

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK1406

Sitka Harbor, Alaska

Introduction

Coastal Mapping Program (CMP) Project AK1406 provides highly accurate coastal feature data for Sitka Harbor, Alaska. The Geographic Cell (GC) may be used in support of the NOAA Nautical Charting Program (NCP) as well as geographic information systems (GIS) for various coastal zone management applications.

Project Design

Project AK1406 was designed in response to a request for new 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. Source data obtained for this project consisted of one orthorectified, pan-sharpened natural color WorldView-2 satellite image (tiled) from DigitalGlobe, Inc., acquired March 29, 2014.

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

Rigorous refinement of the georeferencing of the WorldView imagery was not necessary since the image compared favorably spatially with the data sources used to check its geolocation. Check points were measured from feature data compiled within CMP Project AK9703B (GC10517). The RMS of the residuals for measured check points was used to compute a horizontal accuracy at the 95% confidence level (CE95) of 1.8 meters. This value was added to the CE95 of the source from which check points were obtained in order to conservatively predict the accuracy of well-defined points measured during the compilation process. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was initiated by RSD personnel in July 2014. Using ArcGIS, digital feature data was compiled in shapefile format. 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 AK1406 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were tested to have a horizontal accuracy of 4.4 meters at the 95%

confidence level. The table below provides detailed information on the imagery used for feature compilation:

Image Source	Ground Sample	Source ID (Tiles)	Acquisition Date/Time	Tide Level*
WorldView-2	0.5 m	20140329_205103_WV2 ORI_R1C1.tif	2014-03-29 / 20:51 GMT	3.0 m
WorldView-2	0.5 m	20140329_205103_WV2 ORI_R1C2.tif	2014-03-29 / 20:51 GMT	3.0 m
WorldView-2	0.5 m	20140329_205103_WV2 ORI_R1C3.tif	2014-03-29 / 20:51 GMT	3.0 m

* Tide level is given in meters above MLLW and based on actual observations at the NOS tide station in Sitka, AK at the time of the imagery. The height of MHW in Sitka is 2.8 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted upon project completion by senior CMP personnel in July 2014. The review process included an assessment of the identification and attribution of digital feature data within the GC according to image analysis and criteria defined in C-COAST. Quality control concluded with an inspection of topological connectivity within the GC using ArcGIS. 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 charts covering the project:

- Chart 17327, Sitka Harbor and Approaches, AK, 24th Ed., Jan./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 of GC11092 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project database
- GC11092 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

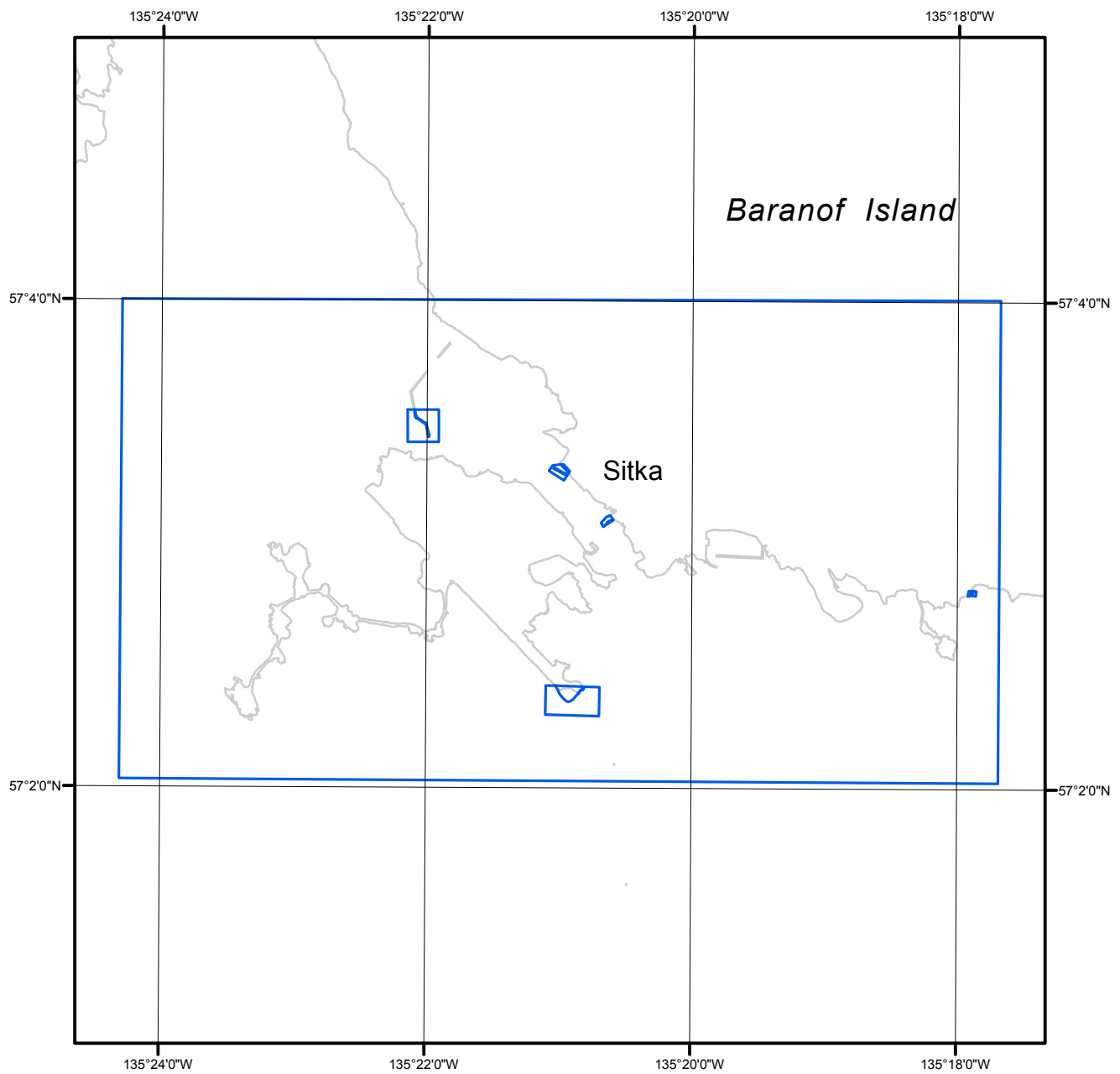
NOAA Shoreline Data Explorer

- GC11092 in shapefile format
- Metadata file for GC11092
- Digital copy of the PCR in Adobe PDF format

End of Report

SITKA HARBOR

ALASKA



Overview



AK1406

GC11092