

Oceanography Branch CTD Data Report
CTD_REPORT_2011005DE

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DATE: October 18, 2011

Oceanography Branch CTD Data Report

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

DE 11-05
ECOMON/NASA Ground Truth Measurements Survey
Data Coverage: June 2 -21, 2011
Mid Atlantic Bight, Georges Bank, Gulf of Maine

This report presents a summary of surface and bottom temperature and salinity data collected during the Northeast Fisheries Science Center's DEL1105 ECOMON/NASA Ground Truth Measurements Survey aboard the NOAA FSV *Delaware II*. Data was obtained with a Seabird Electronics SBE Model 19+ profiling CTD (s/n's 4758) and a Seabird Electronics SBE Model 9/11+ CTD (s/n 0420). Sea water samples were taken for the purpose of correcting salinity values for both instruments. No salinity correction was necessary for either instrument.

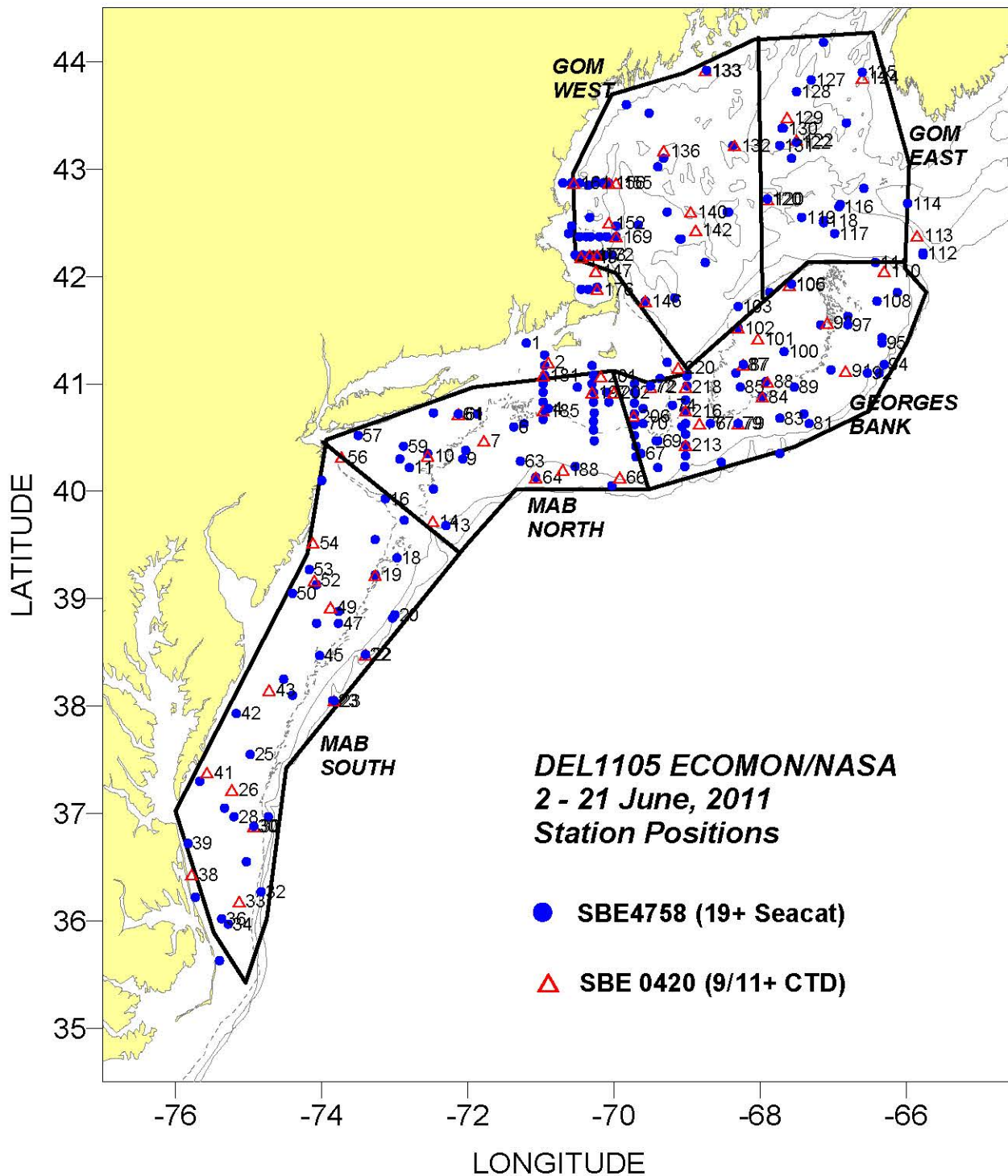
Data presented here have been audited, however, corrections and/or updates may be applied at a later time. The most recent and complete station data can be found in an NODC formatted ASCII file at:
<ftp://ftp.nefsc.noaa.gov/pub/hydro/del1105.dat>

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

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

choose: **2011 Cruises**
JUN_ECOMON_DEL1105
CTD_REPORT_2011005DE.pdf

Revised: October 18, 2011



DEL1105 ECOMON/NASA GROUND TRUTH MEASUREMENTS
June 2 - 21, 2011

CRUISE	CD	SURFACE						BOTTOM						Purpose
		#obs	T/S	Anomaly	SDV1	SDV2	Flag	#obs	T/S	Anomaly	SDV1	SDV2	Flag	
Western Gulf of Maine														
DEL1105	166	43	12.03	0.16	0.17	1.17	0	39	7.51	1.66	0.16	0.93	0	22
DEL1105	166	43	31.41	-0.64	0.11	0.35	0	39	33.25	-0.05	0.09	0.53	0	22
Eastern Gulf of Maine														
DEL1105	164	24	10.24	0.68	0.19	1.14	0	19	8.45	0.92	0.24	0.74	0	22
DEL1105	164	24	31.93	-0.42	0.15	0.33	0	19	34.11	0.07	0.12	0.40	0	22
Georges Bank														
DEL1105	163	57	11.61	1.07	0.15	1.33	0	53	8.64	0.34	0.16	0.90	0	22
DEL1105	163	57	32.18	-0.67	0.09	0.36	0	53	32.52	-0.50	0.10	0.40	0	22
MAB North														
DEL1105	161	63	15.59	1.92	0.20	1.32	0	56	8.74	1.08	0.22	1.40	0	22
DEL1105	161	63	31.69	-0.67	0.13	0.70	0	56	32.48	-0.61	0.13	0.49	0	22
MAB South														
DEL1105	156	42	20.65	3.52	0.20	0.95	0	39	10.23	0.54	0.23	2.69	0	22
DEL1105	156	42	30.50	-1.56	0.16	1.77	0	39	32.94	-0.31	0.14	0.71	0	22

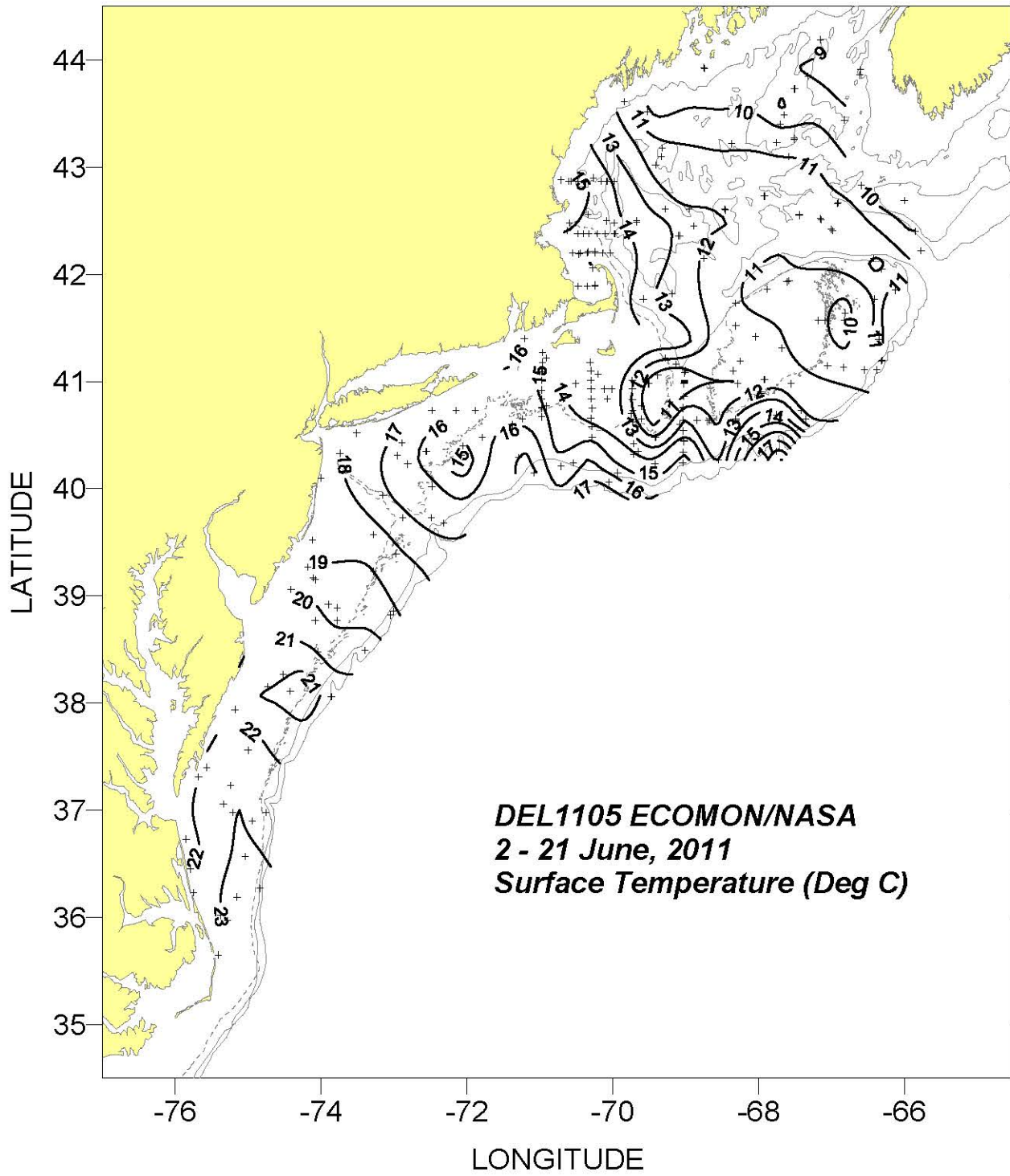
"CRUISE", the code name for a cruise: "CD", the calendar mid-date of all the stations within a region for a cruise:

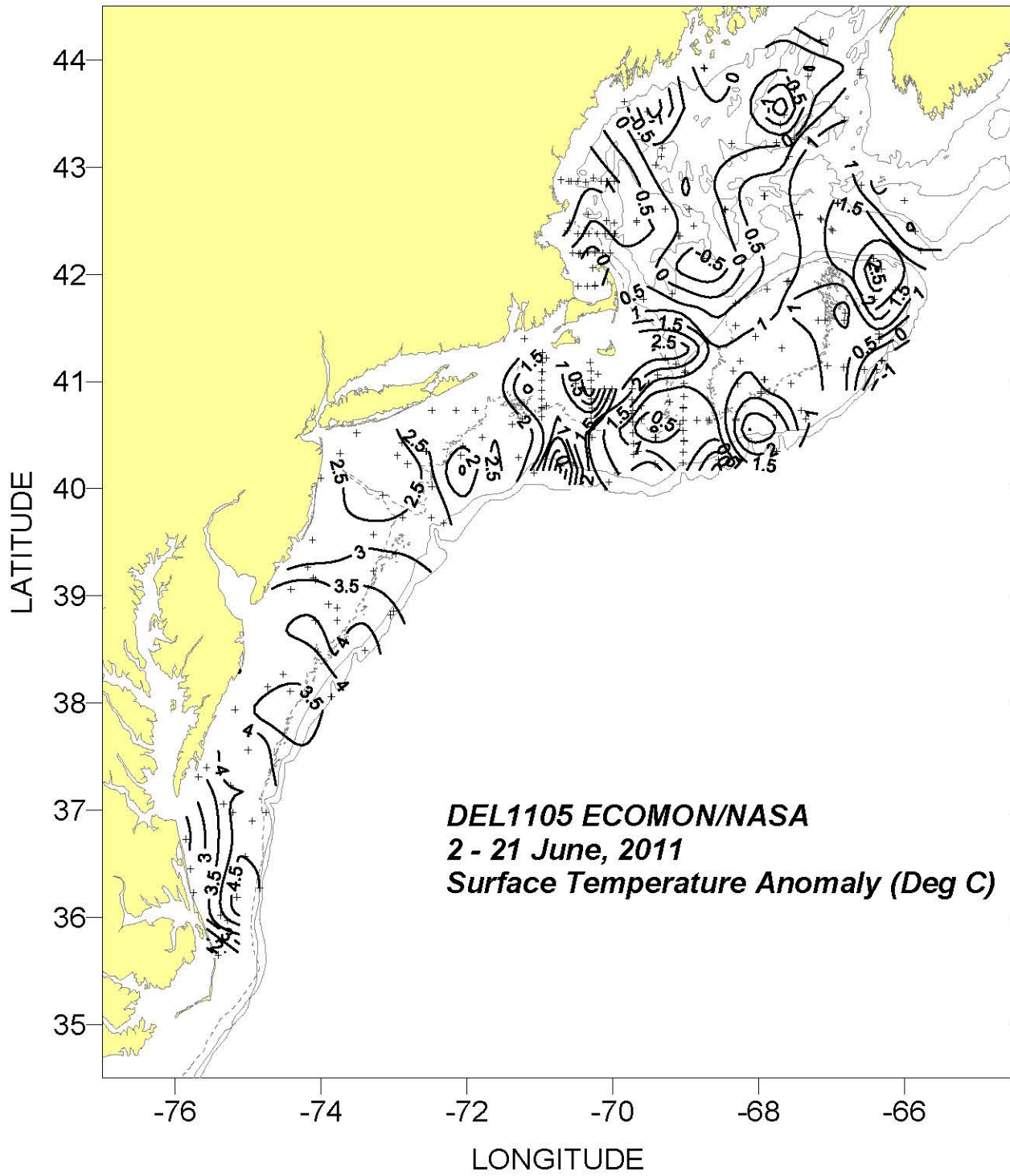
"#obs", the number of observations included in each average: "T/S", the areal average temp/salt: "Anomaly", the areal average temp/salt anomaly:

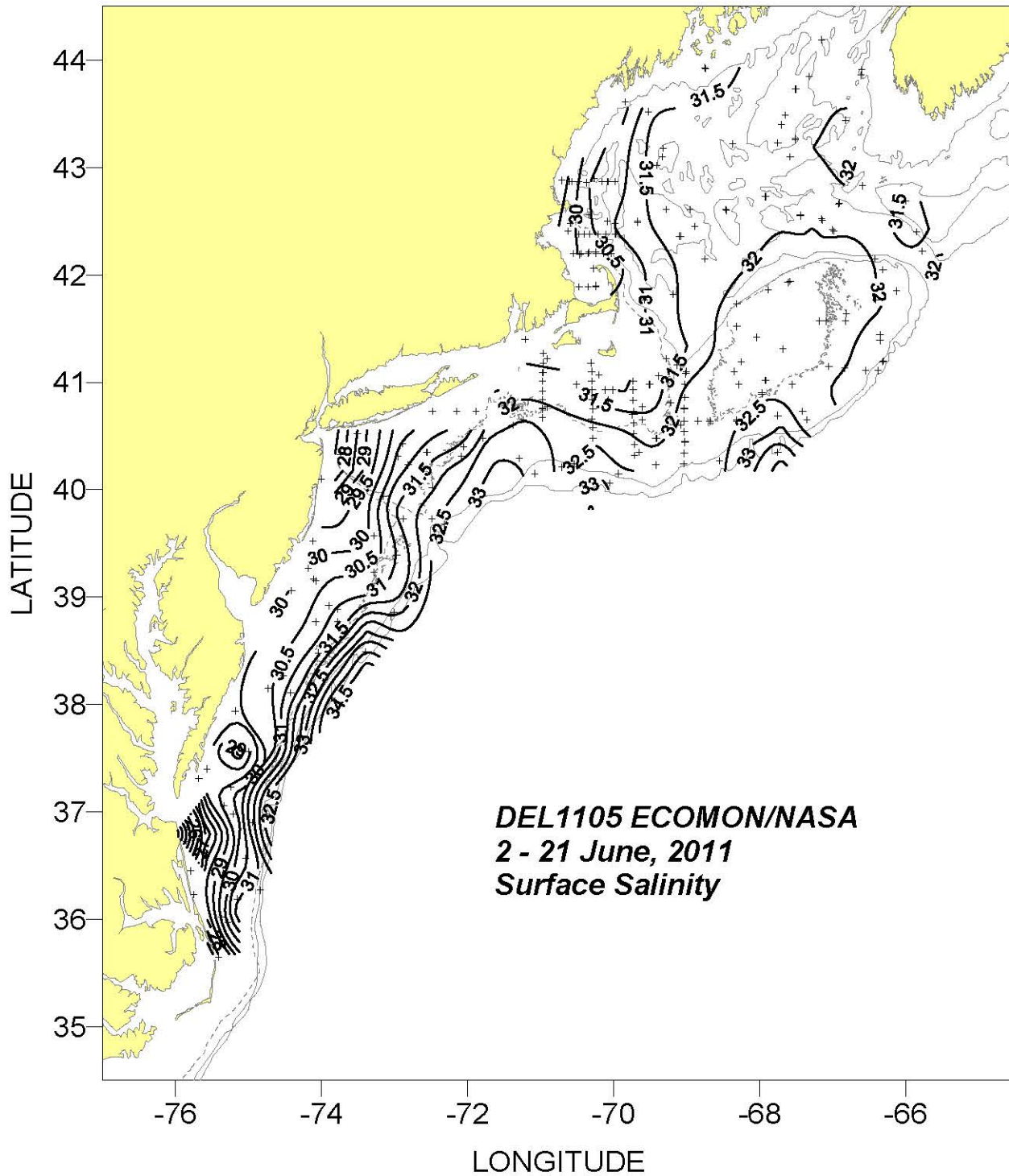
"SDV1", the standard deviation associated with the average temp/salt anomaly: "SDV2", the standard deviation of the individual anomalies from which the average anomaly was derived

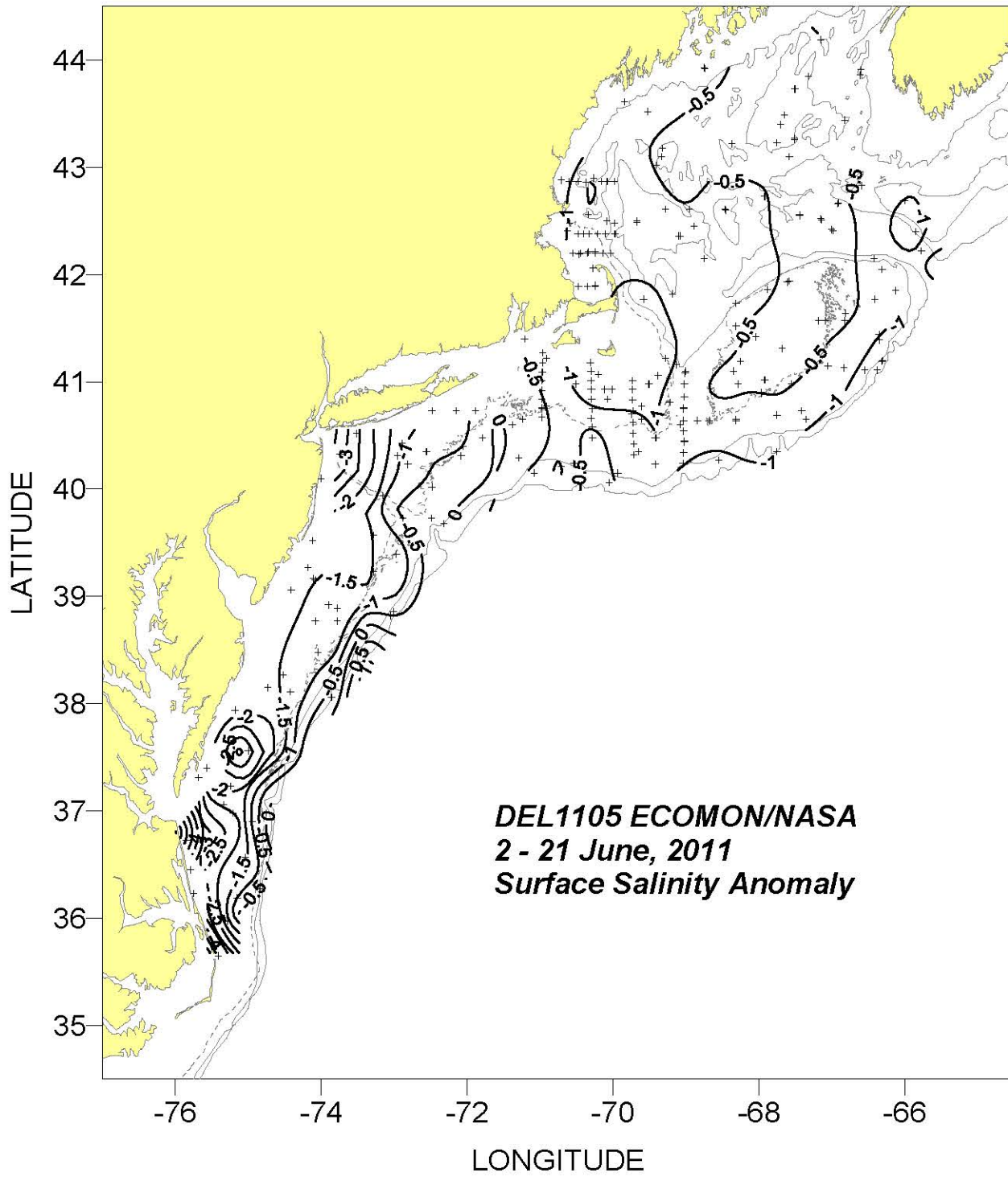
"Flag", a value of "1" indicates that a true areal average could not be calculated due to poor station coverage. The areal averages listed were derived from a simple average of the observations within the region.

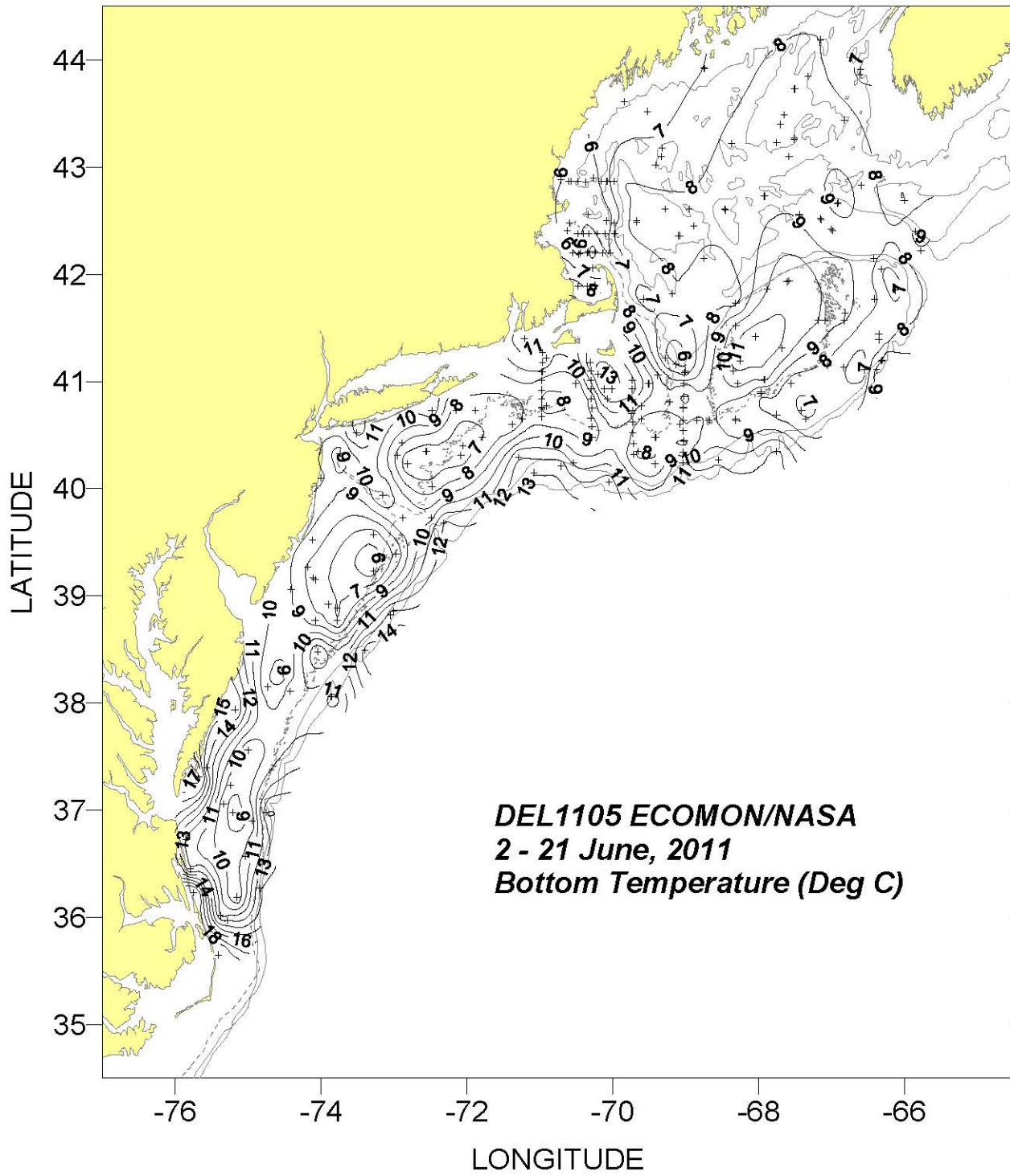
"Purpose", 2 digit code assigned by DMS to identify a unique NEFSC program survey.

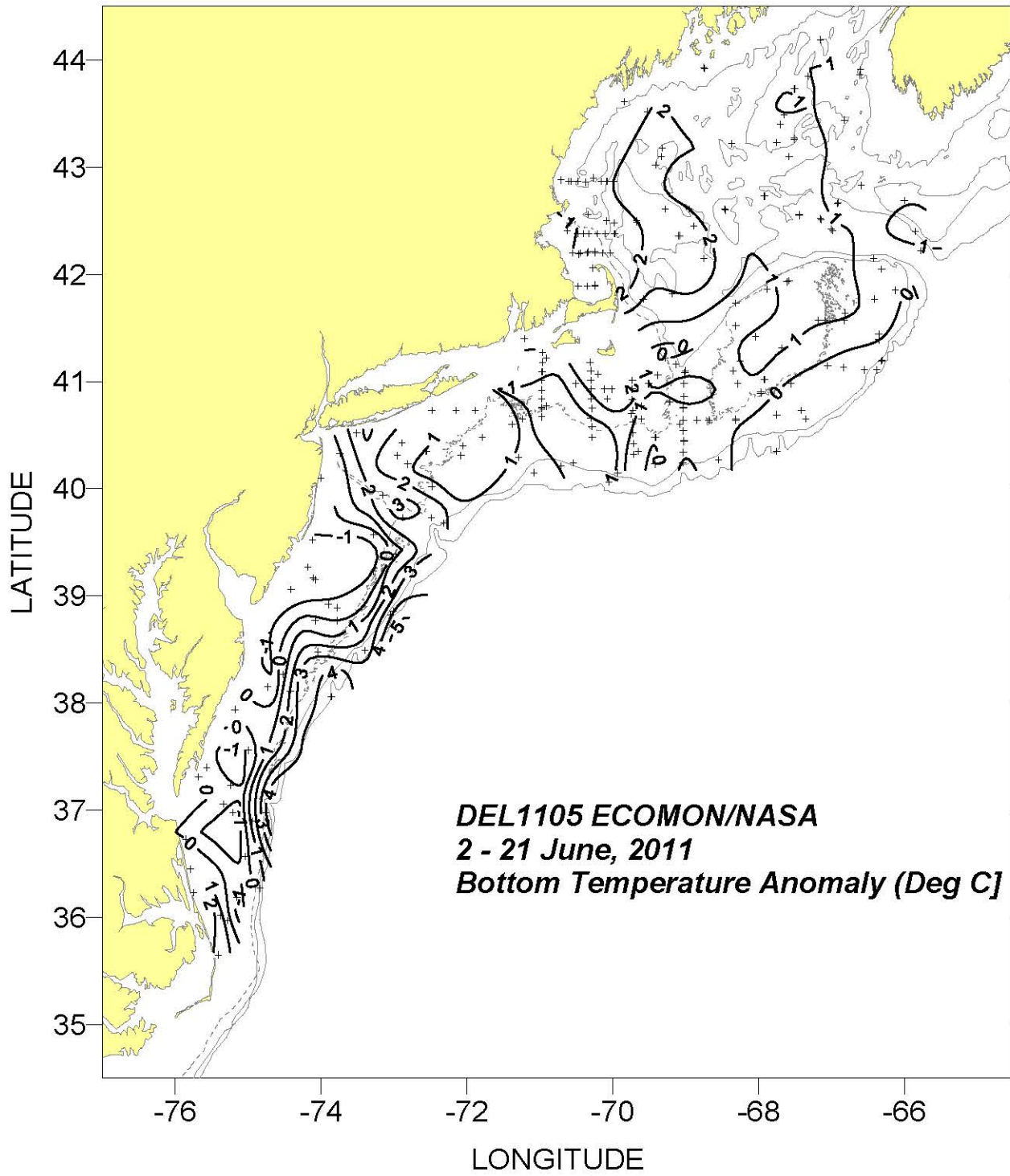


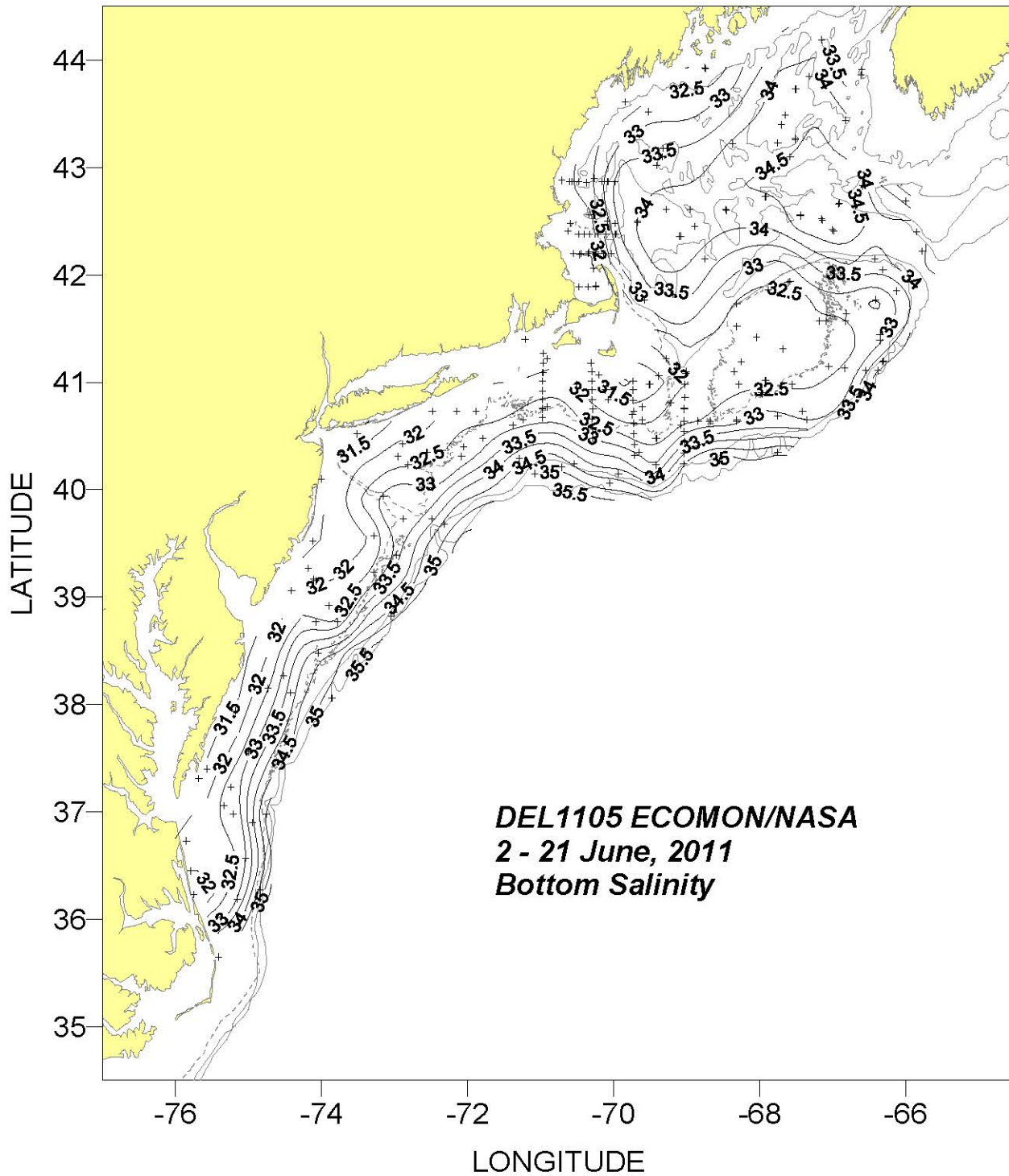


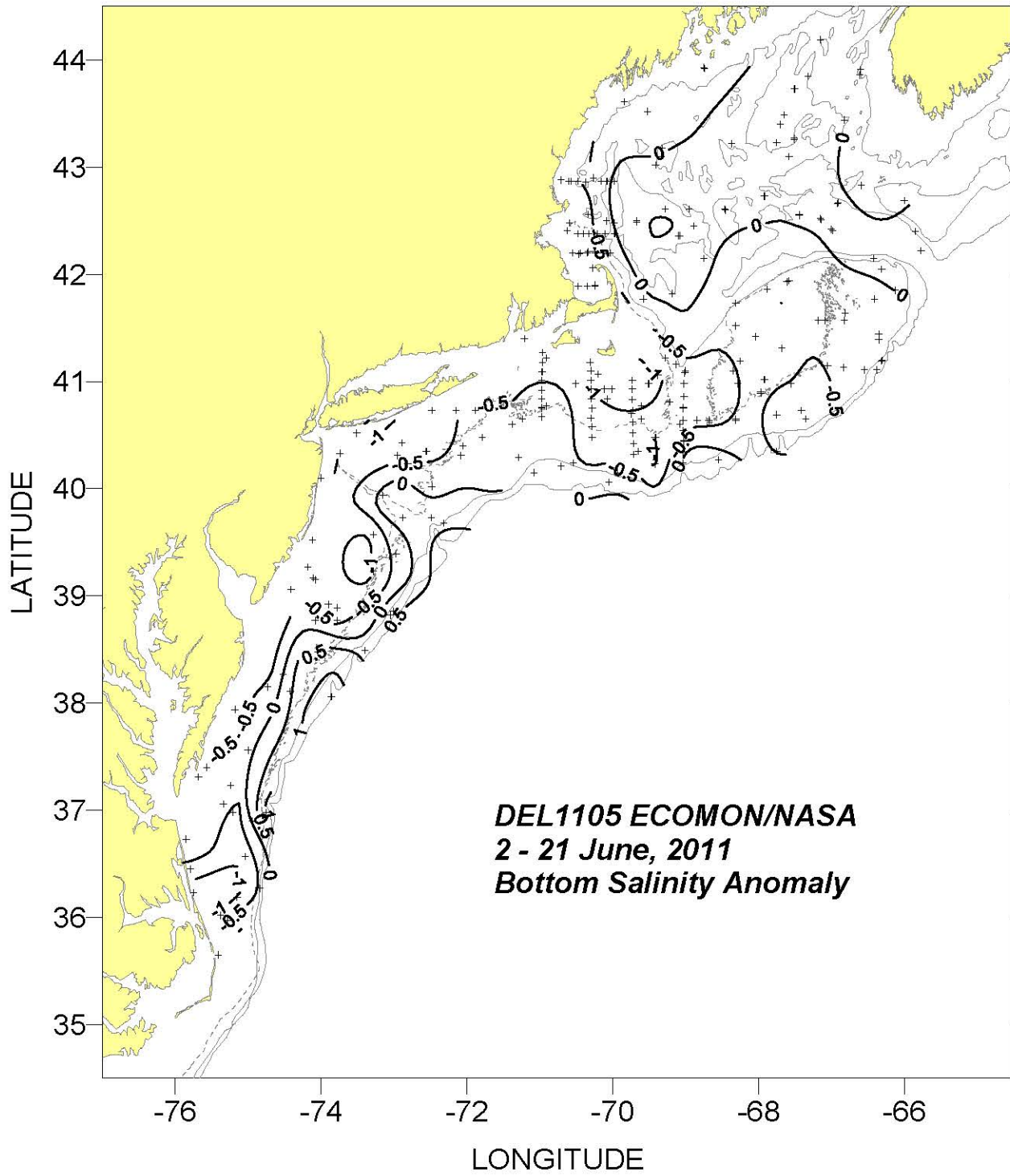












DEL1105 ECOMON/NASA GROUND TRUTH MEASUREMENTS

June 2 - 21, 2011

Cast #	Sta #	Lat deg N	Long deg W	Day	Mo	Year	Time (GMT)	Btm Depth m	Surface Temp deg C	Surface Salinity	Deepest Observed Temp deg C	Deepest Observed Salinity	Meters from Bottom
1	1	4123.7	7112.8	2	6	2011	21:25	27	16.07	31.39	11.82	31.59	4
1	2	4112.9	7054.8	2	6	2011	23:30	32	13.19	31.41	10.15	31.69	3
2	3	4058.7	7030.8	3	6	2011	2:16	47	13.30	31.80	8.18	32.23	3
3	4	4046.3	7054.4	3	6	2011	4:43	59	14.14	32.07	7.47	32.45	4
4	5	4038.7	7114.5	3	6	2011	6:41	63	15.26	32.47	8.02	32.74	5
5	6	4036.2	7122.7	3	6	2011	7:34	65	15.44	32.60	7.05	32.53	5
2	7	4028.5	7147.2	3	6	2011	9:51	71	15.47	32.31	6.90	32.69	4
6	8	4023.8	7202.9	3	6	2011	11:45	67	15.06	31.47	6.54	32.55	3
7	9	4018.6	7204.7	3	6	2011	12:28	63	14.01	31.97	6.30	32.59	4
8	10	4021.2	7233.2	3	6	2011	15:21	51	15.69	31.47	6.40	32.32	4
3	10	4020.9	7233.4	3	6	2011	15:40	51	15.69	31.50	6.40	32.33	3
9	11	4013.7	7248.8	3	6	2011	17:36	52	15.94	31.25	6.15	32.35	5
10	12	4001.3	7228.6	3	6	2011	19:58	67	16.44	31.78	7.35	32.89	5
11	13	3941.0	7218.9	3	6	2011	22:22	115	17.05	32.92	12.22	35.53	4
4	14	3943.6	7229.6	3	6	2011	23:37	82	16.34	32.33	9.64	33.53	4
12	15	3944.0	7252.5	4	6	2011	1:36	75	17.31	31.94	10.28	33.64	5
13	16	3956.4	7308.9	4	6	2011	3:30	78	17.03	30.86	11.14	33.88	3
14	17	3933.9	7316.7	4	6	2011	6:20	38	18.44	30.10	6.41	32.01	3
15	18	3923.6	7258.1	4	6	2011	8:16	62	18.21	30.93	7.11	33.01	2
16	19	3913.8	7316.5	4	6	2011	10:11	60	19.16	30.18	5.27	32.52	3
5	19	3913.7	7316.7	4	6	2011	10:28	59	19.17	30.18	5.26	32.52	3
17	20	3851.3	7300.8	4	6	2011	13:15	97	19.15	31.55	13.11	34.78	5
18	21	3849.0	7302.8	4	6	2011	13:53	100	18.86	31.30	13.45	34.96	5
19	22	3829.2	7324.2	4	6	2011	16:52	110	20.75	34.82	14.62	35.72	5
6	22	3829.4	7324.1	4	6	2011	17:17	110	20.71	34.77	14.62	35.74	2
23	23	3803.3	7351.3	4	6	2011	21:52	259	21.36	34.85	9.82	35.27	5
24	23	3803.8	7350.8	4	6	2011	22:57	268	21.34	34.78	10.21	35.31	68
7	23	3803.7	7350.7	4	6	2011	23:38	267	21.28	34.87	9.03	35.21	4
25	24	3806.5	7424.9	5	6	2011	2:52	44	20.04	31.24	10.80	33.83	5
26	25	3733.8	7459.8	5	6	2011	7:22	31	23.14	27.33	9.00	32.65	6
8	26	3713.5	7514.5	5	6	2011	10:10	28	22.44	30.00	9.31	32.75	3
27	27	3703.7	7520.5	5	6	2011	11:38	32	22.68	30.19	9.33	32.75	4
28	28	3658.7	7512.6	5	6	2011	12:37	39	23.10	29.76	8.68	32.79	4
29	29	3658.7	7444.7	5	6	2011	14:58	82	22.24	33.94	14.19	35.36	5
30	30	3653.8	7456.6	5	6	2011	16:22	40	22.89	30.54	9.31	33.14	3

DEL1105 ECOMON/NASA GROUND TRUTH MEASUREMENTS

June 2 - 21, 2011

Cast #	Sta #	Lat deg N	Long deg W	Day	Mo	Year	Time (GMT)	Btm Depth m	Surface Temp deg C	Surface Salinity	Deepest Observed Temp deg C	Deepest Observed Salinity	Meters from Bottom
9	30	3653.8	7456.2	5	6	2011	16:42	38	22.89	30.54	9.28	33.14	4
31	31	3633.9	7502.4	5	6	2011	18:52	28	23.34	30.47	10.23	32.69	4
33	32	3616.2	7450.4	5	6	2011	21:22	87	23.35	30.45	14.07	35.31	2
34	32	3616.2	7450.4	5	6	2011	21:31	87	23.31	30.45	14.07	35.31	4
10	33	3611.2	7508.8	5	6	2011	23:34	37	23.48	30.91	8.89	32.89	4
35	34	3558.3	7517.0	6	6	2011	1:15	30	23.85	32.10	13.16	33.55	4
36	35	3538.7	7524.5	6	6	2011	3:37	21	22.12	26.86	20.17	34.66	5
37	36	3601.3	7522.6	6	6	2011	6:10	25	23.73	32.60	11.70	33.04	5
38	37	3613.8	7544.7	6	6	2011	8:38	14	22.05	23.26	20.74	30.70	4
11	38	3626.7	7547.4	6	6	2011	10:19	19	21.17	29.55	11.94	32.55	4
39	39	3643.9	7550.7	6	6	2011	12:23	14	21.66	22.10	11.70	32.43	4
40	40	3718.4	7540.9	6	6	2011	16:19	11	22.07	29.60	19.03	31.17	3
12	41	3723.7	7534.4	6	6	2011	17:19	18	22.19	29.60	13.89	31.68	3
41	42	3756.3	7510.7	6	6	2011	21:15	15	21.45	30.19	15.43	31.46	4
13	43	3809.1	7443.7	6	6	2011	23:49	35	20.79	30.31	8.97	32.42	5
42	44	3815.9	7431.2	7	6	2011	1:32	40	22.33	30.78	8.40	32.73	5
44	45	3828.5	7402.6	7	6	2011	4:41	55	20.99	30.39	13.32	34.91	5
45	46	3846.1	7404.7	7	6	2011	6:41	50	20.57	31.06	8.33	32.79	5
46	47	3846.3	7346.6	7	6	2011	8:16	48	19.75	30.93	6.70	32.39	4
47	48	3853.6	7346.6	7	6	2011	9:16	45	19.60	31.31	6.89	32.33	4
14	49	3855.3	7353.8	7	6	2011	10:11	39	19.61	31.10	7.61	32.37	3
48	50	3903.7	7424.8	7	6	2011	12:51	27	19.61	30.13	9.05	31.71	4
49	51	3908.7	7404.9	7	6	2011	14:37	38	20.20	29.87	7.42	31.94	3
15	52	3910.4	7406.4	7	6	2011	15:04	28	19.98	29.96	7.61	31.87	3
50	53	3916.1	7410.8	7	6	2011	15:52	29	19.17	29.96	7.87	31.70	4
16	54	3931.4	7407.1	7	6	2011	18:07	19	17.63	30.14	8.74	31.39	3
51	55	4006.1	7400.0	7	6	2011	21:49	20	19.57	28.47	10.30	31.20	6
17	56	4019.5	7344.4	7	6	2011	23:52	27	17.66	26.54	8.19	31.60	4
52	57	4031.4	7330.5	8	6	2011	1:49	17	17.67	28.65	12.47	30.76	6
53	58	4018.6	7256.8	8	6	2011	4:40	44	16.69	30.37	7.57	32.17	3
54	59	4025.7	7253.5	8	6	2011	5:41	44	17.09	30.67	8.25	32.18	3
55	60	4044.0	7228.5	8	6	2011	8:26	33	16.24	30.22	10.84	31.81	6
56	61	4043.8	7208.8	8	6	2011	10:04	46	16.36	30.61	7.40	32.37	2
18	61	4043.7	7208.9	8	6	2011	10:19	47	16.30	30.63	7.40	32.37	4
57	62	4043.7	7152.8	8	6	2011	11:45	48	16.12	31.17	7.47	32.35	5

DEL1105 ECOMON/NASA GROUND TRUTH MEASUREMENTS

June 2 - 21, 2011

Cast #	Sta #	Lat deg N	Long deg W	Day	Mo	Year	Time (GMT)	Btm Depth m	Surface Temp deg C	Surface Salinity	Deepest Observed Temp deg C	Deepest Observed Salinity	Meters from Bottom
58	63	4017.5	7117.5	8	6	2011	15:40	91	18.36	33.77	12.14	34.40	3
19	64	4008.7	7104.9	8	6	2011	17:11	148	17.00	33.30	12.74	35.53	3
59	65	4003.8	7002.8	8	6	2011	22:25	153	18.65	33.86	12.67	35.63	3
20	66	4008.9	6955.8	8	6	2011	23:32	105	14.63	32.58	11.19	34.42	2
60	67	4021.1	6938.7	9	6	2011	1:43	72	15.16	32.27	7.75	32.53	5
61	68	4013.6	6924.9	9	6	2011	3:13	86	14.46	32.31	8.04	32.94	4
62	69	4028.6	6924.8	9	6	2011	5:00	68	10.97	31.74	8.21	32.42	5
63	69	4028.5	6925.2	9	6	2011	5:09	68	11.02	31.76	8.24	32.41	2
64	70	4038.9	6936.6	9	6	2011	6:43	53	11.71	31.66	8.83	31.83	5
65	71	4046.0	6936.8	9	6	2011	7:35	42	9.77	31.61	9.77	31.62	3
66	72	4059.0	6930.5	9	6	2011	9:19	27	10.38	31.25	10.38	31.25	4
21	72	4058.7	6930.0	9	6	2011	9:43	38	10.39	31.25	10.38	31.25	5
67	73	4103.7	6922.8	9	6	2011	11:01	44	10.69	31.18	9.32	31.27	5
68	74	4048.6	6912.9	9	6	2011	12:52	67	10.72	31.48	9.30	32.16	5
69	75	4036.2	6904.9	9	6	2011	14:28	74	11.25	32.35	8.51	32.36	4
22	76	4038.3	6850.6	9	6	2011	16:06	67	13.08	32.33	8.82	32.45	3
70	77	4038.6	6841.0	9	6	2011	17:12	65	11.16	32.35	9.14	32.38	5
71	78	4016.2	6832.9	9	6	2011	20:01	136	12.92	32.04	10.89	35.39	3
72	79	4038.9	6818.6	9	6	2011	22:55	78	13.96	32.25	7.79	32.73	4
23	79	4038.5	6818.5	9	6	2011	23:13	80	13.72	32.25	7.78	32.75	4
73	80	4021.2	6744.7	10	6	2011	2:30	207	19.76	34.69	11.36	35.30	5
74	81	4038.9	6720.8	10	6	2011	5:41	98	11.78	31.87	6.90	32.84	5
75	82	4043.6	6724.7	10	6	2011	6:37	95	12.96	32.10	6.87	32.71	5
76	83	4041.3	6744.7	10	6	2011	8:22	78	13.97	32.21	7.65	32.77	5
77	84	4053.8	6758.4	10	6	2011	10:16	55	11.38	32.27	7.94	32.43	5
24	84	4053.6	6758.4	10	6	2011	10:33	56	11.41	32.28	7.94	32.43	6
78	85	4058.7	6816.8	10	6	2011	12:31	56	10.52	32.33	10.29	32.32	3
79	86	4106.1	6820.7	10	6	2011	13:41	48	11.15	32.33	11.14	32.33	4
80	87	4111.3	6814.7	10	6	2011	14:40	50	11.36	32.32	11.31	32.32	3
25	87	4111.1	6814.9	10	6	2011	14:55	45	11.36	32.33	11.31	32.33	4
81	88	4101.3	6755.0	10	6	2011	17:00	44	10.94	32.32	10.55	32.32	4
26	88	4101.2	6754.7	10	6	2011	17:19	46	10.80	32.33	10.28	32.32	4
82	89	4058.9	6732.8	10	6	2011	19:34	70	11.19	32.30	7.28	32.45	6
83	90	4108.7	6702.8	10	6	2011	22:19	67	10.74	32.32	7.83	32.37	6
27	91	4107.9	6650.0	10	6	2011	23:34	74	10.66	31.91	7.14	32.46	4

DEL1105 ECOMON/NASA GROUND TRUTH MEASUREMENTS

June 2 - 21, 2011

Cast #	Sta #	Lat deg N	Long deg W	Day	Mo	Year	Time (GMT)	Btm Depth m	Surface Temp deg C	Surface Salinity	Deepest Observed Temp deg C	Deepest Observed Salinity	Meters from Bottom
84	92	4106.3	6632.7	11	6	2011	1:06	97	10.40	31.57	6.18	32.65	4
85	93	4106.4	6622.8	11	6	2011	2:10	168	10.58	31.59	10.23	34.70	7
86	94	4111.4	6618.7	11	6	2011	3:09	140	10.15	31.79	8.08	33.61	7
87	94	4111.7	6618.1	11	6	2011	3:34	147	9.13	31.94	9.96	34.51	5
88	95	4123.6	6620.8	11	6	2011	5:04	93	11.45	31.62	6.70	32.83	5
89	96	4126.2	6620.9	11	6	2011	5:37	98	11.09	31.68	7.00	33.02	3
90	97	4133.9	6648.9	11	6	2011	7:58	70	9.07	32.41	9.11	32.42	5
28	98	4134.3	6705.2	11	6	2011	9:25	61	9.40	32.32	9.40	32.32	4
91	99	4133.9	6710.8	11	6	2011	10:08	54	10.05	32.37	10.06	32.37	5
92	100	4118.7	6740.6	11	6	2011	13:21	41	11.15	32.35	10.97	32.34	5
29	101	4125.1	6802.2	11	6	2011	15:34	39	11.67	32.33	11.67	32.33	3
93	102	4131.3	6818.6	11	6	2011	17:12	44	11.25	32.27	10.35	32.21	4
30	102	4131.4	6818.7	11	6	2011	17:25	45	11.26	32.28	10.43	32.22	4
94	103	4143.8	6818.4	11	6	2011	19:02	72	11.01	32.12	7.48	32.26	5
95	104	4151.3	6752.7	11	6	2011	22:04	48	10.28	32.21	9.96	32.21	4
31	105	4155.7	6736.8	11	6	2011	23:34	39	11.00	32.26	10.99	32.26	4
96	106	4156.2	6734.8	12	6	2011	0:04	49	11.08	32.27	11.14	32.28	6
97	107	4138.4	6648.3	12	6	2011	3:43	69	9.34	32.40	9.33	32.40	6
98	108	4146.1	6624.7	12	6	2011	6:11	81	11.32	32.20	8.35	32.39	5
99	109	4151.2	6607.0	12	6	2011	8:08	92	10.08	31.52	6.60	32.64	5
32	110	4203.2	6618.6	12	6	2011	9:40	92	12.09	31.91	6.71	32.80	4
100	111	4208.9	6625.0	12	6	2011	10:34	178	12.30	31.98	8.77	34.73	6
101	112	4213.4	6546.1	12	6	2011	13:49	226	11.82	32.46	8.99	35.16	24
102	112	4213.4	6546.0	12	6	2011	14:15	226	11.67	32.38	8.92	35.16	13
103	112	4212.9	6546.4	12	6	2011	14:37	226	11.62	32.41	8.86	35.16	8
33	113	4223.7	6551.0	12	6	2011	16:25	184	9.70	30.97	9.40	35.03	5
104	114	4241.3	6559.7	12	6	2011	18:43	80	9.49	31.34	6.86	32.31	4
105	115	4249.7	6635.5	12	6	2011	21:22	173	9.02	32.01	8.66	34.25	4
107	116	4240.4	6654.7	13	6	2011	0:10	218	12.06	31.95	9.62	35.01	5
106	116	4239.8	6655.1	12	6	2011	23:46	231	12.10	31.95	9.52	35.04	30
108	117	4224.9	6659.8	13	6	2011	2:12	367	12.01	31.93	9.01	34.95	166
109	117	4224.7	6659.0	13	6	2011	2:34	367	12.02	31.93	8.32	35.07	6
110	118	4231.1	6708.7	13	6	2011	4:01	334	11.99	31.95	8.62	35.05	132
111	118	4230.7	6708.1	13	6	2011	4:20	336	11.97	31.95	8.27	35.07	5
112	119	4233.2	6726.6	13	6	2011	6:10	272	10.85	31.98	8.97	34.88	71
113	119	4233.6	6726.6	13	6	2011	6:46	271	10.82	31.98	8.92	34.98	7

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Cast #	Sta #	Lat deg N	Long deg W	Day	Mo	Year	Time (GMT)	Btm Depth m	Surface Temp deg C	Surface Salinity	Deepest Observed Temp deg C	Deepest Observed Salinity	Meters from Bottom
34	120	4243.6	6754.6	13	6	2011	9:34	187	11.72	31.82	8.74	34.66	3
114	120	4243.6	6754.9	13	6	2011	10:22	188	11.76	31.81	8.76	34.68	6
115	121	4306.2	6734.9	13	6	2011	13:38	203	11.07	31.97	8.32	34.41	8
117	122	4315.7	6730.6	13	6	2011	16:08	201	11.16	31.91	8.58	34.36	8
35	122	4316.0	6730.8	13	6	2011	16:32	200	11.16	31.92	8.54	34.36	3
118	123	4326.2	6649.1	13	6	2011	20:40	207	9.55	32.09	8.50	34.31	6
36	124	4351.8	6636.5	13	6	2011	23:38	99	7.46	31.65	6.80	32.53	3
119	125	4354.3	6636.0	14	6	2011	0:19	85	7.52	31.61	6.79	32.38	4
120	126	4411.3	6708.7	14	6	2011	3:22	129	9.94	32.05	8.01	33.88	8
121	127	4350.9	6718.9	14	6	2011	5:43	197	8.46	31.79	8.29	34.21	3
122	128	4343.7	6730.1	14	6	2011	7:11	230	9.65	32.14	8.51	34.37	29
123	128	4343.9	6730.6	14	6	2011	7:34	231	9.63	32.13	8.57	34.44	3
37	129	4329.6	6738.9	14	6	2011	9:28	230	8.53	31.88	8.47	34.39	7
124	130	4323.9	6742.0	14	6	2011	10:37	252	10.78	31.97	8.62	34.43	50
125	130	4323.9	6741.8	14	6	2011	11:10	251	10.73	31.97	8.66	34.44	4
126	131	4313.8	6744.9	14	6	2011	12:38	230	10.68	31.98	8.51	34.22	29
127	131	4313.8	6744.7	14	6	2011	13:16	228	10.61	32.00	8.68	34.37	1
38	132	4313.1	6821.9	14	6	2011	16:23	183	10.81	31.93	8.31	34.16	6
128	132	4313.1	6822.3	14	6	2011	17:02	180	10.89	31.93	8.26	34.13	6
130	133	4355.3	6844.6	14	6	2011	23:22	99	9.07	31.04	7.01	31.82	8
39	133	4355.7	6845.2	14	6	2011	23:40	85	9.07	31.18	7.10	31.80	13
131	134	4336.3	6950.6	15	6	2011	4:58	84	11.44	30.24	6.34	32.06	4
132	135	4331.3	6931.2	15	6	2011	6:52	138	9.50	31.40	6.55	32.86	6
40	136	4310.8	6919.2	15	6	2011	9:37	193	11.86	31.90	7.19	33.42	7
133	137	4306.0	6919.6	15	6	2011	10:36	178	11.85	31.87	7.21	33.41	5
134	138	4301.2	6924.6	15	6	2011	11:46	196	11.24	31.88	7.38	33.51	6
135	139	4236.3	6916.8	15	6	2011	14:53	235	12.64	31.60	8.32	34.17	34
136	139	4236.7	6916.9	15	6	2011	15:22	226	12.70	31.60	8.32	34.17	10
41	140	4236.4	6857.2	15	6	2011	17:34	213	11.18	31.87	8.11	34.18	12
137	141	4236.1	6826.9	15	6	2011	20:40	215	12.43	31.61	8.29	34.32	13
138	141	4236.6	6827.5	15	6	2011	21:04	216	12.42	31.60	8.35	34.45	6
42	142	4226.7	6853.2	15	6	2011	23:34	225	12.71	31.62	8.29	34.35	20
139	143	4221.4	6905.0	16	6	2011	1:02	225	13.29	31.50	8.43	34.21	25
140	143	4221.6	6906.2	16	6	2011	1:30	229	13.28	31.51	8.49	34.32	6
141	144	4208.9	6845.1	16	6	2011	3:55	186	11.32	31.77	7.86	33.75	6

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Cast #	Sta #	Lat deg N	Long deg W	Day	Mo	Year	Time (GMT)	Btm Depth m	Surface Temp deg C	Surface Salinity	Deepest Observed Temp deg C	Deepest Observed Salinity	Meters from Bottom
142	145	4148.9	6910.5	16	6	2011	7:13	207	12.76	31.55	8.00	33.84	7
43	146	4146.2	6934.6	16	6	2011	9:37	164	12.78	31.03	6.76	33.24	7
143	146	4146.4	6934.5	16	6	2011	10:21	163	12.79	30.99	6.62	33.16	7
44	147	4203.8	7015.9	16	6	2011	15:03	62	14.04	30.33	6.36	31.46	5
45	149	4211.6	7027.4	16	6	2011	18:06	67	14.66	30.42	5.66	31.77	5
145	150	4224.8	7037.1	16	6	2011	20:06	84	14.91	29.67	5.36	31.93	6
146	151	4233.7	7020.6	16	6	2011	21:57	91	15.15	30.25	5.14	32.05	5
46	152	4230.0	7004.5	16	6	2011	23:30	114	13.83	31.04	5.30	32.34	6
147	153	4228.6	6958.8	17	6	2011	0:22	157	14.28	31.10	6.37	32.99	7
148	154	4229.8	6940.0	17	6	2011	2:10	257	13.98	31.54	8.46	34.26	56
149	154	4229.2	6940.2	17	6	2011	2:37	262	13.97	31.55	8.47	34.37	5
47	155	4252.3	6958.7	17	6	2009	11:04	188	13.96	30.57	8.08	33.93	6
150	156	4252.4	7004.5	17	6	2011	14:55	129	14.37	30.58	6.32	32.86	3
48	156	4252.2	7004.1	17	6	2011	15:19	127	14.20	30.61	6.41	32.94	1
151	157	4252.1	7009.8	17	6	2011	17:07	63	13.97	30.70	6.26	32.01	6
152	158	4253.7	7015.5	17	6	2011	18:25	175	14.60	30.72	5.59	32.56	3
153	159	4251.7	7021.9	17	6	2011	19:58	124	15.27	30.48	5.22	32.34	7
154	160	4252.3	7028.6	17	6	2011	21:10	108	15.30	30.36	5.02	32.21	4
49	161	4252.0	7033.9	17	6	2011	23:01	89	15.05	30.13	5.04	31.91	5
155	161	4252.1	7035.7	17	6	2011	23:45	88	15.63	29.38	5.06	31.88	3
156	162	4252.7	7042.6	18	6	2011	1:10	46	15.75	29.15	6.21	31.66	5
157	163	4228.8	7035.2	18	6	2011	4:49	88	14.76	29.43	5.35	31.94	5
158	164	4222.7	7028.8	18	6	2011	6:07	90	15.52	29.81	4.88	31.89	5
159	165	4222.9	7023.9	18	6	2011	7:11	33	15.02	30.22	6.78	31.63	6
160	166	4222.8	7019.9	18	6	2011	8:01	42	14.72	30.43	6.78	31.66	5
161	167	4222.7	7012.8	18	6	2011	8:46	65	14.53	30.59	5.70	31.86	4
162	168	4222.7	7006.1	18	6	2011	9:46	83	14.60	30.52	5.14	32.04	4
50	169	4222.8	6958.8	18	6	2011	10:58	160	13.74	30.98	7.26	33.52	9
163	169	4222.9	6958.4	18	6	2011	11:40	171	13.84	30.97	7.56	33.69	5
164	170	4212.0	7001.5	18	6	2011	13:46	136	15.21	30.04	6.00	32.75	9
165	171	4212.0	7008.5	18	6	2011	15:13	44	15.32	30.20	5.89	31.96	5
51	172	4212.2	7014.5	18	6	2011	16:10	29	12.91	30.46	7.55	31.32	5
166	172	4212.4	7014.5	18	6	2011	16:46	30	15.38	30.17	7.70	31.29	4
52	173	4212.2	7020.7	18	6	2011	18:02	46	14.24	30.38	7.11	31.40	5
167	173	4212.3	7020.3	18	6	2011	18:28	46	14.57	30.31	6.74	31.49	4

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Cast #	Sta #	Lat deg N	Long deg W	Day	Mo	Year	Time (GMT)	Btm Depth m	Surface Temp deg C	Surface Salinity	Deepest Observed Temp deg C	Deepest Observed Salinity	Meters from Bottom
168	174	4212.2	7026.4	18	6	2011	19:32	67	16.00	30.37	5.67	31.90	3
169	175	4212.2	7032.9	18	6	2011	20:43	42	16.25	29.93	6.40	31.63	6
170	176	4154.1	7014.2	19	6	2011	0:20	31	16.36	30.19	7.46	31.15	4
53	176	4153.6	7014.3	18	6	2011	23:43	31	16.56	30.17	7.63	31.14	4
171	177	4153.4	7021.2	19	6	2011	1:31	33	16.05	30.17	7.70	31.21	7
172	178	4153.6	7027.9	19	6	2011	2:43	30	15.18	30.28	8.34	31.08	6
173	179	4116.0	7057.7	19	6	2011	8:52	39	15.73	31.19	11.36	31.62	4
174	180	4110.7	7057.6	19	6	2011	9:46	31	15.15	31.09	11.43	31.55	4
175	181	4105.4	7057.8	19	6	2011	10:41	38	15.03	31.16	9.71	31.93	5
54	181	4105.4	7058.3	19	6	2011	10:55	37	13.96	31.24	9.66	31.95	3
176	182	4100.3	7058.2	19	6	2011	12:13	48	14.57	31.52	8.61	32.21	4
177	183	4055.2	7058.2	19	6	2011	13:11	56	15.55	31.73	8.11	32.41	5
178	184	4050.2	7058.0	19	6	2011	14:07	58	16.10	31.94	8.10	32.37	3
179	185	4045.1	7057.9	19	6	2011	15:06	62	16.47	32.16	8.16	32.35	5
55	185	4045.3	7058.1	19	6	2011	15:19	61	16.43	32.16	8.16	32.36	4
180	186	4040.2	7058.1	19	6	2011	16:42	68	16.78	32.25	8.41	32.58	4
181	187	4008.8	7104.6	19	6	2011	20:52	145	15.79	32.33	12.95	35.41	7
56	188	4012.8	7042.5	19	6	2011	23:02	125	14.96	32.36	12.67	35.04	3
182	189	4014.4	7032.6	20	6	2011	0:16	116	15.89	32.65	10.67	34.06	5
183	190	4028.6	7016.6	20	6	2011	2:20	70	14.71	32.27	8.52	32.40	3
184	191	4034.9	7017.0	20	6	2011	3:57	60	14.94	32.23	8.45	32.40	4
185	192	4039.7	7017.9	20	6	2011	4:50	52	13.43	31.61	8.85	32.33	5
186	193	4044.9	7016.9	20	6	2011	5:55	48	13.73	31.70	9.41	31.91	4
187	194	4050.2	7017.6	20	6	2011	7:01	46	13.49	31.78	9.19	31.94	5
188	195	4050.2	7004.4	20	6	2011	8:43	24	12.61	31.07	12.16	31.13	4
189	196	4055.7	7006.4	20	6	2011	9:46	26	13.31	30.95	13.30	30.95	4
190	197	4055.9	7017.4	20	6	2011	11:00	41	12.73	31.14	10.56	31.62	5
57	197	4055.8	7018.0	20	6	2011	11:38	41	12.51	31.16	10.55	31.63	4
191	198	4100.7	7018.0	20	6	2011	12:22	38	13.44	31.14	10.88	31.56	5
192	199	4105.9	7017.9	20	6	2011	13:18	35	13.29	31.16	12.06	31.24	4
193	200	4110.9	7018.7	20	6	2011	14:07	32	14.07	31.06	12.89	31.19	4
58	201	4104.3	7011.7	20	6	2011	15:38	28	13.76	30.98	13.06	31.09	4
59	202	4055.6	7000.6	20	6	2011	17:34	23	13.38	30.97	13.26	30.98	5
194	203	4100.4	6943.9	20	6	2011	19:10	40	12.30	30.93	12.12	30.95	5
195	204	4055.5	6943.7	20	6	2011	20:16	37	12.60	30.89	12.56	30.89	5

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Cast #	Sta #	Lat deg N	Long deg W	Day	Mo	Year	Time (GMT)	Btm Depth m	Surface Temp deg C	Surface Salinity	Deepest Observed Temp deg C	Deepest Observed Salinity	Meters from Bottom
196	205	4049.5	6943.5	20	6	2011	21:25	36	11.63	31.23	11.52	31.26	8
197	206	4043.8	6943.4	20	6	2011	22:21	45	12.75	31.57	10.13	31.65	5
60	206	4042.2	6944.2	20	6	2011	22:58	51	11.66	31.56	10.00	31.79	4
61	206	4042.1	6944.1	20	6	2011	23:22	51	12.45	31.57	9.97	31.83	5
198	207	4037.2	6943.3	21	6	2011	0:24	59	12.42	31.89	9.86	32.19	5
199	208	4031.1	6943.1	21	6	2011	1:38	70	15.08	32.24	8.77	32.52	6
200	209	4025.4	6942.8	21	6	2011	2:43	73	15.55	32.22	8.80	32.50	7
201	210	4019.2	6942.8	21	6	2011	3:47	77	14.10	32.27	8.03	32.78	4
202	211	4014.4	6902.4	21	6	2011	7:25	111	15.56	32.14	11.58	35.16	4
203	212	4020.6	6901.6	21	6	2011	9:52	91	14.80	32.15	7.59	32.82	5
62	213	4026.8	6901.3	21	6	2011	11:19	80	13.85	32.23	7.85	32.66	4
204	213	4026.4	6901.3	21	6	2011	11:45	80	14.21	32.21	7.86	32.65	3
205	214	4032.6	6901.6	21	6	2011	12:55	77	13.91	32.26	8.67	32.47	5
206	215	4038.3	6901.7	21	6	2011	14:13	68	12.94	32.32	9.19	32.40	4
207	216	4045.0	6901.6	21	6	2011	15:16	70	11.11	32.31	9.57	32.37	4
63	216	4045.8	6901.9	21	6	2011	15:55	75	10.90	32.31	9.62	32.37	4
208	217	4051.3	6901.4	21	6	2011	16:43	82	11.30	32.30	10.58	32.31	4
64	218	4058.4	6901.1	21	6	2011	18:25	85	9.53	31.86	9.13	31.94	8
209	218	4059.0	6900.9	21	6	2011	18:52	85	9.88	31.83	9.19	31.94	6
210	219	4105.8	6900.2	21	6	2011	20:23	97	10.99	31.60	5.94	32.16	4
211	219	4104.7	6900.3	21	6	2011	20:58	94	10.17	31.65	6.30	32.10	7
65	220	4109.4	6907.9	21	6	2011	22:04	103	14.68	31.15	5.97	32.14	4
212	220	4112.9	6916.7	21	6	2011	23:28	60	14.89	31.26	5.83	32.02	6

data in bold are from 9/11+ CTD (s/n 0420)