Oceans and Climate Branch CTD Data Report
CTD_REPORT_2022005PC

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

DATE: 10 February 2023

Oceans and Climate Branch CTD Data Report

CTD_REPORT_2022005PC

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

PC 2205
Fall ECOMON Survey
Data Coverage: November 1 - 9, 2022
Mid Atlantic Bight, Georges Bank, Gulf of Maine

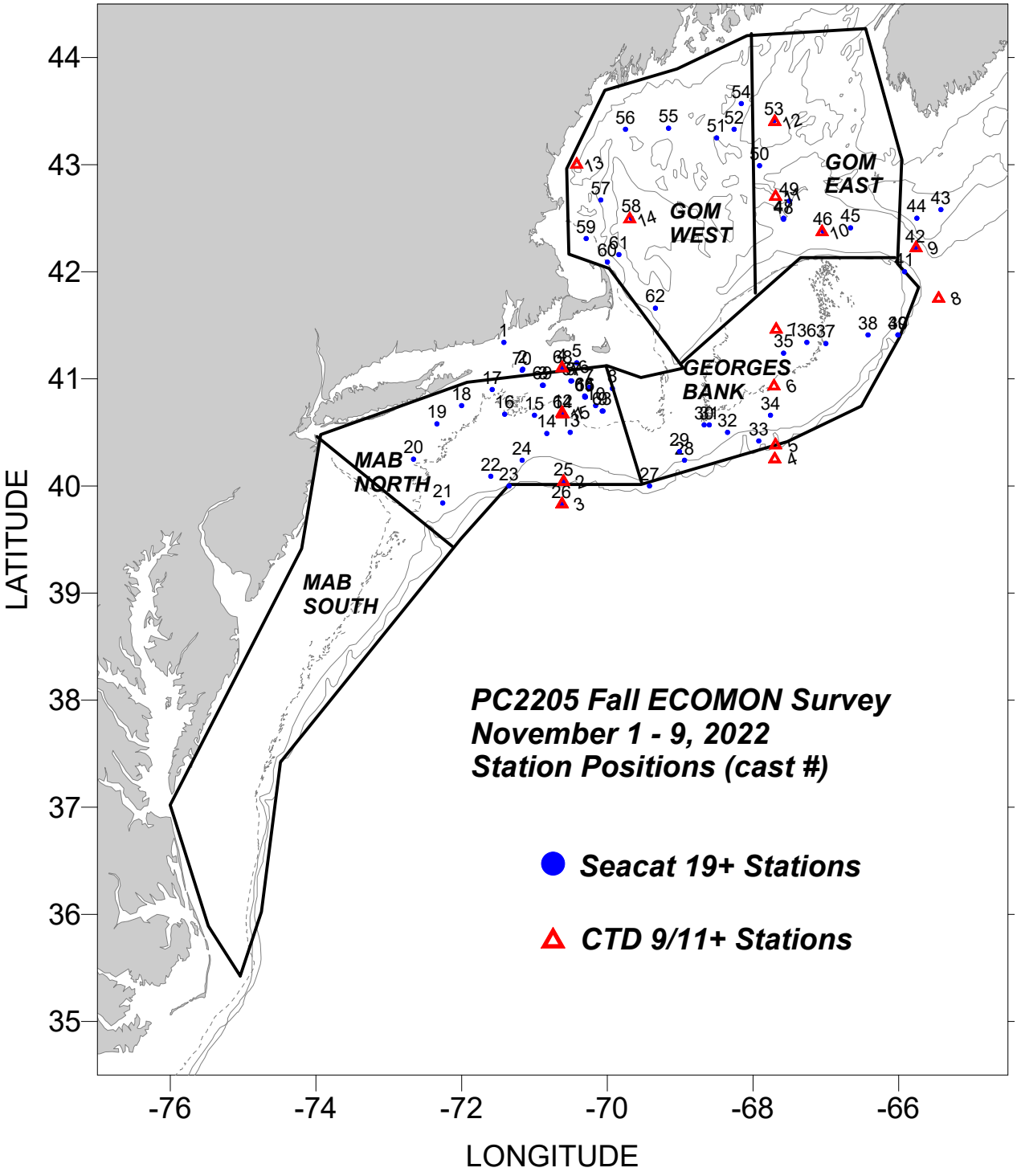
This report presents a summary of surface and bottom temperature and salinity data collected during the Northeast Fisheries Science Center's PC2205 Fall ECOMON Survey aboard the NOAA FSV *Pisces*. Data was obtained with a Sea-Bird Electronics SBE Model 19+V2 profiling CTD (s/n 4758) during double oblique bongo 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 68 double oblique bongo casts and 2 vertical casts. The SBE9/11+ was used successfully on 16 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: February 10, 2023


LATITUDE
LONGITUDE
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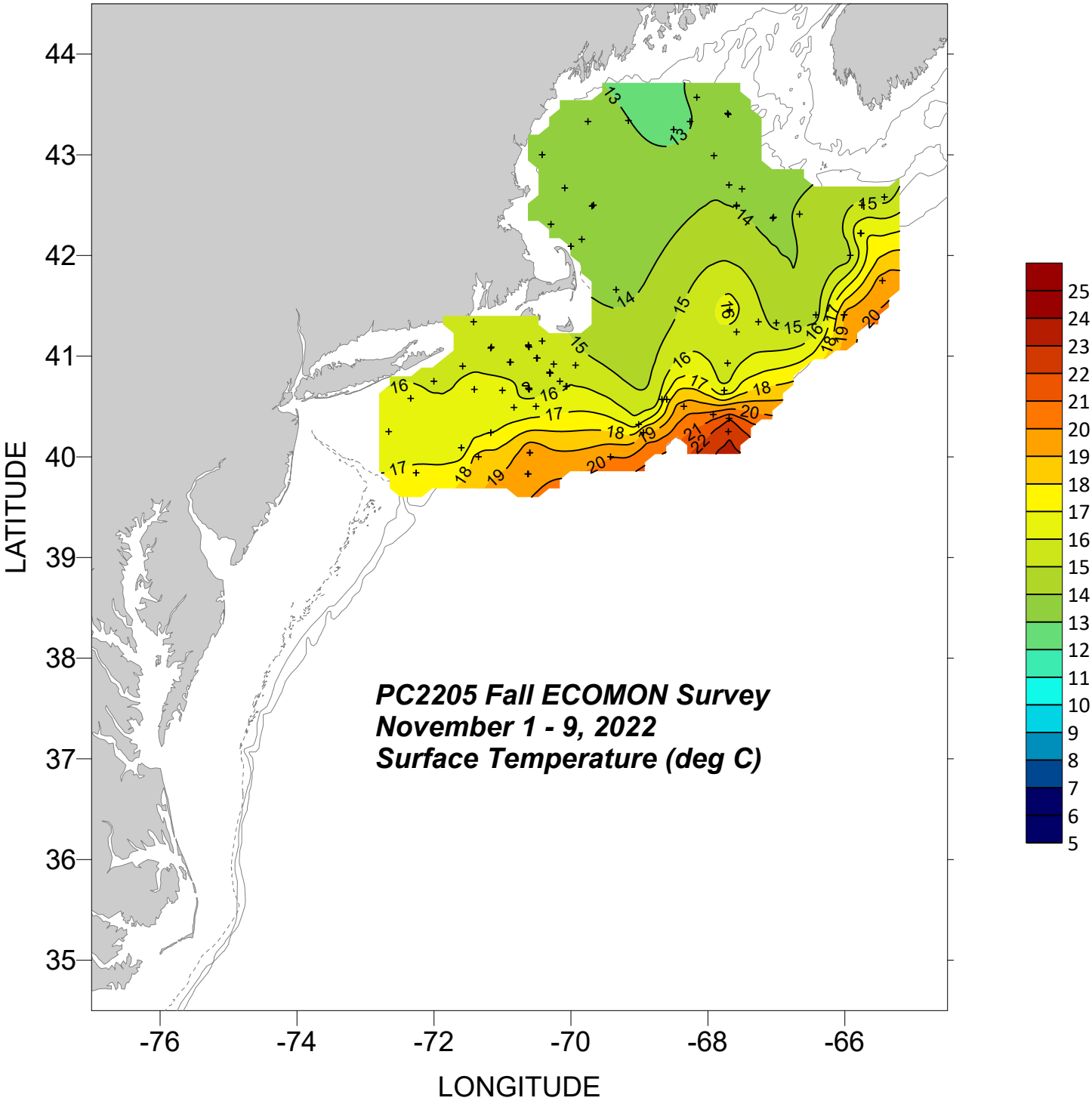
-76
-74
-72
-70
-68
-66
GOM
WEST
GOM
EAST
GEORGES
BANK
MAB
NORTH
MAB
SOUTH
PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Station Positions (cast #)
Seacat 19+ Stations
CTD 9/11+ Stations

Areal average surface and bottom temperature/salinity and temperature/salinity anomalies for the
PC2205 Fall ECOMON Survey
November 1 - 9, 2022

		SURFACE TEMPERATURE						BOTTOM TEMPERATURE					
Region	CD	#obs	Temp (°C)	Anomaly	SDV1	SDV2	Flag	#obs	Temp (°C)	Anomaly	SDV1	SDV2	Flag
WGOM	311	13	13.32	2.99	0.32	0.46	0	12	9.15	1.98	0.34	0.49	0
EGOM	310	10	13.81	2.72	0.32	0.50	0	6	9.42	1.77	0.42	0.30	0
GB	308	14	16.52	3.20	0.34	1.76	0	13	13.99	1.92	0.37	0.99	0
MABN	307	29	16.35	1.89	0.35	0.71	0	28	14.35	1.18	0.35	1.15	0

		SURFACE SALINITY						BOTTOM SALINITY					
Region	CD	#obs	Salinity	Anomaly	SDV1	SDV2	Flag	#obs	Salinity	Anomaly	SDV1	SDV2	Flag
WGOM	311	13	32.53	-0.16	0.13	0.28	0	12	33.69	0.16	0.09	0.17	0
EGOM	310	10	32.74	-0.01	0.15	0.15	0	6	34.83	0.16	0.10	0.18	0
GB	308	14	33.29	0.48	0.13	0.75	0	13	33.48	0.15	0.14	0.28	0
MABN	307	29	32.85	-0.09	0.16	0.29	0	28	33.16	-0.30	0.13	0.34	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.


PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Surface Temperature (deg C)
LATITUDE
LONGITUDE
44
43
42
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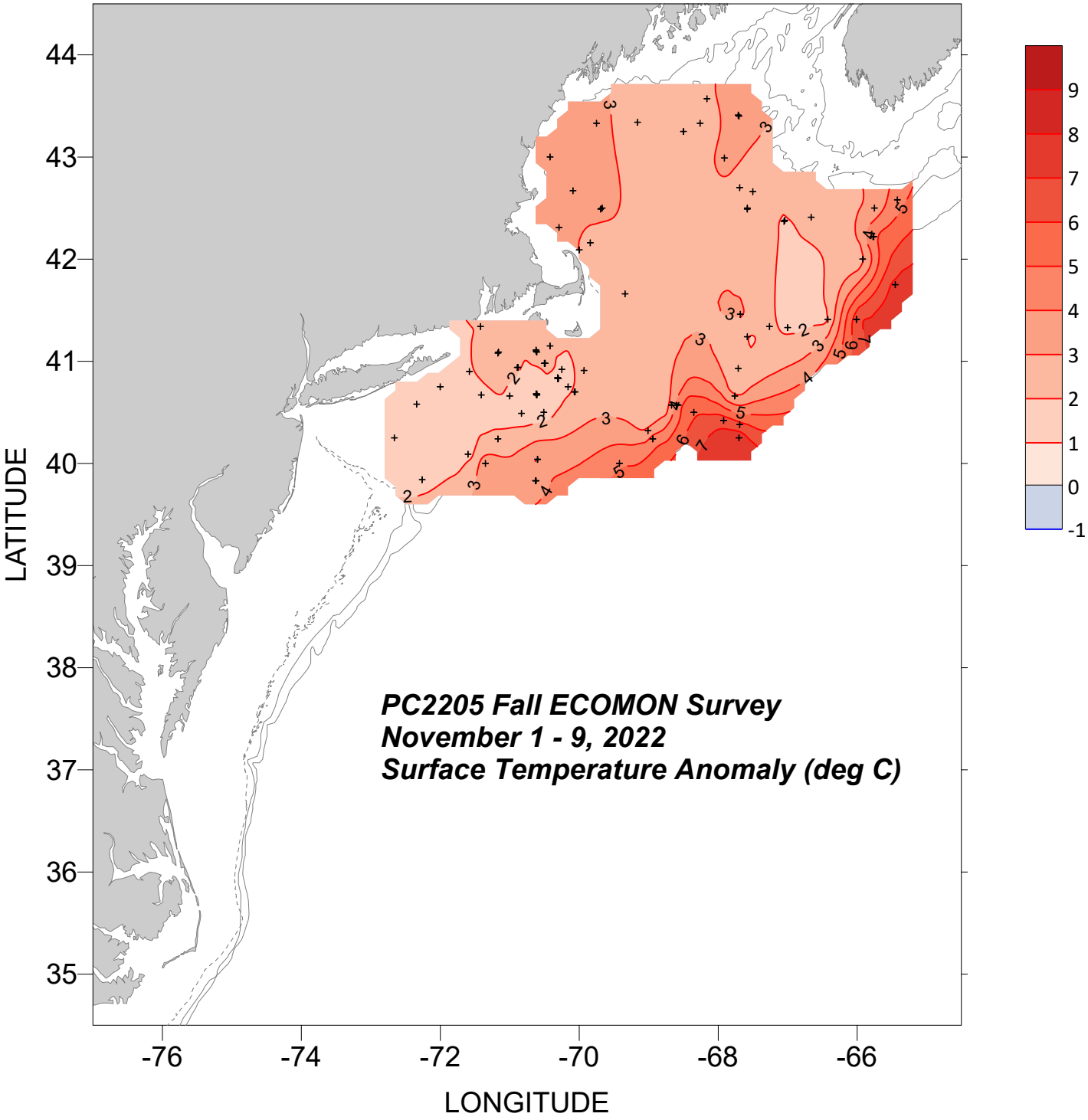
PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Surface Temperature Anomaly (deg C)
LATITUDE
LONGITUDE
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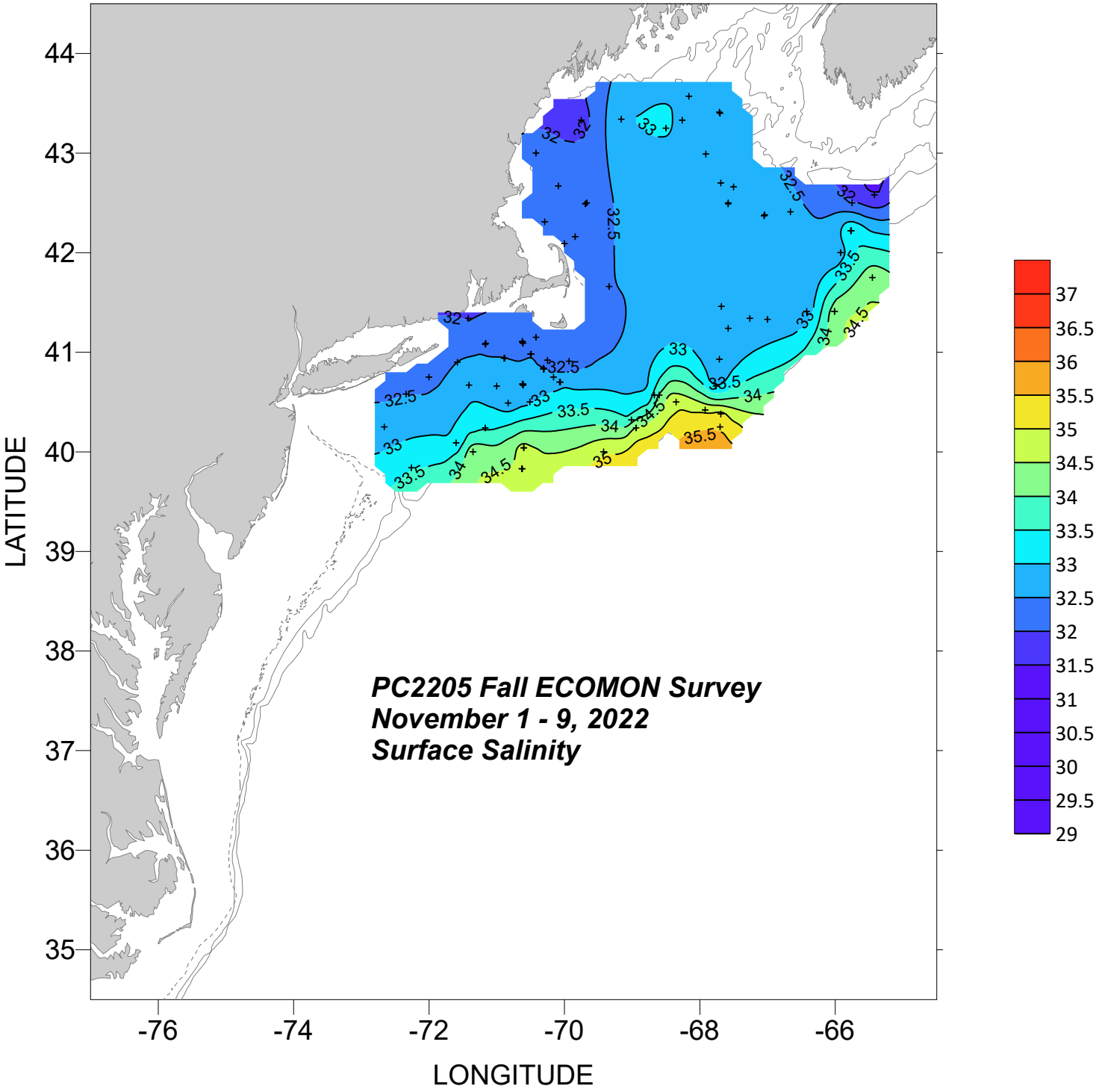
PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Surface Salinity
LATITUDE
LONGITUDE
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-76
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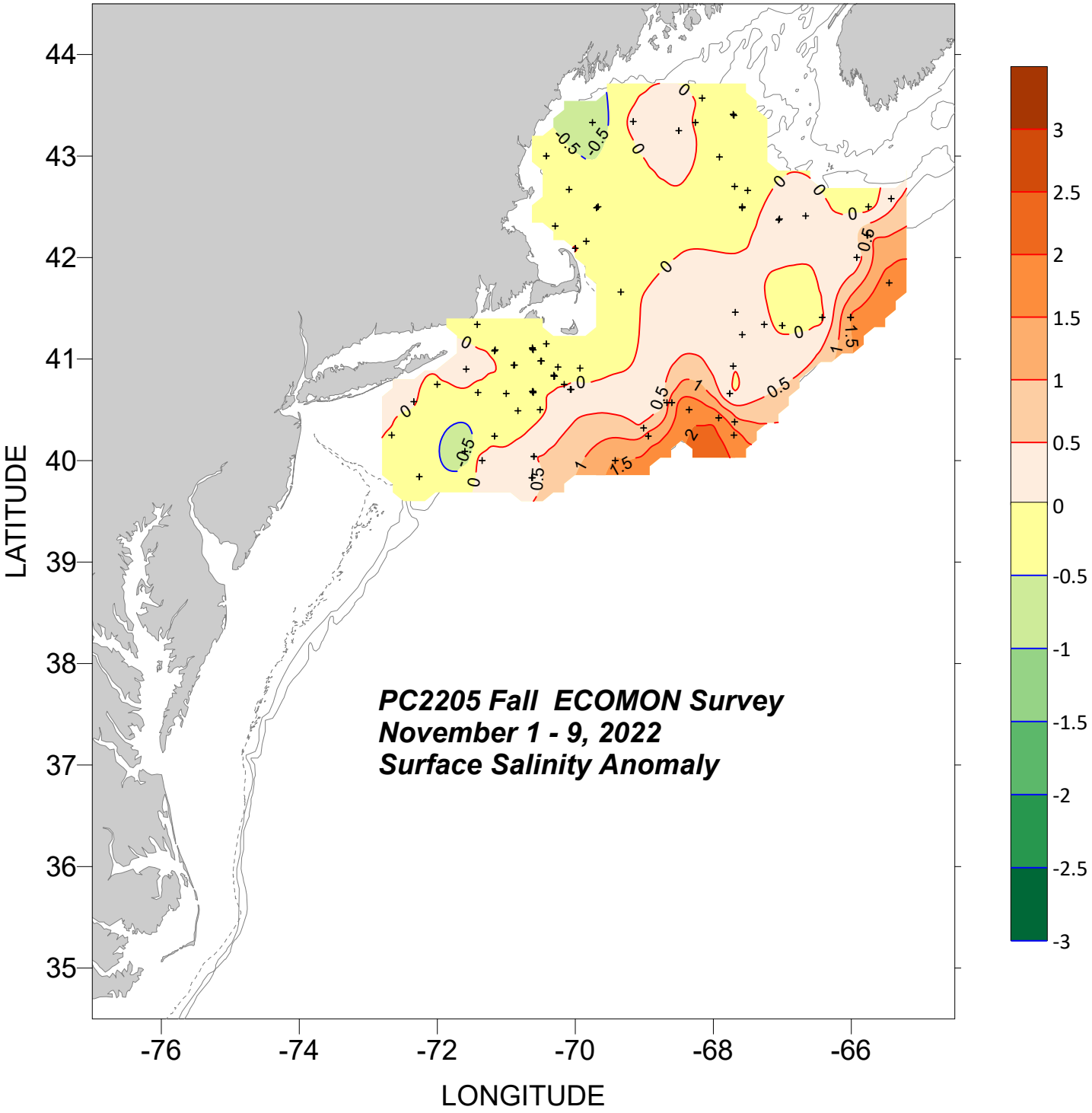
PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Surface Salinity Anomaly
LATITUDE
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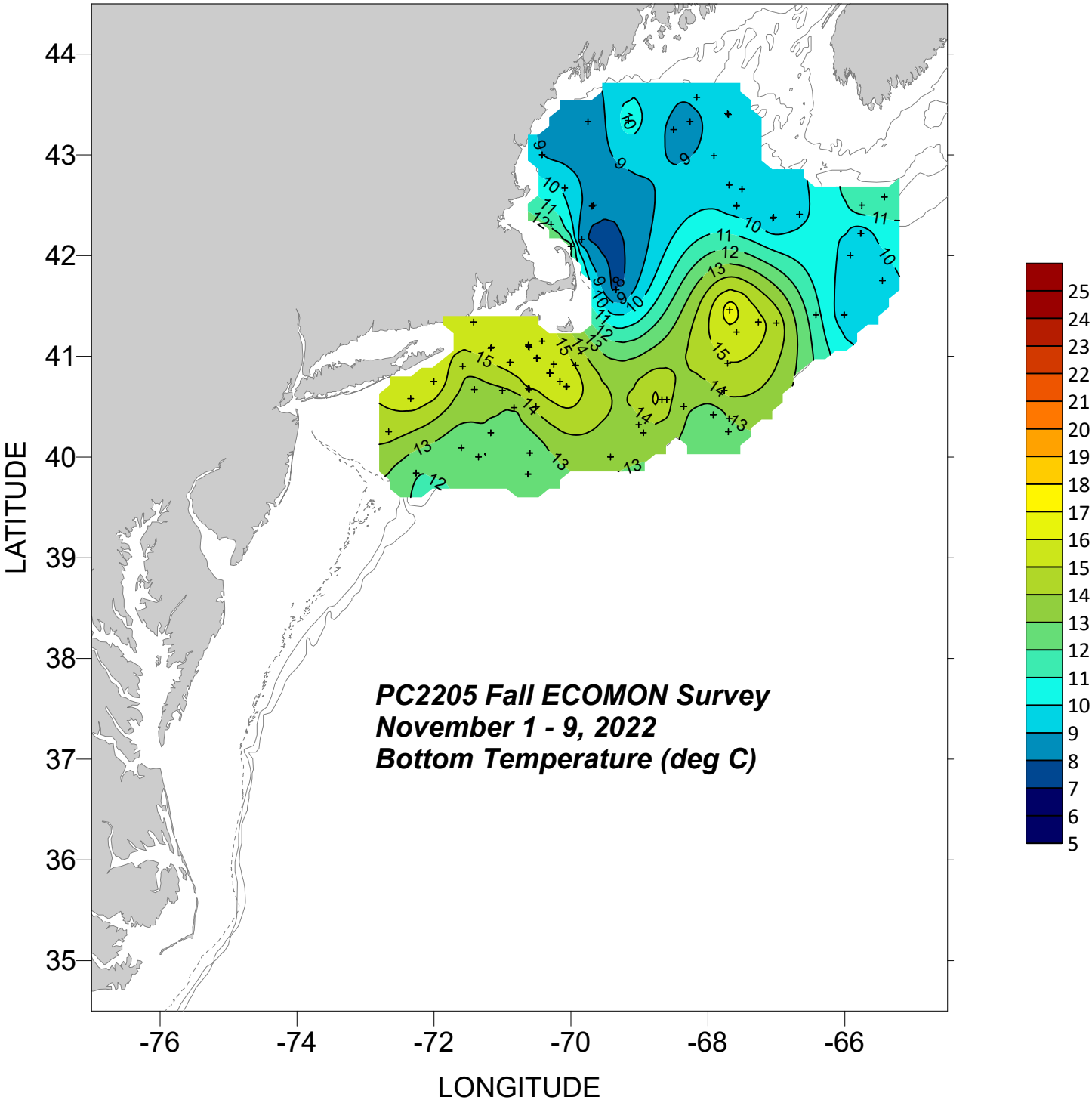
PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Bottom Temperature (deg C)
LATITUDE
LONGITUDE
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-72
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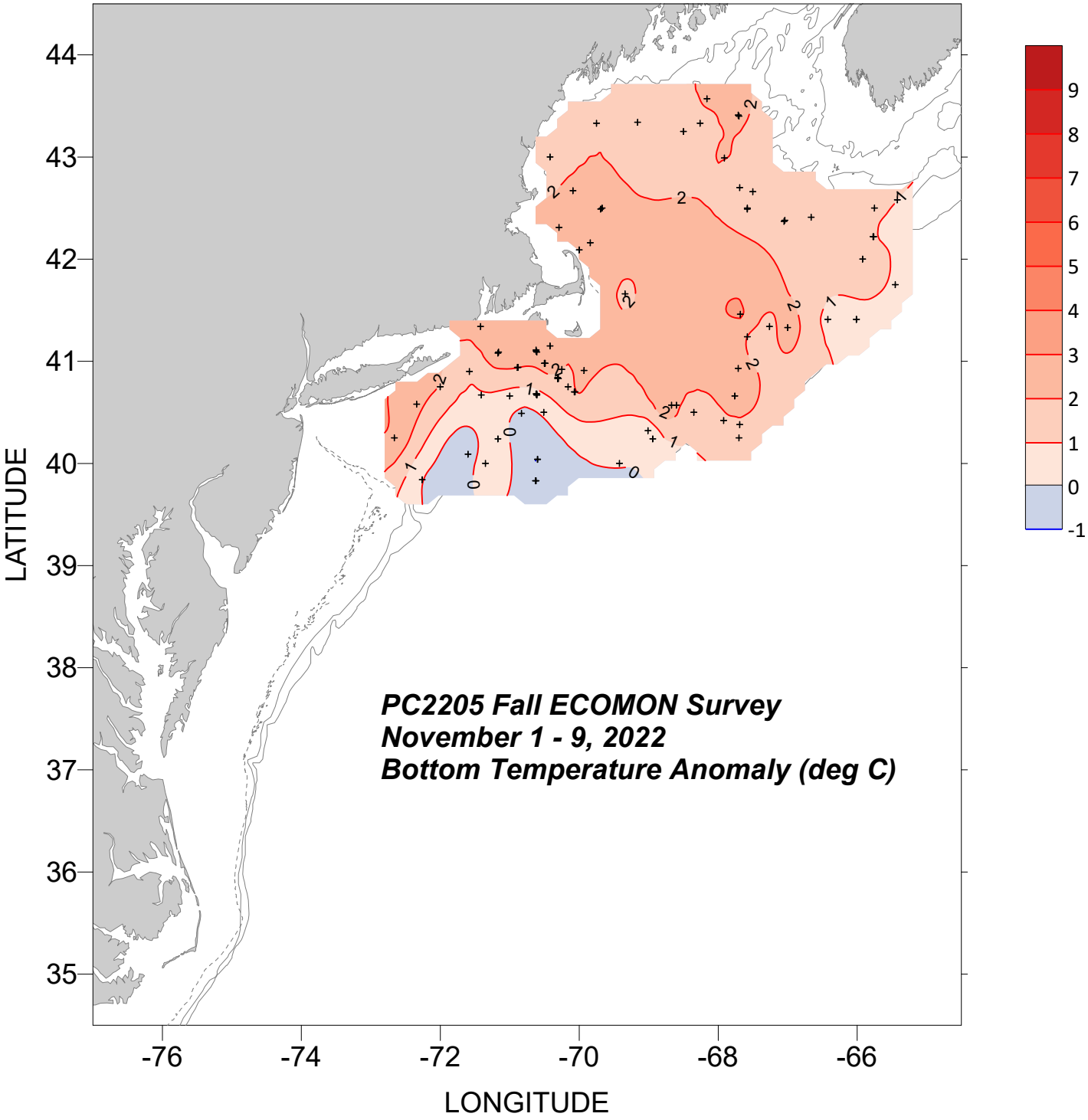
PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Bottom Temperature Anomaly (deg C)
LATITUDE
LONGITUDE
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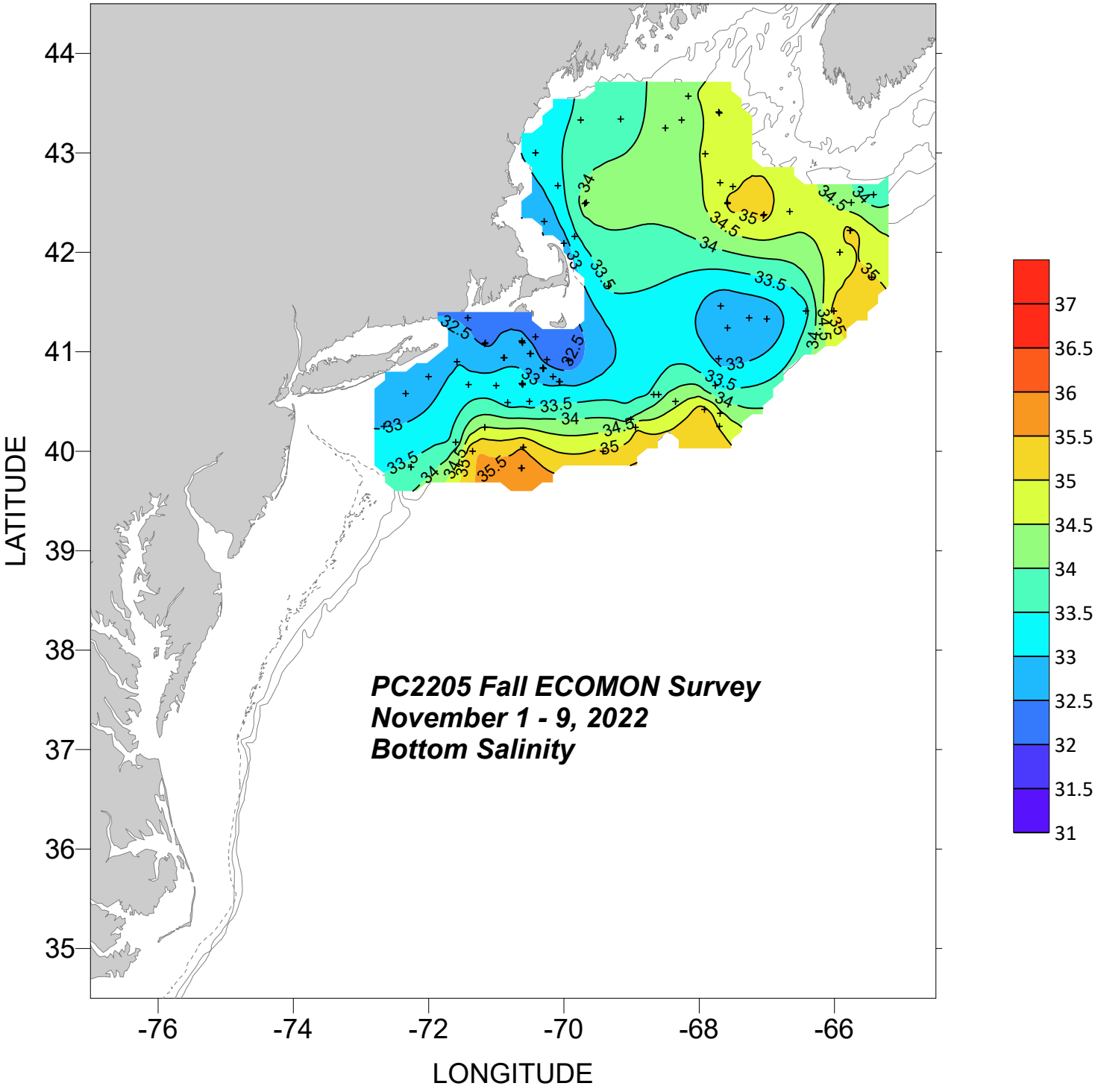
PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Bottom Salinity
LATITUDE
LONGITUDE
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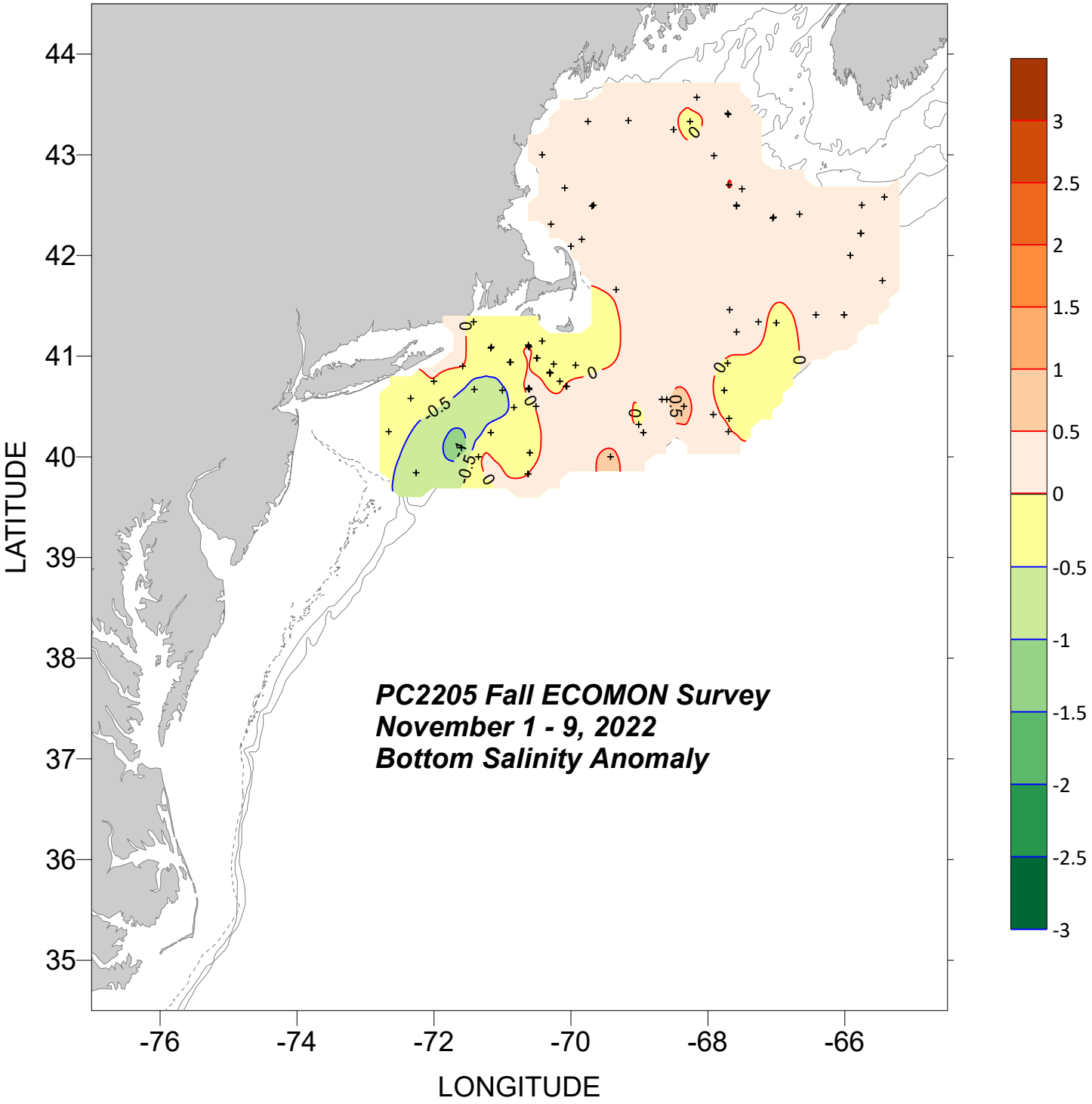
PC2205 Fall ECOMON Survey
November 1 - 9, 2022
Bottom Salinity Anomaly
LATITUDE
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PC2205 Fall ECOMON Survey
November 1 - 9, 2022

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (° C)	Sfc Salt	Deepest Observed Temp (° C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
1	1	4120.2	7125.3	1	11	2022	19:47	32	15.71	31.97	15.90	32.43	4	B
2	2	4105.2	7109.4	1	11	2022	21:53	35	15.94	32.23	15.90	32.34	5	B
3	3	4056.3	7052.7	1	11	2022	23:39	52	15.94	32.51	15.55	32.92	2	B
4	4	4106.3	7037.3	2	11	2022	1:23	42	15.97	32.19	15.88	32.64	2	B
5	5	4109.1	7025.5	2	11	2022	2:32	37	15.89	32.26	15.88	32.32	3	B
6	6	4059.1	7029.8	2	11	2022	3:43	45	15.94	32.37	15.83	32.62	3	B
7	7	4055.3	7014.8	2	11	2022	5:15	36	15.68	32.19	15.73	32.29	4	B
8	8	4054.5	6956.0	2	11	2022	8:41	21	15.34	32.11	14.91	32.13	2	B
9	9	4042.1	7003.6	2	11	2022	10:31	43	16.07	32.93	16.11	32.96	7	B
10	10	4044.8	7009.8	2	11	2022	11:26	42	15.82	32.64	15.88	32.78	1	B
11	11	4049.6	7018.2	2	11	2022	12:28	45	15.74	32.40	15.79	32.73	3	B
12	12	4040.7	7036.9	2	11	2022	14:16	60	16.03	32.77	15.05	33.21	3	B
1	**12**	**4040.8**	**7037.4**	**2**	**11**	**2022**	**14:39**	**60**	**16.01**	**32.75**	**15.00**	**33.20**	**4**	**W**
13	13	4029.9	7030.5	2	11	2022	16:04	69	16.23	32.89	14.26	33.21	4	B
14	14	4029.5	7049.9	2	11	2022	17:37	78	16.14	32.67	12.94	33.27	2	B
15	15	4039.7	7059.8	2	11	2022	19:01	67	16.24	32.77	13.82	33.17	4	B
16	16	4040.2	7124.8	2	11	2022	21:01	61	16.27	32.89	13.54	33.18	3	B
17	17	4054.2	7134.9	2	11	2022	22:49	55	15.89	32.51	14.22	32.99	4	B
18	18	4044.9	7159.9	3	11	2022	1:09	45	15.90	32.32	15.88	32.80	3	B
19	19	4035.0	7220.2	3	11	2022	3:03	46	16.19	32.50	15.54	32.71	4	B
20	20	4015.1	7239.7	3	11	2022	5:33	57	16.30	32.67	14.40	32.97	4	B
21	21	3950.5	7215.7	3	11	2022	8:45	86	17.20	33.49	11.94	33.62	4	B
22	22	4005.1	7136.1	3	11	2022	12:29	89	16.33	33.10	12.11	33.59	4	B
23	23	3959.9	7121.2	3	11	2022	14:03	157	18.50	34.37	13.21	35.54	2	B
24	24	4014.6	7110.3	3	11	2022	16:03	105	17.03	NaN	13.74	33.91	32	B
25	25	4002.2	7036.1	3	11	2022	20:01	172	19.95	34.75	12.13	35.50	3	B

PC2205 Fall ECOMON Survey
November 1 - 9, 2022

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (° C)	Sfc Salt	Deepest Observed Temp (° C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
2	**25**	**4002.3**	**7035.9**	**3**	**11**	**2022**	**20:30**	**167**	**19.95**	**34.75**	**12.49**	**35.54**	**4**	**W**
26	26	3949.9	7037.6	3	11	2022	22:02	928	19.44	34.50	11.67	35.46	724	B
3	**26**	**3949.9**	**7037.4**	**3**	**11**	**2022**	**22:29**	**937**	**19.44**	**34.49**	**5.86**	**35.01**	**432**	**W**
27	27	3959.8	6925.5	4	11	2022	4:56	108	20.04	34.96	13.23	35.13	4	B
28	28	4014.4	6856.2	4	11	2022	7:55	116	19.29	34.70	13.36	34.97	3	B
29	29	4019.2	6900.3	4	11	2022	8:45	93	16.36	33.54	13.63	33.80	3	B
30	30	4034.3	6840.4	4	11	2022	10:56	67	15.36	33.11	15.66	33.48	4	B
31	31	4034.2	6836.0	4	11	2022	11:28	69	18.13	34.30	14.10	33.88	3	B
32	32	4030.0	6821.0	4	11	2022	12:50	96	19.49	34.85	13.20	34.33	3	B
33	33	4025.5	6755.5	4	11	2022	14:52	180	20.46	34.95	12.32	35.30	3	B
4	**34**	**4015.1**	**6741.9**	**4**	**11**	**2022**	**16:43**	**590**	**22.85**	**35.44**	**7.74**	**35.13**	**85**	**W**
5	**35**	**4023.0**	**6741.1**	**4**	**11**	**2022**	**18:02**	**330**	**21.97**	**35.19**	**11.59**	**35.41**	**52**	**W**
34	36	4039.9	6745.5	4	11	2022	20:03	77	15.79	32.75	14.34	33.27	5	B
6	**37**	**4055.8**	**6742.8**	**4**	**11**	**2022**	**21:55**	**64**	**15.24**	**NaN**	**14.51**	**NaN**	**2**	**W**
35	38	4114.4	6735.0	4	11	2022	23:46	39	15.51	32.65	15.54	32.65	6	B
7	**39**	**4127.5**	**6740.8**	**5**	**11**	**2022**	**1:21**	**38**	**16.64**	**32.64**	**16.65**	**32.64**	**4**	**W**
36	40	4120.2	6715.7	5	11	2022	3:20	49	15.34	32.65	15.22	32.66	4	B
37	41	4119.9	6700.2	5	11	2022	4:40	65	14.71	32.68	14.68	32.67	2	B
38	42	4124.7	6625.1	5	11	2022	7:35	96	14.37	32.61	11.35	33.30	3	B
39	43	4124.8	6600.5	5	11	2022	9:48	246	19.37	34.36	9.37	35.24	3	V
40	43	4124.8	6600.5	5	11	2022	10:05	254	19.29	34.33	11.29	35.43	50	B
8	**44**	**4144.9**	**6526.8**	**5**	**11**	**2022**	**13:40**	**1902**	**19.52**	**34.34**	**6.04**	**35.02**	**1397**	**W**
41	45	4200.0	6555.1	5	11	2022	17:06	152	14.49	32.63	9.81	34.72	2	B
42	46	4213.4	6546.3	5	11	2022	18:54	225	17.01	33.58	10.47	35.34	22	B
9	**46**	**4213.1**	**6545.5**	**5**	**11**	**2022**	**19:23**	**226**	**17.03**	**33.57**	**9.30**	**35.24**	**3**	**W**
43	47	4234.9	6525.0	5	11	2022	22:23	96	14.51	31.41	11.82	33.68	3	B
44	48	4229.9	6544.8	6	11	2022	0:13	89	15.17	31.99	11.86	34.14	4	B
45	49	4224.8	6639.7	6	11	2022	4:35	338	14.16	32.67	9.27	35.12	133	B

PC2205 Fall ECOMON Survey
November 1 - 9, 2022

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (° C)	Sfc Salt	Deepest Observed Temp (° C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
46	949	4222.5	6702.6	6	11	2022	7:02	338	13.70	32.80	9.88	34.93	134	B
10	**949**	**4222.3**	**6702.9**	**6**	**11**	**2022**	**7:32**	**338**	**13.71**	**32.80**	**9.05**	**35.14**	**3**	**W**
47	50	4229.8	6734.8	6	11	2022	10:22	236	13.88	32.68	9.66	34.99	32	B
48	50	4229.7	6734.5	6	11	2022	10:49	240	13.99	32.65	9.49	35.14	6	V
49	51	4239.6	6730.2	6	11	2022	12:00	204	13.78	32.71	9.41	34.93	2	B
11	**52**	**4242.1**	**6741.1**	**6**	**11**	**2022**	**13:23**	**190**	**13.86**	**32.67**	**9.34**	**34.63**	**3**	**W**
50	952	4259.5	6754.6	6	11	2022	15:50	196	13.91	32.70	9.41	34.57	4	B
51	53	4314.8	6829.8	6	11	2022	19:32	188	12.81	33.04	8.69	34.17	5	B
52	54	4319.8	6815.4	6	11	2022	21:01	183	12.89	32.94	8.57	34.16	3	B
53	55	4324.3	6742.4	6	11	2022	23:44	251	13.61	32.83	9.67	34.60	49	B
12	**55**	**4324.1**	**6741.8**	**7**	**11**	**2022**	**0:11**	**248**	**13.63**	**32.83**	**9.74**	**34.62**	**6**	**W**
54	56	4334.4	6809.8	7	11	2022	2:59	185	13.22	32.98	9.27	34.48	3	B
55	58	4320.2	6909.8	7	11	2022	12:02	127	13.01	32.99	10.59	33.78	3	B
56	59	4319.7	6945.1	7	11	2022	15:38	159	13.24	31.75	7.91	33.57	4	B
13	**60**	**4300.1**	**7025.1**	**7**	**11**	**2022**	**19:35**	**103**	**13.65**	**32.16**	**8.89**	**33.20**	**4**	**W**
57	61	4240.0	7005.3	7	11	2022	22:21	109	13.67	32.41	9.86	33.32	6	B
58	62	4229.9	6940.5	8	11	2022	0:37	259	13.51	32.28	8.24	34.06	57	B
14	**62**	**4229.7**	**6941.3**	**8**	**11**	**2022**	**1:03**	**265**	**13.51**	**32.27**	**8.53**	**34.25**	**6**	**W**
59	63	4218.4	7017.2	8	11	2022	8:26	32	13.56	32.24	11.87	32.59	4	B
60	64	4205.1	7000.2	8	11	2022	11:08	62	13.41	32.48	12.38	32.73	5	B
61	65	4209.8	6950.5	8	11	2022	12:29	143	13.21	32.49	7.98	33.43	8	B
62	66	4139.9	6920.2	8	11	2022	16:35	185	13.79	32.49	7.67	33.59	5	B
63	67	4042.2	7004.3	9	11	2022	10:53	44	15.53	32.81	15.56	32.82	3	B
64	68	4040.2	7036.9	9	11	2022	13:30	60	15.73	32.74	14.67	33.17	5	B
15	**68**	**4040.5**	**7036.9**	**9**	**11**	**2022**	**13:57**	**60**	**15.72**	**32.74**	**14.67**	**33.18**	**4**	**W**
65	69	4049.8	7018.8	9	11	2022	15:57	47	15.51	32.58	15.68	32.69	1	B
66	69	4050.1	7018.7	9	11	2022	16:16	46	15.52	32.57	15.67	32.69	3	B
67	70	4058.8	7029.6	9	11	2022	17:38	45	15.63	32.48	15.79	32.71	5	B

PC2205 Fall ECOMON Survey
November 1 - 9, 2022

Cast #	Site ID #	Lat (DDMM.M)	Long (DDMM.M)	Day	Mo	Year	Time (GMT)	Btm Depth (m)	Sfc Temp (° C)	Sfc Salt	Deepest Observed Temp (° C)	Deepest Observed Salt	Meters from Bottom	Method of Deployment
68	71	4105.6	7036.7	9	11	2022	18:41	43	15.61	32.35	15.74	32.82	4	B
16	**71**	**4105.8**	**7037.2**	**9**	**11**	**2022**	**19:00**	**42**	**15.63**	**32.35**	**15.73**	**32.82**	**2**	**W**
69	72	4056.3	7053.1	9	11	2022	20:47	53	15.72	32.53	15.42	32.96	6	B
70	73	4104.6	7110.4	9	11	2022	22:49	36	15.64	32.40	15.65	32.45	3	B

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

Records in bold are collected with an SBE911+ CTD