

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK0902B-CM-T

Copper River Delta, Alaska

Introduction

Coastal Mapping Program (CMP) Project AK0902B-CM-T provides coastal zone mapping data for the Copper River Delta in the Gulf of Alaska. This data extends from Glacier River to Point Martin and includes the mouth of the Copper River. The Geographic Cell (GC) may be used in support of the NOAA Nautical Charting Program (NCP) and coastal zone management activities.

Project Design

This project was designed by the Requirements Branch (RB) of the Remote Sensing Division (RSD). 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 April 2006, September and October 2009, and monoscopic imagery acquired July 2009.

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 July, 2009. The image files were imported into SOCET SET, Version 5.4.2 using the DataThruWay, Version 5.4.2 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 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. 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 July, 2009 through July, 2010. Western Air Maps visited NOAA for review of compilation specifications with NOAA personnel to discuss the generalization of braided streams and other inland portions of the project in August of 2009. After the meeting, NOAA decided that many of the braided streams and inland portions of this project could be generalized at a scale of 1:80,000 instead of the usual 1:20,000 scale as specified in the Statement of Work. A shapefile depicting the level of generalization of areas (1:80,000) was then provided by NOAA. 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 Cordova, Alaska and time and height offsets were applied to tidal substations in the project area. The mean tide range at these substations varied between 2.3 and 3.6 meters. The water level at the times the source images were acquired varied between 0.2 and 3.3 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 by RSD personnel in July 2010. 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 9.2 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 nautical charts were used in the comparison process:

16013, Cape St Elias to Shumagin Islands, 1:969,761 scale, 31st Ed., Jun. /15

16723, Controller Bay, 1:100,000 scale, 16th Ed., Sep. /14

End Products and Deliverables

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

Remote Sensing Division Electronic Data Library

- Project database
- Project Completion Report (PCR)
- GC10785 in shapefile format
- Chart Evaluation File in shapefile format

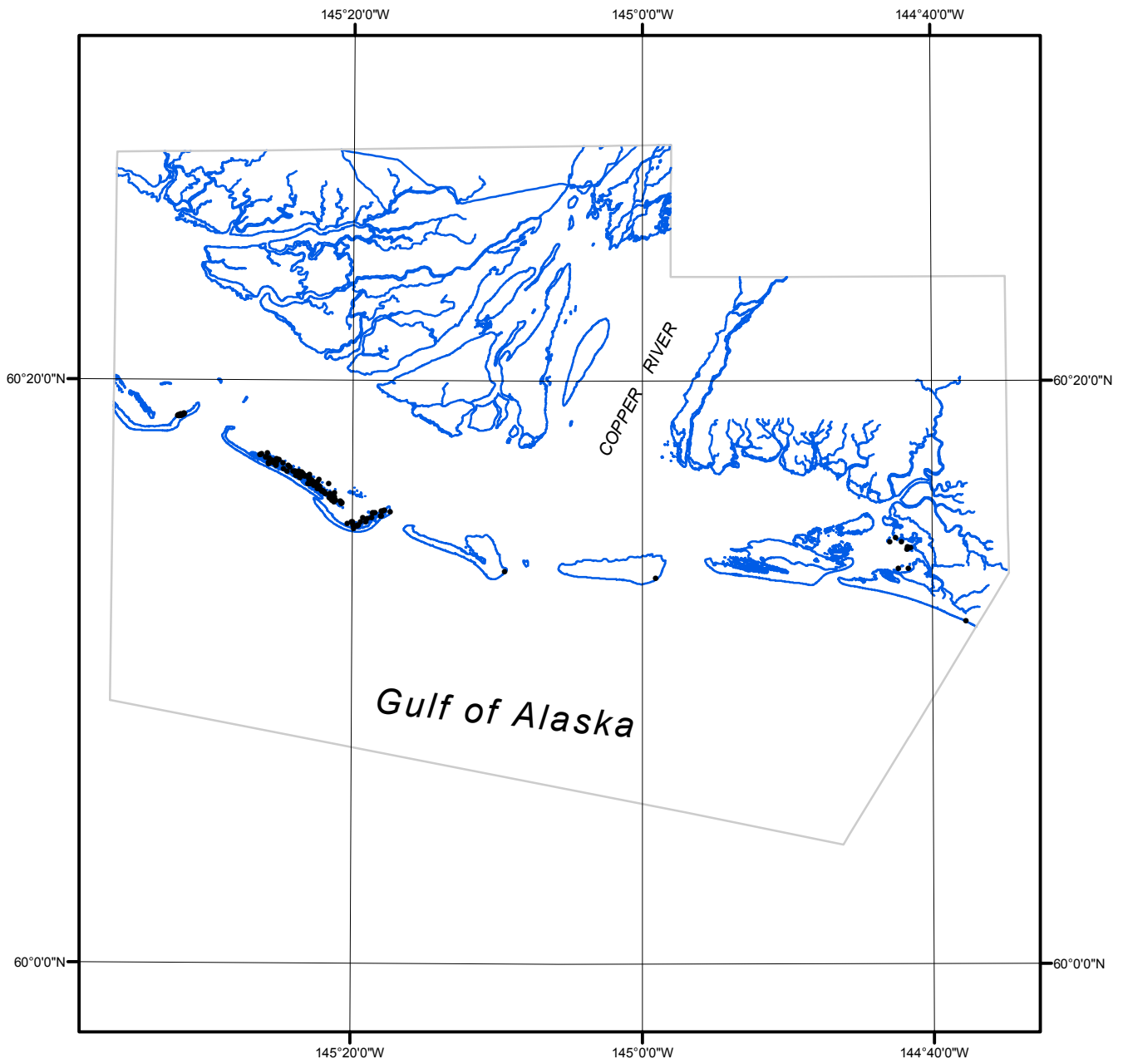
NOAA Shoreline Data Explorer

- GC10785 in shapefile format
- Metadata file for GC10785
- Digital copy of the PCR

End of Report

COPPER RIVER DELTA

ALASKA



Overview



AK0902B-CM-T

GC10785