

*Oceans and Climate Branch CTD Data Report*  
*CTD\_REPORT\_2019002HB*

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# Oceans and Climate Branch CTD Data Report

## CTD\_REPORT\_2019002HB

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

HB 1902  
ECOMON Survey  
Data Coverage: May 22 – June 5, 2019  
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 HB1902 ECOMON Survey aboard the NOAA FSV *Henry B Bigelow*. All data was obtained with a Seabird Electronics SBE Model 9/11+ CTD (s/n 0420) and a NMFS SBE19+V2 Seacat profiling CTD (s/n 4759). Salt water samples were collected for the purpose of calibrating the conductivity cell.

The SBE19+ was deployed on 123 double oblique bongo casts (CTD data from cast 001 was bad and is not included), 24 vertical ring net casts and 8 vertical/water sampling casts. The SBE9/11+ was used successfully on 29 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 in an [NODCformatted ASCII file](#) and in a [comma delimited file](#).

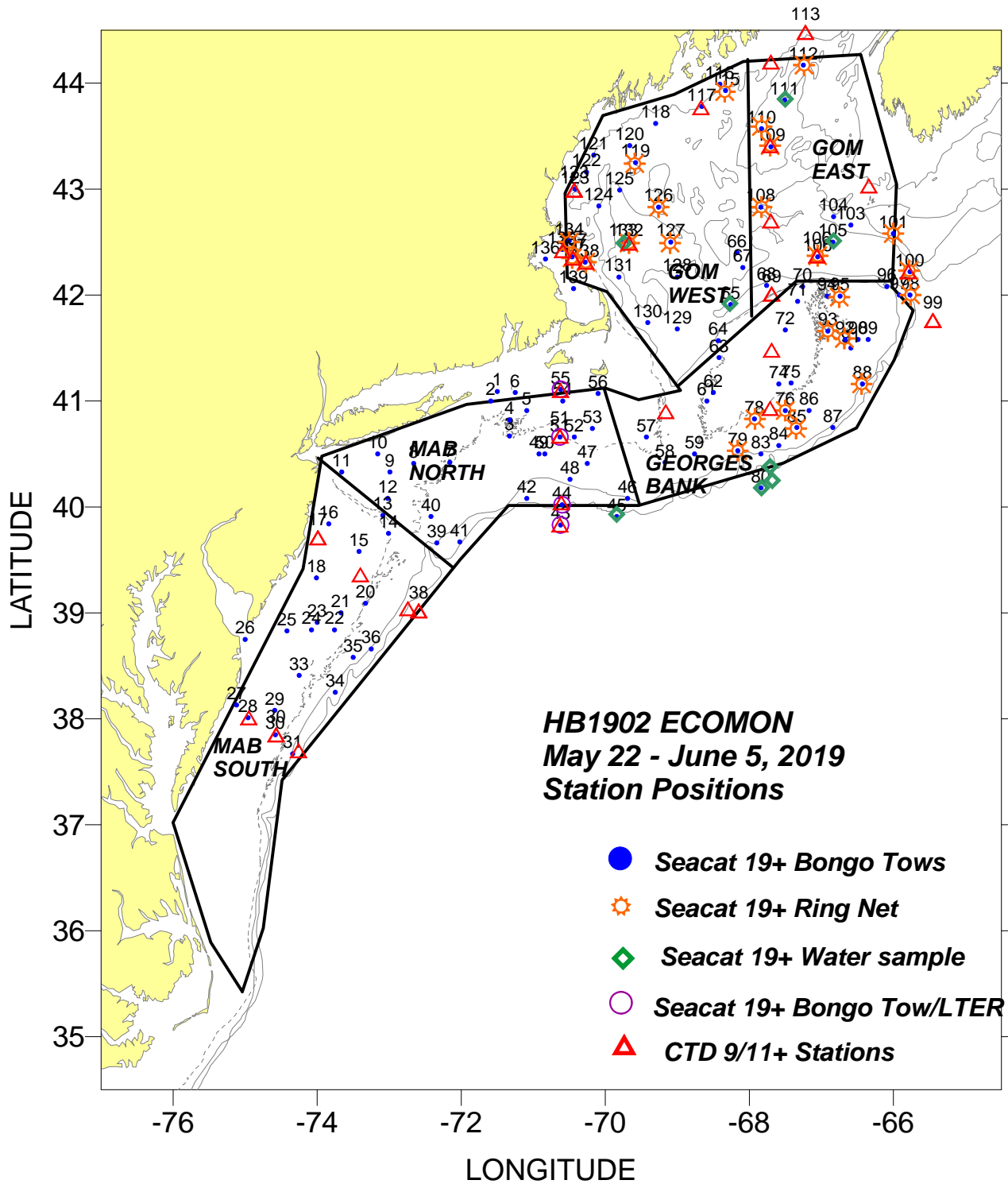
This report may be viewed on the [Oceans and Climate Branch website](#)

choose: **2019 Cruises**

**MAY\_ECOMON\_HB1902**

**CTD\_REPORT\_2019002HB.pdf**

Revised: January 14, 2020



**Areal average surface and bottom temperature/salinity and temperature/salinity anomalies for the  
HB1902 ECOMON Survey  
May 22 - June 5, 2019**

CRUISE	CD	SURFACE						BOTTOM						Purpose
		#obs	T/S	Anomaly	SDV1	SDV2	Flag	#obs	T/S	Anomaly	SDV1	SDV2	Flag	
<b>Western Gulf of Maine</b>														
hb1902	154	40	10.28	-0.08	0.18	0.56	0	38	6.70	1.50	0.15	0.85	0	22
hb1902	154	40	31.67	-0.38	0.07	0.64	0	38	33.24	0.04	0.05	0.37	0	22
<b>Eastern Gulf of Maine</b>														
hb1902	153	23	8.61	0.04	0.21	0.50	0	18	8.68	1.52	0.31	0.68	0	22
hb1902	153	23	32.20	-0.16	0.11	0.22	0	18	34.30	0.14	0.08	0.32	0	22
<b>Georges Bank</b>														
hb1902	150	41	8.80	-0.47	0.21	1.61	0	40	8.15	0.39	0.23	0.84	0	22
hb1902	150	41	32.38	-0.48	0.07	0.41	0	40	32.97	-0.24	0.08	0.40	0	22
<b>MAB North</b>														
hb1902	146	26	12.15	0.76	0.33	0.94	0	26	8.22	0.54	0.35	0.98	0	22
hb1902	146	26	31.73	-0.84	0.14	0.99	0	26	33.08	-0.33	0.13	0.32	0	22
<b>MAB South</b>														
hb1902	145	28	15.41	1.07	1.65	1.11	1	27	10.23	1.19	1.77	1.53	1	22
hb1902	145	28	31.75	-0.65	0.87	0.94	1	27	33.29	-0.26	0.63	0.53	1	22

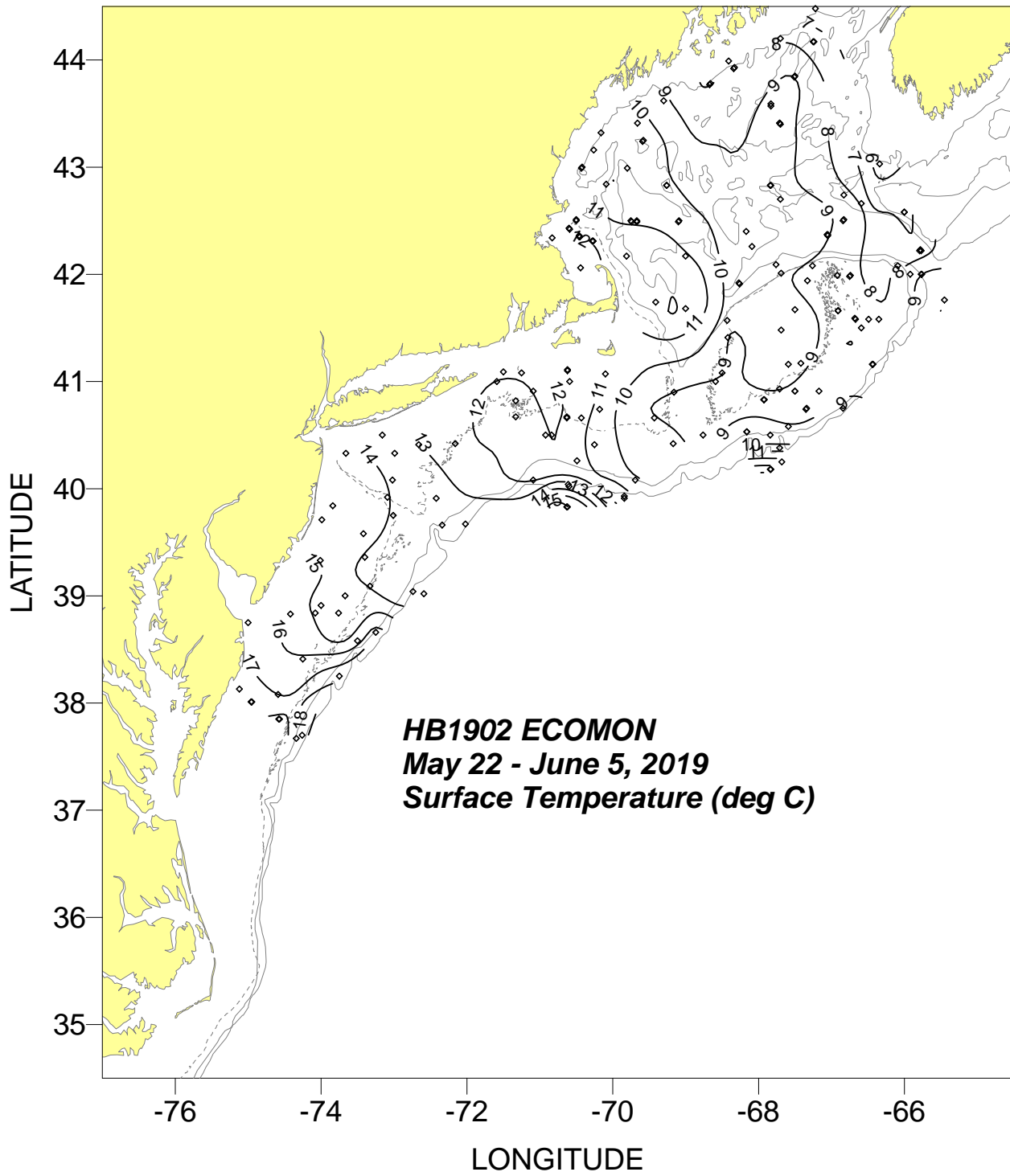
"CRUISE": the code name for a cruise; "CD": the calendar mid-date of all the stations within a region for a cruise;

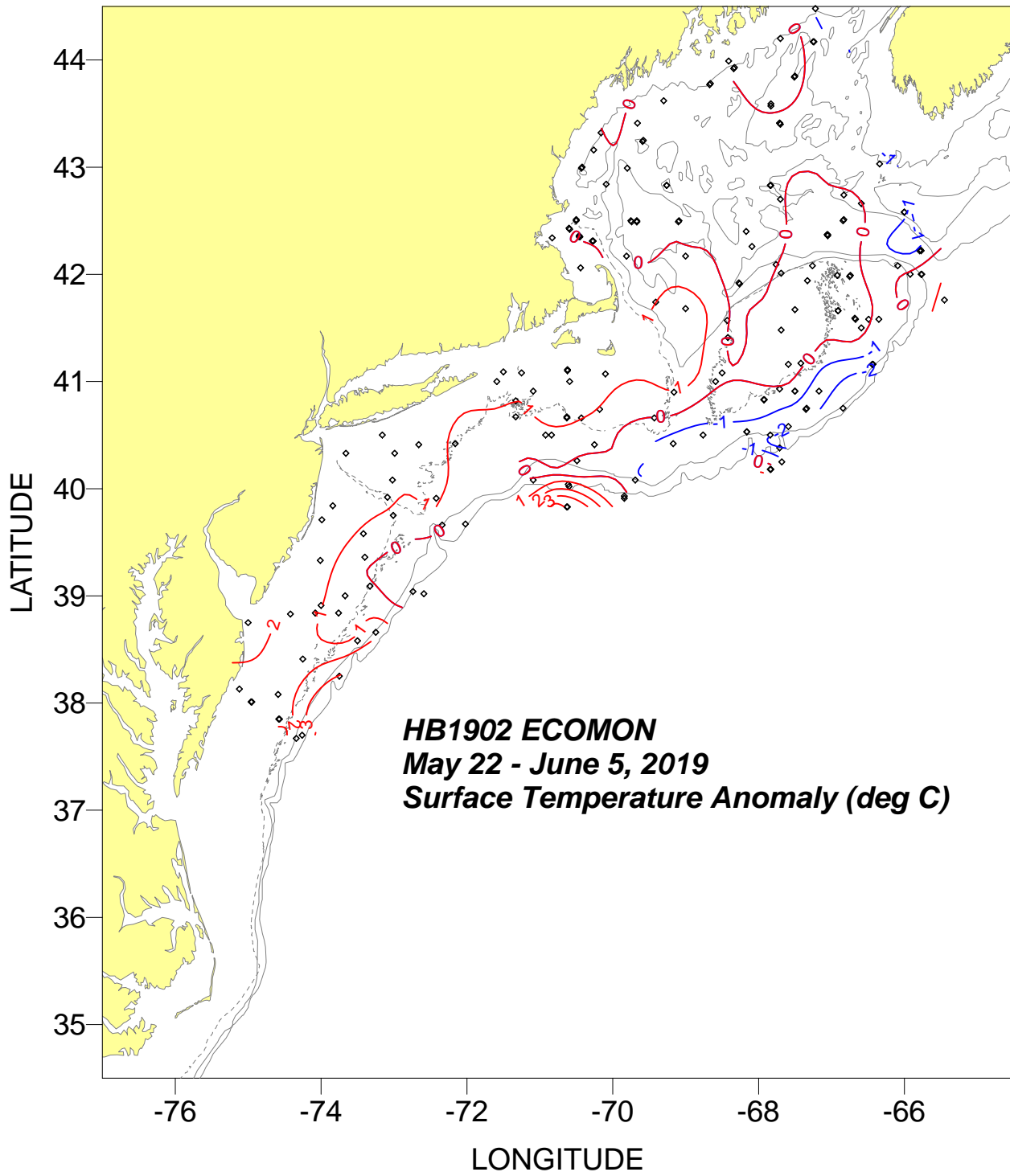
"#obs": the number of observations include in each average; "T/S": the areal average temp/salt; "Anomaly": the areal average temp/salt anomaly;

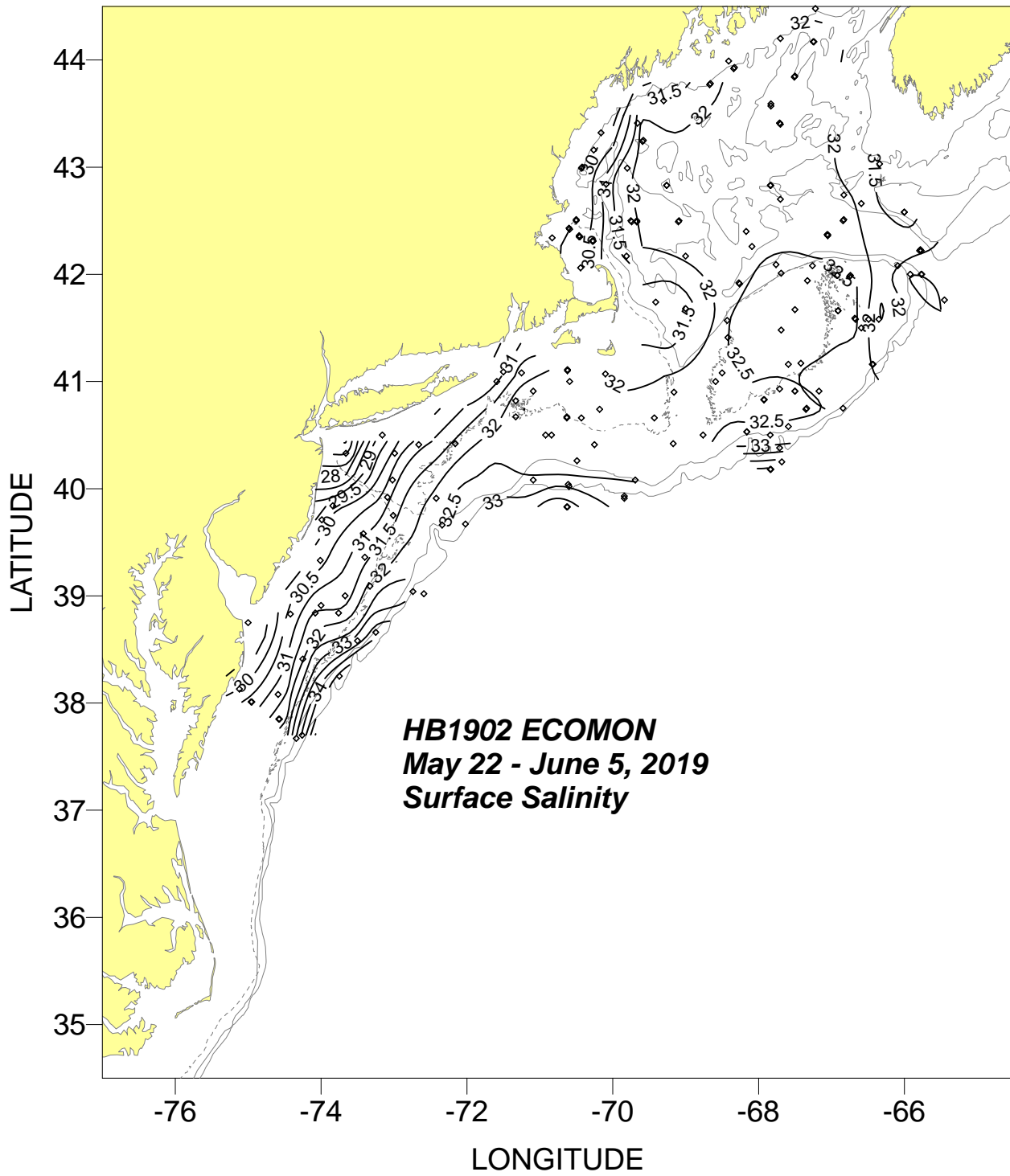
"SDV1": the standard deviation associated with the average temp/salt anomaly; "SDV2": the standard deviation of the individual anomalies from which the average anomaly was derived.

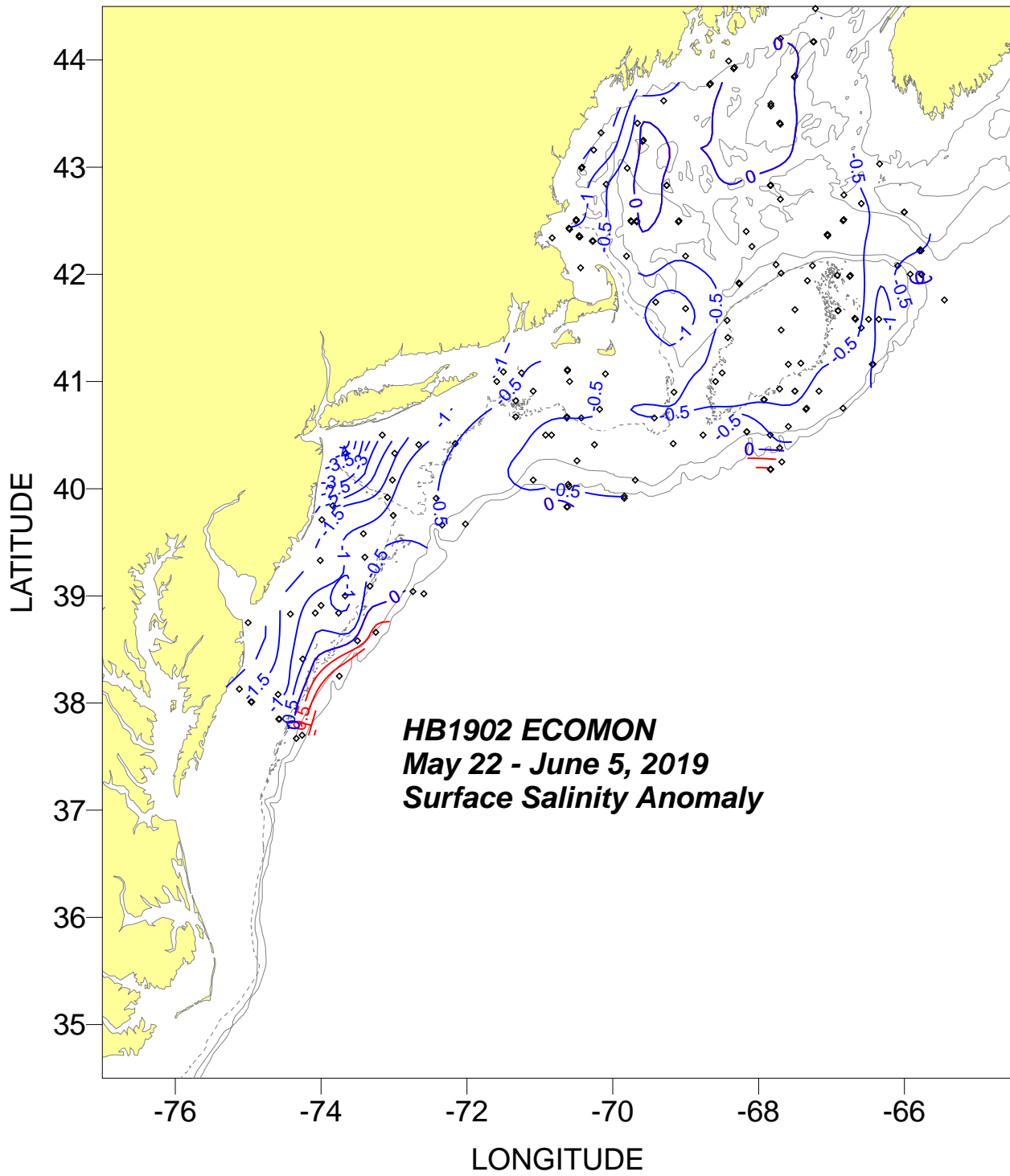
"Flag": a value of "1" indicates that a true areal average could not be calculated due to poor station coverage. The areal averages listed were derived from a simple average of the observations within the region.

"Purpose": 2 digit code identifying the NEFSC program survey where 22 denotes an ECOMON survey.

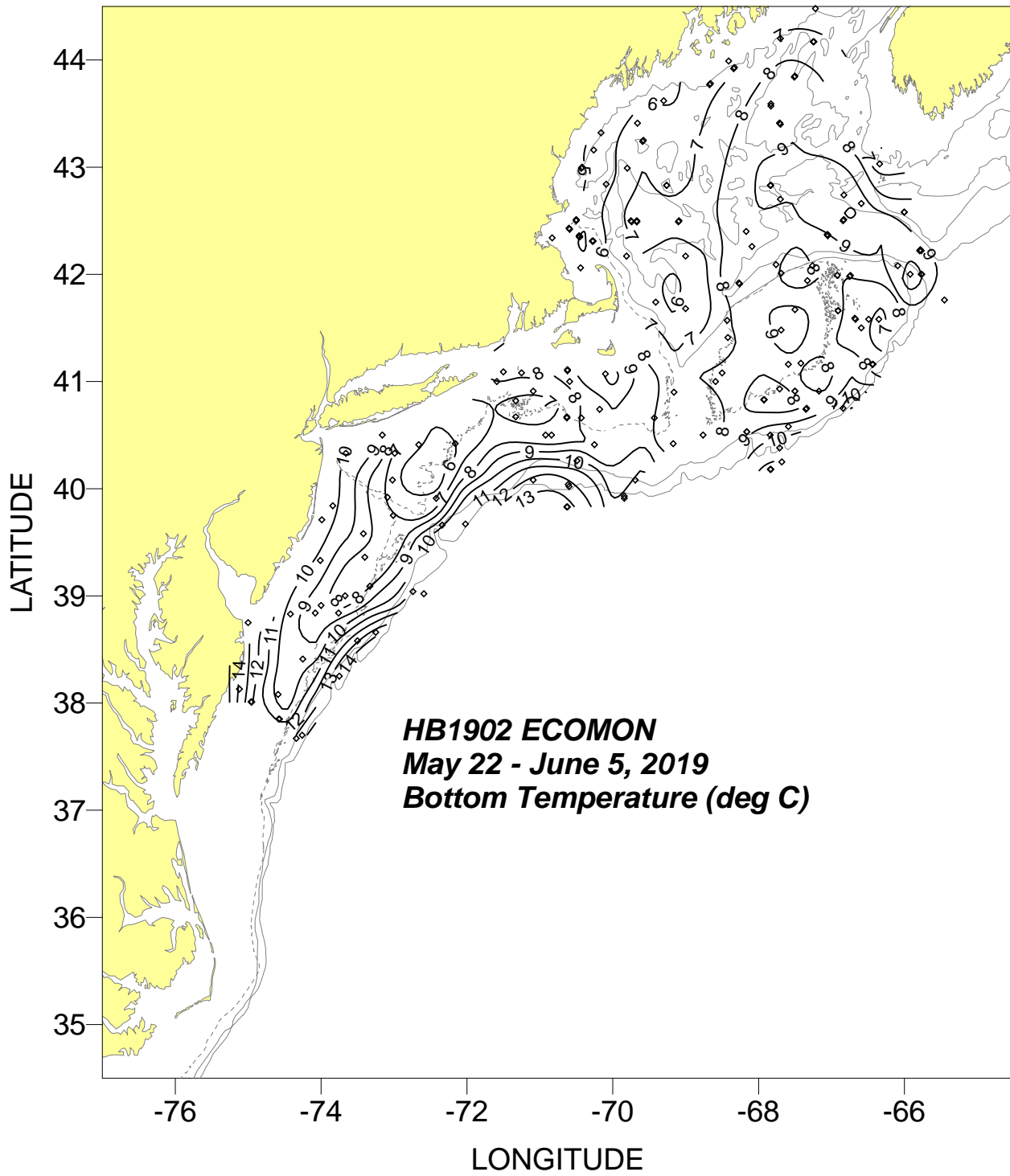


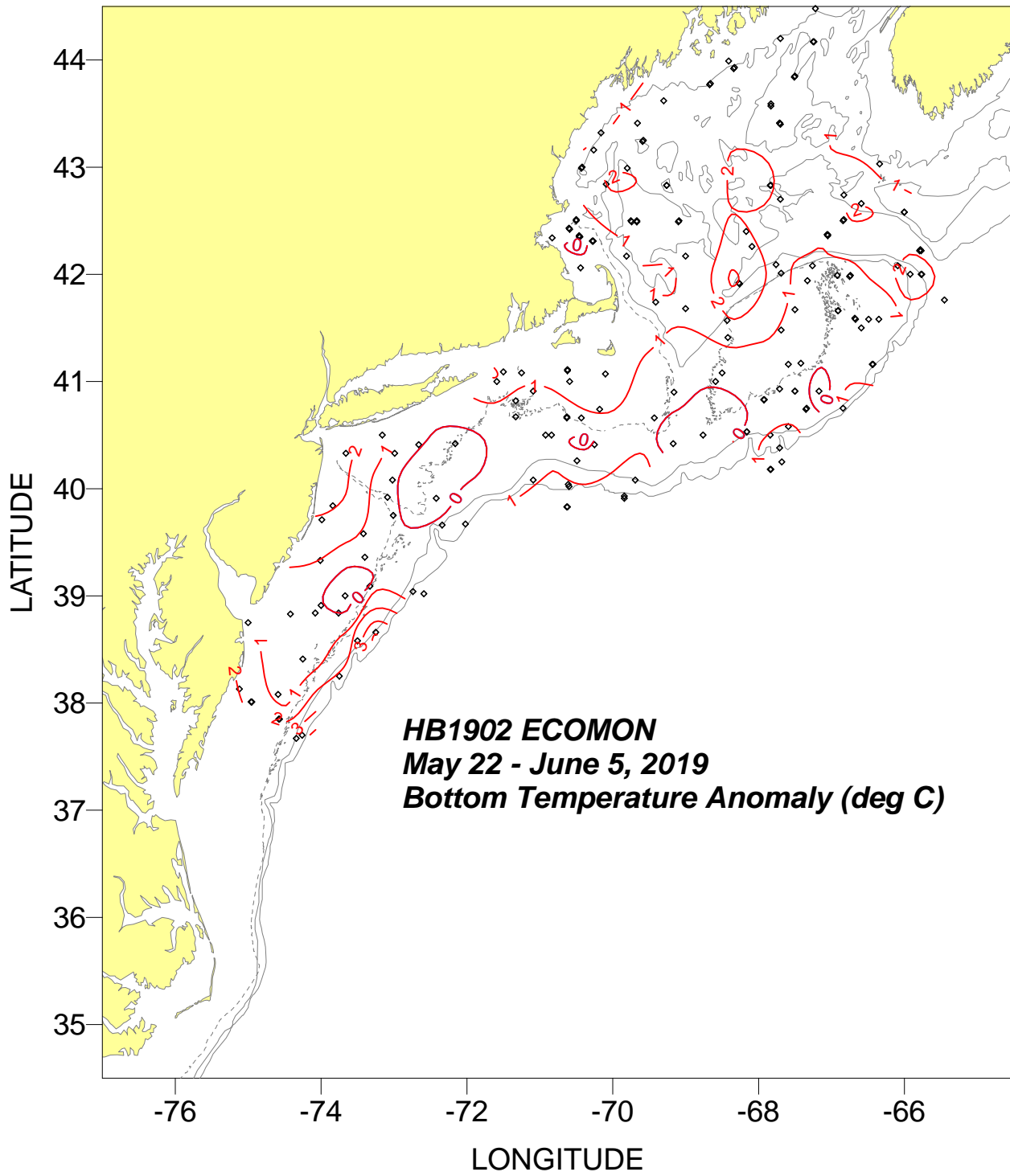


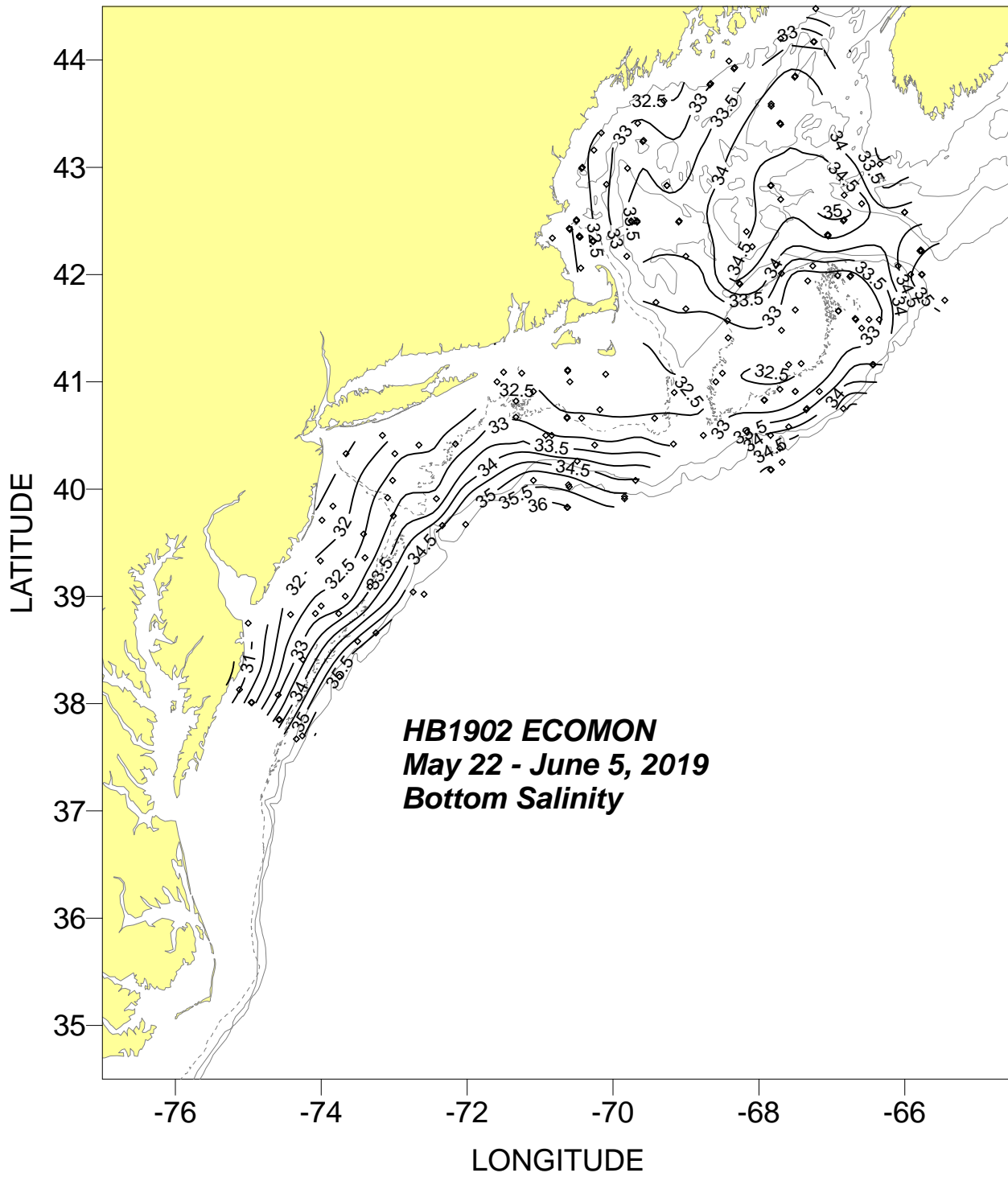


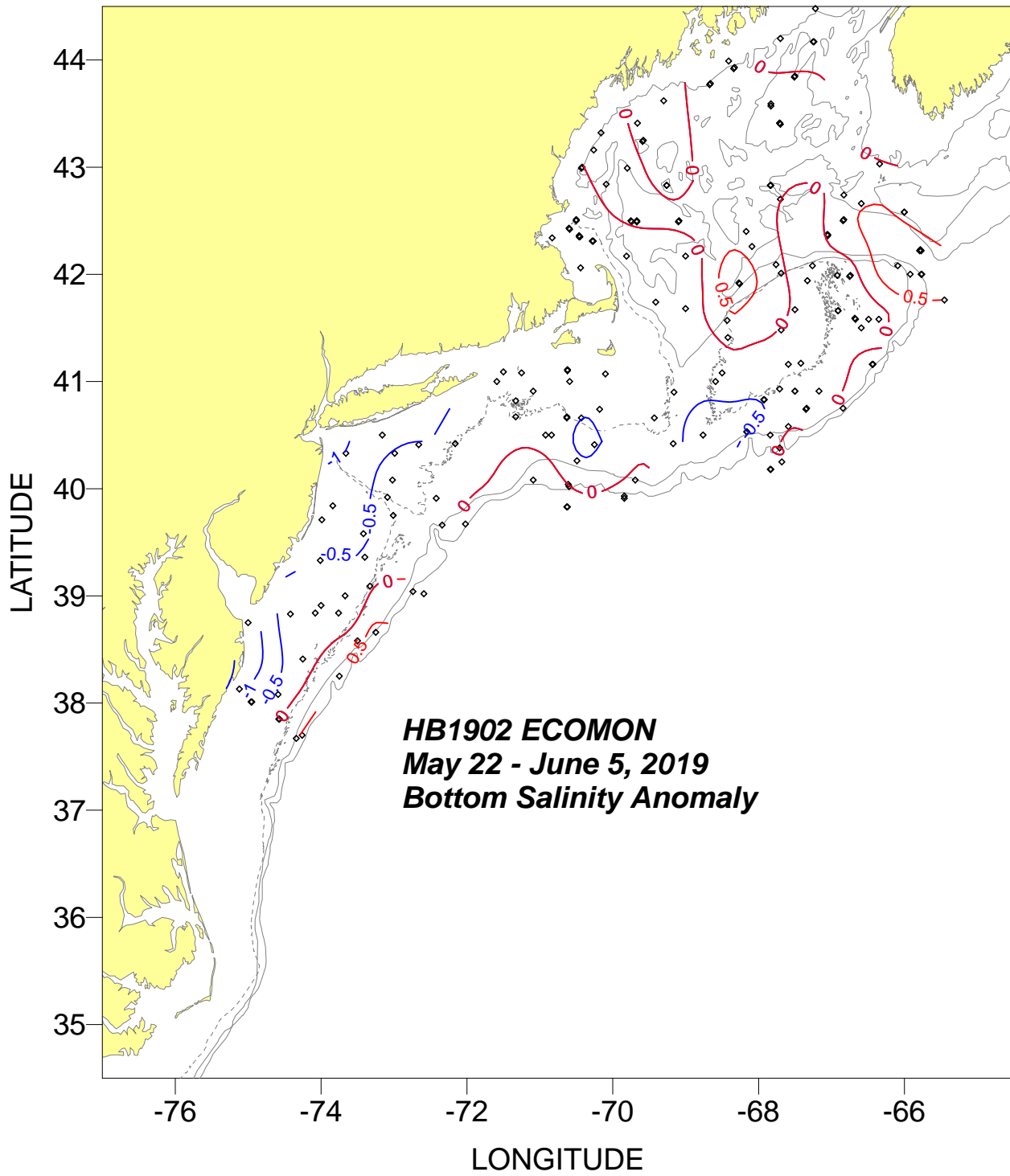












**HB1902 ECOMON Survey**  
**May 22 - June 5, 2019**

Cast #	Station #	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
2	2	4100.1	7135.1	22	5	2019	22:04	43	11.99	30.83	8.21	32.45	4	B
3	3	4040.1	7120.0	23	5	2019	0:23	60	11.69	32.56	6.08	32.76	4	B
4	4	4049.2	7120.0	23	5	2019	1:43	61	11.61	32.45	6.03	32.65	4	B
5	5	4054.6	7105.1	23	5	2019	3:08	53	11.75	32.23	7.24	32.56	4	B
6	6	4104.8	7115.1	23	5	2019	4:42	38	12.18	31.72	8.35	32.46	3	B
7	7	4025.3	7209.7	24	5	2019	4:42	61	12.23	31.68	5.49	32.59	2	B
8	8	4024.8	7239.4	24	5	2019	7:18	47	13.04	30.66	6.08	32.53	3	B
9	9	4019.9	7259.5	24	5	2019	9:10	40	13.72	30.18	6.45	32.41	1	B
10	10	4029.8	7309.7	24	5	2019	10:46	32	13.40	29.54	9.60	31.76	2	B
11	11	4020.0	7339.6	24	5	2019	13:18	25	14.50	26.21	9.94	31.49	4	B
12	12	4004.9	7301.0	24	5	2019	16:31	48	13.67	31.20	6.24	32.78	4	B
13	13	3955.0	7305.2	24	5	2019	18:09	67	14.17	30.93	6.29	33.01	4	B
14	14	3945.1	7300.4	24	5	2019	19:24	57	13.71	31.40	6.78	33.07	4	B
15	15	3935.0	7325.0	24	5	2019	21:35	35	14.92	30.81	8.81	32.25	5	B
16	16	3950.2	7350.1	25	5	2019	0:02	25	14.88	30.29	10.48	31.68	5	B
<b>1</b>	<b>17</b>	<b>3942.4</b>	<b>7359.7</b>	<b>25</b>	<b>5</b>	<b>2019</b>	<b>1:22</b>	<b>22</b>	<b>14.19</b>	<b>29.77</b>	<b>10.63</b>	<b>31.68</b>	<b>3</b>	<b>W</b>
17	18	3920.0	7400.6	25	5	2019	3:41	29	15.23	30.38	10.04	32.14	5	B
<b>2</b>	<b>19</b>	<b>3921.7</b>	<b>7323.9</b>	<b>25</b>	<b>5</b>	<b>2019</b>	<b>6:45</b>	<b>50</b>	<b>13.51</b>	<b>31.52</b>	<b>7.29</b>	<b>32.77</b>	<b>1</b>	<b>W</b>
18	20	3905.3	7320.0	25	5	2019	8:35	60	13.37	32.00	6.90	33.17	3	B
19	21	3859.9	7340.5	25	5	2019	10:21	48	14.50	31.22	7.17	32.79	5	B
20	22	3850.4	7345.3	25	5	2019	11:31	48	14.38	31.60	7.75	32.79	1	B
21	23	3854.9	7400.0	25	5	2019	12:46	39	15.04	31.21	8.61	32.61	6	B
22	24	3850.1	7404.9	25	5	2019	13:32	46	14.46	31.80	7.68	32.87	4	B
23	25	3850.0	7425.1	25	5	2019	15:06	28	15.56	30.90	9.64	32.45	2	B
24	26	3844.9	7459.8	25	5	2019	18:11	23	17.10	28.14	13.17	30.79	4	B
25	27	3807.9	7507.1	25	5	2019	22:21	17	17.22	30.23	15.57	30.44	5	B
26	28	3800.7	7457.5	25	5	2019	23:42	23	17.25	30.84	12.25	31.79	4	B
<b>3</b>	<b>28</b>	<b>3800.7</b>	<b>7457.0</b>	<b>25</b>	<b>5</b>	<b>2019</b>	<b>23:59</b>	<b>24</b>	<b>17.25</b>	<b>30.84</b>	<b>12.21</b>	<b>31.82</b>	<b>2</b>	<b>W</b>
27	29	3804.5	7435.5	26	5	2019	2:01	36	16.97	30.97	8.74	32.90	4	B

**HB1902 ECOMON Survey**  
**May 22 - June 5, 2019**

Cast #	Station #	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
28	30	3751.1	7434.5	26	5	2019	3:35	54	16.99	31.09	9.14	33.53	5	B
<b>4</b>	<b>30</b>	<b>3750.9</b>	<b>7434.4</b>	<b>26</b>	<b>5</b>	<b>2019</b>	<b>3:51</b>	<b>54</b>	<b>16.95</b>	<b>31.12</b>	<b>9.33</b>	<b>33.61</b>	<b>3</b>	<b>W</b>
29	31	3740.0	7420.1	26	5	2019	5:34	97	16.59	33.36	14.07	35.59	5	B
<b>5</b>	<b>32</b>	<b>3741.8</b>	<b>7415.5</b>	<b>26</b>	<b>5</b>	<b>2019</b>	<b>6:17</b>	<b>113</b>	<b>19.93</b>	<b>35.36</b>	<b>14.41</b>	<b>35.73</b>	<b>1</b>	<b>W</b>
30	33	3824.6	7414.9	26	5	2019	10:36	47	15.47	31.68	8.39	33.22	3	B
31	34	3814.9	7345.1	26	5	2019	13:02	118	18.59	35.13	14.52	35.93	1	B
32	35	3834.5	7330.2	26	5	2019	15:30	80	14.01	32.55	13.65	35.49	5	B
33	36	3839.7	7315.1	26	5	2019	17:03	104	16.86	33.94	13.74	35.50	3	B
<b>6</b>	<b>37</b>	<b>3902.6</b>	<b>7244.7</b>	<b>26</b>	<b>5</b>	<b>2019</b>	<b>20:42</b>	<b>269</b>	<b>12.84</b>	<b>32.67</b>	<b>10.81</b>	<b>35.38</b>	<b>1</b>	<b>W</b>
<b>7</b>	<b>38</b>	<b>3900.9</b>	<b>7235.1</b>	<b>26</b>	<b>5</b>	<b>2019</b>	<b>21:56</b>	<b>1035</b>	<b>13.50</b>	<b>33.03</b>	<b>6.14</b>	<b>35.08</b>	<b>525</b>	<b>W</b>
34	39	3939.8	7220.1	27	5	2019	2:27	115	13.14	32.24	11.33	34.72	3	B
35	40	3954.8	7225.1	27	5	2019	4:11	77	13.64	32.27	5.13	32.82	5	B
36	41	3940.3	7200.9	27	5	2019	6:34	180	13.51	33.22	12.97	35.62	3	B
37	42	4004.8	7105.6	27	5	2019	11:42	186	11.23	32.40	12.96	35.61	2	B
38	43	3950.0	7037.4	27	5	2019	14:40	883	18.85	34.17	12.46	35.60	681	B
<b>8</b>	<b>43</b>	<b>3949.9</b>	<b>7037.5</b>	<b>27</b>	<b>5</b>	<b>2019</b>	<b>15:19</b>	<b>890</b>	<b>19.68</b>	<b>34.52</b>	<b>6.31</b>	<b>35.09</b>	<b>379</b>	<b>W</b>
39	44	4001.3	7036.2	27	5	2019	17:00	190	11.52	32.32	13.36	35.63	4	B
<b>9</b>	<b>44</b>	<b>4002.7</b>	<b>7036.5</b>	<b>27</b>	<b>5</b>	<b>2019</b>	<b>17:53</b>	<b>150</b>	<b>10.88</b>	<b>32.33</b>	<b>13.25</b>	<b>35.54</b>	<b>1</b>	<b>W</b>
40	45	3954.7	6950.3	27	5	2019	21:37	330	10.80	32.57	12.81	35.60	127	B
41	45	3955.7	6950.6	27	5	2019	22:11	261	10.74	32.60	9.22	35.24	5	W
42	46	4004.6	6941.1	27	5	2019	23:44	107	9.75	32.32	10.96	34.75	3	B
43	47	4024.6	7014.8	28	5	2019	3:51	77	11.00	32.28	6.59	32.70	4	B
44	48	4015.8	7029.5	28	5	2019	6:20	108	10.66	32.29	10.94	34.43	4	B
45	49	4030.0	7055.3	28	5	2019	9:06	79	12.02	32.27	6.54	32.77	6	B
46	50	4030.0	7050.6	28	5	2019	9:47	78	12.37	32.31	6.69	32.74	4	B
47	51	4039.9	7037.8	28	5	2019	11:32	62	12.36	32.38	7.15	32.63	8	B
<b>10</b>	<b>51</b>	<b>4040.1</b>	<b>7037.7</b>	<b>28</b>	<b>5</b>	<b>2019</b>	<b>11:50</b>	<b>62</b>	<b>12.30</b>	<b>32.38</b>	<b>7.04</b>	<b>32.66</b>	<b>1</b>	<b>W</b>
48	52	4039.9	7025.6	28	5	2019	13:10	56	11.38	32.28	7.81	32.52	7	B

**HB1902 ECOMON Survey**  
**May 22 - June 5, 2019**

Cast #	Station #	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
49	53	4044.7	7010.8	28	5	2019	14:38	42	10.45	32.23	8.84	32.39	5	B
50	54	4100.0	7035.1	28	5	2019	16:52	49	12.35	32.34	8.30	32.46	5	B
51	55	4106.3	7037.2	28	5	2019	17:44	43	11.69	32.30	8.76	32.33	4	B
<b>11</b>	<b>55</b>	<b>4106.0</b>	<b>7037.1</b>	<b>28</b>	<b>5</b>	<b>2019</b>	<b>18:02</b>	<b>44</b>	<b>11.54</b>	<b>32.30</b>	<b>8.82</b>	<b>32.32</b>	<b>3</b>	<b>W</b>
52	56	4104.4	7006.0	28	5	2019	20:42	24	11.01	31.91	11.02	31.91	5	B
53	57	4039.7	6925.8	29	5	2019	1:26	55	8.65	32.38	8.01	32.36	3	B
54	58	4025.3	6910.3	29	5	2019	3:34	82	9.32	32.28	7.00	32.86	8	B
55	59	4029.8	6845.6	29	5	2019	5:47	74	8.33	32.33	6.82	32.56	5	B
<b>12</b>	<b>60</b>	<b>4054.1</b>	<b>6909.5</b>	<b>29</b>	<b>5</b>	<b>2019</b>	<b>9:09</b>	<b>68</b>	<b>8.74</b>	<b>32.30</b>	<b>7.58</b>	<b>32.50</b>	<b>4</b>	<b>W</b>
56	61	4059.8	6835.3	29	5	2019	12:11	45	8.94	32.56	8.90	32.56	4	B
57	62	4104.8	6830.1	29	5	2019	13:07	43	9.08	32.53	9.06	32.53	10	B
58	63	4124.5	6825.4	29	5	2019	15:20	66	8.73	32.56	7.67	32.62	5	B
59	64	4134.3	6825.6	29	5	2019	16:44	54	9.36	32.49	7.57	32.65	4	B
60	65	4154.5	6815.5	29	5	2019	19:36	223	9.21	32.48	9.46	34.94	20	B
61	65	4155.1	6816.0	29	5	2019	20:03	223	9.21	32.48	9.46	34.94	4	W
62	66	4224.2	6810.4	29	5	2019	23:14	179	9.05	32.43	8.61	34.38	4	B
63	67	4215.5	6805.2	30	5	2019	0:49	184	8.94	32.43	8.90	34.59	5	B
64	68	4205.4	6745.5	30	5	2019	3:28	189	9.19	32.51	8.73	34.55	4	B
<b>13</b>	<b>69</b>	<b>4200.4</b>	<b>6741.4</b>	<b>30</b>	<b>5</b>	<b>2019</b>	<b>4:43</b>	<b>63</b>	<b>8.98</b>	<b>32.59</b>	<b>6.34</b>	<b>32.94</b>	<b>1</b>	<b>W</b>
65	70	4204.8	6715.7	30	5	2019	7:08	48	8.85	32.53	6.80	32.80	4	B
66	71	4156.2	6720.0	30	5	2019	8:22	49	8.82	32.70	8.81	32.69	4	B
67	72	4140.0	6729.9	30	5	2019	11:36	48	9.34	32.73	9.32	32.73	5	B
<b>14</b>	<b>73</b>	<b>4128.5</b>	<b>6741.1</b>	<b>30</b>	<b>5</b>	<b>2019</b>	<b>13:24</b>	<b>38</b>	<b>9.81</b>	<b>32.72</b>	<b>9.76</b>	<b>32.72</b>	<b>4</b>	<b>W</b>
68	74	4109.8	6735.2	30	5	2019	15:15	49	9.29	32.59	8.85	32.58	3	B
69	75	4110.1	6725.3	30	5	2019	16:07	54	9.23	32.57	8.65	32.56	6	B
70	76	4054.9	6730.1	30	5	2019	17:44	75	8.94	32.48	7.57	32.50	5	B
71	76	4054.7	6730.1	30	5	2019	18:06	75	8.67	32.49	7.57	32.50	3	V
<b>15</b>	<b>77</b>	<b>4055.8</b>	<b>6742.4</b>	<b>30</b>	<b>5</b>	<b>2019</b>	<b>19:11</b>	<b>67</b>	<b>9.22</b>	<b>32.45</b>	<b>7.93</b>	<b>32.44</b>	<b>1</b>	<b>W</b>

**HB1902 ECOMON Survey**  
**May 22 - June 5, 2019**

Cast #	Station #	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
72	78	4049.8	6755.6	30	5	2019	20:29	68	9.24	32.43	7.27	32.45	5	B
73	78	4050.0	6755.4	30	5	2019	20:44	68	8.80	NaN	7.29	32.45	4	V
74	79	4031.8	6809.7	30	5	2019	23:04	105	8.82	32.28	8.83	33.77	6	B
75	79	4032.1	6809.3	30	5	2019	23:22	103	8.35	32.31	8.66	33.71	5	V
76	80	4010.7	6750.6	31	5	2019	2:04	1939	15.08	35.29	13.15	35.62	1737	B
77	80	4010.7	6749.7	31	5	2019	2:30	1628	15.12	35.33	6.21	35.08	1122	W
78	81	4014.9	6740.8	31	5	2019	5:56	1192	14.48	35.04	6.77	35.10	687	V
79	82	4023.0	6742.7	31	5	2019	7:20	148	8.59	32.51	12.12	35.20	5	W
80	83	4029.8	6750.1	31	5	2019	8:29	116	8.46	32.20	9.73	34.18	5	B
81	84	4034.5	6735.7	31	5	2019	10:07	104	8.29	32.22	8.97	33.86	4	B
82	85	4044.8	6720.5	31	5	2019	11:57	96	8.25	32.44	7.18	33.26	5	B
83	85	4044.6	6720.8	31	5	2019	12:18	96	8.38	32.44	7.22	33.27	4	V
84	86	4054.7	6710.4	31	5	2019	13:42	85	8.36	32.35	6.45	32.77	3	B
85	87	4044.9	6650.4	31	5	2019	15:29	172	9.35	32.45	12.89	35.45	4	B
86	88	4109.6	6625.8	31	5	2019	19:23	96	7.98	31.78	6.81	33.13	5	B
87	88	4109.3	6626.6	31	5	2019	19:40	93	7.46	31.76	6.81	33.13	4	V
88	89	4134.6	6620.9	31	5	2019	22:21	89	8.01	31.34	6.30	32.75	6	B
89	90	4135.0	6629.7	31	5	2019	23:06	83	10.05	31.33	6.86	32.73	6	B
90	91	4130.2	6635.1	31	5	2019	23:57	84	9.87	32.56	7.34	32.74	5	B
91	92	4134.9	6640.4	1	6	2019	0:55	77	10.16	32.41	7.55	32.72	6	B
92	92	4135.3	6640.8	1	6	2019	1:09	77	8.86	32.89	7.57	32.71	5	V
93	93	4139.6	6654.4	1	6	2019	2:33	63	8.73	32.59	8.32	32.66	4	B
94	93	4139.7	6654.4	1	6	2019	2:44	64	8.76	32.60	8.33	32.67	5	V
95	94	4159.5	6655.3	1	6	2019	5:09	58	8.33	32.69	8.34	32.69	4	B
96	95	4159.4	6644.7	1	6	2019	6:10	72	8.15	32.71	8.02	32.71	9	B
97	95	4158.8	6645.0	1	6	2019	6:23	73	8.25	32.70	8.03	32.71	4	V
98	96	4204.6	6605.6	1	6	2019	9:42	95	6.67	31.43	8.95	34.13	4	B
99	97	4200.0	6555.5	1	6	2019	11:00	135	8.95	32.59	11.23	35.11	4	B
100	98	4200.1	6546.0	1	6	2019	12:25	249	8.59	32.59	10.06	35.27	49	B



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Cast #	Station #	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
101	98	4200.0	6545.6	1	6	2019	12:51	251	NaN	NaN	8.92	35.22	5	V
<b>16</b>	<b>99</b>	<b>4145.6</b>	<b>6527.0</b>	<b>1</b>	<b>6</b>	<b>2019</b>	<b>15:31</b>	<b>1945</b>	<b>10.14</b>	<b>32.51</b>	<b>5.52</b>	<b>35.05</b>	<b>1439</b>	<b>W</b>
102	100	4213.4	6546.2	1	6	2019	19:02	223	8.01	31.98	9.57	35.24	20	B
103	100	4213.5	6546.5	1	6	2019	19:26	221	7.05	31.84	9.20	35.22	4	V
<b>17</b>	<b>100</b>	<b>4213.3</b>	<b>6547.3</b>	<b>1</b>	<b>6</b>	<b>2019</b>	<b>19:50</b>	<b>226</b>	<b>7.44</b>	<b>31.91</b>	<b>9.35</b>	<b>35.23</b>	<b>1</b>	<b>W</b>
104	101	4234.6	6559.8	1	6	2019	22:16	108	7.00	31.29	8.63	34.08	5	B
105	101	4234.9	6559.9	1	6	2019	22:32	104	6.41	31.24	8.54	34.06	4	V
<b>18</b>	<b>102</b>	<b>4301.9</b>	<b>6620.6</b>	<b>2</b>	<b>6</b>	<b>2019</b>	<b>1:22</b>	<b>144</b>	<b>5.28</b>	<b>31.33</b>	<b>5.78</b>	<b>32.67</b>	<b>6</b>	<b>W</b>
106	103	4239.9	6635.1	2	6	2019	4:06	170	7.83	31.84	10.47	34.90	5	B
107	104	4244.7	6649.7	2	6	2019	5:41	183	8.33	32.11	10.01	34.85	7	B
108	105	4230.0	6650.2	2	6	2019	7:25	282	9.39	32.32	9.89	35.11	81	B
109	105	4230.7	6649.7	2	6	2019	7:55	265	9.41	32.31	9.85	35.17	3	W
110	106	4221.8	6703.2	2	6	2019	9:43	331	9.22	32.29	10.07	35.18	131	B
111	106	4222.2	6703.2	2	6	2019	10:07	332	9.26	32.30	9.53	35.18	6	V
<b>19</b>	<b>106</b>	<b>4222.2</b>	<b>6703.5</b>	<b>2</b>	<b>6</b>	<b>2019</b>	<b>10:30</b>	<b>334</b>	<b>9.25</b>	<b>32.31</b>	<b>9.53</b>	<b>35.18</b>	<b>1</b>	<b>W</b>
<b>20</b>	<b>107</b>	<b>4241.9</b>	<b>6742.2</b>	<b>2</b>	<b>6</b>	<b>2019</b>	<b>14:07</b>	<b>192</b>	<b>9.07</b>	<b>32.34</b>	<b>9.08</b>	<b>34.52</b>	<b>1</b>	<b>W</b>
112	108	4249.5	6750.1	2	6	2019	15:20	186	9.09	32.35	9.46	34.73	4	B
113	108	4249.9	6749.9	2	6	2019	15:43	195	9.06	32.35	9.47	34.74	3	V
114	109	4323.9	6742.2	2	6	2019	19:30	250	9.35	32.32	8.74	34.19	48	B
115	109	4324.7	6742.6	2	6	2019	20:03	249	8.81	32.29	8.67	34.25	2	V
<b>21</b>	<b>109</b>	<b>4324.8</b>	<b>6742.7</b>	<b>2</b>	<b>6</b>	<b>2019</b>	<b>20:23</b>	<b>250</b>	<b>9.01</b>	<b>32.28</b>	<b>8.68</b>	<b>34.25</b>	<b>2</b>	<b>W</b>
116	110	4334.4	6749.8	2	6	2019	21:47	233	9.45	32.28	8.74	34.27	33	B
117	110	4335.1	6749.6	2	6	2019	22:15	243	9.34	32.27	8.79	34.29	3	V
118	111	4350.2	6730.4	3	6	2019	0:22	220	9.22	32.23	8.68	34.25	18	B
119	111	4351.1	6730.0	3	6	2019	0:49	218	9.08	32.23	8.69	34.25	2	W
120	112	4410.0	6714.9	3	6	2019	3:06	135	7.81	32.35	7.44	33.55	4	B
121	112	4410.2	6714.3	3	6	2019	3:27	138	7.73	32.35	7.54	33.60	3	V
<b>22</b>	<b>113</b>	<b>4428.6</b>	<b>6713.4</b>	<b>3</b>	<b>6</b>	<b>2019</b>	<b>5:34</b>	<b>96</b>	<b>6.21</b>	<b>31.83</b>	<b>6.09</b>	<b>31.87</b>	<b>4</b>	<b>W</b>

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Cast #	Station #	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
<b>23</b>	<b>114</b>	<b>4411.8</b>	<b>6742.0</b>	<b>3</b>	<b>6</b>	<b>2019</b>	<b>8:10</b>	<b>150</b>	<b>7.75</b>	<b>32.16</b>	<b>7.09</b>	<b>33.26</b>	<b>3</b>	<b>W</b>
122	115	4355.6	6819.8	3	6	2019	11:40	126	8.18	32.13	6.81	32.97	2	B
123	115	4355.3	6820.2	3	6	2019	12:03	121	7.84	32.16	6.87	33.05	2	V
124	116	4359.5	6824.9	3	6	2019	12:47	90	7.88	31.42	6.31	32.31	5	B
125	117	4346.6	6839.6	3	6	2019	14:58	114	8.07	31.85	6.71	32.95	6	B
<b>24</b>	<b>117</b>	<b>4346.1</b>	<b>6840.1</b>	<b>3</b>	<b>6</b>	<b>2019</b>	<b>15:17</b>	<b>118</b>	<b>7.72</b>	<b>31.79</b>	<b>6.85</b>	<b>33.10</b>	<b>1</b>	<b>W</b>
126	118	4337.2	6917.9	3	6	2019	18:15	102	9.08	31.40	5.70	32.26	4	B
127	119	4314.9	6935.0	3	6	2019	20:57	166	10.92	32.23	6.52	33.24	4	B
128	119	4314.5	6935.3	3	6	2019	21:18	157	10.93	32.23	6.45	33.22	4	V
129	120	4324.4	6939.9	3	6	2019	22:34	151	10.37	32.27	6.48	33.24	5	B
130	121	4319.4	7009.3	4	6	2019	0:57	117	10.94	28.37	5.14	32.49	7	B
131	122	4309.5	7015.7	4	6	2019	2:23	125	10.60	30.19	5.06	32.65	5	B
132	123	4259.9	7025.2	4	6	2019	3:47	105	10.57	29.80	4.99	32.34	9	B
<b>25</b>	<b>123</b>	<b>4259.6</b>	<b>7025.8</b>	<b>4</b>	<b>6</b>	<b>2019</b>	<b>4:05</b>	<b>105</b>	<b>10.60</b>	<b>29.80</b>	<b>4.87</b>	<b>32.40</b>	<b>4</b>	<b>W</b>
133	124	4250.7	7005.7	4	6	2019	5:57	117	9.64	31.20	5.15	32.71	5	B
134	125	4259.5	6948.1	4	6	2019	8:04	187	10.53	32.19	7.46	33.71	7	B
135	126	4250.0	6915.4	4	6	2019	11:24	139	10.11	32.16	6.08	33.14	4	B
136	126	4250.0	6915.4	4	6	2019	11:49	138	10.11	32.17	6.00	33.11	3	V
137	127	4230.0	6905.1	4	6	2019	14:09	212	10.46	32.34	8.12	34.10	9	B
138	127	4229.7	6905.9	4	6	2019	14:37	222	NaN	NaN	8.20	34.15	1	V
139	128	4210.0	6900.2	4	6	2019	16:56	162	11.28	32.31	5.75	33.13	4	B
140	129	4140.6	6900.1	4	6	2019	20:13	163	12.74	30.89	5.72	33.02	4	B
141	130	4144.7	6924.9	4	6	2019	22:36	163	11.62	31.03	6.09	33.17	4	B
142	131	4210.4	6948.7	5	6	2019	2:16	180	11.08	31.96	6.42	33.30	5	B
143	132	4230.1	6940.1	5	6	2019	4:53	256	11.06	32.07	7.53	33.78	56	B
144	132	4229.5	6940.3	5	6	2019	5:19	261	11.11	32.08	8.15	34.09	8	V
<b>26</b>	<b>132</b>	<b>4229.3</b>	<b>6940.2</b>	<b>5</b>	<b>6</b>	<b>2019</b>	<b>5:40</b>	<b>261</b>	<b>11.04</b>	<b>32.06</b>	<b>8.15</b>	<b>34.10</b>	<b>3</b>	<b>W</b>
145	133	4230.2	6945.0	5	6	2019	6:32	272	11.18	32.02	7.59	33.81	71	B

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146	133	4229.5	6944.6	5	6	2019	7:01	272	11.14	32.05	8.09	34.06	6	W
147	134	4230.3	7029.8	5	6	2019	10:41	76	11.49	29.78	5.10	32.14	4	B
148	134	4229.9	7029.8	5	6	2019	10:57	82	11.46	29.83	5.01	32.19	6	V
149	135	4225.7	7035.8	5	6	2019	11:52	86	12.45	29.97	4.32	32.37	8	B
<b>27</b>	<b>135</b>	<b>4225.3</b>	<b>7035.6</b>	<b>5</b>	<b>6</b>	<b>2019</b>	<b>12:11</b>	<b>87</b>	<b>12.56</b>	<b>29.98</b>	<b>4.32</b>	<b>32.37</b>	<b>4</b>	<b>W</b>
150	136	4220.7	7049.7	5	6	2019	13:43	29	12.58	29.81	5.72	31.52	4	B
151	137	4221.5	7027.5	5	6	2019	15:47	71	12.56	30.05	4.38	32.32	6	B
152	137	4221.0	7027.4	5	6	2019	16:05	86	11.97	30.35	4.37	32.33	4	V
<b>28</b>	<b>137</b>	<b>4220.9</b>	<b>7027.3</b>	<b>5</b>	<b>6</b>	<b>2019</b>	<b>16:18</b>	<b>88</b>	<b>11.90</b>	<b>30.37</b>	<b>4.36</b>	<b>32.34</b>	<b>2</b>	<b>W</b>
153	138	4218.8	7016.8	5	6	2019	17:23	35	12.38	30.40	5.79	32.04	5	B
154	138	4218.6	7016.3	5	6	2019	17:37	34	12.34	30.50	5.69	32.04	7	V
<b>29</b>	<b>138</b>	<b>4218.7</b>	<b>7015.9</b>	<b>5</b>	<b>6</b>	<b>2019</b>	<b>17:48</b>	<b>35</b>	<b>12.47</b>	<b>30.45</b>	<b>5.55</b>	<b>32.08</b>	<b>3</b>	<b>W</b>
155	139	4203.8	7026.3	5	6	2019	19:42	54	12.84	30.07	4.94	32.07	5	B

Deployment codes: B=bongo cast; W=water cast; and V=vertical cast  
**Records in bold are collected with an SBE911+ CTD**