NOAA COASTAL MAPPING PROGRAM
PROJECT COMPLETION REPORT

PROJECT AK0605A

Alaska Peninsula, Thin Point to Belkofski Point

Introduction

Coastal Mapping Program (CMP) Project AK0605A provides coastal zone mapping data of the area of Cold Bay and Deer Passage on the Alaska Peninsula. This data includes coastline from the entrance of Thinpoint Lake extending east around Thin Point into and around Cold Bay and continuing east through Deer Passage, then into and around Belkofski Bay to Belkofski Point. Also included in the mapping is the Northern half of Deer Island and Fox Island. 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

This project was designed per a request from the NOAA Hydrographic Surveys Division (HSD) of the Office of Coast Survey, NOAA 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 June of 2006.

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 accomplished by Western Air Maps, Inc. personnel in November 2007. Western Air Maps, Inc. was unable to import the imagery using SOCET SET / DataThruWay Version 5.3 or 5.4, possibly related to an updated and incomplete sensor model within the software. The image files were then imported into SOCET SET, Version 5.2 using the DataThruWay, Version 5.2 software. The importing process also converted the stored and compressed files to a recognized native SOCET SET format (NITF 2.0) and included supporting data extension files consisting of previously measured sensor model parameters. Aerotriangulation procedures were completed on a Digital Photogrammetric Workstation (DPW) using the Multi-Sensor Triangulation (MST) Tool of SOCET SET. The interactive point measurement tool within MST was used to collect tie points and a simultaneous solve adjustment was performed, forecasting an average predicted horizontal circular error for all well defined points in this project area of 7 meters at the 95% confidence level. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Digital feature data compilation for this project was accomplished by Western Air Maps, Inc. personnel from November 2007 through February 2008. The digital mapping was performed using a DPW in conjunction with the SOCET SET (Version 5.4) Feature Extraction software module. Feature attributes were established from the C-COAST specification file, which provided the definition and attribution scheme for the suite of cartographic features pertinent to the CMP. Selected cartographic features were further modified with additional descriptive information to refine general classification.

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 King Cove, Alaska, and time and height offsets were applied to tidal substations in the project area. The mean tide range at these substations varied between 0.3 and 1.5 meters. The water level at the time the source images were acquired was 0.4 meters above MLLW.

Quality Control / Final Review

Western Air Maps, Inc. personnel conducted quality control interactively from January through February 2008, with a final independent review upon initial completion of feature extraction. The review process included analysis of aerotriangulation results and assessment of the identification and attribution of cartographic features 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 (version 9.2) 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 digital nautical charts were used in the comparison process:

16549, Cold Bay and Approaches, 1:80,000 scale, 15th Ed.
16549, King Cove Harbor, 1:5,000 scale, 15th Ed. (Inset)

End Products and Deliverables

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

RSD Applications Branch Archive

- Hardcopy of the Project Completion Report (PCR)
- Page-size graphic plot of GC10651 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project Database
- GC10651 in shapefile format
- Digital copy of the PCR in Adobe Acrobat PDF format
- CEF in ESRI shapefile format

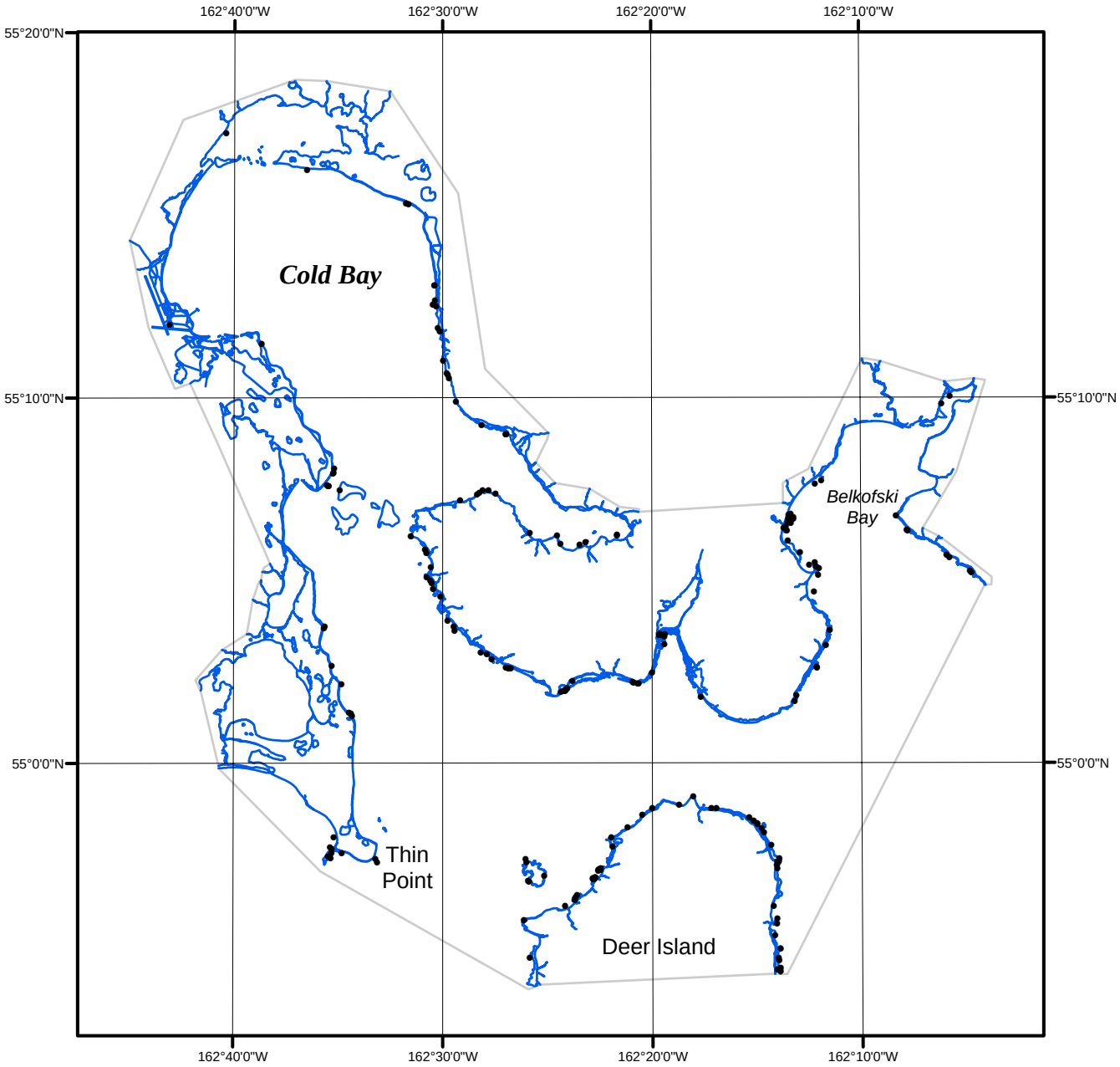
NOAA Shoreline Data Explorer

- GC10651 in shapefile format
- Metadata for GC10651
- Digital copy of the PCR in Adobe PDF format

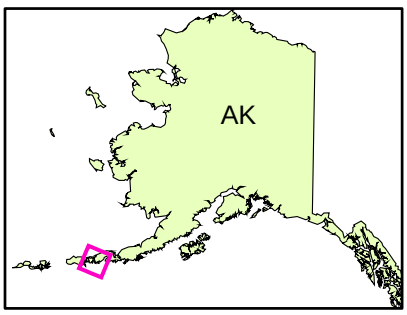
End of Report

ALASKA PENINSULA, THIN POINT TO BELKOFSKI POINT

ALASKA



Overview



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