



VERSION 1.5

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DATA MANAGEMENT PLAN

ALABAMA BARRIER ISLAND RESTORATION ASSESSMENT

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Wetland and Aquatic Research Center

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1 PROJECT OVERVIEW

The Alabama Barrier Island Restoration Assessment project focused exclusively on Dauphin Island, a significant barrier island along the northern Gulf of Mexico. This restoration feasibility study effort required data collection and analysis of many data types (e.g., hydro, sediment, currents, etc.) through the project’s life cycle to assess restoration measures and their effects on the sustainability of Dauphin Island. As such, the project requires a data management plan (DMP) to address issues such as data delivery format, organizational strategies, internal data sharing, archival processes, and product dissemination.

TABLE 1. DATA MANAGEMENT PLAN REVISIONS.

| Date | Version | Comments |
|-----------------|----------------|--|
| 08/22/15 | 1.0 | Initial Draft |
| 7/10/16 | 1.1 | Added Wave and Current Data Section |
| 12/5/16 | 1.2 | Added Sediment, Shoreline, and Water Quality Data Sections |
| 5/15/19 | 1.3 | Added Habitat Mapping Data Section |
| 12/20/19 | 1.4 | Added Bathymetry Data Section |

| Date | Version | Comments |
|---------|---------|--|
| 1/23/20 | 1.5 | Added National Water Information System (NWIS) citation; Section updates; finalized for review |

2 DATA MANAGEMENT PLAN OVERVIEW

2.1 DATA MANAGEMENT PLAN PURPOSE

The Alabama Barrier Island Restoration Assessment will produce varying amounts of data, including baseline and/or legacy data, that will be organized and stored to facilitate for analyses and decision-making purposes. This document outlines a plan for the life cycle of data types included in this project. This plan also promotes standardized approaches to data acquisition, submission, and dissemination. This document will also serve as a record of what data have been collected and archived as part of this restoration feasibility effort. Any standards developed or utilized during this effort will also be documented so that they may be leveraged during future barrier island restoration projects. This data management effort for this project was led by the U.S. Geological Survey Wetland (USGS) and Aquatic Research Center’s Advanced Application Team in cooperation with the U.S. Army Corps of Engineers (USACE) Mobile District.

2.2 DATA MANAGEMENT PLAN STRUCTURE

Overarching data management details are described within the main sections of this plan. Data-specific details for each type of data that was collected as part of the Alabama Barrier Island Restoration Assessment are in the corresponding appendix for that data type. Information, including data format, data attributes, delivery method, storage, and visualization details, will be outlined within the corresponding data appendix. As new data types are identified, appendices will be created and inserted into this document making this a “living” document that will be versioned as it is modified.

Data-specific appendices have been developed for the following data types to date:

- Appendix B Shoreline,
- Appendix C Sediment/Grain Size,
- Appendix D Habitat,
- Appendix E Water Quality,
- Appendix F Wave and Currents, and
- Appendix G Bathymetry

2.3 AUDIENCE

The intended audiences of this Data Management Plan are:

- Alabama Barrier Island Restoration Assessment program management (PMT) (e.g., USACE, National Fish and Wildlife Foundation (NFWF)),
- Alabama Barrier Island Restoration Assessment Project team (PT) (e.g., USACE, USGS)
- All stakeholders and cooperators utilizing collected data, and
- Public

2.4 DATA MANAGEMENT COORDINATION

The Alabama Barrier Island Restoration Assessment Project will be overseen by the Mobile District. USGS will be involved in many of the data collection and analysis efforts of this project, as well as the Data Management. All data collected by USGS will be peer-reviewed and disseminated as an official USGS Data Release product along with any accompanying publications (e.g., USGS Series publications, journal articles, or reports).

Coordination and open communication are key to a successful DMP. For each defined data type to be collected and managed within this project, the Data Management team (DMT) will coordinate with the specified data collector regarding data format and submission. The PMT will guide data access assignment and priorities of web-enabling and processing where applicable. The PMT, PT, and data collectors will be notified on completion of data processing and data availability. Data type-specific details are documented within the appendices of this data management plan.

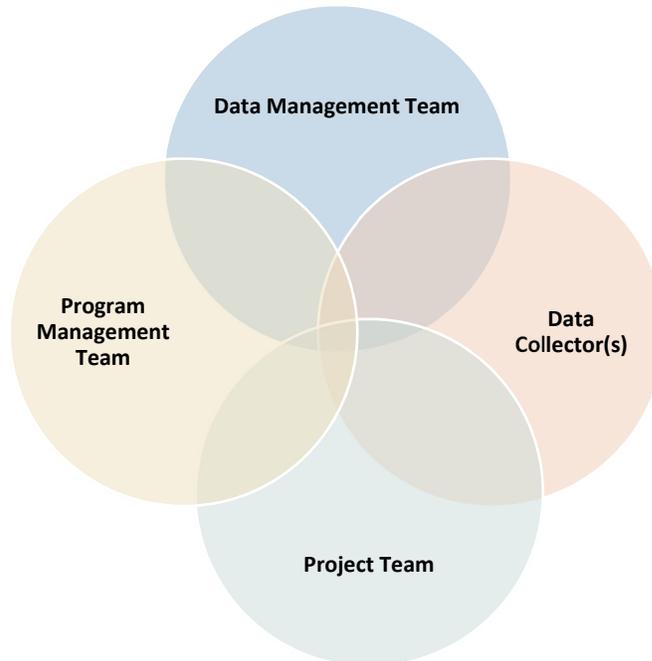


FIGURE 1. DATA MANAGEMENT COORDINATION.

3 DATA TYPES COVERED BY THIS PLAN

3.1 DATA TYPES

The following list provides anticipated data types to be collected by the Alabama Barrier Island Restoration Assessment effort. If a determination is made regarding a new data type to be collected/monitored, an appendix for that data type will be added to this plan.

- Single-beam bathymetry,
- Acoustic Doppler Current Profiler (ADCP),
- Grain Size,
- Wave,
- Water Quality,
- Habitat Mapping,
- Shoreline,
- Modeling, and
- Publications

4 DATA SUBMISSION STANDARDS

The DMT will work with the various data collectors regarding data submission, which may vary by data type. By following the submission standards, the data being submitted will integrate seamlessly into the Alabama Barrier Island Restoration Assessment project database. Appendices contained herein will guide required data formatting and submission methods.

The raw data (e.g., elevation data) should also be submitted along with any populated geodatabase data.

5 DATA STORAGE

Project datasets will be stored on a USGS-hosted server along with corresponding metadata. Final USGS publications and data releases will be available using a corresponding digital object identifier (DOI) uniform resource locator (URL). Applicable geographic information systems (GIS) data will be service-enabled by the DMT, so that these data may be ingested and visualized on the Alabama Barrier Island Restoration Assessment web mapping application.

6 DATA DOCUMENTATION (METADATA)

All data submitted by data collectors will be required to include metadata. It is required that data collectors follow the ISO Metadata Standard 19115 (www.iso.org) or the Federal Geographic Data Committee (FGDC) compliant format when creating metadata.

7 DATA SHARING

7.1 DATA AVAILABILITY

The Alabama Barrier Island Restoration Assessment PMT will inform the DMT regarding access levels of data collected/delivered since not all data types may have the same permissions. Data with access restrictions will be made available through a password protected interface. Data with no access restrictions will be made available to the project team through the Alabama Barrier Island Restoration Assessment web application suite (Figure 2). The DMT developed three custom online software applications for this effort:

- the online Sandbox (<https://gom.usgs.gov/DauphinIsland/sandbox/sandbox1.aspx>), which is used for project team file and data sharing during the course of the project,
- the online Data Catalog (Figure 3) (<https://gom.usgs.gov/DauphinIsland/Catalog.aspx>), which is used to organize existing and baseline Dauphin Island data and project-funded Alabama Barrier Island Restoration Assessment data, and
- the interactive web mapping application/viewer (Figure 4) (<https://gom.usgs.gov/DauphinIsland/Viewer/Map.aspx>), which is used for data visualization integrating geospatial data with dynamic web charts/graphs. These tools will be made public at the discretion of the PMT.

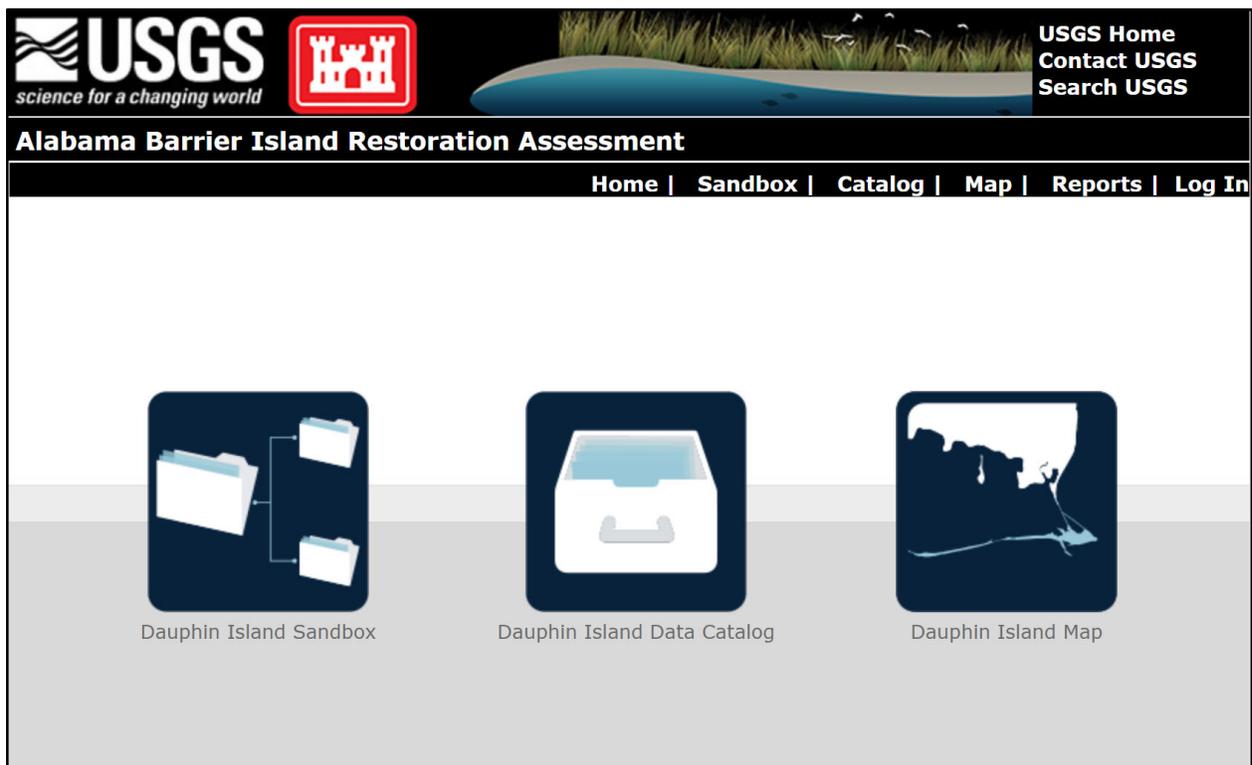


FIGURE 2. ALABAMA BARRIER ISLAND RESTORATION ASSESSMENT APPLICATION SUITE.

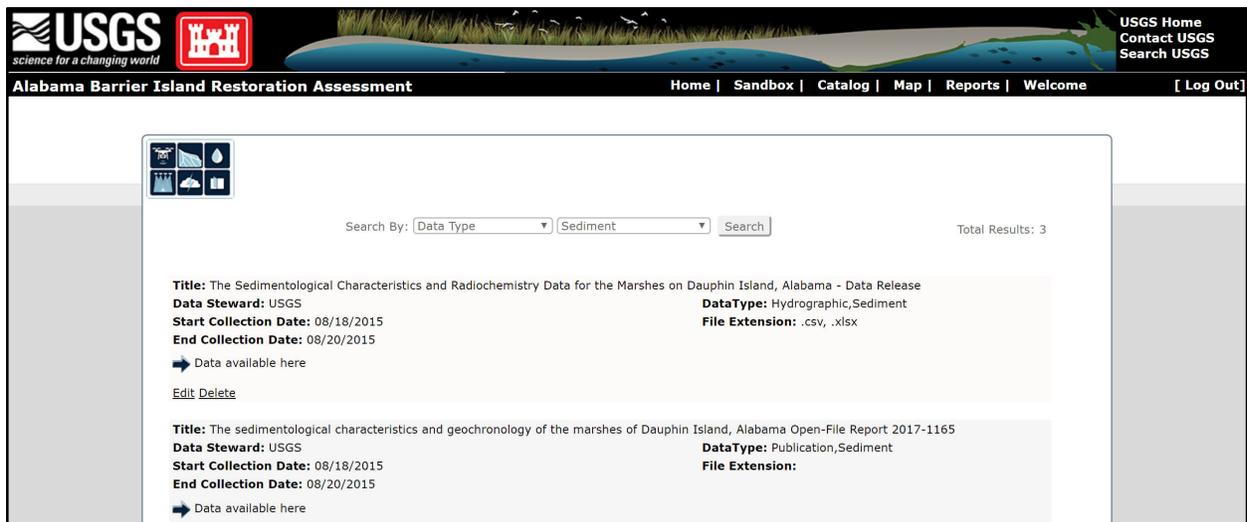


FIGURE 3. ALABAMA BARRIER ISLAND RESTORATION ASSESSMENT DATA CATALOG.



FIGURE 4. ALABAMA BARRIER ISLAND RESTORATION ASSESSMENT MAPPING VIEWER.

7.2 DATA VISUALIZATION

The DMT worked with the PMT and PT to design applicable visualization tools. Overall, each data type has a visualization component integrated within the data management visualization platform offering temporal and/or spatial information where applicable. The DMT has documented the visualization strategy for each data type within the corresponding data appendix. A private and a public interface was designed and implemented, as necessary, to comply with potential data access restrictions. Through the private password-protected interface, data (e.g., locations, observational data) were made available to the PT and those specific users defined by the PMT. Based on guidance

provided by the PT, entire datasets and/or summarized data, where applicable, will be made available through the public interface.

8 DATA MANAGEMENT POINTS OF CONTACT

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9 APPENDIX A: DATA INVENTORY

9.1 ALABAMA BARRIER ISLAND RESTORATION ASSESSMENT DATA

TABLE 2. DATA INVENTORY.

| Data Group | Date | Data Collector | Data Type | Data Format |
|------------|--|----------------|-------------------------------|------------------|
| Hydro | 7/28/2015–6/28/2016 | USGS | Water Quality | .xlsx |
| Hydro | 6/20/2015–8/23/2015 8/31/2015–11/20/2015 | USACE | Wave | .csv |
| Soil | 8/12/2015–8/20/2015 | USGS | Sediment | .xlsx |
| Hydro | 8/26/2015 12/9/2015 | USACE | ADCP (currents) | .GIS, .000, .TXT |
| Vegetation | Aerial imagery: Dec 2015; Field data: fall 2016 | USGS | Habitat Mapping | .tif |
| Shoreline | 1/1/1984–1/1/2015 | USGS | Shoreline (satellite-derived) | .shp |
| Shoreline | 1/1/1940–1/1/2015 | USGS | Shoreline (lidar-derived) | .shp |
| Shoreline | 1/1/1940–1/1/2015 | USGS | Shoreline (aerial-derived) | .shp |
| Bathymetry | 8/2015 | USGS | Single-beam bathymetry | .tif |

10 APPENDIX B: SHORELINE DATA

Geospatial shoreline datasets (i.e., polygon and line) were created based on aerial imagery, light detection and ranging (lidar), and satellite data of the Dauphin Island area from varying time periods. The final USGS publication and data releases can be found as follows:

Publication: Guy, K.K., 2015, Barrier island shorelines extracted from Landsat imagery: U.S. Geological Survey Open-File Report 2015–1179, 3 p., <http://dx.doi.org/10.3133/ofr20151179>.

Data Release: Guy, K.K., 2015, Shorelines Extracted from Landsat Imagery: Dauphin Island, Alabama: U.S. Geological Survey data release, <http://dx.doi.org/10.5066/F7028PMP>.

Data Release: Henderson, R.E., Nelson, P.R., Long, J.W., and Smith, C., 2017, Vector Shorelines and Associated Shoreline Change Rates Derived from Lidar and Aerial Imagery for Dauphin Island, Alabama: 1940-2015: U.S. Geological Survey data release, <https://doi.org/10.5066/F7T43RB5>.

10.1 SHORELINE DATA ATTRIBUTES

TABLE 3. SHORELINE (LIGHT DETECTION AND RANGING- AND AERIAL-DERIVED) DATA ATTRIBUTES.

| Attribute | Data Type | Size/Format | Description |
|------------|-----------|-------------|---|
| ObjectID | Long | | Internal ID |
| Date_ | Text | 10 | Date imagery was collected for the Dauphin Island coast using the MM/DD/YYYY format. |
| Notes | Text | 50 | Notes about each shoreline segment, according to 1) location along the island (Dauphin Island, Little Dauphin Island, Pelican Island) and shoreline type (open-ocean, back-barrier, marsh shoreline). |
| UNCERT | Float | | Estimate of shoreline position uncertainty. Actual shoreline position is within the range of this value (plus or minus, meters). |
| Shape_Leng | Double | | System-generated attribute field, which was automatically created by |

| | | | |
|--|--|--|---|
| | | | Esri ArcGIS to indicate the feature length. |
|--|--|--|---|

TABLE 4. SHORELINE (SATELLITE-DERIVED) DATA ATTRIBUTES.

| Attribute | Data Type | Size/Format | Description |
|------------------|------------------|--------------------|--|
| FID | Long | | Internal feature number |
| Shape | Geometry | | Shape of feature |
| Date_ | Text | 50 | Date that the source image was collected in month, day, and year format. |
| YYYYMMDD | Long | | Date formatted as an 8-digit number representing year, month, and day. |
| WXT32Dau | Double | | The predicted tide level, in meters relative to mean lower low water (MLLW), at the Dauphin Island tide station at the time of image collection. These data were obtained from WXTide32 (www.wxtide32.com), a tide and current prediction program. |
| Landsat | Long | | The Landsat satellite number (https://landsat.gsfc.nasa.gov) |

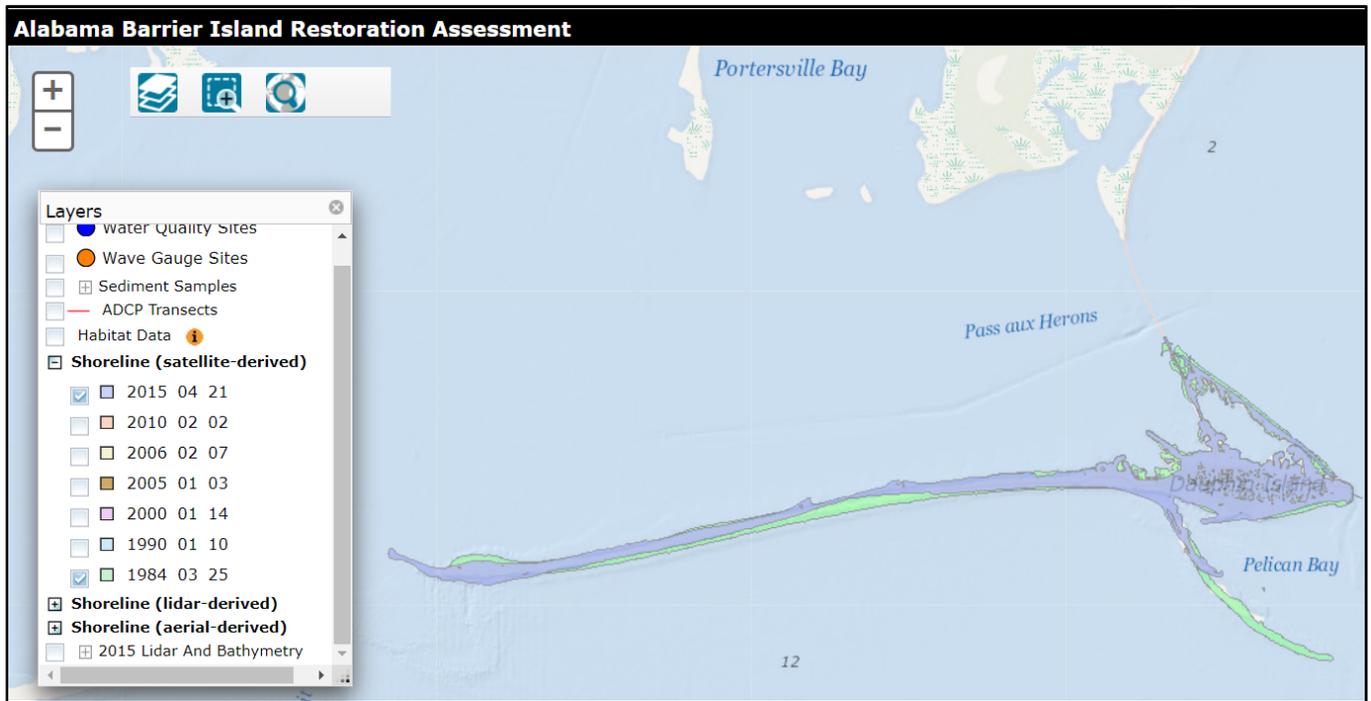


FIGURE 5. SHORELINE (SATELLITE-DERIVED) VISUALIZATION.



FIGURE 6. SHORELINE (AERIAL IMAGERY-DERIVED) VISUALIZATION.

11 APPENDIX C: SEDIMENT/GRAIN SIZE DATA

USGS collected and analyzed 303 sediment observations sampled on and around Dauphin Island during August 2015. The final USGS publication and data release can be found as follows:

Publication: Ellis, A.M., Marot, M.E., Smith, C.G., and Wheaton, C.J., 2017, The physical characteristics of the sediments on and surrounding Dauphin Island, Alabama: U.S. Geological Survey Data Series 1046, <https://doi.org/10.3133/ds1046>.

Publication: Ellis, A.M., Smith, C.G., and Marot, M.E., 2018, The sedimentological characteristics and geochronology of the marshes of Dauphin Island, Alabama: U.S. Geological Survey Open-File Report 2017–1165, <https://doi.org/10.3133/ofr20171165>.

Data Release: Ellis, A.M., Smith, C.G., and Marot, M.E., 2018, The sedimentological characteristics and geochronology of the marshes on Dauphin Island, Alabama: U.S. Geological Survey data release, <https://doi.org/10.5066/F7VM49J0>.

11.1 SEDIMENT DATA ATTRIBUTES

TABLE 5. SEDIMENT/GRAIN-SIZE DATA ATTRIBUTES.

| Attribute Name | Format | Unit of Measure | Description |
|--------------------|---------------|------------------|---|
| SampleID | alpha-numeric | | Full sample identification number |
| Abv_ID | alpha-numeric | | Abbreviated sample identification number |
| Date_Collected | date | YYYYMMDD | YYYYMMDD |
| Sample_Types | Text | | Select from list "Equipment and Sample Types" tab |
| Latitude | numeric | decimal degrees | Latitude |
| Longitude | numeric | decimal degrees | Longitude |
| Mean_GS_μm | numeric | micrometers (μm) | Mean grain-size |
| StdDev_MeanGS_μm | numeric | micrometers (μm) | Standard deviation of the mean grain-size |
| Sorting_μm | numeric | micrometers (μm) | Sorting |
| StdDev_Sorting_μm | numeric | micrometers (μm) | Standard deviation of sorting |
| Skewness_μm | numeric | micrometers (μm) | Skewness |
| StdDev_Skewness_μm | numeric | micrometers (μm) | Standard deviation of skewness |
| Kurtosis_μm | numeric | micrometers (μm) | Kurtosis |
| StdDev_Kurtosis_μm | numeric | micrometers (μm) | Standard deviation of kurtosis |

| | | | |
|----------------------|---------|------------------------------------|---|
| Mean_GS_Descriptive | Text | | Grain-size description (e.g., Very Fine Sand, Fine Silt, Medium Silt, Coarse Silt, ...) |
| Sorting_Descriptive | Text | | Sorting description (e.g., Very Poorly Sorted, Poorly Sorted, Well Sorted, ...) |
| Skewness_Descriptive | Text | | Skewness description (e.g., Very Fine Skewed, Symmetrical, Coarse Skewed, ...) |
| Kurtosis_Descriptive | Text | | Kurtosis description (e.g., Platykurtic, Very Leptokurtic, Extremely Leptokurtic, ...) |
| DBDensity_g/cm3 | numeric | grams per cubic centimeter (g/cm3) | Calculated dry bulk density based on wet sediment mass, dry sediment mass, sediment volume, and water content |
| OrgMatter_f | numeric | fraction out of 1.0 | Fraction of the sample that is organic as determined by loss on ignition (LOI) |

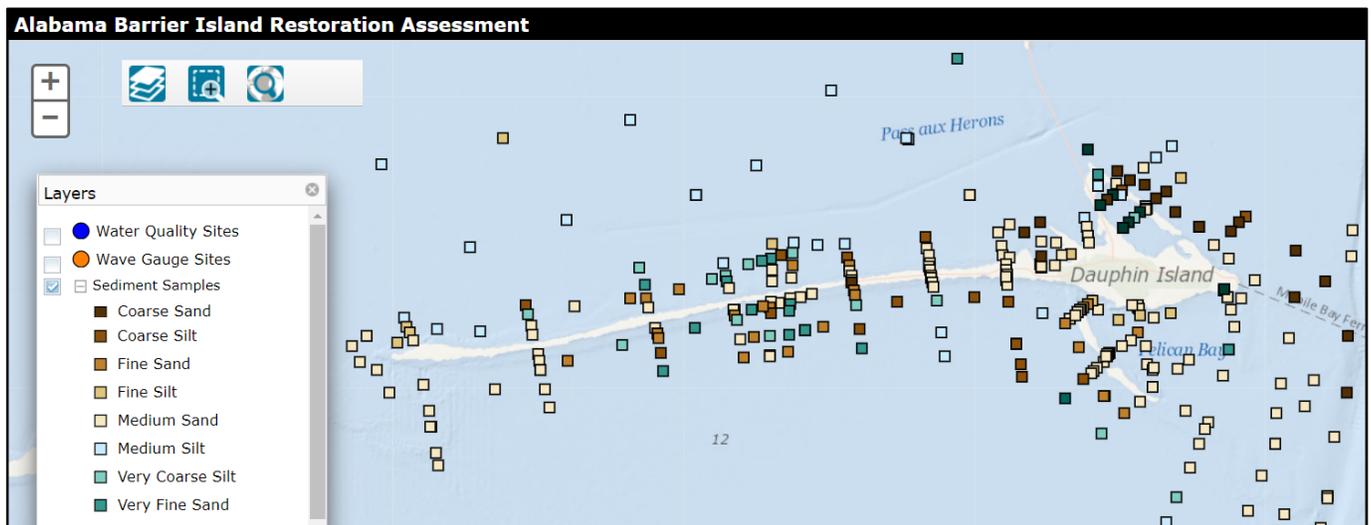


FIGURE 7. SEDIMENT/GRAIN-SIZE VISUALIZATION.

12 APPENDIX D: HABITAT DATA

12.1 HABITAT DATA DETAILS

The habitat map created during the Alabama Barrier Island Restoration Assessment was completed by USGS representing the conditions of Dauphin Island in 2015. The final publication and USGS data release can be found as follows:

Publication: Enwright, N.M., Borchert, S.M., Day, R.H., Feher, L.C., Osland, M.J., Wang, Lei, and Wang, Hongqing, 2017, Barrier island habitat map and vegetation survey—Dauphin Island, Alabama, 2015: U.S. Geological Survey Open-File Report 2017–1083, 17 p., <https://doi.org/10.3133/ofr20171083>.

Data Release: Enwright, N.M., Borchert, S.M., Day, R.H., Feher, L.C., Osland, M.J., Wang, L., and Wang, H., 2017, Barrier island habitat map and vegetation survey, Dauphin Island, AL, 2015: U.S. Geological Survey data release, <https://doi.org/10.5066/F7513WPC>.

Ancillary Publication: Enwright, N.M., Wang, L., Borchert, S.M., Day, R.H., Feher, L.C., and Osland, M.J., 2018, The impact of lidar elevation uncertainty on mapping intertidal habitats on barrier islands: Remote Sensing, v. 10, no. 1, art. 5, <https://doi.org/10.3390/rs10010005>.

Ancillary Publication: Enwright, N.M., Wang, L., Borchert, S.M., Day, R.H., Feher, L.C., and Osland, M.J., 2019, Advancing barrier island habitat mapping using landscape position information: Progress in Physical Geography, v. 43, no. 3, p. 425–450, <https://doi.org/10.1177/0309133319839922>.

The following habitat classifications were used: Beach; Developed; Dune, bare; Dune, herbaceous; Dune, wooded; Forest; Forested wetland; Intertidal beach; Intertidal flat; Intertidal marsh; Meadow; Open water, estuarine; Open water, fresh; Open water, marine; Oyster reef; Scrub/shrub; Seagrass; Shoreline protection; and Unvegetated barrier flat.

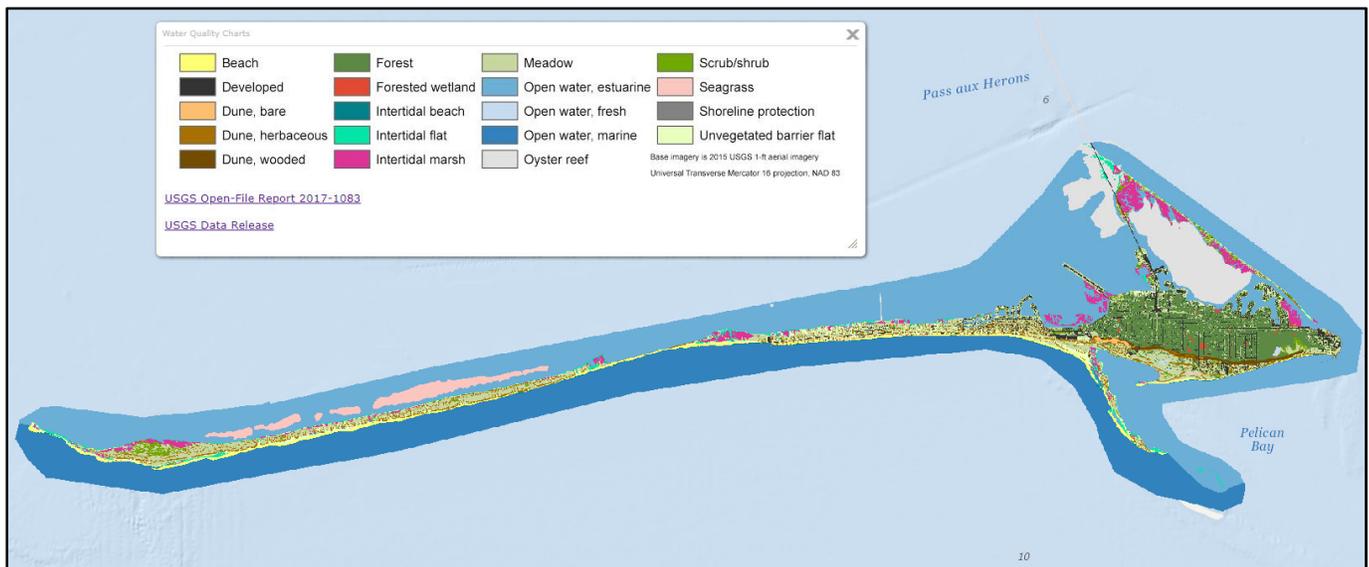


FIGURE 8. HABITAT MAPPING VISUALIZATION.

13 APPENDIX E: WATER QUALITY DATA

Water Quality data observations were collected from four USGS NWIS* stations during July 2015 – June 2016. The final data was delivered as .csv file format and is available on the USGS NWIS website (<https://waterdata.usgs.gov/nwis>). Dynamic web charts of each water quality parameter are available on the Alabama Barrier Island Restoration Assessment web mapping application.

TABLE 6. WATER QUALITY STATIONS.

| USGS NWIS Site ID | USGS NWIS Site Name | Latitude | Longitude |
|-------------------|---|----------|-----------|
| 301822088074101 | MOBILE BAY/MISSISSIPPI SOUND AT CEDAR POINT, AL | 301821.6 | 880740.8 |
| 302228088153401 | MISSISSIPPI SOUND NR. BAYOU LA BATRE/IS. AUX HERBES | 302227.6 | 881534.4 |
| 303336088043001 | MOBILE BAY AT DOG RIVER MOUTH | 303336 | 880430 |
| 303853088012301 | MOBILE BAY NR. MOBILE AND TENSAW RIVER INFLOW | 303852.7 | 880123.5 |

*U.S. Geological Survey, 2016c, USGS water data for the Nation: U.S. Geological Survey National Water Information System database, accessed December 16, 2016, at <https://doi.org/10.5066/F7P55KJN>.

13.1 WATER QUALITY DATA ATTRIBUTES

TABLE 7. WATER QUALITY DATA ATTRIBUTES.

| Attribute Name | Format | Unit of Measure | Description |
|--|---------------|-----------------|--|
| Station ID | Text | | Full sample identification number |
| Station Name | alpha-numeric | | Abbreviated sample identification number |
| Date | Text | MM/DD/YYYY | Date of sample |
| Sample start time | Text | | Select from list "Equipment and Sample Types" tab |
| Sample Type | Text | | Type of sample (e.g., Environmental, Chlorophyll Only, Profile, ...) |
| Depth to bottom of sampling interval, meters | numeric | Meters | Depth to bottom of sampling interval, meters |
| Sampling depth, feet | numeric | Feet | Sampling depth, feet |
| Water depth, water surface to bottom, feet | numeric | Feet | Water depth, water surface to bottom, feet |

| | | | |
|--|---------|---|--|
| Dissolved oxygen, water, unfiltered, milligrams per liter | numeric | Milligrams per liter | Dissolved oxygen, water, unfiltered, milligrams per liter |
| pH, water, unfiltered, field, standard units | numeric | Standard units | pH, water, unfiltered, field, standard units |
| Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius | numeric | Microsiemens per centimeter at 25 degrees Celsius | Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius |
| Salinity, water, unfiltered, parts per thousand | numeric | Parts per thousand | Salinity, water, unfiltered, parts per thousand |
| Temperature, water, degrees Celsius | numeric | Degrees Celsius | Temperature, water, degrees Celsius |
| Transparency, water, <i>in situ</i> , Secchi disc, meters | numeric | Meters | Transparency, water, <i>in situ</i> , Secchi disc, meters |
| Turbidity, water, unfiltered, monochrome near infrared light-emitting diode (LED) light, 780–900 nanometers (nm), detection angle 90 +/- 2.5 degrees, formazin nephelometric units (FNU) | numeric | Formazin nephelometric units (FNU) | Turbidity, water, unfiltered, monochrome near infrared LED light, 780–900 nm, detection angle 90 +/- 2.5 degrees, formazin nephelometric units (FNU) |
| Dissolved solids dried at 180 degrees Celsius, water, filtered, milligrams per liter | numeric | Milligrams per liter | Dissolved solids dried at 180 degrees Celsius, water, filtered, milligrams per liter |
| Suspended solids, water, unfiltered, milligrams per liter | numeric | Milligrams per liter | Suspended solids, water, unfiltered, milligrams per liter |
| Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen | numeric | Milligrams per liter | Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen |
| Ammonia plus organic nitrogen, water, unfiltered, milligrams per liter as nitrogen | numeric | Milligrams per liter | Ammonia plus organic nitrogen, water, unfiltered, milligrams per liter as nitrogen |
| Ammonia, water, unfiltered, milligrams per liter as nitrogen | numeric | Milligrams per liter | Ammonia, water, unfiltered, milligrams per liter as nitrogen |
| Nitrate plus nitrite, water, unfiltered, milligrams per liter as nitrogen | numeric | Milligrams per liter | Nitrate plus nitrite, water, unfiltered, milligrams per liter as nitrogen |
| Organic nitrogen, water, unfiltered, milligrams per liter as nitrogen | numeric | Milligrams per liter | Organic nitrogen, water, unfiltered, milligrams per liter as nitrogen |
| Organic phosphorus, water, filtered, milligrams per liter as phosphorus | numeric | Milligrams per liter | Organic phosphorus, water, filtered, milligrams per liter as phosphorus |
| Organic phosphorus, water, unfiltered, milligrams per liter as phosphorus | numeric | Milligrams per liter | Organic phosphorus, water, unfiltered, milligrams per liter as phosphorus |

| | | | |
|---|---------|----------------------|---|
| Orthophosphate, water, filtered, milligrams per liter as phosphorus | numeric | Milligrams per liter | Orthophosphate, water, filtered, milligrams per liter as phosphorus |
| Orthophosphate, water, unfiltered, milligrams per liter as phosphorus | numeric | Milligrams per liter | Orthophosphate, water, unfiltered, milligrams per liter as phosphorus |
| Phosphorus, water, filtered, milligrams per liter as phosphorus | numeric | Milligrams per liter | Phosphorus, water, filtered, milligrams per liter as phosphorus |
| Phosphorus, water, unfiltered, milligrams per liter as phosphorus | numeric | Milligrams per liter | Phosphorus, water, unfiltered, milligrams per liter as phosphorus |
| Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, unfiltered, milligrams per liter | numeric | Milligrams per liter | Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, unfiltered, milligrams per liter |
| Chlorophyll a, phytoplankton, chromatographic-fluorometric method, micrograms per liter | numeric | Micrograms per liter | Chlorophyll a, phytoplankton, chromatographic-fluorometric method, micrograms per liter |
| Organic carbon, water, filtered, milligrams per liter | numeric | Milligrams per liter | Organic carbon, water, filtered, milligrams per liter |
| Organic carbon, water, unfiltered, milligrams per liter | numeric | Milligrams per liter | Organic carbon, water, unfiltered, milligrams per liter |

14 APPENDIX F: WAVE AND CURRENT DATA

14.1 WAVE AND CURRENT DATA DETAILS

Wave and current data were collected by the USACE Engineer Research and Development Center. Two directional wave gage and current profilers (Aquadop, AWAC) were deployed in June and August of 2015 measuring wave height, period, and direction. The proprietary output data as well as a comma-separated values (.csv) output file was delivered for each wave gage.

Acoustic Doppler Current Profiler measurements were taken across Pass aux Herons, Mobile Pass, and Petit Bois Pass during spring tides on August 26, 2015 and December 9, 2015. The proprietary ADCP data files (.txt, .000 [binary], and .GIS) were delivered. The DMT processed these files into a web-enabled format to be visualized and charted on the Alabama Barrier Island Restoration Assessment mapping viewer.

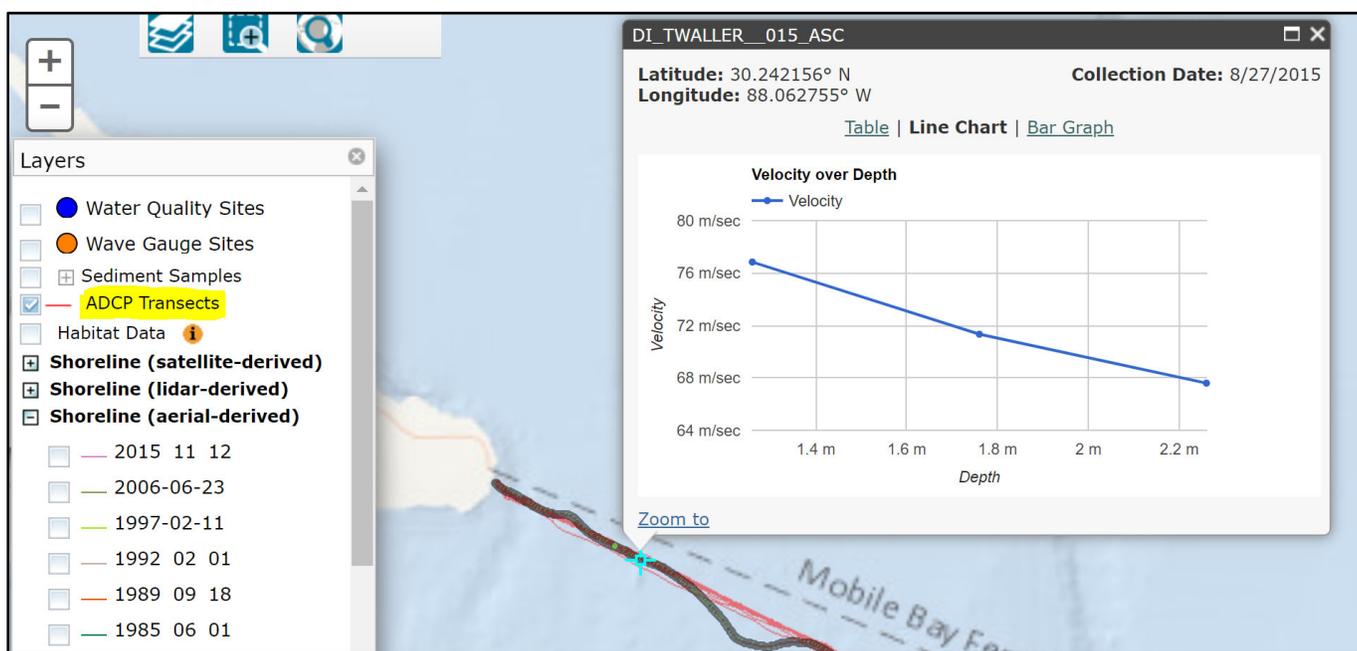


FIGURE 10. ADCP DATA VISUALIZATION.

15 APPENDIX G: BATHYMETRY DATA

15.1 SINGLE-BEAM BATHYMETRY DATA DETAILS

The single-beam bathymetry data collected in 2015 during the Alabama Barrier Island Restoration Assessment was processed by the USGS. The USGS merged the single-beam bathymetry dataset with a Dauphin Island 2015 lidar dataset. This dataset has been integrated into the Alabama Barrier Island Restoration Assessment mapping viewer.

The final publication and data release can be found as follows:

Publication: DeWitt, N.T., Stalk, C.A., Flocks, J.G., Bernier, J.C., Kelso, K.W., Fredericks, J.J., and Tuten, T.M., 2018, Nearshore single-beam bathymetry data collected in 2015, Dauphin Island, Alabama: U.S. Geological Survey Data Series 1095, <https://doi.org/10.3133/ds1095>.

Data Release: DeWitt, N.T., Stalk, C.A., Flocks, J.G., Bernier, J.C., Kelso, K.W., Fredericks, J.J., and Tuten, T., 2017, Single-beam bathymetry data collected in 2015 nearshore Dauphin Island, Alabama: U.S. Geological Survey data release, <https://doi.org/10.5066/F7BZ648W>.



FIGURE 11. SINGLE-BEAM BATHYMETRY AND LIGHT DETECTION AND RANGING DATA VISUALIZATION.

16 APPENDIX H: DATA TYPE QUESTIONNAIRE

Whenever a new data type has been received by the DMT, the following data attribute questions regarding the data can be used to assist the DMT developing an appendix for these data, visualizing data, and disseminating data.

General description of the data to be managed

- Dataset Name
- Data Keywords
- Data Summary Description
- Temporal Extent of Data
- Geographic Extent of Data
- Data Type(s)/File Format
- Data Capture/Creation Method
- DMP Storage Location
- Data Volume
- PII or Restricted Info Included?

Points of contact (name, title, location, mailing address, email address, phone)

- Project Representative(s)
- Overall Project POC
- Responsible Party—Verification of Data Quality
- Responsible Party—Answering Data Collection Questions
- Responsible Party—Data Documentation & Metadata
- Responsible Party—Data Storage & Disaster Recovery
- Implementation/Adherence

Data stewardship

- Quality Control Procedures
- Overall Data Lifecycle (i.e., from collection to customer availability)

Data documentation/metadata

- Metadata Repository Catalog
- Additional Info (besides discovery-level metadata)
- Collection/Update Method for Metadata
- Additional Data Catalog
- Data/Metadata Standards

Data sharing

- Public Availability
- Date of First Public Availability
- One-Time or Ongoing Data Collection
- Hold/Delay between Data Collection & Publication
- If a Hold/Delay, then How Long?
- If no Public Availability, Why
- User Access Conditions/Restrictions
- Data Access Protocols Used for Data Sharing
- Registered in What Catalogs to be Discoverable

Initial data storage and protection

- Where/How Stored Before Storage in Long-Term Archive Facility
- Method of Data Protection from Accidental/Malicious Deletion (Data Backup, Disaster Recovery/Contingency Plan, Off-Site Storage)
- Data Access Limitations, How Protected from Unauthorized Access
- How Permissions should be Managed
- Process Followed in Case of Unauthorized Access

Long-term archiving and preservation

- Data Archive Location
- Has this Location been notified?
- If no Data Archive Location Identified, what is Long-Term Strategy for Maintaining/Curating/Archiving Data?
- Method of Providing/Maintaining Archiving Costs
- Transformations Required to Prepare Data for Archiving/Sharing
- Related Information Submitted to Archive to Enable Future Data Use/Understanding

Hardware/software requirements

- Storage Requirements
- Software Requirements
- Products