Chesapeake Bay Virginia (CBV) NERR Water Quality Metadata
January - December 1998
Latest update: November 1, 2002

I. Data Set and Research Descriptors

1. Principal investigators and contact persons

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2. Entry verification

The data were uploaded to the PC from the YSI 6000 data loggers and reviewed using PC6000 software from YSI. Graphs were produced and examined using the PC6000 software then printed out and filed in order to aid in reviewing data to correlate any anomalous and outlying data. Next, files were uploaded in comma delimited format which were opened in Excel 5.0 software and edited to remove extraneous information (headers, footers, spaces, and pre- and post-deployment data). Monthly templates were used to form complete sets of monthly data sets. Macros supplied by NERRS/CDMO were used to help with editing, formatting and identifying outliers in the database. Suspect data (as in data believed to result from a damaged or biofouled probe) were evaluated according to Appendix B of the CDMO manual, edited and documented. Missing data due to YSI maintenance (down time) was inserted into the spreadsheet and was denoted by periods (.). Data that was not within calibration range of the instrument were evaluated and removed from the record and denoted by periods (.). Edited and raw data files were copied and archived in the CBNERRVA file server and uploaded to the CDMO FTP site. All Taskinas Creek and Goodwin Islands files from 1998 have been

verified using the latest update of the Microsoft Excel 5.0 macro programs which formatted the data, verified dates and times and identified outliers (values that fall outside of the calibration - see section II.8 of this document) and other erroneous data. Outliers were determined according to the instruments' manufacturers manual. Tammy Dorman collected and edited data from 01/98 to 04/98. Eric Wooden edited the data from 4/98 to 12/98. Tammy Dorman and Eric Wooden processed the data through the latest update of the CDMO macro and Eric Wooden conducted final editing of the data. Following final editing, Eric Wooden uploaded the database to the CBNERRVA server and to CDMO.

3. Research Objectives

Taskinas Creek (TC) Component:

The Taskinas Creek watershed is representative of an inner coastal plain rural watershed within the southern Chesapeake Bay system. This watershed is dominated by forested and agricultural land uses with an increasing urban land use component. The drainage basin is suited for investigating hydrologic and nonpoint source water quality issues associated with changing land use patterns; these issues are of prime importance to the U.S. EPA Chesapeake Bay Program.

Continuously monitored physical water quality parameters (dissolved oxygen, pH, specific conductance, turbidity, and temperature) provide long-term measurements which can be supplemented with shorter-term monitoring and process oriented studies. Measurements were taken every 15 minutes at the Taskinas Creek site and the YSI dataloggers were maintained, downloaded, cleaned, and calibrated at two-week intervals, except during the summer when the instruments were calibrated weekly.

Goodwin Islands (GI) Component:

The Goodwin Islands represent marsh islands surrounded by intertidal flats, submerged aquatic vegetation (SAV) beds, oyster reefs, and shallow open estuarine waters. Because minimal human activities occur within upland portions, the Goodwin Islands are suitable as a reference or control site for nonpoint source water quality issues. Furthermore, due to extensive wetlands,

intertidal, and submerged habitats, the Goodwin Islands are used extensively for SAV, material flux, and trophic interaction research activities. Measurements were taken every 15 minutes at the Goodwin Islands site and the YSI dataloggers were maintained, downloaded, cleaned, and calibrated at two-week intervals, except during the summer when the instruments were calibrated weekly.

4. Research methods

Taskinas Creek (TC) Component:

The Chesapeake Bay NERRS of Virginia maintains a long-term water quality-monitoring program, which consists of two stations. The Taskinas Creek station is located in the transitional zone of the York River tributary in the York River State Park. A simple deployment was arranged with the State Park in September 1995, where the secured unit hung at a fixed depth (0.5 m above the creek bed) from an overhanging tree approximately six meters upstream from the parks canoe landing. In September 1997, the deployment was modified so that the datalogger remained secure at all times within a 4-inch PVC housing 0.5 m above the bottom. Three wood pilings were driven into the sediment in an equilateral triangle arrangement and the PVC pipe bolted to one piling. Specific conductivity, pH, depth, dissolved oxygen, temperature, and turbidity are recorded at 15-minute intervals. Salinity and DO saturation are determined from temperature and specific conductivity readings. At approximately two-week intervals, the data logger is returned to the lab for downloading, cleaning, membrane replacement and recalibration, except during the summer when the instruments were calibrated weekly. Maintenance intervals are determined according to the amount of biofouling that occurs and to accommodate battery life. A second YSI 6000 datalogger is deployed following retrieval of the original YSI datasonde in order to maintain a continuous record. All procedures are in accordance with the YSI operating manual methods, sections 3 and 7. Standards for pH, and conductivity were purchased from YSI. Turbidity standards were purchased from Advanced Polymer Systems. Data are reviewed and edited according to the YSI Data Review and Editing Protocol in Appendix B of the CDMO

manual.

Goodwin Islands (GI) Component:
The Chesapeake Bay NERRS of Virginia maintains a second long-term water quality-monitoring program at Goodwin Islands, located at the mouth of the York River. This station is located on the southeastern side of the main island in a shallow embayment, approximately 400 meters from shore. A stable and permanent structure was built in October 1997 where 4-inch PVC pipe is housed inside of a commercially available galvanized steel communications tower with the datalogger 0.5 m from the bottom. Specific conductivity, pH, depth, dissolved oxygen, temperature, and turbidity are recorded at 15-minute intervals. Salinity and DO saturation are determined from temperature and specific conductivity readings. At approximately two-week intervals, the datalogger is returned to the lab for downloading, cleaning, membrane replacement and recalibration. Maintenance intervals are determined according to the amount of biofouling that occurs and to accommodate battery life. A second YSI 6000 datalogger is deployed following retrieval of the original YSI datasonde in order to maintain a continuous record. All procedures are in accordance with the YSI operating manual methods, sections 3 and 7. Standards for pH, and conductivity were purchased from YSI. Turbidity standards were purchased from Advanced Polymer Systems. Data are reviewed and edited according to the YSI Data Review and Editing Protocol in Appendix B of the CDMO manual.

5. Site location and character
Taskinas Creek (TC) Component: (37 deg 24' 54.04617"; 76 deg 42' 51.75733").
The Taskinas Creek Component of the CBNERR-VA is on the south shore of the York River in James City County near Williamsburg. The site is approximately 44 kilometers upstream from the river's mouth and 15 kilometers downstream from West Point. Headwaters of Taskinas Creek are near the town of Croaker, which is located 10 kilometers north of Williamsburg. Fed by numerous perennial streams, Taskinas Creek is approximately 3 kilometers in length and flows in a northeasterly direction eventually emptying into the York River.

Tidal range within the creek is 0.0-1.3 m. The salinity range for Taskinas Creek
.7-20 ppt. The sampling station is located on the second bend from the mouth of
Taskinas Creek within the York River State Park, about 6 meters upstream from
the park's canoe landing. The sediment type at this station consists of
approximately 42% fine sand, 30% clay, and 28% silt. The non-tidal portion
contains feeder streams, which drain oak-hickory forests, maple-gum-oak-ash
swamps and freshwater marshes. The marshes near the creek mouth are brackish
with a salinity range from 3-13 ppt. The shoreline is moderately low with
fringing marsh and tidal flats. Taskinas Creek mainly drains the undeveloped
York River State Park watershed, however the watershed is lightly impacted above
the State Park by residential development and selective hardwood logging.
Wildlife populations have been shown to influence microbiological water quality
within the watershed.

Goodwin Islands (GI) Component: (37 deg 13' 02.65093"; 76 deg 23' 32.75799"). The
Goodwin Islands component of the CBNERR-VA is on the mouth of the York River at
the northeastern tip of York County. This site is approximately 22 kilometers
downstream from the Virginia Institute of Marine Science. Circulation patterns
at the Goodwin Islands are influenced by York River discharge and the wind
patterns of the Chesapeake Bay. The sampling station is located in a shallow
embayment on the southeastern side of the main island amongst submerged aquatic
vegetation beds dominated by Zostera marina and Ruppia maritima. The Goodwin
Islands represents a pristine, well-flushed polyhaline system with salinity
ranges from 13-24 ppt and tidal ranges from 0.5-1.0 m. The salinity range for
Goodwin Island 10-25 ppt. Spartina alterniflora dominates the low marsh, which
covers 70% of the emergent marsh area. Estuarine scrub/shrub vegetation
dominates the forested ridges, with the dominant shrub Myrica cerifera (wax
myrtle). The Goodwin Islands are undeveloped and only accessible by boat. This
site is used extensively by VIMS for SAV research.

6. Data collection period:

Ongoing sampling at Taskinas Creek (TC) began September 1995. Ongoing sampling
at Goodwin Islands (GI) began mid October 1997.

7. Associated researchers and projects:
A volunteer water quality monitoring program sponsored by the Alliance for the
Chesapeake Bay has been ongoing at Taskinas Creek for several years, beginning
January 10, 1990. This project samples some overlapping parameters including
dissolved oxygen and salinity on a two-week basis. The VIMS Virginia Nearshore
Water Quality Monitoring Program has collected biweekly samples at Goodwin
Islands since August 1994. Measure parameters include dissolved inorganic
nitrogen and phosphorus, chlorophyll a, total suspended solids, photosynthetic
active radiation, temperature, salinity, and water color.

II. Physical Structure Descriptors

8. Variable sequence, range of measurements, units resolution and accuracy (for
YSI):

Variable	Range of Measurements (units)	Resolution	Accuracy
Date	1-12,1-31,00-99 (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 sec	NA
Temp	-5.0 to 45.0 (C)	0.01 C	+/- 0.15 C
SpCond	0-100 (mS/cm)	0.01 mS/cm	+/- 0.5% reading + 0.001 mS/cm
Salinity	0-70 Parts per thousand (ppt)	0.01 ppt	+/- 1.0% reading or 0.1ppt, (whichever is greater)
DO	0-200 (% air saturation)	0.1% @ air sat	+/- 2.0% @ air sat
DO	200-500 (% air saturation)	0.1% @ air sat	+/- 6.0% @ air sat
DO	0-20 (mg/L)	0.01 mg/L	+/- 0.2 mg/L
DO	20-50 (mg/L)	0.01 mg/L	+/- 0.6 mg/L
Depth	0-9.1 (m)	0.001 m	+/- 0.018 m

PH	2-14 units	0.01 units	+/- 0.2 units
Turbidity	0-1000 NTU	0.1 NTU	+/- 5% of reading or 2 NTU (whichever is greater)

9. Coded variable indicator and variable code definitions

Site definitions: TC = Taskinas Creek, GI= Goodwin Islands
File definitions: YSI deployment site/month/year (ex.: TC0995 = Taskinas Creek data from September 1995).

10. Data anomalies (suspect data):
Frequent data anomalies were recorded in depth levels for several months potentially due to low-pressure weather fronts. This data remained in the database. According to the CDMO Operations Manual Version 3.0, depth measurements taken with the non-vented level probe can be influenced by up to 0.39 m (1.3 ft) during some low-pressure hurricane events. Specific dates and time ranges of potentially influenced data are listed with each respective month. Starting with July, data were extracted in accordance with Version 3.0 of the CDMO Manual.

January 1998:
TC:

01/10/98 11:00:00 to 14:15:00	Missing data due to time skip
01/16/98 22:30:00 to 22:45:00	Missing data due to time skip
01/20/98 14:15:00	Replacement sonde deployed

*Note: The following rain events occurred in January, causing turbidity spikes and depressed DO levels: 01/08/98 = 0.20", 01/23/98 = 0.45", and a Nor'easter on 01/27/98 - 01/28/98 = 2.13" causing very high tides, and very high turbidity levels, in part due to the continued construction at the York River State Park.

January 1998:
GI:

01/01/98 02:15:00 to 07:00:00	Instrument out of water due to extremely low tide
01/01/98 14:30:00 to 20:00:00	Instrument out of water due to extremely low tide
01/02/98 01:45:00 to 09:00:00	Instrument out of water due to extremely low tide
01/02/98 15:15:00 to 21:00:00	Instrument out of water due to extremely low tide

01/03/98 03:15:00 to 09:00:00 Instrument out of water due to extremely low tide
01/03/98 16:15:00 to 21:15:00 Instrument out of water due to extremely low tide
01/04/98 05:15:00 to 08:45:00 Instrument out of water due to extremely low tide
01/04/98 18:30:00 to 21:00:00 Instrument out of water due to extremely low tide
01/06/98 10:45:00 Replacement sonde deployed; notice fouling of pH probe on previously deployed unit
01/07/98 22:00:00 to 23:30:00 Negative depths due to low tides or low-pressure system
01/08/98 11:30:00 Negative depths due to low tides or low-pressure system
01/08/98 23:00:00 to 01/09/98 00:00:00 Negative depths due to low tides or low-pressure system
01/09/98 11:30:00 to 13:30:00 Negative depths due to low tides or low-pressure system
01/20/98 11:15:00 Replacement sonde deployed

*Note: The following rain events occurred in January, causing turbidity spikes and depressed DO levels:
01/08/98 = 0.20", 01/23/98 = 0.45", and a Nor'easter on 01/27/98 - 01/28/98 = 2.13" causing very high tides, depressed DO levels, and very high turbidity levels.

February 1998:
TC:
02/02/98 13:45:00 Turbidity spike > 1000 NTU
02/03/98 15:00:00 Replacement sonde deployed
02/18/98 13:15:00 Replacement sonde deployed
02/06/98 15:30:00 Missing data due to time skip
02/13/98 03:15:00 Missing data due to time skip
02/15/98 21:45:00 to 22:00:00 Missing data due to time skip
02/17/98 14:30:00 Turbidity spike > 1000 NTU

*Note: The following rain events occurred in February, causing turbidity spikes and depressed DO levels:
a Nor'easter on 02/03/98 - 02/04/98 = 4.73" causing very high turbidity, high tides and depressed salinity, 02/11/98 = 0.32", 02/16/98 - 02/17/98 = 0.93", and 02/23/98 = 1.25".

February 1998:
GI:
02/03/98 10:30:00 Replacement sonde deployed
02/19/98 10:30:00 Replacement sonde deployed

02/12/98 02:30:00 to 04:00:00 Negative depths due to low tides or low-pressure system
02/12/98 15:00:00 to 16:15:00 Negative depths due to low tides or low-pressure system
02/13/98 15:45:00 to 17:15:00 Negative depths due to low tides or low-pressure system
02/19/98 10:30:00 to 02/28/98 23:45:00 Time clock was off +27 seconds; was corrected
02/25/98 00:45:00 Negative depths due to low tides or low-pressure system
02/25/98 01:15:00 to 01:45:00 Negative depths due to low tides or low-pressure system

*Note: The following rain events occurred in February, causing turbidity spikes and depressed DO levels:
a Nor'easter on 02/03/98 - 02/04/98 = 4.73" causing very high turbidity, high tides and depressed salinity, 02/11/98 = 0.32", 02/16/98 - 02/17/98 = 0.93", and 02/23/98 = 1.25".

March 1998:
TC:
03/03/98 06:45:00 Turbidity spike > 1000 NTU
03/06/98 14:30:00 Replacement sonde deployed
03/18/98 05:30:00 Turbidity spike > 900 NTU
03/22/98 17:15:00 to 03/23/98 11:00:00 Battery died
03/23/98 11:15:00 Replacement sonde deployed
03/25/98 15:45:00 to 03/31/98 23:45:00 It appears as if the motor broke on the turbidity probe causing unusually high readings; all data rejected after discontinuity.

*Note: The following rain events occurred in March, causing turbidity spikes and depressed DO levels:
03/07/98 - 03/09/98 = 1.31", 03/17/98 -03/21/98 =2.97".

March 1998:
GI:
03/01/98 00:00:00 to 03/03/98 10:00:00 Time clock was off +27 seconds; was corrected
03/03/98 10:15:00 Replacement sonde deployed
03/12/98 14:30:00 to 15:00:00 Instrument out of water due to extremely low tide
03/13/98 14:30:00 to 14:45:00 Spcond drops suddenly due to low tides

03/13/98 15:00:00 to 15:45:00 Instrument out of water due to extremely low
tide
03/14/98 02:45:00 to 05:00:00 Instrument out of water due to extremely low
tide
03/18/98 12:00:00 Replacement sonde deployed
03/21/98 14:45:00 to 15:00:00 Missing data due to time skip
03/22/98 13:15:00 Missing data due to time skip
03/26/98 12:30:00 to 14:45:00 Negative depths due to low tides or low-
pressure system
03/27/98 00:00:00 to 00:30:00 Negative depths due to low tides or low
pressure system
03/27/98 00:45:00 to 03:15:00 Instrument out of water due to extremely low
tide
03/27/98 03:30:00 to 04:00:00 Negative depths due to low tides or low-
pressure system
03/27/98 12:00:00 to 12:30:00 Negative depths due to low tides or low-
pressure system
03/27/98 12:45:00 to 15:45:00 Instrument out of water due to extremely low
tide
03/27/98 16:00:00 to 16:45:00 Negative depths due to low tides or low-
pressure system
03/28/98 00:00:00 to 00:45:00 Negative depths due to low tides or low
pressure system
03/28/98 01:00:00 to 04:45:00 Instrument out of water due to extremely low
tide
03/28/98 05:00:00 to 05:30:00 Negative depths due to low tides or low-
pressure system
03/28/98 12:15:00 to 13:00:00 Negative depths due to low tides or low-
pressure system
03/28/98 13:15:00 to 16:45:00 Instrument out of water due to extremely low
tide
03/28/98 17:00:00 to 17:45:00 Negative depths due to low tides or low-
pressure system
03/29/98 00:45:00 to 01:30:00 Negative depths due to low tides or low-
pressure system
03/29/98 01:45:00 to 05:30:00 Instrument out of water due to extremely low
tide

03/29/98 05:45:00 to 06:30:00 Negative depths due to low tides or low-
pressure system
03/29/98 13:15:00 to 14:15:00 Negative depths due to low tides or low-
pressure system
03/29/98 14:30:00 to 17:15:00 Instrument out of water due to extremely low
tide
03/29/98 17:30:00 to 18:15:00 Negative depths due to low tides or low-
pressure system
03/30/98 02:15:00 to 03:15:00 Negative depths due to low tides or low-
pressure system
03/30/98 03:30:00 to 05:45:00 Instrument out of water due to extremely low
tide
03/30/98 06:00:00 to 06:45:00 Negative depths due to low tides or low-
pressure system
03/30/98 14:15:00 to 15:30:00 Negative depths due to low tides or low-
pressure system
03/30/98 15:45:00 to 17:30:00 Instrument out of water due to extremely low
tide
03/30/98 17:45:00 to 18:45:00 Negative depths due to low tides or low-
pressure system
03/31/98 03:15:00 to 07:30:00 Negative depths due to low tides or low-
pressure system
03/31/98 15:15:00 to 19:45:00 Negative depths due to low tides or low-
pressure system
03/31/98 17:15:00 to 18:00:00 Instrument out of water due to extremely low
tide

*Note: The following rain events occurred in March, causing turbidity spikes
and depressed DO levels:
03/07/98 - 03/09/98 = 1.31", 03/17/98 -03/21/98 =2.97".

April 1998:
TC:
04/06/98 10:30:00 Low depth due to low tide, data was removed
04/06/98 10:45:00 Replacement sonde deployed
04/16/98 10:45:00 Replacement sonde deployed
04/16/98 11:30:00 Drop in depth

April 1998:
GI:

04/01/98 04:00:00 to 08:45:00 Negative depths due to low tides or low-
pressure system
04/01/98 15:45:00 to 21:00:00 Negative depths due to low tides or low-
pressure system
04/01/98 18:15:00 Instrument was out of water
04/02/98 05:45:00 to 09:15:00 Negative depths due to low tides or low-
pressure system
04/02/98 17:45:00 to 20:30:00 Negative depths due to low tides or low-
pressure system
04/03/98 13:45:00 Replacement sonde deployed; slight drop in DO but recovers quickly
04/15/98 11:15:00 Replacement sonde deployed
04/19/98 18:30:00 Turbidity spike > 400 NTU
04/20/98 12:15:00 to 12:45:00 Turbidity spike > 100 NTU
04/26/98 02:30:00 to 02:45:00 Low depths due to low tides or low-pressure
system
04/26/98 14:00:00 to 15:45:00 Negative depths due to low tides or low-
pressure system
04/30/98 18:15:00 to 18:30:00 Negative depths due to low tides

Note: 04/04/98 there was 1.84" of rain that fell, causing depressed DO levels
and inflated turbidity levels.
04/17/98 - 04/22/98 0.82" of rain fell also causing depressed DO levels and
inflated turbidity levels.

May 1998:
TC:
05/09/98 20:30:00 to 05/15/98 08:30:00 All DO data was suspect and deleted
The use of the netting around the YSI probe guard to reduce crab colonization around the probes may have reduced the DO reading. The netting was deployed from 4-29-98 10:15:00 to 5-15-98 8:30:00. After the test, the netting was not used again.

May 1998:
GI:
05/09/98 09:45:00 Turbidity spike >1000 NTU
05/11/98 01:45:00 to 05/19/98 10:15:00 Missing data due to instrument lodged in sediment
05/19/98 20:15:00 Turbidity spike >1000 NTU due to low tide
05/28/98 20:00:00 Spcond drops suddenly due to instrument out of the water
05/28/98 20:15:00 Turbidity spike >500 NTU due to low tide

Note: 05/11/98 01:30:00 to 05/19/98 10:15:00 missing data due to failure

in logger cable clip which caused the datalogger to drop to the bottom until it
was recovered at 05/19/98 10:15:00.

June 1998:
TC:

June 1998:
GI:

06/03/98	23:15:00	06/04/98 11:45:00	Missing data due to low battery
06/08/98	14:30:00		Turbidity spike >300 due to low tide
06/18/98	09:00:00		Turbidity probe wiper parking on optics
06/18/98	09:30:00		Turbidity probe wiper parking on optics
06/18/98	10:00:00	06/18/98 13:00:00	Turbidity wiper parking on optics
06/18/98	13:30:00	06/18/98 18:45:00	Turbidity wiper parking on optics
06/18/98	19:15:00	06/18/98 19:45:00	Turbidity wiper parking on optics
06/18/98	20:15:00	06/18/98 20:45:00	Turbidity wiper parking on optics
06/18/98	21:15:00	06/19/98 22:30:00	Turbidity wiper parking on optics
06/18/98	23:00:00	06/19/98 00:30:00	Turbidity wiper parking on optics
06/19/98	01:15:00		Turbidity wiper parking on optics
06/19/98	01:30:00		Turbidity wiper parking on optics
06/19/98	02:00:00		Turbidity wiper parking on optics
06/19/98	03:00:00	06/19/98 04:00:00	Turbidity wiper parking on optics
06/19/98	04:30:00	06/19/98 05:00:00	Turbidity wiper parking on optics
06/19/98	05:30:00		Turbidity wiper parking on optics
06/19/98	06:30:00		Turbidity wiper parking on optics
06/19/98	07:00:00	06/19/98 09:30:00	Turbidity wiper parking on optics
06/19/98	10:00:00	06/19/98 10:45:00	Turbidity wiper parking on optics
06/19/98	11:15:00	06/19/98 12:00:00	Turbidity wiper parking on optics
06/19/98	12:45:00	06/19/98 13:15:00	Turbidity wiper parking on optics
06/19/98	13:45:00		Turbidity wiper parking on optics
06/19/98	14:15:00	06/19/98 16:15:00	Turbidity wiper parking on optics
06/19/98	16:45:00	06/19/98 17:45:00	Turbidity wiper parking on optics
06/19/98	18:15:00	06/19/98 18:45:00	Turbidity wiper parking on optics

06/19/98 19:15:00 to 06/19/98 20:30:00 Turbidity wiper parking on optics
06/19/98 21:00:00 Turbidity wiper parking on optics
06/19/98 21:30:00 to 06/19/98 22:45:00 Turbidity wiper parking on optics
06/19/98 23:15:00 Turbidity wiper parking on optics
06/19/98 23:45:00 to 06/20/98 00:30:00 Turbidity wiper parking on optics
06/20/98 01:00:00 Turbidity wiper parking on optics
06/20/98 01:30:00 to 06/20/98 02:15:00 Turbidity wiper parking on optics
06/20/98 02:45:00 Turbidity wiper parking on optics
06/20/98 03:15:00 Turbidity wiper parking on optics
06/20/98 03:45:00 to 06/20/98 04:30:00 Turbidity wiper parking on optics
06/20/98 05:00:00 Turbidity wiper parking on optics
06/20/98 05:30:00 to 06/20/98 06:45:00 Turbidity wiper parking on optics
06/20/98 07:30:00 to 06/20/98 09:00:00 Turbidity wiper parking on optics
06/20/98 09:45:00 to 10:00:00 Turbidity wiper parking on optics
06/20/98 10:30:00 to 06/20/98 12:30:00 Turbidity wiper parking on optics
06/20/98 13:00:00 to 06/20/98 15:15:00 Turbidity wiper parking on optics
06/20/98 15:45:00 Turbidity wiper parking on optics
06/20/98 16:15:00 Turbidity wiper parking on optics
06/20/98 16:45:00 to 06/20/98 19:15:00 Turbidity wiper parking on optics
06/20/98 20:00:00 Turbidity wiper parking on optics
06/20/98 20:30:00 Turbidity wiper parking on optics
06/20/98 21:00:00 to 06/20/98 22:30:00 Turbidity wiper parking on optics
06/20/98 23:00:00 to 06/20/98 23:30:00 Turbidity wiper parking on optics
06/21/98 00:15:00 Turbidity wiper parking on optics
06/21/98 00:45:00 to 06/21/98 02:45:00 Turbidity wiper parking on optic
06/21/98 03:15:00 to 06/21/98 04:30:00 Turbidity wiper parking on optics
06/21/98 05:15:00 to 06/21/98 06:00:00 Turbidity wiper parking on optics
06/21/98 06:30:00 Turbidity wiper parking on optics
06/21/98 06:45:00 Turbidity wiper parking on optics
06/21/98 07:45:00 to 06/21/98 08:30:00 Turbidity wiper parking on optics
06/21/98 09:00:00 to 06/21/98 10:30:00 Turbidity wiper parking on optics
06/21/98 11:00:00 Turbidity wiper parking on optics
06/21/98 12:00:00 Turbidity wiper parking on optics
06/21/98 13:00:00 to 06/21/98 13:30:00 Turbidity wiper parking on optics

06/21/98 14:45:00 to 06/21/98 16:30:00 Turbidity wiper parking on optics
06/21/98 18:00:00 to 06/21/98 19:15:00 Turbidity wiper parking on optics
06/21/98 19:45:00 Turbidity wiper parking on optics
06/21/98 20:15:00 to 06/21/98 22:00:00 Turbidity wiper parking on optics
06/21/98 22:30:00 to 06/21/98 23:45:00 Turbidity wiper parking on optics
06/22/98 00:15:00 Turbidity wiper parking on optics
06/22/98 00:30:00 Turbidity wiper parking on optics
06/22/98 01:00:00 Turbidity wiper parking on optics
06/22/98 01:30:00 to 06/22/98 03:30:00 Turbidity wiper parking on optics
06/22/98 04:00:00 Turbidity wiper parking on optics
06/22/98 04:30:00 Turbidity wiper parking on optics
06/22/98 04:45:00 Turbidity wiper parking on optics
06/22/98 05:15:00 Turbidity wiper parking on optics
06/22/98 05:45:00 Turbidity wiper parking on optics
06/22/98 06:00:00 to 06/22/98 06:30:00 Turbidity wiper parking on optics
06/22/98 07:00:00 Turbidity wiper parking on optics
06/22/98 07:30:00 Turbidity wiper parking on optics
06/22/98 08:00:00 to 06/22/98 08:45:00 Turbidity wiper parking on optics
06/22/98 09:00:00 to 06/22/98 09:45:00 Turbidity wiper parking on optics
06/22/98 10:15:00 Turbidity wiper parking on optics
06/22/98 10:45:00 to 06/22/98 12:30:00 Turbidity wiper parking on optics
06/22/98 13:00:00 to 06/22/98 13:45:00 Turbidity wiper parking on optics
06/22/98 14:15:00 to 06/22/98 14:45:00 Turbidity wiper parking on optics
06/22/98 15:15:00 Turbidity wiper parking on optics
06/22/98 15:30:00 Turbidity wiper parking on optics
06/22/98 16:30:00 Turbidity wiper parking on optics
06/22/98 17:00:00 Turbidity wiper parking on optics
06/22/98 17:30:00 to 06/22/98 19:00:00 Turbidity wiper parking on optics
06/22/98 19:30:00 to 06/22/98 20:00:00 Turbidity wiper parking on optics
06/22/98 20:30:00 Turbidity wiper parking on optics
06/22/98 20:45:00 Turbidity wiper parking on optics
06/22/98 21:15:00 to 06/22/98 23:00:00 Turbidity wiper parking on optics
06/22/98 23:30:00 Turbidity wiper parking on optics
06/23/98 00:00:00 to 00:15:00 Turbidity wiper parking on optics
06/23/98 00:45:00 to 01:00:00 Turbidity wiper parking on optics
06/23/98 01:30:00 Turbidity wiper parking on optics
06/23/98 02:00:00 Turbidity wiper parking on optics
06/23/98 02:30:00 Turbidity wiper parking on optics

06/23/98 03:00:00 to 06/23/98 06:15:00 Turbidity wiper parking on optics
06/23/98 06:45:00 to 06/23/98 08:30:00 Turbidity wiper parking on optics
06/23/98 09:00:00 to 09:15:00 Turbidity wiper parking on optics
06/23/98 09:45:00 to 06/23/98 13:30:00 Turbidity wiper parking on optics
06/23/98 14:00:00 Turbidity wiper parking on optics
06/23/98 14:30:00 to 06/23/98 15:30:00 Turbidity wiper parking on optics
06/23/98 16:00:00 Turbidity wiper parking on optics
06/23/98 16:45:00 to 06/23/98 17:45:00 Turbidity wiper parking on optics
06/23/98 18:30:00 to 06/23/98 19:30:00 Turbidity wiper parking on optics
06/23/98 20:00:00 to 06/23/98 22:30:00 Turbidity wiper parking on optics
06/23/98 23:00:00 to 06/24/98 00:15:00 Turbidity wiper parking on optics
06/24/98 00:45:00 Turbidity wiper parking on optics
06/24/98 01:15:00 Turbidity wiper parking on optics
06/24/98 01:45:00 to 06/24/98 02:15:00 Turbidity wiper parking on optics
06/24/98 02:45:00 to 06/24/98 03:15:00 Turbidity wiper parking on optics
06/24/98 03:45:00 to 06/24/98 04:15:00 Turbidity wiper parking on optics
06/24/98 04:45:00 to 05:00:00 Turbidity wiper parking on optics
06/24/98 05:30:00 to 06/24/98 06:00:00 Turbidity wiper parking on optics
06/24/98 06:30:00 to 06:45:00 Turbidity wiper parking on optics
06/24/98 07:15:00 to 07:30:00 Turbidity wiper parking on optics
06/24/98 08:15:00 to 06/24/98 08:45:00 Turbidity wiper parking on optics
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06/24/98 14:00:00 Turbidity wiper parking on optics
06/24/98 15:00:00 to 06/24/98 15:45:00 Turbidity wiper parking on optics
06/24/98 16:15:00 to 06/24/98 17:15:00 Turbidity wiper parking on optics
06/24/98 18:15:00 to 18:30:00 Turbidity wiper parking on optics
06/24/98 19:45:00 to 06/24/98 21:15:00 Turbidity wiper parking on optics
06/24/98 22:00:00 Turbidity wiper parking on optics

06/24/98 22:30:00 to 06/24/98 22:45:00 Turbidity wiper parking on optics
06/24/98 23:15:00 to 06/25/98 01:45:00 Turbidity wiper parking on optics
06/25/98 02:15:00 to 06/25/98 04:15:00 Turbidity wiper parking on optics
06/25/98 04:45:00 to 06/25/98 07:00:00 Turbidity wiper parking on optics
06/25/98 07:30:00 to 06/25/98 08:00:00 Turbidity wiper parking on optics
06/25/98 09:15:00 to 06/25/98 09:30:00 Turbidity wiper parking on optics

06/26/98 16:15:00 Negative depths due to low tides
06/26/98 16:30:00 Negative depths due to low tides
06/26/98 16:45:00 Negative depths due to low tides
06/27/98 04:00:00 Negative depths due to low tides
06/27/98 04:15:00 Negative depths due to low tides
06/27/98 04:30:00 Negative depths due to low tides
06/27/98 04:45:00 Negative depths due to low tides
06/27/98 05:00:00 Negative depths due to low tides
06/27/98 05:15:00 Negative depths due to low tides
06/27/98 05:30:00 Negative depths due to low tides
06/27/98 05:45:00 Negative depths due to low tides

July 1998:
TC:
07/01/98 15:15:00 Turbidity spike >1000
07/15/98 08:30:00 Turbidity spike >1000 due to low tide
07/15/98 22:00:00 1597.1 Turbidity spike >1000 due to low tide
07/17/98 09:00:00 Low depth reading
07/22/98 03:45:00 1216 Turbidity spike >1000 due to low tide
07/23/98 17:15:00 1397.6 Turbidity spike >1000 due to low tide
07/26/98 04:15:00 1111.7 Turbidity spike >1000

July 1998:
GI:
07/02/98 09:30:00 Replacement sonde deployed, depth, DO high
07/07/98 10:00:00 Sonde out of the water
07/12/98 01:15:00 Turbidity spike >200
07/19/98 04:45:00 Turbidity spike >100
07/22/98 17:30:00 Turbidity spike >100
07/23/98 12:15:00 Sonde out of the water
07/24/98 16:00:00 Spcond drops but recovers

August 1998:
TC:
08/07/98 17:45:00 Turbidity spike >1000 due to low tide
08/14/98 23:30:00 to 08/21/98 08:15:00 DO membrane torn
08/23/98 21:15:00 Turbidity spike >1000
08/29/98 10:00:00 to 08/31/98 11:15:00 DO membrane torn

Note: August 27, 1998, Hurricane Bonnie:

August 1998:
GI:
8/13/98 09:15:00 Missing data due to time skip
8/13/98 09:45:00 Missing data due to time skip
8/13/98 10:00:00 Missing data due to time skip

September 1998:
TC:
09/10/98 00:15:00 to 9/14/98 16:15:00 Missing data due to flooded battery compartment

September 1998:
GI:
09/05/98 13:15:00 Turbidity >300 NTU
09/07/98 15:00:00 Negative depths due to low tide
09/07/98 15:15:00 Negative depths due to low tide
09/07/98 15:30:00 Negative depths due to low tide
09/07/98 15:45:00 Negative depths due to low tide
09/07/98 16:00:00 Negative depths due to low tide
09/07/98 16:15:00 Negative depths due to low tide
09/11/98 14:00:00 Replacement sonde deployed, jump in Sp. Cond.
09/12/98 10:15:00 Sudden DO increase due to possible membrane damage
09/12/98 10:30:00 to 09/18/98 13:30:00 DO eventually decrease due
to negative DO due to possible membrane damage
09/23/98 11:15:00 Turbidity wiper parking on optics
09/23/98 12:30:00 to 09/23/98 12:45:00 Turbidity wiper parking on optics
09/23/98 13:30:00 to 09/23/98 13:45:00 Turbidity wiper parking on
optics
09/23/98 14:30:00 Turbidity wiper parking on optics
09/23/98 15:15:00 Turbidity wiper parking on optics
09/23/98 16:15:00 to 09/23/98 16:30:00 Turbidity wiper parking on optics
09/23/98 17:00:00 to 09/23/98 17:15:00 Turbidity wiper parking on optics
09/23/98 18:00:00 to 09/23/98 18:15:00 Turbidity wiper parking on optics
09/23/98 19:00:00 Turbidity wiper parking on optics
09/23/98 19:45:00 Turbidity wiper parking on optics
09/23/98 20:15:00 Turbidity wiper parking on optics
09/23/98 20:45:00 Turbidity wiper parking on optics
09/23/98 21:15:00 Turbidity wiper parking on optics
09/23/98 22:15:00 Turbidity wiper parking on optics
09/23/98 22:30:00 Turbidity wiper parking on optics
09/23/98 23:00:00 Turbidity wiper parking on optics
09/23/98 23:45:00 Turbidity wiper parking on optics
09/24/98 00:15:00 Turbidity wiper parking on optics

09/24/98 00:45:00 Turbidity wiper parking on optics
09/24/98 01:15:00 Turbidity wiper parking on optics
09/24/98 01:45:00 Turbidity wiper parking on optics
09/24/98 02:30:00 Turbidity wiper parking on optics
09/24/98 03:00:00 Turbidity wiper parking on optics
09/24/98 03:30:00 Turbidity wiper parking on optics
09/24/98 04:00:00 Turbidity wiper parking on optics
09/24/98 04:45:00 Turbidity wiper parking on optics
09/24/98 05:15:00 Turbidity wiper parking on optics
09/24/98 05:45:00 Turbidity wiper parking on optics
09/24/98 06:30:00 Turbidity wiper parking on optics
09/24/98 07:30:00 to 09/24/98 07:45:00 Turbidity wiper parking on optics
09/24/98 08:15:00 to 09/24/98 08:30:00 Turbidity wiper parking on optics
09/24/98 09:00:00 Turbidity wiper parking on optics
09/24/98 09:45:00 Turbidity wiper parking on optics
09/24/98 10:00:00 Turbidity wiper parking on optics
09/24/98 10:45:00 Turbidity wiper parking on optics
09/24/98 11:30:00 Turbidity wiper parking on optics
09/24/98 11:45:00 Turbidity wiper parking on optics
09/24/98 12:30:00 to 09/24/98 12:45:00 Turbidity wiper parking on optics
09/24/98 13:15:00 Turbidity wiper parking on optics
09/24/98 14:00:00 to 09/24/98 14:15:00 Turbidity wiper parking on optics
09/24/98 17:30:00 to 09/24/98 18:00:00 Turbidity wiper parking on optics
09/24/98 18:30:00 Turbidity wiper parking on optics
09/24/98 19:45:00 Turbidity wiper parking on optics
09/24/98 20:45:00 Turbidity wiper parking on optics
09/24/98 21:15:00 to 09/24/98 21:45:00 Turbidity wiper parking on optics
09/24/98 22:30:00 Turbidity wiper parking on optics
09/24/98 23:30:00 Turbidity wiper parking on optics
09/25/98 00:15:00 to 09/25/98 00:30:00 Turbidity wiper parking on optics
09/25/98 01:00:00 to 09/25/98 01:45:00 Turbidity wiper parking on optics
09/25/98 02:30:00 to 09/25/98 03:00:00 Turbidity wiper parking on optics
09/25/98 03:30:00 to 09/25/98 03:45:00 Turbidity wiper parking on optics
09/25/98 04:15:00 Turbidity wiper parking on optics
09/25/98 04:45:00 Turbidity wiper parking on optics
09/25/98 05:00:00 to 09/25/98 05:15:00 Turbidity wiper parking on optics
09/25/98 05:45:00 to 09/25/98 06:00:00 Turbidity wiper parking on optics
09/25/98 07:00:00 to 09/25/98 08:00:00 Turbidity wiper parking on optics
09/25/98 08:45:00 Turbidity wiper parking on optics
09/25/98 09:00:00 Turbidity wiper parking on optics
09/25/98 09:45:00 Turbidity wiper parking on optics

09/25/98 10:00:00 Turbidity wiper parking on optics
09/25/98 10:45:00 to 09/25/98 11:00:00 Turbidity wiper parking on optics
09/25/98 12:00:00 Turbidity wiper parking on optics
09/25/98 12:30:00 Turbidity wiper parking on optics
09/25/98 13:30:00 to 09/25/98 13:45:00 Turbidity wiper parking on optics
09/25/98 14:45:00 Turbidity wiper parking on optics
09/25/98 15:30:00 Turbidity wiper parking on optics
09/25/98 16:30:00 Turbidity wiper parking on optics
09/25/98 17:00:00 to 09/25/98 17:15:00 Turbidity wiper parking on optics
09/25/98 17:45:00 Turbidity wiper parking on optics
09/25/98 18:00:00 to 09/25/98 18:15:00 Turbidity wiper parking on optics
09/25/98 19:30:00 to 09/25/98 20:00:00 Turbidity wiper parking on optics
09/25/98 20:30:00 to 09/25/98 21:15:00 Turbidity wiper parking on optics
09/25/98 21:45:00 Turbidity wiper parking on optics
09/25/98 22:30:00 to 09/25/98 22:45:00 Turbidity wiper parking on optics
09/25/98 23:15:00 Turbidity wiper parking on optics
09/25/98 23:45:00 Turbidity wiper parking on optics
09/26/98 00:45:00 to 09/26/98 01:30:00 Turbidity wiper parking on optics
09/26/98 02:00:00 Turbidity wiper parking on optics
09/26/98 02:30:00 Turbidity wiper parking on optics
09/26/98 03:00:00 Turbidity wiper parking on optics
09/26/98 03:30:00 to 09/26/98 04:15:00 Turbidity wiper parking on optics
09/26/98 04:45:00 Turbidity wiper parking on optics
09/26/98 05:15:00 Turbidity wiper parking on optics
09/26/98 05:45:00 Turbidity wiper parking on optics
09/26/98 06:15:00 Turbidity wiper parking on optics
09/26/98 06:45:00 Turbidity wiper parking on optics
09/26/98 07:15:00 Turbidity wiper parking on optics
09/26/98 07:45:00 Turbidity wiper parking on optics
09/26/98 08:15:00 Turbidity wiper parking on optics
09/26/98 08:45:00 Turbidity wiper parking on optics
09/26/98 09:15:00 Turbidity wiper parking on optics
09/26/98 09:45:00 Turbidity wiper parking on optics
09/26/98 10:15:00 to 09/26/98 10:30:00 Turbidity wiper parking on optics
09/26/98 11:00:00 Turbidity wiper parking on optics
09/26/98 11:30:00 Turbidity wiper parking on optics
09/26/98 12:00:00 Turbidity wiper parking on optics
09/26/98 12:30:00 to 09/26/98 13:00:00 Turbidity wiper parking on optics
09/26/98 13:30:00 Turbidity wiper parking on optics
09/26/98 14:00:00 to 09/26/98 19:30:00 Turbidity wiper parking on optics
09/26/98 20:00:00 to 09/27/98 09:45:00 Turbidity wiper parking on optics

09/27/98 10:15:00 to 09/27/98 10:30:00 Turbidity wiper parking on optics
09/27/98 11:00:00 to 09/27/98 11:30:00 Turbidity wiper parking on optics
09/27/98 12:00:00 to 09/27/98 12:15:00 Turbidity wiper parking on optics
09/27/98 12:45:00 Turbidity wiper parking on optics
09/27/98 13:15:00 to 09/27/98 13:30:00 Turbidity wiper parking on optics
09/27/98 14:00:00 to 09/27/98 14:15:00 Turbidity wiper parking on optics
09/27/98 14:45:00 Turbidity wiper parking on optics
09/27/98 15:00:00 Turbidity wiper parking on optics
09/27/98 15:30:00 to 09/27/98 15:45:00 Turbidity wiper parking on optics
09/27/98 16:15:00 Turbidity wiper parking on optics
09/27/98 16:45:00 to 09/27/98 17:00:00 Turbidity wiper parking on optics
09/27/98 17:30:00 to 09/27/98 17:45:00 Turbidity wiper parking on optics
09/27/98 18:15:00 Turbidity wiper parking on optics
09/27/98 19:00:00 to 09/27/98 19:15:00 Turbidity wiper parking on optics
09/27/98 21:15:00 Turbidity wiper parking on optics
09/27/98 21:45:00 Turbidity wiper parking on optics
09/27/98 22:30:00 Turbidity wiper parking on optics

October 1998:
TC:
10/14/98 22:45:00 to 10/28/98 09:30:00 Temperature probe failure affecting
Sp. Cond., salinity, DO data and pH

October 1998:
GI:
10/07/98 13:00:00 replacement sonde deployed, jump in Sp. Cond
10/22/98 07:45:00 Sudden decrease in DO

November 1998:
TC:
11/10/98 10:00:00 Instrument out of the water due to low tide

November 1998:
GI:
11/04/98 09:45:00 Replacement of sonde, SpCond increase, turbidity depth increase
11/17/98 11:45:00 Replacement of sonde, SpCond increase

December 1998:
TC:

December 1998:
GI:

12/01/98 11:00:00 to 12/01/98 14:15:00 out of the water due to low tide
12/03/98 01:00:00 to 12/03/98 03:00:00 out of the water due to low tide
12/03/98 14:45:00 to 12/03/98 15:00:00 out of the water due to low tide
12/04/98 02:15:00 to 12/04/98 03:00:00 out of the water due to low tide
12/14/98 06:00:00 Sudden increase in depth
12/26/98 01:00:00 to 12/26/98 01:15:00 Sudden decrease in DO
12/30/98 20:00:00 Sudden decrease in DO
12/31/98 14:15:00 Sudden decrease in DO
12/31/98 13:00:00 Negative depths due to low tide
12/31/98 13:15:00 Negative depths due to low tide
12/31/98 13:30:00 Negative depths due to low tide
12/31/98 13:45:00 Negative depths due to low tide
12/31/98 14:00:00 Negative depths due to low tide
12/31/98 14:15:00 Negative depths due to low tide
12/31/98 14:30:00 Negative depths due to low tide

12. Missing data

Missing data is either the result of
1) the YSI not deployed
2) YSI out of the water (negative depth with salinity of zero)
3) a probe not attached
4) a probe malfunction

January 1998:
TC:
01/07/98 12:15:00 Maintenance
01/10/98 11:00:00 to 14:15:00 Missing data due to time skip
01/16/98 22:30:00 to 22:45:00 Missing data due to time skip

January 1998:
GI:
01/01/98 02:15:00 to 07:00:00 Instrument out of water due to extremely low tide
01/01/98 14:30:00 to 20:00:00 Instrument out of water due to extremely low tide
01/02/98 01:45:00 to 09:00:00 Instrument out of water due to extremely low tide
01/02/98 15:15:00 to 21:00:00 Instrument out of water due to extremely low tide
01/03/98 03:15:00 to 09:00:00 Instrument out of water due to extremely low tide
01/03/98 16:15:00 to 21:15:00 Instrument out of water due to extremely low tide

01/04/98 05:15:00 to 08:45:00 Instrument out of water due to extremely low
tide
01/04/98 18:30:00 to 21:00:00 Instrument out of water due to extremely low
tide

February 1998:
TC:
02/02/98 13:45:00 Turbidity spike >1000 NTU
02/06/98 15:30:00 Missing data due to time skip
02/13/98 03:15:00 Missing data due to time skip
02/15/98 21:45:00 to 22:00:00 Missing data due to time skip
02/17/98 14:30:00 Turbidity spike >1000 NTU

February 1998:
GI:

March 1998:
TC:
03/22/98 17:15:00 to 03/23/98 11:00:00 Battery died
03/25/98 15:45:00 to 03/31/98 23:45:00 It appears as if the motor broke
on the turbidity probe causing unusually high readings; all data rejected after
discontinuity.

March 1998:
GI:
03/12/98 14:30:00 to 15:00:00 Instrument out of water due to extremely low
tide
03/13/98 15:00:00 to 15:45:00 Instrument out of water due to extremely low
tide
03/14/98 02:45:00 to 05:00:00 Instrument out of water due to extremely low
tide
03/21/98 14:45:00 to 15:00:00 Missing data due to time skip
03/22/98 13:15:00 Missing data due to time skip
03/27/98 00:45:00 to 03:15:00 Instrument out of water due to extremely low
tide
03/27/98 12:45:00 to 15:45:00 Instrument out of water due to extremely low
tide
03/28/98 01:00:00 to 04:45:00 Instrument out of water due to extremely low
tide
03/28/98 13:15:00 to 16:45:00 Instrument out of water due to extremely low
tide
03/29/98 01:45:00 to 05:30:00 Instrument out of water due to extremely low

tide
03/29/98 14:30:00 to 17:15:00 Instrument out of water due to extremely low
tide
03/30/98 03:30:00 to 05:45:00 Instrument out of water due to extremely low
tide
03/30/98 15:45:00 to 18:00:00 Instrument out of water due to extremely low
tide

April 1998:
TC:
04/06/98 10:30:00 Low depth due to low tide, data was removed
04/16/98 10:45:00 to 11:15:00 Maintenance

April 1998:

GI:
04/01/98 18:15:00 Spcond drops suddenly due to instrument being out of water

May 1998:
TC:
05/09/98 20:30:00 to 05/15/98 08:30:00 All DO data was suspect and deleted

May 1998:
GI:
05/09/98 09:45:00 Turbidity spike >1000 NTU
05/11/98 01:45:00 to 05/19/98 10:15:00 Missing data due to instrument lodged
in sediment
05/19/98 20:15:00 Turbidity spike >1000 NTU due to
low tide
05/28/98 20:00:00 Spcond drops suddenly due to
instrument out of the water

June 1998:
TC:
06/04/98 14:30:00 Maintenance

June 1998:
GI:
06/03/98 23:15:00 to 06/04/98 11:45:00 Missing data due to low battery
06/08/98 14:30:00 Turbidity spike >300 due to low tide
06/18/98 09:00:00 Turbidity wiper parking on optics
06/18/98 09:30:00 Turbidity wiper parking on optics
06/18/98 10:00:00 to 10:15:00 Turbidity wiper parking on optics

06/18/98 10:45:00 Turbidity wiper parking on optics
06/18/98 11:15:00 Turbidity wiper parking on optics
06/18/98 12:00:00 to 12:15:00 Turbidity wiper parking on optics
06/18/98 12:45:00 to 13:00:00 Turbidity wiper parking on optics
06/18/98 13:30:00 to 14:00:00 Turbidity wiper parking on optics
06/18/98 14:30:00 to 16:15:00 Turbidity wiper parking on optics
06/18/98 16:45:00 Turbidity wiper parking on optics
06/18/98 17:15:00 to 17:45:00 Turbidity wiper parking on optics
06/18/98 18:15:00 to 18:45:00 Turbidity wiper parking on optics
06/18/98 19:15:00 to 06/18/98 19:45:00 Turbidity wiper parking on optics
06/18/98 20:15:00 to 06/18/98 20:45:00 Turbidity wiper parking on optics
06/18/98 21:15:00 to 06/18/98 22:30:00 Turbidity wiper parking on optics
06/18/98 23:00:00 to 06/19/98 00:30:00 Turbidity wiper parking on optics
06/19/98 01:15:00 Turbidity wiper parking on optics
06/19/98 01:30:00 Turbidity wiper parking on optics
06/19/98 02:00:00 Turbidity wiper parking on optics
06/19/98 03:00:00 to 06/19/98 04:00:00 Turbidity wiper parking on optics
06/19/98 04:30:00 to 06/19/98 05:00:00 Turbidity wiper parking on optics
06/19/98 05:30:00 Turbidity wiper parking on optics
06/19/98 06:30:00 Turbidity wiper parking on optics
06/19/98 07:00:00 to 06/19/98 09:30:00 Turbidity wiper parking on optics
06/19/98 10:00:00 to 06/19/98 10:45:00 Turbidity wiper parking on optics
06/19/98 11:15:00 to 06/19/98 12:00:00 Turbidity wiper parking on optics
06/19/98 12:45:00 to 06/19/98 13:15:00 Turbidity wiper parking on optics
06/19/98 13:45:00 Turbidity wiper parking on optics

06/19/98 14:15:00 to 06/19/98 16:15:00 Turbidity wiper parking on optics

06/19/98 16:45:00 to 06/19/98 17:45:00 Turbidity wiper parking on optics
06/19/98 18:15:00 to 06/19/98 18:45:00 Turbidity wiper parking on optics
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06/19/98 21:30:00 to 06/19/98 22:45:00 Turbidity wiper parking on optics
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06/19/98 23:45:00 to 06/20/98 00:30:00 Turbidity wiper parking on optics
06/20/98 01:00:00 Turbidity wiper parking on optics
06/20/98 01:30:00 to 06/20/98 02:15:00 Turbidity wiper parking on optics
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06/20/98 03:15:00 Turbidity wiper parking on optics
06/20/98 03:45:00 to 06/20/98 04:30:00 Turbidity wiper parking on optics
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06/20/98 07:30:00 to 06/20/98 09:00:00 Turbidity wiper parking on optics
06/20/98 09:45:00 to 10:00:00 Turbidity wiper parking on optics
06/20/98 10:30:00 to 06/20/98 12:30:00 Turbidity wiper parking on optics
06/20/98 13:00:00 to 06/20/98 15:15:00 Turbidity wiper parking on optics
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06/25/98 02:15:00 to 06/25/98 04:15:00 Turbidity wiper parking on optics
06/25/98 04:45:00 to 06/25/98 07:00:00 Turbidity wiper parking on optics

06/25/98 07:30:00 to 06/25/98 08:00:00 Turbidity wiper parking on optics
06/25/98 09:15:00 to 06/25/98 09:30:00 Turbidity wiper parking on optics

July 1998:
TC:
07/01/98 15:15:00 Turbidity spike >1000
07/15/98 08:30:00 Turbidity spike >1000 due to low tide
07/15/98 22:00:00 Turbidity spike >1000 due to low tide
07/22/98 03:45:00 Turbidity spike >1000 due to low tide
07/23/98 17:15:00 Turbidity spike >1000 due to low tide
07/26/98 04:15:00 Turbidity spike >1000

July 1998:
GI:
07/07/98 10:00:00 Sonde out of the water
07/23/98 12:15:00 Sonde out of the water

August 1998:
TC:
08/07/98 17:45:00 Turbidity spike >1000 due to low tide
08/14/98 23:30:00 to 08/21/98 08:15:00 DO membrane torn
08/23/98 21:15:00 Turbidity spike >1000
08/29/98 10:00:00 to 08/31/98 11:15:00 DO membrane torn

August 1998:
GI:
8/13/98 09:15:00 Missing data due to time skip
8/13/98 09:45:00 Missing data due to time skip

8/13/98 10:00:00 Missing data due to time skip

September 1998:
TC:
09/10/98 00:15:00 to 9/14/98 16:15:00 Missing data due to flooded battery compartment

September 1998:
GI:
09/12/98 10:15:00 Sudden DO increase due to possible membrane damage
09/12/98 10:30:00 to 09/18/98 13:30:00 DO eventually decrease due to negative DO due to possible membrane damage
09/23/98 11:15:00 Turbidity wiper parking on optics

09/23/98 12:30:00 to 09/23/98 12:45:00 Turbidity wiper parking on optics
09/23/98 13:30:00 to 09/23/98 13:45:00 Turbidity wiper parking on optics
09/23/98 14:30:00 Turbidity wiper parking on optics
09/23/98 15:15:00 Turbidity wiper parking on optics
09/23/98 16:15:00 to 09/23/98 16:30:00 Turbidity wiper parking on optics
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09/23/98 23:00:00 Turbidity wiper parking on optics
09/23/98 23:45:00 Turbidity wiper parking on optics
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09/24/98 01:45:00 Turbidity wiper parking on optics
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09/24/98 07:30:00 to 09/24/98 07:45:00 Turbidity wiper parking on optics
09/24/98 08:15:00 to 09/24/98 08:30:00 Turbidity wiper parking on optics
09/24/98 09:00:00 Turbidity wiper parking on optics
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09/25/98 04:15:00 Turbidity wiper parking on optics
09/25/98 04:45:00 Turbidity wiper parking on optics
09/25/98 05:00:00 to 09/25/98 05:15:00 Turbidity wiper parking on optics
09/25/98 05:45:00 to 09/25/98 06:00:00 Turbidity wiper parking on optics
09/25/98 07:00:00 to 09/25/98 08:00:00 Turbidity wiper parking on optics
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09/25/98 10:45:00 to 09/25/98 11:00:00 Turbidity wiper parking on optics
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09/25/98 17:45:00 Turbidity wiper parking on optics
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09/25/98 22:30:00 to 09/25/98 22:45:00 Turbidity wiper parking on optics
09/25/98 23:15:00 Turbidity wiper parking on optics
09/25/98 23:45:00 Turbidity wiper parking on optics
09/26/98 00:45:00 to 09/26/98 01:30:00 Turbidity wiper parking on optics
09/26/98 02:00:00 Turbidity wiper parking on optics
09/26/98 02:30:00 Turbidity wiper parking on optics
09/26/98 03:00:00 Turbidity wiper parking on optics
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09/26/98 04:45:00 Turbidity wiper parking on optics
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09/26/98 10:15:00 to 09/26/98 10:30:00 Turbidity wiper parking on optics
09/26/98 11:00:00 Turbidity wiper parking on optics
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09/26/98 13:30:00 Turbidity wiper parking on optics
09/26/98 14:00:00 to 09/26/98 19:30:00 Turbidity wiper parking on optics
09/26/98 20:00:00 to 09/27/98 08:45:00 Turbidity wiper parking on optics
09/27/98 09:15:00 to 09/27/98 09:45:00 Turbidity wiper parking on optics
09/27/98 10:15:00 to 09/27/98 10:30:00 Turbidity wiper parking on optics
09/27/98 11:00:00 to 09/27/98 11:30:00 Turbidity wiper parking on optics
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09/27/98 14:45:00 Turbidity wiper parking on optics
09/27/98 15:00:00 Turbidity wiper parking on optics
09/27/98 15:30:00 to 09/27/98 15:45:00 Turbidity wiper parking on optics
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09/27/98 21:15:00 Turbidity wiper parking on optics
09/27/98 21:45:00 Turbidity wiper parking on optics
09/27/98 22:30:00 Turbidity wiper parking on optics

October 1998:
TC:

10/14/98 22:45:00 to 10/28/98 09:30:00 Temperature probe failure affecting
Sp. Cond., salinity, DO data, and pH

October 1998:
GI:

November 1998:
TC:
11/10/98 10:00:00 Instrument out of the water due to low tide

November 1998:
GI:

December 1998:
TC:

December 1998:
GI:
12/01/98 11:00:00 to 12/01/98 14:15:00 out of the water due to low tide
12/03/98 01:00:00 to 12/03/98 03:00:00 out of the water due to low tide
12/03/98 14:45:00 to 12/03/98 15:00:00 out of the water due to low tide
12/04/98 02:15:00 to 12/04/98 03:00:00 out of the water due to low tide

12. Remarks
Any regions of data with negative depth values due to low tides or low-pressure systems should be viewed with caution. In some instances the probes are clearly out of water and have been noted. Depth data should be considered relative depth.

Please note that in December of 1997, construction work began and is ongoing at the York River State Park in an effort to reduce erosion problems from the steep banks into the creek. This may be effecting the Taskinas Creek deployment readings, especially for turbidity. All construction work is taking place about 75 feet upstream from the deployment site.

The Goodwin Islands February file from 02/19/98 10:30:27 to 02/28/98 23:45:27 was off by +27 seconds, but was corrected.

Several files were recorded in Daylight Savings Time instead of Eastern Standard Time (EST). Tammy Dorman corrected the following files so that they would be in accordance with the NERR System Wide Monitoring Program by displaying the date

and time in EST.
TC980415.csv was corrected to EST
GI980414.csv was corrected to EST