During the summers of 2008 and 2009 the USGS conducted bathymetric surveys from West Ship Island, Miss., to Dauphin Island, Ala., as part of the Northern Gulf of Mexico (NGOM) Ecosystem Change and Hazard Susceptibility project. The survey area extended from the shoreline out to approximately 2 kilometers and included the adjacent passes. The bathymetry was primarily used to create a topo-bathymetric map and provide a base-level assessment of the seafloor following the 2005 hurricane season. Additionally, these data will be used in conjunction with other geophysical data (chirp and side scan sonar) toward constructing a comprehensive geological framework of the Mississippi Barrier Island Complex. The culmination of the geophysical surveys will provide the data necessary for scientists to define, interpret, and provide baseline bathymetry and seafloor habitat for this area and to aid scientists
in predicting future geomorphological changes of the islands with respect to climate change, storm impact, and sea-level rise. Furthermore, these data provide information for feasibility of barrier island restoration, particularly in Camille Cut, and efforts for the preservation of historical Fort Massachusetts.

**Purpose:**
This report serves as an archive of the processed single-beam and swath bathymetry data. Data products herein include gridded and interpolated surfaces, surface images, and x,y,z data products. Additional files include trackline maps, GIS files, Field Activity Collection System (FACS) logs, and formal FGDC metadata. Scanned images of the handwritten FACS logs are also provided as PDF files. Refer to the Acronyms page for expansion of acronyms and abbreviations used in this report.

**Supplemental Information:**
For navigational purposes, bathymetric surveys have traditionally been referenced to a water level datum using tide gages and tide models. Bathymetric measurements referenced to a Global Positioning System (GPS) is a more accurate way of representing water depth and has been implemented in the acquisition and processing procedures for these datasets. Previous single-beam bathymetric studies performed at the USGS Center for Coastal and Marine Science have successfully referenced bathymetric measurements to GPS (DeWitt and others, 2007; Hansen 2008 and 2009). These surveys were conducted as a test to develop acquisition technology utilizing both single beam and swath bathymetry survey methods together and referencing both types of measurements to GPS rather than water level. Therefore, this survey is considered a seafloor-elevation survey and is explained in greater detail within this report. To accommodate coverage of this area in a limited timeframe, this seafloor-elevation survey was conducted using three techniques; single-beam bathymetry, interferometric swath bathymetry, and a walking kinematic survey of the island shorelines. All three techniques utilized GPS measurements. Implementation of these techniques was executed concurrently yet independently aboard two research vessels: the RV Survey Cat, a 26-foot (ft) shallow draft Glacier Bay Coastal Runner, and the 50-ft RV G.K. Gilbert. A portable push buggy with a rigid antenna-mount served as the platform for the kinematic shoreline survey. Data from each survey technique was post-processed and edited independently with proper inclusion of the differentially processed external navigation files. The x,y,z components from each method were then combined and the two survey years (2008 and 2009) were merged into one dataset. Chirp seismic data were also collected during these surveys and are archived separately.

**Time Period of Content:**
**Time Period Information:**
**Multiple Dates/Times:**
- **Single_Date/Time:**
  - **Calendar_Date:** 20080708
  - **Time_of_Day:** unknown
- **Single_Date/Time:**
  - **Calendar_Date:** 20080726
  - **Time_of_Day:** unknown
- **Single_Date/Time:**
  - **Calendar_Date:** 20090605
  - **Time_of_Day:** unknown
- **Single_Date/Time:**
  - **Calendar_Date:** 20090701
  - **Time_of_Day:** unknown

**Currentness Reference:** data collection interval

**Status:**
**Progress:** Complete
**Maintenance and Update Frequency:** None planned

**Spatial Domain:**
Bounding Coordinates:
West Bounding Coordinate: -89.001791
East Bounding Coordinate: -88.316260
North Bounding Coordinate: 30.272374
South Bounding Coordinate: 30.172158

Keywords:
Theme:
  Theme_Keyword_Thesaurus: ISO 19115 Topic Category
  Theme_Keyword: oceans
  Theme_Keyword: elevation
  Theme_Keyword: location

Theme:
  Theme_Keyword_Thesaurus: General
  Theme_Keyword: trackline
  Theme_Keyword: bathymetry
  Theme_Keyword: USGS
  Theme_Keyword: shapefile
  Theme_Keyword: HYPACK
  Theme_Keyword: HYPACK Inc.
  Theme_Keyword: single-beam bathymetry
  Theme_Keyword: single beam
  Theme_Keyword: swath bathymetry
  Theme_Keyword: interferometric swath bathymetry
  Theme_Keyword: swath
  Theme_Keyword: Base Station
  Theme_Keyword: Benchmark
  Theme_Keyword: Fort Massachusetts
  Theme_Keyword: WHRN
  Theme_Keyword: WPTB
  Theme_Keyword: kinematic
  Theme_Keyword: shoreline
  Theme_Keyword: Continuously Operating Reference Station (CORS)
  Theme_Keyword: GeoTIFF
  Theme_Keyword: U.S. Geological Survey (USGS), St. Petersburg Coastal and Marine Science Center
  Theme_Keyword: Gulf Islands National Seashore (GUIS)
  Theme_Keyword: SEA Ltd.
  Theme_Keyword: Systems Engineering and Assessment
  Theme_Keyword: SWATHplus interferometric
  Theme_Keyword: SWATHplus Interferometric Swath System
  Theme_Keyword: SWATHplus -H 468-kHz Interferometric system

Place:
  Place_Keyword_Thesaurus: GUIS
  Place_Keyword: Mississippi
  Place_Keyword: West Ship Island
  Place_Keyword: East Ship Island
  Place_Keyword: Horn Island
  Place_Keyword: Horn Island Pass
  Place_Keyword: Camille Cut
  Place_Keyword: Dog Keys
  Place_Keyword: Dog Keys Pass
  Place_Keyword: Petit Bois Island
  Place_Keyword: Petit Bois Pass
  Place_Keyword: Little Dog Keys Pass

Stratum:
Access Constraints: The U.S. Geological Survey requests that it be referenced as the originator of this dataset in any future products or research derived from these data.

Use Constraints: These data are not to be used for navigation.

Point of Contact:
Contact Information:
Contact Person Primary:
Contact Person: Nancy T. DeWitt
Contact Organization:
U.S. Geological Survey - St. Petersburg Coastal and Marine Science Center
Contact Position: Geologist
Contact Address:
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Country: USA
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Contact Electronic Mail Address: ndewitt@usgs.gov

Data Set Credit:

Native Data Set Environment:
Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 3; ESRI ArcCatalog 9.3.1.3000

Data Quality Information:
Attribute Accuracy:
Attribute Accuracy Report:
The accuracy of the data is determined during data collection. These datasets are from four separate research cruises and are therefore internally consistent. Methods are employed to maintain data collection consistency aboard various platforms. During mobilization, each piece of equipment (single beam and swath) is isolated to obtain internal and external offset measurements with respect to the survey platform. All the critical measurements are recorded manually and digitally and entered into their respective programs for calibration. Once calibration is complete and calibration status is considered acceptable, then survey operations commence. Each system has a dedicated computer, and efforts are made to utilize the same equipment and software versions. However, upgrades and changes occur and require additional setup, measurements, and notation. For the single beam bathymetry, offsets between the single beam transducers and the Ashetch antenna reference point (ARP) were measured and accounted for in post-processing. Bar checks were performed as calibration efforts and accounted for any drift in the Marimatech Echosounder. The Differential Geographic Positioning (DGPS) was obtained using post-processing software packages. For the swath bathymetry, offsets between the sonar head and the
DGPS antennas were measured and entered into the F190 internal setup program. DGPS is normally provided through the OmniSTAR High Performance wide-area GPS service unless otherwise noted. DGPS is always implemented for navigational accuracy either during acquisition or as a post-processing step.

Logical Consistency Report:
These datasets were completed on four research cruises over the course of 21 days for 2008 and 20 days for 2009. Refer to the FACS logs for respective vessel platforms and survey information. This dataset was created to show the combination bathymetry and topography from the cruises. The grid is 50-m spacing.

Completeness Report:
This is a complete processed bathymetry and shoreline topography surface in GeoTIFF format. It is a combination of single beam and swath bathymetry and shoreline topography from USGS cruises 08CCT01, 08CCT02, 09CCT03, and 09CCT04. These data provide a continuous and complete surface; however, there may in some cases be data missing and inconsistent with reported tracklines. This is directly due to the exclusion of poor data and (or) instrument failures.

Positional Accuracy:

Horizontal Positional Accuracy:

Horizontal Positional Accuracy Report:
GPS base stations were erected within approximately 15 to 20 km of the survey area. Efforts were made to utilize pre-existing National Geodetic Survey (NGS) benchmarks on the islands. If pre-existing benchmarks were unavailable a USGS benchmark was installed.

All static base station sessions were run through On-Line Positioning User Service (OPUS) maintained by the National Oceanic and Atmospheric Administration (NOAA) and the National Geodetic Survey (NGS). The base location results from OPUS were put in a spreadsheet for error analysis and averaging, and any outliers were removed. For the 2008-2009 base station occupations, results were considered sufficient and produced +/-3.3 cm or less accuracy in the vertical component. These base station positions, once finalized, were used for processing and can be found in the FACS logs. GPS was recorded using Ashtech Z-Xtreme GPS receivers that record the 12-channel full-carrier-phase positioning signals (L1/L2) from the satellites via the Thales choke-ring antenna. This GPS instrument combination is duplicated on the survey vessel (rover). The base receiver and the rover receiver record their positions concurrently at 1-second (s) recording intervals throughout the survey period. The differential navigation for the single-beam bathymetry and the swath bathymetry were both collected in the same manner.

Quantitative Horizontal Positional Accuracy Assessment:

Horizontal Positional Accuracy Value: 0.00001
Horizontal Positional Accuracy Explanation: decimal seconds

Vertical Positional Accuracy:

Vertical Positional Accuracy Report:
Ship motion was measured using a the CodaOctopus Octopus F190 Precision Attitude and Positioning System. The interferometric sonar is an angle-measuring system; depth accuracy decreases with increasing horizontal range. The swath width of the interferometric sonar varied as a function of depth but generally achieved 5 times the water depth. Vertical accuracy is directly affected by the accuracy of both the navigation system and the sonar system.

Quantitative Vertical Positional Accuracy Assessment:

Vertical Positional Accuracy Value: -3.3 to + 3.3
Vertical Positional Accuracy Explanation: centimeters

Lineage:
**Process Step:**

**Process Description:**
Acquisition: The single-beam data for 2008 were collected using SANDS, which has two components, data acquisition and data processing. The 2008 and 2009 swath bathymetry was collected using the Systems Engineering and Assessment Ltd. (SEA) SWATHplus-H 468 kHz Interferometric System providing both data acquisition and data processing components. The walking kinematic survey of the shoreline was completed using a portable push buggy.

**Process Date:** 2008 and 2009

**Process Contact:**

**Contact Information:**
- **Contact Person Primary:** Nancy T. DeWitt and others
- **Contact Organization:** U.S. Geological Survey St. Petersbg Coastal and Marine Science Center
- **Contact Position:** Geologist
- **Contact Address:**
  - **Address Type:** mailing and physical address
  - **Address:** 600 4th Street South
  - **City:** St. Petersburg
  - **State or Province:** FL
  - **Postal Code:** 33701
  - **Country:** USA
- **Contact Voice Telephone:** (727) 803-8747 x3058
- **Contact Electronic Mail Address:** ndewitt@usgs.gov

**Process Step:**

**Process Description:**
Differentially Corrected Navigation Process: Each base station GPS file was processed to the respective roving survey platform GPS file using GrafNav version 8.10, a product of Waypoint Product Group. During this process, steps were taken to ensure that the trajectory produced from the base to the rover was clean and produced fixed positions. From these processes a single differentially corrected, precise position at 1-s intervals for each roving GPS session was created.

**Process Date:** 2008 and 2009

**Process Contact:**

**Contact Information:**
- **Contact Person Primary:** Nancy T. DeWitt
- **Contact Organization:** U.S. Geological Survey St. Petersburg Coastal and Marine Science Center
- **Contact Position:** Geologist
- **Contact Address:**
  - **Address Type:** mailing and physical address
  - **Address:** 600 4th Street South
  - **City:** St. Petersburg
  - **State or Province:** FL
  - **Postal Code:** 33701
  - **Country:** USA
- **Contact Voice Telephone:** (727) 803-8747 x3058
- **Contact Electronic Mail Address:** ndewitt@usgs.gov

**Process Step:**

**Process Description:**
Single-Beam Processing: The external navigation files are combined with the
raw trackline data in SANDS version 3.92. The raw data are geometrically correct, and a Geoid model applied. The exported x,y,z data are referenced to NAD83, UTM ZONE 16N, and NAVD88.

**Process Date:** 2008  
**Process Contact:**

**Contact Information:**  
**Contact Person Primary:**  
**Contact Person:** Nancy T. DeWitt  
**Contact Organization:**  
U.S. Geological Survey St. Petersburg Coastal and Marine Science Center  
**Contact Position:** Geologist  
**Contact Address:**  
**Address Type:** mailing and physical address  
**Address:** 600 4th Street South  
**City:** St. Petersburg  
**State or Province:** FL  
**Postal Code:** 33701  
**Country:** USA  
**Contact Voice Telephone:** (727) 803-8747 x3058  
**Contact Electronic Mail Address:** ndewitt@usgs.gov

**Process Step:**

**Process Description:**  
Swath Post-Processing 2008: The raw swath files, (SXR) were run through SWATHplus version 3.06.04.03. The external differential navigation file was substituted for the F190 navigation string, however, the motion (heave, roll, pitch) from the F190 was applied and depths were geometrically corrected. The processed swath files (SXP) were referenced to NAD83, UTM ZONE 16N NAVD88. The SXP files were imported into CARIS HIPS and SIPS version 7.0 with the respective vessel files and merged. Each line was viewed and cleaned in Swath Editor. The filters applied included depth, beam to beam slopes, across-track distance, and missing neighbors. The files were remerged after any changes occurred during the editing process, a 5-m BASE surface was created, and the x,y,z data were exported in ASCII format for further grid interpretation. The x,y,z values were in NAD83, UTM ZONE 16N NAVD88.

**Process Date:** 2008  
**Process Contact:**

**Contact Information:**  
**Contact Person Primary:**  
**Contact Person:** Nancy T. DeWitt  
**Contact Organization:**  
U.S. Geological Survey St. Petersburg Coastal and Marine Science Center  
**Contact Position:** Geologist  
**Contact Address:**  
**Address Type:** mailing and physical address  
**Address:** 600 4th Street South  
**City:** St. Petersburg  
**State or Province:** FL  
**Postal Code:** 33701  
**Country:** USA  
**Contact Voice Telephone:** (727) 803-8747 x3058  
**Contact Electronic Mail Address:** ndewitt@usgs.gov

**Process Step:**

**Process Description:**  
Swath Post-Processing 2009: The SXRs were run through SWATHplus version 3.06.04.03. The external differential navigation file was substituted for the F190 navigation string, however, the motion (heave, roll, pitch) from the F190 was applied and depths were geometrically corrected. The processed swath files (SXP) were referenced to NAD83, UTM ZONE 16N NAVD88. The SXP files were imported into CARIS HIPS and SIPS version 7.0 with the respective vessel files and merged. Each line was viewed and cleaned in Swath Editor. The filters applied included depth, beam to beam slopes, across-track distance, and missing neighbors. The files were remerged after any changes occurred during the editing process, a 5-m BASE surface was created, and the x,y,z data were exported in ASCII format for further grid interpretation. The x,y,z values were in NAD83, UTM ZONE 16N NAVD88.
3.06.0 without inserting the differential external navigation file. The processed SXP data were imported into CARIS HIPS and SIPS version 6.1. The external navigation files were first smoothed in Matlab version R2007b. The external navigation files were then imported into CARIS with the heave correction (waterline height) offset in the respective vessel file and the navigation data applied as a tide file in CARIS during the merge process. Each line was viewed and cleaned in Swath Editor. The filters applied included depth, beam to beam slopes, across-track distance, and missing neighbors. The files were remerged after any changes occurred during the editing process, a 5-m BASE surface was created, and the x,y,z data were exported in ASCII format for further grid interpretation. The x,y,z values were referenced to NAD83, UTM ZONE 16N NAVD88.

Process_Date: 2009
Process_Contact:

Contact_Information:
Contact_Person_Primary:
  Contact_Person: Elizabeth A. Pendleton
  Contact_Organization: USGS Woods Hole Coastal and Marine Science Center
Contact_Position: Geologist
Contact_Address:
  Address_Type: mailing and physical address
  Address: 384 Woods Hole Road
  City: Woods Hole
  State_or_Province: MA
  Postal_Code: 02543-1598
  Country: USA
  Contact_Voice_Telephone: (508) 457-2259
  Contact_Electronic_Mail_Address: ependleton@usgs.gov

Spatial_Data_Organization_Information:
  Direct_Spatial_Reference_Method: Raster
  Raster_Object_Information:
    Raster_Object_Type: Pixel
    Row_Count: 203
    Column_Count: 1317
    Vertical_Count: 1

Spatial_Reference_Information:
  Horizontal_Coordinate_System_Definition:
    Planar:
      Grid_Coordinate_System:
        Grid_Coordinate_System_Name: Universal Transverse Mercator
        Universal_Transverse_Mercator:
          UTM_Zone_Number: 16
          Transverse_Mercator:
            Scale_Factor_at_Central_Meridian: 0.999600
            Longitude_of_Central_Meridian: -87.000000
            Latitude_of_Projection_Origin: 0.000000
            False_Easting: 500000.000000
            False_Northing: 0.000000
        Planar_Coordinate_Information:
Planar Coordinate Encoding Method: row and column
Coordinate Representation:
Abscissa Resolution: 50.000000
Ordinate Resolution: 50.000000
Planar Distance Units: meters

Geodetic Model:
Horizontal Datum Name: North American Datum of 1983
Ellipsoid Name: Geodetic Reference System 80
Semi-major Axis: 6378137.000000
Denominator of Flattening Ratio: 298.25722356300003

Vertical Coordinate System Definition:
Depth System Definition:
Depth Datum Name: North American Vertical Datum of 1988
Depth Resolution: 3.3
Depth Distance Units: centimeters
Depth Encoding Method: Explicit depth coordinate included with horizontal coordinates

Entity and Attribute Information:
Detailed Description:
Entity Type:
Entity Type Label: rm08_09_50gv2.tif
Entity Type Definition: ESRI ArcGIS 9.3
Entity Type Definition Source: ESRI ArcMap 9.3 TIFF

Detailed Description:
Entity Type:
Entity Type Label: rm08_09_50gv2_raster2point.shp
Entity Type Definition: ESRI ArcGIS 9.3
Entity Type Definition Source: ESRI ArcMap 9.3 shapefile

Attribute:
Attribute Label: FID
Attribute Definition: Internal feature number
Attribute Definition Source: ESRI ArcGIS 9.3
Attribute Domain Values:
Unrepresentable Domain:
Sequential unique whole numbers that are automatically generated

Attribute:
Attribute Label: SHAPE
Attribute Definition: Point Geometry
Attribute Definition Source: ESRI ArcGIS 9.3
Attribute Domain Values:
Unrepresentable Domain:
Sequential unique whole numbers that are automatically generated

Attribute:
Attribute Label: POINT_ID
Attribute Definition: Number
Attribute Definition Source: ESRI ArcGIS 9.3
Attribute Domain Values:
Range Domain:
Range Domain Minimum: 1
Range Domain Maximum: 106412

Attribute:
Attribute Label: GRID_CODE
Attribute Definition: Depth in meters
Attribute_Definition_Source: ESRI ArcGIS 9.3
Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: -19.589
    Range_Domain_Maximum: +1.586

Attribute:
  Attribute_Label: X
  Attribute_Definition: NAD83 UTM 16N
  Attribute_Definition_Source: North American Datum of 1983
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: 307500.000874
      Range_Domain_Maximum: 373250.000278

Attribute:
  Attribute_Label: Y
  Attribute_Definition: NAD83 UTM 16N
  Attribute_Definition_Source: North American Datum of 1983
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: 3339576.76001
      Range_Domain_Maximum: 3349676.76002

Detailed_Description:
  Entity_Type:
    Entity_Type_Label: rm08_09_50gv2_raster2ascii.txt
    Entity_Type_Definition: ESRI ArcGIS 9.3
    Entity_Type_Definition_Source: ESRI ArcMap 9.3 ASCII file

Detailed_Description:
  Entity_Type:
    Entity_Type_Label: rm08_09_50gv2_xyz.txt
    Entity_Type_Definition: ESRI ArcGIS 9.3
    Entity_Type_Definition_Source: ESRI ArcMap 9.3 ASCII file

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  Attribute_Definition: NAD83 UTM 16N
  Attribute_Definition_Source: North American Datum of 1983
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: 307500.000874
      Range_Domain_Maximum: 373250.000278

Attribute:
  Attribute_Label: y
  Attribute_Definition: NAD83 UTM 16N
  Attribute_Definition_Source: North American Datum of 1983
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: 3339576.76001
      Range_Domain_Maximum: 3349676.76002

Attribute:
  Attribute_Label: z
  Attribute_Definition: depth in meters
  Attribute_Definition_Source: ESRI ArcGIS 9.3
  Attribute_Domain_Values:
    Range_Domain:
      Range_Domain_Minimum: -19.5891
      Range_Domain_Maximum: +1.586

Overview_Description:
This file is the completed processed 50-m resolution multibeam bathymetry grid as a TIFF file.

This file rm08_09_50gv2.tif converted to a point shapefile named rm08_09_50gv2_raster2point.shp. The shapefile was created using ArcMap version 9.3.1 raster to point conversion tool and the then populated with X,Y fields using XTools Pro version 6.0.

This file rm08_09_50gv2.tif converted to an ASCII shapefile named rm08_09_50gv2_raster2ascii.txt. The text file was created using ArcMap version 9.3.1 raster to ascii conversion tool. This text file is in an array format with header information at the top of the file.

This is the file rm08_09_50gv2_raster2point.shp exported to text format in ArcMap version 9.3.1 the table restructure option of XTools Pro version 6.0.

Distributor:

Contact Information:

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Contact Electronic Mail Address: jflocks@usgs.gov

Downloadable Data File Name = rm08_09_50gv2.tif

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Standard Order Process:

Digital Form:

Digital Transfer Information:
- Format Name: TIFF
- File Decompression Technique: no compression applied
- Transfer Size: 1.85

Digital Transfer Option:
- Online Option:
  - Computer Contact Information:
    - Network Address:
      - Network Resource Name: <http://pubs.usgs.gov/ds/675>
  - Offline Option:
    - Offline Media: CD-ROM
    - Recording Format: CDR/DVD

Fees: none

Custom Order Process: none

Technical Prerequisites: This GeoTIFF was created for use with ESRI ArcGIS software.

Available Time Period:
- Time Period Information:
  - Single Date/Time:
    - Calendar Date: 2011
    - Time of Day: unknown

Distribution Information:

Resource Description:
- Downloadable Data File Name = rm08_09_50gv2_raster2points.shp

Standard Order Process:

Digital Form:

Digital Transfer Information:
- Format Name: SHP
- File Decompression Technique: no compression applied
- Transfer Size: 10.2

Digital Transfer Option:
- Online Option:
  - Computer Contact Information:
    - Network Address:
      - Network Resource Name: <http://pubs.usgs.gov/ds/675>
  - Offline Option:
    - Offline Media: CD-ROM
    - Recording Format: CDR/DVD

Fees: none

Custom Order Process: none

Technical Prerequisites: This shapefile was created for use with ESRI ArcGIS software.

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Distributor:
Contact Information:

Contact Person Primary:
  Contact Person: Jim Flocks
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  U.S. Geological Survey St. Petersburg Coastal and Marine Science Center
Contact Position: Geologist
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  City: St. Petersburg
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Contact Electronic Mail Address: jflocks@usgs.gov

Available Time Period:

Time Period Information:
  Single Date/Time:
    Calendar Date: 2011
    Time of Day: unknown

Distribution Information:

Resource Description:
  Downloadable Data File Name = rm08_09_50gv2_raster2ascii.txt

Standard Order Process:

Digital Form:

Digital Transfer Information:
  Format Name: TXT
  File Decompression Technique: no compression applied
  Transfer Size: 1.92

Digital Transfer Option:

Online Option:
  Computer Contact Information:
    Network Address:
      Network Resource Name: <http://pubs.usgs.gov/ds/675>

Offline Option:
  Offline Media: CD-ROM
  Recording Format: CDR/DVD

Fees: none

Custom Order Process: none

Available Time Period:

Time Period Information:
  Single Date/Time:
    Calendar Date: 2011
    Time of Day: unknown

Distribution Liability:

This CD-ROM publication was prepared by an agency of the United States Government. Although these data have been processed successfully on a computer system at the U.S. Geological Survey, no warranty expressed or implied is made regarding the display or utility of the data on any other system, nor shall the act of distribution imply any such warranty. The U.S. Geological Survey shall not be held liable for improper or incorrect use of the data described and (or) contained herein. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not
constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof.

Technical Prerequisites: This ASCII file was created for use with ESRI ArcGIS software.

Distributor:

Contact Information:

Contact Person Primary:
  Contact Person: Jim Flocks

Contact Organization:
  U.S. Geological Survey St. Petersburg Coastal and Marine Science Center

Contact Position: Geologist

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  City: St. Petersburg
  State or Province: FL
  Postal Code: 33701
  Country: USA

Contact Voice Telephone: (727) 803-8747 x3012

Contact Electronic Mail Address: jflocks@usgs.gov

Metadata Reference Information:

Metadata Date: 20110727

Metadata Contact:

Contact Information:

Contact Person Primary:
  Contact Person: Nancy T. DeWitt

Contact Organization:
  U.S. Geological Survey St. Petersburg Coastal and Marine Science Center

Contact Position: Geologist

Contact Address:
  Address Type: mailing and physical address
  Address: 600 4th Street South
  City: St. Petersburg
  State or Province: FL
  Postal Code: 33701
  Country: USA

Contact Voice Telephone: (727) 803-8747 x3058

Contact Electronic Mail Address: ndewitt@usgs.gov

Metadata Standard Name: FGDC Content Standards for Digital Geospatial Metadata


Metadata Time Convention: local time

Metadata Access Constraints:
  The U.S. Geological Survey request that it be referenced as the originator of this dataset in any future products or research derived from these data.

Metadata Use Constraints:
  The U.S. Geological Survey request that it be referenced as the originator of this dataset in any future products or research derived from these data.

Metadata Security Information:
  Metadata Security Classification System: None
  Metadata Security Classification: Unclassified
  Metadata Security Handling Description: None

Metadata Extensions:
Distribution Information:

Resource_Description:
Downloadable Data File Name = rm08_09_50gv2_xyz.txt

Distribution Liability:
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