

North Inlet-Winyah Bay (NIW) NERR Water Quality Metadata
January - December 2001
Latest Update: July 1, 2021

I. Data Set & Research Descriptors

1. Principal investigator(s) & contact persons

Wendy Allen, Manager, wallen@belle.baruch.sc.edu
Dr. Andrew Lohrer, Research Coordinator, lohrer@belle.baruch.sc.edu
Jennifer Jarrell, Research Specialist, jjarrell@belle.baruch.sc.edu
Jennifer Keesee, Research Specialist, jkeesee@belle.baruch.sc.edu
Tracy Buck, Research Specialist, tracy@belle.baruch.sc.edu

Address:

Baruch Marine Laboratory
University of South Carolina
PO Box 1630, Georgetown, SC 29442
Phone: (843) 546-6219
Baruch Institute home page: <http://inlet.geol.sc.edu>.

2. Entry verification

The .dat and .csv versions of the raw data files were uploaded to a PC from YSI 6000 or 6600 dataloggers. Raw data was uploaded and plotted using EcoWatch software. CDMO macros were also used in EXCEL 5.0 to identify anomalous or problem data in the files. The CDMO cdmomac3.xls macro allows the user to automatically format column widths to the correct number of decimal places based on YSI sensor specifications. It also allows the user to QA/QC each data logger generated file for missing data points, fill all cells that do not contain data with periods, and find all data points that fall outside the range of what the data logger is designed to measure (i.e. outliers). The CDMO import.xls macro will allow PC users with 30-minute data to automatically create a monthly Excel file from a two-week deployment and insert periods for missing data. In addition, in November 1999 a graphing capability was added to this macro allowing users to produce single parameter and missing data point graphs on a monthly basis.

Comma delimited files are opened in Microsoft EXCEL 5.0 and edited by removing unnecessary headers, footers or spaces and any data which corresponds to the instrument being out of the water for maintenance. Next, data plots were

produced and examined for any anomalies using the CDMO graphing Macro for each variable. Suspect data were evaluated as to being either good or bad based on criteria outlined in the CDMO manual version 4.0. If the data were determined to be bad, they were deleted from the final edited .txt file and then documented in the metadata. If it could not be determined whether or not suspect data were bad (as was often the case with turbidity) the data was left in the final edited .txt file and noted in the metadata as anomalous. The dissolved oxygen (DO) and Turbidity (Turb) probes were the most problematic. In instances where data values increased or decreased in an exponential fashion and or intermittently went outside the accepted range for that instrument and never returned to normal, the data was considered suspect, noted in the metadata, and removed from the final edited data file. Missing data due to equipment failure or maintenance were replaced with periods (.). The date/hour and column reformat macros were then run on the data files before being saved in their final edited form (.txt). Edited (.txt) and raw (.csv) files were then FTP'd to both the Sun Sparc II and the CDMO server and archived. The most current CDMO macros are available on the NERRS CDMO home page. Jennifer Jarrell, Jennifer Keesee, and Tracy Buck edited and archived the 2001 data for Thousand Acre, Debidue Creek, Oyster Landing, and Clambank Creek.

3. Research Objectives

The principal objective of this study is to record long-term water quality data for North Inlet/Winyah Bay in order to observe any physical changes or trends in water quality over time. Three sites were chosen; one to represent our pristine site and the other two to represent impacted sites. The Oyster Landing site is located near the center of the Reserve and is considered pristine. Debidue Creek and Thousand Acre are both located in waterways that receive run-off from heavily developed areas. Measurements were taken every 30 minutes over two week collecting periods at the Oyster Landing, Debidue Creek, Clambank and Thousand Acre sites.

4. Research methods (YSI 6000 dataloggers)

YSI dataloggers are currently mounted in a 4" diameter PVC pipe which is strapped to a treated 2" X 6" board; and then attached via stainless steel bands to a piling at the Thousand Acre, Debidue Creek, Clambank, and Oyster Landing sites. The PVC pipe which houses the data loggers has two large windows cut out near the bottom for the probes to have direct contact with the water column. A stop bolt placed through the PVC pipe below the cut out windows keeps the datalogger exactly one foot (30 cm) above the creek bottom. Every 30 minutes measurements of specific conductivity, salinity, percent saturation, dissolved oxygen, water temperature, pH, turbidity, and water level are recorded. The two-week sampling interval has been selected due to biofouling of the individual probes and expected battery life. At the end of each sampling interval, the dataloggers were brought back to the laboratory to be downloaded, cleaned and recalibrated following procedures in YSI Service Manual and the Standard Operating Procedures V3.0 provided by NERR SWMP. Downtime for this maintenance is roughly 24 hrs. Before the instruments were cleaned and recalibrated a post calibration reading was taken from each instrument in fresh standard to see if any of the instruments exhibited drift (see II-13). The pH probe was calibrated using a two point method and either 4,7 or 7,10 standards. The turbidity probe calibration also used a two-point method using 0 & 100 NTU standards. Specific Conductivity was calibrated using a one-point method and a 10 ms/cm standard which was purchased through YSI, Inc. The turbidity wiper and DO membrane were changed after each deployment. After approximately 24 hours of down time for cleaning and overnight relaxing of the DO membrane, the YSI dataloggers were re-deployed (in some instances the sondes are switched out resulting in less data loss).

5. Site location and character

The North Inlet-Winyah Bay National Estuarine Research Reserve is located on the Southeastern Atlantic coast of the United States in two tidal estuaries, North

Inlet and Winyah Bay, near Georgetown, South Carolina. The North Inlet estuary, located approximately 10 km east of Georgetown, is a bar-built Class C type estuary (Pritchard, 1955). The North Inlet estuary is composed of numerous winding tidal creeks, and is considered a pristine tidal estuary due to minimal anthropogenic impacts. The watershed drains a 24.8 km² area of mostly pine forest and a moderately developed residential watershed to the north. The Winyah Bay estuary, classified as a Class B type estuary by Pritchard (1955), which originates in the Blue Ridge Mountains of North Carolina, is one of the largest river-estuary ecosystems on the Eastern Seaboard. It is located 14.4 km south of North Inlet. Winyah Bay drains the sub-basins of 6 major rivers, which are heavily impacted by agriculture, mining, and industry. The rivers drain approximately 46,736 km² of uplands and marshes. Descriptions of the three sampling stations are as follows:

A) Thousand Acre (TA) - (lat. 33:17:57; long. 79:15:36) The Thousand Acre monitoring site is located in Thousand Acre marsh tidal creek and is on the NW corner of the west bridge of Thousand Acre marsh (this site was relocated 07-19-99 to the current location due to heavy siltation and degrading data quality). The present site is about 15m from the mouth of the creek. At the sampling site, creek depth is approximately 2 m MHW and creek width is approximately 10 m. The creek empties into the northeastern side of the mid portion of Winyah Bay and directly drains pine forested upland and wetlands. Salinity ranges from 0 to 15 ppt. and tidal flux is approximately 1m. The bottom is most composed of fine sediments and detritus. Georgetown, 5 km upstream from the Thousand Acre site and on the southern side of Winyah Bay, is the homeport for a number of heavy industries including a steel plant, paper mill, chemical plant, and a coal fired power plant. A public sewage treatment plant, which discharges into the bay, is also located in Georgetown.

B) Oyster Landing (OL) - (lat. 33:20:58; long. 79:11:34). The Oyster Landing monitoring site is considered a fairly pristine and undisturbed area located at the end of the Oyster Landing pier which is also where the NI-WB Bay NERR weather station site is located. The pier stretches into the upper reaches of Crabhaul Creek in the mid western portion of North Inlet. The sampling site is located approximately 2.8 km from the headwaters of Crabhaul Creek. The creek directly drains pine forested uplands and wetlands. Salinity can range from 0-32 ppt. and average tidal flux is approximately 1.4m. The creek has an average depth of ~2 m MHW and average width of ~150m MHW. The bottom mostly is comprised of oyster shell hash with some fine sediment and detritus.

C) Debidue Creek (DC) - (lat 33:21:37, long 79:10:05). The Debidue Creek monitoring site is considered an impacted site that is located approximately 1 km south of the Debidue Colony. The Colony is a large development built on man-made canals that directly drain into the northern portion of Debidue Creek. The DC site is also located in an ocean-dominated *Spartina* marsh that was formerly surrounded by pine-dominated uplands. Salinity can range from 0 to full strength sea water and an average tidal flux of approximately 2 meters. The approximate depth and width at MHW at the site is 2.2 and 70 m respectively. The bottom is mostly comprised of oyster shell hash with some fine sediment and detritus.

D) Clambank Creek (CB) - (lat 33:20:02, long 79:11:34). The Clambank Creek monitoring site is located roughly in the center of the reserve property. This site is surrounded by a *Spartina* marsh and drains associated uplands. Salinity ranged from 0.4 to full strength sea water (from August through December 2001). The bottom is mostly comprised of oyster shell hash and some fine sediment. This site is considered a pristine site and is influenced by its close proximity to North Inlet.

6. Data collection period

Thousand Acre data collection began January 1, 1995. Debidue Creek sampling

began March 5, 1998. Oyster Landing data collection began in 1995, however, it was not considered a SWMP site until 1996 when the collection site was switched from Caledonia to Oyster Landing. Clambank sampling began in February 1981 through June 1995, however, it was not considered a SWMP site until sampling resumed in August of 2001 (08/17). All sampling is ongoing.

Deployment dates and times for 2001 follow:

BEGAN	ENDED
Site: Clambank Creek	
08/17/01, 09:30:00	08/27/01, 12:30:00
08/28/01, 10:30:00	09/08/01, 19:30:00
09/11/01, 14:00:00	09/26/01, 11:30:00
09/26/01, 12:30:00	10/09/01, 10:00:00
10/09/00, 10:30:00	10/16/01, 13:00:00
10/17/01, 12:30:00	10/31/01, 10:00:00
11/01/01, 12:00:00	11/19/01, 10:30:00
11/20/01, 15:30:00	12/03/01, 10:00:00
12/04/01, 16:30:00	12/17/01, 15:00:00
12/18/01, 13:30:00	01/02/02, 10:00:00
Site: Debidue Creek	
12/20/00, 10:00:00	01/08/01, 10:30:00
01/10/01, 09:30:00	01/22/01, 10:30:00
01/30/01, 11:00:00	02/15/01, 14:00:00
02/15/01, 14:30:00	02/28/01, 11:00:00
02/28/01, 11:30:00	03/13/01, 08:30:00
03/13/01, 09:30:00	04/02/01, 14:00:00
04/02/01, 15:00:00	04/11/01, 10:30:00
04/11/01, 11:00:00	04/24/01, 09:00:00
04/24/01, 09:30:00	05/08/01, 11:00:00
05/09/01, 10:00:00	05/22/01, 12:30:00
05/24/01, 09:00:00	06/07/01, 08:30:00
06/07/01, 09:30:00	06/21/01, 08:00:00
06/22/01, 11:00:00	07/06/01, 08:00:00
07/06/01, 09:00:00	07/18/01, 07:00:00
07/18/01, 07:30:00	07/27/01, 08:00:00
07/30/01, 09:00:00	08/07/01, 09:30:00
08/07/01, 10:30:00	08/20/01, 08:00:00
08/21/01, 10:00:00	09/04/01, 09:00:00
09/04/01, 09:30:00	09/18/01, 09:30:00
09/18/01, 10:00:00	10/03/01, 09:30:00
10/03/01, 10:00:00	10/18/01, 10:00:00
10/18/01, 12:00:00	11/02/01, 09:00:00
11/02/01, 10:00:00	11/07/01, 13:30:00
11/07/01, 16:00:00	11/20/01, 12:00:00
11/20/01, 12:00:00	12/05/01, 11:30:00
12/05/01, 11:30:00	12/17/01, 10:00:00
12/17/01, 10:00:00	01/04/02, 12:30:00

Site: Oyster Landing

12/19/00, 16:00:00	01/02/01, 12:00:00
01/03/01, 12:30:00	01/16/01, 10:30:00
01/17/01, 14:30:00	01/22/01, 15:00:00
01/23/01, 17:30:00	01/30/01, 10:30:00
01/30/01, 11:00:00	02/14/01, 09:30:00
02/15/01, 14:30:00	02/27/01, 14:30:00
02/28/01, 11:30:00	03/13/01, 13:00:00
03/14/01, 10:00:00	03/26/01, 10:00:00
03/27/01, 14:30:00	04/10/01, 12:00:00
04/11/01, 16:00:00	04/26/01, 09:00:00
04/27/01, 10:30:00	05/07/01, 08:30:00
05/08/01, 15:00:00	05/23/01, 09:00:00
05/24/01, 13:30:00	06/07/01, 09:00:00
06/08/01, 09:30:00	06/21/01, 08:00:00
06/22/01, 13:30:00	07/05/01, 10:00:00
07/06/01, 15:30:00	07/17/01, 14:30:00
07/18/01, 14:00:00	07/26/01, 14:00:00
07/27/01, 14:00:00	08/07/01, 10:00:00
08/08/01, 14:30:00	08/20/01, 08:30:00
08/21/01, 10:30:00	09/05/01, 14:00:00
09/05/01, 14:30:00	09/17/01, 13:00:00
09/18/01, 15:00:00	10/03/01, 10:00:00
10/03/01, 10:30:00	10/23/01, 08:00:00
10/24/01, 10:00:00	11/01/01, 11:30:00
11/02/01, 13:00:00	11/20/01, 11:30:00
11/21/01, 12:00:00	12/03/01, 14:00:00
12/04/01, 15:30:00	12/17/01, 10:00:00
12/18/01, 15:30:00	01/02/02, 13:30:00

Site: Thousand Acres

12/19/00, 15:30:00	01/02/00, 11:30:00
01/03/01, 12:00:00	01/16/01, 09:30:00
01/17/01, 11:30:00	01/29/01, 10:00:00
01/30/01, 12:00:00	02/14/01, 09:00:00
02/15/01, 12:00:00	02/26/01, 12:30:00
02/27/01, 10:00:00	03/13/01, 10:00:00
03/14/01, 10:30:00	03/26/01, 11:00:00
03/27/01, 14:00:00	04/10/01, 11:00:00
04/11/01, 11:00:00	04/23/01, 10:00:00
04/25/01, 13:00:00	05/07/01, 10:00:00
05/08/01, 14:30:00	05/23/01, 12:30:00
05/24/01, 13:30:00	06/06/01, 12:30:00
06/07/01, 13:00:00	06/21/01, 09:30:00
06/22/01, 12:30:00	07/05/01, 09:30:00
07/06/01, 11:00:00	07/17/01, 14:00:00
07/18/01, 08:30:00	07/26/01, 13:00:00
07/27/01, 12:30:00	08/07/01, 12:30:00
08/08/01, 10:30:00	08/20/01, 09:30:00
08/21/01, 12:30:00	09/04/01, 10:00:00
09/05/01, 12:30:00	09/17/01, 08:30:00
09/18/01, 14:00:00	10/02/01, 11:30:00
10/03/01, 13:00:00	10/16/01, 08:00:00
10/17/01, 13:00:00	10/31/01, 09:30:00

11/01/01, 11:00:00
11/20/01, 16:00:00
12/04/01, 17:00:00
12/18/01, 14:00:00

11/19/01, 09:30:00
12/03/01, 09:00:00
12/17/01, 14:00:00
01/02/02, 10:00:00

7. Distribution

According to the Ocean and Coastal Resource Management Data Dissemination Policy

for the NERRS System-wide Monitoring Program, NOAA/ERD retains the right to

analyze, synthesize and publish summaries of the NERRS System-wide Monitoring

Program data. The PI retains the right to be fully credited for having collected and processed the data. Following academic courtesy standards, the PI

and NERR site where the data were collected will be contacted and fully acknowledged in any subsequent publications in which any part of the data are

used. Manuscripts resulting from the NOAA/OCRM supported research that are

produced for publication in open literature, including refereed scientific

journals, will acknowledge that the research was conducted under an award from the Estuarine Reserves Division, Office of Ocean and Coastal Resource

Management, National Ocean Service, National Oceanic and Atmospheric Administration. The data set enclosed within this package/transmission is only

as good as the quality assurance/quality control procedures outlined by the

enclosed metadata reporting statement. The user bears all responsibility for

its subsequent use/misuse in any further analyses or comparisons. The Federal

government does not assume liability to the Recipient of third persons, nor will

the Federal government reimburse or indemnify the Recipient for its liability

due to any losses resulting in any way from the use of this data.

NERR water quality data and metadata can be obtained from the Research Coordinator at the individual NERR site (please see section 1. Principal investigators and contact persons), from the Data Manager at the Centralized

Data Management Office (please see personnel directory under the general information link on CDMO homepage) and online at the CDMO homepage

<http://inlet.geol.sc.edu/cdmohome.html>. Data are available in text tab-delimited format, Microsoft Excel spreadsheet format and comma-delimited format.

8. Associated researchers and projects

A water chemistry program is associated with the NIW core-monitoring program.

Variables sampled include: chlorophyll, dissolved organic carbon, nitrate-nitrite, orthophosphate, and ammonia. (See documentation on the NIW WWW home page for further details). Thousand Acre is our permanent monitoring station for the NERR monitoring program, but Oyster Landing and Debidue Creek were also sampled beginning in 1998. These stations are also included in our NIW core-monitoring program.

A long-term fish survey is also done at the Oyster Landing site bi-weekly. Species present, total weight, individual weights and standard lengths of fish that utilize the marsh at low tide are recorded. In the spring/summer/fall month's fish utilizing the marsh at high tide are also sampled.

The NERR weather station is also located at the Oyster Landing site. Air temperature and humidity, barometric pressure, solar radiation (total and PAR), wind speed and direction, and precipitation are measured.

II. Physical Structure Descriptors

9. Variable sequence, column format, range of measurements, units, resolution, and accuracy
YSI 6000/6600 datalogger

Variable	Range of Measurements	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 s	NA
Temp	-5 to 45 (c)	0.01 C	+/-
0.15C			
Sp COND	0-100 (mS/cm)	0.01mS/cm	+/-0.5%
Of			
reading + 0.001mS/Cm			
Salinity	0-70 Parts per thousand (ppt)	0.01 ppt	+/- 1%
of			
Reading or 0.1 ppt, (whichever is greater)			
DO	0-200 (% air saturation)	0.1% @air sat	+/-2%
@air			
Saturation			
DO	200-500 (% air saturation	0.1% @ air sat	+/- 6%
@			
Saturation			
DO	0-20 (mg/l)	0.01 mg/l	+/-
0.2mg/l			
DO	20-50 (mg/l)	0.01 mg/l	+/-
0.6mg/l			

Depth (shallow)	0-9.1 (m)	0.001m	+/-
0.018m			
PH	2-14 units	0.01 units	+/-
0.2units			
Turb	0-1000 NTU	0.1 NTU	+/- 5%
of			
Reading or 2 NTU (whichever is greater)			

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

10. Coded variable indicator and variable code definitions

Site definitions: OL = Oyster Landing; TA = Thousand Acre, DC = Debidue Creek,
CB = Clambank Creek

11. Data anomalies (suspect data)

Any time a reference is made to turbidity data being negative and/or zero, it was recorded as a negative in the raw data file and a zero in the edited data file due to the formatting of Excel. The technician edited none of these data points by hand nor did he/she delete any of them.

JANUARY 2001

DEBIDUE CREEK

a) For the following dates and times all data was removed as readings were consistent with the probes being out of the water (i.e. negative depth values and inconsistent salinity/Sp. Cond. Values):

01/05/2001 22:00:00 thru 23:30:00
 01/08/2001 00:00:00 thru 00:30:00
 01/11/2001 02:30:00 thru 04:00:00
 01/11/2001 16:30:00
 01/12/2001 03:30:00 thru 05:00:00
 01/12/2001 17:00:00
 01/20/2001 22:00:00 thru 23:30:00
 01/21/2001 00:00:00 thru 02:00:00
 01/21/2001 11:30:00 thru 12:30:00
 01/30/2001 16:30:00 thru 19:00:00
 01/31/2001 05:30:00 thru 07:30:00
 01/31/2001 17:30:00 thru 20:00:00

b) Possible rain event prior to 01/22/2001 may have caused a decrease in SpCond,

an increase in DO mg/L and a decrease in percent saturation. Definite cause unknown. Data for the following date and time were retained:
01/22/2001 00:30

OYSTER LANDING

a) The following dates and time turbidity data greater than 1000 NTU was noted as anomalous (possibly due to algal fouling) but left in data set:

01/23/2001 21:30:00
01/23/2001 22:30:00
01/23/2001 23:00:00
01/23/2001 23:30:00
01/24/2001 00:00:00
01/24/2001 05:00:00
01/24/2001 05:30:00
01/24/2001 13:30:00
01/24/2001 22:30:00
01/24/2001 23:00:00
01/24/2001 23:30:00
01/25/2001 00:00:00
01/25/2001 00:30:00
01/25/2001 06:00:00
01/25/2001 11:30:00
01/25/2001 12:00:00
01/25/2001 12:30:00
01/25/2001 13:00:00
01/25/2001 13:30:00
01/26/2001 12:30:00
01/26/2001 13:30:00
01/26/2001 14:00:00
01/26/2001 14:30:00
01/27/2001 00:30:00

b) For the following dates and times turbidity reported negative and/or zero.

Data retained:

01/04/2001 04:30:00
01/04/2001 06:00:00
01/04/2001 11:30:00
01/04/2001 12:30:00
01/04/2001 15:00:00
01/04/2001 16:00:00 thru 17:30:00
01/05/2001 01:30:00 thru 04:30:00
01/05/2001 05:30:00
01/05/2001 06:00:00
01/05/2001 07:00:00
01/05/2001 08:00:00
01/05/2001 09:30:00
01/05/2001 14:00:00 thru 16:00:00
01/05/2001 17:00:00
01/06/2001 03:30:00

01/06/2001 13:30:00
01/06/2001 16:00:00
01/06/2001 16:30:00
01/06/2001 17:30:00
01/07/2001 01:00:00 thru 01:30:00
01/07/2001 04:30:00
01/07/2001 06:00:00
01/07/2001 14:30:00
01/07/2001 17:00:00
01/08/2001 02:30:00
01/08/2001 06:30:00 thru 07:00:00
01/08/2001 18:30:00 thru 19:30:00
01/09/2001 05:30:00
01/10/2001 08:30:00 thru 09:00:00
01/14/2001 13:30:00
01/16/2001 00:30:00 thru 01:00:00

c) Data for the following dates and time was deleted as the depth appeared to

be incorrect (probe possibly at incorrect depth):

01/30/01 11:00:00 thru

01/31/01 23:30:00

d) For the following dates and times the datalogger recorded negative depth

data, however, it appears that the datalogger was not out of the water due to

SpCond and salinity readings, therefore data was retained:

01/05/2001 22:00:00 thru 23:00:00

01/09/2001 01:00:00 thru 01:30:00

THOUSAND ACRES

None

FEBRUARY 2001

DEBIDUE CREEK

a) For the following dates and times turbidity data was negative and/or zero

possibly due to a slight calibration error. Data were retained:

02/01/2001 01:30:00 thru 02:00:00

02/02/2001 02:00:00

02/02/2001 03:00:00

02/02/2001 14:30:00 thru 15:30:00

02/03/2001 03:30:00

02/03/2001 16:30:00

02/05/2001 18:30:00

02/16/2001 03:30:00 thru 04:00:00

02/16/2001 05:00:00

02/16/2001 08:00:00 thru 08:30:00

02/16/2001 10:00:00 thru 10:30:00

02/16/2001 12:00:00

02/16/2001 13:00:00 thru 16:30:00

02/16/2001 17:30:00 thru 18:30:00

02/16/2001 20:00:00
02/17/2001 09:30:00
02/17/2001 17:00:00
02/17/2001 19:30:00 thru 21:30:00
02/18/2001 10:30:00 thru 11:30:00
02/18/2001 12:30:00 thru 13:00:00
02/18/2001 17:00:00 thru 19:30:00
02/18/2001 20:30:00 thru 23:00:00
02/19/2001 02:00:00
02/19/2001 10:00:00 thru 14:00:00
02/19/2001 15:00:00 thru 16:00:00
02/19/2001 17:00:00 thru 19:30:00
02/19/2001 20:30:00 thru 23:00:00
02/20/2001 04:00:00
02/20/2001 06:30:00 thru 07:00:00
02/20/2001 09:00:00 thru 11:30:00
02/20/2001 14:30:00 thru 15:00:00
02/20/2001 16:00:00 thru 16:30:00
02/20/2001 17:30:00 thru 23:30:00
02/21/2001 02:00:00
02/21/2001 06:30:00 thru 08:00:00
02/21/2001 09:00:00
02/21/2001 11:00:00 thru 12:30:00
02/21/2001 18:30:00
02/21/2001 19:30:00 thru 21:00:00
02/21/2001 22:30:00 thru 23:30:00
02/22/2001 00:00:00 thru 00:30:00
02/23/2001 00:30:00 thru 01:00:00
02/23/2001 03:30:00
02/23/2001 13:30:00
02/23/2001 15:00:00
02/23/2001 17:00:00
02/23/2001 20:30:00 thru 21:30:00
02/24/2001 00:30:00 thru 02:00:00
02/24/2001 09:00:00 thru 10:00:00
02/24/2001 11:00:00
02/24/2001 13:30:00
02/24/2001 22:00:00
02/25/2001 02:00:00
02/25/2001 09:30:00 thru 10:30:00
02/25/2001 22:00:00 thru 22:30:00
02/26/2001 02:00:00 thru 03:00:00
02/26/2001 11:00:00
02/26/2001 16:30:00
02/26/2001 22:30:00
02/26/2001 23:30:00
02/27/2001 04:00:00
02/27/2001 05:00:00
02/27/2001 11:30:00
02/28/2001 11:00:00 thru 11:30:00

b) For the following dates and times all data was deleted as depth and Sp.

Cond/Salinity data were consistent with the probes being out of the water:

02/01/2001 06:30:00 thru 08:00:00
02/01/2001 18:30:00 thru 19:30:00
02/02/2001 08:00:00
02/02/2001 19:00:00 thru 21:30:00
02/04/2001 22:30:00 thru 23:30:00
02/05/2001 11:00:00 thru 12:30:00
02/05/2001 22:30:00 thru 23:30:00
02/06/2001 00:00:00 thru 01:30:00
02/06/2001 12:30:00 thru 14:00:00
02/07/2001 00:00:00 thru 02:00:00
02/10/2001 02:30:00 thru 05:30:00
02/10/2001 15:30:00 thru 18:00:00
02/11/2001 04:00:00 thru 05:30:00
02/15/2001 08:00:00
02/17/2001 10:00:00 thru 10:30:00

c) For the following dates and times, all data were deleted due to datalogger

being out of the water:

02/07/2001 13:30:00 - 14:30:00
02/08/2001 01:00:00 - 03:30:00, and 14:30:00 - 16:00:00
02/09/2001 02:00:00 - 04:00:00, and 15:30:00 - 16:30:00
02/13/2001 06:00:00 - 07:00:00, and 17:30:00 - 19:00:00
02/21/2001 00:30:00 - 01:00:00
02/26/2001 04:00:00, and 16:00:00 - 16:30:00

OYSTER LANDING

a) For the following dates and times all data was deleted as depth and Sp.

Cond/Salinity data were consistent with the probes being out of the water:

02/01/01 05:30:00 thru 09:30:00

b) For the following dates and times turbidity data was negative and/or zero

possibly due to a slight calibration error, data were retained:

02/19/2001 17:00:00
02/19/2001 18:00:00
02/20/2001 18:30:00 thru 19:00:00
02/21/2001 06:30:00
02/21/2001 18:30:00 thru 19:30:00
02/22/2001 08:30:00
02/23/2001 21:00:00
02/24/2001 22:30:00
02/25/2001 22:00:00
02/26/2001 10:30:00
02/26/2001 21:30:00
02/26/2001 22:30:00

02/27/2001 11:00:00

THOUSAND ACRES

MARCH 2001

DEBIDUE CREEK

a) For the following dates and times turbidity data was negative and/or zero possibly due to a slight calibration error, data were retained:

3/1/01	00:30:00	
3/1/01	12:30:00	
3/2/01	01:00:00	
3/2/01	03:00:00	thru 03:30:00
3/2/01	04:30:00	thru 05:30:00
3/2/01	06:30:00	thru 07:30:00
3/2/01	11:30:00	
3/2/01	13:00:00	thru 14:30:00
3/2/01	15:30:00	thru 16:00:00
3/2/01	17:30:00	
3/2/01	21:00:00	
3/3/01	01:30:00	thru 03:00:00
3/3/01	04:30:00	
3/3/01	06:00:00	thru 07:30:00
3/3/01	8:30:00	
3/3/01	13:00:00	thru 14:00:00
3/3/01	15:00:00	
3/3/01	18:00:00	
3/4/01	03:30:00	
3/4/01	15:00:00	
3/4/01	16:00:00	
3/4/01	19:00:00	
3/5/01	04:30:00	thru 05:00:00
3/5/01	09:00:00	
3/5/01	20:30:00	thru 21:00:00
3/6/01	18:00:00	thru 18:30:00
3/7/01	06:30:00	thru 07:00:00
3/7/01	12:30:00	
3/7/01	18:00:00	thru 19:30:00
3/7/01	20:30:00	
3/8/01	00:00:00	thru 01:00:00
3/8/01	07:30:00	
3/8/01	13:30:00	thru 14:00:00
3/8/01	19:30:00	thru 20:00:00
3/9/01	01:30:00	thru 02:00:00
3/9/01	08:30:00	
3/9/01	15:00:00	
3/9/01	20:30:00	
3/9/01	21:00:00	
3/10/01	09:30:00	
3/10/01	16:00:00	
3/11/01	04:00:00	
3/11/01	09:30:00	

3/11/01 10:00:00
3/11/01 16:00:00 thru 16:30:00
3/11/01 22:30:00
3/12/01 10:30:00 thru 11:00:00
3/12/01 17:30:00
3/12/01 23:30:00

b) For the following dates and times all data was deleted as the readings were consistent with the probes being out to the water:

3/2/01 18:00:00 thru 19:30:00
3/5/01 09:30:00 thru 11:30:00
3/5/01 21:30:00 thru 23:00:00
3/6/01 10:30:00 thru 13:30:00
3/6/01 22:30:00 thru 23:30:00
3/7/01 00:00:00 thru 00:30:00
3/13/01 16:30:00 thru 18:00:00
3/14/01 05:30:00 thru 06:30:00
3/14/01 17:30:00 thru 18:00:00
3/15/01 19:00:00
3/22/01 00:30:00 thru 01:00:00
3/25/01 02:30:00
3/30/01 17:30:00 thru 18:00:00
3/31/01 18:30:00

OYSTER LANDING

a) For the following dates and times turbidity data was negative and/or zero possibly due to a slight calibration error, data were retained:

03/01/2001 12:00:00 thru 12:30:00
03/07/2001 07:00:00
03/07/2001 19:00:00
03/08/2001 09:30:00
03/08/2001 20:00:00

b) For the following dates and times all data was deleted as the readings were consistent with the probes being out to the water:

03/02/2001 10:30:00 thru 15:30:00

THOUSAND ACRES

APRIL 2001

DEBIDUE CREEK

a) For the following dates and times turbidity data was negative and/or zero possibly due to a slight calibration error, data were retained:

04/21/2001 12:30:00
04/22/2001 00:30:00 thru 01:30:00

04/22/2001 12:30:00 thru 13:30:00
04/23/2001 01:30:00 thru 02:00:00
04/23/2001 14:00:00 thru 14:30:00
04/24/2001 02:00:00 thru 03:30:00

b) For the following dates and times all data was deleted due to readings that indicated that the probes were out of the water (i.e. depth <0, inconsistent salinity and Sp. Cond. Readings):

04/01/2001 18:30:00 thru 21:00:00
04/03/2001 21:30:00 thru 23:30:00
04/07/2001 01:30:00 thru 03:00:00
04/07/2001 13:30:00 thru 15:00:00
04/08/2001 02:00:00 thru 03:30:00
04/08/2001 14:00:00 thru 15:30:00
04/09/2001 03:00:00 thru 04:30:00
04/09/2001 14:30:00 thru 16:00:00
04/10/2001 04:00:00 thru 05:00:00
04/10/2001 15:30:00 thru 16:30:00
04/13/2001 17:30:00 thru 18:30:00
04/24/2001 13:30:00 thru 16:00:00
04/25/2001 02:30:00 thru 04:30:00
04/25/2001 14:30:00 thru 15:30:00

c) For the following dates and times only depth data (negative) was deleted as the other data looked consistent with surrounding readings:

04/26/2001 16:00:00 thru 16:30:00
04/27/2001 17:00:00
04/28/2001 17:30:00 thru 18:00:00

d) For the following dates and times, all data were deleted due to datalogger being out of the water:

04/21/2001 12:00:00 - 13:00:00
04/22/2001 00:30:00 - 02:00:00
04/22/2001 12:30:00 - 14:00:00
04/23/2001 01:00:00 - 02:30:00
04/23/2001 13:00:00 - 14:30:00
04/24/2001 02:00:00 - 03:30:00

e) For the following date and time, the SpCond data dipped down to 2.95 mS/cm possibly due to low tide and wave activity, data retained:
04/20/2001 12:00:00

OYSTER LANDING

a) For the following dates and times turbidity data was deleted as readings were greater than 1000 NTU and did not appear consistent with a siltation event (possibly due to stuck wiper blade or something in probe guard):

04/04/01 06:00:00 thru 04/10/01 12:00:00

THOUSAND ACRES

a) For the following dates and times turbidity was noted as anomalous but data left in as it was consistent with surrounding data and could indicated siltation events:

04/02/01 21:30:00
04/05/01 14:30:00
04/29/01 16:30:00
04/30/01 17:00:00 thru 18:00:00
04/30/01 20:30:00 thru 21:00:00

b) For the following dates and times turbidity data deleted due to wiper being stuck upon retrieval and algal growth caused elevated readings for a portion of the deployment:

04/06/01 10:30:00 thru 04/10/01 11:00:00

c) For the following dates and times DO readings are noted as anomalous (less than 0) but were left in as post and pre calibrations were fine and other data (salin, ph) seemed to follow similar trends:

04/01/2001 14:30:00 thru 17:30:00
04/01/2001 21:30:00 thru 23:30:00
04/02/2001 00:00:00 thru 00:30:00
04/02/2001 06:30:00 thru 09:30:00
04/02/2001 11:30:00 thru 12:00:00
04/02/2001 19:00:00 thru 21:00:00
04/02/2001 22:00:00 thru 22:30:00
04/02/2001 23:30:00
04/03/2001 10:00:00 thru 13:30:00
04/03/2001 16:30:00 thru 18:30:00
04/03/2001 20:30:00 thru 23:30:00
04/04/2001 00:00:00 thru 02:30:00
04/04/2001 06:30:00
04/04/2001 10:00:00 thru 23:30:00
04/05/2001 00:00:00 thru 05:00:00
04/05/2001 06:00:00 thru 06:30:00
04/05/2001 08:00:00 thru 10:00:00
04/05/2001 13:30:00 thru 23:30:00
04/06/2001 00:00:00 thru 23:30:00
04/07/2001 00:00:00 thru 23:30:00
04/08/2001 00:00:00 thru 23:30:00
04/09/2001 00:00:00 thru 23:30:00
04/10/2001 00:00:00 thru 11:00:00

d) For the following deployment all data is missing due to a programming error:

04/11/01 11:00:00 thru 04/23/01 10:00:00

e) DO data for the following dates and times were deleted due to possible membrane puncture and/or fouling after the last good reading on 04/01 13:30. The DO reading dropped extremely on 04/01 14:00:00 to 1%, then dropped again to negative readings for the rest of the deployment. Data were deleted.
04/01/2001 14:00:00 thru 04/10/2001 11:00:00

MAY 2001

DEBIDUE CREEK

a) For the following dates and times sonde was removed and data is missing due to a sonde being deployed temporarily for a bathymetric study:

05/16/01 12:00:00 thru 15:00:00

b) For the following dates and times turbidity values greater than 1000 NTU were deleted (were not consistent with other readings or weather events):

05/12/01 14:00:00
05/21/01 12:00:00

c) For the following dates and times the datalogger recorded negative depth data, however, it appears that the datalogger was not out of the water due to SpCond and salinity readings, therefore data was retained:

05/02/2001 10:00:00
05/03/2001 11:00:00
05/03/2001 23:30:00
05/04/2001 11:30:00 thru 12:00:00
05/05/2001 00:30:00 thru 01:00:00
05/05/2001 12:30:00 thru 13:00:00
05/06/2001 01:30:00 thru 02:00:00
05/06/2001 13:30:00 thru 14:00:00
05/19/2001 11:30:00
05/20/2001 12:00:00
05/21/2001 12:30:00 thru 13:30:00
05/22/2001 01:30:00 thru 02:00:00

OYSTER LANDING

a) For the following dates and times turbidity values were greater than 1000 NTU and were not consistent with any other readings or weather events. The turbidity data was deleted.

05/27/01 23:00:00

b) For the following dates and times sonde was removed and data is missing due to a sonde being deployed temporarily for a bathymetric study:

05/17/01 15:00:00 thru 17:00:00

c) For the following date and time all data is missing due to sonde being out of water for PVC replacement:

05/01/01 09:00:00

THOUSAND ACRES

a) For the following time period turbidity values were high, greater than 1000 NTU, however these data were retained as may indicate a siltation event:

05/01/2001 00:30:00 thru 01:00:00

05/01/2001 03:00:00

05/01/2001 04:30:00 thru 05:00:00

05/01/2001 07:00:00

05/01/2001 08:30:00 thru 09:00:00

05/10/2001 16:00:00 thru 16:30:00

JUNE 2001

DEBIDUE CREEK

a) For the following dates and times data was missing due to an internal error within the sonde:

06/20/01 17:30:00

06/23/01 21:00:00

06/24/01 09:00:00

06/24/01 22:00:00 thru 22:30:00

06/25/01 10:00:00

06/25/01 21:30:00

b) For the following date and time DO% and DO mg/l were deleted as readings were negative:

06/30/01 23:30:00

OYSTER LANDING

a) For the following dates and time high turbidity values were probably associated with a siltation event due to rainfall and data was retained:

06/25/2001 18:30:00 thru 19:30:00

06/25/2001 20:30:00 thru 22:00:00
06/25/2001 23:00:00 thru 23:30:00
06/26/2001 00:00:00
06/26/2001 01:00:00 thru 03:00:00
06/26/2001 23:30:00

b) For the following dates and time low SpCond values were probably associated with a siltation event due to rainfall and data was retained:
06/25/2001 18:30:00 thru 19:30:00

THOUSAND ACRES

a) For the following dates and times sonde was removed and data is missing due to a sonde being deployed temporarily for a bathymetric study:

06/14/01 12:00:00 thru 12:30:00

b) For the following dates and times turbidity values greater than 1000 NTU were retained as they were probably associated with rainfall events throughout the month (increased depth and salinity correlated with these turb spikes):

06/12/2001 23:30:00
06/13/2001 01:30:00 thru 02:00:00
06/13/2001 03:30:00
06/13/2001 04:30:00 thru 05:00:00
06/13/2001 06:30:00 thru 07:30:00
06/13/2001 09:30:00
06/13/2001 10:30:00
06/13/2001 13:30:00 thru 14:30:00
06/13/2001 15:30:00 thru 16:00:00
06/13/2001 17:00:00 thru 17:30:00
06/13/2001 20:00:00 thru 20:30:00
06/14/2001 03:00:00 thru 03:30:00
06/14/2001 04:30:00
06/14/2001 05:30:00 thru 07:00:00
06/14/2001 09:30:00
06/30/2001 06:00:00

JULY 2001

DEBIDUE CREEK

a) For the following dates the DO readings may be suspect as the sonde was heavily fouled upon retrieval and post-readings were about 1/2 of what they should have been:

07/01/01 thru 07/06/01

b) For the following times, data is missing due to an internal error - no data recorded by sonde:
07/06/01 08:30:00

c) For the following times, data is missing due to sonde maintenance and vandalism at this site:

07/27/01 08:30:00

d) For the following times, turbidity data > 1000 (1770 NTU) possibly due to debris passing over the optics during reading. All other readings look fine; therefore data were not deleted.
07/15/01 06:30

OYSTER LANDING

a) For the following dates and times turbidity values were greater than 1000 NTU and data was retained as it correlated with decreases in Sp Cond and heavy rainfall throughout July:

07/19/2001 13:30:00
07/19/2001 15:00:00
07/19/2001 16:30:00
07/19/2001 17:00:00
07/19/2001 19:00:00
07/19/2001 20:30:00 thru 22:00:00
07/25/2001 03:30:00
07/25/2001 22:30:00
07/26/2001 05:30:00

b) For the following dates the DO readings may be suspect as the sonde was heavily fouled upon retrieval and post-readings were about 1/2 of what they should have been:

07/01/01 00:00:00 through 07/05/01 10:00:00

THOUSAND ACRES

a) For the following dates the DO readings may be suspect as the sonde was heavily fouled upon retrieval and post-readings were about 1/2 of what they should have been:

07/01/01 through 07/05/01

b) For the following dates and times turbidity was > 1000 NTU but was retained as there was heavy rainfall in July:

07/02/01 05:30:00
07/04/01 05:30:00
07/05/01 09:00:00

c) For the following time period there were high Sp Cond peaks, these were consistent with high tide so they were left in, but they are suspect data:

07/20/01 20:30:00 thru 07/26/01 13:00:00

AUGUST 2001

DEBIDUE CREEK

a) For the following dates and times, turbidity values greater than 1000 were deleted as they were not consistent with other data:

08/03/01 15:30:00
08/06/01 04:30:00

OYSTER LANDING

A) For the following dates and times, DO data suspect due to possible drift,
data retained:
08/28/2001 22:30:00 thru 08/29/2001 11:00:00

THOUSAND ACRES

a) For the following date and time turbidity was greater than 1000 NTU but was left in due to heavy rainfall throughout the month:

08/31/01 18:30:00

CLAMBANK CREEK

None

SEPTEMBER 2001

DEBIDUE CREEK

a) For the following dates and times, all data suspect as instrument not at correct depth. Data was retained.

09/18/01 through 09/30/01

b) For the following dates and times, all data was deleted as the instrument was out of the water:

09/18/2001 14:30:00 thru 16:30:00
09/19/2001 03:00:00 thru 05:00:00
09/19/2001 15:30:00 thru 17:30:00
09/20/2001 03:00:00 thru 06:00:00
09/20/2001 16:00:00 thru 18:00:00
09/21/2001 04:00:00 thru 06:30:00
09/21/2001 17:00:00 thru 18:30:00
09/22/2001 04:30:00 thru 07:00:00
09/22/2001 18:00:00 thru 19:00:00
09/23/2001 05:30:00 thru 07:30:00
09/23/2001 19:00:00 thru 19:30:00
09/24/2001 06:30:00 thru 08:00:00
09/24/2001 20:00:00 thru 21:30:00
09/25/2001 07:00:00 thru 09:30:00
09/25/2001 21:00:00 thru 22:00:00
09/26/2001 09:00:00
09/26/2001 10:00:00
09/26/2001 22:00:00 thru 23:00:00
09/27/2001 09:30:00 thru 11:00:00
09/27/2001 22:30:00 thru 23:30:00
09/28/2001 00:00:00
09/28/2001 10:30:00 thru 12:00:00
09/29/2001 00:00:00 thru 00:30:00
09/30/2001 13:30:00

OYSTER LANDING

None

THOUSAND ACRES

a) For the following dates and times the sonde appears to be at incorrect depth but all data retained:

09/18/01 14:00:00 thru 09/30/00 23:30:00

b) For the following period DO and pH seem to be off, but since they are consistent with each other the data was left in:

09/25/01 05:00:00 thru 09/30/01 23:30:00

CLAMBANK CREEK

a) For the following dates and times the turbidity data was deleted due to a

parked wiper blade (probe malfunction):

09/27/01 03:00:00 thru 09/30/01 23:30:00

b) For the following date and time, turbidity spiked up to 869 NTU.

Possible

debris or animal on optics, data were retained:

09/24/2001 05:00:00

OCTOBER 2001

DEBIDUE CREEK

a) For the following dates and times all data was deleted as sonde assumed to

be out of water (readings consistent with probe in air):

10/18/2001 15:30:00 thru 16:30:00

10/19/2001 03:00:00 thru 04:30:00

10/19/2001 16:30:00 thru 17:30:00

10/20/2001 03:30:00 thru 05:30:00

10/20/2001 16:30:00 thru 18:00:00

10/21/2001 04:00:00 thru 06:00:00

10/21/2001 17:30:00 thru 18:30:00

10/22/2001 05:00:00 thru 06:30:00

10/22/2001 18:30:00 thru 19:00:00

10/23/2001 06:30:00 thru 07:00:00

10/23/2001 19:30:00 thru 20:00:00

10/24/2001 07:00:00 thru 08:00:00

10/24/2001 20:30:00 thru 21:30:00

10/25/2001 08:00:00 thru 09:30:00

10/25/2001 21:00:00 thru 22:30:00

10/26/2001 09:00:00 thru 10:30:00

10/26/2001 21:30:00 thru 23:30:00

10/27/2001 00:00:00

10/27/2001 23:00:00 thru 23:30:00

10/30/2001 00:30:00 thru 01:00:00, and 13:00:00 thru 13:30:00

10/31/2001 01:00:00 thru 01:30:00, and 14:00:00

b) For the following dates and times, turbidity data was zero and/or negative. Assumed to be a calibration problem. Data retained.

10/03/2001 15:30:00 thru 16:00:00

10/03/2001 21:00:00

10/04/2001 03:00:00 thru 03:30:00

10/04/2001 04:30:00

10/04/2001 09:30:00

10/04/2001 15:30:00 thru 16:00:00

10/04/2001 17:00:00

10/04/2001 20:00:00 thru 21:30:00

10/05/2001 03:30:00 thru 04:00:00

10/05/2001 10:00:00

10/05/2001 16:30:00 thru 17:30:00

10/05/2001 18:30:00 thru 20:30:00

10/05/2001 21:30:00 thru 22:30:00
10/06/2001 03:00:00 thru 07:00:00
10/06/2001 11:00:00
10/06/2001 15:00:00
10/06/2001 17:00:00 thru 19:00:00
10/06/2001 22:00:00 thru 23:30:00
10/07/2001 03:30:00
10/07/2001 04:30:00 thru 07:30:00
10/07/2001 12:00:00
10/07/2001 18:00:00 thru 20:30:00
10/07/2001 22:30:00 thru 23:30:00
10/08/2001 00:00:00
10/08/2001 05:00:00 thru 06:00:00
10/08/2001 07:00:00
10/08/2001 12:30:00
10/08/2001 18:30:00 thru 19:30:00
10/08/2001 21:00:00
10/08/2001 23:00:00 thru 23:30:00
10/09/2001 00:00:00 thru 01:30:00
10/09/2001 06:30:00 thru 07:00:00
10/09/2001 08:00:00 thru 08:30:00
10/09/2001 13:00:00 thru 13:30:00
10/09/2001 19:30:00 thru 22:00:00
10/10/2001 01:00:00 thru 02:00:00
10/10/2001 07:00:00
10/10/2001 08:00:00
10/10/2001 09:00:00 thru 10:30:00
10/10/2001 14:30:00
10/10/2001 20:30:00 thru 21:00:00
10/10/2001 22:00:00
10/11/2001 01:30:00 thru 03:00:00
10/11/2001 08:30:00 thru 09:00:00
10/11/2001 15:30:00
10/11/2001 21:00:00
10/11/2001 22:00:00 thru 23:30:00
10/12/2001 00:00:00 thru 00:30:00
10/12/2001 02:30:00
10/12/2001 03:30:00 thru 04:30:00
10/12/2001 05:30:00
10/12/2001 08:30:00
10/12/2001 09:30:00 thru 10:30:00
10/12/2001 12:00:00 thru 12:30:00
10/12/2001 14:00:00
10/12/2001 16:30:00 thru 17:00:00
10/12/2001 22:00:00 thru 23:30:00
10/13/2001 00:00:00 thru 01:00:00
10/13/2001 04:30:00
10/13/2001 05:30:00 thru 06:00:00
10/13/2001 11:00:00 thru 11:30:00
10/13/2001 12:30:00 thru 13:00:00
10/13/2001 17:00:00 thru 18:00:00
10/13/2001 22:00:00 thru 22:30:00
10/14/2001 00:00:00 thru 02:00:00
10/14/2001 05:30:00 thru 06:30:00

10/14/2001 13:00:00 thru 13:30:00
10/14/2001 17:30:00 thru 18:30:00
10/15/2001 00:30:00
10/15/2001 01:30:00 thru 03:00:00
10/15/2001 07:30:00
10/15/2001 19:30:00
10/16/2001 02:00:00 thru 03:00:00
10/16/2001 08:00:00
10/16/2001 19:30:00 thru 20:00:00
10/17/2001 02:30:00 thru 03:30:00
10/17/2001 09:00:00
10/17/2001 13:00:00
10/17/2001 15:30:00 thru 16:30:00
10/17/2001 21:00:00
10/18/2001 00:00:00
10/18/2001 03:30:00 thru 04:00:00
10/18/2001 10:00:00

c) For the following dates and times, turbidity data was deleted as it was greater than 1000 NTU and was not correlated with other data or events:

10/05/01 02:30:00 thru 03:00:00

OYSTER LANDING

a) The following turbidity data was deleted as readings were not correlated with other events (i.e. rain); seemed to be faulty probe - had to wait for replacement:

10/05/2001 19:30:00 thru 23:00:00
10/06/2001 00:00:00
10/06/2001 01:00:00
10/06/2001 02:00:00
10/06/2001 03:00:00
10/06/2001 04:00:00
10/06/2001 06:00:00
10/19/2001 06:00:00 thru 10/31/01 23:30:00

b) For the following dates and times DO data was deleted as membrane may have had a puncture (data not consistent):

10/24/01 10:00:00 thru 10/31/01 23:30:00

THOUSAND ACRES

a) For the following dates and times, high turbidities and low DO values were noted as anomalous and retained as heavy rain in Sept. and mid Oct. could have caused increased runoff:

10/01/01 thru 10/02/01
10/14/01 thru 10/16/01

CLAMBANK CREEK

a) For the following dates and times turbidity data was deleted as probe was bad:

10/01/01 00:00:00 thru 10/09/01 10:00:00

NOVEMBER 2001

CLAMBANK CREEK

None

DEBIDUE CREEK

a) For the following dates and times all data was deleted as sonde assumed to be out of water (readings consistent with probe in air):

11/01/01 14:00:00 thru 15:30:00
11/02/01 01:30:00 thru 03:00:00
11/20/01 16:30:00

b) For the following dates and times sonde was removed and data is missing due to a sonde being deployed temporarily for another study:

11/07/01 14:00:00-15:30:00
11/28/01 07:00:00-08:00:00

OYSTER LANDING

a) The following turbidity data was deleted as readings were not correlated with other events (i.e. rain); seemed to be faulty probe - had to wait for replacement:

11/01/01 00:00:00 thru 11:30:00

b) For the following dates and times DO data was deleted as membrane may have had a puncture (data not consistent):

11/01/01 00:00:00 thru 11:30:00

c) For the following dates and times depth data are noted as anomalous but

left in as it was consistent with lower mean high tides for that time period:

11/21/01 12:00:00 thru 11/26/01 17:30

THOUSAND ACRES

a) For the following period DO readings are noted as anomalous due to high DO peaks but were not deleted:

11/26/2001 thru 11/27/2001

DECEMBER 2001

CLAMBANK CREEK

a) For the following dates and times all turbidity data were retained although readings were zero or negative (this is probably due to a slight calibration error).

12/21/01 13:00:00 thru 13:30:00

12/31/01 15:30:00 thru 17:00:00

DEBIDUE CREEK

a) For the following date and time turbidity data were deleted. A turbidity spike occurred during the same time period that a Hydrolab was used to take readings adjacent to the sonde.

12/17/2001 10:00:00

OYSTER LANDING

a) For the following dates and times all DO data was deleted as membrane may have had a puncture (negative DO values):

12/27/01 14:00:00 thru 12/31/01 23:30

THOUSAND ACRES

a) For the following date and time turbidity was greater than 1000 NTU but not deleted. Spike probably occurred as a result of a rain event.

12/09/2001 23:30:00

12. Missing Data

Missing data are denoted by a period in the data set. Data are missing due to

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

13. Post Deployment Information

End of Deployment Post-calibration Readings in Standard Solutions:

NA = no data available for that particular standard

Site Date Cond(mS) (Std 10 or 0mS) Salinity(ppt) (Std: 0 ppt) DO(air sat) (Std: 100%) pH(Std: 7) Depth(Std: 0) Turb(Std: 0)

DC

12/20/00	0.55	0.26	100	6.94	-.124	0.0
01/09/01	0.52	0.25	95.6	7.17	.109	0.0
01/25/01	0.33	0.15	90.7	6.87	-.072	0.7
02/15/01	0.3	0.15	103.7	7.0	-.044	-2.0
02/26/01	0.21	0.1	63	7.17	-.129	1.3
03/12/01	0.4	0.2	112.9	7.07	.042	0.2
03/27/01	0.23	0.11	99.5	7.0	-.003	-0.2
04/10/01	0.1	0.04	98.3	7.04	.016	-0.3
04/20/01	0.13	0.06	96.5	7.0	-.038	-1.0
05/09/01	0.32	0.16	97.2	7.16	-.141	0.2
05/22/01	0.19	0.08	79.2	7.3	-.005	1.8
06/07/01	0.08	0.03	83.1	6.94	.001	0.3
06/22/01	0.24	0.12	5	7.1	-.05	0.0
07/06/01	0.3	0.15	84	7.1	.024	-0.4
07/17/01	0.15	0.07	78.6	6.9	-.02	48
07/27/01	0.35	0.17	96.1	6.9	-.003	0.0
08/03/01	0.05	0.02	60	6.97	-.022	0.0
08/21/01	0.18	0.09	94	7.0	.003	-0.6
09/04/01	0.12	0.05	75	7.05	.028	3.2
09/18/01	0.15	0.07	87	7.02	.005	0.9
10/03/01	0.15	0.07	99	7.04	.016	-3.4
10/18/01	0.054	0.02	99.4	7.04	.025	0.0
11/02/01	0.055	0.03	94.8	7.03	-.159	-0.8
11/20/01	0.013	0.0	101.1	7.01	0.200	0.5
12/05/01	0.136	0.06	88.2	7.01	-0.110	1.2
12/17/01	0.079	0.04	100.6	7.03	0.076	0.6

OL

12/19/00	0.48	0.23	101.8	7.13	.196	0.4
01/03/01	0.113	0.05	90.5	7.2	-.120	-0.9
01/17/01	0.26	0.13	100.3	7.09	.021	-0.7
01/23/01	0.24	0.11	97.3	7.11	-.180	0.2
01/30/01	0.21	0.1	97.1	6.97	-.013	3.5
02/15/01	0.4	.02	100	7.06	.023	-0.3
02/28/01	0.27	0.13	99	7.00	-.110	0.4

	03/14/01	0.13	0.06	95	7.03	.015	-1.4
	03/27/01	0.05	0.02	92.3	7.07	-.09	
	>1600*						
	04/11/01	0.113	0.05	102	7.02	.116	1.1
	04/27/01	0.22	0.11	97.9	7.02	.110	0.2
	05/08/01	0.3	0.15	89.6	7.2	-.523	-0.2
	05/24/01	0.13	0.07	96.4	7.2	-.02	1.0
	06/08/01	0.09	0.04	94.7	7.15	.141	2.3
	06/22/01	0.04	0.02	53.6	7.09	-.02	1.9
	07/06/01	0.49	0.25	67	7.08	.114	2.2
	07/18/01	0.2	0.01	88.4	7.1	.021	-1.1
	07/27/01	0.11	0.05	96.5	7.05	-.04	-1.0
	08/08/01	0.42	0.21	94.5	7.06	-.106	-0.7
	08/21/01	0.6	0.3	102.5	7.3	-.01	-1.0
	09/05/01	0.45	0.22	96.7	7.05	.013	3.7
	09/18/01	0.19	0.09	91	7.1	.035	-1.0
	10/03/01	0.11	0.05	103	7.1	-.037	0.0
	10/24/01	0.04	0.02	99	7.04	.396	-
231*							
	11/02/01	0.16	0.08	88.3	7.18	-.466	0.0
	11/21/01	0.41	0.02	98.4	7.14	0.109	0
	12/04/01	0.18	0.09	98.4	7.12	-0.40	1.6
	12/18/01	0.05	0.02	59.0	7.08	0.361	0.7
TA							
	12/19/00	0.37	0.17	108.4	7.09	0.234	-0.4
	01/03/01	0.18	0.08	91	7.00	-.091	-1.0
	01/17/01	0.02	0.0	97.3	7.12	-.002	0.0
	01/30/01	0.05	0.02	88.5	7.14	.10	0.5
	02/15/01	0.06	0.02	100	7.12	.075	0.2
	02/27/01	0.05	0.02	94	6.98	-.136	1.4
	03/14/01	0.04	0.02	102.8	7.02	.04	2.2
	03/27/01	0.03	0.01	99	6.97	-.092	0.0
	04/11/01	0.04	0.02	76.6	7.05	.058	3.0
	04/25/01	0.22	0.11	95	7.0	.085	1.2
	05/08/01	0.156	0.07	56.9	7.5	-.153	-0.3
	05/24/01	0.05	0.02	91.9	7.03	.015	-0.7
	06/07/01	0.25	0.12	4.8	7.14	.035	3.1
	06/22/01	0.3	0.14	14	7.07	-.002	0.4
	07/06/01	0.08	0.04	49.7	7.19	.038	-0.2
	07/18/01	0.13	0.06	99	7.05	0.0	6.1
	07/27/01	0.06	0.03	63	6.9	-.01	0.3
	08/08/01	0.17	0.08	90.5	7.0	-.037	5.5
	08/21/01	0.1	0.05	45.2	7.15	.012	0.7
	09/05/01	0.11	0.05	58	7.0	.007	2.7
	09/18/01	0.2	0.1	91	6.8	.029	10.0
	10/03/01	0.15	0.07	96.5	6.96	-.032	6.0
	10/17/01	0.06	0.02	59.4	6.98	.085	0.0
	11/01/01	0.03	0.01	105.4	7.05	-.038	-0.3
	11/20/01	0.00	0.00	122.5	7.0	0.096	0.1
	12/04/01	0.02	0.01	55.1	7.06	-.153	1.0
	12/18/01	0.03	0.01	97.5	7.17	0.134	0.3

CB

08/17/01	0.3	0.15	87	7.0	-.06	0.0
08/28/01	0.13	0.06	86	7.2	.03	0.0
09/11/01	0.14	0.07	98	7.02	-.01	1.2
09/26/01	0.03	0.01	87	7.03	0.13	
>1400*						
10/09/01	0.19	0.09	96.1	7.03	-.22	0.0
10/17/01	0.1	0.04	95.7	7.09	.05	0.5
11/01/01	0.26	0.13	91.0	7.08	-.086	0.3
11/20/01	0.03	0.01	97.2	7.12	0.109	1.0
12/04/01	0.08	0.04	95.1	7.09	-.146	1.1
12/18/01	0.025	0.01	95.0	7.11	0.181	-0.8

14. Other Remarks:

On 07/01/2021 this dataset was updated to include embedded QAQC flags for anomalous/suspect data. System-wide monitoring data beginning in 2007 were processed to allow for QAQC flags and codes to be embedded in the data files rather than detailed in the metadata alone (as in the anomalous/suspect, deleted, and missing data sections above). Prior to 2006, rejected data were deleted from the dataset so they are unavailable to be used at all, but suspect data were only noted in the metadata document. Suspect data flags <1> were embedded retroactively in order to allow suspect data to be easily identified and filtered from the dataset if desired for analysis and reporting purposes. No other flags or codes were embedded in the dataset and users should still refer to the detailed explanations above for more information.

DEBIDUE CREEK

For the following date and time, a rain event affected the decrease in the SpCond and salinity data. Data were retained:
01/10/2001 15:30:00

Spikes of Turbidity and variable Sp. Cond were probably caused by rain events on the following days:
06/20, 06/22, 06/23, 06/24, 06/25

05/22/01 PVC casing for sonde replaced (depth and DO data prior to this date may be affected due to heavy fouling within pipe).

07/01/01 - 07/31/01 Lots of rain in July - about 5 inches - rained on the following dates: 2,3,5,8,9,11,12,13,19,20,27, & 28.

07/27-07/30/01 Data missing at DC due to vandalism at site - did not want to leave sonde until lock was replaced.

08/2001 Rain effects were evident in both SP Cond and Turb data - rain was documented on the 5,6,8,9,13,14,18,19,20,24,29,30, & 31 of this month (~7" total).

OYSTER LANDING

01/01/01 For the entire month of January the time stamp was adjusted to reflect 52 second warm-up interval (i.e. 10:00:52 changed to 10:00:00)

05/01/01 PVC casing replaced around 09:50 - 10:00 - existing casing heavily fouled with barnacles, algae, mussels, etc. Prior to this date depth and DO readings could have been affected.

07/01/01 - 07/31/01 Lots of rain in July - about 5 inches - rained on the following dates: 2,3,5,8,9,11,12,13,19,20,27, & 28.

08/2001 Rain effects were evident in both SP Cond and Turb data - rain was documented on the 5,6,8,9,13,14,18,19,20,24,29,30, & 31 of this month (~7" total).

08/08/01 and 08/21/01 files were adjusted as the time stamp was off by about 20 seconds here and there. Correct times were pasted in.

10/2001 For various files the time stamps were off by a few seconds due to connection with the CR10X. The times have been amended in edited files.

THOUSAND ACRES

For the entire month of February turbidity values were high - this is possibly due to rain and continued runoff so no data was deleted.

Rain events on 3-15, 3-20, and 3-25 probably caused decreased salinity and increased turbidity throughout the month of March and April.

05/01/01 PVC casing replaced around 10:50-11:10 - existing casing heavily fouled with barnacles, algae, mussels, etc. Prior to this date depth and DO readings could have been affected.

07/01/01 - 07/31/01 Lots of rain in July - about 5 inches - rained on the following dates: 2,3,5,8,9,11,12,13,19,20,27, & 28.

08/2001 Rain effects were evident in both SP Cond and Turb data - rain was documented on the 5,6,8,9,13,14,18,19,20,24,29,30, & 31 of this month (~7" total).

11/20/01 10:00:00 - 12/03/01 10:30:00 Files were adjusted as the time stamp was off by 14 minutes.

12/04/01 10:30:00-11:00:00 Files were adjusted as the time stamp was off by 7 seconds.

12/04/01 11:30:00 - 12/17/01 15:00:00 Files were adjusted as the time stamp was off by 6 minutes 44 seconds.

12/18/01 10:00:00 - 12/31/01 Files were adjusted as the time stamp was off by 57 seconds.

CLAMBANK CREEK

08/15/01 PVC casing installed on south piling of pier. Had to install about 16' of pipe.

08/2001 Rain effects were evident in both SP Cond and Turb data - rain was documented on the 5,6,8,9,13,14,18,19,20,24,29,30, & 31 of this month (~7" total).

12/18/01 11:00:00 Files were adjusted as the time stamp was off by 1 minute 22 seconds.