

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT LA2304-CM-T

Inner Harbor Navigation Canal, N. Claiborne Avenue to Florida Avenue, Louisiana

Introduction

Coastal Mapping Program (CMP) Project LA2304-CM-T provides digital shoreline data for a portion of Inner Harbor Navigation Canal, from N. Claiborne Avenue to Florida Avenue, in New Orleans, 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 a variety of coastal zone management applications.

Project Design

Project LA2304-CM-T was designed in response to a data request from NOAA's Office of Coast Survey. 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 successful completion of this project included three orthorectified, pan-sharpened natural color satellite images (downloaded in tiled format) from DigitalGlobe, Inc.

Field Operations

Routine CMP field operations did not apply for this project based on the origin of the project source data.

Georeferencing

Satellite image accuracy was refined using the Georeferencing toolset within Esri's ArcGIS (ver. 10.8.2) desktop GIS software by a member of the Applications Branch (AB) of the Remote Sensing Division (RSD) in May 2023. The satellite images were adjusted to feature data from previous CMP project LA0006A. Check points were also extracted from this project to assess final georeferencing accuracy. The RMS of the residuals for measured check points was used to compute horizontal accuracies at the 95% confidence level (CE95) ranging from 1.1 to 1.5 meters. The CE95 value was doubled and added to the accuracy of the source from which check points were obtained in order to conservatively predict the accuracy of well-defined points measured during compilation. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was completed by AB personnel in May 2023. Digital feature data was compiled in shapefile format from satellite imagery using ArcGIS software. All features were positioned using a single (WorldView-3) image, with the other two project images used to assist with feature interpretation. Feature identification and attribution within the GC were based on

image analysis of the satellite imagery as well as information extracted from the largest scale NOAA nautical chart and other ancillary sources. 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 LA2304-CM-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 4.3 meters at the 95% confidence level. This predicted accuracy value is based on comparison of checkpoints from an independent source of higher accuracy, as described in the Georeferencing section above. The table below provides further information on the imagery used to complete this project.

Image Source	Source File (Tile) ID	Acquisition Date / Time	GSD	Tide Level*
GeoEye-1	2022OCT23_GE01_ORI_R1C1.jp2	2022-10-23 / 16:48 GMT	0.45 m	0.21 m
WorldView-2	2022Nov30_WV02_ORI_R1C1.jp2	2022-11-30 / 17:00 GMT	0.5 m	0.39 m
WorldView-3	2023May07_WV03_ORI_R1C1.jp2	2023-05-07 / 16:41 GMT	0.32 m	0.25 m†

* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS gauge at New Canal Station, LA (#8761927), located on Lake Ponchartrain, near the project area. The elevation of MHW at the New Canal Station gauge is 0.165 meters above MLLW.

† Based on preliminary tide level observations.

Quality Control / Final Review

Quality control tasks were conducted by a senior CMP member. The final QC review was completed in May 2023. The review process included analysis of the georeferencing results 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 software. All project data was evaluated for compliance to CMP requirements.

A Chart Evaluation File (CEF) resulted from the comparison of source imagery and compiled project data with the largest scale NOAA electronic navigational chart (ENC) covering the project area:

US5MSYBD, 7th Ed., Mar. 2023, Scale 1:10,000

End Products and Deliverables

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

RSD Electronic Data Library

- Project database
- Project Completion Report (PCR)
- GC11944 in shapefile format
- CEF in shapefile format

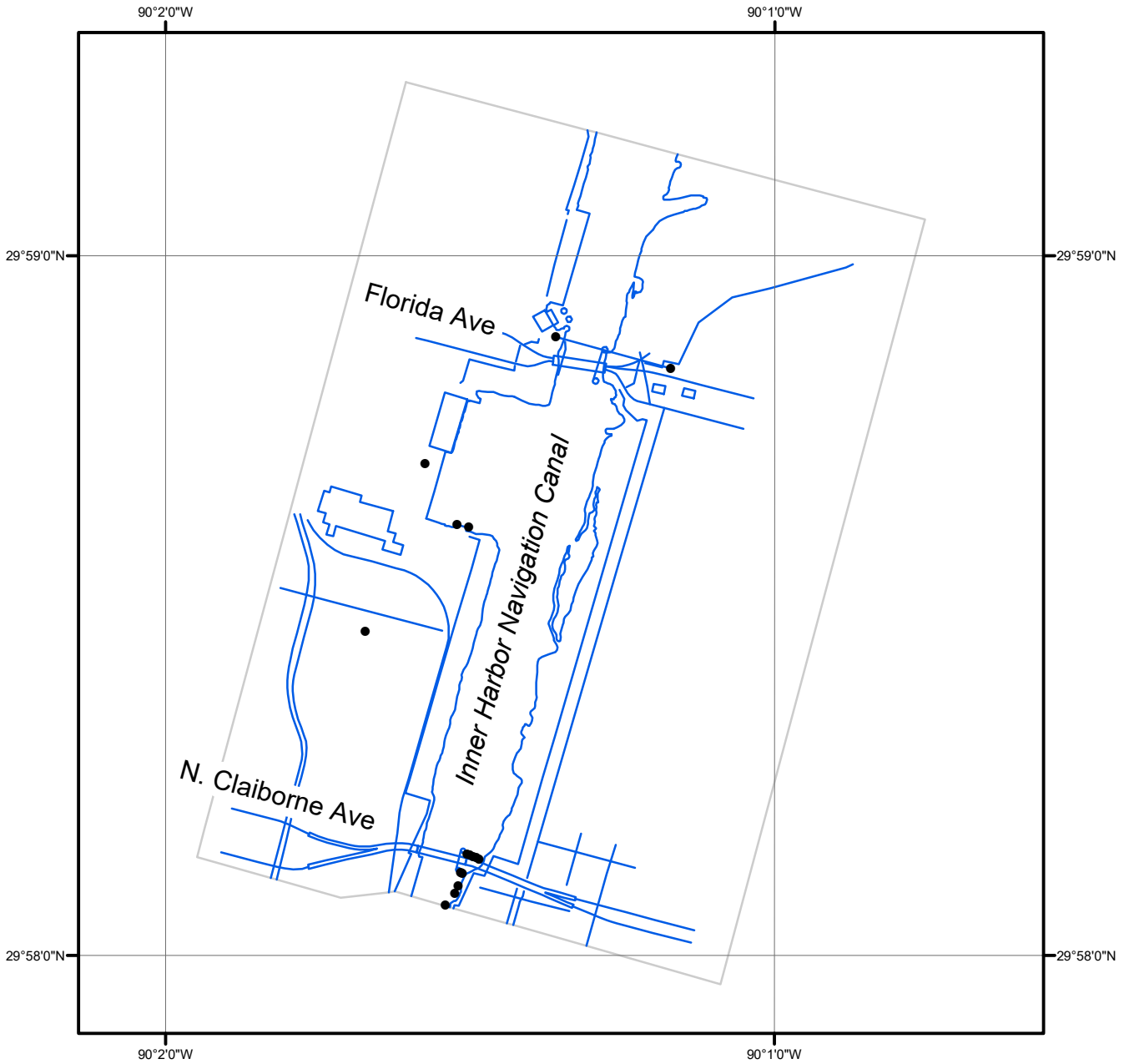
NOAA Shoreline Data Explorer

- GC11944 in shapefile format
- Metadata file for GC11944
- PCR in Adobe PDF format

End of Report

INNER HARBOR NAV. CANAL, N. CLAIBORNE AVE TO FLORIDA AVE

LOUISIANA



Overview



LA2304-CM-T

GC11944