NOAA COASTAL MAPPING PROGRAM
PROJECT COMPLETION REPORT

PROJECT NJ1401

Sandy Hook to Elberon, New Jersey

Introduction

Coastal Mapping Program (CMP) Project NJ1401 provides accurate digital shoreline data for a portion of the outer coast of New Jersey from Sandy Hook southward to Elberon. 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 NJ1401 was designed in response to a request from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA for new shoreline data in response to reported discrepancies in the vicinity. 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 one orthorectified, pan-sharpened natural color WorldView-2 satellite image from DigitalGlobe, Inc., acquired April 25, 2014.

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 image compared favorably spatially with the data sources used to verify its geolocation. The published locations of six (6) U.S. Coast Guard maintained navigational aids and eleven (11) NGS geodetic control points (ten 3rd order and one 2nd order) were compared with their positions as measured within the WorldView image. This assessment resulted in a calculated accuracy of 3.0 meters at the 95% confidence level. 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 July 2014. Using Esri's ArcGIS desktop GIS software (ver. 9.3.1.), digital feature data was compiled in shapefile format. 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 NJ1401 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were tested to have a horizontal accuracy of 3.0

meters at the 95% confidence level. The following table provides further detail on the imagery used to complete this project:

Image Source	Ground Sample	Source ID (Tiles)	Acquisition Date/Time	Tide Level*
WorldView-2	0.5 m	20140425_160013_WV2_ORI_R8C2.jp2 20140425_160013_WV2_ORI_R9C2.jp2 20140425_160013_WV2_ORI_R9C3.jp2 20140425_160013_WV2_ORI_R10C2.jp2 20140425_160013_WV2_ORI_R10C3.jp2 20140425_160013_WV2_ORI_R11C2.jp2	2014-04-25 / 16:00 GMT	0.3 m

* Tide level is given in meters above MLLW and based on actual observations recorded by the NOS reference gage at Sandy Hook, NJ with offset applied to a substation within the project area. The height of the MHW tidal datum in the project area is 1.4 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted upon project completion by senior CMP personnel in July 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. A Chart Evaluation File (CEF) was created by comparing project imagery with the following nautical charts:

- 12324, ICW, Sandy Hook to Little Egg Harbor, 1:40,000 scale, 35th Ed., Mar./12
- 12325, Navesink and Shrewsbury Rivers, 1:15,000 scale, 4th Ed., Oct./08
- 12401, New York Lower Bay, 1:15,000 scale, 11th Ed., Oct./11

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 GC11096 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project database
- GC11096 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

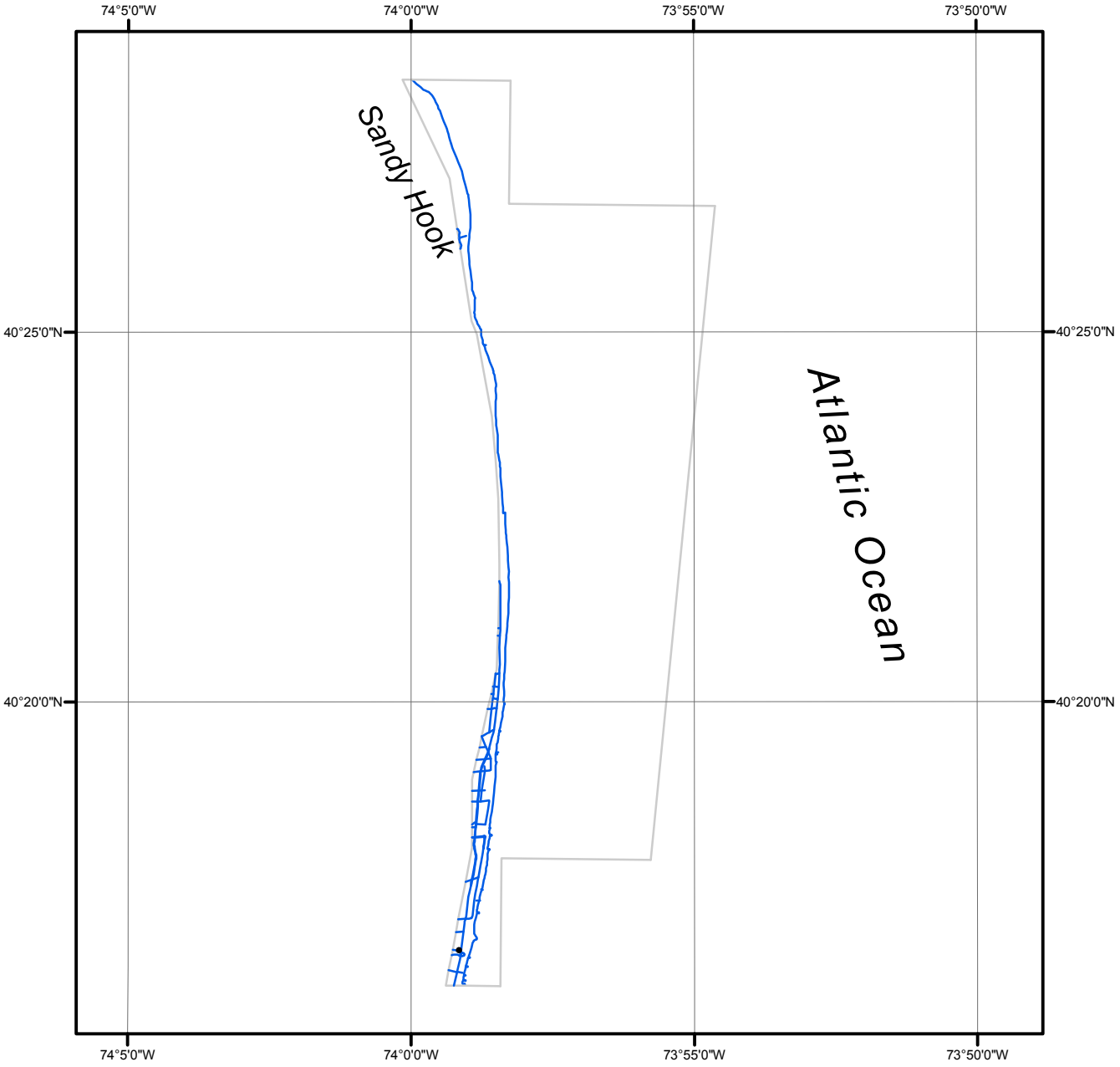
NOAA Shoreline Data Explorer

- GC11096 in shapefile format
- Metadata file for GC11096
- Digital copy of the PCR in Adobe PDF format

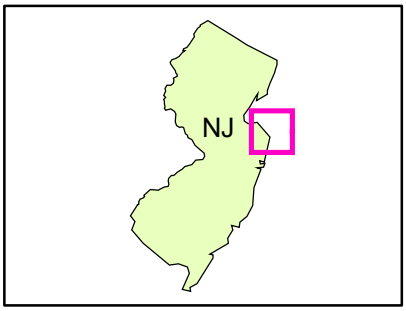
(END OF REPORT)

SANDY HOOK TO ELBERON

NEW JERSEY



Overview



NJ1401

GC11096