

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK0604A

Big Koniuji Island, Eastern Shumagin Islands, Alaska

Introduction

NOAA Coastal Mapping Program (CMP) Project AK0604A provides digital shoreline data for Big Koniuji Island and several smaller surrounding islands. This is a sub-project of CMP Project AK0604, which covers the entire eastern Shumagin Islands, Alaska. The Geographic Cell (GC) may be used to compliment the Nautical Charting Program (NCP) as well as geographic information systems (GIS) for a variety of coastal zone management applications.

Project Design

Project AK0604A 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 October and November, 1999. In addition, Western Air Maps received the needed time stamps in mid-October, 2006.

Field Operations

Routine CMP field operations did not apply for this project based on the origin of the project source data.

Aerotriangulation

Western Air Map, Inc. personnel accomplished the aerotriangulation task in late October, 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 November, 2006 through February, 2007. The digital mapping was performed using a DPW in conjunction with the SOCET SET Feature Extraction software module. 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. 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 Sand Point, Alaska, and time and height offsets were applied to tidal substations in the project area. The mean tide range at this substation was 1.1 meters. The water level at the time the source images was acquired at 1.2 meters above MLLW.

<u>Imagery Date</u>	<u>Tidal Range</u>	<u>Tide Stage (MLLW)</u>	<u>10% of MLLW</u>
October 1999	1.06 meters	1.24 meters	No

Quality Control / Final Review

Western Air Maps, Inc. personnel conducted quality control interactively from September through October, 2006, 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 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 creation of the Chart Evaluation File (CEF). The following nautical chart was used in the comparison process:

<u>CHART</u>	<u>SCALE</u>	<u>ED.</u>	<u>DATE</u>
16540_1 Shumagin Islands to Sanak Islands, Alaska	1:300,000	11 th	Mar. /98
16553_1 Shumagin Islands, Nagai I. to Unga Island, Alaska	1:80,000	4 th	Mar. /04
16556_1 Chiachi Island to Nagai Island, Alaska	1:80,000	4 th	Nov. /02

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 GC10647 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

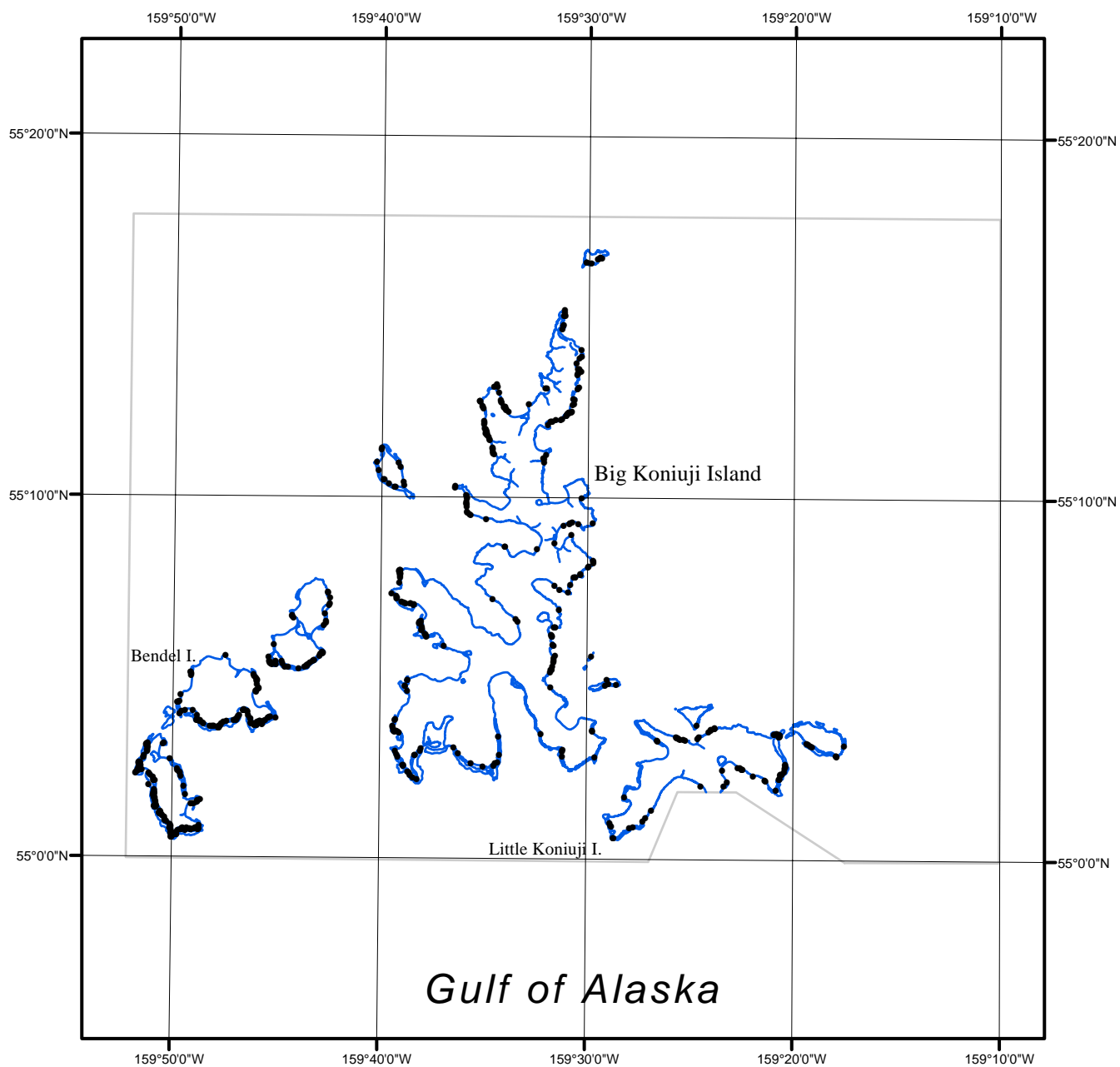
- Project database
- GC10647 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

NOAA Shoreline Data Explorer

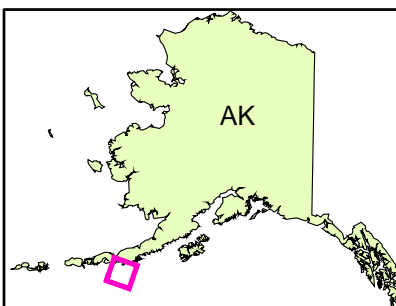
- GC10647 in shapefile format
- Metadata file for GC10647
- Digital copy of the PCR in Adobe PDF format

End of Report

BIG KONIUJI ISLAND, EASTERN SHUMAGIN ISLANDS, ALASKA



Overview



AK0604A

GC10647