NOAA COASTAL MAPPING PROGRAM
PROJECT COMPLETION REPORT

PROJECT AK1709-CM-T

Seguam Island, Alaska

Introduction

Coastal Mapping Program (CMP) Project AK1709-CM-T provides accurate digital shoreline data for Seguam Island, 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 coastal zone management applications.

Project Design

Project AK1709-CM-T was designed per a request from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA, for improved positioning of Seguam Island on NOAA's chart suite. 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. Available source data deemed adequate for successful completion of this project included two stereo pairs of panchromatic WorldView-2 satellite imagery from DigitalGlobe, Inc. obtained through the NextView government contract.

Field Operations

Routine CMP field operations did not apply for this project based on the origin of the project source data, which was obtained from external sources.

Aerotriangulation

The task was accomplished by RSD personnel in October 2017. Aerotriangulation procedures were completed on a Digital Photogrammetric Workstation (DPW) using the Multi-Sensor Triangulation (MST) Tool of SOCET SET ver. 5.6. The Interactive Point Measurement tool within MST was used to collect several tie points and a simultaneous solve adjustment was then performed. Upon successful completion of this process, the triangulation software provided the standard deviations for each aerotriangulated ground point, which were used to compute a predicted horizontal circular error of 2.5 meters based on a 95% confidence level. Positional data is referenced to the North American Datum of 1983 (NAD83).

Compilation

Data compilation was accomplished by RSD personnel in December 2017. The digital mapping was performed using a DPW in conjunction with the SOCET SET Feature Extraction software module. 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. Selected features were further modified with additional descriptive information to refine general classification.

Spatial data accuracies for project AK1709-CM-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 5.0 meters at the 95% confidence level. This predicted accuracy of compiled well-defined points is derived by doubling the circular error calculated from the aerotriangulation statistics. The following table provides information on the project imagery.

Image Source	Resolution	Source File ID	Acquisition Date/Time	Tide Level*
WorldView-2	0.5 m	14SEP02224210-P1BS Segments R1C1-R4C1	2014-09-02 / 22:42:10 GMT	0.4 m
WorldView-2	0.5 m	14SEP02224319-P1BS Segments R1C1-R4C1	2014-09-02 / 22:43:19 GMT	0.4 m
WorldView-2	0.5 m	15NOV01225514-P1BS Segments R1C1-R2C1	2015-11-01 22:55:14 GMT	0.9 m
WorldView-2	0.5 m	15NOV01225631-P1BS Segments R1C1-R2C1	2015-11-01 22:56:31 GMT	0.9 m

* Tide level is given in meters above MLLW and based on verified observations recorded by the NOS reference gage at Adak Island, AK, with time and height offsets applied to the Finch Cove substation. The height of the MHW tidal datum in the project area is approximately 0.9 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted upon project completion in January 2018. 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. The quality control process concluded with an inspection of topological connectivity within the GC using ArcGIS ver. 10.4 software. All project data 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 chart covering the project:

- 16480, Aleutian Islands, Amukta to Igitkin Islands, 1:300,000 Scale, 13th Ed. Dec 2015 (including 1:20,000 scale inset, Finch Cove)

End Products and Deliverables

The following specifies the location and identification of end products generated during the completion of this project:

Remote Sensing Division Electronic Data Library

- GC11317 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

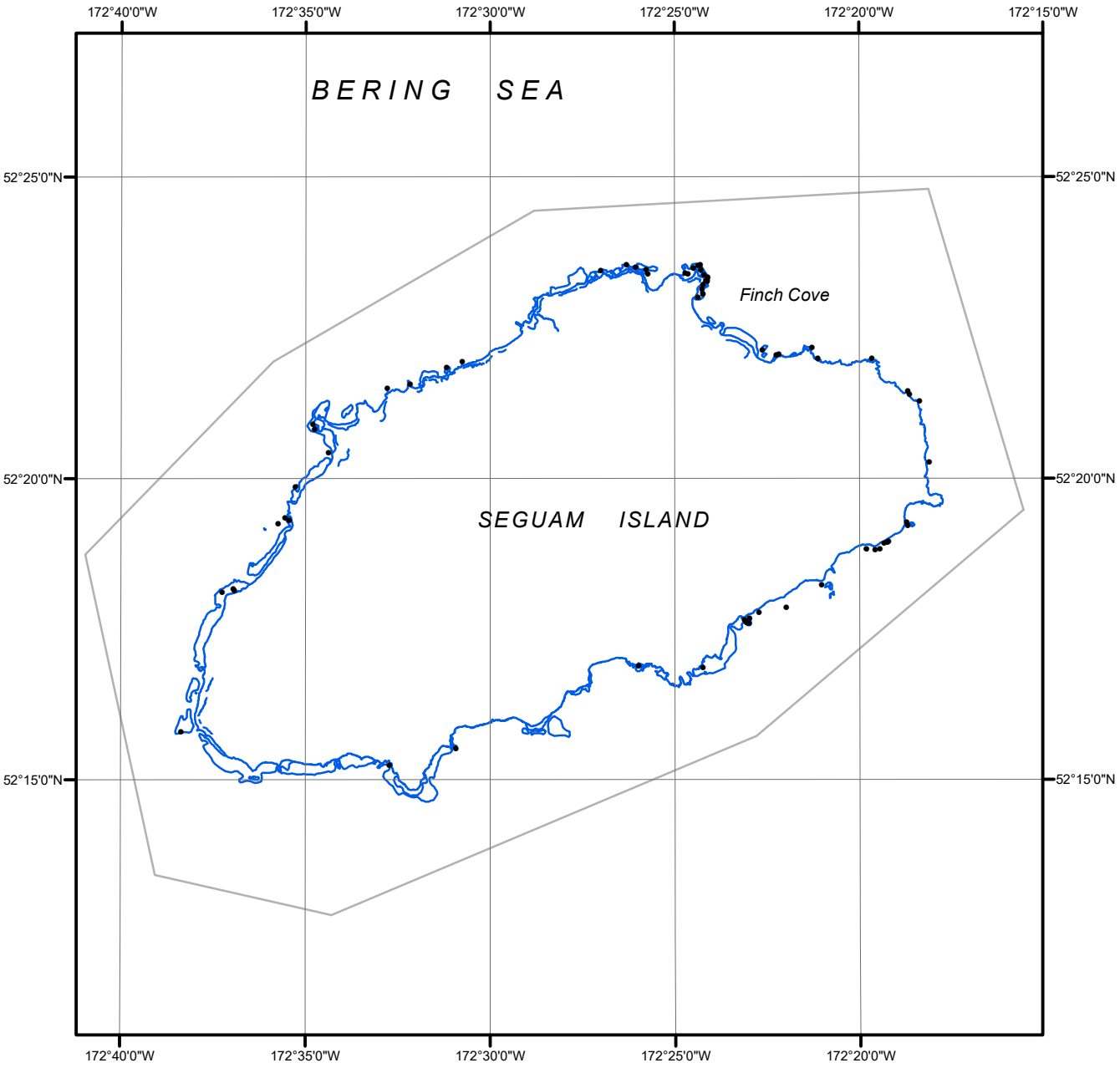
NOAA Shoreline Data Explorer

- GC11317 in shapefile format
- Metadata file for GC11317
- Digital copy of the PCR

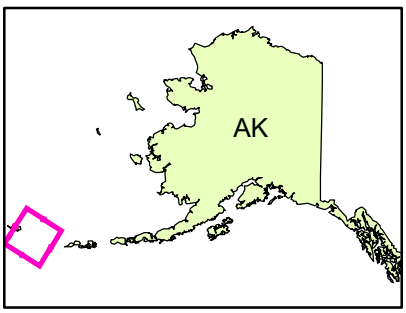
End of Report

SEGUAM ISLAND

ALASKA



Overview



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GC11317