NOAA COASTAL MAPPING PROGRAM
PROJECT COMPLETION REPORT

PROJECT AK1103B

Southern Tlevak and Kaigani Straits, Alaska

Introduction

NOAA Coastal Mapping Program (CMP) Project AK1103B provides coastal zone mapping data for the portion of Tlevak Strait south of McFarland Islands as well as Kaigani Strait in its entirety. Project AK1103B is a subproject of a larger project, AK1103, which extends northward to Tlevak Narrows. The Geographic Cell (GC) may be used to complement the Nautical Charting Program (NCP) as well as geographic information systems (GIS) for a variety of coastal zone management applications. Project survey data is referenced to the North American Datum of 1983 (NAD 83).

Project Design

Project AK1103B was designed per a request from the Hydrographic Surveys Division (HSD) of the Office of Coast Survey, NOAA, for GIS 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 May 2005 and April and September 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 originally accomplished by Western Air Maps, Inc. personnel in October 13, 2011. The image files were imported into SOCET SET, Version 5.5.0 using the DataThruWay, Version 5.5.0 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 using the Multi-Sensor Triangulation (MST) Tool 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 this project area of 7 meters at the 95% confidence level.

Compilation

Digital feature data compilation for this project was accomplished by Western Air Maps, Inc. personnel in March, 2012. The Feature Extraction tool of SOCET SET was used during the digital feature data compilation phase of project completion. 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 10.0 meters at the 95% confidence level. Tidal information was obtained from the NOS reference tide station at Sitka, AK, and time and height offsets were applied to tidal substations in the project area. The water level at the times the source images were acquired varied between 0.5 and 2.7 meters above mean lower low water (MLLW). The height of mean high water (MHW) in the project area is approximately 3.6 meters above MLLW.

Quality Control / Final Review

Western Air Maps, Inc. personnel conducted quality control (QC) tasks during all phases of project completion. The final QC review was completed in March of 2012. 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 9.3.1 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 chart was used in the comparison process:

14408, Central Dall Island and Vicinity, 1:40,000 scale, 8th Ed. Jun./04
14409, Southern Dall Island and Vicinity, 1:40,000 scale, 10th Ed. Jul./02
14431, North End of Cordova Bay & Hetta Inlet, 1:40,000 scale, 11th Ed. Mar./04

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 GC10909 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project database
- GC10909 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

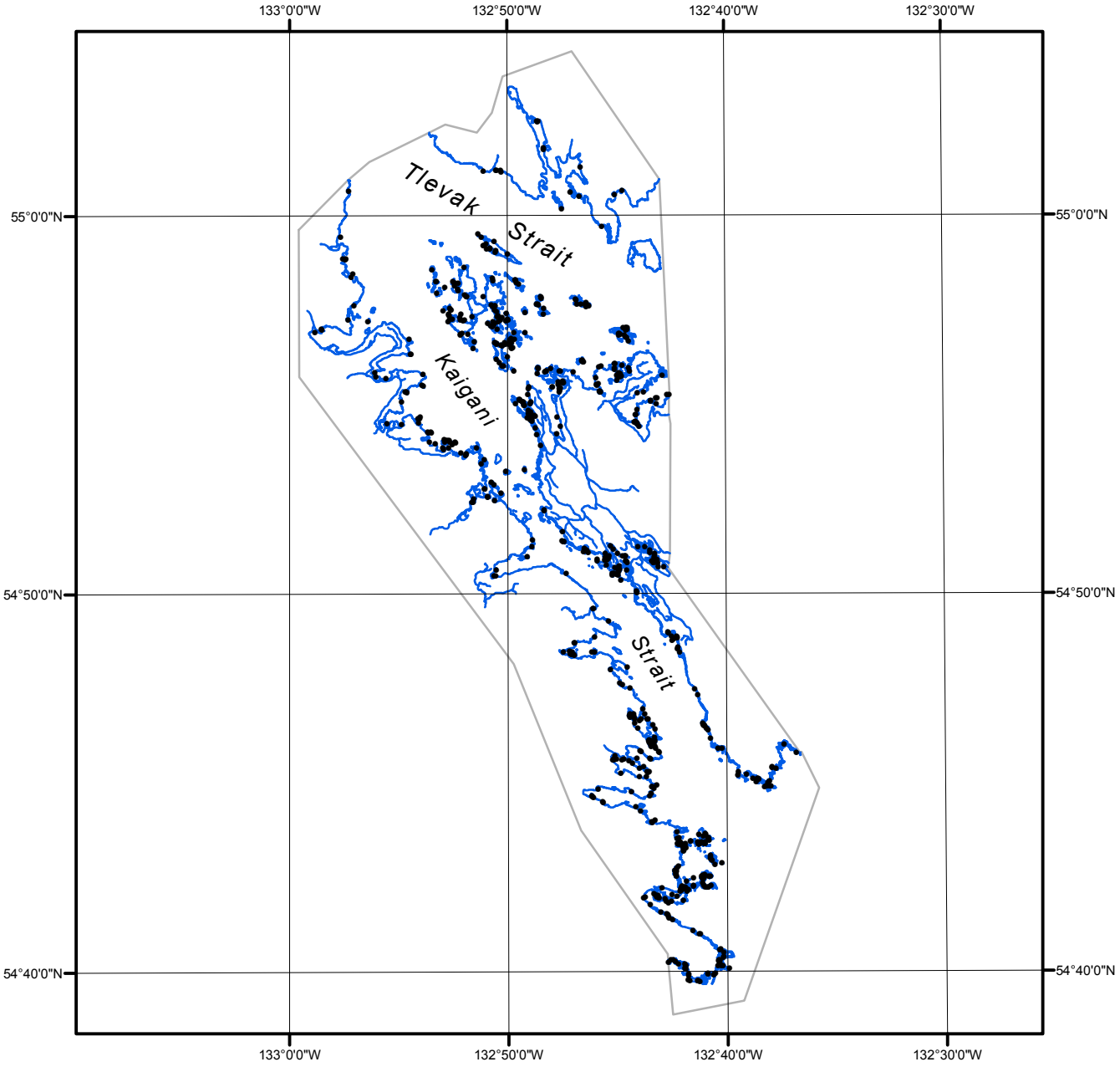
NOAA Shoreline Data Explorer

- GC10909 in shapefile format
- Metadata file for GC10909
- Digital copy of the PCR in Adobe PDF format

End of Report

SOUTHERN TLEVAK AND KAIGANI STRAITS

ALASKA



Overview

AK1103B

GC10909