rm10cct03_west2_rbf_50m_5f.tif

Metadata:

- Identification_Information
- Data Quality Information
- <u>Spatial_Data_Organization_Information</u>
- <u>Spatial_Reference_Information</u>
- Entity_and_Attribute_Information
- <u>Distribution_Information</u>
- Distribution_Information
- <u>Distribution_Information</u>
- Metadata_Reference_Information

Identification_Information:

Citation:

Citation_Information:

Originator:

U.S. Geological Survey - St. Petersburg Coastal and Marine Science Center Originator: Nancy T. DeWitt Originator: James G. Flocks Originator: William R. Pfeiffer Originator: James N. Gibson Originator: Dana S. Wiese Publication_Date: 20111001 Title:

rm10cct03_west2_rbf_50m_5f.tif: 50-m interpolated bathymetry grid of the west section 2 from USGS Cruise 10cct03

Edition: rm10cct03_west2_rbf_50m_5f

Geospatial_Data_Presentation_Form: remote-sensing image *Series_Information:*

Series_Name: USGS Data Series Publication Issue_Identification: DS671

Publication_Information:

Publication_Place: St. Petersburg, FL

Publisher:

U.S. Geological Survey - St. Petersburg Coastal and Marine Science Center

Online_Linkage:

Description:

Abstract:

In April of 2010, the U.S. Geological Survey (USGS) conducted a geophysical survey from the east end of West Ship Island, MSiss., extending to the middle of Dauphin Island, Ala. This survey had a dual purpose: (1) to interlink previously conducted nearshore geophysical surveys (shoreline to ~2 kilometers, km) with those of offshore surveys (~2 km to ~9 km) in the ares and (2) to extend the geophysical survey to include a portion of the Dauphin Island nearshore zone. The efforts were part of the USGS Gulf of Mexico Science Coordination partnership with the U.S. Army Corps of Engineers (USACE) to assist the Mississippi Coastal Improvements Program (MsCIP) and the Northern Gulf of Mexico (NGOM) Ecosystem Change and Hazards Susceptibility Project by mapping the shallow geological stratigraphic framework of the Mississippi Barrier Island Complex.

Purpose:

This report serves as an archive of the processed multibeam bathymetry and side scan sonar (SSS) data. Data products herein include gridded and interpolated digital depth surfaces, seabed surface backscatter imagery, and x,y,z data products for both multibeam bathymetry and side scan sonar imagery. Additional files include trackline maps, navigation files, Geograpahic Infromation System (GIS) files, Field Activity Collection System (FACS) logs, and formal Federal Geographic Data Committee (FGDC) metadata. Scanned images of the handwritten FACS logs and digital FACS logs are also provided as PDF files. Refer to the Acronyms page for expansion of acronyms and abbreviations used in this report or hold the cursor over an acronym for a pop-up explanation.

Supplemental_Information:

These 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 geomorpholocial changes of the islands with respect to climate change, storm impact, and sea-level rise. Furthermore, these data will provide information for barrier island restoration, particularly in Camille Cut, and provide protection for the historical Fort Massachusetts. For more information refer to <<u>http://ngom.usgs.gov/gomsc/mscip/index.html></u>.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times: Beginning_Date: 20100417 Beginning_Time: unknown Ending_Date: 20100428 Ending_Time: unknown

Currentness_Reference: data collection interval

Status:

Progress: Complete *Maintenance_and_Update_Frequency:* None planned

Spatial_Domain:

Bounding Coordinates:

West_Bounding_Coordinate: -88.865123 East_Bounding_Coordinate: -88.721491 North_Bounding_Coordinate: 30.229415 South_Bounding_Coordinate: 30.210767

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: multibeam Theme_Keyword: RESON Theme_Keyword: Seabat 8125 Theme_Keyword: Seabat 8125 Theme_Keyword: Applanix POS MV Theme_Keyword: Trimble DSM 212 Theme_Keyword: GeoTIFF Theme_Keyword: Continuously Operating Reference Station (CORS) Theme_Keyword:

U.S. Geological Survey (USGS), St. Petersburg Coastal and Marine Science

Center

Theme_Keyword: U.S. Army Corps of Engineers (USACE) Mobile Alabama District *Theme_Keyword:* Gulf Islands National Seashore (GUIS)

Place:

Place_Keyword_Thesaurus: GNIS Place_Keyword: Mississippi Place_Keyword: West Ship Island Place_Keyword: Horn Island Place_Keyword: Petit Bois Pass Place_Keyword: Dauphin Island

Stratum:

Stratum_Keyword_Thesaurus: General *Stratum_Keyword:* water

Temporal:

Temporal_Keyword_Thesaurus: General *Temporal_Keyword:* None

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:

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

Data_Set_Credit:

Nancy T. DeWitt, James G. Flocks, William R. Pfeiffer, James N. Gibson, Dana Wiese *Native_Data_Set_Environment:*

Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 3; ESRI ArcMap 9.3.1.3000; rm10cct03_west2_rbf_50m_5f.txt; 0.681 MB

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

The accuracy of the data is determined during data collection. This dataset is from a single cruise and therefore internally consistent. Methods are employed to maintain data collection consistency aboard various platforms. During mobilization, each piece of equipment (swath and sonar) 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. HYPACK, Inc., HYPSWEEP version

10 was used for the multibeam data acquisition, system calibration, and data postprocessing. A patch test was performed at the beginning of the survey to calibrate the SEABAT 8125 and included latency, roll, pitch, and yaw. This involved collecting multibeam data along lines over a sloping surface for the latency, pitch, and yaw tests and over a flat surface for the roll test. The resulting offsets from the patch test were applied to the hardware configuration file prior to survey data acquisition. The Applanix POS MV is not a gyro and therefore did not need calibration. The RESON SeaBat 8125 multibeam transducer head was mounted on a retractable strut-arm that is lowered between the catamaran hulls. Offsets between the sonar head and the DGPS antennas were measured and entered into the respective program. DGPS is always implemented for navigational accuracy. During data acquisition, the differentially corrected positions supplied through the Trimble DSM 212 interface were recorded in the WGS84 datum. Ship heading and motion (roll, pitch, heave) were measured by the Applanix POS MV motion unit. Sound velocity was recorded at the multibeam sonar head. Additional sound velocity casts were conducted at the start and finish of each survey day and as needed throughout the survey. All multibeam bathymetry data were collected using the RESON SeaBat 8125. All side scan sonar data were collected using the Klein 3900 system.

Logical_Consistency_Report:

This dataset was completed on the same research vessel platform.

Completeness_Report:

This is a complete processed multibeam bathymetry grid in GeoTIFF format. 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 or instrument failures.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Differential navigation was acquired using a local National Geodetic Survey (NGS) Continuously Operating Reference Station (CORS) beacon that broadcasts carrier phase and code range measurements that are captured in real-time using the Applanix Position and Orientation System for Marine Navigation (POS MV). The multibeam bathymetry and side scan sonar data were collected simultaneously using HYSWEEP version 10 and SonarPro version 11.3, respectively. The multibeam bathymetry and the side scan sonar data were collected with separate instruments but utilized the same navigation string from the Applanix POS MV. Unless noted, all DGPS data are referenced to WGS84.

Quantitative_Horizontal_Positional_Accuracy_Assessment:

Horizontal_Positional_Accuracy_Value: 10

Horizontal_Positional_Accuracy_Explanation: centimeters

Vertical_Positional_Accuracy:

Vertical_Positional_Accuracy_Report:

Ship motion was measured by the Applanix POS MV. The multibeam bathymetry was collected using the RESON SeaBat 8125 System. This system uses a frequency of 455 kHz with a maximum swath angle of 120 degrees. Vertical accuracy is directly affected by the accuracy of both the navigation system and tidal measurements. Data for tide correction were obtained from automated tide gages maintained by the USACE and applied within MBMAX.

Quantitative_Vertical_Positional_Accuracy_Assessment: Vertical_Positional_Accuracy_Value: 0.05

veriical_Positional_Accuracy_value: 0.05

Vertical_Positional_Accuracy_Explanation: meters

Lineage:

Process_Step:

Process_Description:

Multibeam data post processing was completed at the USACE in Mobile, Ala.,

using HYPACK Inc., HYSWEEP version 10. The raw HSX data files were imported into MBMAX editor for post-processing. Data for tide correction was obtained from automated tide gages maintained by the USACE and applied at this point within MBMAX. The sound velocity cast data were also applied in MBMAX at this point. The processed x,y,z data files were exported in ASCII format and referenced to WGS84 for the horizontal datum and MLLW for the vertical datum. This dataset was then transferred to the St. Petersburg Science Center for gridding and incorporation into a larger bathymetric dataset for the GUIS. The x,y,z ASCII files were imported into ESRI's ArcMap version 9.3.1 and gridded using the Geostatistical Analyst Tool's radial basis functions.

Process_Date: 20111001

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:

This is the completed 50-m resolution grid of swath bathymetric data exported as point data. This shapefile is raster grid rm10cct03_west2_rbf_50m_5f.tif converted to point data using ArcMap version 9.3.1 raster to point conversion tool. The table produced was then populated with X,Y fields using XToools Pro version 6.

Process_Date: 20111001

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:

This is the completed 50-m resolution grid of swath bathymetric data exported

as point data. This shapefile is raster grid named rm10cct03_west2_rbf_50m_5f.tif converted to ASCII data using ArcMap version 9.3.1 raster to ASCII conversion tools. Process_Date: 20111001 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

Spatial Data Organization Information:

Direct_Spatial_Reference_Method: Raster Raster_Object_Information: Raster_Object_Type: Pixel Row_Count: 37 Column_Count: 276 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: D_WGS_1984 *Ellipsoid_Name:* WGS_1984

Semi-major_Axis: 6378137.000000 Denominator_of_Flattening_Ratio: 298.25722322356300003 Vertical_Coordinate_System_Definition: Depth_System_Definition: Depth_Datum_Name: Mean lower low water Depth_Resolution: 0.05 Depth_Distance_Units: meters Depth_Encoding_Method: Explicit depth coordinate included with horizontal coordinates

Entity_and_Attribute_Information:	
Detailed_Description:	
Entity_Type:	
<i>Entity_Type_Label:</i> rm10cct03_west2_rbf_50m_5f.tif	
Entity_Type_Definition: ESRI ArcGIS 9.3	
Entity_Type_Definition_Source: ESRI ArcMap 9.3 TIFF	
Detailed_Description:	
Entity_Type:	
Entity_Type_Label: rm10cct03_west2_rbf_50m_5f_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: 6848	
Attribute:	
Attribute_Label: GRID_CODE	
Attribute_Definition: Depth in meters	
Attribute_Definition_Source: USGS	
Attribute_Domain_Values:	
Range_Domain:	
Range_Domain_Minimum: -10.3224	
Range_Domain_Maximum: -3.165	
Attribute:	
Attribute_Label: X	
Attribute_Definition: WGS84 UTM 16N	

	Attribute_Definition_Source: World Geodtic System of 1984 Attribute_Domain_Values:
	Range_Domain:
	Range_Domain_Minimum: 320534.08
	Range_Domain_Maximum: 334284.08
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	Attribute_Label: Y
	Attribute_Definition: WGS84 UTM 16N
	Attribute_Definition_Source: World Geodtic System of 1984
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	Range_Domain:
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	Range_Domain_Maximum: 3345435.5
	ed_Description:
	Entity_Type:
	Entity_Type_Label: rm10cct03_west2_rbf_50m_5f_raster2ascii.txt
	Entity_Type_Definition: ESRI ArcGIS 9.3
-	Entity_Type_Definition_Source: ESRI ArcMap 9.3 ASCII file
	iew_Description:
	Entity_and_Attribute_Overview:
	This file is the completed processed 50-m resolution multibeam bathymetry grid
	GeoTIFF file.
	Entity_and_Attribute_Detail_Citation: < <u>http://ngom.usgs.gov/gomsc/mscip/index.html</u>
	iew_Description:
	Entity_and_Attribute_Overview:
	This is file rm10cct03_west2_rbf_50m_5f.tif converted to a point shapefile name rm10cct03_west2_rbf_50m_5f_raster2point.shp. The shapefile was created using ArcMap version 9.3.1 raster to point conversion tool and then populated with X,Y fields using XToools Pro version 6.0.
	Entity_and_Attribute_Detail_Citation: http://ngom.usgs.gov/gomsc/mscip/index.html
	iew_Description:
	Entity_and_Attribute_Overview:
	This is file rm10cct03_west2_rbf_50m_5f.tif converted to a ASCII shapefile nan
	rm10cct03_west2_rbf_50m_5f_raster2ascii.txt. The text files was created using
	ArcMap version 9.3.1 raster to ASCII conversion tool. This text file is array form
	with header information at the top of the file.
	Entity_and_Attribute_Detail_Citation: < <u>http://ngom.usgs.gov/gomsc/mscip/index.html</u>
-	· · · · · - · · · · · · · · · · · ·

Distribution_Information:

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 Contact_Address: Address: Address: 600 4th Street South 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 Resource Description: Downloadable Data File Name = rm10cct03 west2 rbf 50m 5f.tif Distribution Liability: This DVD 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. Standard Order Process: Digital_Form: Digital_Transfer_Information: Format_Name: TIFF File Decompression Technique: no compression applied Transfer_Size: 0.311 *Digital_Transfer_Option: Online_Option: Computer_Contact_Information:* Network Address: *Network Resource Name:* <<u>http://pubs.usgs.gov/ds/671</u>> *Offline_Option: Offline_Media:* DVD *Recording_Format:* CDR/DVD Fees: None Custom Order Process: none Technical_Prerequisites: image viewer Available Time Period: Time Period Information: Single_Date/Time: Calendar_Date: 20111001 *Time of Day:* unknown

Distribution_Information: 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 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 x3012

Contact_Electronic_Mail_Address: jflocks@usgs.gov Resource_Description: Downloadable Data File Name = rm10cct03_west2_rbf_50m_5f_raster2point.shp Distribution_Liability: This DVD 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. Standard_Order_Process: Digital_Form:

Digital_Transfer_Information: Format_Name: SHP File_Decompression_Technique: no compression applied Transfer_Size: 0.681 Digital_Transfer_Option: Online_Option: Computer_Contact_Information: Network_Address:

Network_Resource_Name: <<u>http://pubs.usgs.gov/ds/671</u>>

Offline_Option:

Offline_Media: DVD *Recording_Format:* CDR/DVD

Fees: none

Custom_Order_Process: none Technical_Prerequisites: This shapefile was created for use with ESRI ArcGIS software. Available_Time_Period: Time_Period_Information: Single_Date/Time: Calendar_Date: 20111001 Time_of_Day: unknown

Distribution_Information:
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
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
<i>Contact_Voice_Telephone:</i> (727) 803-8747 x3012
Contact Electronic Mail Address: iflocks@usgs.gov

Resource_Description:

Downloadable Data File Name = rm10cct03_west2_rbf_50m_5f_raster2ascii.txt *Distribution_Liability:*

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Standard_Order_Process:

Digital_Form:

Digital_Transfer_Information: Format_Name: ASCII File_Decompression_Technique: no compression applied Transfer_Size: 0.087 Digital_Transfer_Option: Online_Option: Computer_Contact_Information: Network_Address: Network_Resource_Name: http://pubs.usgs.gov/ds/671 Offline_Option:

Offline_Media: DVD *Recording_Format:* CDR/DVD

Fees: none

Custom_Order_Process: none Technical_Prerequisites: This shapefile was created for use with ESRI ArcGIS software. Available_Time_Period: Time_Period_Information: Single_Date/Time: Calendar_Date: 20111001 Time_of_Day: unknown

letadata_Reference_Information:
Metadata_Date: 20111001
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_Standard_Version:* FGDC-STD-001-1998

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:

Online_Linkage: <<u>http://www.esri.com/metadata/esriprof80.html></u> *Profile_Name:* ESRI Metadata Profile

Generated by mp version 2.9.14 on Tue Feb 21 15:41:58 2012