

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT NY1401

Port of Buffalo, New York

Introduction

NOAA Coastal Mapping Program (CMP) Project NY1401 provides a highly accurate database of new digital shoreline data for the Port of Buffalo, New York. 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 NY1401 was accomplished by the Requirements Branch (RB) of the Remote Sensing Division (RSD) in response to the need for updates to NOAA's Electronic Navigational Chart 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 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 analysis memo for the Port of Buffalo, New York 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

One orthophoto mosaic from the National Agriculture Imagery Program (NAIP) utilized for CSCAP analysis was assessed for positional accuracy and determined to be suitable for feature compilation without the need for further image georeferencing tasks. Twenty (20) photo-identifiable ground control points from a previously compiled project, NY0501B (GC10716), were used for this assessment. These points were used to calculate a horizontal circular error at the 95% confidence level (CE95) of 1.27 meters. This CE95 value was doubled and added to the check point source CE95 in order to predict the accuracy of well-defined points measured during the compilation process.

Compilation

Data compilation was initiated by RSD personnel in July 2014. Digital feature data was compiled in shapefile format from the NAIP imagery using ESRI ArcGIS 9.3.1 desktop GIS software. Feature identification and attribution within the GC were based on image analysis as well as information extracted from the largest scale NOAA nautical chart 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.

Spatial data accuracies for NY1401 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were tested to have a horizontal accuracy of 3.9 meters at the 95% confidence level.

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

| Image Source | Resolution | Source ID | Acquisition Date | Tide Level |
|--------------|------------|------------------|------------------------|------------|
| USDA/FSA | 1.0 m | buffalo_NAIP.tif | 2013-07-11, 2013-09-25 | n/a |

Quality Control / Final Review

Quality control tasks were conducted upon project completion by senior CMP personnel in July 2014. 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 9.3.1. 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:

RSD Applications Branch Archive

- Hardcopy of the CSCAP memorandum
- Hardcopy of the Project Completion Report (PCR)
- Page size graphic plot of GC11093 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project database
- GC11093 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- Chart Evaluation File in shapefile format

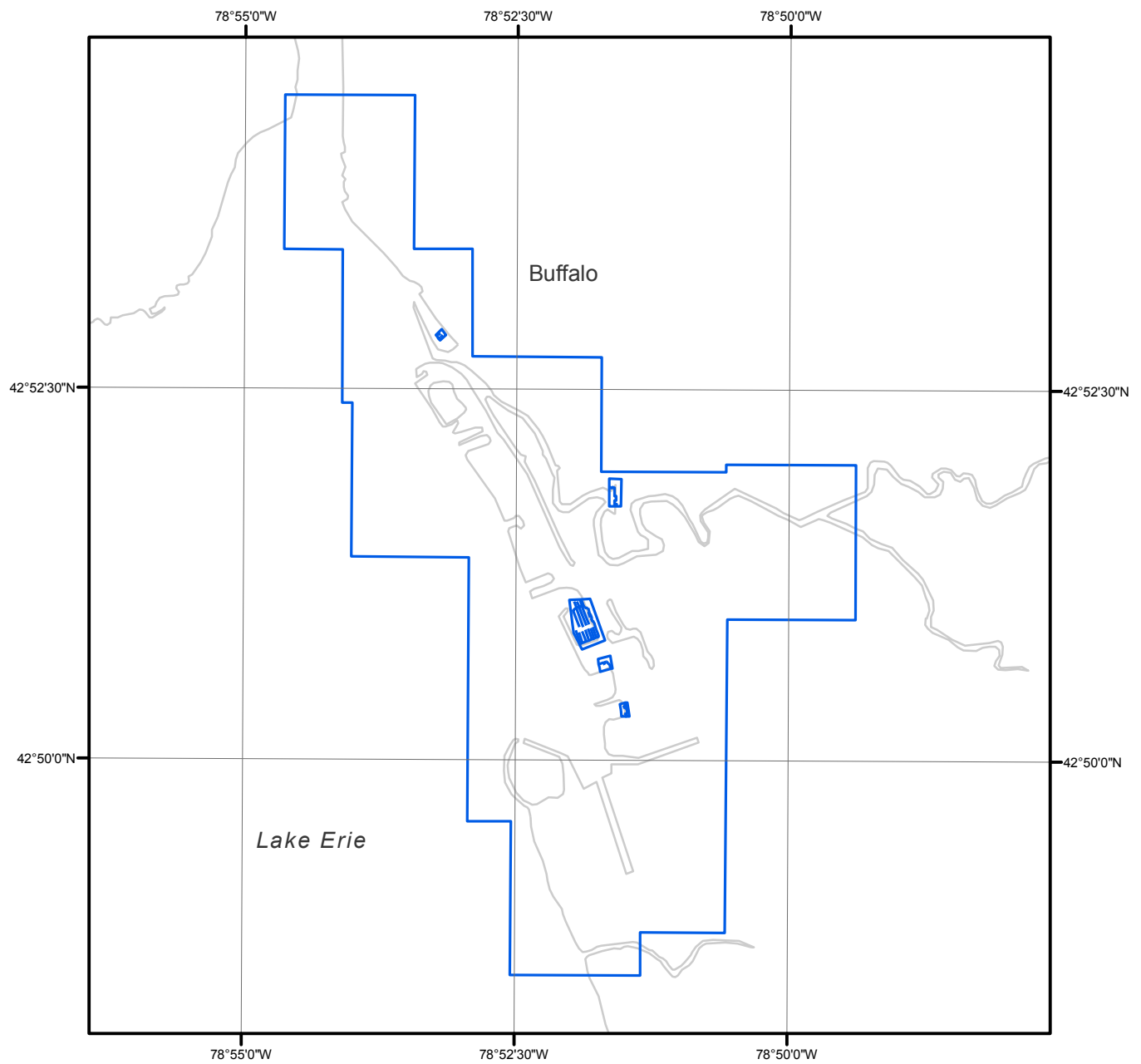
NOAA Shoreline Data Explorer

- GC11093 in shapefile format
- Metadata file for GC11093
- Digital copy of the PCR in Adobe PDF format

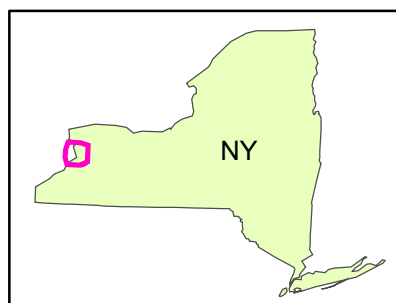
End of Report

PORT OF BUFFALO

NEW YORK



Overview



NY1401

GC11093