

Oceanography Branch CTD Data Report
CTD_REPORT_2024006HB

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Center, Woods Hole, Massachusetts 02543-1097.**

DATE: 3 March 2025

Oceanography Branch CTD Data Report

CTD_REPORT_2024006HB

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

HB 2406
Summer ECOMON Survey
Data Coverage: August 12 - 23, 2024
Mid Atlantic Bight, Georges Bank, Gulf of Maine

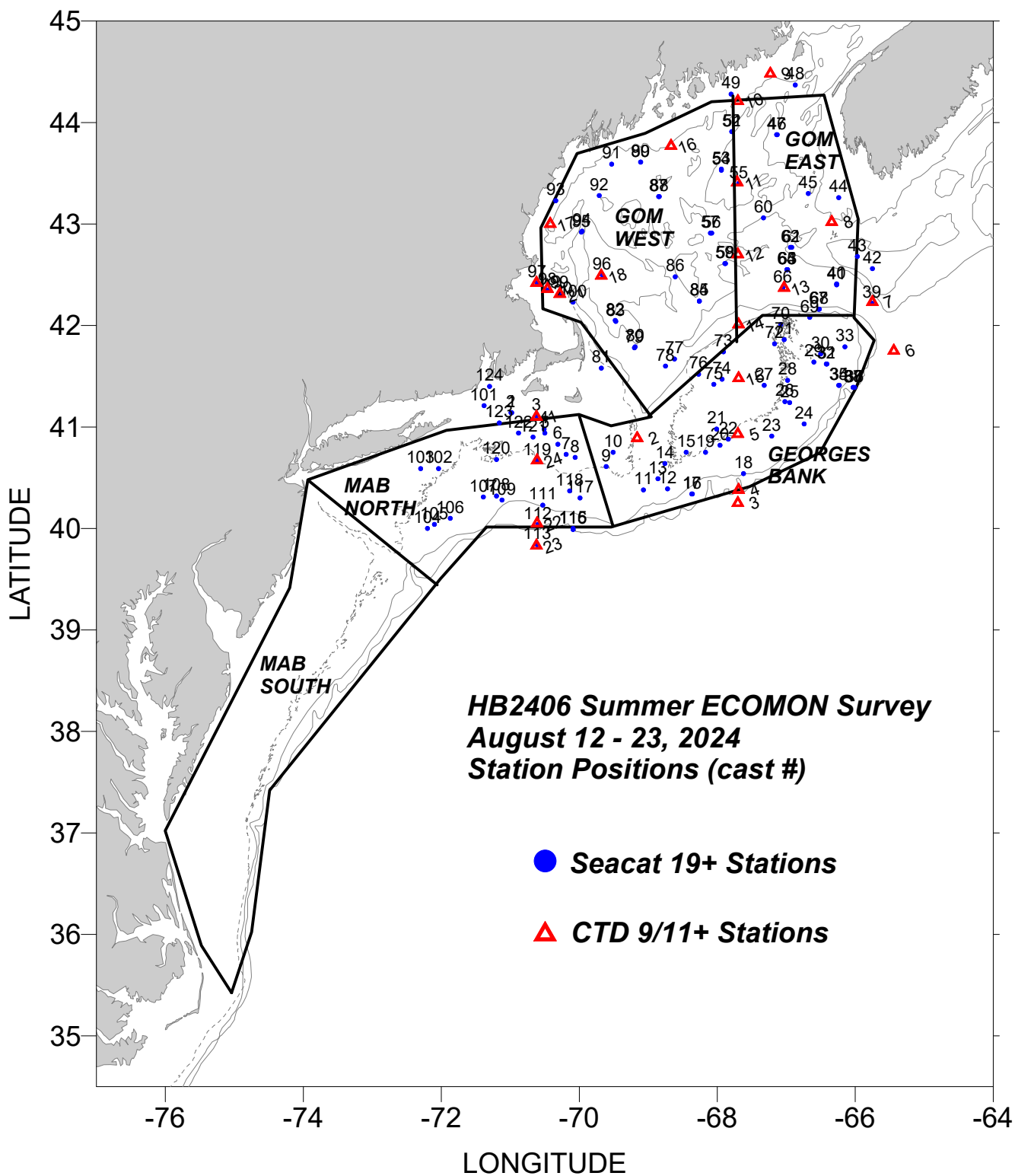
This report presents a summary of surface and bottom temperature and salinity data collected during the Northeast Fisheries Science Center's HB2406 Summer ECOMON Survey aboard the NOAA FSV *Bigelow*. Data were obtained with a Sea-Bird Electronics SBE Model 19+V2 profiling CTD (s/n 7037) during plankton tows and on vertical casts with a SBE Model 9/11+ (s/n 1486). Sea water samples were taken for the purpose of calibrating salinity values.

The SBE19+V2 was successfully deployed on 98 double oblique bongo casts, 18 vertical ring net casts, and 4 water sampling casts. Three casts made with a special, large bongo net that was tow-yo'd are not included in this report. The SBE9/11+ was used successfully on 24 stations.

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 by contacting [Dr. Chris Melrose](#)

Revised: 3 March 2025



**Areal average surface and bottom temperature/salinity and temperature/salinity anomalies for the
HB2406 Summer ECOMON Survey
August 12 - 23, 2024**

		SURFACE TEMPERATURE						BOTTOM TEMPERATURE					
Region	CD	#obs	Temp (°C)	Anomaly	SDV1	SDV2	Flag	#obs	Temp (°C)	Anomaly	SDV1	SDV2	Flag
WGOM	232	28	19.34	2.45	0.20	1.07	0	27	7.57	1.28	0.16	1.03	0
EGOM	229	27	18.08	3.73	0.18	1.46	0	21	8.36	0.47	0.29	0.74	0
GB	228	37	18.92	2.87	0.22	1.70	0	36	12.29	0.27	0.20	2.10	0
MABN	233	26	22.09	1.87	0.36	1.88	0	26	10.94	1.44	0.35	1.57	0

		SURFACE SALINITY						BOTTOM SALINITY					
Region	CD	#obs	Salinity	Anomaly	SDV1	SDV2	Flag	#obs	Salinity	Anomaly	SDV1	SDV2	Flag
WGOM	232	28	31.43	-0.49	0.09	0.31	0	27	33.61	0.14	0.05	0.31	0
EGOM	229	27	31.78	-0.65	0.10	0.28	0	21	34.14	-0.02	0.09	0.26	0
GB	228	37	31.75	-1.00	0.08	0.29	0	36	32.72	-0.35	0.07	0.68	0
MABN	233	26	31.88	-0.85	0.16	0.67	0	26	33.21	-0.38	0.13	0.61	0

"Region"; WGOM is the Western Gulf of Maine; EGOM is the Eastern Gulf of Maine; GB is Georges Bank; MABN is the northern Mid-Atlantic Bight;

"CD": the calendar mid-date of all the stations within a region for a cruise;

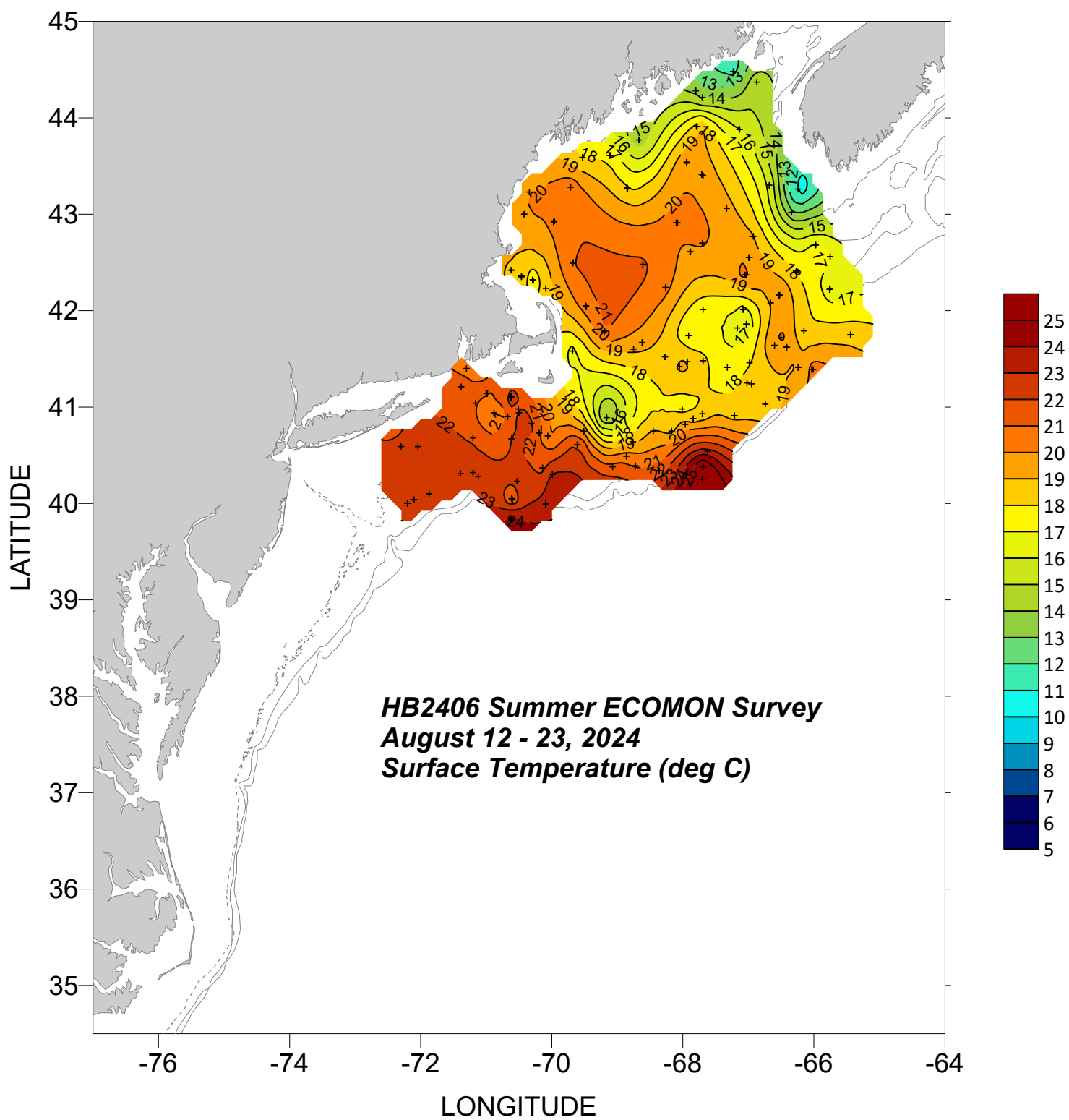
"#obs": the number of observations include in each average;

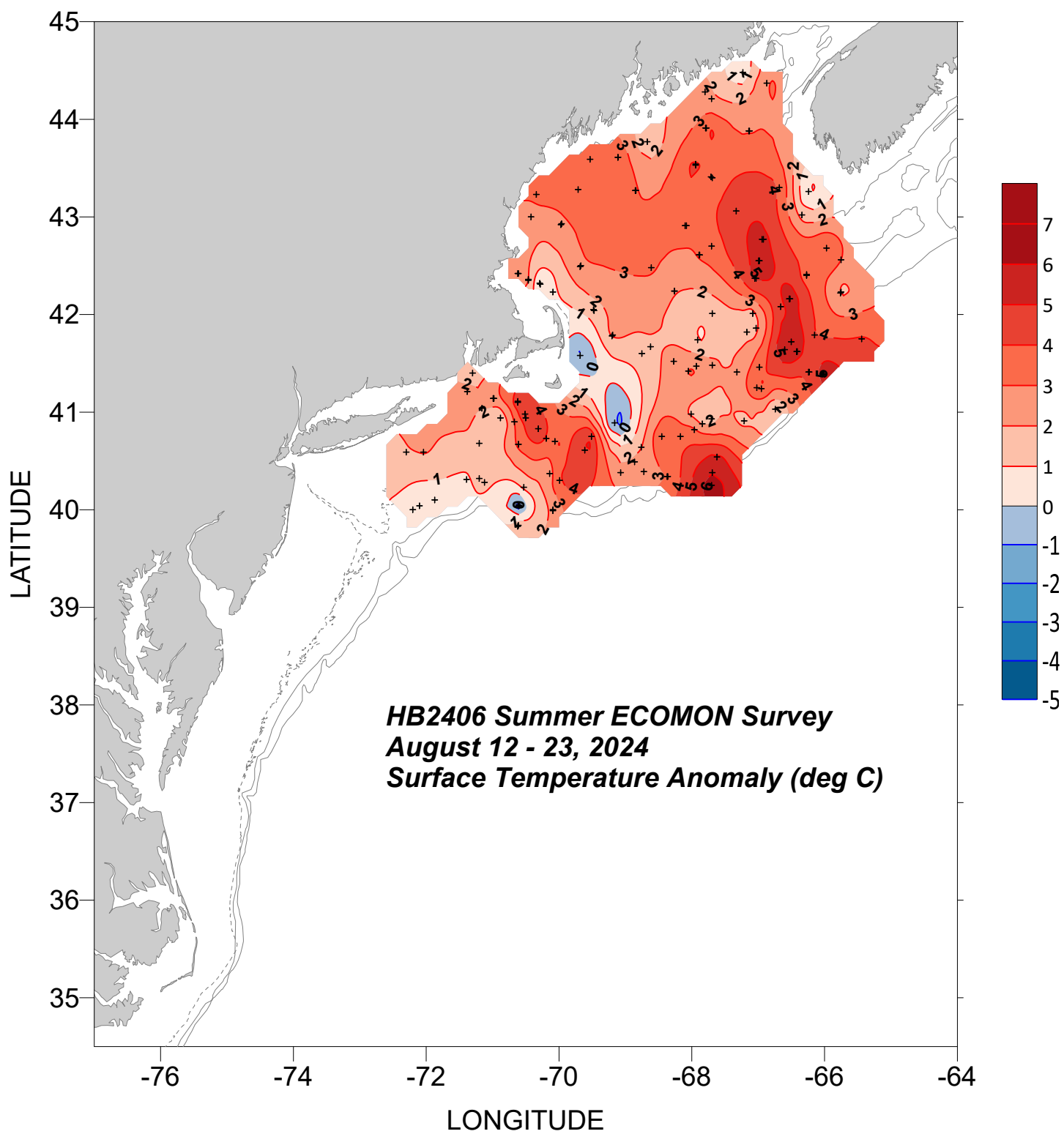
"Temp (°C)" and "Salinity": the areal averaged temperature or salinity; "Anomaly": the areal averaged temp/salt anomaly;

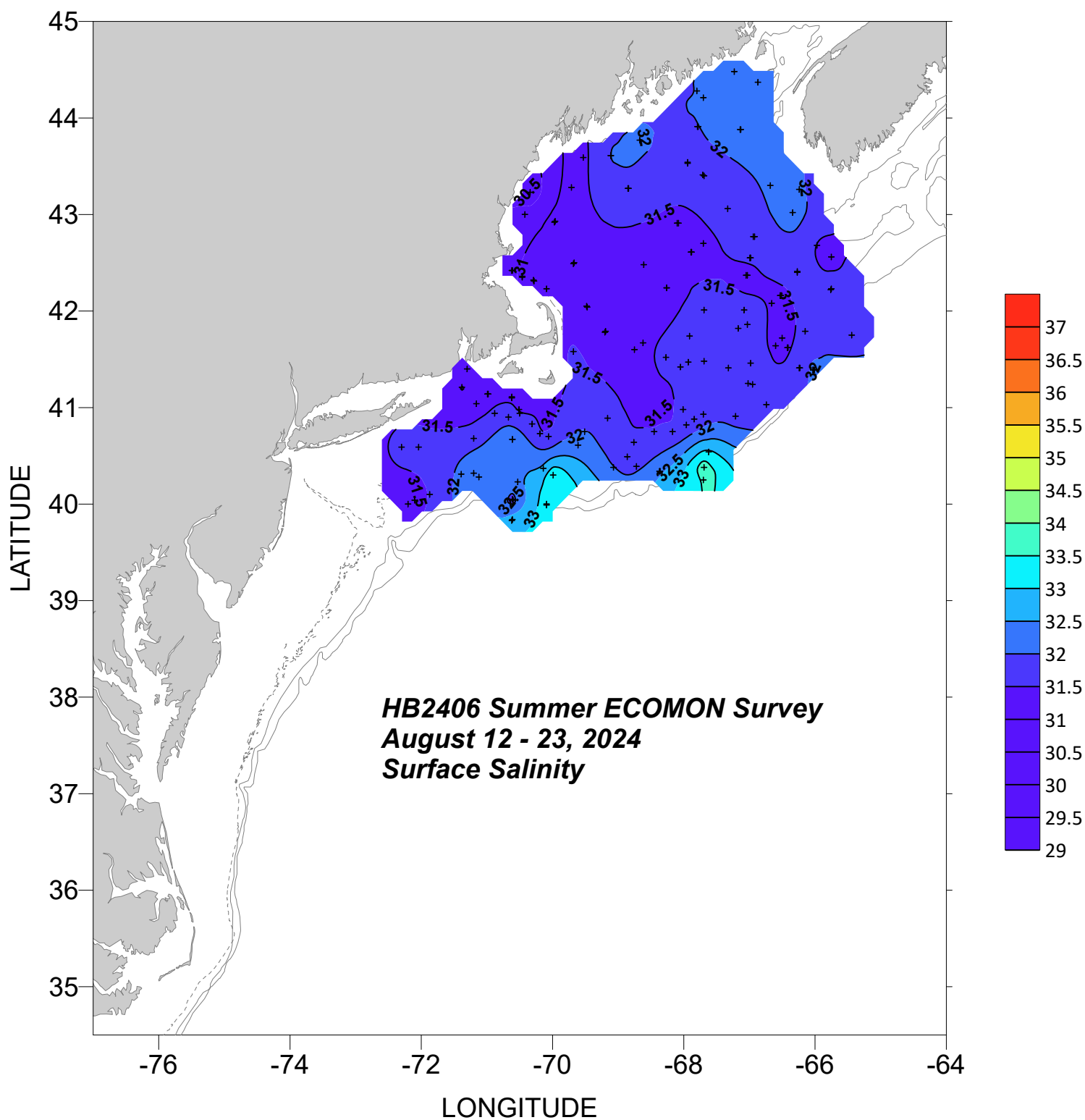
"SDV1": the standard deviation associated with the average temp/salt anomaly;

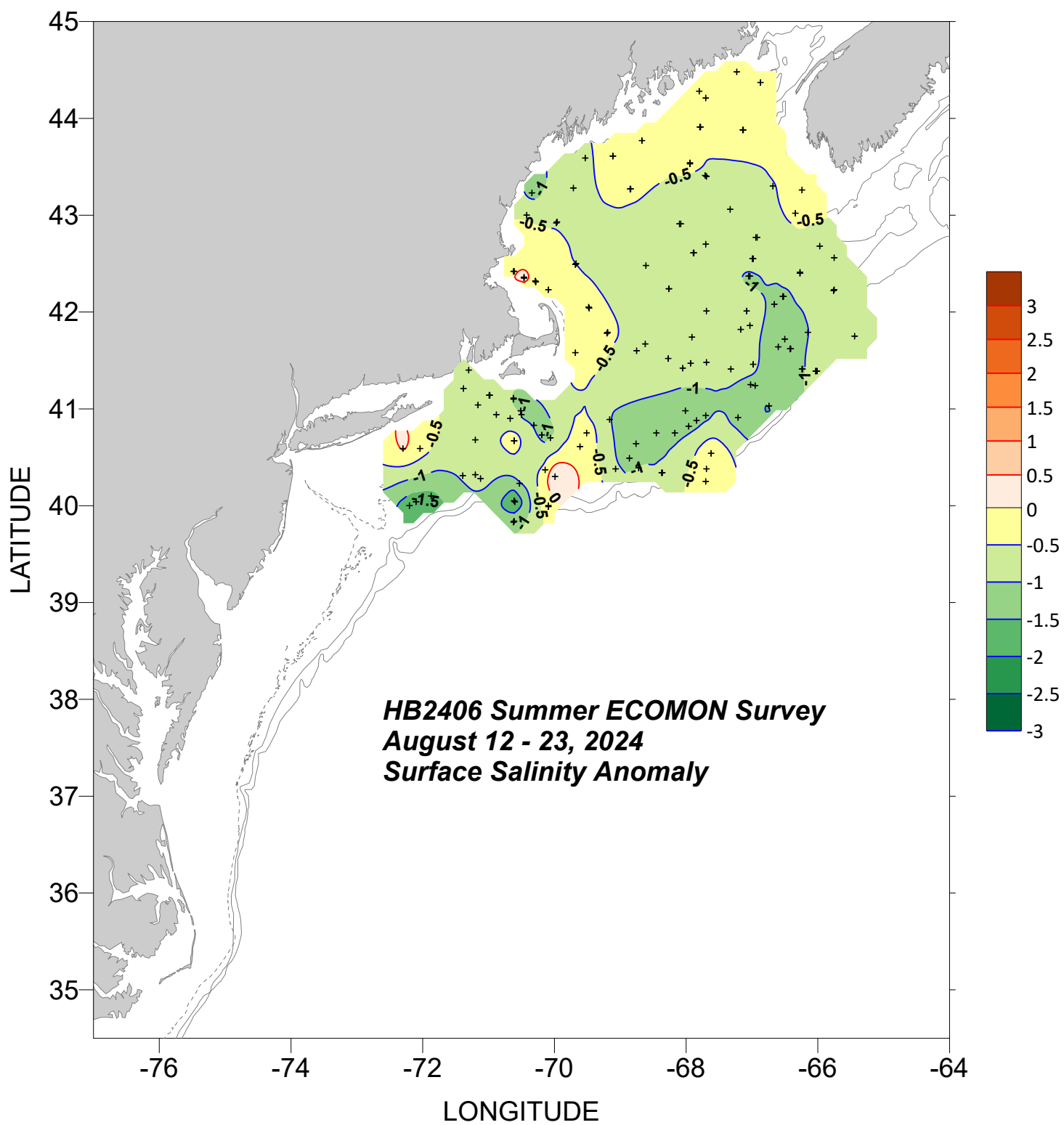
"SDV2": the standard deviation of the individual anomalies from which the average anomaly was derived;

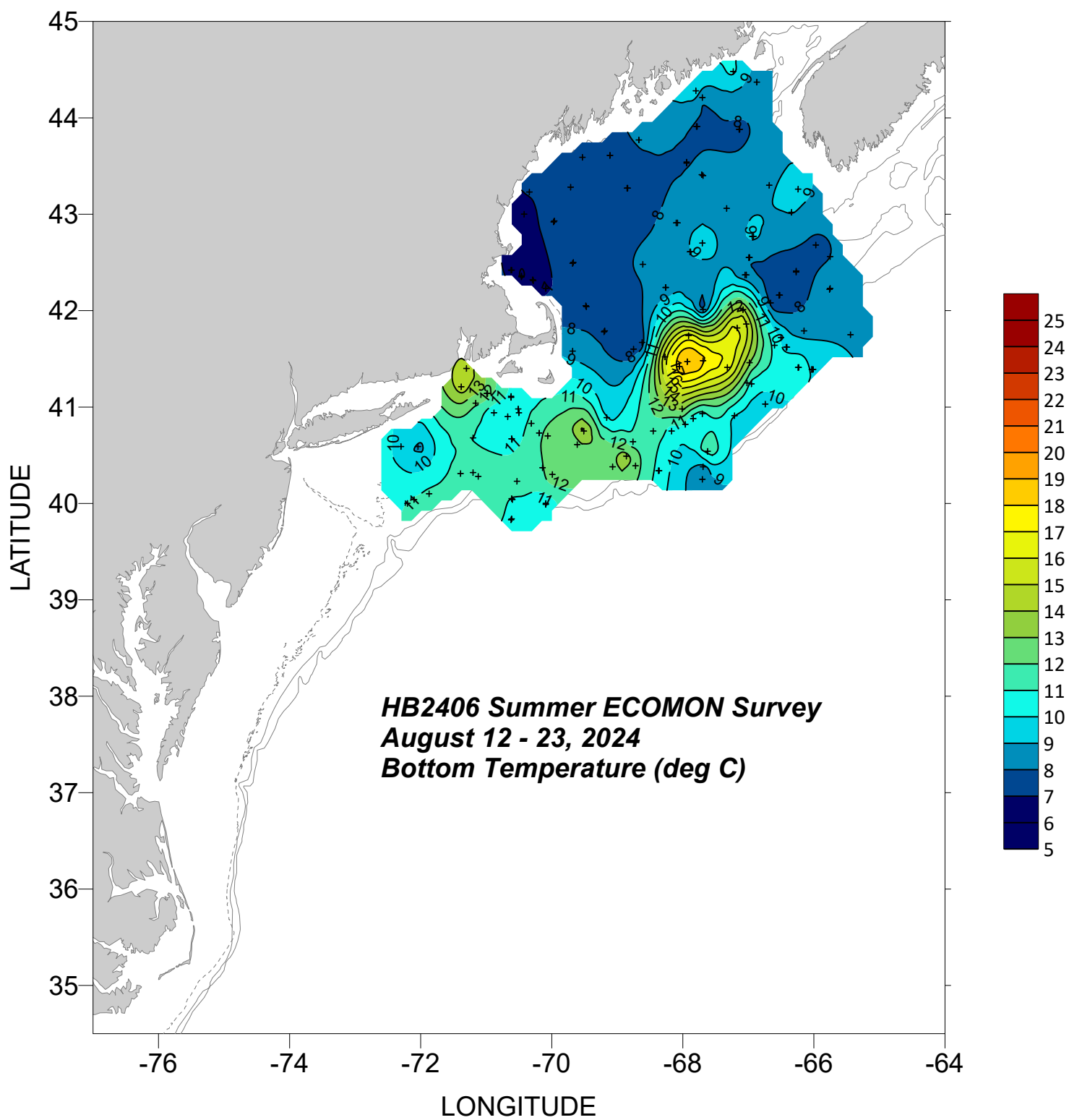
"Flag": a value of "1" indicates that a true areal average could not be calculated due to poor station coverage. The areal averages listed were derived from a simple average of the observations within the region.

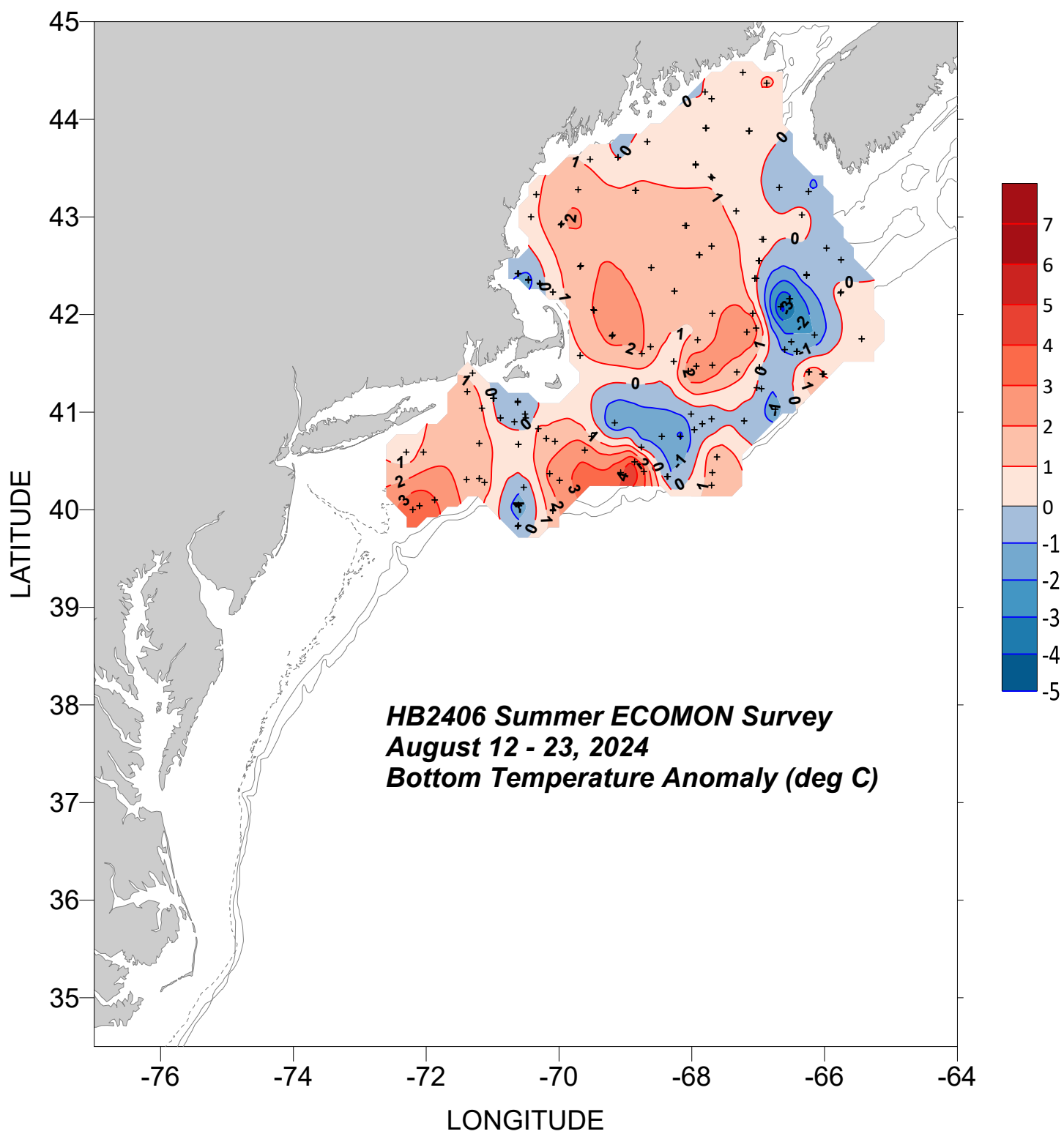


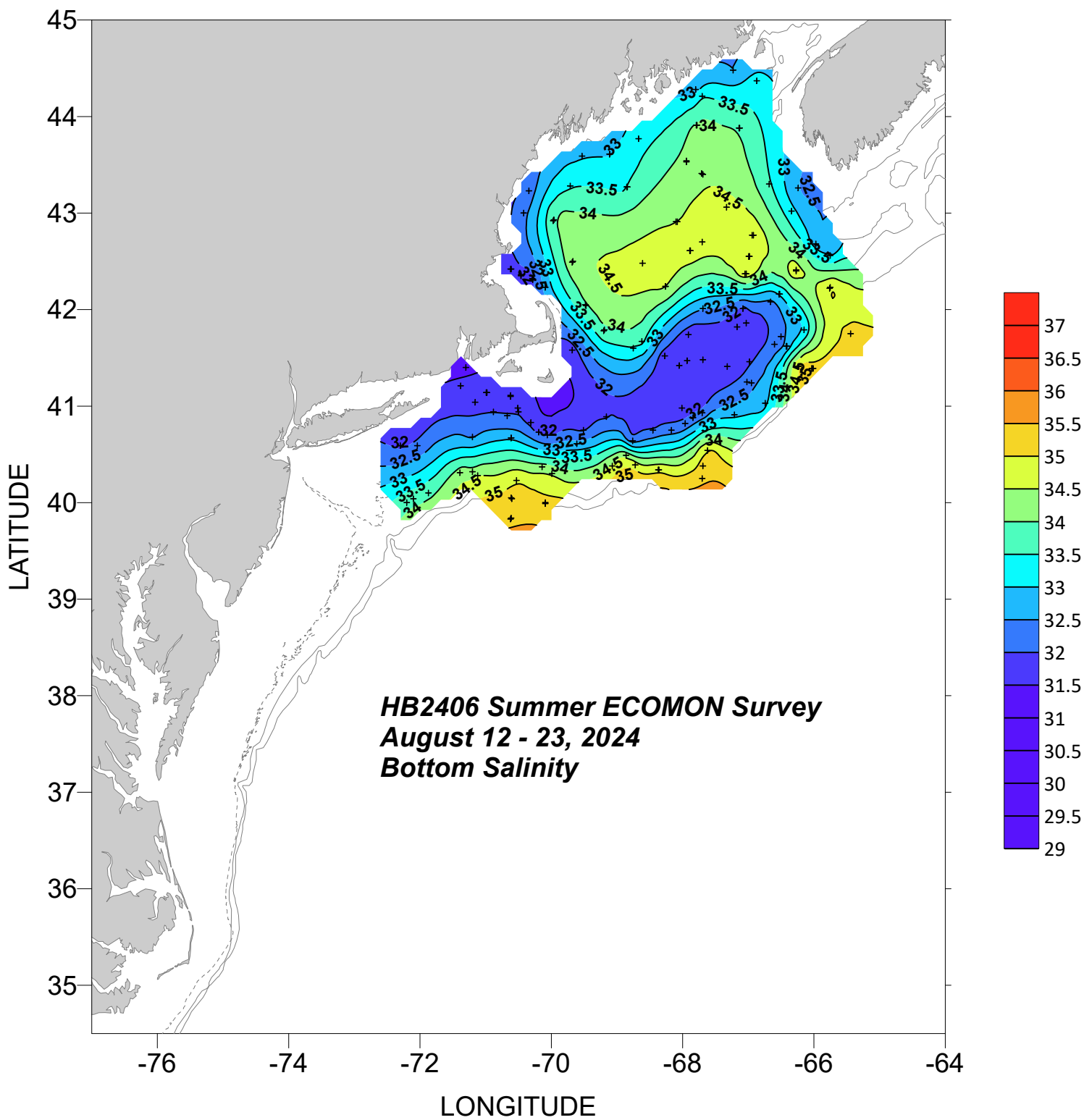


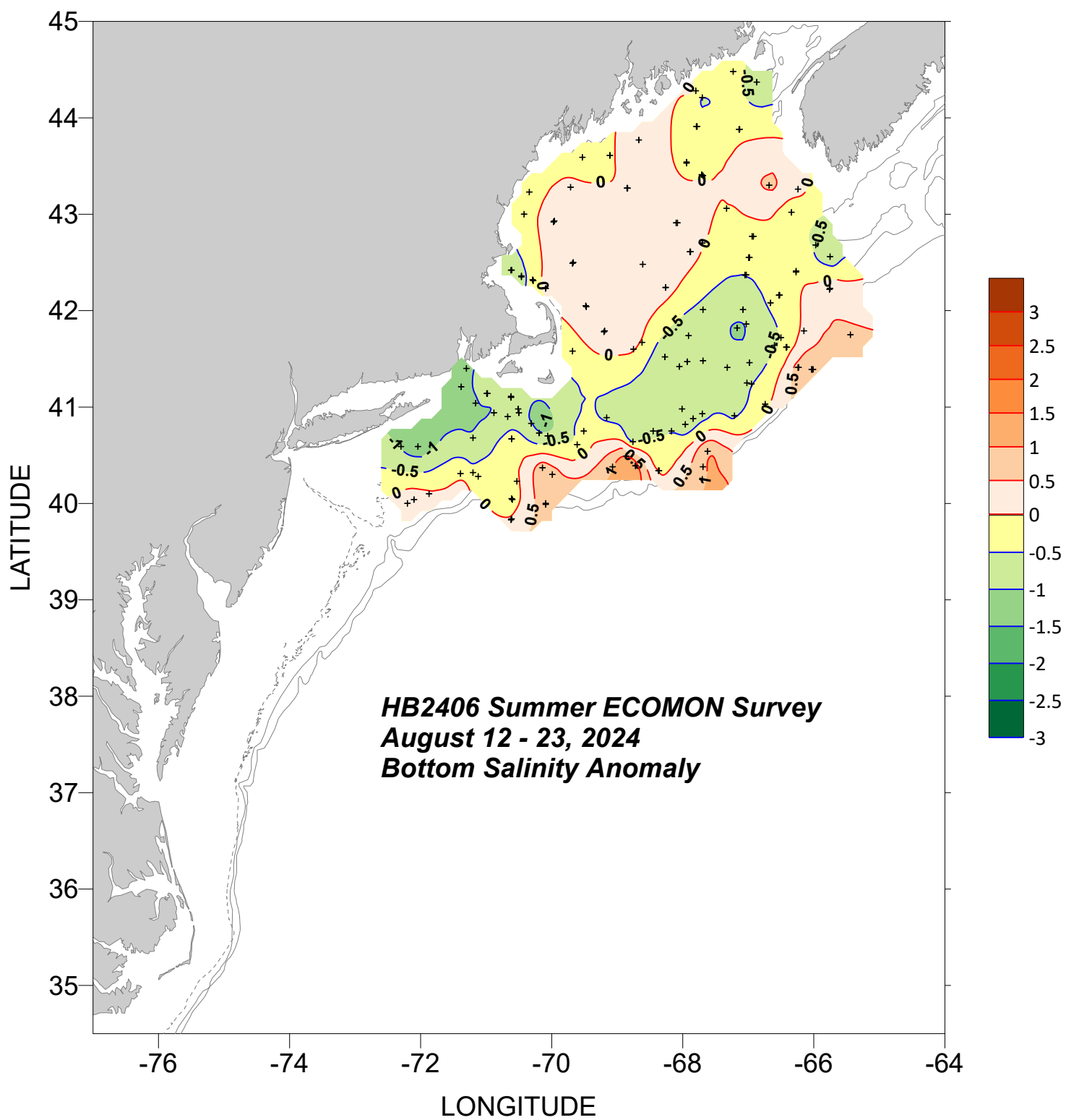












HB2406 Summer ECOMON Survey
August 12 - 23, 2024

Cast	Station	Lat	Long	Day	Mo	Year	Time	Btm	Sfc	Sfc	Deepest Observed	Deepest Observed	Meters from	Method of
#	#	(DDMM.M)	(DDMM.M)				(GMT)	Depth (m)	Temp (° C)	Salt	Temp (° C)	Salt	Bottom	Deployment
2	1	4108.1	7059.3	12	8	2024	18:18	33	21.26	31.23	12.84	31.68	5	B
3	2	4106.3	7037.4	12	8	2024	20:08	43	22.43	31.42	10.73	31.84	4	B
1	2	4106.0	7037.1	12	8	2024	20:36	43	22.46	31.44	10.81	31.86	5	W
4	3	4058.9	7030.5	12	8	2024	21:46	46	21.90	31.46	10.14	31.91	5	B
5	4	4056.5	7030.0	12	8	2024	22:10	46	22.22	31.45	9.68	31.94	4	B
6	5	4049.8	7018.4	12	8	2024	23:21	46	22.22	31.63	11.62	31.86	4	B
7	6	4043.7	7011.3	13	8	2024	0:18	44	21.46	31.54	11.80	31.87	5	B
8	7	4042.2	7003.6	13	8	2024	1:06	43	19.70	31.47	12.30	31.81	5	B
9	8	4036.6	6936.9	13	8	2024	3:13	60	22.21	32.20	12.15	32.72	4	B
10	9	4045.0	6930.6	13	8	2024	4:21	47	19.84	32.04	14.55	31.89	7	B
2	10	4053.5	6909.3	13	8	2024	6:28	68	13.39	31.68	9.51	31.95	2	W
11	11	4022.6	6904.2	13	8	2024	9:35	86	21.35	32.02	12.62	34.61	5	B
12	12	4023.6	6843.0	13	8	2024	11:33	86	20.79	31.89	12.39	34.77	7	B
13	13	4029.5	6851.4	13	8	2024	12:38	73	20.71	31.53	13.93	34.64	4	B
14	14	4038.6	6845.3	13	8	2024	13:56	63	18.82	31.57	11.17	32.07	5	B
15	15	4045.0	6826.8	13	8	2024	15:42	56	19.09	31.53	11.90	32.04	4	B
16	16	4020.1	6821.3	13	8	2024	18:14	130	21.57	32.43	10.67	34.96	4	B
17	16	4020.2	6822.1	13	8	2024	18:38	130	21.63	32.40	10.69	34.96	4	V
3	17	4014.8	6742.1	13	8	2024	21:51	1100	26.54	33.55	5.30	34.97	594	W
4	18	4022.6	6741.3	13	8	2024	23:21	334	26.34	33.87	8.28	35.12	1	W
18	19	4032.3	6737.0	14	8	2024	1:01	125	23.28	33.08	12.28	35.26	4	B
19	20	4044.8	6810.2	14	8	2024	3:51	69	18.70	31.57	10.33	32.23	6	B
20	21	4049.1	6757.8	14	8	2024	5:05	69	19.72	31.59	10.90	32.07	5	B
21	22	4058.6	6800.3	14	8	2024	6:06	53	17.57	31.59	13.26	31.85	5	B
22	23	4053.0	6750.4	14	8	2024	7:12	66	18.41	31.58	10.37	32.13	5	B
5	24	4055.7	6741.9	14	8	2024	8:13	67	18.38	31.65	10.36	32.12	6	W
23	25	4054.9	6712.8	14	8	2024	10:33	85	18.64	31.75	9.81	32.88	5	B
24	26	4101.9	6644.2	14	8	2024	12:53	79	17.96	31.58	9.64	32.77	4	B
25	27	4114.3	6656.8	14	8	2024	14:40	70	18.51	31.68	10.39	32.42	4	B

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#	#	(DDMM.M)	(DDMM.M)				(GMT)	Depth (m)	Temp (° C)	Salt	Temp (° C)	Salt	Bottom	Deployment
26	28	4114.9	6701.3	14	8	2024	15:15	68	18.43	31.67	11.56	32.20	6	B
27	29	4124.7	6719.4	14	8	2024	17:03	45	17.24	31.69	16.81	31.68	8	B
28	30	4127.5	6658.8	14	8	2024	18:53	67	17.93	31.75	13.05	31.94	3	B
29	31	4138.6	6636.0	14	8	2024	21:33	70	20.14	31.41	10.69	32.20	4	B
30	32	4143.0	6629.8	14	8	2024	22:23	76	20.30	31.39	9.85	32.38	5	B
31	33	4137.3	6624.9	14	8	2024	23:22	84	19.50	31.47	9.57	32.56	5	B
32	33	4137.3	6625.4	14	8	2024	23:39	84	19.39	31.46	9.61	32.55	4	V
33	34	4147.7	6608.9	15	8	2024	1:23	88	18.20	31.60	8.60	32.99	3	B
34	35	4124.7	6613.8	15	8	2024	3:33	215	18.88	31.62	11.23	35.32	13	B
35	35	4124.5	6614.5	15	8	2024	4:04	164	18.86	31.63	11.06	35.27	3	V
36	36	4123.6	6600.6	15	8	2024	5:14	282	20.59	32.14	12.28	35.52	82	B
37	36	4123.6	6601.6	15	8	2024	5:44	243	20.27	32.19	9.74	35.22	4	V
38	36	4123.4	6601.9	15	8	2024	6:03	237	20.07	32.19	9.96	35.25	5	W
6	37	4145.2	6526.6	15	8	2024	9:38	2000	18.63	31.86	5.48	34.96	1496	W
39	38	4213.1	6545.6	15	8	2024	12:57	228	16.43	31.67	9.31	35.17	26	B
7	38	4213.6	6545.2	15	8	2024	13:29	226	16.14	31.69	8.75	35.14	5	W
40	39	4224.6	6616.1	15	8	2024	16:26	246	17.97	31.71	8.02	34.96	43	B
41	39	4224.2	6616.1	15	8	2024	16:59	247	17.85	31.73	7.66	34.96	3	V
42	40	4233.7	6544.9	15	8	2024	19:34	93	17.11	31.35	7.98	32.91	4	B
43	41	4240.6	6558.5	15	8	2024	20:51	85	17.25	31.45	7.71	32.72	5	B
8	42	4301.5	6620.1	15	8	2024	23:19	132	13.12	32.31	9.05	33.16	3	W
44	43	4315.3	6614.5	16	8	2024	1:01	100	10.28	32.04	9.37	32.45	4	B
45	44	4318.2	6640.9	16	8	2024	4:13	102	15.91	32.06	8.88	33.57	6	B
46	45	4352.6	6707.7	16	8	2024	8:01	152	16.06	32.16	7.79	33.95	4	B
47	45	4352.8	6708.6	16	8	2024	8:29	147	15.93	32.17	7.79	33.97	5	V
48	46	4422.3	6652.0	16	8	2024	11:33	119	14.82	32.05	8.25	33.19	4	B
9	47	4429.0	6713.8	16	8	2024	14:10	80	11.59	32.15	10.24	32.51	5	W
49	48	4416.6	6748.1	16	8	2024	17:12	75	13.65	32.00	9.88	32.67	4	B

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#	#	(DDMM.M)	(DDMM.M)				(GMT)	Depth (m)	Temp (° C)	Salt	Temp (° C)	Salt	Bottom	Deployment
10	49	4412.3	6742.2	16	8	2024	18:10	165	13.52	32.28	7.99	33.51	3	W
51	50	4354.9	6746.6	16	8	2024	20:31	218	19.63	31.98	7.84	34.14	16	B
52	50	4354.8	6747.1	16	8	2024	20:57	199	18.34	31.93	7.84	34.13	3	V
53	51	4332.6	6756.1	16	8	2024	23:25	239	19.79	31.96	7.84	34.12	38	B
54	51	4332.0	6756.2	16	8	2024	23:54	253	20.24	31.93	7.85	34.13	6	V
55	52	4324.1	6741.6	17	8	2024	1:25	249	19.49	31.76	8.00	34.17	47	B
11	52	4324.6	6742.4	17	8	2024	1:55	251	19.12	31.74	8.54	34.38	2	W
56	53	4254.8	6804.6	17	8	2024	5:16	202	20.39	31.33	8.34	34.46	1	B
57	53	4254.3	6806.0	17	8	2024	6:00	207	20.38	31.31	8.37	34.48	5	V
58	54	4236.3	6752.7	17	8	2024	8:08	213	19.98	31.43	9.03	34.80	4	B
59	54	4236.7	6753.5	17	8	2024	8:35	208	19.59	31.58	9.04	34.81	6	V
12	55	4242.1	6742.2	17	8	2024	10:01	194	20.06	31.42	9.54	34.73	3	W
60	56	4303.5	6719.5	17	8	2024	12:48	202	19.33	31.70	8.36	34.61	5	B
61	57	4246.3	6655.5	17	8	2024	15:37	185	19.00	31.66	9.30	34.83	3	B
62	57	4246.0	6656.1	17	8	2024	16:03	179	19.12	31.68	9.25	34.82	2	V
63	58	4232.9	6659.0	17	8	2024	17:30	311	19.64	31.56	9.03	34.97	110	B
64	58	4233.2	6659.5	17	8	2024	17:58	311	19.59	31.60	8.06	34.96	1	V
65	58	4233.1	6659.7	17	8	2024	18:23	311	19.40	31.57	8.05	34.96	2	W
66	59	4222.0	6702.8	17	8	2024	19:53	334	20.41	31.37	8.77	34.93	132	B
13	59	4222.0	6702.0	17	8	2024	20:34	336	20.35	31.37	8.04	34.98	1	W
67	60	4209.3	6631.9	17	8	2024	23:29	141	19.89	31.36	6.97	33.02	4	B
68	60	4209.5	6631.4	17	8	2024	23:59	144	19.99	31.41	6.94	32.99	4	V
69	61	4204.9	6639.8	18	8	2024	1:08	75	18.99	31.49	7.47	32.31	5	B
70	62	4200.5	6704.6	18	8	2024	3:25	59	16.56	31.65	14.40	31.74	7	B
71	63	4151.6	6701.5	18	8	2024	4:20	62	16.04	31.68	15.23	31.72	5	B
72	64	4149.0	6710.3	18	8	2024	5:10	56	16.71	31.69	16.71	31.69	5	B
14	65	4200.6	6741.4	18	8	2024	7:55	65	17.36	31.60	7.46	32.51	4	W
73	66	4144.6	6754.5	18	8	2024	10:14	30	16.90	31.62	16.75	31.62	5	B

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#	#	(DDMM.M)	(DDMM.M)				(GMT)	Depth (m)	Temp (° C)	Salt	Temp (° C)	Salt	Bottom	Deployment
15	67	4128.6	6741.4	18	8	2024	12:44	38	18.34	31.64	18.31	31.64	4	W
74	68	4128.3	6755.9	18	8	2024	14:07	28	19.19	31.58	19.12	31.58	4	B
75	69	4125.4	6802.7	18	8	2024	14:57	43	19.27	31.55	18.92	31.54	5	B
76	70	4131.2	6816.0	18	8	2024	16:23	50	18.58	31.59	15.84	31.64	5	B
77	71	4140.1	6837.5	18	8	2024	18:28	164	19.41	31.43	7.41	33.68	4	B
78	72	4135.9	6845.0	18	8	2024	19:30	148	19.20	31.38	7.22	33.46	3	B
79	73	4147.0	6912.0	18	8	2024	21:55	192	21.09	31.30	7.79	33.93	5	B
80	73	4147.4	6911.5	18	8	2024	22:22	194	21.13	31.34	7.79	33.94	3	V
81	74	4134.6	6941.0	19	8	2024	1:09	35	16.57	31.54	8.53	31.72	5	B
82	75	4202.9	6929.1	19	8	2024	4:05	207	20.55	31.31	7.76	33.99	5	B
83	75	4202.4	6928.4	19	8	2024	4:32	207	20.32	31.33	7.78	33.98	5	V
84	76	4214.7	6815.8	19	8	2024	9:34	195	20.37	31.35	8.22	34.60	4	B
85	76	4214.1	6815.5	19	8	2024	10:00	197	20.37	31.36	8.24	34.62	4	V
86	77	4228.6	6836.4	19	8	2024	12:15	192	21.13	31.18	8.28	34.70	4	B
87	78	4316.3	6850.8	19	8	2024	17:52	136	18.13	31.88	7.37	33.37	7	B
88	78	4316.2	6850.2	19	8	2024	18:10	146	17.86	31.90	7.35	33.56	5	V
16	79	4346.3	6840.2	19	8	2024	21:29	115	14.24	32.04	8.14	33.29	2	W
89	80	4336.6	6906.5	19	8	2024	23:52	122	17.70	32.04	7.42	32.96	5	B
90	80	4336.4	6906.3	20	8	2024	0:09	121	17.38	32.07	7.44	32.95	3	V
91	81	4335.5	6931.6	20	8	2024	2:01	142	17.91	31.37	6.98	32.95	5	B
92	82	4316.6	6942.4	20	8	2024	4:10	156	20.66	31.24	7.17	33.44	4	B
93	83	4313.6	7020.6	20	8	2024	7:04	87	19.99	30.14	7.08	32.19	4	B
17	84	4259.8	7025.3	20	8	2024	8:39	102	19.95	30.72	6.55	32.33	5	W
94	85	4255.8	6957.5	20	8	2024	10:51	201	20.28	31.16	7.80	34.11	5	B
95	85	4255.5	6958.4	20	8	2024	11:19	172	20.18	31.18	7.70	33.94	5	W
96	86	4229.8	6940.0	20	8	2024	14:12	255	21.02	31.27	7.92	34.23	53	B
18	86	4229.3	6940.8	20	8	2024	14:42	263	21.03	31.32	7.94	34.33	3	W
97	87	4225.1	7036.8	20	8	2024	18:57	85	18.95	30.85	6.42	31.88	5	B

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#	#	(DDMM.M)	(DDMM.M)				(GMT)	Depth (m)	Temp (° C)	Salt	Temp (° C)	Salt	Bottom	Deployment
19	87	4225.0	7037.3	20	8	2024	19:14	82	18.83	30.87	6.41	31.89	3	W
20	88	4221.3	7027.8	20	8	2024	20:30	78	18.69	31.11	5.85	31.88	5	W
98	88	4221.2	7027.9	20	8	2024	20:49	75	18.87	31.06	5.85	31.87	4	B
99	89	4219.1	7017.1	20	8	2024	21:50	33	17.18	31.32	6.57	31.83	6	B
21	89	4218.8	7016.7	20	8	2024	22:05	32	17.19	31.31	6.62	31.85	5	W
100	90	4213.7	7005.3	20	8	2024	23:13	106	18.55	31.36	6.74	32.73	7	B
101	91	4112.3	7122.8	21	8	2024	7:20	34	21.73	30.97	14.63	31.57	7	B
102	92	4035.4	7202.3	21	8	2024	11:36	55	22.49	31.63	8.45	32.09	4	B
103	93	4035.4	7217.8	21	8	2024	12:53	50	22.06	31.63	9.80	31.89	5	B
104	94	4000.2	7212.2	21	8	2024	16:13	82	22.78	31.25	11.02	33.85	4	B
105	95	4002.4	7205.9	21	8	2024	17:01	77	22.16	31.35	11.13	33.81	4	B
106	96	4005.9	7152.4	21	8	2024	18:19	78	22.58	31.50	11.24	33.82	4	B
107	97	4018.7	7123.2	21	8	2024	20:50	82	22.45	32.16	11.41	34.28	4	B
108	98	4019.2	7111.8	21	8	2024	21:53	89	23.02	32.42	11.51	34.17	6	B
109	99	4016.8	7107.1	21	8	2024	22:34	98	22.74	32.41	11.99	34.57	4	B
111	100	4013.7	7032.0	22	8	2024	1:37	117	22.60	32.43	11.65	35.07	4	B
112	101	4002.6	7036.1	22	8	2024	3:03	150	21.19	31.79	10.81	35.09	4	B
22	101	4002.9	7036.7	22	8	2024	3:28	138	21.18	31.80	11.09	35.09	4	W
113	102	3950.7	7036.7	22	8	2024	4:52	799	24.52	32.78	10.65	35.29	597	B
23	102	3950.0	7037.4	22	8	2024	5:37	925	24.59	32.81	5.72	35.00	420	W
115	103	4000.0	7005.1	22	8	2024	8:31	176	23.29	33.24	10.19	35.11	4	B
116	104	3959.6	7005.4	22	8	2024	8:56	188	23.34	33.28	10.24	35.10	6	W
117	105	4018.0	6959.5	22	8	2024	11:00	88	23.25	33.46	12.87	34.50	4	B
118	106	4022.1	7008.7	22	8	2024	12:01	83	21.65	32.58	11.86	34.26	8	B
119	107	4040.4	7036.5	22	8	2024	14:46	62	22.00	32.49	10.49	32.92	5	B
24	107	4040.1	7036.6	22	8	2024	15:02	62	22.00	32.50	10.50	32.94	5	W
120	108	4041.1	7112.3	22	8	2024	17:59	61	21.83	31.76	10.95	32.44	5	B
121	109	4053.8	7040.0	22	8	2024	20:51	51	21.46	31.75	10.57	31.96	4	B

HB2406 Summer ECOMON Survey
August 12 - 23, 2024

Cast	Station	Lat	Long	Day	Mo	Year	Time	Btm	Sfc	Sfc	Deepest Observed	Deepest Observed	Meters from	Method of
#	#	(DDMM.M)	(DDMM.M)				(GMT)	Depth (m)	Temp (° C)	Salt	Temp (° C)	Salt	Bottom	Deployment
122	110	4056.2	7052.7	22	8	2024	21:58	53	19.54	31.62	10.11	31.97	5	B
123	111	4102.7	7109.5	22	8	2024	23:28	40	21.03	31.20	11.99	31.79	6	B
124	112	4124.0	7117.9	23	8	2024	1:56	32	20.38	31.21	14.66	31.44	5	B

Deployment codes: B=bongo cast; W=water cast; and V=vertical cast

Records in bold are collected with an SBE911+ CTD