

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

## ***PROJECT VA1001***

### ***Chincoteague Bridge, Virginia***

#### **Introduction**

Coastal Mapping Program (CMP) Project VA1001 provides highly accurate digital shoreline data for Chincoteague Channel and Black Narrows, in the immediate vicinity of Chincoteague, Virginia. The Geographic Cell (GC) may be used in support of the NOAA Nautical Charting Program (NCP) as well as geographic information systems (GIS) for coastal zone management applications.

#### **Project Design**

Project VA1001 was designed per a request from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA, for GIS data in support of efforts to chart a newly constructed bridge. One color orthomosaic image from the National Agricultural Imagery Program (NAIP) from August 7, 2009, and one panchromatic WorldView-1 satellite image from DigitalGlobe, acquired February 15, 2009, was obtained in response to this request. The NAIP image has a spatial resolution of 1 meter, while the WorldView image has a resolution of 0.5 meters.

#### **Field Operations**

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

#### **Georeferencing**

Due to the lack of available ground control, plus the expedited nature this project, no additional georeferencing was performed on the project imagery.

#### **Compilation**

The compilation of cartographic feature data for this project was accomplished by a member of the Applications Branch (AB) of the Remote Sensing Division (RSD) in April 2010. Using ESRI's ArcGIS 9.3 desktop GIS software, digital feature data was compiled in ESRI shapefile format. The color NAIP image was determined to be more suitable for feature extraction, and was used for all compilation, with the WorldView image serving as a reference source. Feature attributes were established using the C-COAST specification file, which provides the definition and attribution scheme for the full range of cartographic features pertinent to the CMP.

Cartographic features were compiled to meet a horizontal accuracy of 7 meters at the 95% confidence level. This figure represents the level of accuracy claimed by the image provider. A comparison with previously compiled vector data from TP00901, from prior project CM7505, matched the NAIP imagery within 4-5 meters, validating their accuracy statement. The table below provides detailed information on the image sources used.

Image #	Image Source	Image File Name	Acquisition Date/Time	Tide Stage*
1	NAIP mosaic	ortho_1-1_1n_s_va001_2009_1_merg1.tif	2009-08-07 / 15:16	0.3
2	WorldView-1	052313934020_01_P010_PAN_RPC_subset.tif	2009-02-15 / 15:56	0.1

\* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS gauge at Ocean City, MD, at the time of photography, with offsets applied to substations in the project area. The elevation of MHW is 0.3 meters above MLLW.

## Quality Control / Final Review

Quality control tasks were conducted during all phases of project completion by a senior member of AB. The final QC review was completed in April 2010. The review process consisted of an assessment of the identification and attribution of cartographic features 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. The entire suite of project products was evaluated for compliance to CMP requirements.

Comparisons of the largest scale NOAA nautical charts with satellite imagery and compiled project data resulted in creation of the Chart Evaluation File (CEF). The following nautical charts were used in the comparison process:

12210 Chincoteague Inlet to Great Machipongo Inlet	1:20,000 (inset)	38 <sup>th</sup> Ed., May 08
12211 Fenwick Island to Chincoteague Inlet	1:80,000	43 <sup>rd</sup> Ed., Oct. 07

## 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 GC10822 file contents, attached to PCR

### Remote Sensing Division Electronic Data Library

- GC10822 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- Chart Evaluation File in shapefile format

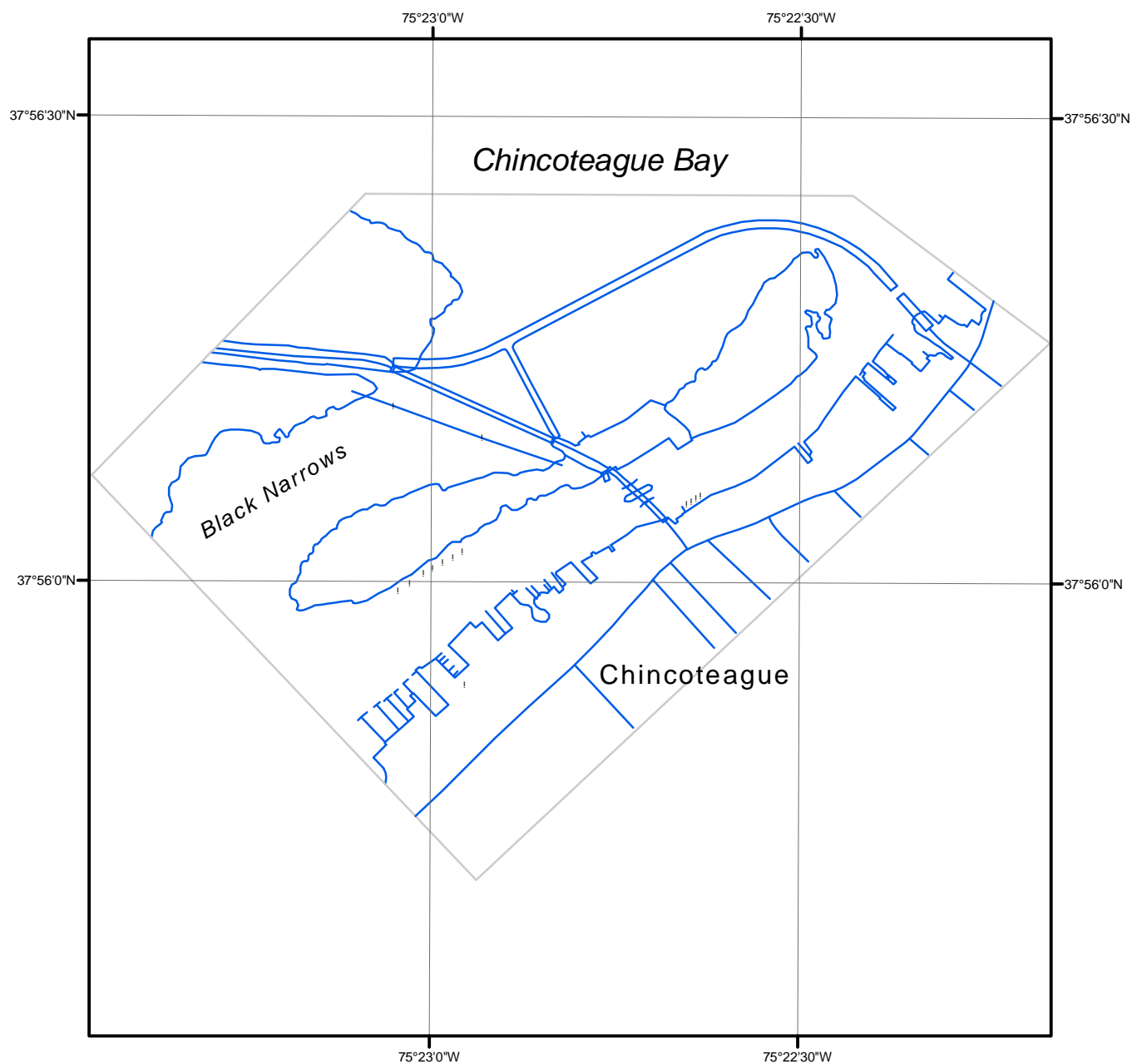
### NOAA Shoreline Data Explorer

- GC10822 in shapefile format
- Metadata file for GC10822
- Digital copy of the PCR in Adobe PDF format

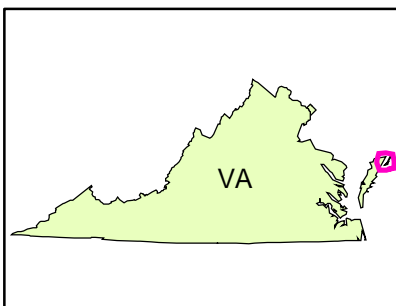
## End of Report

# CHINCOTEAGUE BRIDGE

## VIRGINIA



Overview



VA1001

GC10822