Chesapeake Bay Virginia (CBV) NERR Water Quality Metadata January - December 1996

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

 ${\tt PC6000}$ software from YSI. Graphs were produced and examined using the ${\tt PC6000}$ 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 .dat and 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 $\ensuremath{\mathtt{CDMO}}$

manual, edited and documented. Missing data due to YSI maintenance (down time) was

inserted into the spreadsheet $% \left(1\right) =0$ and was denoted by periods (.). Data that were not within

calibration range of the instrument were evaluated and removed from the record and denoted $% \left(1\right) =\left(1\right) +\left(1\right)$

by periods (.). Edited and raw data files were copied and archived in the Chesapeake Bay

National Estuarine Research Reserve of Virginia (CBNERRVA) file server and uploaded to the $\,$

 \mbox{CDMO} FTP site. All Taskinas Creek files from 1996 have been verified using the latest

update of the Microsoft Excel 5.0 macro programs which identified outliers (values that fall

outside of the calibration range - see section II.8 of this document) and other erroneous data.

Outliers were determined according to the instruments' manufacturers manual. Rob Breeding, the

SWMP Coordinator, and Jeff Shields, the RC, collected and edited data from 1/96-6/96.

Bill Seufzer collected and edited data from 7/96-12/96. Dr. William Reay and Tammy Dorman

processed the data through the latest update of the CDMO macro and conducted final editing

of the data. Following final editing, Tammy Dorman uploaded the database to the CBNERRVA $\,$

server and to CDMO.

3. Research Objectives

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 ${\tt U.S.}$ 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 data

loggers were maintained, downloaded, cleaned, and calibrated at two-week intervals.

4. Research methods

The CBNERRVA maintains a long-term water quality-monitoring program, which consists of

a single station located in the transitional zone of the York River tributary. A simple

deployment was arranged with the State Park where a secured YSI 6000 unit hangs at a fixed

depth (0.5 m above the creek bed) from an overhanging tree approximately $\sin x$ meters

upstream from the parks canoe landing. Specific conductance, pH, depth, temperature, DO

saturation, and turbidity are recorded at 15-minute intervals. Salinity and dissolved oxygen

are calculated as a function of temperature and specific conductivity readings. At

approximately two-week intervals, the data logger was returned to the lab for downloading,

cleaning, membrane replacement and recalibration. Maintenance intervals were determined

according to the amount of biofouling that occurred and to accommodate battery life. ${\tt A}$

second YSI 6000 data logger was deployed following retrieval of the original YSI datasonde in

order to maintain a continuous record. All procedures are in accordance with YSI Operating

Manual methods, sections 3 and 7. Standards for pH, and conductivity were purchased from

YSI. Turbidity standard was purchased from Advanced Polymer Systems. Data was 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: (Latitude 37 deg 24' 54.04617" N, Longitude 76 deg 42'

51.75733" $\ensuremath{\mathtt{W}}\xspace)$ 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 approximately

10 kilometers north of Williamsburg. The creek flows in a northeasterly direction covering a

distance of about 5.5 kilometers eventually feeding into the York River. The sampling

station is located on the second bend from the mouth of Taskinas Creek within York River

State Park, about 6 meters upstream from the parks canoe landing. The sediment type at

this station consists of approximately 42% fine sand, 30% clay, and 28% silt. The creek is

tidal for approximately half of its length with a tidal range of 0.00-1.3m. The non-tidal

portion contains feeder streams, which drain oak-hickory forests, maple-qum-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.

6. Data collection period:

Ongoing sampling at Taskinas Creek (TC) began September 1995.

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.

- II. Physical Structure Descriptors
- 8. Variable sequence, range of measurements, units resolution and accuracy (for YSI):

```
Range of Measurements (units) Resolution
Variable Name
     Accuracy
Date 1-12,1-31,00-99 (Mo, Day, Yr) 1 month, 1 day, 1 year NA
Time 0-24,0-60,0-60 (Hr, Min, Sec) 1 hour, 1 minute, 1 second
    NA
Temperature -5.0 to 45.0 (deg C) 0.01 deg C +/- 0.15 deg 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)
         0-200 (% air saturation) 0.1% @ air sat +/- 2.0% @
air sat
          200-500 (% air saturation) 0.1% @ air sat
                                                            +/- 6.0% @
DO
air sat
                          0.01 mg/L +/- 0.2 mg/L 0.01 mg/L +/- 0.6 mg/L
         0-20 \text{ (mg/L)}
          20-50 \ (mg/L)
DO
Depth 0-9.1 (m)
pH 2.14
                              0.01 m +/- 0.018 m

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

- 9. Coded variable indicator and variable code definitions Site definitions: TC = Taskinas Creek. 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 due to low-pressure

weather fronts. This data remained in the record. According to the CDMO $\mbox{\it Operations}$

manual version 3.0, depth measurements taken with the non-vented level probe can be

influenced up to 0.39m (1.3ft) during severe low-pressure hurricane events. Depth went

negative during periods of low tide and was accompanied by drops in conductivity (and

salinity). It appears that the low tide left the YSI suspended in the open air. The data were

left intact and should be used with caution for the months of January through June. Starting

with July data were extracted in accordance with Version 3.0 of the CDMO Manual.

January 1996: TC: 01/06/96 16:30:00 to 18:15:00 All sensors out of water 01/06/96 18:30:00 to 01/13/96 10:30:00 Temperature data could be suspect; there is minimal daily variations; temperatures remain negative 01/18/96 01:15:00 to 02:15:00 All sensors out of water 01/18/96 13:00:00 to 14:00:00 Negative depth due to low tide or lowpressure system 01/18/96 14:15:00 to 15:00:00 All sensors out of water 01/18/96 15:15:00 to 16:30:00 Negative depth due to low tide or low pressure system 01/19/96 00:30:00 to 02:15:00 Negative depth due to low tide or low pressure system 01/19/96 02:30:00 to 03:30:00 All sensors out of water 01/19/96 03:45:00 to 05:00:00 Negative depth due to low tide or low pressure system 01/19/96 14:00:00 to 18:15:00 Negative depth due to low tide or low pressure system 01/20/96 03:45:00 to 05:15:00 Negative depth due to low tide or low pressure system 01/20/96 16:15:00 to 17:00:00 All sensors out of water 01/20/96 17:15:00 to 17:45:00 Negative depth due to low tide or low pressure 01/21/96 03:15:00 to 03:30:00 Negative depth due to low tide or low pressure system 01/21/96 03:45:00 to 05:15:00 All sensors out of water 01/21/96 05:30:00 to 06:30:00 Negative depth due to low tide or low pressure system 01/21/96 16:15:00 to 18:00:00 Negative depth due to low tide or low pressure system 01/22/96 18:00:00 to 18:45:00 Negative depth due to low tide or low pressure system 01/23/96 05:45:00 to 07:15:00 Negative depth due to low tide or low pressure system Negative depth due to low tide or low 01/23/96 17:45:00 to 20:15:00 pressure system 01/24/96 05:30:00 to 09:15:00 Negative depth due to low tide or low pressure system 01/24/96 17:30:00 to 20:00:00 Negative depth due to low tide or low pressure system 01/24/96 20:15:00 All sensors out of water Negative depth due to low tide or low 01/24/96 20:30:00 to 21:45:00 pressure system

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01/25/96 06:15:00 to 08:30:00
                                  Negative depth due to low tide or low
pressure system
01/25/96 18:45:00 to 19:00:00
                                  Negative depth due to low tide or low
pressure system
01/25/96 19:15:00 to 21:00:00
                                  All sensors out of water
01/25/96 21:15:00 to 21:45:00
                                  Negative depth due to low tide or low
pressure system
01/26/96 08:00:00 to 10:15:00
                                  All sensors out of water
01/26/96 20:45:00 to 21:30:00
                                  Negative depth due to low tide or low
pressure system
01/27/96 09:45:00 to 11:45:00
                                  Negative depth due to low tide or low
pressure system
01/27/96 19:45:00 to 01/28/96 00:30:00 Negative depth due to low tide or
low pressure
system
01/28/96 21:30:00 to 21:45:00
                                  Negative depth due to low tide or low
pressure system
01/28/96 22:00:00 to 01/29/96 00:45:00 All sensors out of water
01/29/96 01:00:00
                       Negative depth due to low tide or low-pressure
system
01/29/96 10:30:00 to 11:15:00
                                  Negative depth due to low tide or low-
pressure system
01/29/96 11:30:00 to 12:45:00
                                  All sensors out of water
01/29/96 13:00:00 to 14:15:00
                                  Negative depth due to low tide or low-
pressure system
01/29/96 22:15:00 to 01/30/96 01:30:00 Negative depth due to low tide or
low-pressure
system
01/30/96 13:00:00 to 13:45:00
                                  Negative depth due to low tide or low
pressure system
01/30/96 23:30:00 to 01/31/96 02:30:00 Negative depth due to low tide or
low pressure
system
February 1996:
02/02/96 12:45:00 to 02/08/96 17:45:00 Temperature data looks suspect;
there is
minimal daily variations; temp range is -0.5 to 0.5
02/05/96 17:00:00 to 19:00:00
                                  All sensors were out of water
02/05/96 19:15:00 to 20:00:00
                                  Negative depth due to low tide or low
pressure system
02/06/96 03:30:00 to 06:45:00
                                  All sensors were out of water
02/06/96 07:00:00 to 08:30:00
                                  Negative depth due to low tide or low
pressure system
02/06/96 16:45:00 to 19:15:00
                                  All sensors were out of water
02/06/96 19:30:00 to 22:00:00
                                  Negative depth due to low tide or low
pressure system
02/07/96 04:15:00
                       Negative depth due to low tide or low-pressure
system
02/07/96 04:30:00 to 08:00:00
                                  All sensors were out of water
02/07/96 08:15:00 to 09:15:00
                                  Negative depth due to low tide or low-
pressure system
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02/07/96 16:30:00 to 17:0	Negative depth due to low tide or low-
pressure system	
02/07/96 17:15:00 to 20:0	
02/07/96 20:15:00 to 20:3	Negative depth due to low tide or low-
pressure system	
02/08/96 05:00:00 to 05:4	15:00 Negative depth due to low tide or low-
pressure system	-
02/08/96 06:00:00 to 08:1	15:00 All sensors were out of water
02/08/96 08:30:00 to 09:0	
pressure system	
02/08/96 16:30:00 to 17:4	15:00 Negative depth due to low tide or low-
pressure system	10.00 Regultive depth add to fow that of fow
02/08/96 18:00:00 to 20:1	15:00 All sensors were out of water
02/08/96 20:30:00 to 21:4	
	15:00 Negative depth due to low tide or low-
pressure system	15 00
02/09/96 04:30:00 to 06:1	15:00 Negative depth due to low tide or low-
pressure system	
02/09/96 06:30:00 to 08:1	
02/09/96 08:30:00 to 10:0	00:00 Negative depth due to low tide or low-
pressure system	
02/09/96 17:15:00 to 18:4	15:00 Negative depth due to low tide or low-
pressure system	
02/09/96 19:00:00 to 20:1	15:00 All sensors were out of water
02/09/96 20:30:00 to 21:4	15:00 Negative depth due to low tide or low-
pressure system	
02/10/96 06:00:00 to 07:3	Negative depth due to low tide or low-
pressure system	•
02/10/96 07:45:00 to 08:4	45:00 All sensors were out of water
02/10/96 09:00:00 to 10:0	
pressure system	
02/10/96 17:45:00 to 19:0	00:00 Negative depth due to low tide or low-
pressure system	noguerre depen ade de len elac el len
02/10/96 19:15:00 to 21:1	15:00 All sensors were out of water
02/10/96 21:30:00 to 23:1	
pressure system	negative depth due to low tide of low
02/11/96 06:30:00 to 09:0	00:00 Negative depth due to low tide or low-
	negative depth due to low tide of low-
pressure system	
02/11/96 09:15:00 to 09:3	
02/11/96 09:45:00 to 12:1	15:00 Negative depth due to low tide or low-
pressure system	
02/11/96 18:15:00 to 23:4	15:00 Negative depth due to low tide or low-
pressure system	
02/12/96 09:30:00 to 12:3	15:00 Negative depth due to low tide or low
pressure system	
02/12/96 21:00:00 to 02/1	13/96 00:30:00 Negative depth due to low tide or
low pressure	
system	
02/13/96 09:15:00 to 10:0	00:00 Negative depth due to low tide or low-
pressure system	-
02/13/96 10:15:00 to 12:4	45:00 All sensors were out of water
02/13/96 13:00:00 to 14:1	
pressure system	
02/13/96 21:00:00 to 22:1	15:00 Negative depth due to low tide or low-
pressure system	10,11 Regulation depoin and to low trac of low
bressure slacem	

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02/13/96 22:30:00 to 02/14/96 01:00:00 All sensors were out of water
02/14/96 01:15:00 to 02:15:00
                                  Negative depth due to low tide or low-
pressure system
02/14/96 09:15:00 to 11:15:00
                                  Negative depth due to low tide or low-
pressure system
02/14/96 11:30:00 to 13:45:00
                                  All sensors were out of water
02/14/96 14:00:00 to 15:30:00
                                  Negative depth due to low tide or low-
pressure system
02/14/96 21:45:00 to 02/15/96 03:00:00 Negative depth due to low tide or
low pressure
system
02/15/96 11:30:00 to 15:00:00
                                  Negative depth due to low tide or low
pressure system
02/16/96 00:30:00 to 02:30:00
                                  Negative depth due to low tide or low
pressure system
02/21/96 23:00:00 to 02/29/96 23:45:00 It appears that the YSI was
deployed with the
cup over the sensors. All channels were flat lined so the data was
deleted.
March 1996:
03/01/96 00:00:00 to 03/04/96 11:00:00 It appears that the YSI was
deployed with the
cup over the sensors. All channels were flat lined so the data was
deleted.
03/06/96 15:15:00 to 15:30:00
                                        Negative depth due to low tides
or low-pressure system
03/06/96 15:45:00 to 19:15:00
                                       All sensors out of water
03/06/96 19:30:00
                            Negative depth due to low tides or low-
pressure system
03/06/96 19:30:00 to 21:30:00
                                       Negative turbidity value
03/07/96 08:45:00
                            Negative turbidity value
03/07/96 16:15:00 to 18:30:00
                                       Negative turbidity value
03/07/96 20:00:00
                            Negative turbidity value
03/07/96 21:30:00 to 21:45:00
                                       Negative turbidity value
03/08/96 18:00:00 to 18:30:00
                                       Negative turbidity value
03/08/96 18:45:00 to 19:45:00
                                       All sensors were out of water
03/08/96 20:00:00 to 20:15:00
                                       Negative turbidity value
03/08/96 22:15:00
                            Negative turbidity value
03/09/96 06:15:00 to 08:30:00
                                       Negative turbidity value
03/09/96 09:15:00
                            Negative turbidity value
03/09/96 09:45:00
                            Negative turbidity value
                            Negative turbidity value
03/09/96 10:15:00
03/09/96 11:00:00 to 13:15:00
                                        Negative turbidity value
03/09/96 13:45:00
                            Negative turbidity value
03/09/96 14:30:00
                            Negative turbidity value
03/09/96 15:15:00
                            Negative turbidity value
03/09/96 15:45:00 to 16:00:00
                                        Negative turbidity value
03/09/96 16:30:00
                            Negative turbidity value
03/09/96 17:00:00 to 17:45:00
                                       Negative turbidity value
03/09/96 18:00:00 to 20:30:00
                                       All sensors out of water
03/09/96 21:45:00
                           Negative turbidity value
03/09/96 22:15:00 to 22:30:00
                                       Negative turbidity value
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03/09/96 23:00:00 to 23:15:00
                                      Negative turbidity value
03/09/96 23:45:00
                          Negative turbidity value
03/10/96 00:15:00
                           Negative turbidity value
03/10/96 00:45:00
                          Negative turbidity value
03/10/96 01:15:00 to 06:45:00
                                       Negative turbidity value
03/10/96 07:00:00 to 08:45:00
                                       All sensors out of water
03/10/96 11:45:00
                    Negative turbidity value
03/10/96 12:15:00 to 12:30:00
                                       Negative turbidity value
03/10/96 13:15:00 to 13:45:00
                                       Negative turbidity value
03/10/96 14:15:00
                           Negative turbidity value
03/10/96 15:00:00
03/10/96 15:30:00
                           Negative turbidity value
                           Negative turbidity value
03/10/96 16:00:00 to 18:15:00
                                       Negative turbidity value
03/10/96 18:30:00 to 21:15:00
                                       All sensors out of water
03/10/96 21:45:00
                          Negative turbidity value
03/10/96 22:15:00
                           Negative turbidity value
03/11/96 01:00:00 Negative turbidity value
03/11/96 01:30:00 to 08:45:00
                                       Negative turbidity value
03/11/96 09:15:00 Negative turbidity value
03/11/96 09:45:00
                           Negative turbidity value
03/11/96 11:15:00
                          Negative turbidity value
03/11/96 12:30:00 to 12:45:00
                                      Negative turbidity value
03/11/96 13:15:00 Negative turbidity value
03/11/96 13:45:00 to 14:30:00
                                      Negative turbidity value
03/11/96 15:00:00 Negative turbidity value
03/11/96 15:30:00 to 16:15:00
                                       Negative turbidity value
03/11/96 16:45:00
                          Negative turbidity value
03/11/96 17:30:00 to 19:15:00 Negative turbidity value 03/11/96 20:00:00 to 20:30:00 Negative turbidity value 03/11/96 21:00:00 to 21:15:00 Negative turbidity value
03/11/96 21:45:00 to 22:15:00
                                       Negative turbidity value
03/11/96 22:45:00
                          Negative turbidity value
03/11/96 23:15:00
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03/12/96 00:45:00 to 02:00:00
                                      Negative turbidity value
03/12/96 08:30:00
                           Negative turbidity value
03/12/96 09:30:00 to 12:15:00
                                      Negative turbidity value
03/12/96 19:30:00
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03/13/96 00:00:00 to 00:15:00
                                      Negative turbidity value
03/13/96 07:15:00
                           Negative turbidity value
03/17/96 01:30:00 to 02:30:00
                                     Negative turbidity value
03/17/96 03:00:00 to 04:15:00
                                       Negative turbidity value
03/17/96 04:45:00
                          Negative turbidity value
03/17/96 05:15:00
                           Negative turbidity value
03/17/96 05:45:00 Negative turbidity value 03/17/96 07:30:00 Negative turbidity value
03/17/96 09:45:00 to 10:00:00
                                      Negative turbidity value
03/20/96 05:15:00 to 05:45:00 Negative turbidity value

Negative depth due to low tide or
low pressure system
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03/24/96 06:45:00 to 07:15:00 Negative turbidity value 03/24/96 07:30:00 to 15:30:00 Instrument was out of the water
due to low tide
03/24/96 09:00:00 Negative turbidity value 03/24/96 09:45:00 Negative turbidity value 03/24/96 11:15:00 Negative turbidity value 03/24/96 13:45:00 Negative turbidity value 03/24/96 14:15:00 Negative turbidity value 03/24/96 16:30:00 Negative turbidity value 03/24/96 16:30:00 Negative turbidity value
03/24/96 23:00:00 to 23:30:00
                                                              Negative turbidity value
03/26/96 03:00:00 Negative turbidity value
April 1996:
TC:
04/02/96 17:15:00 to 17:45:00
                                                            Negative turbidity value
04/02/96 17:15:00 to 17:45:00 Negative turb.
04/02/96 18:15:00 Negative turbidity value
04/03/96 06:45:00 Negative turbidity value
04/03/96 09:45:00 Negative turbidity value
04/03/96 14:30:00 Negative turbidity value
04/03/96 21:00:00 Negative turbidity value
04/03/96 21:30:00 Negative turbidity value
04/03/96 20:00:00 Negative turbidity value
04/11/96 13:00:00 to 14:45:00
                                                            Negative turbidity value
04/11/96 18:45:00 Negative turbidity value
04/11/96 19:15:00 to 22:00:00 Negative turbidity value 04/11/96 22:30:00 to 23:45:00 Negative depth values due to low
tide or low pressure
system
04/12/96 01:30:00 Negative turbidity value 04/12/96 03:30:00 Negative turbidity value
04/12/96 10:45:00 to 11:30:00 Negative depth values due to low
tide or low pressure
system
04/12/96 11:45:00 to 14:15:00 All sensors out of water 04/13/96 00:15:00 to 00:45:00 Negative depth values due to low
tide or low pressure
system
04/13/96 00:45:00 Negative turbidity value
04/13/96 01:30:00 to 03:30:00
                                                             Negative turbidity value
04/13/96 16:30:00 Negative turbidity value 04/15/96 07:45:00 Negative turbidity value 04/16/96 10:30:00 Negative turbidity value
04/17/96 17:45:00 to 18:30:00 Negative turbidity value 04/17/96 19:45:00 to 20:00:00 Negative turbidity value
04/17/96 20:45:00 Negative turbidity value 04/17/96 21:30:00 Negative turbidity value
04/17/96 22:00:00 to 22:30:00
                                                              Negative turbidity value
04/17/96 23:45:00 Negative turbidity value 04/18/96 01:30:00 Negative turbidity value
04/18/96 05:45:00 to 06:00:00
                                                            Instrument out of water due to
low tide
04/19/96 18:30:00 Negative turbidity value
04/21/96 08:00:00 to 08:30:00
                                                            All sensors out of water
```

```
04/23/96 19:15:00
                            Negative turbidity value
04/24/96 10:15:00 to 11:15:00
                                       All sensors out of water
04/26/96 14:15:00
                           Negative turbidity value
04/26/96 14:45:00
                            Negative turbidity value
04/26/96 15:15:00
                            Negative turbidity value
04/26/96 15:45:00
                            Negative turbidity value
                         Negative turbidity value
Negative turbidity value
04/26/96 16:15:00
04/26/96 16:45:00
04/28/96 18:30:00
                          Negative turbidity value
04/28/96 20:00:00
                          Negative turbidity value
May 1996:
TC:
05/03/96 14:00:00 to 05/14/96 14:30:00 DO could be suspect; high pre-
and low post-
deployment DO% values
05/07/96 10:15:00
                            Negative turbidity value
05/12/96 10:30:00 to 11:00:00
                                       Negative turbidity value
05/12/96 11:30:00 Negative turbidity value
05/12/96 16:15:00
                            Negative turbidity value
05/13/96 04:30:00
                            Negative turbidity value
05/13/96 12:45:00
                            Negative turbidity value
05/13/96 13:15:00
                            Negative turbidity value
05/13/96 13:45:00 to 17:15:00
                                       Negative turbidity value
05/13/96 18:45:00
                            Negative turbidity value
05/13/96 20:15:00 to 05/14/96 02:00:00 Negative turbidity value
05/14/96 02:15:00
                            Turbidity values exceed 1000 NTU
05/14/96 02:30:00
                            Negative turbidity value
05/14/96 03:00:00 to 03:15:00
                                       Negative turbidity value
05/14/96 03:45:00
                            Negative turbidity value
05/14/96 05:00:00 to 05:15:00
                                       Turbidity values exceed 1000 NTU
05/14/96 08:00:00
                           Negative turbidity value
05/14/96 08:30:00 to 09:00:00
                                       Negative turbidity value
05/14/96 09:30:00
                            Turbidity values exceed 1000 NTU
05/14/96 10:00:00
                            Turbidity values exceed 1000 NTU
05/14/96 11:00:00
                            Turbidity values exceed 1000 NTU
05/14/96 11:30:00 to 11:45:00
                                       Negative turbidity value
05/14/96 12:15:00 to 12:45:00
                                       Negative turbidity value
05/14/96 13:00:00
                           Turbidity values exceed 1000 NTU
05/14/96 13:15:00
                            Negative turbidity value
05/14/96 13:30:00
                           Turbidity values exceed 1000 NTU
05/14/96 13:45:00
                            Negative turbidity value
05/14/96 14:00:00
                            Turbidity values exceed 1000 NTU
05/15/96 06:00:00
                            Turbidity values exceed 1000 NTU
05/15/96 17:30:00 to 19:00:00
                                       Turbidity values exceed 1000 NTU
05/30/96 09:30:00 to 05/31/96 23:45:00 DO could be suspect; very low
deployment DO% values; values recorded are 3 times greater than
previously recorded data
but could be due to biofouling of the previous sonde
```

June 1996:

TC:

```
06/01/96 00:00:00 to 06/13/96 09:30:00 DO could be suspect; very low
post-
deployment DO% values; values are 3 times greater than previously
recorded data but could
be due to biofouling of the previous sonde
July 1996:
TC:
07/11/96 12:45:00 to 07/31/96 19:30:00 DO could be suspect; values
jumped up then
there was a general slow decline in values
August 1996:
TC:
08/17/96 22:00:00
                            Negative turbidity value
08/18/96 09:15:00
                           Negative turbidity value
08/20/96 09:30:00 to 08/31/96 23:45:00 Depth suspect - too high for site
(3.5 - 4.0m);
could be cal error
08/20/96 10:45:00
                           Negative turbidity value
08/22/96 09:15:00
                           Turbidity value exceed 1000 NTU
08/24/96 19:45:00
                          Negative turbidity value
08/25/96 16:45:00
                          Negative turbidity value
08/26/96 04:45:00
                          Negative turbidity value
08/29/96 02:30:00
                           Negative turbidity value
08/30/96 01:00:00
                           Negative turbidity value
08/30/96 03:15:00 to 03:45:00
                                       Negative turbidity value
08/30/96 04:30:00
                           Negative turbidity value
08/30/96 04:45:00 to 05:30:00
                                       Negative DO values
08/30/96 11:45:00
                           Negative turbidity value
08/30/96 12:15:00
                            Negative turbidity value
08/30/96 12:45:00
                            Negative turbidity value
08/30/96 17:15:00 to 19:00:00
                                       Negative DO values
08/31/96 05:15:00 to 08:00:00
                                       Negative DO values
08/31/96 11:00:00
                            Negative DO values
08/31/96 12:30:00
                           Negative DO values
08/31/96 13:00:00 to 14:15:00
                                       Negative DO values
08/31/96 15:00:00
                           Negative DO values
08/31/96 15:45:00
                           DO values jump up to 6.2 mg/L from 0.06
ma/L; could
be due to the biofouling of the last sonde during deployment
September 1996:
09/01/96 00:00:00 to 09/03/96 14:15:00 Depth suspect - too high for site
(3.5 - 4.0m);
could be cal error
09/01/96 07:45:00 to 08:15:00
                                 Negative turbidity value
09/01/96
          08:45:00
                            Negative turbidity value
09/01/96 09:15:00 to 10:30:00 Negative turbidity value
09/01/96 13:15:00 to 14:00:00 Negative turbidity value
09/01/96 14:30:00 to 15:00:00 Negative turbidity value
09/01/96 16:15:00 to 17:00:00 Negative turbidity value
09/01/96 17:30:00 to 18:00:00 Negative turbidity value
```

```
09/01/96
           18:30:00
                           Negative turbidity value
09/01/96
          19:00:00
                           Negative turbidity value
09/01/96 19:30:00
                          Negative turbidity value
09/01/96 20:00:00
                          Negative turbidity value
09/01/96 20:30:00
                           Negative turbidity value
                           Negative turbidity value
09/01/96
          21:00:00
09/01/96 21:30:00
                           Negative turbidity value
09/01/96 22:00:00 to 23:15:00 Negative turbidity value
09/02/96 01:15:00
                           Negative turbidity value
09/02/96 01:45:00 to 05:00:00 Negative turbidity value
09/02/96 05:30:00 to 08:15:00 Negative turbidity value
09/02/96 08:45:00
                           Negative turbidity value
09/02/96 09:15:00 to 11:30:00 Negative turbidity value
09/02/96 13:00:00
                           Negative turbidity value
09/02/96 14:45:00 to 15:30:00 Negative turbidity value
09/02/96 16:00:00 to 17:45:00 Negative turbidity value
09/02/96 18:15:00 to 18:45:00 Negative turbidity value
09/02/96 19:15:00
                           Negative turbidity value
09/02/96 19:30:00
                           Turbidity values exceed 1000 NTU
09/02/96 19:45:00
                          Negative turbidity value
09/02/96 20:00:00
                          Turbidity values exceed 1000 NTU
09/02/96 20:15:00
                          Negative turbidity value
09/02/96 20:30:00
                           Turbidity values exceed 1000 NTU
09/02/96 20:45:00 to 09/03/96 02:15:00 Negative turbidity value
09/03/96 03:00:00
                           Negative turbidity value
09/03/96 04:00:00 to 12:30:00
                                       Negative turbidity value
09/03/96 14:15:00
                           Negative turbidity value
09/21/96 15:45:00 to 09/30/96 23:45:00 Depth suspect - too high for site
(3.5 - 4.0m);
could be cal error
09/26/96 02:00:00 to 09/27/96 12:45:00 Negative turbidity value
09/28/96 18:45:00
                            Turbidity values exceed 1000 NTU
                            Turbidity values exceed 1000 NTU
09/28/96 19:30:00
09/28/96 20:30:00 to 09/29/96 04:45:00 Turbidity values exceed 1000 NTU
09/29/96 05:00:00 to 05:30:00
                                      Negative turbidity value
09/29/96 06:00:00
                            Turbidity values exceed 1000 NTU
09/29/96 06:15:00 to 16:15:00
                                       Negative turbidity value
Depth during September 1996 was noted as too high for this particular
site. However,
Hurricane Fran swept through the area September 5 and 6, which may have
eventually
influenced the depth data.
October 1996
10/01/96 00:00:00 to 10/07/96 14:45:00 Depth suspect - too high for
site (3.5 - 4.0m);
could be cal error
10/04/96 17:30:00 to 17:45:00 Turbidity value exceeds 1000 NTU
                    Turbidity value exceeds 1000 NTU
10/05/96 00:00:00
10/05/96 00:45:00 to 01:30:00
                                Turbidity value exceeds 1000 NTU
10/05/96 01:45:00 Negative turbidity value 10/05/96 02:15:00 Turbidity value exceeds 1000 NTU
```

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10/05/96 08:15:00
                      Turbidity value exceeds 1000 NTU
                                  Turbidity value exceeds 1000 NTU
10/05/96 09:00:00 to 11:15:00
10/05/96 11:30:00 to 11:45:00
                                  Negative turbidity value
10/05/96 12:30:00 to 12:45:00
                                  Turbidity value exceeds 1000 NTU
10/05/96 13:00:00 to 13:45:00
                                  Negative turbidity value
10/05/96 14:00:00 to 14:15:00
                                  Turbidity value exceeds 1000 NTU
10/05/96 20:00:00 to 20:15:00
                                  Turbidity value exceeds 1000 NTU
10/05/96 20:45:00 to 21:15:00
                                  Turbidity value exceeds 1000 NTU
10/05/96 21:45:00 to 22:15:00
                                  Turbidity value exceeds 1000 NTU
10/05/96 22:30:00
                            Negative turbidity value
10/05/96 23:15:00
                      Turbidity value exceeds 1000 NTU
10/05/96 23:30:00
                     Negative turbidity value
10/05/96 23:45:00 to 10/06/96 00:00:00 Turbidity value exceeds 1000 NTU
10/06/96 01:00:00 to 02:00:00
                                  Turbidity value exceeds 1000 NTU
10/06/96 02:45:00 to 03:30:00
                                  Turbidity value exceeds 1000 NTU
10/06/96 04:30:00
                      Turbidity value exceeds 1000 NTU
10/06/96 05:45:00
                      Turbidity value exceeds 1000 NTU
10/06/96 06:15:00 to 06:45:00
                                  Turbidity value exceeds 1000 NTU
10/06/96 07:15:00 to 09:15:00
                                  Turbidity value exceeds 1000 NTU
10/06/96 09:30:00 to 11:30:00
                                  Negative turbidity value
10/06/96 13:15:00 to 13:30:00
                                  Turbidity value exceeds 1000 NTU
10/06/96 14:00:00
                      Turbidity value exceeds 1000 NTU
10/06/96 14:15:00 to 15:45:00
                                  Negative turbidity value
10/06/96 16:00:00 to 16:15:00
                                  Turbidity value exceeds 1000 NTU
10/06/96 16:45:00 to 17:00:00
                                  Turbidity value exceeds 1000 NTU
10/06/96 18:00:00 to 18:30:00
                                  Negative turbidity value
10/06/96 18:45:00
                      Turbidity value exceeds 1000 NTU
10/06/96 19:00:00 to 19:30:00
                                Negative turbidity value
10/06/96 19:45:00
                      Turbidity value exceeds 1000 NTU
10/06/96 20:15:00
                      Turbidity value exceeds 1000 NTU
10/06/96 20:30:00 to 21:15:00
                                 Negative turbidity value
10/06/96 21:30:00 to 22:00:00
                                  Turbidity value exceeds 1000 NTU
                      Turbidity value exceeds 1000 NTU
10/06/96 22:30:00
10/06/96 22:45:00 to 10/07/96 05:00:00 Negative turbidity value
10/07/96 06:00:00
                      Turbidity value exceeds 1000 NTU
10/07/96 06:45:00 to 9:45:00 Turbidity value exceeds 1000 NTU
10/07/96 10:30:00
                     Negative turbidity value
10/07/96 10:45:00 to 11:30:00
                                  Turbidity value exceeds 1000 NTU
10/07/96 11:45:00 to 12:00:00
                                  Negative turbidity value
10/07/96 12:15:00 to 12:30:00
                                  Turbidity value exceeds 1000 NTU
                              Negative turbidity value
10/07/96 12:45:00 to 14:45:00
10/07/96 15:30:00 to 10/24/96 15:00:00 Specific conductivity, salinity,
DO%, and DO mg/L
were deleted due to improper salinity calibration
10/09/96 01:30:00 to 03:15:00
                               Negative depth value due to low tide or
low-pressure
systems
10/09/96 13:30:00 to 14:45:00
                                  Negative depth value due to low tide or
low-pressure
systems
10/10/96 01:30:00 to 04:00:00
                                  Negative depth value due to low tide or
low-pressure
systems
```

10/10/96 13:15:00 low-pressure systems	to	16:30:00	Negative depth value due to low tide or
10/11/96 01:15:00 low-pressure systems	to	02:00:00	Negative depth value due to low tide or
10/11/96 02:15:00 10/11/96 04:00:00 low-pressure			All sensors out of water Negative depth value due to low tide or
systems			
10/11/96 14:00:00	+ ^	14.30.00	Negative depth value due to low tide or
low-pressure	LU	14.30.00	negative depth value due to low tide of
systems			
10/11/96 14:45:00	+0	16.45.00	All sensors out of water
10/11/96 17:00:00			Negative depth value due to low tide or
low-pressure	LU	17.30.00	negative depth value due to low tide of
systems			
10/12/96 02:30:00	+ ^	02.45.00	Negative depth value due to low tide or
low-pressure	CO	02.45.00	negative depth value due to low tide of
systems			
10/12/96 03:00:00	+ 0	05.00.00	All sensors out of water
10/12/96 03:00:00			All sensors out of water
10/12/96 13:30:00			depth value due to low tide or low-
		Negative	depth value due to low tide of low-
pressure			
systems 10/13/96 03:00:00		Mogatino	depth value due to low tide or low-
pressure		Negacive	depth value due to low tide of low
-			
systems	+ ^	05.45.00	All sonsors out of water
10/13/96 03:15:00			All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00			All sensors out of water Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure			
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems	to	06:15:00	Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00	to to	06:15:00 18:15:00	Negative depth value due to low tide or All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00	to to	06:15:00 18:15:00	Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure	to to	06:15:00 18:15:00	Negative depth value due to low tide or All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems	to to	06:15:00 18:15:00 19:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00	to to	06:15:00 18:15:00 19:00:00	Negative depth value due to low tide or All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure	to to	06:15:00 18:15:00 19:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems	to to to	06:15:00 18:15:00 19:00:00 Negative	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low-
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00	to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00	to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low-
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 low-pressure	to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 low-pressure systems	to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 low-pressure systems 10/14/96 15:30:00	to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 low-pressure systems 10/14/96 15:30:00 low-pressure	to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 low-pressure systems 10/14/96 15:30:00 low-pressure systems	to to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 low-pressure systems 10/14/96 15:30:00 low-pressure systems 10/14/96 15:30:00	to to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00 16:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or Negative depth value due to low tide or All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 10w-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 10w-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 15:30:00 10/14/96 16:15:00 10/14/96 19:30:00	to to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00 16:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 low-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 low-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 low-pressure systems 10/14/96 15:30:00 low-pressure systems 10/14/96 15:30:00	to to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00 16:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or Negative depth value due to low tide or All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 10w-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 10w-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 19:30:00 10/14/96 19:30:00 10w-pressure	to to to to to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00 16:00:00 19:15:00 20:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 10w-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 10w-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 19:30:00 10/14/96 19:30:00 10w-pressure systems	to to to to to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00 16:00:00 19:15:00 20:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or Negative depth value due to low tide or All sensors out of water
10/13/96 03:15:00 10/13/96 06:00:00 10w-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 10w-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 16:15:00 10/14/96 19:30:00 10w-pressure systems 10/14/96 10:15:00 10/14/96 10:30:00 10w-pressure systems 10/15/96 03:45:00	to to to to to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00 16:00:00 19:15:00 20:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or
10/13/96 03:15:00 10/13/96 06:00:00 10w-pressure systems 10/13/96 16:00:00 10/13/96 18:30:00 10w-pressure systems 10/14/96 03:00:00 pressure systems 10/14/96 03:15:00 10/14/96 07:15:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 15:30:00 10w-pressure systems 10/14/96 16:15:00 10/14/96 19:30:00 10w-pressure systems 10/14/96 19:30:00 10w-pressure systems 10/15/96 03:45:00 10w-pressure	to to to to to to	06:15:00 18:15:00 19:00:00 Negative 07:00:00 07:45:00 16:00:00 19:15:00 20:00:00 04:00:00	Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or depth value due to low tide or low- All sensors out of water Negative depth value due to low tide or Negative depth value due to low tide or All sensors out of water Negative depth value due to low tide or

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10/15/96 07:00:00 to 07:15:00
                              Negative depth value due to low tide or
low-pressure
systems
10/15/96 17:15:00 to 17:30:00
                                  Negative depth value due to low tide or
low-pressure
systems
10/15/96 17:45:00 to 19:30:00
                                  All sensors out of water
10/15/96 19:45:00 to 20:30:00
                                  Negative depth value due to low tide or
low-pressure
systems
10/16/96 04:15:00 to 04:30:00
                                  Negative depth value due to low tide or
low-pressure
systems
10/16/96 04:45:00 to 07:45:00
                                  All sensors out of water
10/17/96 06:45:00 to 08:15:00
                                  Negative depth value due to low tide or
low-pressure
systems
November 1996:
TC:
No Anomalous Data.
December 1996:
TC:
12/02/96 16:30:00 to 12/20/96 12:30:00 DO values deleted due to probe
malfunction
12/03/96 04:15:00 to 13:15:00
                                       Negative DO values
12/03/96 19:45:00 to 23:45:00
                                       Negative DO values
12/22/96 15:30:00
                           Instrument out of water 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, 1996:
Note-*not missing data
TC:
01/01/96 00:00:00 to 01/04/96 11:15:00 YSI Not Deployed
01/06/96 16:30:00 to 18:15:00
                                       All sensors out of water
01/18/96 01:15:00 to 02:15:00
                                       All sensors out of water
*01/18/96 12:30:00
                                  Replacement sonde deployed
01/18/96 12:30:00 to 01/31/96 23:45:00 Turbidity probe not deployed
01/18/96 14:15:00 to 15:00:00
                                       All sensors out of water
01/19/96 02:30:00 to 03:30:00
                                       All sensors out of water
01/20/96 16:15:00 to 17:00:00
                                      All sensors out of water
01/21/96 03:45:00 to 05:15:00
                                       All sensors out of water
01/24/96 20:15:00
                            All sensors out of water
                                All sensors out of water
01/25/96 19:15:00 to 21:00:00
01/26/96 08:00:00 to 10:15:00
01/28/96 22:00:00 to 01/29/96 00:45:00 All sensors out of water
```

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01/29/96 11:30:00 to 12:45:00 All sensors out of water
February 1996:
TC:
02/01/96 00:00:00 to 02/16/96 16:30:00 Turbidity probe not deployed
02/01/96 14:45:00 to 16:30:00
                                        Maintenance
                                  All sensors were out of water
All sensors were out of water
02/05/96 17:00:00 to 19:00:00
02/06/96 03:30:00 to 06:45:00
02/06/96 16:45:00 to 19:15:00
                                      All sensors were out of water
02/07/96 04:30:00 to 08:00:00
                                       All sensors were out of water
02/07/96 17:15:00 to 20:00:00
                                       All sensors out of water
02/08/96 06:00:00 to 08:15:00
                                       All sensors were out of water
02/08/96 18:00:00 to 20:15:00
                                       All sensors were out of water
02/09/96 06:30:00 to 08:15:00
                                       All sensors were out of water
02/09/96 19:00:00 to 20:15:00
                                      All sensors out of water
02/10/96 07:45:00 to 08:45:00
                                      All sensors out of water
02/10/96 19:15:00 to 21:15:00
                                       All sensors were out of water
02/11/96 09:15:00 to 09:30:00 02/13/96 10:15:00 to 12:45:00
                                      All sensors out of water
                                       All sensors were out of water
02/13/96 22:30:00 to 02/14/96 01:00:00 All sensors were out of water
02/14/96 11:30:00 to 13:45:00
                                       All sensors were out of water
02/16/96 16:45:00 to 02/21/96 22:45:00 Maintenance
02/21/96 23:00:00 to 02/29/96 23:45:00 It appears the YSI was deployed
with the cup
over the sensors. All channels were flat lined so the data was deleted.
March 1996:
03/01/96 00:00:00 to 03/04/96 11:00:00 It appears the YSI was deployed
with the cup
over the sensors. All channels were flat lined so the data was deleted.
03/04/96 11:15:00 to 03/06/96 10:45:00 Maintenance
03/06/96 15:45:00 to 19:15:00
                                        All sensors out of water
03/08/96 18:45:00 to 19:45:00
                                       All sensors out of water
03/09/96 18:00:00 to 20:30:00
                                      All sensors out of water
03/10/96 07:00:00 to 08:45:00
                                       All sensors out of water
                                     All sensors out of water
03/10/96 18:30:00 to 21:15:00
03/24/96 07:30:00 to 15:30:00
                                        Instrument was out of the water
due to low tide
03/27/96 07:45:00 to 03/31/96 23:45:00 Maintenance
April 1996:
TC:
04/01/96 00:00:00 to 04/02/96 13:00:00 Maintenance
04/12/96 11:45:00 to 14:15:00
                                        All sensors were out of water
04/17/96 14:30:00 to 16:15:00
                                      Maintenance
04/18/96 05:45:00 to 06:00:00
                                        Instrument out of water due to
low tide
04/21/96 08:00:00 to 08:30:00 All sensors out of water 04/24/96 10:15:00 to 11:15:00 All sensors out of water
04/29/96 14:15:00 to 04/30/96 23:45:00 Maintenance
```

May 1996:

TC:

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05/01/96 00:00:00 to 05/03/96 13:45:00 Maintenance
05/14/96 14:45:00 to 15:45:00
                                         Maintenance
05/29/96 15:00:00 to 05/30/96 09:15:00 Maintenance
05/30/96 09:30:00 to 05/31/96 23:45:00 Turbidity probe not deployed
June 1996:
тс•
06/01/96 00:00:00 to 06/13/96 09:30:00 Turbidity probe not deployed
06/13/96 09:45:00 to 06/26/96 15:00:00 Maintenance
06/26/96 15:15:00 to 06/30/96 23:45:00 Turbidity probe not deployed
July 1996:
TC:
07/01/96 00:00:00 to 07/11/96 09:15:00 Turbidity probe not deployed
07/11/96 09:30:00 to 12:30:00
                                         Maintenance
07/11/96 12:45:00 to 07/31/96 19:30:00 Turbidity probe not deployed
07/31/96 19:45:00 to 23:45:00
                                         Maintenance
August 1996:
TC:
08/01/96 00:00:00 to 08/10/96 15:30:00 Maintenance
08/20/96 09:15:00 Maintenance
08/20/96 09:30:00 to 08/31/96 23:45:00 Depth suspect - too high for site
(3.5 - 4.0m);
could be cal error
08/28/96 20:45:00 to 21:30:00
                                         Missing data due to time skip
08/30/96 01:45:00
                             Missing data due to time skip
08/30/96 04:45:00 to 05:30:00 Negative DO values
08/30/96 07:15:00
                         Missing data due to time skip Missing data due to time skip
                          Missing data due to time skip
08/30/96 10:00:00
08/30/96 11:00:00
08/30/96 11:30:00
08/30/96 14:00:00
08/30/96 14:30:00
08/30/96 15:00:00
                            Missing data due to time skip
                       Missing data due to time skip
Missing data due to time skip
08/30/96 15:30:00
08/30/96 16:00:00
08/30/96 17:15:00 to 19:00:00
                                         Negative DO values
08/30/96 22:15:00 to 08/31/96 00:30:00 Missing data due to time skip
                                        Missing data due to time skip
08/31/96 04:00:00 to 04:30:00
08/31/96 05:15:00 to 08:00:00
                                         Negative DO values
08/31/96 10:15:00
                             Missing data due to time skip
08/31/96 11:00:00
                             Negative DO values
08/31/96 12:00:00 to 12:15:00
                                        Missing data due to time skip
08/31/96 12:30:00
                            Negative DO values
08/31/96 13:00:00 to 14:15:00
                                         Negative DO values
08/31/96 15:00:00 Negative DO values
08/31/96 22:30:00 to 23:45:00
                                         Missing data due to time skip
September 1996:
TC:
09/01/96 00:00:00 to 00:30:00
                                        Missing data due to time skip
09/01/96 00:00:00 to 09/03/96 14:15:00 Depth suspect - too high for site
(3.5 - 4.0m);
```

```
could be cal error
09/01/96 10:45:00 to 12:45:00
                                      Missing data due to time skip
09/01/96 16:00:00
                           Missing data due to time skip
09/01/96 23:30:00 to 09/02/96 01:00:00 Missing data due to time skip
09/02/96 05:15:00
                          Missing data due to time skip
09/02/96 11:45:00 to 12:45:00
                                       Missing data due to time skip
09/02/96 13:15:00 to 13:45:00
                                      Missing data due to time skip
09/02/96 14:30:00
                          Missing data due to time skip
09/03/96 02:30:00 to 02:45:00
                                    Missing data due to time skip
09/03/96 03:15:00 to 03:45:00 Missing data due to time skip 09/03/96 12:45:00 to 14:00:00 Missing data due to time skip
09/03/96 14:30:00 to 09/06/96 10:15:00 Maintenance
09/06/96 10:30:00 to 09/21/96 15:15:00 Turbidity probe not deployed
09/21/96 15:30:00
                           Maintenance
09/21/96 15:45:00 to 09/30/96 23:45:00 Depth suspect - too high for site
(3.5 - 4.0m);
could be cal error
Depth during September 1996 was noted as too high for this particular
site. However,
Hurricane Fran swept through the area September 5 and 6, which may have
eventually
influenced the depth data.
October 1996:
10/01/96 00:00:00 to 10/07/96 14:45:00 Depth suspect - too high for
site (3.5 - 4.0m);
could be cal error
10/07/96 15:00:00 to 15:15:00
                                       Maintenance
10/07/96 15:30:00 to 10/24/96 15:00:00 Turbidity probe not deployed
10/07/96 15:30:00 to 10/24/96 15:00:00 Specific conductivity, salinity,
DO%, and DO mg/L
were deleted due to improper salinity calibration
10/11/96 02:15:00 to 03:45:00 All sensors out of water
10/11/96 14:45:00 to 16:45:00
                                     All sensors out of water
10/12/96 03:00:00 to 05:00:00
                                     All sensors out of water
10/12/96 15:30:00 to 17:00:00
                                     All sensors out of water
10/13/96 03:15:00 to 05:45:00
                                     All sensors out of water
10/13/96 16:00:00 to 18:15:00
                                     All sensors out of water
10/14/96 03:15:00 to 07:00:00
                                     All sensors out of water
10/14/96 16:15:00 to 19:15:00
                                     All sensors out of water
10/15/96 04:15:00 to 06:45:00
                                     All sensors out of water
10/15/96 17:45:00 to 19:30:00
                                     All sensors out of water
10/16/96 04:45:00 to 07:45:00
                                     All sensors out of water
                    Maintenance
10/24/96 15:15:00
10/24/96 15:30:00 to 10/31/96 23:45:00 Turbidity probe not deployed
November 1996:
TC:
11/01/96 00:00:00 to 11/23/96 14:00:00 Turbidity probe not deployed
11/23/96 14:15:00 to 11/30/96 23:45:00 YSI not deployed
December 1996:
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Note- *not missing data

TC:

12/01/96 00:00:00 to 12/02/96 16:15:00 Maintenance

12/02/96 16:30:00 to 12/31/96 23:45:00 No turbidity probe

12/02/96 16:30:00 to 12/20/96 12:30:00 DO values deleted due to probe

malfunction

12/03/96 04:15:00 to 13:15:00 Negative DO values 12/03/96 19:45:00 to 23:45:00 Negative DO values *12/20/96 12:45:00 Replacement sonde deployed

12/22/96 15:30:00 Instrument out of water due to low tide

12. Remarks

In 1996, 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 the

time in EST.

TC960503.csv was corrected to EST TC960819.csv was corrected to EST

TC960514.csv was corrected to EST TC960906.csv was corrected

to EST

TC960530.csv was corrected to EST TC960920.csv was corrected

to EST

TC960626.csv was corrected to EST TC961007.csv was corrected

to EST

TC960711.csv was corrected to EST $\,$ TC961024.csv was corrected to EST $\,$

TC960810.csv was corrected to EST

Turbidity data often resulted in anomalous negative data. The winter of 95/96 saw four

major snowfall periods from January through March. Hurricane Bertha moved through the

area 7/12-7/14 with 3-5 inches of rain. Hurricane Fran moved through the area 9/5-9/6. The

summer of 96 was one of the wettest on record for the state of Virginia. The following

corrections were made in order to align time data sequencing.

08/10/96 16:45:00 to 08/20/96 10:00:00 Time clock off; corrected 08/30/96 02:00:00 to 08/31/96 23:15:00 Time clock off; corrected 09/01/96 01:45:00 to 09/03/96 15:00:00 Time clock off; corrected

Any regions of data with negative depth values due to low tides or low-pressure system 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. The instrument was deployed on a

rope that was tied to a tree branch and therefore may have been deployed at a slightly

different depth for each deployment. This situation was corrected in the fall of 1996 with

the use of a steel cable and mounting hardware that keeps the instrument at a fixed altitude

from the creek bottom, however is influenced by the current causing the instrument to sway $\$

as the tides change. Taskinas Creek experiences extremely low tides where it is difficult to

determine times when the probes are out of the water and when they are not. If the ${\tt YSI}$

would have been more securely deployed and at a fixed depth from the bottom, the problem

of exposure from low tides might have been lessened. Also there is an ongoing problem with

land subsidence in Taskinas Creek, which at times affects our deployment because the tree

from which our unit is attached, sinks with the land. Current efforts are being made to $% \left(1\right) =\left(1\right) +\left(1\right) +\left($

construct a more stable and elevation referenced station.