

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT FL02A

JACKSONVILLE, FLORIDA

Introduction

Coastal Mapping Program (CMP) Project FL02A provides a highly accurate database of new digital shoreline data for the St. Johns River in Jacksonville, Florida. The Digital Cartographic Feature File (DCFF) may be utilized in support of the NOAA's Nautical Charting Program (NCP) and coastal zone management activities.

Project Design

This project was designed per a request from the program office within NOAA that manages the Nautical Charting Program. The project goal is to provide contemporary digital cartographic data in support of a variety of applications within the aforementioned program. Based on an 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. A commercial satellite image acquired November 2000 was deemed appropriate to meet project requirements. The acquisition of this image occurred near high water at a predicted tidal stage of +3.2 feet as referenced to the Mean Lower Low Water Datum.

Field Operations

Horizontal reference points were established through field survey activities. These well-defined points were visible in the satellite image, and were used either to control or verify the geo-referencing of the image.

Aerotriangulation

Aerotriangulation of the imagery was not required. The initial geo-referencing of the image was improved in the software program ERDAS Imagine. Image identifiable GPS points were used as control in a first order polynomial transformation algorithm.

Compilation

The Vector module in ERDAS Imagine was utilized during the digital cartographic feature data compilation phase of project completion. Since stereo imagery was not available, monoscopic methods were used to compile the interpreted shoreline. Other features (such as rocks, reefs, and ledges) could not be clearly distinguished, and were not compiled. The DCFF feature attribution was translated to conform with the Coastal Cartographic Object Attribute Source Table (C-COAST), the National Geodetic Survey's attribution scheme for coastal data.

Cartographic features were compiled to meet a horizontal accuracy of 6 meters at the 95% confidence level. This predicted accuracy of compiled, well-defined points is a deductive estimate based on a comparison of the compiled shoreline to well-defined GPS points.

Final Review

Final office review operations were conducted after completion of the compilation phase. The process included review of the identification and attribution of cartographic features based on image analysis and criteria defined in C-COAST. Visual inspection indicated that the two shorelines matched very well, in fact better than would be expected based on the stated horizontal accuracy of the image. However, in some areas the differences were significant enough to indicate that the new compilation provides a better representation of the shoreline than is depicted on the chart. The following NOAA nautical charts were used for chart comparison:

11491, 33rd edition; St Johns River: Atlantic Ocean to Jacksonville

The last step in the quality control process was the evaluation of the DCFF contents focusing on the integrity of topology once the DCFF was converted into the ESRI Shapefile format and the feature attributes translated to C-COAST.

Project Products

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

RSD Applications Branch Archive

- Hard copy of the Project Completion Report (PCR)

RSD Electronic Data Library

- Project Data Base
- DCFF for GC-10520 in ESRI Shapefile format
- Digital copy of the PCR in Adobe Acrobat PDF format

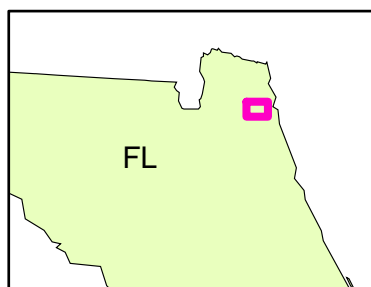
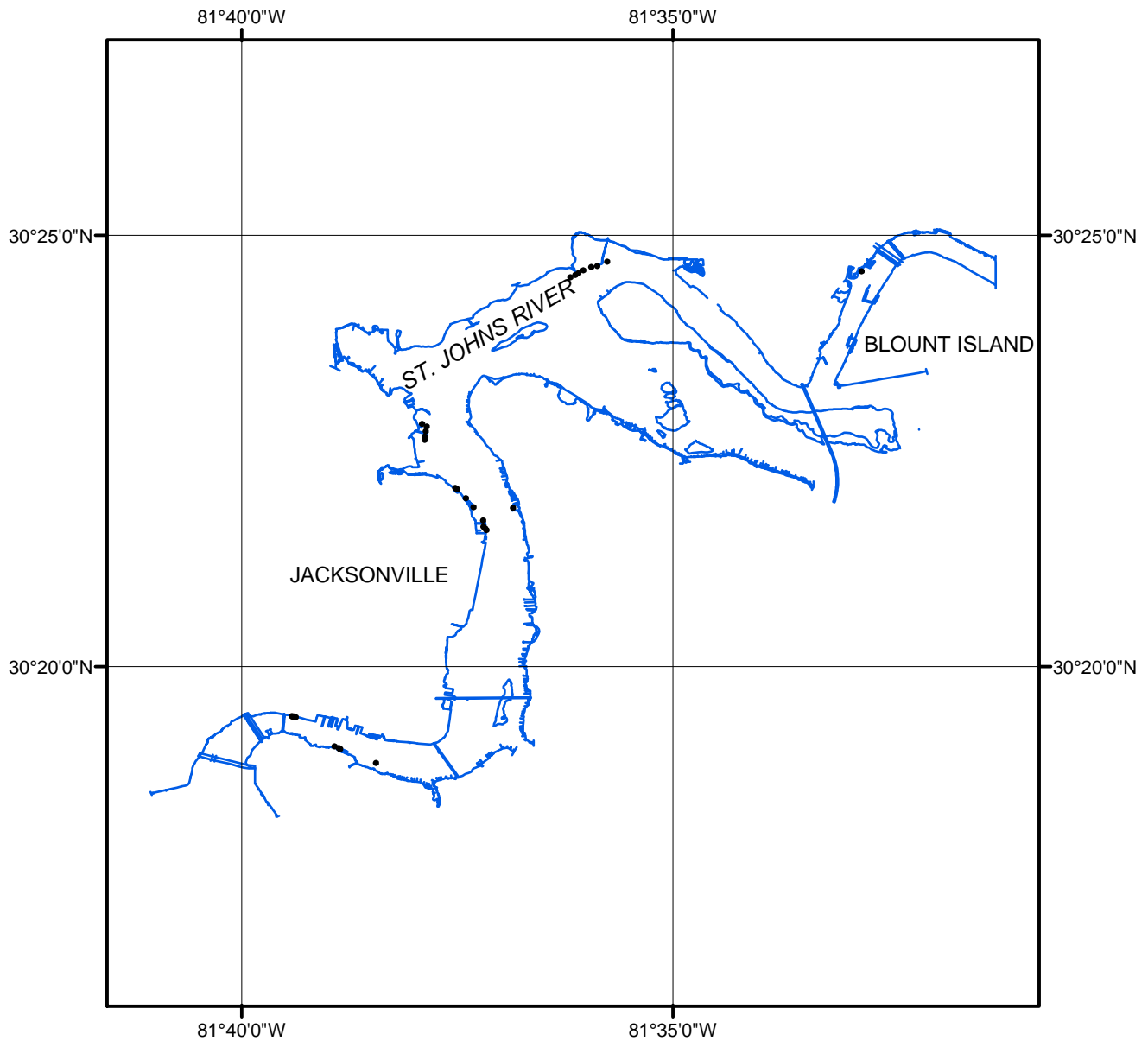
NOAA Shoreline Data Explorer

- DCFF for GC-10520
- Metadata file for GC-10520
- Digital copy of the PCR in Adobe Acrobat PDF format

End of Report

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