

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

## ***PROJECT AK1806-CM-T***

### ***Hawk Inlet, Alaska***

#### **Introduction**

NOAA Coastal Mapping Program (CMP) Project AK1806-CM-T provides accurate digital shoreline data for a small portion of Admiralty Island within Hawk Inlet, near the community of Hawk Inlet, Alaska. The Geographic Cell (GC) may be used in support of the NOAA Nautical Charting Program (NCP) as well as geographic information systems (GIS) for a variety of coastal zone management applications.

#### **Project Design**

Project AK1806-CM-T was designed in response to a request from the Navigation Services Division (NSD) of the Office of Coast Survey. 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 completion of this project included two WorldView Standard pan-sharpened natural color satellite images, constituting one stereo pair. All imagery was obtained from DigitalGlobe Inc. through the NextView government contract.

#### **Field Operations**

Routine CMP field operations did not apply for this project based on the origin of the project imagery, which was obtained from external sources.

#### **Aerotriangulation**

Softcopy aerotriangulation methods were completed by personnel of the Applications Branch (AB), Remote Sensing Division (RSD) in May of 2018 utilizing a Windows-based stereo-enabled workstation. The WorldView satellite images were measured and adjusted using several tie points with seven check points, one USCG marine light as control, and three elevation check points to ensure even distribution for the two stereo models using BAE Systems' Multi-Sensor Triangulation (MST) module within SOCET SET (ver. 5.6) photogrammetric software. Upon successful completion of the aerotriangulation process, the MST software provided the RMS of the standard deviations of the residuals for each aerotriangulated point which was used to compute a predicted horizontal circular error of 2.96 meters for the model based on a 95% confidence level. An Aerotriangulation Report was written and is on file with other project data within the RSD Electronic Data Library.

#### **Compilation**

Data compilation was accomplished by AB personnel in May 2018. Feature data was compiled using the Feature Extraction module within SOCET SET. 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.

Spatial data accuracies for AK1806-CM-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 5.9 meters at the 95% confidence level. The table below provides further details on the imagery used to complete this project:

<b>Image Source</b>	<b>Resolution</b>	<b>Source ID</b>	<b>Acquisition Date/Time</b>	<b>Tide Level*</b>
WorldView-1	0.5 m	17NOV08205150-M1BS-057510297010_01_P001.TIF	2017-11-08 / 20:51	2.0 m
WorldView-1	0.5 m	17NOV08205151-M1BS-057510298010_01_P001.TIF	2017-11-08 / 20:51	2.0 m

\* Tide level is given in meters above MLLW and is based on verified observations at the Juneau reference station, with time and height offsets applied to the Hawk Inlet Entrance substation. The elevation of MHW at Hawk Inlet Entrance is 4.39 meters above MLLW.

## **Quality Control / Final Review**

Quality control tasks were conducted upon project completion by senior CMP personnel in June 2018. 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 Esri's ArcGIS (ver. 10.5) software. 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 chart:

- 17312, Hawk Inlet – Chatham Strait, AK, 3<sup>rd</sup> Ed., Oct. 2012

## **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
- Aerotriangulation Report
- GC11403 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

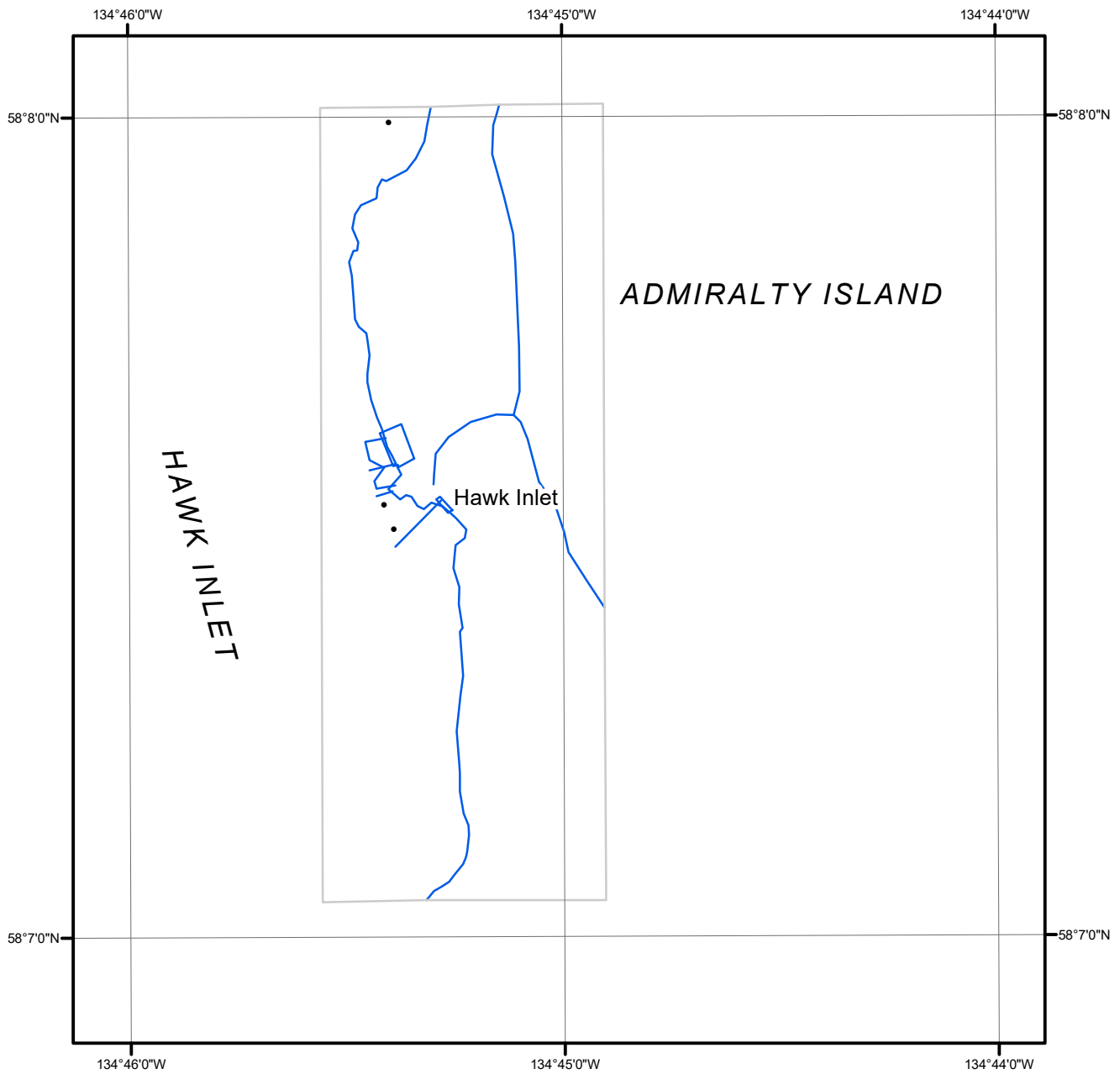
### **NOAA Shoreline Data Explorer**

- GC11403 in shapefile format
- Metadata file for GC11403
- PCR in Adobe (PDF) format

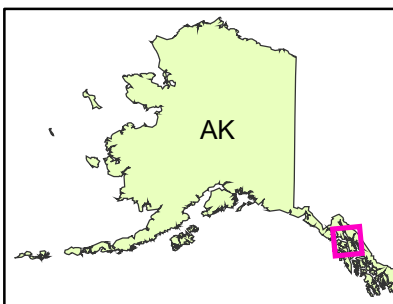
## **End of Report**

# HAWK INLET

## ALASKA



Overview



AK1806-CM-T

GC11403