



HOKKAIDO UNIVERSITY

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**THE "OSHO RO MARU" CRUISE 255 THE NORTHWEST PACIFIC OCEAN,
THE BERING SEA AND THE CHUKOTCH SEA**

IN JUNE - AUGUST 2013

1. Cruise Itinerary

Departure from Hakodate	June	14, 2013
Date change, repeat June 19 th		
Start hydrographic research (OS13034)		22
Arrival at Dutch Harbor and change research staff		27
Departure from Dutch Harbor	Jul.	1
Start bottom trawl research (OST1301)		4
Finish bottom trawl research (OST1315)		17
Arrival at Dutch Harbor and change research staff		23
Departure from Dutch Harbor		26
Finish hydrographic research (OS13132)		28
Date change, skip July 29 th		
Return to Hakodate	Aug.	6

Total coverage 8951.7 miles

2. Vessel Personnel

Crew:	Captain	Associate Professor	Shogo Takagi
			And 29 crew

Research Staff:	Associate Professor (Laboratory of Marine Environment and Resource Sensing, Hokkaido University)	
	Hakodate - Hakodate	Toru Hirawake
	Associate Professor (Laboratory of Marine Biodiversity, Hokkaido University)	
	Hakodate - Dutch Harbor2	Atsushi Yamaguchi
	Associate Professor (Laboratory of Marine Ecology, Hokkaido University)	
	Hakodate - Dutch Harbor2	Yutaka Watanuki
	Associate Professor (Laboratory of Marine Environmental Science, Hokkaido University)	
	Hakodate - Hakodate	Atsushi Ooki
	Associate Professor (Institute of Low Temperature Science, Hokkaido University)	
	Dutch Harbor1 - Hakodate	Jun Nishioka
	Associate Professor (Institute of Low Temperature Science, Hokkaido University)	
	Dutch Harbor1 - Hakodate	Youhei Yamasita
	Associate Professor (Institute of Low Temperature Science, Hokkaido University)	
	Dutch Harbor1 - Dutch Harbor2	Kouji Suzuki
	Associate Professor (Faculty of Marine Science, Tokyo University of Marine Science and Technology)	
	Dutch Harbor1 - Dutch Harbor2	Michiyo Kawai
	Assistant Professor (Field Science Center for Northern Biosphere, Hokkaido University)	
	Hakodate - Dutch Harbor2	Yoko Mitani
	Assistant Professor (Field Science Center for Northern Biosphere, Hokkaido University)	
	Dutch Harbor1 - Dutch Harbor2	Jun Yamanoto

Assistant Professor (Laboratory of Marine Environmental Science, Hokkaido University)	
Dutch Harbor2 - Hakodate	Hiroji Onishi
Assistant Professor (Laboratory of Marine Environmental Science, Hokkaido University)	
Dutch Harbor1 - Dutch Harbor2	Hiromichi Ueno
Assistant Professor (Museum education and Media studies, Hokkaido University)	
Dutch Harbor1 - Dutch Harbor2	Yoshiharu Fujita
Assistant Professor (National Institute of Polar Research)	
Hakodate - Dutch Harbor1	Takahiro Iida
Researcher (International Christian University)	
Hakodate - Hakodate	Keiko Sekiguchi
Project Researcher (National Institute of Polar Research)	
Hakodate - Dutch Harbor2	Amane Fujiwara
Project Researcher (National Institute of Polar Research)	
Hakodate - Dutch Harbor2	Kohhei Matsuno
Postdoctoral researcher (National Institute of Polar Research)	
Hakodate – Hakodate	Yoshiko J. Kondoh
Chief Researcher (NASA)	
Dutch Harbor1 - Dutch Harbor2	Stanford B. Hooker
Researcher (US Fish and Wildlife Service, Anchorage)	
Dutch Harbor1 - Dutch Harbor2	Elizabeth Labunski
Writer (Hokkaido Shimbun Press)	
Dutch Harbor1 - Dutch Harbor2	Shinya Hosokawa
Japan Marine Science and Technology Center	3 persons
Graduate Students	17 persons
Under Graduate Students	8 persons

Total 49 persons

3. Items of Research

Hydrographic observations (Observation of Temperature, Salinity, and Computed Dynamic Depth Anomaly)

Hydrographic work on deck and the data processing were made by Science officer, the deck officers, crews, research staff and cadets of the “Oshoromaru”. Temperature and salinity were measured by CTD (Seabird SBE-9Plus, SBE-19Plus and XCTD).

Water and Plankton sampling were also carried out at almost hydrographic stations. Water samplings by Niskin bottles and underwater tug plane.

Fig. 1 Table 1, 2

Biological research by Bottom trawl, ROV, Frame trawl and Larva-net. Plankton sampling by NORPAC-net, Bongo-net, Closing-net and Ring-net. Dredge, Smith McIntyre Grab and Bottom corer.

Bottom Trawl Research

15 operations of the stern otter bottom trawl were carried out. These operations were supervised by the captain, Deck officer, Science officer, crew, research staff, and cadets were engaged in the work.

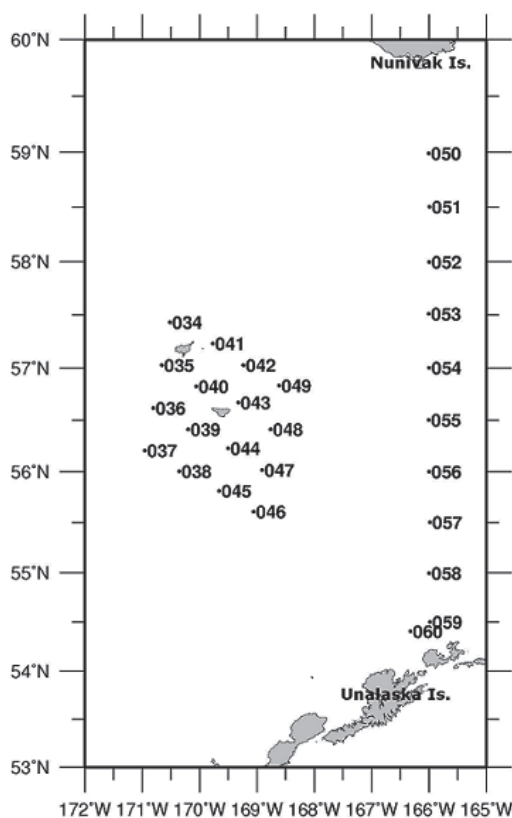


Fig. 1-1. Oceanographic stations

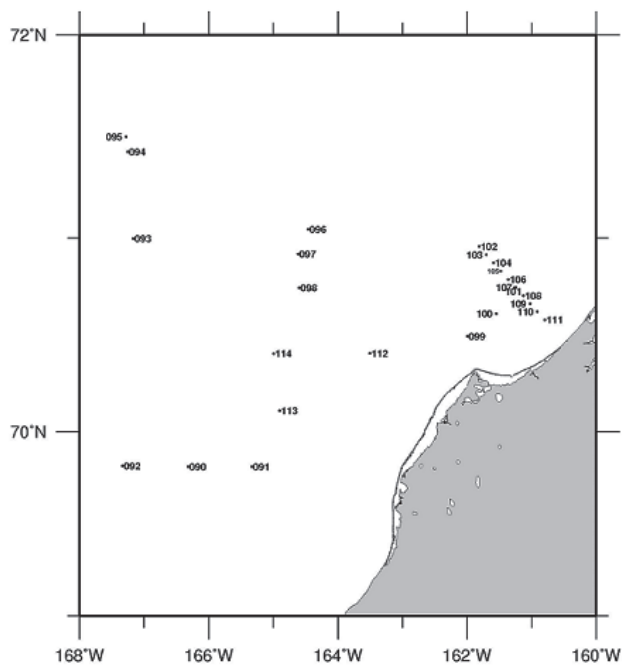
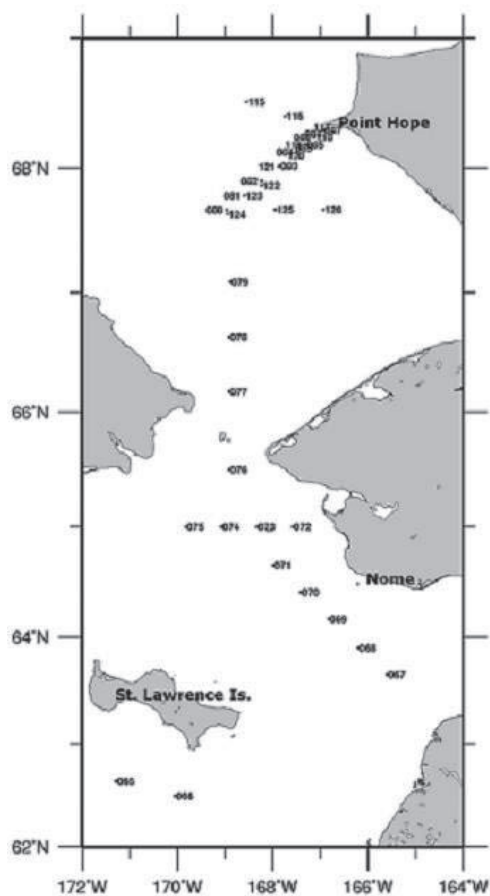


Fig. 1-2. Oceanographic stations

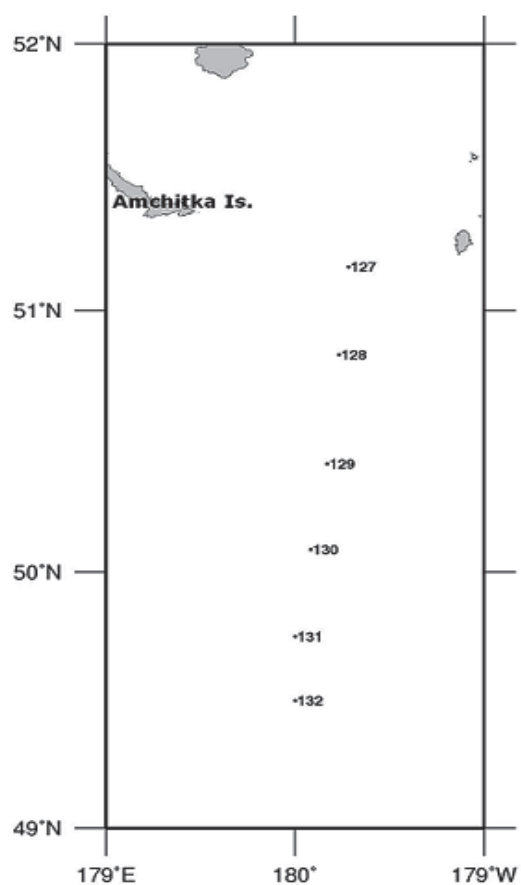


Fig. 1-3. Oceanographic stations

Table 1. List of Oceanographic station

Station	Lat.	Long.	Date (GMT)	Hour (GMT)	T.Z.	Depth	Col.	Tr.	SST	Wr.	Gear
OS13034	57-26.02N	170-30.94W	6/22	18:06	-10	71	-	-	4.6	o	19plus-4636
OS13035	57-01.67N	170-39.57W	6/22	21:09	-10	85	-	-	5.8	o	9plus-0769
OS13036	56-37.14N	170-48.25W	6/23	0:28	-10	118	-	-	5.9	o	9plus-0769
OS13037	56-12.47N	170-57.18W	6/23	3:44	-10	210	-	-	6.8	o	9plus-0769
OS13038	56-00.17N	170-21.20W	6/23	6:52	-10	820	-	-	6.5	o	9plus-0769
OS13039	56-24.67N	170-11.98W	6/23	11:00	-10	113	-	-	5.7	o	9plus-0769
OS13040	56-49.52N	170-03.53W	6/23	14:21	-10	79	-	-	5.8	c	9plus-0769
OS13041	57-13.88N	169-46.06W	6/23	17:28	-10	48	-	-	0.8	o	9plus-0769
OS13042	57-01.64N	169-14.06W	6/23	21:40	-10	77	-	-	4.6	o	9plus-0769
OS13043	56-40.13N	169-19.35W	6/24	0:11	-10	72	-	-	4.4	o	9plus-0769
OS13044	56-13.69N	169-30.41W	6/24	3:55	-10	480	-	-	6.2	o	9plus-0769
OS13045	55-48.70N	169-39.54W	6/24	7:26	-10	1938	-	-	6.5	o	9plus-0769
OS13046	55-36.32N	169-03.65W	6/24	11:29	-10	1712	-	-	6.8	o	9plus-0769
OS13047	56-01.08N	168-54.54W	6/24	15:13	-10	1182	-	-	6.4	o	9plus-0769
OS13048	56-24.71N	168-45.68W	6/24	19:54	-10	120	-	-	6.3	o	9plus-0769
OS13049	56-49.92N	168-36.78W	6/24	22:43	-10	98	-	-	6.2	o	9plus-0769
OS13050	58-59.29N	166-00.32W	6/25	12:47	-10	29	-	-	4.4	o	9plus-0769
OS13051	58-30.30N	165-59.37W	6/25	17:10	-10	46	-	-	3.4	o	9plus-0769
OS13052	57-59.84N	166-00.00W	6/25	21:25	-10	57	-	-	4.4	o	9plus-0769
OS13053	57-30.69N	166-00.36W	6/26	1:10	-10	66	-	-	3.3	o	9plus-0769
OS13054	57-00.16N	165-59.81W	6/26	5:41	-10	74	-	-	4.2	o	9plus-0769
OS13055	56-30.11N	166-00.18W	6/26	9:45	-10	88	-	-	6.7	o	9plus-0769
OS13056	55-59.99N	165-59.84W	6/26	14:18	-10	115	-	-	6.9	o	9plus-0769
OS13057	55-30.11N	165-59.27W	6/26	19:17	-10	123	-	-	6.5	o	9plus-0769
OS13058	54-59.72N	165-59.82W	6/26	23:23	-10	137	-	-	6.6	o	9plus-0769
OS13059	54-30.17N	165-59.24W	6/27	4:19	-10	511	-	-	6.6	o	9plus-0769
OS13060	54-24.33N	166-19.54W	6/27	10:12	-10	581	-	-	7.5	o	19plus-4636
OS13061	62-02.98N	175-12.77W	7/4	7:18	-10	81	-	-	6.5	o	9plus-0769
OS13062	62-31.90N	174-28.98W	7/4	11:16	-10	71	-	-	6.5	o	9plus-0769
OS13063	62-54.51N	173-16.52W	7/4	15:39	-10	68	-	-	6.3	o	9plus-0769
OS13064	62-53.33N	172-02.25W	7/4	23:32	-10	54	-	-	6.7	c	9plus-0769
OS13065	62-38.62N	171-17.30W	7/5	5:50	-10	45	-	-	6.0	o	9plus-0769
OS13066	62-29.90N	170-03.01W	7/5	10:38	-10	37	-	-	6.3	c	9plus-0769
OS13067	63-39.25N	165-36.12W	7/6	14:57	-10	21	-	-	5.8	o	9plus-0769
OS13068	63-54.01N	166-12.40W	7/7	0:29	-10	27	-	-	7.3	bc	9plus-0769
OS13069	64-09.98N	166-49.65W	7/7	3:11	-10	30	-	-	7.3	bc	9plus-0769
OS13070	64-24.59N	167-24.71W	7/7	5:24	-10	30	-	-	6.1	bc	9plus-0769
OS13071	64-39.32N	167-59.57W	7/7	7:40	-10	35	-	-	3.1	bc	9plus-0769
OS13072	65-00.11N	167-35.06W	7/7	10:30	-10	32	-	-	6.2	bc	9plus-0769
OS13073	65-00.05N	168-19.93W	7/7	13:42	-10	43	-	-	6.2	bc	9plus-0769
OS13074	65-00.06N	169-04.91W	7/7	16:12	-10	49	-	-	3.8	bc	9plus-0769
OS13075	65-00.06N	169-49.58W	7/7	21:30	-10	50	-	-	4.6	bc	9plus-0769
OS13076	65-29.99N	168-55.06W	7/8	6:28	-10	56	-	-	4.8	o	9plus-0769
OS13077	66-10.45N	168-54.88W	7/8	11:56	-10	55	-	-	4.4	o	9plus-0769
OS13078	66-37.92N	168-54.99W	7/8	15:44	-10	47	-	-	5.7	o	9plus-0769
OS13079	67-05.32N	168-53.33W	7/9	2:11	-10	47	-	-	4.6	f	9plus-0769
OS13080	67-40.15N	168-57.68W	7/9	6:24	-10	49.8	-	-	5.6	b	XCTD-1

Station	Lat.	Long.	Date (GMT)	Hour (GMT)	T.Z.	Depth	Col.	Tr.	SST	Wr.	Gear
OS13081	67-47.00N	168-35.91W	7/9	7:37	-10	50	-	-	5.4	b	XCTD-1
OS13082	67-53.90N	168-14.07W	7/9	8:59	-10	58	-	-	7.1	b	XCTD-1
OS13083	68-01.02N	167-51.82W	7/9	10:23	-10	51	-	-	7.1	b	XCTD-1
OS13084	68-07.70N	167-29.46W	7/9	11:46	-10	51	-	-	6.6	b	XCTD-1
OS13085	68-11.00N	167-18.50W	7/9	12:26	-10	47	-	-	9.0	b	XCTD-1
OS13086	68-14.56N	167-07.30W	7/9	13:08	-10	42	-	-	8.9	bc	XCTD-1
OS13087	68-17.91N	166-56.41W	7/9	14:19	-10	34	-	-	9.4	b	XCTD-1
OS13088	68-14.58N	167-07.16W	7/9	15:14	-10	42	-	-	7.2	b	9plus-0769
OS13089	68-11.30N	167-18.89W	7/9	16:28	-10	47	-	-	7.8	b	19plus-4636
OS13090	69-48.79N	166-19.11W	7/10	20:39	-10	44	-	-	2.9	o	9plus-0769
OS13091	69-48.76N	165-20.02W	7/11	5:29	-10	38	-	-	2.7	b	9plus-0769
OS13092	69-48.99N	167-19.97W	7/11	10:18	-10	47	-	-	4.3	b	9plus-0769
OS13093	70-59.93N	167-10.03W	7/11	18:06	-10	45	-	-	5.5	b	9plus-0769
OS13094	71-25.84N	167-15.31W	7/12	0:40	-10	47	-	-	4.3	b	9plus-0769
OS13095	71-30.34N	167-16.89W	7/12	2:30	-10	48	-	-	4.4	b	9plus-0769
OS13096	71-02.74N	164-27.41W	7/12	17:58	-10	41	-	-	2.9	b	9plus-0769
OS13097	70-55.20N	164-37.34W	7/12	21:23	-10	33	-	-	2.8	b	9plus-0769
OS13098	70-44.85N	164-36.02W	7/12	23:24	-10	46	-	-	1.9	b	9plus-0769
OS13099	70-29.97N	161-59.72W	7/13	17:56	-10	20	-	-	0.7	b	9plus-0769
OS13100	70-37.00N	161-32.83W	7/13	21:12	-10	36	-	-	0.7	b	9plus-0769
OS13101	70-44.93N	161-16.10W	7/14	3:07	-10	42	-	-	0.5	b	9plus-0769
OS13102	70-57.50N	161-48.81W	7/14	6:45	-10	45	-	-	2.2	b	XCTD-1
OS13103	70-55.00N	161-42.15W	7/14	7:06	-10	45	-	-	2.4	b	XCTD-1
OS13104	70-52.50N	161-35.42W	7/14	7:27	-10	44	-	-	2.4	b	XCTD-1
OS13105	70-50.05N	161-28.83W	7/14	7:47	-10	44	-	-	2.7	b	XCTD-1
OS13106	70-47.42N	161-21.60W	7/14	8:08	-10	43	-	-	1.9	b	XCTD-1
OS13107	70-45.07N	161-14.54W	7/14	8:29	-10	42	-	-	1.5	b	XCTD-1
OS13108	70-42.50N	161-07.68W	7/14	8:49	-10	42	-	-	1.1	b	XCTD-1
OS13109	70-40.00N	161-01.39W	7/14	9:10	-10	37	-	-	1.2	b	XCTD-1
OS13110	70-37.50N	160-54.70W	7/14	9:29	-10	36	-	-	1.8	b	XCTD-1
OS13111	70-35.00N	160-47.78W	7/14	9:49	-10	27	-	-	1.8	b	XCTD-1
OS13112	70-24.67N	163-30.14W	7/14	15:56	-10	35	-	-	3.7	c	9plus-0769
OS13113	70-06.68N	164-54.14W	7/15	4:37	-10	40	-	-	5.2	c	9plus-0769
OS13114	70-24.54N	164-59.76W	7/15	7:17	-10	44	-	-	5.2	d	9plus-0769
OS13115	68-31.03N	168-32.68W	7/15	21:14	-10	52	-	-	4.5	o	9plus-0769
OS13116	68-24.45N	167-44.44W	7/16	4:09	-10	53	-	-	3.9	c	9plus-0769
OS13117	68-17.84N	166-56.69W	7/16	6:22	-10	34	-	-	6.8	d	9plus-0769
OS13118	68-14.57N	167-07.33W	7/16	7:14	-10	42	-	-	6.2	d	9plus-0769
OS13119	68-11.13N	167-18.51W	7/16	8:19	-10	47	-	-	2.9	r	9plus-0769
OS13120	68-07.70N	167-29.79W	7/16	9:09	-10	49	-	-	6.1	r	9plus-0769
OS13121	68-00.82N	167-51.92W	7/16	11:17	-10	52	-	-	5.0	o	9plus-0769
OS13122	67-51.93N	168-14.01W	7/16	12:44	-10	56	-	-	5.1	r	9plus-0769
OS13123	67-47.00N	168-35.95W	7/16	14:39	-10	50	-	-	3.4	r	9plus-0769
OS13124	67-38.23N	168-57.36W	7/16	16:08	-10	50	-	-	2.9	f	9plus-0769
OS13125	67-40.27N	167-56.83W	7/17	2:14	-10	48	-	-	3.9	f	9plus-0769
OS13126	67-40.32N	166-55.98W	7/17	17:57	-10	48	-	-	6.4	o	9plus-0769
OS13127	51-10.00N	179-42.97W	7/28	16:06	-11	3685	-	-	8.9	c	XCTD-4
OS13128	50-50.00N	179-46.00W	7/28	18:01	-11	5470	-	-	10.6	c	XCTD-4
OS13129	50-24.96N	179-49.81W	7/28	20:19	-11	6720	-	-	10.6	c	XCTD-4
OS13130	50-05.23N	179-54.96W	7/28	22:13	-11	6034	-	-	10.7	c	XCTD-4
OS13131	49-44.99N	179-59.83W	7/29	0:09	-11	5160	-	-	10.8	o	XCTD-4
OS13132	49-30.00N	179-59.84W	7/29	1:39	-11	4956	-	-	10.8	o	XCTD-4

Table 2. Oceanographic data

Station OS13034 Latitude 57-26.02N Longitude 170-30.94W Depth(m) 71				Station OS13035 Latitude 57-01.68N Longitude 170-39.73W Depth(m) 85				Station OS13036 Latitude 56-37.19N Longitude 170-48.34W Depth(m) 118			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	3.657	31.708	25.200	5	5.544	31.987	25.226	20	5.383	31.978	25.238
10	3.655	31.708	25.201	10	5.540	31.987	25.227	30	3.334	32.022	25.480
20	3.792	31.742	25.215	20	5.539	31.987	25.227	40	2.637	32.098	25.599
30	3.029	31.744	25.285	30	5.016	31.989	25.287	50	2.280	32.131	25.653
50	1.638	31.974	25.573	40	2.392	31.972	25.518	75	2.245	32.206	25.716
				50	2.168	32.025	25.577	100	4.561	32.637	25.850
Station OS13037 Latitude 56-12.48N Longitude 170-57.22W Depth(m) 210				Station OS13038 Latitude 56-00.13N Longitude 170-21.19W Depth(m) 820				Station OS13039 Latitude 56-24.61N Longitude 170-12.02W Depth(m) 113			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	6.581	32.786	25.730	10	6.267	32.430	25.490	10	5.143	31.954	25.245
10	6.580	32.786	25.730	20	6.110	32.433	25.511	20	4.922	31.949	25.265
20	6.435	32.787	25.750	30	5.039	32.595	25.764	30	4.716	31.975	25.308
30	4.209	32.940	26.127	40	4.623	32.743	25.927	40	3.475	32.022	25.467
40	3.905	33.002	26.206	50	4.238	32.739	25.964	50	2.587	32.041	25.557
50	3.720	33.034	26.250	75	3.817	32.834	26.081	75	2.199	32.108	25.640
75	3.440	33.074	26.308	100	3.802	32.914	26.147	100	2.640	32.307	25.766
100	3.376	33.168	26.389	125	3.954	33.047	26.237				
125	3.553	33.286	26.467	150	3.862	33.087	26.278				
150	3.666	33.338	26.497	175	3.898	33.154	26.328				
175	3.674	33.341	26.499	200	3.609	33.193	26.387				
				250	3.746	33.326	26.479				
				300	3.791	33.486	26.602				
Station OS13040 Latitude 56-49.49N Longitude 170-03.39W Depth(m) 73				Station OS13041 Latitude 57-13.83N Longitude 169-46.05W Depth(m) 48				Station OS13042 Latitude 57-01.64N Longitude 169-14.09W Depth(m) 77			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	5.453	31.981	25.232	5	0.514	31.667	25.392	5	4.204	31.581	25.048
10	5.454	31.981	25.232	10	0.514	31.666	25.392	10	3.828	31.596	25.095
20	5.401	31.978	25.235	20	0.509	31.670	25.395	20	0.861	31.722	25.418
30	2.411	31.955	25.502	30	0.537	31.675	25.398	30	-0.039	31.812	25.535
40	2.235	32.014	25.562	40	0.549	31.675	25.397	40	0.066	31.831	25.546
50	2.222	32.016	25.565					50	0.112	31.836	25.548
Station OS13043 Latitude 56-40.17N Longitude 169-19.39W Depth(m) 72				Station OS13044 Latitude 56-13.07N Longitude 169-30.36W Depth(m) 480				Station OS13045 Latitude 55-48.67N Longitude 169-39.6W Depth(m) 1938			
Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T	Press.	Temp.	Sal.	SIG-T
5	3.268	31.881	25.373	5	6.020	32.278	25.400	5	6.209	32.449	25.511
10	2.890	31.866	25.393	10	5.921	32.314	25.441	10	5.948	32.443	25.539
20	2.060	31.910	25.492	20	5.892	32.318	25.447	20	5.818	32.471	25.576
30	1.743	31.914	25.518	30	5.931	32.352	25.469	30	5.140	32.524	25.697
40	1.676	31.914	25.522	40	5.358	32.364	25.546	40	4.303	32.736	25.955
50	1.669	31.913	25.522	50	3.848	32.489	25.804	50	4.295	32.787	25.996
				75	3.748	32.684	25.969	75	4.151	32.880	26.085
				100	3.741	32.845	26.097	100	3.968	32.995	26.195
				125	3.719	32.902	26.145	125	3.889	33.047	26.244
				150	3.651	32.942	26.183	150	3.934	33.135	26.309
				175	3.624	33.022	26.249	175	3.678	33.180	26.370
				200	3.687	33.082	26.291	200	3.646	33.251	26.430
				250	3.557	33.175	26.378	250	3.757	33.423	26.556
				300	3.638	33.302	26.471	300	3.788	33.555	26.658

Station OS13046			
Latitude 55-36.27N			
Longitude 169-03.66W			
Depth(m) 1712			
Press.	Temp.	Sal.	SIG-T
5	6.601	32.483	25.489
10	6.592	32.485	25.491
20	6.147	32.491	25.553
30	6.011	32.491	25.569
40	5.313	32.602	25.739
50	4.507	32.681	25.890
75	4.130	32.860	26.071
100	4.080	32.959	26.155
125	3.869	33.032	26.233
150	3.888	33.084	26.273
175	3.988	33.151	26.317
200	3.707	33.170	26.359
250	3.704	33.312	26.473
300	3.801	33.477	26.594

Station OS13047			
Latitude 56-01.14N			
Longitude 168-54.60W			
Depth(m) 1182			
Press.	Temp.	Sal.	SIG-T
5	6.189	32.168	25.292
10	6.057	32.168	25.308
20	5.978	32.288	25.412
30	4.385	32.345	25.636
40	4.239	32.488	25.765
50	4.003	32.595	25.873
75	3.881	32.717	25.982
100	3.708	32.925	26.164
125	3.710	33.020	26.240
150	3.673	33.076	26.288
175	3.640	33.132	26.336
200	3.618	33.194	26.387
250	3.676	33.324	26.485
300	3.742	33.452	26.580

Station OS13048			
Latitude 56-24.68N			
Longitude 168-45.71W			
Depth(m) 120			
Press.	Temp.	Sal.	SIG-T
5	5.967	31.908	25.114
10	5.755	31.905	25.137
20	5.462	31.906	25.171
30	3.850	31.948	25.373
40	2.582	31.987	25.514
50	2.402	32.021	25.555
75	2.214	32.229	25.736
100	2.707	32.370	25.810

Station OS13049			
Latitude 56-49.91N			
Longitude 168-36.85W			
Depth(m) 98			
Press.	Temp.	Sal.	SIG-T
5	5.761	31.931	25.156
10	5.601	31.934	25.178
20	5.338	31.934	25.208
30	1.138	31.953	25.588
40	1.020	31.965	25.605
50	1.008	31.963	25.604
75	1.022	31.971	25.609

Station OS13050			
Latitude 58-59.20N			
Longitude 166-00.25W			
Depth(m) 29			
Press.	Temp.	Sal.	SIG-T
5	4.221	31.205	24.747
10	4.217	31.203	24.746
20	4.219	31.203	24.746

Station OS13051			
Latitude 58-30.34N			
Longitude 165-59.31W			
Depth(m) 46			
Press.	Temp.	Sal.	SIG-T
5	3.138	31.168	24.816
10	3.121	31.169	24.818
20	3.114	31.169	24.818
30	3.096	31.169	24.820
40	3.083	31.169	24.821

Station OS13052			
Latitude 57-59.81N			
Longitude 165-59.96W			
Depth(m) 57			
Press.	Temp.	Sal.	SIG-T
5	3.659	31.146	24.753
10	3.661	31.146	24.753
20	2.709	31.147	24.834
30	1.687	31.206	24.954
40	1.514	31.224	24.979
50	1.489	31.227	24.983

Station OS13053			
Latitude 57-30.65N			
Longitude 166-00.36W			
Depth(m) 66			
Press.	Temp.	Sal.	SIG-T
5	2.782	31.373	25.008
10	2.756	31.373	25.011
20	2.633	31.374	25.021
30	0.788	31.400	25.163
40	0.722	31.408	25.173
50	0.702	31.407	25.174

Station OS13054			
Latitude 57-00.15N			
Longitude 165-59.67W			
Depth(m) 74			
Press.	Temp.	Sal.	SIG-T
5	4.043	31.404	24.923
10	4.001	31.405	24.927
20	3.940	31.414	24.941
30	1.436	31.405	25.129
40	0.210	31.488	25.263
50	0.187	31.492	25.267

Station OS13055			
Latitude 56-30.07N			
Longitude 166-00.09W			
Depth(m) 88			
Press.	Temp.	Sal.	SIG-T
5	6.439	31.805	24.975
10	6.438	31.804	24.975
20	6.440	31.805	24.974
30	4.400	31.853	25.243
40	0.924	31.873	25.536
50	0.902	31.880	25.543
75	0.883	31.877	25.541

Station OS13056			
Latitude 55-59.97N			
Longitude 165-59.79W			
Depth(m) 115			
Press.	Temp.	Sal.	SIG-T
5	6.772	31.827	24.950
10	6.769	31.827	24.950
20	6.016	31.874	25.081
30	5.902	31.898	25.114
40	5.090	31.960	25.256
50	4.128	32.136	25.496
75	3.499	32.420	25.781
100	3.396	32.565	25.907

Station OS13057			
Latitude 55-30.15N			
Longitude 165-59.24W			
Depth(m) 123			
Press.	Temp.	Sal.	SIG-T
5	6.309	31.980	25.129
10	6.303	31.980	25.130
20	5.653	32.010	25.232
30	5.533	32.022	25.256
40	4.843	32.243	25.507
50	4.395	32.375	25.659
75	4.201	32.623	25.876
100	3.823	32.703	25.976

Station	OS13058		
Latitude	54-59.70N		
Longitude	165-59.82W		
Depth(m)	137		
Press.	Temp.	Sal.	SIG-T
5	6.355	32.197	25.295
10	6.231	32.201	25.313
20	5.906	32.188	25.342
30	5.450	32.214	25.416
40	4.707	32.431	25.671
50	4.483	32.550	25.789
75	4.327	32.661	25.893
100	3.774	32.946	26.175
125	3.763	33.016	26.232

Station	OS13059		
Latitude	54-30.24N		
Longitude	165-59.25W		
Depth(m)	511		
Press.	Temp.	Sal.	SIG-T
5	6.500	32.545	25.550
10	6.478	32.545	25.554
20	5.777	32.712	25.772
30	5.575	32.703	25.789
40	5.056	32.794	25.920
50	4.095	32.839	26.058
75	3.984	32.973	26.175
100	4.189	33.063	26.227
125	3.859	33.098	26.287
150	3.865	33.168	26.343
175	3.879	33.219	26.382
200	3.670	33.259	26.433
250	3.766	33.415	26.549
300	3.790	33.539	26.645
400	3.797	33.742	26.806

Station	OS13060		
Latitude	54-24.33N		
Longitude	166-19.54W		
Depth(m)	581		
Press.	Temp.	Sal.	SIG-T
5	6.702	32.725	25.666
10	6.68	32.727	25.671
20	6.227	32.747	25.745
30	5.62	32.821	25.877
50	5.085	33.01	26.088
75	4.612	33.087	26.201
100	4.16	33.122	26.276
150	3.969	33.228	26.38
200	3.875	33.329	26.469
300	3.791	33.556	26.658
400	3.774	33.781	26.839
500	3.599	33.97	27.007

Station	OS13061		
Latitude	62-02.98N		
Longitude	175-12.72W		
Depth(m)	81		
Press.	Temp.	Sal.	SIG-T
5	6.442	31.011	24.348
10	5.570	31.074	24.501
20	-1.175	31.578	25.385
30	-1.600	31.753	25.537
40	-1.628	31.826	25.597
50	-1.560	31.866	25.628
75	-1.560	31.867	25.629

Station	OS13062		
Latitude	62-31.91N		
Longitude	174-28.92W		
Depth(m)	71		
Press.	Temp.	Sal.	SIG-T
5	6.126	31.169	24.512
10	5.786	31.149	24.536
20	-0.949	31.722	25.495
30	-1.561	31.870	25.631
40	-1.632	31.979	25.721
50	-1.658	32.118	25.835

Station	OS13063		
Latitude	62-54.51N		
Longitude	173-16.48W		
Depth(m)	68		
Press.	Temp.	Sal.	SIG-T
5	5.929	31.168	24.535
10	5.678	31.284	24.655
20	-1.134	31.843	25.599
30	-1.630	32.217	25.915
40	-1.701	32.286	25.972
50	-1.711	32.405	26.070

Station	OS13064		
Latitude	62-53.36N		
Longitude	172-02.27W		
Depth(m)	54		
Press.	Temp.	Sal.	SIG-T
5	6.041	30.862	24.280
10	5.507	30.885	24.359
20	-1.078	32.122	25.823
30	-1.567	32.353	26.024
40	-1.568	32.351	26.023

Station	OS13065		
Latitude	62-38.64N		
Longitude	171-17.24W		
Depth(m)	45		
Press.	Temp.	Sal.	SIG-T
5	5.764	30.754	24.226
10	5.621	30.742	24.233
20	-1.218	32.378	26.035
30	-1.243	32.385	26.041
40	-1.245	32.381	26.038

Station	OS13066		
Latitude	62-29.87N		
Longitude	170-03.01W		
Depth(m)	37		
Press.	Temp.	Sal.	SIG-T
5	5.687	30.788	24.262
10	4.225	30.922	24.522
20	-0.962	32.479	26.109
30	-0.904	32.523	26.143

Station	OS13067		
Latitude	63-39.25N		
Longitude	165-36.12W		
Depth(m)	21		
Press.	Temp.	Sal.	SIG-T
5	5.068	30.939	24.450
10	3.992	30.887	24.517

Station	OS13068		
Latitude	63-54.01N		
Longitude	166-12.41W		
Depth(m)	27		
Press.	Temp.	Sal.	SIG-T
5	7.035	31.395	24.576
10	6.487	31.450	24.688
20	4.724	31.682	25.075

Station	OS13069		
Latitude	64-10.00N		
Longitude	166-49.70W		
Depth(m)	30		
Press.	Temp.	Sal.	SIG-T
5	6.837	31.236	24.476
10	6.080	31.273	24.599
20	1.524	31.742	25.394

Station	OS13070		
Latitude	64-24.62N		
Longitude	167-24.71W		
Depth(m)	30		
Press.	Temp.	Sal.	SIG-T
5	5.915	30.846	24.282
10	4.153	31.261	24.799
20	0.280	32.163	25.804

Station	OS13071		
Latitude	64-39.37N		
Longitude	167-59.56W		
Depth(m)	35		
Press.	Temp.	Sal.	SIG-T
5	1.661	31.899	25.511
10	0.367	32.190	25.821
20	0.225	32.229	25.859
30	0.223	32.228	25.858

Station	OS13072		
Latitude	65-00.15N		
Longitude	167-35.05W		
Depth(m)	32		
Press.	Temp.	Sal.	SIG-T
5	5.581	31.058	24.487
10	4.169	31.367	24.880
20	0.517	31.775	25.479

Station	OS13073		
Latitude	65-00.07N		
Longitude	168-19.94W		
Depth(m)	43		
Press.	Temp.	Sal.	SIG-T
5	5.799	31.331	24.678
10	5.451	31.632	24.956
20	2.955	31.866	25.388
30	-0.357	32.258	25.908

Station	OS13074		
Latitude	65-00.10N		
Longitude	169-04.94W		
Depth(m)	49		
Press.	Temp.	Sal.	SIG-T
5	2.482	32.393	25.847
10	1.843	32.441	25.933
20	1.378	32.447	25.969
30	1.288	32.446	25.975
40	1.290	32.445	25.973

Station	OS13075		
Latitude	65-00.08N		
Longitude	169-49.54W		
Depth(m)	50		
Press.	Temp.	Sal.	SIG-T
5	2.879	32.542	25.934
10	2.259	32.566	26.002
20	1.445	32.585	26.075
30	1.494	32.605	26.088
40	1.506	32.605	26.088

Station	OS13076		
Latitude	65-30.05N		
Longitude	168-55.06W		
Depth(m)	56		
Press.	Temp.	Sal.	SIG-T
5	2.238	32.161	25.680
10	1.749	32.211	25.755
20	0.759	32.162	25.777
30	0.714	32.174	25.789
40	0.706	32.190	25.803
50	0.724	32.193	25.804

Station	OS13077		
Latitude	66-10.51N		
Longitude	168-54.87W		
Depth(m)	55		
Press.	Temp.	Sal.	SIG-T
5	2.219	32.155	25.676
10	1.140	32.220	25.802
20	1.133	32.222	25.804
30	1.102	32.227	25.810
40	1.104	32.226	25.809
50	1.105	32.226	25.809

Station	OS13078		
Latitude	66-37.93N		
Longitude	168-54.98W		
Depth(m)	47		
Press.	Temp.	Sal.	SIG-T
5	1.718	32.150	25.709
10	1.434	32.142	25.721
20	1.410	32.148	25.728
30	1.360	32.147	25.730
40	1.292	32.153	25.739

Station	OS13079		
Latitude	67-05.35N		
Longitude	168-53.27W		
Depth(m)	47		
Press.	Temp.	Sal.	SIG-T
5	4.124	32.198	25.546
10	2.625	32.193	25.673
20	1.174	32.210	25.792
30	1.034	32.225	25.812
40	0.963	32.233	25.823

Station	OS13080		
Latitude			
Longitude			
Depth(m)			
Depth	Temp.	Sal.	SIG-T
5	4.307	32.256	-
10	1.973	32.412	-
20	1.624	32.477	-
30	1.449	32.504	-
40	1.480	32.523	-
50	1.511	12.920	-
75	2.402	12.700	-
100	3.481	12.628	-

Station	OS13081		
Latitude			
Longitude			
Depth(m)			
Depth	Temp.	Sal.	SIG-T
5	4.680	32.402	-
10	4.010	32.394	-
20	1.675	32.414	-
30	1.582	32.458	-
40	1.572	32.489	-
50	1.438	14.528	-
75	2.289	14.409	-
100	3.328	14.311	-

Station	OS13082		
Latitude			
Longitude			
Depth(m)			
Depth	Temp.	Sal.	SIG-T
5	6.081	32.178	-
10	4.815	32.177	-
20	1.511	32.390	-
30	1.179	32.374	-
40	1.251	32.418	-
50	1.314	32.422	-
75	1.654	13.982	-
100	2.714	13.923	-

Station	OS13083		
Latitude			
Longitude			
Depth(m)			
Depth	Temp.	Sal.	SIG-T
5	5.825	31.531	-
10	2.999	32.190	-
20	1.011	32.230	-
30	0.452	32.291	-
40	0.502	32.298	-
50	0.502	32.294	-
75	1.624	9.697	-
100	2.816	9.663	-

Station	OS13084		
Latitude			
Longitude			
Depth(m)			
Depth	Temp.	Sal.	SIG-T
5	3.163	31.645	-
10	0.812	31.911	-
20	0.436	31.964	-
30	0.404	31.983	-
40	0.404	31.986	-
50	0.446	16.865	-
75	1.187	16.782	-
100	2.103	16.678	-

Station OS13085			
Latitude			
Longitude			
Depth(m)			
Depth	Temp.	Sal.	SIG-T
5	7.020	30.499	-
10	3.461	31.584	-
20	1.527	31.763	-
30	0.990	31.836	-
40	0.984	31.842	-
50	1.060	13.380	-
75	2.237	13.276	-
100	3.210	13.226	-
125	3.992	13.192	-

Station OS13086			
Latitude			
Longitude			
Depth(m)			
Depth	Temp.	Sal.	SIG-T
5	6.589	30.432	-
10	4.427	31.291	-
20	2.245	31.671	-
30	1.373	31.803	-
40	1.362	31.810	-
50	1.472	12.796	-
75	2.541	12.669	-

Station OS13087			
Latitude			
Longitude			
Depth(m)			
Depth	Temp.	Sal.	SIG-T
5	5.807	30.201	-
10	4.423	31.374	-
20	2.618	31.638	-
30	2.476	31.650	-
40	2.598	31.353	-
50	2.506	31.529	-
75	2.506	31.506	-
100	2.506	31.490	-

Station OS13088			
Latitude 68-14.60N			
Longitude 167-07.26W			
Depth(m) 42			
Press.	Temp.	Sal.	SIG-T
5	5.276	30.948	24.434
10	3.887	31.498	25.012
20	2.211	31.642	25.267
30	1.432	31.769	25.422

Station OS13089			
Latitude 68-11.30N			
Longitude 167-18.89E			
Depth(m) 47			
Press.	Temp.	Sal.	SIG-T
5	2.615	31.585	25.192
10	1.692	31.757	25.395
20	1.040	31.851	25.512
30	0.983	31.868	25.528

Station OS13090			
Latitude 69-48.79N			
Longitude 166-19.17W			
Depth(m) 44			
Press.	Temp.	Sal.	SIG-T
5	2.424	29.436	23.489
10	1.724	31.304	25.030
20	-0.563	32.285	25.938
30	-1.269	32.443	26.089

Station OS13091			
Latitude 69-48.75N			
Longitude 165-20.02W			
Depth(m) 38			
Press.	Temp.	Sal.	SIG-T
5	2.332	29.062	23.196
10	2.377	29.209	23.310
20	-0.370	31.943	25.654
30	-0.940	32.476	26.106

Station OS13092			
Latitude 69-48.99N			
Longitude 167-20.06W			
Depth(m) 47			
Press.	Temp.	Sal.	SIG-T
5	3.599	30.109	23.933
10	1.106	31.681	25.371
20	-0.234	32.282	25.923
30	-1.332	32.447	26.094
40	-1.433	32.496	26.137

Station OS13093			
Latitude 70-59.97N			
Longitude 167-10.10W			
Depth(m) 45			
Press.	Temp.	Sal.	SIG-T
5	4.796	31.225	24.705
10	4.820	31.219	24.698
20	-1.029	32.397	26.045
30	-1.422	32.599	26.220
40	-1.443	32.604	26.224

Station OS13094			
Latitude 71-25.84N			
Longitude 167-15.35W			
Depth(m) 47			
Press.	Temp.	Sal.	SIG-T
5	4.165	30.819	24.446
10	3.738	31.019	24.645
20	-1.616	32.672	26.284
30	-1.700	32.711	26.318
40	-1.703	32.720	26.325

Station OS13095			
Latitude 71-30.36N			
Longitude 16716.95W			
Depth(m) 48			
Press.	Temp.	Sal.	SIG-T
5	4.240	30.914	24.514
10	1.947	31.505	25.175
20	-1.697	32.694	26.304
30	-1.703	32.716	26.322
40	-1.704	32.724	26.329

Station OS13096			
Latitude 71-02.77N			
Longitude 164-27.34W			
Depth(m) 41			
Press.	Temp.	Sal.	SIG-T
5	1.955	29.904	23.894
10	-0.043	30.446	24.432
20	-1.661	32.275	25.962
30	-1.734	32.716	26.322

Station OS13097			
Latitude 70-55.21N			
Longitude 164-37.35W			
Depth(m) 33			
Press.	Temp.	Sal.	SIG-T
5	2.973	29.486	23.489
10	1.247	30.425	24.354
20	-1.691	32.495	26.142

Station OS13098			
Latitude 70-44.85N			
Longitude 164-36.02W			
Depth(m) 46			
Press.	Temp.	Sal.	SIG-T
5	1.294	27.847	22.284
10	1.716	29.292	23.419
20	-1.650	32.392	26.057
30	-1.715	32.714	26.321
40	-1.716	32.714	26.321

Station OS13099			
Latitude 70-29.95N			
Longitude 161-59.65W			
Depth(m) 20			
Press.	Temp.	Sal.	SIG-T
5	0.364	32.130	25.772
10	0.187	32.135	25.785

Station	OS13100		
Latitude	70-36.99N		
Longitude	161-32.75W		
Depth(m)	36		
Press.	Temp.	Sal.	SIG-T
5	0.295	32.307	25.918
10	0.318	32.299	25.911
20	-1.203	32.613	26.225
30	-1.219	32.616	26.228

Station	OS13101		
Latitude	70-44.92N		
Longitude	161-16.17W		
Depth(m)	42		
Press.	Temp.	Sal.	SIG-T
5	-0.023	31.980	25.670
10	-0.372	32.149	25.821
20	-1.687	32.448	26.104
30	-1.709	32.686	26.297

Station	OS13112		
Latitude	70-24.67N		
Longitude	163-30.08W		
Depth(m)	35		
Press.	Temp.	Sal.	SIG-T
5	2.883	30.439	24.255
10	1.192	31.308	25.066
20	-0.772	32.436	26.068
30	-0.824	32.446	26.077

Station	OS13113		
Latitude	70-06.70N		
Longitude	164-54.12W		
Depth(m)	40		
Press.	Temp.	Sal.	SIG-T
5	4.621	29.038	22.990
10	1.543	31.604	25.282
20	-0.904	32.485	26.112
30	-1.176	32.523	26.151

Station	OS13114		
Latitude	70-24.55N		
Longitude	164-59.70W		
Depth(m)	44		
Press.	Temp.	Sal.	SIG-T
5	4.130	30.043	23.833
10	3.339	30.387	24.177
20	-0.749	32.209	25.883
30	-0.795	32.502	26.122

Station	OS13115		
Latitude	68-31.06N		
Longitude	168-32.79W		
Depth(m)	52		
Press.	Temp.	Sal.	SIG-T
10	4.020	32.254	25.601
20	1.359	32.237	25.802
30	1.080	32.295	25.865
40	1.065	32.311	25.880

Station	OS13116		
Latitude	68-24.48N		
Longitude	167-44.42W		
Depth(m)	53		
Press.	Temp.	Sal.	SIG-T
5	3.404	31.927	25.398
10	2.995	31.886	25.401
20	2.833	31.875	25.405
30	2.697	31.861	25.405
40	2.277	31.869	25.444

Station	OS13117		
Latitude	68-17.86N		
Longitude	166-56.80W		
Depth(m)	34		
Press.	Temp.	Sal.	SIG-T
5	6.365	31.291	24.579
10	6.352	31.293	24.582
20	5.794	31.305	24.658

Station	OS13118		
Latitude	68-14.60N		
Longitude	167-07.33W		
Depth(m)	42		
Press.	Temp.	Sal.	SIG-T
5	5.130	31.482	24.873
10	3.390	31.491	25.052
20	3.163	31.510	25.087
30	2.953	31.517	25.110

Station	OS13119		
Latitude	68-11.15N		
Longitude	167-18.65W		
Depth(m)	47		
Press.	Temp.	Sal.	SIG-T
5	2.351	31.550	25.183
10	2.296	31.560	25.195
20	2.184	31.567	25.209
30	1.865	31.679	25.321
40	2.485	31.957	25.498

Station	OS13120		
Latitude	68-07.69N		
Longitude	167-29.92W		
Depth(m)	49		
Press.	Temp.	Sal.	SIG-T
5	5.879	32.162	25.325
10	5.851	32.166	25.331
20	1.882	32.119	25.672
30	1.876	32.119	25.673
40	1.864	32.123	25.677

Station	OS13121		
Latitude	68-00.84N		
Longitude	167-51.95W		
Depth(m)	52		
Press.	Temp.	Sal.	SIG-T
5	4.829	32.323	25.572
10	3.955	32.291	25.636
20	1.342	32.267	25.828
30	1.309	32.272	25.833
40	1.255	32.278	25.842

Station	OS13122		
Latitude	67-51.96N		
Longitude	168-14.02W		
Depth(m)	56		
Press.	Temp.	Sal.	SIG-T
5	4.696	32.123	25.428
10	4.689	32.125	25.430
20	0.908	32.261	25.849
30	0.815	32.285	25.873
40	0.804	32.283	25.872
50	0.791	32.282	25.872

Station	OS13123		
Latitude	67-47.02N		
Longitude	168-35.96W		
Depth(m)	50		
Press.	Temp.	Sal.	SIG-T
5	2.836	32.197	25.662
10	2.835	32.197	25.662
20	1.725	32.209	25.755
30	0.751	32.252	25.850
40	0.684	32.249	25.851

Station	OS13124		
Latitude	67-38.26N		
Longitude	168-57.31W		
Depth(m)	50		
Press.	Temp.	Sal.	SIG-T
5	2.504	32.260	25.739
10	2.414	32.258	25.744
20	1.614	32.241	25.788
30	1.523	32.240	25.794
40	0.813	32.237	25.835

Station OS13125
Latitude 67-40.29N
Longitude 167-56.83W
Depth(m) 48

Press.	Temp.	Sal.	SIG-T
5	4.525	32.025	25.367
10	3.272	32.150	25.587
20	0.848	32.226	25.824
30	0.796	32.231	25.831
40	0.795	32.229	25.829

Station OS13126
Latitude 67-40.35N
Longitude 166-55.98W
Depth(m) 48

Press.	Temp.	Sal.	SIG-T
5	6.021	32.041	25.212
10	6.014	32.042	25.214
20	2.374	32.092	25.611
30	1.345	32.194	25.768
40	1.303	32.204	25.779

Station OS13127				Station OS13128				Station OS13129			
Latitude				Latitude				Latitude			
Longitude				Longitude				Longitude			
Depth(m)				Depth(m)				Depth(m)			
Depth	Temp.	Sal.	SIG-T	Depth	Temp.	Sal.	SIG-T	Depth	Temp.	Sal.	SIG-T
5	7.973	32.731	-	5	9.782	32.678	-	5	9.777	32.649	-
10	7.944	32.743	-	10	9.782	32.691	-	10	9.777	32.662	-
20	7.408	32.811	-	20	9.791	32.696	-	20	8.751	32.721	-
30	6.856	32.876	-	30	8.985	32.736	-	30	6.822	32.791	-
40	6.450	32.923	-	40	6.378	32.876	-	40	6.453	32.808	-
50	6.401	32.928	-	50	6.136	32.923	-	50	6.138	32.813	-
75	5.258	33.067	-	75	3.287	33.004	-	75	3.769	32.899	-
100	4.543	33.189	-	100	2.772	33.043	-	100	3.345	32.975	-
125	4.280	33.274	-	125	2.519	33.130	-	125	3.516	33.301	-
150	4.191	33.370	-	150	3.180	33.592	-	150	3.809	33.741	-
175	4.191	33.442	-	175	3.488	33.749	-	175	3.856	33.893	-
200	4.220	33.512	-	200	3.538	33.836	-	200	3.856	33.940	-
250	4.261	33.604	-	250	3.639	33.940	-	250	3.816	34.016	-
300	4.002	33.748	-	300	3.649	34.004	-	300	3.746	34.087	-
400	3.835	33.904	-	400	3.568	34.119	-	400	3.536	34.187	-
500	3.662	33.999	-	500	3.438	34.183	-	500	3.295	34.272	-
600	3.592	34.125	-	600	3.287	34.252	-	600	3.094	34.320	-
700	3.502	34.178	-	700	3.126	34.314	-	700	2.904	34.362	-
800	3.325	34.248	-	800	2.965	34.353	-	800	2.760	34.395	-
900	3.171	34.300	-	900	2.833	34.391	-	900	2.608	34.428	-
1000	2.959	34.348	-	1000	2.722	34.419	-	1000	2.466	34.461	-
1200	2.670	34.415	-	1200	2.437	34.485	-	1200	2.273	34.501	-
1500	2.280	34.508	-	1500	2.182	34.535	-	1500	2.038	34.556	-

Station OS13130				Station OS13131				Station OS13132			
Latitude				Latitude				Latitude			
Longitude				Longitude				Longitude			
Depth(m)				Depth(m)				Depth(m)			
Depth	Temp.	Sal.	SIG-T	Depth	Temp.	Sal.	SIG-T	Depth	Temp.	Sal.	SIG-T
5	9.839	32.661	-	5	9.700	32.664	-	5	9.793	32.704	-
10	9.308	32.690	-	10	9.568	32.668	-	10	9.614	32.718	-
20	7.944	32.765	-	20	7.065	32.771	-	20	6.628	32.846	-
30	6.577	32.808	-	30	6.549	32.818	-	30	6.093	32.878	-
40	6.441	32.818	-	40	6.384	32.827	-	40	5.750	32.893	-
50	5.745	32.822	-	50	5.276	32.826	-	50	4.203	32.942	-
75	3.686	32.904	-	75	3.466	32.910	-	75	2.852	33.014	-
100	3.346	32.966	-	100	3.315	33.112	-	100	2.503	33.087	-
125	3.536	33.338	-	125	3.573	33.574	-	125	3.114	33.471	-
150	3.783	33.709	-	150	3.716	33.818	-	150	3.526	33.721	-
175	3.786	33.861	-	175	3.756	33.874	-	175	3.636	33.813	-
200	3.846	33.928	-	200	3.766	33.933	-	200	3.676	33.871	-
250	3.806	34.015	-	250	3.756	34.006	-	250	3.656	33.934	-
300	3.742	34.078	-	300	3.696	34.068	-	300	3.659	34.016	-
400	3.546	34.171	-	400	3.502	34.160	-	400	3.556	34.124	-
500	3.325	34.255	-	500	3.345	34.221	-	500	3.406	34.189	-
600	3.124	34.310	-	600	3.185	34.290	-	600	3.235	34.249	-
700	2.933	34.349	-	700	3.023	34.341	-	700	3.044	34.309	-
800	2.791	34.388	-	800	2.872	34.377	-	800	2.902	34.353	-
900	2.650	34.415	-	900	2.730	34.417	-	900	2.741	34.389	-
1000	2.505	34.448	-	1000	2.598	34.450	-	1000	2.599	34.422	-
1200	2.274	34.492	-	1200	2.354	34.502	-	1200	2.370	34.472	-
1500	2.008	34.550	-	1500	2.079	34.576	-	1500	2.110	34.536	-