N LONGITUDE 145-59.8 E DEPTH (m) 1661			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	14.812	33.330	24.726	5	14.643	32.750	24.315	5	18.295	32.205	23.061
10	13.539	33.414	25.056	10	12.739	33.407	25.211	10	18.152	32.219	23.107
20	11.660	33.438	25.439	20	10.259	33.408	25.665	20	9.221	32.831	25.385
30	11.006	33.443	25.562	30	9.253	33.416	25.838	30	5.715	32.985	25.995
40	10.474	33.444	25.656	40	8.852	33.427	25.910	40	3.593	33.070	26.291
				50	7.900	33.346	25.989	50	2.336	33.124	26.443
				75	6.285	33.339	26.204	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				STATION US08447 LATITUDE 42-54.2 N LONGITUDE 145-55.1 E DEPTH (m) 1895				STATION US08448 LATITUDE 42-54.9 N LONGITUDE 145-45.1 E DEPTH (m) 993			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	20.178	32.781	23.023	5	18.465	32.185	23.004	5	16.857	32.340	23.507
10	20.173	32.840	23.070	10	17.907	32.239	23.182	10	11.096	32.630	24.911
20	10.791	32.920	25.191	20	8.322	32.813	25.510	20	5.636	32.977	25.999
30	5.590	32.978	26.004	30	6.167	32.976	25.933	30	3.936	33.077	26.263
40	3.931	33.072	26.260	40	4.299	33.078	26.227	40	3.023	33.136	26.395
50	3.428	33.170	26.386	50	3.235	33.138	26.378	50	2.623	33.225	26.500
75	2.132	33.197	26.517	75	1.885	33.186	26.527	75	2.365	33.309	26.589
100	2.023	33.295	26.604	100	1.827	33.284	26.610	100	2.386	33.376	26.641
125	2.153	33.378	26.661	125	2.000	33.363	26.660	125	1.958	33.401	26.694
150	2.128	33.440	26.712	150	2.054	33.414	26.697	150	1.668	33.387	26.704
175	2.189	33.503	26.758	175	2.390	33.512	26.749	175	1.660	33.409	26.722
200	2.284	33.557	26.794	200	2.378	33.568	26.794	200	1.908	33.469	26.752
250	2.289	33.633	26.854	250	2.492	33.648	26.849	250	2.059	33.536	26.795
300	2.831	33.779	26.925	300	2.348	33.689	26.894	300	2.239	33.613	26.842
400	2.961	33.922	27.028	400	2.855	33.857	26.986	400	2.662	33.787	26.946
500	3.486	34.099	27.120	500	3.005	33.983	27.073	500	2.912	33.919	27.030

STATION US08449 LATITUDE 42-53.2 N LONGITUDE 145-30.3 E DEPTH (m) 381				STATION US08450 LATITUDE 41-24.2 N LONGITUDE 139-40.2 E DEPTH (m) 806				STATION US08451 LATITUDE 41-23.9 N LONGITUDE 139-32.9 E DEPTH (m) 1525			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	15.665	32.555	23.943	5	24.773	33.540	22.307	5	24.433	33.609	22.461
10	12.855	32.867	24.769	10	24.612	33.625	22.419	10	24.073	33.718	22.649
20	6.648	33.077	25.951	20	21.328	34.196	23.792	20	23.130	34.051	23.177
30	4.404	33.119	26.248	30	18.507	34.367	24.662	30	18.854	34.352	24.563
40	4.373	33.277	26.377	40	17.012	34.432	25.076	40	16.988	34.438	25.086
50	3.983	33.339	26.467	50	16.094	34.479	25.325	50	15.835	34.503	25.403
75	3.286	33.366	26.555	75	14.112	34.458	25.745	75	13.086	34.411	25.919
100	2.342	33.385	26.651	100	12.061	34.369	26.087	100	11.252	34.315	26.196
125	2.047	33.405	26.691	125	10.731	34.283	26.265	125	10.432	34.269	26.307
150	2.026	33.411	26.697	150	9.754	34.261	26.416	150	9.635	34.240	26.420
175	2.013	33.409	26.696	175	7.821	34.172	26.650	175	8.527	34.200	26.566
200	1.969	33.435	26.720								
250	1.942	33.470	26.750								
300	2.022	33.526	26.789								

STATION US08452 LATITUDE 41-23.9 N LONGITUDE 139-25.4 E DEPTH (m) 2298				STATION US08453 LATITUDE 41-35.8 N LONGITUDE 139-32.8 E DEPTH (m) 1100				STATION US08454 LATITUDE 41-35.8 N LONGITUDE 139-25.1 E DEPTH (m) 1750			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	24.431	33.600	22.454	5	24.145	33.683	22.602	5	24.446	33.565	22.423
10	24.407	33.603	22.463	10	24.126	33.682	22.607	10	24.399	33.571	22.442
20	23.924	34.054	22.948	20	23.921	33.956	22.875	20	22.508	33.872	23.218
30	21.242	33.951	23.629	30	18.552	34.354	24.640	30	17.584	34.346	24.873
40	17.102	34.342	24.985	40	16.521	34.438	25.195	40	16.223	34.457	25.279
50	15.539	34.444	25.424	50	15.445	34.476	25.469	50	15.415	34.481	25.480
75	13.489	34.432	25.854	75	12.777	34.410	25.980	75	12.377	34.378	26.034
100	11.398	34.318	26.172	100	10.497	34.272	26.298	100	10.898	34.299	26.248
125	9.871	34.225	26.368	125	9.447	34.218	26.434	125	9.344	34.223	26.454
150	8.118	34.174	26.608	150	7.332	34.144	26.699	150	7.370	34.150	26.698
175	6.057	34.106	26.839	175	5.198	34.068	26.914	175	4.425	34.063	26.996
				200	3.555	34.059	27.082	200	3.219	34.052	27.108

STATION US08455 LATITUDE 41-36.0 N LONGITUDE 139-17.6 E DEPTH (m) 1602				STATION US08456 LATITUDE 41-57.4 N LONGITUDE 140-58.4 E DEPTH (m) 80				STATION US08457 LATITUDE 41-57.9 N LONGITUDE 140-59.1 E DEPTH (m) 84			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	24.104	33.670	22.604	5	20.302	33.373	23.442	5	20.329	33.356	23.422
10	24.047	33.699	22.643	10	20.154	33.308	23.431	10	20.227	33.346	23.441
20	23.617	34.032	23.021	20	17.288	33.379	24.203	20	17.756	33.546	24.218
30	17.630	34.351	24.865	30	15.695	33.491	24.656	30	14.169	33.283	24.825
40	16.066	34.454	25.313	40	13.051	33.330	25.089	40	11.213	33.378	25.474
50	14.776	34.471	25.613	50	9.743	33.127	25.532	50	9.292	33.439	25.850
75	11.967	34.353	26.092	75	9.290	33.830	26.156	75	9.635	33.896	26.151
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 US08458 LATITUDE 41-58.4 N LONGITUDE 141-00.0 E DEPTH (m) 88				STATION US08459 LATITUDE 41-58.9 N LONGITUDE 141-01.0 E DEPTH (m) 95				STATION US08460 LATITUDE 42-23.4 N LONGITUDE 140-43.1 E DEPTH (m) 58			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	20.307	33.321	23.401	5	20.305	33.388	23.453	5	20.337	32.374	22.673
10	20.285	33.328	23.412	10	20.283	33.384	23.456	10	20.339	32.378	22.675
20	18.662	33.604	24.039	20	19.152	33.683	23.976	20	18.610	33.103	23.669
30	13.968	33.374	24.938	30	14.493	33.326	24.790	30	15.930	33.272	24.434
40	13.793	33.985	25.445	40	13.234	33.993	25.566	40	12.325	33.389	25.276
50	11.813	33.972	25.826	50	12.052	33.997	25.801	50	9.993	33.578	25.843
75	10.303	34.017	26.133	75	10.082	33.958	26.124				

STATION US08461 LATITUDE 42-16.1 N LONGITUDE 140-35.9 E DEPTH (m) 91				STATION US08462 LATITUDE 42-19.0 N LONGITUDE 140-30.4 E DEPTH (m) 93				STATION US08463 LATITUDE 42-23.7 N LONGITUDE 140-30.7 E DEPTH (m) 95			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	20.387	32.347	22.638	5	20.115	32.431	22.773	5	20.158	32.498	22.813
10	20.396	32.363	22.648	10	20.134	32.452	22.784	10	20.147	32.507	22.823
20	18.089	33.033	23.744	20	17.919	33.104	23.840	20	17.631	33.011	23.838
30	16.484	33.206	24.258	30	16.974	33.727	24.543	30	16.046	33.421	24.523
40	13.383	33.366	25.051	40	12.052	33.171	25.159	40	12.209	33.048	25.034
50	10.072	33.476	25.750	50	8.353	33.296	25.883	50	8.853	33.326	25.830
75	5.437	33.377	26.338	75	6.099	33.426	26.297	75	5.524	33.398	26.344

STATION US08464 LATITUDE 41-57.5 N LONGITUDE 140-58.3 E DEPTH (m) 80				STATION US08465 LATITUDE 41-57.9 N LONGITUDE 140-59.0 E DEPTH (m) 85				STATION US08466 LATITUDE 41-58.4 N LONGITUDE 141-00.0 E DEPTH (m) 89			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	14.451	33.449	24.894	5	14.416	33.482	24.927	5	14.247	33.521	24.993
10	14.353	33.439	24.907	10	14.396	33.482	24.931	10	14.201	33.524	25.005
20	14.238	33.444	24.935	20	14.088	33.527	25.030	20	14.389	33.786	25.167
30	14.186	33.478	24.973	30	14.222	33.680	25.120	30	14.941	34.054	25.256
40	14.157	33.615	25.084	40	14.262	33.834	25.231	40	13.512	33.794	25.355
50	14.041	33.803	25.253	50	12.882	33.792	25.481	50	11.815	33.780	25.676
75	8.267	33.933	26.396	75	7.934	33.913	26.430	75	7.990	33.894	26.406

STATION US08467 LATITUDE 41-58.9 N LONGITUDE 141-00.9 E DEPTH (m) 96				STATION US08468 LATITUDE 42-17.7 N LONGITUDE 140-54.0 E DEPTH (m) 56				STATION US08469 LATITUDE 42-12.0 N LONGITUDE 141-01.6 E DEPTH (m) 78			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	14.292	33.665	25.094	5	15.159	35.018	25.956	5	14.619	34.022	25.300
10	14.421	33.835	25.198	10	14.974	34.024	25.225	10	14.658	34.044	25.309
20	14.915	34.100	25.297	20	14.983	34.025	25.224	20	14.769	34.110	25.336
30	13.946	33.740	25.224	30	14.981	34.025	25.225	30	14.448	34.016	25.332
40	13.103	33.881	25.505	40	14.940	34.017	25.228	40	11.342	33.761	25.749
50	11.791	33.871	25.751	50	11.780	33.662	25.591	50	10.696	33.823	25.913
75	9.510	34.019	26.267					75	9.127	33.994	26.310

STATION US08470 LATITUDE 42-05.3 N LONGITUDE 140-56.7 E DEPTH (m) 83				STATION US08471 LATITUDE 42-10.2 N LONGITUDE 140-47.7 E DEPTH (m) 91				STATION US08472 LATITUDE 42-11.0 N LONGITUDE 140-35.6 E DEPTH (m) 80			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
10	14.305	33.662	25.090	5	14.414	33.507	24.947	5	14.494	33.449	24.885
20	14.334	33.711	25.121	10	14.420	33.529	24.962	10	14.504	33.544	24.956
30	13.872	33.771	25.264	20	14.371	33.616	25.040	20	14.504	33.556	24.966
40	13.032	33.906	25.539	30	14.518	33.772	25.129	30	14.494	33.577	24.984
50	12.472	33.972	25.701	40	13.448	33.728	25.318	40	14.510	33.601	24.999
75	8.963	33.975	26.322	50	12.861	33.779	25.475	50	14.321	33.593	25.033
				75	8.777	33.792	26.207	75	8.852	33.703	26.126

STATION US08473 LATITUDE 42-15.6 N LONGITUDE 140-36.5 E DEPTH (m) 90				STATION US08474 LATITUDE 42-18.9 N LONGITUDE 140-30.5 E DEPTH (m) 94				STATION US08475 LATITUDE 42-29.1 N LONGITUDE 140-31.2 E DEPTH (m) 74			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	14.447	33.663	25.060	5	14.447	33.648	25.048	5	14.344	33.729	25.133
10	14.433	33.659	25.060	10	14.446	33.648	25.049	10	14.323	33.732	25.140
20	14.439	33.660	25.060	20	14.472	33.654	25.048	20	14.351	33.749	25.147
30	14.383	33.737	25.130	30	14.579	33.713	25.071	30	14.293	33.862	25.246
40	13.266	33.745	25.367	40	14.280	33.846	25.237	40	12.983	33.912	25.554
50	12.688	33.758	25.493	50	12.978	33.839	25.498	50	11.859	33.878	25.745
75	9.755	33.809	26.063	75	7.993	33.700	26.254				

STATION US08476 LATITUDE 42-23.4 N LONGITUDE 140-42.4 E DEPTH (m) 62				STATION US08477 LATITUDE 42-23.0 N LONGITUDE 140-31.2 E DEPTH (m) 96							
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T				
5	14.154	33.547	25.032	5	14.134	33.775	25.213				
10	14.176	33.631	25.093	10	14.151	33.784	25.216				
20	14.176	33.652	25.109	20	14.164	33.783	25.213				
30	14.191	33.691	25.135	30	14.247	33.819	25.223				
40	12.089	33.698	25.561	40	14.258	33.874	25.263				
50	11.567	33.903	25.818	50	11.773	33.753	25.663				
				75	6.336	33.495	26.320				