

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK1903-CM-T

Columbia Bay at Columbia Glacier, Alaska

Introduction

NOAA Coastal Mapping Program (CMP) Project AK1903-CM-T provides digital shoreline data for the northern portion of Columbia Bay to Columbia Glacier, in 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 AK1903-CM-T was designed by request of NOAA's Office of Coast Survey (OCS) for data to update specific nautical chart products. Based on an 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. Available source data deemed adequate for successful completion of this project included sources acquired in August 2019.

Field Operations

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

Aerotriangulation

The aerotriangulation task was initiated by RSD personnel in September 2019 utilizing a Digital Photogrammetric Workstation (DPW), which is a configuration of computer hardware, modular software components and other associated peripheral devices. The image files were imported into SOCET SET (ver. 5.6). Aerotriangulation procedures were accomplished using the Multi-Sensor Triangulation (MST) module of SOCET SET. The interactive point measurement tool within MST was used to collect several tie points and a simultaneous solve adjustment was then performed, forecasting an average predicted horizontal circular error for all well-defined points in the project area of 2.13 meters at the 95% confidence level. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

The data compilation phase of this project was initiated by RSD in September 2019. 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.

Cartographic features were compiled to meet a horizontal accuracy of 4.3 meters at the 95% confidence level. Tidal information was obtained from the NOS tide station at Cordova, with time and height offsets applied to the inactive station at Columbia Glacier. The tide level at Columbia Glacier when the source imagery was acquired was 0.2 meters above MLLW. The height of the MHW tidal datum at Columbia Glacier is 3.38 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted during all phases of project completion by a senior member of the Applications Branch of RSD. The final QC review was completed in October 2019. The review process included analysis of aerotriangulation results and 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. 10.7.1) software. All project data was evaluated for compliance to CMP requirements.

Comparisons of the largest scale NOAA nautical charts with source imagery and compiled project data resulted in creation of the Chart Evaluation File (CEF). The following nautical charts were used in the comparison process:

- 16708, Port Fidalgo and Valdez Arm, 28th Ed., Mar. 2011, Scale 1:79,291
- 16713, Naked Island to Columbia Bay, 4th Ed., Jul. 2010, Scale 1:50,000

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

- Project database
- Project Completion Report (PCR)
- GC11555 in shapefile format
- CEF in shapefile format

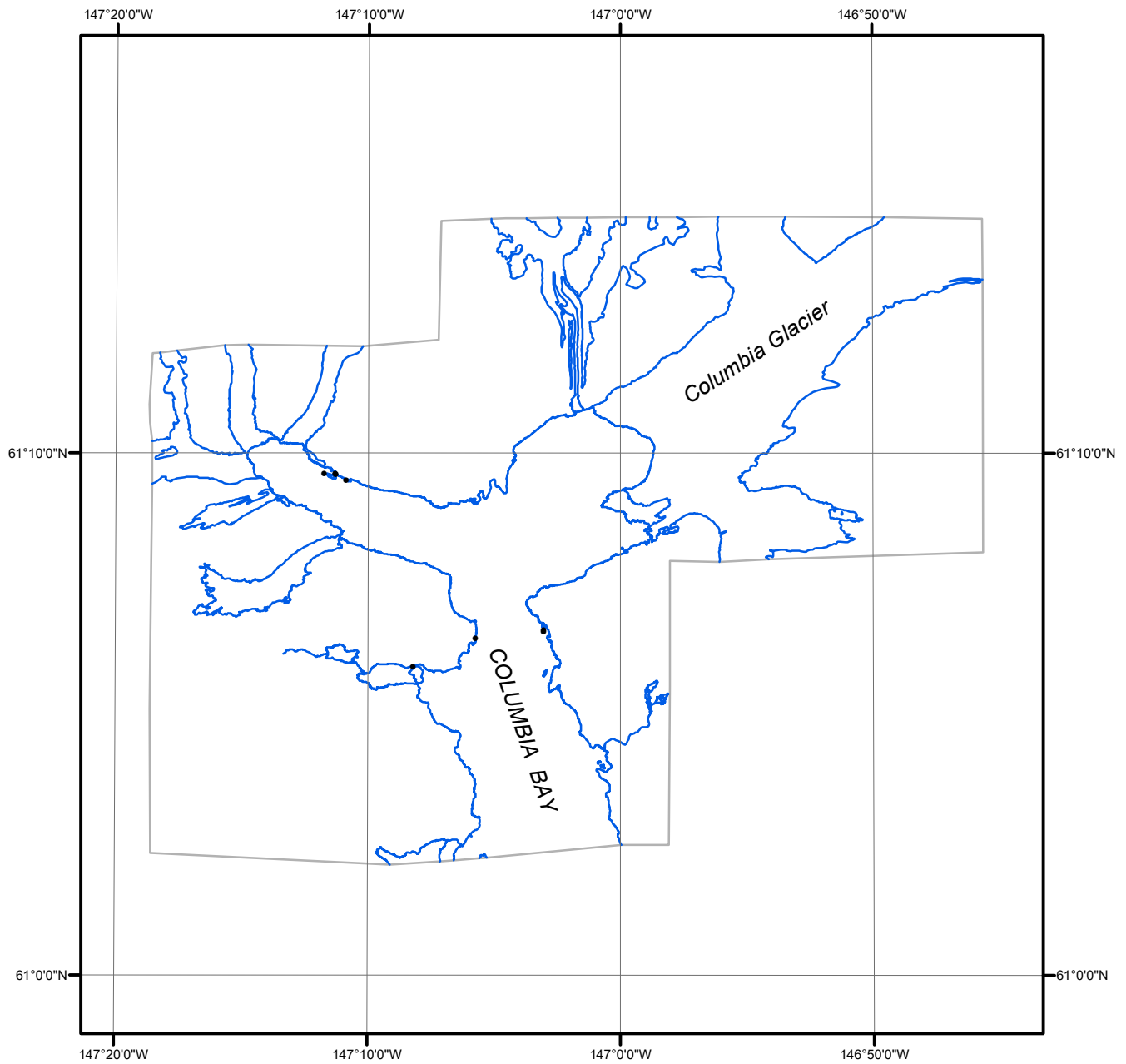
NOAA Shoreline Data Explorer

- GC11555 in shapefile format
- Metadata file for GC11555
- PCR in Adobe PDF format

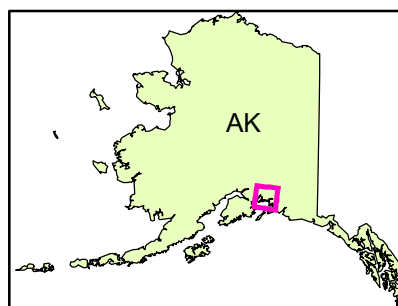
End of Report

COLUMBIA BAY AT COLUMBIA GLACIER

ALASKA



Overview



AK1903-CM-T

GC11555