Chesapeake Bay Virginia (CBV) NERR Water Quality Metadata
January – December
Latest Update: July 17, 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 in a comma-delimited format (.CDF) and uploaded to the CDMO where they undergo automated primary QAQC; automated depth/level corrections for changes in barometric pressure (cDepth or cLevel parameters); and become part of the CDMO's online provisional database. All pre- and post-deployment data are removed from the file prior to upload. During primary QAQC, 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 the data for review. It allows the user to apply QAQC flags and codes to the data, remove any overlapping deployment data, append files, and export the resulting data file for upload to the CDMO. Upload after secondary QAQC results in ingestion into the database as provisional plus data, recalculation of cDepth or cLevel parameters, and finally tertiary QAQC by the CDMO and assimilation into the CDMO's authoritative online database. Where deployment overlap occurs between files, the data produced by the newly calibrated sonde is generally accepted as being the most accurate. For more information on QAQC flags and codes, see Sections 11 and 12. Joy Baber has been responsible for data management since January 2002.

3) Research objectives

The Chesapeake Bay National Estuarine Research Reserve (CBNERR or Reserve) in Virginia consists of four components (Sweet Hall Marsh, Taskinas Creek, Catlett Islands and the Goodwin Islands), which represent the diversity of ecosystems found along the salinity gradient of the York River estuary. While not a formal Reserve

component, Clay Bank represents a historical heavily studied region of the York System. . Due to their protected status, on-site management by CBNERR and availability of extensive onsite information, the four components of the Reserve (and Clay Bank) continue to serve as platforms and living laboratories for both short and long-term research and environmental monitoring efforts. There are typically 35-40 permitted research and monitoring projects occurring at these sites. The primary research focus areas directing Reserve programs include (1) basic ecology linkages of critical coastal ecosystems (underwater grass beds, tidal wetlands and the wetland-upland ecotone); (2) ecosystem vulnerability to episodic and climate induced stressors on critical coastal habitats, and (3) general water quality assessments and watershed/riverine material flux. Research efforts by investigators external to CBNERR cover a broad range of topics.

Goodwin Islands (GI) component:
The Goodwin Islands represent marsh islands surrounded by intertidal flats, submerged aquatic vegetation (SAV) beds, oyster reefs, and shallow open estuarine waters. Because minimal human activities occur within upland portions, the Goodwin Islands are suitable as a reference or control site for non-point source water quality issues. Furthermore, due to extensive wetlands, intertidal, and submerged habitats, the Goodwin Islands are used extensively for SAV, material flux, fisheries science and trophic interaction research activities.

Claybank (CB) component:
The Claybank site represents a shallow (< 2m) littoral area approximately 300-400 meters in width and located within the mesohaline portion of the York River estuary. Prior to 1972, this area supported submersed aquatic vegetation (SAV) but current conditions are not conducive to SAV survival. This site is used extensively to study sediment dynamics and environmental stress on SAV.

Taskinas Creek (TC) component:
The Taskinas Creek watershed is representative of an inner coastal plain, rural watershed within the southern Chesapeake Bay system. This watershed is dominated by forested and agricultural land uses with an increasing urban land use component. The drainage basin is suited for investigating hydrologic and non-point source water quality issues associated with developing land use patterns.

Sweet Hall Marsh (SH) component:
Sweet Hall Marsh is the most downriver extensive tidal freshwater marsh located in the Pamunkey River, one of two major tributaries of the York River. Research activities are currently addressing the impacts of salinity intrusion due to relative sea level rise. In addition, Sweet Hall Marsh has been used extensively to study general ecology and material flux within tidal freshwater marshes.

Sweet Hall Pier (SP) component:
Sweet Hall Marsh is the most downriver extensive tidal freshwater marsh located in the Pamunkey River, one of two major tributaries of the York River. Research activities are currently addressing the impacts of salinity intrusion due to relative sea level rise. In addition, Sweet Hall Marsh has been used extensively to study general ecology and material flux within tidal freshwater marshes.

4) Research methods

The following research methods apply for all stations.

A YSI 6600 V2 unvented dataloggers were used to measure specific conductivity, pH, depth, percent dissolved oxygen saturation, temperature, and turbidity at 15-minute intervals throughout the 2016 deployment year (see Section 6 for deployment intervals). Salinity and dissolved oxygen concentration are calculated parameters. At approximately one to two-week intervals, the datalogger was returned to the lab for downloading, cleaning, basic maintenance, and recalibration. Maintenance intervals vary from year to year and site-to-site depending on the amount of bio fouling and expected battery life. In general, YSI dataloggers were deployed for two-week intervals from mid-October to the end of June and one-week intervals from the beginning of July through October. A second YSI datalogger was deployed following retrieval of the original YSI datalogger in order to maintain a continuous record.

Field verification samples for pH, dissolved oxygen, salinity, and temperature were taken during the deployment/retrieval procedure. Temperature, pH, salinity and dissolved oxygen were determined in the field by using a YSI 6820 and YSI 6920 datalogger. All YSI procedures are in accordance with the YSI 6-Series Multi-Parameter Water Quality Monitoring Standard Operating Procedure in Chapter 3. Standards for pH were purchased from Fisher. Standards for specific conductivity and turbidity were purchased from YSI. Data are reviewed and edited according to the Water Quality Data Review and Editing Protocol in Chapter 5 of the CDMO manual version 6.5.

Goodwin Islands (GI) component:
The Chesapeake Bay Virginia NERR maintains a long-term water quality monitoring station at Goodwin Islands. This station is located on the southeastern side of the main island in a shallow embayment, approximately 400 meters from shore. The station was established in 1997 and consisted of a stable structure composed of a 4 inch PVC pipe housed within a galvanized steel tower. The lower portion of the PVC pipe was milled to allow for water circulation within the pipe and around the datalogger sensors. The datalogger was suspended so that the sensors are maintained 0.25 m from the bottom substrate. On July 22, 2004 (12:15 EST), the station was moved approximately 25 meters southwest of the previous station in order to address sand shoaling and station maintenance issues. Other than the datalogger being suspended 0.25 m above the bottom substrate, the construction design of the new station is identical to the previous station. On March 25, 2009 (9:15 EST), the new station coordinates: Lat 37.215796; Long -76.392675 is now located approximately 400 feet south of the old station coordinates: Lat 37.217013; Long -76.392620. The station was moved in order to address sand shoaling and station maintenance issues. The construction design of the new station is a stable structure composed of a 4 inch PVC pipe bolted to 3 ½ inch blocks screwed into a 10 inch marine treated piling (16 feet in length and driven into the sediment approximately 6 ft. to7ft.). PVC pipe is suspended to the blocks by hanger clamps which allow the tube to be switched and replaced easily for maintenance and for depth adjustments. The lower portion of the PVC pipe is milled to allow water to circulate within the pipe and around the datalogger sensors. On December 12, 2011 (14:45-15:15 EST), the tube was replaced and the datalogger suspended 25 cm above the bottom substrate. On November 12, 2012 (11:45 – 12:15), the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate. On May 22, 2014 (11:45 – 12:15), the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate. On May 27, 2016 (08:45 – 09:15), the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate.

Claybank (CB) component:
The Chesapeake Bay Virginia NERR maintains a long-term water quality monitoring station at Claybank. The station is located within a shallow (<2m) littoral area approximately 300-400 meters wide. A stable structure that consists of a 4 inch PVC pipe attached to a piling was built in January 2001. The lower portion of the PVC pipe was milled to allow for water circulation within the pipe and around the datalogger sensors. The datalogger is suspended so that sensors are located 0.25 m from the bottom substrate. On June 17, 2004 (13:15 EST) the station was moved approximately 100 meters offshore of the previous station in order to address sand shoaling and station maintenance issues. The new structure is composed of a 4 inch PVC pipe, with the lower portion milled to allow for uninhibited water circulation, housed within a galvanized steel tower. The datalogger is suspended 0.31 m above the bottom substrate. The new station results in sensors being maintained 9 cm deeper as compared to the previous station. Due to station stabilization issues, the Clay Bank station was reestablished on June 5, 2006 at 13:00. The new station coordinates: Lat 37.20800; Long 76.36673 is located approximately 3 meters down river of the old station coordinates: Lat 37.21739; Long 76.3954. The new station retained a similar water depth from the water surface to the bottom of the datalogger as the old station. On March 25, 2009 (10:45 EST), the new station coordinates: Lat 37.346665; Long -76.611263 is located approximately 5 meters west of the old station coordinates: Lat 37.346671; Long -76.611205. The station was moved in order to address station stability and station maintenance issues. The construction design of the new station is a stable structure composed of a 4 inch PVC pipe bolted to 3 ½ inch aluminum blocks screwed into a 10 inch marine treated piling (16 feet in length and driven into the sediment approximately 6 ft. to 7ft.). PVC pipe is suspended to the blocks by hanger clamps which allow the tube to be switched and replaced easily for maintenance of the tube and for depth adjustments. The lower portion of the PVC pipe is milled to allow water to circulate within the pipe and around the datalogger sensors. On December 12, 2011 (16:30-16:45 EST), the tube was replaced and the datalogger suspended 25 cm above the

bottom substrate. On November 12, 2012 (14:30 – 15:00), the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate. On May 22, 2014 (10:15 – 11:00), the tube was replaced and the datalogger suspended approximately 35 cm above the bottom substrate. On February 16, 2015 the datalogger was removed from the station due to extreme cold conditions, potential exposure, and ice forming on the station pipe. Toward the end of February and the beginning of March 2015, the Claybank station piling was heavily damaged by severe icing and had to be replaced. On May 13, 2015 @ 11:45 EST, the station was rebuilt in the same exact location as the previous location and the datalogger is suspended approximately 25 cm above the bottom substrate. On December 14, 2015 at 10:15:00 EST, the Claybank piling supporting the station pipe was accidently hit by our boat. The impact caused the piling to give way at the base of the station. On January 20, 2016 @ 12:30 EST, the Claybank station was rebuilt in the same exact location as the previous location and the datalogger was suspended approximately 25 cm above the bottom substrate.

Taskinas Creek (TC) component:

The Chesapeake Bay Virginia NERR maintains a long-term water quality monitoring station at Taskinas Creek. The station is located near the mouth of Taskinas Creek where the tidal marsh creek converges with the York River estuary. A simple deployment, consisting of a suspended wire attached to an overhanging tree, was established in September 1995. The datalogger was suspended at a fixed depth approximately 0.5 m above the creek-bed. In September 1997, the deployment was modified so that the datalogger remained secure and stable at all times within a 4 inch PVC housing attached to a piling system. The lower portion of the PVC pipe was milled to allow for water circulation within the pipe and around the datalogger sensors. The datalogger was suspended so that the sensors are maintained 0.5 m above the bottom substrate. On May 19, 2009 (11:30 EST), the station coordinates: Lat 37.414986; Long -76.71442 is located approximately 2 feet away from old station Lat 37.41497; Long -76.71441. The station was moved in order to address station stability and station maintenance issues. The construction design of the new station is a stable structure composed of a 4 inch PVC pipe bolted to 3 ½ inch blocks screwed into a 10 inch marine treated piling (16 feet in length and driven into the sediment approximately 6 ft. to 7ft.). PVC pipe is suspended to the blocks by hanger clamps which allow the tube to be switched and replaced easily for maintenance of the tube and for depth adjustments. The lower portion of the PVC pipe is milled to allow water to circulate within the pipe and around the datalogger sensors. On December 14, 2011 (9:00 – 9:30 EST) the tube was replaced and datalogger remains suspended 25 cm above the bottom substrate. On December 13, 2012 (14:30 – 15:00), the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate. On May 20, 2014 (9:45 – 11:00), the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate. On September 7, 2016 @ 9:15, the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate.

Sweet Hall Marsh (SH) component:

The Chesapeake Bay Virginia NERR maintains a long-term water quality station at Sweet Hall Marsh. This station, established in 2000, is located adjacent to a low-use boathouse where a 6-inch PVC pipe is attached to an adjacent pier piling. The datalogger was suspended so that the sensors remained 0.35m from the bottom substrate. In contrast to above stations, the Sweet Hall Marsh station is maintained on a two-week deployment interval throughout the year. In order to prepare the Sweet Hall Marsh station for telemetry equipment, a new station platform was installed on May 4, 2006 at the exact location of the old station. All elevations, height off the bottom and total water depth remained the same as the old station platform. On February 16, 2012 (12:45 EST), the 4" PVC tube was replaced and moved to the outside of a galvanized steel tower. The PVC tube is attached to 4" stainless steel pipe brackets. The 4" pipe brackets are screwed into 2, 4x4 blocks. The blocks suspend the PVC tube approximately 14" away from the galvanized steel tower. Suspending the PVC tube by the pipe brackets allow the tube to be replaced easily for maintenance and for depth adjustments. The lower portion of the PVC pipe is milled to allow water to circulate within the pipe and around the data sonde sensors. The datalogger is currently suspended 0.25 cm from the bottom substrate. On January 30, 2013(11:00), the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate. On May 20, 2014 (12:30 -13:15), the tube was replaced and the datalogger suspended approximately 25 cm above the bottom substrate. On September 16, 2016 @ 10:00, the station was dismantled to allow the pier to be extended approximately 30 ft. On November 3, 2016 @ 13:30, the tube was installed and the datalogger was suspended approximately 25 cm above the bottom substrate at a new location and a new station was create, Sweet Hall Pier (SP). Coordinates: Lat 37.57138; Long -

76.8842, is located approximately 30 feet away from old station Lat 37.571398; Long -76.883990. The station was moved in order to address the out of water events when the datalogger was exposed during extreme low tides. The old galvanized steel tower was removed from the station.

Sweet Hall Pier (SP) component:
The Chesapeake Bay Virginia NERR maintains a long-term water quality station at Sweet Hall Pier. This station, established in 2016 near the same location as the Sweet Hall Marsh (SH) station, is located adjacent to a low-use boathouse where a 6-inch PVC pipe is attached to an adjacent pier piling. In contrast to above stations, the Sweet Hall Marsh station is maintained on a two-week deployment interval throughout the year. On November 3, 2016 @ 13:30, the new station and tube was installed and the datalogger was suspended approximately 25 cm above the bottom substrate. The construction design of this new station is a stable structure composed of a 4 inch PVC pipe bolted to 3 ½ inch aluminum blocks screwed into a 10 inch marine treated piling (16 feet in length and driven into the sediment approximately 6 ft. to 7ft.). PVC pipe is suspended to the blocks by hanger clamps which allow the tube to be switched and replaced easily for maintenance of the tube and for depth adjustments. The lower portion of the PVC pipe is milled to allow water to circulate within the pipe and around the datalogger sensors. Coordinates: Lat 37.571398; Long -76.883990, this is located approximately 30 feet away from the old station SH. The station was moved in order to address the out of water events when the datalogger was exposed during extreme low tides. The old galvanized steel tower was removed from the station.

A Sutron Sat-Link2 transmitter was installed at the Sweet Hall Marsh station on 05/04/06 and transmits data to the NOAA GOES satellite, NESDIS ID #3B0116F6. The 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

5) Site location and character

In 2009 the Goodwin Island and Claybank stations were moved. We have reviewed the data from before and after this move. Note that the moves in space were on the order of 100m or less. There are no differences evident in the time series data (signals) for any of the parameters measured except for a slight increase in depths that are noted in the metadata (approximately 10-25 cm deeper). We also compared statistically the medians as well as the quartiles and other descriptors of the different parameters measured for several years before and after the switches with no significant differences found.

Below is a summary of the station locations and when they were moved:

Site	Old Lat/Long (2009 and previous years)	Current Lat/Long (2009 to Present)
GI	37.21739, -76.3954	37.215796, -76.392675 Station moved 3/25/2009 09:15
CB	37.34855, -76.61123	37.346665, -76.611263 Station moved 3/25/2009 10:45
TC	37.41497, -76.714414	37.414986, -76.71442 Station rebuilt 05/19/2009 11:30

SH	37.57138, -76.88424	37.57138, -76.88424 Station dismantled 9/16/2016 10:00
SP	NA	37.571398, -76.883990 Station start 11/3/2016 13:30

a) Goodwin Islands (Lat 37.215796; Long -76.392675)
The Goodwin Islands component of CBNERRVA is located on the southern side of the mouth of the York River. The station is located approximately 400 meters from shore, with an average water depth on the order of 1 meter. MHW depth at the sample location is approximately 1.70 meters. Goodwin Islands are a 315 ha (777 acre) archipelago of salt-marsh islands surrounded by inter-tidal flats and extensive beds of submerged aquatic vegetation dominated by eelgrass (Zostera marina) and Widgeon grass (Ruppia maritime). Water circulation patterns around the island are influenced by York River discharge and wind patterns of the Chesapeake Bay. Tides at the Goodwin Islands are semi-diurnal and display an average range of 0.7 m (range: 0.4 - 1.1 m). Mean seasonal water temperature values ranged from 13.7-15.6 °C for spring (March-May), 25.7-27.2 °C for summer (June-August), 18.0-19.2 °C for fall (September-November), and 4.7-8.2 °C for winter (January-February, and December). Mean seasonal salinity values ranged from 13.9-23.0 psu for spring, 17.2-23.0 psu for summer, 16.5-24.0 for fall, and 15.9-23.3 psu for winter. Potential activities that could impact the site include, light recreational and commercial boating activity.

(b) Claybank (Lat 37.346665; Long -76.611263)
The Claybank station is located within a shallow (<2m) littoral area approximately 300-400 meters wide along the mesohaline portion of the York River estuary. The site is approximately 26 km upriver from the mouth of the estuary. The shoreline consists of a narrow fringe of salt marsh with some areas armored with bulkhead or stone. Tidal range is on the order of 0.85 meters and depth at MHW is approximately 2.25 meters. This station is located along the north shoreline of the estuary in an area that historically (prior to 1972) supported submersed aquatic vegetation. The sampling station is influenced by a secondary turbidity maximum that moves back and forth in a region of about 20-40 km from the mouth of the York River estuary. The site is exposed to strong winds from the northwest and re-suspension of sediment during storm events can be high. There is no fresh water input at this site. Seasonal water quality conditions described here are from spring: March-May; summer: June-August; fall: September-November; winter: December-February. Mean seasonal water temperature ranged between 14.0-16.2 for spring; 26.1-27.7 for summer; 17.5-19.4 for fall; and 4.9-8.0 °C in winter. Mean seasonal salinity ranged between 15.7-20.3 for spring; 16.5-21.3 for summer; 13.2-21.6 for fall; and 14.3-20.0 ppt in winter. Potential activities that could impact the site include, light recreational and commercial boating activity.

(c) Taskinas Creek (Lat 37.414986; Long -76.71442)
Taskinas Creek Reserve, component of CBNERRVA, encompasses 397 ha (980 acres) and is located within the boundaries of York River State Park near the town of Croaker, Virginia. The small sub-estuary of the York River is located on the southern side of the river, approximately 37 km up river from the mouth of the York River. The Taskinas Creek watershed is representative of an inner coastal plain, rural watershed within the southern Chesapeake Bay system. The watershed is dominated by forested and agricultural land uses with an increasing residential land use component. The non-tidal portion of Taskinas Creek contains feeder streams that drain oak-hickory forests, maple-gum-ash swamps and freshwater marshes. Freshwater mixed wetlands are found in the upstream reaches of Taskinas Creek. The creek is roughly 2 meters deep and 20 meters wide towards the lower end of the creek where substrate is dominated by fine sediment. Mean tidal range at Taskinas Creek is on the order of 0.85 m and the MHW depth at the sample location is approximately 2.0 meters. Mean seasonal water temperature values ranged from 15.2-19.0 °C for spring, 26.8-28.2 °C for summer, 15.7-18.3 °C for fall, and 3.6-9.0 °C for winter. Located within the meso-polyhaline region of the York River estuary, mean seasonal salinity values ranged from 4.0-14.0 psu for spring, 7.0-18.2 psu for summer, 6.9-17.0 for fall, and 5.8-15.3 psu for winter. Potential activities that could impact the site

include residential development, selective hardwood logging, and light recreational boating activity. Wildlife populations have been shown to influence microbiological water quality within the watershed.

(d) Sweet Hall Marsh (Lat 37.57138; Long -76.88424)
Sweet Hall Marsh is the most downriver extensive tidal freshwater marsh located in the Pamunkey River, one of two major tributaries of the York River. The marsh is located approximately 77 km upriver from the mouth of the York River estuary. The reserve is 353 ha (871 acres) in area and includes 331 ha (818 acres) of emergent fresh-water marsh, 14 ha (35 acres) of permanently flooded broad-leaved forested wetlands and approximately 4 ha (9 acres) of scrub-shrub. The marsh community is classified as freshwater mixed. Mean tidal range at Sweet Hall Marsh is on the order of 0.9 meters and MHW depth at the sample location is approximately 1.5 meters. The Pamunkey River, which surrounds Sweet Hall Marsh, can reach depths up to 15 meters. Substrate within the littoral zone and channel is dominated by fine sediment. The datalogger probes are located 0.35 m above the bottom. Mean seasonal water temperature values ranged from 14.7-16.7 °C for spring, 26.7-27.9 °C for summer, 18.6-19.1 °C for fall, and 4.7-6.3 °C for winter. Located within the oligohaline, lower freshwater reaches of the Pamunkey River, mean seasonal salinity values ranged from 0.1-3.4 psu for spring, 0.1-8.4 psu for summer, 0.3-8.4 psu for fall, and 0.1-3.2 psu for winter Potential activities that could impact the site include minor municipal point source discharges above and below river of Sweet Hall Marsh, a major industrial discharge

e) Sweet Hall Pier (Lat 37.571398; Long -76.883990)
Sweet Hall Marsh is the most downriver extensive tidal freshwater marsh located in the Pamunkey River, one of two major tributaries of the York River. The marsh is located approximately 77 km upriver from the mouth of the York River estuary. The reserve is 353 ha (871 acres) in area and includes 331 ha (818 acres) of emergent fresh-water marsh, 14 ha (35 acres) of permanently flooded broad-leaved forested wetlands and approximately 4 ha (9 acres) of scrub-shrub. The marsh community is classified as freshwater mixed. Mean tidal range at Sweet Hall Marsh is on the order of 0.9 meters and MHW depth at the sample location is approximately 1.5 meters. The Pamunkey River, which surrounds Sweet Hall Marsh, can reach depths up to 15 meters. Substrate within the littoral zone and channel is dominated by fine sediment. The datalogger probes are located 0.25 m above the bottom. Mean seasonal water temperature values ranged from 14.7-16.7 °C for spring, 26.7-27.9 °C for summer, 18.6-19.1 °C for fall, and 4.7-6.3 °C for winter. Located within the oligohaline, lower freshwater reaches of the Pamunkey River, mean seasonal salinity values ranged from 0.1-3.4 psu for spring, 0.1-8.4 psu for summer, 0.3-8.4 psu for fall, and 0.1-3.2 psu for winter Potential activities that could impact the site include minor municipal point source discharges above and below river of Sweet Hall Marsh, a major industrial discharge

SWMP Station Timeline

Station Code	SWMP Status	Station Name	Location	Active Dates	Reason Decommissioned	Notes
CBVCBWQ	P	Claybank	37.346665 76.611263	01/01/2002 00:00 – current	NA	NA
CBVGIWQ	P	Goodwin Islands	37.215796 76.392675	10/01/1997 00:00 – current	NA	NA
CBVSHWQ	P	Sweethall	37.57138 76.88424	01/01/2002 00:00 – 09/16/2016 10:00	station location	numerous out of water events
CBVTCWQ	P	Taskinas Creek	37.414986 76.71442	09/01/1995 00:00 – current	NA	NA

CBVSPWQ	P	Sweet Hall Pier	37.571398 76.883990	11/03/2016 13:30 – current	NA	NA

6) Data collection period

Claybank (CB) - 6600 V2 Data Sonde

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
01/20/16	12:15:00	02/02/16	11:45:00
02/02/16	12:00:00	02/17/16	11:15:00
02/17/16	11:30:00	03/03/16	12:15:00
03/03/16	12:30:00	03/15/16	11:15:00
03/15/16	11:30:00	03/29/16	11:45:00
03/29/16	12:00:00	04/12/16	11:45:00
04/12/16	12:00:00	04/28/16	11:15:00
04/28/16	11:30:00	05/10/16	11:15:00
05/10/16	11:30:00	05/24/16	11:00:00
05/24/16	11:15:00	06/06/16	11:00:00
06/06/16	11:15:00	06/15/16	10:00:00
06/15/16	10:15:00	06/21/16	11:00:00
06/21/16	11:15:00	06/29/16	10:30:00
06/29/16	10:45:00	07/05/16	11:45:00
07/05/16	12:00:00	07/13/16	09:45:00
07/13/16	10:00:00	07/19/16	10:45:00
07/19/16	11:00:00	07/26/16	10:15:00
07/26/16	10:30:00	08/02/16	13:15:00
08/02/16	13:30:00	08/09/16	10:00:00
08/09/16	10:15:00	08/17/16	10:15:00
08/17/16	10:30:00	08/23/16	11:15:00
08/23/16	11:30:00	08/30/16	10:45:00
08/30/16	11:00:00	09/06/16	10:00:00
09/06/16	10:15:00	09/14/16	11:30:00
09/14/16	11:45:00	09/20/16	09:30:00
09/20/16	09:45:00	09/27/16	10:30:00
09/27/16	10:45:00	10/03/16	10:00:00
10/03/16	10:15:00	10/12/16	11:45:00
10/12/16	12:00:00	10/19/16	09:45:00
10/19/16	10:00:00	10/26/16	11:15:00
10/26/16	11:30:00	11/07/16	12:30:00
11/07/16	12:45:00	11/21/16	13:00:00
11/21/16	13:15:00	12/07/16	12:15:00
12/07/16	12:30:00	12/20/16	12:15:00
12/20/16	12:30:00	01/05/17	12:15:00

Goodwin Islands (GI) - 6600 V2 Data Sonde

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
12/21/15	10:15:00	01/06/16	10:00:00
01/06/16	10:30:00	01/20/16	10:00:00
01/20/16	10:15:00	02/02/16	10:00:00
02/02/16	10:15:00	02/17/16	09:30:00
02/17/16	09:45:00	03/03/16	10:15:00

03/03/16	10:30:00	03/15/16	09:45:00
03/15/16	10:00:00	03/29/16	09:45:00
03/29/16	10:00:00	04/12/16	10:15:00
04/12/16	10:30:00	04/28/16	09:30:00
04/28/16	09:45:00	05/10/16	09:30:00
05/10/16	09:45:00	05/24/16	09:15:00
05/24/16	09:30:00	06/06/16	09:15:00
06/06/16	09:30:00	06/15/16	09:00:00
06/15/16	09:15:00	06/21/16	09:15:00
06/21/16	09:30:00	06/29/16	08:45:00
06/29/16	09:00:00	07/05/16	10:00:00
07/05/16	10:15:00	07/13/16	08:30:00
07/13/16	08:45:00	07/19/16	09:15:00
07/19/16	09:30:00	07/26/16	09:00:00
07/26/16	09:15:00	08/02/16	09:00:00
08/02/16	09:15:00	08/10/16	08:00:00
08/10/16	08:15:00	08/17/16	08:30:00
08/17/16	08:45:00	08/23/16	09:45:00
08/23/16	10:00:00	08/30/16	09:15:00
08/30/16	09:30:00	09/06/16	09:00:00
09/06/16	09:15:00	09/14/16	09:45:00
09/14/16	10:00:00	09/23/16	08:00:00
09/23/16	08:15:00	09/27/16	09:00:00
09/27/16	09:15:00	10/03/16	09:00:00
10/03/16	09:15:00	10/12/16	10:00:00
10/12/16	10:15:00	10/19/16	08:15:00
10/19/16	08:30:00	10/26/16	09:00:00
10/26/16	09:15:00	11/09/16	08:30:00
11/09/16	08:45:00	11/21/16	10:30:00
11/21/16	10:45:00	12/07/16	10:30:00
12/07/16	10:45:00	12/20/16	10:30:00
12/20/16	10:45:00	01/05/17	10:45:00

Taskinas Creek (TC) - 6600 V2 Data Sonde

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
12/17/15	10:30:00	01/07/16	13:30:00
01/07/16	13:45:00	01/19/16	12:15:00
01/19/16	12:30:00	01/26/16	13:15:00
01/26/16	13:30:00	02/09/16	13:30:00
02/09/16	13:45:00	02/23/16	13:00:00
02/23/16	13:15:00	03/07/16	14:15:00
03/07/16	14:30:00	03/22/16	09:30:00
03/22/16	09:45:00	04/04/16	13:15:00
04/04/16	13:30:00	04/14/16	11:30:00
04/14/16	11:45:00	04/26/16	12:15:00
04/26/16	12:30:00	05/11/16	08:45:00
05/11/16	09:00:00	05/25/16	09:30:00
05/25/16	09:45:00	06/08/16	09:00:00
06/08/16	09:15:00	06/15/16	09:15:00
06/15/16	09:30:00	06/24/16	11:30:00
06/24/16	11:45:00	06/29/16	09:30:00
06/29/16	09:45:00	07/07/16	12:15:00
07/07/16	12:30:00	07/13/16	10:15:00

07/13/16	10:30:00	07/20/16	12:30:00
07/20/16	12:45:00	07/27/16	09:45:00
07/27/16	10:00:00	08/03/16	12:15:00
08/03/16	12:30:00	08/11/16	09:30:00
08/11/16	09:45:00	08/17/16	12:00:00
08/17/16	12:15:00	08/25/16	08:45:00
08/25/16	09:00:00	08/31/16	10:15:00
08/31/16	10:30:00	09/07/16	09:00:00
09/07/16	09:15:00	09/12/16	11:15:00
09/12/16	11:30:00	09/22/16	08:45:00
09/22/16	09:00:00	09/28/16	08:45:00
09/28/16	09:00:00	10/04/16	08:30:00
10/04/16	08:45:00	10/10/16	09:45:00
10/10/16	10:00:00	10/18/16	09:00:00
10/18/16	09:15:00	10/26/16	08:15:00
10/26/16	08:30:00	11/09/16	10:15:00
11/09/16	10:30:00	11/16/16	09:30:00
11/16/16	09:45:00	11/29/16	14:15:00
11/29/16	14:30:00	12/15/16	10:15:00
12/15/16	10:30:00	01/04/17	09:30:00

Sweet Hall Marsh (SH) - 6600 V2 Data Sonde

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
12/17/15	13:30:00	01/07/16	10:45:00
01/07/16	11:00:00	01/19/16	14:30:00
01/26/16	10:45:00	02/09/16	10:15:00
02/09/16	10:30:00	02/10/16	11:15:00
02/17/16	14:30:00	02/23/16	10:15:00
02/23/16	10:30:00	03/07/16	15:45:00
03/07/16	16:00:00	03/22/16	12:45:00
03/22/16	13:00:00	04/04/16	10:15:00
04/04/16	10:30:00	04/13/16	10:45:00
04/13/16	11:00:00	04/26/16	09:30:00
04/26/16	09:45:00	05/11/16	11:30:00
05/11/16	11:45:00	05/25/16	13:15:00
05/25/16	13:30:00	06/08/16	12:30:00
06/08/16	12:45:00	06/24/16	09:00:00
06/24/16	09:15:00	07/07/16	09:30:00
07/07/16	09:45:00	07/20/16	09:30:00
07/20/16	09:45:00	08/03/16	10:00:00
08/03/16	10:15:00	08/17/16	09:15:00
08/17/16	09:30:00	08/31/16	13:15:00
08/31/16	13:30:00	09/12/16	13:15:00
09/12/16	13:30:00	09/16/16	10:00:00

Sweet Hall Pier (SP) – 6600 V2 Data Sonde

Deployment Date/Time		Retrieval Date/Time	
(MM/DD/YY)	(HH:MM:SS)	(MM/DD/YY)	(HH:MM:SS)
11/03/16	13:30:00	11/09/16	12:15:00
11/09/16	12:30:00	11/16/16	12:30:00
11/16/16	12:45:00	11/29/16	11:00:00
11/29/16	11:30:00	12/08/16	12:45:00
12/08/16	13:00:00	12/15/16	13:30:00

12/15/16 13:45:00 01/04/17 12:45:00

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

a) **USEPA Chesapeake Bay Mainstem and Tributary Monitoring Program**. Since 1984, biweekly to monthly water quality sampling at a series of sites located along the mid-river channel has been conducted as part of the Chesapeake Bay Program (www.chesapeakebay.net). Station ID's: York River proper (WE4.2, LE4.3, LE4.2, LE4.1, RET4.3), the Pamunkey River (RET4.1, TF4.2) and Mattaponi River (RET4.2 and TF4.4).

b) **VIMS Shoal Survey**. Since 1984, biweekly to monthly water quality sampling at a series of sites located along the shoal areas of the lower York River estuary has been conducted by the Biological Sciences Department at the Virginia Institute of Marine Science. Station ID's include: Guinea Marsh, Goodwin Island, VIMS, Yorktown, Mumfort Islands, Catlett Islands and Clay Bank.

c) **Alliance for the Chesapeake Bay Volunteer Monitoring Program**. Physical and chemical (limited nutrients) data are collected by a volunteer network along the York River system (www. Acb-online.org). Station ID's include: Thorofare Creek, Wormley Creek, Blackwell Landing, Pamunkey Trail, Timberneck Creek, Yorktown Naval Weapons Station, Gloucester Point, West Point and Croaker Landing. Note:
Some stations may be inactive.

d) **VIMS Juvenile Abundance Monitoring Survey**. As part of their Juvenile Abundance Monitoring Surveys, water quality and hydrographic data has been collected since 1968 along a series of sites in the York River estuary (includes the Mattaponi and Pamunkey River systems) by the Fisheries Science Department (www.fisheries.vims.edu/research.html) at the Virginia Institute of Marine Science. Surveys include the VIMS Trawl Survey, the Striped Bass Seine Survey and the Juvenile Shad/River Herring Pushnet Survey.

e) **Virginia Department of Health**. The Virginia Department of Health, Division of Shellfish Sanitation's (www.vdh.state.va.us/shellfish) Seawater Sampling Program collects microbial and general water quality and

hydrographic data along a series of sites in the York River estuary (includes lower portions of the Mattaponi and Pamunkey River systems).

f) **USEPA Chesapeake Bay Shallow Water Monitoring Program.** Since May 2003, CBNERRVA has maintained additional continuous (15 minute) fixed water monitoring stations within the York, Piankatank, James River, Rappahannock River, Potomac River, Mobjack Bay, CB5, and Pocomoke River estuary systems using YSI 6600 EDS and YSI 6600V2 Data Sondes. Measurements for this program include: temperature, specific conductivity, dissolved oxygen, pH, turbidity, insitu fluorescence, and depth. York River stations are located at Gloucester Point and White House (Pamunkey River). Piankatank River stations were located at Burton's Point, Bland's Wharf, and Dragon Run. James River stations were located at Wythe Point, James River Country Club, 4H Club, Chickahominy Haven, Rice Center, Appomattox, and Osborne Landing. Rappahannock River stations were located at Hicks Landing, Kendale Farms, Bowler's Wharf, Christ Church, and Corrotoman River. Potomac River stations are located Potomac Creek, Colonial Beach, Yeocomico River, and Nomini Bay. Mobjack Bay stations were located in Back River, Dyer's Creek, Horn Harbor, Mobjack Bay, and Ware River. CB5 stations were located in Dividing Creek, Great Wicomico Creek, and Indian Creek. The Eastern Shore, (Western Shore) Pocomoke River stations were located in the (Mesohaline) Hunting Creek and the (Oligohaline) Tall Pines Harbor Campground. CB7 stations on the Eastern Shore (Western Shore) are located in Cherrystone, Hungars Creek, Nassawadox Creek, Occohannock Creek, and Onancock Creek. In additional surface water quality mapping program, which monitors the above stated parameters, at sub-surface depths of approximately 0.25 m along continuous cruise tracts, occurs on a monthly basis in the York River estuary (www3.vims.edu/vecos). This sub-surface continuous sampling of water quality has been conducted since May 2003 on the York River until present, and for the Pamunkey and Mattaponi Rivers from May 2003 through October 2005. Rappahannock and Potomac Rivers were monitored 2007 through 2009. Mobjack Bay stations were monitored March 2010 through 2012. Rappahannock Profiler was added to our monitoring program May 2009 to 2012. James River station was added May 2012 to 2013. CB5 and Pocomoke stations were monitored from March 2013 to 2015. The Virginia Eastern Shore, Chesapeake Bay Western Shore, (CB7) was added to the Shallow Water Monitoring Program in March 2016 and continues presently.

g) **Chesapeake Bay National Estuarine Research Reserve (CBV) Meteorological Monitoring Program**. Since 2001, CBNERR-VA has maintained meteorological monitoring stations located at Taskinas Creek and Sweet Hall; which are within the York River estuary system. Measurements for this program include: Air Temperature (degrees C), Relative Humidity (%), Barometric Pressure (mb), Wind speed (m/s),Wind Direction (degrees), PAR (mmol/m^2), and Precipitation (mm) data. These data are available at www.nerrsdata.org.

h) **Chesapeake Bay National Estuarine Research Reserve (CBV) Nutrient Monitoring Program**. Since 2002, CBNERR-VA has maintained monthly grab samples and a Diel sampling program. Monthly grab samples were collected at the following sites: Goodwin Island, York River Bridge, Catlett Island, Claybank, Taskinas Creek, and Sweet Hall Marsh. On a monthly basis, the Diel sampling program collected samples at Taskinas Creek, a small tributary of the York River, every two and one-half hours throughout a complete tidal cycle in order to quantify the short-term temporal variability of selected nutrients and plant pigments in the water column. These data are available at www.nerrsdata.org.

II. Physical Structure Descriptors

9) Sensor specifications

CBV NERR deployed 6600V2 data sondes in 2016. 6600V2 data sondes with ROX DO sensors are deployed at Goodwin Island, Claybank, Sweet Hall Marsh, Sweet Hall Pier and Taskinas Creek from January through December 2016.

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: Turbidity
Units: nephelometric turbidity units (NTU)
Sensor Type: Optical, 90 degree scatter, with mechanical cleaning
Model#: 6136
Range: 0 to 1000 NTU
Accuracy: +/- 2% of reading or 0.3 NTU (whichever is greater)
Resolution: 0.1 NTU

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 1.02 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, EXO 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 EXO 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, EXO 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 EXO 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:	Sampling site code:	Station code:
Claybank	CB	cbvcbwq
Goodwin Islands	GI	cbvgiwq
Sweet Hall Marsh	SH	cbvshwq
Sweet Hall Pier	SP	cbvspwq
Taskinas Creek	TC	cbvtcwq

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
SCS	Chlorophyll spike
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

Claybank:

Date	SpCond	DO1	DO2	pH7	pH10	pH4	Turb	Turb	Depth
1/20/2016	10.080	100.7	100.4	7.06	9.99	4.04	-0.1	125.7	0.051(0.044)
2/2/2016	9.996	105.0	101.7	7.11	10.03	4.07	-0.2	126.4	0.128(0.177)
2/17/2016	9.911	100.4	100.0	7.06	9.94	4.31	-0.1	126.1	0.005(0.001)
3/3/2016	9.951	99.9	99.4	7.09	10.03	4.12	-0.4	125.5	-0.073(-0.06)
3/15/2016	9.960	101.4	101.5	7.06	10.02	4.05	-0.5	127.2	0.150(0.155)
3/22/2016	9.868	101.4	101.2	7.07	10.00	4.04	-0.1	128.4	0.019(0.131)
4/12/2016	9.958	100.7	100.2	7.04	10.07	4.05	-0.4	121.8	0.042(0.023)
4/28/2016	9.901	101.1	100.8	7.07	10.05	4.16	0.4	126.6	0.063(0.077)
5/10/2016	9.989	101.3	100.8	7.04	10.01	4.33	-0.3	126.0	0.074(0.077)
5/24/2016	9.910	99.5	99.5	7.06	10.08	4.11	-0.2	126.2	-0.068(-0.056)
6/6/2016	9.973	99.0	99.3	7.13	10.04	4.35	0.0	125.8	-0.073(-0.075)
6/15/2016	10.010	102.0	100.0	7.05	10.02	4.18	0.2	126.6	0.010(0.0010)
6/21/2016	9.934	100.5	100.3	7.07	10.03	4.14	0.1	126.1	0.130(0.034)
6/29/2016	10.010	100.1	99.9	7.08	10.06	4.29	1228.1	1223.2	-0.013(-0.011)
7/5/2016	9.941	100.7	100.1	7.07	10.05	4.29	-0.1	125.9	na(-0.012)
7/13/2016	9.896	100.9	100.7	7.09	10.07	4.20	-0.3	126.1	0.070(0.075)
7/19/2016	9.550	100.1	100.1	7.06	10.00	4.20	0.0	126.0	-0.062(0.0050)
7/26/2016	9.935	100.5	100.5	na	na	na	-0.2	126.3	0.059(0.049)
8/2/2016	9.934	100.8	100.7	7.11	10.12	4.19	0.1	125.8	0.046(0.073)
8/9/2016	9.978	100.9	100.3	7.03	10.03	4.06	-0.3	126.0	0.033(0.033)
8/17/2016	10.010	100.8	101.2	7.01	9.99	4.14	-0.3	125.7	0.086(0.125)
8/23/2016	9.987	100.0	100.2	7.00	10.02	4.13	0.1	126.2	0.013(0.019)
8/30/2016	9.556	100.3	100.3	7.02	10.03	4.14	1.0	123.7	0.007(0.034)
9/6/2016	9.888	103.0	100.6	7.06	10.06	4.39	-0.4	125.0	0.064(0.067)
9/14/2016	9.979	100.3	100.4	7.00	10.02	4.02	0.3	127.1	0.042(0.042)
9/20/2016	9.955	100.4	100.0	7.04	10.01	4.04	-0.1	125.9	0.012(0.0040)
9/27/2016	10.070	100.9	100.8	7.01	10.03	4.03	-0.5	125.3	0.080(0.080)
10/3/2016	9.918	102.1	101.3	7.04	10.06	4.07	0.0	122.7	0.132(0.132)
10/12/2016	9.940	100.2	100.4	7.04	10.02	4.22	0.5	123.5	0.050(0.038)
10/19/2016	10.000	101.5	101.3	7.00	9.98	4.09	-0.5	124.9	0.128(0.132)
10/26/2016	10.030	101.3	100.9	7.03	10.02	4.15	0.5	124.4	0.076(0.088)
11/7/2016	10.020		101.0	7.12	10.13	4.16	0.1	133.5	0.084(0.101)
11/21/2016	9.942	100.7	100.3	7.05	10.02	4.06	0.5	124.3	0.040(0.031)
12/7/2016	9.978	101.3	101.1	6.99	10.00	4.04	0.1	125.8	0.119(0.116)
12/20/2016	9.988	100.4	100.3	6.96	9.96	4.03	0.4	130.2	0.066(0.035)

Goodwin Island:

Date	SpCond	DO1	DO2	pH7	pH10	pH4	Turb	Turb	Depth
1/6/2016	9.992	102.0	101.2	7.03	10.06	3.93	-0.5	125.0	0.109(0.125)
1/20/2016	10.000	101.5	100.4	7.00	9.96	4.00	-0.1	126.0	0.040(0.044)
2/2/2016	10.000	102.0	101.7	7.06	10.01	4.00	-0.2	125.6	0.175(0.177)
2/17/2016	10.010	101.9	100.0	6.97	9.97	3.96	0.0	126.4	0.004(0.0010)
3/3/2016	9.976	99.7	99.6	7.02	9.97	4.00	0.0	125.6	-0.051(-0.038)
3/15/2016	9.950	102.2	101.5	7.05	10.05	3.98	0.0	126.2	0.152(0.155)
3/29/2016	8.374	101.9	101.3	7.04	9.98	4.03	-0.2	128.3	0.126(0.131)
4/12/2016	9.958	102.1	100.2	6.97	10.04	3.88	-0.3	124.9	0.032(0.023)
4/28/2016	9.884	101.0	100.8	7.11	10.03	4.09	0.2	126.9	0.073(0.077)
5/10/2016	9.957	101.7	100.8	7.06	9.99	4.10	-0.5	124.6	0.074(0.077)
5/24/2016	9.748	100.2	99.5	7.17	10.19	4.41	0.1	126.4	-0.059(-0.056)
6/6/2016	9.949	99.5	99.3	7.01	10.02	4.04	0.0	125.4	-0.081(-0.075)
6/15/2016	9.973	102.5	100.0	7.03	10.03	4.19	-0.3	126.5	0.000(0.0010)
6/21/2016	9.849	100.6	99.9	7.16	10.03	4.18	-0.1	125.0	-0.0080(-0.0080)
6/29/2016	9.989	100.3	99.9	7.04	9.99	4.20	0.2	126.3	-0.012(-0.011)
7/5/2016	9.953	100.6	100.1	7.02	9.98	4.10	-0.2	126.0	0.007(0.0070)
7/13/2016	9.900	101.2	100.7	7.06	10.11	4.13	0.3	126.1	0.075(0.075)
7/19/2016	9.730	100.2	100.0	7.02	10.04	4.23	0.4	126.0	0.002(0.0050)
7/26/2016	9.883	100.8	100.5	7.04	10.05	4.28	0.2	126.2	0.052(0.049)
8/2/2016	9.688	100.6	100.9	7.02	10.04	4.18	-0.2	125.4	0.085(0.088)
8/10/2016	9.760	100.3	100.3	7.12	10.02	5.04	0.2	125.6	0.030(0.033)
8/17/2016	9.944	102.6	101.2	6.99	10.01	4.11	-0.1	125.6	0.118(0.125)
8/23/2016	9.847	100.2	100.2	7.05	10.03	4.15	0.0	126.5	0.009(0.015)
8/30/2016	9.965	100.7	100.3	7.00	9.97	4.04	0.1	123.6	0.031(0.034)
9/6/2016	9.864	102.7	100.6	10.64	10.63	10.63	0.3	126.4	0.077(0.067)
9/14/2016	9.860	100.6	100.3	7.00	10.01	4.14	0.2	127.8	0.019(0.030)
9/23/2016	9.977	100.0	100.0	7.01	10.02	4.16	-0.1	126.8	0.010(0.004)
9/27/2016	9.961	100.7	100.8	7.02	9.98	4.09	0.5	127.3	0.071(0.080)
10/3/2016	9.937	101.8	101.3	7.02	10.02	4.22	-0.1	125.7	0.132(0.137)
10/12/2016	9.964	100.3	100.2	7.05	10.05	4.04	0.5	122.7	0.012(0.020)
10/19/2016	10.020	101.3	101.3	7.00	9.97	4.09	0.2	125.8	0.116(0.132)
10/26/2016	9.997	100.6	100.6	7.02	10.11	4.00	0.5	124.4	0.049(0.058)
11/9/2016	10.010	101.0	101.0	7.05	10.11	4.08	0.3	130.8	0.095(0.101)
11/21/2016	9.939	100.2	100.3	6.98	9.96	4.01	-0.1	125.1	0.014(0.031)
12/7/2016	9.980	101.8	101.1	7.01	10.02	4.11	-0.5	128.5	0.114(0.116)
12/20/2016	10.000	100.9	100.3	7.00	9.98	4.07	0.5	131.3	0.046(0.035)

Sweet Hall Marsh:

Date	SpCond	DO1	DO2	pH7	pH10	pH4	Turb	Turb	Depth

1/7/2016	10.020	101.0	101.4	7.04	10.00	4.01	0.0	126.2	0.135(0.148)
1/26/2016	10.010	100.3	99.7	7.07	10.00	4.02	-0.4	125.3	-0.026(-0.035)
2/9/2016	10.040	100.4	100.7	7.06	10.01	3.98	0.0	125.6	0.062(0.072)
2/17/2016	10.030	100.0	99.4	7.04	9.98	4.00	0.0	124.8	-0.065(-0.067)
2/23/2016	9.972	101.6	100.9	7.04	10.01	4.03	0.0	125.5	0.084(0.092)
3/7/2016	9.976	100.8	100.5	7.06	10.05	3.97	-0.3	125.9	0.051(0.048)
3/22/2016	10.020	100.9	101.0	7.06	10.04	3.97	-0.6	128.2	0.102(0.102)
4/4/2016	10.000	101.2	101.2	7.09	10.02	4.04	-0.5	125.2	0.122(0.128)
4/13/2016	9.962	100.3	99.6	7.04	9.99	4.07	0.1	125.7	-0.03(-0.037)
4/26/2016	9.990	100.8	100.6	7.03	9.99	4.21	-0.1	124.8	0.067(0.065)
5/11/2016	9.884	102.8	100.5	6.99	10.08	3.89	0.6	126.5	0.053(0.053)
5/25/2016	9.990	100.4	100.2	7.03	10.07	4.18	-0.2	126.0	0.029(0.024)
6/8/2016	10.010	99.3	100.1	7.08	10.16	4.04	0.0	126.1	0.012(0.007)
6/24/2016	9.940	100.2	99.6	7.10	10.10	4.11	0.1	126.2	-0.034(-0.038)
7/7/2016	9.985	100.5	100.8	7.06	10.04	4.16	0.2	126.2	0.082(0.082)
7/20/2016	9.926	100.6	100.5	7.07	10.05	4.16	-0.1	126.8	0.059(0.053)
8/3/2016	9.993	100.3	100.3	7.01	10.03	4.14	0.0	126.0	0.026(0.026)
8/17/2016	9.972	99.9	99.7	7.06	10.04	4.02	0.0	126.7	-0.034(-0.035)
8/31/2016	9.982	100.8	100.9	7.15	10.15	4.36	-0.1	124.8	0.090(0.098)
9/12/2016	9.977	100.2	100.1	7.01	10.02	4.10	-0.1	127.1	0.0050(0.010)

Taskinas Creek:

Date	SpCond	DO1	DO2	pH7	pH10	pH4	Turb	Turb	Depth
1/7/2016	9.965	101.6	101.4	7.05	10.06	3.97	-0.2	125.4	0.0050(0.148)
1/19/2016	9.980	100.8	100.7	7.02	10.01	4.03	-0.2	124.5	0.088(0.076)
1/26/2016	10.020	100.1	99.7	7.04	10.00	4.03	0.5	125.8	-0.036(-0.035)
2/9/2016	9.975	99.5	99.4	7.02	10.02	3.97	-0.5	124.7	-0.088(-0.067)
2/23/2016	9.945	101.3	100.9	7.03	9.99	3.97	0.2	125.3	0.102(0.092)
3/7/2016	9.050	100.3	100.5	7.06	10.01	4.16	0.1	126.0	0.025(0.048)
3/22/2016	10.060	103.5	101.0	7.05	10.02	4.07	-0.4	128.2	0.111(0.102)
4/4/2016	9.992	104.7	101.5	7.01	10.03	3.97	0.3	126.2	0.159(0.155)
4/14/2016	9.981	100.6	99.8	7.10	10.04	4.17	0.0	125.2	-0.037(-0.024)
4/26/2016	10.020	101.5	100.6	7.06	9.98	4.32	-0.2	122.6	0.071(0.065)
5/11/2016	9.935	102.7	100.5	7.05	10.13	4.14	0.1	126.8	0.051(0.053)
5/25/2016	9.337	100.6	100.2	7.09	10.02	5.53	-0.2	126.0	0.014(0.024)
6/8/2016	10.000	99.8	99.3	7.07	10.07	4.05	-0.1	125.7	-0.073(-0.075)
6/15/2016	10.000	101.7	100.1	7.06	10.12	4.05	-0.1	125.8	0.0040(0.0070)
6/24/2016	10.040	100.9	100.3	7.05	10.06	4.14	0.5	127.1	0.032(0.034)
6/29/2016	9.934	100.2	99.6	7.05	10.02	4.12	0.1	126.1	-0.04(-0.038)
7/7/2016	10.050	100.9	100.1	7.04	10.06	4.21	0.2	126.3	0.0090(0.012)
7/13/2016	9.984	100.9	100.8	7.04	10.05	4.16	-0.3	125.5	0.075(0.082)
7/20/2016	9.923	99.9	99.9	7.07	10.05	4.22	0.2	126.6	-0.011(-0.0080)

7/27/2016	9.902	100.8	100.5	7.01	10.02	4.23	-0.2	137.7	0.058(0.053)
8/3/2016	10.130	100.5	100.4	7.00	10.02	4.05	-0.2	125.6	0.036(0.038)
8/11/2016	9.951	100.6	100.3	7.03	10.01	4.31	0.2	126.4	0.017(0.026)
8/17/2016	10.020	99.8	100.4	7.03	10.04	4.22	0.6	126.1	0.04(0.042)
8/25/2016	10.020	99.2	99.7	7.03	10.01	4.20	1.3	126.3	-0.039(-0.035)
8/31/2016	10.040	100.2	100.2	7.02	10.02	4.10	-0.2	121.8	0.021(0.019)
9/7/2016	10.000	100.7	100.9	7.03	10.03	4.17	1.0	128.5	0.074(0.098)
9/12/2016	9.996	100.5	100.4	7.04	10.04	4.16	-0.1	128.6	0.028(0.037)
9/22/2016	10.090	100.4	100.4	7.02	10.00	4.15	0.5	126.2	0.032(0.038)
9/28/2016	9.924	101.0	100.9	7.06	10.06	4.05	0.0	125.6	0.092(0.092)
10/4/2016	9.996	100.6	100.6	7.00	10.02	4.03	0.2	125.8	0.064(0.065)
10/10/2016	10.100	100.4	100.3	6.97	9.95	4.20	-0.1	121.9	0.033(0.035)
10/18/2016	10.050	101.1	101.3	6.97	9.96	4.14	0.5	126.6	0.093(0.132)
10/26/2016	10.180	102.0	100.0	6.62	9.66	3.66	-0.3	125.1	0.058(0.058)
11/9/2016	10.020	100.8	100.5	7.02	10.03	4.03	-0.1	115.6	0.138(0.052)
11/16/2016	9.969	100.1	99.8	7.02	10.02	4.05	-0.5	124.9	-0.035(-0.023)
11/29/2016	9.993	101.8	102.0	7.03	9.97	4.14	0.0	111.0	0.271(0.203)
12/15/2016	10.030	100.4	100.4	7.10	10.00	4.17	0.2	130.3	0.035(0.045)

Sweet Hall Pier:

Date	SpCond	DO1	DO2	pH7	pH10	pH4	Turb	Turb	Depth	CHL(0)
11/3/2016	10.010	100.3	100.6	7.03	10.08	3.97	-0.1	123.7	0.055(0.058)	0.0
11/9/2016	10.020	100.3	100.5	7.04	10.07	4.03	0.0	122.9	0.048(0.052)	-0.3
11/16/2016	9.999	100.0	99.8	7.01	10.01	3.99	-0.2	123.9	-0.024(-0.023)	0.1
11/29/2016	9.960	101.6	101.3	6.99	10.03	4.08	-0.3	123.7	0.123(0.135)	-0.1
12/8/2016	9.984	102.8	102.0	7.02	9.99	4.08	-0.1	126.0	0.195(0.203)	-0.1
12/15/2016	9.980	101.1	100.4	6.99	9.90	4.03	-0.2	128.7	0.032(0.045)	-1.2

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.

Storm Events:

January – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/21/2016 00:00:00 – 01/21/2016 23:45:00

For the following dates and times, all data values were influenced by a winter storm event which produced strong winds 20-30 mph and 1.00" of rain.

01/22/2016 00:00:00 – 01/24/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/29/2016 00:00:00 – 01/29/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

01/03/2016 00:00:00 – 01/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

01/10/2016 00:00:00 – 01/14/2016 23:45:00

For the following dates and times, all data values were influenced by a winter storm event which produced strong winds up to 20 mph and 0.50" of rain.

01/15/2016 00:00:00 – 01/15/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/16/2016 00:00:00 – 01/16/2016 23:45:00

For the following dates and times, all data values were influenced by a winter storm event which produced strong winds up to 20 mph and 1.00" of rain.

01/17/2016 00:00:00 – 01/17/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/18/2016 00:00:00 – 01/20/2016 23:45:00

For the following dates and times, all data values were influenced by a winter storm event which produced strong winds 30-35 mph and 2.00" of rain.

01/22/2016 00:00:00 – 01/23/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/24/2016 00:00:00 – 01/24/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.25" of rain.

01/25/2016 00:00:00 – 01/25/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/26/2016 00:00:00 – 01/26/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/29/2016 00:00:00 – 01/29/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/31/2016 00:00:00 – 01/31/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

01/04/2016 00:00:00 – 01/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/10/2016 00:00:00 – 01/10/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/12/2016 00:00:00 – 01/12/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

01/14/2016 00:00:00 – 01/14/2016 23:45:00

For the following dates and times, all data values were influenced by a winter storm event which produced winds 15 mph and 0.85" of rain.

01/15/2016 00:00:00 – 01/15/2016 23:45:00

For the following dates and times, all data values were influenced by a winter storm event which produced winds 10 mph and 0.25" of rain.

01/26/2016 00:00:00 – 01/26/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 0.40" of rain.

01/02/2016 00:00:00 – 01/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.85" of rain.

01/15/2016 00:00:00 – 01/15/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.50" of rain.

01/24/2016 00:00:00 – 01/26/2016 23:45:00

February – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a storm event which produced strong winds 10-20 mph and 2.00" of rain.

02/03/2016 00:00:00 – 02/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

02/07/2016 00:00:00 – 02/08/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 10 mph and 2.00" of rain.

02/13/2016 00:00:00 – 02/13/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 10-25 mph and 1.00" of rain.

02/15/2016 00:00:00 – 02/16/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 10-20 mph and 0.65" of rain.

02/23/2016 00:00:00 – 02/24/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

02/25/2016 00:00:00 – 02/25/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

02/29/2016 00:00:00 – 02/29/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

02/01/2016 00:00:00 – 02/01/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 30 mph and 3.50" of rain.

02/03/2016 00:00:00 – 02/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

02/07/2016 00:00:00 – 02/07/2016 23:45:00
For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

02/09/2016 00:00:00 – 02/11/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

02/13/2016 00:00:00 – 02/14/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 15-30 mph and 1.55" of rain.

02/15/2016 00:00:00 – 02/16/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

02/18/2016 00:00:00 – 02/18/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 30 mph.

02/20/2016 00:00:00 – 02/20/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.40" of rain.

02/21/2016 00:00:00 – 02/21/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

02/22/2016 00:00:00 – 02/22/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong wind gusts up to 40 mph and 1.20" of rain.

02/24/2016 00:00:00 – 02/24/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

02/25/2016 00:00:00 – 02/26/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

02/28/2016 00:00:00 – 02/29/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a storm event which produced strong winds 15-25 mph and 2.05" of rain.

02/03/2016 00:00:00 – 02/05/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong wind gusts up to 40 mph and 0.70" of rain.

02/23/2016 00:00:00 – 02/24/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

02/25/2016 00:00:00 – 02/25/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 30 mph.

02/29/2016 00:00:00 – 02/29/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 2.05" of rain.

02/03/2016 00:00:00 – 02/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.15" of rain.

02/15/2016 00:00:00 – 02/16/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.70" of rain.

02/23/2016 00:00:00 – 02/24/2016 23:45:00

March – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/01/2016 00:00:00 – 03/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.35" of rain.

03/04/2016 00:00:00 – 03/04/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/19/2016 00:00:00 – 03/19/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.20" of rain.

03/20/2016 00:00:00 – 03/20/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/21/2016 00:00:00 – 03/21/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/24/2016 00:00:00 – 03/24/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.55" of rain.

03/27/2016 00:00:00 – 03/27/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/29/2016 00:00:00 – 03/29/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds 25-30 mph.

03/01/2016 00:00:00 – 03/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 25 mph and 0.50" of rain.

03/04/2016 00:00:00 – 03/04/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/07/2016 00:00:00 – 03/07/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

03/09/2016 00:00:00 – 03/11/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.40" of rain.

03/12/2016 00:00:00 – 03/12/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.25" of rain.

03/15/2016 00:00:00 – 03/15/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/17/2016 00:00:00 – 03/19/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 25 mph and 1.05" of rain.

03/20/2016 00:00:00 – 03/21/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 25-30 mph.

03/22/2016 00:00:00 – 03/24/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.85" of rain.

03/25/2016 00:00:00 – 03/25/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 15-20 mph and 1.30" of rain.

03/27/2016 00:00:00 – 03/28/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

03/29/2016 00:00:00 – 03/31/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/02/2016 00:00:00 – 03/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.35" of rain.

03/04/2016 00:00:00 – 03/04/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

03/10/2016 00:00:00 – 03/10/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/24/2016 00:00:00 – 03/25/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 5 mph and 0.80" of rain.

03/27/2016 00:00:00 – 03/27/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

03/28/2016 00:00:00 – 03/28/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 30 mph.

03/30/2016 00:00:00 – 03/30/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 0.35" of rain.

03/04/2016 00:00:00 – 03/04/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.80" of rain.

03/27/2016 00:00:00 – 03/27/2016 23:45:00

April – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a wind event, strong winds 25-30 mph.

04/03/2016 00:00:00 – 04/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/07/2016 00:00:00 – 04/07/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

04/09/2016 00:00:00 – 04/09/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 1.25" of rain.

04/12/2016 00:00:00 – 04/12/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/13/2016 00:00:00 – 04/13/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/15/2016 00:00:00 – 04/15/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/18/2016 00:00:00 – 04/18/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/23/2016 00:00:00 – 04/23/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.50" of rain.

04/28/2016 00:00:00 – 04/28/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 30 mph.

04/01/2016 00:00:00 – 04/01/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.50" of rain.

04/02/2016 00:00:00 – 04/02/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 30 mph.

04/03/2016 00:00:00 – 04/04/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 30 mph and 0.25" of rain.

04/05/2016 00:00:00 – 04/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

04/06/2016 00:00:00 – 04/11/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 25 mph and 1.50" of rain.

04/12/2016 00:00:00 – 04/12/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/13/2016 00:00:00 – 04/13/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/15/2016 00:00:00 – 04/16/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/19/2016 00:00:00 – 04/21/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 20-25 mph and 0.65" of rain.

04/22/2016 00:00:00 – 04/23/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

04/25/2016 00:00:00 – 04/26/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.80" of rain.

04/28/2016 00:00:00 – 04/29/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/01/2016 00:00:00 – 04/01/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

04/03/2016 00:00:00 – 04/04/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.25" of rain.

04/05/2016 00:00:00 – 04/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/07/2016 00:00:00 – 04/07/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/09/2016 00:00:00 – 04/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

04/11/2016 00:00:00 – 04/11/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.55" of rain.

04/12/2016 00:00:00 – 04/12/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 10-15 mph and 0.55" of rain.

04/22/2016 00:00:00 – 04/23/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.60" of rain.

04/28/2016 00:00:00 – 04/28/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 0.30" of rain.

04/01/2016 00:00:00 – 04/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.80" of rain.

04/12/2016 00:00:00 – 04/12/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.10" of rain.

04/27/2016 00:00:00 – 04/28/2016 23:45:00

May – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a storm event which produced winds 5 mph and 0.25" of rain.

05/01/2016 00:00:00 – 05/01/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 1.10" of rain.

05/02/2016 00:00:00 – 05/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.80" of rain.

05/03/2016 00:00:00 – 05/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 5 mph and 1.75" of rain.

05/06/2016 00:00:00 – 05/06/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 5 mph and 0.50" of rain.

05/10/2016 00:00:00 – 05/10/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

05/14/2016 00:00:00 – 05/14/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 5 mph and 0.95" of rain.

05/17/2016 00:00:00 – 05/17/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 1.55" of rain.

05/21/2016 00:00:00 – 05/21/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.50" of rain.

05/23/2016 00:00:00 – 05/23/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 2.30" of rain.

05/29/2016 00:00:00 – 05/30/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 1.25" of rain.

05/01/2016 00:00:00 – 05/04/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.90" of rain.

05/06/2016 00:00:00 – 05/06/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

05/08/2016 00:00:00 – 05/08/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.65" of rain.

05/10/2016 00:00:00 – 05/10/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

05/14/2016 00:00:00 – 05/15/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.65" of rain.

05/17/2016 00:00:00 – 05/17/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 3.00" of rain.

05/21/2016 00:00:00 – 05/23/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 1.65" of rain.

05/30/2016 00:00:00 – 05/30/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a storm event which produced winds 10-15 mph and 3.30" of rain.

05/01/2016 00:00:00 – 05/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 5-10 mph and 1.35" of rain.

05/06/2016 00:00:00 – 05/06/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

05/14/2016 00:00:00 – 05/14/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 5 mph and 1.05" of rain.

05/17/2016 00:00:00 – 05/17/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 1.50" of rain.

05/21/2016 00:00:00 – 05/23/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.50" of rain.

05/29/2016 00:00:00 – 05/30/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 2.40" of rain.

05/01/2016 00:00:00 – 05/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.70" of rain.

05/06/2016 00:00:00 – 05/06/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.25" of rain.

05/10/2016 00:00:00 – 05/10/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.35" of rain.

05/13/2016 00:00:00 – 05/13/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.05" of rain.

05/17/2016 00:00:00 – 05/17/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.75" of rain.

05/21/2016 00:00:00 – 05/23/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 2.30" of rain.

05/29/2016 00:00:00 – 05/30/2016 23:45:00

June – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a storm event which produced winds 10 mph and 0.35" of rain.

06/03/2016 00:00:00 – 06/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 15 mph and 0.70" of rain.

06/05/2016 00:00:00 – 06/06/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

06/08/2016 00:00:00 – 06/08/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 10 mph and 0.35" of rain.

06/12/2016 00:00:00 – 06/12/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 15 mph and 1.60" of rain.

06/16/2016 00:00:00 – 06/17/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 15 mph and 0.80" of rain.

06/23/2016 00:00:00 – 06/23/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

06/01/2016 00:00:00 – 06/01/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 20-25 mph and 1.15" of rain.

06/05/2016 00:00:00 – 06/07/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

06/08/2016 00:00:00 – 06/08/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 20-25 mph and 1.15" of rain.

06/16/2016 00:00:00 – 06/17/2016 23:45:00
For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

06/18/2016 00:00:00 – 06/18/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

06/21/2016 00:00:00 – 06/21/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.20" of rain.

06/28/2016 00:00:00 – 06/28/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.60" of rain.

06/03/2016 00:00:00 – 06/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.50" of rain.

06/05/2016 00:00:00 – 06/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

06/06/2016 00:00:00 – 06/06/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

06/08/2016 00:00:00 – 06/08/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

06/12/2016 00:00:00 – 06/12/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 1.25" of rain.

06/16/2016 00:00:00 – 06/17/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 1.55" of rain.

06/23/2016 00:00:00 – 06/24/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 0.35" of rain.

06/03/2016 00:00:00 – 06/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.70" of rain.

06/05/2016 00:00:00 – 06/06/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.35" of rain.

06/12/2016 00:00:00 – 06/12/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.90" of rain.

06/16/2016 00:00:00 – 06/17/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.55" of rain.

06/23/2016 00:00:00 – 06/23/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.30" of rain.

06/30/2016 00:00:00 – 06/30/2016 23:45:00

July – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 1.65" of rain.

07/01/2016 00:00:00 – 07/01/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.25" of rain.

07/03/2016 00:00:00 – 07/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.65" of rain.

07/06/2016 00:00:00 – 07/07/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.35" of rain.

07/16/2016 00:00:00 – 07/16/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.55" of rain.

07/19/2016 00:00:00 – 07/19/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.80" of rain.

07/30/2016 00:00:00 – 07/30/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 25 mph and 1.15" of rain.

07/01/2016 00:00:00 – 07/01/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 25 mph and 0.65" of rain.

07/03/2016 00:00:00 – 07/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds 10-15 mph and 1.00" of rain.

07/06/2016 00:00:00 – 07/07/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

07/11/2016 00:00:00 – 07/12/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 20-25 mph and 1.25" of rain.

07/15/2016 00:00:00 – 07/16/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 30 mph and 1.00" of rain.

07/19/2016 00:00:00 – 07/19/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

07/26/2016 00:00:00 – 07/29/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 20-25 mph and 1.75" of rain.

07/30/2016 00:00:00 – 07/31/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 1.40" of rain.

07/01/2016 00:00:00 – 07/01/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.40" of rain.

07/03/2016 00:00:00 – 07/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.45"of rain.

07/06/2016 00:00:00 – 07/07/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 1.05"of rain.

07/16/2016 00:00:00 – 07/16/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.70"of rain.

07/19/2016 00:00:00 – 07/19/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 1.15"of rain.

07/30/2016 00:00:00 – 07/30/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 0.50" of rain.

07/01/2016 00:00:00 – 07/01/2016 23:45:00
For the following dates and times, all data values were influenced by a storm event which produced 0.60" of rain.

07/16/2016 00:00:00 – 07/17/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.20" of rain.

07/19/2016 00:00:00 – 07/19/2016 23:45:00

August – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a storm event which produced 0.70" of rain.

08/02/2016 00:00:00 – 08/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.55" of rain.

08/09/2016 00:00:00 – 08/09/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.45" of rain.

08/19/2016 00:00:00 – 08/19/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.25" of rain.

08/02/2016 00:00:00 – 08/02/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/03/2016 00:00:00 – 08/04/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.20" of rain.

08/08/2016 00:00:00 – 08/08/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/09/2016 00:00:00 – 08/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/11/2016 00:00:00 – 08/11/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/18/2016 00:00:00 – 08/18/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced wind gusts up to 30 mph and 2.00" of rain.

08/19/2016 00:00:00 – 08/19/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

08/21/2016 00:00:00 – 08/23/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/25/2016 00:00:00 – 08/25/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/27/2016 00:00:00 – 08/28/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/31/2016 00:00:00 – 08/31/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/02/2016 00:00:00 – 08/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.80" of rain.

08/09/2016 00:00:00 – 08/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/15/2016 00:00:00 – 08/15/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

08/17/2016 00:00:00 – 08/17/2016 23:45:

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.25" of rain.

08/21/2016 00:00:00 – 08/21/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 1.85" of rain.

08/02/2016 00:00:00 – 08/02/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.40" of rain.

08/09/2016 00:00:00 – 08/09/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.70" of rain.

08/19/2016 00:00:00 – 08/19/2016 23:45:00

September – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.35" of rain.

09/03/2016 00:00:00 – 09/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 3.95" of rain.

09/19/2016 00:00:00 – 09/21/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.25" of rain.

09/27/2016 00:00:00 – 09/27/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.25" of rain.

09/28/2016 00:00:00 – 09/28/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds 30-40 mph.

09/01/2016 00:00:00 – 09/03/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

09/04/2016 00:00:00 – 09/05/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

09/15/2016 00:00:00 – 09/15/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

09/15/2016 00:00:00 – 09/15/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds 20-25 mph and 5.65" of rain.

09/19/2016 00:00:00 – 09/21/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

09/24/2016 00:00:00 – 09/24/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 25 mph and 0.85" of rain.

09/29/2016 00:00:00 – 09/29/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

09/30/2016 00:00:00 – 09/30/2016 23:45:00

Sweet Hall Marsh:

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.35" of rain.

09/03/2016 00:00:00 – 09/03/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

09/06/2016 00:00:00 – 09/08/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 0.25" of rain.

09/03/2016 00:00:00 – 09/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 1.71" of rain.

09/19/2016 00:00:00 – 09/21/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.70" of rain.

09/27/2016 00:00:00 – 09/28/2016 23:45:00

October – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a storm event which produced 0.25" of rain.

10/01/2016 00:00:00 – 10/01/2016 23:45:00

For the following dates and times, all data values were influenced by Hurricane Matthew that remained offshore for several days; which produced strong winds 20-30 mph and 5.15" of rain.

10/08/2016 00:00:00 – 10/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

10/10/2016 00:00:00 – 10/10/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.25" of rain.

10/21/2016 00:00:00 – 10/21/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

10/22/2016 00:00:00 – 10/22/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

10/27/2016 00:00:00 – 10/27/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

10/01/2016 00:00:00 – 10/01/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

10/04/2016 00:00:00 – 10/07/2016 23:45:00

For the following dates and times, all data values were influenced by Hurricane Matthew that remained offshore for several days; which produced strong winds 30-40 mph and 3.30" of rain.

10/08/2016 00:00:00 – 10/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 30-35 mph.

10/10/2016 00:00:00 – 10/10/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

10/14/2016 00:00:00 – 10/14/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

10/18/2016 00:00:00 – 10/18/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

10/20/2016 00:00:00 – 10/20/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 25 mph and 0.25" of rain.

10/21/2016 00:00:00 – 10/21/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

10/22/2016 00:00:00 – 10/28/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 35 mph.

10/31/2016 00:00:00 – 10/31/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by Hurricane Matthew that remained offshore for several days; which produced heavy rains; 3.30" of rain.

10/08/2016 00:00:00 – 10/09/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.25" of rain.

10/21/2016 00:00:00 – 10/21/2016 23:45:00

November – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.30" of rain.

11/04/2016 00:00:00 – 11/04/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

11/06/2016 00:00:00 – 11/06/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 15 mph and 0.25" of rain.

11/09/2016 00:00:00 – 11/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, winds 15-20 mph.

11/10/2016 00:00:00 – 11/10/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

11/20/2016 00:00:00 – 11/20/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

11/26/2016 00:00:00 – 11/26/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

11/29/2016 00:00:00 – 11/29/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.35" of rain.

11/30/2016 00:00:00 – 11/30/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

11/03/2016 00:00:00 – 11/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 25 mph and 0.20" of rain.

11/04/2016 00:00:00 – 11/04/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

11/05/2016 00:00:00 – 11/07/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

11/09/2016 00:00:00 – 11/12/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

11/17/2016 00:00:00 – 11/17/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

11/19/2016 00:00:00 – 11/22/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

11/27/2016 00:00:00 – 11/27/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.20" of rain.

11/29/2016 00:00:00 – 11/29/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

11/30/2016 00:00:00 – 11/30/2016 23:45:00

Sweet Hall Pier:

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 0.25" of rain.

11/04/2016 00:00:00 – 11/04/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.25" of rain.

11/09/2016 00:00:00 – 11/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

11/11/2016 00:00:00 – 11/11/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

11/19/2016 00:00:00 – 11/20/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.65 "of rain.

11/29/2016 00:00:00 – 11/30/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 0.30" of rain.

11/04/2016 00:00:00 – 11/04/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.25" of rain.

11/09/2016 00:00:00 – 11/09/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.40" of rain.

11/30/2016 00:00:00 – 11/30/2016 23:45:00

December – Wind and Rain events

Claybank:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/01/2016 00:00:00 – 12/01/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds, 15-20 mph and 1.15" of rain.

12/05/2016 00:00:00 – 12/06/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/09/2016 00:00:00 – 12/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

12/15/2016 00:00:00 – 12/15/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

12/17/2016 00:00:00 – 12/18/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/27/2016 00:00:00 – 12/27/2016 23:45:00

Goodwin Island:

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

12/01/2016 00:00:00 – 12/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds, 20-30 mph and 1.65" of rain.

12/05/2016 00:00:00 – 12/06/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-25 mph.

12/07/2016 00:00:00 – 12/11/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds, 15-20 mph and 0.20" of rain.

12/12/2016 00:00:00 – 12/12/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

12/13/2016 00:00:00 – 12/20/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds 20-30 mph.

12/22/2016 00:00:00 – 12/23/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced winds up to 10 mph and 0.40" of rain.

12/24/2016 00:00:00 – 12/24/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/27/2016 00:00:00 – 12/27/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

12/29/2016 00:00:00 – 12/29/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/30/2016 00:00:00 – 12/31/2016 23:45:00

Sweet Hall Pier:

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/01/2016 00:00:00 – 12/01/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/03/2016 00:00:00 – 12/03/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.35" of rain.

12/05/2016 00:00:00 – 12/05/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced strong winds up to 20 mph and 1.15" of rain.

12/06/2016 00:00:00 – 12/06/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/09/2016 00:00:00 – 12/09/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 20 mph.

12/15/2016 00:00:00 – 12/15/2016 23:45:00

For the following dates and times, all data values were influenced by a storm event which produced 0.30" of rain.

12/24/2016 00:00:00 – 12/24/2016 23:45:00

For the following dates and times, all data values were influenced by a wind event, strong winds up to 25 mph.

12/29/2016 00:00:00 – 12/29/2016 23:45:00

Taskinas Creek:

For the following dates and times, all data values were influenced by a storm event which produced 0.60" of rain.

12/06/2016 00:00:00 – 12/06/2016 23:45:00

Rejected Data

July

Taskinas Creek:

For the following dates and times, elevated turbidity reading ramping up toward the end of the deployment, data influenced by bryozoan growing inside of the tube. Data rejected.

07/04/2016 12:00:00 – 07/07/2016 12:15:00

For the following dates and times, elevated turbidity readings were throughout the entire deployment due to heavy bryozoan growth inside of the tube. Entire deployment rejected.

07/13/2016 10:30:00 – 07/20/2016 12:30:00

August

For the following dates and times, elevated turbidity readings toward end of deployment due to heavy bryozoan growth inside of the tube. Data rejected.

08/06/2016 17:00:00 – 08/11/2016 09:30:00

For the following dates and times, elevated turbidity readings toward end of deployment due to heavy bryozoan growth inside of the tube. Data rejected.

08/17/2016 13:45:00 – 08/25/2016 08:45:00

October

Claybank:

For the following dates and times, elevated turbidity during the entire deployment due to crab inside of guard, all data rejected.

10/03/2016 10:15:00 – 10/12/2016 11:45:00

Missing Data:

January

Sweet Hall Marsh:

For the following dates and times, datalogger was removed from the station due to freezing temperatures and extreme low tides. No data collected for this time period.

01/19/2016 14:45:00 – 01/26/2016 10:30:00

February

Sweet Hall Marsh:

For the following dates and times, datalogger was removed from the station due to freezing temperatures and extreme low tides. No data collected for this time period.

02/10/2016 11:30:00 – 02/17/2016 14:15:00

September

Sweet Hall Marsh:

For the following dates and times, datalogger was removed from the station to allow for the construction of a new extended pier (approximately 25 feet). This will prevent the datalogger from coming out of the water in the winter months and prevent any future damage that can occur to the instrument in freezing temperatures during exposure from extreme low tides. No data collected for this time period.

09/16/2016 10:00:00 – 09/30/2016 23:45:00

October

Sweet Hall Marsh:

For the following dates and times, datalogger was removed from the station to allow for the construction of a new extended pier (approximately 25 feet). This will prevent the datalogger from coming out of the water in the winter months and prevent any future damage that can occur to the instrument in freezing temperatures during exposure from extreme low tides. No data collected for this time period.

10/01/2016 00:00:00 – 10/31/2016 23:45:00

November

Sweet Hall Marsh:

For the following dates and times, datalogger was removed from the station to allow for the construction of a new extended pier (approximately 25 feet). This will prevent the datalogger from coming out of the water in the winter months and prevent any future damage that can occur to the instrument in freezing temperatures during exposure from extreme low tides. No data collected for this time period.

11/01/2016 00:00:00 – 11/03/2016 13:15:00

December

Taskinas Creek:

For the following dates and times, all data are missing due to internal error within the datalogger. No data collected for this time period

12/15/2016 10:30:00 – 12/31/2016 23:45:00

Sonde/Probe malfunction

January

Goodwin Island:

For the following dates and times, the datalogger was out water due to station maintenance. Data rejected.

01/06/2016 10:15:00

November

Sweet Hall Pier:

For the following dates and times, the datalogger was out water due to station maintenance. Data rejected.

11/29/2016 11:15:00

Station Installation/Station Maintenance

January

Claybank:

The Claybank station was heavily damaged due to a boat accident; which knocked the station down. No data collected for this time period.

01/01/2016 00:00:00 – 01/20/2016 12:15:00

Goodwin Island:

On the following date and times, station tube was removed and replaced with new tube, no influence on data.

05/27/2016 09:15:00

September

Taskinas Creek:

On the following date and times, station tube was removed and replaced with new tube, no influence on data.

09/07/2016 09:15:00