

*Oceanography Branch CTD Data Report*  
*CTD\_REPORT\_2009005DE*

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DATE: Revised: September 20, 2010

# Oceanography Branch CTD Data Report

CTD\_REPORT\_2009005DE

NOAA Fisheries Service  
Northeast Fisheries Science Center  
Woods Hole, MA 02543

DE 09-05  
EcoMon Survey  
Data Coverage: May 27 – 11 June, 2009  
GOM, MAB, GB

This report presents a summary of surface and bottom temperature and salinity data collected during the Northeast Fisheries Science Center's EcoMon research survey aboard the NOAA FSV *Delaware II*. All data was obtained with Seabird Electronics SBE Model 19+ profiling CTDs (s/n 4758 and s/n 4759).

Data presented here have been audited, however, corrections and/or updates may be applied at a later time.

The most recent and complete station data can be found in an NODC formatted ASCII file at:

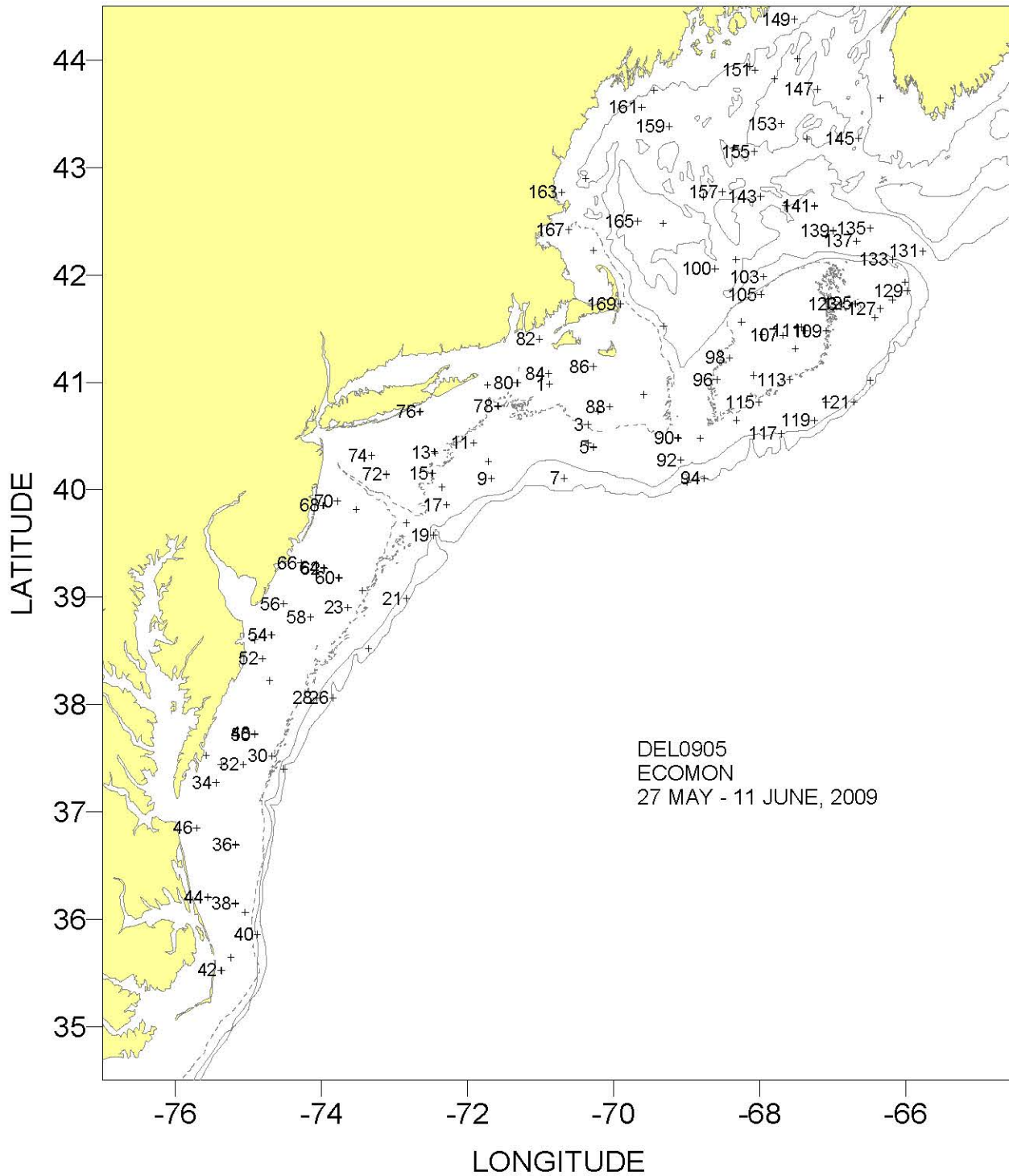
<ftp://ftp.nefsc.noaa.gov/pub/hydro/del0905.dat>

This report may be viewed on the Oceanography Branch website at:

<http://www.nefsc.noaa.gov/HydroAtlas/>

choose: **2009 Cruises**  
**MAY\_ECOMON\_DELO905**  
**CTD\_REPORT\_2009005DE**

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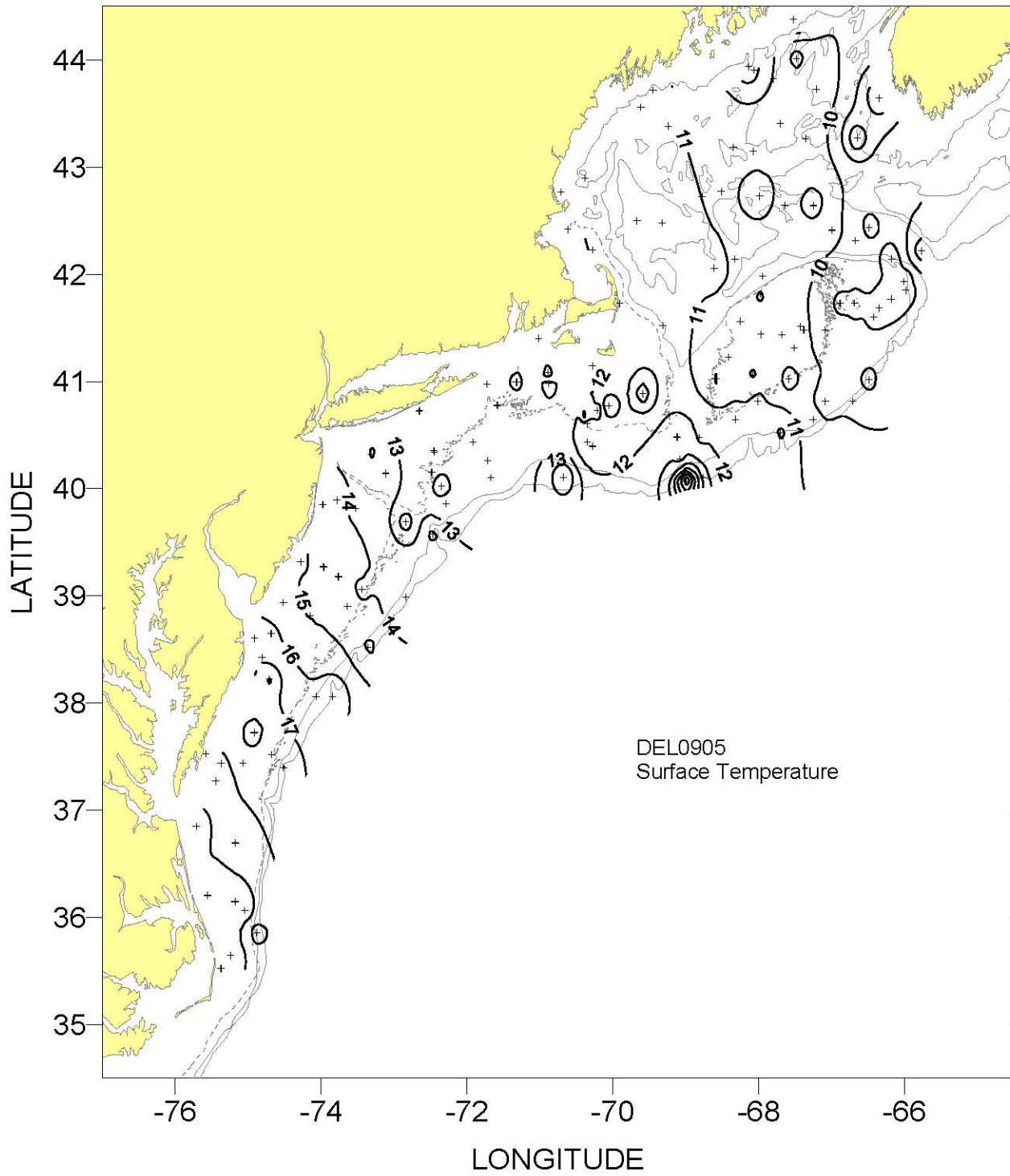
Areal average surface and bottom temperature/salinity and temperature/salinity anomalies for DEL0905 ECOMON.

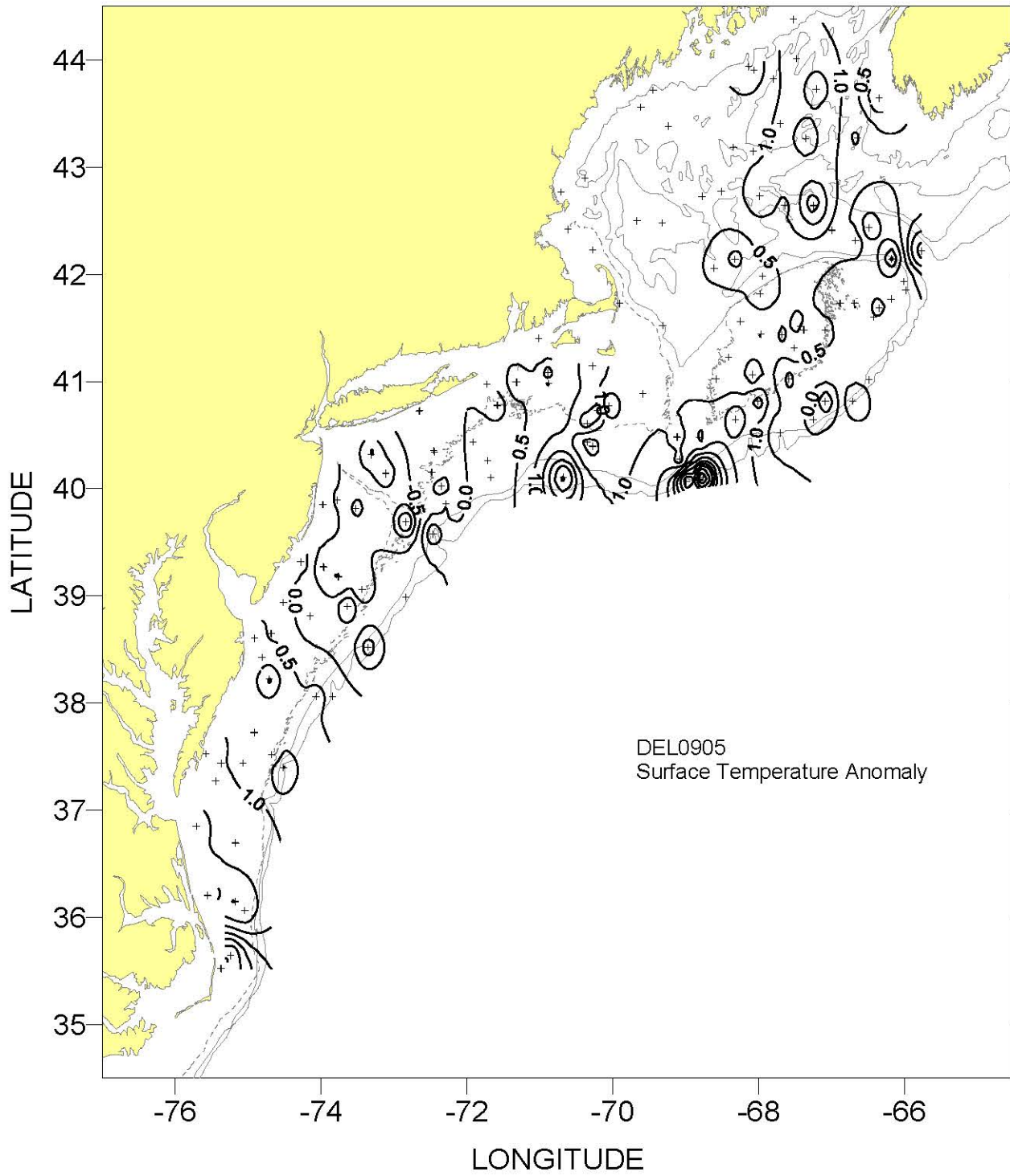
CRUISE	CD	SURFACE						BOTTOM						Purpose
		#obs	T/S	Anomaly	SDV1	SDV2	Flag	#obs	T/S	Anomaly	SDV1	SDV2	Flag	
<b>GOM West</b>														
DEL0905	157	3	10.23	0.03	0.56	5.76	1	2	5.95	0.47	0.57	4.93	1	22
DEL0905	157	3	32.56	-0.33	0.36	2.65	1	2	33.66	-0.14	0.38	1.76	1	22
<b>GOM East</b>														
DEL0905	158	17	9.74	1.04	0.26	1.03	0	13	7.13	0.21	0.29	0.71	0	22
DEL0905	158	17	32.17	-0.12	0.20	0.45	0	13	32.83	0.12	0.17	0.00	0	22
<b>Georges Bank</b>														
DEL0905	156	33	10.55	0.64	0.20	1.21	0	24	8.33	0.12	0.25	0.87	0	22
DEL0905	156	33	32.55	-0.30	0.12	0.56	0	24	32.95	-0.11	0.15	0.31	0	22
<b>MAB North</b>														
DEL0905	150	31	12.29	0.32	0.23	1.26	0	29	7.36	-0.23	0.25	1.63	0	22
DEL0905	150	31	32.21	-0.19	0.15	0.42	0	29	32.83	-0.34	0.15	0.4	0	22
<b>MAB South</b>														
DEL0905	151	46	16.28	0.39	0.2	1.17	0	42	10.25	0.49	0.21	1.45	1	22
DEL0905	151	46	32.01	-0.11	0.16	0.69	0	42	32.6	-0.42	0.13	0.43	1	22

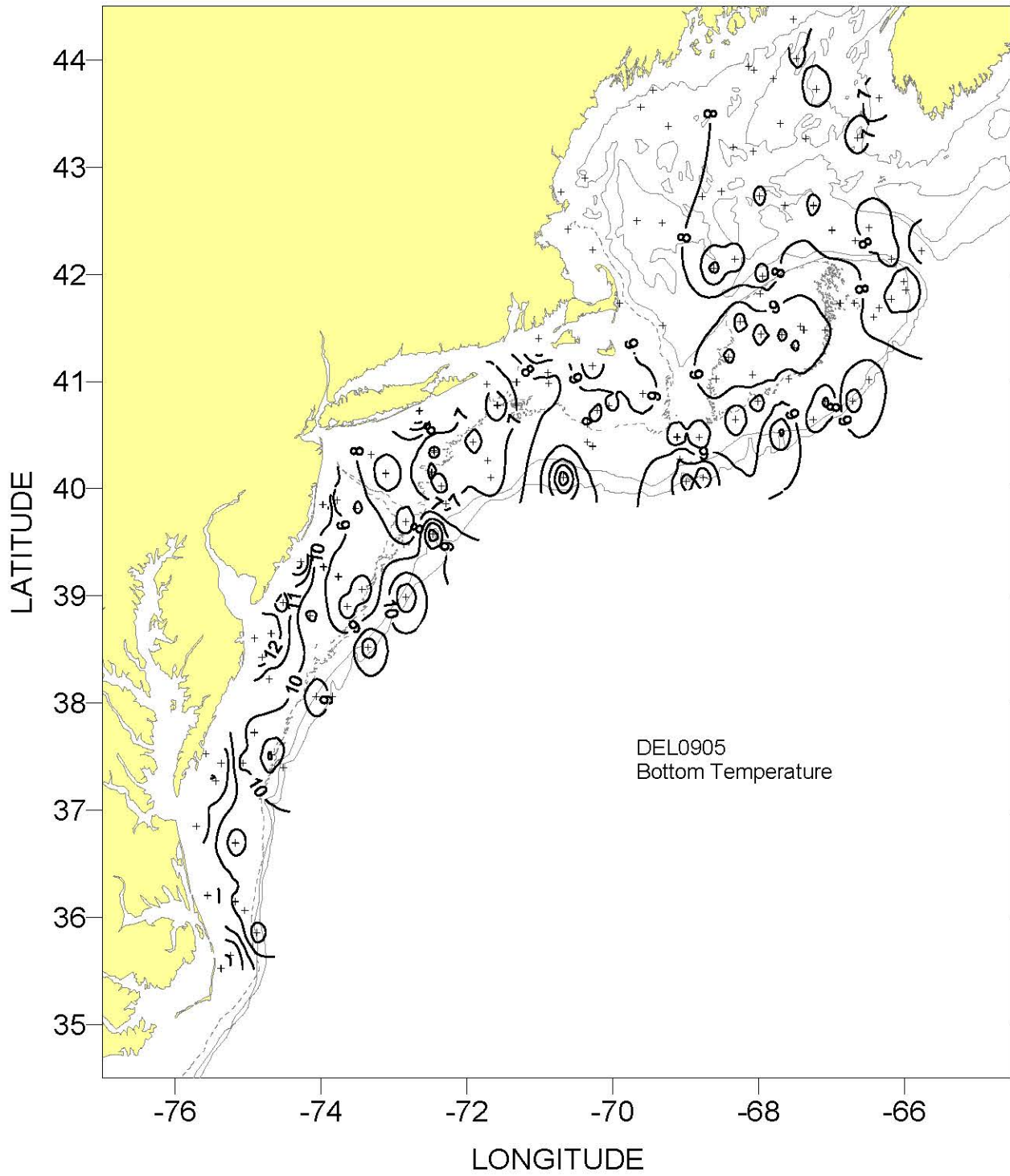
"CRUISE", the code name for a cruise: "CD", the calendar mid-date of all the stations within a region for a cruise:  
"#obs", the number of observations include in each average: "T/S", the areal average temp/salt: "Anomaly", the areal average temp/salt anomaly:  
"SDV1", the standard deviation associated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

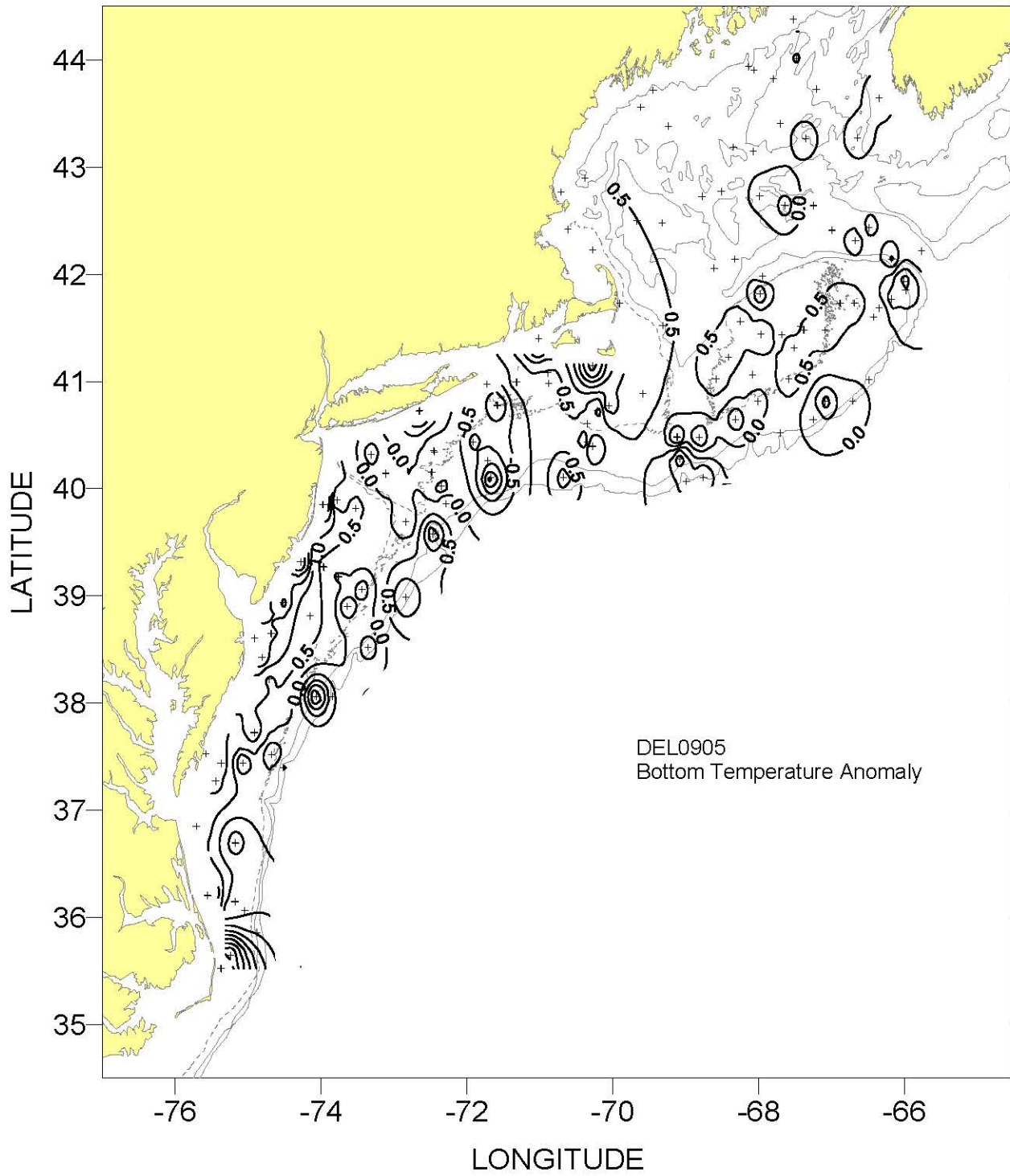
"Flag", a value of "1" indicates that a true areal average could not be calculated due to poor station coverage. The areal averages listed were derived from a simple average of the observations within the region.

"Purpose", 2 digit code assigned by DMS to identify a unique NEFSC program survey.

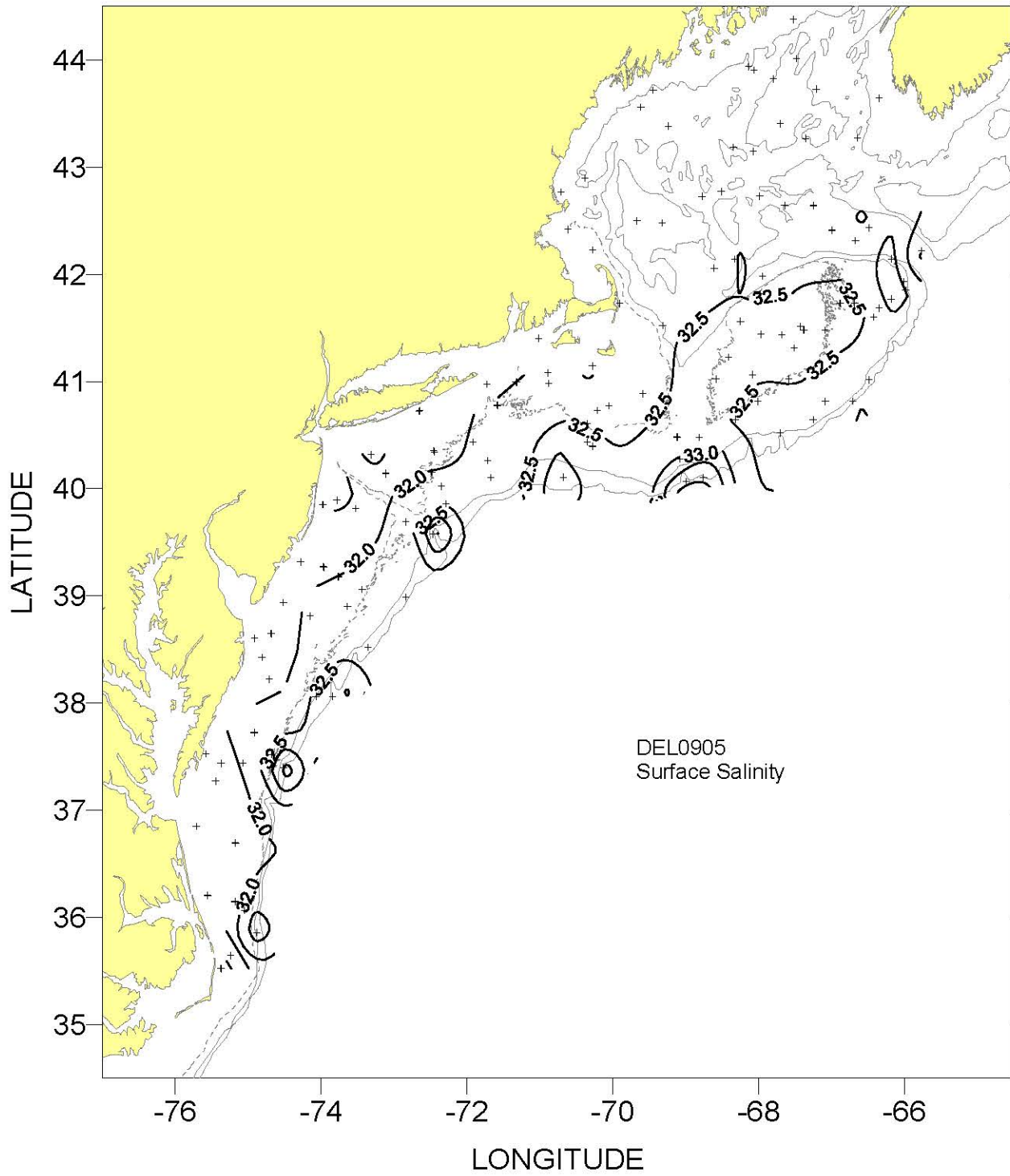


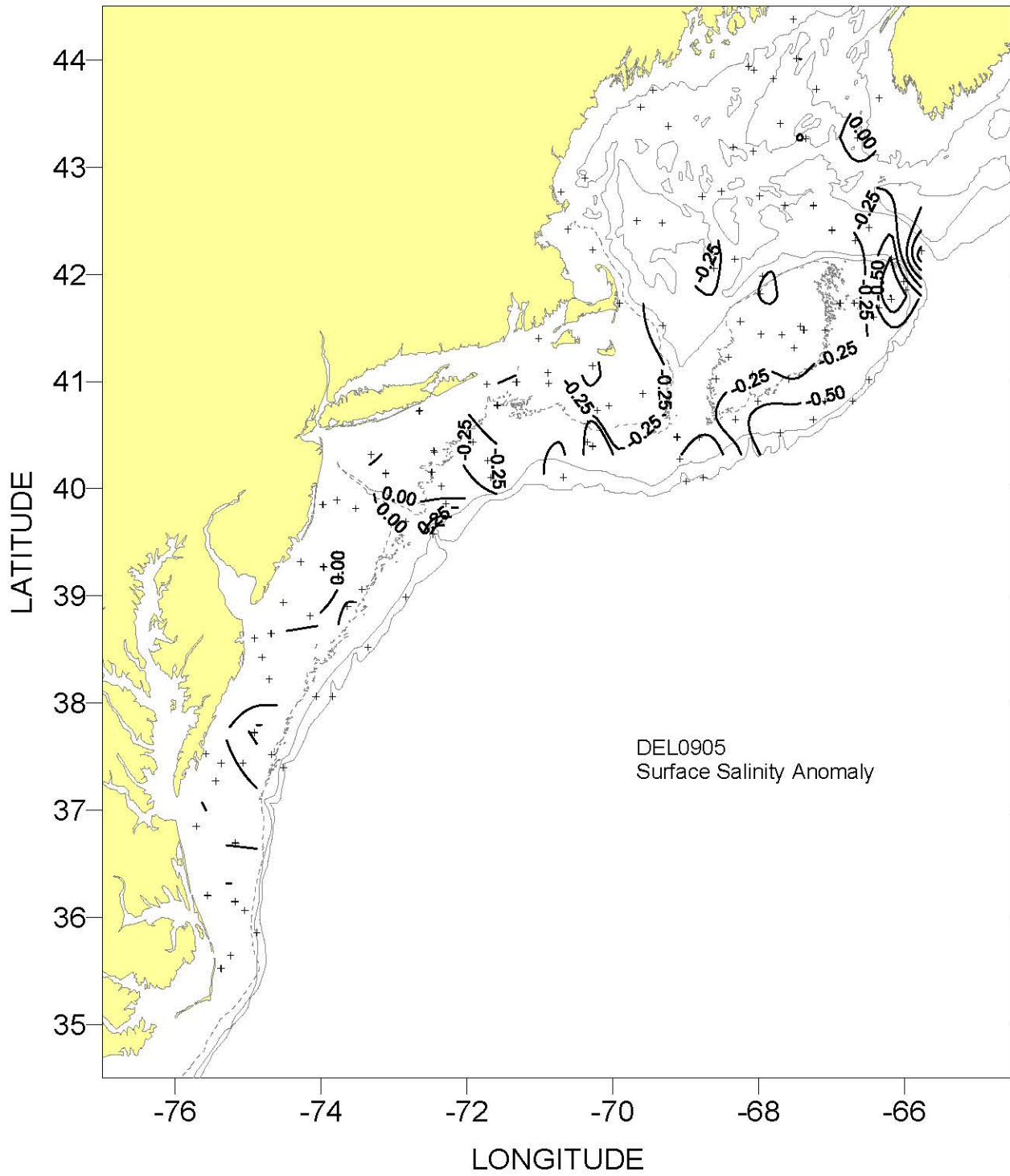


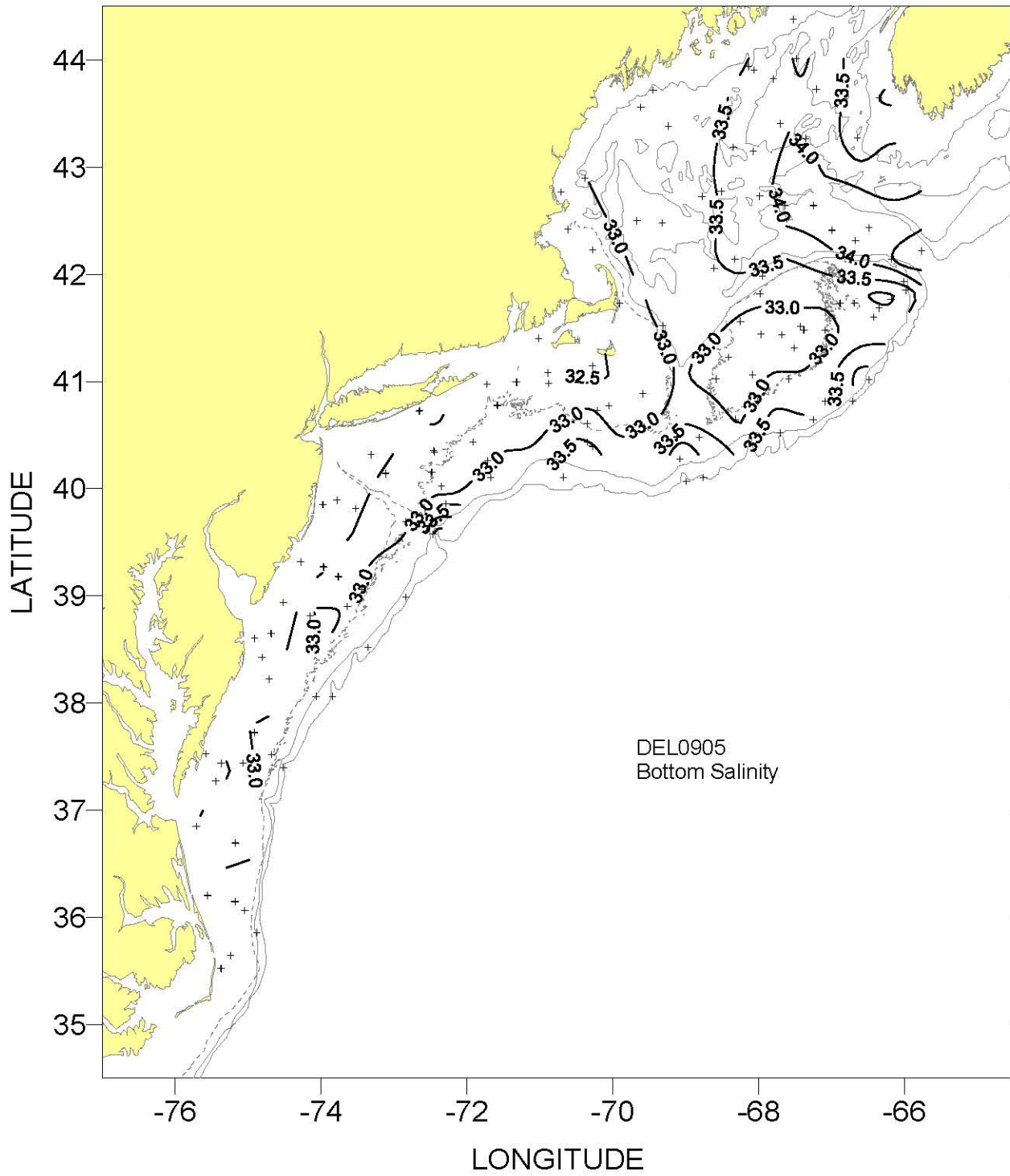


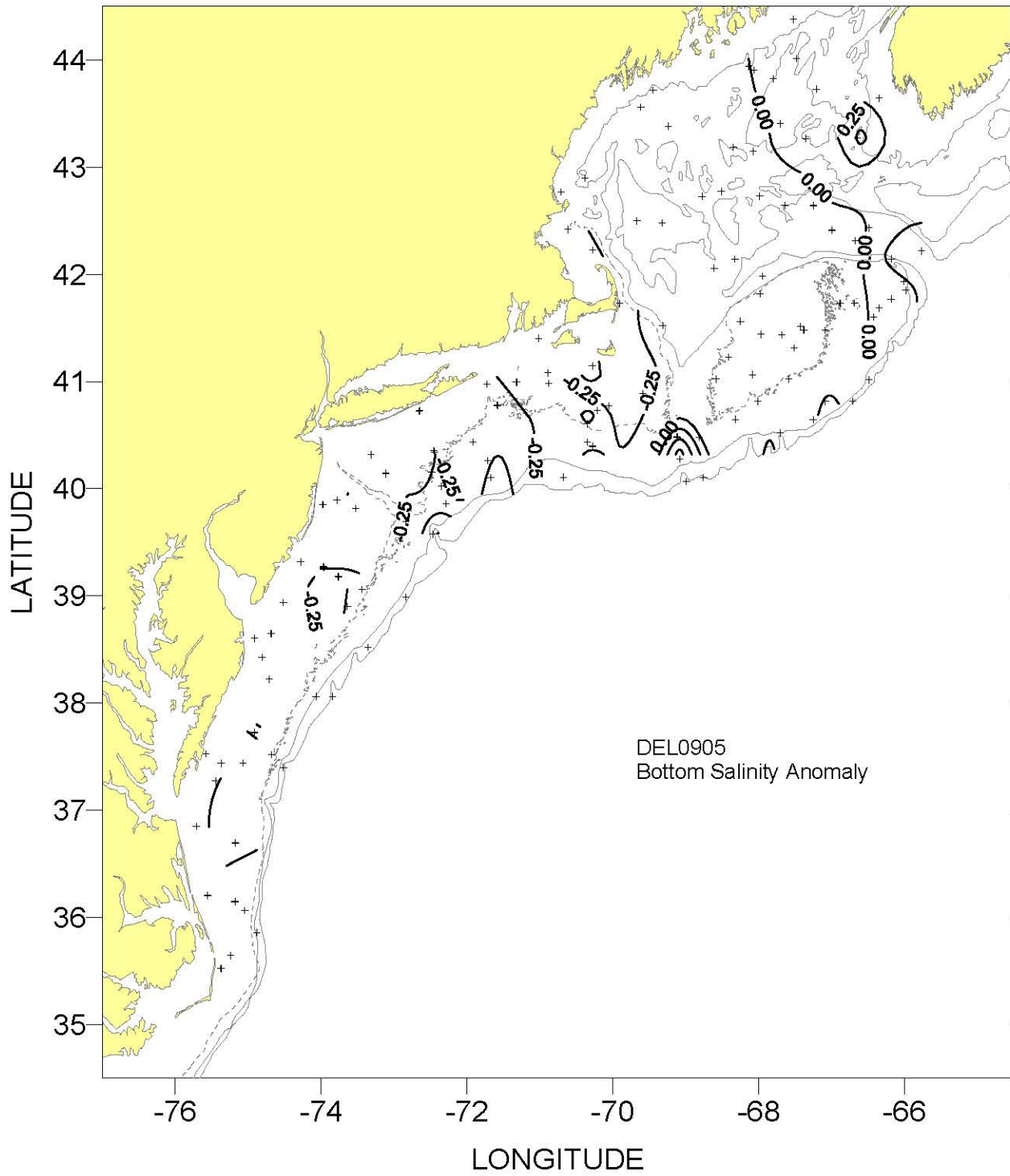












**DE0905  
ECOMON  
27 MAY - 11 JUNE, 2009**

Cast #	STA #	LAT	LON	DAY	MO	YEAR	TIME	BTM DEPTH	SFC TEMP	SFC SALT	BTM TEMP	BTM SALT	METERS FROM BTM
1	1	4058.9	7052.6	27	5	2009	23:10	52	11.5	32.18	7.2	32.55	5
2	1	4059.0	7052.6	27	5	2009	23:22	52	11.5	32.28	7.1	32.48	5
3	2	4036.3	7020.9	28	5	2009	3:02	59	12.1	32.49	7.7	33.34	3
4	3	4026.2	7020.7	28	5	2009	4:19	74	11.2	32.62	9.2	33.92	5
5	4	4023.8	7016.7	28	5	2009	4:56	79	11.2	32.62	8.4	33.70	5
6	4	4023.7	7016.3	28	5	2009	5:15	79	11.2	32.62	8.4	33.69	6
7	5	4006.4	7040.5	28	5	2009	8:08	128	14.7	34.01	13.5	35.34	68
8	5	4006.2	7040.4	28	5	2009	8:22	128	15.0	34.05	12.8	35.48	6
9	6	4006.2	7140.2	28	5	2009	13:16	85	12.1	32.42	6.5	33.20	4
10	7	4015.7	7142.7	28	5	2009	14:28	82	12.3	32.14	6.1	33.12	6
11	8	4026.2	7154.7	28	5	2009	16:01	69	12.1	31.94	5.2	32.78	4
12	9	4021.3	7227.1	28	5	2009	18:38	52	12.1	31.80	5.7	32.70	6
13	9	4020.7	7226.8	28	5	2009	19:23	52	12.2	31.79	5.7	32.70	4
14	10	4009.2	7228.5	28	5	2009	20:47	61	12.1	31.92	5.9	32.86	5
15	10	4009.2	7228.9	28	5	2009	21:01	61	12.1	31.92	5.8	32.84	5
16	11	4001.4	7221.1	28	5	2009	22:25	75	11.3	32.19	5.3	32.82	4
17	12	3951.5	7217.2	28	5	2009	23:57	85	12.3	32.88	6.8	33.32	4
18	13	3941.4	7250.2	29	5	2009	2:52	73	11.5	32.23	5.8	32.81	4
19	14	3934.5	7227.7	29	5	2009	5:40	102	14.3	33.82	12.0	35.10	6
20	15	3859.2	7250.2	29	5	2009	9:38	123	13.3	32.40	11.5	99.99	1
21	15	3859.2	7250.2	29	5	2009	9:55	134	13.2	32.49	12.1	35.24	5
22	16	3903.6	7326.1	29	5	2009	13:10	57	13.6	32.36	6.8	33.06	5
23	17	3854.1	7338.2	29	5	2009	14:38	48	15.0	32.26	6.9	32.97	4
24	18	3831.2	7321.1	29	5	2009	17:22	115	13.8	32.57	11.8	34.89	5
26	19	3803.7	7350.6	29	5	2009	22:52	283	16.6	99.99	9.1	35.19	7
27	19	3803.6	7350.6	29	5	2009	23:12	275	17.0	33.91	11.6	35.57	74
28	20	3803.7	7404.1	30	5	2009	0:34	95	16.0	32.52	7.8	33.58	2
29	21	3724.0	7430.9	30	5	2009	5:20	108	18.0	34.05	9.7	34.21	5
30	22	3731.2	7440.8	30	5	2009	6:49	57	17.2	32.55	7.7	33.08	3

Cast #	STA #	LAT	LON	DAY	MO	YEAR	TIME	BTM DEPTH	SFC TEMP	SFC SALT	BTM TEMP	BTM SALT	METERS FROM BTM
31	22	3731.2	7440.7	30	5	2009	6:56	57	17.3	32.55	7.7	33.08	5
32	23	3726.4	7504.2	30	5	2009	9:06	33	18.0	32.07	9.7	33.07	5
33	24	3726.2	7522.3	30	5	2009	10:41	28	18.0	31.60	12.9	32.19	6
34	25	3716.3	7526.7	30	5	2009	11:51	25	18.9	31.61	13.2	32.29	6
35	26	3641.7	7510.7	30	5	2009	16:00	28	18.8	31.94	9.6	33.04	4
36	26	3641.5	7510.3	30	5	2009	16:15	28	19.0	31.86	9.6	33.05	5
37	27	3608.9	7510.8	30	5	2009	19:55	27	19.2	32.22	10.9	33.21	4
38	27	3608.8	7510.8	30	5	2009	20:02	27	19.8	32.25	10.9	33.22	5
39	28	3603.9	7502.7	30	5	2009	21:04	33	19.5	32.61	10.7	33.32	5
40	29	3551.5	7452.6	30	5	2009	23:31	100	17.6	32.87	9.3	33.84	3
41	30	3538.7	7514.5	31	5	2009	2:04	33	19.9	30.90	14.0	32.50	4
42	31	3531.5	7522.5	31	5	2009	3:12	21	19.5	30.79	15.0	32.02	4
43	31	3531.3	7521.9	31	5	2009	3:28	23	19.5	30.78	14.9	32.04	4
44	32	3612.4	7533.4	31	5	2009	7:52	26	20.4	29.96	12.8	32.62	1
45	32	3612.2	7533.2	31	5	2009	8:01	26	20.4	29.93	13.0	32.60	7
46	33	3651.1	7542.6	31	5	2009	12:22	21	20.4	28.76	13.2	32.21	6
47	34	3731.6	7534.7	31	5	2009	16:42	11	18.7	31.87	16.2	31.90	5
48	35	3743.7	7454.9	31	5	2009	20:58	30	18.3	32.33	9.9	33.09	3
49	35	3743.6	7454.8	31	5	2009	21:06	32	18.4	32.38	9.9	33.09	4
50	35	3743.2	7454.9	31	5	2009	21:28	39	18.3	32.38	9.8	33.08	5
51	36	3813.4	7442.6	1	6	2009	1:04	33	18.2	31.31	10.3	32.68	4
52	37	3825.7	7448.6	1	6	2009	2:35	25	17.0	31.30	12.7	32.05	5
53	38	3836.3	7454.8	1	6	2009	3:57	20	16.6	30.41	14.2	31.02	3
54	39	3838.8	7440.9	1	6	2009	5:15	26	16.2	31.87	12.7	32.10	5
55	39	3839.0	7441.2	1	6	2009	5:28	25	16.0	31.88	12.8	32.09	5
56	40	3856.2	7430.9	1	6	2009	7:37	25	15.0	31.80	12.7	31.89	6
57	41	3848.8	7408.9	1	6	2009	9:45	44	15.0	32.22	9.1	33.58	1
58	41	3848.8	7409.1	1	6	2009	9:58	45	15.0	32.26	8.5	32.97	6
59	42	3910.7	7345.6	1	6	2009	13:10	39	14.2	31.99	8.0	32.87	0
60	42	3910.8	7345.7	1	6	2009	13:23	39	14.2	31.97	7.8	32.97	1
61	42	3910.8	7345.8	1	6	2009	13:33	39	14.3	32.03	7.8	32.68	5
62	43	3916.0	7357.8	1	6	2009	14:43	31	14.3	32.07	9.2	32.43	5
63	43	3916.3	7358.0	1	6	2009	14:58	31	14.3	31.93	9.3	32.51	3
64	43	3916.4	7358.1	1	6	2009	15:06	29	14.4	32.03	9.3	32.42	6

Cast #	STA #	LAT	LON	DAY	MO	YEAR	TIME	BTM DEPTH	SFC TEMP	SFC SALT	BTM TEMP	BTM SALT	METERS FROM BTM
65	44	3919.0	7416.7	1	6	2009	16:40	19	15.3	30.92	14.0	99.99	2
66	44	3919.1	7416.8	1	6	2009	16:49	19	15.4	31.04	13.3	31.30	6
68	45	3951.2	7358.4	1	6	2009	20:28	21	14.4	31.06	12.5	31.20	5
69	46	3953.7	7347.0	1	6	2009	21:31	30	14.2	31.12	8.4	31.96	4
70	46	3953.6	7346.5	1	6	2009	21:46	30	14.3	31.11	8.3	31.99	4
71	47	3949.0	7331.4	1	6	2009	23:08	33	13.8	31.64	7.8	32.31	5
72	48	4008.7	7306.8	2	6	2009	2:04	45	13.2	32.10	6.1	32.71	4
73	48	4008.3	7306.5	2	6	2009	2:19	43	13.2	32.10	6.1	32.71	4
74	49	4019.0	7318.6	2	6	2009	3:58	34	12.9	31.00	7.0	32.09	4
75	50	4043.5	7239.2	2	6	2009	7:58	30	12.5	30.91	11.4	31.70	6
76	50	4043.7	7238.7	2	6	2009	8:19	30	12.5	30.92	11.5	31.71	6
77	51	4058.6	7143.3	2	6	2009	12:38	50	11.7	30.87	5.8	32.60	4
78	52	4046.8	7135.2	2	6	2009	14:03	65	12.7	32.24	5.1	32.70	6
79	52	4046.6	7134.8	2	6	2009	14:19	61	12.7	32.25	5.2	32.70	6
80	53	4059.6	7119.0	2	6	2009	16:15	48	13.1	31.93	7.0	32.50	4
81	53	4059.7	7119.6	2	6	2009	16:28	47	13.2	31.92	7.0	32.50	5
82	54	4124.2	7100.8	3	6	2009	18:07	20	12.7	31.90	12.5	31.91	2
83	54	4124.2	7100.7	3	6	2009	18:16	20	12.8	31.90	12.5	31.91	4
84	55	4104.9	7053.1	3	6	2009	20:31	37	13.6	31.93	8.6	32.30	4
85	56	4108.8	7016.7	3	6	2009	23:42	30	12.2	31.78	10.8	32.02	3
86	56	4108.8	7016.7	3	6	2009	23:47	30	12.7	31.87	10.8	32.02	4
87	57	4043.8	7012.7	4	6	2009	2:31	44	12.5	32.42	7.4	32.69	4
88	58	4046.4	7003.2	4	6	2009	3:34	31	10.0	32.07	9.3	32.18	4
89	59	4053.2	6935.1	4	6	2009	6:20	39	9.4	32.00	9.4	32.00	5
90	60	4028.9	6906.8	4	6	2009	10:01	80	12.5	32.50	6.7	32.89	31
91	60	4029.0	6907.0	4	6	2009	10:10	80	12.5	32.51	6.9	33.10	5
92	61	4016.6	6904.8	4	6	2009	11:49	98	12.9	32.93	10.1	34.38	4
93	62	4004.2	6859.3	4	6	2009	13:25	173	18.8	35.32	11.6	35.47	6
94	63	4006.3	6845.3	4	6	2009	14:53	189	20.1	35.70	11.9	35.50	6
95	64	4028.8	6848.8	4	6	2009	17:36	74	11.9	32.45	6.7	32.89	4
96	65	4101.4	6834.9	4	6	2009	21:17	52	9.9	32.73	9.9	32.73	34
97	65	4101.6	6835.1	4	6	2009	21:23	56	9.9	32.73	9.7	32.72	4
98	66	4113.7	6824.7	4	6	2009	22:58	55	10.3	32.73	10.3	32.73	3
99	67	4133.7	6814.8	5	6	2009	1:01	39	10.5	32.69	10.5	32.70	4

Cast #	STA #	LAT	LON	DAY	MO	YEAR	TIME	BTM DEPTH	SFC TEMP	SFC SALT	BTM TEMP	BTM SALT	METERS FROM BTM
100	68	4203.5	6836.4	5	6	2009	4:31	179	11.6	32.26	5.6	33.43	4
101	69	4208.6	6819.3	5	6	2009	6:13	187	10.9	32.55	6.3	33.89	5
103	70	4159.0	6756.8	5	6	2009	8:36	180	11.0	32.25	5.2	33.11	91
104	70	4159.1	6756.7	5	6	2009	8:46	180	11.0	32.38	6.2	33.81	7
105	71	4149.0	6758.8	5	6	2009	10:19	53	9.7	32.41	8.3	32.62	5
106	72	4126.5	6758.1	5	6	2009	13:28	40	10.7	32.70	10.7	32.70	5
107	73	4126.2	6740.7	5	6	2009	14:46	36	10.2	32.68	10.2	32.76	7
108	74	4130.9	6725.7	5	6	2009	16:01	32	10.1	32.68	10.1	32.69	6
109	75	4128.7	6705.4	5	6	2009	17:31	56	9.3	32.72	9.1	32.74	5
110	76	4128.9	6722.6	5	6	2009	18:58	44	10.0	32.66	10.0	32.67	26
111	76	4128.8	6722.8	5	6	2009	19:08	38	10.0	32.66	10.0	32.66	2
112	77	4118.8	6730.7	5	6	2009	20:22	39	10.3	32.71	10.3	32.73	4
113	78	4101.4	6734.9	5	6	2009	22:19	64	9.5	32.68	8.6	32.80	3
114	79	4103.9	6804.9	6	6	2009	0:31	46	9.9	32.72	9.9	32.73	2
115	80	4048.8	6800.6	6	6	2009	2:25	68	11.3	32.19	7.4	32.80	4
116	81	4038.8	6818.7	6	6	2009	4:25	78	11.5	32.34	7.0	32.80	4
117	82	4031.3	6741.9	6	6	2009	7:26	143	12.0	31.96	9.8	34.31	67
118	82	4031.1	6741.9	6	6	2009	7:39	200	12.3	32.01	11.3	35.29	5
119	83	4038.7	6715.0	6	6	2009	10:49	104	10.2	32.05	7.5	33.53	6
120	84	4048.8	6705.0	6	6	2009	12:30	94	9.4	31.83	6.7	33.14	6
121	85	4049.0	6642.5	6	6	2009	15:01	182	13.6	32.78	10.7	35.12	6
122	86	4100.9	6629.2	6	6	2009	16:55	120	8.7	32.17	10.0	34.50	3
123	87	4143.8	6652.8	6	6	2009	22:04	64	8.8	32.75	8.7	32.75	45
124	87	4143.8	6652.9	6	6	2009	22:10	65	8.7	32.74	8.7	32.75	4
125	88	4143.9	6640.8	6	6	2009	23:25	65	8.4	32.76	8.2	32.76	2
126	89	4136.1	6625.0	7	6	2009	1:19	85	8.8	32.59	7.5	32.85	4
127	90	4141.1	6620.8	7	6	2009	2:04	83	8.5	32.63	7.5	32.84	4
128	91	4146.2	6610.9	7	6	2009	3:05	87	8.4	31.74	6.3	32.90	6
129	92	4151.0	6558.8	7	6	2009	4:15	94	8.6	31.80	6.1	33.38	5
130	93	4156.1	6600.4	7	6	2009	5:10	94	8.3	31.78	5.8	33.20	5
131	94	4213.3	6546.0	7	6	2009	7:34	221	11.6	33.29	8.2	35.05	1
132	94	4213.1	6545.9	7	6	2009	7:52	221	11.3	32.93	8.4	35.05	20
133	95	4208.7	6610.6	7	6	2009	10:13	164	8.3	31.83	8.5	34.48	5
134	96	4226.1	6628.8	7	6	2009	12:26	274	8.6	31.62	8.6	34.96	5



Cast #	STA #	LAT	LON	DAY	MO	YEAR	TIME	BTM DEPTH	SFC TEMP	SFC SALT	BTM TEMP	BTM SALT	METERS FROM BTM
135	96	4226.1	6629.1	7	6	2009	12:43	274	8.6	31.65	9.5	35.09	73
136	97	4218.8	6640.2	7	6	2009	14:08	289	9.9	32.27	7.7	34.82	4
137	97	4218.9	6640.2	7	6	2009	14:26	289	9.9	32.25	8.2	34.85	88
138	98	4224.7	6659.4	7	6	2009	16:19	362	10.1	32.15	7.0	34.77	4
139	98	4224.6	6659.3	7	6	2009	16:40	362	10.3	32.17	7.5	34.77	163
140	99	4238.7	6714.8	7	6	2009	19:22	266	11.9	32.31	8.1	34.85	2
141	99	4238.5	6714.6	7	6	2009	19:37	267	11.0	32.25	8.1	34.82	66
142	100	4238.6	6738.5	7	6	2009	22:15	207	10.8	32.13	7.1	34.56	6
143	101	4243.8	6758.9	8	6	2009	0:12	178	11.8	32.30	6.8	34.20	5
144	102	4316.1	6720.9	8	6	2009	4:41	203	10.5	32.15	7.1	34.25	4
145	103	4316.3	6638.7	8	6	2009	8:01	107	7.3	32.36	6.6	33.01	5
146	104	4338.7	6620.9	8	6	2009	10:51	69	7.0	32.01	6.5	32.58	5
147	105	4343.7	6712.5	8	6	2009	14:36	158	10.9	32.23	6.6	33.86	4
148	106	4400.9	6728.7	8	6	2009	16:53	210	11.3	32.23	7.0	34.21	5
149	107	4422.7	6731.1	8	6	2009	19:38	77	7.6	32.14	6.5	32.35	5
151	108	4354.4	6803.5	8	6	2009	23:52	177	9.1	32.10	6.7	33.96	4
152	109	4349.5	6747.7	9	6	2009	1:28	219	10.5	32.05	6.8	34.10	18
153	110	4324.5	6742.2	9	6	2009	4:30	249	9.6	32.11	6.9	34.18	3
154	110	4324.4	6742.2	9	6	2009	4:41	250	10.2	32.06	6.7	34.06	49
155	111	4308.9	6804.2	9	6	2009	7:10	188	10.7	31.96	6.4	33.82	4
156	112	4311.2	6820.6	9	6	2009	8:37	192	10.5	31.84	6.6	33.99	5
157	113	4246.3	6830.6	9	6	2009	11:30	183	11.5	31.93	6.5	33.93	5
158	114	4243.7	6846.5	9	6	2009	13:04	181	11.2	31.89	6.4	33.89	4
159	115	4323.0	6914.3	9	6	2009	17:31	169	11.9	32.34	5.1	33.22	3
160	116	4343.2	6926.6	9	6	2009	19:58	85	10.8	31.25	4.6	32.44	3
161	117	4333.7	6936.8	9	6	2009	21:19	138	11.6	31.60	4.8	33.06	4
162	118	4253.8	7022.6	10	6	2009	2:35	84	12.4	30.95	4.4	32.34	5
163	119	4246.2	7042.5	10	6	2009	4:26	35	13.6	29.98	5.8	31.91	5
164	120	4228.9	6919.2	10	6	2009	10:46	223	11.8	32.11	6.5	33.90	8
165	121	4230.0	6940.0	10	6	2009	12:51	250	12.1	32.17	7.0	34.11	2
166	121	4230.1	6940.1	10	6	2009	13:07	248	11.8	32.35	6.7	33.95	47
167	122	4225.2	7036.6	10	6	2009	18:31	87	13.3	31.05	3.8	32.54	5
168	123	4213.8	7016.6	10	6	2009	20:43	26	12.5	31.40	7.0	31.98	5
169	124	4143.7	6954.2	11	6	2009	0:25	14	12.2	31.48	11.8	31.50	4

Cast #	STA #	LAT	LON	DAY	MO	YEAR	TIME	BTM DEPTH	SFC TEMP	SFC SALT	BTM TEMP	BTM SALT	METERS FROM BTM
170	125	4131.4	6918.9	11	6	2009	3:30	106	11.9	32.03	4.2	32.67	7