ACE Basin (ACE) National Estuarine Research Reserve Water Quality Metadata
January-December 2016 Report
Latest Update: 09/06/2017

I. Data Set and Research Descriptors

1) Principal investigator(s) and contact persons

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2) Entry verification

Deployment data are uploaded from the YSI data logger to a Personal Computer (IBM compatible). Files are exported from EcoWatch Lite in a comma separated file (CSV) or KOR Software in an Excel File (.XLS) and then all pre- and post-deployment data are removed from the file prior to uploading to the CDMO where they undergo automated primary QAQC and is imported CDMO's online provisional database. During the primary QAQC: depth/level values are corrected for changes in barometric pressure (cDepth or cLevel parameters); data are flagged if they are missing or out of sensor range. The edited file is then returned to the Reserve for secondary QAQC where it is opened in Microsoft Excel and processed using the CDMO's NERRQAQC Excel macro. The macro inserts station codes, creates metadata worksheets for flagged data and summary statistics, and graphs of parameters for review by Reserve. The ACE Reserve apply QAQC flags and codes to the data, append files, and upload the resulting data file quarterly to the CDMO where it is ingested into the database as provisional plus data, recalculation of cDepth or cLevel parameters, and finally a tertiary QAQC by the CDMO and assimilation into the CDMO's authoritative online database. For more information on QAQC flags and codes, see Sections 11 and 12. Meghan Miller, Denise Sanger, and Saundra Upchurch were responsible for these tasks.

3) Research objectives

Long-term water quality monitoring in the ACE Basin provides a unique opportunity to increase understanding of how various environmental factors influence estuarine processes. Based on discussions with local Coastal Zone Management (CZM) personnel and ACE Basin NERR staff knowledge of land use within the Reserve, the South Edisto River drainage basin was selected because it is well suited for studying contrasting hydrographic conditions and land use patterns.

The two major objectives of the ACE Basin monitoring program are: 1) compare water quality conditions in shallow creeks along a salinity gradient and at different levels of development in the South Edisto River watershed' and 2) track changes to the saltwater demarcation line in the South Edisto River as a result of prolonged drought, extraction of river water, and sea level rise.

The program began on March 3, 1995 in two tributaries of the South Edisto River, Big Bay Creek and St. Pierre Creek; in October 2002, monitoring stations were established in Fishing Creek and Mosquito Creek, tributaries of the South Edisto River. In 2014, two sites were established in the South Edisto River proper at Jehossee Island and Grove Plantation.

Four primary monitoring stations (Edisto Island [replacement for Big Bay], Fishing Creek, Mosquito Creek and St. Pierre Creek) are used to study contrasting land use patterns in the reserve. The two "treatment" sites are Edisto Island and Mosquito Creek, where boat traffic is moderate to heavy and residential and commercial development is moderate. St. Pierre Creek and Fishing Creek, where boat traffic is light and development is sparse, are designated as "control" sites. The four sites are located along a salinity gradient ranging from the polyhaline (Edisto Island & St. Pierre Creek) to mesohaline (Mosquito Creek) to oligohaline (Fishing Creek). See *Section 5 - Site Location and Character* for detailed descriptions of the sites.

The secondary stations at Jehossee Island and Grove Plantation are used to track changes in the saltwater demarcation line. These two stations extend our coverage of the salinity gradient in the South Edisto River from the polyhaline to the limnetic zone. The Jehossee Island station is located in the oligohaline zone, and the Grove Plantation station is in the limnetic zone, approximately 0.1 nautical miles downstream of the legal saltwater demarcation line. See *Section 5 - Site Location and Character* for detailed descriptions of the sites.

YSI electronic data loggers are deployed to monitor the water temperature, specific conductance, dissolved oxygen, water level, pH and turbidity conditions, approximately 0.5 meters above the creek bottom. Turbidity monitoring was added to the program on April 11, 1996. Initially the loggers measured the parameters at 15 minute intervals; on August 11, 1995, the sampling interval was changed to 30 minutes; and on December 12, 2007, the sampling interval was changed back to 15 minutes.

4) Research methods

One YSI 6600 series data logger was deployed at five of the monitoring stations (St. Pierre Creek, Fishing Creek, Mosquito Creek, Grove Plantation and Jehossee Island). Edisto Island was the only monitoring station using the YSI EXO2 data logger for the entire year, and on December 14, 2016, Fishing Creek was switched from the 6600 series to the EXO2 data loggers. The data logger is attached to a deployment mount at each station to ensure that the sensor is positioned approximately 0.5 m from the creek bottom during a deployment. At each monitoring station, the deployment mount consists of a PVC pipe that is attached vertically to a stable structure. To facilitate water flow across the sensors, approximately two-inch diameter holes are drilled into the PVC pipes.

A Sutron Sat-Link2 transmitter was installed at the St. Pierre station on 06/28/2006 and transmits data to the NOAA GOES satellite, NESDIS ID #3b02f20a and at Fishing Creek station on 02/20/2013 NESDIS ID #3b04b1ce. (Where 3b02f20a and 3b04b1ce are the GOES ID for each particular station.). As of August 31, 2015, Fishing Creek station is no longer transmitting data. A Sutron Sat-Link2 transmitter was installed at the Grove Plantation station on 06/08/2016 and began transmitting data on 06/15/2016 at 10:15 to the NOAA GOES satellite, NESDIS ID #3b04b1ce. The St. Pierre and Grove Plantation transmissions are scheduled hourly and contain four (4) data sets reflecting fifteen minute data sampling intervals. Upon receipt by the CDMO, the data undergoes the same automated primary QAQC process detailed in Section 2 above. The "real-time" telemetry data become part of the provisional dataset until undergoing secondary and tertiary QAQC and assimilation in the CDMO's authoritative online database. Provisional and authoritative data are available at http://cdmo.baruch.sc.edu.

To minimize fouling (i.e. settlement of barnacles and sponges) of data loggers, new sensors are wrapped in nonconductive copper tape. A plastic mesh is wrapped around the sensor guard to keep out large animals (i.e. crabs, fish). In addition, fouling organisms within the PVC deployment mounts are removed during sampling (bimonthly during April to September and monthly during October to March).

The data loggers are deployed for one to two weeks during the summer months (April – September), and the sampling period is extended up to one month during the cooler months (October – March). A data logger is retrieved and replaced with a newly calibrated data logger prior to a 15-minute reading to prevent interruption of data collection. The final reading of a deployment is a check against the newly deployed data logger to determine how much drift in the readings occurred during the previous deployment. Water depth and meteorological conditions (i.e. precipitation and wind speed and direction) also are recorded.

When the data loggers are retrieved, they are taken to the laboratory for cleaning, post-deployment checks and servicing, in accordance with guidelines set by YSI Operating and Service Manual. Upon returning to the laboratory, the data are downloaded, and the dataset is reviewed to determine if any equipment malfunctions occurred during deployment that need immediate attention. Post-deployment checks of all the parameters except turbidity are done before cleaning the data loggers. Turbidity checks are performed after cleaning the data loggers to prevent contamination of the standard. Sensors are immersed in the appropriate standard solutions (i.e. pH) and readings are recorded. A DO membrane integrity test also is conducted to determine if the membrane was damaged during deployment.

A series of diagnostic values, including dissolved oxygen charge, dissolved oxygen gain, and pH millivolt value at pH 7 and at pH 10, are recorded during calibration and post-deployment checks of data loggers. These diagnostic values are strong indicators of the individual sensor performance, and they are used to determine the accuracy of the data.

Before the data loggers are deployed dissolved oxygen (DO) membranes are changed and allowed to stretch for 24 hours, and the voltage of the batteries are checked. Next, the pH, conductivity, and turbidity sensors are calibrated, using the following standards: pH 7 and 10, 50 mS/cm potassium chloride solution, and 0 and 126 NTU/124 FNU solutions, respectively. The water depth sensor is zeroed in air, and the barometer pressure in the laboratory is used to calculate a depth offset which is applied to the depth data. Before leaving the laboratory, the DO sensor is calibrated in air-saturated water at the barometric pressure reading within the lab in mmHg. For additional information regarding the depth sensor and how an offset is used please refer to the section labeled "Depth Qualifier." In addition to the procedures outlined in the CDMO manual, we conduct a DO membrane integrity test prior to deployment to determine if the membrane was installed properly or was damaged during calibration.

5) Site location and character

ACE Basin National Estuarine Research Reserve is one of the largest undeveloped estuaries on the East Coast. The study area encompasses the Ashepoo, Combahee and South Edisto River basins, which empty into St. Helena Sound. The NERR consists of approximately 150,000 acres of diverse estuarine wetlands providing preserved habitats for fish and wildlife.

The South Edisto River has a drainage area of approximately 394,176 ha, encompassing the area between Four Holes Swamp and St. Helena Sound. The river receives considerable input of freshwater (average annual streamflow is 74 m^3/s). The official saltwater-freshwater demarcation line on the river lies at river mile 20; however during periods of very low flow, the saltwater interface can intrude to river mile 32, which is approximately 12 river miles from the inland boundary of the reserve. Salt marshes of smooth cordgrass (*Spartina alterniflora*) dominate the wetlands in the polyhaline and mesohaline, while waterfowl impoundments are the dominant land cover in the oligohaline and limnetic waters.

The average tidal range in the South Edisto River is approximately 2.0 m (6.6 ft.), with a maximum of 2.8 m (9.2 ft.) and a minimum of 1.4 m (4.6 ft.). The bottom habitat at all stations consists of mud which is intermixed with dead shell hash at the saltwater sites.

SWMP Station Timeline

Station Code	SWMP Status	Station Name	Location	Active Dates	Reason Decommissioned	Notes
aceeiwq	P	Edisto Island	32.5040 N -80.3247 W	01/01/2015 00:00 - current	NA	NA
acefcwq	P	Fishing Creek	32.63593 N -80.36556 W	10/01/2002 00:00 - current	NA	NA
acemcwq	P	Mosquito Creek	32.5558 N -80.4380 W	10/01/2002 00:00 - current	NA	NA
acespwq	P	St. Pierre	32.52800 N, -80.36144 W	03/01/1995 00:00 – current	NA	NA
acegpwq	S	Grove Plantation	32.6637 N -80.4130 W	01/01/2015 00:00 – current	NA	NA
acejiwq	S	Jehossee Island	32.6209 N, -80.3965 W	01/01/2015 00:00 – current	NA	NA
acebbwq	P	Big Bay	32.4941 N -80.3241 W	03/01/1995 00:00 - 12/31/2014 00:00	see Big Bay description below	private dock deteriorating
acercwq	P	Rock Creek	32.54850 N -80.50361 W	03/01/1996 00:00 - 05/01/1996 00:00	see Rock Creek description below	infrastructure and sonde unavailable

Primary Monitoring Stations

Three of the four primary stations (Edisto Island, Fishing Creek, and St. Pierre Creek) are in tributaries of the South Edisto River and one station (Mosquito Creek) is in a tributary of both the South Edisto and Ashepoo rivers. The descriptions of the sites are as follow:

Edisto Island (EI) – GPS coordinates: 32.5040 N and -80.3247 W

On January 1, 2015, Edisto Island water quality station replaced the Big Bay station as a primary station. The Edisto Island station is approximately 1.27 km (0.68 nautical miles) upstream of the previous site (Big Bay) and is located on a dock at the Edisto Beach State Park. Water quality data was collected at both stations for 8 months and the overall results were very similar. Edisto Island station is also designated as a "treatment" site because of its proximity to developed areas. In 2015, the mean depth at the station was 2.48 m (8.1 ft.), and the mean salinity was 29.30 parts per thousand (ppt).

The eastern bank of the Big Bay creek, at the new station is bordered by *Spartina alterniflora* and *Salicornia virginica*. The high ground is dominated by maritime forest, characterized by live oak (*Quercus virginiana*), slash pine (*Pinus taeda*); and cabbage palmetto (*Sabal palmetto*). A marsh island with no high ground borders the western bank; while American oyster (*Crassostrea virginica*) forms a reef along both creek banks. Boat traffic is heavy, especially during the warmer months, and the creek is closed to shellfish harvesting because of the surrounding human activities. Nonpoint sources of pollution, including fertilizers, pesticides, herbicides and PAHs, to the

monitoring station are surface runoff from lawns, golf courses, and paved ramps. Docks and bulkheads are constructed of concrete or wood treated with creosote, CCA-treated, or Wolmanized process.

Fishing Creek (FC) – GPS coordinates: 32.63593 N and -80.36556 W
This monitoring station is in a tributary of Fishing Creek, approximately 2 km (1.08 nautical miles) from the mouth of the creek, and is located approximately 5 m (16.41 ft.) from the northern bank of the creek. The tributary flows through the eastern half of Jehossee Island, a Wildlife Management Area (WMA) protected by the USFWS, and Fishing Creek forms the northeast border of the island. The station is surrounded by extensive *Spartina cynosuroides* marsh and vast mud flats. The upland area is characterized by slash pine, live oak, and cabbage palmetto. In 2015, the mean depth at the station was 2.35 m (7.71ft.), and in 2015 the mean salinity was 8.79 parts per thousand (ppt).

The Fishing Creek monitoring station is designated as a "control" site because there is no development in the immediate area, and boat traffic is relatively light in the creek. The WMA contains impoundments (formerly rice fields) that are managed as wildlife habitat for endangered fauna and migratory waterfowl. No pesticides or herbicides are applied to the wetlands. Water level in the wetland is regulated by rice trunks that control the flow of water between the impoundment and the South Edisto River.

Mosquito Creek (MC) – GPS coordinates: 32.5558 N and -80.4380 W
This monitoring station is in Mosquito Creek (a tributary of both the South Edisto and Ashepoo rivers), approximately 2.51 km (1.36 nautical miles) from the Ashepoo River and 12 km (6.48 nautical miles) from the South Edisto River, and it is approximately 5 m (16.41 ft.) from the southern bank of the creek. In 2015, the mean depth at the station was 3.61 m (11.84 ft.), and in 2015 the mean salinity was 14.15 parts per thousand (ppt).

The Mosquito Creek station is designated as a "treatment" site because of the land use practices in the surrounding area. Agriculture fields and impounded wetlands are found upstream of the monitoring station. Approximately fifteen docks constructed of creosote, concrete, Wolmanized or CCA treated wood; a public boat landing; a commercial seafood business with commercial shrimp boats and a fueling dock are located approximately 1.00 km (0.54 nautical miles) downstream of the monitoring station. The major contributor of nonpoint source pollution to the monitoring station is surface runoff from the impoundments and agricultural lands that contain high levels of nutrients and, at times, herbicides and pesticides. Impoundment trunks open and drain into the creek increasing the nutrient load and possibly introducing herbicides and pesticides. Vegetation in the area includes salt marsh dominated by *Spartina alterniflora* and *Juncus roemerianus*. Upland fringe areas consist of cabbage palmetto, live oaks and pine trees.

St. Pierre Creek (SP) – GPS coordinates: 32.52800 N and -80.36144 W
This monitoring station is in a small tributary of St. Pierre Creek, approximately 0.25 km (0.13 nautical miles) from the mouth of the creek, and it is approximately 5 m (16.41 ft.) from the northern bank of the creek. The tributary flows through the southern portion of Bailey Island, and the creek forms the eastern border of the island. The monitoring station is surrounded by a wide expanse of *Spartina alterniflora* marsh. Extensive mud flats and oyster reefs fringe the banks. Maritime forest communities comprised of species such as wax myrtles (*Morella cerifera*), live oaks (*Quercus virginiana*), and palmettos dominate the upland areas. In 2015, the mean depth at the station was 1.82 m (5.97 ft.), and in 2015 the mean salinity was 27.35 parts per thousand (ppt).

The St. Pierre Creek station is designated as a "control" site because development in the immediate area was sparse when the station was established on March 3, 1995, and the tributary is subject to relatively light boat traffic. In 1996, the 695-acre island was sold, and the owners partnered with The Nature Conservancy to design a conservation-based development. Four hundred and three acres in the center of Bailey Island were set aside as a nature preserve that is managed by The Nature Conservancy, and the number of residential lots on the remaining 292 acres is limited to 67. Access to the island is limited to one bridge and all roads on the island are single lane and made of crushed seashells. In addition, a conservation manual was developed for the property owners that provide specific lot designs and construction guidelines as well as landscaping guidelines to protect the maritime and estuarine habitats.

Secondary Monitoring Stations

Both secondary stations (Grove Plantation and Jehossee Island) are in the South Edisto River proper. The descriptions of the sites are as follow:

Grove Plantation (GP) – GPS coordinates: 32.6637 N and -80.4130 W

This monitoring station is in the South Edisto River located at the Grove Plantation unit of the ACE Basin National Wildlife Refuge, which is owned and managed by the US Fish and Wildlife Service (USFWS). The station is approximately 18 m (59 ft) from the eastern bank of the Edisto River. The station is surrounded by tidal freshwater fringe marsh and managed wetlands (aka "waterfowl impoundments"). The upland area is dominated by pine-mixed hardwood forest that is characterized by several species of oaks and pines. During years of normal rainfall, the salinity at this station generally is below 1 ppt, but it will increase if rainfall is low. In 2015, the average depth at the station was 2.50 m (8.20 ft.), and the mean salinity was 1.1 parts per thousand (ppt).

Jehossee Island (JI) – GPS coordinates: 32.6209 N and -80.3965 W

This monitoring station is in the South Edisto River proper. It is located at the Jehossee Island unit of the ACE Basin National Wildlife Refuge, which is owned and managed by the US Fish and Wildlife Service (USFWS). The station is surrounded by *Spartina cynosuroides* fringe marsh and managed wetlands (aka "waterfowl impoundments"). The upland area is dominated by inland maritime forest that is characterized by slash pine, live oak, and cabbage palmetto. During years of normal rainfall, the salinity at this station generally is between 5 and 10 ppt, and it will increase if rainfall is low. In 2015, the average depth at the station was 3.5 m (11.48 ft.) and the mean salinity was 8.31 parts per thousand (ppt).

Inactive Monitoring Stations

Big Bay and Rock Creek are inactive stations, and the descriptions of the sites are as follow:

Big Bay - GPS coordinates: 32.4941 N and -80.3241 W

This monitoring station was in Big Bay Creek proper, approximately 2 km (1.24 mi) from the mouth of the creek, and is located about 5 m (16.41 ft) from the southern bank of the creek. It was a "treatment" site because it was subject to nonpoint source pollution and was surrounded by moderate level of development. The southern bank of the Big Bay Creek near this station is bordered by residential and commercial development, with little setback from the bordering *Spartina* marsh. For instance, there are over forty private docks, two commercial seafood docks and a marina with 75 slips, three paved boat ramps, and two fueling areas along the southern bank. Docks and bulkheads are constructed of concrete, or creosote, CCA-treated or Wolmanized material. Boat traffic was heavy, especially during the warmer months, and the creek is closed to shellfish harvesting because of the surrounding human activities. The major sources of nonpoint source pollution were surface runoff from lawns, golf courses, and paved ramps that contain fertilizers, pesticides, herbicides and PAHs. All of the high ground along the southern bank was developed (i.e. residential homes, condominiums and restaurants); and maritime plant communities have been replaced by golf courses, lawns and ornamental gardens. Small patches of a few maritime species (i.e. live oak (*Quercus virginiana*), cabbage palmetto (*Sabal palmetto*), and Southern red cedar (*Juniperus silicicola*)) are found along the roads. In contrast, the northern bank is bordered by a wide expanse of *Spartina alterniflora* marsh, and no high ground is present. American oyster (*Crassostrea virginica*) forms a reef along the creek banks, especially the northern side, and on intertidal mud flats within the creek. The site was moved to Edisto Island due to the dock upon which it was located was owned by a private individual that was not maintaining the structure.

Rock Creek - GPS coordinates: 32.54850 N and -80.50361 W

The Rock Creek site was located near an impoundment on North Hutchinson Island. The site was surrounded by Spartina alterniflora marsh, and the upland areas are dominated by maritime forest with wax myrtles, live oaks, and palmettos. An impoundment (a managed wildlife habitat) bordered the Spartina marsh near the site, and the outlet canal for the impoundment was about one meter away from the site. There was no development and very little boat traffic in this portion of the Reserve. The site was discontinued due to the loss of the deployment mount and data logger in July 1996.

6) Data collection period

The end times below marked with an asterisk (*) coincide with the last actual reading in that deployment so the times will not be in consecutive order with the following deployment begin time. The gap between the end time of one deployment and the begin time of the next deployment is attributed to either missing or rejected data due to in field maintenance, battery failure, or collector error. For further information refer to the "Data Flagging and Editing" section.

Edisto Island

BEGAN		ENDED	SONDE
12/09/2015 – 11:30		01/13/2016 – 12:30	EXO2
01/13/2016 – 12:45		02/02/2016 – 12:45	EXO2
02/02/2016 – 13:00		02/10/2016 – 12:30	EXO2
02/10/2016 – 12:45		03/09/2016 – 12:15	EXO2
03/09/2016 – 12:30		04/06/2016 – 11:15	EXO2
04/06/2016 – 11:30		04/20/2016 – 10:30	EXO2
04/20/2016 – 10:45		05/04/2016 – 10:30	EXO2
05/04/2016 – 10:45		05/18/2016 – 09:15	EXO2
05/18/2016 – 09:30	*	06/01/2016 – 11:30	EXO2
06/01/2016 – 13:00		06/15/2016 – 09:15	EXO2
06/15/2016 – 09:30		07/01/2016 – 11:30	EXO2
07/01/2016 – 11:45		07/13/2016 – 08:00	EXO2
07/13/2016 – 08:15		07/27/2016 – 08:30	EXO2
07/27/2016 – 08:45		08/10/2016 – 09:30	EXO2
08/10/2016 – 09:45		08/17/2016 – 10:00	EXO2
08/17/2016 – 10:15		08/31/2016 – 12:00	EXO2
08/31/2016 – 12:15		09/14/2016 – 09:30	EXO2
09/14/2016 – 09:45	*	09/28/2016 – 10:45	EXO2
09/28/2016 – 11:15		10/12/2016 – 10:00	EXO2
10/12/2016 – 10:15	*	10/26/2016 – 10:00	EXO2
11/14/2016 – 13:00		12/14/2016 – 11:15	EXO2
12/14/2016 – 11:30		01/11/2017 – 12:30	EXO2

Fishing Creek

BEGAN		ENDED	SONDE
12/14/2015 – 14:00		01/13/2016 – 13:45	6600 EDS/V2
01/13/2016 – 14:00		02/10/2016 – 13:45	6600 EDS/V2
02/10/2016 – 14:00		03/09/2016 – 12:45	6600 EDS/V2
03/09/2016 – 13:00		04/06/2016 – 12:00	6600 EDS/V2
04/06/2016 – 12:15		04/20/2016 – 11:45	6600 EDS/V2
04/20/2016 – 12:00		05/04/2016 – 11:45	6600 EDS/V2
05/04/2016 – 12:00	*	05/18/2016 – 10:15	6600 EDS/V2
05/18/2016 – 10:45		06/02/2016 – 12:15	6600 EDS/V2
06/02/2016 – 12:30	*	06/15/2016 – 08:30	6600 EDS/V2
06/15/2016 – 09:30		07/01/2016 – 10:00	6600 EDS/V2
07/01/2016 – 10:15	*	07/13/2016 – 06:45	6600 EDS/V2
07/13/2016 – 07:15		07/27/2016 – 10:00	6600 EDS/V2
07/27/2016 – 10:15		08/10/2016 – 10:45	6600 EDS/V2
08/10/2016 – 11:00	*	08/17/2016 – 11:00	6600 EDS/V2
08/17/2016 – 11:30		09/06/2016 – 11:30	6600 EDS/V2
09/06/2016 – 11:45	*	09/16/2016 – 12:30	6600 EDS/V2
09/16/2016 – 13:00		09/28/2016 – 10:15	6600 EDS/V2
09/28/2016 – 10:30		10/12/2016 – 11:00	6600 EDS/V2
10/12/2016 – 11:15		11/16/2016 – 13:45	6600 EDS/V2
11/16/2016 – 14:00		12/14/2016 – 12:15	6600 EDS/V2
12/14/2016 – 12:30		01/11/2017 – 11:30	EXO2

Mosquito Creek

BEGAN		ENDED	SONDE
12/09/2015 – 13:00		01/13/2016 – 16:30	6600 EDS/V2
01/13/2016 – 16:45		02/10/2016 – 14:00	6600 EDS/V2
02/10/2016 – 14:15	*	03/09/2016 – 13:45	6600 EDS/V2

03/09/2016 – 14:15	04/06/2016 – 13:00	6600 EDS/V2
04/06/2016 – 13:15	* 04/20/2016 – 13:15	6600 EDS/V2
04/20/2016 – 13:45	05/04/2016 – 13:15	6600 EDS/V2
05/04/2016 – 13:30	* 05/18/2016 – 11:15	6600 EDS/V2
05/18/2016 – 11:30	06/01/2016 – 10:00	6600 EDS/V2
06/01/2016 – 10:15	* 06/16/2016 – 10:00	6600 EDS/V2
06/20/2016 – 14:00	07/01/2016 – 08:30	6600 EDS/V2
07/01/2016 – 08:45	07/13/2016 – 09:45	6600 EDS/V2
07/13/2016 – 10:00	07/27/2016 – 12:00	6600 EDS/V2
07/27/2016 – 12:15	08/10/2016 – 12:15	6600 EDS/V2
08/10/2016 – 12:30	08/17/2016 – 11:45	6600 EDS/V2
08/17/2016 – 12:00	08/31/2016 – 10:30	6600 EDS/V2
08/31/2016 – 10:45	09/14/2016 – 11:15	6600 EDS/V2
09/14/2016 – 11:30	09/28/2016 – 11:45	6600 EDS/V2
09/28/2016 – 12:00	* 10/12/2016 – 09:00	6600 EDS/V2
12/14/2016 – 11:00	01/09/2017 – 11:45	6600 EDS/V2

St. Pierre Creek

BEGAN	ENDED	SONDE
12/14/2015 – 13:15	01/13/2016 – 13:00	6600 EDS/V2
01/13/2016 – 13:15	02/10/2016 – 13:00	6600 EDS/V2
02/10/2016 – 13:15	03/09/2016 – 12:00	6600 EDS/V2
03/09/2016 – 12:15	04/06/2016 – 11:15	6600 EDS/V2
04/06/2016 – 11:30	* 04/20/2016 – 11:00	6600 EDS/V2
04/20/2016 – 11:15	05/04/2016 – 11:00	6600 EDS/V2
05/04/2016 – 11:15	05/18/2016 – 09:30	6600 EDS/V2
05/18/2016 – 09:45	06/02/2016 – 13:00	6600 EDS/V2
06/02/2016 – 13:15	06/15/2016 – 07:45	6600 EDS/V2
06/15/2016 – 08:00	07/01/2016 – 11:00	6600 EDS/V2
07/01/2016 – 11:15	07/13/2016 – 06:15	6600 EDS/V2
07/13/2016 – 06:30	07/27/2016 – 09:00	6600 EDS/V2
07/27/2016 – 09:15	08/10/2016 – 10:00	6600 EDS/V2
08/10/2016 – 10:15	08/17/2016 – 10:30	6600 EDS/V2
08/17/2016 – 10:45	08/25/2016 – 00:45	6600 EDS/V2
09/06/2016 – 10:45	* 09/16/2016 – 11:45	6600 EDS/V2
09/16/2016 – 12:15	09/28/2016 – 09:45	6600 EDS/V2
09/28/2016 – 10:00	* 10/11/2016 – 23:15	6600 EDS/V2
10/12/2016 – 10:30	* 10/30/2016 – 04:15	6600 EDS/V2
11/04/2016 – 07:45	* 11/16/2016 – 12:45	6600 EDS/V2
11/16/2016 – 13:15	12/14/2016 – 11:30	6600 EDS/V2
12/14/2016 – 11:45	01/09/2017 – 10:45	6600 EDS/V2

Grove Plantation

BEGAN	ENDED	SONDE
12/14/2015 – 14:45	01/13/2016 – 14:30	6600 EDS/V2
01/13/2016 – 14:45	02/10/2016 – 14:45	6600 EDS/V2
02/10/2016 – 15:00	03/09/2016 – 13:30	6600 EDS/V2
03/09/2016 – 13:45	04/06/2016 – 14:00	6600 EDS/V2
04/06/2016 – 14:15	04/20/2016 – 12:30	6600 EDS/V2
04/20/2016 – 12:45	05/04/2016 – 12:15	6600 EDS/V2
05/04/2016 – 12:30	05/18/2016 – 11:15	6600 EDS/V2
05/18/2016 – 11:30	* 06/02/2016 – 09:15	6600 EDS/V2

06/02/2016 – 10:45	06/15/2016 – 10:15	6600 EDS/V2
06/15/2016 – 10:30	07/01/2016 – 09:15	6600 EDS/V2
07/01/2016 – 09:30	07/13/2016 – 07:30	6600 EDS/V2
07/13/2016 – 07:45	07/27/2016 – 11:00	6600 EDS/V2
07/27/2016 – 11:15	08/10/2016 – 11:30	6600 EDS/V2
08/10/2016 – 11:45	08/17/2016 – 12:00	6600 EDS/V2
08/17/2016 – 12:15	09/06/2016 – 12:15	6600 EDS/V2
09/06/2016 – 12:30	* 09/16/2016 – 13:30	6600 EDS/V2
09/16/2016 – 14:00	09/28/2016 – 11:00	6600 EDS/V2
09/28/2016 – 11:15	10/13/2016 – 10:15	6600 EDS/V2
10/13/2016 – 10:30	11/16/2016 – 14:30	6600 EDS/V2
11/16/2016 – 14:45	* 11/22/2016 – 11:30	6600 EDS/V2
11/22/2016 – 12:00	12/14/2016 – 13:15	6600 EDS/V2
12/14/2016 – 13:30	01/11/2017 – 12:45	6600 EDS/V2

Jehossee Island

BEGAN	ENDED	SONDE
12/14/2015 – 14:15	01/13/2016 – 14:00	6600 EDS/V2
01/13/2016 – 14:15	02/10/2016 – 14:15	6600 EDS/V2
02/10/2016 – 14:30	03/09/2016 – 13:00	6600 EDS/V2
03/09/2016 – 13:15	* 04/06/2016 – 12:15	6600 EDS/V2
04/06/2016 – 12:45	04/20/2016 – 12:00	6600 EDS/V2
04/20/2016 – 12:15	05/04/2016 – 12:00	6600 EDS/V2
05/04/2016 – 12:15	05/18/2016 – 10:45	6600 EDS/V2
05/18/2016 – 11:00	* 06/02/2016 – 11:00	6600 EDS/V2
06/02/2016 – 12:00	06/15/2016 – 09:30	6600 EDS/V2
06/15/2016 – 09:45	07/01/2016 – 09:30	6600 EDS/V2
07/01/2016 – 10:00	07/13/2016 – 07:15	6600 EDS/V2
07/13/2016 – 07:30	07/27/2016 – 10:30	6600 EDS/V2
07/27/2016 – 10:45	08/10/2016 – 11:00	6600 EDS/V2
08/10/2016 – 11:15	08/17/2016 – 11:30	6600 EDS/V2
08/17/2016 – 11:45	09/06/2016 – 11:45	6600 EDS/V2
09/06/2016 – 12:00	09/16/2016 – 13:00	6600 EDS/V2
09/16/2016 – 13:15	09/28/2016 – 10:30	6600 EDS/V2
09/28/2016 – 10:45	10/12/2016 – 12:45	6600 EDS/V2
10/12/2016 – 13:00	11/16/2016 – 14:00	6600 EDS/V2
11/16/2016 – 14:15	* 12/14/2016 – 12:30	6600 EDS/V2
12/14/2016 – 13:00	* 01/11/2017 – 12:00	6600 EDS/V2

7) Distribution

NOAA retains the right to analyze, synthesize and publish summaries of the NERRS System-wide Monitoring Program data. The NERRS retains the right to be fully credited for having collected and process the data. Following academic courtesy standards, the NERR site where the data were collected should be contacted and fully acknowledged in any subsequent publications in which any part of the data are used. The data set enclosed within this package/transmission is only as good as the quality assurance and 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 or 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.

Requested citation format:
NOAA National Estuarine Research Reserve System (NERRS). System-wide Monitoring Program. Data accessed from the NOAA NERRS Centralized Data Management Office website: http://www.nerrsdata.org/; *accessed* 12 October 2012.

Also include the following excerpt in the metadata which will address how and where the data can be obtained.

NERR water quality data and metadata can be obtained from the Research Coordinator at the individual NERR site (please see 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 the CDMO home page) and online at the CDMO home page www.nerrsdata.org. Data are available in comma delimited format.

8) Associated researchers and projects

As part of the System-wide Monitoring Program (SWMP), nutrient and weather data are gathered at the ACE NERR in conjunction with water quality data obtained by YSI 6600-EDS or YSI EXO2 data loggers and meteorological data obtained by a Campbell Scientific CR1000 data logger. Diel nutrient samples are gathered once per month at the St. Pierre water quality monitoring station, and grab samples are obtained at each of the four sites once per month. The concentrations of the following parameters are measured and recorded for the nutrient monitoring program: ammonium (NH4), nitrite + nitrate (NO2 + NO3), ortho-phosphate (PO4), and chlorophyll-A (Chl-a). Real-time weather data are gathered 24/7 and is transmitted to the Centralized Data Management Office (CDMO). Historic water quality, nutrient, and weather data can be obtained at http://cdmo.baruch.sc.edu. Information about other studies conducted in the ACE Basin may be obtained from the ACE NERR Research Coordinator.

II. Physical Structure Descriptors

9) Sensor specifications

ACE NERR deployed mainly 6600 EDS/V2 data sondes and EXO2 data sondes in 2016. All 6600 and EXO2 data sondes are configured the same, with respect to the type of sonde. Rapid-pulse DO sensors were deployed with each 6600 sonde at Fishing Creek, Mosquito Creek, St. Pierre, Jehossee Island and Grove Plantation sites. 6600 sondes were deployed at SP, MC, GP, JI and FC sites for all 2016 deployments. EXO2 sondes were deployed at EI site for all 2016 deployments.

YSI 6600EDS data sonde:

Parameter: Temperature
Units: Celsius (C)
Sensor Type: Thermistor
Model#: 6560
Range: -5 to 50 C
Accuracy: +/- 0.15
Resolution: 0.01 C

Parameter: Conductivity
Units: milli-Siemens per cm (mS/cm)
Sensor Type: 4-electrode cell with autoranging
Model#: 6560
Range: 0 to 100 mS/cm
Accuracy: +/- 0.5% of reading + 0.001 mS/cm

Resolution: 0.001 mS/cm to 0.1 mS/cm (range dependant)

Parameter: Salinity
Units: parts per thousand (ppt)
Sensor Type: Calculated from conductivity and temperature
Range: 0 to 70 ppt
Accuracy: +/- 1.0% of reading pr 0.1 ppt, whichever is greater
Resolution: 0.01 ppt

Parameter: Dissolved Oxygen % saturation
Units: percent air saturation (%)
Sensor Type: Rapid Pulse - Clark type, polargraphic
Model#: 6562
Range: 0 to 500% air saturation
Accuracy: 0-200% air saturation: +/- 2% of the reading or 2% air saturation, whichever is greater; 200 to 500% air saturation: +/- 6% of the reading
Resolution: 0.1% air saturation

or

Sensor Type: Optical probe w/ mechanical cleaning
Model#: 6150 ROX
Range: 0 to 500% air saturation
Accuracy: 0-200% air saturation: +/- 1% of the reading or 1% air saturation, whichever is greater 200-500% air saturation: +/- 15% or reading
Resolution: 0.1% air saturation

Parameter: Dissolved Oxygen mg/L (Calculated from % air saturation, temperature, and salinity)
Units: milligrams/Liter (mg/L)
Sensor Type: Rapid Pulse - Clark type, polargraphic
Model#: 6562
Range: 0 to 50 mg/L
Accuracy: 0-20 mg/L: +/- 2% of the reading or 0.2 mg/L, whichever is greater
20 to 50 mg/L: +/- 6% of the reading
Resolution: 0.01 mg/L

or

Units: milligrams/Liter (mg/L)
Sensor Type: Optical probe w/ mechanical cleaning
Model#: 6150 ROX
Range: 0 to 50 mg/L
Accuracy: 0-20 mg/L: +/-0.1 mg/l or 1% of the reading, whichever is greater
20 to 50 mg/L: +/- 15% of the reading
Resolution: 0.01 mg/L

Parameter: Non-vented Level - Shallow (Depth)
Units: feet or meters (ft or m)
Sensor Type: Stainless steel strain gauge
Range: 0 to 30 ft (9.1 m)
Accuracy: +/- 0.06 ft (0.018 m)
Resolution: 0.001 ft (0.001 m)

Parameter: pH – bulb probe or EDS flat glass probe

Units: pH units
Sensor Type: Glass combination electrode
Model#: 6561 or 6561FG
Range: 0 to 14 units
Accuracy: +/- 0.2 units
Resolution: 0.01 units

Parameter: Chlorophyll Fluorescence
Units: micrograms/Liter
Sensor Type: Optical probe w/ mechanical cleaning
Model#: 6025
Range: 0 to 400 ug/Liter
Accuracy: Dependent on methodology
Resolution: 0.1 ug/L chl a, 0.1% FS

YSI EXO Sonde:

Parameter: Temperature
Units: Celsius (C)
Sensor Type: CT2 Probe, Thermistor
Model#: 599870
Range: -5 to 50 C
Accuracy: -5 to 35: +/- 0.01, 35 to 50: +/- .005
Resolution: 0.01 C

Parameter: Conductivity
Units: milli-Siemens per cm (mS/cm)
Sensor Type: CT2 Probe, 4-electrode cell with autoranging
Model#: 599870
Range: 0 to 200 mS/cm
Accuracy: 0 to 100: +/- 0.5% of reading or 0.001 mS/cm; 100 to 200: +/- 1% of reading
Resolution: 0.001 mS/cm to 0.1 mS/cm (range dependant)

Parameter: Salinity
Units: practical salinity units (psu)/parts per thousand (ppt)
Sensor Type: CT2 probe, Calculated from conductivity and temperature
Range: 0 to 70 psu
Accuracy: +/- 1.0% of reading pr 0.1 ppt, whichever is greater
Resolution: 0.01 psu

OR

Parameter: Temperature
Units: Celsius (C)
Sensor Type: Wiped probe; Thermistor
Model#: 599827
Range: -5 to 50 C
Accuracy: ±0.2 C
Resolution: 0.001 C

Parameter: Conductivity
Units: milli-Siemens per cm (mS/cm)
Sensor Type: Wiped probe; 4-electrode cell with autoranging
Model#: 599827
Range: 0 to 100 mS/cm
Accuracy: ±1% of the reading or 0.002 mS/cm, whichever is greater
Resolution: 0.0001 to 0.01 mS/cm (range dependent)

Parameter: Salinity
Units: practical salinity units (psu)/parts per thousand (ppt)
Model#: 599827
Sensor Type: Wiped probe; Calculated from conductivity and temperature
Range: 0 to 70 ppt
Accuracy: ±2% of the reading or 0.2 ppt, whichever is greater
Resolution: 0.01 psu

Parameter: Dissolved Oxygen % saturation
Sensor Type: Optical probe w/ mechanical cleaning
Model#: 599100-01
Range: 0 to 500% air saturation
Accuracy: 0-200% air saturation: +/- 1% of the reading or 1% air saturation, whichever is greater 200-500% air saturation: +/- 5% or reading
Resolution: 0.1% air saturation

Parameter: Dissolved Oxygen mg/L (Calculated from % air saturation, temperature, and salinity)
Units: milligrams/Liter (mg/L)
Sensor Type: Optical probe w/ mechanical cleaning
Model#: 599100-01
Range: 0 to 50 mg/L
Accuracy: 0-20 mg/L: +/-0.1 mg/l or 1% of the reading, whichever is greater
20 to 50 mg/L: +/- 5% of the reading
Resolution: 0.01 mg/L

Parameter: Non-vented Level - Shallow (Depth)
Units: feet or meters (ft or m)
Sensor Type: Stainless steel strain gauge
Range: 0 to 33 ft (10 m)
Accuracy: +/- 0.013 ft (0.004 m)
Resolution: 0.001 ft (0.001 m)

Parameter: pH
Units: pH units
Sensor Type: Glass combination electrode
Model#: 599701(guarded) or 599702(wiped)
Range: 0 to 14 units
Accuracy: +/- 0.01 units within +/- 10° of calibration temperature, +/- 0.02 units for entire temperature range
Resolution: 0.01 units

Parameter: Turbidity
Units: formazin nephelometric units (FNU)
Sensor Type: Optical, 90 degree scatter
Model#: 599101-01
Range: 0 to 4000 FNU

Accuracy: 0 to 999 FNU: 0.3 FNU or +/-2% of reading (whichever is greater); 1000 to 4000 FNU +/-5% of reading
Resolution: 0 to 999 FNU: 0.01 FNU, 1000 to 4000 FNU: 0.1 FNU

Parameter: Chlorophyll
Units: micrograms/Liter
Sensor Type: Optical probe
Model#: 599102-01
Range: 0 to 400 ug/Liter
Accuracy: Dependent on methodology
Resolution: 0.1 ug/L chl a, 0.1% FS

Dissolved Oxygen Qualifier (Rapid Pulse / Clark type sensor):
The reliability of dissolved oxygen (DO) data collected with the rapid pulse / Clark type sensor after 96 hours post-deployment for non-EDS (Extended Deployment System) data sondes may be problematic due to fouling which forms on the DO probe membrane during some deployments (Wenner et al. 2001). Some Reserves utilize the YSI 6600 EDS data sondes, which increase DO accuracy and longevity by reducing the environmental effects of fouling. Optical DO probes have further improved data reliability. The user is therefore advised to consult the metadata for sensor type information and to exercise caution when utilizing rapid pulse / Clark type sensor DO data beyond the initial 96-hour time period. Potential drift is not always problematic for some uses of the data, i.e. periodicity analysis. It should also be noted that the amount of fouling is very site specific and that not all data are affected. If there are concerns about fouling impacts on DO data beyond any information documented in the metadata and/or QAQC flags/codes, please contact the Research Coordinator at the specific NERR site regarding site and seasonal variation in fouling of the DO sensor.

Depth Qualifier:
The NERR System-Wide Monitoring Program utilizes YSI data sondes that can be equipped with either vented or non-vented depth/level sensors. Readings for both vented and non-vented sensors are automatically compensated for water density change due to variations in temperature and salinity; but for all non-vented depth measurements, changes in atmospheric pressure between calibrations appear as changes in water depth. The error is equal to approximately 1.03 cm for every 1 millibar change in atmospheric pressure, and is eliminated for vented sensors because they are vented to the atmosphere throughout the deployment time interval.

Beginning in 2006, NERR SWMP standard calibration protocol calls for all non-vented depth sensors to read 0 meters at a (local) barometric pressure of 1013.25 mb (760 mm/hg). To achieve this, each site calibrates their depth sensor with a depth offset number, which is calculated using the actual atmospheric pressure at the time of calibration and the equation provided in the SWMP calibration sheet or digital calibration log. This offset procedure standardizes each depth calibration for the entire NERR System. If accurate atmospheric pressure data are available, non-vented sensor depth measurements at any NERR can be corrected.

In 2010, the CDMO began automatically correcting depth/level data for changes in barometric pressure as measured by the Reserve's associated meteorological station during data ingestion. These corrected depth/level data are reported as cDepth and cLevel, and are assigned QAQC flags and codes based on QAQC protocols. Please see sections 11 and 12 for QAQC flag and code definitions.

NOTE: older depth data cannot be corrected without verifying that the depth offset was in place and whether a vented or non-vented depth sensor was in use. No SWMP data prior to 2006 can be corrected using this method. The following equation is used for corrected depth/level data provided by the CDMO beginning in 2010:

((1013-BP)*0.0102)+Depth/Level = cDepth/cLevel.

Salinity Units Qualifier:
In 2013, EXO2 sondes were approved for SWMP use and began to be utilized by Reserves. While the 6600 series sondes report salinity in parts per thousand (ppt) units, the EXO2 sondes report practical salinity units (psu). These units are essentially the same and for SWMP purposes are understood to be equivalent, however psu is considered the more appropriate designation. Moving forward the NERR System will assign psu salinity units for all data regardless of sonde type.

Turbidity Qualifier:
In 2013, EXO2 sondes were approved for SWMP use and began to be utilized by Reserves. While the 6600 series sondes report turbidity in nephelometric turbidity units (NTU), the EXO2 sondes use formazin nephelometric units (FNU). These units are essentially the same but indicate a difference in sensor methodology, for SWMP purposes they will be considered equivalent. Moving forward, the NERR System will use FNU/NTU as the designated units for all turbidity data regardless of sonde type. If turbidity units and sensor methodology are of concern, please see the Sensor Specifications portion of the metadata.

Chlorophyll Fluorescence Disclaimer:
YSI chlorophyll sensors (6025 or 599102-01) are designed to serve as a proxy for chlorophyll concentrations in the field for monitoring applications and complement traditional lab extraction methods; therefore, there are accuracy limitations associated with the data that are detailed in the YSI manual including interference from other fluorescent species, differences in calibration method, and effects of cell structure, particle size, organism type, temperature, and light on sensor measurements.

10) Coded variable definitions

Sampling Station:	Site code:	Station Code:
St. Pierre Creek	SP	acespwq
Edisto Island	EI	aceeiwq
Fishing Creek	FC	acefcwq
Mosquito Creek	MC	acemcwq
Grove Plantation	GP	acegpwq
Jehossee Island	JI	acejiwq

11) QAQC flag definitions

QAQC flags provide documentation of the data and are applied to individual data points by insertion into the parameter's associated flag column (header preceded by an F_). During primary automated QAQC (performed by the CDMO), -5, -4, and -2 flags are applied automatically to indicate data that is missing and above or below sensor range. All remaining data are then flagged 0, passing initial QAQC checks. During secondary and tertiary QAQC 1, -3, and 5 flags may be used to note data as suspect, rejected due to QAQC, or corrected.

-5 Outside High Sensor Range
-4 Outside Low Sensor Range
-3 Data Rejected due to QAQC
-2 Missing Data
-1 Optional SWMP Supported Parameter
0 Data Passed Initial QAQC Checks
1 Suspect Data
2 *Open - reserved for later flag*

3 Calculated data: non-vented depth/level sensor correction for changes in barometric pressure
4 Historical Data: Pre-Auto QAQC
5 Corrected Data

12) QAQC code definitions

QAQC codes are used in conjunction with QAQC flags to provide further documentation of the data and are also applied by insertion into the associated flag column. There are three (3) different code categories, general, sensor, and comment. General errors document general problems with the deployment or YSI datasonde, sensor errors are sensor specific, and comment codes are used to further document conditions or a problem with the data. Only one general or sensor error and one comment code can be applied to a particular data point, but some comment codes (marked with an * below) can be applied to the entire record in the F Record column.

General Errors

GIC	No instrument deployed due to ice
GIM	Instrument malfunction
GIT	Instrument recording error; recovered telemetry data
GMC	No instrument deployed due to maintenance/calibration
GNF	Deployment tube clogged / no flow
GOW	Out of water event
GPF	Power failure / low battery
GQR	Data rejected due to QA/QC checks
GSM	See metadata

Corrected Depth/Level Data Codes

GCC	Calculated with data that were corrected during QA/QC
GCM	Calculated value could not be determined due to missing data
GCR	Calculated value could not be determined due to rejected data
GCS	Calculated value suspect due to questionable data
GCU	Calculated value could not be determined due to unavailable data

Sensor Errors

SBO	Blocked optic
SCF	Conductivity sensor failure
SDF	Depth port frozen
SDG	Suspect due to sensor diagnostics
SDO	DO suspect
SDP	DO membrane puncture
SIC	Incorrect calibration / contaminated standard
SNV	Negative value
SOW	Sensor out of water
SPC	Post calibration out of range
SQR	Data rejected due to QAQC checks
SSD	Sensor drift
SSM	Sensor malfunction
SSR	Sensor removed / not deployed
STF	Catastrophic temperature sensor failure
STS	Turbidity spike
SWM	Wiper malfunction / loss

Comments

CAB*	Algal bloom
CAF	Acceptable calibration/accuracy error of sensor
CAP	Depth sensor in water, affected by atmospheric pressure
CBF	Biofouling
CCU	Cause unknown
CDA*	DO hypoxia (<3 mg/L)
CDB*	Disturbed bottom
CDF	Data appear to fit conditions
CFK*	Fish kill
CIP*	Surface ice present at sample station
CLT*	Low tide
CMC*	In field maintenance/cleaning
CMD*	Mud in probe guard
CND	New deployment begins
CRE*	Significant rain event
CSM*	See metadata
CTS	Turbidity spike
CVT*	Possible vandalism/tampering
CWD*	Data collected at wrong depth
CWE*	Significant weather event

13) Post deployment information

Probe Identification:

Turbidity 6136/599101-01 Probe
pH 6561/599702; 599795-02 Probe
Sp. Cond. 6560/599870-01 Probe

Standards for Calibration:

YSI 6073G Turbidity Standard - 126 NTU
VWR Analytical (BDH) - pH buffer standards 7.0 and 10.0
YSI 3169 Conductivity Calibrator 50 mS/cm +/- 1%

Edisto Island

Deployment Date (m/d/y)	SpCond (ms/cm)	DO 1 (100% sat)	DO 2 (100% sat)	pH (7)	pH (10)	Turb (NTU)	Turb (NTU)	Depth (m)
01/13/2016	50.58	99.3	99.3	7.11	10.1	-2.25	136.2	0.078
02/02/2016	49.47	100.2	100.2	7.04	10.02	-0.01	141.7	0.125
02/10/2016	47.62	100.0	100.0	6.96	10.01	N/A	N/A	0.104
03/09/2016	52.48	98.7	98.7	7.0	10.0	-0.2	140.1	-0.03
04/06/2016	48.85	98.9	98.9	7.05	10.05	-0.9	130.8	0.09
04/20/2016	49.49	98.3	98.3	6.99	9.97	1.8	122.1	-0.104
05/04/2016	47.54	99.8	99.8	7.06	10.05	-0.25	126.8	0.059
05/18/2016	50.23	99.8	99.8	7.07	10.11	-0.03	126.2	-0.054
06/01/2016	49.18	94.8	94.8	6.68	6.64	0.6	127.2	-0.059
06/15/2016	46.12	99.8	99.8	7.01	10.0	0.5	129.2	0.057
07/01/2016	48.71	99.1	99.1	6.99	10.03	0.43	129.8	0.048
07/13/2016	49.45	99.8	99.8	7.03	10.02	2.8	121.1	0.017
07/27/2016	48.73	100.0	100.0	6.98	9.97	1.5	130.4	0.08
08/10/2016	49.33	98.3	98.3	7.1	10.11	0.9	135.3	0.0
08/17/2016	48.8	98.8	98.8	7.04	10.04	-3.78	141.6	0.037
08/31/2016	48.22	98.4	98.4	7.09	10.08	-0.4	160.1	0.0
09/14/2016	50.61	98.9	98.9	6.96	9.96	-0.06	128.2	0.035
09/28/2016	49.63	100.5	100.5	6.98	9.97	6.6	141.2	0.15

10/12/2016	48.20	100.8	100.8	6.91	9.88	1.4	147.0	0.145
11/14/2016	50.46	100.1	100.1	6.4	9.4	1.07	133.0	0.077
12/14/2016	48.0	101.9	101.9	7.11	10.1	-0.45	127.5	0.139

Fishing Creek

Deployment Date (m/d/y)	SpCond (ms/cm)	DO 1 (100% sat)	DO 2 (100% sat)	pH (7)	pH (10)	Turb (NTU)	Turb (NTU)	Depth (m)
01/13/2016	49.27	99.1	98.9	7.04	9.99	0.6	128.7	0.04
02/10/2016	48.44	132.4	138.4	6.84	10.07	-5.2	135.7	0.088
03/09/2016	52.40	104.8	104.8	7.13	10.17	-0.9	146.9	-0.05
04/06/2016	50.09	105.5	105.4	7.09	10.08	0.6	128.4	0.091
04/20/2016	49.84	103.9	103.8	7.03	10.06	0.2	125.2	-0.116
05/04/2016	50.43	108.4	108.4	7.03	10.05	-0.2	124.9	0.061
05/18/2016	50.78	100.9	100.9	7.02	10.03	1.1	124.5	0.052
06/02/2016	48.88	107.3	107.3	7.09	10.1	1.0	128.1	-0.014
06/15/2016	49.95	100.3	99.4	7.0	9.96	1.2	132.3	0.059
07/01/2016	49.45	101.2	100.1	7.05	10.04	2.2	128.7	0.067
07/13/2016	50.48	N/A	N/A	6.99	9.93	-0.5	128.1	0.039
07/27/2016	49.53	112.2	122.0	7.04	10.02	2.6	131.0	0.082
08/10/2016	50.54	105.3	105.3	7.1	10.17	-0.3	142.2	0.065
08/17/2016	50.32	100.4	100.2	6.94	9.99	0.0	139.8	0.108
09/06/2016	49.08	105.9	105.9	7.01	10.02	-0.5	150.3	-0.126
09/16/2016	48.43	104.9	104.9	7.08	10.06	0.4	122.6	0.04
09/28/2016	50.63	101.0	100.9	6.94	9.93	1.2	136.0	0.368
10/12/2016	48.26	104.4	104.4	7.06	9.99	-0.7	152.3	0.065
11/16/2016	56.64	100.3	100.3	7.19	10.23	-0.4	138.3	0.06
12/14/2016	48.64	101.3	101.3	7.03	10.05	0.2	130.7	0.172

Mosquito Creek

Deployment Date (m/d/y)	SpCond (ms/cm)	DO 1 (100% sat)	DO 2 (100% sat)	pH (7)	pH (10)	Turb (NTU)	Turb (NTU)	Depth (m)
01/13/2016	48.53	103.2	103.1	7.18	10.14	-255.8	-137.5	0.099
02/10/2016	49.71	96.0	95.7	6.97	10.04	-6.5	184.2	0.127
03/09/2016	52.3	108.9	109.0	7.1	10.13	-0.3	141.6	-0.04
04/06/2016	49.02	108.9	107.9	7.08	10.09	0.5	128.0	0.089
04/20/2016	49.99	105.0	105.0	7.07	10.09	0.0	125.7	-0.111
05/04/2016	49.43	105.1	105.1	7.04	10.05	0.1	126.5	0.052
05/18/2016	51.74	104.9	104.9	7.08	10.11	0.9	124.8	0.045
06/01/2016	49.9	104.3	104.3	7.1	10.08	0.6	126.6	-0.035
06/20/2016	49.99	104.6	104.6	7.11	10.08	7.0	132.6	0.065
07/01/2016	49.56	108.4	108.4	7.02	10.03	0.9	128.2	0.063
07/13/2016	49.51	106.2	106.1	7.13	10.13	-0.5	128.9	0.044
07/27/2016	49.61	105.3	105.3	7.01	10.01	-0.6	132.8	0.086
08/10/2016	50.55	101.8	101.6	7.02	10.01	-0.6	135.8	0.059
08/17/2016	50.6	106.2	106.2	7.00	10.03	-0.4	141.6	0.017
08/31/2016	48.28	106.1	106.1	7.1	10.09	1.8	158.9	0.039
09/14/2016	49.7	102.0	102.0	6.99	9.99	2.0	124.4	0.035
09/28/2016	50.43	105.0	105.0	6.97	10.0	0.2	135.4	0.112
Between 9/28/2016 - 12/09/2016, no sonde was deployed.								
12/14/2016	48.33	109.1	109.1	7.05	10.1	-0.2	121.2	0.166

St. Pierre Creek

Deployment Date (m/d/y)	SpCond (ms/cm)	DO 1 (100% sat)	DO 2 (100% sat)	pH (7)	pH (10)	Turb (NTU)	Turb (NTU)	Depth (m)
01/13/2016	49.52	56.9	56.4	7.07	9.98	0.5	126.8	0.018
02/10/2016	48.48	73.8	73.5	7.07	10.09	0.3	135.1	0.112
03/09/2016	52.38	96.7	97.1	7.04	10.21	1.1	139.3	-0.09
04/06/2016	49.64	108.6	108.5	7.08	10.05	0.5	155.4	0.09
04/20/2016	48.78	93.3	93.3	7.05	10.05	0.2	125.6	-0.167
05/04/2016	49.97	106.0	106.0	7.06	10.05	-0.3	126.1	0.05
05/18/2016	61.57	90.4	90.3	7.07	10.07	1.0	125.4	0.062
06/02/2016	49.57	102.2	102.2	7.08	10.06	0.6	126.8	-0.015
06/15/2016	48.22	102.7	102.5	7.03	10.01	0.8	131.3	0.058
07/01/2016	49.6	89.8	85.7	7.04	10.03	1.2	127.0	0.058
07/13/2016	49.17	106.8	106.8	6.98	9.96	-0.5	127.0	0.041
07/27/2016	49.37	92.9	91.5	7.07	10.05	0.8	129.1	0.078
08/10/2016	49.69	102.2	102.0	7.03	10.01	0.1	133.7	0.049
08/17/2016	49.89	83.2	83.2	7.0	10.07	0.4	138.3	0.105
09/06/2016	47.32	100.7	100.7	7.07	10.03	-0.3	149.4	0.022
09/16/2016	49.30	106.7	106.4	7.09	10.1	0.4	126.5	0.051
09/28/2016	49.96	101.8	101.7	7.01	10.03	1.6	133.4	0.121
10/12/2016	49.2	103.2	103.2	7.08	10.04	0.3	142.3	0.122
11/04/2016	49.6	109.6	109.4	7.08	10.11	-0.7	137.3	0.078
11/16/2016	51.07	96.9	96.9	7.04	10.03	0.0	138.6	0.017
12/14/2016	49.42	104.6	104.6	7.03	10.02	0.2	121.3	0.182

Grove Plantation

Deployment Date (m/d/y)	SpCond (ms/cm)	DO 1 (100% sat)	DO 2 (100% sat)	pH (7)	pH (10)	Turb (NTU)	Turb (NTU)	Depth (m)
01/13/2016	48.79	102.4	102.4	7.17	10.04	-0.4	114.7	0.105
02/10/2016	48.59	104.1	104.1	N/A	N/A	-5.2	136.5	0.124
03/09/2016	51.98	107.3	107.2	7.16	10.18	-0.6	145.4	-0.05
04/06/2016	49.06	102.8	102.3	7.08	10.09	-3.0	128.3	0.091
04/20/2016	48.96	104.2	104.4	7.09	10.11	-1.3	125.9	-0.109
05/04/2016	48.65	84.6	84.1	7.04	10.05	-226.8	-4.1	0.056
05/18/2016	50.28	105.8	105.9	7.1	10.11	0.9	125.1	0.059
06/02/2016	49.49	106.3	106.3	7.06	10.07	-917.9	-918.4	-0.005
06/15/2016	49.16	107.2	107.2	7.08	10.09	6.9	133.1	0.065
07/01/2016	48.72	103.0	102.8	7.05	10.05	1.5	128.1	0.068
07/13/2016	49.52	109.7	109.7	6.93	9.88	0.9	111.1	0.046
07/27/2016	49.21	111.9	111.9	7.06	10.07	-0.3	133.1	0.067
08/10/2016	49.70	107.6	107.6	7.01	10.03	-0.9	138.9	0.042
08/17/2016	48.79	98.9	98.8	7.0	9.97	1.4	136.1	0.267
09/06/2016	47.6	103.7	103.7	6.95	9.95	1.1	145.8	-0.033
09/16/2016	49.07	57.8	57.8	7.01	10.0	2.1	123.4	-0.078
09/28/2016	49.66	111.7	111.7	7.05	10.05	1.1	138.0	0.081
10/13/2016	48.62	121.9	121.9	6.98	9.88	-0.6	158.6	0.05
11/16/2016	51.14	102.5	102.5	7.03	10.06	0.1	142.3	0.109
11/22/2016	49.65	104.4	104.4	7.03	10.04	0.0	122.2	0.058
12/14/2016	48.68	109.0	109.0	7.1	10.09	-0.1	121.3	0.174

Jehossee Island

Deployment Date (m/d/y)	SpCond (ms/cm)	DO 1 (100% sat)	DO 2 (100% sat)	pH (7)	pH (10)	Turb (NTU)	Turb (NTU)	Depth (m)
01/13/2016	47.84	106.1	106.1	7.09	10.0	0.8	128.0	0.085
02/10/2016	47.99	107.9	107.8	6.96	10.04	N/A	N/A	0.107
03/09/2016	51.95	111.4	111.1	6.99	10.04	-0.6	145.1	-0.04
04/06/2016	49.48	102.2	101.7	6.94	9.95	-8.9	106.2	0.083
04/20/2016	49.94	105.9	106.0	7.03	10.07	0.1	126.8	-0.112
05/04/2016	49.82	99.1	99.1	7.13	10.15	0.1	129.8	0.055
05/18/2016	50.51	98.8	98.6	7.0	10.01	1.0	125.3	0.062
06/02/2016	50.68	101.3	101.3	7.09	10.11	0.1	126.6	-0.005
06/15/2016	47.62	111.9	111.9	7.12	9.94	0.9	132.8	0.062
07/01/2016	49.35	58.2	58.1	6.99	9.97	1.4	126.9	0.037
07/13/2016	46.48	24.8	24.8	7.01	9.73	0.3	126.6	-0.019
07/27/2016	49.34	116.2	116.2	7.18	9.77	0.6	129.3	0.08
08/10/2016	49.75	N/A	N/A	7.08	10.05	0.2	142.7	0.051
08/17/2016	49.4	99.7	99.3	7.19	9.23	0.5	137.3	0.071
09/06/2016	48.25	100.9	100.9	7.0	9.97	-0.4	149.9	0.07
09/16/2016	50.64	92.0	92.0	7.12	10.1	0.1	125.1	0.033
09/28/2016	50.09	103.7	103.7	6.99	10.05	0.4	136.8	0.127
10/12/2016	48.32	54.2	54.2	7.14	10.07	0.8	156.0	0.056
11/16/2016	51.86	104.2	104.2	7.04	9.94	-0.2	140.5	0.053
12/14/2016	48.56	110.1	110.1	6.99	9.96	0.2	124.6	0.185

14) Other Remarks / Notes

Data are missing due to equipment or associated specific probes not being deployed, equipment failure, time of maintenance or calibration of equipment, or repair/replacement of a sampling station platform. Any NANs in the dataset stand for "not a number" and are the result of low power, disconnected wires, or out of range readings. If additional information on missing data is needed, contact the Research Coordinator at the reserve submitting the data.

ACE NERR Water Quality Site Histories

Primary Sites

Edisto Island:

2014 - Edisto Island water quality station was installed in **May** - Fasteners used to attach tube to the dock.
2015 - Edisto Island site officially went online on **January** 1. (Coordinates: 32.5040 N and -80.3247 W)
2015 - Edisto Island site PVC tube was bolted to the dock on **January** 13 - no change in vertical position of tube and no change in the readings because sonde was out of the tube between sampling intervals.
2016 - Edisto Island site PVC tube was replaced on **June 1** – The new PVC tube is 16 feet long.
2016 - Edisto Island site PVC tube was lost on **October 26** due to Hurricane Matthew.
2016 - Edisto Island site sign posts installed on **November 9**.
2016 - Edisto Island site PVC tube was replaced on **November 14** – The new PVC tube is 15 feet and 8 inches long.

Fishing Creek:

2002 - Fishing Creek site installed in **October** (Coordinates: 32.63593 N and -80.36556 W).
2009 - Fishing Creek site PVC tube replaced in **May** (about 0.2 meters deeper).
2009 - Fishing Creek site destroyed in **October**.
2010 - Fishing Creek sign post mount was replaced in **January** with a 40-ft, 8-in diameter pressure-treated piling.
2012 - Fishing Creek site PVC tube replaced on **May 31** - Fasteners used to attach tube to the piling.

2013 - Sutron Sat-Link2 transmitter installed in **March** at Fishing Creek to transmit real-time data.
2013 - Fishing Creek site PVC tube replaced on **August 19** - Fasteners used to attach tube to the piling.
2015 - Sutron Sat-Link2 telemetry equipment removed on **August 31.**
2016 - Fishing Creek site PVC tube was bolted to the piling on **February 17**.
2016 - Fishing Creek site PVC tube was replaced on **June 15** – The new PVC tube is 12 feet and 6 inches long.

Mosquito Creek:
2002 - Mosquito Creek site installed in **October** (Coordinates: 32.5558 N and -80.4380 W).
2007 - Mosquito Creek mount installed 0.5 meters away from old mount in **August**. This is a deeper location.
2008 - Mosquito Creek site mount attached to original mount after new mount broke in **October** (about 0.2 meters shallower).
2008 - Mosquito Creek site mount was destroyed and repaired in **December** (about 0.2 meters shallower).
2009 - Mosquito Creek site mount moved due to demolition of old bridge and construction of new one at same location in **August** (about 0.2 meters deeper).
2012 - Mosquito Creek site PVC tube was leaning during **May 2** and **May 16** deployments.
2012 - Mosquito Creek site PVC tube replaced on **May 31** - Fasteners used to attach tube to the bridge.
2013 - Mosquito Creek site PVC tube replaced on **August 20** - Fasteners used to attach tube to the bridge.
2016 - Mosquito Creek site top bandit was replaced on **February 17**. Need to build a more secure mounting structure - diagram for new mount under review.
2016 - Mosquito Creek site PVC tube was replaced and a new mounting structure was installed on **May 17**, Band-It strap was used for additional tube support on **May 18** – The new PVC tube is 18 feet long.
2016 - Mosquito Creek site PVC tube and mount became detached from bridge on **October 8** due to Hurricane Matthew.
2016 - Mosquito Creek site PVC tube was reinstalled on **December 8.**

St. Pierre Creek:
1995 - St. Pierre water quality station was installed in **October**. (Coordinates: 32.52800 N and -80.36144 W)
1997 - St. Pierre site moved away from bank in **February, March, and other times** due to sedimentation issues and biofouling readings.
2000 - St Pierre site moved to other side of channel and station modified in **April** (Coordinates changed: 32.5279 N -80.3615 W).
2001 - St. Pierre station replaced in **September**.
2006 - St. Pierre station PVC replaced in **April**.
2006 - St Pierre sign post mount was replaced in **May** - with a 40-ft, 8-in diameter pressure-treated piling.
2006 - Sutron Sat-Link2 transmitter installed in **June** at St. Pierre to transmit real-time data.
2009 - St. Pierre site PVC tube replaced in **June** (about 0.06 meters deeper).
2012 - St. Pierre site PVC tube replaced on **June 1** - Fasteners used to attach tube to the piling.
2013 - St. Pierre site PVC tube replaced on **August 20** - Fasteners used to attach tube to the piling.
2014 - St. Pierre site telemetry cable was replaced on **June 26.**
2015 - St. Pierre PVC tube shifted down about 6 - 13 inches - noted on **November 12** by field crew, happened because the fastener ("bandit") holding the PVC to the piling was loose.
2016 - The loose fastener ("bandit") was replaced on **January 11**.
2016 - St. Pierre site PVC tube was bolted to the piling on **February 17**.
2016 - St. Pierre site PVC tube was replaced on **June 13** – The new PVC tube is 12 feet long.
2016 - St. Pierre site PVC tube was repositioned on piling on **July 18**.
2016 - St. Pierre site GPS antennae was replaced on **September 6**.
2016 - St. Pierre site Yagi antennae was replaced with the top hat design on **September 12**.
2016 – St. Pierre site platforms were removed and one was replaced and repositioned on piling on **November 4.**

Secondary Sites

Grove Plantation:
2013 - Grove Plantation 40-ft, 8-in diameter treated pressure piling was installed on **November 8** by contractor.
2013 - Grove Plantation site PVC tube was installed on **December 12** - Fasteners used to attach tube to the piling.
2014 - Grove Plantation YSI sonde was deployed on **January 15**. (Coordinates: 32.6637N and -80.4130W).
2015 - Grove Plantation site officially went online on **January 1**.
2016 - Grove Plantation site PVC tube was bolted to the piling on **February 18**.
2016 - Sutron Sat-Link2 transmitter installed in **June** at Grove Plantation.
2016 - Grove Plantation site PVC tube was replaced on **June 2** – The new PVC tube is 18 feet long and a Band-It strap was used for additional tube support.
2016 - Grove Plantation site began transmitting real-time data on **June 15**.
2016 - Grove Plantation site PVC tube was cut at the top to decrease height on **September 16** – The PVC tube is now 15 feet long.

Jehossee Island:
2013 - Jehossee Island water quality station was installed on **August 19** - Fasteners used to attach tube to the dock.
2015 - Jehossee Island site officially went online on **January** 1 (Coordinates: 32.6209 N and -80.3965 W).
2015 - Jehossee Island site PVC cap came loose and rope became entangled around dock during November deployment. Rope was fixed on **December 22**.
2016 - Jehossee Island site PVC tube was bolted to the dock on **February 17**.
2016 - Jehossee Island site PVC tube was replaced on **June 2** - The new PVC tube is 16 feet long and a Band-It strap was used for additional tube support.

Inactive Stations

Big Bay:
1995 - Big Bay water quality station was installed in tributary of Big Bay Creek in **March** (Coordinates: 32 29.662N and -80 19.427W)
2001- Big Bay station replaced in **October** due to old age and excessive biofouling of oysters (Coordinates: 32 29 38.72125N and -80 19 21.69864W)
2003 - Big Bay station moved to the creek proper in **July** after embankment collapsed near data logger (Coordinates: 32.4941N and -80.3241W)
2014 - Big Bay site officially went offline on **December 31**.

Rock Creek:
1996- Rock Creek water quality station was installed in **March** (Coordinates: 32.5404 N and --80.4821 W° [approximation because location was not measured while site was active])
1996 - Rock Creek water quality station went offline in **July**.

Blanket Statements: All Stations

Effect of Freshwater Input on Water Quality

Water quality at the SWMP sites are influenced by the river water level and streamflow rate in the South Edisto River at the USGS gauging station at Givhans Ferry. We observe a negative correlation between salinity and the river stage - significant salinity decreases occurwhen river crests above flood level (+10 feet) and salinity increases when the river level falls below 5 feet. The same negative correlation is observed between streamflow and salinity, regardless of the river stage - decreases in salinity when streamflow is above 15,000 ft^3/sec and increases when streamflow is below 5,000 ft^3/sec.

The lower than normal salinity levels observed at the sites from February 5 to February 19 at all sites were attributed to mean river levels above 10 feet and mean discharge rates above 15,000 ft^3/sec. The values are flagged as <0> (CRE).

Sonde Exchange In-Situ Readings

For the entire year there were no in-situ readings recorded. Instead the reserve used the first and last reading of each deployment as the field data check. Therefore the deployment information under the "NERRS SWMP Water Quality Field Log" section of the CDMO log are not true in-situ readings.

Dissolved Oxygen Hypoxia Coding

Dissolved oxygen percent and mg/L readings are coded <0> (CDA) when a hypoxic event is recorded (≤ 3 mg/L).

Turbidity Spike Coding

For YSI 6000 series sondes, turbidity values between 300 and 1000 NTU are coded <1> [STS] (CSM). For YSI EXO series sondes, turbidity values between 300 and 4000 NTU (FNU) are coded <1> [STS] (CSM). These spikes are typically observed during low tides, max flood tides, and/or rain events.

Turbidity readings above 1000 NTU for YSI 6000 series sondes and above 4000 NTU (FNU) for YSI EXO series are rejected and are coded <-3> [STS] (CSM). These values are above the sensor specifications.

Turbidity Negative Readings Coding

Negative turbidity values are rejected and are coded <-3> [SNV] (CSM). These values are below the sensor specifications.

Significant Weather Events

The significant weather event data listed in the table below is from the National Hurricane Center administered by the National Oceanic and Atmospheric Administration (NOAA). All events listed are ones that have impacted the South Carolina coast beginning in 2016. As the National Hurricane Center updates their information concerning the events this table will be updated to reflect that information.

Significant Weather Event	Date Started	Date Ended	Max Wind Speed
Hurricane Hermine	August 28, 2016	September 3, 2016	80 mph
Tropical Storm Julia	September 13, 2016	September 19, 2016	40 mph
Hurricane Matthew	September 28, 2016	October 9, 2016	160 mph

Data Editing/Flagging Notes: Organized by Station, Parameter, and Code

Edisto Island

All Parameters Blanket Statement for Edisto Island

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)
The data collected from 06/01/2016 at 11:45 to 06/01/2016 at 12:45 were missing due to maintenance. The PVC tube was replaced after retrieving sonde and deploying newly-calibrated sonde. The values are flagged as <-2> [GMC] (CSM).

The data collected on 09/28/2016 at 11:00 were missing due to maintenance. The tube was cleaned between retrieving sonde and deploying newly calibrated sonde. The values are flagged as <-2> [GMC] (CSM).

The data collected from 10/26/2016 at 10:15 to 11/14/2016 at 12:45 were missing because the sonde was not deployed. The collector removed the sonde on 10/26/2016 at 10:00 because the PVC tube was damaged by Hurricane Matthew and was leaning at an angle of about 45 degrees. The PVC tube was replaced and a new sonde was deployed on 11/14/2016 at 13:00. The loss of data for this time period was excused by the NERR SWMP Oversight Committee on 03/29/2017 due to hurricane damage. The values are flagged as <-2> [GMC] (CSM).

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 02/05/2016 at 00:00 to 02/18/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding a significant rain event. The decrease in salinity values were attributed to the high streamflow in the South Edisto River caused by the record rains during early-mid February (see blanket statement). The F_Record column was flagged as {CRE} {CSM}.

The data collected from 09/01/2016 at 00:00 to 09/03/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Hermine. See "Blanket Statements: All Stations" for additional information on Hurricane Hermine. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 09/14/2016 at 00:00 to 09/15/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Tropical Storm Julia. See "Blanket Statements: All Stations" for additional information on Tropical Storm Julia. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 10/07/2016 at 00:00 to 10/08/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew. See "Blanket Statements: All Stations" for additional information on Hurricane Matthew. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

Temperature

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

The data collected from 11/23/2016 at 00:00 to 12/14/2016 at 11:15 were suspect due to the wiper brush falling off during the November 14 deployment allowing mud to accumulate on all the sensors. The post-deployment values were within acceptable range and the readings were within range normally observed during this time year and similar to readings at other sites. The values are flagged as <1> [GMC] (CMD).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/01/2016 at 11:30 were not suspect although the sonde was deployed at the wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The temperature did not change because the S. Edisto River is a well-mixed system and the new PVC tube was in the same thermocline as the previous tube. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/21/2016 at 00:00 to 10/26/2016 at 10:00 were not suspect although the sonde was at the wrong depth - PVC tube was damaged during Hurricane Matthew and was leaning at an angle of about 45 degrees. The temperature were similar to those of previous deployments because the S. Edisto River is a well-mixed system and the PVC tube was still in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Specific Conductivity/Salinity

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 11/23/2016 at 00:00 to 12/14/2016 at 11:15 were suspect due to the wiper brush falling off during the November 14 deployment and mud accumulated on all the sensors. The post-deployment values were within acceptable range and the readings were within range normally observed during this time year and similar to readings at other sites. The values are flagged as <1> [GMC] (CMD).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/01/2016 at 11:30 were not suspect although the sonde was deployed at the wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The specific conductance/salinity did not change because the S. Edisto River is a well-mixed system. The values are flagged as <0> [GSM] (CWD).

The specific conductivity and salinity data collected during the April 6 deployment (4/6/2016 at 11:30 to 4/20/2016 at 13:30) was flagged as <0> [SDG] (CSM) due to the sensor diagnostics. The calibration value was 52.24 and the post-calibration value was 48.85. In addition, the conductivity cell constant was 5.03 which for an EXO is just out of the acceptable range (5.05).

The data collected from 10/09/2016 at 00:00 to 10/20/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew. The post-deployment checks and sensor diagnostics were within an acceptable range. The decrease in salinity were attributed to the high streamflow in the South Edisto River caused by Hurricane Matthew. See "Blanket Statements: All Stations" for additional information. The values are flagged as <0> [GSM] (CWE).

The data collected from 10/21/2016 at 00:00 to 10/26/2016 at 10:00 were not suspect although the sonde was at the wrong depth - PVC tube was damaged during Hurricane Matthew and was leaning at an angle of about 45 degrees. The specific conductance/salinity did not change because the S. Edisto River is a well-mixed system. The values are flagged as <0> [GSM] (CWD).

DO Percent/mg/L

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 11/23/2016 at 00:00 to 12/14/2016 at 11:15 were suspect due to the wiper brush falling off during the November 14 deployment and mud accumulated on all the sensors. The post-deployment values were within acceptable range and the readings were within range normally observed during this time year and similar to readings at other sites. The values are flagged as <1> [GMC] (CMD).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/01/2016 at 11:30 were not suspect although the sonde was deployed at the wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The dissolved oxygen did not change because the S. Edisto River is a well-mixed system. The values are flagged as <0> [GSM] (CWD).

The data collected for the June 15 deployment (06/15/2016 at 09:30 to 07/01/2016 at 11:30) were not suspect although the sonde was covered with Bryozoan (*Bugula neritina*) when retrieved from the site. The post-deployment values were within acceptable range and the readings were within range normally observed during this time year and similar to readings at other sites. The values are flagged as <0> [GSM] (CBF).

The data collected from 10/21/2016 at 00:00 to 10/26/2016 at 10:00 were not suspect although the sonde was at the wrong depth - PVC tube was damaged during Hurricane Matthew and was leaning at an angle of about 45 degrees. The dissolved oxygen did not change because the S. Edisto River is a well-mixed system. The values are flagged as <0> [GSM] (CWD).

Depth

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 01/01/2016 at 00:00 to 06/01/2016 at 11:30 were suspect because the sonde was at the wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The temperature, specific conductance/salinity, dissolved oxygen, pH, and turbidity did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <1> [GSM] (CWD).

The data collected from 10/21/2016 at 00:00 to 10/26/2016 at 10:00 were suspect because the sonde was at the wrong depth. The PVC tube was damaged during Hurricane Matthew and was leaning at an angle of about 45 degrees. The temperature, specific conductance/salinity, dissolved oxygen, pH, and turbidity did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <1> [GSM] (CWD).

The data collected from 11/23/2016 at 00:00 to 12/14/2016 at 11:15 were suspect due to the wiper brush falling off during the November 14 deployment and mud accumulated on all the sensors. The post-deployment values were within acceptable range and the readings were within range normally observed during this time year and similar to readings at other sites. The values are flagged as <1> [GMC] (CMD).

pH

Rejected Data (Flag <-3>)
The data collected from 12/09/2015 at 11:30 to 01/13/2016 at 12:30 were rejected due to post-deployment checks out of range. The sensor diagnostics was outside the acceptable range, and the readings were noticeably lower than surrounding deployments. The readings started rising after 07:30 on December 12, 2015 and continued rising until the end of the deployment; thus, indicating that the sensor was not working properly during this time period. The values are flagged as <-3> [SPC] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected for the June 1 deployment (06/01/2016 at 13:00 to 06/15/2015 at 09:15) were suspect due to the post-deployment check and the pH slope was outside the acceptable range; however, the data were acceptable. The sensor module was replaced after this deployment. The values are flagged as <1> [SPC] (CSM).

The data collected for the November 14 deployment (11/14/2016 at 13:00 to 12/14/2016 at 11:15) were suspect due to the post-deployment check was outside the acceptable range at 6.40 (7.00) and 9.40 (10.00); however, the data is acceptable. There was also mud on all the sensors due to the turbidity wiper brush falling off on 11/23/2016 at 00:00. The values are flagged as <1> [SPC] (CBF).

The data collected from 11/23/2016 at 00:00 to 12/14/2016 at 11:15 were suspect due to the wiper brush falling off during the November 14 deployment and mud accumulated on all the sensors. The post-deployment values were within acceptable range and the readings were within range normally observed during this time year and similar to readings at other sites. The values are flagged as <1> [GMC] (CMD).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/01/2016 at 11:30 were not suspect although the sonde was deployed at the wrong depth. When PVC tube swapped out, the new tube was positioned higher on deployment mount. The pH readings did not change because the S. Edisto River is a well-mixed system. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/21/2016 at 00:00 to 10/26/2016 at 10:00 were not suspect although the sonde was at the wrong depth - PVC tube was damaged during Hurricane Matthew and was leaning at an angle of about 45 degrees. The pH readings did not change because the S. Edisto River is a well-mixed system. The values are flagged as <0> [GSM] (CWD).

Turbidity

Rejected Data (Flag <-3>)
The data collected during the following deployments were rejected due to sensor malfunction. The post-deployment checks were well outside the acceptable range, and the pre-calibration checks during the January 13 and February 2 deployments were outside the acceptable range. All EXO turbidity probes were replaced by YSI on 03/08/2016. The values are flagged as <-3> [SSM] (CSM).

01/13/2016 at 12:45 to 02/02/2016 at 12:45 02/02/2016 at 13:00 to 02/10/2016 at 12:30

The data collected from 11/23/2016 at 00:00 to 12/14/2016 at 11:15 were rejected due to the wiper brush falling off and causing biofouling of the sensor. The values are flagged as <-3> [SWM] (CBF).

Missing Data (Flag <-2>)
The data collected from 02/10/2016 at 12:45 to 03/09/2016 at 12:45 during the February 2 deployment were missing due to the sensor was removed from the sonde. It was malfunctioning and was returned to YSI for replacement. We received new sensor for the next deployment this sonde. The values are flagged as <-2> [SSR] (CSM).

Suspect Data (Flag <1>)
The data collected during the following deployments were suspect due to the post-deployment check was outside the acceptable range; however, the data were acceptable for this site. The values are flagged as <1> [SPC] (CSM).
07/13/2016 at 08:15 to 07/27/2016 at 08:30 09/28/2016 at 11:15 to 10/12/2016 at 10:00

The data collected for the August 17 deployment (08/17/2016 at 10:15 to 08/31/2016 at 12:00) were suspect due to the post-deployment check was outside the acceptable range; however, the data were acceptable for this site. The values are flagged as <1> [SPC] (CSM).

Passed Initial QAQC checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/01/2016 at 11:30 were not suspect although the sonde was deployed at the wrong depth. When PVC tube swapped out, the new tube was positioned higher on deployment mount. The turbidity readings did not change because the S. Edisto River is a well-mixed system. The turbid conditions from 04/18/2016 at 00:00 to 04/20/2016 at 10:30 was attributed to rain event from 04/18/2016 to 04/19/2016. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/21/2016 at 00:00 to 10/26/2016 at 10:00 were not suspect although the sonde was at the wrong depth. The PVC tube was damaged during Hurricane Matthew and was leaning at an angle of about 45 degrees. The turbidity readings did not change because the S. Edisto River is a well-mixed system. The values are flagged as <0> [GSM] (CWD).

Fishing Creek

All Parameters Blanket Statement for Fishing Creek

Rejected Data (Flag <-3>
The data collected during the first four days of the November 16 deployment (11/16/2016 at 14:00 to 11/20/2016 at 00:00) were rejected due to the pre-deployment check showed the temperature was 16.4 degrees Celsius when it should have been 19.4 degrees Celsius. The first few days of data were erratic. The values are flagged as <-3> [SQR] (CSM).

Missing Data (Flag <-2>)
Data were not collected on 05/18/2016 at 10:30 were missing due to an instrument recording error. The cause is unknown because the battery voltage was acceptable. The value is flagged as <-2> [GSM] (CCU).

The data collected during the following periods were missing due maintenance. On 6/15/2016, the PVC tube was replaced after the sonde was retrieved, and during the other times, the tube was cleaned after the sonde was retrieved. The values are flagged as <-2> [GMC] (CSM).
06/15/2016 at 08:45 to 09:15 07/13/2016 at 07:00
08/17/2016 at 11:15 09/16/2016 at 12:45

Suspect Data (Flag <1>)
The data collected during most of the November 16 deployment (11/20/2016 at 00:00 to 12/14/2016 at 12:15) were considered suspect due to the first few days of data were erratic which was rejected and the last recorded temperature was 11.9 with the next deployment reading 14.1. The readings were overall similar to other ACE Basin sites during this same time frame. Note that the spikes on November 26 – 27 and December 6 are attributed to rainfall in the area. The values are flagged as <1> [SSM] (CSM).

Passed Initial QAQC Checks (Flag <0>)

The data collected from 02/05/2016 at 00:00 to 02/18/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding a significant rain event. The decrease in salinity values were attributed to the high streamflow in the South Edisto River caused by the record rains during early-mid February (see blanket statement). The F_Record column was flagged as {CRE} {CSM}.

The data collected from 09/01/2016 at 00:00 to 09/03/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Hermine. See "Blanket Statements: All Stations" for additional information on Hurricane Hermine. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 09/14/2016 at 00:00 to 09/15/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Tropical Storm Julia. See "Blanket Statements: All Stations" for additional information on Tropical Storm Julia. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 10/07/2016 at 00:00 to 10/08/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew. See "Blanket Statements: All Stations" for additional information on Hurricane Matthew. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

Temperature

Rejected Data (Flag <-3>)
The data collected during the November 16 deployment (11/16/2016 at 14:00 to 12/14/2016 at 12:15) were rejected due to QAQC checks and for the post-deployment check was outside the acceptable range at 16.4 degrees Celsius when it should have been 19.4 degrees Celsius. The readings were not within the range typically observed at the site. Note that the spikes on November 26 – 27 and December 6 are attributed to rainfall in the area. The values are flagged as <-3> [SQR] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The temperature data collected from 06/15/2016 at 09:30 to 12/31/2016 at 23:45 were not suspect although the sonde was deployed at the wrong depth. The S. Edisto River is a well-mixed system and the tube was placed in the same thermocline as the previous tube so the temperature also is similar to those of previous deployments. The values are flagged as <0> [GSM] (CWD).

Specific Conductivity/Salinity

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 01/01/2016 at 00:00 to 01/13/2016 at 13:45 were suspect due to sensor diagnostics. The cell constant was outside the acceptable range, but the post-deployment checks were acceptable. The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SDG] (CSM).

The data collected during the November 16 deployment (11/16/2016 at 14:00 to 12/14/2016 at 12:15) were suspect post-deployment check was outside the acceptable range at 56.65 mS/cm. The readings were not within the range typically observed at the site. Note that the spikes on November 26 – 27 and December 6 are attributed to rainfall in the area. The values are flagged as <1> [SPC] (CSM).

Passed Initial QAQC Checks (Flag <0>)
The specific conductivity/salinity data collected from 06/15/2016 at 09:30 to 12/31/2016 at 23:45 were not suspect although the sonde was deployed at the wrong depth. When PVC tube swapped out, the new tube was positioned higher on deployment mount. The S. Edisto River is a well-mixed system so the readings are similar throughout the water column. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/09/2016 at 00:00 to 10/31/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew (see blanket statement for further information). The data did not recover to pre-hurricane levels until 10/31/2016. The values are flagged as <0> [GSM] (CWE).

DO Percent/mg/L

Rejected Data (Flag <-3>)
The data collected for the June 15 deployment (06/15/2016 at 09:30 to 07/01/2016 at 10:00) were rejected due to a DO membrane puncture. The sensor diagnostics and pre/post-deployment checks were within range; however, the sensor failed the Rapid Pulse DO warm up test (high/low) indicating a DO membrane puncture. The values are flagged as <-3> [SDP] (CSM).

The data collected for the July 13 deployment (07/13/2016 at 07:15 to 07/27/2016 at 10:00) were rejected due to the sensor malfunction. The sensor failed during calibration and no spare sensor was available. The sensor port was not was not disabled, so there are values in the raw file. A new sensor was installed on this sonde before its next deployment. The values are flagged as <-3> [SSR] (CSM).

The data collected for the November 16 deployment (11/16/2016 at 14:00 to 12/14/2016 at 12:15) were rejected due to QAQC checks. The calibration and post-deployment checks were within an acceptable range, but the readings were outside the range typically observed at the site and the sensor was covered in mud when retrieved. The suspect readings were observed through the deployment. The values are flagged as <-3> [SQR] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 02/04/2016 at 10:30 to 02/05/2016 at 14:30 were suspect due to DO suspect. The cause of the sudden drop in the DO sat% during the deployment is unknown. The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SDO] (CCU).

The data collected from 02/10/2016 at 14:00 to 03/09/2016 at 12:45 during the February 2 deployment were suspect due to pre and post-deployment checks were outside the acceptable range. There were no back up sensors available for this deployment; however, the sensor was replaced by the next deployment. The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SPC] (CSM).

The data collected from 04/20/2016 at 12:00 to 05/04/2016 at 11:45 during the April 4 deployment were suspect due to sensor diagnostics. The pre-deployment DO charge was outside the acceptable range at 90.0; however, the post-deployment check was within range. The data were not rejected because the readings were within the range typically observed at the site. The sensor was then deep cleaned. The values are flagged as <1> [SDG] (CSM).

The data collected for the August 10 deployment (08/10/2016 at 11:00 to 08/17/2016 at 11:00) were suspect due to DO suspect - DO values that did not match up with the previous and following deployments. The sonde and all

sensors except the DO sensor were covered in mud and algae, which may have contributed to the low DO values. The data were not rejected due to the pre/post-deployment checks were within an acceptable range and the data itself were within the range typically observed at the site. Hypoxic events (≤ 3 mg/L) during this time period were coded as [SDO] (CDA). The values are flagged as <1> [SDO] (CSM).

Passed Initial QAQC Checks (Flag <0>)
The dissolved oxygen collected from 06/15/2016 at 09:30 to 12/31/2016 at 23:45 were not suspect although the sonde was deployed at the wrong depth. When PVC tube swapped out, the new tube was positioned higher on deployment mount. The S. Edisto River is a well-mixed system so the readings are similar throughout the water column. The values are flagged as <0> [GSM] (CWD).

Depth

Rejected Data (Flag <-2>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 06/15/2016 at 09:30 to 12/31/2016 at 23:45 were suspect because sonde was at the wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The temperature, specific conductance/salinity, dissolved oxygen, pH, and turbidity did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

pH

Rejected Data (Flag <-3>)
The data collected during the January 13 deployment (01/13/2016 at 14:00 to 02/10/2016 at 13:45) were rejected due to QAQC checks. The data were considerable higher than what is typically observed at this site and from the deployments on either side of the January deployment. The pre and post-deployment checks were within range and the sensor has been used for multiple deployments without further incidence; the cause for the high values is unknown. The values are flagged as <-3> [SQR] (CCU).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 07/15/2016 at 00:00 to 07/27/2016 at 10:00) were suspect due to sensor drift caused by mud that accumulated on the sensor. The data were not rejected because readings were within the range typically observed at the site. Near the end of the deployment the readings started to increase and they matched up with the initial reading of the next deployment, indicating that the water was washing off the mud. The values are flagged as <1> [SSD] (CBF).

Passed Initial QAQC Checks (Flag <0>)
The pH collected from 06/15/2016 at 09:30 to 12/31/2016 at 23:45 were not suspect although the sonde was deployed at the wrong depth. When PVC tube swapped out, the new tube was positioned higher on deployment mount. The S. Edisto River is a well-mixed system so the readings are similar throughout the water column. The values are flagged as <0> [GSM] (CWD).

Turbidity

Rejected Data (Flag <-3>)

The data collected from 01/23/2016 at 00:00 to 02/10/2016 at 13:45 were rejected due to the values were higher than what is typically observed at this site. The cause of these high readings is unknown for there were no rain events, change in water level or biofouling of the sensor. The values are flagged as <-3> [GSM] (CCU).

The data collected from 04/03/2016 at 16:15 to 04/06/2016 at 1:00 were rejected due to biofouling. The values are flagged as <-3> [STS] (CBF).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected during the February 10 deployment (02/10/2016 at 14:00 to 03/09/2016 at 12:45) were suspect due to the post-deployment check was outside the acceptable range at -5.2 (0.0 NTU). The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SPC] (CSM).

The data collected for the July 1 deployment (07/01/2016 at 10:15 to 07/13/2016 at 06:45) were suspect due to the post-deployment check was outside the acceptable range at 2.2 (0.0 NTU) and to biofouling. The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SPC] (CBF).

The data collected for the July 27 deployment (07/27/2016 at 10:15 to 08/10/2016 at 10:45) were suspect due to the post-deployment check was outside the acceptable range at 2.6 (0.0 NTU) and to biofouling. The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SPC] (CBF).

Passed Initial QAQC Checks (Flag <0>)
The turbidity collected from 06/15/2016 at 09:30 to 12/31/2016 at 23:45 were not suspect although the sonde was deployed at the wrong depth. When PVC tube swapped out, the new tube was positioned higher on deployment mount. The S. Edisto River is a well-mixed system so the readings are similar throughout the water column. Turbidity spikes during this time period were coded as [GSM] (CTS). The values are flagged as <0> [GSM] (CWD).

Mosquito Creek

All Parameters Blanket Statement for Mosquito Creek

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)
The data collected during the following times were missing due to maintenance. The sonde tube was cleaned between retrieving sonde and deploying newly calibrated sonde. The values are flagged as <-2> [GMC] (CSM).

03/09/2016 at 14:00 04/20/2016 at 13:30 05/18/2016 at 11:30

The data collected from 05/17/2016 at 11:00 to 13:15 were missing due to maintenance. The PVC tube was replaced during a deployment. The values are flagged as <-2> [GMC] (CSM).

Data collected from 06/16/2016 at 10:15 to 06/20/2016 at 13:45 were missing because no sonde was deployed. An object protruding from the PVC tube prevented the deployment of the sonde. The object (bolt) was removed on 06/29/2016, and a sonde was deployed on 06/29/2016 at 14:00. The values are flagged as <-2> [GMC] (CSM).

The data collected from 10/12/2016 at 09:15 to 12/14/2016 at 10:45 were missing because no sonde was deployed. The sonde was removed because the deployment mount was damaged. The bolts securing the top half of PVC tube were ripped out during Hurricane Matthew and the tube was leaning at an angle of approximately 45°. The mount was repaired on 12/14/2016 before the 10:45 reading. The loss of data for this time period was excused by the NERR SWMP Oversight Committee on 03/29/2017 due to hurricane damage. The values are flagged as <-2> [GMC] (CSM).

Suspect Data (Flag <1>)

The data collected from 05/17/2016 at 13:30 to 05/18/2016 at 11:15 were suspect because the PVC tube was replaced during a deployment. The data for all parameters were different after the installation of new tube and the same sonde was redeployed resulting is us considering the DO data suspect. The values are flagged as <0> [GMC] (CSM) for all parameters other than DO which is marked 1 GMC CSM.

The data collected from 06/29/2016 at 09:30 to 11:00 were suspect due to technicians were working on the PVC tube and mount while the sonde was still deployed. The values are flagged as <1> [GSM] (CMC).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 02/05/2016 at 00:00 to 02/18/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding a significant rain event. The decrease in salinity values were attributed to the high streamflow in the South Edisto River caused by the record rains during early-mid February (see blanket statement). The F_Record column was flagged as {CRE} {CSM}.

The data collected from 09/01/2016 at 00:00 to 09/03/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Hermine. See "Blanket Statements: All Stations" for additional information on Hurricane Hermine. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 09/14/2016 at 00:00 to 09/15/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Tropical Storm Julia. See "Blanket Statements: All Stations" for additional information on Tropical Storm Julia. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 10/07/2016 at 11:00 to 10/08/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew. See "Blanket Statements: All Stations" for additional information on Hurricane Matthew. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

Temperature

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/13/2016 at 16:45 to 01/22/2016 at 23:45 were not suspect although sonde was at the wrong depth. When deployed, the sonde did not appear to be at the bottom of tube but did drop on 1/23/2016. The temperature readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <1> [GSM] (CWD).

The data collected from 10/08/2016 at 09:15 to 10/12/2016 at 09:00 were not suspect although the sonde was at the wrong depth. The bolts securing the top half of PVC tube were ripped out during Hurricane Matthew and the tube was leaning at an angle of approximately 45°. The sonde was removed from the PVC tube on 10/12/2016 before the 09:15 reading. The deployment structure was repaired on 12/08/2016 and a sonde was deployed on 12/14/2016 before the 11:00 reading. The temperature readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Specific Conductivity/Salinity

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)

The data collected from 01/13/2016 at 16:45 to 01/22/2016 at 23:45 were not suspect although the sonde was at the wrong depth. When deployed, the sonde did not appear to be at the bottom of tube but did drop on 1/23/2016. The specific conductance/salinity readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/08/2016 at 09:15 to 10/12/2016 at 09:00 were not suspect although the sonde was at the wrong depth. The bolts securing the top half of PVC tube were ripped out during Hurricane Matthew and the tube was leaning at an angle of approximately 45°. The sonde was removed from the PVC tube on 10/12/2016 before the 09:15 reading. The deployment structure was repaired on 12/08/2016 and a sonde was deployed on 12/14/2016 before the 11:00 reading. The specific conductivity/salinity readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The large drop in specific conductivity/salinity readings was attributed to the storm. The values are flagged as <0> [GSM] (CWD).

DO Percent/mg/L

Rejected Data (Flag <-3>)
The data collected on 12/14/2016 at 11:00 were rejected due to a DO spike caused when the sonde was deployed. This is not typical; however, it is thought to be attributed to acclimation of the probe. The post-deployment checks and sensor diagnostics were within an acceptable range. The values are flagged as <-3> [GSM] (CND).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected for the February 10 deployment (02/10/2016 at 14:15 to 03/09/2016 at 13:45) were suspect due to the pre-deployment DO charge was outside the acceptable range at 99.2. The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SDG] (CSM).

The data collected from 07/20/2016 at 00:00 to 07/27/2016 at 12:00 were suspect due to a spike within the deployment. The data is within the acceptable range for the site and the sensor passed all pre and post-deployment and diagnostic checks. The values are flagged as <1> [SDO] (CCU).

The data collected for the August 10 deployment (08/10/2016 at 12:30 to 08/17/2016 at 11:45) were suspect due to readings were higher than what is typically observed at the site. The pre/post-deployment checks and sensor diagnostics were all within range and the data matched up with the previous and following deployments. The cause of this gradually increase in values in unknown at this time. The values are flagged as <1> [SDO] (CCU).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/13/2016 at 16:45 to 01/22/2016 at 23:45 were not suspect although sonde was at the wrong depth. When deployed, the sonde did not appear to be at the bottom of tube but did drop on 1/23/2016. The dissolved oxygen readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/08/2016 at 09:15 to 10/12/2016 at 09:00 were not suspect although sonde was at the wrong depth. The bolts securing the top half of PVC tube were ripped out during Hurricane Matthew and the tube was leaning at an angle of approximately 45 degrees. The sonde was removed from the PVC tube on 10/12/2016 before the 09:15 reading. The deployment structure was repaired on 12/08/2016 and a sonde was deployed on 12/14/2016 before the 11:00 reading. The dissolved oxygen readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Depth

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 01/13/2016 at 16:45 to 01/22/2016 at 23:45 were suspect due to sonde at the wrong depth. The sonde did not appear to be at the bottom of tube but did drop on 1/23/2016. The temperature, specific conductance/salinity, dissolved oxygen, pH, and turbidity did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <1> [GSM] (CWD).

The data collected from 04/20/2016 at 13:45 to 05/04/2016 at 13:15 were suspect due to sonde at the wrong depth. The sonde did not appear to be at the bottom of tube. The temperature, specific conductance/salinity, dissolved oxygen, pH, and turbidity did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <1> [GSM] (CWD).

The data collected from 10/08/2016 at 09:15 to 10/12/2016 at 09:00 were suspect due to sonde was at wrong depth. During this time the PVC mount became detached from the bridge during Hurricane Matthew and was leaning at an angle of about 45 degrees. The mount was fixed and a sonde was deployed on 12/14/2016 at 11:00. The values are flagged as <1> [GSM] (CWD).

pH

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/13/2016 at 16:45 to 01/22/2016 at 23:45 were not suspect although sonde was at the wrong depth. When deployed, the sonde did not appear to be at the bottom of tube but did drop on 1/23/2016. The pH readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/08/2016 at 09:15 to 10/12/2016 at 09:00 were not suspect although sonde was at the wrong depth. The bolts securing the top half of PVC tube were ripped out during Hurricane Matthew and the tube was leaning at an angle of approximately 45 degrees. The sonde was removed from the PVC tube on 10/12/2016 before the 09:15 reading. The deployment structure was repaired on 12/08/2016 and a sonde was deployed on 12/14/2016 before the 11:00 reading. The pH readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Turbidity

Rejected Data (Flag <-3>)
The data collected for the January 13 deployment (01/13/2016 at 16:45 to 02/10/2016 at 14:00) were rejected due to a turbidity sensor failure. There were no spare sensors available. After this deployment the sensor was sent to YSI for periodic maintenance and went back into rotation on 08/30/2016. The values are flagged as <-3> [SSM] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

The data collected for the February 10 deployment (02/10/2016 at 14:15 to 03/09/2016 at 13:45) were suspect due to the post deployment check was outside the acceptable range at -6.5 (0.0 NTU) and 184.2 (126.0 NTU). The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SPC] (CSM).

The data collected for the June 20 deployment (06/20/2016 at 14:00 to 07/01/2016 at 08:30) were suspect due to the post-deployment check was outside the acceptable range at 7.0 (0.0 NTU). This was a new sensor and every deployment after this was within range. The data were not rejected because the readings were within the range typically observed at the site. The values are flagged as <1> [SPC] (CSM).

Passed Initial QAQC checks (Flag <0>)
The data collected from 01/13/2016 at 16:45 to 01/22/2016 at 23:45 were not suspect due to sonde at the wrong depth. When deployed, the sonde did not appear to be at the bottom of tube but did drop on 1/23/2016. The turbidity readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/08/2016 at 09:15 to 10/12/2016 at 09:00 were not suspect although the sonde was at the wrong depth. The bolts securing the top half of PVC tube were ripped out during Hurricane Matthew and the tube was leaning at an angle of approximately 45°. The sonde was removed from the PVC tube on 10/12/2016 before the 09:15 reading. The deployment structure was repaired on 12/08/2016 and a sonde was deployed on 12/14/2016 before the 11:00 reading. The turbidity readings did not change because the S. Edisto River is a well-mixed system and the tube was in the same thermocline. The values are flagged as <0> [GSM] (CWD).

St. Pierre Creek

All Parameters Blanket Statement for St. Pierre Creek

Rejected Data (Flag <-3>)
The data collected during the following time periods were rejected due to the data were outside the range typically observed at the site. The values were out of water readings that occurred due to a low tide. The values are flagged as <-3> [GOW] (CLT).

01/13/2016 at 16:30 to 17:15 07/11/2016 at 11:30 to 11:45

Missing Data (Flag <-2>)
The data collected during the following periods were missing due to maintenance. On June 13, the sonde was removed during the deployment to replace the PVC tube. On July 18, the sonde was taken out of the PVC tube, and the PVC tube was re-positioned on the piling due to a buildup of sediment that was affecting the depth. The value is flagged as <-2> [GMC] (CSM).

06/13/2016 at 10:15 07/18/2016 at 13:30 to 14:00

The data collected during the following time periods were missing due a power failure/low battery. The battery voltage dropped below 5.0 volts near the end of the deployment. The values are flagged as <-2> [GPF] (CSM).

08/25/2016 at 01:00 to 09/06/2016 at 10:30 10/11/2016 at 23:30 to 10/12/2016 at 10:15
10/30/2016 at 04:30 to 11/02/2016 at 11:00 (water in the port)

The data collected on 09/16/2016 at 12:00 were missing due to operator error. The sonde was not deployed before the first reading of new deployment. The value is flagged as <-2> [GMC] (CSM).

The data collected from 11/02/2016 at 11:15 to 11/04/2016 at 07:30 were missing due to maintenance. The sonde was retrieved because battery voltage was insufficient for telemetry transmission. The low battery was due to water intrusion into the connection port. The sonde was taken to lab for cleaning, calibrating, and programming, and then was re-deployed. The values are flagged as <-2> [GMC] (CSM).

The data collected on 11/16/2016 at 13:00 were missing due to maintenance. The PVC tube was cleaned before deploying newly calibrated. The value are flagged as <-2> [GMC] (CSM).

Suspect Data (Flag <1>)
The data collected from 06/13/2016 at 10:30 to 06/15/2016 at 07:45 were suspect due to maintenance. The PVC tube housing the sonde was re-positioned on 06/13/2016 at 10:15 which was during the deployment. The tube was shifted from the creek side to the open channel side of the deployment mount and it was positioned at lower depth on the mount. The same sonde was redeployed resulting in suspect data. All parameters were affected by the moving of the tube. The values are flagged as <1> [GSM] (CWD).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 02/05/2016 at 00:00 to 02/18/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding a significant rain event. The decrease in salinity values were attributed to the high streamflow in the South Edisto River caused by the record rains during early-mid February (see blanket statement). The F_Record column was flagged as {CRE} {CSM}.

Data collected from 07/18/2016 at 14:15 to 7/27/2016 at 09:00 during the July 13 deployment were suspect due to maintenance. The readings were different after PVC tube was re-positioned during the deployment. The values are flagged as {CMC} {CSM}.

The data collected from 09/01/2016 at 00:00 to 09/03/2016 at 23:45 were not suspect due to the data fitting the condition surrounding Hurricane Hermine. See "Blanket Statements: All Stations" for additional information on Hurricane Hermine. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 09/14/2016 at 00:00 to 09/15/2016 at 23:45 were not suspect due to the data fitting the condition surrounding Tropical Storm Julia. See "Blanket Statements: All Stations" for additional information on Tropical Storm Julia. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 10/07/2016 at 00:00 to 10/08/2016 at 23:45 were not suspect due to the data fitting the condition surrounding Hurricane Matthew. See "Blanket Statements: All Stations" for additional information on Hurricane Matthew. All parameters were affected by this significant weather event; therefore, the F_Record column were flagged as {CWE} {CSM}.

The data collected from 10/27/2016 at 11:15 to 10/30/2016 at 04:15 were not suspect although no data were transmitted to the CDMO due to low battery voltage (less than 10.5 volts). The low battery was due to water intrusion into the connection port. The sonde was taken to lab for cleaning and then re-deployed. The values are flagged as <0> [GPF] (CSM).

The data collected during the November 4 deployment (11/04/2016 at 07:45 to 11/16/2016 at 12:45) differ from the raw .dat file by the date but not the time. Due to a programming issue, the sonde recorded the date as year/month/day instead of month/day/year. The F_Record column were flagged as {CSM}.

Temperature

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)

The data collected from 01/01/2016 at 00:00 to 01/13/2016 at 13:00 during the December 14, 2015 deployment were not suspect although the sonde was at the wrong depth. The bandit securing the top half of the sonde broke causing it to lean at approximately a 45° angle, and based on the data, the tube appeared to have shifted horizontally on the deployment mount around 12/18/2015. The temperature readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The data collected from 06/15/2016 at 08:00 to 12/31/2016 at 23:45 were not suspect although sonde was at wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The average depth during the first part of the years was **1.71** meters and **2.58** meters new tube installed. The temperature did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Specific Conductivity/Salinity

Rejected Data (Flag <-3>)
The data collected during the May 18 deployment (05/18/2016 at 09:45 to 06/02/2016 at 13:00) were rejected due to the pre-deployment cell constant was out of range and the post-calibration out of range. The values are flagged as <-3> [SPC] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 1/1/2016 at 00:00 to 01/13/2016 at 13:00 during the December 14, 2015 deployment were not suspect although the sonde was at the wrong depth. The bandit securing the top half of the sonde broke causing it to lean at approximately a 45° angle, and based on the data, the tube appeared to have shifted horizontally on the deployment mount around 12/18/2015. The specific conductivity/salinity readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

During from 06/15/2016 at 08:00 to 12/31/2016 at 23:45 were not suspect although sonde was at wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The average depth during the first part of the years was **1.71** meters and **2.58** meters new tube installed. The specific conductivity/salinity did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The SpCond and salinity data collected from 08/07/2016 at 08:00 to 08/17/2016 at 03:45 were not suspect although the salinity data pattern is unusual for this site. This change in pattern occurs across deployments with predictable salinity before and after. It is unclear what may have caused this change; however, unusual salinity was also observed at EI and lower salinities were observed at FC around these times. The values are flagged as <0> (CSM).

The data collected for the following dates/times were not suspect due to the data fitting the conditions surrounding Hurricane Matthew (see blanket statement for further information). The data did not recover to pre-hurricane levels until 10/31/2016. The values are flagged as <0> [GSM] (CWE).

10/09/2016 at 00:00 to 10/11/2016 at 23:15 10/12/2016 at 10:30 to 10/27/2016 at 11:00

The data collected from 12/06/2016 at 00:00 to 12/07/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding a rain event. The values are flagged as <0> [GSM] (CRE).

DO Percent/mg/L

Rejected Data (Flag <-3>)
The data collected from 01/01/2016 at 00:00 to 01/13/2016 at 13:45 during the December 14, 2015 deployment were rejected due to post-deployment check out of range (36.9/36.4%). The readings had drifted downward, which indicated biofouling. The values are flagged as <-3> [SPC] (CSM).

The data collected from 02/25/2016 at 00:00 to 03/03/2016 at 12:00 during the February 10 deployment were rejected due to post calibration check out of range (73.8/73.5%). The pre calibration check also was out of range (114.2%), but the sensor diagnostics check was acceptable. This was the first deployment of this sensor, and values were attributed to a "hiccup" with the new sensor. However, the downward drift in the readings on February 25 indicated biofouling so the readings were rejected. The prior readings are flagged as suspect because of the out of range post-deployment checks. The values are flagged as <-3> [SPC] (CSM).

The data collected during the July 27 deployment (07/27/2016 at 09:15 to 08/10/2016 at 10:00) were rejected due to the data were outside the acceptable range (over 200%). The sensor passed pre/post-deployment and diagnostic checks. The values are flagged as <-3> [SSM] (CSM).

The data collected during the August 17 deployment (08/17/2016 at 10:45 to 08/25/2016 at 00:45) were rejected due to the data were outside the acceptable range and failing the post-deployment and diagnostic checks. This sensor has been retired and sent back to YSI under warranty to be replaced. The values are flagged as <-3> [SSM] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected during the January 13 deployment (01/13/2016 at 13:15 to 02/10/2016 at 13:00) were suspect due to post-deployment out of range. This deployment had a new DO sensor and the pre-calibration sensor diagnostics were within range. The readings were within the range expected at this site, and the sensor diagnostics for the next deployments of this sensor are within range. The values are flagged as <1> [SPC] (CSM).

The data collected from 02/10/2016 at 13:15 to 02/24/2016 at 23:45 during the February 10 deployment were suspect due to post calibration check out of range (73.8/73.5%). The pre calibration check also was out of range (114.2%), but the sensor diagnostics check was acceptable. This was the first deployment of this sensor, and values were attributed to a "hiccup" with the new sensor. The readings during rest of deployment are rejected due to biofouling. The values are flagged as <1> [SPC] (CSM).

The data collected during the July 1 deployment (07/01/2016 at 11:15 to 07/13/2016 at 06:15) were suspect due to post-deployment out of range due to biofouling. The pre-calibration check and sensor diagnostics were within range. The sensor diagnostics and calibration checks of the next deployment of this sensor were also within range. The values are flagged as <1> [SPC] (CBF).

The data collected from 11/11/2016 at 00:00 to 11/16/2016 at 12:45 were suspect due to the data were higher than the following deployment. The pre/post-deployment checks were all within range and there was no biofouling reported. The cause of this difference is unknown. The values are flagged as <1> [SDO] (CCU).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 01/13/2016 at 13:00 during the December 14, 2015 deployment were not suspect although the sonde was at the wrong depth. The bandit securing the top half of the sonde broke causing it to lean at approximately a 45^{o} angle, and based on the data, the tube appeared to have shifted horizontally on the deployment mount around 12/18/2015. The dissolved oxygen readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <1> [GSM] (CWD).

During from 06/15/2016 at 08:00 to 12/31/2016 at 23:45 were not suspect although sonde was at wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The dissolved oxygen did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD). Note: hypoxic events are flagged as <0> [GSM] (CDA).

Depth

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected during the December 14, 2015 deployment (12/14/2015 at 13:15 to 01/13/2016 at 13:00) were suspect because sonde was at the wrong depth. The bandit securing the top half of the sonde broke causing it to lean at approximately a 45^{o} angle, and based on the data, the tube appeared to have shifted horizontally on the deployment mount around 12/18/2015. The tube was re-attached on January 13, 2016 before the 13:15 reading. The values are flagged as <1> [GSM] (CWD).

The data collected from 06/15/2016 at 08:00 to 12/31/2016 at 23:45 were suspect because sonde was at wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The average depth during the first part of the years was **1.71** meters and **2.58** meters new tube installed. The temperature, specific conductance/salinity, dissolved oxygen, pH, and turbidity did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <1> [GSM] (CWD).

pH

Rejected Data (Flag <-3>)
The data collected during the December 14, 2015 deployment (12/14/2015 at 13:15 to 01/13/2016 at 13:00) were rejected due to sensor malfunction. The post-deployment slope and the post-deployment pH 7 and 10 checks were outside the acceptable range. The sensor diagnostics values were attributed to a broken pin in the sensor that was discovered during cleaning. Although the readings were within the range typically observed at the site, they were slightly lower than those of the previous deployment. The values are flagged as <-3> [SSM] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 06/15/2016 at 08:00 to 12/31/2016 at 23:45 were not suspect although sonde was at wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The average depth during the first part of the years was **1.71** meters and **2.58** meters new tube installed. The pH did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Turbidity

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>

Passed Initial QAQC Checks (Flag <0>)
The data collected from 1/1/2016 at 00:00 to 01/13/2016 at 13:00 during the December 14, 2015 deployment were not suspect although the sonde was at the wrong depth. The bandit securing the top half of the sonde broke causing it to lean at approximately a 45° angle, and based on the data, the tube appeared to have shifted horizontally on the deployment mount around 12/18/2015. The turbidity readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD). Note: turbidity spikes are flagged as <0> [GSM] (CTS).

The data collected from 06/15/2016 at 08:00 to 12/31/2016 at 23:45 were not suspect although sonde was at wrong depth. When PVC tube was swapped out, the new tube was positioned higher on deployment mount. The average depth during the first part of the years was **1.71** meters and **2.58** meters new tube installed. The turbidity did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Grove Plantation

All Parameters Blanket Statement for Grove Plantation

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)
The data collected during following periods were missing due to maintenance. On June 2, the PVC tube was replaced after retrieving sonde; during the other times, the tube was cleaned after retrieving sonde. The values are flagged as <-2> [GMC] (CSM).

06/02/2016 at 09:30 to 10:30 09/16/2016 at 13:45 11/22/2016 at 11:45

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 02/05/2016 at 00:00 to 02/18/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding a significant rain event. The decrease in salinity were attributed to the high streamflow in the South Edisto River caused by the record rains during early-mid February (see blanket statement). The F_Record column was flagged as {CRE} {CSM}.

The data collected during the August 17 deployment (08/17/2016 at 12:15 to 09/06/2016 at 12:15) will vary in time from the raw .dat file because the sonde was programmed to collect data a minute late; however, there is no need to correct the time since the Macros program automatically corrects it. The F_Record column is flagged as {CSM}.

The data collected from 09/01/2016 at 00:00 to 09/03/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Hermine. See "Blanket Statements: All Stations" for additional information on Hurricane Hermine. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 09/14/2016 at 00:00 to 09/15/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Tropical Storm Julia. See "Blanket Statements: All Stations" for additional information on Tropical Storm Julia. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 09/16/2016 at 00:00 to 09/28/2016 at 11:00 were not suspect due to the data fitting the conditions associated with post Hurricane Hermine and Tropical Storm Julia. The data for this site has yet to return to pre-hurricane conditions. The F_Record column is flagged as {CSM}.

The data collected from 10/07/2016 at 00:00 to 10/08/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew. See "Blanket Statements: All Stations" for additional information on Hurricane Matthew. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

Temperature

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/02/2016 at 09:15 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The temperature readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Specific Conductivity/Salinity

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/02/2016 at 09:15 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a different vertical position on the deployment mount. The specific conductance/salinity readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/09/2016 at 00:00 to 10/31/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew (see blanket statement for further information). The data did not recover to pre-hurricane levels until 10/31/2016. The values are flagged as <0> [GSM] (CWE).

DO Percent/mg/L

Rejected Data (Flag <-3>)
The data collected during the September 16 deployment (09/16/2016 at 14:00 to 09/28/2016 at 11:00) were rejected due to post-deployment and diagnostic checks outside the acceptable range. The values are flagged as <-3> [SPC] (CSM).

The data collected from 11/12/2016 at 13:00 to 11/16/2016 at 14:30 were rejected due to a DO membrane puncture. The sensor failed the high/low test and the data was erroneous. The values are flagged as <-3> [SDP] (CSM).

The data collected from 12/29/2016 at 00:00 to 12/31/2016 at 23:45 during the December 14 deployment (12/14/2016 at 13:30 to 01/13/2017 at 13:15) were rejected due to a sensor malfunction. The pre/post-

deployment checks and sensor diagnostics were within range; however, upon pre-calibrating for the next deployment it was out of range. Due to failure to pre-calibrate properly after cleaning and due to age the sensor was retired. The data at the beginning of the deployment were only suspect because the readings were within the range typically observed at the site. The values are flagged as <-3> [SSM] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected 01/01/2016 at 00:00 to 01/13/2016 at 14:30 during the December 14, 2015 deployment were suspect due to post-deployment check was outside the acceptable range. The sensor diagnostics were acceptable. The data were not rejected because they were within the range typically observed at the site. The values are flagged as <1> [SPC] (CSM).

The data collected for the May 4 deployment (05/04/2016 at 12:30 to 05/18/2016 at 11:15) were suspect due to the post-deployment check was outside the acceptable range. The sensor diagnostics were acceptable. The data was not rejected because they were within the range typically observed at the site. The values are flagged as <1> [SPC] (CSM).

The data collected during the September 28 deployment (09/28/2016 at 11:15 to 10/13/2016 at 10:15) were suspect due to the post-deployment check was outside the acceptable range at 111.7 %; however, the data were not rejected because they were within an acceptable range for this site. The values are flagged as <1> [SPC] (CSM).

The data collected from 10/13/2016 at 10:30 to 11/12/2016 at 12:45 during the October 13 deployment were suspect due to post-deployment check was outside the acceptable range at 121.9%. The readings were within an acceptable range for this site; the data for the rest of the deployment were rejected. The values are flagged as <1> [SPC] (CSM).

The data collected from 12/14/2016 at 13:30 to 12/28/2016 at 23:45 during the December 14 deployment were suspect due to a sensor malfunction. The pre/post-deployment checks and sensor diagnostics were within range; however, upon pre-calibrating for the next deployment it was out of range. Due to failure to pre-calibrate properly after cleaning and due to age the sensor was retired. The data were not rejected because the readings were within the range typically observed at the site. On 12/29/2016 the data began rising and did not match up with the following deployment and was rejected. The values are flagged as <1> [SSM] (CSM).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/02/2016 at 09:15 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The dissolved oxygen readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Depth

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 01/01/2016 at 00:00 to 06/02/2016 at 09:15 were suspect due to sonde was at wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The readings from the other parameter did not change during the year because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <1> [GSM] (CWD).

pH

Rejected Data (Flag <-3>)
During the following dates/times, data were rejected due to pH spikes that occurred during the first reading of a new deployment. This is not typical; however, it is attributed to acclimation of the probe. The post deployment checks and sensor diagnostics were within an acceptable range. The values are flagged as <-3> [GSM] (CND).

01/13/2016 at 14:45 05/04/2016 at 12:30 10/13/2016 at 10:30

The data collected during the February 10 deployment (02/10/2016 at 15:00 to 03/09/2016 at 13:30) were rejected because a pH sensor was not installed but the sensor was not de-activated during programming. The values are flagged as <-3> [SSR] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/02/2016 at 09:15 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The pH readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The data collected during the following deployments were not suspect although they were 0.2 units higher than those of adjacent deployments. The pre/post-deployment checks were acceptable, and the readings were within the range typically observed at the site. The cause of this increase is unknown. The values are flagged as <0> [GSM] (CCU).

04/06/2016 at 14:15 to 04/20/2016 at 12:30 05/04/2016 at 12:45 to 05/18/2016 at 11:15

Turbidity

Rejected Data (Flag <-3>)
The data collected for the April 6 deployment (04/06/2016 at 14:15 to 04/20/2016 at 12:30) were rejected due to sensor malfunction. The pre-deployment check was outside the acceptable range and the post-deployment check for the 0 NTU was outside the acceptable range, and sensor did pass the output test. There are no spare sensors available, new sensors have been ordered. The values are flagged as <-3> [SSM] (CSM).

The data collected for the May 4 deployment (05/04/2016 at 12:30 to 05/18/2016 at 11:15) were rejected due to sensor malfunction. New sensors have been ordered; however, the sensor was deployed for the sole purpose of the wiper brush. The values are flagged as <-3> [SSM] (CSM).

The data collected for the June 2 deployment (06/02/2016 at 10:45 to 06/15/2016 at 10:15) were rejected due to sensor malfunction. New sensors have been ordered; however, the sensor was deployed for the sole purpose of the wiper brush. The values are flagged as <-3> [SSM] (CSM).

The data collected for the October 13 deployment (10/13/2016 at 10:30 to 11/16/2016 at 14:30) were rejected due to a loss of the wiper brush which caused the sensor to become heavily coated in mud in turn causing erroneous data. The values are flagged as <-3> [SWM] (CBF).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected during the February 10 deployment (02/10/2016 at 15:00 to 03/09/2016 at 13:30) were suspect due to the post-deployment check was outside the acceptable range at -5.2 (0.0 NTU). The data is within the acceptable range for this site. The values are flagged as <1> [SPC] (CSM).

The data collected for the June 15 deployment (06/15/2016 at 10:30 to 07/01/2016 at 09:15) were suspect due to the 0.0 NTU post-deployment check was outside the acceptable range at 6.9 NTU. Although the sensor was moderately covered in mud the data appears to fit conditions typically observed at this site. The values are flagged as <1> [SPC] (CBF).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 06/02/2016 at 09:15 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The turbidity readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Jehossee Island

All Parameters Blanket Statement for Jehossee Island

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)
The data collected during the following periods are missing due to maintenance. The maintenance was done after the sonde was retrieved. On June 2, PVC tube was replaced, and during the other time, the PVC tube was cleaned. The values are flagged as <-2> [GMC] (CSM).

04/06/2016 at 12:30 06/02/2016 at 11:15 to 11:45 07/01/2016 at 09:45 12/14/2016 at 12:45

Suspect Data (Flag <1>)

Passed Initial QAQC Checks (Flag <0>)
The data collected from 09/01/2016 at 00:00 to 09/03/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Hermine. See "Blanket Statements: All Stations" for additional information on Hurricane Hermine. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 09/14/2016 at 00:00 to 09/15/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Tropical Storm Julia. See "Blanket Statements: All Stations" for additional information on Tropical Storm Julia. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

The data collected from 09/16/2016 at 00:00 to 09/28/2016 at 10:30 were not suspect due to the data fitting the conditions associated with post Hurricane Hermine and Tropical Storm Julia. The data for this site has yet to return to pre-hurricane conditions. The F_Record column is flagged as {CSM}.

The data collected from 10/07/2016 at 00:00 to 10/08/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew. See "Blanket Statements: All Stations" for additional information on Hurricane Matthew. All parameters were affected by this significant weather event; therefore, the F_Record column was flagged as {CWE} {CSM}.

Temperature

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected for the July 1 deployment (07/01/2016 at 10:00 to 07/13/2016 at 07:15) were suspect due to the readings were outside the acceptable range for this site. The specific conductivity and salinity parameters were not flagged because the readings were within the range typically observed at this site and passing the post-deployment check. This sensor was retired in September due to the temperature failure. The values are flagged as <1> [SSM] (CSM).

The data collected for the July 27 deployment (07/27/2016 at 10:45 to 08/10/2016 at 11:00) were suspect due to the readings were outside the acceptable range for this site. The specific conductivity and salinity parameters were not flagged because the readings were within the range typically observed at this site and passing the post-deployment check. This sensor was retired in September due to the temperature failure. The values are flagged as <1> [SSM] (CSM).

The data collected for the August 17 deployment (08/17/2016 at 11:45 to 09/06/2016 at 11:45) were suspect due to the readings were outside the acceptable range for this site and for the sensor failing the post-deployment temperature check at 17.97°C in a standard of 21.4°C. The specific conductivity and salinity parameters were not flagged because the readings were within the range typically observed at this site. The pH post-deployment check also would not stabilize indicating a failure with the C/T sensor. The sensor was retired after this deployment. The values are flagged as <1> [SSM] (CSM).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 03/09/2016 at 13:00 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The temperature readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Specific Conductivity/Salinity

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected for the July 13 deployment (07/13/2016 at 07:30 to 07/27/2016 at 10:30) were suspect due to the post-deployment check was outside the acceptable range at 46.48 mS/cm due to severe biofouling of barnacles. The data were not rejected because it is within the range typically observed at this site. The values are flagged as <1> [SPC] (CBF).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 03/09/2016 at 13:00 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The specific conductance/salinity readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

The data collected from 02/05/2016 at 00:00 to 02/18/2016 at 23:45 were not suspect. The post-deployment check and sensor diagnostics were within acceptable range. The decrease in salinity were attributed to the high

streamflow in the South Edisto River caused by the record rains during early-mid February (see blanket statement). The values are flagged as <0> [GSM] (CRE).

The data collected from 10/09/2016 at 00:00 to 10/31/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew (see blanket statement for further information). The data did not recover to pre-hurricane levels until 10/31/2016. The values are flagged as <0> [GSM] (CWE).

DO Percent/mg/L

Rejected Data (Flag <-3>)
The data collected for the July 13 deployment (07/13/2016 at 07:30 to 07/27/2016 at 10:30) were rejected due to sensor malfunction. The sensor passed pre-calibration and sensor diagnostic checks; however, it failed the post-deployment check. Although the sensor was severely bio fouled due to barnacles the data was outside the acceptable range upon the first reading and therefore was attributed to a sensor failure instead of bio fouling. The values are flagged as <-3> [SSM] (CSM).

The data collected for the August 10 deployment (08/10/2016 at 11:15 to 08/17/2016 at 11:30) were rejected due to sonde being deployed without a DO sensor due to no back up sensors available. A sensor was ordered but was not received in time for the deployment. Reporting was left out while programming so the values are meaningless. The values are flagged as <-3> [SSR] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected for the July 1 deployment (07/01/2016 at 10:00 to 07/13/2016 at 07:15) were suspect due to bio fouling that caused post-deployment check to be outside the acceptable range. Barnacles were directly on top of the membrane. The values are flagged as <1> [SPC] (CSM).

The data collected for the July 27 deployment (07/27/2016 at 10:45 to 08/10/2016 at 11:00) were suspect due to the post-deployment check was outside the acceptable range at 116.2 % due to severe biofouling of barnacles. The data was not rejected because it is within the acceptable range for this site. For the following deployment this sensor failed the high to low test and was retired. The values are flagged as <1> [SPC] (CBF).

The data collected for the October 12 deployment (10/12/2016 at 13:00 to 11/16/2016 at 14:00) were suspect due to the post-deployment check was outside the acceptable range at 54.2 %. The data was not rejected because it is within the acceptable range for this site. The sensor was a 2005 sensor and was retired after this deployment. The values are flagged as <1> [SPC] (CSM).

The data collected from 12/14/2016 at 13:00 to12/31/2016 at 23:45 during the December 14 deployment (12/14/2016 at 13:00 to 01/11/2017 at 12:00) were suspect due to the post-deployment check was outside the acceptable range at 110.1 %. The sensor diagnostics were within an acceptable range. The data were not rejected because it is within the range typically observed at this site. The values are flagged as <1> [SPC] (CSM).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 03/09/2016 at 13:00 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The dissolved oxygen readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD).

Depth

Rejected Data (Flag <-3>)

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected from 01/01/2016 at 00:00 to 03/09/2016 at 13:00 were suspect due to sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The temperature, specific conductance/salinity, dissolved oxygen, pH, and turbidity did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <1> [GSM] (CWD).

Passed Initial QAQC Checks (Flag <0>)

pH

Rejected Data (Flag <-3>)
The pH reading on 01/13/2016 at 14:15 was rejected due to a pH spike that occurred when the sonde was deployed. This is not typical, and it is attributed to acclimation of a new sensor. The post deployment checks and sensor diagnostics were within an acceptable range. The value is flagged as <-3> [GSM] (CND).

The data collected for the August 17 deployment (08/17/2016 at 11:45 to 09/06/2016 at 11:45) were rejected due to the pre/post-deployment and diagnostic checks were outside the acceptable range. The sensor was retired after this deployment. The values are flagged as <-3> [SSM] (CSM).

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected for the July 13 deployment (07/13/2016 at 07:30 to 07/27/2016 at 10:30) were suspect due to bio fouling that caused the post-deployment check to be outside the acceptable range. The data were not rejected because it is within the acceptable range for this site. The values are flagged as <1> [SPC] (CBF).

The data collected for the July 27 deployment (07/27/2016 at 10:45 to 08/10/2016 at 11:00) were suspect due to bio fouling that caused the post-deployment and diagnostic checks to be outside the acceptable range. The data were not rejected because it is within the acceptable range for this site. The values are flagged as <1> [SPC] (CBF).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 03/09/2016 at 13:00 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The pH readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. However, the depth readings are different. The values are flagged as <0> [GSM] (CWD).

The data collected from 10/09/2016 at 00:00 to 10/31/2016 at 23:45 were not suspect due to the data fitting the conditions surrounding Hurricane Matthew (see blanket statement for further information). The data did not recover to pre-hurricane levels until 10/31/2016. The values are flagged as <0> [GSM] (CWE).

Turbidity

Rejected Data (Flag <-3>)
The data collected during the following deployments were rejected due to a sensor malfunction. The post-deployment checks were well outside the acceptable range, and the pre-calibration check during the February 2 deployment was outside the acceptable range. Sensor was deployed knowing it needed to be replaced; however, we needed to use the wiper brush. The values are flagged as <-3> [SSM] (CSM).

02/10/2016 at 14:30 to 03/09/2016 at 13:00 04/06/2016 at 12:45 to 04/20/2016 at 12:00

05/04/2016 at 12:15 to 05/18/2016 at 10:45 06/02/2016 at 12:00 to 06/15/2016 at 09:30

Missing Data (Flag <-2>)

Suspect Data (Flag <1>)
The data collected for the October 12 deployment (10/12/2016 at 13:00 to 11/16/2016 at 14:00) were suspect due to the post-deployment check was outside the acceptable range at 156.0 NTU. The wiper brush had also fallen off during deployment; however, the data were not rejected because it is within the acceptable range for this site. The values are flagged as <1> [SPC] (CSM).

Passed Initial QAQC Checks (Flag <0>)
The data collected from 01/01/2016 at 00:00 to 03/09/2016 at 13:00 were not suspect although the sonde was at the wrong depth. When old PVC tube was swapped out, the new tube was installed at a lower vertical position on the deployment mount. The turbidity readings did not change because the S. Edisto River is a well-mixed system and new tube was placed in the same thermocline. The values are flagged as <0> [GSM] (CWD). The turbidity spikes between 299 and 1001 NTU are flagged as <0> [GSM] (CTS).