

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK0601A

Behm Canal South, Alaska

Introduction

Coastal Mapping Program (CMP) Project AK0601A, which is a subproject of AK0601 provides coastal zone mapping data of Behm Canal in southeastern Alaska. This data covers the southern portion of Behm Canal, Revillagigedo Channel and Boca de Quadra inlet. The Geographic Cell (GC) may be used in support of the NOAA Nautical Charting Program (NCP) as well as geographic information systems (GIS) and coastal zone management activities.

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 August of 1990, January of 1991, August of 1997 and May of 2003.

Note that there is a gap in coverage between the southern (AK0601A) and northern (AK0601B) subprojects of CMP Project AK0601, due to the central portion of the requested area being covered by CMP Project CM-8314, which was found adequate to meet project requirements.

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 February of 2007. The image files were imported into SOCET SET, Version 5.3 using the DataThruWay, Version 5.3 software extension. The importing process also converted the stored and compressed files to a recognized native SOCET SET format the National Imagery Transmission 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), which is a configuration of computer hardware, modular software components and other associated peripheral devices 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 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 in June of 2007. The digital mapping was performed using a DPW in conjunction with the SOCET SET Feature Extraction software module. 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 Ketchikan, AK, and time and height offsets were applied to tidal substations in the project area. The difference between MHW and MLLW at the Ketchikan reference tide station is 4.4 meters. The mean tide range at these substations varied between 3.6 and 4.0 meters. The water level at the times the source images were acquired varied between 0.82 and 3.75 meters above MLLW.

Quality Control / Final Review

Western Air Maps, Inc. personnel conducted quality control interactively from May through June of 2007. 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 9.1 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 charts were used in the comparison process:

17420 Hecate Strait to Etolin Island, 1:229,376, 27th Ed.

17424 Eastern Part of Behm Canal, 1:80,000, 7th Ed.

17427 Portland Canal, Dixon Entrance To Hattie Island, 1:80,000, 7th Ed.

17428 Revillagigedo Channel, Nichols Passage and
Tongass Narrows, 1:40,000, 9th Ed.

17434 Revillagigedo Channel, 1:80,000, 13th Ed.

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 GC10666 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project database
- GC10666 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

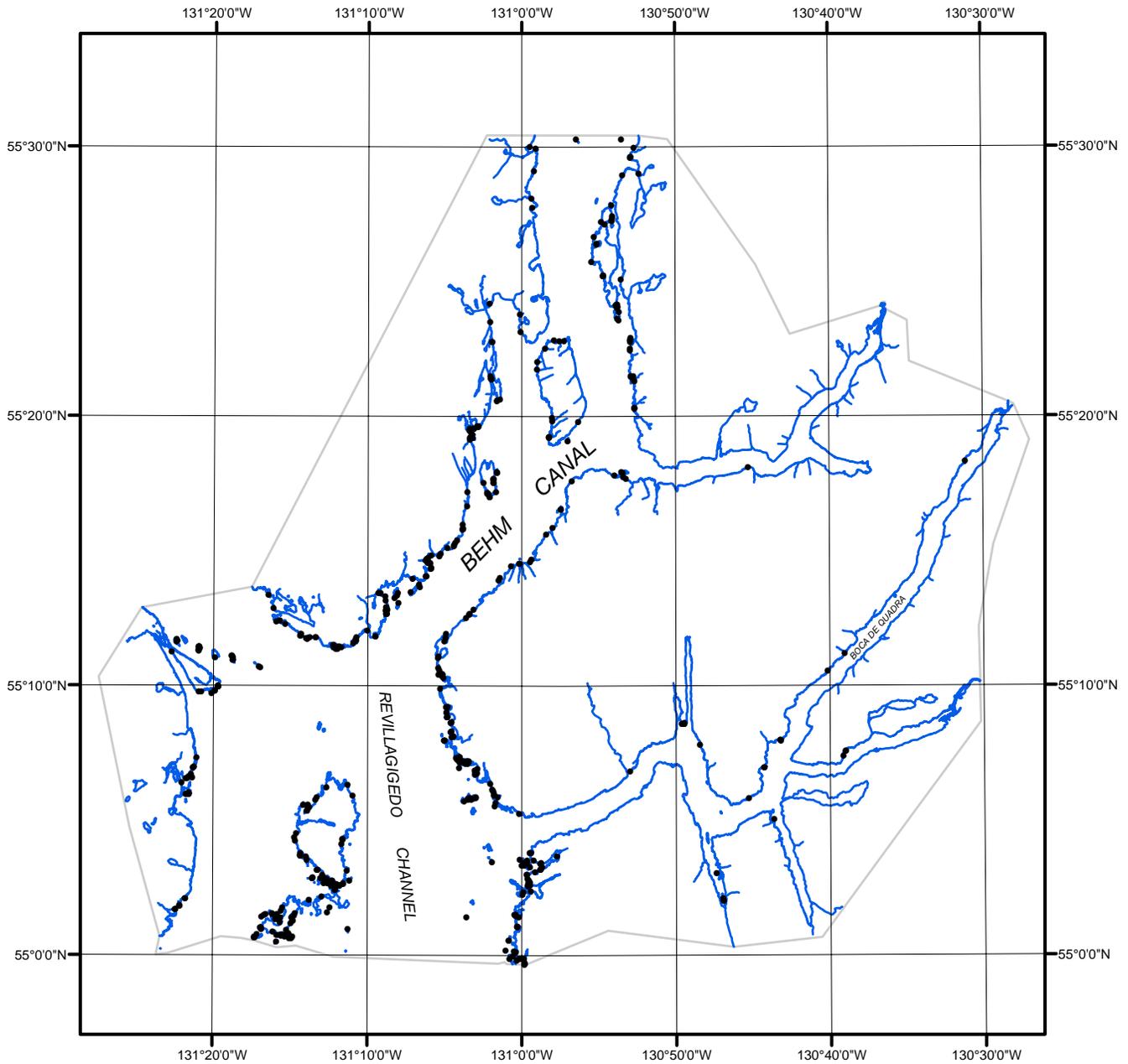
NOAA Shoreline Data Explorer

- GC10666 in shapefile format
- Metadata file for GC10666
- Digital copy of the PCR in Adobe PDF format

End of Report

BEHM CANAL SOUTH

ALASKA



Overview



AK0601A

GC10666