NOAA COASTAL MAPPING PROGRAM
PROJECT COMPLETION REPORT

PROJECT AK0602B

Northern Bucareli Bay, Alaska

Introduction

Coastal Mapping Program (CMP) Project AK0602B provides coastal zone mapping data of the northern shore of Bucareli Bay, Alaska. Included in the project coverage are Baker Island, the southern shore of Klawock Inlet, Port St. Nicholas, the northern extremity of San Fernando Island and the southern shore of Noyes Island. 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 GIS 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 from May of 1993, May of 1997 and May of 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 September of 2006. The image files were imported into SOCET SET, Version 5.3 using the DataThruWay, Version 5.3 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 (DPW) 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 mid-September through November of 2006. 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 suite of cartographic features pertinent to the CMP. Selected cartographic 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 Ketchikan, Alaska, and time and height offsets were applied to tidal substations in the project area. The mean tide range at these substations varied between 1.5 and 2.5 meters. The water level at the times the source images were acquired varied between 0.008 and 1.5 meters above MLLW.

Imagery Date	Tidal Range	Tide Stage (MLLW)	10% of MLLW
May 1993	1.5 meters	1.5 meters	No
May 1997	2.2 meters	0.6 meters	No
May 2003	2.5 meters	0.0 meters	Yes

Quality Control / Final Review

Western Air Maps, Inc. personnel conducted quality control interactively from September through February of 2007 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 digital feature data within the Geographic Cell (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 9.1) 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 the creation of the Chart Evaluation File (CEF). The following digital nautical charts were used in the comparison process:

CHART	SCALE	ED.	DATE
17404 San Christoval Channel to Cape Lynch	1:40,000	12th	Jun. /00
17405 Ulloa Channel to San Christoval Channel	1:40,000	14th	Oct. /00
17406 Baker, Noyes, and Lulu Islands	1:40,000	7th	Feb. /04

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 GC10633 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project database
- GC10633 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

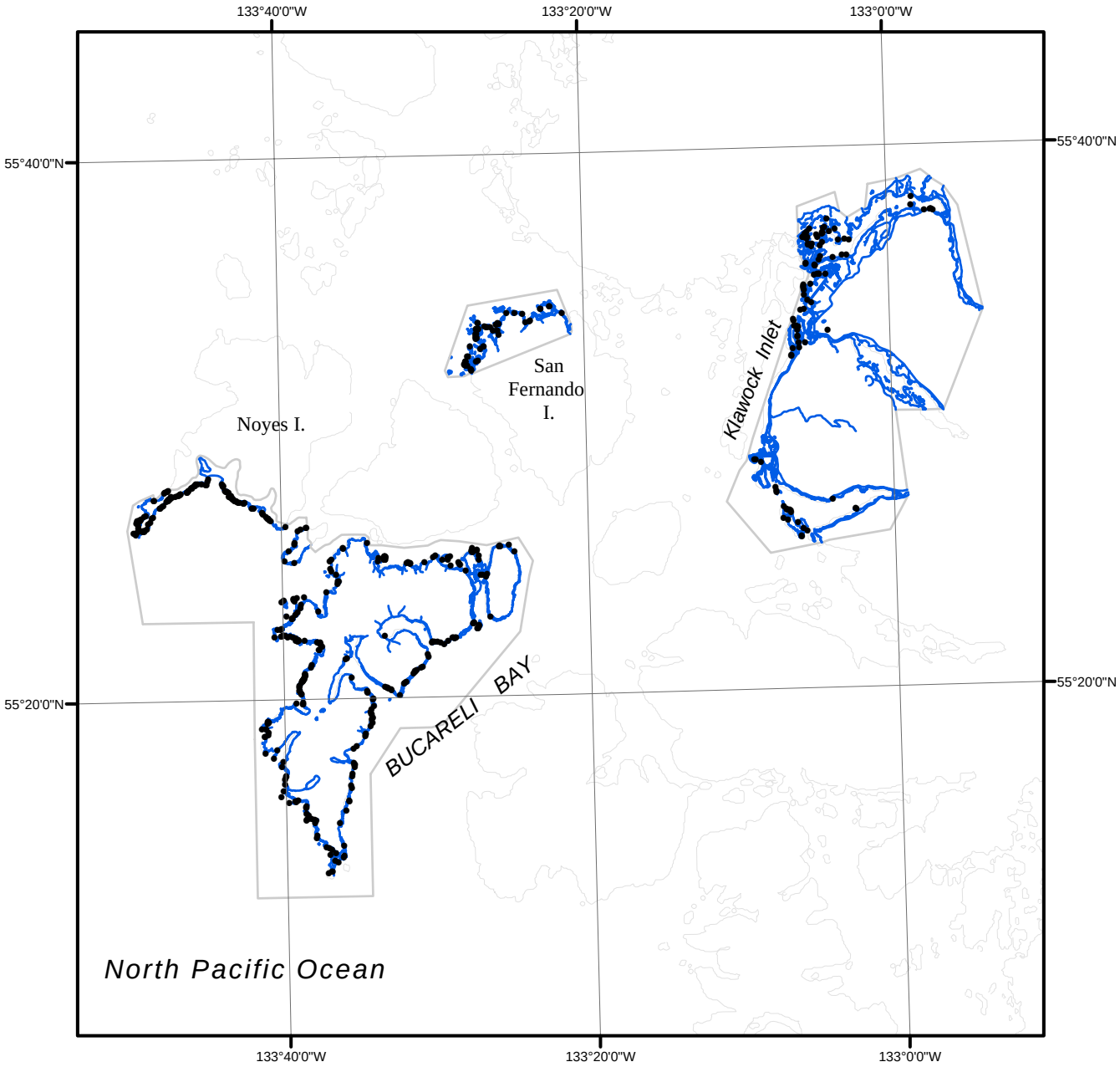
NOAA Shoreline Data Explorer

- GC10633 in shapefile format
- Metadata file for GC10633
- Digital copy of the PCR in Adobe PDF format

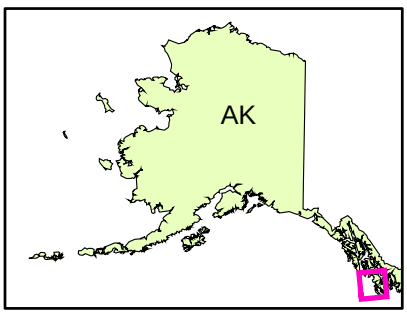
End of Report

NORTHERN BUCARELI BAY

ALASKA



Overview



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