

PRELIMINARY CRUISE REPORT, W0408D and W0409A  
R/V WECOMA, 30 August – 3 September and 7-9 September 2004  
GLOBEC NEP Long-Term Observations off Oregon

Submitted by Jane Fleischbein  
College of Oceanic & Atmospheric Sciences  
Oregon State University  
Corvallis, Oregon 97331-5503  
flej@oce.orst.edu, 541.737.5698

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PRINCIPAL INVESTIGATORS: Adriana Huyer, Robert L. Smith,  
P. Michael Kosro, P. A. Wheeler, W. T. Peterson

PURPOSE (W0408D): To determine physical, plankton and nutrient/chemical conditions over the continental margin for climate change studies in NE Pacific. In particular, to make CTD and CTD/rosette and net tow stations along 3 lines (off Newport, Strawberry Hill and Heceta Head, OR.), and to make continuous observations of currents using ADCP and of surface-layer temperature, salinity and fluorescence by means of ship's thru-flo system. Figure 1 shows the location of the CTD stations. Table 1 shows the CTD station positions, and Table 3 shows the biochemical sampling depths.

PURPOSE (W0409A): To replace moorings at two sites off of Coos Bay and the Rogue River, Or., and to make CTD casts and ADCP transects along 3 lines (off Newport, Coos Bay and Rogue River, Or.). Figure 2 shows the location of the CTD stations. Table 2 shows the CTD station positions.

SAMPLING PLAN (W0408D):

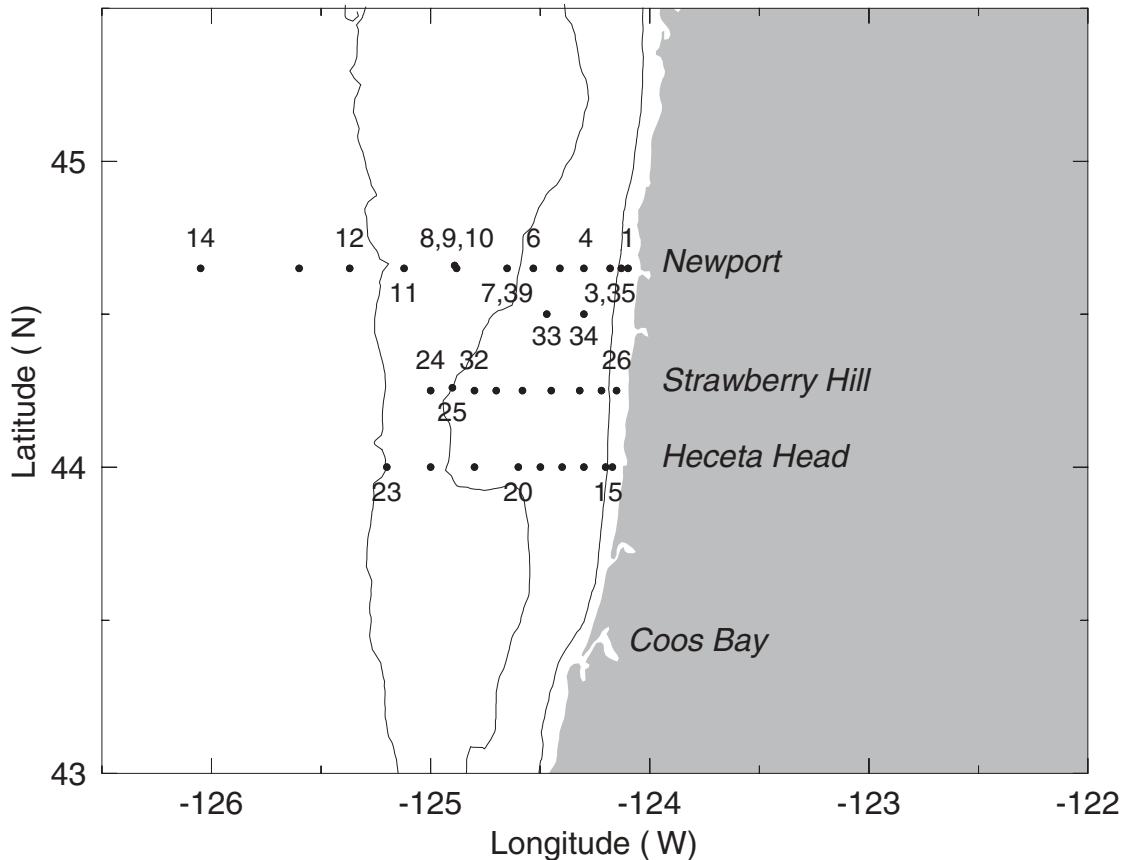
1. Use ship's intake continuously for Temperature, Salinity, and Fluorescence
2. Continuous ADCP Profiling (150 kHz transducer) for water velocity and backscattering for bioacoustics.
3. Standard CTD Stations using SBE 9/11 plus CTD system for Temperature, Salinity, Fluorescence, Light Transmission, Oxygen, PAR.
4. Rosette sampling: 5 liter bottles for nutrients, chlorophyll, microzooplankton
5. Vertical net tows: 1/2 meter nets 100 m to surface; Bongo net tows to 100m.

#### CRUISE NARRATIVE

A brief overview of W0408D is presented here. An event log is provided in Table 3, and participating personnel are listed in Table 4. Wecoma departed Newport at 1350 PST on 30 August 2004. CTD sampling started at NH-1 and continued out to NH-85. A single vertical net tow was done at NH-1, and both Bongo and vertical net tows were started at NH-5. In order to maximize darkness for the Bongo net tows, the CTD stations were done in their usual order out to NH-25, then the ship returned to NH-20, NH-15 and NH-10. CTD stations and net tows were then done in order from NH-35 out to NH-85, finishing sampling on the line at 1858 PST on 31 August. The ship transited to HH-5 on the Heceta Head line, arriving at 0015 PST on 1 September, to begin working inshore to do Bongo net tows in darkness. CTD sampling resumed at HH-1a and the line was completed at 1716 PST on 1 September, working out to HH-7.

CTD sampling on the Strawberry Hill line began at 2016 PST at SH-9, followed by SH-8. Only Bongo net tows were done on the way in towards shore from SH-7 to SH-1 to allow sampling in darkness. CTD sampling resumed at SH-1 at 0601 PST on 2 September, and the line was worked out, finishing SH-7 at 1152 PST. Two stations were done over Stonewall Bank, followed by a repeat of the CTD stations from NH-5 to NH-25. The same NH stations were then worked toward shore with net tows only, finishing NH-5 at 0138 PST on 3 September. The ship arrived back in Newport at 0630 PST on 3 September.

Figure 1. CTD stations during W0408D, along the Newport, Strawberry Hill, and Heceta Head Hydrographic Lines.



#### Preliminary Results (W0408D)

Plots of temperature vs. salinity and oxygen vs. salinity for the Newport, Heceta Head and Strawberry Hill stations are presented. The oxygen concentrations at the deepest CTD pressures are also shown for each station (pg. 13). The winds were predominately from the north between 5-20 kts.(pg. 14).

The attached zooplankton report was provided by Dr. Wm. Peterson.

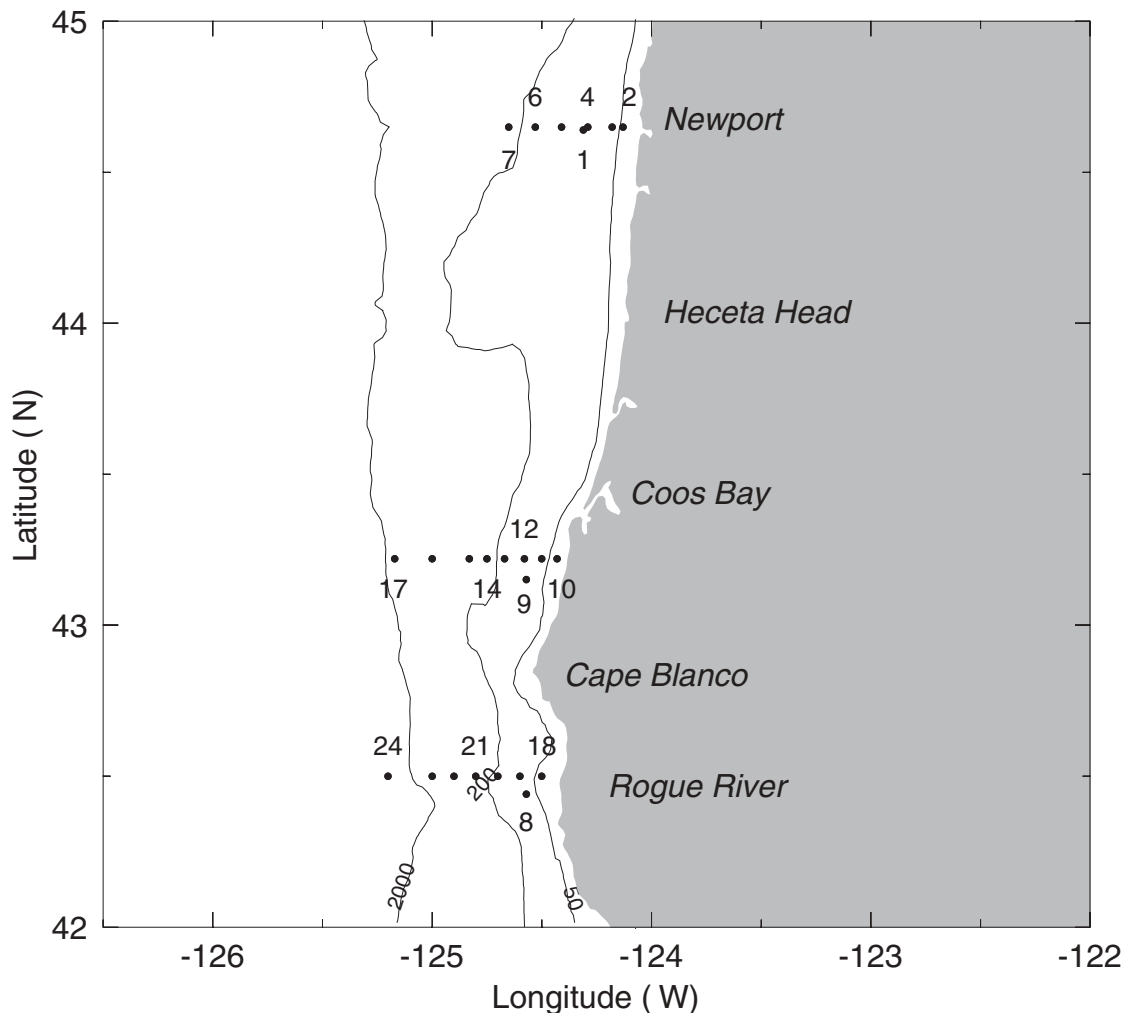


Figure 2. CTD stations during W0409A, along the Newport, Five Mile, and Rogue River Hydrographic Lines.

Table 4. Names, affiliations, and responsibilities of scientific personnel participating on W0408d.

Adriana Huyer	Chief Scientist	OSU	CTD
Robert L. Smith	Co-Chief Scientist	OSU	CTD
Jane Fleischbein	Technician	OSU	CTD, Oxygen
Julie Arrington	Technician	OSU	nuts, chl
Jennifer Jarrell-Wetz	Technician	OSU	nuts, chl
Mike Wetz	Graduate Student	OSU	nuts, chl
William T. Peterson	Co-Chief Scientist	NOAA	zooplankton
Leah Feinberg	Technician	HMSC	zooplankton
Carolyn Tracy Shaw	Technician	HMSC	zooplankton
Mitch Vance	Technician	HMSC	zooplankton
Rian Hooff	Technician	HMSC	zooplankton
Jesse Lamb	Technician	HMSC	zooplankton
Julie Keister	Graduate Student	OSU	zooplankton
Linda Faylor	Technician	OSU	martec
Daryl Swensen	Technician	OSU	martec

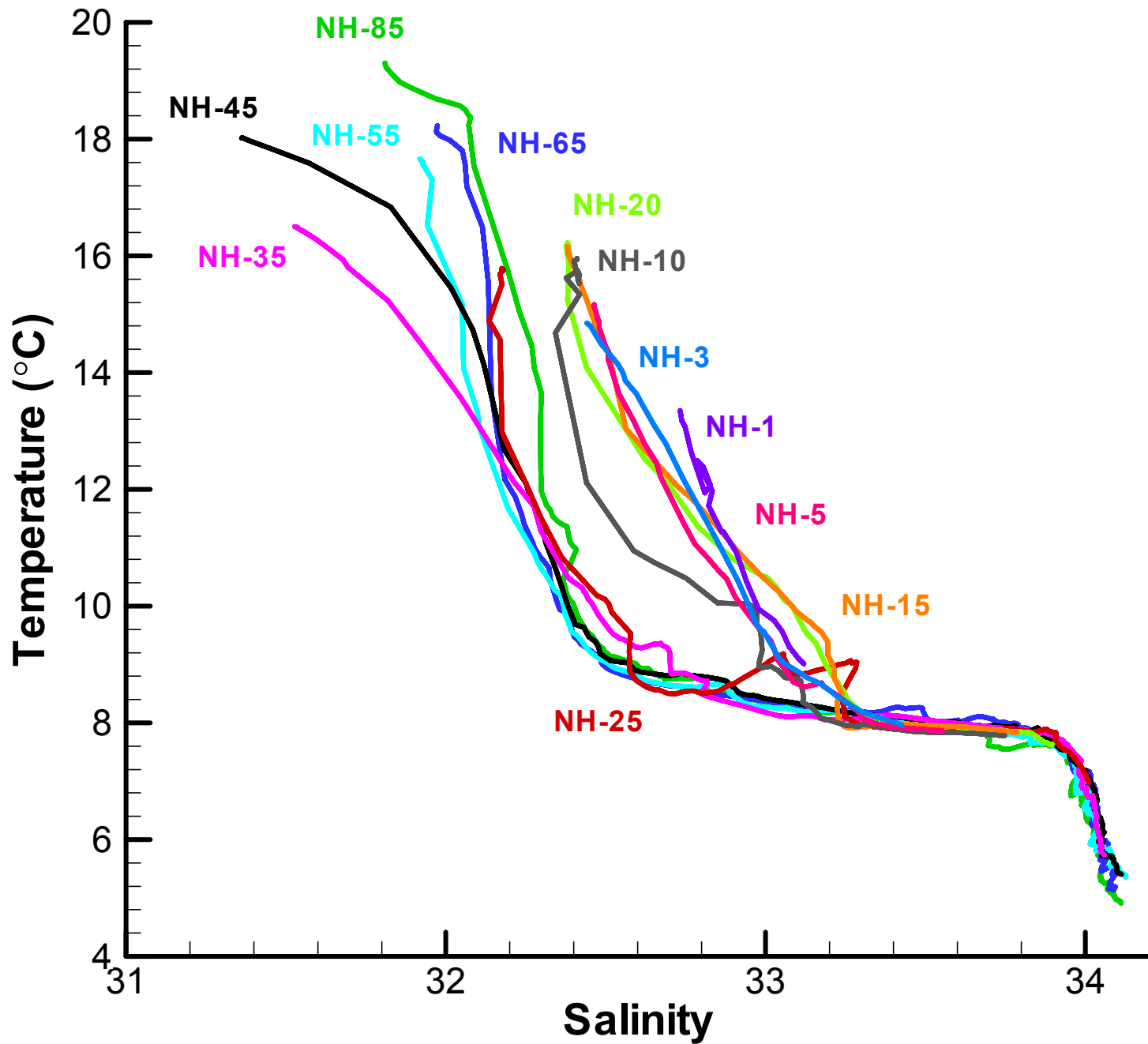
Table 1. CTD station positions during W0408D, and sampling at each station (C: Bio/Chem bottle sampling, N:half-meter vertical net tows, B: Bongo net tows, O:Oxygen samples).

Station		Distance	Lat.	Long.	Bottom	Cast	Sampling
Name	No.	from shore	°N	°W	Depth	Depth	Type
		(km)			(m)	(db)	
NH-1	1	3.0	44.65	-124.10	28	23	N
NH-3	2	5.6	44.65	-124.13	48	43	
NH-5	3	9.1	44.65	-124.18	58	54	C,N, B
NH-10	4	18.5	44.65	-124.30	81	76	N,B
NH-15	5	27.6	44.65	-124.41	93	86	C, N, B
NH-20	6	36.9	44.65	-124.53	142	136	N
NH-25	7	46.5	44.65	-124.65	293	286	C,N,B
NH-35	8	65.0	44.65	-124.88	442	430	C,N,B
NH-35	9	65.4	44.66	-124.89	458	70	
NH-35	10	65.6	44.66	-124.89	458	70	
NH-45	11	83.3	44.65	-125.12	704	695	C,N,B
NH-55	12	103.2	44.65	-125.37	2866	1006	N,O2
NH-65	13	121.5	44.65	-125.60	2861	1005	C,N,B
NH-85	14	157.2	44.65	-126.05	2882	1006	C,N,B,O2
HH-1a	15	2.2	44.00	-124.17	30	26	N
HH-1	16	5.0	44.00	-124.20	53	49	C,N,B
HH-2a	17	13.0	44.00	-124.30	93	88	N
HH-2	18	20.9	44.00	-124.40	120	115	C,N,B
HH-3a	19	28.9	44.00	-124.50	137	132	N,B
HH-3	20	36.9	44.00	-124.60	155	150	C,N,B
HH-4	21	53.0	44.00	-124.80	112	108	C,N,B
HH-5	22	68.9	44.00	-125.00	932	926	C,N,B
HH-7	23	84.8	44.00	-125.20	1697	1005	C,N,B
SH-9	24	71.9	44.25	-125.00	562	546	N,B,O2
SH-8	25	63.7	44.26	-124.90	152	142	N,B
SH-1	26	4.3	44.25	-124.15	40	35	N
SH-2	27	9.6	44.25	-124.22	60	56	N
SH-3	28	17.4	44.25	-124.32	79	73	N
SH-4	29	28.2	44.25	-124.45	97	93	N
SH-5	30	38.2	44.25	-124.58	102	98	N
SH-6	31	48.0	44.25	-124.70	98	94	N
SH-7	32	55.9	44.25	-124.80	118	114	N,B
SB-2	33	31.3	44.50	-124.47	82	76	N,B
SB-1	34	18.0	44.50	-124.30	83	79	N,B
NH-5	35	9.1	44.65	-124.18	58	55	N
NH-10	36	18.3	44.65	-124.29	81	76	N
NH-15	37	27.6	44.65	-124.41	96	90	N
NH-20	38	36.9	44.65	-124.53	142	134	N
NH-25	39	46.5	44.65	-124.65	296	283	N,B

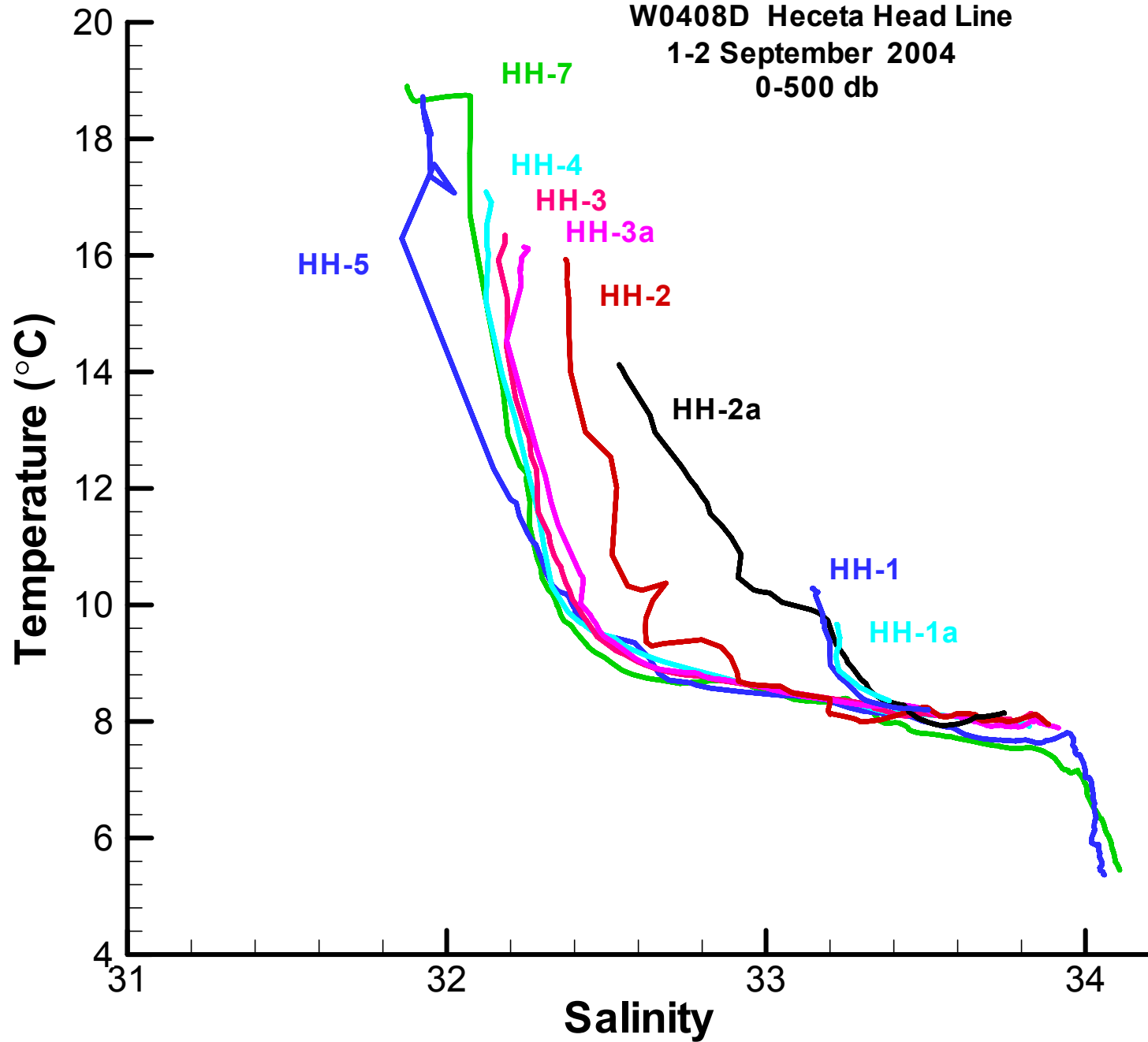
Table 2. Station positions occupied during W0409A.

Station		Distance	Lat.	Long.	Bottom	Cast
Name	No.	from shore	°N	°W	Depth	Depth
		(km)			(m)	(db)
NH-10	1	19.4	44.64	-124.31	83	78
NH-3	2	5.2	44.65	-124.13	48	43
NH-5	3	9.1	44.65	-124.18	59	55
NH-10	4	18.3	44.65	-124.29	82	78
NH-15	5	27.6	44.65	-124.41	94	87
NH-20	6	36.9	44.65	-124.53	144	138
NH-25	7	46.3	44.65	-124.65	298	288
RR_mooring	8	14.8	42.44	-124.57	76	71
CB_mooring	9	15.7	43.15	-124.57	100	95
FM-1	10	3.3	43.22	-124.43	35	31
FM-3	11	8.7	43.22	-124.50	64	61
FM-4	12	15.4	43.22	-124.58	88	82
FM-5	13	22.2	43.22	-124.67	157	155
FM-6	14	28.7	43.22	-124.75	310	303
FM-7	15	35.7	43.22	-124.83	342	334
FM-8	16	49.1	43.22	-125.00	1078	1003
FM-9	17	62.6	43.22	-125.17	1651	1004
RR-1	18	7.2	42.50	-124.50	37	33
RR-2	19	15.6	42.50	-124.60	87	82
RR-3	20	23.7	42.50	-124.70	133	127
RR-4	21	31.9	42.50	-124.80	605	573
RR-5	22	40	42.50	-124.90	1159	1004
RR-6	23	48.3	42.50	-125.00	1775	1003
RR-7	24	64.6	42.50	-125.20	2977	1003

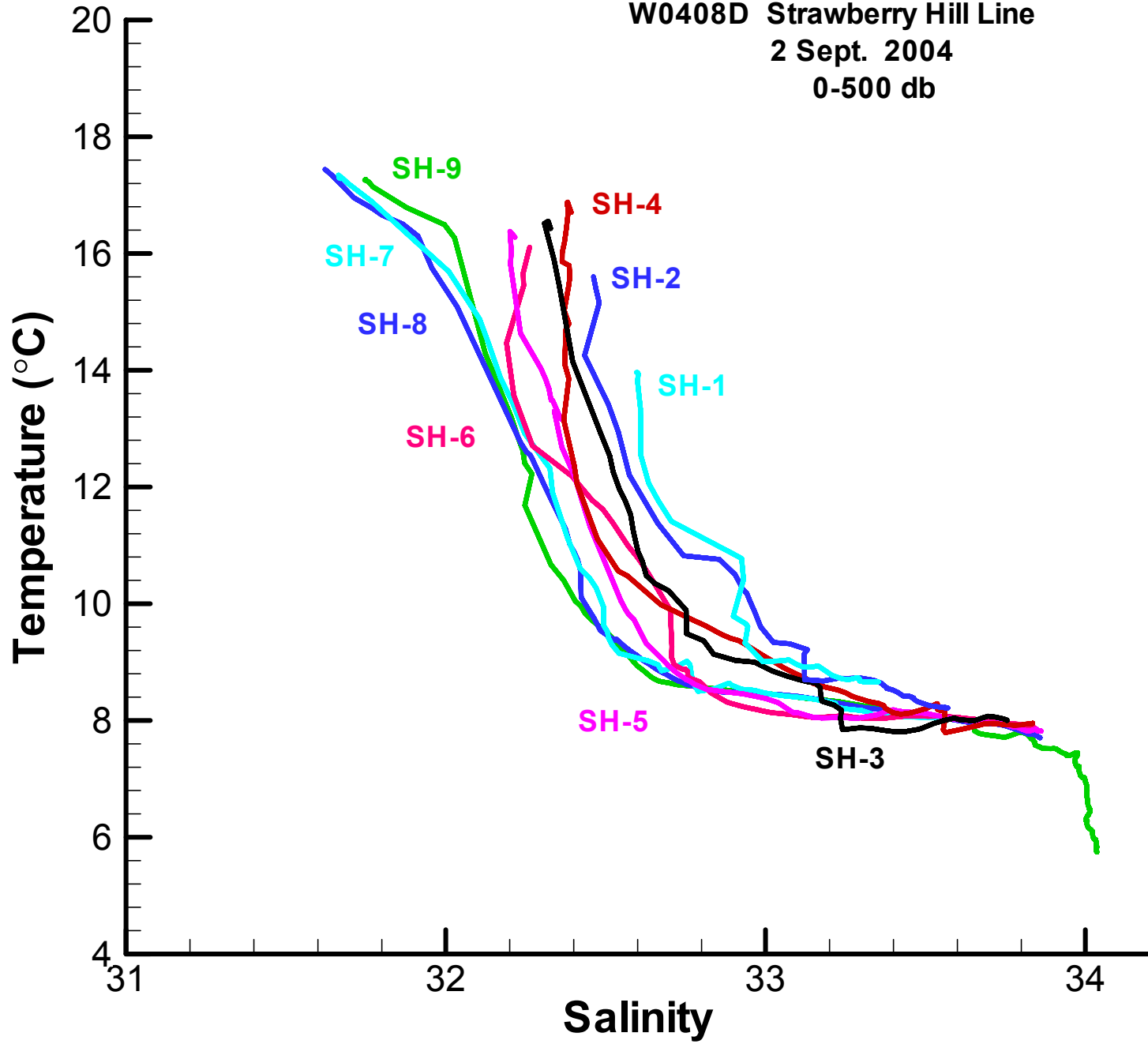
W0408D Newport Hydro Line  
30 Aug. - 1 Sept. 2004  
0-500 db



W0408D Heceta Head Line  
1-2 September 2004  
0-500 db

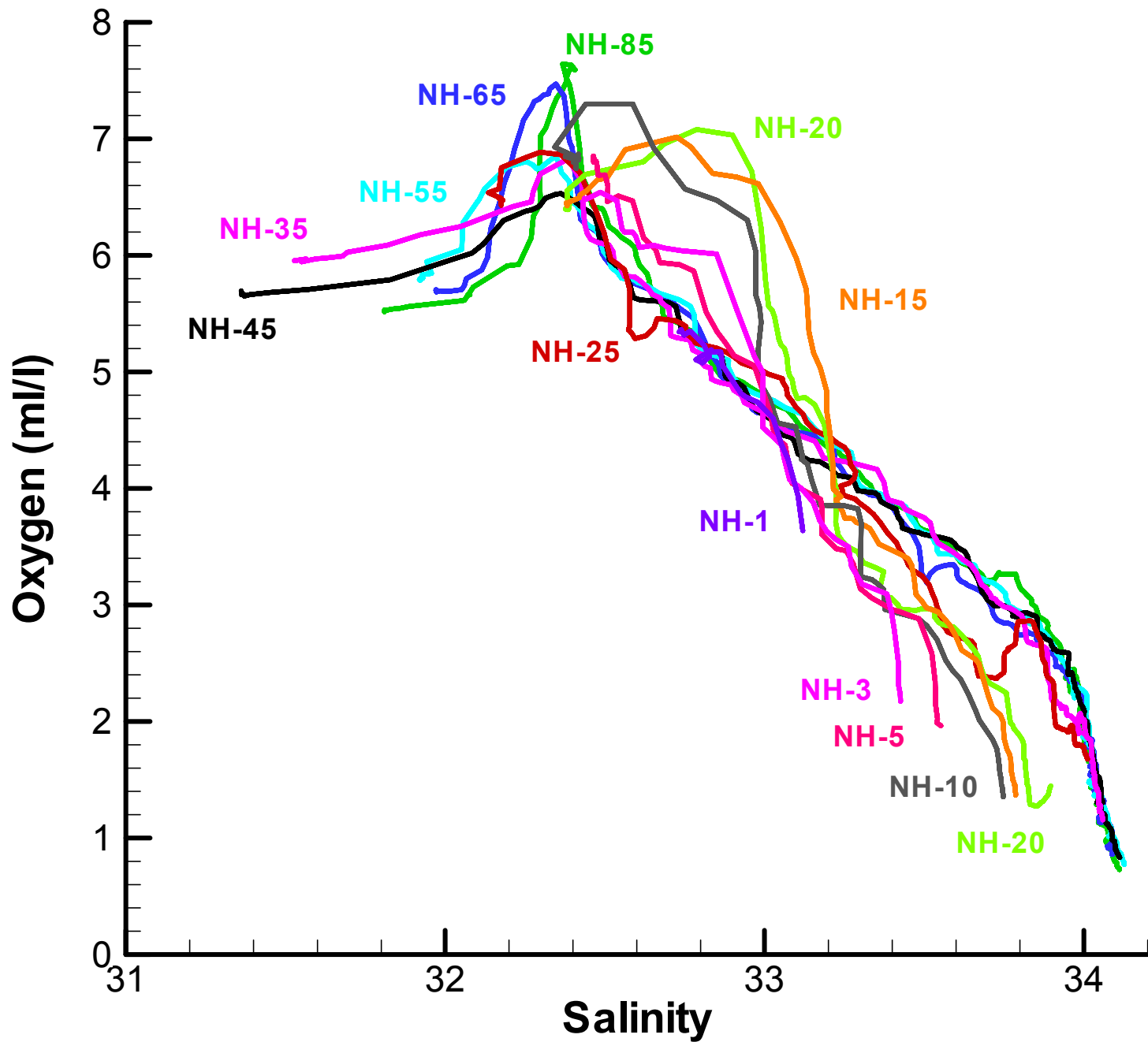


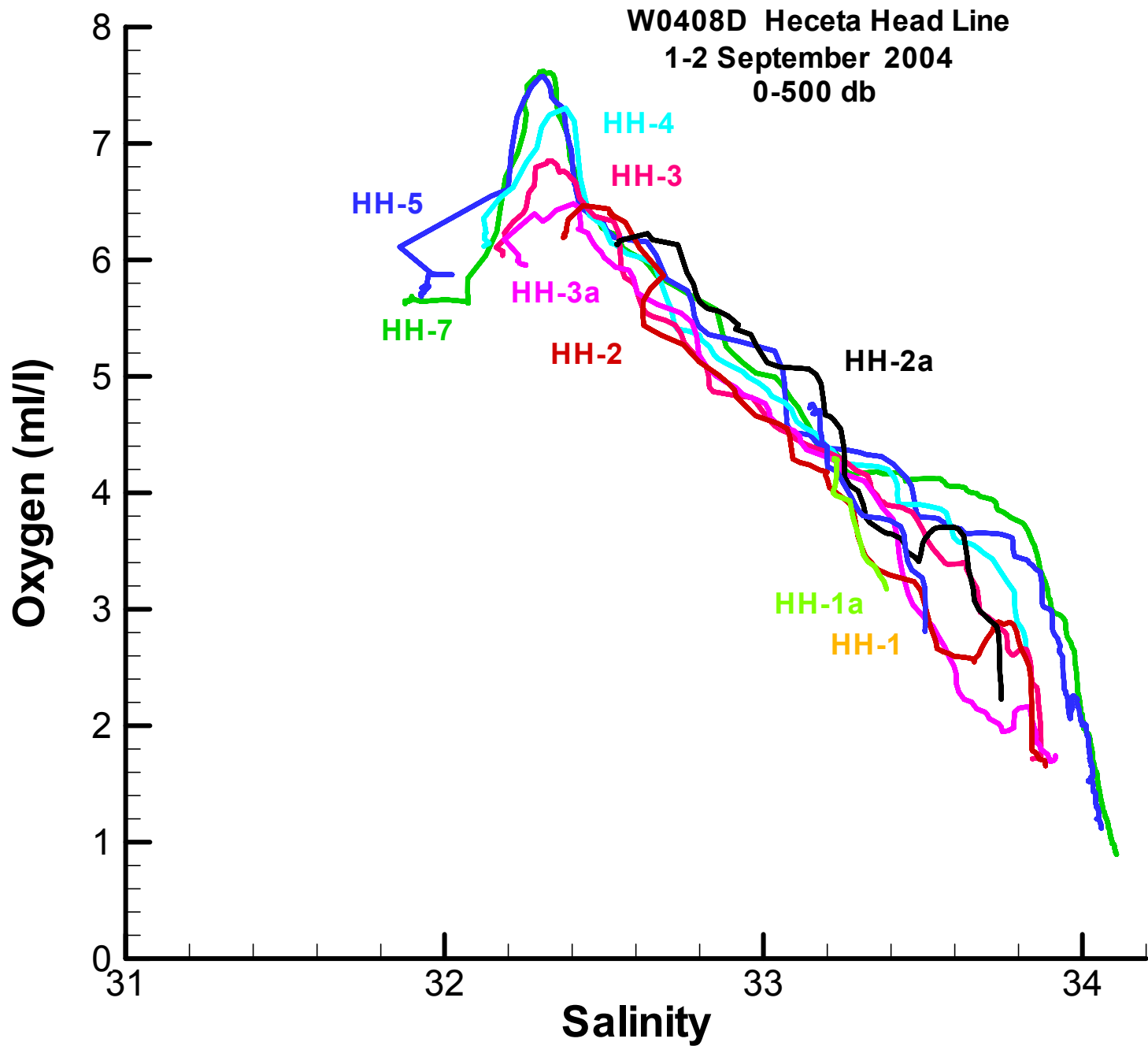
W0408D Strawberry Hill Line  
2 Sept. 2004  
0-500 db





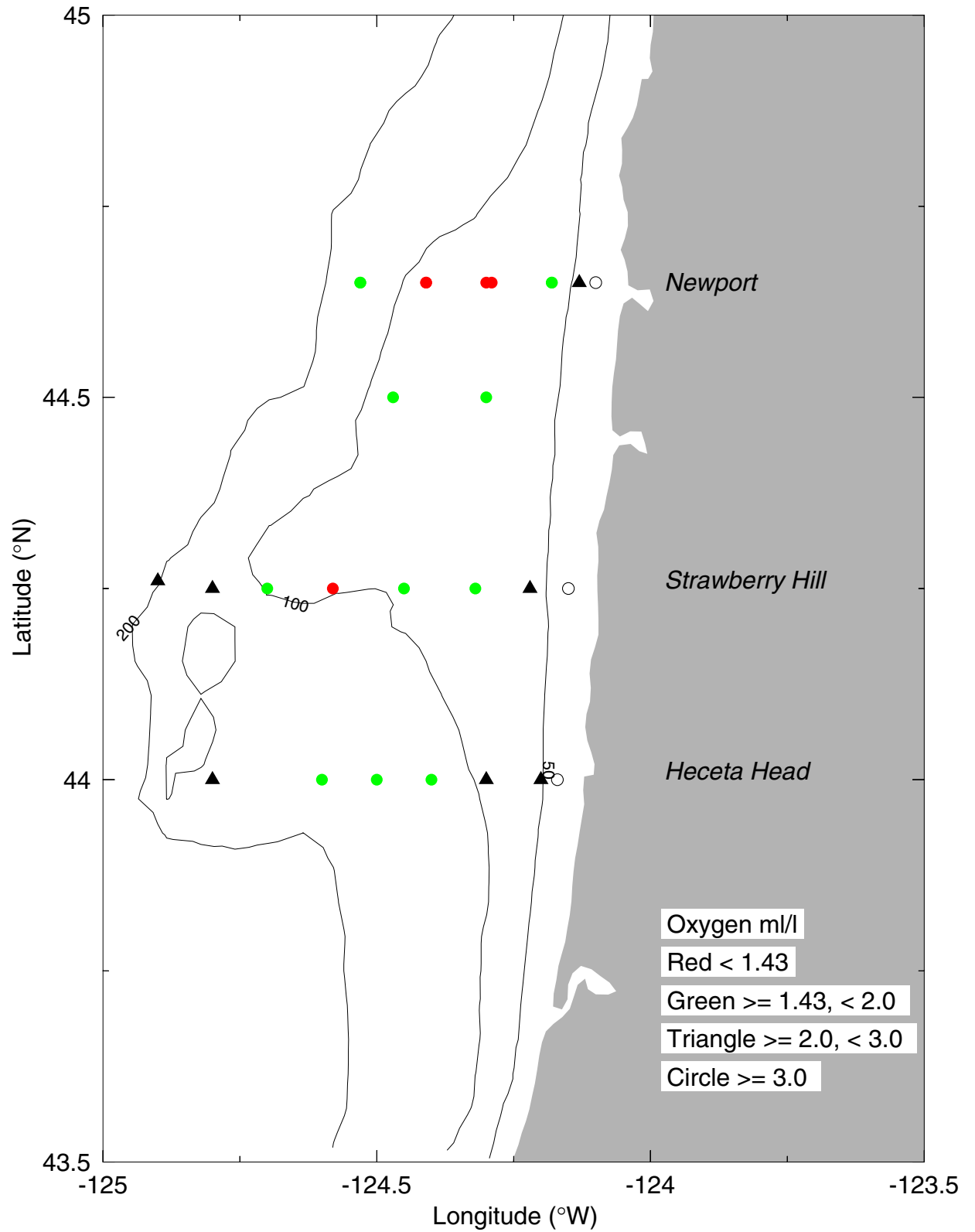
W0408D Newport Hydro Line  
30 Aug. - 1 Sept. 2004  
0-500 db







30 Aug. - 3 Sept. 2004 Near-bottom Oxygen Concentration (ml/l)



### W0408D Wind Speed and Direction

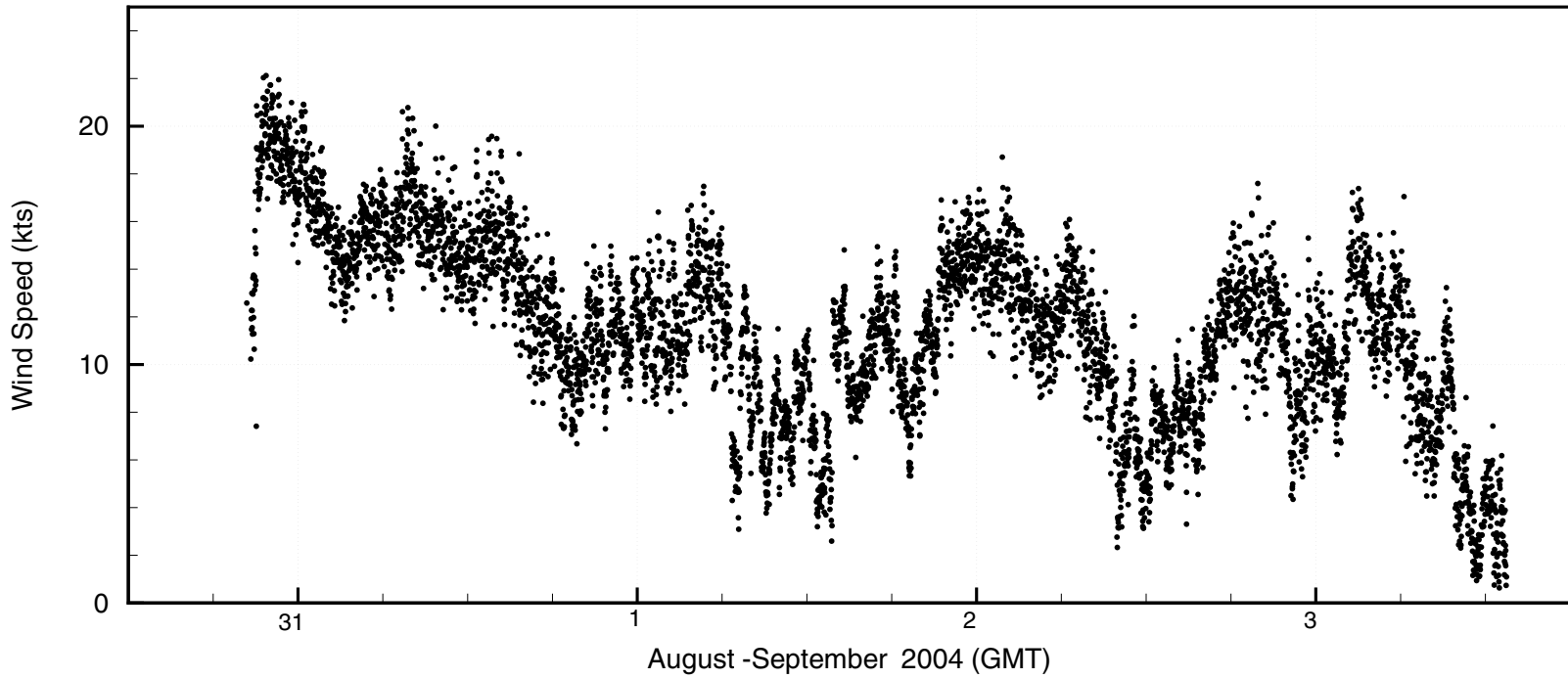
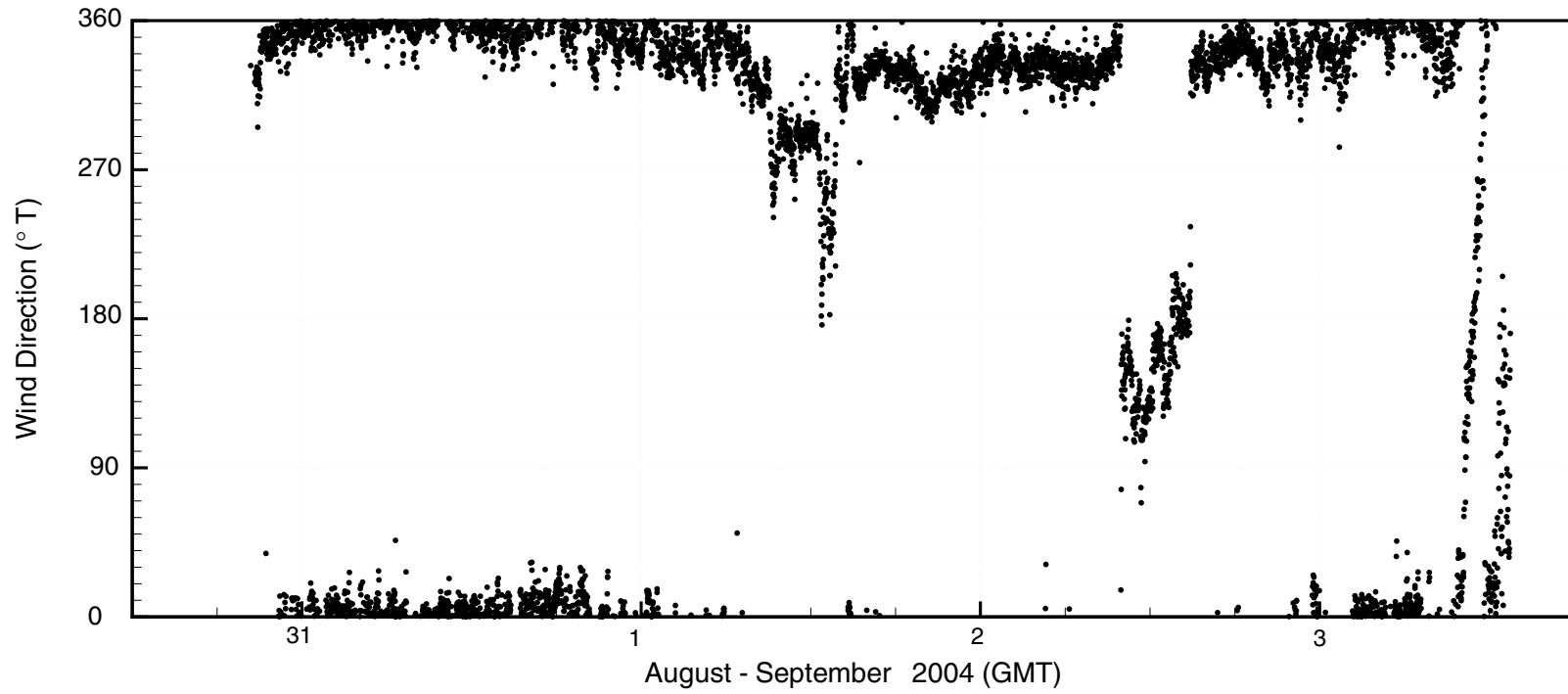


Table 3: Actual sample depths and types of subsamples for biochemical sampling during the September '04 LTOP GLOBEC cruise.

<b>Station, Depth, Dist. From Shore</b>	<b>Sample Collection Depths (m)</b>	<b>Type of Sample Collected</b>
NH-05, 60m, 9km	53, 51, 40, 30, 25, 20, 15, 10, 5, 3	TOC (all depths), Nutrients, TN (all depths), both Chl and POC/PON (all depths)
NH-15, 90m, 28km	85, 70, 60, 50, 40, 30, 20, 12, 10, 5, 3	TOC (all depths), Nutrients, TN (all depths), both Chl and POC/PON (all depths)
NH-25, 295m, 46km	284, 200, 171, 149, 100, 69, 50, 40, 30, 20, 10, 2	TOC (all depths), Nutrients, TN (all depths), both Chl and POC/PON (all depths except 284, 200 and 171m)
NH-35, 673m, 65km	429, 220, 150, 100, 70, 50, 40, 30, 25, 20, 10, 4	TOC (surface), Nutrients, TN (surface), both Chl and POC/PON (all depths except 429 and 220m)
NH-45, 700m, 83km	685, 500, 150, 100, 70, 50, 40, 30, 26, 20, 10, 3	TOC (surface), Nutrients, TN (surface), both Chl and POC/PON (all depths except 685 and 500 m)
NH-65, 288m, 121km	1005, 980, 814, 150, 100, 70, 50, 40, 30, 20, 10, 3	TOC (surface), Nutrients, TN (surface), both Chl and POC/PON (all depths except 1005, 980, and 814 m)
NH-85, 2900m, 157km	1005, 800, 290, 150, 99, 70, 50, 40, 30, 20, 10, 3	TOC (all depths), Nutrients, TN (all depths), both Chl and POC/PON (all depths except 1005, 800 and 290 m)

HH-1, 52m, 7km	49, 40, 30, 25, 20, 15, 11, 10, 5, 3	TOC (all depths), Nutrients, TN (all depths), both Chl and POC/PON (all depths)
HH-2, 115m, 16km	105, 100, 70, 60, 50, 40, 30, 20, 13, 10, 5, 2	TOC (surface), Nutrients, TN (surface), both Chl and POC/PON (all depths)
HH-3, 150m, 24km	144, 130, 100, 70, 60, 50, 40, 30, 25, 20, 10, 3	TOC (surface), Nutrients, TN (surface), both Chl and POC/PON (all depths)
HH-4, 100m, 32km	107, 95, 70, 60, 50, 40, 31, 20, 15, 10, 5, 3	TOC (all depths), Nutrients, TN (all depths), both Chl and POC/PON (all depths)
HH-5, 950m, 40km	927, 500, 151, 100, 70, 50, 40, 35, 30, 20, 10, 3	TOC (all depths), Nutrients, TN (all depths), both Chl and POC/PON (all depths) (except 927 and 500 m)
HH-7, 1600m, 48km	1005, 360, 150, 100, 70, 50, 45, 40, 30, 20, 10, 3	TOC (surface), Nutrients, TN (surface), both Chl and POC/PON (all depths except 1005 and 360 m)

<b><u>Subsample</u></b>	<b><u>Replicates</u></b>
TOC	3
Nutrients	2
TN	3
Chl	2
POC/PON	1

Table 4. R/V WECOMA Cruise W0408D

(UT)	Start Time (UT)	End Time (UT)	Sta. No.	Sta. Name	Latitude (deg) (min)		Longitude (deg) (min)		Bottom Depth (m)	Atmos Press (mbar)	Wind Dir. (deg T)	Wind Speed (kts)	Event	Event ID
30-Aug	1954												Start ADCP	
	2022												Start DAS	
	2030												air calibration of transmissometer	
	2045												Start echosounder	
	2050												Depart Newport	
	2116												Start flo-thru	
	2116												Start flo-thru fluorometer	
	2217	2224	1	NH-1	44	39.1	-124	06.0	28	1015.3	335	21	CTD	WE24304.1
	2226	2232			44	39.1	-124	06.1					vertical net tow, 28m	WE24304.2
	2251	2258	2	NH-3	44	39.0	-124	07.9	48	1015.0	345	18	CTD	WE24304.3
	2321	2333	3	NH-5	44	39.1	-124	10.6	58	1014.9	345	18	CTD with biochem	WE24304.4
	2337	2343			44	39.1	-124	10.7					vertical net tow, 58 m	WE24304.5
	2351	2400			44	39.1	-124	10.9					Bongo net tow	WE24304.6
31-Aug	0038	0047	4	NH-10	44	39.1	-124	17.8	81	1014.7	335	20	CTD	WE24404.1
	0051	0059			44	39.1	-124	17.8					vertical net tow, 77 m	WE24404.2
	0102	0115			44	39.1	-124	17.9					Bongo net tow	WE24404.3
	0149	0205	5	NH-15	44	39.1	-124	24.7	93	1014.9	355	17	CTD with biochem	WE24404.4
	0209	0217			44	39.1	-124	24.7					vertical net tow, 90 m	WE24404.5
	0221	0232			44	39.1	-124	24.8					Bongo net tow	WE24404.6
	0307	0320	6	NH-20	44	39.1	-124	31.7	142	1015.3	005	14	CTD	WE24404.7
	0324	0333			44	39.1	-124	31.7					vertical net tow, 100 m	WE24404.8
	0412	0437	7	NH-25	44	39.1	-124	39.0	293	1016.0	000	14	CTD with biochem	WE24404.9
	0442	0450			44	39.0	-124	39.0					vertical net tow, 100 m	WE24404.10
	0456	0506			44	39.1	-124	39.2					Bongo net tow	WE24404.11
	0517	0523			44	39.5	-124	39.6					Bongo net tow	WE24404.12
	0607	0617		NH-20	44	39.2	-124	31.7		1015.9	000	15	Bongo net tow	WE24404.13
	0629	0634			44	39.8	-124	31.8					Bongo net tow	WE24404.14
	0712	0718		NH-15	44	39.1	-124	24.7		1016.0	000	13	Bongo net tow	WE24404.15
	0759	0804		NH-10	44	39.1	-124	17.6		1015.9	355	19	Bongo net tow	WE24404.16
	1028	1040		NH-35	44	39.0	-124	53.1			006	12	Bongo net tow	WE24404.17
	1306	1333	8	NH-35	44	39.1	-124	53.0	442				CTD with biochem	WE24404.18
	1400	1408			44	39.1	-124	52.9		1016.6	355	15	vertical net tow 100 m	WE24404.19
	1412	1423			44	39.1	-124	53.2					Bongo net tow	WE24404.20
	1430	1439	9		44	39.4	-124	53.4	458				shallow CTD to catch water	WE24404.21
	1505	1514	10		44	39.4	-124	53.4	458				shallow CTD to catch water	WE24404.22
	1633	1713	11	NH-45	44	39.1	-125	07.0	704	1017.9	005	8	CTD with biochem	WE24404.23
	1717	1726			44	39.1	-125	07.1					vertical net tow, 100 m	WE24404.24
	1730	1744			44	39.2	-125	06.9					Bongo net tow	WE24404.25
	1851	1955	12	NH-55	44	39.1	-125	22.0	2866	1018.0	340	12	CTD with oxygen	WE24404.26

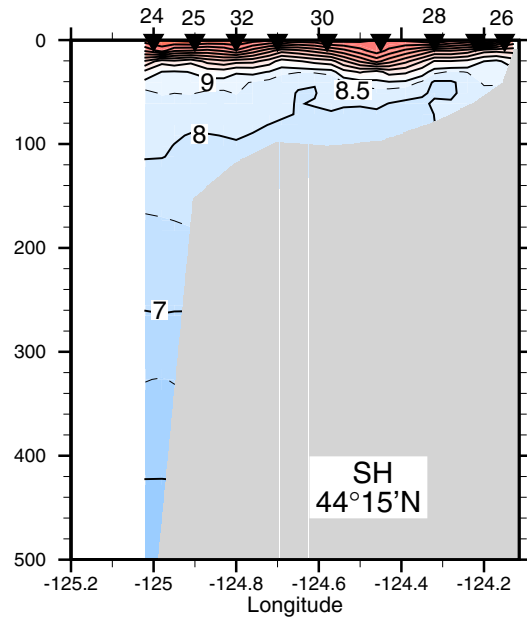
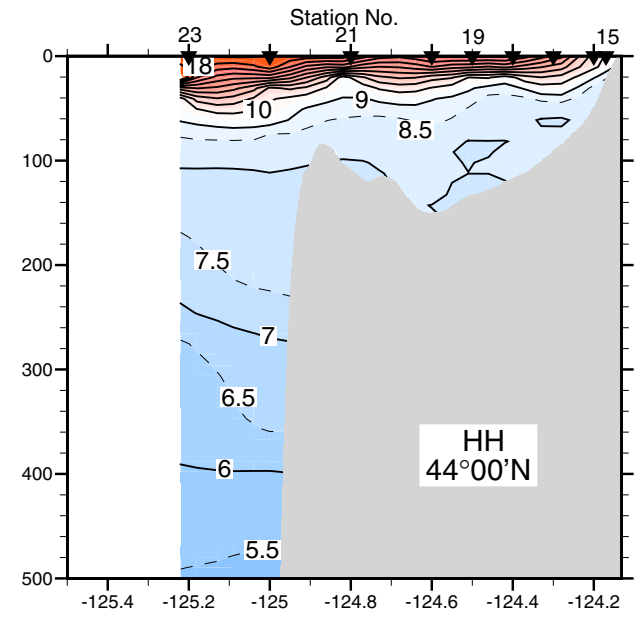
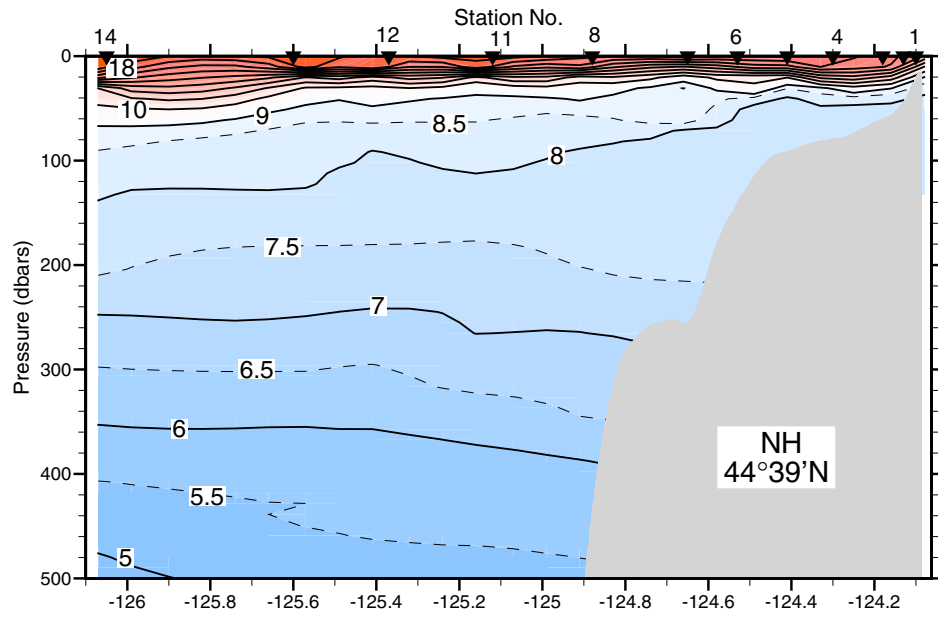


	Start	End	Sta.	Sta.	Latitude		Longitude		Bottom	Atmos	Wind	Wind	Event	Event ID
(UT)	Time	Time	No.	Name	(deg)	(min)	(deg)	(min)	Depth	Press	Dir.	Speed		
	(UT)	(UT)							(m)	(mbar)	(deg T)	(kts)		
31-Aug	1959	2007			44	39.1	-125	22.0					vertical net tow, 100 m	WE24404.27
	2144	2233	13	NH-65	44	39.1	-125	36.0	2861	1018.0	355	10	CTD with biochem	WE24404.28
	2236	2245			44	39.1	-125	36.0					vertical net tow, 100 m	WE24404.29
	2248	2249			44	39.2	-125	36.1					Bongo net tow	WE24404.30
1-Sep	0112	0158	14	NH-85	44	39.1	-126	03.0	2882	1017.2	000	12	CTD with biochem, oxygen	WE24504.1
	0202	0209			44	39.1	-126	03.0					vertical net tow, 100 m	WE24504.2
	0212	0222			44	39.2	-126	03.0					Bongo net tow	WE24504.3
	0715	0726		HH-5	44	00.0	-124	59.9	860	1018.2	345	6	Bongo net tow	WE24504.4
	0825	0832		HH-4	44	00.1	-124	47.7	112	1017.9	315	9	Bongo net tow	WE24504.5
	0926	0936		HH-3	44	00.1	-124	35.9	155	1017.8	320	6	Bongo net tow	WE24504.6
	0943	0949			44	00.0	-124	34.9	155				Surface net tow	WE24504.7
	1037	1048		HH-2	43	59.9	-124	24.2	122	1018.2	275	7	Bongo net tow	WE24504.8
	1124	1135		HH-3a	43	59.9	-124	29.9	137	1018.2	280	8	Bongo net tow	WE24504.9
	1250	1256		HH-1	43	59.9	-124	11.9	52	1019.0	285	7	vertical net tow, 48 m, aborted	WE24504.10
	1301	1305			43	59.9	-124	12.0	52				vertical net tow, 48 m	WE24504.11
	1326	1331	15	HH-1a	44	00.0	-124	10.0	30	1019.0	260	5	CTD	WE24504.12
	1341	1344			44	00.0	-124	10.0					vertical net tow, 27 m	WE24504.13
	1403	1441	16	HH-1	44	00.0	-124	12.0	53	1019.6	325	12	CTD with biochem	WE24504.14
	1418	1424			44	00.0	-124	12.0					vertical net tow, 50 m	WE24504.15
	1428	1433			44	00.0	-124	12.0					Bongo net tow	WE24504.16
	1503	1713	17	HH-2a	44	00.0	-124	18.0	93	1020.2	350	7	CTD	WE24504.17
	1518	1526			43	59.9	-124	18.0					vertical net tow, 90m	WE24504.18
	1604	1620	18	HH-2	44	00.0	-124	24.0	120	1021.0	335	8	CTD with biochem	WE24504.19
	1623	1632			44	00.0	-124	24.0					vertical net tow, 100 m	WE24504.20
	1638	1650			43	59.8	-124	24.0					Bongo net tow	WE24504.21
	1721	1731	19	HH-3a	44	00.0	-124	30.0	137	1021.8	330	10	CTD	WE24504.22
	1737	1745			44	00.0	-124	30.0					vertical net tow, 100 m	WE24504.23
	1749	1759			44	00.0	-124	30.0					Bongo net tow	WE24504.24
	1832	1851	20	HH-3	44	00.0	-124	35.9	155	1022.4	325	8	CTD with biochem	WE24504.25
	1854	1901			44	00.0	-124	35.9					vertical net tow, 100 m	WE24504.26
	1906	1917			44	00.0	-124	36.0					Bongo net tow	WE24504.27
	2018	2034	21	HH-4	44	00.0	-124	48.0	112	1022.5	300	11	CTD with biochem	WE24504.28
	2038	2046			44	00.0	-124	48.0					vertical net tow, 100 m	WE24504.29
	2052	2104			44	00.0	-124	48.1					Bongo net tow	WE24504.30
	2206	2251	22	HH-5	44	00.0	-125	00.0	932	1023.0	305	14	CTD with biochem	WE24504.31
	2254	2301			44	00.0	-124	59.6					vertical net tow, 100 m	WE24504.32
	2305	2318			44	00.0	-125	00.0					Bongo net tow	WE24504.33
2-Sep	0016	0059	23	HH-7	44	00.0	-125	12.0	1697	1022.9	330	15	CTD with biochem	WE24604.1
	0103	0111			44	00.1	-125	12.0					vertical net tow, 100 m	WE24604.2
	0114	0124			44	00.1	-125	12.0					Bongo net tow	WE24604.3
	0316	0408	24	SH-9	44	15.0	-125	00.0	562	1023.0	330	12	CTD with oxygen	WE24604.4

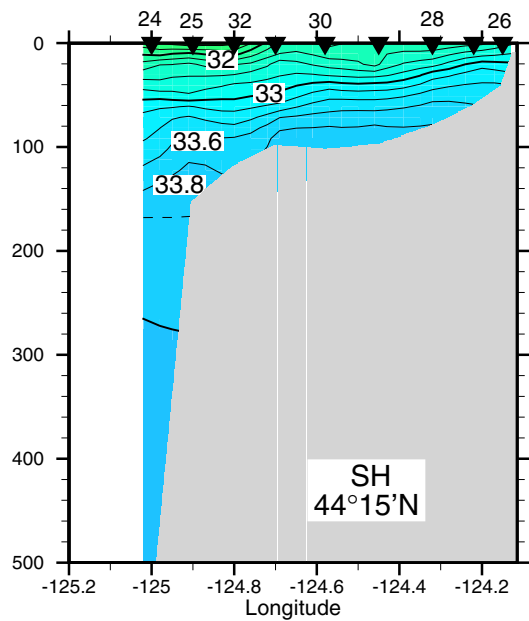
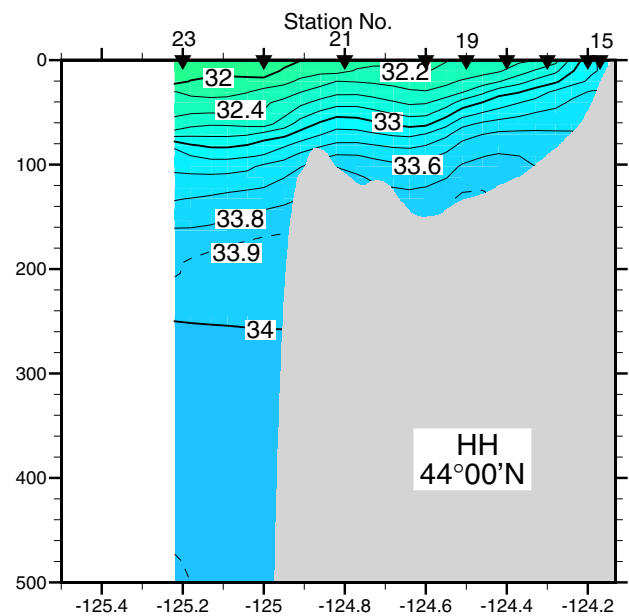
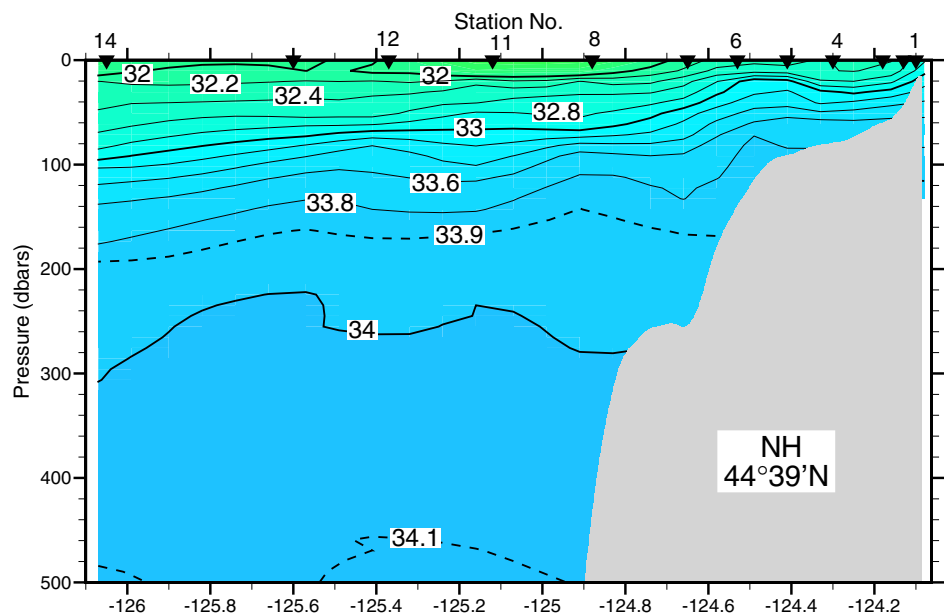
	Start	End	Sta.	Sta.	Latitude		Longitude		Bottom	Atmos	Wind	Wind	Event	Event ID
(UT)	Time	Time	No.	Name	(deg)	(min)	(deg)	(min)	Depth	Press	Dir.	Speed		
	(UT)	(UT)							(m)	(mbar)	(deg T)	(kts)		
2-Sep	0412	0420			44	15.0	-125	00.0					vertical net tow, 100	WE24604.5
	0424	0435			44	15.0	-125	00.1					Bongo net tow	WE24604.6
	0509	0518		SH-8	44	15.0	-124	54.0		1023.2	335	10	vertical net tow, 100	WE24604.7
	0521	0531			44	15.0	-124	54.0					Bongo net tow	WE24604.8
	0553	0609	25	SH-8	44	15.4	-124	53.8	152	1023.2	335	10	CTD	WE24604.9
	0655	0703		SH-7	44	15.0	-124	48.0		1023.2	330	15	vertical net tow, 100	WE24604.10
	0707	0719			44	15.1	-124	48.0					Bongo net tow	WE24604.11
	0759	0809		SH-6	44	15.1	-124	41.8		1023.1	330	15	Bongo net tow	WE24604.12
	0838	0849		SH-5	44	15.0	-124	36.2		1022.8	330	8	Bongo net tow	WE24604.13
	0930	0940		SH-4	44	15.0	-124	27.1		1022.5	335	9	Bongo net tow	WE24604.14
	1017	1026		SH-3	44	15.0	-124	19.2		1022.7	150	5	Bongo net tow	WE24604.15
	1055	1100		SH-2	44	15.0	-124	13.1		1022.6	145	6	Bongo net tow	WE24604.16
	1125	1131		SH-1	44	15.0	-124	08.9		1022.6	145	6	Bongo net tow	WE24604.17
	1301	1307	26	SH-1	44	15.0	-124	09.0	40	1022.7	165	7	CTD	WE24604.18
	1313	1317			44	15.0	-124	09.0					vertical net tow	WE24604.19
	1340	1347	27	SH-2	44	15.0	-124	13.0	60	1022.7	145	5	CTD	WE24604.20
	1351	1356			44	15.0	-124	13.0					vertical net tow	WE24604.21
	1424	1433	28	SH-3	44	15.0	-124	18.9	79	1022.7	185	9	CTD	WE24604.22
	1436	1443			44	15.0	-124	19.0					vertical net tow	WE24604.23
	1521	1531	29	SH-4	44	15.0	-124	27.0	97	1023.2	330	7	CTD	WE24604.24
	1534	1543			44	15.0	-124	27.0					vertical net tow	WE24604.25
	1623	1633	30	SH-5	44	15.0	-124	34.6	102	1023.3	340	10	CTD	WE24604.26
	1636	1645			44	15.0	-124	34.6					vertical net tow	WE24604.27
	1720	1730	31	SH-6	44	15.0	-124	42.0	98	1023.6	340	11	CTD	WE24604.28
	1733	1742			44	15.0	-124	42.0					vertical net tow	WE24604.29
	1815	1825	32	SH-7	44	15.0	-124	48.0	118	1023.9	345	12	CTD	WE24604.30
	1829	1837			44	15.0	-124	48.0					vertical net tow	WE24604.31
	1841	1852			44	15.0	-124	48.0					Bongo net tow	WE24604.32
	2106	2016	33	SB-2	44	30.0	-124	28.0	82	1023.0	345	12	CTD	WE24604.33
	2019	2026			44	30.0	-124	27.8					vertical net tow	WE24604.34
	2031	2041			44	30.0	-124	28.0					Bongo net tow	WE24604.35
	2245	2253	34	SB-1	44	30.0	-124	17.9	83	1022.3	315	8	CTD	WE24604.36
	2255	2303			44	30.0	-124	18.0					vertical net tow	WE24604.37
	2307	2318			44	30.0	-124	18.1					Bongo net tow	WE24604.38
3-Sep	0025	0032	35	NH-5	44	39.1	-124	10.6	58	1022.1	335	10	CTD	WE24704.1
	0036	0042			44	39.1	-124	10.6					vertical net tow	WE24704.2
	0140	0147	36	NH-10	44	39.1	-124	17.7	81	1021.9	335	7	CTD	WE24704.3
	0150	0157			44	39.1	-124	17.7					vertical net tow	WE24704.4
	0234	0244	37	NH-15	44	39.1	-124	24.7	96	1022.2	350	14	CTD	WE24704.5
	0248	0256			44	39.1	-124	24.7					vertical net tow	WE24704.6
	0334	0347	38	NH-20	44	39.1	-124	31.7	142	1022.4	005	12	CTD	WE24704.7

	Start	End	Sta.	Sta.	Latitude		Longitude		Bottom	Atmos	Wind	Wind	Event	Event ID
(UT)	Time	Time	No.	Name	(deg)	(min)	(deg)	(min)	Depth	Press	Dir.	Speed		
	(UT)	(UT)							(m)	(mbar)	(deg T)	(kts)		
3-Sep	0351	0400			44	39.1	-124	31.7					vertical net tow	WE24704.8
	0438	0458	39	NH-25	44	39.1	-124	39.0	294	1022.9	350	12	CTD	WE24704.9
	0505	0513			44	39.1	-124	39.0					vertical net tow	WE24704.10
	0516	0522			44	39.1	-124	39.0					Bongo net tow	WE24704.11
	0604	0610		NH-20	44	39.2	-124	31.8		1022.8	005	11	Bongo net tow	WE24704.12
	0645	0652		NH-15	44	39.2	-124	24.7		1022.2	340	12	Bongo net tow	WE24704.13
	0733	0739		NH-10	44	39.1	-124	17.6		1022.2	350	6	Bongo net tow	WE24704.14
	0822	0828		NH-5	44	39.0	-124	10.5		1022.0	345	7	vertical net tow	WE24704.15
	0830	0838			44	39.0	-124	10.5					Bongo net tow	WE24704.16
	0845												begin transit to Newport	
	1330												shut down flow through system	
	1330												shut down DAS	
	1333												shut down ADCP	
	1334												shut down echosounder	
	1450												arrive at pier in Newport	

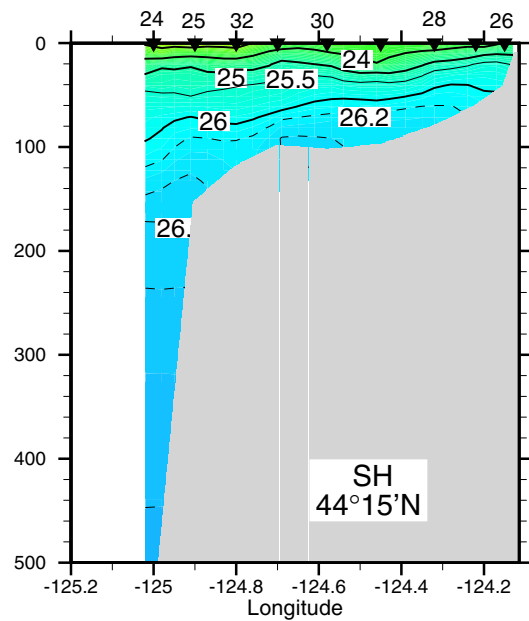
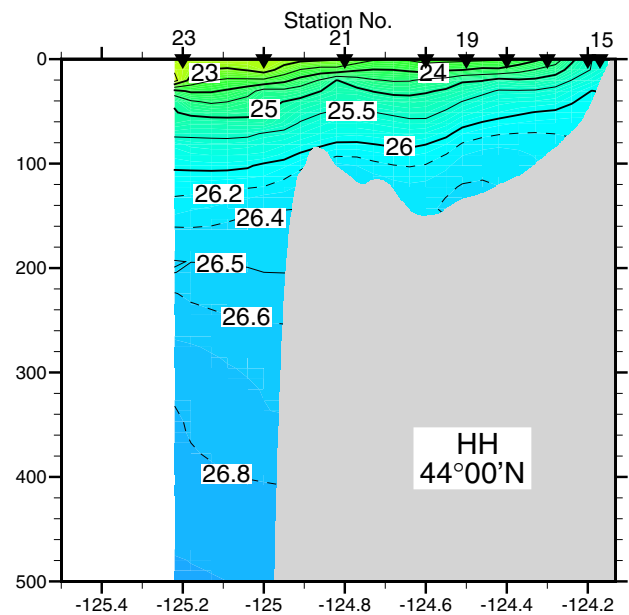
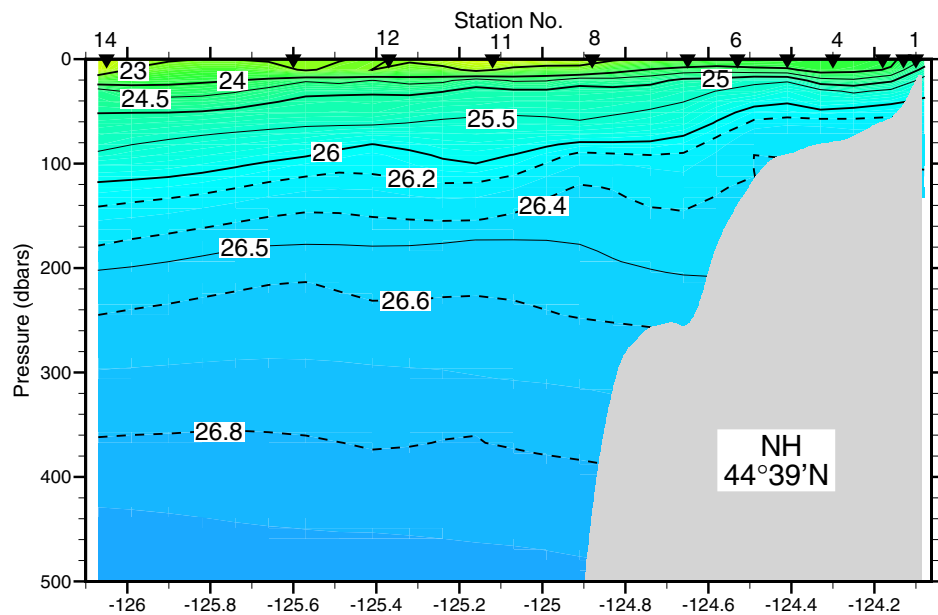
Temperature (°C) 30 Aug. - 2 Sept. 2004



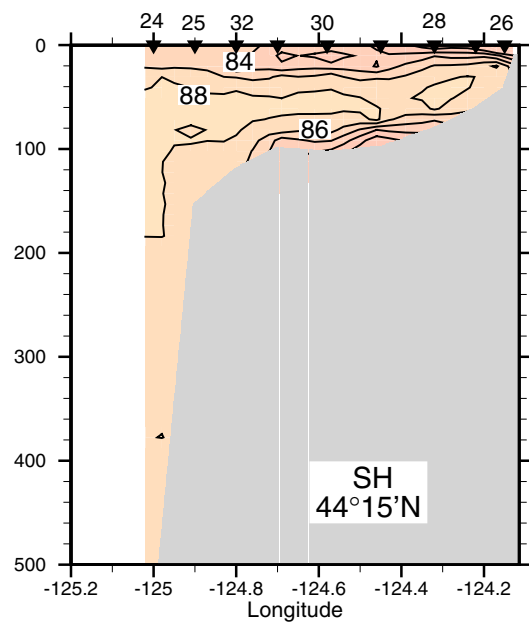
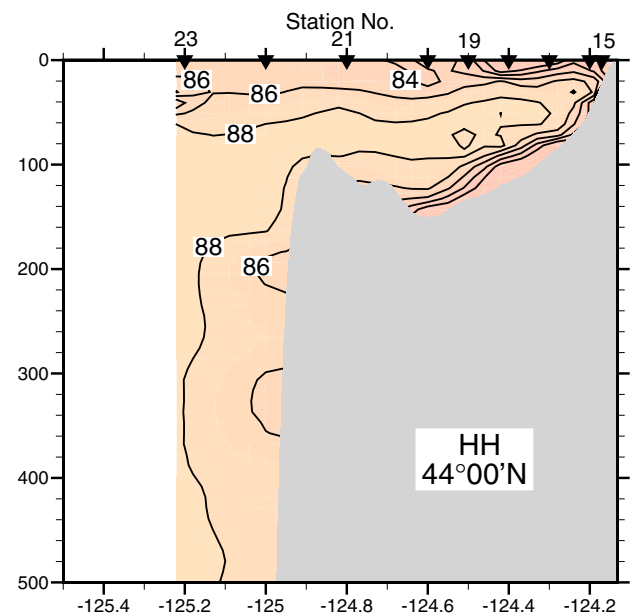
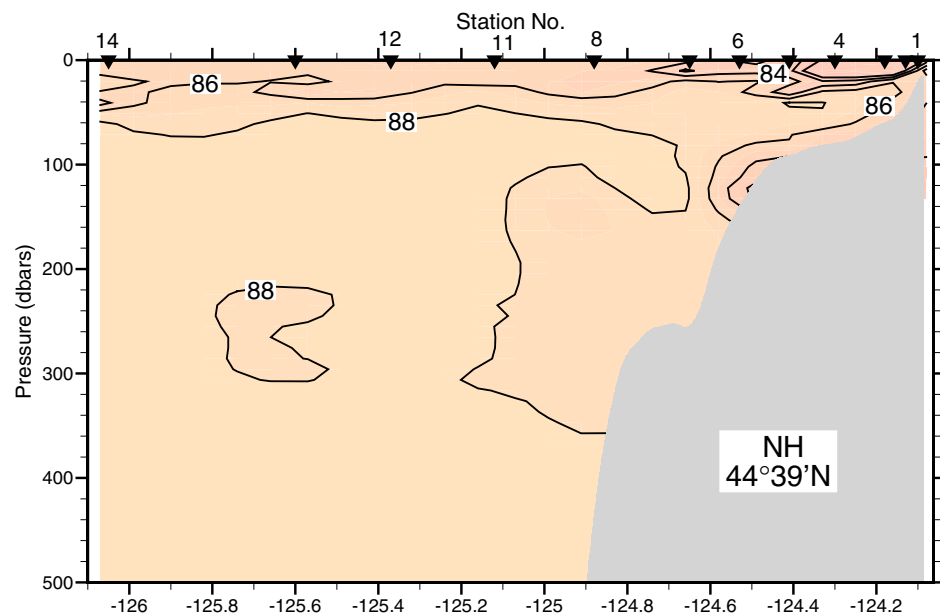
Salinity 30 Aug. - 2 Sept. 2004



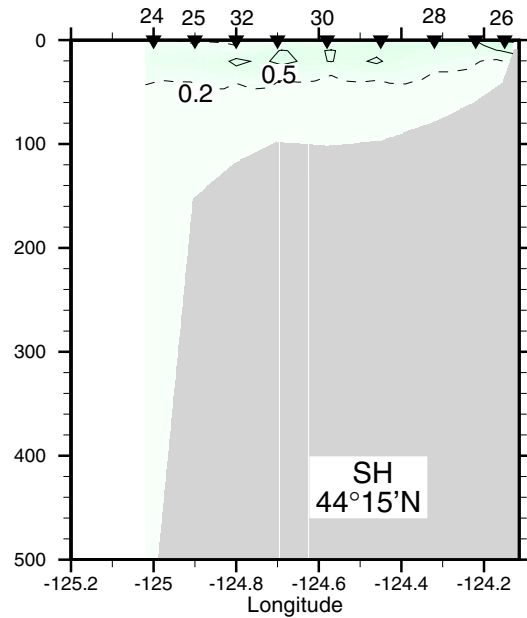
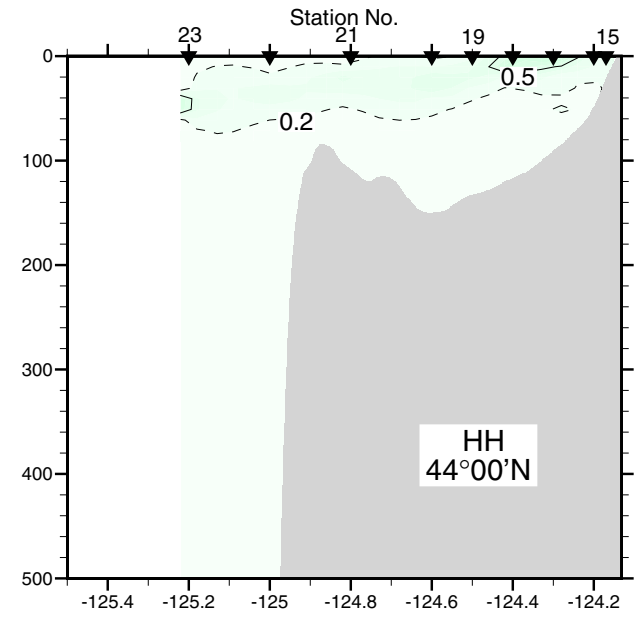
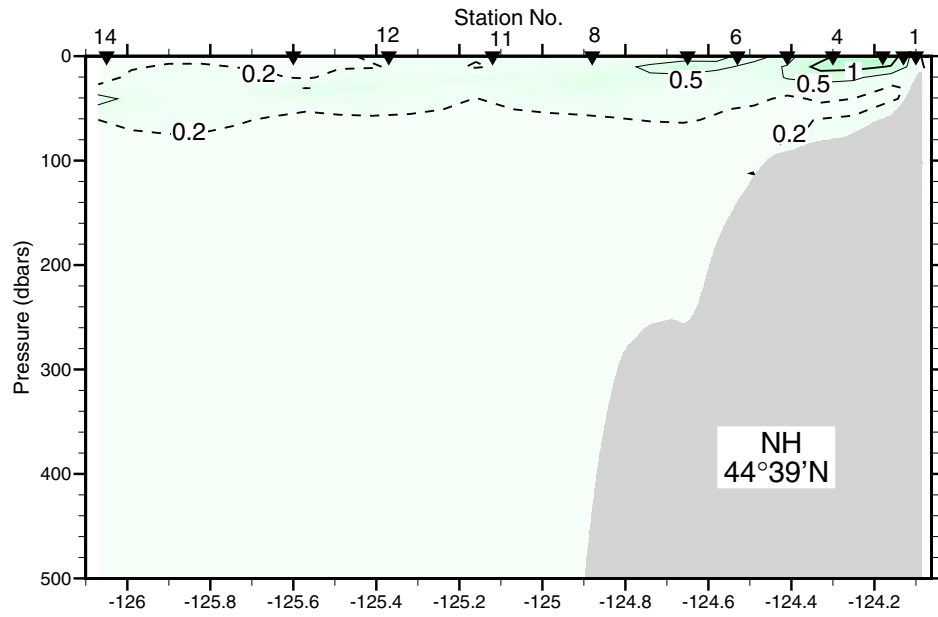
Sigma-theta 30 Aug. - 2 Sept. 2004



% Light Transmission 30 Aug. - 2 Sept. 2004

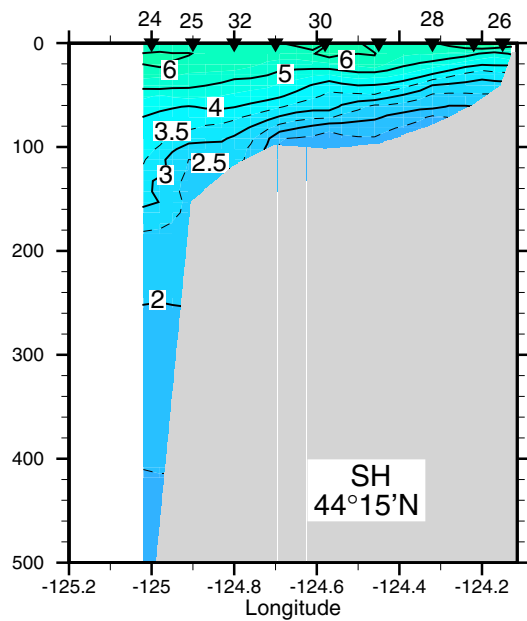
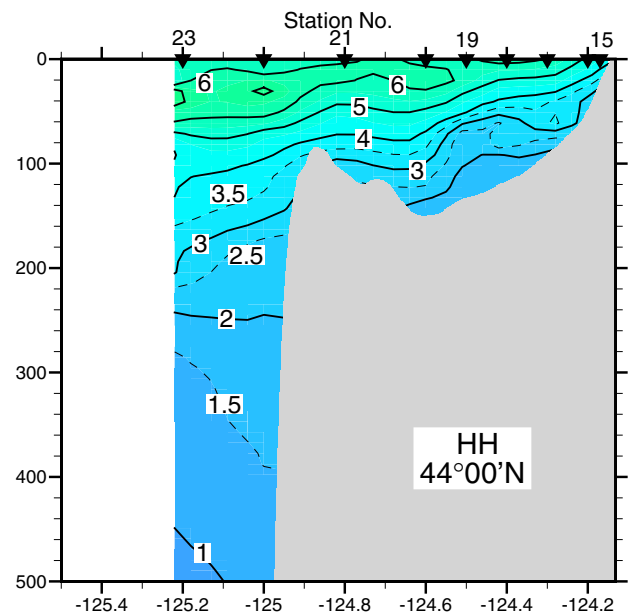
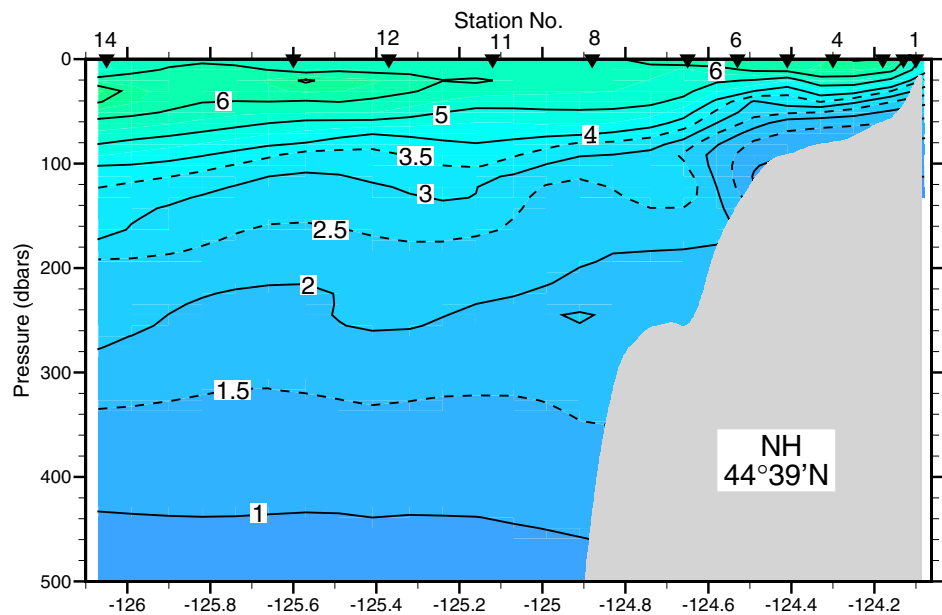


Fluorescence 30 Aug. - 2 Sept. 2004

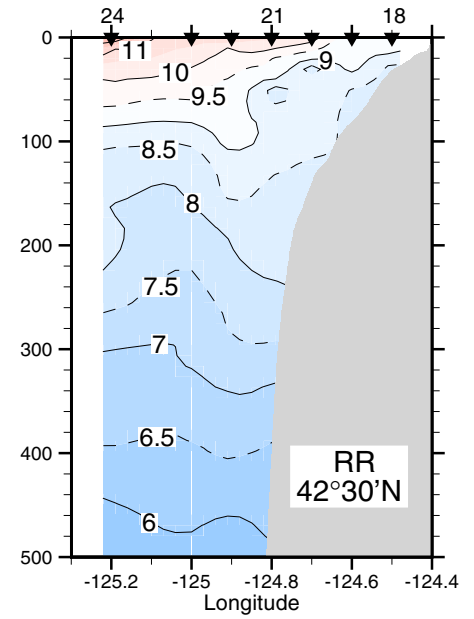
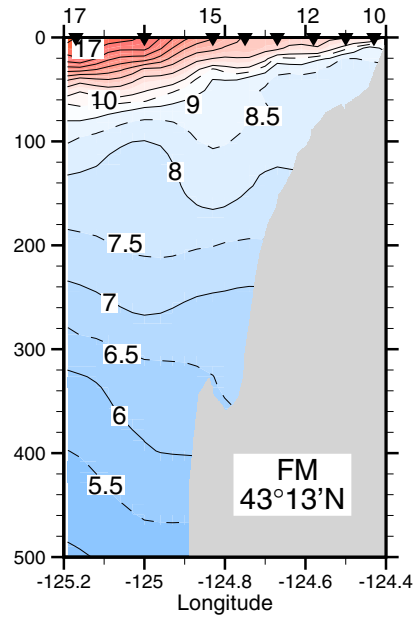
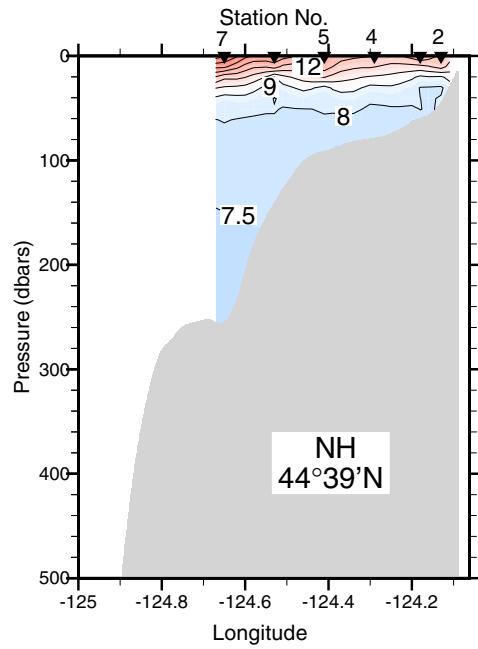




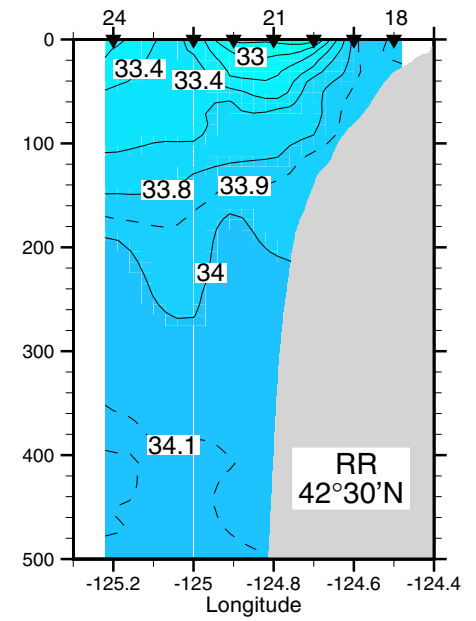
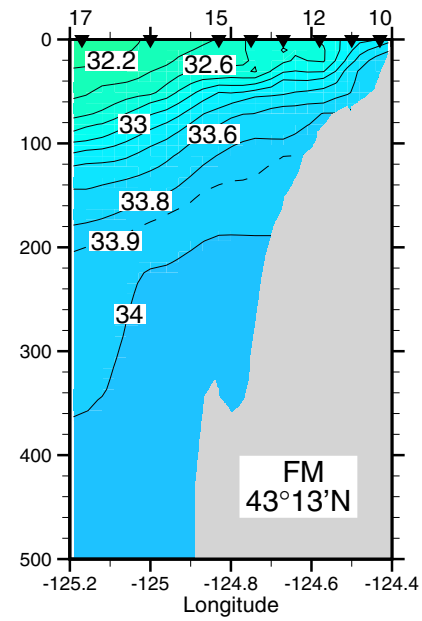
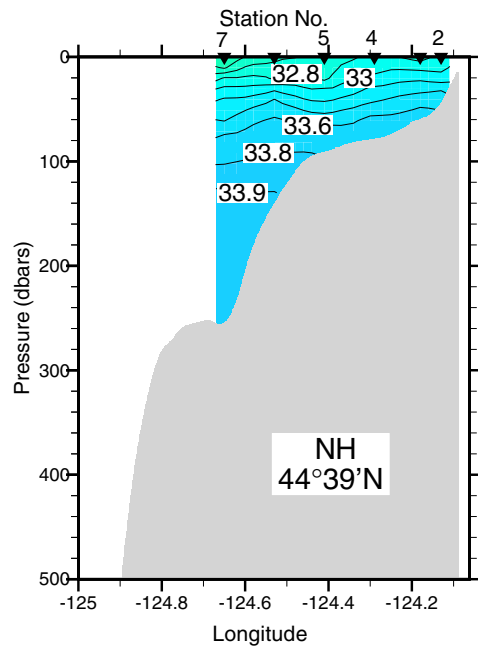
Oxygen (ml/l) 30 Aug. - 2 Sept. 2004



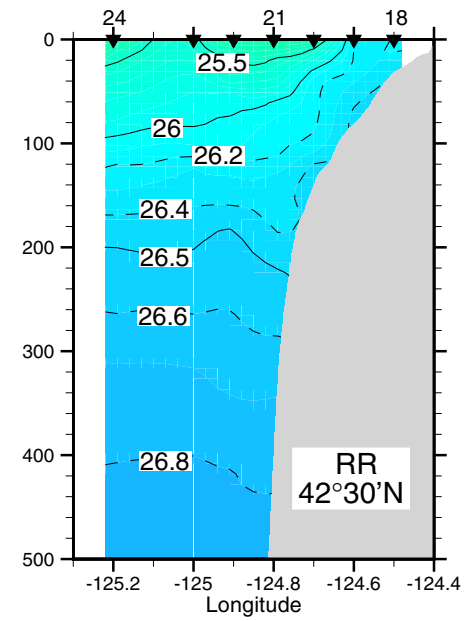
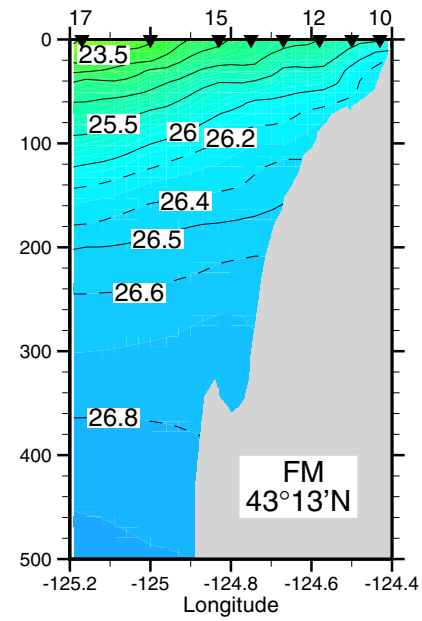
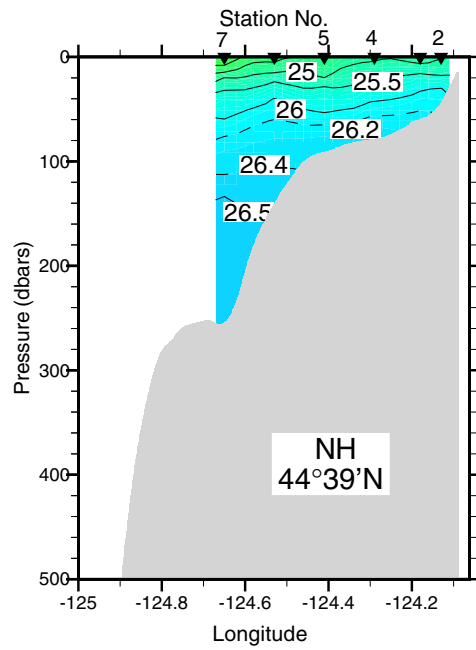
Temperature, 7-9 September 2004



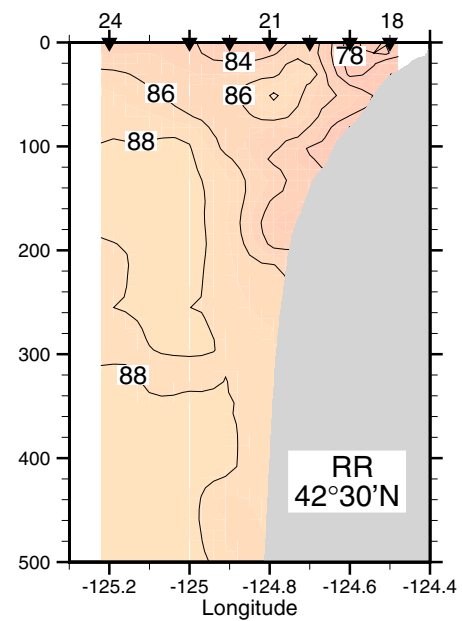
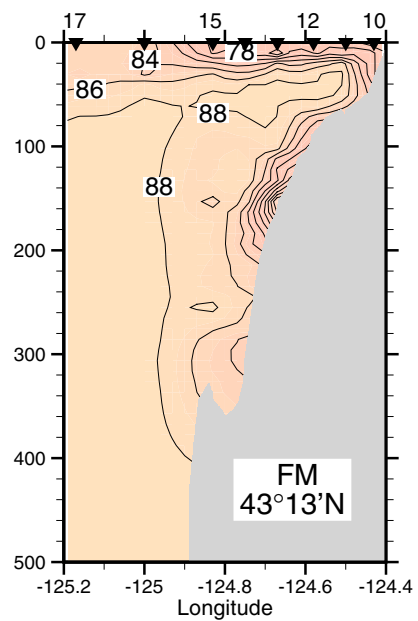
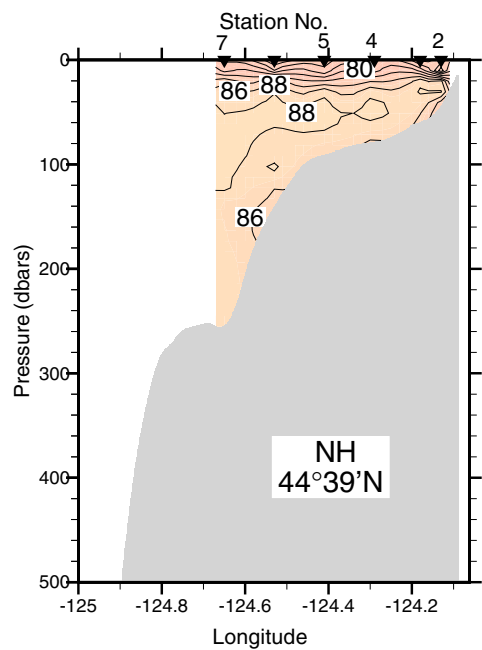
Salinity, 7-9 September 2004



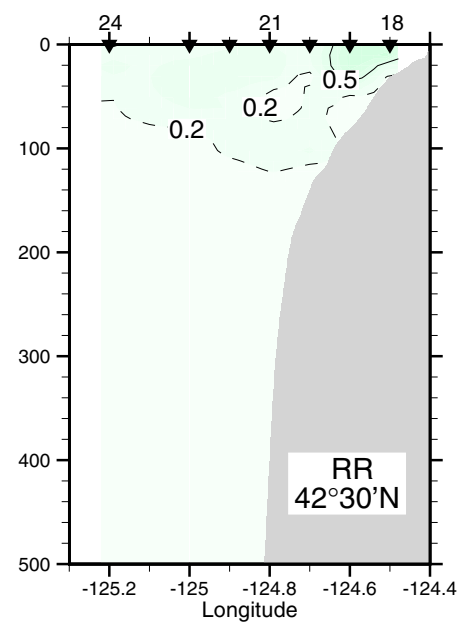
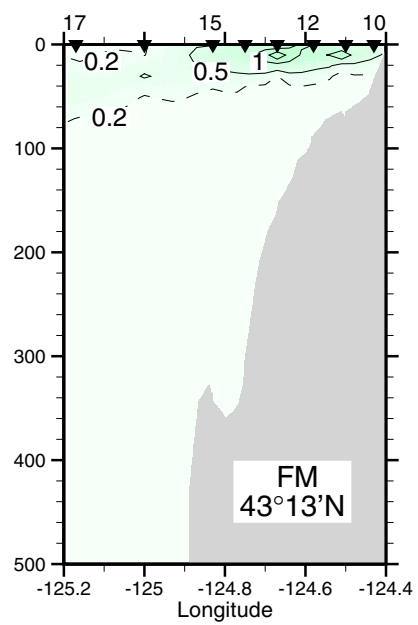
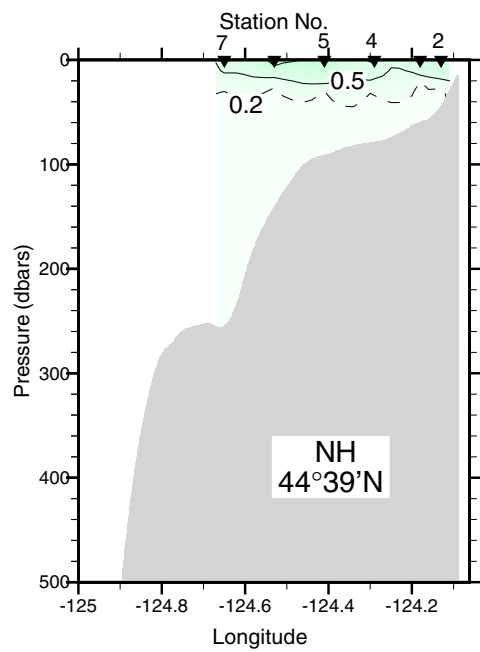
Sigma-theta, 7-9 September 2004



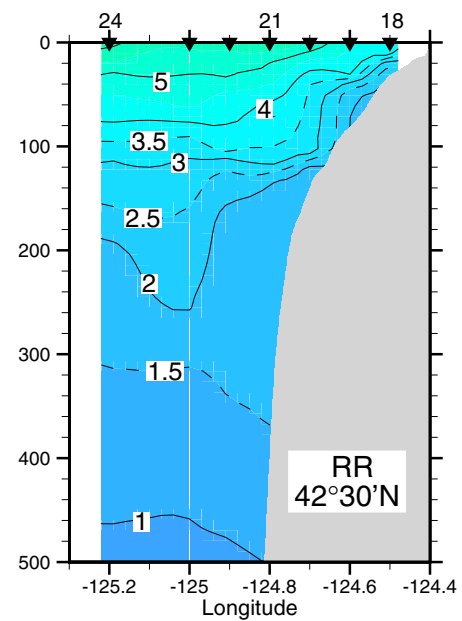
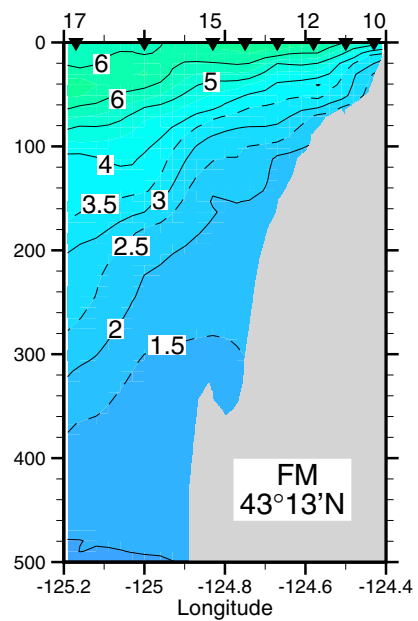
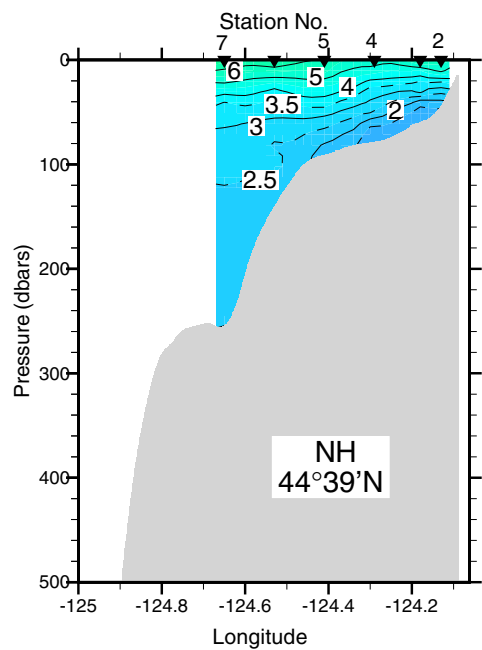
% Light Transmission, 7-9 September 2004



Fluorescence (v), 7-9 September 2004



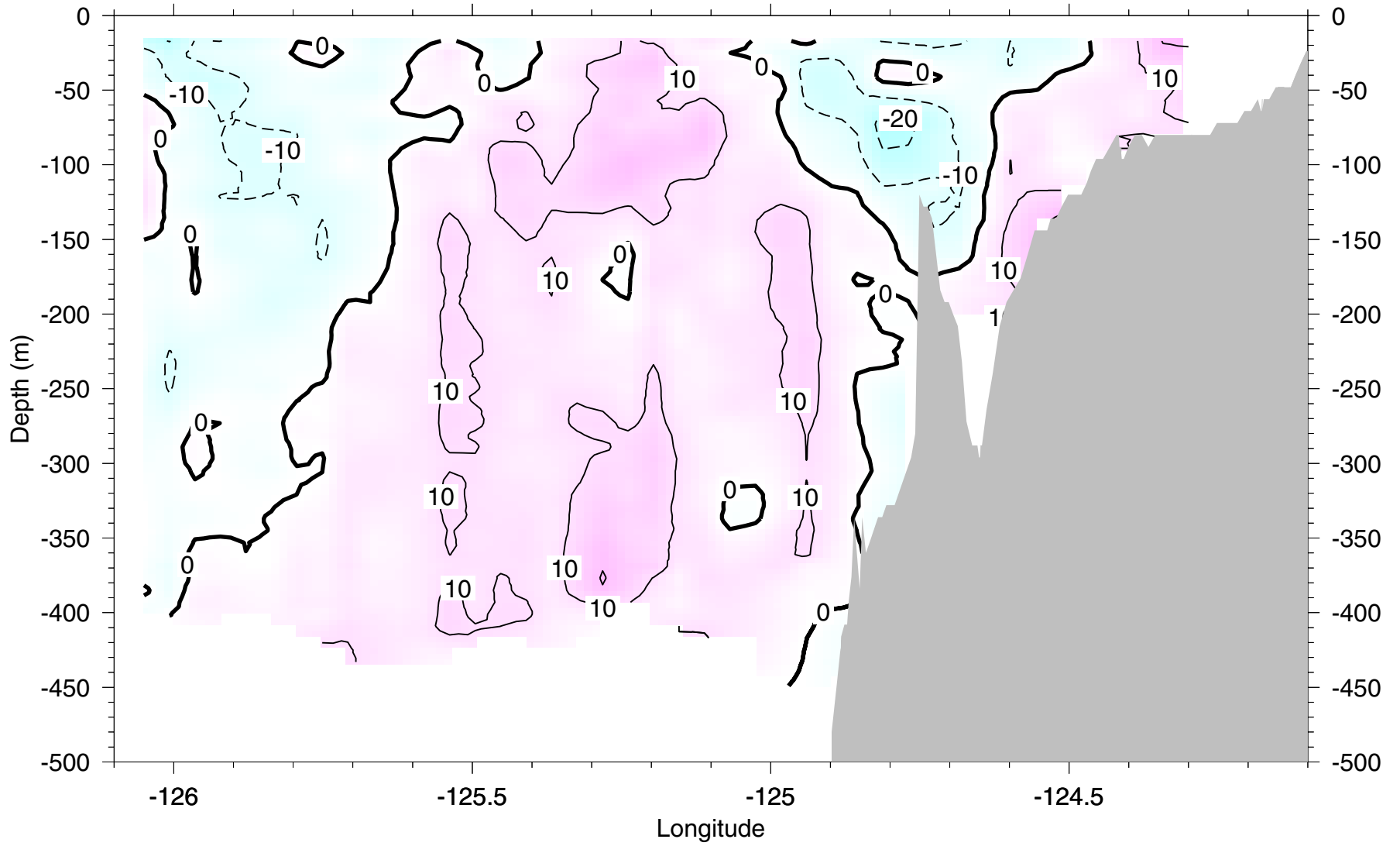
Oxygen (ml/l), 7-9 September 2004



Newport Hydrographic Line 44.6°N

Aug 31-Sep 01, 2004

ADCP: Northward current (cm/s)

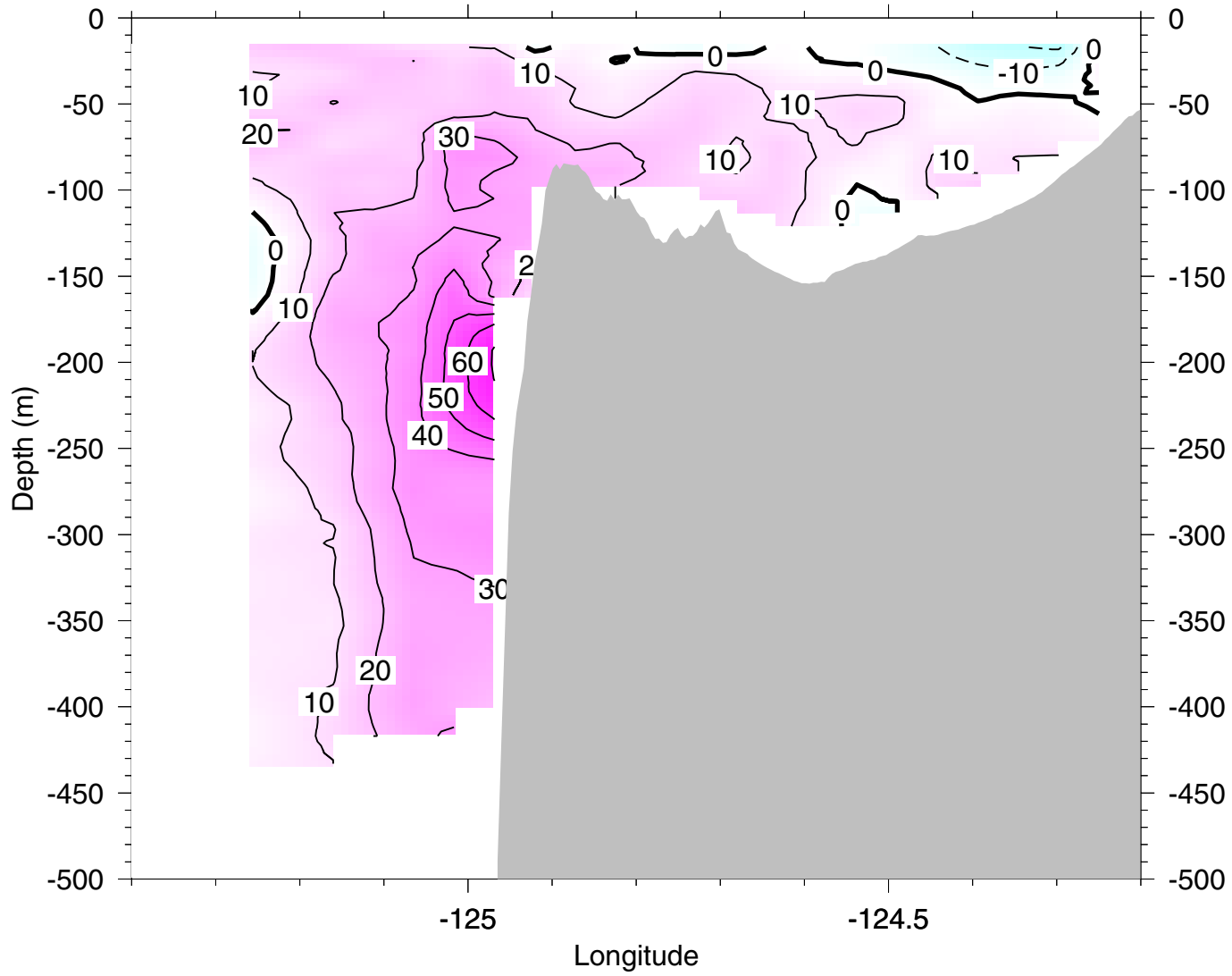




Heceta Head ADCP Line 44.0°N

01-02 September 2004

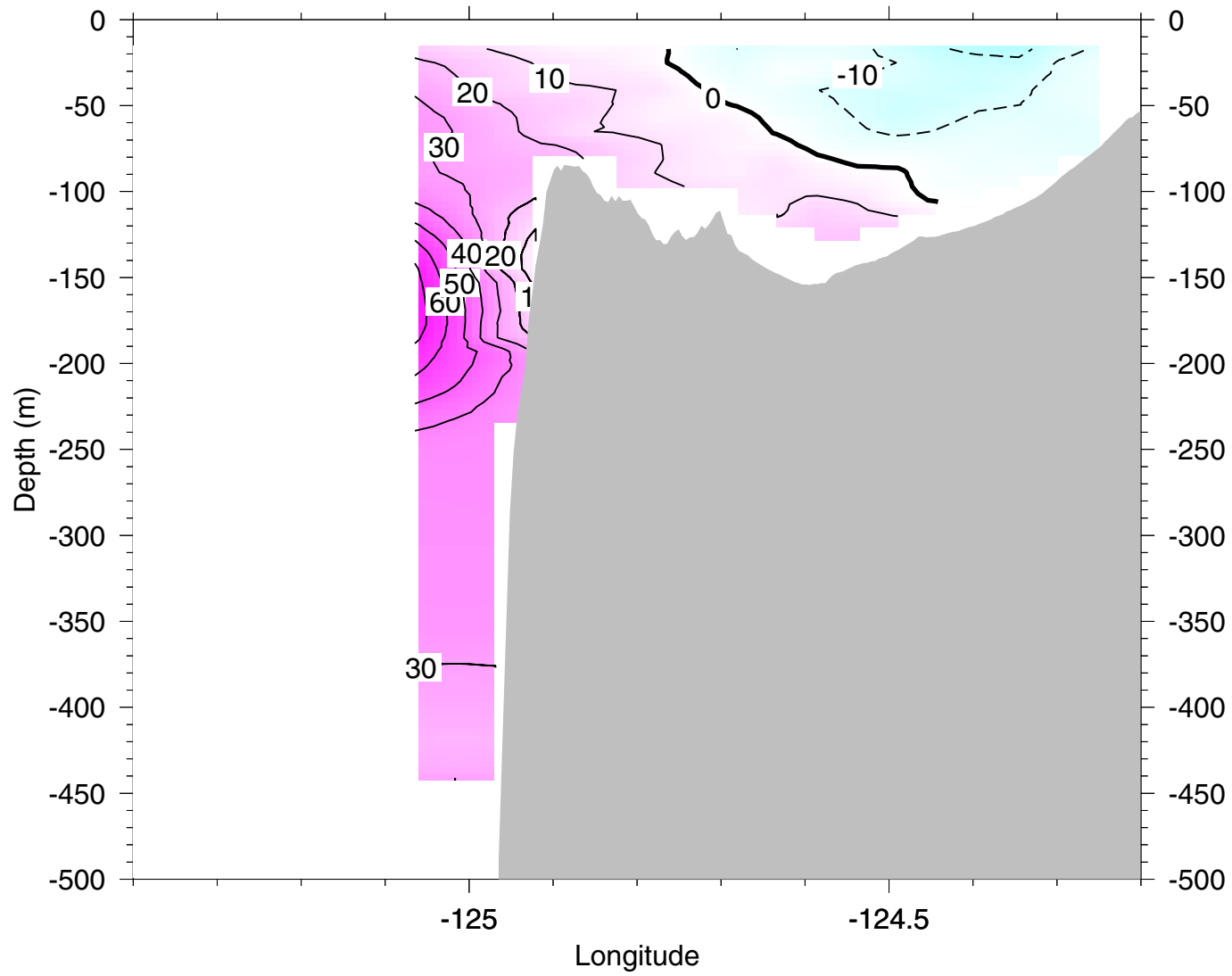
ADCP: Northward current (cm/s)



Heceta Head ADCP Line 44.0°N

01 September 2004

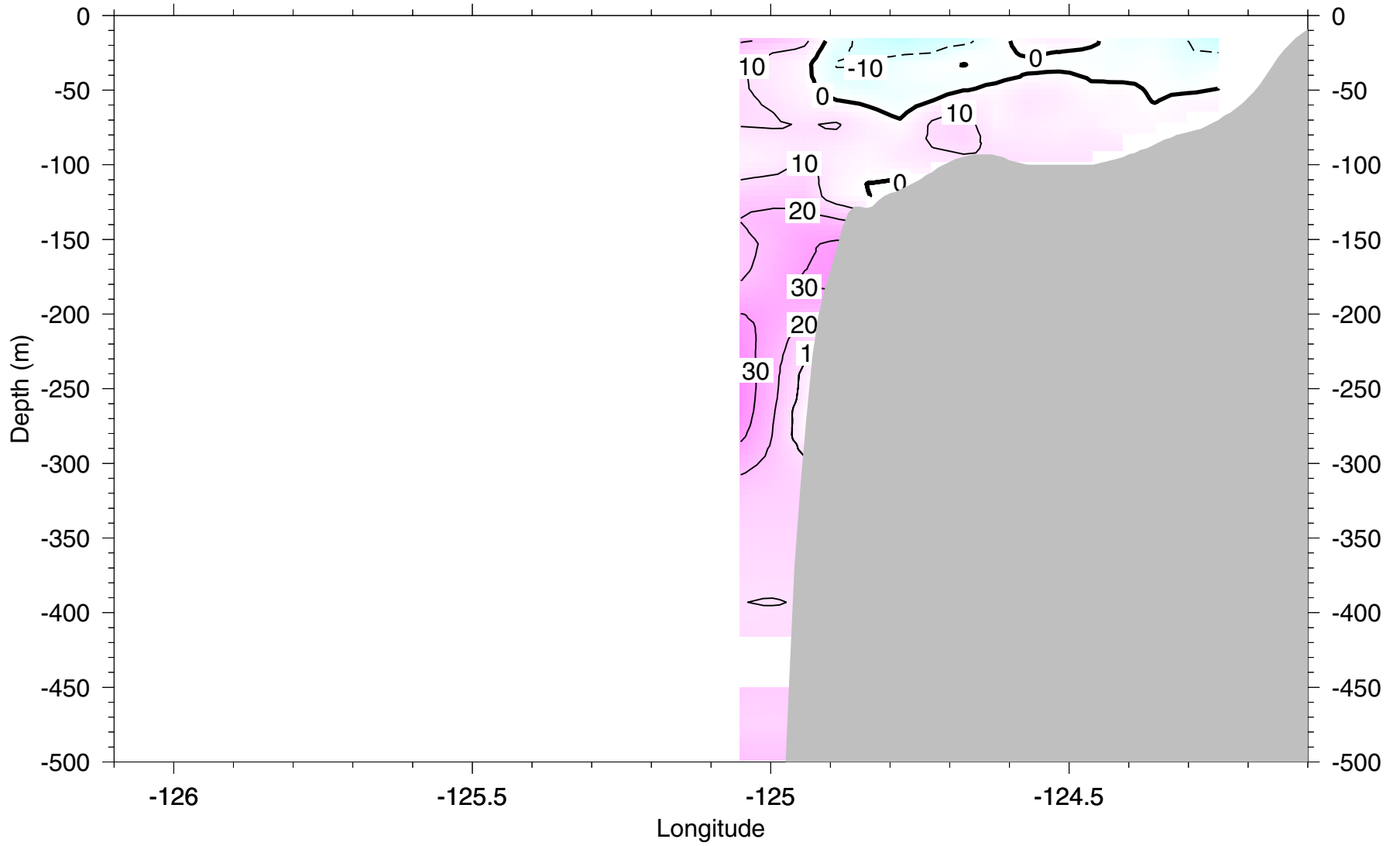
ADCP: Northward current (cm/s)



Strawberry Hill 44.25N Inbound Line 44.6°N

Sep 02, 2004

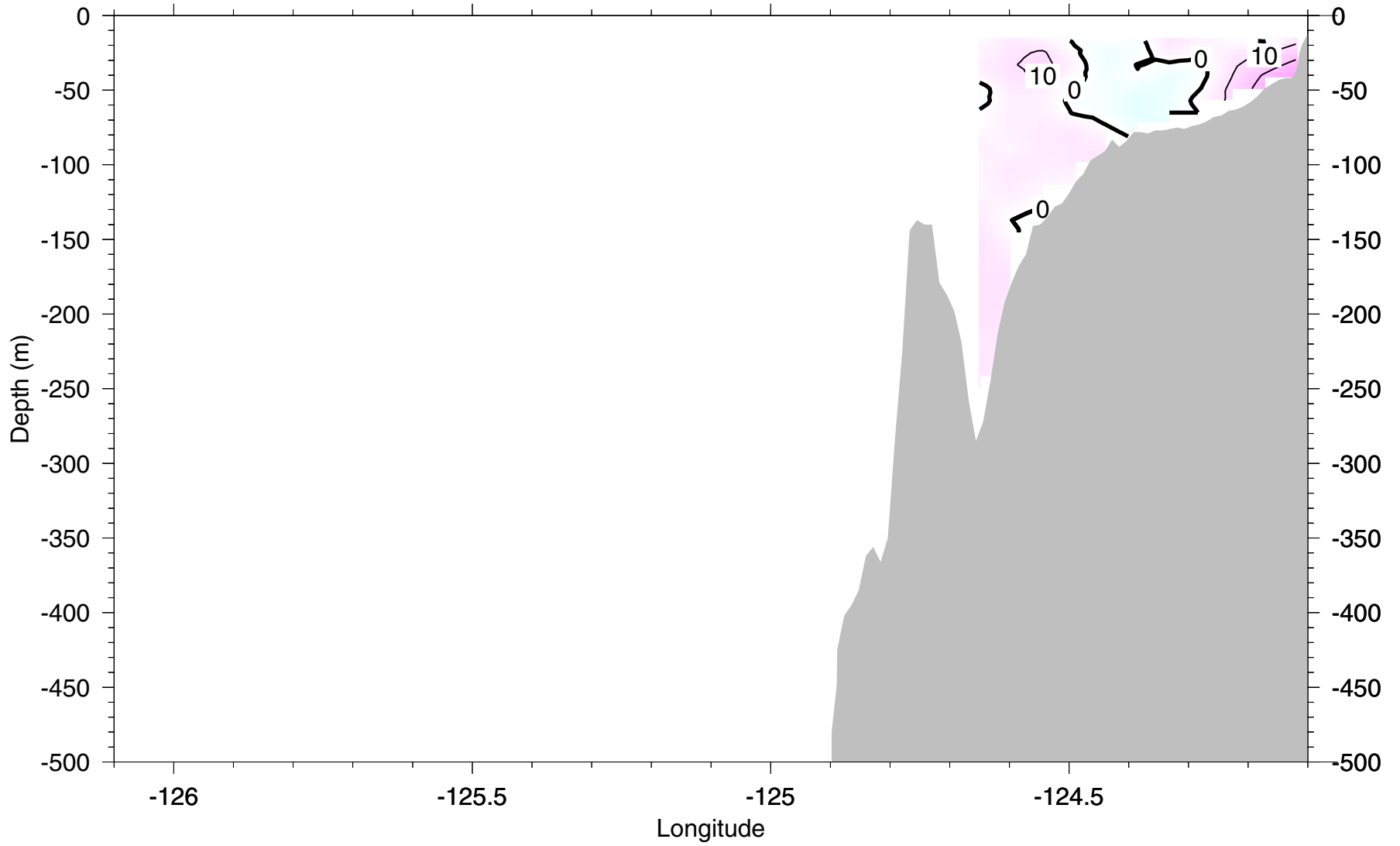
ADCP: Northward current (cm/s)



Newport Hydrographic Line 44.6°N

07-08 Sept 2004

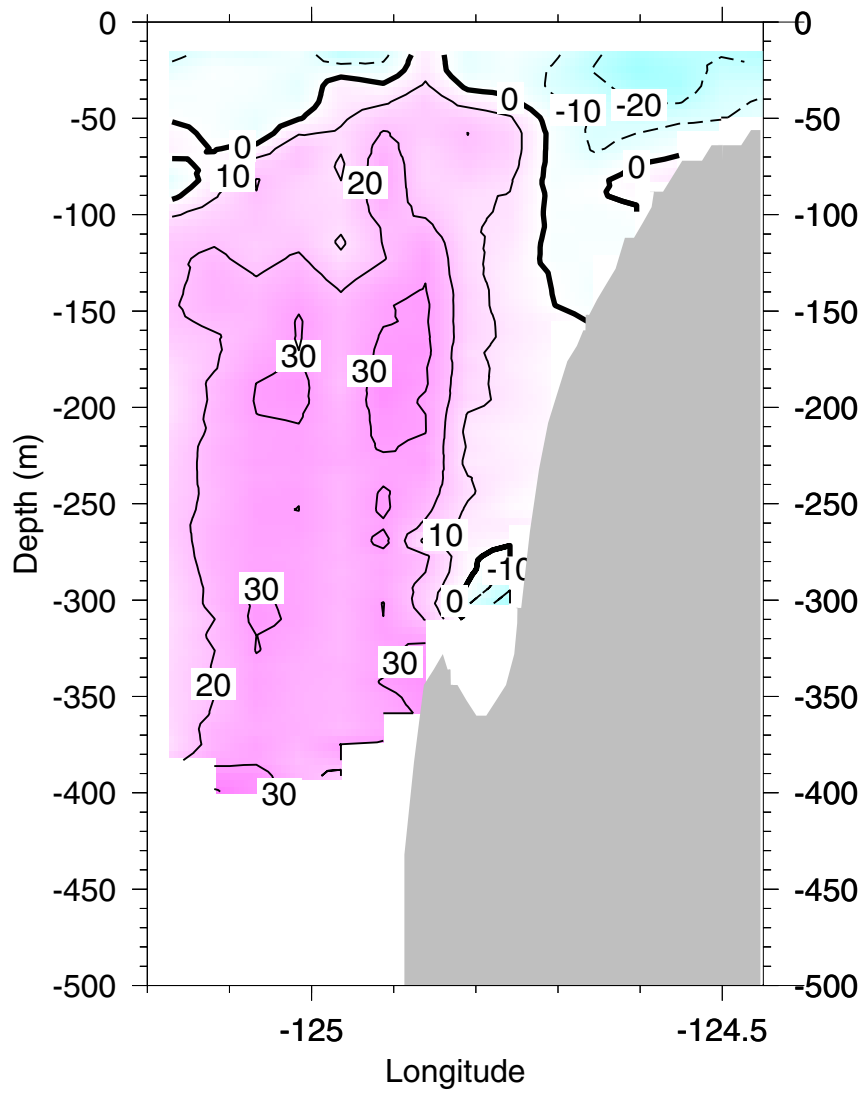
ADCP: Northward current (cm/s)



Five Mile Hydrographic Line 43.2°N

08-09 Sept 2004

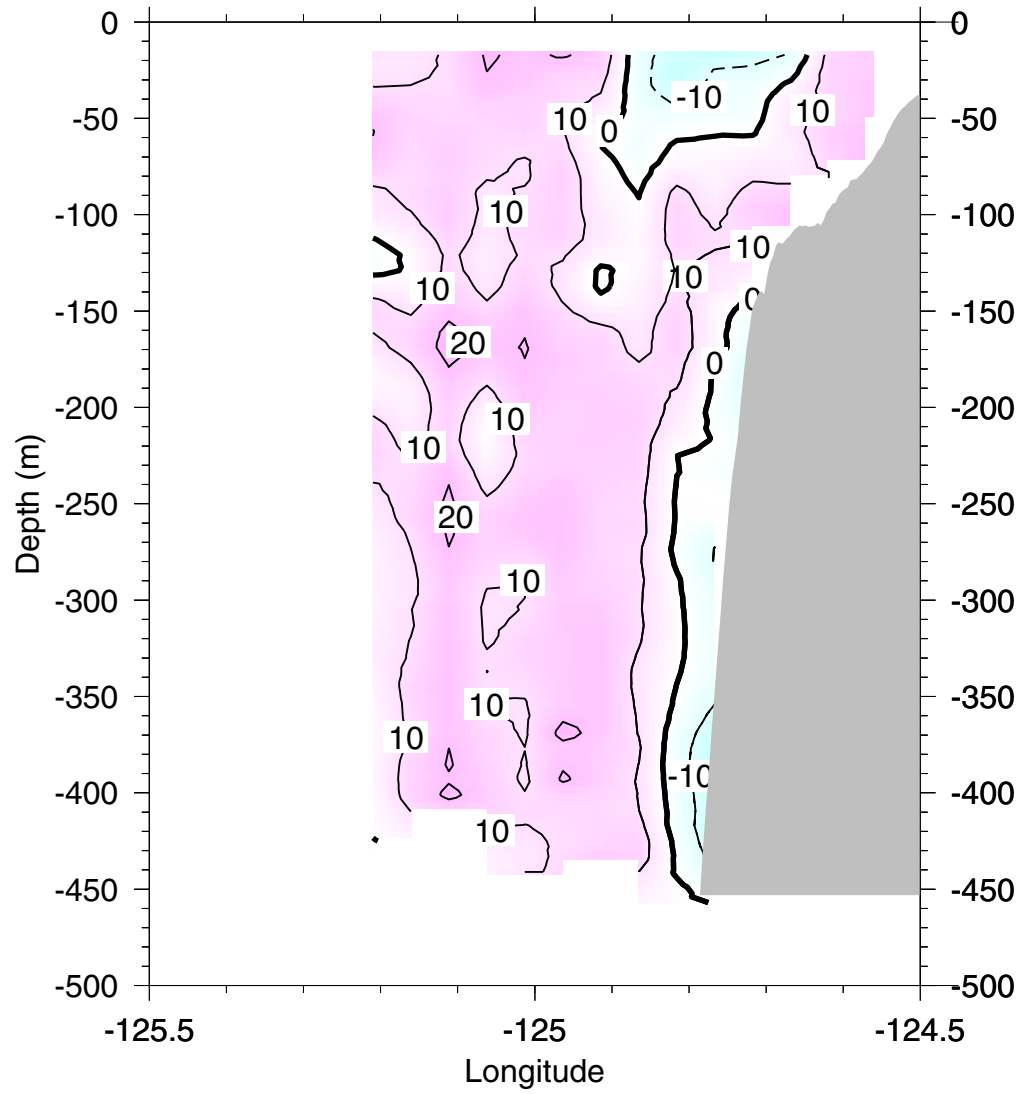
ADCP: Northward current (cm/s)



Rogue River Line 42.5°N

09 Sept 2004

ADCP: Northward current (cm/s)



## Zooplankton Report

Submitted by Mitch Vance and Dr. William Peterson, OSU and NOAA.

Zooplankton work on this cruise was limited to Vertical Plankton Tows, Bongo Net Tows, and live euphausiid experimental work.

½ meter vertical plankton tows (0.5 m diameter, 200 um mesh) were conducted at the following stations. The cast depth was 100 meters or 5 meters off the bottom.

NH-01	HH-1a	SH-9	SB-2	Replicates
NH-05	HH-1	SH-8	SB-1	
NH-10	HH-2a	SH-1		NH-05
NH-15	HH-2	SH-2		NH-10
NH-20	HH-3a	SH-3		NH-15
NH-25	HH-3	SH-4		NH-20
NH-35	HH-4	SH-5		NH-25
NH-45	HH-5	SH-6		NH-05
NH-55	HH-7	SH-7		
NH-65				
NH-85				

Bongo Net Tows were taken at the following stations. Target depth of the net was 100 meters or 5 meters off the bottom unless otherwise noted.

NH-05 (65 meters)	HH-5	SH-9
NH-10 (75 meters)	HH-4 (95 meters)	SH-8
NH-15	HH-3	SH-7
NH-25	HH-2	SH-6 (95 meters)
NH-25b (25 meters)	HH-3a	SH-5 (95 meters)
NH-20	HH-1b (45 meters)	SH-4 (95 meters)
NH-20b (20 meters)	HH-2	SH-3 (75 meters)
NH-15 (20 meters)	HH-3a	SH-2 (55 meters)
NH-10 (20 meters)	HH-3	SH-1 (35 meters)
NH-35	HH-4	SH-7
NH-35	HH-5	
NH-45	HH-7	
NH-65		
NH-85		

SB-2 (80 meters)

NH-25 (20 meters)
NH-20 (20 meters)
NH-15 (20 meters)
NH-10 (20 meters)
NH-05 (20 meters)

Live euphausiids were collected and molting rate experiments were set up at NH-25, and HH-3a.

Ovigerous female euphausiids were collected and egg production rate experiments were set up at NH-35, HH-3a, and NH-25.