

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK1013A-CM-T

Nakat Bay to Tongass Passage, Alaska

Introduction

NOAA Coastal Mapping Program (CMP) Project AK1013A-CM-T provides highly accurate digital shoreline data for a portion of Dixon Entrance from Nakat Bay to Tongass Passage, Alaska. The project includes coverage of Harry Bay, Nakat Inlet, Nakat Harbor, Kanagunut Island, and Sitklan Island. Project AK1013A-CM-T is a subproject of a larger project AK1013-CM-T, which extends from Nakat Bay to Portland Inlet as far as Somerville Island. 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 AK1013-CM-T was initially designed in response to a request from the Marine Charting Division (MCD) of the Office of Coast Survey, NOAA. Based on an analysis of project requirements, and as a result 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 July 2006 and September 2006.

Field Operations

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

Aerotriangulation

Aerotriangulation tasks were accomplished by RSD personnel in February 2014. The image files were imported into SOCET SET (ver. 5.6) on a Digital Photogrammetric Workstation (DPW). Aerotriangulation procedures were completed using the Multi-Sensor Triangulation (MST) module within SOCET SET. The Interactive Point Measurement tool within MST was used to measure the images and a simultaneous solve adjustment was then performed, forecasting an average predicted horizontal circular error for all well-defined points in this project area of 3.8 meters at the 95% confidence level. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation for this project was conducted by RSD personnel in April 2016 using a DPW in conjunction with the Feature Extraction module within SOCET SET (ver. 5.6). 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 6.8 meters at the 95% confidence level. Tidal information was obtained from the NOS reference tide station at Ketchikan, AK, and time and height offsets were applied to tidal substation Nakat Harbor in the project area. The water level at the times the source images were acquired varied between -0.2 meters below and 3.1 meters above MLLW. The height of mean high water datum at the Nakat Harbor substation is approximately 4.2 meters above MLLW.

Quality Control / Final Review

Quality control (QC) tasks were completed by RSD personnel in May 2016. 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 10.2.2 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 chart was used in the comparison process:

17437, Portland Inlet to Nakat Bay, 1:40,000 scale, 9th Ed., Oct. 2004

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
- Project Completion Report (PCR)
- GC11052 in shapefile format
- CEF in shapefile format

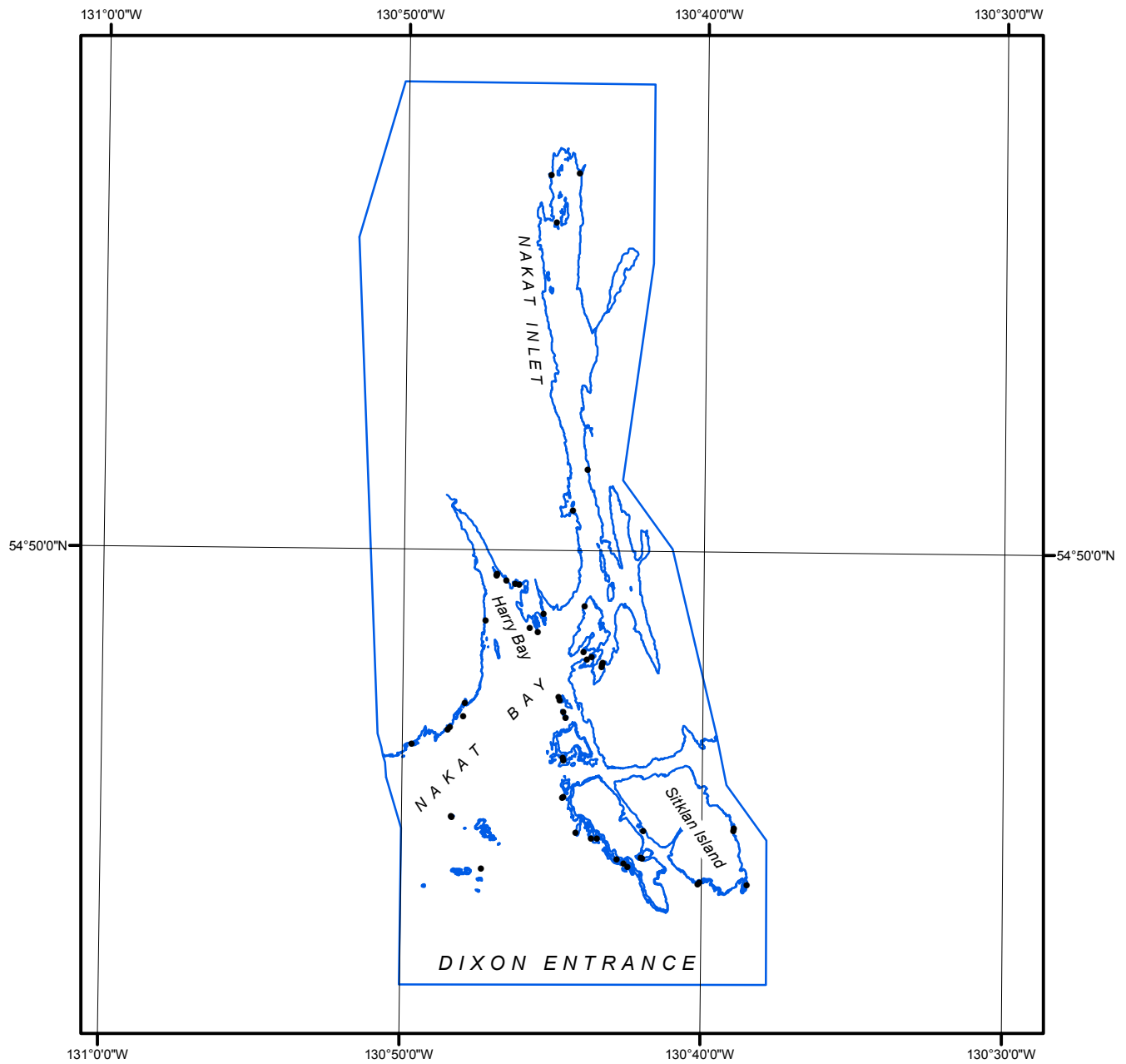
NOAA Shoreline Data Explorer

- GC11052 in shapefile format
- Metadata file for GC11052
- Digital copy of the PCR in Adobe PDF format

End of Report

NAKAT BAY TO TONGASS PASSAGE

ALASKA



Overview



AK1013A-CM-T

GC11052