

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

## ***PROJECT AK1201A***

### ***Hetta Inlet and Natzuhini Bay, Alaska***

#### **Introduction**

NOAA Coastal Mapping Program (CMP) Project AK1201A provides coastal zone mapping data for the northern portion of Cordova Bay, Alaska. The project extends from Natzuhini Bay in the northwest through Sukkwan Strait, joining up with the Hetta and Nutkwa Inlets to the south and southeast. Northeastwards, the project extends the full length of Hetta Inlet, from Keete Inlet in the south all the way to Portage Bay at its northern most extremity. 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 survey data is referenced to the North American Datum of 1983 (NAD 83).

#### **Project Design**

Project AK1201A was designed per a request from the 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 acquired in May and August of 2005, and September of 2006.

#### **Field Operations**

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

#### **Aerotriangulation**

The aerotriangulation portion of the project was accomplished by Western Air Maps, Inc. in October of 2011. The image files were imported into SOCET SET, Version 5.5.0 using the DataThruWay software. The importing process 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 then completed on a Digital Photogrammetric Workstation using the Multi-Sensor Triangulation (MST) Tool of SOCET SET. The Interactive Point Measurement tool within MST was used to collect several tie points 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 7 meters at the 95% confidence level. This aerotriangulation solution, along with the related imagery, proved sufficient for the compilation phase.

## **Compilation**

Digital feature data compilation for this project was accomplished by NOAA RSD personnel, beginning in June of 2014. The Feature Extraction module of SOCET SET was used during the digital feature data compilation phase of project completion. 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 10.0 meters at the 95% confidence level. Tidal information was obtained from the NOS reference tide station at Sitka, AK, and time and height offsets were applied to tidal substations in the project area. The water level at the times the source images were acquired varied between, 1.2 and 3.4 meters above MLLW for the project area. The height of the mean high water datum equals 3.3 meters for the project area.

## **Quality Control / Final Review**

Final QC review of AK1201A was completed by senior CMP personnel of RSD in October, 2014. The final review process included assessment of the identification and attribution of digital feature data within the GC according to image analysis and criteria defined in C-COAST. 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 charts were used in the comparison process:

- Chart 17407, Northern part of Tlevak Strait, 1:40,000 scale, 15<sup>th</sup> Ed. Nov/03
- Chart 17431, N. end of Cordova Bay & Hetta Inlet, 1:40,000 scale, 11<sup>th</sup> Ed. Mar/04

## **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 GC11071 file contents, attached to PCR

### **Remote Sensing Division Electronic Data Library**

- Project database
- GC11071 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

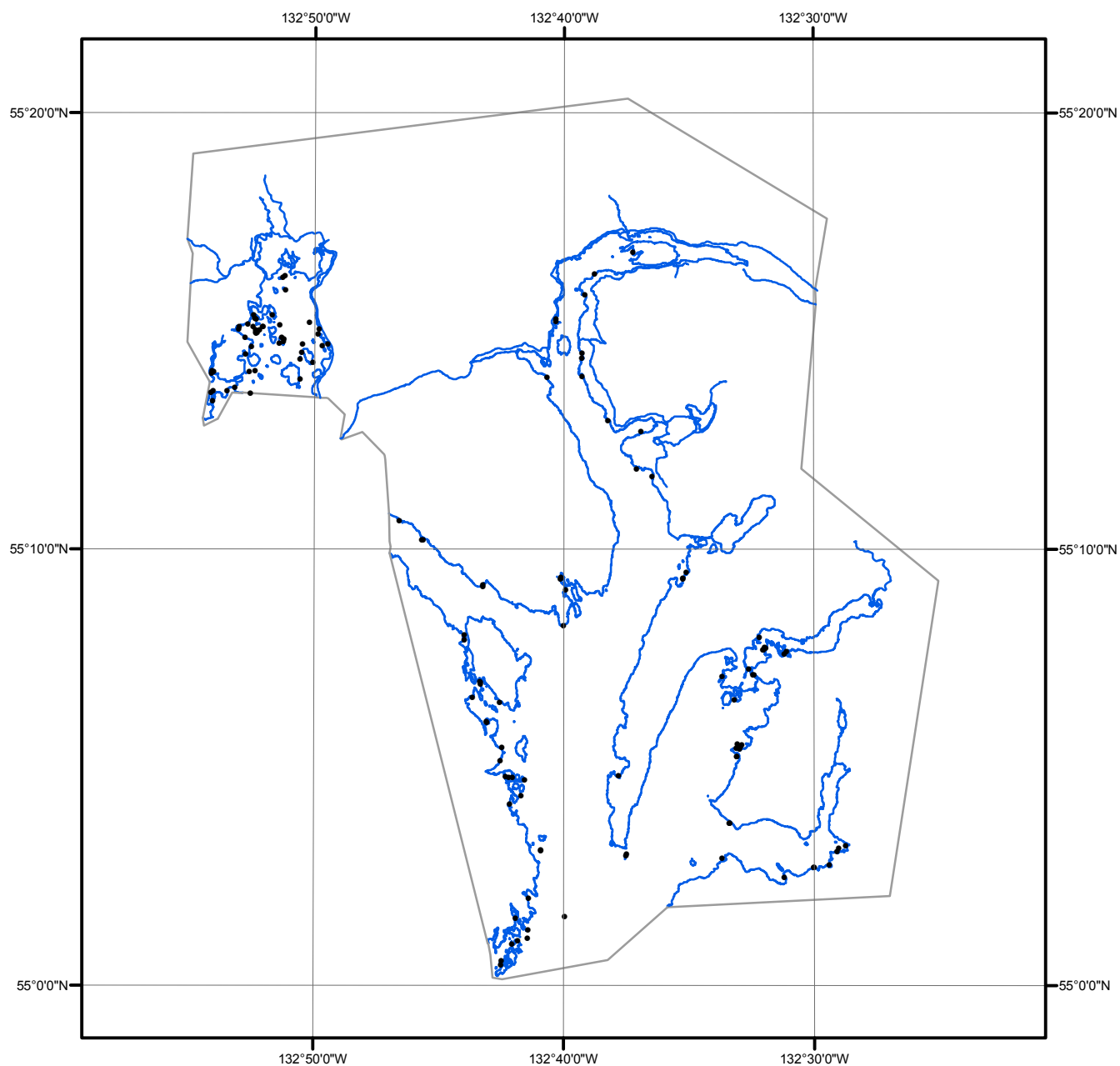
### **NOAA Shoreline Data Explorer**

- GC11071 in shapefile format
- Metadata file for GC11071
- Digital copy of the PCR in Adobe PDF format

## **End of Report**

# HETTA INLET AND NATZUHINI BAY

## ALASKA



Overview



AK1201A

GC11071