NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT FL1306

East Pass, Florida

Introduction

Coastal Mapping Program (CMP) Project FL1306 provides accurate digital shoreline data for East Pass, Florida, including portions of the shoreline of St. George Sound and the Carrabelle River. 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 FL1306 was designed in response to a request from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA for new shoreline data for East Pass. 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 image tiles from two orthorectified pan-sharpened natural color WorldView-2 satellite images from DigitalGlobe, Inc., obtained through the National Geospatial-Intelligence Agency (NGA). The source images were acquired October 2 and October 18, 2013.

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

Rigorous refinement of the georeferencing of the WorldView imagery was not necessary since the imagery used for compilation compared favorably spatially with the data sources used to verify its geolocation. The published locations of twelve (12) U.S. Coast Guard maintained navigational aids and two (2) NGS geodetic control points (one 3rd order and one 1st order) were compared with their positions as measured within the WorldView images. This assessment resulted in a calculated accuracy of 3.9 meters at the 95% confidence level for the image acquired on October 2, 2013. The positional accuracy of the other image (acquired on October 18) was determined to be significantly worse, and since the October 2 image provided complete coverage of the project area alone, it was decided that the October 18 image would not be used for direct feature extraction, but only as an aid in feature interpretation. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was initiated by RSD personnel in December 2013. Digital feature data was compiled in shapefile format from the WorldView image acquired October 2, 2013 using ESRI ArcGIS 9.3.1 desktop GIS software. Feature identification and attribution within the GC were based on image analysis of both WorldView images as well as information extracted from the largest scale NOAA nautical chart and other ancillary sources. Note that the tide level at the time both images were acquired was significantly above Mean High Water (MHW), which may have had an impact on the interpretation of some features. 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 FL1306 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 7.8 meters at the 95% confidence level. This predicted accuracy of well-defined points measured during the compilation phase was derived by doubling the assessed accuracy described above.

Sensor	Resolution	Source ID	Acquisition Date/Time	Tide Level*
WorldView-2	0.5 m	WV02 130CT02165158 -PSORI- 1030010027899100- (TILE#) .tif	2013-10-02 / 16:51:58 GMT	1.1 - 1.2
WorldView-2	0.5 m	WV02 130CT18170239 -PSORI- 10300100289B6B00- (TILE#) .NTF	2013-10-18 / 17:02:39 GMT	1.0 - 1.2

The following table provides further detail on the imagery used to complete this project:

* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS reference gage at Apalachicola, FL with offsets applied to substations within the project area. The height of the MHW tidal datum in the project area varies between 0.6 - 0.7 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted upon project completion by senior CMP personnel in January 2014. The review process included an 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 9.3.1. The entire suite of project products was evaluated for compliance to CMP requirements.

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

11404, Carrabelle to Apalachicola Bay, 1:40,000 Scale, 24th Ed. Nov./12

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)
- Hardcopies of image accuracy and tide level assessments
- Page size graphic plot of GC11020 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project database
- GC11020 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

NOAA Shoreline Data Explorer

- GC11020 in shapefile format
- Metadata file for GC11020
- Digital copy of the PCR in Adobe PDF format

End of Report

EAST PASS

FLORIDA

