

# **NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT**

## ***PROJECT AK1408B-CM-T***

### ***Khaz Bay to Fortuna Strait, Alaska***

#### **Introduction**

NOAA Coastal Mapping Program (CMP) Project AK1408B-CM-T provides digital shoreline data for an area along the southeast coast of Alaska from Khaz Bay to Fortuna Strait. 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 AK1408B-CM-T was designed to provide updated shoreline data for NOAA's nautical chart suite after comparisons between the nautical charts and contemporary imagery sources revealed significant discrepancies. 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 May 2004 and in May and November 2013.

#### **Field Operations**

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

#### **Aerotriangulation**

The aerotriangulation (AT) task was initiated by Remote Sensing Division (RSD) personnel in October 2014 utilizing a Digital Photogrammetric Workstation (DPW), which is a configuration of computer hardware, modular software components and other associated peripheral devices. The image files were imported into SOCET SET (ver. 5.6) using the DataThruWay (DTW ver. 5.6) software module. The DTW import process converted stored compressed files to the National Imagery Transmission Format (NITF 2.1) with headers and metadata. AT procedures were accomplished using the Multi-Sensor Triangulation (MST) module of SOCET SET. The Automatic Point Measurement (APM) tool within MST was used to collect image points. A simultaneous solve adjustment was then performed, forecasting an average predicted horizontal circular error for all well-defined points of 2.0 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 RSD Applications Branch (AB) personnel in January, 2023, 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 full range 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 4.0 meters at the 95% confidence level.

Verified water levels were obtained from the NOS tide stations at Sitka (9451600), with time and height offsets applied to the tidal substation Klokachef Island (9451858). The water level, at the times of source acquisition, was between 0.7 and 0.8 meters above MLLW. The elevation of the MHW tidal datum in the project area is approximately 2.8 meters above the MLLW datum.

## **Quality Control / Final Review**

Quality control tasks were conducted during all phases of project completion by senior CMP personnel of RSD. The review process included:

- 1) An analysis of AT results to include the assessment of three NGS 3<sup>rd</sup> order horizontal control points along with an assessment of parallax within each stereo-model,
- 2) Assessment of the identification and attribution of cartographic features within the GC according to image analysis and criteria defined in C-COAST, and
- 3) Assessment of topological connectivity within the GC using ArcGIS (ver. 10.8.1) 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 charts were used in the comparison process:

Chart 17322, Khaz Bay, 11<sup>th</sup> Ed., May 2014

Chart 17323, Salisbury Sound, Peril Strait & Hoonah Sound, 13<sup>th</sup> Ed., Mar. 2015

## **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
- GC11207 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

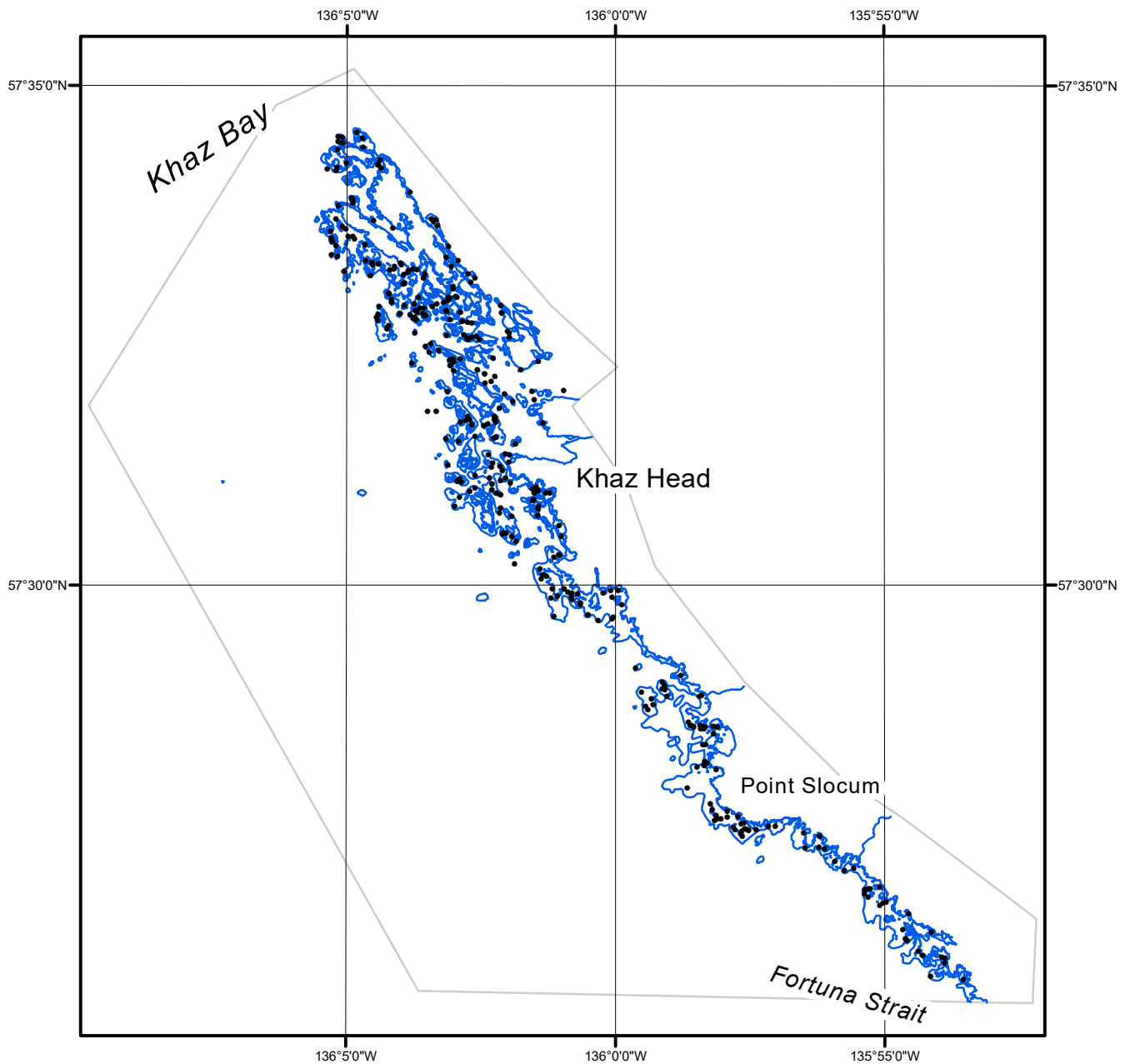
### **NOAA Shoreline Data Explorer**

- GC11207 in shapefile format
- Metadata file for GC11207
- PCR in Adobe PDF format

## **End of Report**

# KHAZ BAY TO FORTUNA STRAIT

## ALASKA



Overview



AK1408B-CM-T

GC11207