

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT FL1508

Port Canaveral, Florida

Introduction

Coastal Mapping Program (CMP) Project FL1508 provides highly accurate digital shoreline data for key areas of change within Port Canaveral, 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

The design of Project FL1508 was accomplished as the result of a request for updated shoreline data received from the Office of Coast Survey's Marine Chart Division (MCD). Source data acquired for this purpose consisted of one orthorectified, pan-sharpened natural color GeoEye-1 satellite image from DigitalGlobe, with a spatial resolution of 0.4 meters.

Field Operations

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

Georeferencing

The GeoEye image was georeferenced by a member of the Applications Branch (AB) of the Remote Sensing Division (RSD) using Esri's ArcGIS® desktop GIS software (ver. 10.1). Within ArcGIS, the Georeferencing tool was used to georeference the image to a large scale engineering drawing from the Canaveral Port Engineer, and the images were then resampled using the Nearest Neighbor method with a 1st order polynomial model. The published locations of eight (8) U.S. Coast Guard maintained navigational aids were compared with their positions as measured within the GeoEye image, resulting in a calculated accuracy of 2.8 meters at the 95% confidence level. Positional data for this project is referenced to the North American Datum of 1983 (NAD83).

Compilation

Data compilation was performed by RSD personnel in January 2015. Digital feature data was compiled in shapefile format from the GeoEye imagery using ArcGIS. 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 FL1508 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 2.8 meters at the 95% confidence level (CE95).

The table below provides additional information on the satellite image used for this project:

Sensor	Derivative Image ID	Acquisition Date/Time	Tide Level
GeoEye-1	20150113_162155_GE1_ORI.tif	2015-01-13 16:21:55 GMT	0.8 m

* Tide levels are given in meters above MLLW and are based on preliminary observations recorded by the NOS gauge at Trident Pier, FL (sta.#8721604), at the time of photography. The elevation of MHW is 1.09 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted by a senior member of RSD. The final QC review was completed in January 2015. 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. 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:

- Chart 11478, Port Canaveral, FL, 24th Ed., Oct. 2014

End Products and Deliverables

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

RSD Applications Branch Archive

- Hardcopy of the Project Completion Report (PCR)
- Page size graphic plot of GC11128 file contents, attached to PCR
- Hardcopies of other information and communication related to project completion

Remote Sensing Division Electronic Data Library

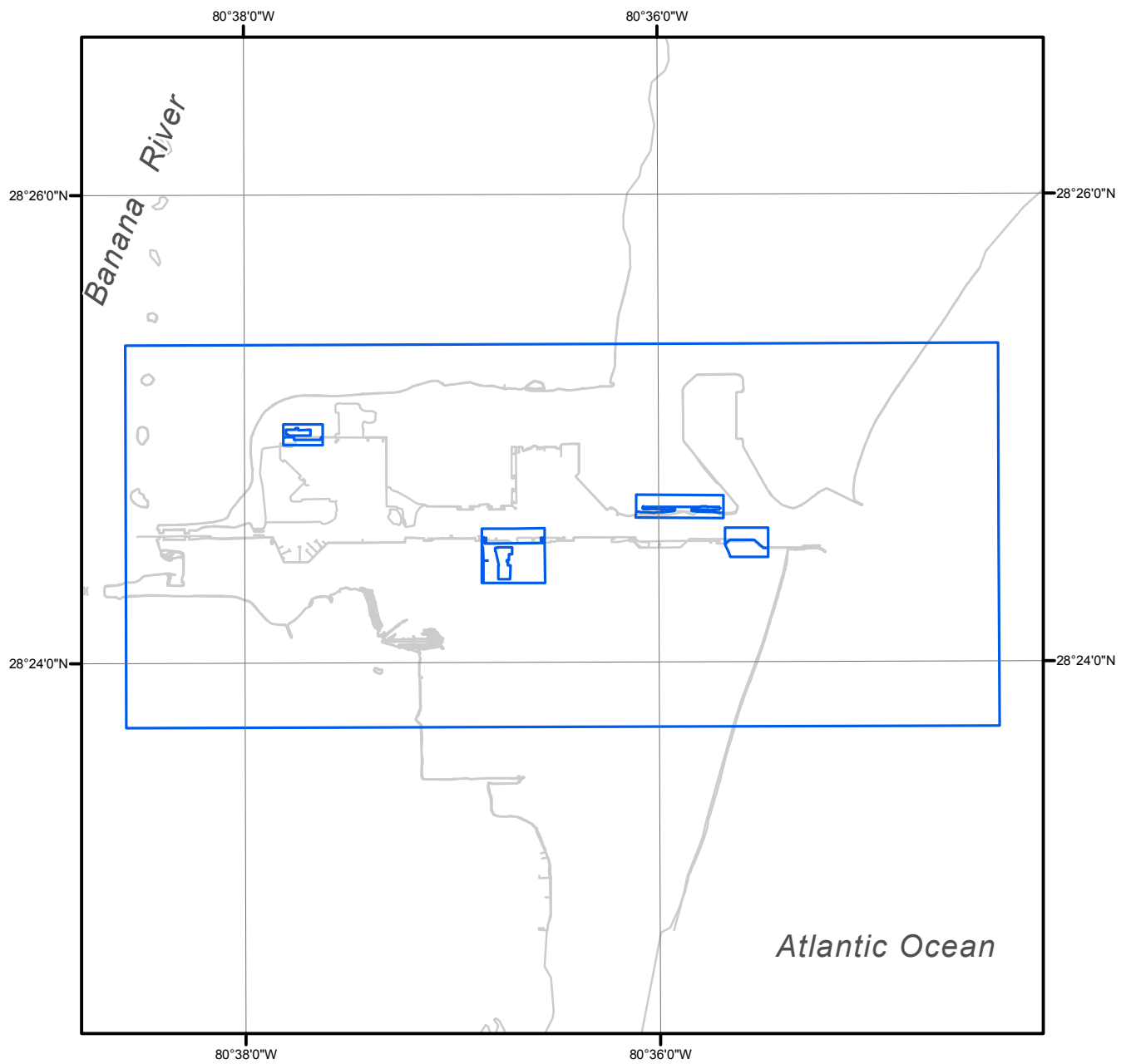
- GC11128 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

NOAA Shoreline Data Explorer

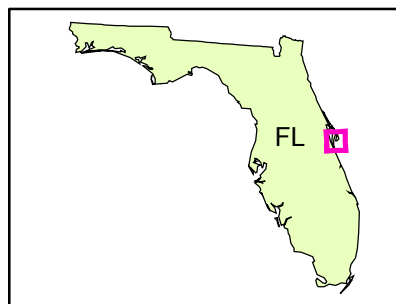
- GC11128 in shapefile format
- Metadata file for GC11128
- Digital copy of the PCR in Adobe PDF format

End of Report

PORT CANAVERAL FLORIDA



Overview



FL1508

GC11128