

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT PR1104

Punta Salinas, Puerto Rico

Introduction

Coastal Mapping Program (CMP) Project PR1104 provides highly accurate digital shoreline data for Punta Salinas, Puerto Rico. 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

Project PR1104 was designed in response to a request from the Marine Chart Division (MCD) of the Office of Coast Survey, NOAA, for shoreline data covering the remainder of Punta Salinas, which was partially covered by previous CMP Project PR0804. Available source data deemed adequate for successful completion of this project included one color orthomosaic image from the U.S. Army Corps of Engineers (USACE) generated from ADS40 aerial imagery, and one panchromatic WorldView satellite image from DigitalGlobe.

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

Georeferencing tasks were unnecessary, since both USACE and DigitalGlobe provided acceptable accuracy assessments for their imagery. The accuracy of the WorldView image, reported by the vendor at the 90% confidence level (CE90), was converted to CE95 for standard CMP reporting purposes.

Compilation

Data compilation was performed by RSD personnel in August 2011. Digital feature data was compiled in shapefile format from the WorldView imagery using ESRI's ArcGIS 9.3 desktop GIS software. This imagery was selected as the primary source because the precise time of acquisition was known, enabling better interpretation of MHW due to the known tide height. The orthorectified color image was used as an additional resource for feature interpretation. 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 PR1104 were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a horizontal accuracy of 7.4 meters at the 95% confidence level.

The following information pertains to the images used to complete this project:

Image Source	Resolution	Source ID	Acquisition Date/Time	Tide Level*
Orthomosaic	0.3 m	1_ADS408bitRGB_subset.tif	2007-10-31	(unknown)
WorldView	0.5 m	05DEC10WV011100010DEC05151051-P1BS-052436375010_04_P001_subset_rpc.tif	2010-12-05 15:10 GMT	0.6

* Tide levels are given in meters above MLLW and are based on actual observations recorded by the NOS gauge at the time of photography. The elevation of the MHW tidal datum at the San Juan, PR tide gauge is equal to 0.4 meters above MLLW.

Quality Control / Final Review

Quality control tasks were conducted upon project completion by senior CMP quality assurance personnel in August 2011. 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 9.3. The entire suite of project products was evaluated for compliance to CMP requirements.

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

25668, North Coast of Puerto Rico, 1:100,000 scale, 20th edition

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 GC10900 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project database
- GC10900 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

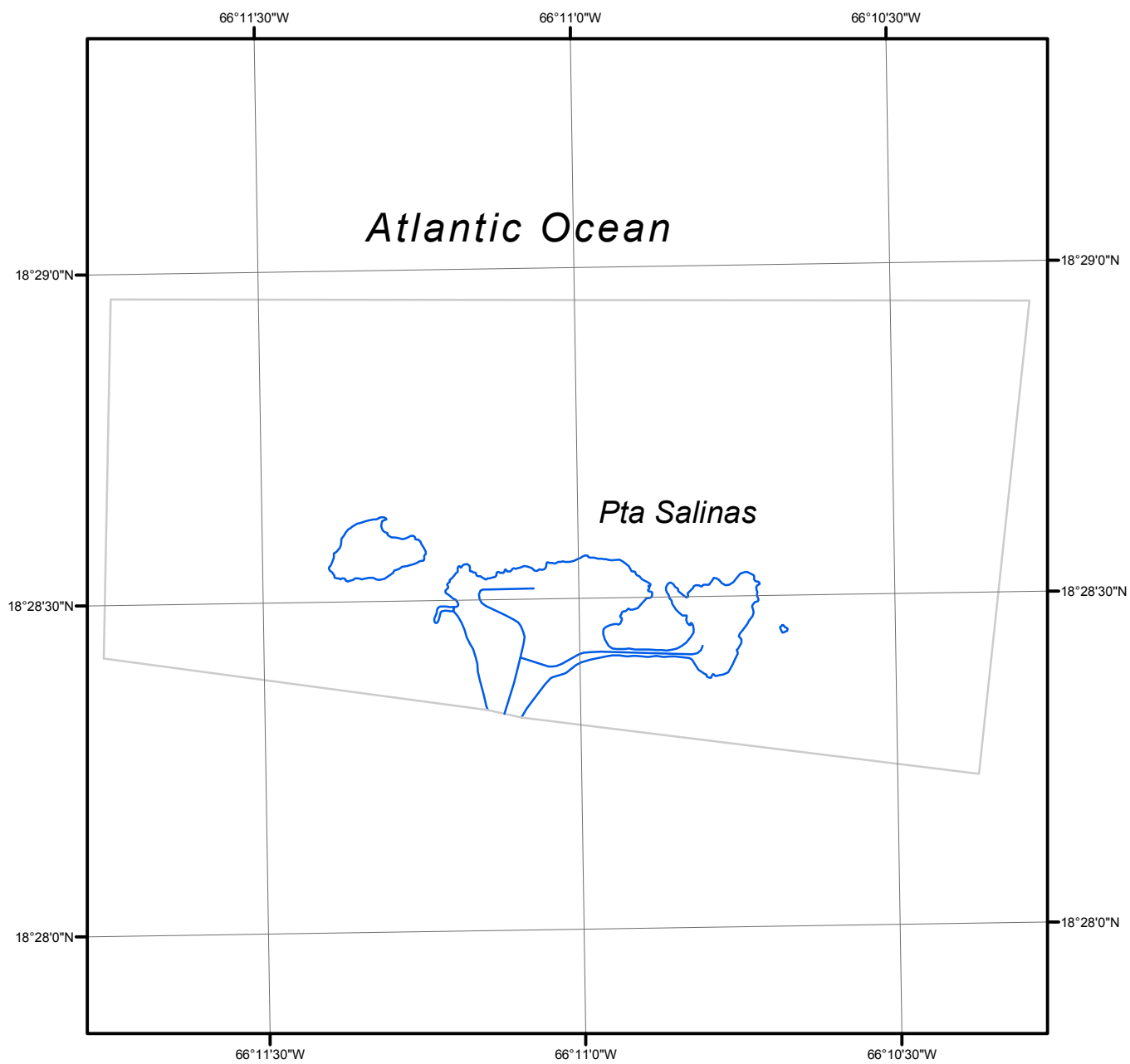
NOAA Shoreline Data Explorer

- GC10900 in shapefile format
- Metadata file for GC10900
- Digital copy of the PCR in Adobe PDF format

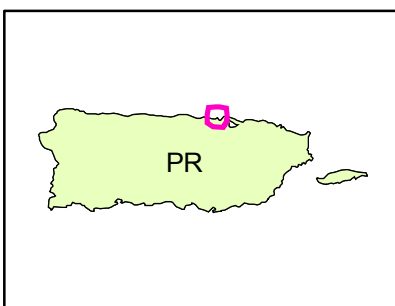
End of Report

PUNTA SALINAS

PUERTO RICO



Overview



PR1104

GC10900