NOAA COASTAL MAPPING PROGRAM
PROJECT COMPLETION REPORT

PROJECT AK0503

Gulf of Esquibel, Alaska

Introduction

Coastal Mapping Program (CMP) Project AK0503 provides coastal zone mapping data of the area around the Gulf of Esquibel. This data includes coastline of portions of Noyes Island, San Fernando Island, Heceta Island and Prince of Wales Island and all of Lulu Island and San Juan Bautista Island. The project also covers numerous smaller islands in the vicinity of these larger islands.

The digital cartographic feature file 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) 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, 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 December, 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. 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 December, 2005 through January, 2006. 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 meters at the 95% confidence level. Tidal information was obtained from the NOS tide station at Sitka, AK, and time and height offsets were applied to tidal substations in the project area. The mean tide range at these substations varied between 2.4 and 2.6 meters. The water level at the times the source images were acquired varied between 0.0 and 2.7 meters above MLLW. The Approximate Depth Contour representing the MLLW line was compiled in that portion of the project area covered by the source imagery acquired at the MLLW tide stage.

Quality Control / Final Review

Western Air Maps, Inc. personnel conducted a final review interactively between January 2006 and February 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. The entire suite of project products was 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.

Comparisons of the largest scale NOAA nautical charts with imagery and compiled project data resulted in creation of the Chart Evaluation File (CEF). The following nautical charts were used in the comparison process:

CHART		SCALE	ED.	DATE
17400	Dixon Ent. to Chatham Strait	1:229,376	16th	June 2001
17404	San Christoval Channel to Cape Lynch	1:40,000	12th	June 2000
17405	Ulloa Channel to San Christoval Channel	1:40,000	14th	October 2000
17405	Continuation to the Head of Big Salt Lake (Inset)	1:40,000	14th	October 2000
17405	Shelter Cove (Inset)	1:10,000	14th	October 2000
17405	North Entrance (Inset)	1:10,000	14th	October 2000
17406	Baker, Noyes and Lulu Is. and Adjacent Waters	1:40,000	7th	February 2004

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 GC10583 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project Database
- Digital copy of DCFF GC10583 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

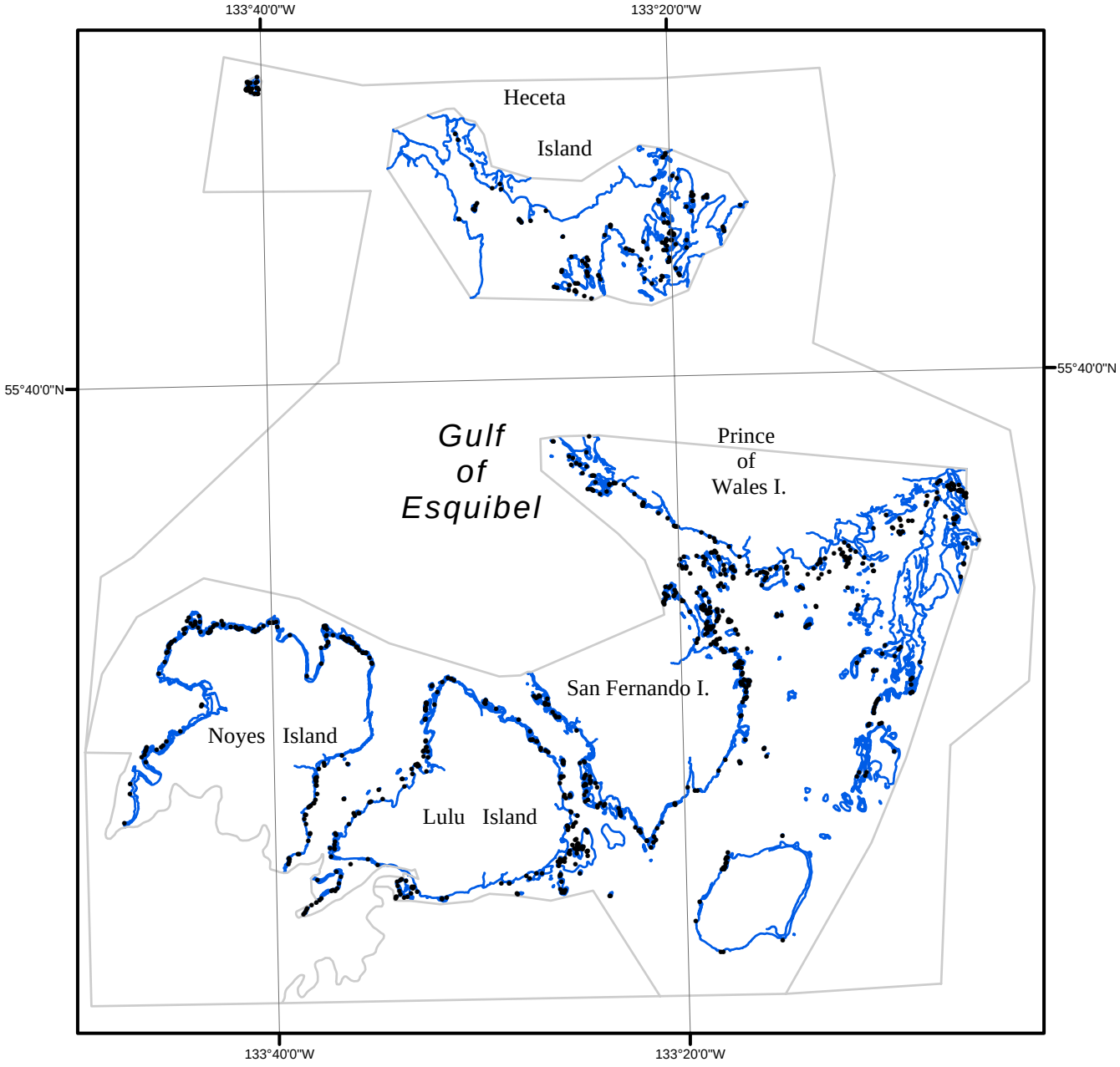
NOAA Shoreline Data Explorer

- DCFF for GC10583
- Metadata file for GC10583
- Digital copy of the PCR in Adobe PDF format

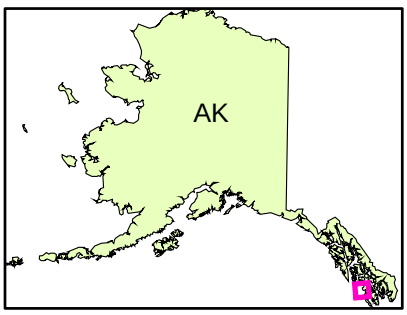
End of Report

GULF OF ESQUIBEL

ALASKA



Overview



AK0503

GC10583