

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT WA1102

Port Angeles, Washington

Introduction

Coastal Mapping Program (CMP) Project WA1102 provides highly accurate digital shoreline data for key areas of change within Port Angeles, Washington. 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

The original design of Project WA1102 was accomplished by the Requirements Branch (RB) of the Remote Sensing Division (RSD) in response to the general need for updates to NOAA's Electronic Navigational Chart (ENC) series. A standard change analysis was conducted within the Coast and Shoreline Change Analysis Program (CSCAP), in which NOAA nautical chart products are compared to contemporary high resolution imagery to ascertain the need for more current shoreline data. Imagery used for this analysis consisted of one non-orthorectified panchromatic WorldView-2 satellite image from DigitalGlobe, with a spatial resolution of 0.5 meters, obtained through the National Geospatial-Intelligence Agency (NGA). A Chart Evaluation File (CEF) was forwarded from RB to the Applications Branch (AB) of RSD upon completion of the CSCAP analysis. Refer to the RB CSCAP memorandum of August 9, 2011, for more details of the chart comparison process.

Field Operations

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

Georeferencing

Rigorous refinement of the georeferencing of the commercial satellite imagery was not necessary since the image compared favorably spatially with all of the data sources used to check its geolocation, and since DigitalGlobe provided an acceptable accuracy assessment for their imagery. The accuracy of the WorldView image reported by the vendor is 5.0 m at the 90% confidence level (CE90). The reported accuracy is exclusive of viewing geometry and terrain distortions. NGS control points (2) used to verify the reported accuracy were measured in the imagery to within 1.9 meters of their published locations.

Compilation

Data compilation was performed by RSD personnel in December 2013. Digital feature

data was compiled in shapefile format from the WorldView imagery using Esri's ArcGIS 9.3.1 desktop GIS software. 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 WA1102 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 5.7 meters, based on the vendor reported CE90 accuracy converted to the 95% confidence level (CE95).

The following table provides information on satellite imagery used in the project completion:

Image Source	Image ID	Acquisition Date/Time	Tide Level
WorldView-2	10MAY09192406-P1BS-052544445010_01_P001.tif	5/9/2010 19:24 GMT	1.3 m

* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS gauge at Port Angeles, WA, at the time of photography. The elevation of MHW is 2.0 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted by a senior member of RSD in December 2013. Image georeferencing was verified and the identification and attribution of digital feature data within the GC was evaluated 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 9.3.1. All project products were evaluated for compliance to CMP requirements.

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 GC11031 file contents, attached to PCR
- Hardcopy of the CSCAP evaluation memorandum
- Hardcopies of other information and communication related to project completion

Remote Sensing Division Electronic Data Library

- GC11031 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

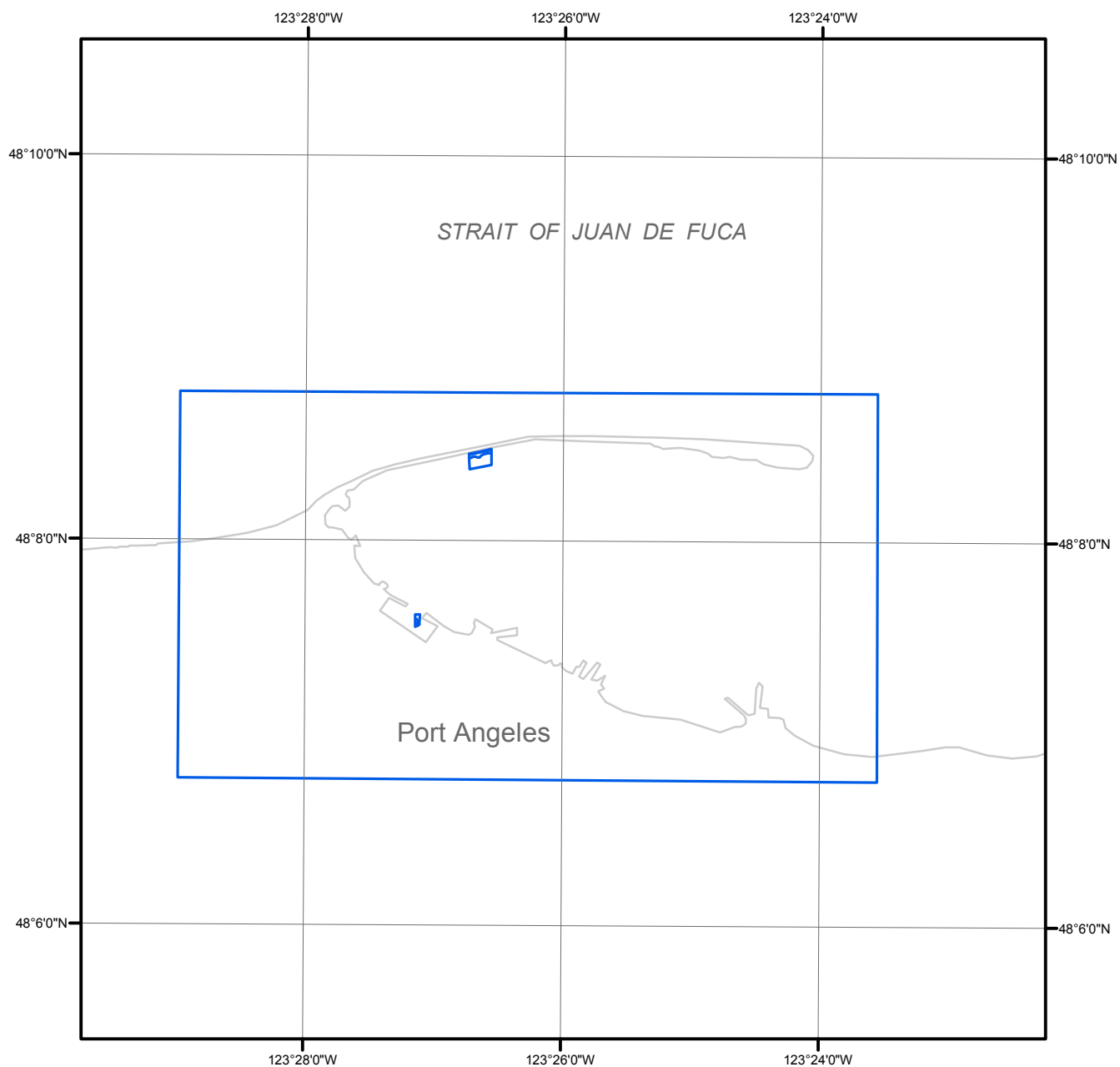
NOAA Shoreline Data Explorer

- GC11031 in shapefile format
- Metadata file for GC11031
- Digital copy of the PCR in Adobe PDF format

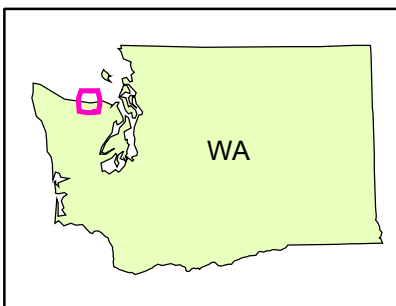
End of Report

PORT ANGELES

WASHINGTON



Overview



WA1102

GC11031