

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

## ***PROJECT OR1301***

### ***NOAA Marine Operations Center, Newport, Oregon***

#### **Introduction**

Coastal Mapping Program (CMP) Project OR1301 provides accurate digital shoreline data adjacent to the NOAA Marine Operations Center located on Yaquina Bay within Newport, 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 coastal zone management applications.

#### **Project Design**

Project OR1301 was designed per a request from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA, for GIS data in response to changes to the shoreline landward of the newly constructed NOAA Marine Operations Center pier. One color aerial ortho-mosaic from the National Agriculture Imagery Program (NAIP) of the U.S. Department of Agriculture, and one panchromatic WorldView-2 satellite image from DigitalGlobe, were obtained in response to this request. The NAIP imagery was used to compile features while the satellite image was used only as a reference to aid in feature interpretation.

#### **Field Operations**

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

#### **Georeferencing**

Rigorous refinement of the georeferencing of the NAIP imagery used for compilation was not necessary since image positioning compared well with the positions of ground control points (GCPs). GCPs were measured from previously aerotriangulated aerial imagery from CMP Project OR0805 and imported into ESRI's ArcGIS desktop GIS software (v. 9.3.1). The RMS of the residuals for the measured check points was used to compute a horizontal accuracy at the 95% confidence level (CE95) of 1.0 meters. This value was doubled and added to the CE95 of the image source from which the check points were obtained in order to conservatively predict the accuracy of well-defined points measured during the compilation process. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

#### **Compilation**

The compilation of cartographic feature data for this project was accomplished by a member of the Applications Branch (AB) of the Remote Sensing Division (RSD) in May 2013. Using ESRI's ArcGIS 9.3.1 desktop GIS software, feature data was compiled in ESRI shapefile format. Feature attributes were established using the C-COAST specification file, which provides the definition and attribution scheme for the full range of cartographic features pertinent to the CMP.

Spatial data accuracies for Project OR1301 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were tested to have a horizontal accuracy of 2.6 meters at the 95% confidence level by comparing twenty check points to an independent source of higher accuracy. The table below provides detailed information on the imagery used for feature compilation.

Image Source	Source File Name	Acquisition Date/Time	Resolution	Tide Stage*
NAIP	ortho_1-1_1n_s_or041_2012_1.sid (image subset name: 07_2012_NAIP.tif)	2012-07-06 / 22:54 GMT	1.0 m	2.4
WorldView-2	12MAY29200218-P1BS- 052714719010_02_P004.tif	2012-05-29 / 20:02:18 GMT	0.5 m	0.3

\* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS gauge at South Beach, Yaquina River, OR station. The elevation of MHW at South Beach is 2.33 meters above MLLW.

## Quality Control / Final Review

Quality control tasks were conducted by a senior cartographer within the CMP. The final QC review was completed in May 2013. The review process consisted of an assessment of the identification and attribution of cartographic features 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 9.3.1. The entire suite of project products was evaluated for compliance to CMP requirements.

Comparisons of the largest scale NOAA nautical chart with ortho-imagery and compiled project data resulted in creation of the Chart Evaluation File (CEF). The following nautical chart was used in the comparison process:

18581, Yaquina Bay and River, 1:10,000 scale, 19<sup>th</sup> Ed., Oct./11

## End Products and Deliverables

The following specifies the location and identification of end products generated during the completion of this project:

### RSD Applications Branch Archive

- Hardcopy of the Project Completion Report (PCR)
- Page size graphic plot of GC10991 file contents, attached to PCR

### Remote Sensing Division Electronic Data Library

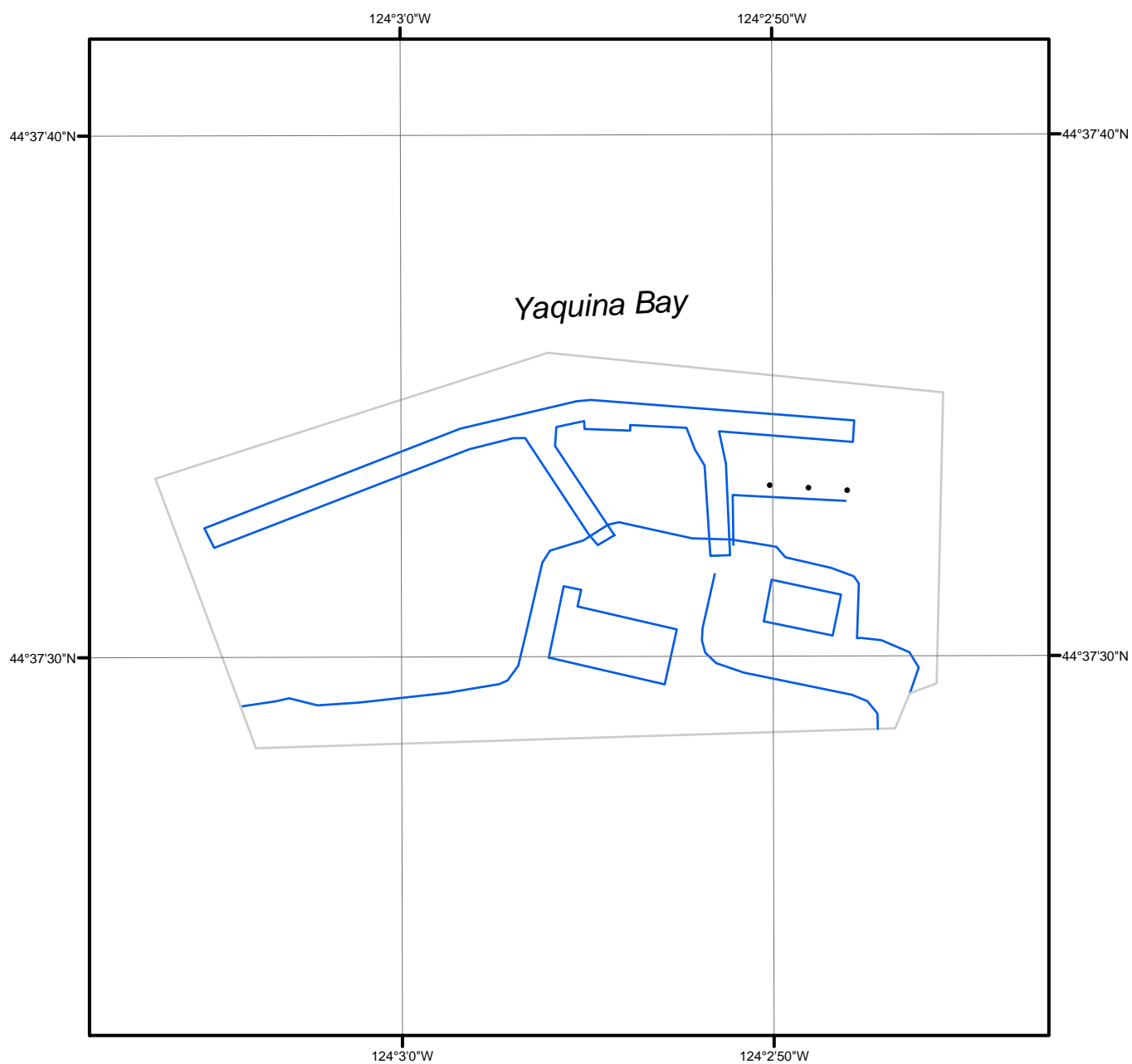
- GC10991 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

### NOAA Shoreline Data Explorer

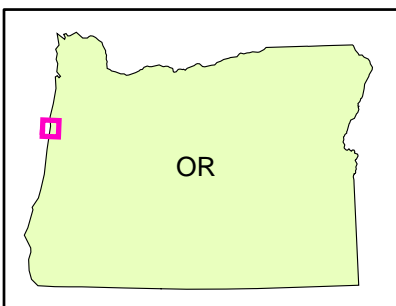
- GC10991 in shapefile format
- Metadata file for GC10991
- Digital copy of the PCR in Adobe PDF format

## End of Report

# NOAA MARINE OPERATIONS CENTER, NEWPORT OREGON



Overview



OR1301

GC10991