

FALL BOTTOM TRAWL SURVEY ALB0210

For further information, contact Maureen Taylor National Marine Fisheries Service, Northeast Fisheries Science Center, Woods Hole, Massachusetts 02543-1097.

DATE: 31 December 2002

Northeast Fisheries Science Center
Woods Hole Laboratory
Woods Hole, MA 02543-1026

December 31, 2002

MEMORANDUM FOR: David Mountain
Russell Brown
Jerry Prezioso

FROM: Maureen Taylor (ext 2306)

SUBJECT: Fall Bottom Trawl Survey ALB0210

CTD data from the Fall survey, ALB0210, have been processed and are now available in the following locations:

- * whsun2: /ftp/pub/hydro/alb0210.dat (ASCII NODC file)
(and in /data4/hydro)
- * ORACLE Tables: hydro_cruise, hydro_event, hydro_data
- * alb0210.pdf (distributed via email)

There were a total of 337 casts successfully completed including 60 salinity calibration samples. Unfortunately, 12 of the salinity samples were not useable because they were taken in strong salinity gradients (I will revisit this in the upcoming training session scheduled for 1/15/03). The oracle tables should be available by Thursday afternoon of this week.

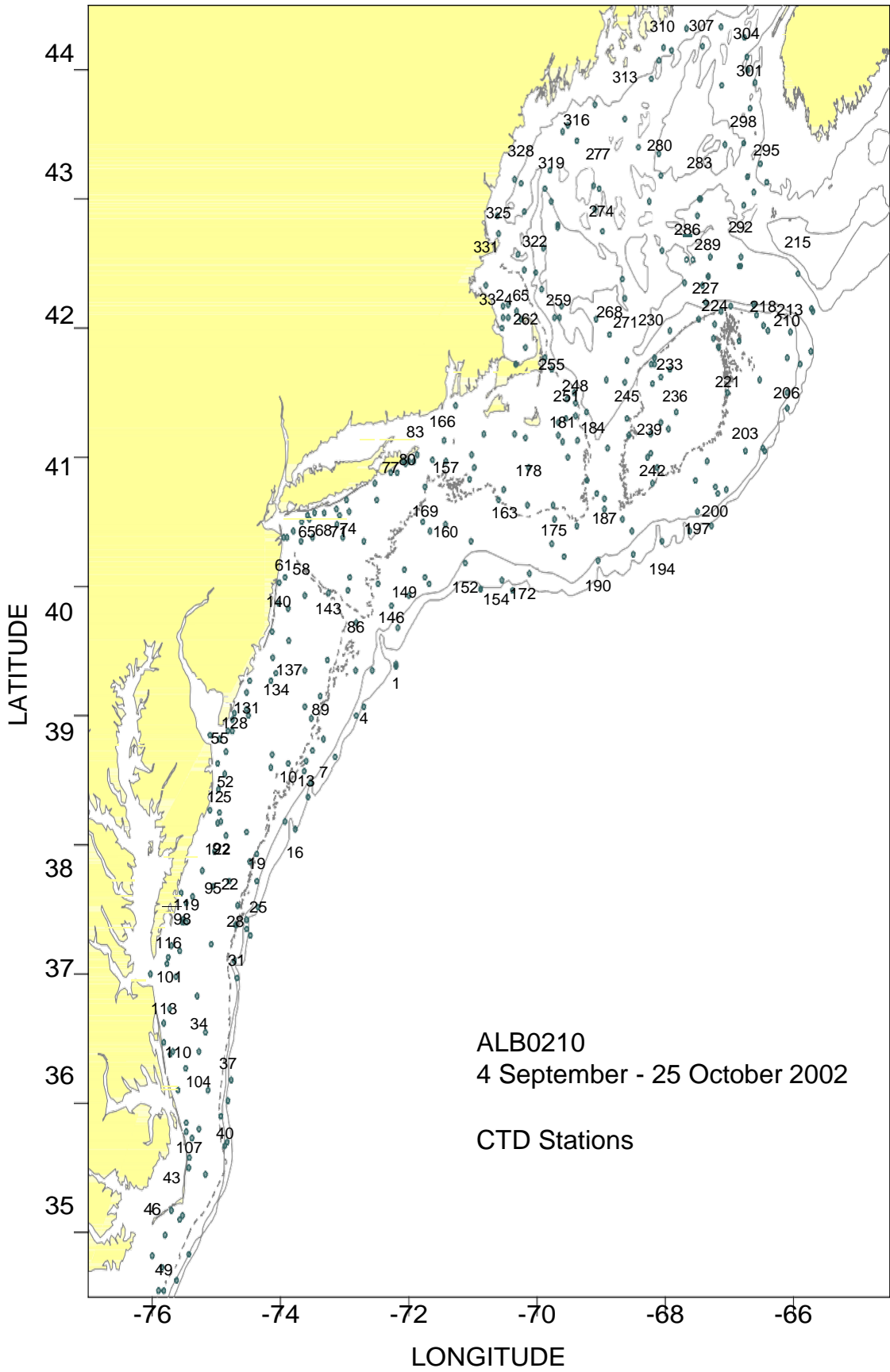
Please let Cristina Bascuñán or me know if you have any questions concerning this data and for future cruise needs.

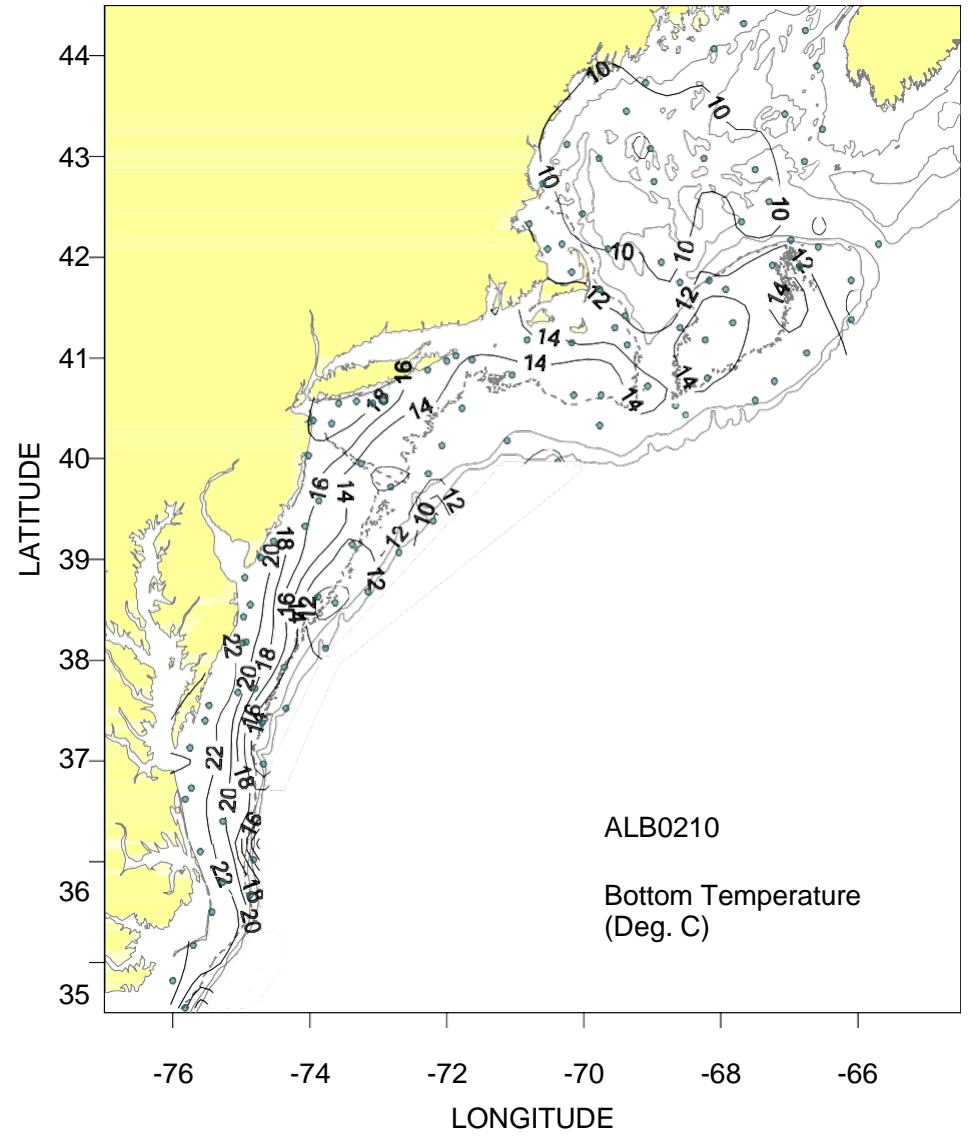
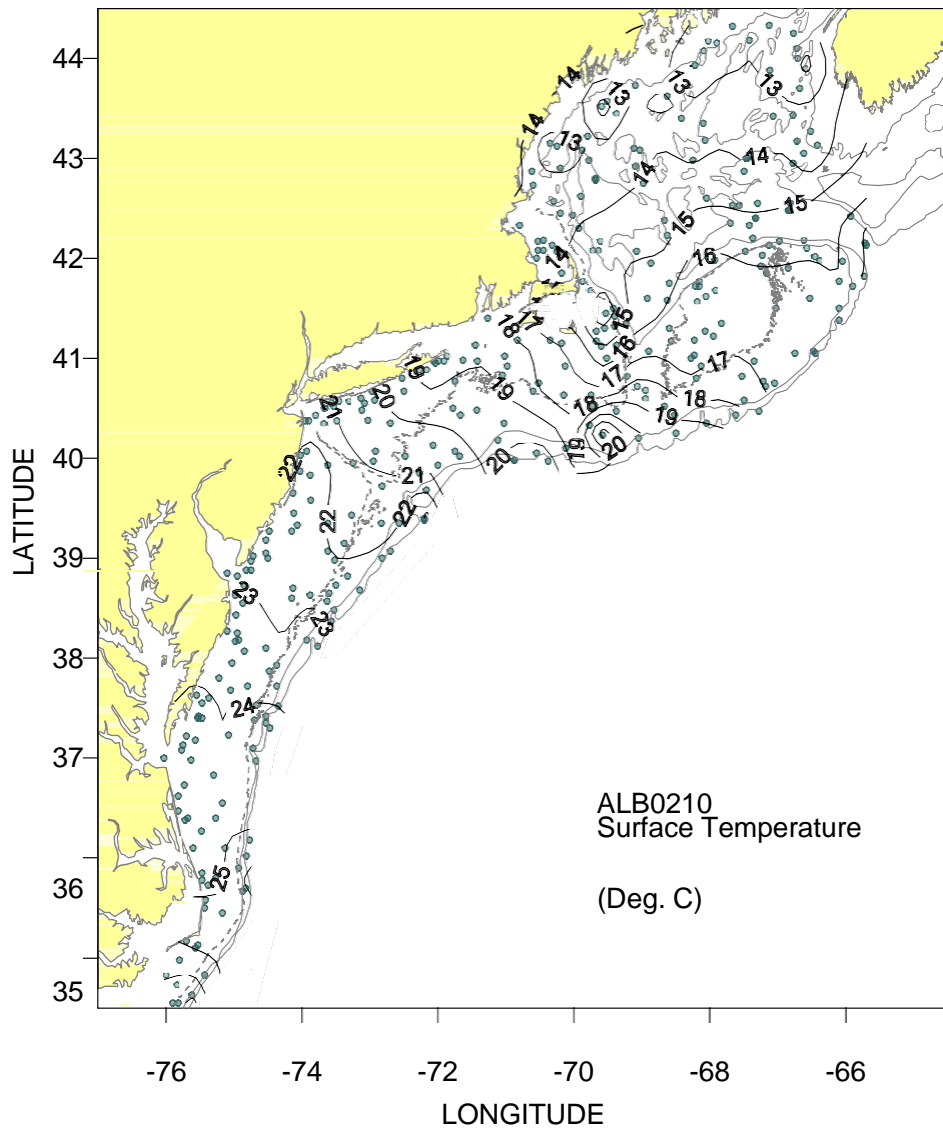
Areal average surface and bottom temp / salt and anomalies for Fall bottom trawl survey ALB0210.

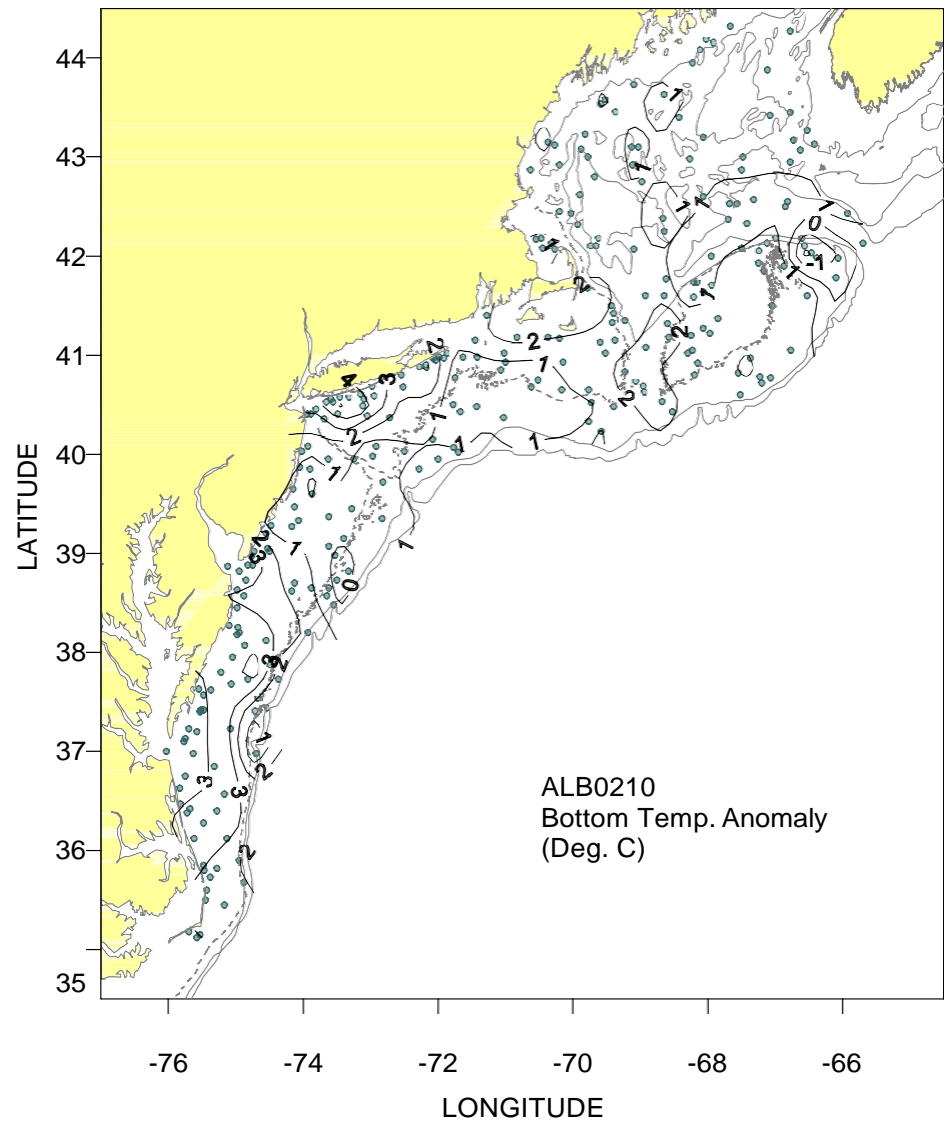
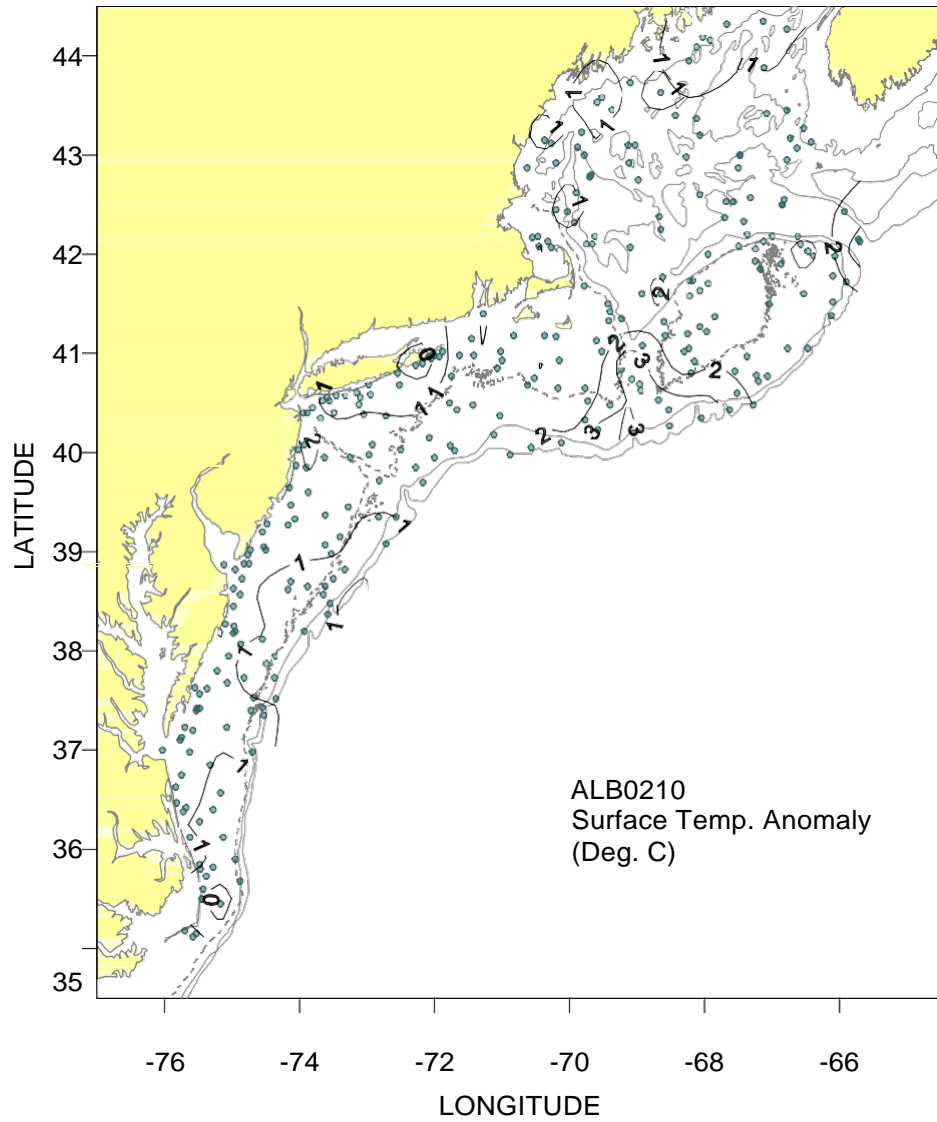
SURFACE							BOTTOM					(1)
CRUISE	CD	#obs	T / S	Anomaly	SDV1	SDV2	#obs	T / S	Anomaly	SDV1	SDV2	
Gulf of Maine West												
AL0210	295	47	13.37	1.16	0.19	0.73	45	8.44	1.18	0.14	1.52	
AL0210	295	46	32.87	0.33	0.08	0.2	45	33.77	0.16	0.06	0.27	
Gulf of Maine East												
AL0210	289	29	13.48	1.18	0.2	0.72	26	9.8	1.23	0.21	1.52	
AL0210	289	28	32.95	0.37	0.12	0.24	26	34.43	0.24	0.07	0.32	
Georges Bank												
AL0210	279	56	17.76	2.49	0.22	1.56	47	14.46	1.75	0.23	2.13	
AL0210	279	56	33.13	0.38	0.09	0.74	47	33.35	0.38	0.08	0.54	
MAB North												
AL0210	271	61	19.7	1.4	0.27	1.24	56	13.07	0.93	0.34	2.76	
AL0210	271	61	32.96	0.36	0.11	0.55	56	33.51	0.11	0.11	0.57	
MAB South												
AL0210	256	87	23.27	0.96	0.25	1.01	81	15.44	1.59	0.31	2.71	
AL0210	256	87	32.4	0.28	0.14	0.63	80	32.82	-0.29	0.11	0.53	

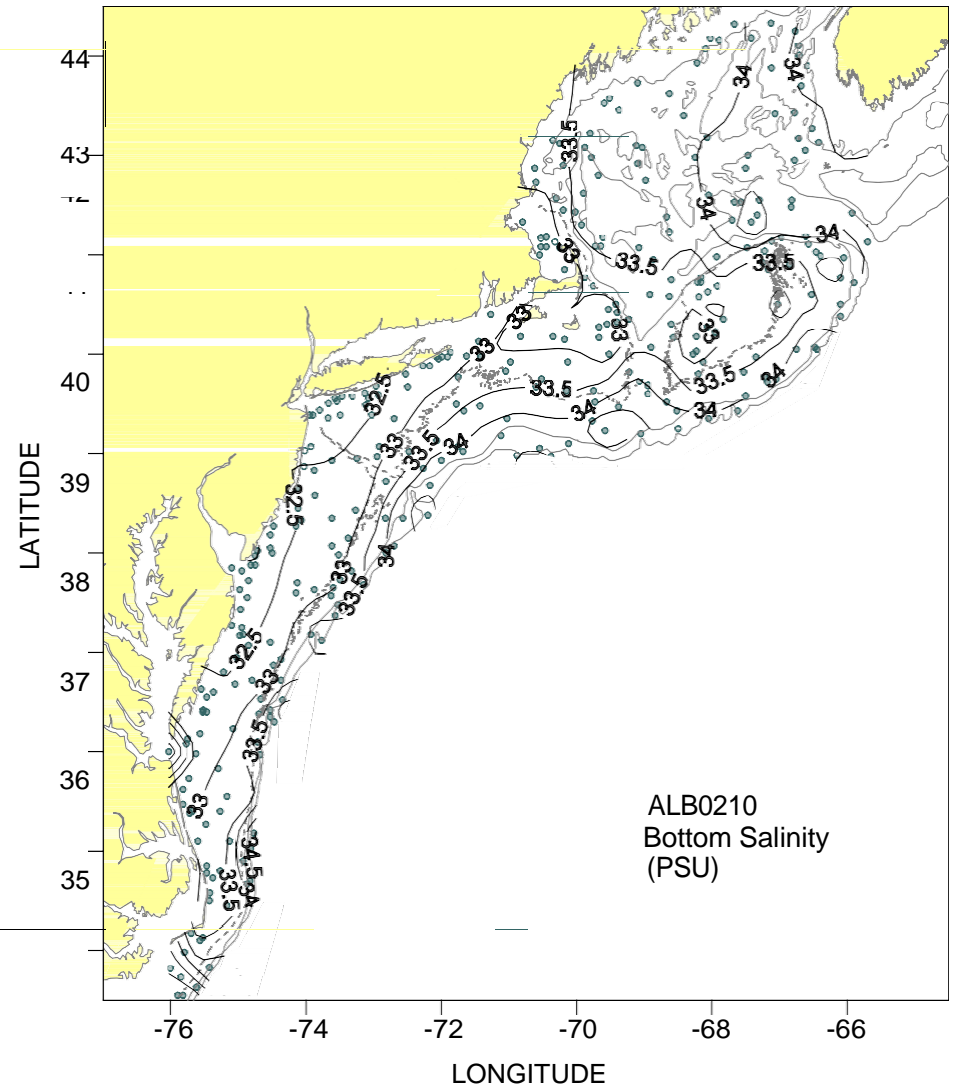
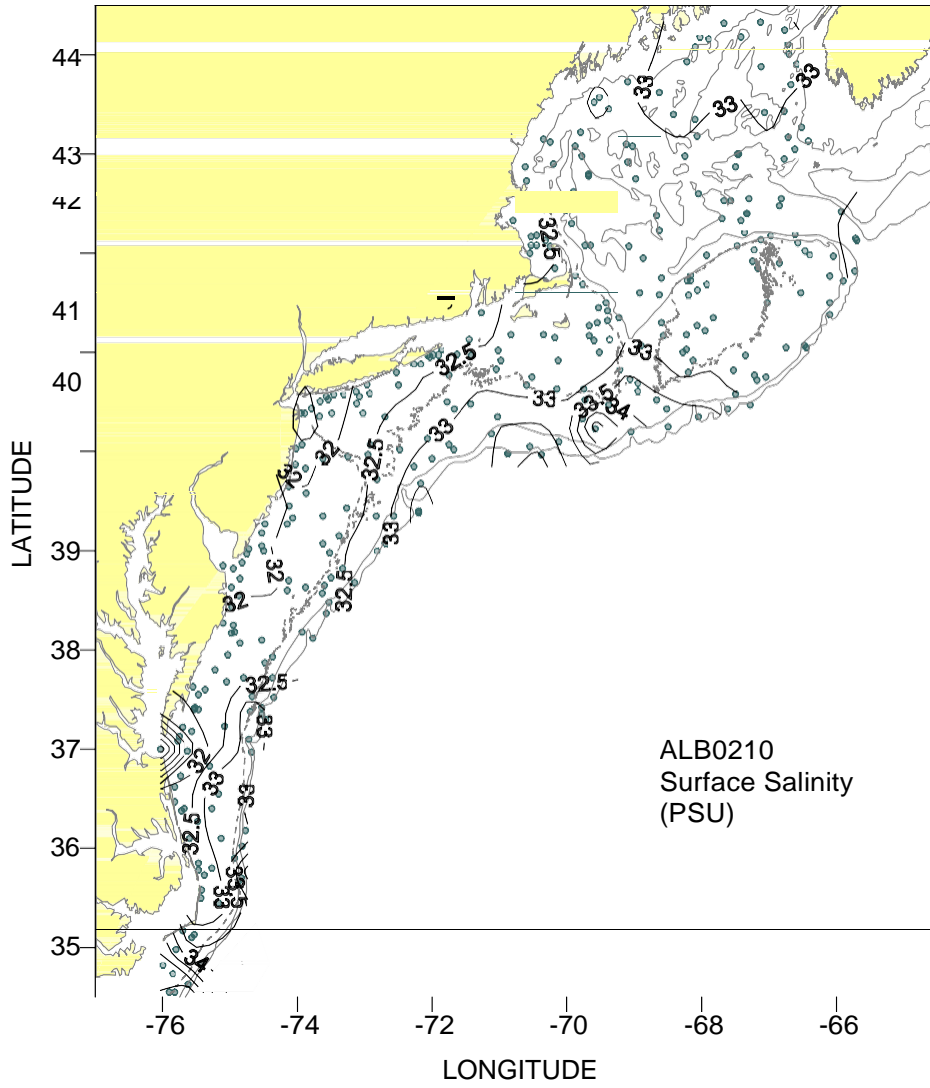
(1) "CRUISE", the code name for a cruise: "CD", the calendar mid-date of all the stations within a region for a cruise: "# obs", the number of observations included in each average: "T / S", the areal average temp / salt: "Anomaly", the areal average temp/salt anomaly: "SDV1", the standard deviation associated with the average temp/salt anomaly: "SDV2", the standard deviation of the individual anomalies from which the average anomaly was derived.

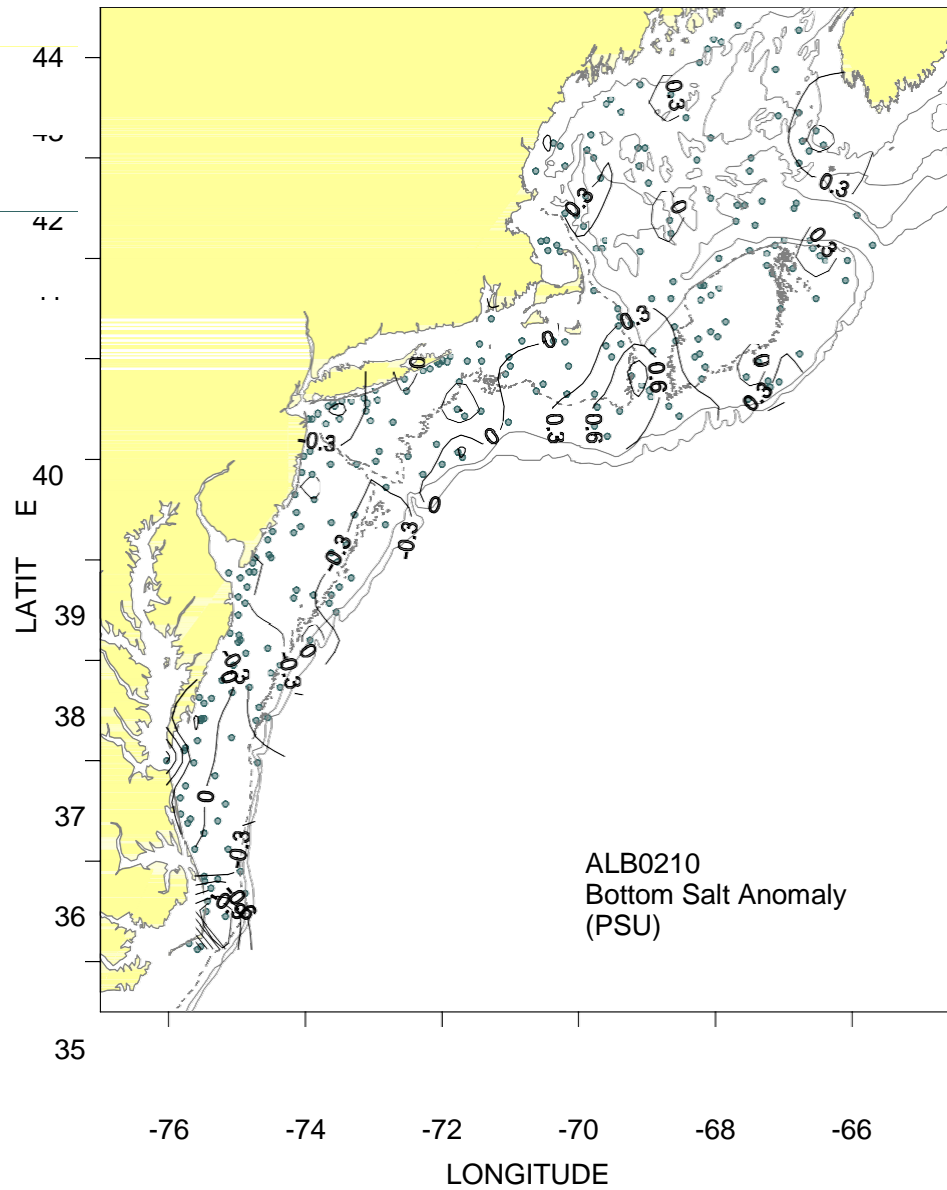
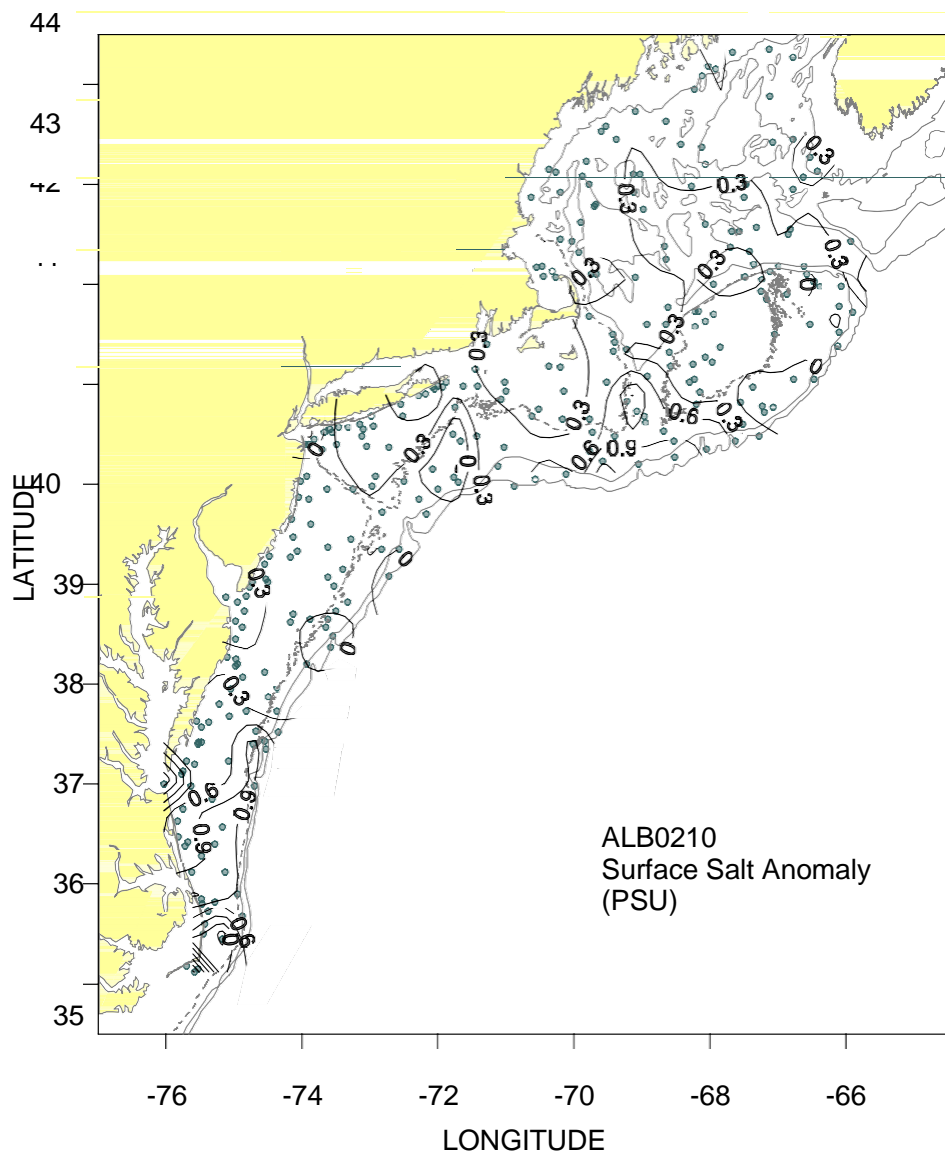
(*) A true areal average could not be calculated due to poor station coverage. The average values listed were derived from a simple average of the observations within the region.











ALB0210 FALL BOTTOM TRAWL SURVEY

4 September - 25 October, 2002

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
1	1	3923.80	7212.80	4	9	2002	10:03	512	23.57	33.94	5.04	35.00	7
2	1	3924.00	7212.80	4	9	2002	10:37	475	23.53	34.01	11.95	35.54	276
3	2	3921.20	7234.00	4	9	2002	13:49	127	22.44	33.23	13.04	35.37	5
4	3	3921.30	7250.30	4	9	2002	15:56	73	22.23	32.51	7.67	32.91	6
5	4	3904.60	7242.50	4	9	2002	18:37	282	22.87	33.36	8.20	35.16	6
6	5	3900.80	7249.70	4	9	2002	20:58	118	22.66	33.08	12.72	35.41	6
7	6	3849.10	7320.40	5	9	2002	0:22	76	22.72	32.48	7.82	32.97	6
8	7	3841.10	7309.80	5	9	2002	2:20	130	22.56	32.99	11.42	34.38	6
9	8	3844.20	7330.10	5	9	2002	5:15	67	22.88	32.43	7.92	32.95	7
10	9	3839.20	7336.70	5	9	2002	6:39	61	22.98	32.51	8.24	32.86	8
11	10	3838.50	7353.10	5	9	2002	9:07	48	22.83	32.25	9.57	32.80	6
12	11	3842.00	7408.30	5	9	2002	11:00	49	21.86	31.72	11.72	32.60	6
13	12	3836.60	7409.70	5	9	2002	12:28	51	22.01	31.68	11.99	32.60	7
14	13	3834.00	7338.80	5	9	2002	15:28	67	22.96	32.17	8.55	32.92	6
15	14	3829.20	7332.70	5	9	2002	16:52	92	23.31	32.26	8.31	33.06	7
16	15	3822.00	7334.60	5	9	2002	19:21	206	23.77	32.73	9.77	35.31	7
17	16	3807.00	7346.80	5	9	2002	22:10	263	23.83	32.21	7.47	35.12	7
18	17	3811.60	7356.40	6	9	2002	0:10	77	23.60	32.06	9.38	33.59	5
19	18	3806.60	7432.80	6	9	2002	3:43	38	22.42	31.74	18.69	32.22	5
20	19	3756.60	7422.30	6	9	2002	5:37	59	23.69	32.13	11.12	32.96	5
21	20	3752.30	7429.80	6	9	2002	6:58	54	23.37	32.04	13.09	32.81	7
22	21	3743.80	7422.30	6	9	2002	9:04	67	23.87	32.23	8.89	33.15	7
23	22	3743.80	7448.70	6	9	2002	11:34	38	22.78	31.83	19.09	32.50	6
24	23	3732.20	7440.90	6	9	2002	13:40	52	24.05	32.23	11.91	32.96	7
25	24	3725.90	7432.90	6	9	2002	15:25	86	24.51	33.46	10.38	33.41	5
26	25	3731.40	7421.10	6	9	2002	17:22	141	24.58	32.92	12.72	35.63	6
27	26	3718.10	7428.20	6	9	2002	22:51	359	24.76	33.04	7.07	35.10	6
28	27	3721.30	7432.00	7	9	2002	0:49	103	24.45	33.78	13.67	35.29	5

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
29	28	3723.50	7442.50	7	9	2002	2:34	55	24.59	33.47	11.68	33.06	6
30	29	3714.20	7505.10	7	9	2002	5:13	32	23.88	32.13	23.31	32.82	5
31	30	3706.30	7443.30	7	9	2002	7:49	180	24.42	32.65	10.97	35.44	6
32	31	3658.80	7441.80	7	9	2002	9:48	82	24.78	33.71	10.15	33.41	7
33	32	3650.90	7518.60	7	9	2002	13:21	30	24.48	32.78	22.56	33.04	6
34	33	3633.50	7510.20	7	9	2002	16:06	33	24.88	33.61	19.49	33.22	4
35	34	3624.30	7516.80	7	9	2002	17:47	32	24.60	33.44	21.41	33.34	5
36	35	3606.70	7508.40	7	9	2002	20:13	34	25.14	33.98	19.88	33.39	5
37	36	3611.20	7446.20	7	9	2002	22:43	321	25.23	32.95	8.11	35.15	6
38	37	3601.20	7449.00	8	9	2002	0:56	121	27.53	35.18	15.07	35.49	5
39	38	3554.00	7456.90	8	9	2002	2:58	61	25.02	32.79	13.24	33.74	7
40	39	3542.40	7450.40	8	9	2002	4:50	110	27.51	36.12	15.56	35.75	6
41	40	3540.50	7452.60	8	9	2002	6:31	67	27.77	35.74	15.98	34.82	4
42	41	3527.00	7510.00	8	9	2002	8:55	31	25.22	32.57	24.55	33.30	4
43	42	3508.60	7532.10	8	9	2002	12:13	14	25.57	31.93	25.54	31.98	5
44	43	3510.90	7542.40	8	9	2002	14:26	14	25.61	31.58	25.58	31.59	5
45	44	3506.90	7534.50	8	9	2002	15:58	22	25.67	32.11	25.80	32.53	3
46	45	3459.00	7548.10	8	9	2002	17:46	23	27.25	35.88	26.36	36.16	4
47	46	3449.40	7600.90	8	9	2002	19:37	30	27.20	35.98	26.42	36.14	4
48	47	3444.40	7551.00	8	9	2002	21:13	36	28.17	36.12	27.70	36.25	5
49	48	3433.90	7554.80	8	9	2002	22:52	48	28.10	36.10	24.82	36.52	5
50	49	3433.70	7549.30	9	9	2002	0:13	62	28.02	36.06	23.67	36.48	6
51	50	3438.40	7537.00	9	9	2002	2:28	220	29.03	36.22	12.92	35.72	7
52	51	3450.30	7526.90	9	9	2002	7:35	169	28.94	36.25	15.67	36.10	7
53	52	3833.50	7452.50	10	9	2002	12:58	21	23.10	31.81	23.03	31.98	6
54	53	3838.30	7459.20	10	9	2002	14:37	17	23.19	31.51	23.15	31.53	5
55	54	3851.50	7506.60	10	9	2002	17:07	23	23.61	31.27	23.36	31.34	4
56	55	3849.40	7457.00	10	9	2002	19:28	15	23.44	31.95	23.43	31.98	3
57	56	3843.70	7451.00	10	9	2002	21:19	17	23.42	32.05	23.40	32.04	5
58	57	3858.40	7445.80	10	9	2002	23:38	11	23.44	31.91	23.41	31.92	5
59	58	4021.10	7341.70	11	9	2002	11:10	25	22.42	31.68	21.00	32.18	6
60	59	4026.70	7348.60	11	9	2002	12:55	30	22.10	29.88	15.45	32.49	5

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
61	60	4023.50	7354.30	11	9	2002	14:22	21	21.97	30.60	20.50	31.72	5
62	61	4023.50	7357.30	11	9	2002	15:46	14	22.07	30.07	21.01	31.13	4
63	62	4030.80	7340.30	11	9	2002	19:52	18	20.90	31.54	20.86	31.71	3
64	64	4031.40	7333.50	12	9	2002	1:06	20	20.75	31.82	20.75	31.84	5
65	65	4033.20	7335.80	12	9	2002	2:19	12	20.78	31.74	20.76	31.75	4
66	66	4034.00	7328.10	12	9	2002	3:39	15	20.64	31.79	20.64	31.79	3
67	67	4023.70	7330.40	12	9	2002	5:28	26	20.90	31.63	20.92	31.64	5
68	68	4034.00	7319.50	12	9	2002	7:35	20	20.46	31.74	20.46	31.76	5
69	69	4029.20	7307.40	12	9	2002	9:08	32	20.68	32.06	17.42	32.66	6
70	70	4023.10	7302.50	12	9	2002	10:34	37	19.71	32.48	12.66	32.67	5
71	71	4033.30	7305.90	12	9	2002	12:21	26	20.58	31.96	20.31	32.04	6
72	72	4036.10	7308.90	12	9	2002	13:34	21	20.29	31.99	20.28	32.03	5
73	73	4040.70	7258.90	12	9	2002	15:10	13	20.17	32.09	20.18	32.09	5
74	74	4035.20	7256.70	12	9	2002	17:22	27	20.46	32.04	20.12	32.12	4
75	75	4040.80	7230.90	12	9	2002	19:46	34	19.65	32.24	15.21	32.86	4
76	76	4048.10	7232.70	12	9	2002	21:37	16	18.60	32.56	18.08	32.79	3
77	77	4053.20	7217.30	12	9	2002	23:42	16	18.14	32.53	17.19	32.85	5
78	78	4053.90	7211.00	13	9	2002	0:55	23	18.59	32.40	16.28	32.65	7
79	79	4058.00	7205.40	13	9	2002	2:10	14	17.42	32.36	16.15	32.55	5
80	80	4058.70	7200.30	13	9	2002	3:30	20	17.81	32.21	14.97	32.61	5
81	81	4057.40	7203.20	13	9	2002	5:25	21	18.20	32.32	15.07	32.59	3
82	82	4058.10	7155.70	13	9	2002	6:39	27	18.45	32.31	14.25	32.64	5
83	83	4101.40	7152.90	13	9	2002	7:43	20	18.12	32.26	18.10	32.28	5
85	85	4004.90	7255.00	17	9	2002	9:26	50	20.25	32.84	8.70	32.87	5
84	84	4021.70	7242.50	17	9	2002	6:50	50	19.82	32.78	9.98	32.80	7
86	86	3943.30	7249.20	17	9	2002	12:04	69	20.60	32.73	8.56	33.08	7
87	87	3926.80	7316.80	17	9	2002	15:22	33	21.54	31.84	19.02	32.27	5
88	88	3921.70	7337.40	17	9	2002	17:32	42	21.41	32.02	10.10	32.77	7
89	89	3909.40	7323.80	17	9	2002	19:46	56	21.94	32.48	8.86	32.83	6
90	90	3904.40	7337.00	17	9	2002	21:40	45	21.69	32.12	11.46	32.62	3
91	91	3859.40	7331.90	17	9	2002	23:01	48	21.68	32.46	9.17	32.80	5
92	92	3811.80	7456.70	18	9	2002	7:04	16	23.44	32.20	23.37	32.21	4

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
93	93	3804.40	7451.60	18	9	2002	10:31	28	23.58	32.22	19.20	32.47	6
94	94	3757.40	7502.70	18	9	2002	12:22	20	23.58	32.10	23.58	32.10	5
95	95	3741.10	7503.70	18	9	2002	15:31	26	23.79	32.40	23.47	32.44	6
96	96	3736.70	7522.20	18	9	2002	20:15	16	24.55	32.45	23.91	32.47	3
97	97	3724.50	7528.60	18	9	2002	22:25	22	24.60	31.22	24.01	32.68	5
98	98	3724.40	7532.20	18	9	2002	23:49	17	24.58	32.10	23.97	32.48	5
99	99	3711.90	7534.60	19	9	2002	1:38	16	24.51	30.64	24.04	32.54	6
100	100	3659.30	7538.40	19	9	2002	5:30	21	24.51	31.19	24.04	32.78	4
101	101	3644.90	7544.90	19	9	2002	7:39	20	24.24	32.62	23.96	32.75	5
102	102	3624.50	7541.10	19	9	2002	10:18	22	24.35	32.62	23.55	33.03	5
103	103	3616.90	7529.30	19	9	2002	12:31	28	24.40	32.43	23.70	33.49	6
104	104	3548.90	7516.70	19	9	2002	16:47	30	24.57	32.72	23.46	33.75	5
105	105	3544.10	7523.00	19	9	2002	18:34	15	24.95	32.55	24.53	32.64	4
106	106	3535.70	7525.50	19	9	2002	20:04	16	25.03	32.89	24.59	32.91	3
107	107	3530.40	7526.70	19	9	2002	22:25	12	25.06	32.60	25.07	32.61	5
108	108	3547.70	7528.10	20	9	2002	1:22	16	24.64	32.28	24.50	32.44	5
109	109	3551.10	7528.80	20	9	2002	4:22	19	24.66	32.10	24.11	32.96	5
110	110	3606.50	7536.90	20	9	2002	7:05	22	24.77	32.11	24.16	32.94	3
111	111	3623.00	7543.00	20	9	2002	9:31	21	24.35	32.77	24.04	33.05	7
112	112	3628.10	7549.40	20	9	2002	11:07	12	24.87	31.45	24.50	32.69	4
113	113	3637.90	7549.90	20	9	2002	14:00	15	24.74	31.66	24.30	32.67	5
114	114	3700.10	7602.40	20	9	2002	18:42	14	24.83	28.74	24.52	30.61	3
115	115	3705.80	7546.10	20	9	2002	21:28	12	24.41	31.87	24.32	31.99	3
116	116	3708.30	7545.10	20	9	2002	23:22	13	24.85	31.22	24.34	31.82	4
117	117	3713.90	7542.00	21	9	2002	1:07	11	24.53	31.61	24.65	99.99	4
118	118	3725.40	7531.20	21	9	2002	3:07	18	24.48	32.20	23.92	32.51	4
119	119	3733.70	7528.60	21	9	2002	5:15	14	24.06	32.27	24.07	32.32	4
120	120	3738.00	7533.10	21	9	2002	6:58	11	24.10	32.20	24.10	32.21	4
121	121	3748.30	7513.10	21	9	2002	9:28	20	24.08	32.35	23.96	32.41	3
122	122	3810.50	7459.20	21	9	2002	12:21	20	23.89	32.21	22.07	32.31	4
123	123	3815.30	7457.90	21	9	2002	14:36	16	24.00	32.23	22.89	32.23	4
124	124	3816.20	7506.00	21	9	2002	17:07	12	24.14	32.00	23.98	32.01	3

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
125	125	3826.90	7458.80	21	9	2002	19:40	17	23.85	31.89	23.47	32.02	3
126	126	3853.40	7449.20	21	9	2002	23:22	13	22.85	31.48	21.68	31.88	3
127	127	3853.10	7445.30	22	9	2002	1:13	14	21.79	99.99	20.19	32.18	3
128	128	3901.00	7443.50	22	9	2002	2:37	12	22.42	31.95	22.17	31.91	4
129	129	3900.50	7430.40	22	9	2002	4:13	16	23.20	31.97	19.64	32.16	3
130	130	3903.20	7432.30	22	9	2002	5:52	15	22.78	31.92	20.53	32.47	1
131	131	3911.90	7432.70	22	9	2002	7:19	18	23.12	31.69	16.83	32.34	3
132	132	3916.80	7429.30	22	9	2002	8:53	13	22.93	31.85	17.16	32.37	4
133	133	3916.00	7409.60	22	9	2002	11:15	26	23.24	32.08	17.64	32.27	3
134	134	3920.40	7404.40	22	9	2002	12:37	24	23.05	31.98	17.15	32.33	3
135	135	3927.80	7407.70	22	9	2002	14:01	20	22.94	31.50	18.80	32.29	4
136	136	3939.10	7408.70	22	9	2002	15:46	13	22.09	31.97	21.06	32.15	4
137	137	3935.70	7352.30	22	9	2002	17:43	26	23.23	32.08	14.59	32.45	4
138	138	3950.80	7353.70	22	9	2002	19:51	24	23.04	31.93	16.47	32.55	3
139	139	3952.10	7402.80	22	9	2002	21:10	18	21.38	32.03	18.09	32.31	3
140	140	4002.40	7401.40	22	9	2002	23:01	20	19.43	32.28	16.14	32.57	2
141	141	4004.50	7356.40	23	9	2002	0:49	23	22.75	31.88	17.35	32.38	5
142	142	3956.80	7337.70	23	9	2002	3:46	38	22.47	31.89	9.49	32.82	2
143	143	3957.40	7315.10	23	9	2002	5:55	64	21.60	32.14	8.29	32.91	3
144	144	3958.60	7257.80	23	9	2002	7:56	50	21.51	32.43	8.66	32.91	3
145	145	4001.80	7229.50	23	9	2002	10:43	63	21.15	32.92	9.09	33.15	2
146	146	3951.40	7216.90	23	9	2002	12:52	83	21.54	33.46	11.98	34.42	2
147	147	3941.80	7210.20	23	9	2002	14:36	122	21.41	33.66	12.89	35.37	2
148	148	3956.80	7200.00	23	9	2002	17:02	88	21.02	33.59	12.66	34.95	5
149	149	4008.70	7204.50	23	9	2002	20:13	65	20.86	32.72	9.53	33.21	5
150	150	4004.40	7145.70	23	9	2002	22:22	85	20.38	33.07	12.69	34.89	2
151	151	4001.10	7141.90	23	9	2002	23:40	93	21.08	33.12	12.85	35.26	3
152	152	4011.20	7107.10	24	9	2002	3:12	125	21.68	34.49	12.57	35.55	5
153	153	3959.00	7053.40	24	9	2002	5:58	327	21.23	34.29	11.66	35.50	127
154	153	3959.10	7053.70	24	9	2002	6:20	323	21.08	34.21	10.41	35.36	1
155	154	4003.20	7033.90	24	9	2002	9:01	150	22.56	34.94	12.99	35.60	6
156	155	4050.80	7103.60	25	9	2002	2:52	57	19.47	32.52	10.30	33.14	6

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
157	156	4055.90	7059.60	25	9	2002	4:34	53	19.49	32.38	11.63	33.08	4
158	157	4058.80	7125.00	25	9	2002	7:04	42	19.54	32.40	12.46	33.07	6
159	158	4030.30	7147.30	26	9	2002	2:34	67	19.33	32.25	9.25	33.01	3
160	159	4026.20	7140.40	26	9	2002	4:55	76	20.17	33.85	10.29	33.60	6
161	160	4029.00	7126.40	26	9	2002	7:16	69	20.62	34.19	10.66	33.60	7
162	161	4038.90	7009.90	26	9	2002	21:19	47	17.07	32.52	12.37	33.29	5
163	162	4040.60	7036.70	26	9	2002	23:49	59	18.67	32.83	11.63	33.68	5
164	163	4045.40	7031.20	27	9	2002	1:28	53	17.56	32.47	12.54	33.45	5
165	164	4111.00	7050.30	27	9	2002	4:56	26	18.41	32.37	17.92	32.50	6
166	165	4124.30	7116.60	1	10	2002	22:01	26	19.33	32.08	17.79	32.46	4
167	166	4108.80	7127.20	2	10	2002	0:33	26	18.86	32.32	18.66	32.61	4
168	167	4101.10	7101.40	2	10	2002	4:35	44	18.93	32.34	15.72	32.92	11
169	168	4059.20	7138.30	2	10	2002	8:10	43	19.07	31.92	12.62	33.02	9
170	169	4046.40	7145.20	2	10	2002	10:13	56	19.20	32.48	10.84	33.00	6
171	170	4021.90	7102.10	2	10	2002	14:49	88	19.73	33.81	13.13	35.11	6
172	171	3958.70	7023.80	2	10	2002	19:45	317	22.86	35.38	8.97	35.22	10
173	172	4006.00	7007.40	2	10	2002	22:53	150	20.31	34.12	12.09	35.59	6
174	173	4014.00	6935.20	3	10	2002	2:07	79	22.80	35.37	13.01	35.05	6
175	174	4020.20	6946.30	3	10	2002	4:04	74	17.55	32.69	12.98	34.83	9
176	175	4031.30	6944.30	3	10	2002	6:35	66	16.93	32.93	12.82	34.21	9
177	176	4028.60	6923.90	3	10	2002	8:51	64	19.29	34.01	13.65	34.45	8
178	177	4038.50	6945.80	3	10	2002	11:48	55	17.07	32.89	13.01	33.56	6
179	178	4055.90	7008.80	3	10	2002	15:10	24	17.62	32.34	16.65	32.44	4
180	179	4111.40	7021.60	3	10	2002	17:37	30	18.37	32.34	17.16	32.57	9
181	180	4109.50	7011.80	3	10	2002	19:07	23	18.28	32.29	18.25	32.30	10
182	181	4107.60	6936.40	4	10	2002	1:00	26	15.59	32.28	15.53	32.31	5
183	182	4100.50	6931.20	4	10	2002	3:00	39	14.45	32.52	14.45	32.55	5
184	183	4108.60	6922.60	4	10	2002	6:10	42	14.50	32.78	11.83	32.91	10
185	184	4104.60	6854.80	4	10	2002	10:19	77	16.82	32.58	13.48	33.50	6
186	185	4049.60	6913.50	4	10	2002	13:40	57	21.68	35.08	17.00	34.18	6
187	186	4043.80	6904.70	4	10	2002	15:40	82	18.90	33.72	16.49	34.74	6
188	187	4041.10	6857.80	4	10	2002	17:40	64	19.06	34.05	16.64	34.66	7

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
189	188	4036.50	6857.40	4	10	2002	19:02	66	18.52	33.51	14.08	33.62	8
190	189	4031.80	6840.80	4	10	2002	21:17	69	18.88	33.50	13.11	33.76	7
191	190	4012.00	6903.10	5	10	2002	0:37	141	22.70	35.26	12.67	35.68	5
192	191	4015.80	6830.80	5	10	2002	4:05	145	23.15	35.46	12.63	35.65	7
193	192	4026.10	6831.90	5	10	2002	6:25	91	22.63	35.16	14.70	35.37	9
194	194	4021.20	6803.20	5	10	2002	11:04	148	23.26	35.40	13.13	35.70	5
195	195	4026.00	6737.60	5	10	2002	14:03	153	23.44	35.42	11.52	35.51	6
196	196	4028.70	6717.40	5	10	2002	17:16	204	18.02	33.00	11.64	35.51	11
197	197	4035.80	6730.60	5	10	2002	19:42	98	17.43	32.79	13.12	34.46	8
198	198	4049.30	6732.60	5	10	2002	21:49	78	16.90	32.50	11.49	32.97	5
199	199	4043.10	6711.80	6	10	2002	0:22	97	16.61	32.51	12.11	33.72	5
200	200	4046.90	6713.80	6	10	2002	1:40	94	16.30	32.54	11.15	33.31	6
201	201	4045.60	6703.90	6	10	2002	3:04	96	16.63	32.54	13.58	35.02	6
202	202	4058.40	6721.50	6	10	2002	5:48	72	17.04	32.45	12.87	32.78	10
203	203	4103.30	6645.90	6	10	2002	9:23	73	16.41	32.68	13.00	32.98	7
204	204	4104.30	6629.50	6	10	2002	11:36	98	16.19	32.44	11.85	34.38	5
205	205	4103.10	6627.70	6	10	2002	13:13	127	16.12	32.52	13.11	35.53	6
206	206	4123.00	6606.90	6	10	2002	16:55	137	16.71	32.93	11.87	35.40	8
207	208	4130.50	6606.10	6	10	2002	20:13	106	16.38	32.49	9.18	33.47	8
208	209	4136.10	6632.10	6	10	2002	22:53	80	16.25	32.73	14.53	32.91	3
209	210	4146.70	6606.30	7	10	2002	1:58	90	15.84	32.50	10.52	33.03	5
210	211	4143.00	6554.00	7	10	2002	3:40	111	15.90	32.53	9.25	34.20	6
211	212	4149.00	6544.30	7	10	2002	5:28	257	17.42	33.33	9.00	34.80	59
212	213	4158.50	6603.70	7	10	2002	8:49	93	15.75	32.65	9.77	33.09	10
213	214	4208.40	6542.20	7	10	2002	12:01	287	18.20	33.68	8.36	35.19	5
214	214	4209.00	6543.10	7	10	2002	12:22	263	17.86	33.60	11.29	35.32	65
215	215	4225.60	6556.20	7	10	2002	15:58	200	15.80	32.95	11.26	35.20	8
216	216	4211.20	6637.20	7	10	2002	21:38	201	16.19	32.38	8.50	35.02	12
217	217	4206.30	6635.40	7	10	2002	23:27	80	16.41	32.51	7.41	33.51	7
218	218	4201.90	6628.70	8	10	2002	1:04	80	16.27	32.35	9.61	33.27	6
219	219	4159.40	6624.30	8	10	2002	2:24	85	16.26	32.77	10.96	33.11	6
220	220	4154.30	6651.60	8	10	2002	5:43	67	16.05	32.72	15.89	32.80	9

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
221	221	4130.20	6702.60	8	10	2002	8:46	61	16.13	32.59	16.10	32.61	7
222	222	4151.00	6710.40	8	10	2002	11:41	53	16.89	32.60	16.85	32.65	3
223	223	4155.90	6715.20	8	10	2002	13:19	57	16.49	32.74	16.46	32.75	7
224	224	4202.70	6714.80	8	10	2002	14:45	47	16.02	32.80	15.94	32.85	6
225	225	4208.00	6708.20	8	10	2002	16:16	67	15.76	32.75	15.02	33.00	8
226	226	4210.80	6659.50	8	10	2002	20:23	157	16.17	33.07	8.46	34.88	8
227	227	4212.00	6722.20	8	10	2002	23:28	211	16.50	32.88	8.32	34.85	42
228	228	4204.70	6729.80	9	10	2002	1:25	75	16.28	32.99	12.72	33.20	5
229	229	4159.70	6756.60	9	10	2002	4:55	182	16.83	32.77	7.98	34.53	9
230	230	4146.90	6810.20	9	10	2002	7:46	66	16.52	32.76	10.14	33.28	9
231	231	4143.60	6813.30	9	10	2002	9:10	40	17.46	32.53	13.02	33.06	9
232	232	4143.70	6810.00	9	10	2002	10:40	47	16.36	32.77	13.50	33.06	7
233	233	4141.60	6756.60	9	10	2002	12:25	30	16.65	32.76	16.64	32.77	4
234	234	4137.70	6804.30	9	10	2002	14:07	36	17.37	32.59	17.31	32.60	6
235	235	4134.90	6812.60	9	10	2002	15:52	40	17.71	32.51	17.68	32.51	9
236	236	4121.90	6750.80	9	10	2002	18:23	41	17.42	32.48	17.41	32.47	9
237	237	4113.20	6757.80	9	10	2002	20:07	48	17.30	32.48	16.69	32.54	8
238	238	4116.20	6804.00	9	10	2002	21:40	40	17.31	32.49	17.25	32.49	8
239	239	4111.70	6814.80	9	10	2002	23:12	47	17.61	32.35	17.61	32.48	5
240	240	4102.50	6814.30	10	10	2002	0:49	46	16.47	32.54	16.40	32.55	6
241	241	4055.10	6808.70	10	10	2002	2:28	59	15.74	32.60	15.76	32.60	6
242	242	4048.20	6812.10	10	10	2002	3:57	51	16.33	32.61	14.46	32.71	9
243	243	4100.60	6817.60	10	10	2002	5:41	47	15.60	32.60	15.65	32.60	9
244	244	4110.80	6834.50	10	10	2002	8:13	58	16.74	32.52	16.59	32.54	7
245	245	4118.90	6836.10	10	10	2002	9:49	70	16.50	32.61	16.32	33.56	6
246	246	4121.00	6914.40	10	10	2002	13:19	109	15.41	32.26	7.23	33.29	6
247	247	4119.90	6924.50	10	10	2002	15:13	38	13.76	32.87	12.68	32.82	9
248	248	4125.40	6924.30	10	10	2002	16:57	42	12.30	32.68	11.43	32.76	10
249	249	4130.40	6925.70	10	10	2002	18:12	58	15.60	32.57	10.37	32.97	9
250	250	4127.20	6932.70	10	10	2002	19:42	33	12.15	32.76	11.96	32.73	8
251	251	4118.10	6933.00	10	10	2002	21:17	23	12.70	32.64	12.71	32.64	9
252	253	4116.70	6940.30	11	10	2002	1:46	26	13.25	32.55	13.25	32.56	6

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
253	254	4110.90	6940.90	11	10	2002	3:07	21	14.39	32.45	14.38	32.47	5
254	255	4141.40	6946.60	16	10	2002	4:28	50	14.33	32.62	12.84	32.66	6
255	256	4146.20	6953.80	16	10	2002	7:37	19	13.67	32.61	13.67	32.61	5
256	258	4205.60	6944.90	16	10	2002	10:40	192	14.80	32.59	7.44	34.03	6
257	259	4205.90	6939.80	16	10	2002	12:34	215	14.92	32.57	7.64	34.20	9
258	260	4210.50	6937.50	16	10	2002	14:19	227	14.80	99.99	7.78	34.30	2
259	261	4204.30	7015.90	16	10	2002	19:10	58	14.16	32.17	10.28	32.47	6
260	262	4151.00	7011.50	16	10	2002	23:52	20	13.01	32.21	12.95	32.27	6
261	263	4200.10	7033.80	17	10	2002	10:48	29	13.67	32.13	13.63	32.24	4
262	264	4205.30	7027.10	17	10	2002	12:11	53	12.96	32.41	9.61	32.68	5
263	265	4208.10	7019.10	17	10	2002	14:00	55	13.50	32.32	10.26	32.58	5
264	266	4218.90	6956.10	17	10	2002	17:17	202	14.32	32.57	7.40	33.97	6
265	267	4204.30	6905.80	17	10	2002	22:07	178	14.70	32.82	7.37	34.03	0
266	268	4157.40	6852.90	18	10	2002	0:10	130	13.60	33.14	6.38	33.29	4
267	269	4136.10	6855.60	18	10	2002	3:07	112	13.99	32.93	6.89	33.33	6
268	270	4135.50	6838.90	18	10	2002	5:16	135	15.84	33.28	7.07	33.41	6
269	271	4145.50	6836.90	18	10	2002	7:01	171	15.43	32.86	7.15	33.87	6
270	272	4214.90	6838.60	18	10	2002	10:28	191	14.35	33.00	7.37	34.04	5
271	273	4223.00	6840.20	18	10	2002	12:15	201	14.51	32.58	7.64	34.26	6
272	274	4245.10	6859.10	18	10	2002	15:33	175	13.29	32.81	7.36	33.76	7
273	275	4255.00	6906.70	18	10	2002	17:37	178	13.02	32.86	7.25	33.69	7
274	276	4306.10	6907.90	18	10	2002	19:43	165	13.15	32.86	7.38	33.69	6
275	277	4305.90	6902.00	18	10	2002	21:27	142	13.24	32.83	7.54	33.54	8
276	278	4324.30	6825.70	19	10	2002	1:23	180	12.52	33.26	7.96	34.14	5
277	279	4321.60	6806.60	19	10	2002	3:42	216	12.59	33.21	8.11	34.35	18
278	280	4311.60	6804.00	19	10	2002	5:49	199	12.62	33.16	7.72	34.16	7
279	281	4259.10	6815.60	19	10	2002	8:13	178	13.28	32.98	7.85	34.10	7
280	282	4236.30	6803.50	19	10	2002	11:49	177	13.59	32.82	8.42	34.52	8
281	283	4300.10	6727.80	19	10	2002	16:10	218	13.36	32.95	9.05	34.81	20
282	283	4300.00	6728.60	19	10	2002	16:34	212	13.31	32.95	9.10	34.82	5
283	284	4252.20	6730.10	19	10	2002	18:31	231	13.40	32.92	8.83	34.69	7
284	285	4232.10	6734.20	19	10	2002	23:00	191	14.46	32.66	8.32	34.71	10

Cast #	Sta #	Lat	Long	Day	MO	Yr	Time Btm (GMT)	Depth	Sfc Temp	Sfc Salt	Btm Temp	Btm Salt	Meters from Bottom
285	286	4232.20	6740.60	20	10	2002	0:07	208	14.66	32.64	8.35	34.81	6
286	287	4221.90	6742.10	20	10	2002	3:34	224	15.77	32.95	8.39	34.92	10
287	288	4220.30	6725.10	20	10	2002	7:45	305	15.29	32.78	8.31	35.07	10
288	289	4224.20	6720.40	20	10	2002	9:00	334	14.72	32.72	9.07	34.78	131
289	289	4224.30	6720.90	20	10	2002	9:22	332	14.71	32.71	8.26	35.07	8
290	290	4233.90	6718.50	20	10	2002	12:01	285	13.80	32.76	8.30	35.06	6
291	291	4229.50	6651.00	20	10	2002	15:22	299	13.93	32.86	8.50	35.09	100
292	291	4229.90	6650.60	20	10	2002	15:52	287	13.96	99.99	8.50	35.09	5
293	292	4233.20	6649.00	20	10	2002	18:06	239	13.91	32.43	8.67	35.10	6
294	293	4257.20	6647.00	20	10	2002	22:06	191	13.96	33.06	9.63	34.90	6
295	294	4303.50	6637.70	20	10	2002	23:52	124	12.52	33.39	11.52	34.31	5
296	295	4308.30	6625.30	21	10	2002	3:34	91	12.84	32.35	11.90	33.72	5
297	296	4316.30	6631.50	21	10	2002	5:58	66	12.30	32.08	11.98	33.54	6
298	297	4310.10	6643.80	21	10	2002	8:34	111	12.87	33.25	11.46	34.26	7
299	298	4326.80	6647.10	21	10	2002	11:25	177	12.79	33.26	10.08	34.73	6
300	299	4325.40	6704.50	21	10	2002	13:37	217	12.69	33.19	9.46	34.72	5
301	300	4353.30	6707.40	21	10	2002	17:04	150	12.21	33.42	9.99	34.38	7
302	301	4342.20	6641.70	21	10	2002	20:25	100	11.85	33.04	11.54	33.86	5
303	302	4354.90	6636.70	21	10	2002	22:46	95	11.65	33.15	11.59	33.69	4
304	303	4400.80	6643.80	22	10	2002	0:58	111	11.37	33.14	11.51	33.90	6
305	304	4406.90	6644.40	22	10	2002	4:55	84	11.34	33.10	11.42	33.63	7
306	305	4415.90	6646.80	22	10	2002	7:26	181	11.07	32.76	10.45	34.17	7
307	306	4420.90	6708.40	22	10	2002	10:22	165	11.19	33.38	9.84	34.30	6
308	307	4411.10	6725.90	22	10	2002	12:56	239	12.10	33.32	8.97	34.60	6
309	308	4419.00	6740.10	22	10	2002	15:22	84	11.49	33.11	11.52	33.29	6
310	309	4409.10	6754.90	22	10	2002	18:23	98	11.38	33.22	11.30	33.67	6
311	310	4410.70	6802.30	22	10	2002	20:15	85	11.43	33.20	11.48	33.42	5
312	311	4404.50	6806.90	22	10	2002	22:21	98	11.35	33.19	11.02	33.68	4
313	312	4356.90	6813.90	23	10	2002	1:45	113	11.63	33.37	10.37	33.97	6
314	313	4337.80	6838.60	23	10	2002	5:49	153	11.41	33.32	9.93	34.09	8
315	314	4344.40	6906.30	23	10	2002	10:22	91	11.50	32.93	11.03	33.37	8
316	315	4334.60	6931.80	23	10	2002	14:53	140	11.48	33.05	9.23	33.60	15