

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT FL2405-CM-T

Three Rooker Bar, Florida

Introduction

Coastal Mapping Program (CMP) Project FL2405-CM-T provides accurate digital shoreline data for Three Rooker Bar, on the Gulf Coast of Florida. 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 FL2405-CM-T was designed in response to a data request from the Navigation Services Division (NSD) of the Office of Coast Survey, NOAA. Based on an 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 one orthorectified pan-sharpened natural color satellite image (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 imagery, which was obtained from external sources.

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 September 2024. The satellite image was adjusted to feature data from previous CMP project FL1607-TB-N. Three 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 a horizontal accuracy at the 95% confidence level (CE95) of 0.8 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. All positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was accomplished by a member of AB in August 2024. Using ArcGIS, digital feature data was compiled in shapefile format from the satellite imagery. 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.

Spatial data accuracies for FL2405-CM-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 1.8 meters at the 95% confidence level. This predicted accuracy value is

based on comparison of three checkpoints from an independent source of higher accuracy, as described in the Georeferencing section above. The table below provides information on imagery used in the completion of this project.

Image Source	Source File Name	GSD	Acquisition Date / Time (UTC)	Tide Level*
WorldView-3	20240508_WV03_ORI_mos_NAD83.jp2	0.3 m	2024-05-08 / 16:22	1.2 m

* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS gauge at Clearwater Beach, FL (#8726724). The elevation of MHW at Clearwater Beach is 0.733 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted upon project completion by senior CMP personnel in September 2024. The review process included an assessment of image georeferencing and 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 (ver. 10.8.2). The entire suite of project products was evaluated for compliance to CMP requirements.

Comparison of the largest scale NOAA nautical chart with project imagery and compiled feature data resulted in creation of the Chart Evaluation File (CEF). The following nautical chart product was used for comparison:

- US5TPAJD, 3rd Ed., Feb. 2024, Scale 1:20,000
- US5TPAKD, 3rd Ed., Feb. 2024, Scale 1:20,000

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

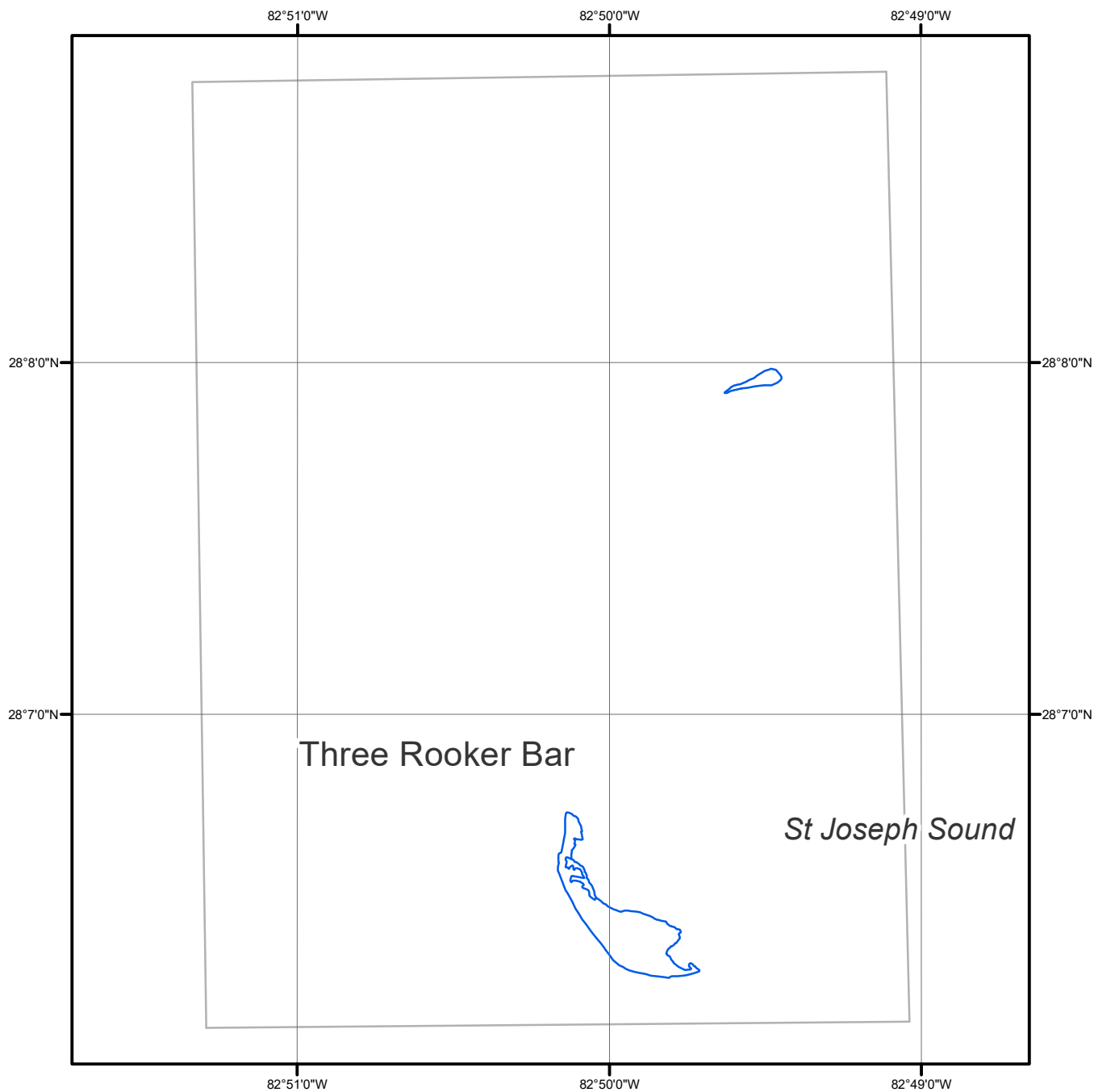
- Project database
- GC12048 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

NOAA Shoreline Data Explorer

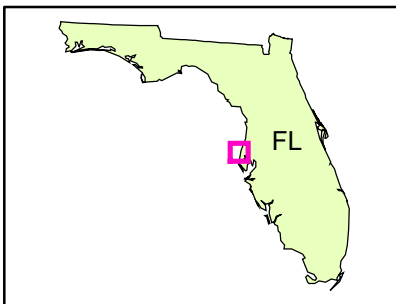
- GC12048 in shapefile format
- Metadata file for GC12048
- PCR in Adobe PDF format

End of Report

THREE ROOKER BAR FLORIDA



Overview



FL2405-CM-T

GC12048