

NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT

PROJECT MP1901-CS-T

Saipan Harbor, Northern Mariana Islands

Introduction

Coastal Mapping Program (CMP) Project MP1901-CS-T provides highly accurate digital shoreline data for key areas of change within Saipan Harbor, in the Commonwealth of the Northern Mariana Islands (CNMI). 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 MP1901-CS-T was accomplished by the Requirements Branch (RB) of the Remote Sensing Division (RSD) in response to the need for timely updates to the NOAA chart suite in key ports. 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 sources 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 memorandum for Project MP1901-CS-T for details of the chart comparison process.

Field Operations

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

Georeferencing

Georeferencing tasks were conducted by a member of AB in August 2019. The satellite image used in CSCAP analysis was georeferenced to align with previously compiled project MP0702 (GC10754) using Georeferencing tools in Esri's ArcGIS (ver. 10.6.1) desktop GIS software. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

Compilation

Data compilation was accomplished by a member of AB in August 2019. Digital feature data was compiled in shapefile format from the satellite imagery using ArcGIS software. 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. Selected features were further modified with additional descriptive information to refine general classification.

Spatial data accuracies for MP1901-CS-T were determined according to standard Federal Geographic Data Committee (FGDC) practices. Cartographic features were compiled to meet a

horizontal accuracy of 3.5 meters at the 95% confidence level (CE95). This accuracy is based on the accuracy of the source data to which project imagery was georeferenced.

The following table provides information on satellite imagery used in the project completion:

Image Source	Image Source File Name	Acquisition Date/Time	Tide Level
WorldView-2	20180925_WV02_ORI_R1C1.jp2	2018-09-25 / 01:03:08 GMT	0.3 m

* Tide levels are given in meters above MLLW and are based on verified water levels recorded by the NOS gauge at Guam with corrections applied to the Saipan Harbor tidal substation at the time of photography. The elevation of the MHW tidal datum at Saipan Harbor is approximately 0.63 meters above MLLW.

Quality Control / Final Review

Final review tasks were completed in October 2019. The review process included analysis of 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. 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:

Remote Sensing Division Electronic Data Library

- CSCAP evaluation memorandum
- Project database
- GC11562 in shapefile format
- Project Completion Report (PCR)
- CEF in shapefile format

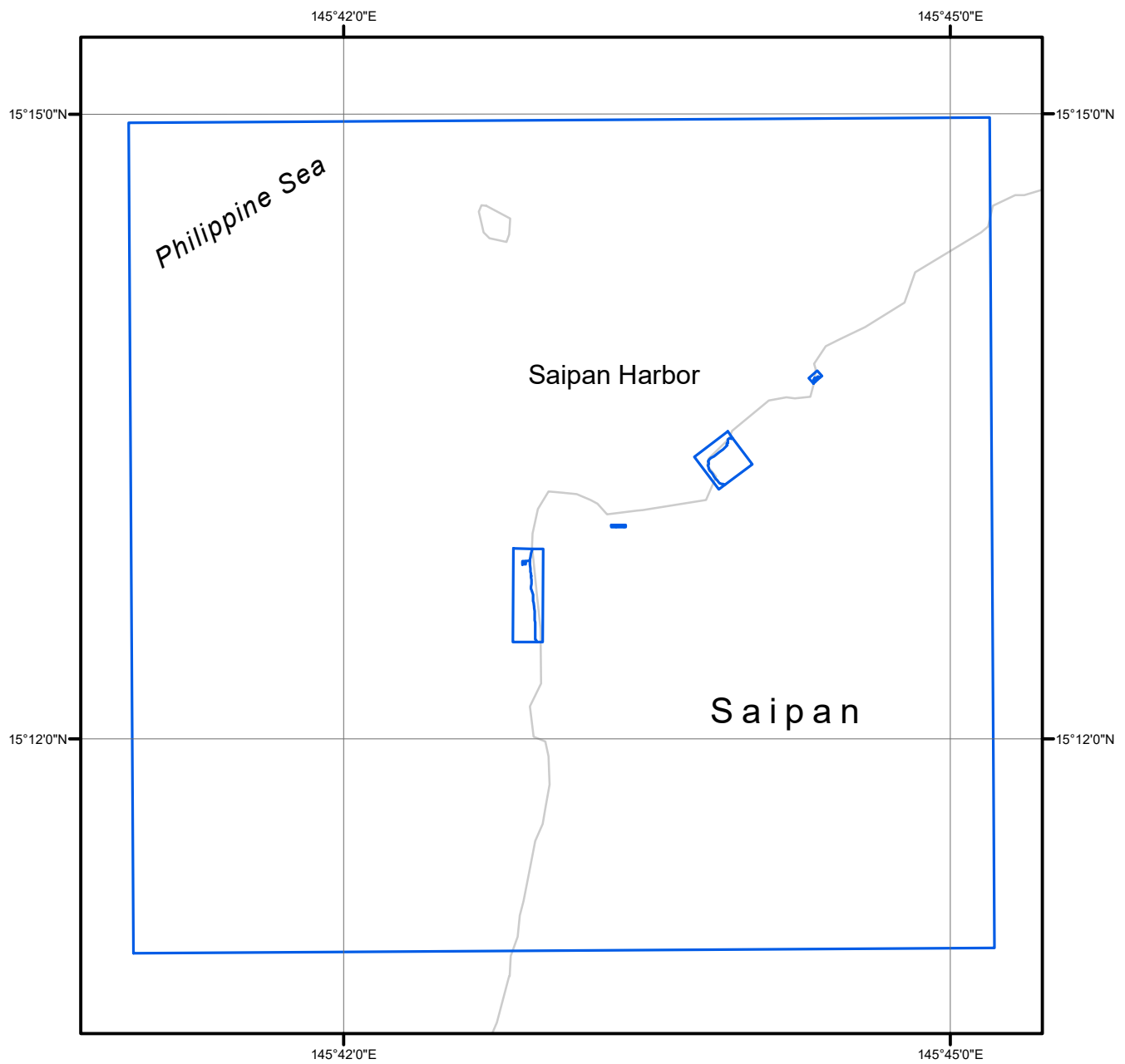
NOAA Shoreline Data Explorer

- GC11562 in shapefile format
- Metadata file for GC11562
- PCR in Adobe PDF format

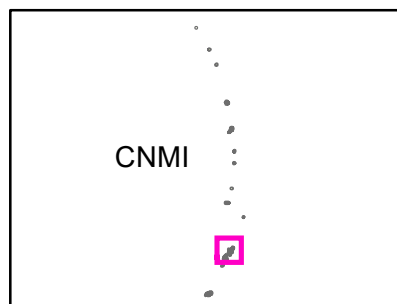
End of Report

SAIPAN HARBOR

NORTHERN MARIANA ISLANDS



Overview



MP1901-CS-T

GC11562