

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT NY1501-CM-T

Old Inlet, Fire Island, New York

Introduction

Coastal Mapping Program (CMP) Project NY1501-CM-T provides highly accurate digital shoreline data for a new inlet on Fire Island, New York, recently formed as a result of Hurricane Sandy. 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 NY1501-CM-T was designed in response to a request for updated shoreline data from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA. 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 completion of this project included WorldView-1 satellite imagery from DigitalGlobe, Inc. with a spatial resolution of 0.5 meters. One panchromatic image was obtained, and subdivided into tiles for data management purposes.

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

The WorldView imagery was assessed for positional accuracy using six (6) NGS geodetic control points and determined to be suitable for feature compilation without the need for further image georeferencing tasks. Additionally the image vendor provided a suitable accuracy assessment. The vendor reported an RMSE of 3.9 meters, which was used to calculate a horizontal accuracy of 6.8 meters at the 95% confidence level in order to predict the accuracy of well-defined points measured during feature compilation. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was accomplished by RSD Applications Branch personnel in July 2015. Digital feature data was compiled in shapefile format from the satellite imagery using ArcGIS (ver. 10.2.2). 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 NY1501-CM-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. As indicated above, cartographic features were compiled to meet a horizontal accuracy of 6.8 meters at the 95% confidence level. The following table provides information on imagery used to complete this project:

Sensor	Source File ID (Tiles)	Acquisition Date/Time	Tide Level*
WorldView-1	<i>20150603_1700_WV1_ori</i> Fire_Island_R1C1.tif (tile) Fire_Island_R1C2.tif (tile)	2015-06-03 / 17:00:45 GMT	0.3 m

* Tide level is given in meters above MLLW and is based on actual observations recorded at the time of image acquisition by the NOS gauge at Sandy Hook, NJ, with time/height offsets applied to the Smith Point Bridge (Narrow Bay) sub-station. The elevation of MHW at the sub-station is approximately 0.40 meters above MLLW.

Quality Control / Final Review

The final QC review was completed in July 2015. The review process included analysis of image georeferencing 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 10.2.2. 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:

- 12352 Shinnecock Bay to East Rockaway Inlet, 1:40,000 scale, 34th Ed., Sep /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)
- Page size graphic plot of GC11166 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

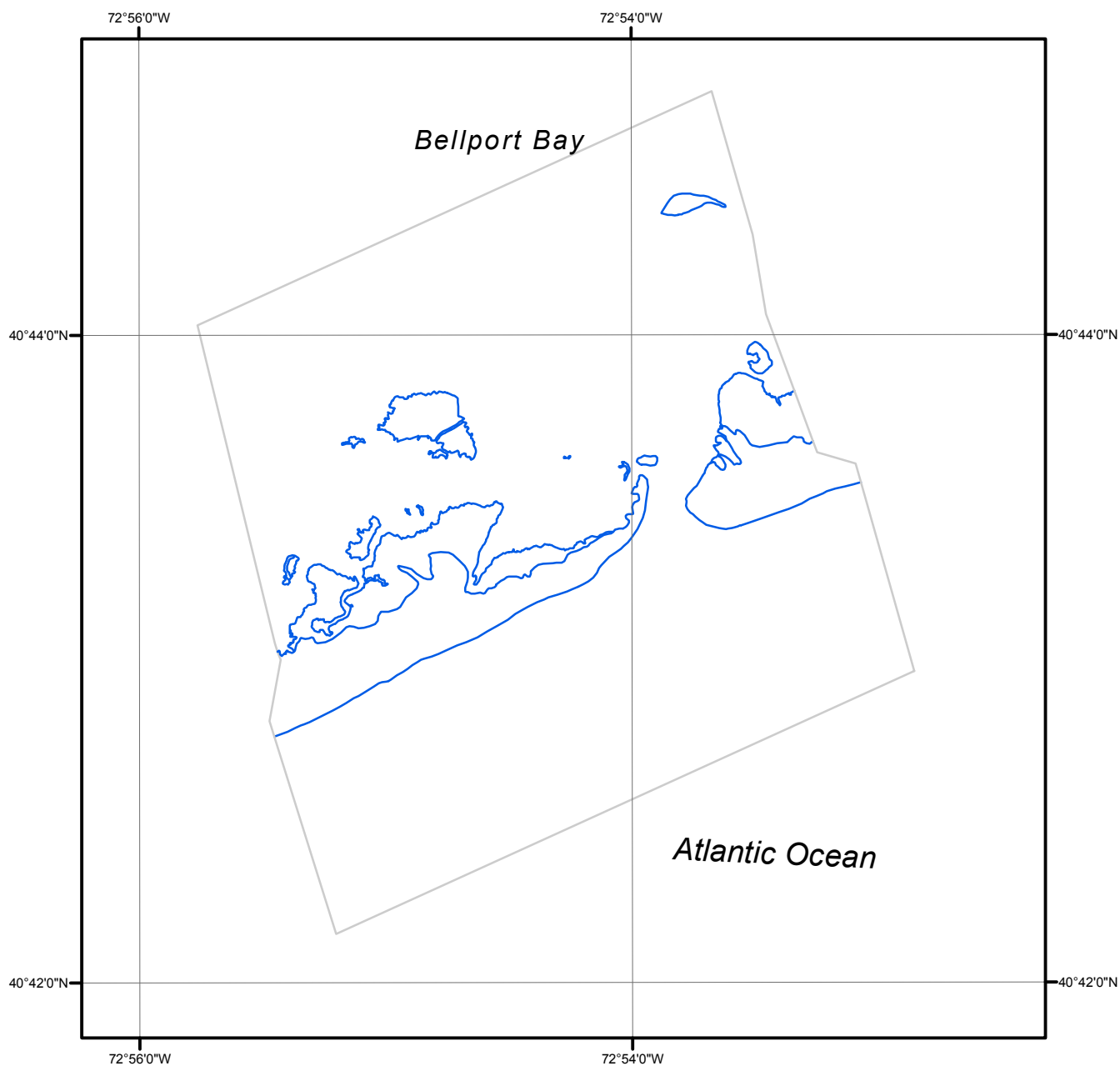
- Project database
- GC11166 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

NOAA Shoreline Data Explorer

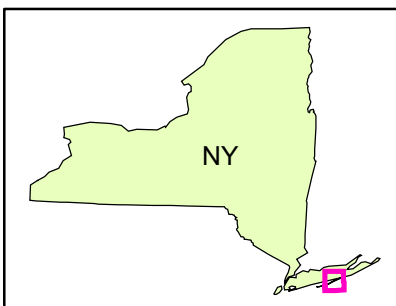
- GC11166 in shapefile format
- Metadata file for GC11166
- Digital copy of the PCR in Adobe PDF format

End of Report

OLD INLET, FIRE ISLAND NEW YORK



Overview



NY1501-CM-T

GC11166