



HOKKAIDO UNIVERSITY

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THE “USHIO MARU”

CRUISE 176

CRUISE 177

CRUISE 178

IN AUGUST-SEPTEMBER 2009

1. Cruise Itinerary

Cruise 176

Departure from Hakodate	Aug.	29	, 2009
Start hydrographic research (US09344) and trawl net research		29	
Arrival at Wakinosawa		29	
Departure from Wakinosawa		30	
Finish hydrographic research (US09356) and trawl net research		30	
Return to Hakodate		31	
Total coverage 173.1 miles			

Cruise 177

Departure from Hakodate	Sep.	5	, 2009
Arrival at Rausu		6	
Departure from Rausu		8	
Start hydrographic research (US09358)		8	
Arrival at Rausu		8	
Departure from Rausu		9	
Arrival at Rausu		10	
Departure from Rausu		11	
Arrival at and departure from Rausu		11	
Arrival at Kushiro		12	
Departure from Kushiro		14	
Finish hydrographic research (US09407)		17	
Return to Hakodate		18	
Total coverage 1468.3 miles			

Cruise 178

Departure from Hakodate	Sep.	24	, 2009
Hydrographic research (US09408-US09410)		24	
Practical training in tuna long line		25	
Return to Hakodate		27	
Total coverage 303.0 miles			

2. Vessel Personnel

Captain:		Professor	Toshimi Meguro
Crew :	Chief Officer	Assistant Professor	Osamu Kimura
	Second Officer	Assistant Professor	Naoto Kobayashi
	And 13 men		

Cruise 176

Research Staff:	Associate Professor	(Laboratory of Marine Bioresource Science)	
			Tetsuya Takatsu
Graduate Students:	Chair of Marine Bioresource Science:		6 persons

Cruise 177

Research Staff:	Assistant Professor	(Field Science Center for Northern Biosphere)	
			Yoko Mitani
Guest Scientist (Domestic):	Professor	(Tokyo University of Agriculture)	
			Akihiro Shiimoto
Graduate Students:	Chair of Marine Bioresource and environment Sensing:		4 persons
	Chair of Marine Bioresource Science:		1 person
	Graduate School of Environmental Science:		2 persons
Under Graduate Students:	Department of Marine Biology:		3 persons
	Department of Applied Marine Science:		2 persons
	Department of Marine Biology (Third grade):		1 person
	Department of Applied Marine Science (Third grade):		1 person

Cruise 178

Research Staff:	Associate Professor	(Laboratory of Marine Bioresource and Environment Sensing)	
			Susumu Shimizu
Graduate Students:	Chair of Marine Bioresource and Environment Sensing:		2 persons
Under Graduate Students:	Department of Applied Marine Science:		1 person
	Department of Applied Marine Science (Third grade):		6 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”.

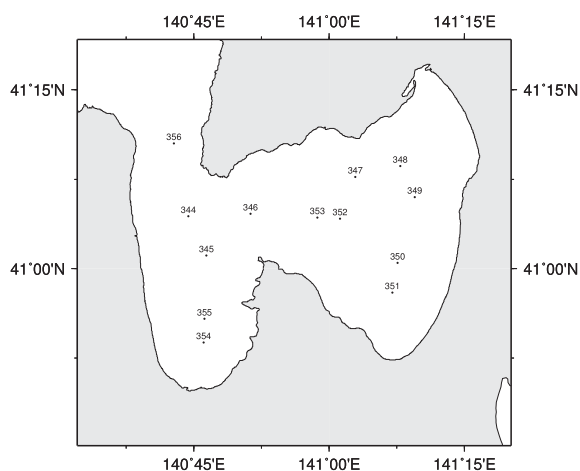


Figure 1: Oceanographic stations (Cruise 176)

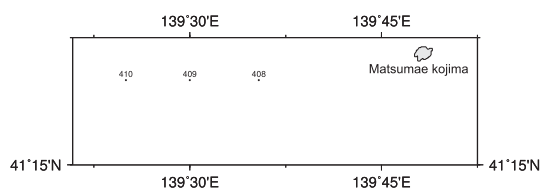


Figure 2: Oceanographic stations (Cruise 178)

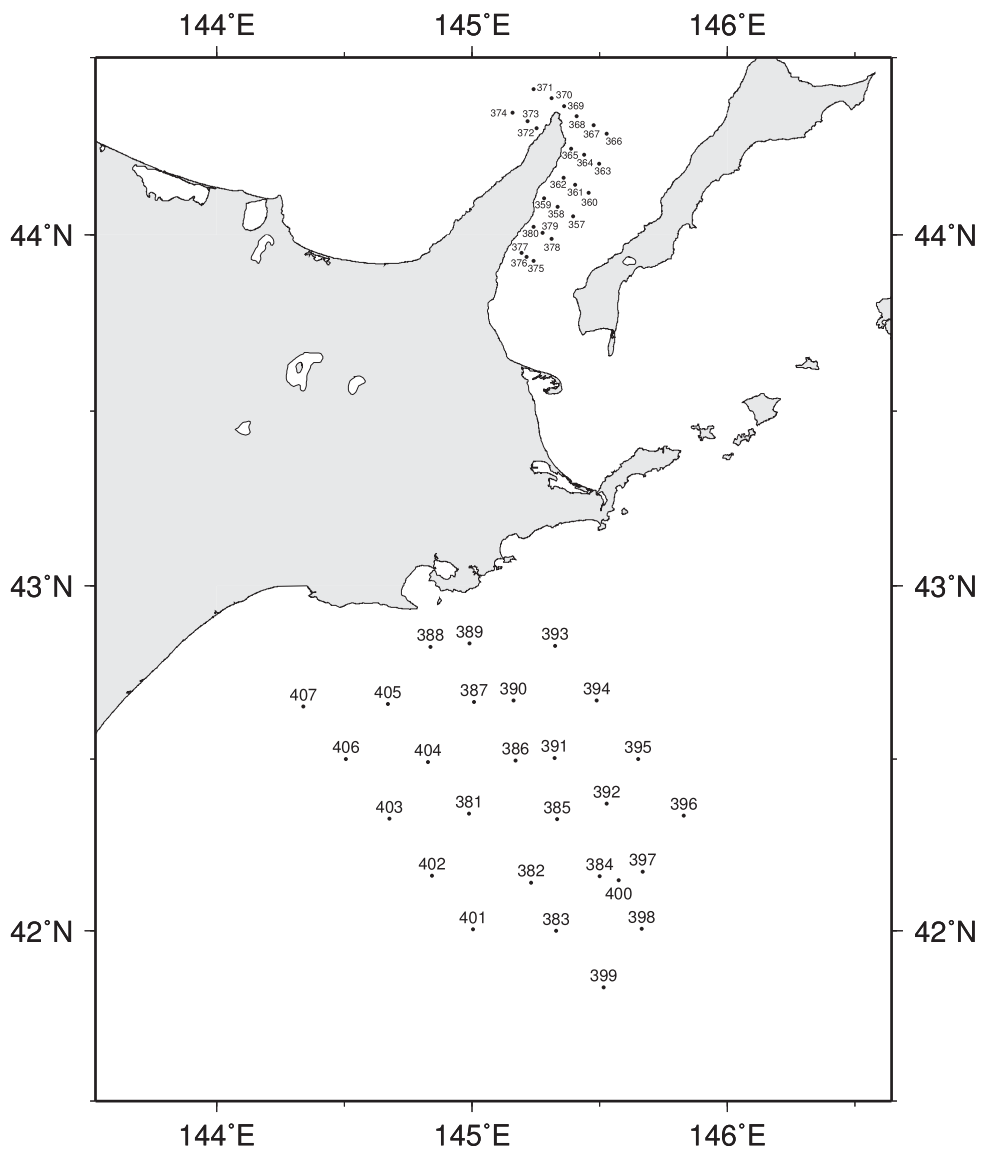


Figure 3: Oceanographic stations (Cruise 177)

Table 1: List of oceanographic stations

Cruise 176

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US09344	41-04.4	140-44.4	8/29	1316-1321	58	West-3	West-1	West-5	21.3	20.8	bc	1011.0
US09345	41-01.1	140-46.4	8/29	1418-1423	52	West-3	West-1	West-5	21.2	21.5	bc	1011.2
US09346	41-04.6	140-51.3	8/29	1550-1554	53	West-3	West-1	West-5	20.9	21.7	bc	1011.6
US09347	41-07.7	141-02.9	8/30	0652-0654	38	NW -1	West-1	NW -3	18.2	21.6	c	1019.0
US09348	41-08.6	141-07.9	8/30	0753-0757	37	West-1	West-1	West-2	19.6	21.5	c	1019.0
US09349	41-06.0	141-09.5	8/30	0831-0834	39	West-1	West-1	West-2	19.1	21.6	c	1019.2
US09350	41-00.5	141-07.6	8/30	0945-0948	42	Calm	West-1	Calm	21.2	21.8	c	1019.6
US09351	40-58.0	141-07.0	8/30	1019-1022	39	Calm	West-1	Calm	20.0	21.7	c	1019.7
US09352	41-04.2	141-01.2	8/30	1207-1210	48	Calm	West-1	Calm	22.2	21.9	c	1019.6
US09353	41-04.3	140-58.7	8/30	1247-1251	49	Calm	West-1	Calm	23.3	22.1	c	1019.6
US09354	40-53.8	140-46.1	8/30	1443-1446	37	NE -2	NE -1	NE -4	22.3	21.4	c	1019.0
US09355	40-55.8	140-46.2	8/30	1512-1514	44	NE -3	NE -1	NE -5	21.3	21.4	c	1018.6
US09356	41-10.5	140-42.8	8/30	1700-1703	66	East-1	East-1	East-3	20.2	22.2	c	1019.1

Cruise 177

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US09357	44-03.2	145-23.7	9/8	1117-1135	509	NW -2	ENE-1	NW -4	15.9	17.0	r	1000.0
US09358	44-04.8	145-20.1	9/8	1204-1222	813	NW -1	ENE-1	NW -3	15.7	16.9	r	999.5
US09359	44-06.2	145-16.9	9/8	1249-1303	475	NNW-1	ENE-1	NNW-2	15.9	16.4	r	999.0
US09360	44-07.2	145-27.4	9/8	1356-1413	1100	NW -3	ENE-1	NW -5	17.8	16.8	bc	997.5
US09361	44-08.5	145-24.2	9/8	1442-1500	1487	NW -4	NW -1	NW -6	17.2	16.9	bc	997.8
US09362	44-09.7	145-21.5	9/8	1518-1534	616	North-1	NW -1	North-4	18.1	16.7	bc	997.6
US09363	44-12.1	145-29.9	9/9	0803-0820	2026	West-2	NW -1	West-4	18.2	16.5	bc	998.4
US09364	44-13.6	145-26.3	9/9	0848-0905	1554	WNW-2	NW -1	WNW-4	18.2	16.7	bc	998.5
US09365	44-14.6	145-23.3	9/9	0930-0947	706	Calm	SSE-1	Calm	18.3	16.9	bc	998.3
US09366	44-17.2	145-31.7	9/9	1040-1057	2031	NW -1	NW -1	NW -2	19.5	16.8	bc	998.1
US09367	44-18.6	145-28.6	9/9	1123-1139	1496	West-3	NW -1	West-5	18.4	16.8	bc	997.7
US09368	44-20.1	145-24.6	9/9	1207-1225	821	West-4	NW -1	West-4	17.2	16.9	bc	997.7
US09369	44-21.8	145-21.6	9/9	1253-1256	89	WSW-2	NW -1	WSW-5	18.1	16.8	bc	997.4
US09370	44-23.2	145-18.7	9/9	1319-1332	603	West-2	NW -1	West-4	17.6	17.8	bc	996.7
US09371	44-24.7	145-14.4	9/9	1406-1424	1400	WSW-1	West-1	WSW-3	17.6	17.0	bc	996.7
US09372	44-18.1	145-15.2	9/9	1526-1531	160	SW -1	NW -1	SW -3	18.8	18.4	bc	996.1
US09373	44-19.3	145-13.0	9/9	1552-1609	701	SSW-1	NW -1	SSW-3	19.4	18.4	bc	996.0
US09374	44-20.7	145-09.5	9/9	1647-1704	1116	WSW-1	NW -1	WSW-2	18.3	18.0	bc	995.6
US09375	43-55.6	145-14.5	9/11	0732-0736	80	WSW-2	NE -1	WSW-4	16.1	16.8	c	1004.0
US09376	43-56.3	145-12.8	9/11	0750-0754	84	West-2	NE -1	West-4	16.1	16.7	bc	1004.1
US09377	43-57.0	145-11.6	9/11	0805-0809	82	SW -1	NE -1	SW -3	16.1	16.7	bc	1004.2
US09378	43-59.4	145-18.7	9/11	0847-0856	255	SW -1	NE -1	SW -3	18.1	16.8	bc	1004.2
US09379	44-00.4	145-16.6	9/11	0915-0929	400	West-1	NE -1	West-3	17.4	16.8	bc	1004.5
US09380	44-01.4	145-14.5	9/11	0946-1000	410	SW -2	NW -1	SW -5	17.8	16.9	bc	1004.4
US09381	42-20.5	144-59.3	9/14	1511-1532	2762	SW -1	SSE-2	SW -3	18.1	17.5	bc	1013.4
US09382	42-08.4	145-13.9	9/14	1826-1850	3323	SSW-1	SSE-2	SSW-2	16.3	14.9	bc	1014.3
US09383	42-00.0	145-19.8	9/15	0308-0333	3888	South-1	SSE-1	South-2	17.2	16.3	bc	1013.7
US09384	42-09.5	145-30.0	9/15	0453-0519	3824	SSE-1	SSE-1	SSE-2	15.4	14.6	bc	1014.1
US09385	42-19.5	145-20.0	9/15	0638-0700	3047	SSE-1	SSE-1	SSE-3	16.1	14.7	c	1014.1
US09386	42-29.7	145-10.2	9/15	0813-0845	1972	SSE-1	SSE-1	SSE-3	17.2	14.8	c	1014.7
US09387	42-39.9	145-00.4	9/15	0954-1019	740	SSE-1	SE -1	SSE-4	17.8	16.3	o	1014.0
US09388	42-49.4	144-50.2	9/15	1127-1135	103	SSW-2	South-1	SSW-3	17.2	15.2	f	1013.6
US09389	42-50.0	144-59.4	9/15	1234-1245	104	South-2	South-1	South-4	16.6	14.9	o	1013.2
US09390	42-40.1	145-09.8	9/15	1408-1432	1292	SE -1	SSE-1	SE -2	16.8	16.0	c	1012.2
US09391	42-30.1	145-19.4	9/15	1546-1610	2239	SE -1	SSE-1	SE -2	16.6	14.9	c	1012.1
US09392	42-22.2	145-31.7	9/15	1820-1843	3229	SE -1	SSE-1	SE -3	16.2	14.7	c	1012.4
US09393	42-49.6	145-19.5	9/15	0459-0516	408	SSE-2	SSE-1	SSE-4	15.5	14.6	c	1010.1
US09394	42-40.1	145-29.3	9/16	0635-0654	2041	SSE-3	SSE-1	SSE-5	14.7	12.4	c	1010.4
US09395	42-30.0	145-39.1	9/16	0805-0826	2350	SE -1	SE -1	SE -3	15.7	14.2	o	1010.8
US09396	42-20.1	145-49.8	9/16	0935-0957	3158	East-1	SE -1	East-3	14.6	14.6	c	1011.0
US09397	42-10.3	145-40.1	9/16	1111-1140	4250	ESE-1	SE -1	ESE-3	17.1	15.0	c	1010.6
US09398	42-00.3	145-39.9	9/16	1243-1305	5028	South-1	SE -1	South-3	19.2	17.8	c	1009.4
US09399	41-50.0	145-30.9	9/16	1424-1445	5287	SSW-1	SE -1	SSW-2	19.2	18.0	c	1008.6
US09400	42-08.8	145-34.5	9/16	1819-1840	4377	West-1	SE -1	West-2	15.6	14.3	c	1009.3
US09401	42-00.2	145-00.2	9/17	0053-0114	3040	WSW-2	SSE-1	WSW-4	15.9	17.1	bc	1010.0
US09402	42-09.6	144-50.6	9/17	0227-0250	2270	North-2	SSE-1	North-4	16.1	17.0	bc	1010.6
US09403	42-19.6	144-40.6	9/17	0407-0431	1815	NNW-1	SSE-1	NNW-3	15.4	17.2	bc	1011.9
US09404	42-29.4	144-49.6	9/17	0547-0609	1862	NNW-1	SSE-1	NNW-3	14.6	15.0	c	1013.1
US09405	42-39.5	144-40.2	9/17	0719-0740	509	NNW-1	East-1	NNW-2	15.8	16.0	bc	1013.9
US09406	42-30.0	144-30.3	9/17	0848-0910	1261	NW -1	SW -1	NW -3	16.6	17.1	bc	1015.2
US09407	42-39.1	144-20.3	9/17	1018-1040	995	Calm	East-1	Calm	17.4	16.5	bc	1015.5

Cruise 178

Station	Lat. (N)*	Long. (E)*	Date	S.M.T.	Depth	Wave	Swell	Wind	Air Temp.	Sea Temp.	Wr.	Bar. (hPa)
US09408	41-20.0	139-35.4	9/24	1624-1632	734	Calm	SW -1	Calm	21.2	21.7	c	1019.1
US09409	41-20.0	139-30.0	9/24	1700-1707	1561	Calm	SW -1	Calm	21.7	21.0	c	1019.1
US09410	41-20.0	139-25.0	9/24	1732-1741	2530	Calm	SW -1	Calm	20.8	21.6	c	1019.1

(*):Fixed position by Global Positioning System

Table 2: Oceanographic data

STATION US09344 LATITUDE 41-04.4 N LONGITUDE 140-44.4 E DEPTH (m) 58				STATION US09345 LATITUDE 41-01.1 N LONGITUDE 140-46.4 E DEPTH (m) 52				STATION US09346 LATITUDE 41-04.6 N LONGITUDE 140-51.3 E DEPTH (m) 53			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	21.882	32.923	22.673	5	21.726	33.136	22.878	5	21.810	33.132	22.852
10	21.737	33.056	22.814	10	21.661	33.290	23.013	10	21.785	33.185	22.899
20	21.451	33.519	23.245	20	21.325	33.610	23.348	20	21.519	33.643	23.320
30	20.377	33.570	23.572	30	20.877	33.687	23.528	30	20.572	33.550	23.505
40	18.973	33.574	23.938	40	19.400	33.518	23.787	40	19.093	33.776	24.062
50	17.454	33.832	24.510					50	17.655	33.839	24.467
STATION US09347 LATITUDE 41-07.7 N LONGITUDE 141-02.9 E DEPTH (m) 38				STATION US09348 LATITUDE 41-08.6 N LONGITUDE 141-07.9 E DEPTH (m) 37				STATION US09349 LATITUDE 41-06.0 N LONGITUDE 141-09.5 E DEPTH (m) 39			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	21.838	32.506	22.369	5	21.668	32.727	22.583	5	21.822	32.617	22.457
10	21.939	32.604	22.415	10	21.711	32.834	22.653	10	21.812	32.615	22.459
20	21.497	33.531	23.241	20	21.577	33.112	22.900	20	21.228	32.744	22.715
30	18.579	33.337	23.856	30	18.738	33.273	23.767	30	18.856	33.313	23.768
STATION US09350 LATITUDE 41-00.5 N LONGITUDE 141-07.6 E DEPTH (m) 42				STATION US09351 LATITUDE 40-58.0 N LONGITUDE 141-07.0 E DEPTH (m) 39				STATION US09352 LATITUDE 41-04.2 N LONGITUDE 141-01.2 E DEPTH (m) 48			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	21.754	32.743	22.572	5	21.956	32.656	22.450	5	21.829	32.564	22.415
10	21.768	32.772	22.590	10	21.945	32.666	22.460	10	21.824	32.662	22.491
20	21.687	32.927	22.730	20	21.811	32.851	22.638	20	21.423	33.020	22.873
30	19.733	33.222	23.476	30	20.721	33.329	23.297	30	19.094	33.281	23.684
								40	18.259	33.548	24.097
STATION US09353 LATITUDE 41-04.3 N LONGITUDE 140-58.7 E DEPTH (m) 49				STATION US09354 LATITUDE 40-53.8 N LONGITUDE 140-46.1 E DEPTH (m) 37				STATION US09355 LATITUDE 40-55.8 N LONGITUDE 140-46.2 E DEPTH (m) 44			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	21.975	32.588	22.393	5	21.561	33.027	22.841	5	21.560	33.043	22.853
10	21.871	32.607	22.436	10	21.554	33.039	22.851	10	21.566	33.070	22.871
20	21.634	33.346	23.063	20	21.564	33.632	23.299	20	21.346	33.533	23.283
30	20.245	33.516	23.566	30	20.986	33.613	23.442	30	20.946	33.559	23.412
40	18.282	33.553	24.095					40	20.529	33.587	23.545
STATION US09356 LATITUDE 41-10.5 N LONGITUDE 140-42.8 E DEPTH (m) 66				STATION US09357 LATITUDE 44-03.2 N LONGITUDE 145-23.7 E DEPTH (m) 509				STATION US09358 LATITUDE 44-04.8 N LONGITUDE 145-20.1 E DEPTH (m) 813			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	22.364	33.677	23.111	5	17.197	33.121	24.026	5	16.770	32.128	23.364
10	22.357	33.674	23.111	10	16.930	33.429	24.325	10	16.892	33.085	24.070
20	22.260	33.665	23.131	20	16.760	33.710	24.580	20	16.576	33.632	24.563
30	22.152	33.657	23.155	30	16.658	33.701	24.598	30	16.581	33.726	24.635
40	22.076	33.651	23.172	40	16.466	33.710	24.649	40	16.339	33.730	24.694
50	21.865	33.646	23.227	50	15.757	33.666	24.776	50	16.018	33.729	24.766
				75	13.323	33.782	25.385	75	13.957	33.787	25.259
				100	11.097	33.777	25.806	100	10.808	33.777	25.858
				125	9.197	33.744	26.104	125	8.854	33.735	26.151
				150	6.860	33.625	26.355	150	6.628	33.652	26.407
				175	4.728	33.515	26.528	175	3.764	33.441	26.569
				200	2.214	33.333	26.620	200	2.450	33.376	26.635
				250	1.757	33.379	26.691	250	-0.033	33.248	26.693
				300	0.748	33.358	26.741	300	1.328	33.410	26.746
				400	1.531	33.539	26.835	400	1.547	33.512	26.812
								500	1.881	33.673	26.918

STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)			
US09359 44-06.2 145-16.9 475				US09360 44-07.2 145-27.4 1100				US09361 44-08.5 145-24.2 1487			
N E				N E				N E			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	16.631	33.421	24.237	5	17.070	32.999	23.963	5	16.941	32.943	23.950
10	16.477	33.421	24.424	10	17.042	33.234	24.149	10	17.061	33.187	24.109
20	16.623	33.674	24.585	20	16.964	33.380	24.280	20	17.036	33.410	24.286
30	16.395	33.716	24.670	30	15.508	33.616	24.794	30	16.358	33.648	24.626
40	15.918	33.710	24.774	40	13.863	33.758	25.256	40	15.707	33.700	24.814
50	15.566	33.668	24.820	50	12.285	33.771	25.581	50	13.782	33.741	25.260
75	12.861	33.780	25.475	75	10.418	33.795	25.939	75	11.158	33.793	25.807
100	10.958	33.776	25.830	100	9.437	33.776	26.090	100	9.587	33.778	26.066
125	8.875	33.766	26.172	125	8.504	33.730	26.201	125	8.175	33.714	26.238
150	5.834	33.528	26.410	150	5.784	33.544	26.429	150	7.074	33.708	26.391
175	3.210	33.405	26.593	175	4.300	33.465	26.535	175	2.001	33.217	26.543
200	1.401	33.292	26.646	200	2.868	33.398	26.618	200	0.831	33.204	26.612
250	1.125	33.343	26.705	250	1.331	33.323	26.676	250	0.003	33.246	26.690
300	1.310	33.414	26.750	300	0.785	33.348	26.730	300	1.030	33.381	26.742
400	1.654	33.541	26.829	400	1.605	33.551	26.840	400	1.759	33.633	26.839
				500	1.939	33.724	26.954	500	1.950	33.708	26.940
STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)			
US09362 44-09.7 145-21.5 616				US09363 44-12.1 145-29.9 2026				US09364 44-13.6 145-26.3 1554			
N E				N E				N E			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	16.960	33.295	24.215	5	16.778	33.293	24.256	5	16.848	33.379	24.306
10	17.018	33.449	24.320	10	16.774	33.301	24.263	10	16.791	33.380	24.320
20	16.773	33.590	24.485	20	16.734	33.321	24.288	20	16.764	33.386	24.331
30	16.454	33.677	24.626	30	14.674	33.676	25.022	30	16.408	33.464	24.473
40	16.322	33.743	24.707	40	13.121	33.797	25.437	40	14.718	33.677	25.013
50	14.860	33.720	25.011	50	12.268	33.792	25.600	50	13.740	33.789	25.305
75	12.621	33.792	25.532	75	10.809	33.804	25.879	75	11.299	33.810	25.795
100	10.371	33.816	25.964	100	9.360	33.789	26.112	100	10.014	33.793	26.007
125	7.972	33.682	26.243	125	8.507	33.781	26.240	125	8.131	33.751	26.273
150	4.874	33.493	26.495	150	7.105	33.722	26.398	150	7.269	33.704	26.361
175	2.816	33.391	26.616	175	4.804	33.508	26.515	175	4.830	33.605	26.589
200	1.603	33.350	26.681	200	3.172	33.410	26.608	200	3.518	33.478	26.672
250	1.167	33.357	26.714	250	1.974	33.386	26.680	250	0.995	33.321	26.696
300	1.402	33.404	26.736	300	1.454	33.416	26.742	300	0.954	33.376	26.742
400	1.460	33.499	26.809	400	1.652	33.547	26.834	400	1.561	33.523	26.821
500	1.933	33.665	26.907	500	1.974	33.703	26.935	500	1.936	33.674	26.914
STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)			
US09365 44-14.6 145-23.3 706				US09366 44-17.2 145-31.7 2031				US09367 44-18.6 145-28.6 1496			
N E				N E				N E			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.030	33.454	24.321	5	17.167	33.539	24.354	5	17.191	33.451	24.281
10	17.021	33.476	24.340	10	17.054	33.521	24.367	10	17.129	33.540	24.364
20	17.015	33.540	24.390	20	17.053	33.564	24.400	20	17.034	33.552	24.395
30	16.346	33.621	24.608	30	16.491	33.641	24.590	30	16.954	33.574	24.430
40	16.043	33.687	24.728	40	15.625	33.780	24.893	40	15.891	33.640	24.726
50	14.839	33.734	25.031	50	14.410	33.763	25.145	50	15.382	33.739	24.916
75	12.391	33.802	25.584	75	12.849	33.857	25.538	75	13.201	33.816	25.436
100	10.491	33.797	25.928	100	11.654	33.843	25.755	100	11.707	33.797	25.710
125	9.418	33.792	26.105	125	9.824	33.809	26.051	125	9.637	33.776	26.056
150	7.206	33.695	26.362	150	7.746	33.692	26.284	150	7.319	33.702	26.353
175	5.651	33.621	26.506	175	6.035	33.632	26.467	175	4.614	33.490	26.521
200	3.599	33.493	26.627	200	3.433	33.426	26.589	200	3.553	33.432	26.583
250	1.778	33.403	26.709	250	1.914	33.387	26.686	250	0.225	33.227	26.664
300	1.500	33.411	26.735	300	1.374	33.405	26.739	300	0.771	33.338	26.723
400	1.657	33.533	26.821	400	1.679	33.533	26.820	400	1.651	33.531	26.820
				500	1.953	33.695	26.930				
STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)			
US09368 44-20.1 145-24.6 821				US09369 44-21.8 145-21.6 89				US09370 44-23.2 145-18.7 603			
N E				N E				N E			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.082	33.227	24.135	5	17.037	33.441	24.309	5	18.110	33.530	24.119
10	17.137	33.418	24.268	10	17.028	33.467	24.331	10	17.747	33.701	24.339
20	17.017	33.489	24.351	20	16.886	33.523	24.408	20	17.105	33.793	24.563
30	17.023	33.522	24.375	30	16.770	33.601	24.495	30	16.287	33.826	24.779
40	16.486	33.600	24.560	40	15.648	33.782	24.890	40	16.002	33.851	24.864
50	15.503	33.705	24.863	50	15.543	33.796	24.924	50	15.161	33.857	25.056
75	13.543	33.844	25.388	75	14.175	33.781	25.208	75	12.344	33.912	25.679
100	11.693	33.840	25.746					100	11.143	33.896	25.890
125	9.959	33.810	26.030					125	8.362	33.861	26.325
150	7.246	33.710	26.369					150	5.761	33.684	26.542
175	5.175	33.540	26.498					175	4.943	33.642	26.605
200	2.982	33.380	26.594					200	4.120	33.599	26.660
250	0.955	33.301	26.682					250	3.171	33.560	26.720
300	0.888	33.352	26.727					300	2.689	33.536	26.743
400	1.520	33.512	26.814								
500	1.775	33.662	26.917								
STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)				STATION LATITUDE LONGITUDE DEPTH (m)			
US09371 44-24.7 145-14.4 1400				US09372 44-18.1 145-15.2 160				US09373 44-19.3 145-13.0 701			
N E				N E				N E			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	16.953	33.576	24.432	5	18.331	33.674	24.176	5	18.457	33.700	24.164
10	16.839	33.643	24.511	10	17.186	33.758	24.517	10	17.466	33.732	24.430
20	14.284	33.741	25.155	20	16.263	33.831	24.789	20	16.489	33.827	24.733
30	13.147	33.881	25.496	30	16.193	33.846	24.816	30	15.284	33.859	25.030
40	11.826	33.863	25.738	40	16.108	33.851	24.839	40	14.788	33.890	25.162
50	9.555	33.490	25.847	50	15.539	33.861	24.975	50	14.698	33.897	25.187
75	10.063	33.961	26.130	75	13.899	33.875	25.339	75	12.404	33.884	25.645
100	7.991	33.844	26.367	100	11.546	33.871	25.797	100	9.500	33.950	26.216
125	1.995	33.228	26.552					125	7.292	33.822	26.451
150	0.860	33.211	26.615					150	3.870	33.403	26.529
175	2.620	33.427	26.662					175	1.386	33.288	26.644
200	3.142	33.543	26.709					200	2.059	33.489	26.757
250	2.572	33.511	26.733					250	2.635	33.531	26.744
300	2.008	33.500	26.769					300	1.993	33.484	26.758
								400	1.894	33.551	26.819

STATION		US09374		
LATITUDE		44-20.7	N	
LONGITUDE		145-09.5	E	
DEPTH (m)		1116		
Press.	Temp.	Salinity	Sigma-T	
5	17.887	33.708	24.310	
10	17.753	33.714	24.347	
20	15.817	33.698	24.788	
30	13.294	33.807	25.410	
40	11.726	33.698	25.630	
50	9.013	33.485	25.930	
75	8.500	33.760	26.225	
100	3.226	33.175	26.409	
125	2.710	33.277	26.535	
150	4.170	33.568	26.630	
175	3.681	33.545	26.660	
200	2.899	33.521	26.713	
250	2.107	33.498	26.760	
300	1.587	33.482	26.785	

STATION		US09375		
LATITUDE		43-55.6	N	
LONGITUDE		145-14.5	E	
DEPTH (m)		80		
Press.	Temp.	Salinity	Sigma-T	
5	16.938	33.233	24.173	
10	16.938	33.234	24.174	
20	16.916	33.322	24.247	
30	16.074	33.615	24.666	
40	15.462	33.673	24.847	
50	15.270	33.759	24.956	

STATION		US09376		
LATITUDE		43-56.3	N	
LONGITUDE		145-12.8	E	
DEPTH (m)		84		
Press.	Temp.	Salinity	Sigma-T	
5	17.095	33.171	24.089	
10	17.104	33.191	24.102	
20	17.021	33.219	24.143	
30	16.575	33.564	24.512	
40	15.616	33.702	24.835	
50	15.176	33.714	24.943	
75	13.216	33.769	25.396	

STATION		US09377		
LATITUDE		43-57.0	N	
LONGITUDE		145-11.6	E	
DEPTH (m)		82		
Press.	Temp.	Salinity	Sigma-T	
5	17.072	33.139	24.069	
10	17.059	33.137	24.071	
20	16.921	33.148	24.112	
30	16.599	33.524	24.475	
40	15.807	33.653	24.755	
50	15.367	33.734	24.916	

STATION		US09378		
LATITUDE		43-59.4	N	
LONGITUDE		145-18.7	E	
DEPTH (m)		255		
Press.	Temp.	Salinity	Sigma-T	
5	17.070	33.377	24.252	
10	17.047	33.353	24.239	
20	17.003	33.367	24.261	
30	16.887	33.508	24.396	
40	16.698	33.661	24.557	
50	16.190	33.664	24.677	
75	13.733	33.700	25.238	
100	11.865	33.792	25.677	
125	10.287	33.777	25.948	
150	7.112	33.596	26.298	
175	4.684	33.487	26.511	
200	3.277	33.421	26.600	

STATION		US09379		
LATITUDE		44-00.4	N	
LONGITUDE		145-16.6	E	
DEPTH (m)		400		
Press.	Temp.	Salinity	Sigma-T	
5	17.061	33.260	24.164	
10	17.046	33.268	24.174	
20	17.021	33.357	24.248	
30	16.891	33.496	24.386	
40	16.820	33.576	24.464	
50	16.506	33.618	24.569	
75	13.651	33.700	25.254	
100	12.075	33.787	25.633	
125	9.818	33.751	26.007	
150	7.389	33.613	26.272	
175	4.441	33.469	26.523	
200	2.898	33.408	26.623	
250	1.652	33.351	26.676	
300	1.551	33.412	26.732	

STATION		US09380		
LATITUDE		44-01.4	N	
LONGITUDE		145-14.5	E	
DEPTH (m)		410		
Press.	Temp.	Salinity	Sigma-T	
5	17.055	33.240	24.151	
10	17.034	33.288	24.193	
20	16.974	33.300	24.216	
30	16.952	33.351	24.260	
40	16.811	33.471	24.386	
50	15.854	33.656	24.747	
75	14.583	33.771	25.115	
100	11.744	33.795	25.701	
125	10.117	33.789	25.986	
150	7.960	33.666	26.232	
175	4.445	33.473	26.526	
200	2.765	33.401	26.629	
250	1.529	33.352	26.686	
300	1.374	33.407	26.740	

STATION		US09381		
LATITUDE		42-20.5	N	
LONGITUDE		144-59.3	E	
DEPTH (m)		2762		
Press.	Temp.	Salinity	Sigma-T	
5	16.715	32.770	23.869	
10	15.080	32.677	24.164	
20	11.569	32.511	24.736	
30	8.692	32.670	25.341	
40	6.296	32.896	25.853	
50	4.618	33.002	26.134	
75	2.787	33.124	26.406	
100	2.525	33.275	26.548	
125	2.610	33.373	26.620	
150	2.218	33.359	26.640	
175	2.167	33.392	26.671	
200	2.491	33.480	26.715	
250	2.807	33.582	26.770	
300	2.564	33.599	26.805	
400	2.649	33.726	26.899	
500	2.832	33.837	26.972	

STATION		US09382		
LATITUDE		42-08.4	N	
LONGITUDE		145-13.9	E	
DEPTH (m)		3323		
Press.	Temp.	Salinity	Sigma-T	
5	15.185	32.889	24.305	
10	15.127	33.171	24.535	
20	14.703	33.208	24.654	
30	11.429	33.340	25.406	
40	9.838	33.462	25.778	
50	9.339	33.483	25.876	
75	5.347	33.336	26.316	
100	4.171	33.419	26.511	
125	4.286	33.490	26.556	
150	3.615	33.506	26.635	
175	2.293	33.411	26.676	
200	2.087	33.442	26.717	
250	2.092	33.517	26.776	
300	2.289	33.610	26.835	
400	2.623	33.763	26.930	
500	3.050	33.925	27.022	

STATION		US09383		
LATITUDE		42-00.0	N	
LONGITUDE		145-19.8	E	
DEPTH (m)		3888		
Press.	Temp.	Salinity	Sigma-T	
5	18.012	33.065	23.788	
10	18.023	33.069	23.788	
20	17.953	33.089	23.820	
30	12.224	32.935	24.943	
40	5.847	33.012	26.000	
50	4.477	33.083	26.212	
75	2.407	33.092	26.412	
100	2.513	33.208	26.496	
125	2.436	33.264	26.547	
150	2.176	33.343	26.631	
175	2.160	33.417	26.692	
200	3.123	33.605	26.760	
250	3.190	33.674	26.809	
300	3.113	33.756	26.882	
400	3.450	33.918	26.980	
500	3.340	34.012	27.065	

STATION		US09384	
LATITUDE		42-09.5	N
LONGITUDE		145-30.0	E
DEPTH (m)		3824	
Press.	Temp.	Salinity	Sigma-T
5	14.288	33.195	24.732
10	13.841	33.219	24.844
20	13.291	33.347	25.055
30	12.092	33.493	25.401
40	8.344	33.329	25.910
50	9.239	33.976	26.278
75	7.609	33.810	26.396
100	3.945	33.422	26.537
125	2.302	33.318	26.601
150	2.079	33.366	26.656
175	2.048	33.406	26.691
200	2.017	33.455	26.733
250	2.089	33.523	26.782
300	2.181	33.581	26.821
400	2.495	33.710	26.898
500	2.830	33.868	26.997

STATION US09386 LATITUDE 42-29.7 N LONGITUDE 145-10.2 E DEPTH (m) 1972				STATION US09387 LATITUDE 42-39.9 N LONGITUDE 145-00.4 E DEPTH (m) 740				STATION US09388 LATITUDE 42-49.4 N LONGITUDE 144-50.2 E DEPTH (m) 103			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	15.422	32.704	24.110	5	16.051	32.739	23.997	5	15.352	33.456	24.705
10	14.125	32.789	24.453	10	15.989	32.733	24.007	10	15.191	33.460	24.743
20	11.921	33.543	25.473	20	13.569	32.693	24.493	20	14.706	33.451	24.841
30	10.951	33.566	25.667	30	10.051	32.799	25.225	30	13.973	33.434	24.983
40	9.649	33.477	25.821	40	8.664	33.390	25.910	40	13.160	33.473	25.178
50	6.951	33.409	26.172	50	7.980	33.418	26.034	50	12.759	33.517	25.291
75	4.504	33.318	26.396	75	4.800	33.306	26.354	75	10.569	33.458	25.651
100	3.014	33.274	26.506	100	3.531	33.292	26.473				
125	3.877	33.473	26.584	125	2.176	33.263	26.566				
150	2.899	33.409	26.624	150	2.403	33.338	26.609				
175	2.816	33.472	26.682	175	2.073	33.366	26.657				
200	2.138	33.420	26.695	200	2.074	33.393	26.678				
250	2.143	33.481	26.744	250	2.046	33.459	26.734				
300	2.209	33.535	26.782	300	2.104	33.505	26.766				
400	2.464	33.644	26.849	400	2.296	33.620	26.843				
500	2.619	33.755	26.924	500	3.168	33.842	26.946				
STATION US09389 LATITUDE 42-50.0 N LONGITUDE 144-59.4 E DEPTH (m) 104				STATION US09390 LATITUDE 42-40.1 N LONGITUDE 145-09.8 E DEPTH (m) 1292				STATION US09391 LATITUDE 42-30.1 N LONGITUDE 145-19.4 E DEPTH (m) 2239			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	15.365	33.449	24.697	5	15.906	32.683	23.987	5	14.442	32.821	24.412
10	15.048	33.454	24.770	10	15.663	32.682	24.040	10	13.927	32.760	24.471
20	14.586	33.459	24.873	20	13.037	32.627	24.548	20	11.775	33.098	25.154
30	13.578	33.489	25.107	30	9.584	33.195	25.611	30	10.576	33.388	25.595
40	12.701	33.491	25.283	40	8.680	33.455	25.958	40	9.200	33.364	25.805
50	12.078	33.498	25.408	50	8.024	33.463	26.063	50	7.226	33.354	26.091
75	11.195	33.470	25.549	75	5.182	33.323	26.325	75	3.715	33.283	26.449
100	8.107	33.418	26.016	100	3.880	33.375	26.505	100	3.388	33.395	26.569
				125	2.523	33.322	26.586	125	2.160	33.325	26.618
				150	2.294	33.365	26.639	150	1.702	33.334	26.658
				175	2.080	33.387	26.673	175	1.718	33.358	26.677
				200	1.911	33.407	26.702	200	1.737	33.381	26.694
				250	2.036	33.471	26.744	250	1.794	33.421	26.722
				300	2.053	33.519	26.781	300	2.029	33.514	26.779
				400	2.921	33.712	26.864	400	2.303	33.640	26.858
				500	3.267	33.864	26.954	500	2.700	33.801	26.954
STATION US09392 LATITUDE 42-22.2 N LONGITUDE 145-31.7 E DEPTH (m) 3229				STATION US09393 LATITUDE 42-49.6 N LONGITUDE 145-19.5 E DEPTH (m) 408				STATION US09394 LATITUDE 42-40.1 N LONGITUDE 145-29.3 E DEPTH (m) 2041			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	14.954	32.898	24.362	5	14.869	33.398	24.765	5	12.775	32.570	24.555
10	14.767	32.901	24.405	10	14.677	33.400	24.808	10	12.126	32.617	24.715
20	11.349	33.466	25.518	20	13.917	33.448	25.005	20	11.707	32.684	24.845
30	9.683	33.495	25.830	30	12.906	33.474	25.229	30	10.359	32.818	25.188
40	9.077	33.493	25.926	40	12.639	33.490	25.294	40	7.814	32.977	25.712
50	9.465	33.892	26.176	50	12.173	33.491	25.385	50	5.780	33.079	26.062
75	7.683	33.763	26.348	75	9.800	33.445	25.771	75	3.032	33.183	26.432
100	3.718	33.381	26.527	100	8.384	33.422	25.978	100	2.509	33.277	26.552
125	2.992	33.417	26.622	125	6.622	33.353	26.172	125	2.544	33.356	26.612
150	2.082	33.375	26.663	150	4.062	33.325	26.447	150	2.411	33.395	26.653
175	1.888	33.402	26.700	175	2.306	33.373	26.644	175	2.245	33.422	26.688
200	2.083	33.460	26.731	200	2.102	33.392	26.676	200	2.051	33.431	26.711
250	2.069	33.504	26.768	250	2.053	33.464	26.737	250	2.014	33.484	26.756
300	2.148	33.552	26.800	300	2.107	33.493	26.757	300	2.121	33.538	26.791
400	2.458	33.684	26.881					400	2.469	33.686	26.882
500	2.828	33.859	26.989					500	2.713	33.804	26.955
STATION US09395 LATITUDE 42-30.0 N LONGITUDE 145-39.1 E DEPTH (m) 2350				STATION US09396 LATITUDE 42-20.1 N LONGITUDE 145-49.8 E DEPTH (m) 3158				STATION US09397 LATITUDE 42-10.3 N LONGITUDE 145-40.1 E DEPTH (m) 4250			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	14.510	32.626	24.247	5	14.056	32.952	24.593	5	14.497	33.346	24.805
10	13.978	33.293	24.873	10	13.870	33.077	24.728	10	14.183	33.405	24.916
20	12.136	33.266	25.217	20	10.320	32.745	25.138	20	12.163	33.325	25.257
30	10.610	33.359	25.566	30	8.528	33.084	25.691	30	10.151	33.491	25.749
40	7.760	33.325	25.993	40	7.825	33.371	26.020	40	8.355	33.426	25.985
50	5.371	33.185	26.194	50	6.877	33.404	26.179	50	5.419	33.250	26.240
75	2.794	33.170	26.442	75	3.164	33.234	26.461	75	2.714	33.214	26.484
100	2.291	33.277	26.569	100	2.294	33.277	26.569	100	2.147	33.334	26.626
125	2.079	33.343	26.638	125	2.169	33.321	26.614	125	2.054	33.359	26.653
150	2.019	33.383	26.675	150	2.209	33.393	26.668	150	1.955	33.384	26.680
175	1.968	33.410	26.700	175	2.225	33.436	26.701	175	1.989	33.422	26.709
200	1.966	33.431	26.718	200	2.177	33.468	26.731	200	2.099	33.477	26.744
250	2.084	33.494	26.759	250	2.068	33.504	26.768	250	2.147	33.540	26.791
300	2.181	33.547	26.793	300	2.099	33.547	26.800	300	2.218	33.581	26.818
400	2.460	33.688	26.884	400	2.459	33.691	26.887	400	2.524	33.710	26.896
500	2.896	33.858	26.982	500	2.836	33.852	26.983	500	2.843	33.870	26.997

STATION US09398 LATITUDE 42-00.3 N LONGITUDE 145-39.9 E DEPTH (m) 5028				STATION US09399 LATITUDE 41-50.0 N LONGITUDE 145-30.9 E DEPTH (m) 5287				STATION US09400 LATITUDE 42-08.8 N LONGITUDE 145-34.5 E DEPTH (m) 4377			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.848	32.924	23.720	5	17.976	32.936	23.698	5	15.140	33.291	24.624
10	17.868	32.963	23.745	10	17.351	32.839	23.773	10	14.970	33.408	24.751
20	17.229	32.926	23.869	20	15.459	32.808	24.182	20	12.551	33.423	25.259
30	10.252	32.914	25.281	30	11.905	33.273	25.266	30	9.607	33.410	25.776
40	7.323	33.216	25.969	40	11.980	33.946	25.775	40	8.237	33.414	25.993
50	6.045	33.221	26.142	50	11.050	33.933	25.936	50	6.385	33.297	26.159
75	3.071	33.167	26.416	75	7.883	33.747	26.307	75	2.839	33.203	26.465
100	4.386	33.481	26.538	100	8.233	33.996	26.451	100	2.367	33.302	26.583
125	3.516	33.433	26.587	125	4.556	33.493	26.530	125	2.113	33.343	26.635
150	2.231	33.362	26.642	150	4.803	33.647	26.625	150	1.953	33.373	26.672
175	2.804	33.463	26.675	175	4.551	33.645	26.651	175	1.976	33.419	26.707
200	2.599	33.489	26.714	200	4.126	33.647	26.697	200	2.105	33.459	26.729
250	2.892	33.606	26.782	250	3.167	33.619	26.768	250	2.095	33.530	26.787
300	2.742	33.655	26.834	300	2.478	33.632	26.838	300	2.198	33.575	26.814
400	3.021	33.818	26.940	400	2.794	33.787	26.935	400	2.623	33.731	26.905
500	3.006	33.940	27.039	500	3.264	33.976	27.043	500	2.837	33.870	26.998

STATION US09401 LATITUDE 42-00.2 N LONGITUDE 145-00.2 E DEPTH (m) 3040				STATION US09402 LATITUDE 42-09.6 N LONGITUDE 144-50.6 E DEPTH (m) 2270				STATION US09403 LATITUDE 42-19.6 N LONGITUDE 144-40.6 E DEPTH (m) 1815			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	17.502	32.704	23.635	5	17.838	32.784	23.615	5	17.470	32.775	23.696
10	17.464	32.884	23.782	10	16.895	32.733	23.799	10	17.020	32.821	23.838
20	13.901	32.806	24.511	20	14.841	32.715	24.245	20	14.157	32.745	24.412
30	9.914	33.466	25.768	30	8.486	32.901	25.553	30	9.925	33.344	25.671
40	8.658	33.540	26.028	40	5.429	33.044	26.076	40	8.094	33.406	26.008
50	9.047	33.782	26.157	50	4.239	33.110	26.259	50	5.371	33.169	26.181
75	4.662	33.370	26.420	75	2.662	33.143	26.431	75	4.468	33.354	26.429
100	3.615	33.366	26.524	100	2.257	33.173	26.489	100	3.474	33.316	26.498
125	3.026	33.393	26.600	125	2.022	33.233	26.554	125	2.864	33.331	26.565
150	2.589	33.419	26.658	150	2.522	33.402	26.650	150	1.989	33.304	26.614
175	2.413	33.446	26.695	175	2.332	33.458	26.711	175	2.218	33.415	26.685
200	3.911	33.700	26.761	200	2.474	33.539	26.764	200	2.260	33.482	26.736
250	3.294	33.668	26.795	250	2.692	33.662	26.844	250	2.587	33.612	26.813
300	3.184	33.723	26.849	300	2.891	33.755	26.901	300	2.899	33.726	26.877
400	3.056	33.835	26.950	400	3.102	33.898	26.996	400	3.085	33.862	26.969
500	2.980	33.966	27.062	500	3.147	34.023	27.092	500	3.305	33.998	27.057

STATION US09404 LATITUDE 42-29.4 N LONGITUDE 144-49.6 E DEPTH (m) 1862				STATION US09405 LATITUDE 42-39.5 N LONGITUDE 144-40.2 E DEPTH (m) 509				STATION US09406 LATITUDE 42-30.0 N LONGITUDE 144-30.3 E DEPTH (m) 1261			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	15.011	33.180	24.566	5	16.222	32.714	23.940	5	17.278	32.869	23.814
10	13.865	33.195	24.820	10	16.164	32.709	23.949	10	15.477	32.806	24.177
20	13.044	33.333	25.093	20	14.054	32.739	24.429	20	11.758	32.914	25.014
30	12.060	33.469	25.389	30	8.017	32.903	25.625	30	10.879	33.831	25.887
40	11.083	33.492	25.586	40	6.298	33.241	26.126	40	9.245	33.696	26.058
50	9.020	33.426	25.883	50	5.917	33.329	26.243	50	5.653	33.238	26.203
75	6.304	33.618	26.422	75	3.546	33.202	26.400	75	3.512	33.232	26.427
100	4.786	33.428	26.453	100	3.228	33.328	26.530	100	2.657	33.273	26.536
125	2.713	33.289	26.544	125	2.284	33.275	26.568	125	2.415	33.346	26.614
150	2.050	33.317	26.619	150	2.117	33.354	26.644	150	2.129	33.360	26.648
175	1.942	33.369	26.670	175	2.068	33.393	26.679	175	3.670	33.611	26.714
200	2.005	33.422	26.707	200	2.027	33.411	26.696	200	2.103	33.429	26.705
250	1.956	33.471	26.750	250	2.086	33.467	26.737	250	2.085	33.493	26.758
300	2.193	33.547	26.793	300	2.125	33.524	26.780	300	2.200	33.553	26.797
400	2.557	33.700	26.886	400	2.843	33.707	26.866	400	3.211	33.821	26.925
500	2.922	33.870	26.990					500	2.888	33.899	27.016

STATION US09407				STATION US09408				STATION US09409			
LATITUDE 42-39.1 N				LATITUDE 41-20.0 N				LATITUDE 41-20.0 N			
LONGITUDE 144-20.3 E				LONGITUDE 139-35.4 E				LONGITUDE 139-30.0 E			
DEPTH (m) 995				DEPTH (m) 734				DEPTH (m) 1561			
Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T	Press.	Temp.	Salinity	Sigma-T
5	16.333	32.776	23.963	5	21.970	33.369	22.988	5	21.855	33.256	22.933
10	15.421	32.776	24.166	10	22.003	33.424	23.020	10	21.797	33.297	22.981
20	11.670	32.738	24.894	20	22.092	33.513	23.063	20	21.815	33.322	22.995
30	8.347	32.809	25.502	30	18.706	33.839	24.208	30	18.169	33.532	24.106
40	7.338	33.208	25.961	40	15.747	33.892	24.952	40	15.633	33.948	25.021
50	6.817	33.435	26.211	50	14.777	34.172	25.382	50	14.407	34.105	25.409
75	3.585	33.232	26.420	75	12.313	34.226	25.928	75	10.414	33.951	26.062
100	2.749	33.259	26.517	100	9.692	34.167	26.353	100	8.618	34.128	26.495
125	2.568	33.329	26.588	125	7.453	34.121	26.663	125	5.159	34.031	26.889
150	2.304	33.359	26.634	150	5.134	34.074	26.925	150	2.736	34.055	27.154
175	2.203	33.399	26.674	175	3.006	34.057	27.131	175	2.182	34.063	27.207
200	2.065	33.416	26.698	200	2.283	34.059	27.195	200	1.882	34.074	27.238
250	1.994	33.473	26.749								
300	2.207	33.536	26.783								
400	2.370	33.653	26.863								
500	2.891	33.846	26.973								

STATION US09410			
LATITUDE 41-20.0 N			
LONGITUDE 139-25.0 E			
DEPTH (m) 2530			
Press.	Temp.	Salinity	Sigma-T
5	21.728	33.256	22.968
10	21.655	33.273	23.001
20	21.613	33.289	23.025
30	20.337	33.497	23.527
40	15.507	33.928	25.034
50	13.706	34.122	25.569
75	9.217	33.932	26.247
100	4.399	34.020	26.965
125	2.854	34.062	27.149
150	2.293	34.065	27.199
175	1.949	34.072	27.232