

No	Metadata element name	Your input	Help reference no.
1	Submission Date	8/2/2019	1
2	Accession no. of related data sets		2
3	Investigator-1 name	Joe Salisbury	3.1
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8	Investigator-1 researcher ID		3.6
9	Investigator-1 ID type (ORCID, Researcher ID, etc.)		3.7
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14	Investigator-2 email	wcai@udel.edu	3.5
15	Investigator-2 researcher ID		3.6
16	Investigator-2 ID type (ORCID, Researcher ID, etc.)		3.7
17	Data submitter name	Shawn Shellito	4.1
18	Data submitter institution	Ocean Processes Analysis Laboratory, University of New Hampshire	4.2
19	Data submitter address	8 College Road, Durham, NH 03824, USA	4.3
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21	Data submitter email	<a href="mailto:shawn.shellito@unh.edu">shawn.shellito@unh.edu</a>	4.5
22	Data submitter researcher ID		4.6
23	Data submitter ID type (ORCID, Researcher ID, etc.)		4.7
24	Title	ECO2 CTD profiles, 1 m bins, 183 files,	5
25	Abstract	The East Coast Ocean Acidification (ECO2) Cruise on board the R/V Henry Bigelow from Newport, took place in the Gulf of Maine and then along the East US coast to Miami. The effort was in support of the coastal monitoring and research objectives of the NOAA Ocean Acidification Program (OAP). The cruise was designed to obtain a snapshot of key carbon, physical, and biogeochemical parameters as they relate to ocean acidification (OA) in the coastal realm. The cruise included a series of 14 transects approximately orthogonal to the Gulf of Maine and Atlantic coasts and a comprehensive set of underway measurements along the entire transect.	6
26	Purpose	To measure key carbon, physical and biogeochemical parameters in coastal waters of the Gulf of Maine and eastern coast of the US in relation to Ocean Acidification.	7
27	Start date	2018-06-25	8.1
28	End date	2018-07-29	8.2
29	Westbd longitude	-80.6	9.1
30	Eastbd longitude	-61.3	9.2
31	Northbd latitude	44.4	9.3
32	Southbd latitude	26.6	9.4
33	Spatial reference system		10
34	Geographic names		11
35	Location of organism collection		12
36	Funding agency name	NOAA's Ocean Acidification Program	13.1
37	Funding project title	ECO2 Cruise	13.2
38	Funding project ID (Grant no.)	OAP1812-1527	13.3
39	Research projects		14
40	Platform-1 name	RV Henry Bigelow	15.1

41	Platform-1 ID	33HH 9305	15.2
42	Platform-1 type	Research Vessel	15.3
43	Platform-1 owner	NOAA	15.4
44	Platform-1 country	USA	15.5
45	EXPOCODE	33HH20180625	16
46	Cruise ID	HB-18-04 ECOA2	17
47	Section		18
48	Author list for citation	Salisbury, J. and Shellito S. 2019. ECOA 2 cruise station discrete data. National Oceanographic Data Center.	19
49	References	Salisbury, J. ECOA Cruise Report. 9/2/16	20
50	Supplemental information	<a href="https://www.aoml.noaa.gov/ocd/gcc/ECOA1/">https://www.aoml.noaa.gov/ocd/gcc/ECOA1/</a>	21
51	DIC: Variable abbreviation in data files		22.1
52	DIC: Observation type		22.2
53	DIC: In-situ observation / manipulation condition / response variable		22.3
54	DIC: Manipulation method		22.4
55	DIC: Variable unit		22.5
56	DIC: Measured or calculated		22.6
57	DIC: Calculation method and parameters		22.7
58	DIC: Sampling instrument		22.8
59	DIC: Analyzing instrument		22.9
60	DIC: Detailed sampling and analyzing information		22.10
61	DIC: Field replicate information		22.11
62	DIC: Standardization technique description		22.12.1
63	DIC: Frequency of standardization		22.12.2
64	DIC: CRM manufacturer		22.12.3.1
65	DIC: Batch number		22.12.3.2
66	DIC: Poison used to kill the sample		22.13.1
67	DIC: Poison volume		22.13.2
68	DIC Poisoning correction description		22.13.3
69	DIC: Uncertainty		22.14
70	DIC: Data quality flag description		22.15
71	DIC: Method reference (citation)		22.16
72	DIC: Researcher Name		22.17.1
73	DIC: Researcher Institution		22.17.2
74	TA: Variable abbreviation in data files		23.1
75	TA: Observation type		23.2
76	TA: In-situ observation / manipulation condition / response variable		23.3
77	TA: Manipulation method		23.4
78	TA: Variable unit		23.5
79	TA: Measured or calculated		23.6
80	TA: Calculation method and parameters		23.7
81	TA: Sampling instrument		23.8
82	TA: Analyzing instrument		23.9
83	TA: Type of titration		23.10
84	TA: Cell type (open or closed)		23.11
85	TA: Curve fitting method		23.12
86	TA: Detailed sampling and analyzing information		23.13
87	TA: Field replicate information		23.14
88	TA: Standardization technique description		23.15.1

89	TA: Frequency of standardization	23.15.2
90	TA: CRM manufacturer	23.15.3.1
91	TA: Batch Number	23.15.3.2
92	TA: Poison used to kill the sample	23.16.1
93	TA: Poison volume	23.16.2
94	TA: Poisoning correction description	23.16.3
95	TA: Magnitude of blank correction	23.17
96	TA: Uncertainty	23.18
97	TA: Data quality flag description	23.19
98	TA: Method reference (citation)	23.20
99	TA: Researcher Name	23.21.1
100	TA: Researcher Institution	23.21.2
101	pH: Variable abbreviation in data files	24.1
102	pH: Observation type	24.2
103	pH: In-situ observation / manipulation condition / response variable	24.3
104	pH: Manipulation method	24.4
105	pH: Measured or calculated	24.5
106	pH: Calculation method and parameters	24.6
107	pH: Sampling instrument	24.7
108	pH: Analyzing instrument	24.8
109	pH: pH scale	24.9
110	pH: Temperature of measurement	24.10
111	pH: Detailed sampling and analyzing information	24.11
112	pH: Field replicate information	24.12
113	pH: Standardization technique description	24.13.1
114	pH: Frequency of standardization	24.13.2
115	pH: pH values of the standards	24.13.3
116	pH: Temperature of standardization	24.13.4
117	pH: Temperature correction method	24.14
118	pH: at what temperature was pH reported	24.15
119	pH: Uncertainty	24.16
120	pH: Data quality flag description	24.17
121	pH: Method reference (citation)	24.18
122	pH: Researcher Name	24.19.1
123	pH: Researcher Institution	24.19.2
124	pCO2A: Variable abbreviation in data files	25.1
125	pCO2A: Observation type	25.2
126	pCO2A: In-situ observation / manipulation condition / response variable	25.3
127	pCO2A: Manipulation method	25.4
128	pCO2A: Variable unit	25.5
129	pCO2A: Measured or calculated	25.6
130	pCO2A: Calculation method and parameters	25.7
131	pCO2A: Sampling instrument	25.8
132	pCO2A: Location of seawater intake	25.9
133	pCO2A: Depth of seawater intake	25.10
134	pCO2A: Analyzing instrument	25.11
135	pCO2A: Detailed sampling and analyzing information	25.12
136	pCO2A: Equilibrator type	25.13.1
137	pCO2A: Equilibrator volume (L)	25.13.2
138	pCO2A: Vented or not	25.13.3
139	pCO2A: Water flow rate (L/min)	25.13.4
140	pCO2A: Headspace gas flow rate (L/min)	25.13.5

141	pCO2A: How was temperature inside the equilibrator measured .	25.13.6
142	pCO2A: How was pressure inside the equilibrator measured.	25.13.7
143	pCO2A: Drying method for CO2 gas	25.14
144	pCO2A: Manufacturer of the gas detector	25.15.1
145	pCO2A: Model of the gas detector	25.15.2
146	pCO2A: Resolution of the gas detector	25.15.3
147	pCO2A: Uncertainty of the gas detector	25.15.4
148	pCO2A: Standardization technique description	25.16.1
149	pCO2A: Frequency of standardization	25.16.2
150	pCO2A: Manufacturer of standard gas	25.16.3.1
151	pCO2A: Concentrations of standard gas	25.16.3.2
152	pCO2A: Uncertainties of standard gas	25.16.3.3
153	pCO2A: Water vapor correction method	25.17
154	pCO2A: Temperature correction method	25.18
155	pCO2A: at what temperature was pCO2 reported	25.19
156	<b>pCO2A: Uncertainty</b>	25.20
157	pCO2A: Data quality flag description	25.21
158	pCO2A: Method reference (citation)	25.22
159	pCO2A: Researcher Name	25.23.1
160	pCO2A: Researcher Institution	25.23.2
161	<b>pCO2D: Variable abbreviation in data files</b>	26.1
162	pCO2D: Observation type	26.2
163	pCO2D: In-situ observation / manipulation condition / response variable	26.3
164	pCO2D: Manipulation method	26.4
165	<b>pCO2D: Variable unit</b>	26.5
166	pCO2D: Measured or calculated	26.6
167	pCO2D: Calculation method and parameters	26.7
168	pCO2D: Sampling instrument	26.8
169	pCO2D: Analyzing instrument	26.9
170	pCO2D: Storage method	26.10
171	pCO2D: Seawater volume (mL)	26.11
172	pCO2D: Headspace volume (mL)	26.12
173	pCO2D: Temperature of measurement	26.13
174	pCO2D: Detailed sampling and analyzing information	26.14
175	pCO2D: Field replicate information	26.15
176	pCO2D: Manufacturer of the gas detector	26.16.1
177	pCO2D: Model of the gas detector	26.16.2
178	pCO2D: Resolution of the gas detector	26.16.3
179	pCO2D: Uncertainty of the gas detector	26.16.4
180	pCO2D: Standardization technique description	26.17.1
181	pCO2D: Frequency of standardization	26.17.2
182	pCO2D: Temperature of standardization	26.17.3
183	pCO2D: Manufacturer of standard gas	26.17.4.1
184	pCO2D: Concentrations of standard gas	26.17.4.2
185	pCO2D: Uncertainties of standard gas	26.17.4.3
186	pCO2D: Water vapor correction method	26.18
187	pCO2D: Temperature correction method	26.19
188	pCO2D: at what temperature was pCO2 reported	26.20
189	<b>pCO2D: Uncertainty</b>	26.21
190	pCO2D: Data quality flag description	26.22
191	pCO2D: Method reference (citation)	26.23
192	pCO2D: Researcher Name	26.24.1

193	pCO2D: Researcher Institution		26.24.2
194	Var1: Variable abbreviation in data files	depth	27.1
195	Var1: Full variable name	CTD depth	27.2
196	Var1: Observation type	profile	27.4
197	Var1: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
198	Var1: Variable unit	m	27.7
199	Var1: Measured or calculated	Measured	27.8
200	Var1: Calculation method and parameters	CTD	27.9
201	Var1: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
202	Var1: Analyzing instrument		27.11
203	Var1: Duration (for settlement/colonization methods)		27.12
<p>A detailed and more complete description is available in the cruise report at:  <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a>.  CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame, a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5</p>			
204	Var1: Detailed sampling and analyzing information		27.13
205	Var1: Field replicate information		27.14
206	Var1: Uncertainty		27.15
207	Var1: Data quality flag description		27.16
208	Var1: Method reference (citation)	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
209	Var1: Biological subject		27.18
210	Var1: Species Identification code		27.19
211	Var1: Life stage of the biological subject	Joe Salisbury	27.20
212	Var1: Researcher Name	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.1
213	Var1: Researcher Institution		27.21.2
214	Var2: Variable abbreviation in data files	pressure	27.1
215	Var2: Full variable name	CTD pressure	27.2
216	Var2: Observation type	profile	27.4
217	Var2: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
218	Var2: Variable unit	dbars	27.7
219	Var2: Measured or calculated	Measured	27.8
220	Var2: Calculation method and parameters	CTD	27.9
221	Var2: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
222	Var2: Analyzing instrument		27.11
223	Var2: Duration (for settlement/colonization methods)		27.12

	A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to cnv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5	
224	Var2: Detailed sampling and analyzing information	27.13
225	Var2: Field replicate information	27.14
226	Var2: Uncertainty	27.15
227	Var2: Data quality flag description	27.16
228	Var2: Method reference (citation)	27.17
229	Var2: Biological subject	27.18
230	Var2: Species Identification code	27.19
231	Var2: Life stage of the biological subject	27.20
232	Var2: Researcher Name	27.21.1
233	Var2: Researcher Institution	27.21.2
234	Var3: Variable abbreviation in data files	27.1
235	Var3: Full variable name	27.2
236	Var3: Observation type	27.4
237	Var3: In-situ observation / manipulation condition / response variable	27.5
238	Var3: Variable unit	27.7
239	Var3: Measured or calculated	27.8
240	Var3: Calculation method and parameters	27.9
241	Var3: Sampling instrument	27.10
242	Var3: Analyzing instrument	27.11
243	Var3: Duration (for settlement/colonization methods)	27.12
244	Var3: Detailed sampling and analyzing information	27.13
245	Var3: Field replicate information	27.14
246	Var3: Uncertainty	27.15
247	Var3: Data quality flag description	27.16
248	Var3: Method reference (citation)	27.17
249	Var3: Biological subject	27.18
250	Var3: Species Identification code	27.19
251	Var3: Life stage of the biological subject	27.20
252	Var3: Researcher Name	27.21.1
253	Var3: Researcher Institution	27.21.2
254	Var4: Variable abbreviation in data files	27.1
255	Var4: Full variable name	27.2

256	Var4: Observation type	profile	27.4
257	Var4: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
258	Var4: Variable unit	decimal degrees	27.7
259	Var4: Measured or calculated	Measured	27.8
260	Var4: Calculation method and parameters	CTD	27.9
261	Var4: Sampling instrument	MX420 DGPS	27.10
262	Var4: Analyzing instrument		27.11
263	Var4: Duration (for settlement/colonization methods)		27.12
A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5			
264	Var4: Detailed sampling and analyzing information		27.13
265	Var4: Field replicate information		27.14
266	Var4: Uncertainty		27.15
267	Var4: Data quality flag description		27.16
268	Var4: Method reference (citation)	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
269	Var4: Biological subject		27.18
270	Var4: Species Identification code		27.19
271	Var4: Life stage of the biological subject		27.20
272	Var4: Researcher Name	Joe Salisbury	27.21.1
273	Var4: Researcher Institution	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.2
274	Var5: Variable abbreviation in data files	density	27.1
275	Var5: Full variable name	density	27.2
276	Var5: Observation type	profile	27.4
277	Var5: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
278	Var5: Variable unit	kg/m^3	27.7
279	Var5: Measured or calculated	Measured	27.8
280	Var5: Calculation method and parameters	CTD	27.9
281	Var5: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
282	Var5: Analyzing instrument		27.11
283	Var5: Duration (for settlement/colonization methods)		27.12
A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5			
284	Var5: Detailed sampling and analyzing information		27.13
285	Var5: Field replicate information		27.14

286	Var5: Uncertainty		27.15
287	Var5: Data quality flag description		27.16
288	Var5: Method reference (citation)	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
289	Var5: Biological subject		27.18
290	Var5: Species Identification code		27.19
291	Var5: Life stage of the biological subject		27.20
292	Var5: Researcher Name	Joe Salisbury	27.21.1
293	Var5: Researcher Institution	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.2
294	Var6: Variable abbreviation in data files	temperature	27.1
295	Var6: Full variable name	CTD temperature	27.2
296	Var6: Observation type	profile	27.4
297	Var6: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
298	Var6: Variable unit	deg c	27.7
299	Var6: Measured or calculated	Measured	27.8
300	Var6: Calculation method and parameters	CTD	27.9
301	Var6: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
302	Var6: Analyzing instrument		27.11
303	Var6: Duration (for settlement/colonization methods)		27.12
<p>A detailed and more complete description is available in the cruise report at:  <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a>.  CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5</p>			
304	Var6: Detailed sampling and analyzing information		27.13
305	Var6: Field replicate information		27.14
306	Var6: Uncertainty	Post cruise calibration suggestions a drift of only +0.00123 over a year	27.15
307	Var6: Data quality flag description		27.16
308	Var6: Method reference (citation)	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
309	Var6: Biological subject		27.18
310	Var6: Species Identification code		27.19
311	Var6: Life stage of the biological subject		27.20
312	Var6: Researcher Name	Joe Salisbury	27.21.1
313	Var6: Researcher Institution	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.2
314	Var7: Variable abbreviation in data files	salinity	27.1
315	Var7: Full variable name	CTD salinity	27.2
316	Var7: Observation type	profile	27.4
317	Var7: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
318	Var7: Variable unit	PSU	27.7
319	Var7: Measured or calculated	calculated	27.8
320	Var7: Calculation method and parameters	CTD	27.9
321	Var7: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
322	Var7: Analyzing instrument		27.11
323	Var7: Duration (for settlement/colonization methods)		27.12



	A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to cnv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5	
324	Var7: Detailed sampling and analyzing information	27.13
325	Var7: Field replicate information	27.14
326	Var7: Uncertainty	27.15
327	Var7: Data quality flag description	27.16
328	Var7: Method reference (citation)	27.17
329	Var7: Biological subject	27.18
330	Var7: Species Identification code	27.19
331	Var7: Life stage of the biological subject	27.20
332	Var7: Researcher Name	27.21.1
333	Var7: Researcher Institution	27.21.2
334	Var8: Variable abbreviation in data files	27.1
335	Var8: Full variable name	27.2
336	Var8: Observation type	27.4
337	Var8: In-situ observation / manipulation condition / response variable	27.5
338	Var8: Variable unit	27.7
339	Var8: Measured or calculated	27.8
340	Var8: Calculation method and parameters	27.9
341	Var8: Sampling instrument	27.10
342	Var8: Analyzing instrument	27.11
343	Var8: Duration (for settlement/colonization methods)	27.12
	A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to cnv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5	
344	Var8: Detailed sampling and analyzing information	27.13
345	Var8: Field replicate information	27.14
346	Var8: Uncertainty	27.15
347	Var8: Data quality flag description	27.16
348	Var8: Method reference (citation)	27.17
349	Var8: Biological subject	27.18
350	Var8: Species Identification code	27.19
351	Var8: Life stage of the biological subject	27.20
352	Var8: Researcher Name	27.21.1
353	Var8: Researcher Institution	27.21.2

354	<b>Var9: Variable abbreviation in data files</b>	oxygen, 2	27.1
355	<b>Var9: Full variable name</b>	CTD oxygen	27.2
356	<b>Var9: Observation type</b>	profile	27.4
357	<b>Var9: In-situ observation / manipulation condition / response variable</b>	In-situ observation	27.5
358	<b>Var9: Variable unit</b>	% Sat	27.7
359	<b>Var9: Measured or calculated</b>	calculated	27.8
360	<b>Var9: Calculation method and parameters</b>	SBE 43	27.9
361	<b>Var9: Sampling instrument</b>	Sea-Bird SBE-911plus CTD system	27.10
362	<b>Var9: Analyzing instrument</b>		27.11
363	<b>Var9: Duration (for settlement/colonization methods)</b>		27.12
<p>A detailed and more complete description is available in the cruise report at:  <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a>.  CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5</p>			
364	<b>Var9: Detailed sampling and analyzing information</b>		27.13
365	<b>Var9: Field replicate information</b>		27.14
366	<b>Var9: Uncertainty</b>	The DO sensors were calibrated to dissolved O2 check samples by matching the up cast bottle trips to CTD bottle files. Post cruise calibration of the sensor determined that there was minimal drift with a slope of 1.0301 mL/L between calibrations.	27.15
367	<b>Var9: Data quality flag description</b>		27.16
368	<b>Var9: Method reference (citation)</b>	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
369	<b>Var9: Biological subject</b>		27.18
370	<b>Var9: Species Identification code</b>		27.19
371	<b>Var9: Life stage of the biological subject</b>		27.20
372	<b>Var9: Researcher Name</b>	Joe Salisbury	27.21.1
373	<b>Var9: Researcher Institution</b>	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.2
374	<b>Var10: Variable abbreviation in data files</b>	oxygen, 2	27.1
375	<b>Var10: Full variable name</b>	CTD oxygen	27.2
376	<b>Var10: Observation type</b>	profile	27.4
377	<b>Var10: In-situ observation / manipulation condition / response variable</b>	In-situ observation	27.5
378	<b>Var10: Variable unit</b>	umol/kg	27.7
379	<b>Var10: Measured or calculated</b>	calculated	27.8
380	<b>Var10: Calculation method and parameters</b>	SBE 43	27.9
381	<b>Var10: Sampling instrument</b>	Sea-Bird SBE-911plus CTD system	27.10
382	<b>Var10: Analyzing instrument</b>		27.11
383	<b>Var10: Duration (for settlement/colonization methods)</b>		27.12

	A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to cnv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5	
384	Var10: Detailed sampling and analyzing information	27.13
385	Var10: Field replicate information	27.14
386	Var10: Uncertainty	27.15
387	Var10: Data quality flag description	27.16
388	Var10: Method reference (citation)	27.17
389	Var10: Biological subject	27.18
390	Var10: Species Identification code	27.19
391	Var10: Life stage of the biological subject	27.20
392	Var10: Researcher Name	27.21.1
393	Var10: Researcher Institution	27.21.2
394	Var11: Variable abbreviation in data files	27.1
395	Var11: Full variable name	27.2
396	Var11: Observation type	27.4
397	Var11: In-situ observation / manipulation condition / response variable	27.5
398	Var11: Variable unit	27.7
399	Var11: Measured or calculated	27.8
400	Var11: Calculation method and parameters	27.9
401	Var11: Sampling instrument	27.10
402	Var11: Analyzing instrument	27.11
403	Var11: Duration (for settlement/colonization methods)	27.12
	A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to cnv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5	
404	Var11: Detailed sampling and analyzing information	27.13
405	Var11: Field replicate information	27.14
406	Var11: Uncertainty	27.15
407	Var11: Data quality flag description	27.16
408	Var11: Method reference (citation)	27.17
409	Var11: Biological subject	27.18
410	Var11: Species Identification code	27.19
411	Var11: Life stage of the biological subject	27.20
412	Var11: Researcher Name	27.21.1
413	Var11: Researcher Institution	27.21.2

414	<b>Var12: Variable abbreviation in data files</b>	fluorescence, UV	27.1
415	<b>Var12: Full variable name</b>	CDOM colored dissolved organic matter	27.2
416	<b>Var12: Observation type</b>	profile	27.4
417	<b>Var12: In-situ observation / manipulation condition / response variable</b>	In-situ observation	27.5
418	<b>Var12: Variable unit</b>	QSU	27.7
419	<b>Var12: Measured or calculated</b>	measured	27.8
420	<b>Var12: Calculation method and parameters</b>	Seapoint Ultraviolet Fluorometers	27.9
421	<b>Var12: Sampling instrument</b>	Sea-Bird SBE-911plus CTD system	27.10
422	<b>Var12: Analyzing instrument</b>		27.11
423	<b>Var12: Duration (for settlement/colonization methods)</b>		27.12
<p>A detailed and more complete description is available in the cruise report at:  <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a>.  CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5</p>			
424	<b>Var12: Detailed sampling and analyzing information</b>		27.13
425	<b>Var12: Field replicate information</b>		27.14
426	<b>Var12: Uncertainty</b>		27.15
427	<b>Var12: Data quality flag description</b>		27.16
428	<b>Var12: Method reference (citation)</b>	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
429	<b>Var12: Biological subject</b>		27.18
430	<b>Var12: Species Identification code</b>		27.19
431	<b>Var12: Life stage of the biological subject</b>		27.20
432	<b>Var12: Researcher Name</b>	Joe Salisbury	27.21.1
433	<b>Var12: Researcher Institution</b>	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.2
434	<b>Var13: Variable abbreviation in data files</b>	conductivity	27.1
435	<b>Var13: Full variable name</b>	conductivity	27.2
436	<b>Var13: Observation type</b>	profile	27.4
437	<b>Var13: In-situ observation / manipulation condition / response variable</b>	In-situ observation	27.5
438	<b>Var13: Variable unit</b>	S/m	27.7
439	<b>Var13: Measured or calculated</b>	measured	27.8
440	<b>Var13: Calculation method and parameters</b>		27.9
441	<b>Var13: Sampling instrument</b>	Sea-Bird SBE-911plus CTD system	27.10
442	<b>Var13: Analyzing instrument</b>		27.11
443	<b>Var13: Duration (for settlement/colonization methods)</b>		27.12

	A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to cnv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5	
444	Var13: Detailed sampling and analyzing information	27.13
445	Var13: Field replicate information	27.14
446	Var13: Uncertainty	27.15
447	Var13: Data quality flag description	27.16
448	Var13: Method reference (citation)	27.17
449	Var13: Biological subject	27.18
450	Var13: Species Identification code	27.19
451	Var13: Life stage of the biological subject	27.20
452	Var13: Researcher Name	27.21.1
453	Var13: Researcher Institution	27.21.2
454	Var14: Variable abbreviation in data files	27.1
455	Var14: Full variable name	27.2
456	Var14: Observation type	27.4
457	Var14: In-situ observation / manipulation condition / response variable	27.5
458	Var14: Variable unit	27.7
459	Var14: Measured or calculated	27.8
460	Var14: Calculation method and parameters	27.9
461	Var14: Sampling instrument	27.10
462	Var14: Analyzing instrument	27.11
463	Var14: Duration (for settlement/colonization methods)	27.12
	A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to cnv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5	
464	Var14: Detailed sampling and analyzing information	27.13
465	Var14: Field replicate information	27.14
466	Var14: Uncertainty	27.15
467	Var14: Data quality flag description	27.16
468	Var14: Method reference (citation)	27.17
469	Var14: Biological subject	27.18
470	Var14: Species Identification code	27.19
471	Var14: Life stage of the biological subject	27.20
472	Var14: Researcher Name	27.21.1
473	Var14: Researcher Institution	27.21.2
474	Var15: Variable abbreviation in data files	27.1
475	Var15: Full variable name	27.2

476	Var15: Observation type	profile	27.4
477	Var15: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
478	Var15: Variable unit	volts	27.7
479	Var15: Measured or calculated	measured	27.8
480	Var15: Calculation method and parameters		27.9
481	Var15: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
482	Var15: Analyzing instrument		27.11
483	Var15: Duration (for settlement/colonization methods)		27.12
A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5			
484	Var15: Detailed sampling and analyzing information		27.13
485	Var15: Field replicate information		27.14
486	Var15: Uncertainty		27.15
487	Var15: Data quality flag description		27.16
488	Var15: Method reference (citation)	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
489	Var15: Biological subject		27.18
490	Var15: Species Identification code		27.19
491	Var15: Life stage of the biological subject		27.20
492	Var15: Researcher Name	Joe Salisbury	27.21.1
493	Var15: Researcher Institution	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.2
494	Var16: Variable abbreviation in data files	oxygen, raw, 2	27.1
495	Var16: Full variable name	oxygen voltage	27.2
496	Var16: Observation type	profile	27.4
497	Var16: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
498	Var16: Variable unit	volts	27.7
499	Var16: Measured or calculated	measured	27.8
500	Var16: Calculation method and parameters		27.9
501	Var16: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
502	Var16: Analyzing instrument		27.11
503	Var16: Duration (for settlement/colonization methods)		27.12
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504	Var16: Detailed sampling and analyzing information		27.13
505	Var16: Field replicate information		27.14

506	<b>Var16: Uncertainty</b>		27.15
507	Var16: Data quality flag description		27.16
508	Var16: Method reference (citation)	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
509	Var16: Biological subject		27.18
510	Var16: Species Identification code		27.19
511	Var16: Life stage of the biological subject		27.20
512	Var16: Researcher Name	Joe Salisbury	27.21.1
513	Var16: Researcher Institution	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.2
514	<b>Var17: Variable abbreviation in data files</b>	descent	27.1
515	Var17: Full variable name	descent rate of CTD	27.2
516	Var17: Observation type	profile	27.4
517	Var17: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
518	<b>Var17: Variable unit</b>	m/s	27.7
519	Var17: Measured or calculated	measured	27.8
520	Var17: Calculation method and parameters		27.9
521	Var17: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
522	Var17: Analyzing instrument		27.11
523	Var17: Duration (for settlement/colonization methods)		27.12
<p>A detailed and more complete description is available in the cruise report at:  <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a>.  CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5</p>			
524	Var17: Detailed sampling and analyzing information		27.13
525	Var17: Field replicate information		27.14
526	<b>Var17: Uncertainty</b>		27.15
527	Var17: Data quality flag description		27.16
528	Var17: Method reference (citation)	<a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> .	27.17
529	Var17: Biological subject		27.18
530	Var17: Species Identification code		27.19
531	Var17: Life stage of the biological subject		27.20
532	Var17: Researcher Name	Joe Salisbury	27.21.1
533	Var17: Researcher Institution	Ocean Processes Analysis Laboratory, University of New Hampshire	27.21.2
534	<b>Var18: Variable abbreviation in data files</b>	PAR/Irradiance	27.1
535	Var18: Full variable name	CTD PAR cosine irradiance	27.2
536	Var18: Observation type	profile	27.4
537	Var18: In-situ observation / manipulation condition / response variable	In-situ observation	27.5
538	<b>Var18: Variable unit</b>	$\mu\text{E}/\text{m}^2/\text{s}$	27.7
539	Var18: Measured or calculated	measured	27.8
540	Var18: Calculation method and parameters	QCP2300-HP	27.9
541	Var18: Sampling instrument	Sea-Bird SBE-911plus CTD system	27.10
542	Var18: Analyzing instrument		27.11
543	Var18: Duration (for settlement/colonization methods)		27.12

	A detailed and more complete description is available in the cruise report at: <a href="http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf">http://www.aoml.noaa.gov/ocd/gcc/ECOA2/Cruise_Report.pdf</a> . CTD/rosette casts were performed with a package consisting of a 24-place, 10-liter rosette frame (AOML's yellow frame), a 24-place water sampler/pylon (SBE32) and 24, 10-liter Bullister/Niskin-style bottles. This package was deployed on all stations/casts. Underwater electronic components consisted of a Sea-Bird Electronics (SBE) 9 plus CTD with dual pumps and the following sensors: dual temperature (SBE3), dual conductivity (SBE4), dual dissolved oxygen (SBE43), and a PSA-916 Altimeter. The CTDs supplied a standard Sea-Bird format data stream at a data rate of 24 frames/second. The SBE9plus CTD was connected to the SBE32 24-place pylon providing for single-conductor sea cable operation. Power to the SBE9plus CTD, SBE32 pylon, auxiliary sensors, and altimeter was provided through the sea cable from the SBE11plus deck unit in the computer lab. The raw CTD data and bottle trips acquired by SBE Seasave on the Windows 7 workstation were processed from hex files to csv files and then into bottle files. Post cruise data processing was completed on a Windows 7 machine running SEABIRD SBE DATA Processing version 7.22.5	
544	Var18: Detailed sampling and analyzing information	27.13
545	Var18: Field replicate information	27.14
546	Var18: Uncertainty	27.15
547	Var18: Data quality flag description	27.16
548	Var18: Method reference (citation)	27.17
549	Var18: Biological subject	27.18
550	Var18: Species Identification code	27.19
551	Var18: Life stage of the biological subject	27.20
552	Var18: Researcher Name	27.21.1
553	Var18: Researcher Institution	27.21.2



























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