

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT OR2001-CS-T

Port of Coos Bay/Charleston, Oregon

Introduction

Coastal Mapping Program (CMP) Project OR2001-CS-T provides highly accurate digital shoreline data for key areas of change within the port of Coos Bay/Charleston, Oregon. 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 OR2001-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 Electronic Navigational Chart (ENC) series. 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 digital imagery in order to ascertain the need for more current shoreline data. One WorldView-2 pan-sharpened commercial satellite image was utilized for the CSCAP analysis, with orthorectified ADS-100 aerial image mosaics subsequently downloaded from the Oregon Statewide Imagery Program (OSIP) for compilation purposes. 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 OR2001-CS-T for details of the chart comparison process.

Field Operations

Routine CMP field operations did not apply for this project based on the origin of the project source data.

Georeferencing

Refinement of the georeferencing of the ADS-100 image mosaics used for compilation was not necessary since the imagery compared favorably spatially with data sources used to check its geolocation and since OSIP provided acceptable accuracy assessments. The reported horizontal accuracy, reported at the 95% confidence level, was 1.0 meter, a value that was doubled in order to conservatively predict the accuracy of well-defined points in the compilation process. Refer to the Oregon Statewide 2018 Imagery Report for further information on ADS-100 image processing. The WorldView-2 imagery was not used for compilation, therefore no adjustment of the georeferencing was necessary. All positional data is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation for this project was accomplished by AB personnel in June 2020. Digital feature data was compiled in shapefile format from the project imagery using Esri's ArcGIS Pro (ver. 2.5) desktop GIS software. Feature identification and attribution within the GC were based on analysis of the project imagery, and information extracted from the appropriate NOAA nautical charts, U.S. Coast Guard Light List and other ancillary sources. 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 Project OR2001-CS-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 2.0 meters at the 95% confidence level, the derivation of which is described in the section above.

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

Image Source	Source File ID	GSD	Acquisition Date/Time	Tide Level
ADS-100	OSIP_2018_WM1_NAD83.tif OSIP_2018_WM2_NAD83.tif OSIP_2018_WM3_NAD83.tif OSIP_2018_WM4_NAD83.tif OSIP_2018_WM5_NAD83.tif	0.3 m	2018-07-17, 2018-07-21	n/a
WorldView-2	20191128_WV02_ORI_MOS_NAD83.jp2	0.36 m	2019-11-28	n/a

Quality Control / Final Review

Quality control tasks were conducted during all phases of the project by a senior member of AB. The final QC review was completed in July 2020. The review process included analysis of the 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.10.8). 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

- Imagery metadata
- CSCAP evaluation memorandum
- GC11669 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

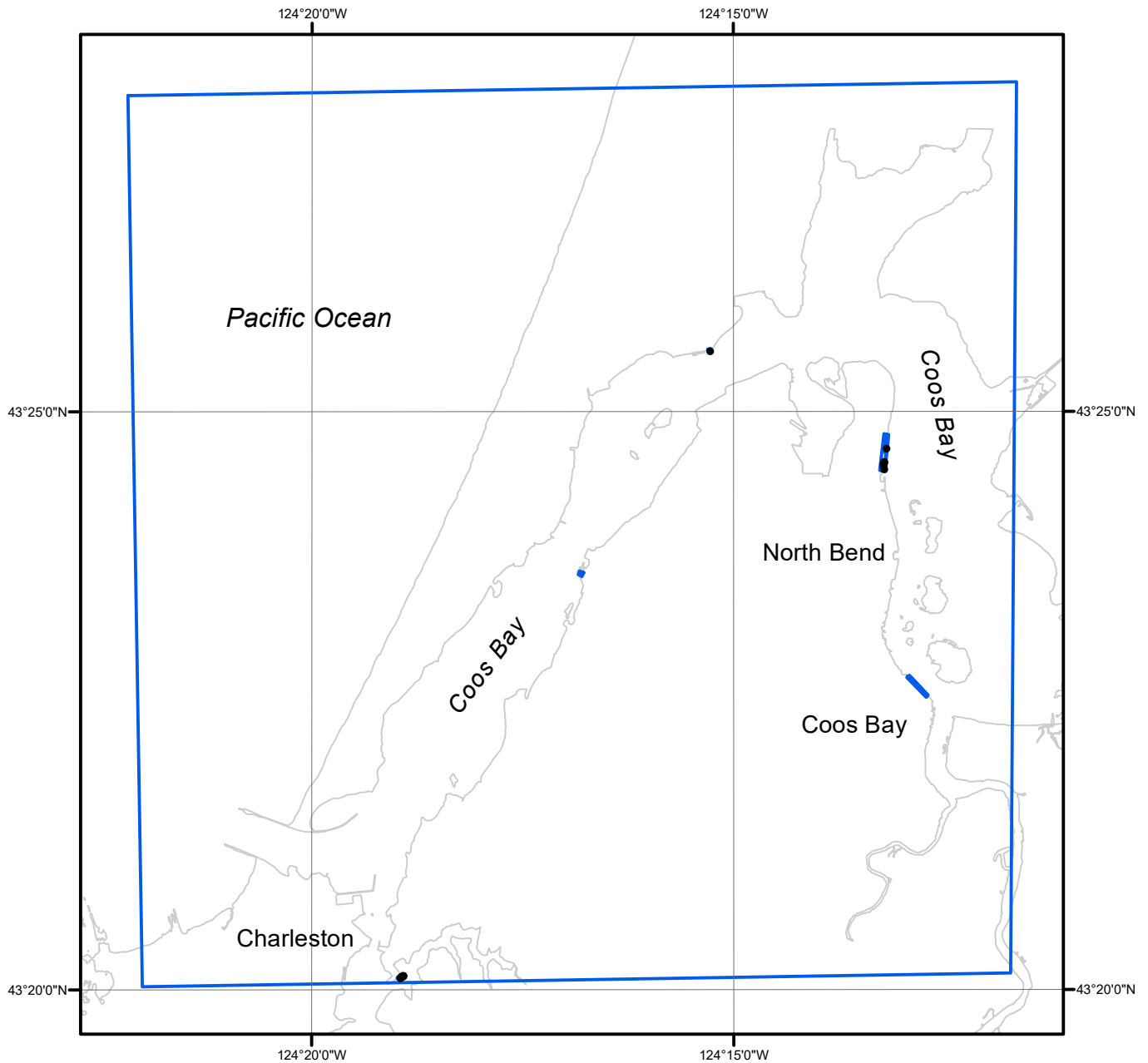
NOAA Shoreline Data Explorer

- GC11669 in shapefile format
- Metadata file for GC11669
- PCR in Adobe PDF format

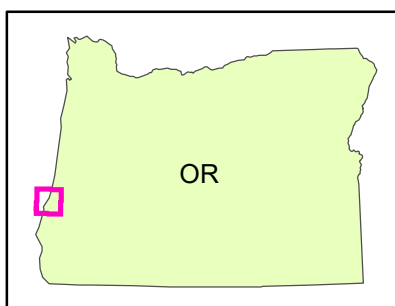
End of Report

PORT OF COOS BAY/CHARLESTON

OREGON



Overview



OR2001-CS-T

GC11669