

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

## ***PROJECT AK1625-CM-T***

### ***Cannery Point, Port Frederick, Alaska***

#### **Introduction**

Coastal Mapping Program (CMP) Project AK1625-CM-T provides accurate digital shoreline data for a new cruise ship terminal on Cannery Point, within Port Frederick, 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 coastal zone management applications.

#### **Project Design**

Project AK1625-CM-T was designed per a request from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA, in response to new shoreline construction on Cannery Point. 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. Available source data deemed adequate for successful completion of this project included one orthorectified panchromatic WorldView-1 satellite image from DigitalGlobe, Inc., obtained through the NextView government contract.

#### **Field Operations**

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

#### **Georeferencing**

Georeferencing tasks were conducted by a member of the Applications Branch (AB) of RSD in July 2016. The satellite image was georeferenced using Esri's ArcGIS® (ver. 10.2.2) desktop GIS software. Within ArcGIS the Georeferencing tool was used and the image re-sampled using the Nearest Neighbor sampling method with a 1st order polynomial model. Check points measured in stereo satellite imagery from a previous project (AK1404) were used as control and to assess the accuracy of the WorldView-1 image. The RMS of the residuals for each measured check point was used to compute a predicted horizontal circular error of 1.4 meters at the 95% confidence level. This value was doubled and added to the accuracy of the check points to conservatively predict the accuracy of well-defined points measured during compilation. Positional data is referenced to the North American Datum of 1983 (NAD 83).

#### **Compilation**

Data compilation was accomplished by AB personnel in July 2016. Digital feature data was compiled in shapefile format from the satellite imagery using ArcGIS (v10.2.2). 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 AK1625-CM-T were

determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 6.0 meters at the 95% confidence level. The following table provides information on the project imagery.

Image Source	Resolution	Source File ID	Acquisition Date/Time	Tide Level*
WorldView-1	0.5 m	20160707_2325_WV1_ORI_mos.jp2	2016-07-07 / 23:25:28 GMT	3.9 m

\* Tide level is given in meters above MLLW and based on preliminary observations recorded by the NOS reference gage at Elfin Cove, AK, with time and height offsets applied to the Hoonah substation. The height of the MHW tidal datum in the project area is approximately 4.3 meters above MLLW.

## Quality Control / Final Review

Quality control tasks were conducted upon project completion by senior CMP personnel in July 2016. 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 10.2.2. The entire suite of project products was evaluated for compliance to CMP requirements. A Chart Evaluation File (CEF) resulted from comparison of the project imagery with the largest scale NOAA nautical chart covering the project:

17302, Icy Strait and Cross Sound, 1:80,000 Scale, 19th Ed. May 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

- GC11265 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

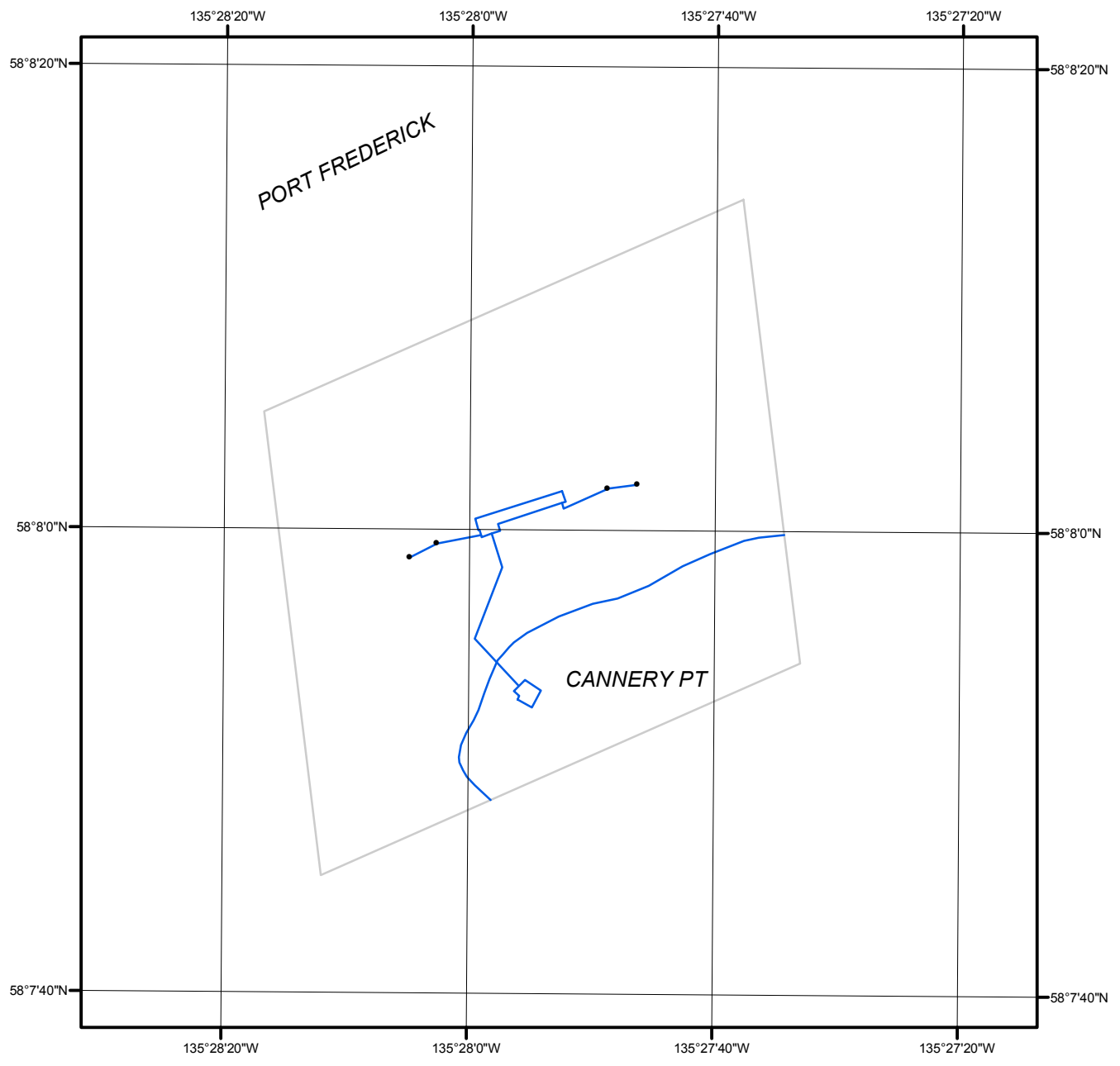
### NOAA Shoreline Data Explorer

- GC11265 in shapefile format
- Metadata file for GC11265
- Digital copy of the PCR in Adobe PDF format

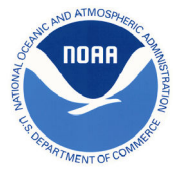
## End of Report

# CANNERY POINT, PORT FREDERICK

## ALASKA



Overview



AK1625-CM-T

GC11265