

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AK1802-CM-T

Lynn Canal at the Mouth of Eagle River, Alaska

Introduction

NOAA Coastal Mapping Program (CMP) Project AK1802-CM-T provides accurate digital shoreline data for the mouth of Eagle River, 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

CMP Project AK1802-CM-T was designed in response to a request from the Navigation Services Division (NSD) 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 this project included two orthorectified pan-sharpened natural color commercial satellite images from DigitalGlobe, Inc., one WorldView-2 image and one GeoEye-1 image, obtained through the NextView government contract. Only the WorldView image was actually used for shoreline compilation in the area of interest.

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 and determined to be suitable for feature compilation without the need for further image georeferencing tasks. The RMSE accuracy by the vendor, Digital Globe, is reported as 3.9 meters. This value was used to calculate a horizontal circular error at the 95% confidence level (CE95) of 6.8 meters. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was accomplished by personnel of the Applications Branch (AB) of the Remote Sensing Division (RSD) in March 2018. Digital feature data was compiled in shapefile format from the satellite imagery using Esri's ArcGIS (ver. 10.5) 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. Spatial data accuracies for AK1802-CM-T were determined according to standard Federal

Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 6.8 meters at the 95% confidence level.

The table below provides further details on the imagery used to complete this project:

Image Source	Resolution	Source ID	Acquisition Date/Time	Tide Level*
WorldView-2	0.5 m	20170516_2037_WV02_ORI_mos.jp2	2017-05-16 20:37 GMT	0.7 m
GeoEye-1	0.5 m	20170607_2027_GE01_ORI_mos.jp2	2017-06-07 20:27 GMT	n/a

* Tide level is given in meters above MLLW and is based on actual observations recorded at the time of image acquisition by the NOS gauge at Juneau, AK, with time/height offsets applied to the substation at Lincoln Island, Favorite Channel, AK (Station ID 9452336). The elevation of MHW at Lincoln Island, near the project area, is approximately 4.6 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted upon project completion by senior CMP personnel in March 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 ArcGIS. 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:

- 17316, 21st Ed., Nov. 2014

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
- GC11399 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

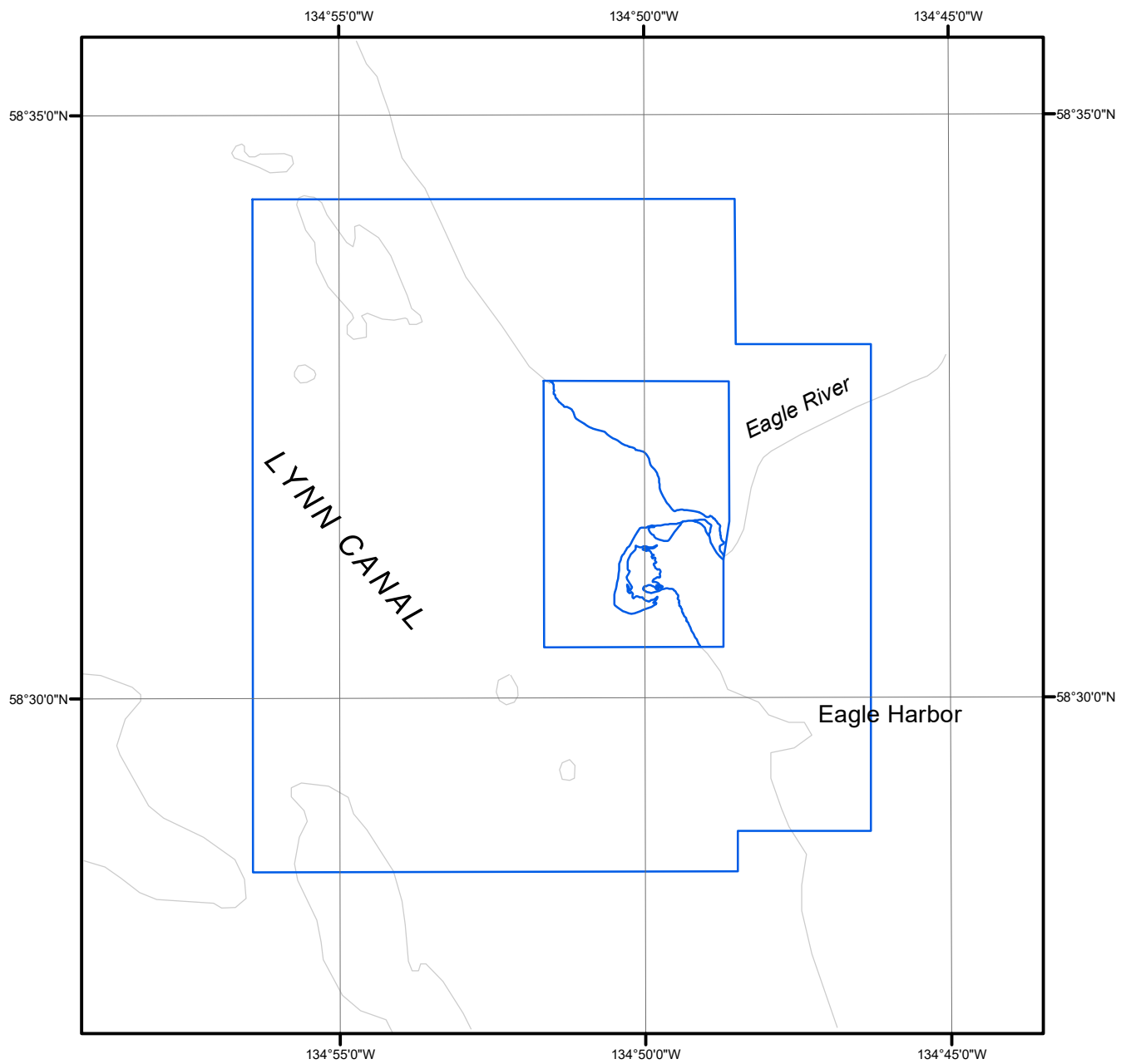
NOAA Shoreline Data Explorer

- GC11399 in shapefile format
- Metadata file for GC11399
- Digital copy of the PCR

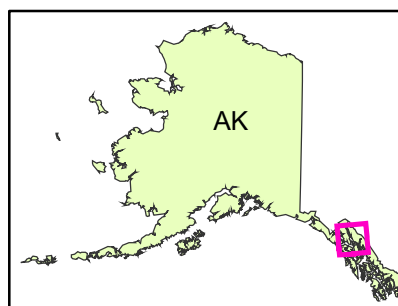
End of Report

LYNN CANAL AT THE MOUTH OF EAGLE RIVER

ALASKA



Overview



AK1802-CM-T

GC11399