

Jacques Cousteau (JAC) NERR Water Quality Metadata
(formerly known as Mullica River (MUL) NERR)
January through December 2001
Latest update: July 18, 2022

I. DATA SET AND RESEARCH DESCRIPTION

1. Principal Investigators and Contact Person

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2. Entry verification

The data were uploaded to the PC from the YSI data loggers in the PC6000 and comma delimited format and saved with .dat and .csv extensions respectively. Both of these data file formats are archived on site. Graphs were created from the .dat files using the EcoWatch software. The graphs were evaluated for suspect data, which may have resulted from probe failure or the data logger being out of water. Pre-deployment and post-retrieval readings were identified by depth and salinity values near zero. First and last readings were then compared with pre-deployment and post-retrieval readings taken with a YSI 600 unit. All irregular data observed from graphs were documented on deployment records. The appropriate files were then merged to form complete monthly data sets and were saved as separate EXCEL files. Missing data are denoted by periods (.) and documented in section 11 (Anomalous Data) of this document. Any erroneous data that were identified as being caused by probe failures, as determined upon examination of the data plots, were deleted and replaced with periods and noted in section 11. Symptoms of probe failure were extreme noise in the record, unrealistically high or negative data, and noisy or negative readings in standard solutions. Examples of many such failures are given in the CDMO Manual (Version 3). Sensor readings that greatly deviate from known values of standards after deployments were not necessarily believed to be the result of probe failure. These erroneous readings may have been the result of biofouling. If biofouling was believed to be the reason for these data, the data were retained and noted in section 11 (Data Anomalies) of this document. Finally, CDMO cdmomac3.xls macros were then run on these newly created monthly files to identify missing times and /or dates, to format column width and decimal places of each column, and to identify outliers and other erroneous data. In November 1999 a graphing capability was added to this macro allowing users to produce single parameter and missing data point graphs on a monthly basis. When all the macros were run and the data was checked and formatted

properly, the monthly data files were saved as text files and then uploaded to the CDMO server. Sharon O'Donnell is responsible for data management and transferring data files to CDMO.

3. Research Objectives

The water quality of the Mullica River and Great Bay has traditionally been very clean and free of excessive nutrient loading from anthropogenic sources. This is due to the fact that there is very little development or industry within the drainage basin of the Mullica River and its tributaries. Great Bay had a large source of nutrient loading coming from a menhaden fish processing factory which was in operation from the early 1930's to the early 1960's and affected the lower portion of the bay. The river is relatively deep, five to nine meters in the section that is monitored. Great Bay averages about two meters depth. The river also has a dark color due to tannins and humic compounds that are a natural product coming from the Pine Barrens and are present in large amounts within the river. It is believed that nutrients which enter the river upstream do not get utilized within the river because of the lack of light penetration. The great depth of the river and the dark color from the tannins flowing down the river from the Pine Barrens prevent the utilization of these nutrients by planktonic organisms. Where the river empties into the bay, light penetration reaches the bottom of the bay and allows the utilization of the nutrients by phytoplankton making this region more productive (Durand 1979). Water circulation questions within this unique estuary can be addressed by the use of data loggers. Because of the close proximity of the lower station to Little Egg Inlet, the effects of an influx of ocean water can have dramatic effects on both the water quality and on the biological aspect of the region. Upwelling along the coast is a common occurrence during the summer months. The influx of this water into the bay can and does affect larval fish transport into and out of the bay. The colder ocean waters can have dramatic effects on the growth rates of many different species living in the area. Data loggers have been useful in tracking the physical changes within the estuary due to occurrences such as upwelling and storm events and will be helpful in translating the resulting biological events.

4. Research Methods (YSI Data Loggers)

The data loggers are programmed to record water quality parameters every 30 minutes. Presently, three instruments are located in the Jacques Cousteau Reserve. These monitoring sites extend from the fresh water/salt water interface at Lower Bank, approximately 25 kilometers up the Mullica River from the point where it joins Great Bay to the mouth of Great Bay, a distance of eight kilometers. Thus the data loggers cover a total of 33 kilometers in this estuarine system.

At all three sites, YSI data loggers are deployed in the following manner. A 10 - 20 foot length of schedule 40 PVC pipe is used. Slots one inch wide and eight inches long are cut three inches above the bottom and encircled the pipe. A one half-inch bolt is placed below the pipe slots to keep the YSI from falling through the pipe. A PVC cap is placed over the pipe with a slot for a locking mechanism to the pipe. A rope is attached to the cap with the other end fastened to the bail of the data logger for the retrieval of the YSI.

Every thirty minutes (eastern standard time EST) during each sampling period measurements of specific conductance, salinity, temperature, dissolved oxygen, (percent saturation and mg/L), water level, pH, and turbidity are recorded. After approximately 14 days the data logger is removed from the PVC pipe. A YSI 600 data logger attached to a YSI 610-DM handheld unit is then lowered into the pipe and samples are taken in in-situ water conditions at the

same depth which data is recorded. A different calibrated and programmed YSI data logger is then switched with the data logger being replaced. The data logger is brought back to the laboratory for downloading, re-calibration and reprogramming to be exchanged at a different location. The beginning and end of each data file is compared to the YSI 600 readings and the data is checked for probe failure and fouling. The data loggers are programmed to start recording data a few hours before they are deployed in the field. Records are kept indicating which data loggers are used at each location and if there are any specific problems with the data loggers or probes on the data loggers.

Uploading, cleaning, maintenance, and calibration are conducted as described in the YSI Operating Manual (section 3, 4, and 7). Calibration standards required for pH and conductivity are purchased from a scientific supply house. A two point calibration is used for pH, the first being pH 7 followed by pH 4. The lower pH standard is used because of the more acetic properties of the Mullica River. A standard of 20,000 us/cm is used to calibrate for conductivity. The membrane on the oxygen probe is changed with every deployment. The membrane is stretched over the face of the probe and is burned in by allowing the data logger to run in an unattended sampling mode sampling every 30 minutes for at least eight hours. Dissolved oxygen is calibrated using a calibration cup filled with about 1/4 inch tap water, which creates a 100% water-saturated air environment for the sensor when the data logger is placed in the cup. The sensors are allowed to equilibrate in the cup before DO (% saturation) is calibrated. DO calibrations are performed immediately before deployment. Data loggers are allowed to sample inside the calibration cup at least one hour following retrieval to assure the membrane functioned properly during deployment. The standard for calibrating turbidity is purchased from a supply house and diluted to give a reading of 100 NTU (National Turbidity Units). Turbidity wipers are replaced after every deployment. Used conductivity, pH, and turbidity standards are stored for rinsing probes and post-deployment calibrations which are performed immediately after data loggers return from the field and before data loggers are cleaned. These standards are then discarded after their second use. Servicing an instrument generally takes about two hours for each data logger plus the time involved with retrieval and deployment.

5. Site Location and Character

The Jacques Cousteau National Estuarine Research Reserve (JACNERR) at Mullica River/Great Bay is located on the northeast coast of the United States on the Atlantic Ocean. The estuary is near Tuckerton, New Jersey about 14 kilometers north of Atlantic City. All three locations can be characterized by having no macro algae and fast moving tidal currents. All sites are in an undisturbed area with little impact from development or pollution. There are three sampling stations:

1) Buoy 126 (b6) - 39 30.478' N, 74 20.308' W- located three kilometers from Little Egg Inlet on the eastern side of Great Bay and is 100 meters from the nearest land which is a natural marsh island. This is a naturally deep area which has never been dredged. It is located about 0.5 kilometer from an area in the intracoastal waterway which is dredged regularly. The dredged material is a course sand. The data logger at this location is attached to Intracoastal Waterway Buoy 126 and is the closest monitoring station to Little Egg Inlet. In 2000 and 2001, Buoy 126 was the only SWMP site accessed by boat. This site can be characterized by having strong tidal currents, 2-3 knots, fine to course sand bottom with an extensive blue mussel bed surrounding the area. The 2001 averages for this site are as follows: the depth is 3.0 meters with a range of

1.8 to 4.3 meters. Salinity averages 29.7 ppt with a maximum of 32.8 and a minimum of 21.1 ppt. Temperatures at this site ranged from 0.9 to 27.7 degrees Celsius. Values for pH at this site ranged from 7.4 - 8.5 with an average value of 8.0 and were not as variable as values from the previous year.

2) Chestnut Neck (ne) - 39 32.872' N, 74 27.676' W - located 12 kilometers up the Mullica River from the mouth of the river. The river begins at a line drawn between Graveling Point and Oysterbed Point on the northwestern side of Great Bay. The Mullica River at this location is quite wide, about 250 meters. The data logger is attached to the dock of a small marina along the southern shore of the river adjacent to the main channel. This location has never been dredged. The average depth at this location is 1.7 meters with a range of from 0.8 to 2.9 meters. The depth in the middle of the Mullica River at this location is about six meters. The pH averages 7.4 for the year with a range of from 6.6 to 8.0. The average salinity here is 18.2 ppt with a range of 3.0 to 27.7 ppt. The site is characterized by having tidal currents of less than one knot, during both ebb and flood tide, and has a sandy bottom.

3) Lower Bank (ba) - 39 35.618' N, 74 33.091' W - located 13 kilometers upriver of the Chestnut Neck location. The Mullica River at this site is about two hundred meters wide. The data logger is attached to a bridge going over the Mullica River and is located in the center of the river. The northern bank of the river is sparsely developed with single-family houses and has a steep bank about five meters high. The southern shore has an extensive marsh and fresh water wetland area about three kilometers wide. This site can be characterized by having fast tidal currents, just over one knot, deep water, and fine sand sediment. The average depth is 1.7 meters with a range of 0.40 to 2.9 meters. pH ranges from 6.2 to 7.5. The salinity averages 4.5 ppt with a range of from 0.0 to 19.5 ppt. 2001 temperatures ranged from 0.3 to 30.8 degrees Celcius.

6. Data Collection Period

Data collection at Buoy 126 and Chestnut Neck began August 1996, Lower Bank started October 1996. All three sites have been continuously in service since that time. The following are the beginning and ending date and time for each logging run over the year:

Lower Bank

Logging Run	Started	Logging Run	Ended
1/24/01	1430	2/1/01	1700
2/9/01	1100	2/28/01	730
3/15/01	800	4/2/01	530
4/2/01	630	4/14/01	1730
4/14/01	1800	4/27/01	1230
4/27/01	1300	5/21/01	1500
5/21/01	1600	6/1/01	800
6/1/01	830	6/20/01	700
6/20/01	730	7/3/01	1430
7/3/01	1500	7/17/01	1000
7/17/01	1030	7/30/01	1630
7/30/01	1700	8/16/01	800
8/16/01	830	8/28/01	830
8/28/01	900	9/12/01	1430
9/12/01	1500		no data collected
9/26/01	730	10/12/01	900
10/12/01	930	10/23/01	700

10/23/01	730
11/7/01	900
11/20/01	1600
12/4/01	1300

11/7/01	800
11/20/01	1500
12/4/01	1230
12/20/01	830

Chestnut Neck

Logging Run Started

1/16/01	1630
2/22/01	1400
3/16/01	1430
4/4/01	830
4/19/01	1600
5/8/01	1030
5/25/01	1130
6/20/01	1200
7/2/01	1430
7/16/01	1200
8/2/01	1500
8/20/01	800
9/12/01	1600
9/28/01	1200
10/12/01	1130
10/31/01	1130
11/15/01	1700
12/6/01	1400

Logging Run Ended

1/24/01	200
3/13/01	1400
3/29/01	900
4/19/01	1100
5/7/01	1100
5/25/01	830
6/18/01	1330
7/2/01	1330
7/16/01	1130
8/2/01	1430
8/20/01	730
9/10/01	1400
9/27/01	800
10/11/01	830
10/30/01	1300
11/15/01	1100
12/6/01	930
1/2/02	1200

Buoy 126

Logging Run Started

1/22/01	1430
2/9/01	1630
2/27/01	1530
3/13/01	1600
3/29/01	1100
4/12/01	1330
4/30/01	1500
5/21/01	1030
6/4/01	1330
6/22/01	1330
7/5/01	930
7/18/01	1000
8/3/01	1500
8/14/01	1300
8/28/01	830
9/11/01	930
9/24/01	1000
10/10/01	800
10/24/01	1130
11/08/01	1430
11/19/01	1200
12/5/01	1100

Logging Run Ended

2/2/01	900
2/27/01	1500
3/7/01	430
3/29/01	1030
4/12/01	1230
4/30/01	1430
5/21/01	930
6/4/01	1300
6/22/01	1300
7/5/01	900
7/17/01	730
8/1/01	730
8/14/01	1230
8/28/01	800
9/11/01	800
9/24/01	1000
10/3/01	1030
10/24/01	1030
11/8/01	1230
11/19/01	1100
12/5/01	1000
12/17/01	1000

7. Distribution

According to the Ocean and Coastal Resource Management Data Dissemination Policy of the NERRS System-wide Monitoring Program, NOAA/ERD retains the right to analyze, synthesize, and publish summaries of the NERRS System-wide

Monitoring Program data. The Principal Investigator retains the right to be fully credited for having collected and processed the data. Following academic courtesy standards, the PI and NERR site where the data were collected will be contacted and fully acknowledged in any subsequent publications in which any part of the data are used. Manuscripts resulting from the NOAA/OCRM supported research that are produced for publication in open literature, including refereed scientific journals, will acknowledge that the research was conducted under an award from the Estuarine Reserves Division, Office of Ocean and Coastal Resource Management, National Ocean Service, and National Oceanic and Atmospheric Administration. The data set enclosed within this package/transmission is only as good as the quality assurance and quality control procedures outlined in the enclosed metadata reporting statement. The user bears all responsibility for its subsequent use/misuse in any further analyses or comparisons. The Federal government does not assume liability to the Recipient of third persons, nor will the Federal government reimburse or indemnify the Recipient for its liability due to any losses resulting in any way from the use of this data.

NERR water quality data and metadata can be obtained from the Research Coordinator at the individual NERR site (please see section 1. Principal Investigators and contact persons), from the Data Manager at the Centralized Data Management Office (please see personnel directory under general information link on CDMO homepage) and online at the CDMO homepage <http://cdmo.baruch.sc.edu>. Data are available in text tab-delimited format, Microsoft Excel spreadsheet format and comma-delimited format.

8. Associated Researchers and Projects

During 2001, weekly ichthyoplankton sampling at Little Sheepshead Creek Bridge (LSCB) continued as part of the long-term sampling conducted by Rutgers University in the JCNERR. Presence and abundance of larval fishes are determined with a plankton net (1 m, 1 mm mesh) deployed during night flood tides from a bridge near Little Egg Inlet (New Jersey) in the Great Bay/Little Egg harbor portion of the NERR. Killi- trapping conducted in the Rutgers boat basin, and system-wide otter trawling also continued in 2001 as part of long-term sampling within the Reserve.

This year Dr. Kenneth Able and Dr. Peter Rowe completed a project comparing habitat use by young-of-the-year (YOY) bluefish (*Pomatomus saltatrix*) on estuarine and ocean beaches in the JCNERR. Field crews of 4-6 people collected YOY bluefish in the surf zone of both habitats with a 30 m beach seine. The investigators tagged YOY bluefish in both habitats with a 1.1 mm long, stainless steel, sequential coded wire tags inserted in front of the dorsal fin. Tagged fish were released and YOY bluefish collected in subsequent beach seine hauls were scanned for tags.

Roger Hoden continued long-term monitoring and evaluation of diamondback terrapin (*Malaclemys terrapin*) habitat utilization along Great Bay Boulevard, within the JCNERR. The Boulevard, which bisects a seven-mile long peninsula within the Reserve, offers valuable insight into juvenile and adult terrapin behavior. Samples for mortality studies are collected daily along the boulevard by staff of the Rutgers field station on their way to and from the field station, located at the end of this road.

Amanda McGuirk was awarded a Graduate Research Fellowship in 2001 and will be working with Dr. Kennish on various aspects of the nutrients present in Great Bay and the Mullica River over the next two years.

Graduate Research Fellow Gregg Sakowicz continued to work on his project: Essential habitat for marsh fishes: Behavioral ecology of larval and juvenile *Fundulus heteroclitus* and *Cyprinodon variegatus*. During the summer of

2001, Gregg observed the vertical distributions and activity levels of the two species. Nearing the end of 2001, Gregg compared numerous aspects of the species' physical development in order to devise a staging scheme for application to future analyses of their community dynamics.

II. PHYSICAL STRUCTURE DESCRIPTIONS

9. Variable Sequence, Range of Measurements, Units, Resolution, and Accuracy:

YSI 6000 datalogger

Variable	Range of Measurements	Resolution	Accuracy
Date	1-12, 1-31, 00-01 (Mo,Day,Yr)	1 mo, 1 day, 1 yr	NA
Time	0-24, 0-60, 0-60 (Hr,Min,Sec)	1 hr, 1 min, 1 s	NA
Temp	-5 to 45 (c)	0.01 C	+/-0.15C
Sp Conductivity	0-100 (mS/cm)	0.01mS/cm	+/-0.5% Of reading + 0.001mS/Cm
Salinity	0-70 Parts per thousand (ppt)	0.01 ppt	+/- 1% of
Reading or 0.1 ppt, (whichever is greater)			
DO	0-200 (% air saturation)	0.1% @air sat	+/-2% @air
Saturation			
DO	200-500 (% air saturation)	0.1% @ air sat	+/- 6% @
Saturation			
DO	0-20 (mg/l)	0.01 mg/l	+/- 0.2mg/l
DO	20-50 (mg/l)	0.01 mg/l	+/- 0.6mg/l
Depth (shallow)	0-9.1 (m)	0.001m	+/- 0.018m
PH	2-14 units	0.01 units	+/- 0.2units
Turb	0-1000 NTU	0.1 NTU	+/- 5% of
Reading or 2 NTU (whichever is greater)			

Data columns are separated by tabs. Each file contains a two line column header at the top of the page which identifies measurements and units for each column.

10. Coded Variable Indicator and Variable Code Definitions:

BANK ba = Lower Bank
 NECK ne = Chestnut Neck
 B126 b6 = Buoy 126

11. Data Anomalies:

Included in this section are the month and year of data collection, the location and the file name for that month, along with all anomalous data points.

LOWER BANK
 January ba0101
 None to report

February ba0201
 2/9/01 1100 - 2/28/01 730 turbidity data corrupt, data deleted
 2/25/01 0600 - 2/25/01 1130 DO drops rapidly from 100% and 90% values to 47.4%, and then increase again inexplicably. Data were retained.

March ba0301
 None to report

April ba0401

4/2/01 630 DO & depth values drop with deployment
4/14/01 730 turbidity value out of range (114 NTU) data deleted
4/22/01 700 (116 NTU), 730, 900, 1000-1100 (261 NTU) turbidity values out of range, data deleted
4/24/01 2030-2100 turbidity value out of range (115, 238 NTU) data deleted
4/26/01 1230 turbidity value out of range (336 NTU) data deleted

May ba0501

5/3/01 400 turbidity out of range (134 NTU)
5/6/01 600, 700, 1800 turbidity out of range (143,118,103 NTU)
5/21/01 1830 turbidity out of range (107 NTU)
5/30/01 1530 turbidity out of range (1429 NTU) data deleted

June ba0601

6/11/01 to 6/22/01 noise in DO values (98.1% to 26.9%), kept in file because following deployment looks similar after 4" of rain, then goes back to less erratic readings.
6/15/01 1600 turbidity value out of range (228 NTU) data deleted
6/17/01 4" of rain fell in Atlantic City and may be cause for many of the following anomalies.
6/18/01 230 salinity drops to 0.2 ppt and stays below 2 ppt until 6/29 130.
6/18/01 1000 change/drop in pH.
6/18/01 1600 No data, datalogger pulled from water for servicing of bulk head.
6/18/01 1630 turbidity value out of range (133 NTU)
6/20/01 900-1530 depth drops from 1.35 m to 0.44 m stays lower than other June readings until 6/23/01 000.
6/20/01 230 - 1000 DO drops from 73.2% (6.01 mg/L) to 23.9% and stays low until 1900.
6/20/01 2300, 2330 negative DO removed (-1.9%, -0.9%) (-0.15, -0.07 mg/L)
6/22/01 030, 100 negative DO removed (-2.1%, -1.3%), (-0.17, -0.11 mg/L)
6/27/01 2200 turbidity out of range (1344 NTU) data deleted
6/30/01 200 turbidity value out of range (112 NTU)

July ba0701

The following turbidity values were out of range and deleted:

07/06/2001	05:30:00	339
07/10/2001	17:00:00	1598
07/11/2001	06:00:00	427
07/11/2001	10:30:00	476
07/14/2001	16:30:00	437
07/15/2001	11:30:00	1589
07/15/2001	14:00:00	1593
07/15/2001	17:30:00	1594
07/16/2001	01:30:00	1591
07/16/2001	03:00:00	276
07/16/2001	04:00:00	183
07/20/2001	00:30:00	410
07/21/2001	17:30:00	110
07/21/2001	21:30:00	738
07/21/2001	23:30:00	198
07/22/2001	04:00:00	160
07/22/2001	06:00:00	133
07/22/2001	10:00:00	225
07/22/2001	19:30:00	1447
07/22/2001	20:00:00	105

07/22/2001	23:00:00	803
07/22/2001	23:30:00	294
07/23/2001	11:00:00	609
07/23/2001	13:30:00	1533
07/24/2001	00:00:00	1535
07/24/2001	12:30:00	1006
07/24/2001	23:00:00	1541
07/25/2001	00:30:00	1226
07/25/2001	01:00:00	1062
07/25/2001	01:30:00	1540
07/25/2001	11:00:00	1543
07/25/2001	21:30:00	1548
07/26/2001	00:30:00	182
07/26/2001	02:00:00	1544
07/26/2001	03:00:00	595
07/26/2001	05:30:00	278
07/26/2001	12:00:00	1544
07/26/2001	13:00:00	624
07/26/2001	14:00:00	348
07/27/2001	02:30:00	1533
07/27/2001	03:00:00	1291
07/27/2001	12:30:00	1534
07/27/2001	15:00:00	281
07/27/2001	16:00:00	1017
07/28/2001	01:00:00	1532
07/28/2001	02:00:00	967
07/28/2001	03:30:00	226
07/28/2001	04:30:00	1529
07/28/2001	05:00:00	1528
07/28/2001	05:30:00	1529
07/28/2001	15:30:00	243
07/28/2001	16:00:00	182
07/28/2001	1800:00	256
07/29/2001	11:30:00	1528

7/29/01 1600 - 7/30/01 1630 turbidity values high, data deleted for rest of deployment

August ba0801

8/9/01 1300 turbidity value out of range (947 NTU), data deleted
 8/14/01 030 turbidity value out of range (649 NTU), data deleted
 8/20/01 1430 turbidity value out of range (261 NTU), data deleted
 8/28/01 830 last depth reading of deployment deleted (.362 m), values too low

September ba0901

9/12/01 1500 - 9/26/01 700 no data collected, internal error
 9/29/01 1700 depth and salinity increase through end of month, not associated with new deployment

October ba1001

10/1/01 1100 turbidity value out of range (1061 NTU), data deleted
 10/15/01 1030 - 10/23/01 700 turbidity values deleted, too high. Logger #5 had a new turbidity probe installed on 8/15/01, yet seems to have malfunctioned.
 10/23/01 700 DO values increase from 80% to 99% with new deployment
 10/23/01 730 pH values increase from low values of 6.4 to lows of 6.7 with new deployment

November bal101

11/20/01 1600 - 11/30/01 2330 depth data for deployment deleted, values too deep to be accurate.

11/20/01 1600 DO values decrease with new deployment

The following turbidity values were out of range and deleted:

11/08/2001	02:30:00	-0.2
11/08/2001	03:30:00	-0.4
11/08/2001	04:00:00	-0.8
11/08/2001	15:00:00	-0.7
11/08/2001	15:30:00	-0.3
11/08/2001	16:00:00	-2.8
11/08/2001	16:30:00	-1.8
11/10/2001	18:30:00	-0.7
11/16/2001	10:30:00	-0.1
11/16/2001	11:30:00	-0.5
11/17/2001	11:00:00	-0.1
11/17/2001	12:30:00	-1.8
11/17/2001	13:00:00	-1
11/17/2001	13:30:00	-0.2
11/18/2001	00:00:00	-0.4
11/18/2001	06:30:00	-0.2
11/18/2001	07:30:00	-0.8
11/18/2001	12:30:00	-1.6
11/18/2001	13:00:00	-1.8
11/18/2001	13:30:00	-0.3
11/19/2001	00:00:00	-0.2
11/19/2001	13:30:00	-2.3
11/19/2001	14:00:00	-0.4
11/27/2001	12:00:00	792

December bal201

12/1/01 000 - 12/4/01 1230 depth data for deployment deleted, values too deep to be accurate.

12/2/01 300 turbidity value out of range, deleted 113 NTU

12/2/01 430 turbidity value out of range, deleted 584 NTU

12/4/01 1300 DO values increase with change in deployments from 89% to 97%

CHESTNUT NECK

January ne0101

1/1/01 000 - 1/16/01 1600 no data, estuary frozen and logger down for service

1/16/01 1630 - 1/24/01 200 pH data negative, deleted

1/16/01 1630 - 1/24/01 200 all times were off by 5 minutes (1635-205)

1/21/01 830 salinity values drop and stay low rest of deployment (1/24 200), ice in estuary

1/24/01 230 - 1700 internal error reported, battery at 6 volts

1/24/01 230 - 1/31/01 2330 no data, estuary frozen and logger down for service

February ne0201

2/23/01 400 turbidity value out of range, deleted 195 NTU

March ne0301

3/5/01 700 salinity rapidly increases too 21.5 ppt

3/5/01 000 pH readings high compared to other readings. Lowest reading at this time was 7.8

3/6/01 030 depth drops rapidly to 1.21 m

3/6/01 1300 depth drops rapidly to 1.16 m
3/10/01 1830 turbidity value out of range, deleted 1482 NTU
3/21/01 800 pH readings high at ~7.9, compared to other readings
3/21/01 2000 turbidity value out of range, deleted 1661 NTU
3/21/01 2130 salinity rapidly increases to 19.7 ppt
3/21/01 2200 pH reading high at 8.0
3/24/01 0600 turbidity value out of range, deleted 104 NTU

April ne0401

4/4/01 830 - 4/19/01 1100 no data, data logger malfunctioned
4/25/01 2030 turbidity value out of range, deleted 357 NTU

May ne0501

5/4/01 1130 turbidity data out of range, deleted 1671 NTU
5/25/01 1130 - 5/31/01 2330 Cn052501 No salinity or DO mg/L data in csv. file, data copied from dat. file
5/25/01 1130 DO values slightly elevated with data logger deployment

June ne0601

6/1/01 000 - 6/18/01 1330 Cn052501 No salinity or DO mg/L data in csv. file, data copied from dat.
6/14/01 1200 - 1500 DO values increase sharply from 73.5% to 96.5%
6/17/01 4" of rain fell in Atlantic City and may be cause for many of the following anomalies.
6/20/01 1200 - 6/30/01 2330 turbidity values low negatives, data deleted
6/20/01 1200 salinity and pH for new deployment are lower than previous deployment.
6/20/01 1200 - 6/30/01 2330 Cn062001 No salinity or DO mg/L data in csv. file, data copied from dat.
6/20/01 1200 - 6/30/01 2330 depth deleted, yellow cap not removed fro canister

July ne0701

7/1/01 000 - 7/2/01 1330 Cn062001 No salinity or DO mg/L data in csv. file, data copied from dat. file.
7/1/01 000 - 7/2/01 1330 depth deleted, yellow cap not removed from canister
7/1/01 000 - 7/2/01 1330 turbidity data all negative, deleted
7/14/01 130 turbidity value out of range, deleted 297 NTU
7/10/01 900 - 7/16/01 1130 DO values change with new deployment from 47% to 90%, suspect drift, data deleted
7/29/01 500 turbidity value out of range, deleted 789 NTU
7/24/01 130 DO values sharply decrease to 46%, then sharply increase again in the same deployment

August ne0801

8/3/01 830-1430 depth value drops to 1.71 m and then .97 m in a 6 hour cycle
8/15/01 530 - 8/20/01 730 DO values elevated with deployment, suspect fouling, data removed. Previous deployment fall sharply like some data in this deployment.
8/28/01 500 turbidity value out of range, removed 50.6 NTU

September ne0901

9/6/01 1030 - 9/10/01 1400 turbidity values noisy, some over 100 NTU, suspect drift
9/8/01 1430 turbidity value out of range, deleted 418 NTU
9/12/01 1600 - 9/13/01 230 high DO values deleted at beginning of deployment
9/12/01 1600 pH values elevated at new deployment, resembles following

deployments

9/28/01 1200 - 9/30/01 2330 turbidity data deleted. Suspect probe failure or tainted calibration standard.
9/28/01 1200 salinity and depth values increase rapidly after deployment, then slowly fall
9/28/01 1200 DO values increase with deployment from 84.6% to 94.9%

October ne1001

10/1/01 000 - 10/31/01 2330 turbidity data deleted because of low negative values. Suspect probe failure or bad calibration solution.
10/4/01 pH values fall dramatically in middle of deployment and recover
10/12/01 930 salinity increases sharply with deployment
10/31/01 1130-2330 Cn103101 pH data inserted into .csv file from .dat file
10/31/01 1130 - 10/31/01 2330 pH for whole deployment lower than previous and following deployment
10/31/01 1130 DO values elevated with new deployment

November ne1101

11/1/01 000 - 11/30/01 2330 turbidity data deleted because of low negative values. Suspect probe failure or bad calibration solution.
11/1/01 000 - 11/15/01 1100 Cn103101 pH data inserted into .csv file from .dat file
11/15/01 1700 - 12/6/01 930 Cn111501 This whole deployment only existed as a .dat file, and was therefore copied into Excel. The .csv file for this deployment only covered the dates 11/15/01 1700 - 11/19/01 200
11/15/01 1700-1800 DO (% and mg/L) readings spike at beginning of deployment, deleted. This spike may indicate that there was drift in the DO readings for the previous deployment.
11/1/01 000 11/15/01 1100 pH for whole deployment lower than previous and following deployment
11/15/01 1700 pH increases by .2 pH units with new deployment
11/15/01 1830 DO increases slightly with new deployment from 91% to 99%

December ne1201

12/1/01 000 - 12/31/01 2330 turbidity data deleted because of low negative values. Suspect probe failure or bad calibration solution.
12/10/01 1000-1430 DO increases from 90.8% to 100.8%

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January b60101

1/1/01 000 - 1/22/01 1400 No data, estuary frozen.
1/22/01 1430 - 1/31/01 2330 DO data deleted, values abnormally high.

February b60201

2/1/01 000 - 2/2/01 900 DO data deleted, values abnormally high
2/9/01 1630 - 2/28/01 2330 depth data deleted for two deployments. Logger #7 may have corrupt depth probe, logger #5 not vented as it should have been.
2/10/01 300 - 2/11/01 1300 Turbidity values out of range for unknown reasons
2/10/01 1830 turbidity value out of range, 492 NTU deleted
2/17/01 2130 - 2200 Turbidity values out of range (99.2 & 95.1 NTU)
2/27/01 1530 decrease in pH with new deployment
2/28/01 1200 Turbidity value negative, -1 NTU deleted

March b60301

3/1/01 000 - 3/7/01 430 depth data deleted for two deployments. Logger #5 not

vented as it should have been.

3/29/01 1100 DO values increase with deployment

The following turbidity values were out of range and deleted:

3/1/01	12:30:00	-2
3/1/01	13:00:00	-2
3/1/01	19:30:00	-1
3/2/01	8:00:00	-2
3/2/01	13:30:00	-2
3/2/01	14:00:00	-2
3/2/01	16:00:00	-1
3/2/01	17:00:00	-1
3/2/01	17:30:00	-1
3/2/01	18:00:00	-1
3/2/01	19:00:00	-1
3/2/01	20:00:00	-1
3/2/01	20:30:00	-2
3/2/01	21:00:00	-1
3/3/01	2:30:00	-1
3/3/01	6:30:00	-1
3/3/01	7:00:00	-2
3/3/01	7:30:00	-1
3/3/01	8:00:00	-1
3/3/01	8:30:00	-2
3/3/01	9:00:00	-2
3/3/01	9:30:00	-1
3/3/01	10:00:00	-2
3/3/01	12:00:00	-2
3/3/01	14:00:00	-2
3/3/01	14:30:00	-2
3/3/01	15:00:00	-2
3/3/01	16:00:00	-3
3/3/01	17:00:00	-1
3/3/01	17:30:00	-2
3/3/01	18:30:00	-2
3/3/01	19:00:00	-2
3/3/01	19:30:00	-2
3/3/01	20:30:00	-2
3/3/01	21:00:00	-1
3/3/01	21:30:00	-1
3/3/01	23:00:00	-2
3/4/01	3:00:00	-1
3/4/01	3:30:00	-1
3/4/01	4:00:00	-2

April b60401

4/8/01 100 Turbidity spike, deleted 271 NTU

4/12/01 1330 - 4/30/01 1430 turbidity, DO & pH data deleted, erratic readings, sediment found in probe guard

4/17/01 1100 salinity values decrease gradually to 21 ppt

4/30/01 1500 first turbidity reading high, deleted 79 NTU's

4/30/01 1500 - 2330 DO data deleted, readings high, sediment found in probe guard

May b60501

5/1/01 000 - 5/21/01 930 DO data deleted, started at 140% and was very noisy, probe guard clogged with sediment at retrieval.

5/5/01 900 - 5/21/01 930 deleted declining pH and noisy turbidity values,

sediment in probe guard

5/15/01 2130 - 5/21/01 930 salinity and SpCond data deleted, sediment in probe guard

5/16/01 100 - 5/21/01 930 water temperature data deleted, sediment in probe guard

5/23/01 1830 - 5/31/01 2330 deleted noisy turbidity values, sediment in probe guard

5/24/01 1600 - 5/31/01 2330 DO data deleted (1.5% - 107%) sediment in probe guard

June b60601

6/1/01 000 - 6/4/01 1300 all data except depth and temperature deleted, sediment in probe guard

6/4/01 1330 - 6/10/01 1730 intermittent negative turbidity values (-1 to -4) removed

6/11/01 330 - 6/22/01 1300 turbidity values deleted, sediment in probe guard.

6/17/01 4" of rain fell in Atlantic City and may be cause for many of the following anomalies.

6/17/01 000 - 6/22/01 1300 pH deleted, sediment in probe guard.

6/17/01 700 salinity drops from 30.2 to 27.18 ppt, then slowly recovers.

6/22/01 1330 DO values very noisy for this deployment and prior one

6/23/01 2100 salinity drops from 30.54 to 23.66 ppt, then slowly recovers.

The following turbidity values were out of range and deleted:

Date	Time	Turb
6/25/01	09:00:00	132
6/26/01	17:00:00	384
6/27/01	2:00:00	1206
6/28/01	6:00:00	129
6/29/01	2:00:00	1211

July b60701

7/2/01 600 - 7/5/01 900 DO deleted, noisy, blue mussels found in probe guard

7/5/01 930 - 7/17/01 730 turbidity values deleted because of negative and high readings. 7/18/01 turbidity calibration indicated probe errors.

7/15/01 2300 - 7/17/01 730 noisy DO deleted, possible sediment obstruction

The following turbidity values were out of range and deleted:

7/2/01	6:30:00	211
7/2/01	15:30:00	195
7/2/01	16:00:00	116
7/2/01	16:30:00	1196
7/2/01	17:00:00	1136
7/2/01	17:30:00	1195
7/2/01	18:00:00	1196
7/2/01	18:30:00	1197
7/2/01	19:00:00	1198
7/2/01	19:30:00	1197
7/2/01	20:00:00	1195
7/4/01	7:30:00	338

No turbidity probe installed for deployment 07/18/01 1000 - 08/01/01 0730

August b60801

No turbidity probe installed for deployment 07/18/01 1000 - 08/01/01 0730

8/3/01 1500 - 8/14/01 1230 DO values too variable (5% to 119%), data deleted

8/4/01 - 8/8/01 pH values elevated at beginning of deployment, then drop after thunderstorms on 8/7 & 8/8

8/10/01 830 - 8/14/01 1230 turbidity values all over 1000 NTU, data deleted

8/14/01 1430 - 8/18/01 400 temperature not as tidally variable as in previous and following deployments (8/25/01 600 - 8/28/01 1730)

8/14/01 1300 DO values slightly higher for this deployment

The following turbidity values were out of range and deleted:

8/7/01	5:00:00	63
8/7/01	5:30:00	35
8/8/01	10:00:00	23
8/8/01	20:30:00	26
8/14/01	17:00:00	-1
8/15/01	5:00:00	-0.4
8/15/01	18:00:00	-0.1
8/23/01	0:00:00	-0.1

September b60901

9/10/01 2330 turbidity value out of range (364 NTU), data deleted

9/11/01 930 DO values increase with new deployment

9/11/01 930 - 9/24/01 1000 pH values deleted for whole deployment. Too low.

9/24/01 300 DO values fall from 118% to 102% in half an hour and stay lower than previous values for the rest of the year

9/24/01 1030 salinity and jump from 28.8 to 31.3 ppt and 7.7 to 8.2 pH with new deployment

9/30/01 330 - 9/30/01 2330 turbidity values high at end of month into next month

October b61001

10/3/01 800 turbidity value deleted (548 NTU)

10/8/01 1400 turbidity value deleted (146 NTU)

10/10/01 800 pH decreases from 8.1 to 7.7 with new deployment

10/17/01 1700-1730 turbidity values deleted (110, 105 NTU)

10/24/01 1130 DO increased from 97% to 121% with new deployment

10/24/01 1130 pH decreases from 8.1 to 7.9 with new deployment

The following turbidity values were out of range and deleted:

10/22/01	20:00:00	-0.1
10/25/01	16:00:00	-0.3
10/27/01	18:00:00	-0.2
10/28/01	6:30:00	-0.2
10/28/01	18:30:00	-0.4
10/29/01	7:00:00	-0.4
10/29/01	19:00:00	-1
10/30/01	1:30:00	-0.1
10/30/01	13:30:00	-0.3
10/30/01	20:00:00	-0.2
10/31/01	2:00:00	-1
10/31/01	15:00:00	-0.4

November b61101

11/6/01 1330 - 11/8/01 1230 turbidity drifts at end of deployment, values deleted

11/8/01 1430 first turbidity value spikes, data deleted 163 NTU

11/8/01 1430 pH increases by .1 pH point with new deployment

11/19/01 1200 DO values increase with new deployment from 105% to 124%

The following turbidity values were out of range and deleted:

11/01/2001	09:00:00	-0.20
11/01/2001	15:30:00	-0.50
11/03/2001	16:30:00	-0.20
11/03/2001	22:30:00	-0.40
11/04/2001	17:30:00	-0.40
11/08/2001	21:30:00	-0.30

11/09/2001	15:30:00	-1.10
11/09/2001	22:30:00	-0.10
11/10/2001	04:00:00	-0.40
11/10/2001	04:30:00	-0.90
11/10/2001	10:00:00	-0.20
11/10/2001	23:30:00	-0.20
11/11/2001	18:00:00	-0.90
11/12/2001	06:00:00	-0.20
11/12/2001	06:30:00	-1.00
11/12/2001	18:30:00	-0.90
11/13/2001	07:00:00	-0.20
11/13/2001	07:30:00	-0.30
11/13/2001	14:00:00	-0.60
11/14/2001	02:00:00	-0.20
11/14/2001	20:30:00	-0.70
11/15/2001	15:30:00	-0.70
11/15/2001	21:00:00	-0.30
11/16/2001	03:30:00	-0.60
11/16/2001	22:00:00	-0.10
11/17/2001	03:30:00	-0.20
11/17/2001	10:30:00	-0.40
11/18/2001	18:00:00	-0.20
11/18/2001	23:30:00	-0.40
11/19/2001	05:30:00	-0.80
11/19/2001	18:30:00	-0.40
11/20/2001	19:30:00	-0.10
11/21/2001	01:30:00	-0.50
11/21/2001	06:30:00	-0.50
11/21/2001	20:00:00	-0.70
11/21/2001	20:30:00	-0.70
11/22/2001	02:30:00	-0.20
11/22/2001	07:30:00	-0.20
11/22/2001	08:00:00	-0.20
11/22/2001	20:30:00	-0.20
11/22/2001	21:00:00	-0.90
11/22/2001	21:30:00	-0.60
11/23/2001	08:00:00	-0.40
11/23/2001	08:30:00	-1.00
11/23/2001	15:30:00	-0.20
11/23/2001	21:30:00	-0.80
11/23/2001	22:00:00	-0.20
11/24/2001	04:00:00	-0.30
11/24/2001	04:30:00	-0.40
11/24/2001	09:00:00	-0.10
11/24/2001	09:30:00	-1.00
11/24/2001	10:00:00	-1.30
11/24/2001	16:00:00	-0.60
11/24/2001	22:30:00	-1.00
11/25/2001	23:30:00	-0.50
11/26/2001	11:00:00	-0.40
11/26/2001	11:30:00	-1.00
11/27/2001	12:30:00	-0.50
11/27/2001	13:00:00	-0.80
11/28/2001	00:00:00	-0.50
11/28/2001	00:30:00	-1.10
11/28/2001	01:00:00	-0.50
11/28/2001	13:00:00	-0.50

11/28/2001	13:30:00	-0.30
11/28/2001	14:00:00	-1.00
11/29/2001	00:30:00	-0.30
11/29/2001	01:00:00	-0.80
11/29/2001	14:30:00	-0.60
11/30/2001	02:00:00	-0.50

December b61201

12/5/01 1100 DO values drop from 112% to 101% with new deployment

The following turbidity values were out of range and deleted:

12/01/2001	16:00:00	-0.70
12/02/2001	16:30:00	-0.40
12/02/2001	17:00:00	-0.50
12/03/2001	04:00:00	-0.70
12/03/2001	17:30:00	-0.80
12/04/2001	04:30:00	-0.60
12/04/2001	05:00:00	-0.50
12/04/2001	18:00:00	-1.00
12/04/2001	18:30:00	-1.10
12/05/2001	00:00:00	-0.60
12/05/2001	05:30:00	-0.40
12/05/2001	06:00:00	-1.10
12/05/2001	12:30:00	-0.40
12/05/2001	18:30:00	-0.40
12/05/2001	19:00:00	-1.10
12/05/2001	19:30:00	-1.60
12/06/2001	01:00:00	-1.90
12/06/2001	01:30:00	-1.50
12/06/2001	06:30:00	-1.30
12/06/2001	07:00:00	-1.80
12/06/2001	12:30:00	-0.80
12/06/2001	13:00:00	-0.50
12/06/2001	13:30:00	-0.90
12/06/2001	19:00:00	-0.20
12/06/2001	19:30:00	-1.10
12/06/2001	20:00:00	-1.90
12/07/2001	02:00:00	-2.40
12/07/2001	02:30:00	-1.20
12/07/2001	06:30:00	-0.80
12/07/2001	07:00:00	-0.60
12/07/2001	07:30:00	-0.30
12/07/2001	08:00:00	-1.60
12/07/2001	14:30:00	-1.60
12/07/2001	21:00:00	-1.60
12/07/2001	21:30:00	-1.30
12/08/2001	03:30:00	-2.20
12/08/2001	04:00:00	-1.30
12/08/2001	08:30:00	-1.30
12/08/2001	15:00:00	-1.40
12/08/2001	15:30:00	-0.50
12/08/2001	16:00:00	-1.00
12/08/2001	22:00:00	-1.20
12/09/2001	04:30:00	-1.60
12/10/2001	23:30:00	-1.30
12/11/2001	06:30:00	-0.70
12/11/2001	12:00:00	-0.50
12/11/2001	18:30:00	-1.10

12/12/2001	00:00:00	-0.30
12/12/2001	00:30:00	-1.50
12/12/2001	13:30:00	-0.20
12/13/2001	15:00:00	-1.30
12/14/2001	01:30:00	-1.00
12/14/2001	02:00:00	-1.30
12/14/2001	15:00:00	-1.10
12/14/2001	15:30:00	-1.80
12/15/2001	17:00:00	188
12/16/2001	16:30:00	-0.40
12/16/2001	17:00:00	-0.40
12/16/2001	22:30:00	-1.30
12/17/2001	04:00:00	-1.70
12/17/2001	04:30:00	-0.70

12. Missing Data:

Missing data are denoted by a period in the data set. Data are missing due to equipment failure where no probes were deployed, maintenance/calibration of equipment, elimination of obvious outliers or elimination of data due to calibration problems (both pre and post). For more details on deleted data, see the Data Anomalies Section. To find out more details about missing data, contact the Research Coordinator at the site submitting the data.

13. Post Deployment Information

The following are readings from probes brought back from the field and placed in calibration solutions.

These readings were used to determine probe drift during a deployment and possible probe errors.

Lower Bank

Date	DO%	pH(7/4)	Depth(m)	Turbidity(0 NTU)	SpCond(mS/cm)	Batt(V)
2/01/01	109.0	7.07/3.99	0.060	N/A	20.01	11.0
2/28/01	98.7	6.92/3.88	-0.025	1.2	20.01	10.2
3/15/01	no data					
4/2/01	100.0	7.00/4.03	0.002	-0.5	19.71	11.3
4/14/01	cleaned	before postcalibrated				
4/27/01	100.7	6.93/3.97	0.000	-0.7	20.20	11.0
5/21/01	97.5	7.00/4.02	0.000	1.2	19.71	11.0
6/1/01	102.4	6.98/3.90	0.001	-1.1	19.84	10.7
6/20/01	68.3	6.91/3.93	0.002	0.6	20.00	12.0
7/3/01	92.8	7.07/4.07	0.001	-1.0	19.83	10.6
7/17/01	93.9	6.92/4.06	-0.002	0.2	19.89	12.5
7/30/01	33.0	6.97/3.96	0.000	0.5	20.51	5.6
8/16/01	98.2	6.94/3.80	0.000	3.4	20.19	11.6
8/28/01	100.2	6.70/3.80	0.003	-0.4	19.94	12.0
9/12/01	101.5	7.01/4.00	-0.003	-257.2	19.77	11.9
9/26/01	94.1	6.90/4.05	0.000	1.7	18.89	11.5
10/12/01	100.5	7.00/4.20	-1.700	-1.7	19.40	11.6
10/23/01	72.7	6.86/4.00	-0.053	5.9	19.85	11.0
11/7/01	105.1	7.01/4.00	-0.003	1.2	19.62	11.0
11/20/01	107.0	6.94/3.95	-0.001	-1.7	19.75	10.0
12/4/01	100.9	7.07/4.02	-0.147	3.2	19.87	10.7
12/20/01	110.6	7.03/3.98	-0.590	-1.7	20.03	10.3

Chestnut Neck

Steve Evert of Stockton calibrated Specific Conductivity with 50 mS/cm until July when Sharon maintained the data logger. The logger was returned to Steve in September.

Date	DO%	pH(7/4)	Depth(m)	Turbidity(0 NTU)	SpCond(mS/cm)	Batt(V)
3/13/01	102.8	7.14/na	na	2.5	49.33	12.6
3/29/01	101.9	7.01/na	-0.191	1.5	49.71	11.6
4/19/01	96.5	7.06/na	-0.160	-2.8	50.80	11.1
5/7/01	99.9	7.07/na	0.190	0.0	50.28	10.3
5/25/01	97.0	7.07/na	-0.154	-0.8	49.50	13.6
6/18/01	102.1	6.97/na	na	0.3	50.38	na
7/2/01	87.6	6.92/3.92	-0.009	-4.5	19.65	12.9
7/16/01	85.1	6.99/4.03	0.000	2.9	20.07	11.6
8/2/01	99.6	6.99/3.98	0.038	2.0	20.01	10.4
8/20/01	92.5	7.00/4.02	0.000	-0.7	19.97	12.1
9/11/01	89.0	6.96/na	0.001	0.4	50.3	na
9/27/01	99.3	7.01/na	0.000	0.1	49.91	13.5
10/11/01	103.2	na/4.02		11.5	49.49	13.3
10/30/01	87.4	7.11/na	-0.010	8.1	50.57	na
11/5/01	97.1	6.94/na	0.000	-11.9	49.3	na
12/6/01	101.7	na/na	0.000	-2.9	49.73	12.3

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Date	DO%	pH(7/4)	Depth(m)	Turbidity(0 NTU)	SpCond(mS/cm)	Batt(V)
2/2/01	77.3	6.96/3.91	-0.239	1.7	19.63	11.3
2/27/01	95.5	6.98/3.98	0.691	1.0	20.18	10.9
3/7/01	105.6	7.00/4.01	0.000	-3.7	19.89	dead
3/29/01	99.6	7.07/3.99	-0.420	2.0	20.18	9.1
4/12/01	74.6	7.07/4.13	-0.120	0.0	19.89	11.2
4/30/01	97.5	6.74/3.87	-0.061	5.9	20.42	11.0
5/21/01	80.0	7.14/4/13	0.334	24.0	19.75	10.0
6/4/01	84.4	7.09/4.06	0.000	18.3	19.97	12.6
6/22/01	90.3	7.01/4.29	0.008	19.4	20.17	11.7
7/7/01	89.7	7.19/4.17	-0.055	1.0	19.80	10.2
7/17/01	108.4	7.07/4.16	-0.100	-76.0 (replaced)	20.14	10.4
8/1/01	97.0	7.02/3.89	-0.003	n/a	19.97	10.1
8/7/01	95.6	7.38/4.32	-0.016	0.0	19.94	11.3
8/14/01	95.6	7.38/4/32	-0.016	0.0	19.94	11.3
8/14/01	93.0	6.60/3.9	0.005	1.4	20.16	11.4
9/11/01	74.0	6.60/4.20	0.008	2.6	20.70	11.4
9/24/01	98.4	6.97/4.00	-0.051	0.7	19.46	12.1
10/10/01	90.0	7.16/4.10	0.026	2.7	20.16	dead
10/24/01	92.8	6.95/4.04	0.356	13.2	19.73	10.7
11/8/01	100.3	7.04/4.06	0.100	0.5	19.75	10.0
11/19/01	94.1	7.02/3.99	-0.077	2.2	20.00	10.7
12/5/01	95.1	--/4.04	-0.275	-0.6	20.23	8.~
12/17/01	95.6	7.09/3.97	0.685	4.5	20.12	10.~

14. Additional Comments

On 02/05/2022 this dataset was updated to include embedded QAQC flags for anomalous/suspect data. System-wide monitoring data beginning in 2007 were processed to allow for QAQC flags and codes to be embedded in the data files rather than detailed in the metadata alone (as in the anomalous/suspect, deleted, and missing data sections above). Prior to 2006, rejected data were deleted from the dataset so they are unavailable to be used at all, but suspect

data were only noted in the metadata document. Suspect data flags <1> were embedded retroactively in order to allow suspect data to be easily identified and filtered from the dataset if desired for analysis and reporting purposes. No other flags or codes were embedded in the dataset and users should still refer to the detailed explanations above for more information.

Calibration tests were performed from 2/2/01 to 2/9/01 in the wet lab of the marine field station to determine whether or not all data loggers were performing on the same level and to test the accuracy of the individual probes.

At times, sediment is recorded in probe guard, but not all parameters are deleted. This is because all probes are of different lengths and are affected differently depending on how MUCH sediment is in the probe guard. Turbidity is usually the first parameter affected, followed by pH and DO, and lastly salinity/conductivity and depth (which is rarely ever affected).

The raw file named CN022201 was copied from the Ecwin graphing program .dat file. When the file was transferred from Steven Evert to Sharon O'Donnell, the original .csv file could not be opened and the only way to access data was through the Ecwin program. The format of the date and time columns had to be changed, battery power information was missing, and the pH column was in the improper location. No other problems were found during conversion from Ecwin to .csv.

Deployments at Chestnut Neck between May 25 and July 16 did not contain DO mg/L and salinity data .csv files. The data was inserted into the csv. files from the dat. files.

The data logger at Chestnut Neck April 4 - 19 did not collect data. An internal file was open and prevented data acquisition. The data logger at Lower Bank did not collect data (with the exception of date and time) September 12 - 26 for unknown reasons.

Sharon took over deployments at Chestnut Neck in late July and returned the responsibilities to Steven Evert in early September.

The Chestnut Neck turbidity data for multiple months of the year appears to be corrupt, but there are no comments on the tracking sheets that suggest pre- and post-calibration problems and therefore the data is retained.