

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

## ***PROJECT AK1202C-CM-T***

### ***Icy Cape Pass to Wainwright, Alaska***

#### **Introduction**

NOAA Coastal Mapping Program (CMP) Project AK1202C-CM-T provides digital shoreline data for the North Slope of Alaska, from Icy Cape Pass to Wainwright, including Kasegaluk Lagoon, Pingorarak Pass, Wainwright Inlet, Sinaruruk River, and Point Belcher. 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 AK1202C-CM-T was designed to support NOAA Arctic mapping initiatives. 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 2012, July 2014, and July 2015.

#### **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 accomplished by personnel of the Applications Branch (AB) of the Remote Sensing Division (RSD) in June, 2016 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 2.0) with headers and metadata. AT procedures were accomplished using the Multi-Sensor Triangulation (MST) module of SOCET SET. The Interactive Point Measurement (IPM) tool within MST was used to collect image points. The simultaneous solve adjustment was then performed, forecasting an average predicted horizontal circular error for all well-defined points of 4.5 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 AB personnel in May 2017, 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 7.5 meters at the 95% confidence level. The range of tide in the project area is less than 0.3 meters.

### **Quality Control / Final Review**

Quality control tasks were conducted upon project completion by AB personnel in June 2017. The review process included an 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 10.4. The entire suite of project products was evaluated for compliance to CMP requirements. A Chart Evaluation File (CEF) was created by comparing project imagery with the following nautical charts:

- 16005, Cape Prince of Wales to Point Barrow, 1:700,000, 11<sup>th</sup> Ed., May 2015
- 16085, Wainwright Inlet to Atanik, 1:50,000, 7<sup>th</sup> Ed., Jan. 2015
- 16086, Nokotlek Point to Wainwright Inlet, 1:50,000, 8<sup>th</sup> Ed., Jan. 2015
- 16087, Icy Cape to Nokotlet Pt, 1:50,000, 8<sup>th</sup> Ed., Jan. 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
- GC11006 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

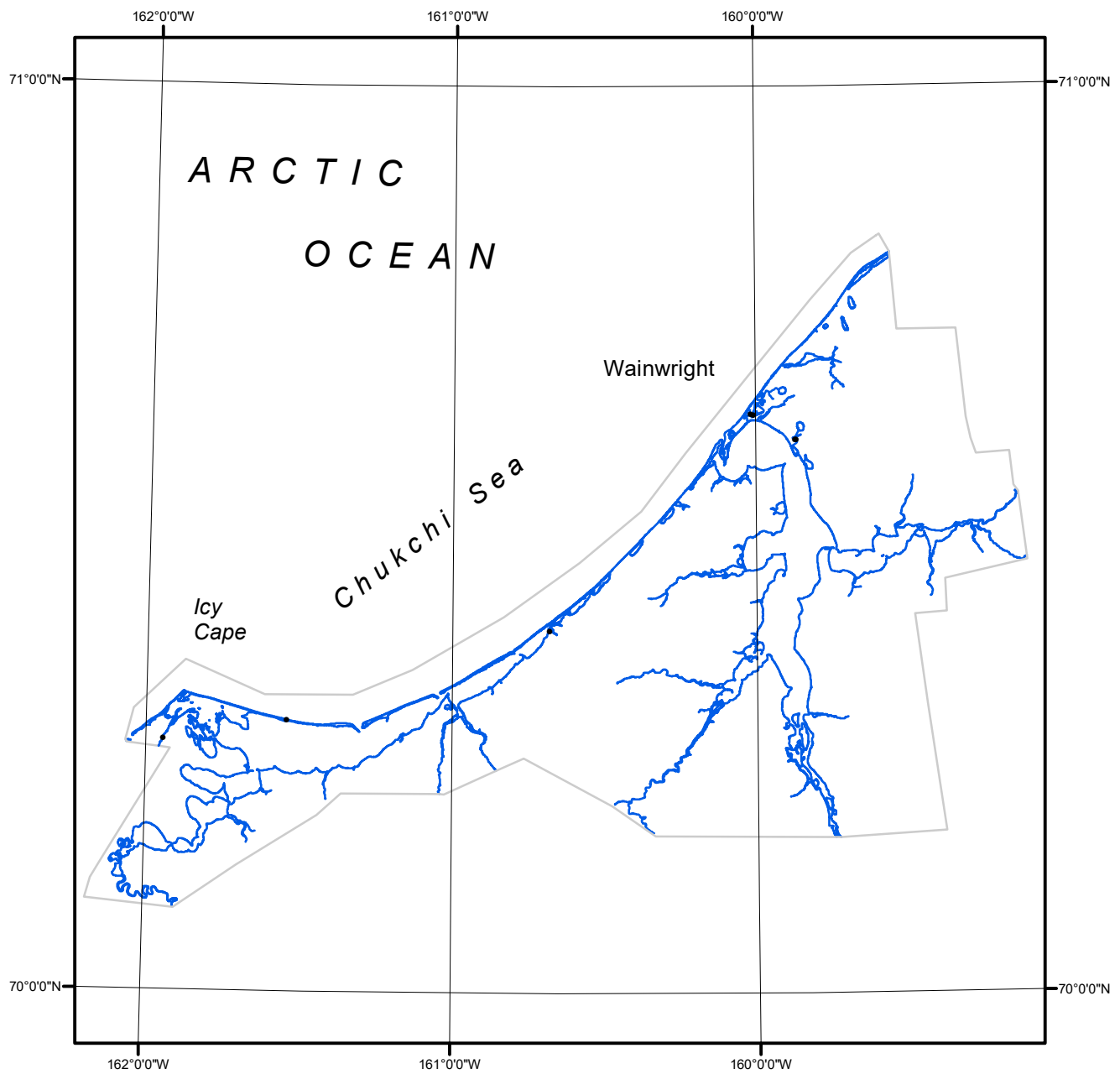
#### **NOAA Shoreline Data Explorer**

- GC11006 in shapefile format
- Metadata file for GC11006
- Digital copy of the PCR in Adobe PDF format

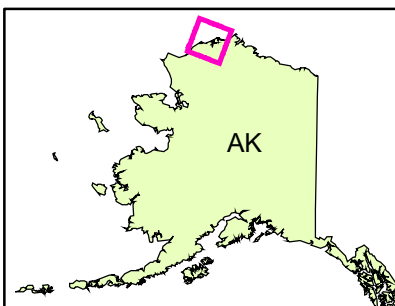
### **End of Report**

# ICY CAPE PASS TO WAINWRIGHT

## ALASKA



Overview



AK1202C-CM-T

GC11006