

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK0605B

Southern Deer Island and Sandman Reefs Alaska Peninsula

Introduction

Coastal Mapping Program (CMP) Project AK0605B provides coastal zone mapping data of the Alaska Peninsula. This data includes the southern half of Deer Island, Sandman Reefs and surrounding smaller islands. 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 May 2000, March 2002 and April 2002.

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 2008. The image files were imported into SOCET SET, Version 5.2 using the DataThruWay, Version 5.2 software. The importing process 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 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 May 2008 through July 2008. The digital mapping was performed using a DPW in conjunction with the SOCET SET (Version 5.4) 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 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 0.8 and 1.4 meters. The water level at the times the source images were acquired varied between -0.4 and 1.4 meters above MLLW.

Quality Control / Final Review

Western Air Maps, Inc. personnel conducted quality control interactively from June through July, 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 nautical charts were used in the comparison process:

16547, Sanak Island and Sandman Reefs, 1:81,326 scale, 9th Ed.

16549, Alaska Peninsula, Cold Bay and Approaches, 1:80,000 scale, 15th 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 GC10652 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project Database
- GC10652 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

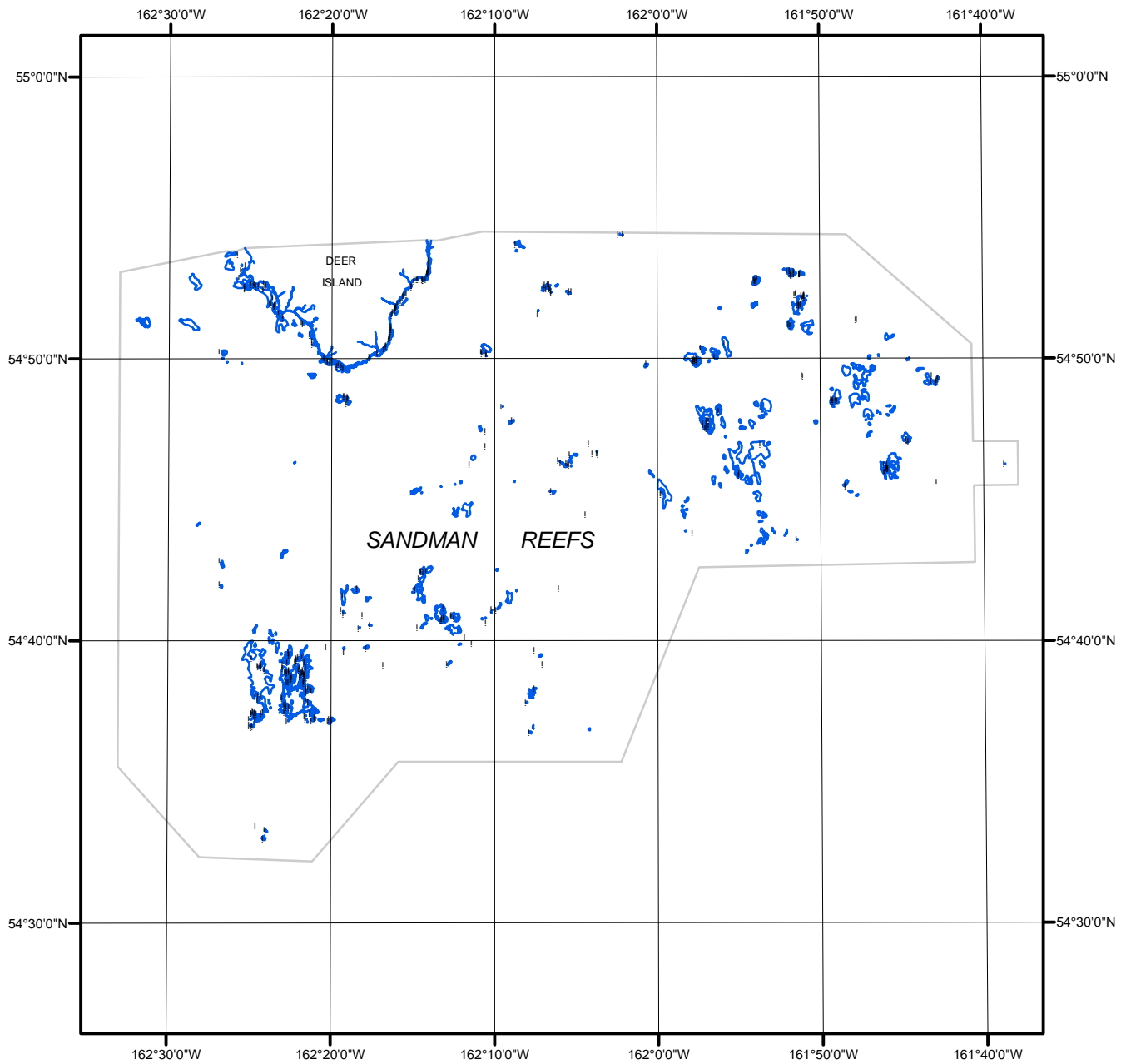
NOAA Shoreline Data Explorer

- GC10652 in shapefile format
- Metadata for GC10652
- Digital copy of the PCR in Adobe PDF format

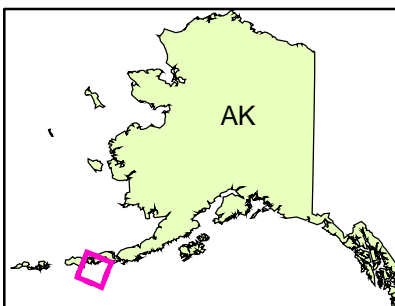
End of Report

SOUTHERN DEER ISLAND AND SANDMAN REEFS

ALASKA



Overview



AK0605B

GC10652