

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT MD1201

Sunset Marina, Maryland

Introduction

Coastal Mapping Program (CMP) Project MD1201 provides highly accurate digital shoreline data for Sunset Marina, in the immediate vicinity of Ocean City Inlet, Maryland. 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 MD1201 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 add an uncharted marina to Chart 12211. Color aerial photography acquired by a contractor as part of an Instrument Procedure Development Survey for the Federal Aviation Administration (FAA) was deemed suitable for use in meeting this request. The photography, acquired May 31, 2010 with a Vexcel UltraCam X at an approximate flying height of 12,700 feet, was made available to the CMP through the National Geodetic Survey's (NGS) Aeronautical Surveys Program (ASP).

Field Operations

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

Georeferencing

The photography was aerotriangulated as part of the contract deliverable to the FAA. Eight field surveyed ground control points were collected as photogrammetric control, and five additional points were collected for use as check points.

Aerotriangulation statistics were not available for use in calculating the accuracy of compiled, well defined points, so the surveyed check points were measured in the imagery, and the measured locations were compared with their surveyed locations. The RMS of the residuals for all measured check points were used to compute a predicted horizontal circular error at the 95% confidence level (CE95) of 0.6 meters.

The project database consists of project parameters and options, camera calibration data, interior orientation parameters, ground control parameters, and adjusted exterior orientation parameters. Positional data is referenced to Maryland State Plane Coordinate System, meters, NAD83.

Compilation

The compilation of cartographic feature data was accomplished by a member of the Applications Branch (AB) of the Remote Sensing Division (RSD) in February 2012. Digital mapping was performed using a Digital Photogrammetric Workstation (DPW) in conjunction with the SOCET SET (version 5.5) Feature Extraction software module. Feature identification and attribution

were conducted 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 Project MD1201 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 0.6 meters at the 95% confidence level. The table below provides detailed information on the images used.

Date	Time (UTC)	Photo Numbers	Source Photo Numbers	Altitude (ft AGL)	Tide Level*
5-31-2010	14:01	4_07 thru 4_10	OXB_12792_05-31-10_4_07.tif thru OXB_12792_05-31-10_4_10.tif	12,766	0.6 m

* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS gauge at Ocean City Inlet, MD, at the time of photography. The elevation of MHW in the project area is 0.7 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted by senior CMP personnel. The final QC review was completed in February 2012. 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 chart was used in the comparison process:

- 12211 (Inset: 1:20,000 scale) Fenwick Island to Chincoteague Inlet, 44th Ed., Feb. 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 GC10922 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- GC10922 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- Chart Evaluation File in shapefile format

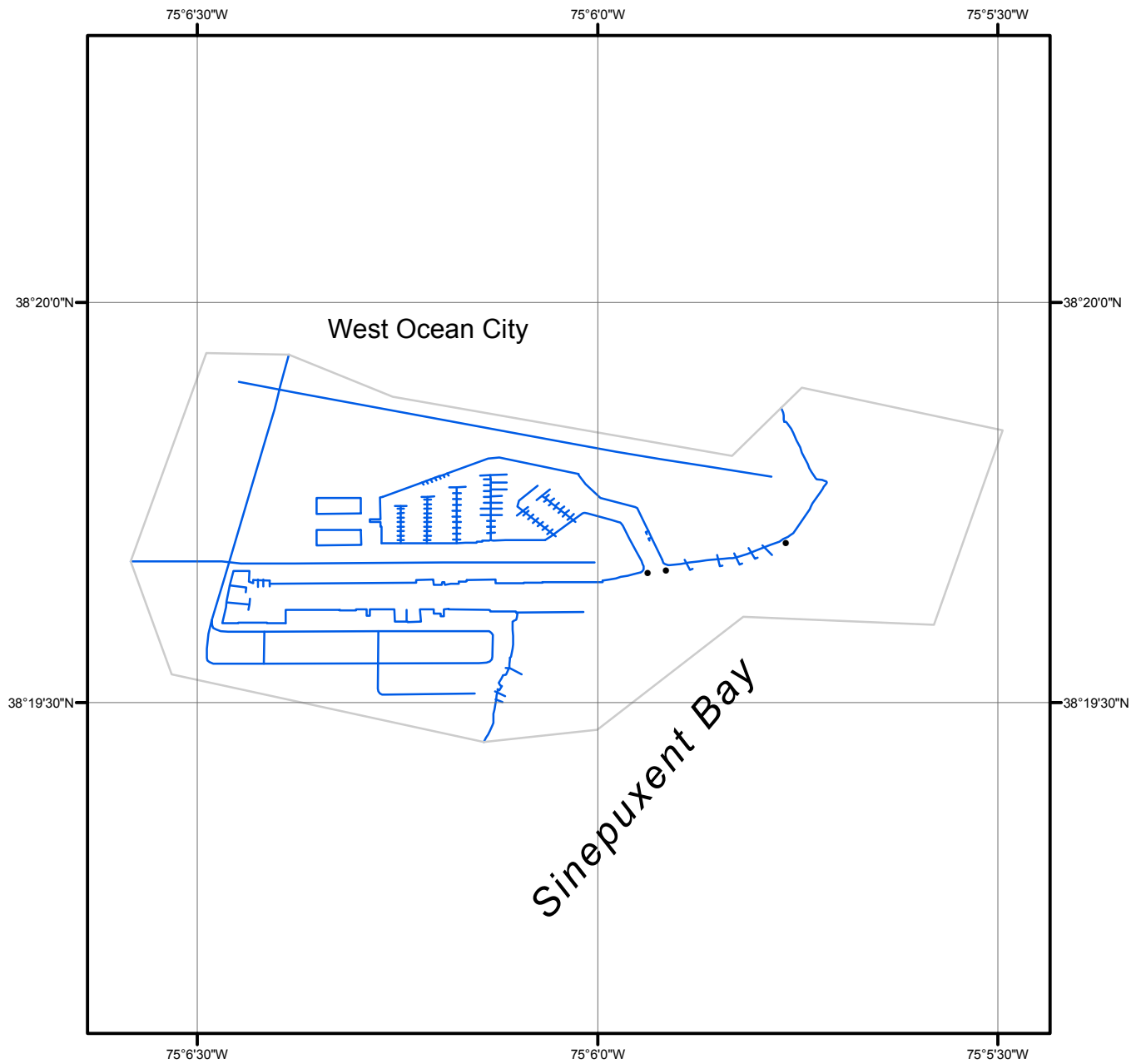
NOAA Shoreline Data Explorer

- GC10922 in shapefile format
- Metadata file for GC10922
- Digital copy of the PCR in Adobe PDF format

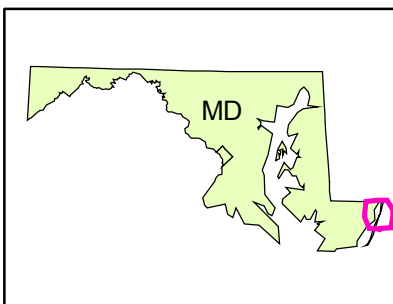
End of Report

SUNSET MARINA

MARYLAND



Overview



MD1201

GC10922