

*Oceans and Climate Branch CTD Data Report
CTD_REPORT_2021001HB*

**For further information, contact Tamara Holzwarth-Davis
National Marine Fisheries Service, Northeast Fisheries Science
Center, Woods Hole, Massachusetts 02543-1097.**

DATE: 5 December 2022

Oceans and Climate Branch CTD Data Report

CTD_REPORT_2021001HB

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

HB 2101
Spring Bottom Trawl Survey
Data Coverage: March 16 – May 26, 2021
Mid Atlantic Bight, Georges Bank, Gulf of Maine

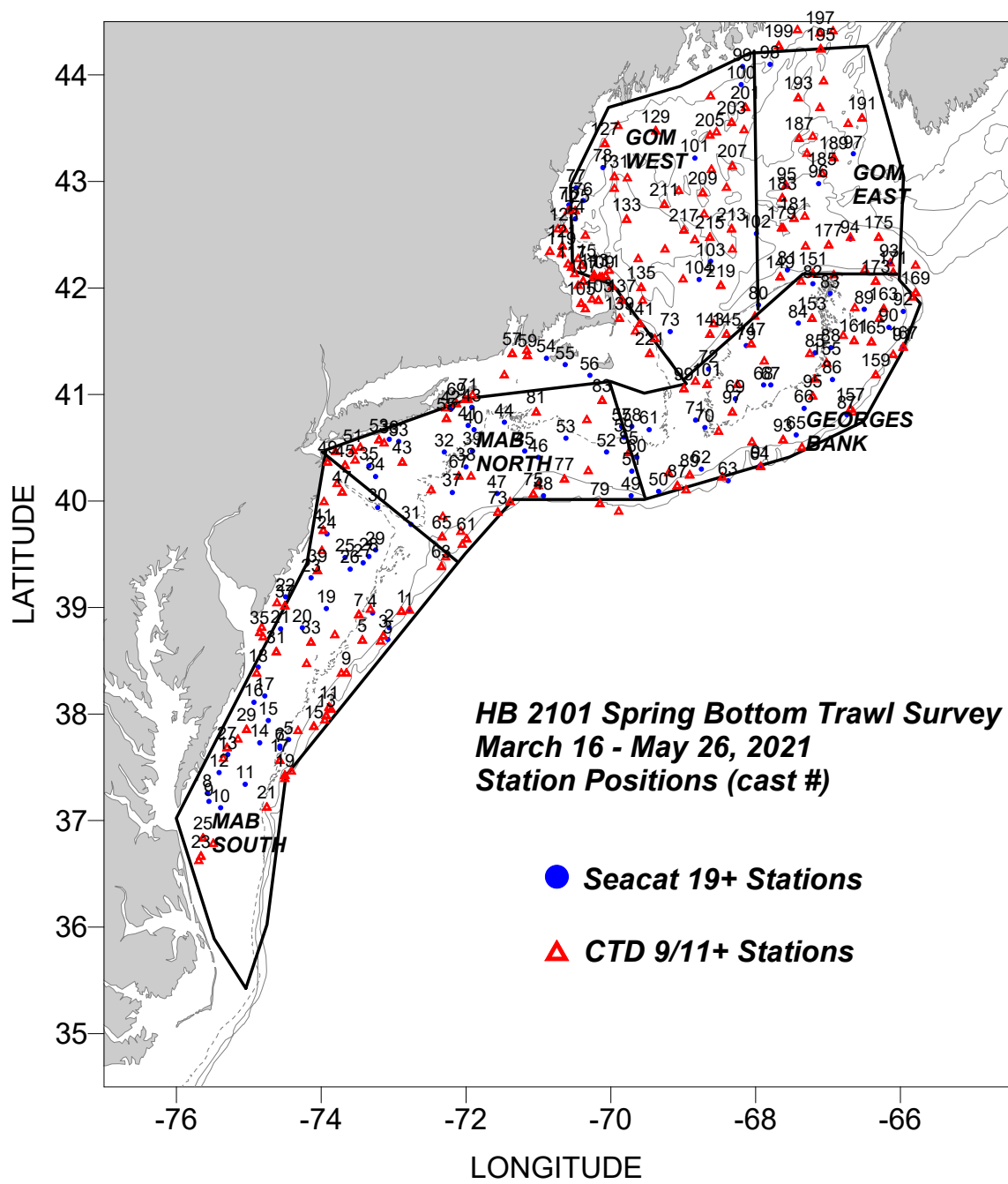
This report presents a summary of surface and bottom temperature and salinity data collected during the Northeast Fisheries Science Center's HB2101 Spring Bottom Trawl Survey aboard the NOAA FSV *Henry B Bigelow*. Data was obtained with a Sea-Bird Electronics SBE Model 19+V2 profiling CTD (s/n 6128) during double oblique bongo tows and a SBE Model 9/11+ s/n 0832 during vertical casts. Sea water samples were taken for the purpose of calibrating salinity values. An SBE43 Dissolved Oxygen sensor was attached to the SBE 9/11+. The SBE43 Dissolved Oxygen sensor was found to be malfunctioning during the first leg and was replaced on Legs 2 and 3.

The SBE19+V2 was deployed on 92 double oblique bongo casts and 12 water sampling casts. The SBE9/11+ was used successfully on 221 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: January 14, 2022



**Areal average surface and bottom temperature/salinity and temperature/salinity anomalies for the
HB2101 Spring Bottom Trawl Survey
March 16 - May 26, 2021**

		SURFACE TEMPERATURE						BOTTOM TEMPERATURE					
Region	CD	#obs	Temp (degC)	Anomaly	SDV1	SDV2	Flag	#obs	Temp (degC)	Anomaly	SDV1	SDV2	Flag
WGOM	131	55	9.28	2.13	0.15	0.82	0	58	7.25	2.01	0.13	0.72	0
EGOM	139	32	9.24	2.18	0.15	0.87	0	32	8.91	2.00	0.19	0.88	0
GB	123	56	8.22	1.48	0.19	1.03	0	58	8.48	1.65	0.18	0.80	0
MABN	99	50	7.27	1.97	0.24	0.80	0	55	8.08	1.94	0.26	1.55	0
MABS	80	72	8.39	2.16	0.22	0.82	0	69	8.57	2.18	0.24	0.90	0

		SURFACE SALINITY						BOTTOM SALINITY					
Region	CD	#obs	Salinity	Anomaly	SDV1	SDV2	Flag	#obs	Salinity	Anomaly	SDV1	SDV2	Flag
WGOM	131	55	32.46	0.14	0.06	0.29	0	58	33.45	0.07	0.04	0.27	0
EGOM	139	32	32.08	-0.31	0.08	0.38	0	32	34.37	0.36	0.06	0.37	0
GB	123	56	32.72	-0.26	0.06	0.33	0	58	33.39	0.01	0.06	0.32	0
MABN	99	50	32.69	-0.06	0.10	0.39	0	55	33.42	-0.06	0.09	0.52	0
MABS	80	72	33.46	0.55	0.14	0.54	0	69	33.71	0.14	0.09	0.38	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; MABS is the southern Mid-Atlantic Bight;

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

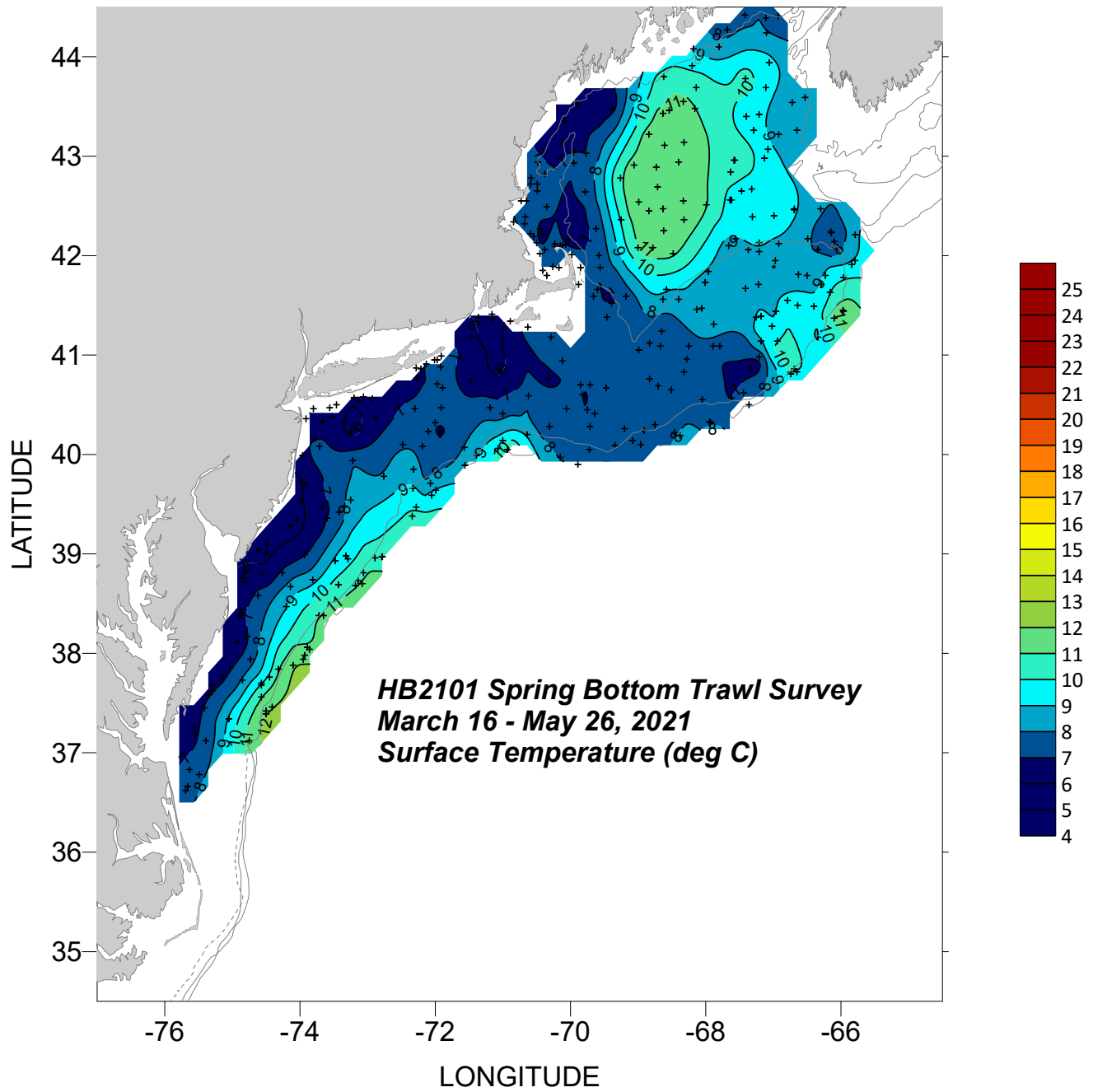
"#obs": the number of observations include in each average;

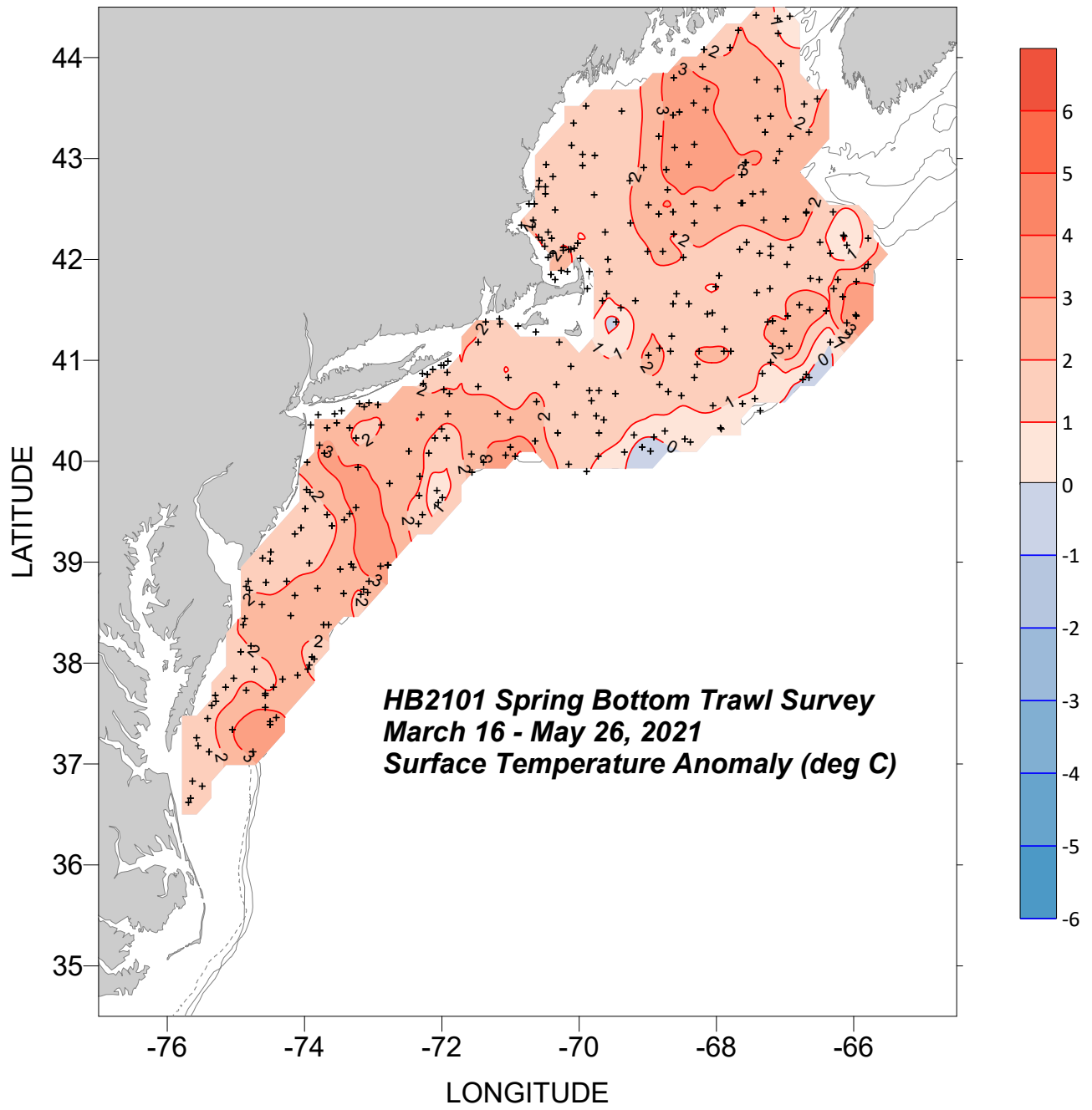
"Temp (degC)"/"Salt": the areal averaged temperature or salinity; "Anomaly": the areal averaged temp/salt anomaly;

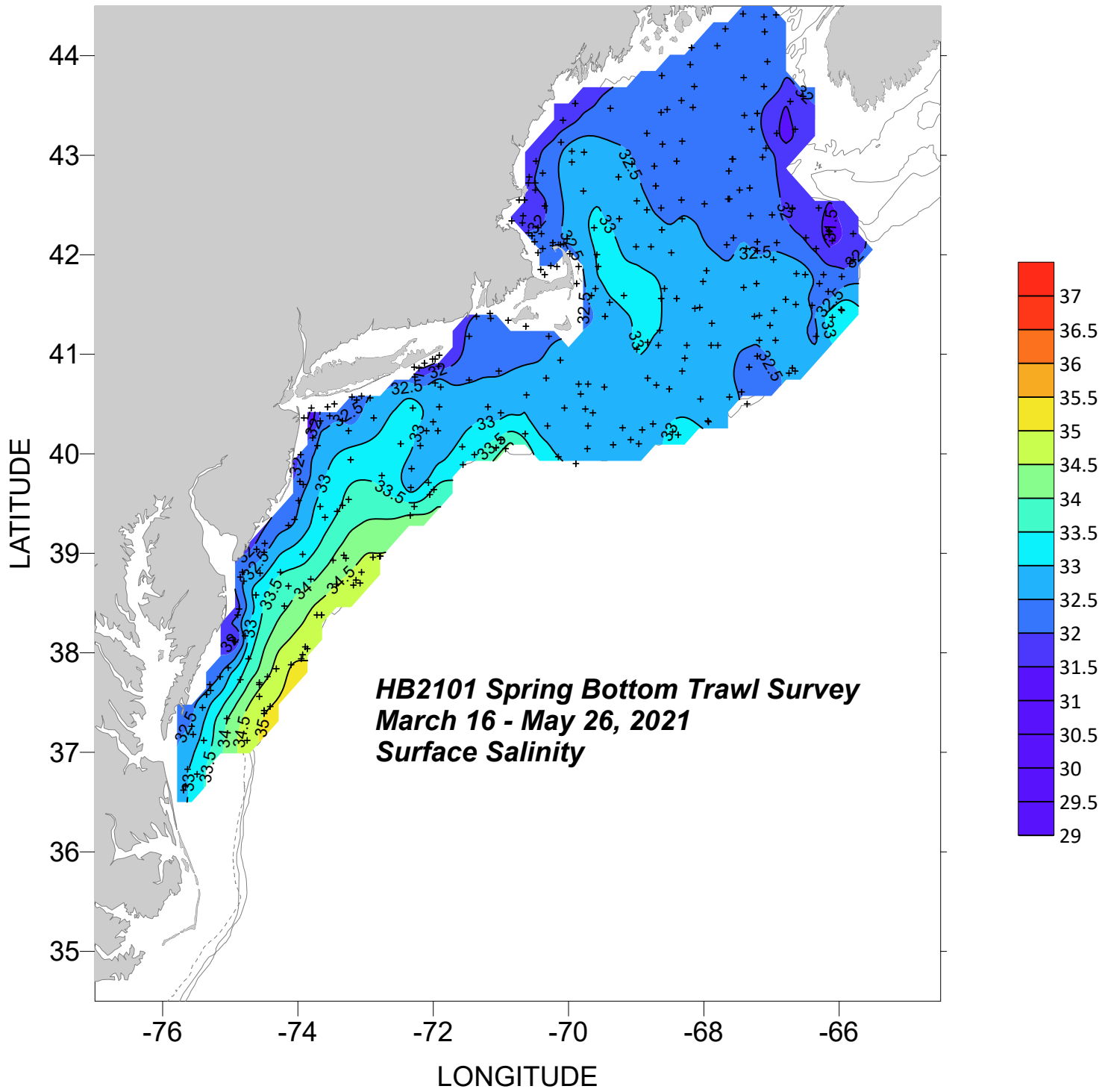
"SDV1": the standard deviation associated with the average temp/salt anomaly;

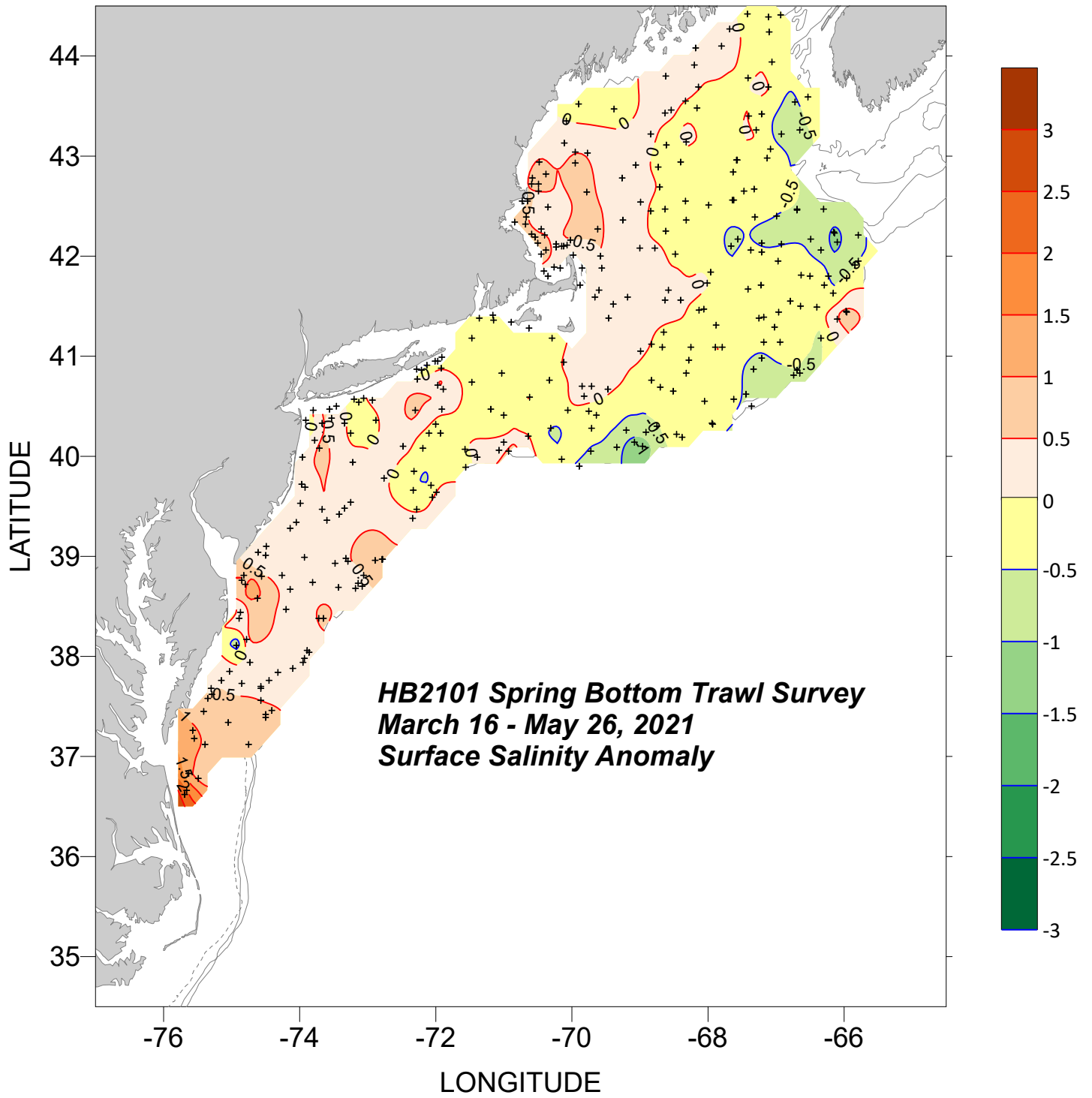
"SDV2": the standard deviation of the individual anomalies from which the average anomaly was derived;

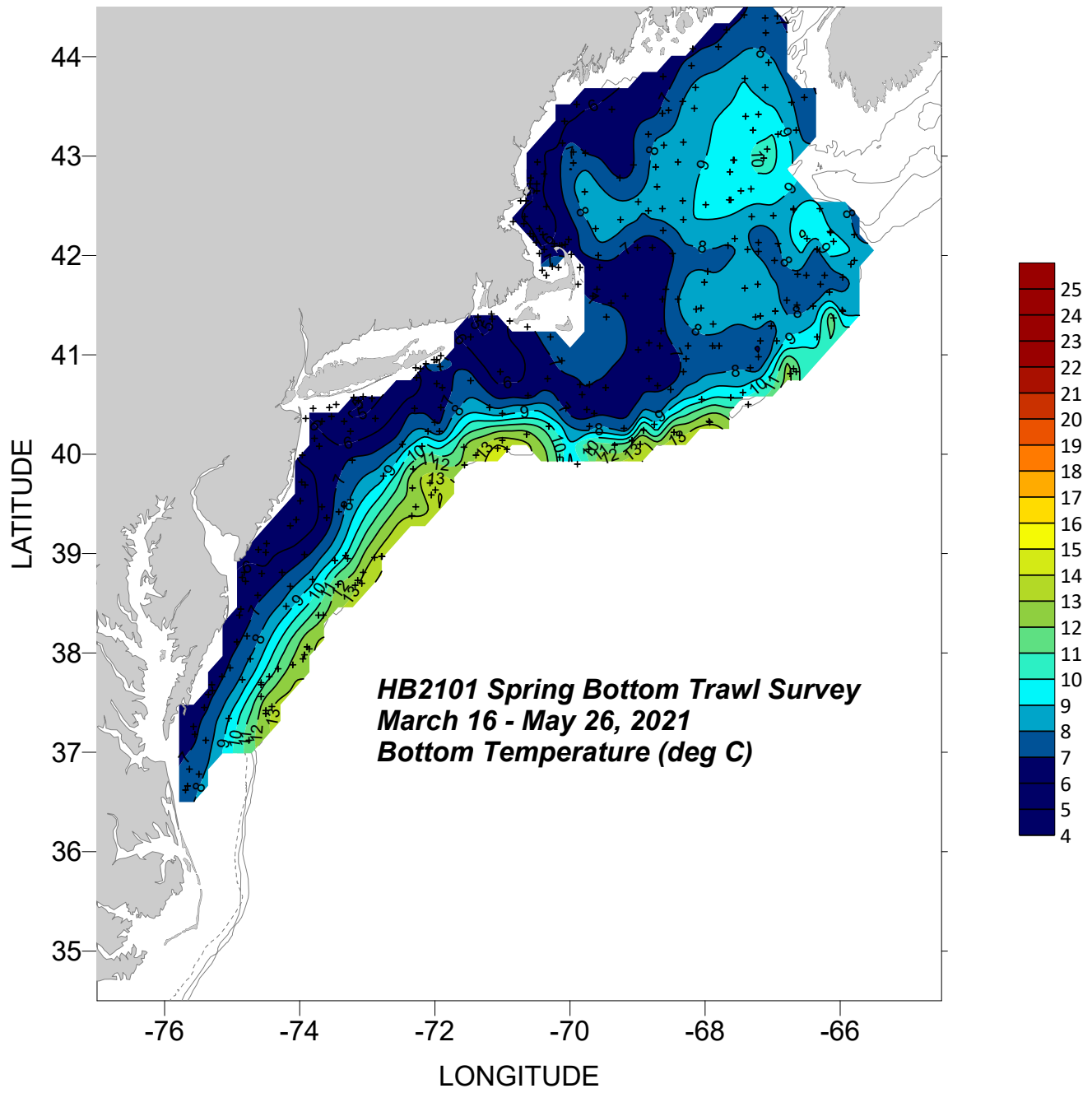
"Flag": a value of "1" indicates that a true areal average could not be calculated due to poor station coverage. The areal averages listed were derived from a simple average of the observations within the region.

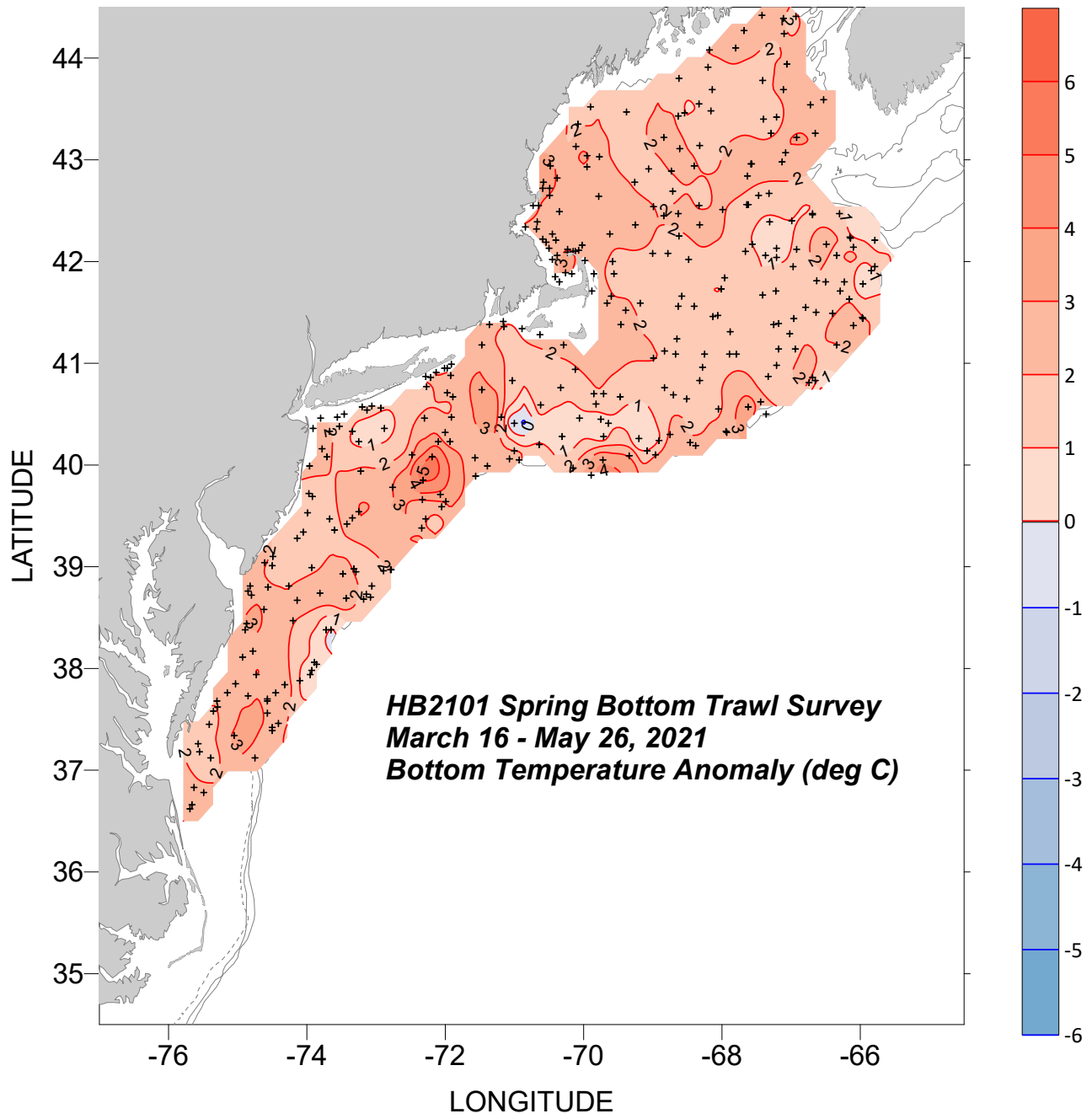


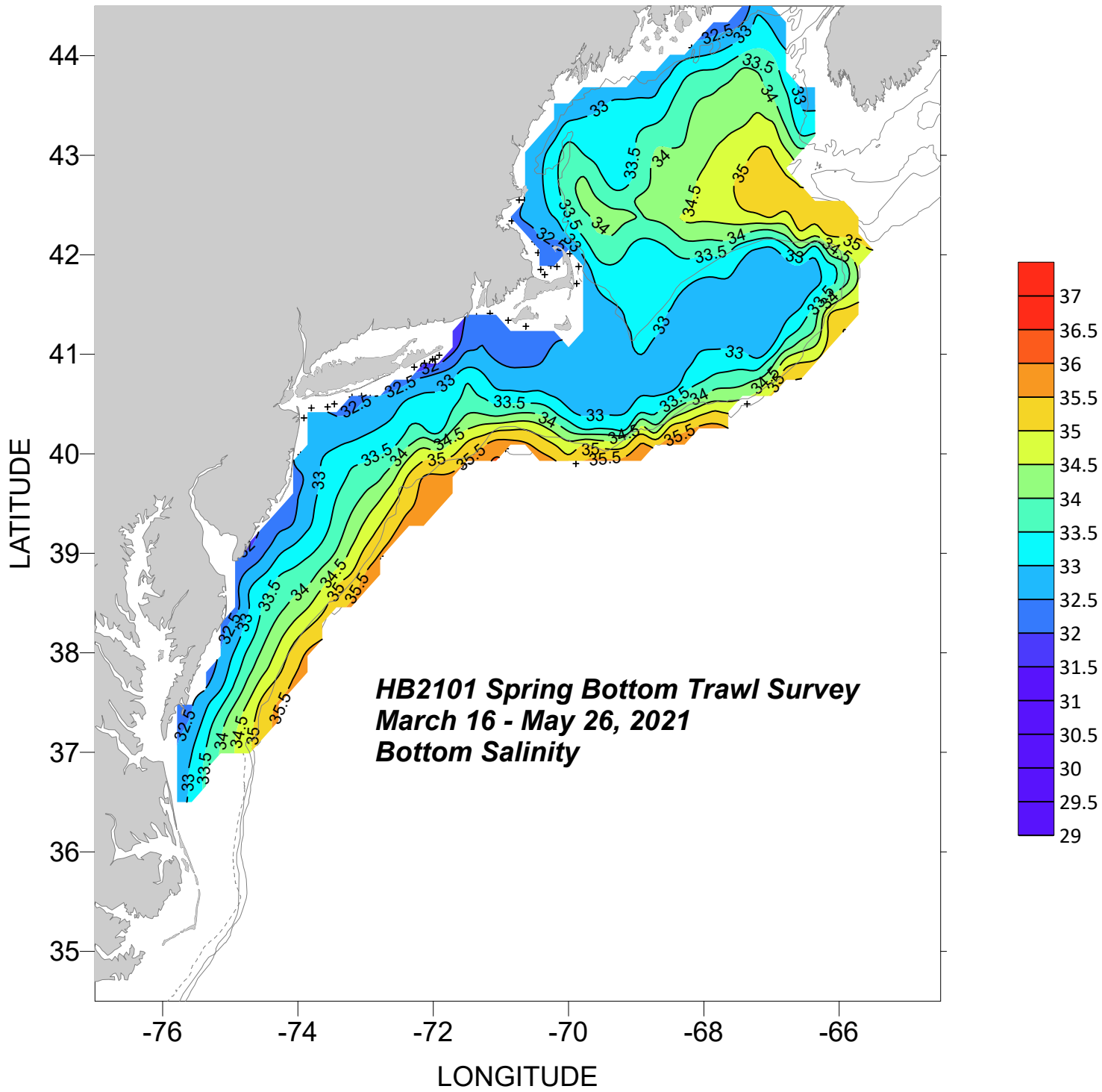


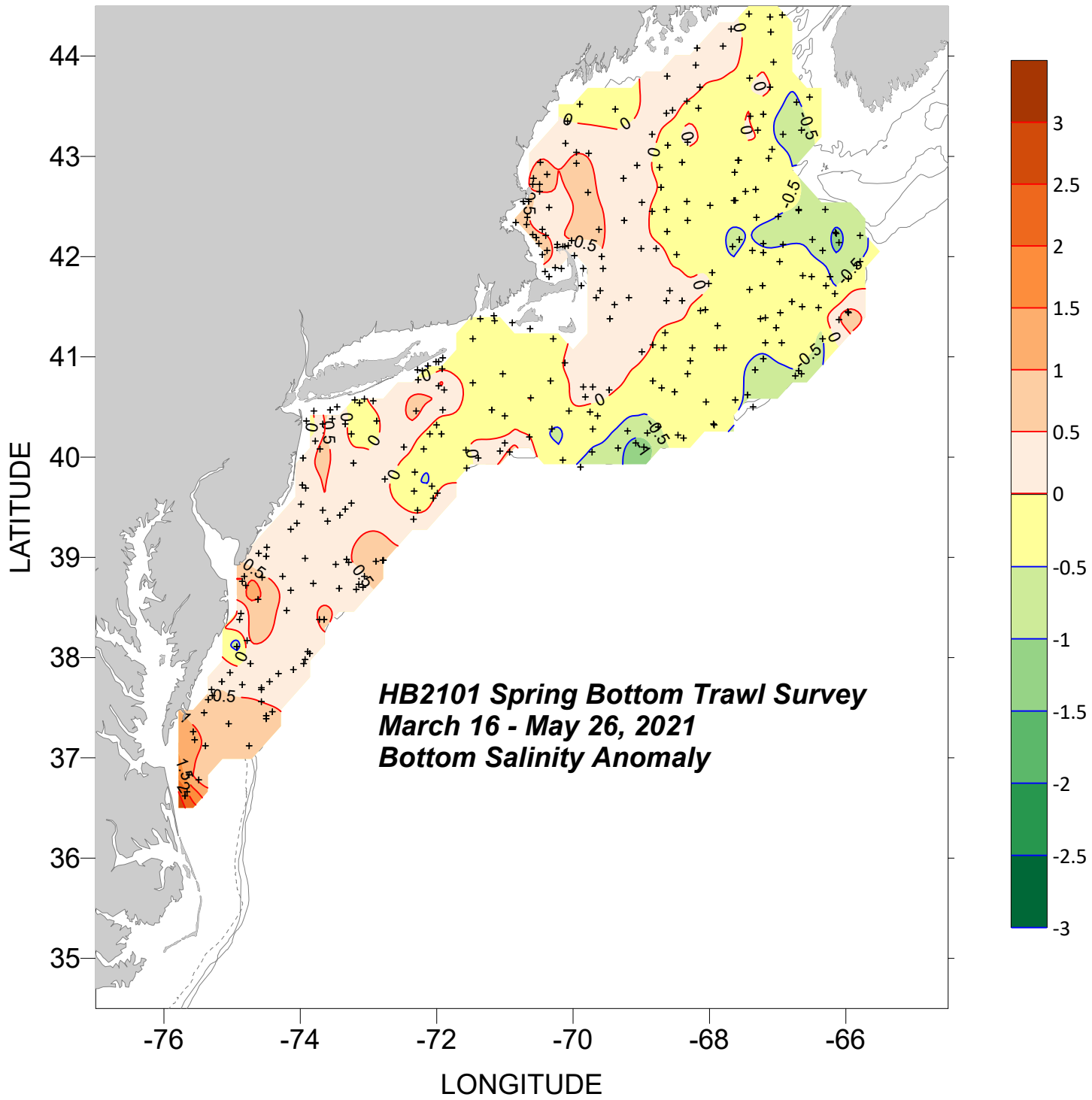












**HB2101 Spring Bottom Trawl Survey
March 16 - May 26, 2021**

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
1	1697	3857.5	7253.5	16	3	2021	12:47	112	10.86	34.67	13.31	35.44	9	V
1	1855	3857.9	7247.3	16	3	2021	15:45	537	10.39	34.54	12.25	35.55	312	B
2	1855	3858.2	7246.9	16	3	2021	16:22	799	10.40	34.50	12.24	35.53	569	W
2	1579	3848.7	7303.4	16	3	2021	19:31	100	10.64	34.61	11.39	34.82	16	W
3	1746	3841.9	7304.9	16	3	2021	21:45	199	11.69	34.96	13.37	35.61	7	B
3	1750	3843.6	7308.5	16	3	2021	23:51	127	NaN	NaN	12.72	35.26	6	W
4	1575	3841.1	7310.8	17	3	2021	1:43	130	10.86	34.67	12.57	35.20	6	V
5	1796	3841.6	7325.7	17	3	2021	3:44	77	10.43	34.54	12.29	35.10	5	V
4	1748	3856.9	7317.1	17	3	2021	6:16	70	9.72	34.27	10.50	34.52	1	B
6	1883	3858.5	7319.1	17	3	2021	7:59	68	9.73	34.25	9.86	34.30	7	V
7	1622	3855.9	7328.8	17	3	2021	9:58	58	9.19	34.03	9.23	34.05	6	V
8	1815	3844.4	7348.7	17	3	2021	12:50	48	8.62	33.86	8.61	33.86	5	V
9	1722	3822.6	7339.1	17	3	2021	16:19	115	11.12	34.74	11.92	35.00	6	V
10	1651	3822.6	7343.4	17	3	2021	18:45	99	11.22	34.79	11.40	34.84	6	W
11	1886	3803.5	7353.3	17	3	2021	22:23	139	10.94	34.65	13.16	35.46	7	W
12	1726	3802.6	7351.8	18	3	2021	0:15	222	10.96	34.66	12.53	35.55	22	V
13	1566	3758.8	7355.7	18	3	2021	1:56	211	11.83	34.99	12.86	35.56	1	V
14	1721	3756.3	7356.8	18	3	2021	4:02	305	12.19	35.13	11.38	35.43	2	V
15	1877	3752.9	7406.1	18	3	2021	6:09	161	11.91	35.01	12.83	35.32	7	V
16	1587	3750.7	7419.4	18	3	2021	8:08	66	11.04	34.72	11.09	34.74	6	V
5	1638	3745.3	7427.1	18	3	2021	9:52	60	9.76	34.30	11.17	34.80	10	B
6	1580	3741.9	7434.1	18	3	2021	11:46	57	10.26	34.47	10.30	34.49	6	W
7	1876	3740.6	7434.3	18	3	2021	13:25	55	10.30	34.48	10.70	34.61	5	B
17	1545	3733.5	7434.3	18	3	2021	14:56	65	11.35	34.81	11.63	34.92	5	V
18	1710	3727.8	7424.5	18	3	2021	16:52	185	11.89	34.96	13.24	35.52	4	W
19	1621	3725.2	7430.2	18	3	2021	19:09	144	11.84	34.93	12.74	35.27	6	V
20	1793	3723.3	7430.2	18	3	2021	20:54	116	12.08	35.03	12.78	35.29	6	V

**HB2101 Spring Bottom Trawl Survey
March 16 - May 26, 2021**

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
21	1868	3706.9	7444.9	19	3	2021	0:10	96	11.54	34.83	11.60	34.89	5	V
22	1716	3637.3	7541.4	21	3	2021	2:21	18	7.51	32.76	7.51	32.76	4	W
23	1765	3639.7	7539.7	21	3	2021	3:39	20	7.53	32.85	7.54	32.85	3	V
24	2108	3646.7	7529.7	21	3	2021	5:38	22	7.61	33.37	7.63	33.39	5	V
25	1841	3649.9	7537.7	21	3	2021	7:22	23	7.28	32.92	7.30	32.92	3	V
8	1568	3715.3	7534.2	21	3	2021	11:15	21	6.75	32.51	6.76	32.56	5	B
9	1846	3711.1	7533.0	21	3	2021	13:19	22	6.87	32.79	6.85	32.80	7	W
10	1749	3707.4	7523.2	21	3	2021	15:23	30	7.17	33.08	7.37	33.37	7	B
11	1687	3720.7	7503.1	21	3	2021	18:01	36	9.21	34.06	9.03	34.08	8	B
12	1887	3726.8	7524.3	21	3	2021	20:46	25	7.04	32.84	6.85	32.87	5	B
26	1542	3734.5	7521.2	21	3	2021	22:50	25	6.97	32.56	6.73	32.73	5	W
13	1875	3737.1	7517.6	21	3	2021	23:59	25	6.83	32.56	6.60	32.59	6	B
27	1755	3741.0	7517.7	22	3	2021	1:10	21	6.80	32.41	6.74	32.44	5	V
28	1604	3745.5	7508.8	22	3	2021	3:17	27	6.62	32.42	6.88	32.68	5	V
29	1862	3750.9	7501.9	22	3	2021	4:47	26	7.31	33.03	7.20	33.03	4	V
14	1578	3743.5	7450.9	22	3	2021	6:37	32	7.77	33.39	8.02	33.64	8	B
15	1763	3756.6	7443.8	22	3	2021	8:35	33	7.50	33.48	8.07	33.74	5	B
16	1723	3806.5	7455.8	22	3	2021	10:53	22	6.23	31.29	6.89	32.86	5	W
17	1795	3810.0	7446.9	22	3	2021	13:22	31	6.89	32.97	6.97	33.13	5	B
30	1794	3822.6	7453.5	22	3	2021	15:47	22	6.81	32.51	6.58	32.68	3	W
18	1596	3826.6	7452.1	22	3	2021	17:42	18	6.69	31.41	6.30	32.24	3	B
31	1725	3834.5	7437.4	22	3	2021	19:52	29	7.36	33.40	6.91	33.41	2	V
32	1759	3828.2	7412.3	22	3	2021	22:29	50	8.95	33.88	8.36	33.91	3	V
33	1806	3840.4	7408.6	23	3	2021	0:23	48	8.59	33.80	7.83	33.77	4	V
19	1772	3859.3	7355.7	23	3	2021	3:05	40	6.83	33.29	6.73	33.39	6	B
20	1605	3848.8	7415.8	23	3	2021	5:44	45	7.15	33.51	6.82	33.50	5	B
21	1691	3847.9	7433.9	23	3	2021	8:16	20	5.99	32.76	5.97	32.83	6	B

HB2101 Spring Bottom Trawl Survey
March 16 - May 26, 2021

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
34	1614	3843.4	7448.0	23	3	2021	11:43	20	6.40	32.78	6.40	32.79	4	V
35	1767	3845.7	7451.1	23	3	2021	13:00	17	6.23	32.45	6.22	32.45	6	V
36	1588	3848.5	7449.0	23	3	2021	14:03	18	6.27	32.43	6.26	32.43	5	V
37	1648	3900.3	7430.1	23	3	2021	16:41	24	5.80	32.45	5.76	32.46	3	W
38	1658	3902.6	7436.5	23	3	2021	18:10	19	5.84	31.97	5.80	31.95	3	V
22	1623	3906.1	7429.4	23	3	2021	19:34	22	5.73	32.29	5.71	32.31	5	B
23	1845	3916.7	7408.4	23	3	2021	22:11	22	5.72	32.53	5.30	32.52	1	B
39	1850	3920.5	7402.7	23	3	2021	23:46	24	5.45	32.31	4.85	32.34	3	V
40	1789	3931.7	7359.5	24	3	2021	1:46	24	6.02	32.58	5.45	32.63	3	V
41	1540	3943.1	7358.3	24	3	2021	3:37	23	5.51	32.10	5.52	32.15	6	V
24	1787	3941.6	7355.1	24	3	2021	4:59	26	6.08	32.28	5.50	32.47	5	B
25	1812	3928.1	7340.0	24	3	2021	7:27	33	6.77	33.21	6.24	33.19	5	B
26	1847	3921.7	7335.8	24	3	2021	9:07	42	6.91	33.32	6.25	33.26	6	B
27	1553	3925.3	7325.1	24	3	2021	10:46	36	7.28	33.43	7.47	33.61	6	W
28	1882	3929.1	7320.7	24	3	2021	12:17	38	8.73	33.77	8.14	33.78	6	B
29	1667	3932.7	7315.2	24	3	2021	14:24	38	8.24	33.58	8.04	33.72	5	B
30	1799	3956.6	7313.1	24	3	2021	17:12	78	7.94	33.35	7.23	33.42	7	B
31	1616	3946.6	7245.4	24	3	2021	20:14	67	8.05	33.36	8.74	33.93	8	B
42	1698	4005.8	7228.8	24	3	2021	23:07	60	7.97	33.37	7.56	33.45	3	W
32	1627	4027.3	7218.0	25	3	2021	1:57	59	7.71	33.29	7.14	33.35	6	B
43	1594	4021.5	7252.8	25	3	2021	5:42	45	6.45	32.69	5.38	32.80	4	V
33	1777	4033.5	7256.0	25	3	2021	7:43	33	5.96	32.56	4.75	32.51	5	B
34	1817	4013.9	7314.8	25	3	2021	11:40	40	5.34	32.53	5.22	32.73	5	W
35	1718	4019.6	7320.1	25	3	2021	13:00	35	5.91	32.50	4.84	32.55	4	B
44	1786	4022.5	7331.8	25	3	2021	14:36	27	6.80	32.31	5.42	32.53	3	V
45	1737	4020.0	7340.0	25	3	2021	15:57	25	6.66	32.34	5.86	32.58	2	W
46	1735	4009.9	7346.8	25	3	2021	18:09	31	6.76	32.53	6.42	32.74	5	V

HB2101 Spring Bottom Trawl Survey
March 16 - May 26, 2021

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
47	1880	4004.9	7342.6	25	3	2021	19:54	35	7.24	32.54	6.21	32.94	5	V
48	1788	3959.6	7357.9	25	3	2021	22:20	22	7.16	32.13	6.30	32.83	3	V
49	1576	4021.5	7354.6	26	3	2021	1:54	20	6.77	29.93	5.87	32.51	2	V
50	1582	4027.3	7347.8	26	3	2021	3:34	29	7.24	31.52	5.98	32.72	6	V
51	1728	4028.4	7333.6	26	3	2021	5:42	24	6.51	32.35	5.45	32.42	4	V
52	1661	4030.1	7327.7	26	3	2021	6:50	22	6.08	32.34	5.34	32.33	4	V
53	1867	4034.3	7312.0	26	3	2021	8:42	26	6.22	32.17	5.45	32.33	5	V
54	1613	4032.7	7307.7	26	3	2021	9:51	28	6.13	32.14	4.58	32.35	5	W
36	1678	4034.7	7303.9	26	3	2021	10:59	27	6.46	32.41	5.08	32.45	6	B
55	1560	4046.1	7216.0	26	3	2021	16:03	39	5.91	32.38	4.88	32.52	5	V
56	1634	4052.4	7216.9	26	3	2021	17:54	23	6.09	31.46	5.66	31.58	4	V
57	1628	4123.0	7121.6	27	3	2021	8:39	33	5.28	32.06	4.69	32.41	4	W
58	1683	4124.7	7109.5	27	3	2021	10:37	24	4.78	32.08	4.77	32.08	5	V
59	1700	4121.5	7109.2	27	3	2021	13:29	33	4.71	32.12	4.44	32.14	5	V
60	1797	3942.4	7204.4	11	4	2021	7:00	129	7.63	32.97	14.04	35.79	5	V
61	1833	3938.3	7159.3	11	4	2021	9:12	255	9.34	33.73	14.19	35.83	1	V
62	1800	3935.4	7202.7	11	4	2021	10:55	242	NaN	NaN	13.61	35.70	1	V
63	1655	3922.7	7220.7	11	4	2021	15:43	148	10.29	34.16	13.66	35.66	3	W
64	2151	3927.9	7217.0	11	4	2021	19:53	325	10.79	NaN	10.79	35.38	6	V
65	1853	3939.5	7219.9	11	4	2021	22:49	113	9.00	32.68	12.89	35.36	6	V
66	1881	3950.9	7219.1	12	4	2021	0:53	82	8.77	32.84	12.02	35.03	7	V
37	1640	4004.5	7211.6	12	4	2021	3:31	75	7.31	32.75	10.45	34.53	4	B
67	1859	4013.7	7205.9	12	4	2021	5:42	64	NaN	NaN	8.00	33.50	4	V
68	1694	4013.6	7155.8	12	4	2021	7:49	68	6.74	32.66	7.26	33.25	7	V
38	1636	4018.9	7159.9	12	4	2021	9:39	63	7.33	32.69	6.85	33.15	6	B
39	1778	4028.0	7154.8	12	4	2021	11:34	67	7.59	32.81	6.60	33.07	6	B
40	1729	4040.1	7153.4	12	4	2021	13:36	55	7.35	32.74	6.27	32.92	4	B

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March 16 - May 26, 2021

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
41	1837	4042.3	7158.2	12	4	2021	15:14	48	7.51	32.73	6.53	33.04	5	B
42	1873	4051.4	7212.4	12	4	2021	17:28	32	7.15	31.18	7.60	32.29	3	B
69	1719	4054.9	7207.7	12	4	2021	19:01	26	NaN	NaN	6.99	31.43	4	W
70	1589	4057.0	7200.3	12	4	2021	20:31	27	7.00	31.26	6.98	31.19	4	V
71	1677	4056.7	7158.3	12	4	2021	21:59	29	7.11	31.15	7.03	31.22	5	V
72	1660	4059.7	7154.3	12	4	2021	23:15	21	7.27	30.97	7.27	30.98	2	V
43	1819	4052.8	7155.0	13	4	2021	0:59	36	7.22	31.89	7.31	32.38	4	B
44	1832	4044.2	7128.2	13	4	2021	4:13	65	6.48	32.47	7.52	33.55	5	B
45	1779	4028.0	7111.5	13	4	2021	7:44	78	7.70	32.84	7.88	33.56	4	W
46	1703	4024.6	7059.9	13	4	2021	9:51	85	7.42	32.75	8.29	33.67	6	B
47	1744	4004.2	7134.0	13	4	2021	14:23	90	8.05	33.11	12.28	35.10	6	B
73	1617	3953.5	7133.5	13	4	2021	16:42	284	8.46	33.23	11.58	35.48	1	W
74	1730	3959.7	7123.7	13	4	2021	19:01	138	NaN	NaN	13.57	35.59	1	V
75	1705	4003.8	7104.1	13	4	2021	22:23	200	NaN	NaN	14.17	35.84	1	V
76	1760	4008.2	7059.9	14	4	2021	0:08	146	9.41	33.53	14.24	35.82	1	V
48	1541	4003.1	7055.9	14	4	2021	2:17	190	11.37	34.47	14.30	35.90	6	B
77	1564	4012.0	7038.2	14	4	2021	5:58	121	NaN	NaN	12.63	35.27	1	V
78	1554	4016.7	7018.8	14	4	2021	8:40	95	7.03	32.62	10.66	34.49	1	V
79	1537	3957.9	7009.2	14	4	2021	13:01	287	NaN	NaN	10.92	35.39	2	V
80	1535	3954.2	6953.6	14	4	2021	16:19	497	NaN	NaN	7.18	35.09	8	W
49	1874	4002.9	6943.3	14	4	2021	19:10	121	7.05	32.59	13.75	35.72	8	B
50	1567	4005.4	6920.2	14	4	2021	22:42	96	7.11	32.58	11.34	34.80	5	B
51	1830	4016.7	6942.8	15	4	2021	1:49	79	7.47	32.86	6.46	32.91	5	B
52	1827	4027.7	7003.4	15	4	2021	5:08	71	7.54	32.90	6.45	32.91	3	W
53	1593	4035.4	7037.4	15	4	2021	9:31	65	7.85	32.89	6.56	33.05	5	B
81	1664	4049.8	7101.8	15	4	2021	13:21	58	5.62	32.45	5.25	32.55	5	W
82	1572	4111.0	7128.2	15	4	2021	18:27	58	6.92	32.17	6.56	32.22	25	V

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March 16 - May 26, 2021

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
54	1590	4120.1	7053.5	17	4	2021	16:40	29	7.02	32.07	6.74	32.11	5	B
55	1747	4116.9	7037.6	17	4	2021	19:58	25	7.21	32.14	6.82	32.15	4	W
56	1598	4110.8	7017.6	17	4	2021	23:00	30	7.53	32.43	7.50	32.43	5	B
83	1820	4056.5	7007.0	18	4	2021	2:04	23	7.32	32.70	7.32	32.70	3	V
84	1704	4045.5	7019.5	18	4	2021	4:50	49	6.66	32.57	6.46	32.63	4	W
57	1866	4042.2	6950.9	18	4	2021	8:35	49	7.05	32.77	7.01	32.79	5	B
58	1769	4041.8	6942.8	18	4	2021	10:34	50	7.00	32.91	6.99	32.95	5	W
59	1885	4036.0	6949.1	18	4	2021	12:24	60	7.00	32.94	6.97	32.94	6	B
85	1536	4026.8	6945.1	18	4	2021	14:46	74	6.88	32.82	6.62	32.82	4	V
60	1734	4024.7	6938.3	18	4	2021	16:12	67	7.00	32.79	6.64	32.79	2	B
61	1878	4040.1	6928.2	18	4	2021	18:40	51	7.50	32.99	6.92	33.01	3	B
86	1807	4015.4	6912.2	18	4	2021	22:01	93	7.14	32.59	6.29	32.89	2	V
87	1848	4008.4	6904.9	19	4	2021	0:48	139	7.18	32.65	11.89	34.98	5	W
88	1816	4005.9	6857.8	19	4	2021	2:56	160	7.36	32.77	13.27	35.56	3	V
89	1736	4014.2	6854.9	19	4	2021	5:01	115	7.05	32.64	11.69	34.90	4	V
62	1768	4017.8	6844.9	19	4	2021	7:14	100	7.03	32.70	8.31	33.62	9	B
90	1821	4012.9	6827.9	19	4	2021	10:08	184	NaN	NaN	13.11	35.57	4	V
63	1753	4011.2	6822.8	19	4	2021	13:54	204	8.31	33.27	13.11	35.63	7	B
91	1601	4019.0	6756.0	19	4	2021	18:11	186	8.16	32.93	13.27	35.60	4	W
64	1781	4019.6	6756.5	19	4	2021	20:05	157	7.45	32.99	13.63	35.68	6	B
92	1592	4033.3	6803.2	19	4	2021	22:49	97	7.81	32.64	9.50	34.01	2	V
93	1863	4034.0	6737.4	20	4	2021	1:59	107	6.94	32.66	9.93	34.30	4	V
94	1842	4030.1	6721.3	20	4	2021	4:23	146	7.60	32.42	11.20	34.79	5	V
65	1828	4037.3	6726.4	20	4	2021	6:31	98	7.41	32.44	9.30	34.16	5	B
66	1591	4052.0	6719.6	20	4	2021	9:07	86	6.65	32.16	7.96	33.51	7	B
95	1570	4058.5	6712.9	20	4	2021	11:38	77	6.54	32.13	6.13	32.68	4	V
67	1782	4105.3	6747.1	20	4	2021	15:13	52	7.19	32.95	6.98	32.93	6	B

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Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
68	1547	4105.6	6753.3	20	4	2021	16:36	47	7.34	32.91	7.00	32.95	4	B
96	1813	4105.1	6815.0	20	4	2021	18:45	44	7.60	32.92	7.30	32.92	4	W
69	1724	4057.3	6816.5	20	4	2021	23:42	56	7.20	32.91	7.17	32.92	3	B
97	1982	4049.9	6819.4	21	4	2021	1:58	54	7.11	32.86	7.08	32.85	4	V
98	1608	4038.9	6830.8	21	4	2021	4:03	64	6.97	32.73	6.91	32.74	4	V
70	1569	4041.3	6842.1	21	4	2021	6:42	66	7.20	32.80	6.73	32.83	5	B
71	1871	4045.6	6849.9	21	4	2021	9:14	70	6.98	32.81	6.79	32.82	4	B
99	1670	4103.0	6859.4	21	4	2021	13:50	85	7.36	33.04	6.87	33.08	9	V
100	1811	4107.2	6849.5	21	4	2021	16:15	75	7.62	33.08	6.68	33.07	3	W
101	1790	4105.5	6840.2	21	4	2021	18:30	65	7.03	32.90	6.80	32.91	3	V
72	1624	4114.2	6838.8	21	4	2021	20:48	65	7.06	32.99	6.82	33.01	7	B
73	1609	4135.5	6910.6	22	4	2021	1:42	167	7.36	33.07	6.29	33.24	1	W
102	1635	4147.8	7021.1	23	4	2021	10:44	24	7.44	32.08	7.44	32.08	4	V
103	1559	4152.6	7010.4	23	4	2021	13:09	21	7.78	32.03	7.78	32.03	5	V
104	1738	4153.7	7015.4	23	4	2021	14:23	33	7.24	32.17	7.19	32.18	7	V
105	1607	4150.9	7024.7	23	4	2021	16:26	27	7.38	32.10	7.28	32.10	2	W
106	1641	4201.0	7027.0	23	4	2021	19:17	45	7.27	32.07	6.50	32.27	4	V
107	1696	4203.7	7023.0	23	4	2021	21:05	56	7.28	32.14	5.95	32.43	4	V
108	1654	4205.7	7013.8	23	4	2021	23:42	64	7.71	32.03	6.47	32.34	5	V
109	1671	4206.1	7008.9	24	4	2021	1:27	37	7.43	32.12	6.87	32.26	5	V
110	1999	4205.9	7007.2	24	4	2021	2:56	37	7.37	32.13	6.96	32.25	4	V
111	1685	4206.5	7004.2	24	4	2021	4:48	47	7.16	32.15	6.26	32.57	6	V
112	1711	4209.5	7000.9	24	4	2021	6:56	119	6.39	32.77	6.08	32.94	5	V
113	1620	4207.3	7013.6	24	4	2021	9:03	56	7.80	31.98	6.19	32.38	4	V
114	1851	4207.8	7030.2	24	4	2021	11:48	42	6.78	32.10	6.05	32.44	3	V
115	1829	4212.9	7023.8	24	4	2021	14:13	67	6.69	32.13	5.59	32.52	5	W
116	1835	4216.5	7026.9	24	4	2021	16:06	82	6.85	31.89	4.88	32.73	2	V

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March 16 - May 26, 2021**

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
117	1682	4211.2	7032.5	24	4	2021	19:56	46	7.05	32.01	5.82	32.53	5	V
118	1574	4213.2	7035.6	24	4	2021	21:50	35	7.56	32.03	6.70	32.14	4	V
119	1702	4219.1	7040.7	24	4	2021	23:24	47	8.31	31.83	6.28	32.38	4	V
120	1642	4220.3	7050.7	25	4	2021	2:55	24	8.23	31.93	6.70	32.20	4	V
121	1801	4223.1	7040.5	25	4	2021	4:40	68	7.23	31.88	5.67	32.68	5	V
122	1741	4233.2	7043.7	25	4	2021	6:42	31	7.54	31.76	6.44	32.32	4	V
123	1775	4233.0	7038.8	25	4	2021	8:30	51	7.19	31.99	6.13	32.53	4	V
124	1707	4229.1	7021.1	25	4	2021	11:52	157	7.24	31.84	5.84	32.91	4	V
74	1884	4239.1	7029.6	25	4	2021	15:04	56	7.39	31.84	6.02	32.79	5	B
125	2260	4243.1	7029.6	25	4	2021	17:11	86	7.24	32.23	5.94	32.82	7	W
126	1740	4243.3	7035.3	25	4	2021	18:43	65	6.87	31.81	5.92	32.78	3	V
75	1666	4246.7	7034.9	25	4	2021	20:43	91	7.62	31.71	5.80	32.83	5	B
76	1783	4249.0	7022.9	25	4	2021	22:56	133	7.15	32.10	5.54	32.95	4	B
77	1839	4256.5	7028.8	26	4	2021	1:07	99	7.05	31.99	6.11	32.83	3	W
78	1713	4307.6	7006.6	26	4	2021	3:58	147	6.72	32.19	5.79	33.08	5	B
127	1558	4321.1	7004.5	26	4	2021	6:58	151	6.64	31.69	5.84	32.94	4	V
128	1548	4331.0	6953.8	26	4	2021	10:46	111	6.42	31.67	5.77	32.71	4	W
129	1672	4328.2	6922.9	26	4	2021	16:40	146	6.51	32.15	6.19	33.10	2	V
130	1803	4301.8	6946.1	26	4	2021	20:49	164	7.03	32.86	6.87	33.40	4	V
131	1602	4302.1	6956.8	26	4	2021	23:33	208	7.07	32.86	8.37	34.04	2	V
132	1557	4255.8	6957.0	27	4	2021	1:58	220	7.11	32.93	8.40	34.05	2	V
133	1652	4238.2	6946.9	27	4	2021	5:39	239	7.11	32.97	8.72	34.25	4	W
134	1611	4216.1	6937.2	27	4	2021	10:00	239	7.18	33.08	8.45	34.05	5	V
135	1708	4159.9	6934.7	27	4	2021	15:23	214	7.25	33.08	7.51	33.67	2	V
136	1840	4152.8	6933.4	27	4	2021	17:52	196	7.42	33.05	6.44	33.31	7	V
137	1650	4152.9	6951.1	27	4	2021	21:01	59	7.43	32.32	6.61	32.55	3	V
138	1858	4200.7	6959.0	28	4	2021	0:02	32	7.33	32.27	6.93	32.33	3	V

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Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
139	1802	4142.3	6952.7	28	4	2021	3:46	22	7.39	32.23	7.09	32.31	4	V
140	1810	4135.7	6939.6	28	4	2021	6:32	47	7.01	32.55	6.76	32.85	4	V
141	1834	4139.6	6936.1	28	4	2021	10:18	87	6.82	32.93	6.27	33.01	3	W
142	1632	4131.1	6923.5	28	4	2021	13:13	69	6.79	32.95	6.78	32.98	3	V
143	1619	4133.8	6837.5	13	5	2021	11:03	134	8.96	33.01	6.48	33.19	8	V
144	1633	4139.7	6834.8	13	5	2021	13:50	167	8.89	33.01	6.83	33.39	6	V
145	1657	4133.8	6823.8	13	5	2021	18:22	50	8.40	32.89	8.34	32.89	3	V
79	1573	4127.5	6807.8	13	5	2021	22:50	47	8.92	32.88	8.84	32.88	1	B
146	1774	4118.7	6753.0	14	5	2021	0:26	38	8.97	32.85	8.97	32.85	9	V
147	1646	4128.3	6803.4	14	5	2021	2:40	38	8.94	32.86	8.95	32.86	4	W
148	1727	4143.8	6800.7	14	5	2021	6:19	32	8.50	32.91	8.52	32.91	4	V
80	1743	4150.4	6757.7	14	5	2021	10:11	57	8.87	32.92	7.65	33.01	7	B
149	1581	4205.8	6739.8	14	5	2021	13:14	172	8.46	32.09	7.76	33.83	7	V
81	1552	4210.0	6733.8	14	5	2021	16:08	186	8.98	32.06	8.32	34.16	6	B
150	1849	4203.8	6722.4	14	5	2021	19:41	51	8.71	32.85	8.23	32.89	8	W
151	1844	4208.0	6712.5	14	5	2021	22:36	81	9.15	32.00	6.99	33.18	8	V
82	1538	4202.7	6712.9	15	5	2021	0:47	48	8.80	32.45	8.00	32.95	5	B
152	1701	4207.2	6655.2	15	5	2021	3:08	66	8.71	32.36	7.72	32.99	4	V
83	1551	4156.9	6658.1	15	5	2021	5:35	62	7.77	32.71	7.74	32.70	3	B
153	1860	4142.9	6713.2	15	5	2021	8:24	58	8.49	32.85	8.47	32.85	3	V
84	1717	4140.5	6724.8	15	5	2021	11:38	41	8.65	32.89	8.63	32.90	8	B
154	1597	4122.7	6715.1	15	5	2021	16:00	50	8.82	32.85	8.56	32.85	4	V
85	1784	4123.5	6710.8	15	5	2021	17:31	51	9.40	32.88	8.43	32.88	7	B
155	1852	4117.1	6700.9	15	5	2021	19:22	66	8.70	32.67	7.92	32.70	4	W
156	1843	4108.6	6711.0	15	5	2021	21:30	63	9.76	32.71	7.60	32.67	5	V
86	1577	4108.1	6656.2	15	5	2021	23:36	69	10.80	32.80	7.84	32.81	4	B
157	1826	4051.5	6641.5	16	5	2021	2:42	125	10.76	33.09	13.33	35.49	3	V

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Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
87	1649	4048.4	6644.5	16	5	2021	4:29	171	10.06	32.62	13.18	35.59	3	B
158	1770	4050.0	6638.9	16	5	2021	7:14	245	9.90	32.71	10.21	35.31	3	V
159	1776	4110.6	6620.6	16	5	2021	10:37	119	8.55	32.32	9.60	34.12	2	V
88	1546	4126.3	6657.4	16	5	2021	14:37	65	9.01	32.86	8.14	32.85	3	B
160	1699	4132.8	6647.6	16	5	2021	17:22	72	9.29	32.75	7.85	32.75	3	W
161	1709	4130.1	6638.6	16	5	2021	19:17	78	9.85	32.71	7.53	32.76	4	V
162	1693	4148.7	6637.8	16	5	2021	21:49	70	8.39	32.70	7.87	32.72	4	V
89	1809	4148.1	6630.1	16	5	2021	23:44	75	8.20	32.71	7.58	32.72	4	B
163	1864	4148.3	6614.0	17	5	2021	2:52	85	9.81	32.41	7.27	32.89	6	V
164	1756	4142.9	6617.4	17	5	2021	4:53	85	8.96	32.39	7.31	32.90	2	V
90	1739	4137.6	6609.9	17	5	2021	6:56	97	9.79	32.06	7.93	33.59	4	B
165	1773	4129.3	6624.2	17	5	2021	9:33	94	9.24	32.35	7.87	33.39	3	V
166	1674	4122.0	6605.8	17	5	2021	12:22	162	11.46	33.48	12.29	35.43	3	W
91	1644	4126.9	6558.3	17	5	2021	14:04	306	11.54	33.50	12.63	35.58	108	B
167	1644	4126.6	6557.8	17	5	2021	14:32	330	11.54	33.47	8.45	35.15	1	W
92	1659	4146.7	6557.8	17	5	2021	17:39	102	9.99	32.13	7.72	33.52	4	B
168	1571	4154.6	6550.3	17	5	2021	19:59	139	9.12	31.94	8.37	33.88	4	V
169	1556	4157.1	6547.5	17	5	2021	22:12	203	9.02	31.90	9.39	34.72	4	V
170	1585	4212.4	6547.6	18	5	2021	1:41	225	8.95	31.81	7.56	35.07	2	V
171	1618	4208.5	6606.0	18	5	2021	4:38	209	6.44	31.18	11.15	35.20	1	V
93	1732	4214.2	6609.0	18	5	2021	8:30	250	7.39	31.36	10.17	35.23	48	B
172	1732	4213.8	6608.2	18	5	2021	8:54	250	NaN	NaN	8.80	35.16	1	V
173	1669	4203.8	6620.5	18	5	2021	10:44	84	NaN	NaN	7.53	33.08	3	V
174	1761	4210.3	6629.5	18	5	2021	13:05	190	NaN	NaN	10.96	35.23	3	V
175	1543	4228.4	6617.7	18	5	2021	16:41	245	NaN	NaN	9.08	35.18	3	W
176	1681	4228.3	6641.7	18	5	2021	20:07	311	9.28	31.83	8.65	35.14	1	V
94	1681	4227.9	6641.6	18	5	2021	20:31	322	9.16	31.73	9.36	35.22	125	B

**HB2101 Spring Bottom Trawl Survey
March 16 - May 26, 2021**

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (deg C)	Sfc Salt	Deepest Observed Temp (deg C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
177	1766	4223.8	6659.5	19	5	2021	0:12	355	10.03	32.22	8.75	35.16	2	V
178	1680	4223.2	6718.4	19	5	2021	3:39	343	9.88	32.27	8.64	35.15	1	V
179	1870	4233.5	6738.1	19	5	2021	7:08	200	9.62	32.33	9.47	34.79	1	V
180	1583	4233.6	6737.1	19	5	2021	9:50	202	9.58	32.30	9.55	34.89	1	V
181	1688	4239.1	6728.0	19	5	2021	13:20	217	9.64	32.28	9.39	35.13	2	V
182	1814	4240.3	6719.4	19	5	2021	16:42	227	9.69	32.28	9.40	35.19	2	V
183	1838	4250.7	6737.5	19	5	2021	19:43	225	10.30	32.23	9.52	34.87	1	V
95	1805	4257.6	6734.0	19	5	2021	22:02	213	10.86	32.30	9.45	34.76	12	B
184	1805	4257.8	6734.9	19	5	2021	22:30	212	10.27	32.25	9.39	34.70	2	W
96	1684	4259.0	6707.6	20	5	2021	2:10	198	9.68	32.34	10.68	35.21	3	B
185	1771	4304.4	6704.7	20	5	2021	4:31	189	9.49	32.30	10.39	35.02	1	V
186	1606	4315.9	6717.1	20	5	2021	8:14	212	9.63	32.41	9.40	34.60	1	V
187	1857	4324.1	6724.1	20	5	2021	9:40	205	9.27	32.27	9.11	34.36	1	V
188	1733	4325.5	6712.8	20	5	2021	12:34	198	9.37	32.07	9.40	34.56	1	V
189	1584	4313.3	6655.4	20	5	2021	17:22	180	8.20	31.22	9.95	34.73	3	V
97	1751	4315.4	6638.9	20	5	2021	21:38	108	7.91	31.56	7.94	33.30	4	B
190	1612	4332.3	6643.5	21	5	2021	0:45	120	8.02	31.45	8.16	33.52	6	V
191	1647	4335.3	6631.7	21	5	2021	2:54	100	8.72	32.14	7.16	32.69	3	V
192	1689	4341.5	6706.4	21	5	2021	6:43	138	9.52	32.50	8.54	33.96	3	W
193	1662	4346.9	6724.7	21	5	2021	9:23	210	10.56	32.22	9.14	34.32	3	V
194	1824	4356.6	6703.7	21	5	2021	12:56	167	9.46	32.31	8.30	33.81	1	V
195	1544	4414.1	6705.8	21	5	2021	17:21	107	7.86	32.23	7.42	33.10	4	W
196	1690	4424.9	6655.6	21	5	2021	18:41	106	7.22	32.01	6.78	32.40	3	V
197	1603	4423.1	6706.4	21	5	2021	21:45	140	8.21	32.18	8.00	33.54	3	V
198	1631	4425.5	6725.2	22	5	2021	0:33	75	7.61	32.00	6.93	32.18	3	V
199	1792	4416.5	6740.6	22	5	2021	2:41	104	7.64	32.09	6.95	32.38	4	V
98	1742	4406.2	6747.9	22	5	2021	5:35	100	8.21	32.12	7.05	32.77	7	B

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99	1745	4404.8	6810.7	22	5	2021	9:08	85	8.75	32.07	6.76	32.52	2	B
100	1831	4354.5	6812.0	22	5	2021	12:26	167	9.71	32.27	7.40	33.39	3	B
200	1595	4348.1	6837.1	22	5	2021	16:54	117	10.47	32.20	6.37	32.78	2	W
201	1630	4341.2	6808.3	22	5	2021	20:25	169	10.94	32.17	8.33	33.84	3	V
202	1625	4328.7	6809.8	22	5	2021	23:19	189	10.91	32.15	8.68	34.00	3	V
203	1692	4332.9	6819.5	23	5	2021	2:16	198	NaN	NaN	7.98	33.77	1	V
204	1804	4327.9	6832.4	23	5	2021	5:06	184	11.37	32.17	7.57	33.49	6	V
205	1565	4325.8	6837.9	23	5	2021	7:02	145	NaN	NaN	6.85	33.17	3	V
101	1563	4313.4	6850.3	23	5	2021	9:49	185	11.52	32.30	7.71	33.73	5	B
206	1706	4306.9	6836.5	23	5	2021	14:17	192	11.68	32.16	8.48	34.08	2	V
207	1818	4308.3	6819.0	23	5	2021	17:28	204	11.75	32.40	8.24	33.95	2	W
208	1879	4256.2	6824.2	23	5	2021	20:18	166	11.85	32.21	8.24	33.98	2	V
209	1665	4253.6	6843.7	23	5	2021	23:37	203	11.66	32.24	8.54	34.16	2	V
210	1675	4254.3	6903.4	24	5	2021	2:37	198	11.47	32.58	6.72	33.30	3	V
211	1629	4246.7	6915.5	24	5	2021	5:11	78	11.14	32.61	6.71	32.94	5	V
212	1865	4241.2	6842.7	24	5	2021	9:01	178	11.27	32.37	8.35	34.09	1	V
213	1679	4233.2	6819.9	24	5	2021	12:35	197	10.93	32.26	8.43	34.16	2	V
102	1562	4230.3	6759.5	24	5	2021	15:29	210	11.31	32.40	9.55	34.89	8	B
214	1785	4221.8	6819.1	24	5	2021	19:08	200	11.70	32.56	8.95	34.66	2	W
215	1823	4228.4	6837.5	24	5	2021	22:17	187	12.25	32.41	8.85	34.57	2	V
216	1610	4226.8	6850.6	25	5	2021	1:20	227	11.94	32.57	8.17	34.10	4	V
217	1615	4232.1	6859.5	25	5	2021	3:51	200	11.87	32.60	8.24	34.08	1	V
218	1762	4221.4	6915.2	25	5	2021	7:18	242	NaN	NaN	8.69	34.26	3	V
103	1676	4214.8	6837.4	25	5	2021	12:07	187	10.87	32.50	7.33	33.67	3	B
219	1822	4201.1	6829.0	25	5	2021	15:44	171	11.33	32.70	6.91	33.46	2	V
104	1757	4205.0	6846.5	25	5	2021	18:30	159	11.76	32.97	6.48	33.35	4	B
220	1791	4204.7	6859.8	25	5	2021	21:39	131	11.22	32.82	6.42	33.26	3	W