NOAA COASTAL MAPPING PROGRAM

PROJECT COMPLETION REPORT

PROJECT AK0404

COLUMBIA BAY, ALASKA

Introduction

Coastal Mapping Program (CMP) Project AK0404 provides coastal zone mapping data of Columbia Bay, located in Prince William Sound, Alaska, including Columbia Glacier and Glacier Island. The digital cartographic feature file (DCFF) may be used in support of the NOAA Nautical Charting Program (NCP) and coastal zone management activities.

Project Design

This project was designed per a request from the NOAA Hydrographic Surveys Division (HSD) for cartographic data in support of HSD operations. 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 September 2003.

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 a member of Applications Branch of the Remote Sensing Division (RSD) in April 2005. The image files were imported into SOCET SET (version 5.0), a modular photogrammetric software system on a digital photogrammetric workstation, using the DataThruWay (version 5.0) software extension. The import process converted the stored compressed files to the National Imagery Transmission Format (NITF 2.0) with headers and metadata. 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 a predicted average horizontal circular error for all well defined points in this project area of 7 meters at the 95% confidence level.

Compilation

The compilation of cartographic feature data for this project was accomplished by a member of the Applications Branch of RSD in June 2005. Digital feature data was compiled from imagery within a SOCET SET feature database (FDB) using the Feature

Extraction module. Feature attributes were established using the C-COAST specification file, which provides the definition and attribution scheme for the full range of cartographic features pertinent to the CMP. Cartographic features were compiled to meet a horizontal accuracy of 10 meters at the 95% confidence level. Tidal information was obtained from the NOS tide station at Valdez, Alaska. The difference between MHW and MLLW at Valdez is 3.4 meters, and source imagery for the entire project area occurred when the stage of tide was approximately 2 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 June 2005. The review process included analysis of the aerotriangulation results, assessment of the identification and attribution of cartographic features according to image analysis and criteria defined in C-COAST, and inspection of client-specific support products such as the Chart Evaluation File (CEF) generated for NCP application. The quality control process concluded with an examination of the DCFF in shapefile format using ESRI's ArcGIS 8.3 desktop GIS software. The entire suite of project products was evaluated for compliance to CMP requirements.

NOAA nautical chart 16713, Naked Island to Columbia Bay, Prince William Sound, 2nd edition, Jan. 19/02, 1:50,000 scale, was used for the chart comparison and for creation of the CEF.

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 GC10573 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project Database
- Digital copy of DCFF GC10573 in ESRI shapefile format
- Digital copy of the PCR in Adobe PDF format
- Digital copy of the CEF in ESRI shapefile format

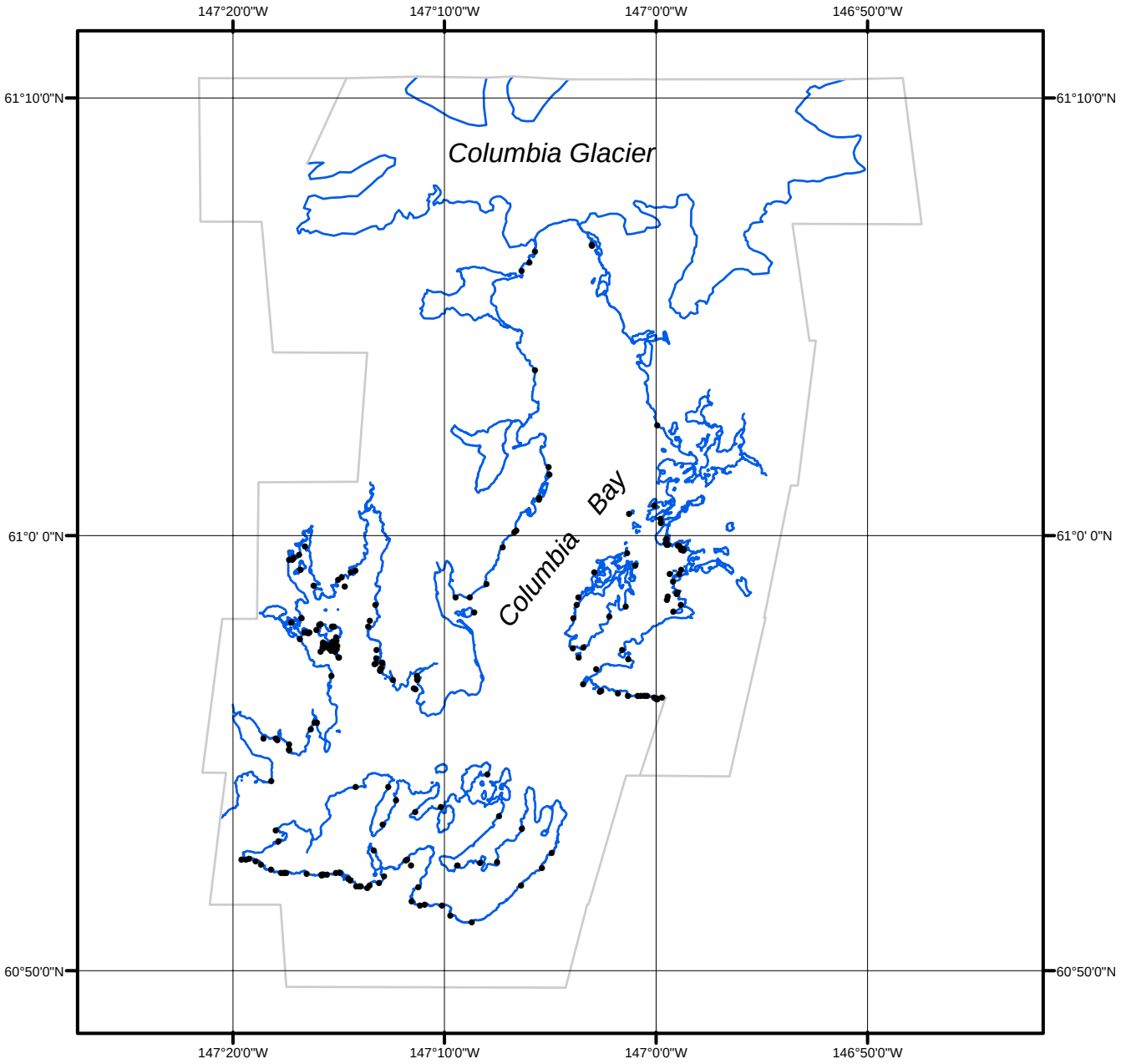
NOAA Shoreline Data Explorer

- DCFF for GC10573
- Metadata file for GC10573
- Digital copy of the PCR in Adobe PDF format

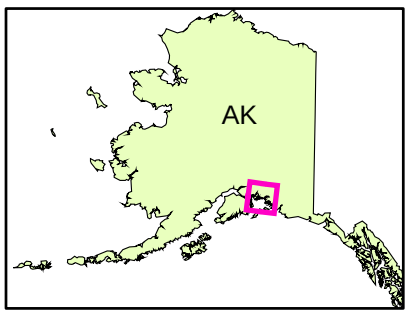
End of Report

COLUMBIA BAY

ALASKA



Overview



AK0404

GC10573