

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK1012C-CM-T

Kenai Peninsula, Nuka Passage to McCarty Fiord, Alaska

Introduction

NOAA Coastal Mapping Program (CMP) Project AK1012C-CM-T provides highly accurate digital shoreline data for a portion of southern Kenai Peninsula from Nuka Passage to McCarty Fiord, Alaska, including North Arm, Beauty Bay, and Harrington Point. Project AK1012C-CM-T is a subproject of AK1012-CM-T, which was planned to extend from Chugach Bay to Resurrection Bay. The Geographic Cell (GC) may be used to complement the Nautical Charting Program (NCP) as well as geographic information systems (GIS) for a variety of coastal zone management applications.

Project Design

Project AK1012-CM-T was designed in response to the need for chart updates along the southern shore of Kenai Peninsula. Based on 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 project AK1012C-CM-T included sources acquired during July 2007.

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 Woolpert in June 2013, utilizing a Digital Photogrammetric Workstation (DPW). The image files were imported into SOCET SET (SS, version 5.6) using the DataThruWay (version 5.6) software module. Stored compressed files were converted to the National Imagery Transmission Format (NITF 2.0) during the import process with headers and metadata. The Multi-Sensor Triangulation (MST) module of SS was used for Aerotriangulation procedures. Image points were collected manually within MST. A simultaneous solve adjustment was then performed, forecasting an average predicted horizontal circular error for all well-defined points of 9 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 AK1012C-CM-T was accomplished by Woolpert personnel January 2014, using a DPW in conjunction with the SS Feature Extraction software module. 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, was used for feature attribution compliance. Selected cartographic features were further modified with additional descriptive information to refine general classification.

Cartographic features were compiled to meet a horizontal accuracy of 12 meters at the 95% confidence level. Verified tide level data was obtained from the NOS reference tide station at Seward, Resurrection Bay, Alaska and the time/height corrections were applied to the Nuka Passage subordinate station. The tide level in the project area for July 2007 imagery was determined to be 0.7 meters above MLLW. The relative difference between the MHW datum and the MLLW datum at this Nuka Passage station is approximately 3.37 meters.

Quality Control / Final Review

Quality control tasks were conducted during all phases of project completion by senior personnel of Woolpert. The review process included an analysis of the aerotriangulation results and an assessment of the identification and attribution of cartographic features within the Geographical 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 10) software. All project data was evaluated for compliance to CMP requirements.

Comparisons of the largest scale NOAA nautical chart 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:

- Chart 16681, Seal Rocks to Gore Point, 1:83,074 scale, 10th Ed., Jul. 2002

End Products and Deliverables

The following specifies the location and identification of end products generated during the completion of this project:

Remote Sensing Division Electronic Data Library

- Project database
- GC11000 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

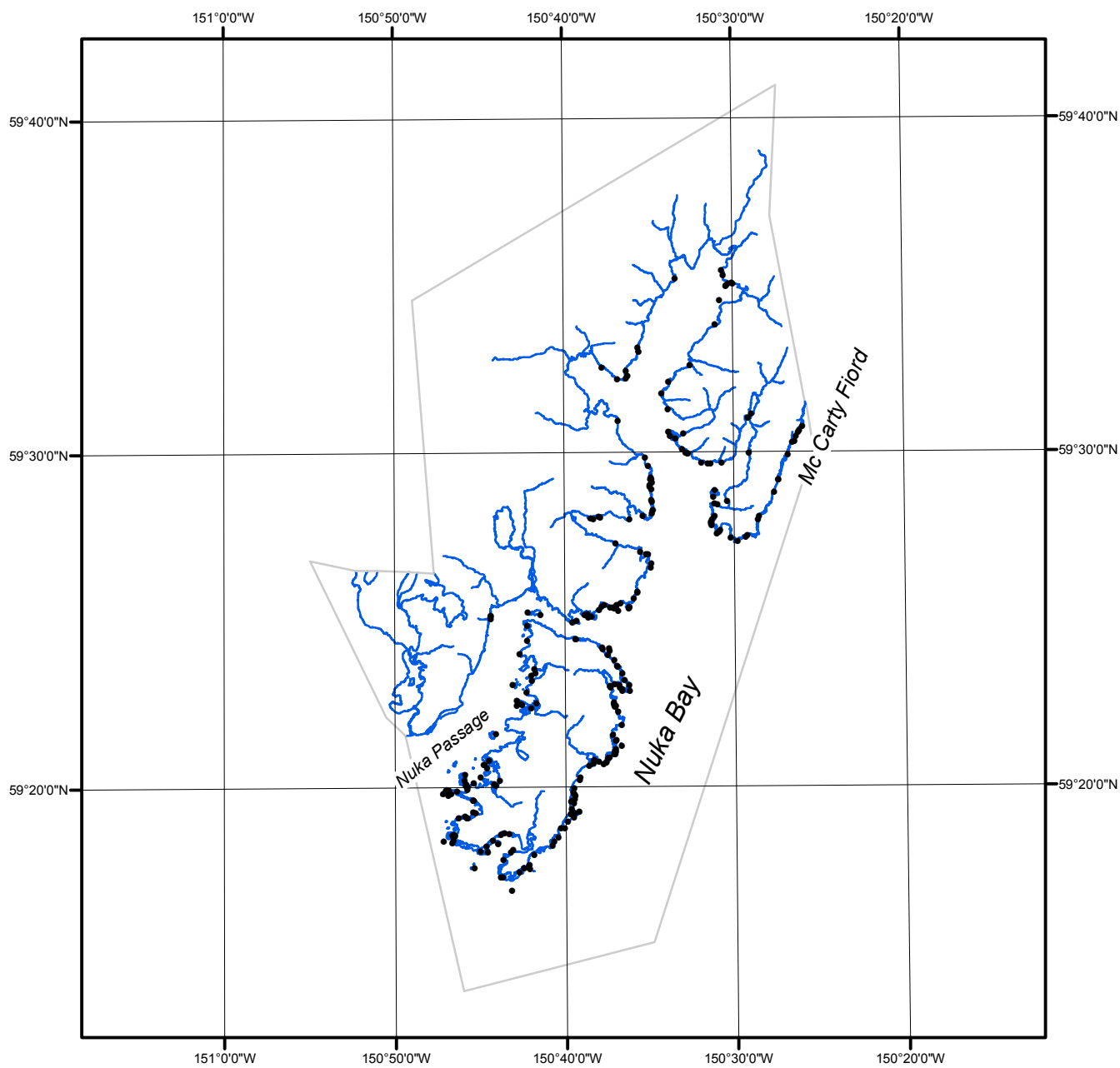
NOAA Shoreline Data Explorer

- GC11000 in shapefile format
- Metadata file for GC11000
- Digital copy of the PCR in Adobe PDF format

End of Report

KENAI PENINSULA, NUKA PASSAGE TO MCCARTY FIORD

ALASKA



Overview



AK1012C-CM-T

GC11000