

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT AS0401 SWAINS ISLAND AMERICAN SAMOA, SOUTH PACIFIC

Introduction

Coastal Mapping Program (CMP) Project AS0401 provides coastal zone mapping data of Swains Island which is one of the many Polynesia islands located in the South Pacific. Swains Island is part of the American Samoa group of Islands and is 663 miles south of the equator and 200 miles north of Pago Pago, the capital of American Samoa. The digital cartographic feature file may be used in support of the NOAA Nautical Charting Program (NCP) and coastal zone management activities.

Project Design

This project was designed per a request to update the geospatial reference datum from the 1939 Astronomical based datum to the 1984 World Geodetic System datum. Available source data deemed adequate for successful completion of this project included sources acquired in April 2004.

Field Operations

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

Aerotriangulation

The aerotriangulation task was accomplished by a member of the Applications Branch of the Remote Sensing Division (RSD) in December 2004. The image files were imported into SOCET SET/DataThruWay, version 5.0 software. The importing process also converted the stored compressed files to a recognized native SOCET SET format (NITF 2.0) and included supporting data extension files consisting of previously measured sensor model parameters. The analytical aerotriangulation procedures were completed from a Digital Photogrammetric Workstation using the Multi-Sensor Triangulation (MST) Tool of SOCET SET. The interactive point measurement tool of MST was used to collect several tie points and it was determined from running the simultaneous solve adjustment program that the average predicted horizontal circular error for all well defined points in this project area is 15 meters at the 95% confidence level.

Compilation

Digital feature data compilation for this project was accomplished by a member of the Applications Branch of RSD in December 2004. The Feature Extraction Tool of SOCET SET was used during the digital cartographic feature data compilation phase of project completion. Feature attributes were established from the C-COAST specification file, which provides for the definition and attribution scheme for the suite of cartographic features pertinent to the CMP. Cartographic features were compiled to meet a horizontal accuracy of 18 meters at the 95% confidence level. The tide stage for this project is unknown.

Final Review

Final office review operations were conducted interactively by a member of the Applications Branch of RSD in December 2004, and independently upon initial completion of feature extraction. The process included review of the aerotriangulation results, review of the identification and attribution of cartographic features based on image analysis and criteria defined in C-COAST, and review of client specific support products; such as the Chart Evaluation File (CEF) generated for NCP application. The entire suite of project products was evaluated for compliance to CMP requirements. 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 shapefile format.

NOAA nautical chart 83484, Samoa Islands, Swains Island Inset, 1:40,000 scale, Oct 13, 2001, 10th edition, was used for the chart comparison and for the Chart Evaluation File.

Project Products

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

RSD Applications Branch Archive

- Textual (hard) copy of the Project Completion Report (PCR)
- Page size graphic plot of GC10565 file contents, attached to PCR

Remote Sensing Division Electronic Data Library

- Project Data Base
- Digital copy of DCFF GC10565 in ESRI shapefile format
- Digital copy of the PCR in Adobe Acrobat PDF format

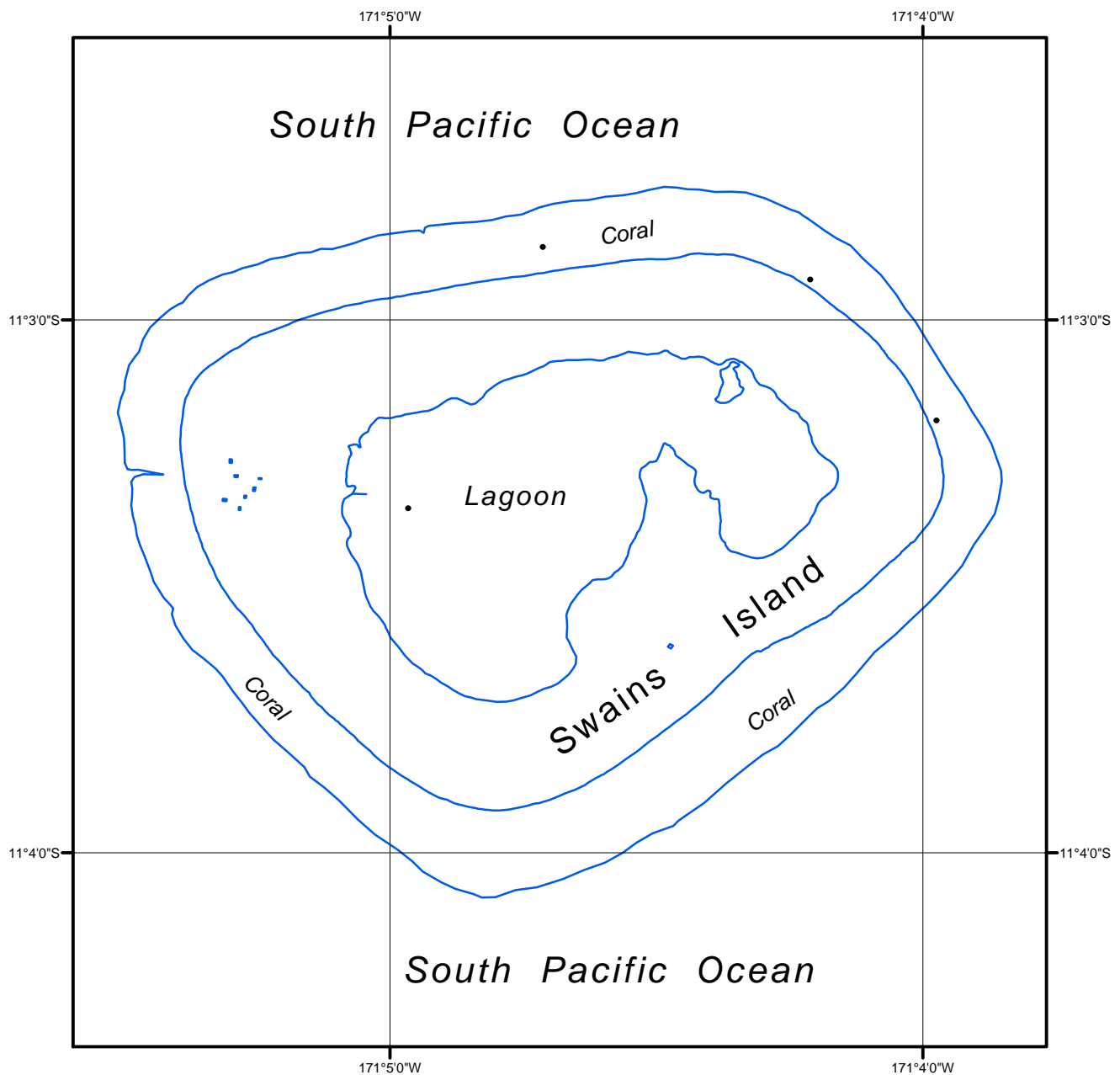
NOAA Shoreline Data Explorer

- DCFF for GC10565
- Metadata file for GC10565
- Digital copy of the PCR in Adobe Acrobat PDF format

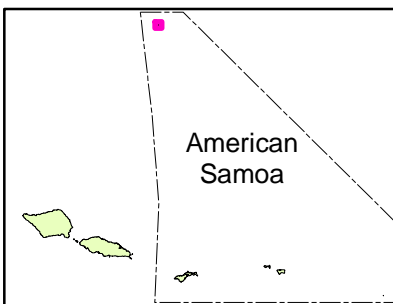
End of Report

SWAINS ISLAND

AMERICAN SAMOA, SOUTH PACIFIC



Overview



AS0401

GC10565