

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT LA1701-CM-T

Mississippi River Gulf Outlet at Bayou Bienvenue, Louisiana

Introduction

Coastal Mapping Program (CMP) Project LA1701-CM-T provides highly accurate digital shoreline data for areas of significant change within the Mississippi River Gulf Outlet in the vicinity of Bayou Bienvenue, Louisiana. The Geographic Cell (GC) may be used in support of the NOAA Nautical Charting Program (NCP) as well as geographic information systems (GIS) for coastal zone management applications.

Project Design

Project LA1701-CM-T was designed in response to a request for updated shoreline data from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA. Based on analysis of project requirements and results of a source data search, it was determined that CMP procedures for multiple source projects would apply for this project. Available source data deemed adequate for completion of this project included WorldView and GeoEye satellite imagery from DigitalGlobe, Inc. Three pan-sharpened natural color images with a spatial resolution of 0.5 meters were obtained for this project.

Field Operations

Routine CMP field operations did not apply for this project based on the origin of the project imagery, which was obtained from external sources.

Georeferencing

The satellite imagery was assessed for positional accuracy using previously compiled CMP project data as well as at least two NGS 3rd order geodetic control points. The color satellite image compared very well spatially without need for additional image georeferencing tasks and was therefore determined to be suitable for feature compilation. Additionally the image vendor provided a suitable accuracy assessment, reporting an RMSE of 3.9 meters. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was accomplished by RSD Applications Branch personnel in February 2017. Digital feature data was compiled in shapefile format from the satellite imagery using ArcGIS (ver. 10.3.1). Feature attribution was assigned in compliance with the Coastal Cartographic Object Attribute Source Table (C-COAST), which provides the definition and attribution scheme for the full range of cartographic features pertinent to the CMP. Selected features were further modified with additional descriptive information to refine general classification.

Spatial data accuracies for LA1701-CM-T were determined according to standard Federal

Geographic Data Committee (FGDC) practices. The vendor reported RMSE was used to calculate a horizontal accuracy of 6.8 meters at the 95% confidence level in order to predict the accuracy of well-defined points measured during feature compilation.

The following table provides information on imagery used to complete this project:

Sensor	Source File ID (Tiles)	Acquisition Date/Time	Tide Level*
WorldView-2	20170110_1638_WV2_ORI_R1C1.jp2	2017-01-10 / 16:38:00 GMT	0.1 m
GeoEye-1	20170124_1655_GE1_ORI_R1C1.jp2	2017-01-24 / 16:55:58 GMT	-0.1 m
GeoEye-1	20170124_1655_GE1_ORI_R1C2.jp2	2017-01-24 / 16:55:58 GMT	-0.1 m

* Tide levels are given in meters above MLLW and are based on preliminary observations recorded at the time of image acquisition by the NOS gauge at Shell Beach, LA. The elevation of MHW in the project area is 0.40 meters above MLLW.

Quality Control / Final Review

The final QC review was completed in February 2017. The review process included analysis of image georeferencing and assessment of the identification and attribution of digital feature data within the GC according to image analysis and criteria defined in C-COAST. The quality control process concluded with an inspection of topological connectivity within the GC using ArcGIS 10.3.1. The entire suite of project products was evaluated for compliance to CMP requirements. A Chart Evaluation File (CEF) resulted from comparison of the project imagery with the largest scale NOAA nautical chart covering the project:

- 11364 Mississippi River-Venice to New Orleans, 1:80,000 scale, 45th Ed., May 2014
- 11367 Intracoastal Waterway Waveland to Catahoula Bay, 1:40,000 scale, 38th Ed., Jul. 2016

End Products and Deliverables

The following specifies the location and identification of end products generated during the completion of this project:

Remote Sensing Division Electronic Data Library

- Project database
- GC11306 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

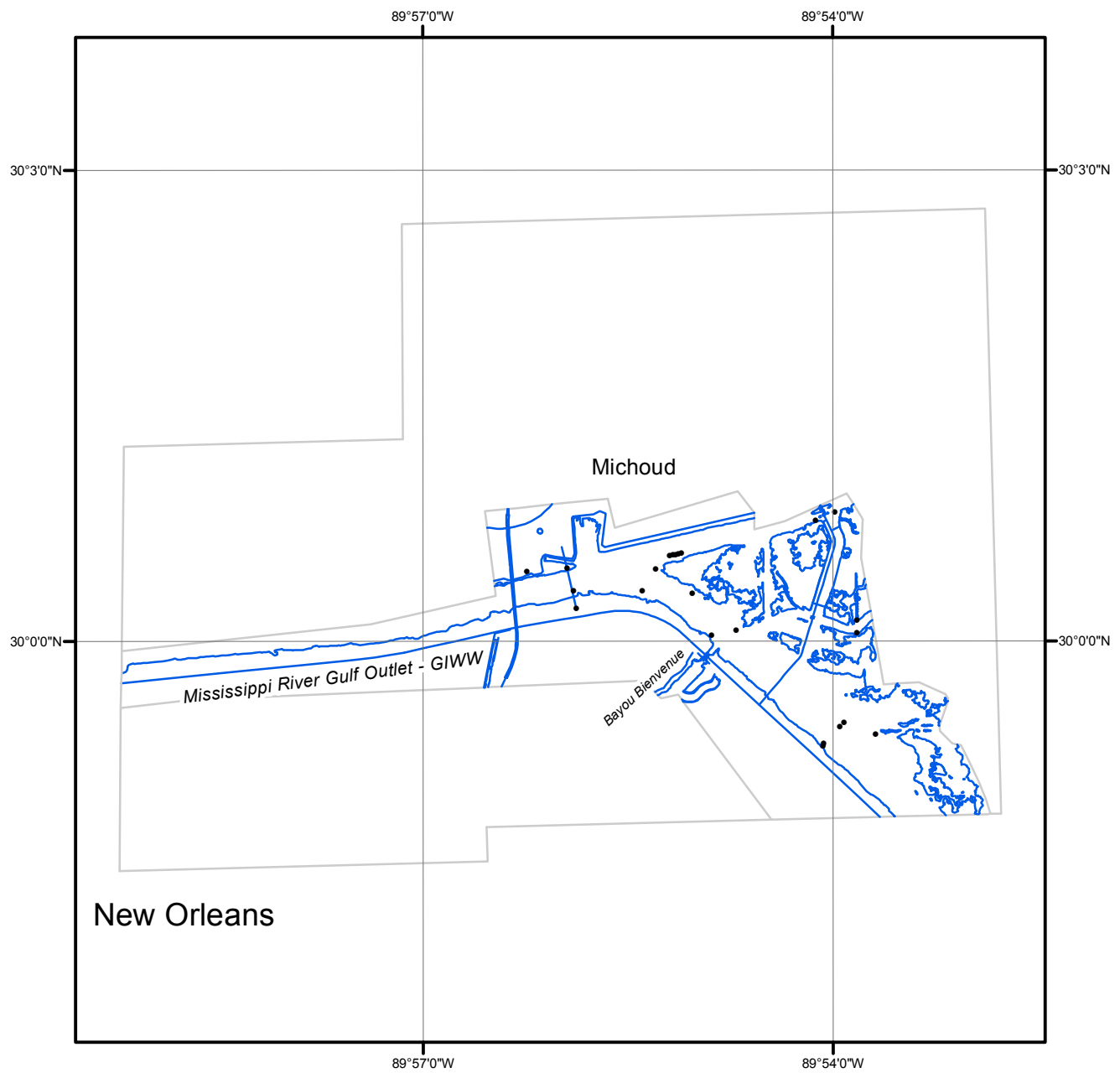
NOAA Shoreline Data Explorer

- GC11306 in shapefile format
- Metadata file for GC11306
- PCR in Adobe PDF format

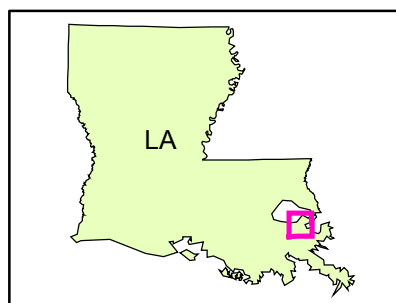
End of Report

MISSISSIPPI RIVER GULF OUTLET AT BAYOU BIENVENUE

LOUISIANA



Overview



LA1701-CM-T

GC11306