NOAA COASTAL MAPPING PROGRAM
PROJECT COMPLETION REPORT

PROJECT AK0504

Keku Strait, Southeast Alaska

Introduction

Coastal Mapping Program (CMP) Project AK0504 provides coastal zone mapping data of the Keku Strait in southeastern Alaska. This data extends from Point Hamilton on Kupreanof Island and Point Camden on Kuiu Island to Entrance Island, Horseshoe Island, Big John Bay, High Island, Mud Bay, Summit Island, Devil's Elbow, Eagle Island, Tunehean Creek, around the SE point of Kuiu Island into Three Mile Arm, Monte Carlo Island, Skiff Island, to Point Barre. The digital cartographic feature file may be used in support of the NOAA Nautical Charting Program (NCP) and coastal zone management activities. Project survey data is referenced to the North American Datum of 1983 (NAD 83).

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 June and August, 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 accomplished by Western Air Maps, Inc. personnel in May, 2005. The image files were imported into SOCET SET, Version 5.0 using the DataThruWay, Version 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 of MST was used to collect tie points and it was determined from running the simultaneous solve adjustment program that the average predicted horizontal circular error for all well defined points in this project area is 7 meters at the 95% confidence level.

Compilation

Digital feature data compilation for this project was accomplished by Western Air Maps, Inc. personnel from May though early June, 2005. Additional QC comments and clarification of ledge, reef and foul ground identification and attribution necessitated a visit to NOAA for review of compilation specifications with NOAA personnel and several iterations of changes based on NOAA comments from June through October, 2005. The Feature Extraction tool of SOCET SET

was used during the digital cartographic feature data compilation phase of project completion. 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. 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 Ketchikan, AK, and time and height offsets were applied to tidal substations in the project area. The mean tide range at these substations varied between 3.1 and 4.0 meters. The water level at the times the source images were acquired varied between 0.5 and 3.4 meters above MLLW.

Quality Control / Final Review

Western Air Maps, Inc. personnel conducted a final review interactively between November 2005 and January 2006, and independently upon initial completion of feature extraction. The process included a review of the aerotriangulation results, a review of the identification and attribution of cartographic features based on image analysis and criteria defined in C-COAST, and a review of client specific support products such as the Chart Evaluation File (CEF) generated for NCP application. All products were evaluated for compliance to CMP requirements. The last step in the quality control process was the evaluation of the DCFF contents focusing on the integrity of topology once the DCFF was converted into shapefile format. The following nautical charts were used for chart comparison purposes:

CHART	SCALE	ED.	DATE
17360 Etolin I. to Midway I. including Sumner Strait	1:217,828	33rd	May, 2003
17368 Keku Strait, Northern Part, including Saginaw & Security Bays and Port Camden	1:40,000	6th	Aug, 1997
17372 Keku Strait, Monte Carlo to Entrance island	1:20,000	11th	Sept, 2003

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 GC10584 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project Database
- Digital copy of DCFF GC10584 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- Chart Evaluation File in shapefile format

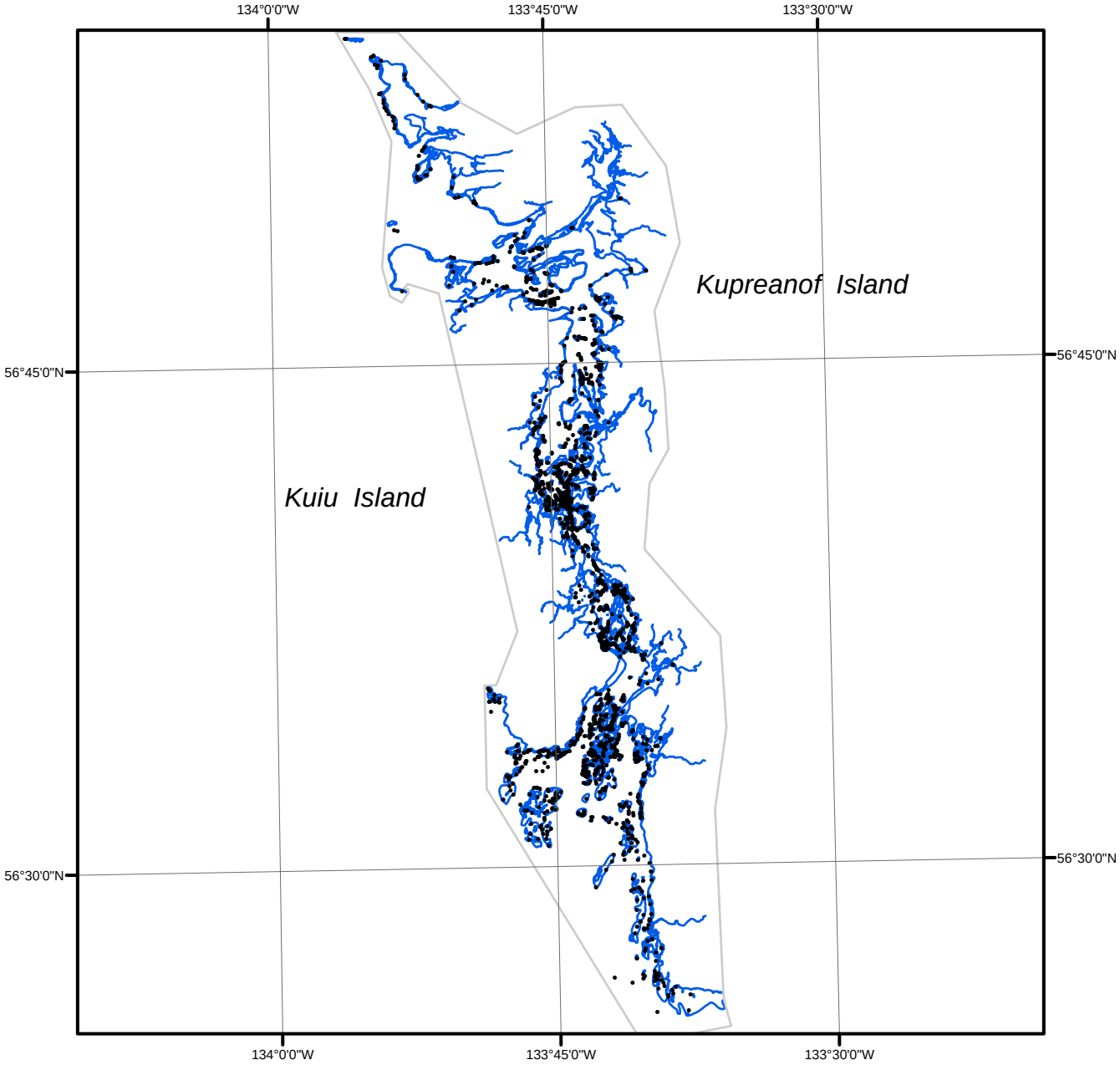
NOAA Shoreline Data Explorer

- DCFF for GC10584
- Metadata file for GC10584
- Digital copy of the PCR in Adobe PDF format

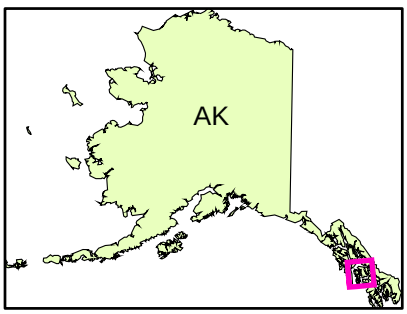
End of Report

KEKU STRAIT

ALASKA



Overview



AK0504

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