

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

## ***PROJECT NC1401A***

### ***Pamlico Beach to Woodstock Point, North Carolina***

#### **Introduction**

Coastal Mapping Program (CMP) Project NC1401A provides highly accurate digital shoreline data for Pungo River extending from Pamlico Beach to Woodstock Point, in North Carolina. 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 NC1401A was designed per a request to the Remote Sensing Division (RSD) from the Marine Chart Division (MCD) of the Office of Coast Survey for GIS data in response to an observed shoreline change at Tyson Point in the Pungo River. Subsequent analysis identified other areas of significant change in this vicinity, and the project extent was expanded. Available source data deemed adequate for successful completion of this project included forty-three (43) color orthomosaic image tiles from the Coastal Orthoimagery 2012 Project by the North Carolina Center for Geographic Information and Analysis (CGIA). The orthoimages have a spatial resolution of 0.6 meters.

#### **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. See the project report for the Coastal Orthoimagery 2012 Project available through the North Carolina CGIA for specific information on the source imagery photographic missions.

#### **Georeferencing**

Refinement of the georeferencing of the orthoimage tiles used for compilation was not necessary since image positioning compared favorably spatially with sources used to verify its accuracy, and since an acceptable accuracy assessment was provided for the imagery. The source photography was aerotriangulated and the orthoimage accuracy analysis resulted in a reported circular error of 1.48 meters based on a 95% confidence level (CE95). For further information on horizontal accuracies achieved in the relevant portions of the Coastal Orthoimagery 2012 Project, refer to Attachment G: Aerotriangulation Report, 2012 NC Coastal Orthophoto Project, Study Area 2 (SA2-4) by Surdex Corporation, and the Aerial Imagery Quality Control Report by the North Carolina Department of Public Safety, Emergency Management Division. Copies of these reports are on file with other project data within the RSD Applications Branch (AB) Project Archive. All positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

## 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 March 2014. Using Esri ArcGIS desktop GIS software (ver. 10.1), digital feature data was compiled in Esri shapefile format. 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.

Spatial data accuracies for Project NC1401A were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 3.0 meters at the 95% confidence level. This predicted accuracy of well-defined points measured during the compilation phase was derived by doubling the CE95 reported by the image provider. The table below provides further information on the image sources used.

Image #	Source Image File Name	Acquisition Date	Tide Stage*
1	OC6i0_37_000_20760001_20120212_0311R0.tif	2/28/2012	N/A
2	OC6i0_37_000_20760002_20120212_0311R0.tif	2/28/2012	N/A
3	OC6i0_37_000_20760101_20120212_0311R0.tif	2/28/2012	N/A
4	OC6i0_37_000_20760102_20120212_0311R0.tif	2/28/2012	N/A
5	OC6i0_37_000_20760103_20120212_0311R0.tif	2/28/2012	N/A
6	OC6i0_37_000_20760104_20120212_0311R0.tif	2/28/2012	N/A
7	OC6i0_37_000_20760201_20120212_0311R0.tif	2/28/2012	N/A
8	OC6i0_37_000_20760202_20120212_0311R0.tif	2/28/2012	N/A
9	OC6i0_37_000_20760203_20120212_0311R0.tif	2/28/2012	N/A
10	OC6i0_37_000_20760204_20120212_0311R0.tif	2/28/2012	N/A
11	OC6i0_37_000_20760301_20120212_0311R0.tif	2/28/2012	N/A
12	OC6i0_37_000_20760302_20120212_0311R0.tif	2/28/2012	N/A
13	OC6i0_37_000_20760303_20120212_0311R1.tif	2/28/2012	N/A
14	OC6i0_37_000_20760304_20120212_0311R0.tif	2/28/2012	N/A
15	OC6i0_37_000_20760403_20120212_0311R0.tif	2/28/2012	N/A
16	OC6i0_37_000_20760404_20120212_0311R0.tif	2/28/2012	N/A
17	OC6i0_37_000_20761001_20120212_0311R0.tif	2/28/2012	N/A
18	OC6i0_37_000_20761002_20120212_0311R0.tif	3/6/2012	N/A
19	OC6i0_37_000_20761003_20120212_0311R0.tif	2/28/2012	N/A
20	OC6i0_37_000_20761004_20120212_0311R0.tif	3/6/2012	N/A
21	OC6i0_37_000_20761101_20120212_0311R0.tif	2/28/2012	N/A
22	OC6i0_37_000_20761102_20120212_0311R0.tif	3/6/2012	N/A
23	OC6i0_37_000_20761103_20120212_0311R0.tif	2/28/2012	N/A
24	OC6i0_37_000_20761104_20120212_0311R0.tif	3/6/2012	N/A
25	OC6i0_37_000_20761201_20120212_0311R0.tif	2/28/2012	N/A
26	OC6i0_37_000_20761202_20120212_0311R0.tif	3/6/2012	N/A
27	OC6i0_37_000_20761203_20120212_0311R0.tif	2/28/2012	N/A
28	OC6i0_37_000_20761204_20120212_0311R0.tif	3/6/2012	N/A
29	OC6i0_37_000_20761301_20120212_0311R0.tif	2/28/2012	N/A
30	OC6i0_37_000_20761302_20120212_0311R0.tif	3/6/2012	N/A
31	OC6i0_37_000_20761303_20120212_0311R0.tif	2/28/2012	N/A
32	OC6i0_37_000_20761304_20120212_0311R0.tif	3/6/2012	N/A

33	OC6i0_37_000_20761403_20120212_0311R0.tif	2/28/2012	N/A
34	OC6i0_37_000_20761404_20120212_0311R0.tif	3/6/2012	N/A
35	OC6i0_37_000_20762001_20120212_0311R0.tif	3/6/2012	N/A
36	OC6i0_37_000_20762003_20120212_0311R0.tif	3/6/2012	N/A
37	OC6i0_37_000_20762101_20120212_0311R0.tif	3/6/2012	N/A
38	OC6i0_37_000_20762103_20120212_0311R0.tif	3/6/2012	N/A
39	OC6i0_37_000_20762201_20120215_0311R0.tif	3/6/2012	N/A
40	OC6i0_37_000_20762203_20120212_0311R0.tif	3/6/2012	N/A
41	OC6i0_37_000_20762301_20120215_0311R0.tif	3/6/2012	N/A
42	OC6i0_37_000_20762303_20120215_0311R0.tif	3/6/2012	N/A
43	OC6i0_37_000_20762403_20120215_0311R0.tif	3/6/2012	N/A

\* Within the project area the periodic tide has a mean range of less than one half foot. Therefore, for the purposes of this project the area is considered non-tidal.

## 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 March 2014. 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 chart with orthoimagery and compiled project data resulted in creation of the Chart Evaluation File (CEF). The following nautical chart was used in the comparison process:

11553 Albemarle Sound to Neuse River, Scale 1:40,000 29<sup>th</sup> Ed. Aug 06

## 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 GC11049 file contents, attached to PCR

### Remote Sensing Division Electronic Data Library

- GC11049 in shapefile format
- Digital copy of the 2012 NC Coastal Orthophoto Aerotriangulation Report
- Digital copy of the 2012 NC Coastal Imagery Quality Control Report
- Digital copy of the PCR in Adobe PDF format
- Chart Evaluation File in shapefile format

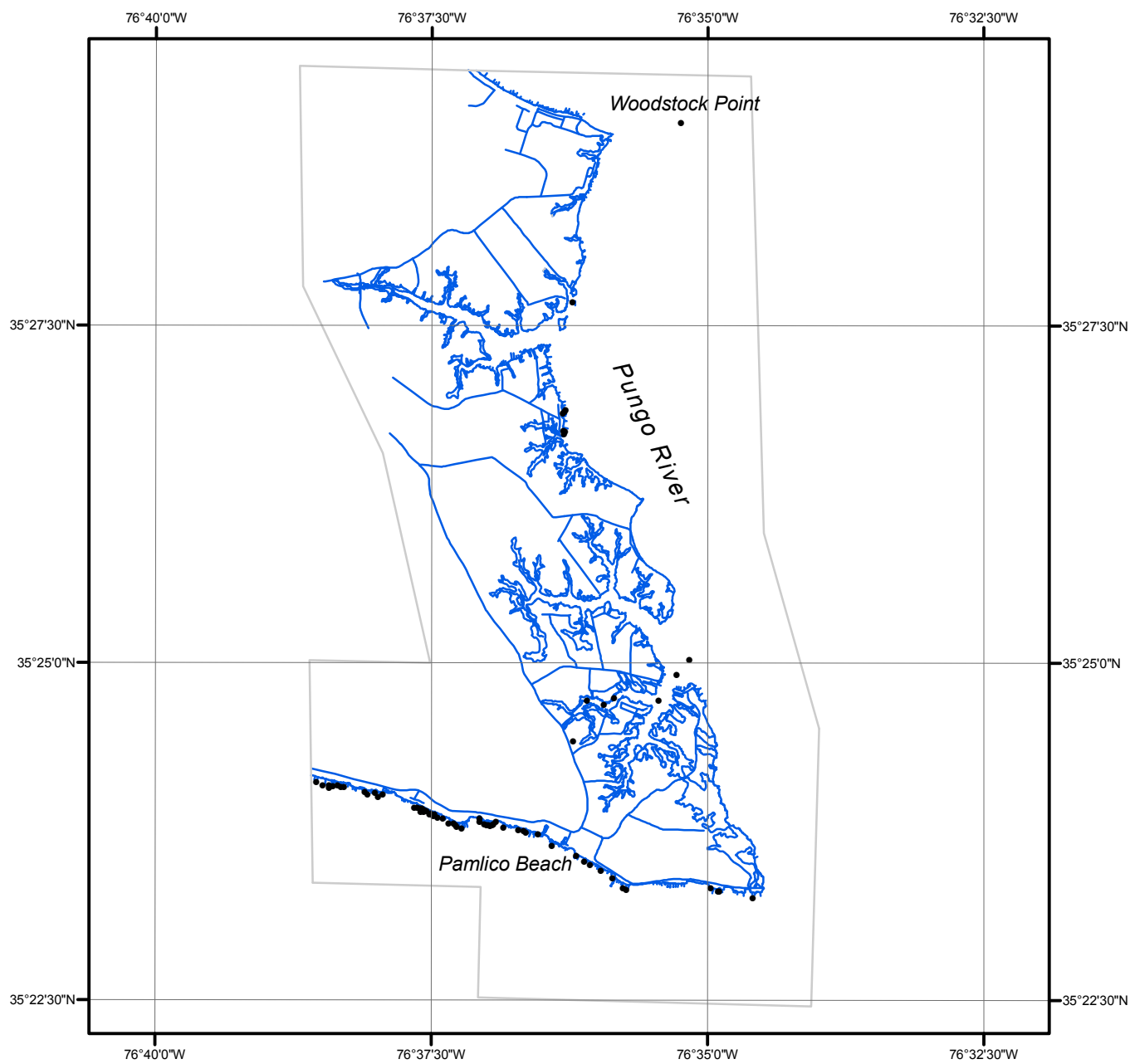
### NOAA Shoreline Data Explorer

- GC11049 in shapefile format
- Metadata file for GC11049
- Digital copy of the PCR in Adobe PDF format

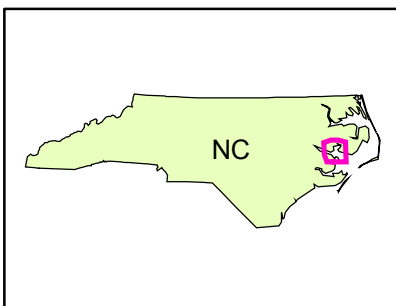
## End of Report

# PAMLICO BEACH TO WOODSTOCK POINT

## NORTH CAROLINA



Overview



NC1401A

GC11049