

UNCLASSIFIED



United States of America

National Report

South-West Pacific Hydrographic Commission

25-27 February 2015

Rarotonga, Cook Islands

Naval Meteorology and Oceanography Command

<http://www.navmetocom.navy.mil>

National Geospatial-Intelligence Agency

http://msi.nga.mil/NGAPortal/MSI.portal?_nfpb=true&_st=&_pageLabel=msi_home_page

NOAA, Office of Coast Survey

<http://www.nauticalcharts.noaa.gov>

UNCLASSIFIED

Hydrographic Office/Service

This National Report provides specific information pertaining to individual products and services of primary interest to the South-West Pacific Hydrographic Commission (SWPHC). US domestic and international hydrographic services are primarily conducted by three government agencies: The National Oceanic and Atmospheric Administration's (NOAA) Office of Coast Survey (OCS), the National Geospatial-Intelligence Agency (NGA), and the Naval Meteorology and Oceanography Command (CNMOC, US Navy). NOAA provides nautical charts and related hydrographic information within the nation's Economic Exclusion Zone (EEZ). CNMOC conducts oceanographic, bathymetric, and hydrographic surveys worldwide to satisfy US Navy requirements. NGA is the mapping and charting authority for the US Department of Defense, building a global suite of nautical products and services for the US Navy and commercial mariners in areas the US is considered to be the charting authority.

United States Open Data Policy – Managing Information as an Asset

Information is a valuable national and global resource. The U.S. considers information a strategic asset to the U. S. Federal Government, its partners and the public. In order to ensure the U.S. Federal Government is taking full advantage of its information resources, agencies are directed to increase operational efficiencies, reduce costs, improve services, support mission needs, **and increase public access to valuable government information.**

The access to data and services, usable to the public, can help fuel entrepreneurship, innovation, and scientific discovery – all of which improve lives and contribute significantly to job creation. This policy is available at: <http://www.whitehouse.gov/open>

All hydrographic data, products and services produced by the U.S. HO's are generally made available for download at no cost. For nautical products and services, web deliveries of digital versions of most data are available free to the public.

For access to survey data: <http://www.nauticalcharts.noaa.gov/hsd/hydrog.htm>

For access to charting data: <http://www.nauticalcharts.noaa.gov/staff/chartspubs.html>

In addition to Safety of Navigation products and services, the U.S. is committed to making the Safety of Navigation data available in a variety of formats for as many users as possible. ENC data (S-57) can be obtained in GIS friendly format for non-traditional users, opening up HO data

to a host of new customers and users. New map services are in place to allow others simple access to real time access to data, creating opportunities for near-real time coastal intelligence via interactive map viewers. The NOAA NowCOAST web site (<http://Nowcoast.noaa.gov>) is an example of the possibilities created by delivering data for broad customer use.

Additional information is included within the specific sections for each product line.

International Open Government Partnership (OGP)

OGP was launched in 2011 to provide an international platform for domestic reformers committed to making their governments more open, accountable, and responsive to citizens. Since then, OGP has grown from 8 countries to the 65 participating countries. In all of these countries, government and civil society are working together to develop and implement ambitious open government reforms. Additional information regarding the OGP can be found at: <http://www.opengovpartnership.org/>

Participating SWPHC member states within the OGP include: Australia, France, New Zealand, United Kingdom and the United States.

Surveys

A statutory mandate authorizes NOAA to provide nautical charts and related hydrographic information for the safe and efficient navigation of maritime commerce as well as providing basic data for engineering, scientific, and other commercial and industrial activities within the nation's 3.4 million square nautical mile EEZ.

The *NOAA Hydrographic Survey Priorities* available at <http://www.nauticalcharts.noaa.gov/hsd/NHSP.htm> defines the methodology NOAA uses to identify survey priorities across the US EEZ. *NOS Hydrographic Surveys Specifications and Deliverables* has been updated for 2014 and includes new specifications and changes made since the 2013 version. Those who acquire hydrographic survey data in accordance with NOS specifications should use the current version; 2014 Specifications and Deliverables.

NOAA did not conduct any surveys in the SWPHC in 2014, nor planned any for 2015. There is discussion for a survey in 2016 around the Marianas islands using the NOAA Ship OKEANOS

EXPLORER. Though not a dedicated hydrographic survey ship, the *NOAA Ship OKEANOS EXPLORER* may have an opportunity to collect hydrographic data on their assigned mission.

The US Navy surveys waters outside the United States and in the territorial waters of other nations through diplomatic channels and international agreements. The Naval Oceanographic Office (NAVOCEANO), a subordinate command of CNMOC, currently has five Pathfinder Class 100-meter multi-purpose survey ships to conduct oceanographic, bathymetric, and hydrographic surveys in deep-ocean and coastal waters. These ships are USNS PATHFINDER (T-AGS 60), USNS MARY SEARS (T-AGS 65), USNS BOWDITCH (T-AGS 62), USNS HENSON (T-AGS 63), and USNS BRUCE C. HEEZEN (T-AGS 64). BOWDITCH, HENSON, and HEEZEN each carry two 10-meter hydrographic survey launches (HSLs).

USNS SUMNER (T-AGS 61) was inactivated in 2014 but the new ship USNS MAURY (T-AGS 66) was recently launched, is being fitted out and will be delivered in 2015 bringing NAVOCEANO's survey fleet back up to six ships. Maury is eight meters longer than previous ships of the class to accommodate a moon pool for operating unmanned underwater vehicles (UUV).

NAVOCEANO has upgraded its Airborne Coastal Survey (ACS) capability with the new Optech, Inc., Coastal Zone Mapping and Imaging LIDAR (CZMIL) system. The system is flown on a Basler BT-67, a refurbished DC-3. NAVOCEANO is currently using the new system to conduct airborne hydrographic surveys.

Fleet Survey Team (FST), a subordinate command of NAVOCEANO is comprised of approximately 65 military and civilian surveyors. FST employs various small craft for survey including 9-meter SAFE boats (Defender-class) and Sea Arks, fitted with multi-beam and expeditionary survey vehicles (ESVs) which are jet skis fitted with a single beam echo sounder and side scan sonar. All FST craft can be transported aboard C-130 aircraft for rapid deployment. FST also has equipment to outfit boats of opportunity for survey. This capability is used to address standard Navy survey requirements, but has also been employed to ensure clear approach corridors in support of humanitarian aid and disaster relief.

NAVOCEANO's survey ships, ACS aircraft, and FST have all been utilized in the past to conduct cooperative hydrographic surveys with countries in the region.

New Charts and Updates

Electronic Nautical Charts (ENC)

The US (NOAA) is responsible for producing ENCs in the areas inside US domestic waters. These areas of responsibility are primarily focused on the Marianas Islands, American Samoa, Cook Islands and Kingman Reef. Additionally, NOAA produces EEZ ENCs in the region with US1EEZ1M, US1EEZ2M and US1EEZ3M.

The US (NGA) is responsible for producing ENCs in areas where the US functions as the Prime Charting Authority outside US domestic waters. NGA, in coordination with NOAA, is currently in production of two ENC cells, in the waters around Palau. These cells have not yet been published. As time permits, NGA will seek to complete its ENC Portfolio of Palau and also work to add ENC coverage in both the Marshall Islands and the Federated States of Micronesia.

ENC Band	1	2	3	4	5	6
Number of U.S. ENCs existing in SWHPC Region (NOAA)	3	1	0	2	9	0
Number of U.S. ENCs existing in SWHPC Region (NGA)	0	0	0	1	1	0

ENC distribution

U.S. ENCs, including newly created NGA ENCs, are distributed through PRIMAR, UKHO, Maris, Jeppesen, Chart World, Creative Map Corporation, and directly from NOAA at www.nauticalcharts.noaa.gov.

Digital Nautical Chart (DNC)



The U.S. produces many DNCs in the SWPHC waters. The DNC is produced by the National Geospatial-Intelligence Agency (NGA) and is an unclassified, vector-based, digital database containing maritime significant features essential for safe marine navigation. The DNC uses the Vector Product Format, which is a NATO standard

for digital military map and chart data. Additional details can be located at:

http://www.nauticalcharts.noaa.gov/mcd/learn_diffENC_DNC.html

NGA produces DNCs for worldwide coverage. They are maintained by NGA with new source information from the U.S. and prime foreign hydrographic authorities. This product is Limited Distribution and is not available for public sale or download except within U.S territorial waters and where source data restrictions allow. Data can be shared with host nations based on Bi-lateral agreements.

For requests regarding DNC data, pls contact maritime.international@nga.mil

Standard Nautical Charts (SNC)



NGA produces 435 Standard Nautical Charts (SNC) for the SWPHC region in their SNC portfolio. However, NGA is withdrawing many of them from public sale due to intellectual property issues as they produce new edition charts. NGA will continue to distribute to the public charts where NGA and the U.S have historically been the primary charting authority. Other factors include areas where the US conducts the surveys, compiles and issues the chart, and there is no functioning national authority or NGA has specific authority (e.g. Trust Territory of the Pacific). NGA seeks cooperation of nations within a region to allow public distribution of data, products and services that are national and regional assets to be used to promote economic benefit

NOAA produces 16 SNC's in the SWPHC region. Nautical charts come in a wide variety of chart types, but they are all accessed by 5 digit number as found in the Nautical Chart Catalog, copies of which are in the map area as well as at the front desk. (Exceptions to this 5 digit number are chart numbers 50, 411, 500, 501, 530, and 531).

The charts and the dates of latest editions are updated weekly can be obtained at the NOAA chart library: <http://nauticalcharts.noaa.gov/mcd/dole.htm>

Raster Navigational Charts (RNC)

The NOAAs RNC catalogue can be found at:

<http://www.nauticalcharts.noaa.gov/mcd/catalogs/viewer.php?cat=Pacific&side=Chart>

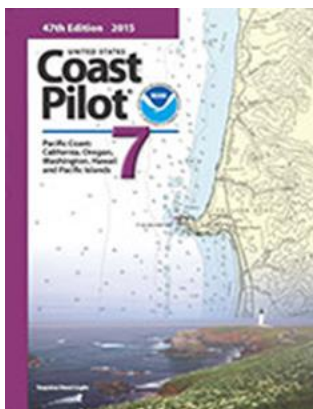
NGA does not produce RNCs.

International (INT) Charts

NGA and NOAA share INT chart responsibility within the SWPHC region, primarily over US Trust Territories and builds its chart schema and DNC library limits from these INT schema, if practical. NGA is responsible for 7 of the 8 INT Charts for which the US is responsible in the SWPHC Region (charts 5712, 5090, 5092, 5093, 5094, 5095, and 5096), while NOAA is responsible for Chart 5091.

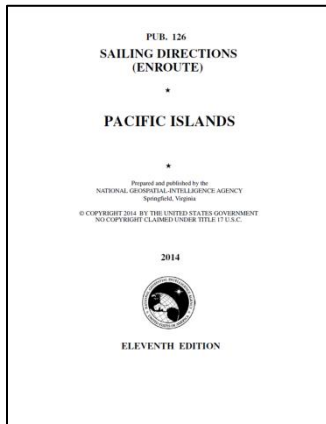
New Publications and Updates

United States Coast Pilot



The United States Coast Pilot consists of a series of nine regionally-focused nautical books that cover a variety of useful information important to navigators for coastal and intra-coastal waters and the US Great Lakes. Coast Pilot 7 - 47th Edition, 2015, covers the coasts of California, Oregon and Washington, and includes Hawaii and other United States territories in the South Pacific. For the SWPHC region Coast Pilot 7 covers the island of American Samoa. US Coast Pilot now offers completely updated publications every week. US Coast Pilots can be downloaded at: <http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm>

Sailing Directions



Sailing Directions is produced and maintained by NGA. It consists of useful information important to navigators of coastal waters. Information for the SWPHC region is contained in:

Publication 126 – Pacific Islands

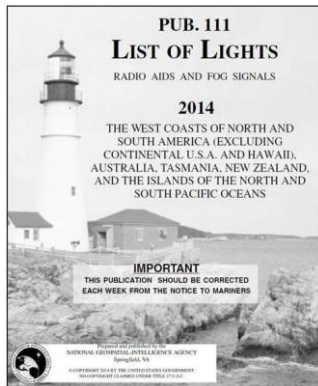
Publication 127 – East Coast of Australia and New Zealand

Publication 175 – North, West and South Coasts of Australia

Digital updates can be downloaded from NGA at

<http://msi.nga.mil/NGAPortal/MSI.portal>

List of Lights, Radio Aids and Fog Signals



The NGA *List of Lights, Radio Aids and Fog Signals* and their digital updates are available to the public and posted at the NGA Maritime Safety website, at

<http://msi.nga.mil/NGAPortal/MSI.portal>.

Publication 111 - The West Coasts of North and South America (Excluding Continental USA and Hawaii), Australia, Tasmania, New Zealand, and the Islands of the North and South Pacific Oceans covers the SWPHC region.

Maritime Safety Information (MSI)

The US Coast Guard issues Notices to Mariners for NOAA charts, while NGA issues Notices to Mariners for NGA charts in the SWPHC region.

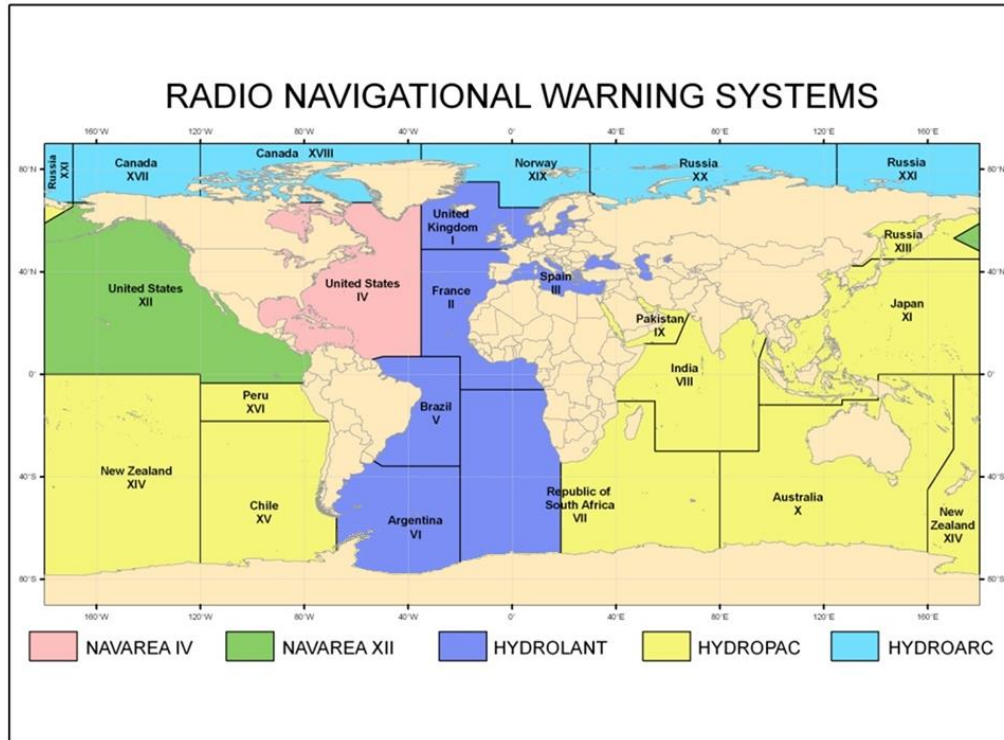
Notice to Mariners

The US Notice to Mariners provides timely marine safety information for the correction of all US Government navigation charts and publications from a wide variety of sources, both



foreign and domestic. Information published in Notice to Mariners provide for the correction of unclassified nautical charts, the unclassified NGA/DLIS Catalog of Hydrographic Products, United States Coast Pilots, NGA List of Lights, US Coast Guard (USCG) Light Lists, and other related nautical publications produced by NGA, National Ocean Service (NOS), and the USCG. The US Notice to Mariners corrects NGA and NOS charts using information collected from many sources, among them the Local Notice to Mariners published by the nine US Coast Guard Districts.

Navigation Warnings



Australia (NAVAREA X) and New Zealand (NAVAREA XIV) are the NAVAREA Coordinators for SWPHC. All member states within the SWPHC Region are encouraged to relay pertinent maritime safety information to those authorities for widespread promulgation.

Assistance with promulgating Notices to Mariners and MSI information can be obtained from the product producer nation. Regional and specific question can be directed to the appropriate authority, or other hydrographic offices operating within the region.

C-55 Update

The most recent US update to *C-55, Status of Hydrographic Surveying and Nautical Cartography Worldwide*, is as follows:

A = percentage which is adequately surveyed

B = percentage which requires re-survey at larger scale or to modern standards

C = percentage which has never been systematically surveyed

	A	B	C
Depths < 200m	10	0	90
Depths > 200m	0	0	100

Coverage of charts published by the US in the SWPC region (not including limited distribution products) where:

A=percentage covered by INT series, or paper chart series meeting the standards in M-4

B=percentage covered by Raster Navigational Charts (RNC) meeting the standards in S-61

C=percentage covered by ENC's meeting the standards in S-57

Purpose/Scale	A	B	C
Offshore passage/small	100	100	95
Landfall and Coastal passage/medium	100	100	100
Approaches and Ports/Large	100	100	80
Percentage of Group A showing depth in meters	100	100	41
Percentage of Group A referenced to a satellite datum	100	100	100

Capacity Building

The United States is an active participant in the IHO Capacity Building Sub-Committee (CBSC), and the US/NGA directly supports the IHO Maritime Safety Information (MSI) training course. The latest MSI course was conducted in Muscat, Oman in December 2014. Specific regional course information should be obtained from the SWPHC Capacity Coordinator.

Training Opportunities available in the United States

Training opportunities are available at various institutions in the United States. Two Category A certified hydrographic programs are available through:

- The University of Southern Mississippi (USM)
 - www.marine.usm.edu/hs.php
- The University of New Hampshire (UNH)
 - www.marine.unh.edu/research/ccom.html

CNMOC has partnered with USM for their program and NOAA has a similar arrangement with UNH for their Category A program. CNMOC also offers a six-month category B International Hydrographic Management and Engineering Program via its Naval Meteorology and Oceanography Professional Development Center in Gulfport, Mississippi.

Capt. Andrew Armstrong, NOAA (ret.), the NOAA co-director of the Joint Hydrographic Center at UNH, is a member of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers. As a member of the board, Capt. Armstrong is available to advise institutions on establishing hydrographic training curricula and preparing submissions to the International Board for Category A or Category B recognition. (andy.armstrong@noaa.gov).

Oceanographic Activities

General Bathymetric Chart of the Oceans (GEBCO)

The United States participates on the IOC-IHO Guiding Committee for GEBCO, and hosts the IHO Data Centre for Digital Bathymetry at NOAA's National Geophysical Data Center.