

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK1901-CS-T

Port of Valdez, Alaska

Introduction

Coastal Mapping Program (CMP) Project AK1901-CS-T provides accurate digital shoreline data for key areas of change within the Port of Valdez, 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

The design of Project AK1901-CS-T was accomplished by the Requirements Branch (RB) of the Remote Sensing Division (RSD) in response to the need for timely updates to the NOAA chart suite in key ports. Project requirements were formulated as a result of analysis conducted within the Coast and Shoreline Change Analysis Program (CSCAP), in which NOAA nautical chart products are compared to contemporary high resolution imagery in order to ascertain the need for more current shoreline data. A Chart Evaluation File (CEF) was forwarded to the Applications Branch (AB) of RSD once the change analysis was complete. Refer to the CSCAP memorandum for Project AK1901-CS-T for details regarding the chart comparison process.

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 satellite imagery used in the analysis was assessed for positional accuracy using previously compiled data from CMP Project AK1607-CS-N which has a predicted horizontal accuracy of 0.6 meters at the 95% confidence level. The imagery 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. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was accomplished by a member of AB in August 2019. Digital feature data was compiled in shapefile format from the satellite imagery using Esri's ArcGIS (ver. 10.6.1) desktop GIS software. 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.

Spatial data accuracies for AK1901-CS-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. The standard vendor-reported RMSE was used to calculate a horizontal accuracy of 6.8 meters at the 95% confidence level in order to conservatively 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 (Tile) IDs	Acquisition Date/Time	Tide Level*
WorldView-3	20180904_WV03_ORI_R1C1.jp2 20180904_WV03_ORI_R1C2.jp2 20180904_WV03_ORI_R1C3.jp2 20180904_WV03_ORI_R2C1.jp2 20180904_WV03_ORI_R2C2.jp2 20180904_WV03_ORI_R2C3.jp2	2018-09-04 / 21:13:33 GMT	1.3 m

* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS tide gauge at Valdez, AK at the time of image acquisition. The elevation of the MHW tidal datum at the Valdez gauge is equal to 3.417 meters above MLLW.

Quality Control / Final Review

Final review tasks were completed in October 2019. 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 (ver. 10.6.1). The entire suite of project products was evaluated for compliance to CMP requirements.

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

- CSCAP evaluation memorandum
- Project database
- GC11561 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

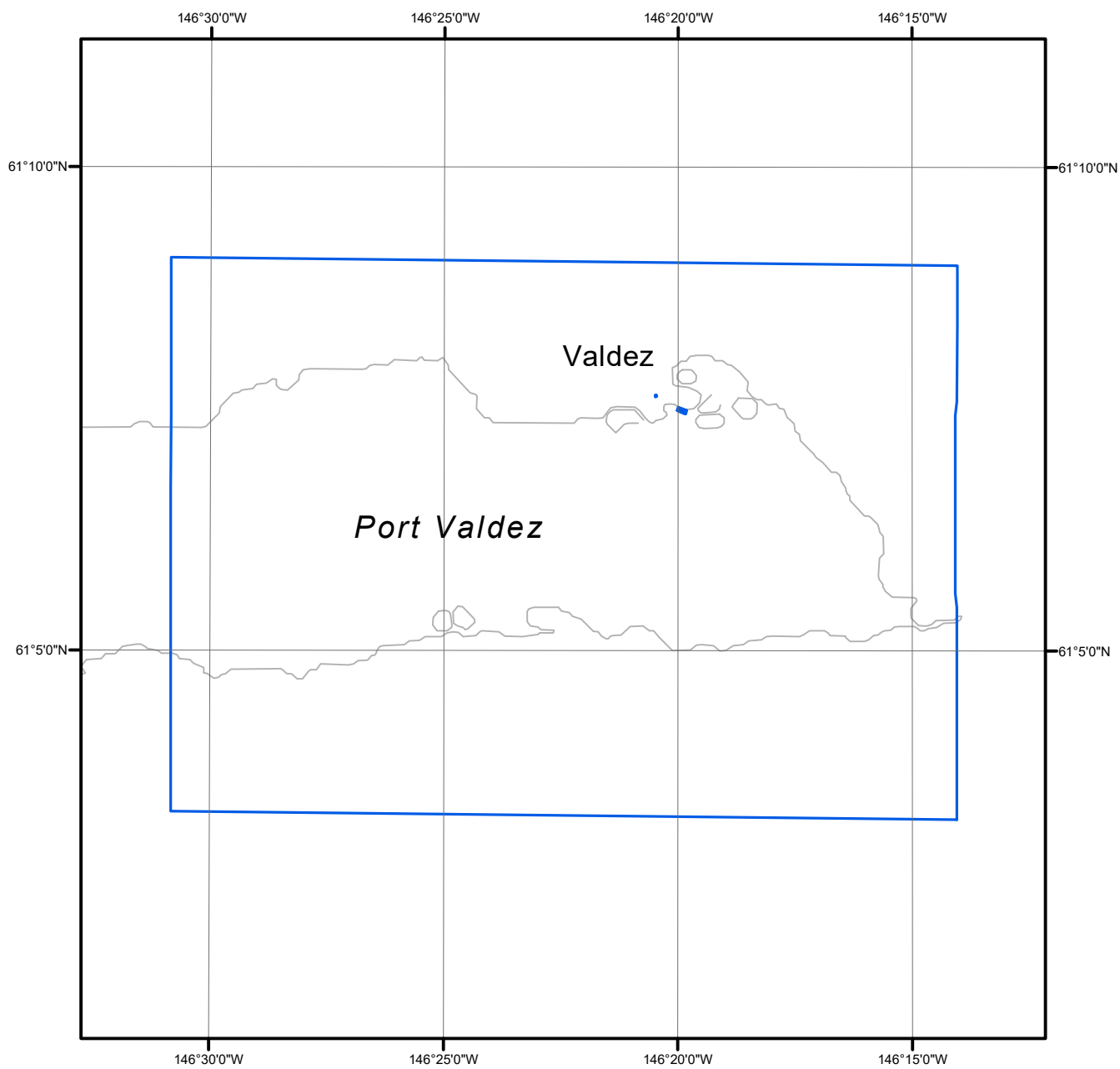
NOAA Shoreline Data Explorer

- GC11561 in shapefile format
- Metadata file for GC11561
- PCR in Adobe PDF format

End of Report

PORT OF VALDEZ

ALASKA



Overview



AK1901-CS-T

GC11561