

*Oceans and Climate Branch CTD Data Report*  
*CTD\_REPORT\_2019006HB*

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DATE: 30 March 2020

# Oceans and Climate Branch CTD Data Report

## CTD\_REPORT\_2019006HB

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

HB 1906  
Fall Bottom Trawl Survey  
Data Coverage: Sept 4 - Nov 12, 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 HB1906 Fall Bottom Trawl Survey aboard the NOAA FSV *Henry B Bigelow*. Data was obtained with a Sea-Bird Electronics SBE Model 19+ profiling CTD (s/n 7142) during double oblique bongo tows and on vertical casts with a SBE Model 9/11+ s/n 0832. Sea water samples were taken for the purpose of calibrating salinity values. An SBE43 Dissolved Oxygen sensor and a Biospherical Instruments Inc. QSP2300 PAR (Photosynthetically Active Radiation) sensor were attached to the SBE 9/11.

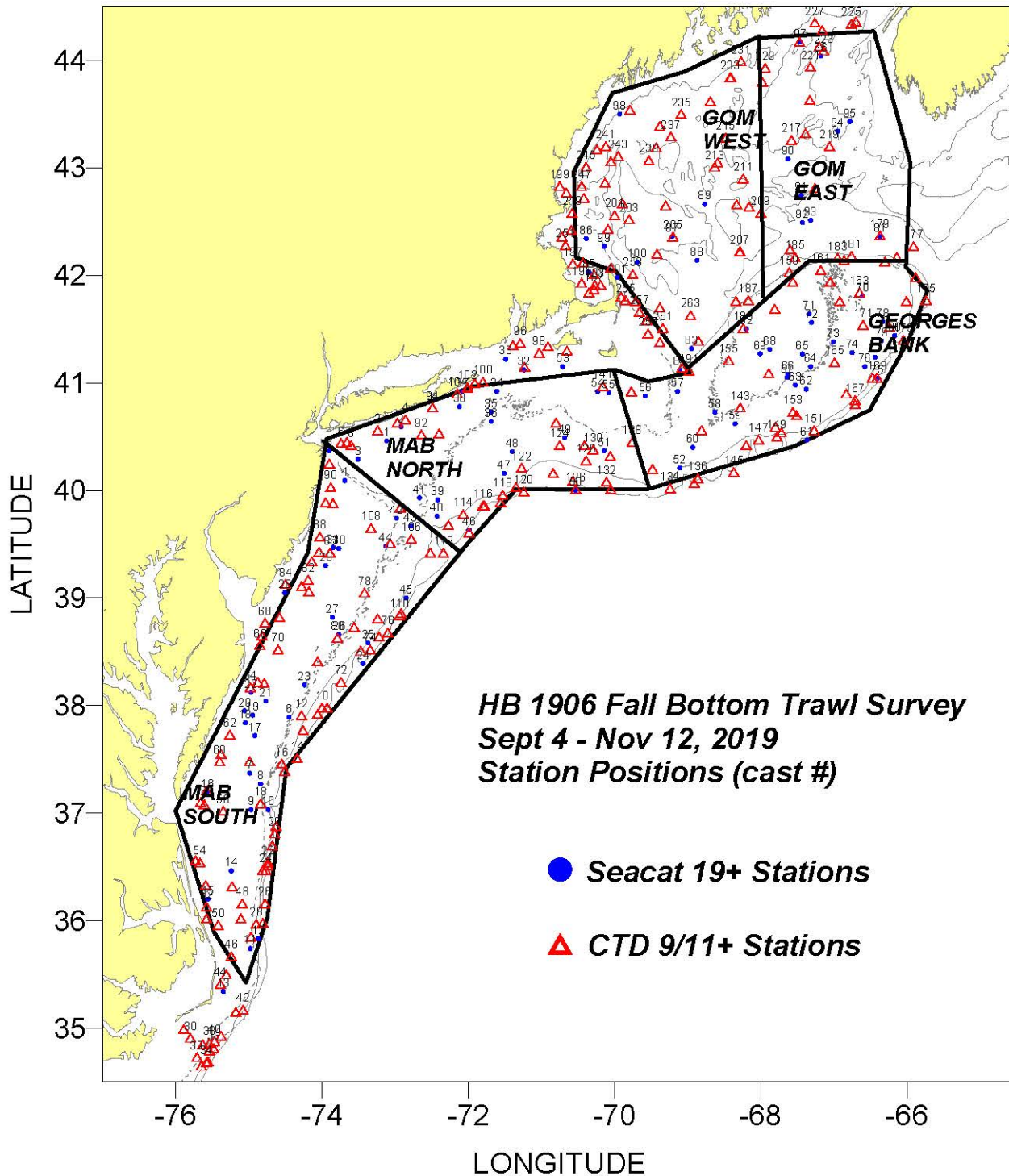
Data presented here have been audited, however, corrections and/or updates may be applied at a later time.

The SBE19+ was deployed on 93 double oblique bongo casts and 8 vertical/water sampling casts. The SBE9/11+ was used successfully on 263 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/CTD data can be found by contacting [Dr. Chris Melrose](#)

Revised: March 30, 2020



**Areal average surface and bottom temperature/salinity and temperature/salinity anomalies for the  
HB1906 Fall Bottom Trawl Survey  
Sept 4 - Nov 12, 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>														
hb1906	309	51	12.08	1.42	0.16	0.59	0	48	8.60	1.40	0.13	0.83	0	10
hb1906	309	51	32.52	-0.16	0.06	0.20	0	48	33.51	-0.04	0.04	0.23	0	10
<b>Eastern Gulf of Maine</b>														
hb1906	306	27	12.52	1.09	0.16	0.43	0	27	9.65	1.36	0.21	1.44	0	10
hb1906	306	27	32.74	0.00	0.08	0.26	0	27	34.51	0.06	0.05	0.20	0	10
<b>Georges Bank</b>														
hb1906	290	60	16.43	1.74	0.18	3.03	0	58	14.09	1.88	0.19	2.37	0	10
hb1906	290	60	33.37	0.58	0.06	0.99	0	58	33.69	0.39	0.06	0.65	0	10
<b>MAB North</b>														
hb1906	270	53	20.10	1.82	0.24	1.53	0	52	14.21	1.44	0.29	2.36	0	10
hb1906	270	53	33.17	0.45	0.11	0.91	0	52	33.88	0.34	0.10	0.99	0	10
<b>MAB South</b>														
hb1906	259	99	22.82	0.84	0.18	1.66	0	95	16.45	2.56	0.23	2.91	0	10
hb1906	259	99	32.40	0.12	0.11	1.29	0	95	32.89	-0.77	0.08	0.79	0	10

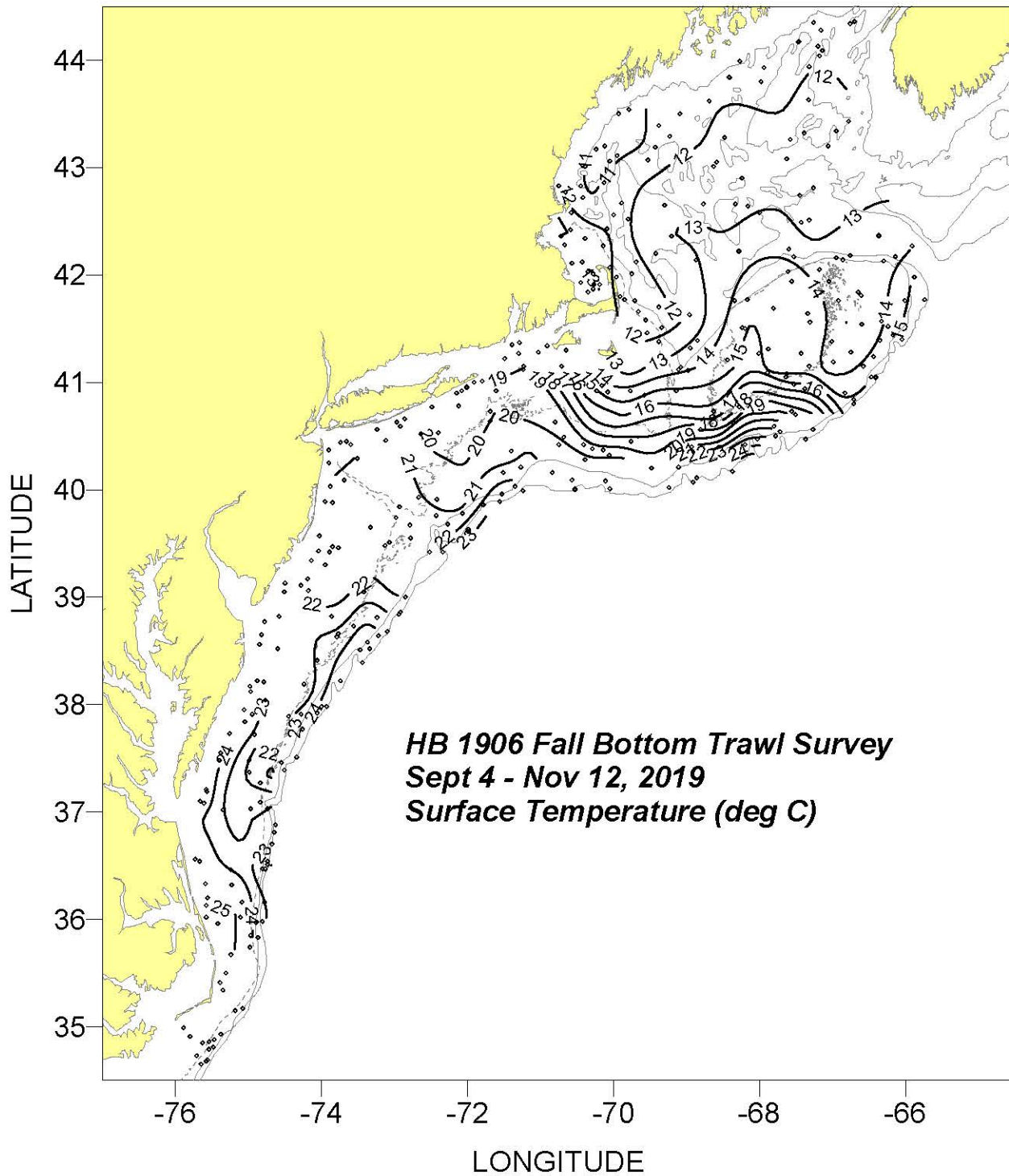
"CRUISE": the code name for a cruise; "CD": the calendar mid-date of all the stations within a region for a cruise;

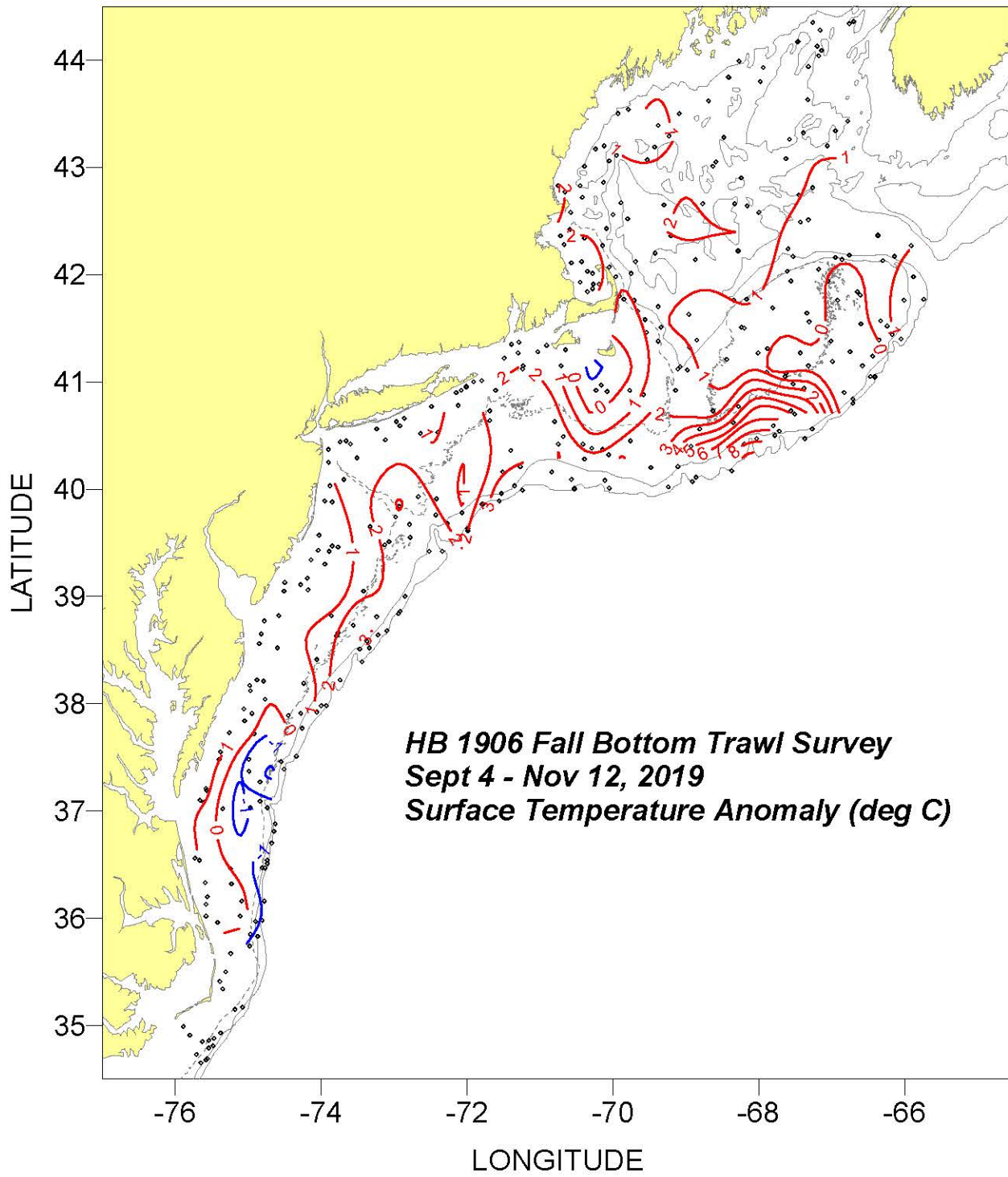
"#obs": the number of observations include in each average; "T/S": the areal average temp/salt; "Anomaly": the areal average temp/salt anomaly;

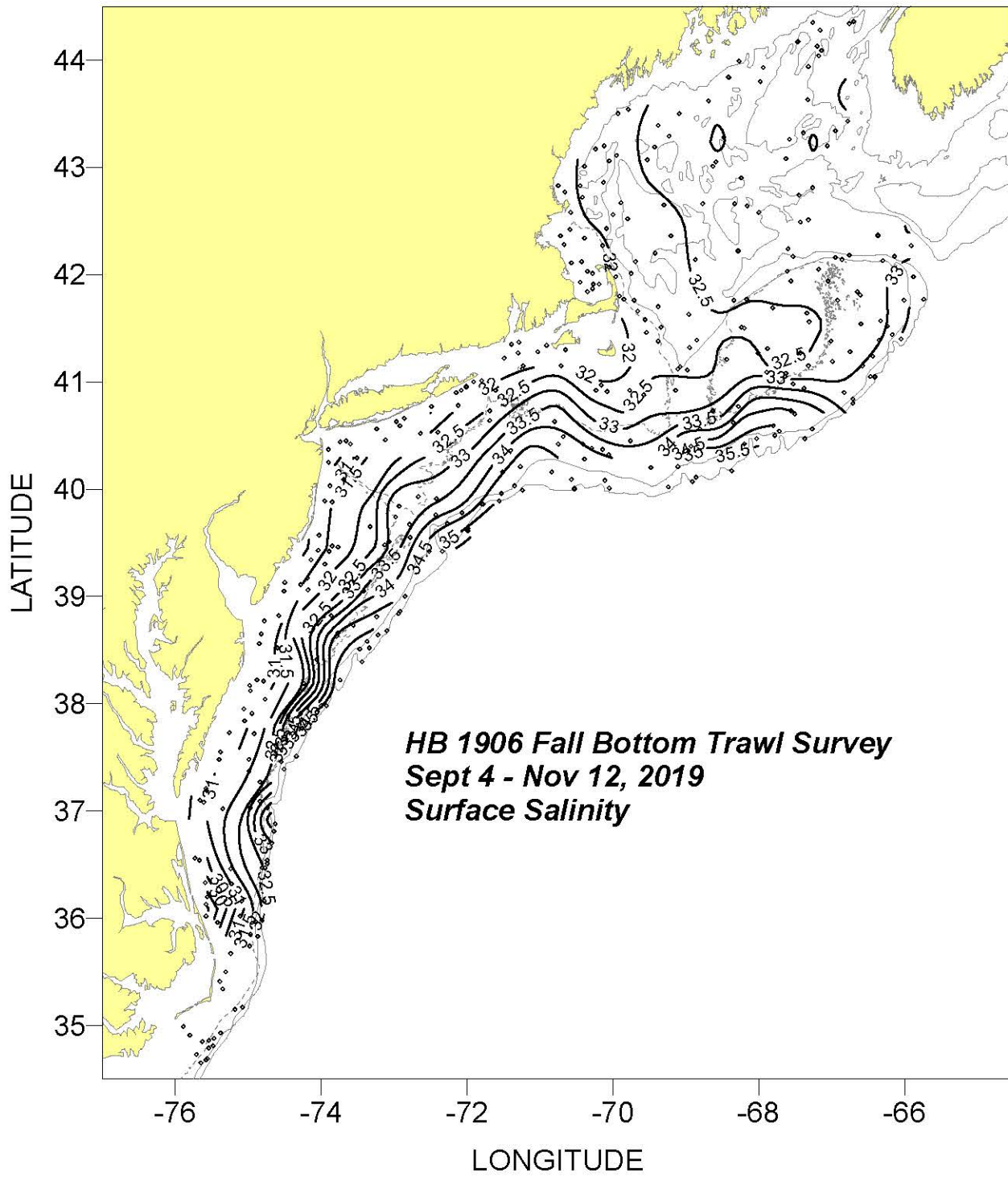
"SDV1": the standard deviation associated with the average temp/salt anomaly; "SDV2": the standard deviation of the individual anomalies from which the average anomaly was derived.

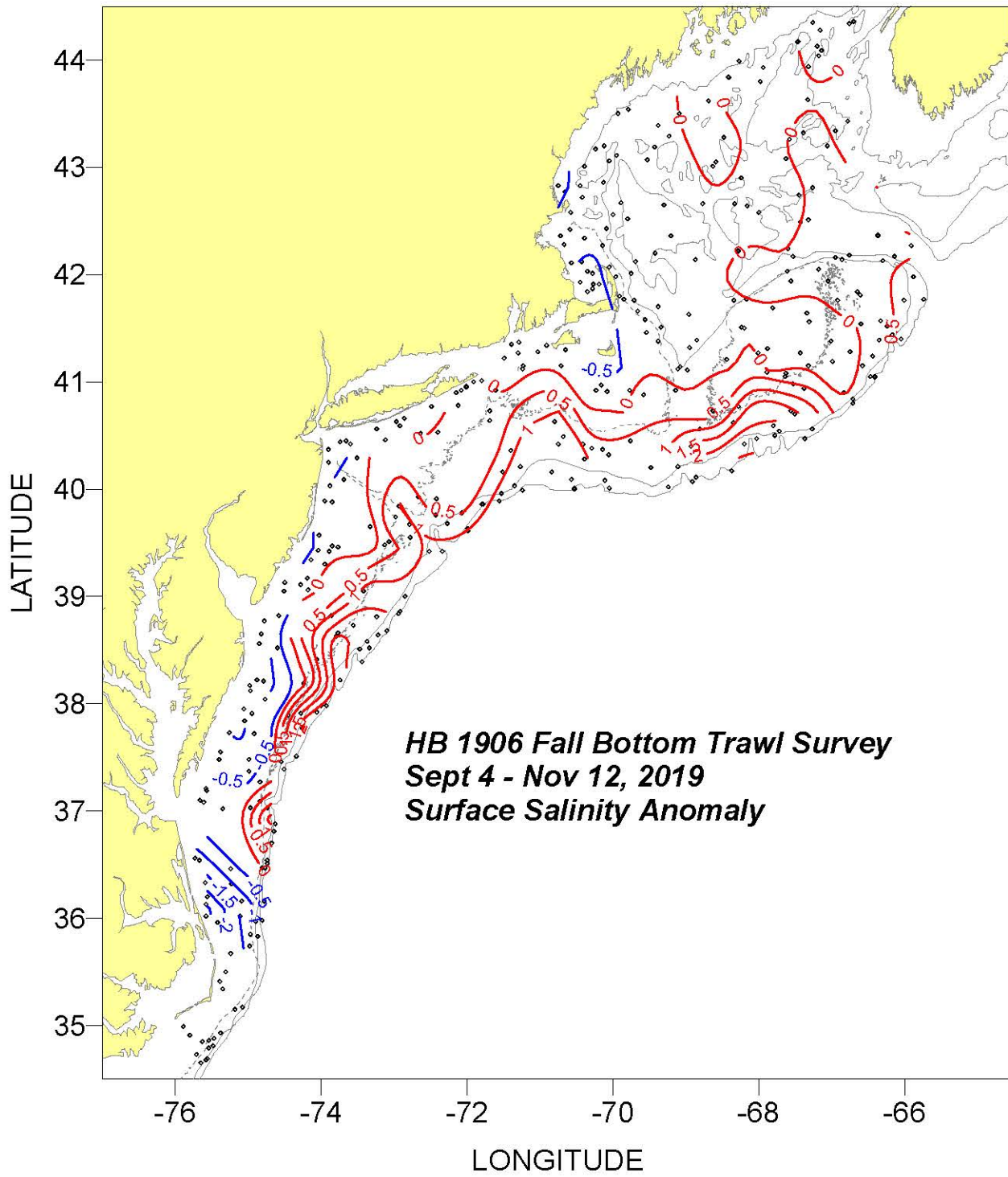
"Flag": a value of "1" indicates that a true areal average could not be calculated due to poor station coverage. The areal averages listed were derived from a simple average of the observations within the region.

"Purpose": 2 digit code identifying the NEFSC program survey where 10 denotes a Bottom Trawl survey.

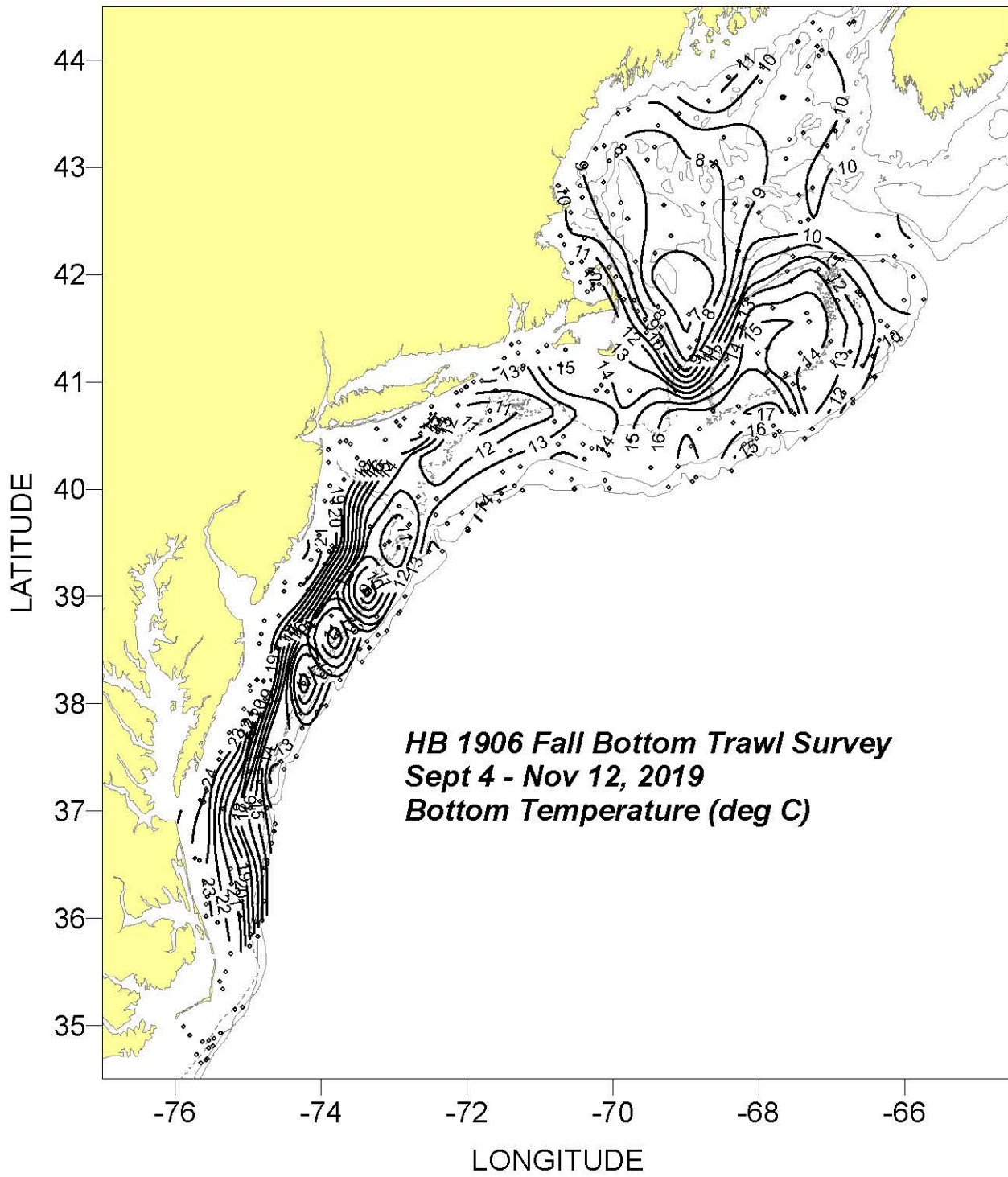


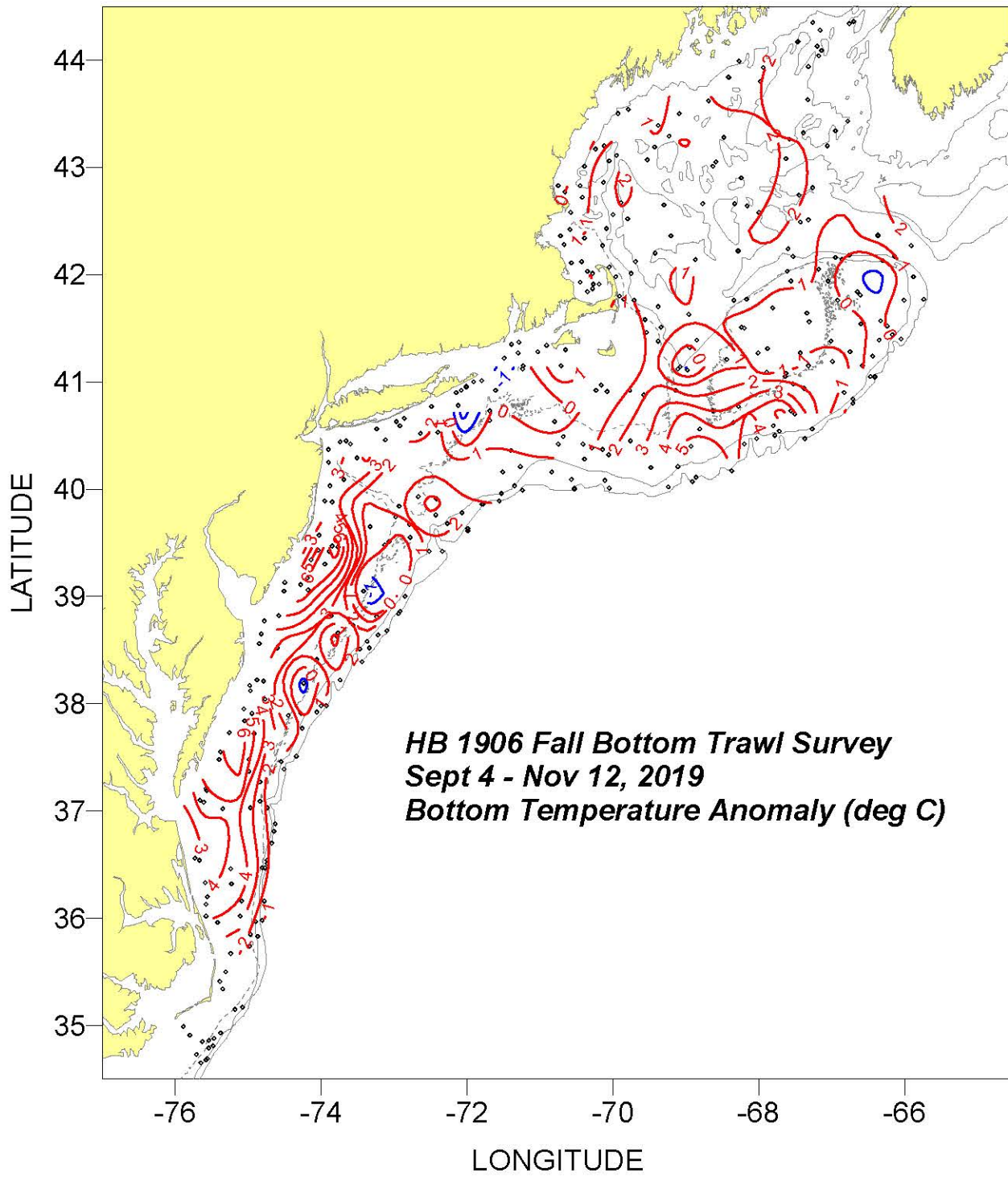


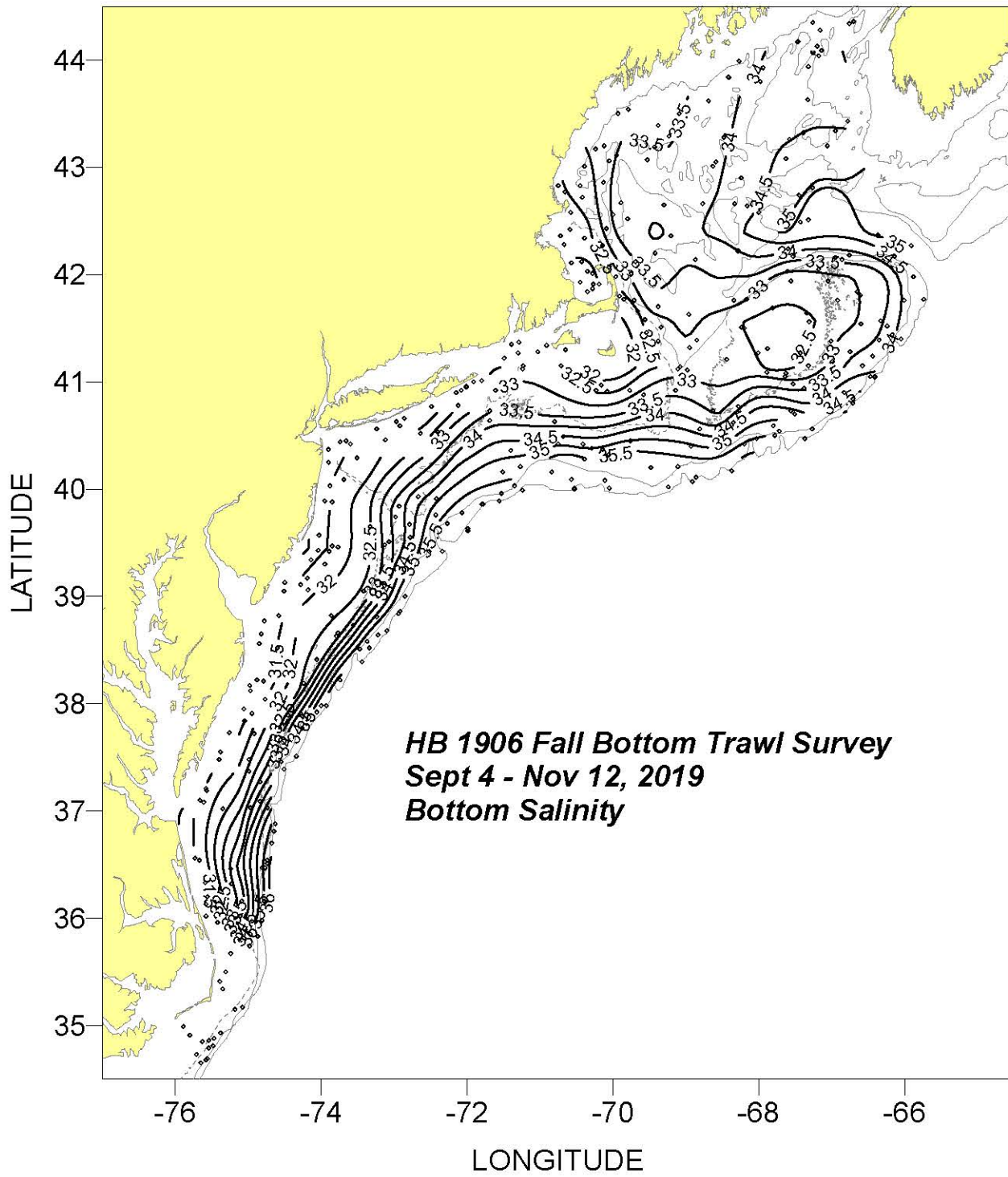


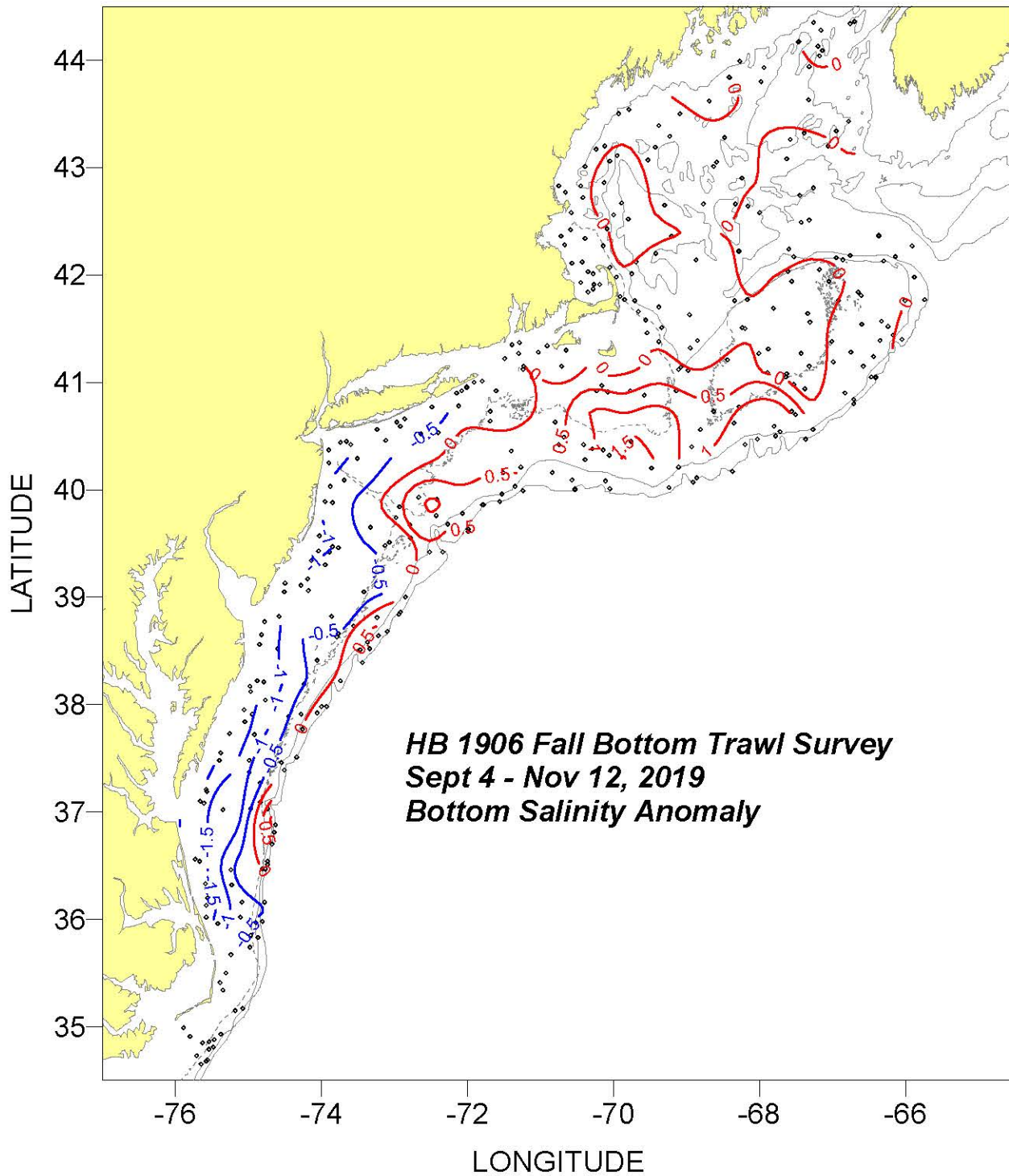












**HB1906 Fall Bottom Trawl Survey  
Sept 4 - Nov 12, 2019**

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
2	966	4033.4	7314.3	4	9	2019	4:01	25	21.13	30.81	20.12	31.21	5	W
1	1048	4027.4	7307.1	4	9	2019	6:07	33	21.47	31.17	14.71	31.86	5	B
3	1105	4037.5	7258.2	4	9	2019	8:40	24	21.60	30.97	20.92	31.49	5	V
2	1222	4035.4	7255.0	4	9	2019	10:14	27	21.55	31.15	21.05	31.50	8	B
4	1228	4039.8	7251.6	4	9	2019	11:56	26	21.40	30.92	19.46	31.56	4	V
3	1317	4017.4	7330.7	4	9	2019	17:53	27	21.88	31.42	21.42	31.52	7	B
4	995	4005.3	7341.4	4	9	2019	20:50	35	22.40	31.51	10.72	32.14	4	B
5	1020	4015.1	7354.2	4	9	2019	23:56	24	22.31	30.57	20.46	31.24	6	W
5	1288	4022.2	7354.0	5	9	2019	2:12	24	22.52	29.65	18.66	31.16	6	B
6	983	4026.5	7344.7	5	9	2019	4:21	30	22.81	29.19	16.61	31.41	3	V
7	1170	4026.9	7339.7	5	9	2019	5:33	23	22.42	30.15	18.44	31.39	2	V
8	1180	4025.3	7336.1	5	9	2019	6:47	23	22.29	30.44	19.88	31.50	2	V
9	1073	3759.0	7355.6	8	9	2019	20:07	213	25.23	34.75	13.32	35.71	13	W
10	1166	3758.7	7400.0	8	9	2019	22:00	131	24.95	34.73	14.07	35.78	3	V
11	1164	3755.2	7403.9	8	9	2019	23:35	134	24.62	34.88	14.05	35.76	1	V
12	1120	3754.7	7416.6	9	9	2019	1:40	76	22.60	34.51	7.86	32.67	1	V
6	1249	3753.4	7427.0	9	9	2019	3:17	57	22.06	32.82	8.55	32.61	3	B
13	1144	3746.2	7415.3	9	9	2019	5:32	100	23.93	35.28	13.41	35.15	4	W
14	1311	3730.8	7420.6	9	9	2019	7:51	192	22.67	34.66	12.52	35.61	5	V
15	1194	3723.7	7430.7	9	9	2019	10:09	109	19.83	32.59	13.94	35.49	3	V
16	1331	3727.6	7433.1	9	9	2019	11:48	72	20.66	32.28	8.77	33.14	4	V
17	1308	3728.6	7459.5	9	9	2019	15:04	30	21.65	31.10	20.90	31.53	3	V
7	1328	3721.9	7459.5	9	9	2019	16:37	39	21.69	31.47	18.44	31.97	6	B
8	1094	3716.3	7450.7	9	9	2019	18:41	51	21.21	31.72	10.88	32.56	4	B
18	1231	3705.6	7450.4	9	9	2019	20:50	60	20.57	32.08	9.86	33.55	3	V
9	1097	3701.9	7458.3	9	9	2019	23:11	45	21.46	31.87	12.73	32.48	3	B
10	1143	3702.0	7444.5	10	9	2019	1:16	88	23.17	33.49	13.03	34.94	4	B

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19	1244	3653.1	7438.0	10	9	2019	3:29	270	24.42	34.81	13.69	35.79	2	V
20	1210	3648.7	7439.2	10	9	2019	5:10	253	24.34	34.79	13.14	35.71	31	V
21	1077	3642.0	7440.8	10	9	2019	6:54	140	24.15	34.71	14.81	35.96	6	V
22	1294	3632.4	7444.6	10	9	2019	9:32	122	21.80	32.42	14.48	35.84	7	V
23	1192	3630.4	7444.7	10	9	2019	11:27	145	21.90	32.49	14.25	35.84	4	W
24	1214	3628.3	7446.3	10	9	2019	14:00	96	21.89	32.50	13.84	35.75	4	V
25	1282	3628.1	7448.9	10	9	2019	15:37	75	23.50	33.22	13.76	35.34	4	V
26	1251	3609.7	7447.0	10	9	2019	18:54	180	22.89	32.10	13.65	35.76	14	V
27	1257	3558.9	7448.8	10	9	2019	21:33	134	22.46	31.96	14.91	35.91	7	V
28	1061	3558.1	7454.1	10	9	2019	23:05	84	22.86	31.75	13.66	34.86	2	V
29	1089	3551.0	7458.5	11	9	2019	0:54	52	21.89	32.01	13.78	34.13	1	W
11	1109	3544.7	7459.1	11	9	2019	2:42	45	24.51	31.08	15.14	33.95	4	B
12	1237	3549.8	7452.4	11	9	2019	4:52	161	22.28	32.09	13.90	35.66	5	B
13	1067	3520.4	7521.1	11	9	2019	10:00	23	24.83	29.46	24.42	32.28	7	B
30	1407	3454.9	7548.0	11	9	2019	15:18	26	25.24	32.68	25.98	34.27	5	V
31	1421	3459.6	7553.1	11	9	2019	17:04	24	25.01	31.95	27.04	35.19	4	V
32	1176	3444.0	7542.6	11	9	2019	19:44	45	26.83	36.33	24.32	36.43	4	V
33	1038	3438.8	7539.0	11	9	2019	21:32	143	27.14	36.40	18.12	36.39	5	V
34	1133	3441.0	7534.8	11	9	2019	23:35	224	27.11	36.39	15.17	36.03	7	W
35	1090	3441.6	7533.3	12	9	2019	1:36	288	26.50	36.37	12.09	35.56	4	V
36	1212	3448.8	7529.1	12	9	2019	3:40	161	26.83	36.34	16.62	36.24	5	V
37	1187	3447.4	7532.2	12	9	2019	5:04	113	26.72	36.33	18.83	36.42	5	V
38	1059	3451.4	7532.3	12	9	2019	6:16	67	26.71	36.34	23.05	36.49	4	W
39	1322	3450.8	7537.9	12	9	2019	7:55	46	26.88	36.36	24.54	36.43	5	V
40	964	3453.0	7528.2	12	9	2019	9:39	99	26.92	36.34	20.80	36.51	5	V
41	1245	3456.0	7522.9	12	9	2019	11:05	124	27.03	36.35	18.31	36.41	2	V
42	1301	3510.4	7504.5	12	9	2019	14:26	216	27.29	36.30	14.61	35.94	5	V

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43	1177	3509.2	7510.9	12	9	2019	17:27	78	27.28	36.32	22.05	36.52	1	V
44	962	3524.3	7523.6	12	9	2019	20:00	22	25.33	29.74	26.31	35.14	3	V
45	1270	3530.0	7518.4	12	9	2019	21:33	26	24.99	30.52	26.37	35.70	4	V
46	996	3540.1	7514.5	12	9	2019	23:11	34	25.19	31.68	26.17	35.42	7	V
47	1022	3601.2	7506.3	13	9	2019	1:44	32	24.77	30.92	21.46	33.76	3	W
48	956	3609.8	7505.2	13	9	2019	3:27	36	25.02	30.90	19.62	32.58	3	V
49	1315	3619.0	7513.6	13	9	2019	5:40	33	24.86	30.90	20.43	32.99	5	V
14	1324	3627.5	7514.6	13	9	2019	7:22	34	23.74	31.39	22.51	33.32	5	B
50	974	3557.4	7525.5	13	9	2019	10:48	20	25.60	27.74	23.10	31.34	4	V
51	1216	3601.5	7534.8	13	9	2019	12:26	23	25.12	28.71	24.00	30.88	5	V
52	1238	3607.5	7535.0	13	9	2019	13:53	25	25.11	29.13	23.01	31.31	5	V
15	1310	3611.8	7533.5	13	9	2019	15:36	28	24.59	30.44	21.40	31.97	2	B
53	997	3619.8	7535.3	13	9	2019	17:45	26	24.88	29.69	22.87	31.15	7	V
54	1091	3632.4	7540.5	13	9	2019	19:53	24	24.36	30.35	23.30	31.04	4	V
55	1188	3633.5	7543.8	13	9	2019	21:35	23	24.53	29.86	23.66	30.79	5	V
56	1087	3700.9	7520.8	14	9	2019	2:41	33	22.98	31.47	21.48	32.19	1	W
57	1298	3704.6	7536.6	14	9	2019	5:20	22	24.11	31.09	24.12	31.09	5	V
58	1449	3706.2	7539.6	14	9	2019	16:54	18	24.51	31.03	24.23	31.03	2	W
16	1253	3711.5	7534.1	14	9	2019	18:22	20	24.75	31.02	24.06	31.02	4	B
59	1111	3712.8	7534.9	14	9	2019	19:46	20	24.84	30.98	24.08	31.01	2	V
60	1181	3728.6	7524.2	14	9	2019	22:21	23	24.24	31.00	23.45	31.00	3	V
61	1080	3733.0	7522.5	15	9	2019	0:12	24	24.25	30.85	23.69	30.88	3	V
62	994	3743.7	7515.6	15	9	2019	2:57	25	24.02	30.76	23.69	30.79	6	V
17	1329	3743.2	7455.2	15	9	2019	5:29	35	23.22	30.92	21.43	31.96	4	B
18	1110	3750.7	7502.9	15	9	2019	7:52	23	23.79	30.77	23.22	30.85	4	B
19	988	3754.3	7456.8	15	9	2019	9:13	25	23.57	30.82	21.72	31.53	4	B
20	1051	3757.2	7503.5	15	9	2019	10:40	20	23.96	30.76	23.19	30.85	4	W
21	1218	3802.3	7446.3	15	9	2019	12:46	33	22.67	30.88	19.99	31.52	3	B

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63	1250	3812.6	7447.4	15	9	2019	15:15	22	23.39	30.63	22.11	31.06	5	W
22	1006	3807.3	7458.3	15	9	2019	17:50	22	24.60	30.75	22.75	30.87	4	B
64	1302	3810.4	7458.7	15	9	2019	19:17	20	23.83	30.71	23.19	30.75	4	V
65	999	3813.1	7452.7	15	9	2019	20:37	23	23.95	30.64	23.08	30.74	4	V
66	968	3833.7	7451.2	15	9	2019	23:20	24	23.64	30.28	22.34	30.72	2	V
67	1305	3839.2	7449.1	16	9	2019	0:39	24	22.74	30.51	22.29	30.77	2	V
68	1291	3846.3	7446.6	16	9	2019	2:07	21	22.98	30.52	22.87	30.56	3	V
69	1303	3848.9	7434.7	16	9	2019	4:26	25	22.58	30.84	21.54	31.36	4	V
70	1002	3831.1	7436.1	16	9	2019	8:02	30	22.78	30.86	18.30	31.78	4	V
23	1134	3811.6	7414.6	16	9	2019	11:38	44	22.16	32.01	9.03	32.60	5	B
71	1149	3824.7	7403.4	16	9	2019	14:31	62	24.00	34.91	8.94	33.02	4	W
72	1242	3813.1	7344.6	16	9	2019	17:03	120	24.48	35.25	14.46	35.82	1	V
73	1278	3830.3	7328.5	16	9	2019	20:18	103	24.50	35.17	14.80	35.77	1	V
24	1136	3823.6	7326.4	16	9	2019	22:55	189	25.21	35.22	13.84	35.79	3	B
74	1178	3831.1	7320.2	17	9	2019	1:03	120	24.25	35.21	14.85	35.91	3	V
25	960	3834.6	7322.4	17	9	2019	2:48	94	24.85	35.20	14.79	35.54	5	B
75	1191	3838.6	7313.0	17	9	2019	4:40	128	24.62	35.21	14.86	35.90	5	W
76	1029	3840.6	7306.2	17	9	2019	6:28	197	24.61	35.48	14.19	35.83	4	W
77	1276	3848.4	7314.6	17	9	2019	8:56	81	24.16	35.28	7.51	32.85	7	V
78	1287	3903.3	7325.3	17	9	2019	11:36	59	22.44	33.56	7.70	32.60	3	V
79	1107	3843.7	7333.6	17	9	2019	14:46	68	23.10	34.64	8.01	32.78	9	V
80	1138	3837.5	7347.3	17	9	2019	17:12	61	23.30	34.62	8.64	32.71	5	V
26	1295	3839.4	7346.3	17	9	2019	18:31	55	23.18	34.57	8.82	32.63	8	B
27	1076	3849.3	7351.9	17	9	2019	20:25	46	21.72	32.35	10.36	32.41	2	B
81	1195	3903.6	7410.6	17	9	2019	23:14	33	21.69	31.67	21.04	32.17	4	V
82	1255	3910.0	7411.7	18	9	2019	0:46	26	21.40	31.55	21.12	31.51	4	V
83	1283	3906.3	7416.9	18	9	2019	2:35	25	21.68	31.71	21.32	31.64	4	V
28	1000	3903.3	7430.8	18	9	2019	4:58	22	22.34	30.75	22.36	30.76	5	B



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84	1327	3907.5	7430.0	18	9	2019	6:28	21	22.44	30.73	22.44	30.73	5	V
85	1190	3920.7	7408.1	18	9	2019	9:10	27	21.64	31.15	21.57	31.14	5	V
29	984	3918.3	7357.1	18	9	2019	11:34	35	21.24	31.70	20.79	31.70	5	B
86	1150	3925.2	7353.4	18	9	2019	13:37	32	21.25	31.70	20.63	31.69	5	V
30	1240	3927.4	7346.0	18	9	2019	15:24	33	21.15	31.67	19.35	31.72	6	B
31	1173	3927.9	7351.2	18	9	2019	17:05	35	21.39	31.74	20.78	31.68	4	B
87	1326	3925.8	7402.2	18	9	2019	19:35	26	21.07	31.43	20.72	31.40	3	V
88	1132	3934.1	7402.0	18	9	2019	21:42	24	21.61	31.09	21.55	31.13	3	V
89	992	3953.5	7357.3	19	9	2019	2:13	23	21.41	30.95	21.41	30.95	4	W
90	1656	4001.8	7352.7	19	9	2019	4:48	25	21.27	31.25	20.99	31.23	5	W
91	976	3952.7	7350.8	19	9	2019	6:48	26	21.12	31.54	21.13	31.54	5	V
92	1203	4031.1	7238.7	19	9	2019	15:44	47	NaN	NaN	12.65	32.26	7	V
93	1196	4031.6	7223.9	19	9	2019	18:55	49	19.00	32.63	11.20	32.41	4	V
94	1153	4046.1	7229.3	19	9	2019	21:44	32	19.53	31.26	18.90	31.64	6	W
95	985	4121.1	7123.7	25	9	2019	16:28	34	19.18	31.67	14.67	32.35	4	V
96	958	4122.3	7117.1	25	9	2019	18:12	34	19.63	31.74	16.09	32.84	5	V
97	1071	4120.7	7054.5	25	9	2019	20:55	34	18.66	32.06	15.44	32.70	6	V
98	1141	4116.9	7101.9	26	9	2019	0:13	42	19.25	31.77	14.85	32.84	9	W
99	1293	4109.1	7113.6	26	9	2019	2:38	38	19.22	31.81	12.20	32.64	8	V
32	1098	4107.2	7114.4	26	9	2019	5:45	33	18.65	31.97	13.34	32.77	6	B
33	1157	4113.2	7129.7	26	9	2019	8:31	37	18.49	31.56	14.45	32.67	5	W
34	1247	4055.5	7136.5	26	9	2019	12:20	55	19.13	32.04	9.07	32.71	4	B
35	986	4044.0	7141.6	26	9	2019	14:30	69	19.95	32.52	9.69	33.28	6	B
36	1047	4038.5	7141.3	26	9	2019	17:33	71	20.38	32.68	11.91	34.52	3	B
100	961	4100.8	7148.0	26	9	2019	21:42	29	19.09	31.86	16.07	32.08	5	W
101	1183	4100.1	7154.4	26	9	2019	23:42	20	19.28	31.51	18.03	32.23	4	V
102	1156	4057.4	7200.4	27	9	2019	1:39	26	19.19	31.70	16.20	32.99	4	V
37	1017	4055.5	7204.6	27	9	2019	3:26	28	19.00	32.28	13.64	32.43	3	B

**HB1906 Fall Bottom Trawl Survey  
Sept 4 - Nov 12, 2019**

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
<b>103</b>	<b>1016</b>	<b>4057.2</b>	<b>7200.8</b>	<b>27</b>	<b>9</b>	<b>2019</b>	<b>4:55</b>	<b>26</b>	<b>18.81</b>	<b>32.12</b>	<b>15.65</b>	<b>32.61</b>	<b>6</b>	<b>W</b>
<b>104</b>	<b>1099</b>	<b>4054.2</b>	<b>7208.9</b>	<b>27</b>	<b>9</b>	<b>2019</b>	<b>6:22</b>	<b>27</b>	<b>18.59</b>	<b>32.39</b>	<b>13.74</b>	<b>32.46</b>	<b>5</b>	<b>V</b>
38	1168	4046.9	7207.0	27	9	2019	8:30	44	19.63	32.02	10.12	32.49	4	B
39	1292	3954.8	7225.0	27	9	2019	14:13	74	20.81	33.50	13.63	35.51	3	W
40	1140	3945.8	7226.0	27	9	2019	16:24	84	20.96	33.96	13.81	35.53	3	B
41	977	3955.8	7240.0	27	9	2019	19:50	58	21.34	32.72	9.68	33.03	4	B
<b>105</b>	<b>1044</b>	<b>3950.3</b>	<b>7255.9</b>	<b>27</b>	<b>9</b>	<b>2019</b>	<b>22:23</b>	<b>70</b>	<b>21.49</b>	<b>33.65</b>	<b>11.40</b>	<b>33.95</b>	<b>5</b>	<b>W</b>
42	1060	3944.5	7259.0	28	9	2019	0:01	57	21.08	32.62	8.11	32.62	1	B
43	1019	3940.2	7247.6	28	9	2019	2:31	70	21.19	33.33	10.64	33.75	4	B
<b>106</b>	<b>1068</b>	<b>3933.1</b>	<b>7247.0</b>	<b>28</b>	<b>9</b>	<b>2019</b>	<b>4:42</b>	<b>70</b>	<b>21.33</b>	<b>34.14</b>	<b>10.59</b>	<b>33.87</b>	<b>3</b>	<b>V</b>
<b>107</b>	<b>1309</b>	<b>3930.6</b>	<b>7304.1</b>	<b>28</b>	<b>9</b>	<b>2019</b>	<b>6:42</b>	<b>67</b>	<b>20.87</b>	<b>32.72</b>	<b>9.43</b>	<b>33.38</b>	<b>6</b>	<b>W</b>
<b>108</b>	<b>979</b>	<b>3938.9</b>	<b>7319.9</b>	<b>28</b>	<b>9</b>	<b>2019</b>	<b>9:05</b>	<b>41</b>	<b>21.00</b>	<b>31.98</b>	<b>13.09</b>	<b>32.36</b>	<b>5</b>	<b>V</b>
44	1220	3928.9	7308.0	28	9	2019	11:45	47	20.92	32.29	8.54	32.58	6	B
<b>109</b>	<b>1198</b>	<b>3851.4</b>	<b>7255.4</b>	<b>28</b>	<b>9</b>	<b>2019</b>	<b>16:49</b>	<b>265</b>	<b>22.14</b>	<b>35.25</b>	<b>11.17</b>	<b>35.43</b>	<b>12</b>	<b>V</b>
<b>110</b>	<b>1161</b>	<b>3850.6</b>	<b>7256.2</b>	<b>28</b>	<b>9</b>	<b>2019</b>	<b>18:37</b>	<b>219</b>	<b>22.27</b>	<b>35.23</b>	<b>13.03</b>	<b>35.69</b>	<b>5</b>	<b>V</b>
45	965	3900.2	7251.0	28	9	2019	20:47	122	21.83	34.30	14.22	35.77	4	B
<b>111</b>	<b>1332</b>	<b>3925.0</b>	<b>7231.1</b>	<b>29</b>	<b>9</b>	<b>2019</b>	<b>0:55</b>	<b>126</b>	<b>22.02</b>	<b>34.84</b>	<b>14.36</b>	<b>35.75</b>	<b>1</b>	<b>V</b>
<b>112</b>	<b>967</b>	<b>3925.1</b>	<b>7220.7</b>	<b>29</b>	<b>9</b>	<b>2019</b>	<b>3:36</b>	<b>143</b>	<b>22.39</b>	<b>35.55</b>	<b>14.06</b>	<b>35.78</b>	<b>6</b>	<b>V</b>
<b>113</b>	<b>1265</b>	<b>3940.7</b>	<b>7216.2</b>	<b>29</b>	<b>9</b>	<b>2019</b>	<b>6:07</b>	<b>119</b>	<b>21.03</b>	<b>34.21</b>	<b>14.13</b>	<b>35.75</b>	<b>5</b>	<b>W</b>
<b>114</b>	<b>1023</b>	<b>3946.9</b>	<b>7204.2</b>	<b>29</b>	<b>9</b>	<b>2019</b>	<b>8:27</b>	<b>120</b>	<b>21.36</b>	<b>34.50</b>	<b>14.20</b>	<b>35.76</b>	<b>5</b>	<b>V</b>
46	1116	3937.8	7159.5	29	9	2019	10:38	277	23.53	35.44	13.54	35.76	74	B
<b>115</b>	<b>1116</b>	<b>3936.8</b>	<b>7159.7</b>	<b>29</b>	<b>9</b>	<b>2019</b>	<b>11:05</b>	<b>300</b>	<b>23.54</b>	<b>35.43</b>	<b>12.56</b>	<b>35.62</b>	<b>7</b>	<b>V</b>
<b>116</b>	<b>982</b>	<b>3951.4</b>	<b>7148.2</b>	<b>29</b>	<b>9</b>	<b>2019</b>	<b>14:23</b>	<b>180</b>	<b>20.67</b>	<b>33.11</b>	<b>14.15</b>	<b>35.85</b>	<b>4</b>	<b>V</b>
<b>117</b>	<b>1213</b>	<b>3951.8</b>	<b>7146.8</b>	<b>29</b>	<b>9</b>	<b>2019</b>	<b>16:56</b>	<b>192</b>	<b>20.66</b>	<b>33.11</b>	<b>14.09</b>	<b>35.84</b>	<b>8</b>	<b>W</b>
<b>118</b>	<b>1243</b>	<b>3957.3</b>	<b>7132.0</b>	<b>29</b>	<b>9</b>	<b>2019</b>	<b>20:53</b>	<b>120</b>	<b>23.14</b>	<b>35.39</b>	<b>14.77</b>	<b>35.91</b>	<b>5</b>	<b>V</b>
<b>119</b>	<b>1306</b>	<b>3953.7</b>	<b>7133.3</b>	<b>30</b>	<b>9</b>	<b>2019</b>	<b>0:12</b>	<b>286</b>	<b>23.79</b>	<b>35.73</b>	<b>11.85</b>	<b>35.53</b>	<b>12</b>	<b>V</b>
<b>120</b>	<b>1070</b>	<b>3959.3</b>	<b>7114.3</b>	<b>30</b>	<b>9</b>	<b>2019</b>	<b>7:55</b>	<b>297</b>	<b>23.84</b>	<b>35.92</b>	<b>13.83</b>	<b>35.81</b>	<b>2</b>	<b>V</b>
<b>121</b>	<b>1186</b>	<b>4001.8</b>	<b>7121.2</b>	<b>30</b>	<b>9</b>	<b>2019</b>	<b>10:39</b>	<b>146</b>	<b>24.00</b>	<b>35.80</b>	<b>14.98</b>	<b>35.93</b>	<b>4</b>	<b>V</b>

**HB1906 Fall Bottom Trawl Survey**  
**Sept 4 - Nov 12, 2019**

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	1154	4009.3	7130.7	30	9	2019	13:47	88	21.03	34.53	14.13	35.49	5	B
<b>122</b>	<b>973</b>	<b>4012.8</b>	<b>7116.1</b>	<b>30</b>	<b>9</b>	<b>2019</b>	<b>15:50</b>	<b>97</b>	<b>21.74</b>	<b>35.07</b>	<b>14.10</b>	<b>35.51</b>	<b>6</b>	<b>V</b>
48	1042	4021.7	7124.1	30	9	2019	18:19	80	20.88	34.65	11.61	34.12	9	B
<b>123</b>	<b>1108</b>	<b>4038.1</b>	<b>7048.0</b>	<b>30</b>	<b>9</b>	<b>2019</b>	<b>23:56</b>	<b>68</b>	<b>20.28</b>	<b>34.16</b>	<b>11.28</b>	<b>33.47</b>	<b>6</b>	<b>V</b>
49	1258	4029.4	7040.6	1	10	2019	2:27	76	19.71	34.16	13.02	34.92	7	B
<b>124</b>	<b>1155</b>	<b>4025.0</b>	<b>7044.8</b>	<b>1</b>	<b>10</b>	<b>2019</b>	<b>4:29</b>	<b>86</b>	<b>20.16</b>	<b>34.26</b>	<b>13.73</b>	<b>35.37</b>	<b>4</b>	<b>W</b>
<b>125</b>	<b>1126</b>	<b>4009.8</b>	<b>7050.1</b>	<b>1</b>	<b>10</b>	<b>2019</b>	<b>7:17</b>	<b>135</b>	<b>20.35</b>	<b>34.44</b>	<b>14.67</b>	<b>35.89</b>	<b>5</b>	<b>V</b>
50	1205	3959.8	7031.5	1	10	2019	10:19	338	23.83	35.96	14.47	35.90	135	B
<b>126</b>	<b>1205</b>	<b>4000.4</b>	<b>7031.6</b>	<b>1</b>	<b>10</b>	<b>2019</b>	<b>10:46</b>	<b>312</b>	<b>23.83</b>	<b>35.95</b>	<b>11.97</b>	<b>35.54</b>	<b>5</b>	<b>V</b>
<b>127</b>	<b>1083</b>	<b>4005.3</b>	<b>7034.3</b>	<b>1</b>	<b>10</b>	<b>2019</b>	<b>13:54</b>	<b>124</b>	<b>23.91</b>	<b>36.11</b>	<b>14.33</b>	<b>35.73</b>	<b>4</b>	<b>V</b>
<b>128</b>	<b>1015</b>	<b>4016.9</b>	<b>7023.7</b>	<b>1</b>	<b>10</b>	<b>2019</b>	<b>16:33</b>	<b>99</b>	<b>19.30</b>	<b>33.94</b>	<b>13.94</b>	<b>35.25</b>	<b>20</b>	<b>V</b>
<b>129</b>	<b>1162</b>	<b>4025.5</b>	<b>7024.4</b>	<b>1</b>	<b>10</b>	<b>2019</b>	<b>18:23</b>	<b>76</b>	<b>19.74</b>	<b>34.01</b>	<b>13.27</b>	<b>35.02</b>	<b>5</b>	<b>V</b>
<b>130</b>	<b>1184</b>	<b>4023.0</b>	<b>7017.5</b>	<b>1</b>	<b>10</b>	<b>2019</b>	<b>20:41</b>	<b>81</b>	<b>20.25</b>	<b>34.32</b>	<b>13.71</b>	<b>35.18</b>	<b>5</b>	<b>W</b>
51	1032	4022.1	7008.5	1	10	2019	22:22	81	20.03	34.18	13.99	35.42	7	B
<b>131</b>	<b>1269</b>	<b>4019.3</b>	<b>7003.5</b>	<b>2</b>	<b>10</b>	<b>2019</b>	<b>0:23</b>	<b>87</b>	<b>19.93</b>	<b>34.00</b>	<b>14.44</b>	<b>35.71</b>	<b>5</b>	<b>V</b>
<b>132</b>	<b>963</b>	<b>4004.8</b>	<b>7006.4</b>	<b>2</b>	<b>10</b>	<b>2019</b>	<b>3:25</b>	<b>158</b>	<b>22.72</b>	<b>35.44</b>	<b>15.32</b>	<b>35.99</b>	<b>6</b>	<b>V</b>
<b>133</b>	<b>1201</b>	<b>4000.5</b>	<b>7003.1</b>	<b>2</b>	<b>10</b>	<b>2019</b>	<b>5:38</b>	<b>166</b>	NaN	NaN	<b>14.55</b>	<b>35.89</b>	<b>5</b>	<b>V</b>
<b>134</b>	<b>1113</b>	<b>4001.1</b>	<b>6914.6</b>	<b>2</b>	<b>10</b>	<b>2019</b>	<b>11:45</b>	<b>162</b>	NaN	NaN	<b>16.05</b>	<b>36.12</b>	<b>6</b>	<b>V</b>
<b>135</b>	<b>1057</b>	<b>4004.1</b>	<b>6854.6</b>	<b>2</b>	<b>10</b>	<b>2019</b>	<b>15:56</b>	<b>207</b>	<b>24.85</b>	<b>36.01</b>	<b>14.59</b>	<b>35.91</b>	<b>3</b>	<b>W</b>
<b>136</b>	<b>1158</b>	<b>4006.3</b>	<b>6851.4</b>	<b>2</b>	<b>10</b>	<b>2019</b>	<b>20:01</b>	<b>203</b>	<b>24.79</b>	<b>36.00</b>	<b>15.33</b>	<b>36.01</b>	<b>3</b>	<b>V</b>
52	1232	4012.3	6906.6	3	10	2019	0:10	152	21.05	34.73	14.15	35.85	6	B
<b>137</b>	<b>1101</b>	<b>4011.7</b>	<b>6928.8</b>	<b>3</b>	<b>10</b>	<b>2019</b>	<b>3:18</b>	<b>85</b>	<b>19.61</b>	<b>34.03</b>	<b>15.92</b>	<b>35.93</b>	<b>4</b>	<b>V</b>
<b>138</b>	<b>1086</b>	<b>4026.8</b>	<b>6945.6</b>	<b>3</b>	<b>10</b>	<b>2019</b>	<b>6:34</b>	<b>74</b>	<b>18.77</b>	<b>33.03</b>	<b>14.37</b>	<b>35.62</b>	<b>4</b>	<b>W</b>
<b>139</b>	<b>1316</b>	<b>4117.8</b>	<b>7039.1</b>	<b>13</b>	<b>10</b>	<b>2019</b>	<b>1:33</b>	<b>25</b>	<b>15.78</b>	<b>31.64</b>	<b>15.78</b>	<b>31.64</b>	<b>5</b>	<b>W</b>
53	1027	4108.8	7042.5	13	10	2019	3:34	38	16.46	32.14	16.20	32.42	4	B
54	1102	4055.2	7013.7	13	10	2019	8:50	35	13.98	31.83	14.23	31.92	4	B
<b>141</b>	<b>1263</b>	<b>4058.0</b>	<b>7009.7</b>	<b>13</b>	<b>10</b>	<b>2019</b>	<b>10:24</b>	<b>26</b>	<b>14.02</b>	<b>31.82</b>	<b>14.01</b>	<b>31.82</b>	<b>1</b>	<b>V</b>
55	1082	4054.7	7004.8	13	10	2019	12:03	26	13.74	31.88	13.73	31.88	1	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
<b>142</b>	<b>1128</b>	<b>4055.3</b>	<b>6946.2</b>	<b>13</b>	<b>10</b>	<b>2019</b>	<b>15:27</b>	<b>36</b>	<b>13.48</b>	<b>32.07</b>	<b>13.44</b>	<b>32.05</b>	<b>5</b>	<b>V</b>
56	1031	4053.0	6935.0	13	10	2019	18:14	37	15.29	32.70	15.94	33.23	2	B
57	957	4055.2	6908.5	13	10	2019	21:38	68	15.86	32.48	12.51	32.85	1	B
58	1275	4043.9	6837.6	14	10	2019	2:04	58	15.04	32.52	15.66	32.98	4	B
<b>143</b>	<b>1235</b>	<b>4046.1</b>	<b>6816.7</b>	<b>14</b>	<b>10</b>	<b>2019</b>	<b>4:18</b>	<b>60</b>	<b>17.40</b>	<b>33.78</b>	<b>17.32</b>	<b>33.86</b>	<b>3</b>	<b>W</b>
59	1199	4037.4	6820.9	14	10	2019	6:02	78	22.99	35.77	19.31	35.07	2	B
<b>144</b>	<b>1286</b>	<b>4033.4</b>	<b>6848.6</b>	<b>14</b>	<b>10</b>	<b>2019</b>	<b>8:54</b>	<b>68</b>	<b>16.13</b>	<b>33.24</b>	<b>20.59</b>	<b>34.94</b>	<b>3</b>	<b>V</b>
60	1236	4024.1	6855.9	14	10	2019	10:47	84	22.82	35.64	20.98	35.16	5	B
<b>145</b>	<b>1165</b>	<b>4010.5</b>	<b>6822.0</b>	<b>14</b>	<b>10</b>	<b>2019</b>	<b>14:59</b>	<b>292</b>	<b>25.66</b>	<b>35.99</b>	<b>12.62</b>	<b>35.64</b>	<b>7</b>	<b>W</b>
<b>146</b>	<b>1197</b>	<b>4025.4</b>	<b>6812.0</b>	<b>14</b>	<b>10</b>	<b>2019</b>	<b>18:16</b>	<b>135</b>	<b>24.18</b>	<b>35.19</b>	<b>15.56</b>	<b>36.07</b>	<b>5</b>	<b>W</b>
<b>147</b>	<b>1323</b>	<b>4027.9</b>	<b>6801.9</b>	<b>14</b>	<b>10</b>	<b>2019</b>	<b>20:44</b>	<b>135</b>	<b>24.96</b>	<b>35.73</b>	<b>14.54</b>	<b>35.93</b>	<b>5</b>	<b>V</b>
<b>148</b>	<b>1246</b>	<b>4035.7</b>	<b>6748.0</b>	<b>14</b>	<b>10</b>	<b>2019</b>	<b>23:59</b>	<b>89</b>	<b>21.71</b>	<b>35.33</b>	<b>17.13</b>	<b>35.24</b>	<b>3</b>	<b>V</b>
<b>149</b>	<b>1227</b>	<b>4030.0</b>	<b>6746.5</b>	<b>15</b>	<b>10</b>	<b>2019</b>	<b>2:03</b>	<b>125</b>	<b>23.13</b>	<b>35.68</b>	<b>15.26</b>	<b>35.81</b>	<b>4</b>	<b>V</b>
<b>150</b>	<b>1182</b>	<b>4032.7</b>	<b>6743.5</b>	<b>15</b>	<b>10</b>	<b>2019</b>	<b>4:08</b>	<b>140</b>	<b>23.02</b>	<b>35.66</b>	<b>13.12</b>	<b>35.67</b>	<b>2</b>	<b>V</b>
61	1267	4028.0	6722.0	15	10	2019	7:30	208	23.45	35.82	12.32	35.44	4	B
<b>151</b>	<b>1135</b>	<b>4033.6</b>	<b>6716.4</b>	<b>15</b>	<b>10</b>	<b>2019</b>	<b>9:57</b>	<b>140</b>	<b>21.43</b>	<b>35.15</b>	<b>12.40</b>	<b>35.12</b>	<b>3</b>	<b>V</b>
<b>152</b>	<b>1167</b>	<b>4042.1</b>	<b>6730.6</b>	<b>15</b>	<b>10</b>	<b>2019</b>	<b>12:18</b>	<b>90</b>	<b>22.09</b>	<b>35.37</b>	<b>17.10</b>	<b>34.57</b>	<b>2</b>	<b>V</b>
<b>153</b>	<b>1021</b>	<b>4043.9</b>	<b>6733.7</b>	<b>15</b>	<b>10</b>	<b>2019</b>	<b>13:55</b>	<b>86</b>	<b>20.22</b>	<b>34.69</b>	<b>18.24</b>	<b>34.82</b>	<b>4</b>	<b>V</b>
62	1043	4056.3	6722.9	15	10	2019	15:57	78	14.68	32.50	13.48	32.99	5	B
63	1037	4058.8	6731.6	15	10	2019	17:39	69	14.77	32.54	18.01	33.97	6	B
64	1175	4109.0	6719.0	15	10	2019	19:53	58	14.03	32.55	13.79	32.55	5	B
65	1259	4116.2	6725.7	15	10	2019	22:17	46	14.58	32.45	14.56	32.45	6	W
66	1318	4105.0	6738.0	16	10	2019	0:21	58	14.09	32.49	14.12	32.49	8	B
67	1179	4103.3	6738.3	16	10	2019	1:58	61	14.12	32.49	14.01	32.50	8	B
<b>154</b>	<b>1200</b>	<b>4105.4</b>	<b>6753.2</b>	<b>16</b>	<b>10</b>	<b>2019</b>	<b>4:26</b>	<b>51</b>	<b>14.76</b>	<b>32.48</b>	<b>14.72</b>	<b>32.48</b>	<b>6</b>	<b>V</b>
68	1307	4118.5	6752.5	16	10	2019	6:55	40	15.67	32.44	15.70	32.44	4	B
69	1078	4116.3	6800.6	16	10	2019	10:28	47	16.03	32.34	16.03	32.34	3	B
<b>155</b>	<b>1277</b>	<b>4112.4</b>	<b>6826.1</b>	<b>16</b>	<b>10</b>	<b>2019</b>	<b>12:58</b>	<b>57</b>	<b>14.78</b>	<b>32.61</b>	<b>14.57</b>	<b>32.64</b>	<b>6</b>	<b>V</b>

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156	1088	4150.3	7021.0	18	10	2019	1:39	27	13.77	31.53	13.78	31.53	5	W
157	1209	4152.3	7017.0	18	10	2019	3:12	30	13.29	31.54	13.29	31.54	4	V
158	1159	4154.3	7011.1	18	10	2019	6:06	31	13.02	31.54	12.55	31.59	3	V
159	1104	4201.8	6736.5	18	10	2019	19:56	69	14.64	32.71	11.44	32.76	8	W
160	1260	4156.3	6733.5	18	10	2019	22:22	43	14.39	32.64	14.40	32.64	7	V
161	978	4202.8	6710.7	19	10	2019	2:03	53	13.59	32.75	13.10	32.75	7	V
162	1009	4156.3	6703.0	19	10	2019	6:36	63	13.80	32.55	13.49	32.58	4	V
163	1239	4150.1	6638.9	19	10	2019	13:39	74	12.42	32.74	12.33	32.75	6	V
70	1124	4148.5	6636.8	19	10	2019	15:48	74	12.62	32.78	11.80	32.81	3	B
164	1025	4145.5	6655.2	19	10	2019	18:52	66	13.43	32.64	13.48	32.70	3	W
71	1040	4138.7	6720.7	19	10	2019	22:03	55	14.94	32.42	14.73	32.43	3	B
72	1219	4133.8	6718.3	20	10	2019	0:33	48	14.84	32.42	14.86	32.42	6	B
73	1230	4123.0	6700.5	20	10	2019	3:50	65	13.84	32.62	14.14	32.98	4	B
74	1248	4116.8	6644.8	20	10	2019	6:29	79	13.25	32.68	13.14	33.54	4	B
165	1008	4111.2	6659.6	20	10	2019	8:49	68	13.88	32.62	14.67	33.28	5	V
166	1028	4054.1	6649.8	20	10	2019	11:40	93	14.05	32.89	11.79	33.89	3	W
167	1206	4050.2	6642.9	20	10	2019	13:42	145	15.33	33.76	9.99	34.41	6	V
168	1171	4048.0	6642.6	20	10	2019	15:26	221	14.43	33.24	10.03	35.24	6	V
75	1142	4102.3	6624.6	20	10	2019	19:21	358	15.30	33.57	10.41	35.14	158	B
169	1142	4102.8	6624.5	20	10	2019	19:47	441	14.98	33.56	5.74	35.05	23	W
170	969	4103.0	6628.0	20	10	2019	22:21	123	14.83	33.49	9.59	34.08	6	V
76	1330	4108.9	6634.6	21	10	2019	0:28	93	14.38	33.28	10.05	33.57	5	B
77	1152	4114.3	6626.3	21	10	2019	2:54	97	13.68	32.67	9.73	33.30	5	B
171	1262	4132.3	6635.9	21	10	2019	5:25	85	12.47	32.77	11.19	32.88	5	V
78	1084	4134.3	6620.0	21	10	2019	7:22	90	13.92	32.74	10.79	33.36	4	B
172	1229	4131.4	6614.2	21	10	2019	8:55	92	14.43	33.07	10.35	33.71	4	V
79	1284	4123.4	6620.9	21	10	2019	10:39	93	14.17	32.96	10.25	33.88	4	B
80	1185	4126.5	6610.0	21	10	2019	12:16	120	14.46	33.13	10.00	33.90	4	B

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173	1217	4124.0	6603.1	21	10	2019	14:11	170	14.43	33.06	9.85	34.38	4	V
174	1272	4145.6	6600.6	21	10	2019	17:42	103	15.02	33.41	10.77	33.62	8	W
175	1271	4146.2	6544.5	21	10	2019	20:33	256	17.41	34.57	9.69	35.19	6	V
176	975	4158.5	6552.5	22	10	2019	1:12	162	15.08	33.44	9.34	34.54	5	V
177	1314	4216.1	6554.4	22	10	2019	4:07	233	13.42	32.41	10.26	35.29	4	V
178	1208	4210.5	6608.4	22	10	2019	6:43	230	14.20	33.00	8.70	35.11	5	V
81	1289	4221.6	6622.0	22	10	2019	9:35	260	13.39	32.79	9.74	35.10	58	B
179	1289	4222.1	6622.2	22	10	2019	9:59	260	13.39	32.78	9.70	35.12	6	V
180	1119	4207.8	6617.8	22	10	2019	13:01	113	13.43	32.76	8.10	33.26	4	V
181	990	4210.8	6645.4	22	10	2019	16:19	197	NaN	NaN	9.42	34.82	7	W
182	1058	4208.2	6651.7	22	10	2019	19:58	79	13.66	32.80	9.09	32.95	6	V
183	971	4209.9	6656.9	22	10	2019	22:05	105	13.60	32.82	8.66	32.94	2	V
184	1035	4214.2	6736.1	23	10	2019	13:14	240	13.78	32.55	9.62	35.01	4	V
185	1296	4210.0	6731.5	23	10	2019	15:44	194	13.77	32.53	9.42	34.90	8	W
186	1064	4141.1	6748.9	23	10	2019	21:37	36	14.69	32.47	14.70	32.47	6	V
187	989	4146.1	6810.5	24	10	2019	1:05	63	14.42	32.50	13.33	32.61	7	V
188	1320	4145.4	6820.4	24	10	2019	3:06	99	14.04	32.55	7.57	32.94	6	V
189	1093	4130.7	6814.7	24	10	2019	5:33	40	14.91	32.44	14.92	32.43	3	V
82	1075	4130.1	6812.0	24	10	2019	7:10	45	15.01	32.42	14.99	32.44	3	B
190	1254	4123.2	6851.0	24	10	2019	11:57	136	13.40	32.39	6.80	33.01	4	V
83	1014	4119.4	6856.8	24	10	2019	14:04	140	13.48	32.21	6.77	33.03	5	B
191	1290	4106.4	6858.6	24	10	2019	16:44	96	13.92	32.42	8.55	32.72	6	W
192	1130	4108.6	6904.6	24	10	2019	19:51	104	13.77	32.26	8.18	32.75	6	V
84	1001	4107.3	6906.7	24	10	2019	22:43	100	13.72	32.43	9.57	32.63	4	W
193	1066	4154.7	7016.1	30	10	2019	23:14	32	13.21	31.56	13.11	31.63	5	V
194	1096	4200.5	7016.5	31	10	2019	1:05	46	13.48	31.59	12.66	31.86	4	V
85	1005	4201.6	7020.8	31	10	2019	2:52	53	13.32	31.70	11.87	31.98	6	B
195	1085	4156.0	7027.3	31	10	2019	5:16	39	13.52	31.35	11.98	31.82	6	W

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196	1033	4207.1	7025.6	31	10	2019	8:19	62	13.32	31.71	10.35	32.17	5	V
197	1147	4206.3	7034.0	31	10	2019	11:02	27	13.20	31.60	12.73	31.80	4	V
86	1115	4220.1	7023.3	31	10	2019	15:04	94	13.19	31.77	9.96	32.21	8	B
198	1172	4225.4	7035.1	31	10	2019	18:00	92	13.13	31.83	9.57	32.31	5	V
199	1274	4249.8	7044.9	1	11	2019	22:35	32	12.21	31.50	10.34	32.42	3	W
200	1686	4246.3	7039.7	2	11	2019	0:27	62	12.21	31.89	8.78	32.39	4	W
201	991	4233.8	7000.1	2	11	2019	6:21	139	12.02	32.31	7.54	33.24	8	V
202	1121	4240.1	6953.6	2	11	2019	12:46	225	12.14	32.30	8.16	34.17	4	V
203	1261	4231.0	6947.9	2	11	2019	15:31	271	12.26	32.23	8.30	34.24	9	W
204	1114	4239.2	6918.2	2	11	2019	19:06	217	13.08	32.41	7.81	33.95	3	V
87	1112	4221.9	6912.5	2	11	2019	22:15	247	13.35	32.50	7.94	34.02	47	B
205	1112	4221.4	6911.9	2	11	2019	22:39	245	13.36	32.50	8.15	34.14	7	V
206	1074	4211.7	6925.4	3	11	2019	1:18	182	12.49	32.24	7.27	33.68	7	V
88	1053	4208.7	6852.3	3	11	2019	4:24	158	12.95	32.55	6.46	33.29	3	B
207	1123	4213.2	6817.5	3	11	2019	8:00	198	14.04	32.71	9.32	34.74	4	W
208	972	4213.3	6816.6	3	11	2019	11:41	196	13.95	32.72	9.22	34.68	4	V
209	1045	4234.8	6759.8	3	11	2019	15:26	203	12.61	32.56	9.93	34.92	6	V
210	1041	4238.2	6809.9	3	11	2019	18:12	188	12.88	32.54	8.13	34.01	7	V
211	1139	4254.2	6814.3	3	11	2019	20:50	183	12.31	32.86	8.34	34.15	6	V
212	1264	4239.7	6819.6	3	11	2019	23:46	204	12.00	32.84	8.23	34.08	5	V
89	1024	4239.6	6846.2	4	11	2019	3:16	166	12.56	32.45	9.96	33.71	33	B
213	1207	4300.3	6837.8	4	11	2019	6:54	196	12.10	33.04	7.98	33.93	4	W
214	1241	4302.8	6835.6	4	11	2019	9:01	188	12.08	33.02	7.95	33.91	5	W
215	1202	4316.6	6828.8	4	11	2019	11:59	183	12.29	33.04	7.96	33.91	6	V
90	1146	4304.9	6737.8	4	11	2019	16:51	180	12.89	32.52	9.98	34.71	8	B
91	1193	4244.7	6727.0	4	11	2019	20:22	206	12.52	32.60	9.53	34.54	8	B
92	1151	4229.7	6726.0	4	11	2019	23:36	310	12.48	32.58	9.90	35.22	7	W
93	1266	4230.4	6719.2	5	11	2019	1:24	325	12.46	32.73	9.94	35.22	7	W

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216	1160	4248.8	6715.6	5	11	2019	5:29	208	12.18	32.85	10.11	35.04	5	V
217	1252	4315.9	6734.5	5	11	2019	9:30	232	11.84	32.94	9.36	34.41	3	V
218	1069	4319.1	6723.3	5	11	2019	12:13	203	11.93	32.95	9.61	34.41	4	V
219	1325	4312.1	6703.9	5	11	2019	15:07	197	12.11	33.16	10.21	34.84	5	V
94	1072	4320.1	6656.8	5	11	2019	17:35	211	12.23	33.12	10.50	34.44	7	B
95	1285	4325.9	6646.8	5	11	2019	20:18	176	11.99	32.13	9.79	34.29	6	B
220	1049	4337.9	6719.5	6	11	2019	0:26	215	12.22	32.83	8.79	34.20	8	V
221	1026	4356.5	6719.4	6	11	2019	4:21	221	11.95	32.65	9.49	34.50	4	W
96	1273	4402.7	6710.7	6	11	2019	7:05	145	11.99	32.86	9.50	34.42	6	B
222	1012	4407.6	6712.3	6	11	2019	9:28	178	11.90	32.59	9.50	34.46	6	V
223	1007	4405.7	6708.5	6	11	2019	11:55	80	NaN	NaN	11.48	33.54	5	V
224	1039	4421.9	6641.9	6	11	2019	16:25	198	11.68	32.68	10.69	33.91	7	V
225	1225	4420.2	6645.4	6	11	2019	18:00	190	11.65	32.71	10.86	33.95	6	V
226	1063	4416.9	6709.3	6	11	2019	22:52	167	11.71	32.76	9.87	34.39	5	V
227	1013	4421.1	6715.3	7	11	2019	1:28	140	11.60	32.80	11.08	33.39	8	V
97	959	4410.5	6727.7	7	11	2019	3:50	219	11.42	32.83	9.38	34.49	15	B
228	959	4410.3	6728.4	7	11	2019	4:29	215	11.44	32.83	9.38	34.49	4	W
229	1321	4355.8	6756.7	7	11	2019	8:17	161	11.82	32.64	10.05	34.23	5	W
230	1052	4348.3	6758.7	7	11	2019	10:53	163	11.78	32.62	9.23	34.27	4	V
231	1189	4359.2	6816.2	7	11	2019	15:00	104	11.49	32.79	11.93	33.40	6	V
232	1062	4350.4	6824.8	7	11	2019	23:01	143	11.87	32.74	11.43	33.69	10	V
233	1163	4350.4	6825.5	8	11	2019	0:45	132	11.84	32.74	11.50	33.65	6	V
234	1215	4337.3	6841.7	8	11	2019	3:21	154	11.86	33.01	11.21	33.85	6	V
235	1010	4330.1	6905.2	8	11	2019	7:52	144	11.71	32.96	9.34	33.39	6	V
236	1297	4323.3	6922.5	8	11	2019	10:52	185	11.29	32.80	7.31	33.40	9	V
237	1312	4317.5	6913.6	8	11	2019	13:42	182	11.37	32.67	7.33	33.42	3	W
238	1100	4311.5	6925.8	8	11	2019	17:12	157	11.22	32.76	7.71	33.36	5	V



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239	1050	4304.3	6931.7	8	11	2019	20:00	146	11.24	32.67	7.51	33.32	4	W
240	1018	4332.4	6947.4	9	11	2019	6:10	113	10.67	31.96	9.71	33.33	7	V
98	1118	4329.9	6955.9	9	11	2019	8:04	119	10.68	32.21	9.06	33.28	6	B
241	1095	4312.2	7007.4	9	11	2019	10:52	148	10.81	32.36	8.67	33.35	6	V
242	1129	4310.5	7014.4	9	11	2019	13:08	118	10.83	32.36	8.78	33.16	6	V
243	981	4306.7	6957.1	9	11	2019	15:28	163	10.62	32.25	7.46	33.62	6	V
244	998	4303.5	7003.0	9	11	2019	17:28	56	11.01	32.45	11.38	32.91	7	V
245	1011	4300.5	7023.1	9	11	2019	19:57	121	10.88	32.52	7.22	32.81	5	V
246	1556	4251.5	7007.8	9	11	2019	22:38	96	10.83	32.56	10.27	33.23	5	V
247	1279	4250.0	7027.2	10	11	2019	1:04	125	10.89	32.15	7.69	32.81	8	V
248	1174	4243.0	7025.2	10	11	2019	4:36	65	10.80	32.09	9.44	32.51	5	V
249	1117	4234.9	7035.0	10	11	2019	10:55	54	10.90	31.84	9.69	32.52	5	W
250	1651	4221.6	7043.1	10	11	2019	14:48	43	11.75	31.88	10.10	32.23	4	V
251	1561	4216.7	7040.4	10	11	2019	17:18	32	11.24	31.84	10.98	31.98	4	V
252	1122	4225.6	7005.5	10	11	2019	20:43	86	11.26	31.95	9.45	32.94	5	V
99	970	4216.3	7008.2	10	11	2019	22:51	71	10.81	32.32	9.28	33.01	7	B
100	1304	4207.2	6941.7	11	11	2019	2:31	223	11.48	32.23	8.11	34.14	6	W
253	1280	4200.4	6944.9	11	11	2019	4:54	161	11.80	32.32	7.55	33.72	4	V
101	1224	4158.9	6957.9	11	11	2019	7:48	29	11.18	32.08	11.35	32.22	6	B
254	1145	4148.0	6954.5	11	11	2019	10:32	20	11.09	32.05	11.23	32.09	4	V
255	1056	4146.2	6951.1	11	11	2019	12:22	48	11.33	32.17	11.36	32.32	5	V
256	1125	4145.7	6942.4	11	11	2019	14:14	132	11.56	32.25	7.48	33.28	6	V
257	1055	4139.5	6939.5	11	11	2019	16:35	78	11.64	32.29	8.48	32.84	4	W
258	1131	4134.9	6933.5	11	11	2019	18:51	60	11.40	32.24	9.39	32.66	4	W
259	1313	4127.9	6932.5	11	11	2019	21:40	35	11.41	32.25	11.39	32.25	3	V
260	1319	4122.5	6922.9	12	11	2019	2:49	45	11.30	32.32	10.31	32.49	7	V
261	1221	4130.7	6920.4	12	11	2019	5:17	89	11.42	32.26	7.98	32.93	7	V

**HB1906 Fall Bottom Trawl Survey**  
**Sept 4 - Nov 12, 2019**

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
<b>262</b>	<b>993</b>	<b>4141.8</b>	<b>6922.5</b>	<b>12</b>	<b>11</b>	<b>2019</b>	<b>7:48</b>	<b>176</b>	<b>11.77</b>	<b>32.37</b>	<b>6.99</b>	<b>33.37</b>	<b>8</b>	<b>V</b>
<b>263</b>	<b>1092</b>	<b>4137.8</b>	<b>6857.6</b>	<b>12</b>	<b>11</b>	<b>2019</b>	<b>11:42</b>	<b>132</b>	<b>11.94</b>	<b>32.43</b>	<b>6.72</b>	<b>33.16</b>	<b>6</b>	<b>V</b>
<b>264</b>	<b>0</b>	<b>4204.3</b>	<b>7003.0</b>	<b>12</b>	<b>11</b>	<b>2019</b>	<b>19:48</b>	<b>33</b>	<b>11.04</b>	<b>32.11</b>	<b>11.05</b>	<b>32.10</b>	<b>4</b>	<b>V</b>

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

**Records in bold are collected with an SBE911+ CTD**