

# **NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT**

## ***PROJECT FL1513-CM-T***

### ***Redfish Pass, Florida***

#### **Introduction**

Coastal Mapping Program (CMP) Project FL1513-CM-T provides highly accurate digital shoreline data for Redfish Pass, Florida, and the immediate vicinity. 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 FL1513-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. Initially data was extracted from the Remote Sensing Division (RSD) Continually Updated Shoreline Product (CUSP), a seamless database of high resolution shoreline data, in order to produce a GC. However, significant shoreline changes had taken place since the source date of the CUSP data, and coverage by CUSP was limited to the seaward side of barrier islands within the project. So the decision was made to compile additional data from commercial satellite imagery. Available source data deemed adequate for this task included an orthorectified, pan-sharpened natural color WorldView-3 image mosaic from DigitalGlobe, Inc. with a spatial resolution of 0.31 meters. A second image, from the GeoEye-1 sensor, was also obtained but not used. Refer to the table in the Compilation section below for further information on imagery used for project completion.

#### **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 and determined to be suitable for feature compilation without the need for further image georeferencing tasks. The published locations of three (3) NGS geodetic control points and twelve (12) U.S. Coast Guard maintained navigational aids were used for this assessment. 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 June 2015.

Digital feature data was compiled in shapefile format from the satellite imagery using ArcGIS (ver. 10.2.2) to extend or replace CUSP data. 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 FL1513-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	Acquisition Date/Time	Tide Level*
WorldView-3	20141214_160550_wv3_ori_mos.tif	2014-12-14 / 16:05:50 GMT	0.3 m

\* Tide levels are given in meters above MLLW and are based on actual observations recorded at the time of photography by the NOS gauge at St. Petersburg, FL, with time/height offsets applied to the Redfish Pass sub-station. The elevation of the MHW tidal datum in the project area is approximately 0.55 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:

- 11427 Fort Myers to Charlotte Harbor and Wiggins Pass, 1:40,000 scale, 35<sup>th</sup> Ed., Sep /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)
- Page size graphic plot of GC11160 file contents, attached to PCR

### Remote Sensing Division Electronic Data Library

- Project database
- GC11160 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

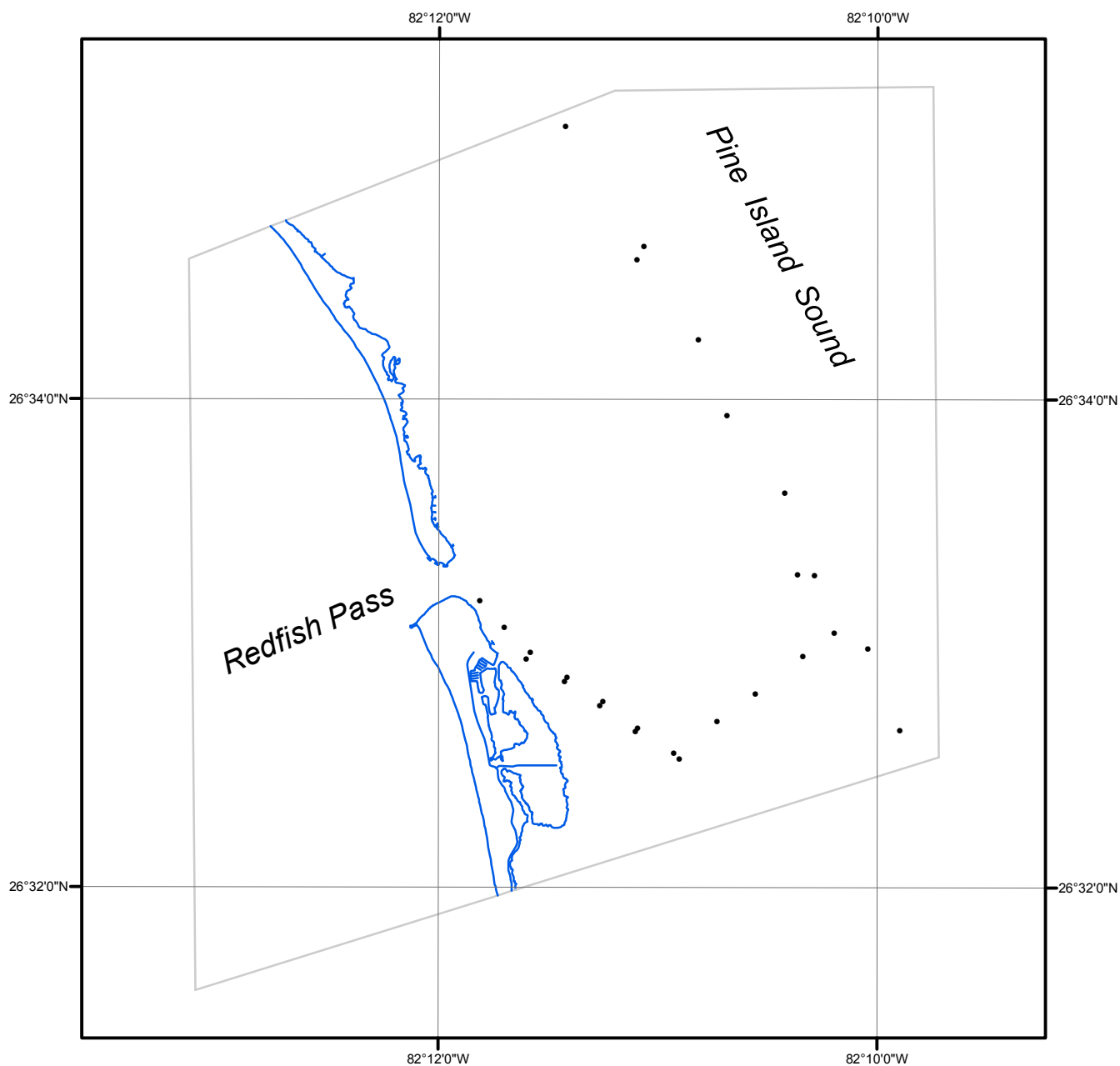
### NOAA Shoreline Data Explorer

- GC11160 in shapefile format
- Metadata file for GC11160
- Digital copy of the PCR in Adobe PDF format

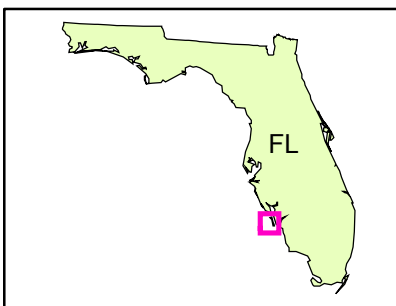
## End of Report

# REDFISH PASS

## FLORIDA



Overview



FL1513-CM-T

GC11160