

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK1602-CM-T

Port Wakefield, Alaska

Introduction

Coastal Mapping Program (CMP) Project AK1602-CM-T provides highly accurate digital shoreline data within Port Wakefield, Alaska. The project also includes chart validation data for areas nearby, including Settler Cove and Port Lions. 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 AK1602-CM-T was designed in response to a request for updated shoreline data from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA. 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 WorldView satellite imagery from DigitalGlobe, Inc. One panchromatic image and one pan-sharpened natural color image, both with a spatial resolution of 0.5 meters, were obtained for this project.

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.

Georeferencing

The WorldView imagery was assessed for positional accuracy using previously compiled CMP Project AK0603C (GC10732) as well as two NGS 3rd order geodetic control points. The color satellite image compared very well spatially without need for additional image georeferencing tasks and was therefore determined to be suitable for feature compilation. Additionally the image vendor provided a suitable accuracy assessment, reporting an RMSE of 3.9 meters. The panchromatic image was not used for compilation, but only for feature validation purposes. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was accomplished by RSD Applications Branch personnel in March 2016. Digital feature data was compiled in shapefile format from the satellite imagery using ArcGIS (ver. 10.2.2). 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 AK1602-CM-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. The vendor reported RMSE was used to calculate a horizontal accuracy of 6.8 meters at the 95% confidence level in order to predict the accuracy of well-defined points measured during feature compilation.

The following table provides information on imagery used to complete this project:

Sensor	Source File ID (Tiles)	Acquisition Date/Time	Tide Level*
WorldView-2	20150428_2110_WV2_R1C1.tif	2015-04-28 / 21:10:30 GMT	1.7 m
WorldView-1	20150901_2255_WV1_R1C1.tif	2015-09-01 / 22:55:40 GMT	2.7 m

* Tide levels are given in meters above MLLW and are based on actual observations recorded at the time of image acquisition by the NOS gauge at Kodiak Island, AK, with time/height offsets applied to the Port Lions substation. The elevation of MHW at the substation is approximately 2.6 meters above MLLW.

Quality Control / Final Review

The final QC review was completed in March 2016. The review process included analysis of image georeferencing and 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:

- 16594 Marmot Bay and Kupreanof Strait, 1:78,900 scale, 14th 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
- GC11218 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

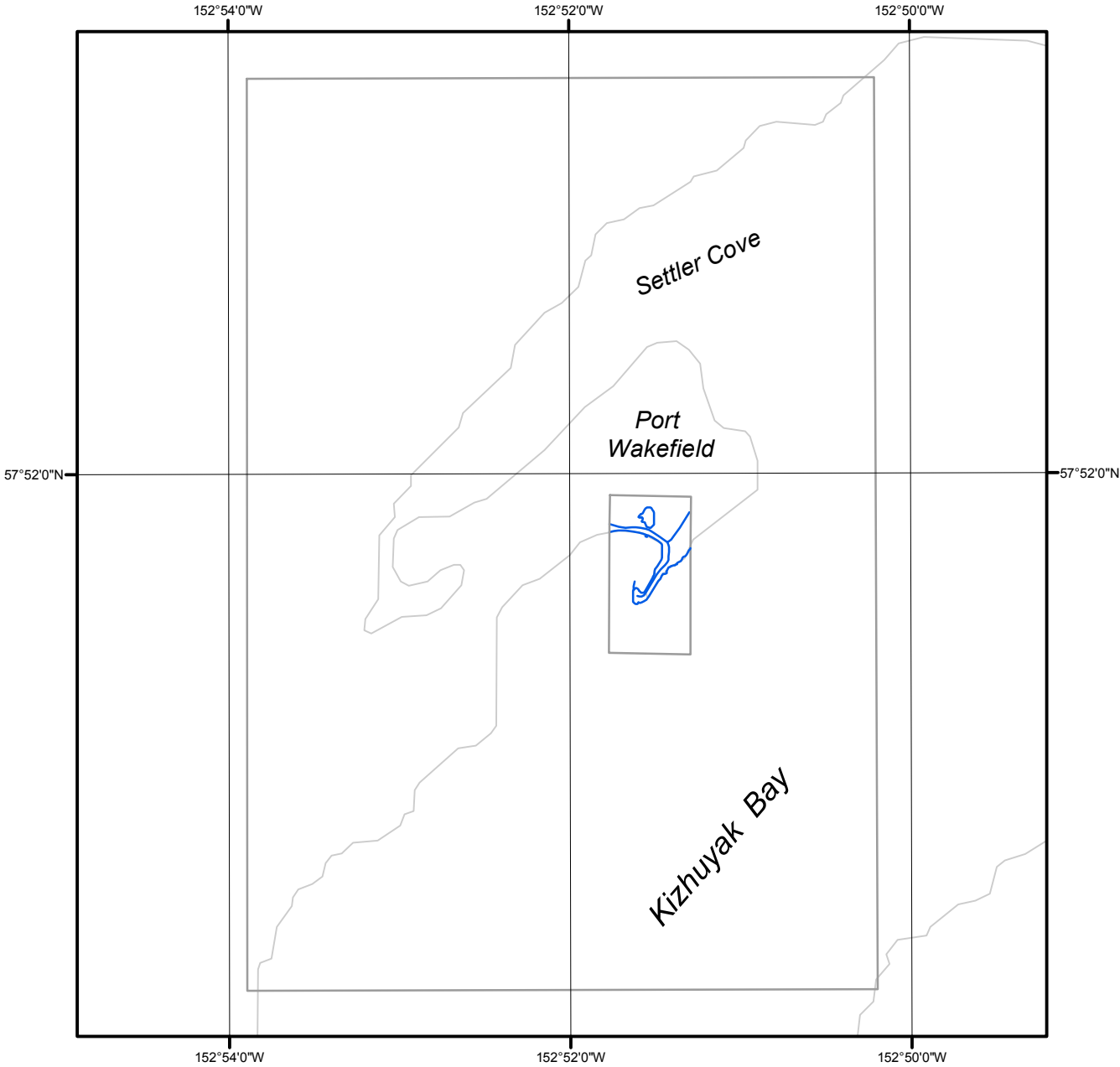
NOAA Shoreline Data Explorer

- GC11218 in shapefile format
- Metadata file for GC11218
- PCR in Adobe PDF format

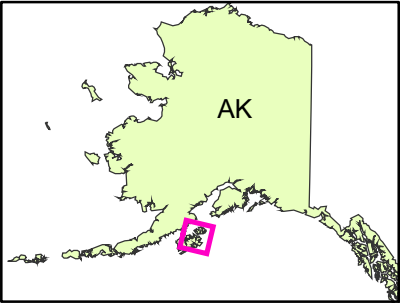
End of Report

PORT WAKEFIELD

ALASKA



Overview



AK1602-CM-T

GC11218