

SEMINAR ON E-NAVIGATION ON OUR OCEAN

The contribution of SIMA-JICA Project

Honiara, Solomon Islands

13 May 2025

Project expect outcomes & results
(ENC demonstration)

*Presented by Kei TAKASHITA, JICA Expert, Vice Chief Advisor for the
Capacity building project of Hydrographic Survey and Electronic
Navigational Charts in the Solomon Islands*

- **Free and Open Indo-Pacific(FOIP)**

In 2016, Japan proposed the vision, which aims to improve connectivity between Asia and Africa via the Indian and **Pacific Oceans**, and to promote regional stability and prosperity.

- **PALM10 in 2024**



The Pacific Ocean

(The Tenth Pacific Islands Leaders Meeting in 2024)

Joint Action Plan

- Reinforce capacity for maritime security and maritime safety:

The PALM Partners will continue cooperation in building capacity based on national request, respect for **developing navigational charts**.

What is JICA?

- ***JICA (Japan International Cooperation Agency)*** is in charge of administering all ODA in Japan, except for contributions to international organizations.
- ***Mission :***
JICA will work on human security and quality growth in accordance with the Development Cooperation Charter.



ENC Project in Solomon Islands

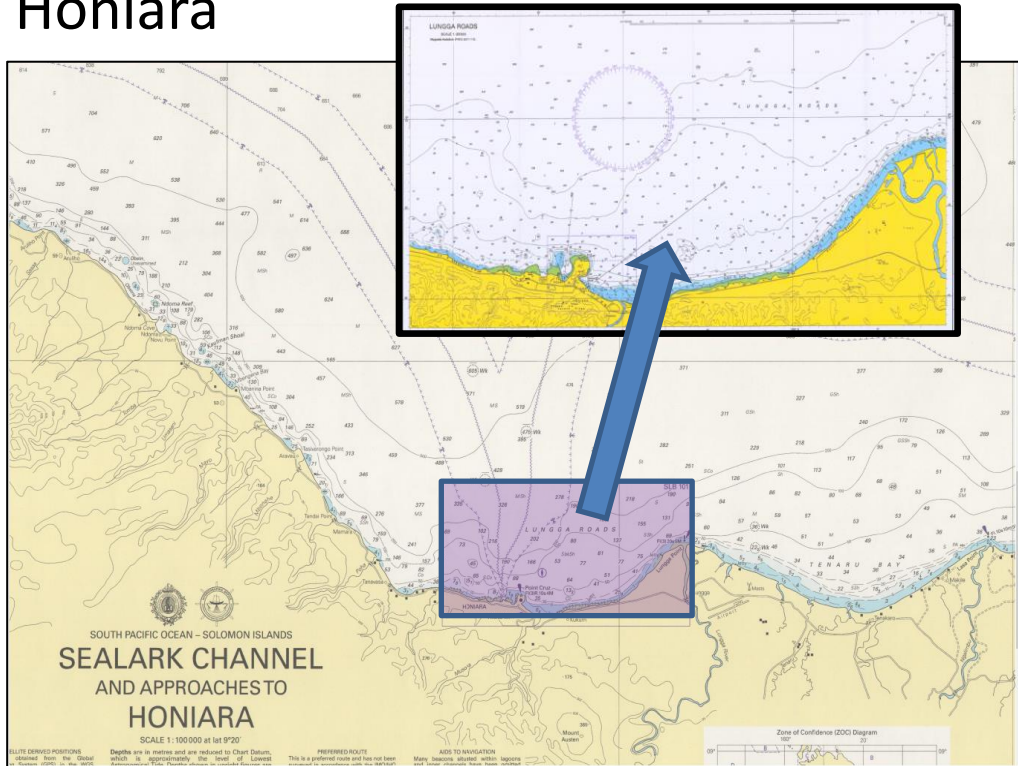
The Project for Improvement of Honiara Port Facilities (Solomon Islands)



ENC Project in Solomon Islands

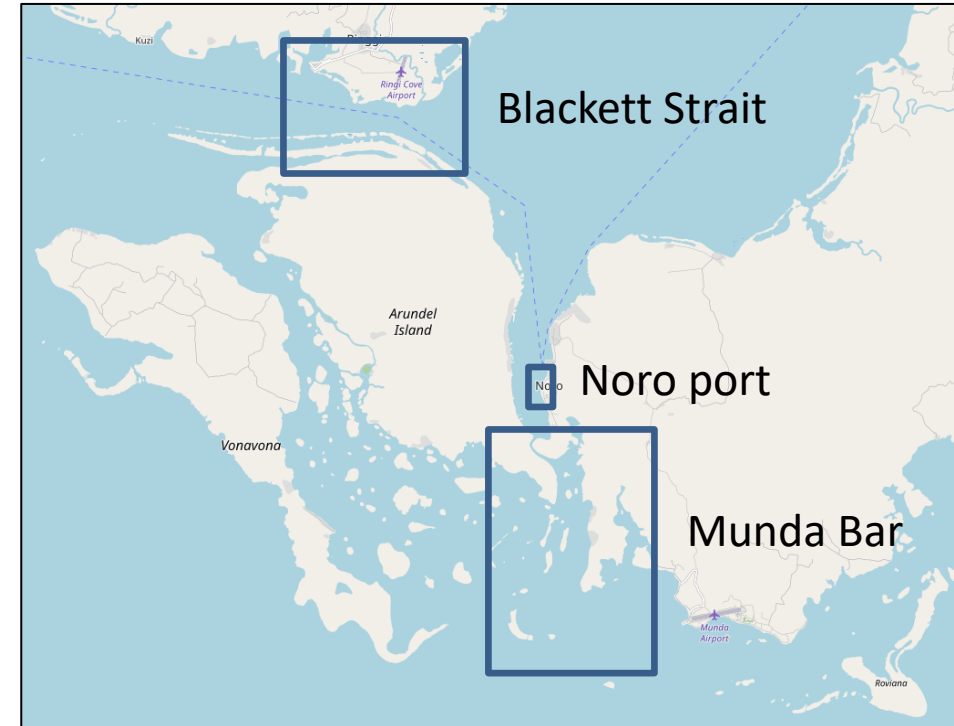
Project Areas

Honiara



Place	Types	Area, Scale
Honiara	ENC	Harbour
	Paper Chart	1:5,000 1:20,000

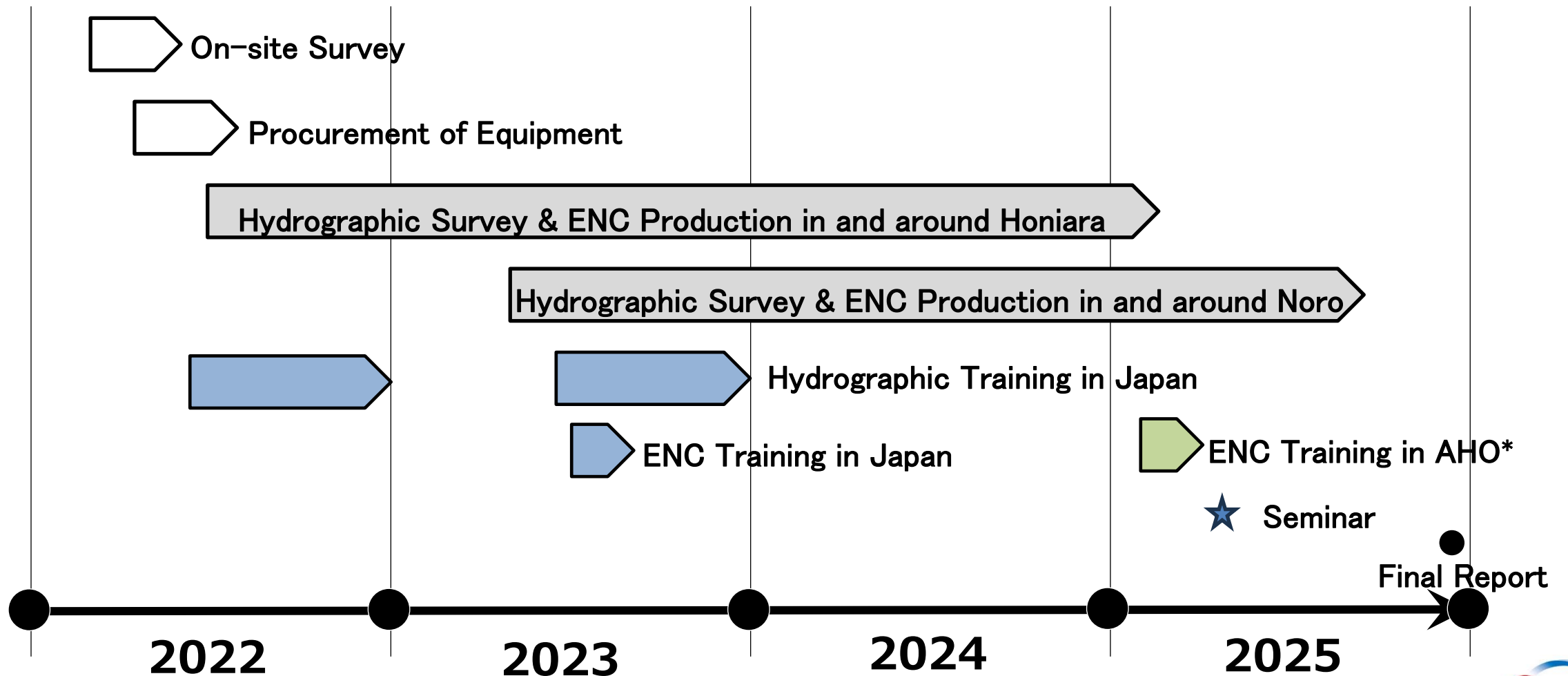
Noro



Place	Types	Area, Scale
Noro	ENC	Harbour Approach
	Paper Chart	1:5,000 Noro 1:20,000 Munda 1:50,000 Blackett

ENC Project in Solomon Islands

Entire Schedule



*AHO: Australian Hydrographic Office

ENC Project in Solomon Islands

Input by JICA

- **Dispatch of Experts: 12 experts, for the Capacity Building**
(62 M/M in Solomon Islands, 5 M/M in Japan)
- **Hydrography and ENC training in JAPAN and AUSTRALIA**
- **The following equipment will be supplied by JICA in the Project,**
 - Positioning/Navigation
 - Depth Sounding System
 - Seabed Imaging
 - Drone
 - Tide Gauges
 - ENC/Paper Chart Software
 - A0 Plotter



GNSS Receiver & Data Recorder



Single Beam Echo sounder



Side Scan Sonar

ENC Project in Solomon Islands

Survey Boat Repair



SIMA boat was significantly damaged by unexpected trouble.



JICA supported the repairing the boat and its equipment.

Past Hydrographic Activities

1. Control Point Survey

- Honiara, Noro Base Point, Long Baseline Analysis

2. Satellite Derived Bathymetry (SDB)

- Honiara, Noro , Munda Bar, Blacket Strait

3. Hydrographic Survey

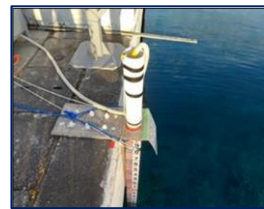
- Multi-beam echo sounding at Honiara port, Noro port, Munda Bar, and Blackett Strait with OJT

4. Coastline Survey by Satellite & DRONE

- The detailed coastline is obtained from DRONE photography and Satellite Images with OJT.

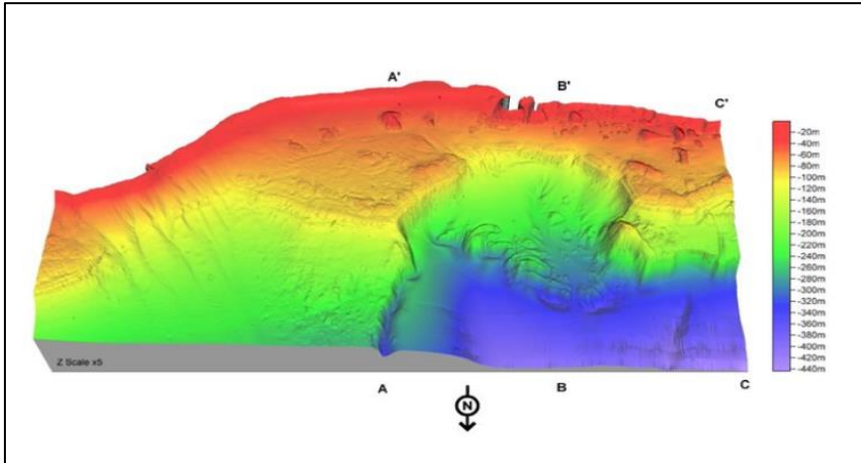
5. Tide Observation, with Leveling

- Noro port
Semi-permanent station with OJT,
- Honiara, Munda and Ringgi port
Temporary station with OJT,

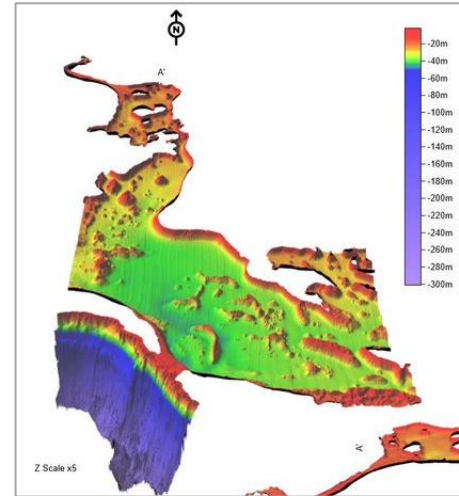


ENC Project in Solomon Islands

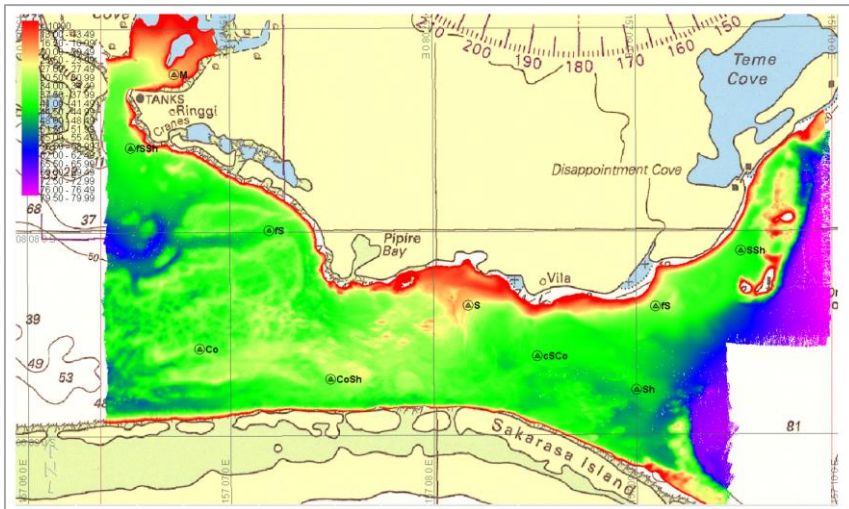
High Quality Bottom Profiles



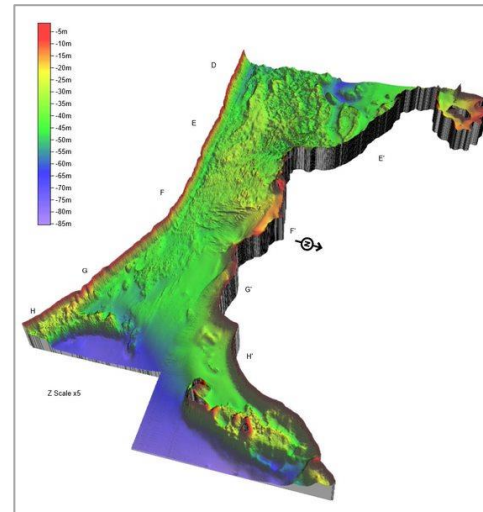
1. Honiara from N



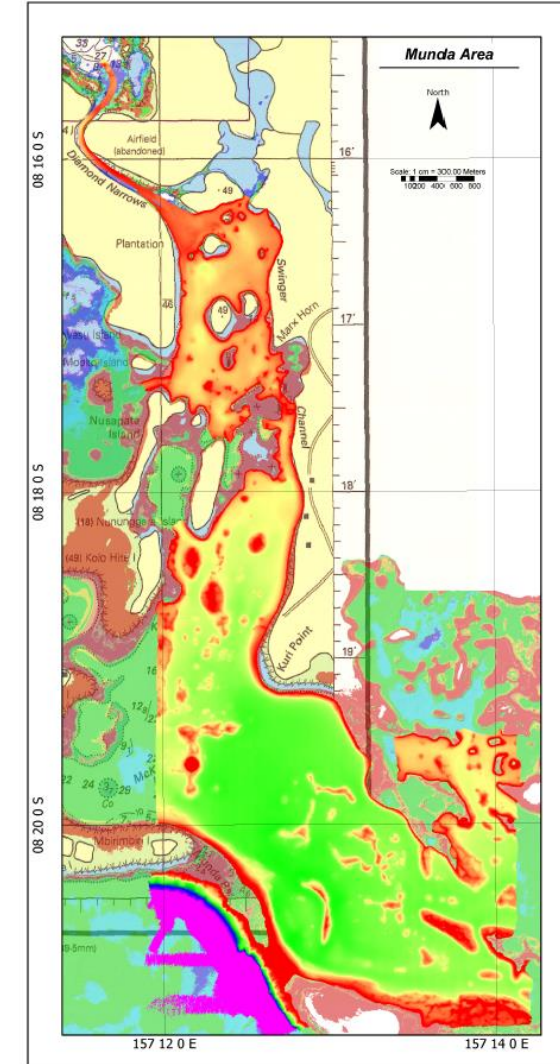
2. Blackett Strait from NE



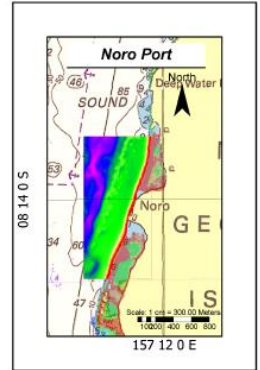
2. Bathymetric map of Blackett



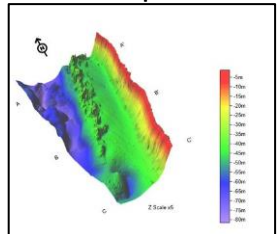
3. Munda Bar from S



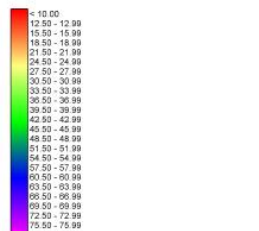
3. Bathymetric map of Munda Bar



4. Bathymetric map of Noro port

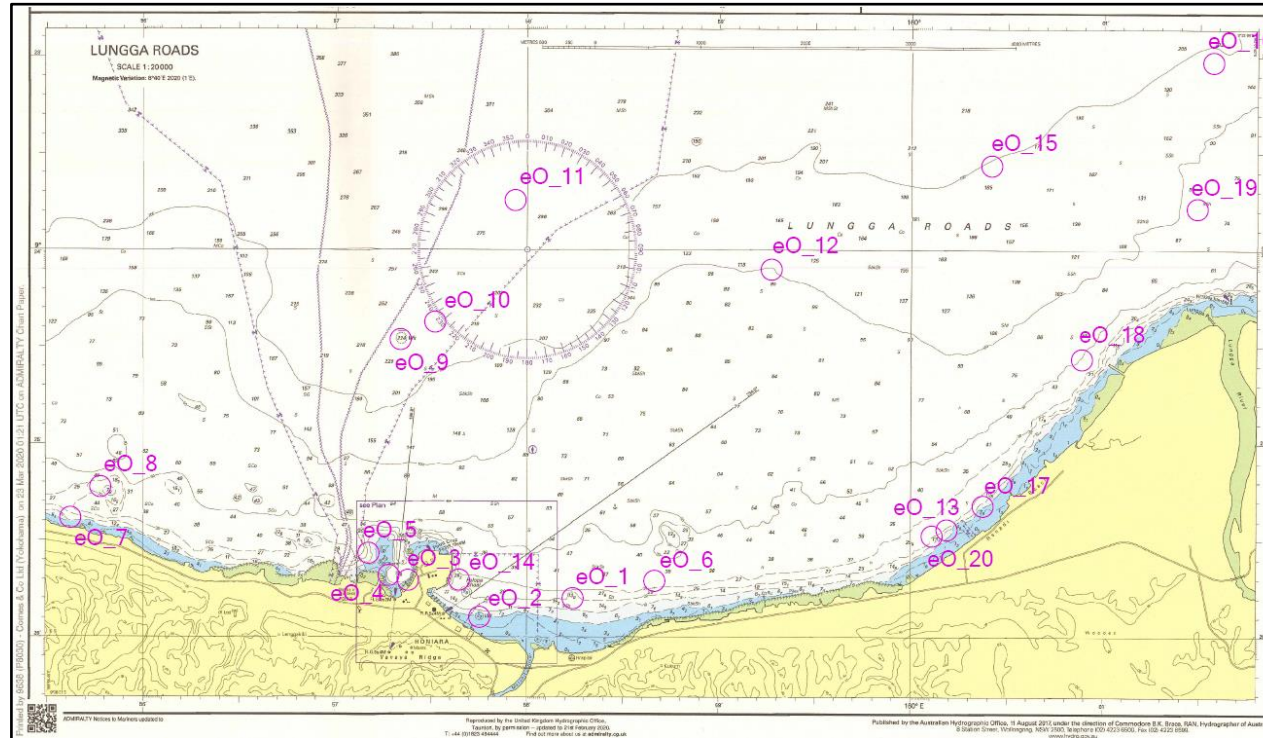


4. Noro port from SSW



ENC Project in Solomon Islands

High Quality Bottom Profiles



Honiara Port

Several wrecks were found!
According to preliminary analysis, 15 possible wrecks, 13 newly found!

No.	UTM		WGS84		Depth (m)
	X	Y	Lat	Lon	
6	607,347.21	8,957,628.49	9.42845431 S	159.97777991 E	25.48

No.	UTM		WGS84		Depth (m)
	X	Y	Lat	Lon	
7	601,781.05	8,957,628.49	9.42997069 S	159.97063831 E	13.99
8	602,062.94	8,957,628.49	9.43157625 S	159.96255348 E	2.82
9	604,927.14	8,957,628.49	9.42836509 S	159.95635512 E	5.99
10	605,253.10	8,957,628.49	9.42796375 S	159.95464831 E	10.75
11	604,620.77	8,957,902.32	9.42604596 S	159.95294153 E	1.29

No.	UTM		WGS84		Depth (m)
	X	Y	Lat	Lon	
11	606,020.69	8,961,262.12	9.3962745 S	159.9655271 E	112.94
12	608,485.20	8,961,584.32	9.40160432 S	159.9678957 E	100.87
13	610,130.05	8,968,188.85	9.4243891 S	160.0011242 E	18.79
14	605,478.16	8,957,643.53	9.4283014 S	159.9675943 E	27.35
15	610,564.14	8,961,674.70	9.3928956 S	160.0019713 E	189.87

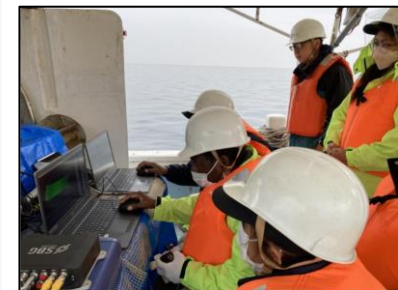
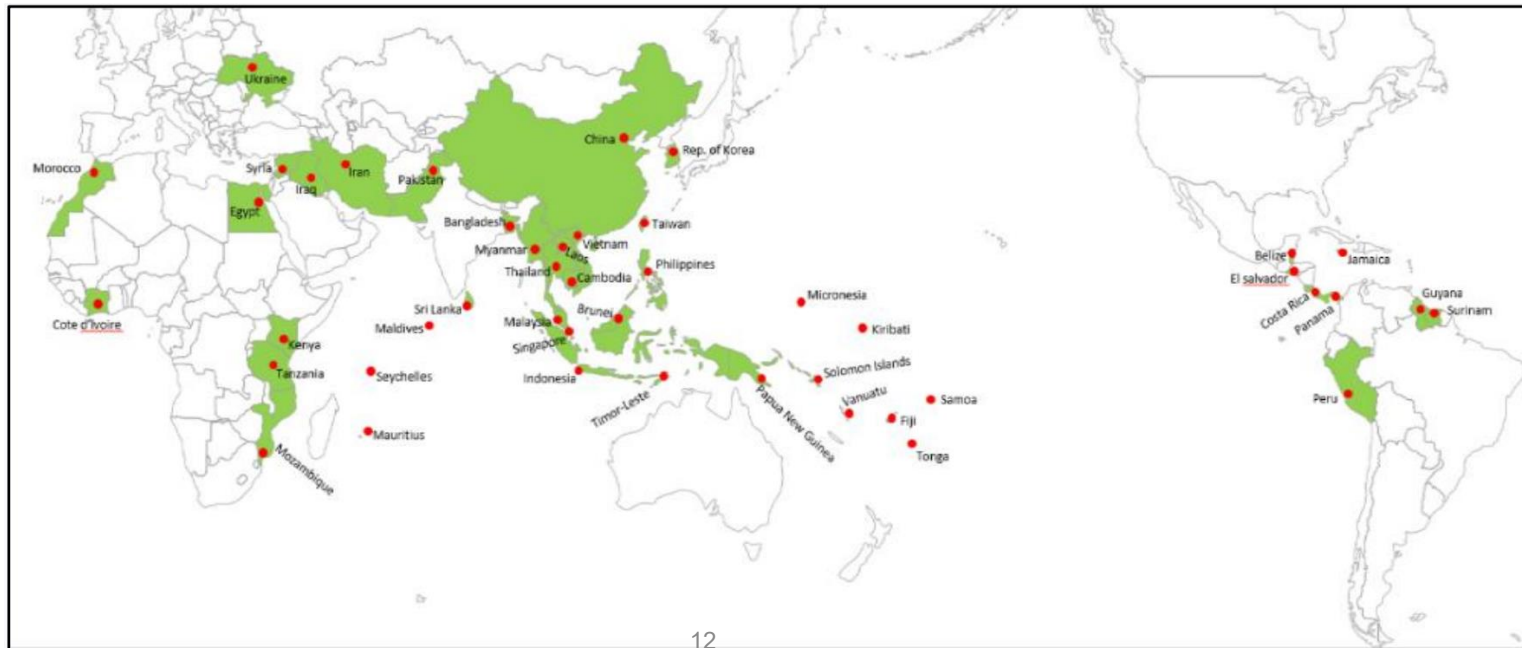
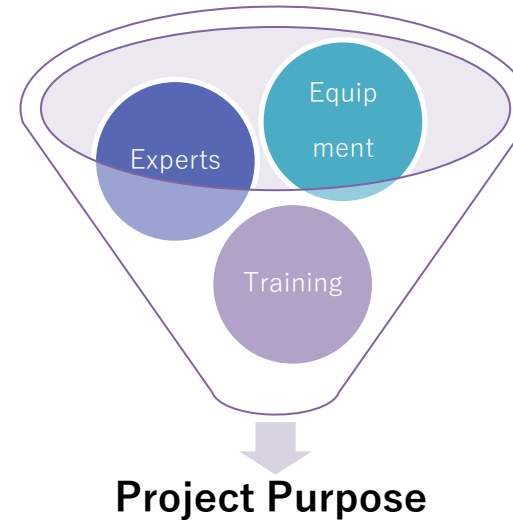
No.	UTM		WGS84		Depth (m)
	X	Y	Lat	Lon	
16	612,677.99	8,962,055.12	9.3876256 S	160.0119912 E	189.76
17	610,471.95	8,968,334.72	9.42198713 S	160.0012885 E	3.22
18	611,438.98	8,959,728.63	9.4034730 S	160.0188951 E	63.81
19	612,822.99	8,961,260.73	9.39617673 S	160.0182489 E	86.92
20	609,986.86	8,958,093.08	9.42457410 S	160.018098 E	26.75

JICA Hydrographic Training in Japan

● Hydrography for Charting and Disaster Management Course

Six-month training course for hydrographic surveyors conducted by JICA in cooperation with Hydrographic and Oceanographic Department, Japan Coast Guard since 1971

More than 465 trainees from 46 countries have participated until 2024.



JICA Hydrographic Training in Japan

- **Hydrography for Charting and Disaster Management**

Recognized as Category-B
Hydrography by IBSC.

IBSC: International Board of Standards of Competence
for Hydrographic Surveyors and Nautical Cartographers.



JICA trainees in 2022



JICA trainees in 2023

Mini Hydrographic Project

-
- Tulagi Island
- Vanita Motel & Restaurant
- 最近閲覧した場所
- Accommodation
- Tulagi SSEC Church
- Sylvia Reef
- Google



ENC Project in Solomon Islands

Mini Hydrographic Project



Calm sea in the first morning.



A driver and a navigator.



Tide gauge installation.



Mobilization of a single-beam echo sounder (SBES).



Bar check.



Hydrographic survey with SBES.

ENC production

ENC Training in Japan

Introductory ENC training was given in Japan.

The training includes a lot of practical exercises.

SIMA officers also joined JICA Cat. B training course for hydrographic survey.



ENC training in Japan



Lecture on ENC basics
@ JICA Tokyo



Courtesy visit to the Commander of
5th Regional Japan Coast Guard HQ

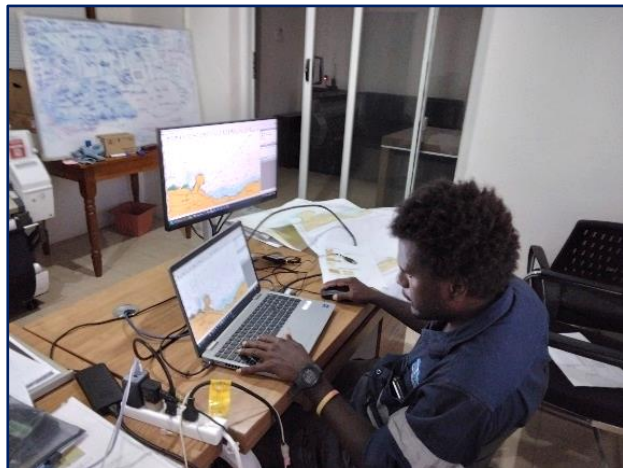
ENC Production

1. ENC Data Production

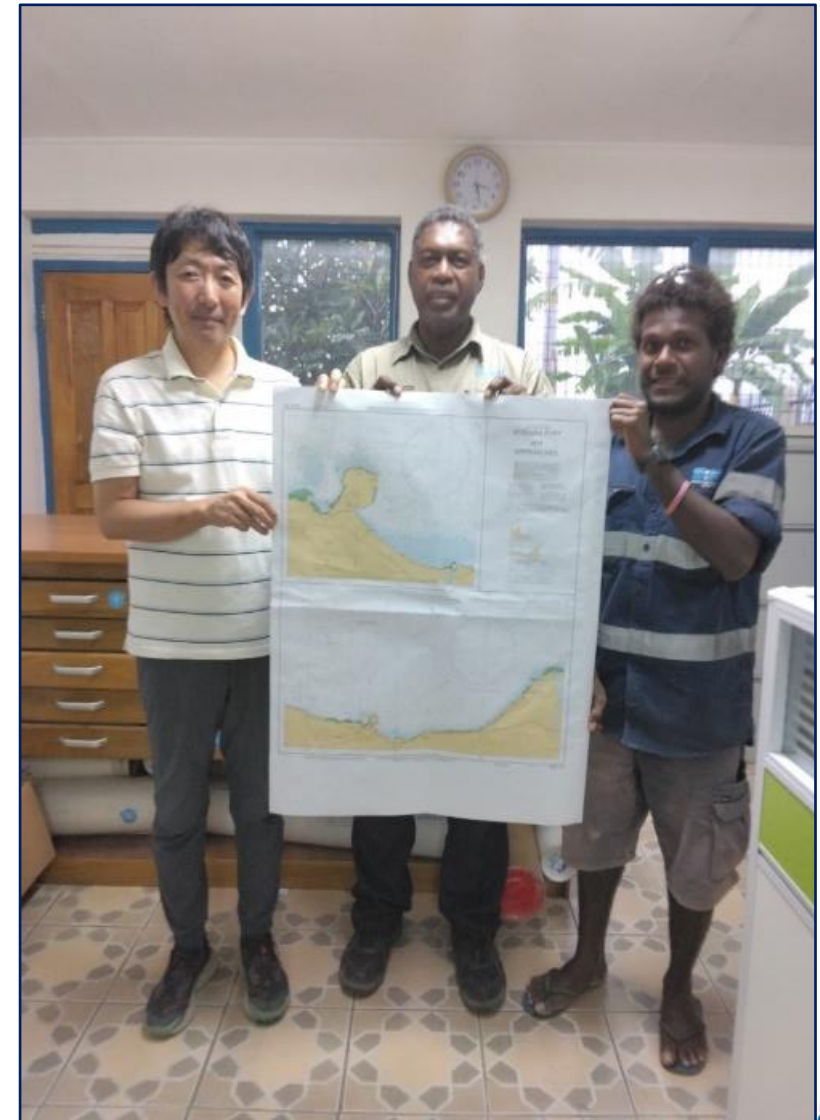
Honiara ENC data have been produced by JICA and SIMA, and published at the end of February 2025.

2. Paper Chart Production

Honiara paper chart has been published in March 2025. SIMA staff and a JICA expert celebrate the first printed Honiara's digital nautical chart.



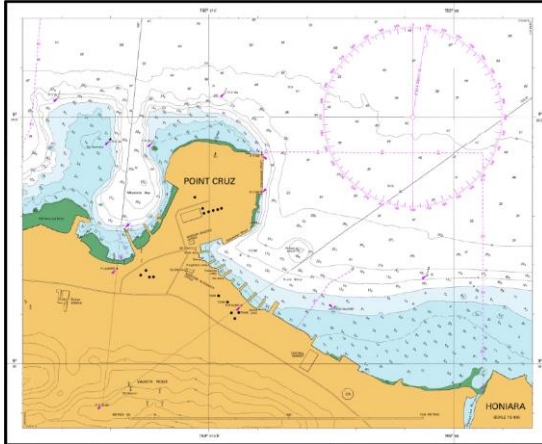
ENC production at the SIMA office



The first printed Honiara's digital nautical chart.

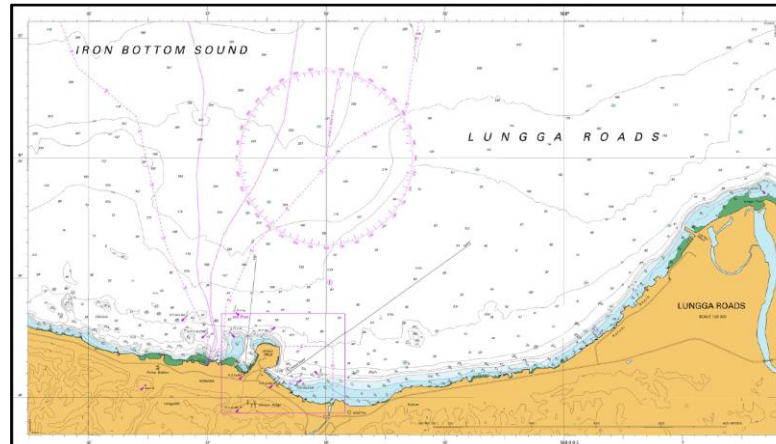
ENC Project in Solomon Islands

Production of ENCs and Paper Charts



Honiara port

ENC: Harbour, Scale: 1:5,000 [Update]

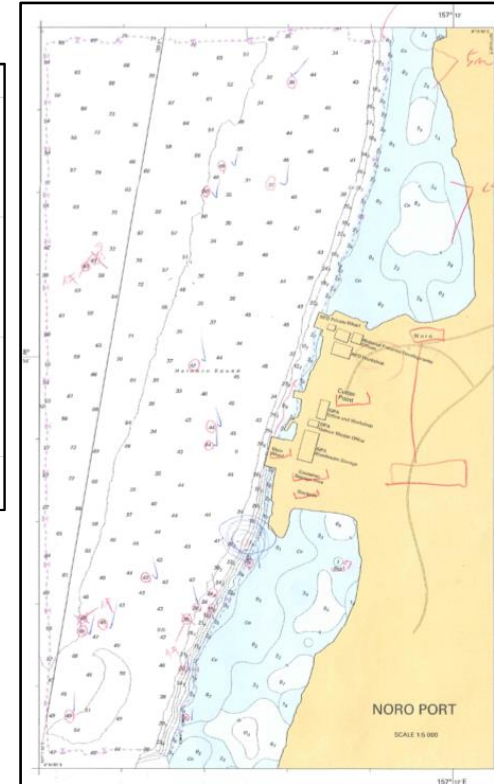


Honiara port

ENC: Harbour, Scale: 1:20,000 [Update]

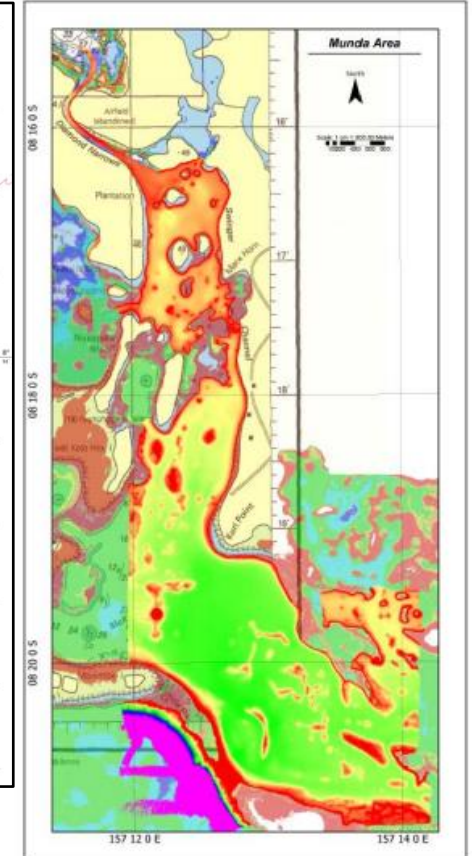


Blackett Strait ENC: Approach, Scale: 1:50,000 [Update]



Noro port

ENC: Harbour
Scale: 1:5,000
[New chart]



Munda bar

ENC: Harbour,
Scale: 1:20,000
[New chart]

ENC Project in Solomon Islands

On the Job Training in Solomon Islands

1. Control Point Survey, Leveling
2. Hydrographic Survey
3. Coastline Survey by Satellite & DRONE
4. Tide Observation
5. ENC Training



Safety check before the survey



Setting the tide gauge



Leveling survey



Hydrographic survey operation



ENC production

ENC Project in Solomon Islands

Cooperation with AHO

1. Tripartite/ Working Group Meeting

Tripartite Meeting was held among SIMA, AHO and JICA

2. ENC Data Harmonization

We consulted technical support to compile and harmonize ENC data.

3. ENC Training in AHO

ENC training on QA/QC was given by AHO in April at Wollongong.



Working Group Meeting



Tripartite Meeting



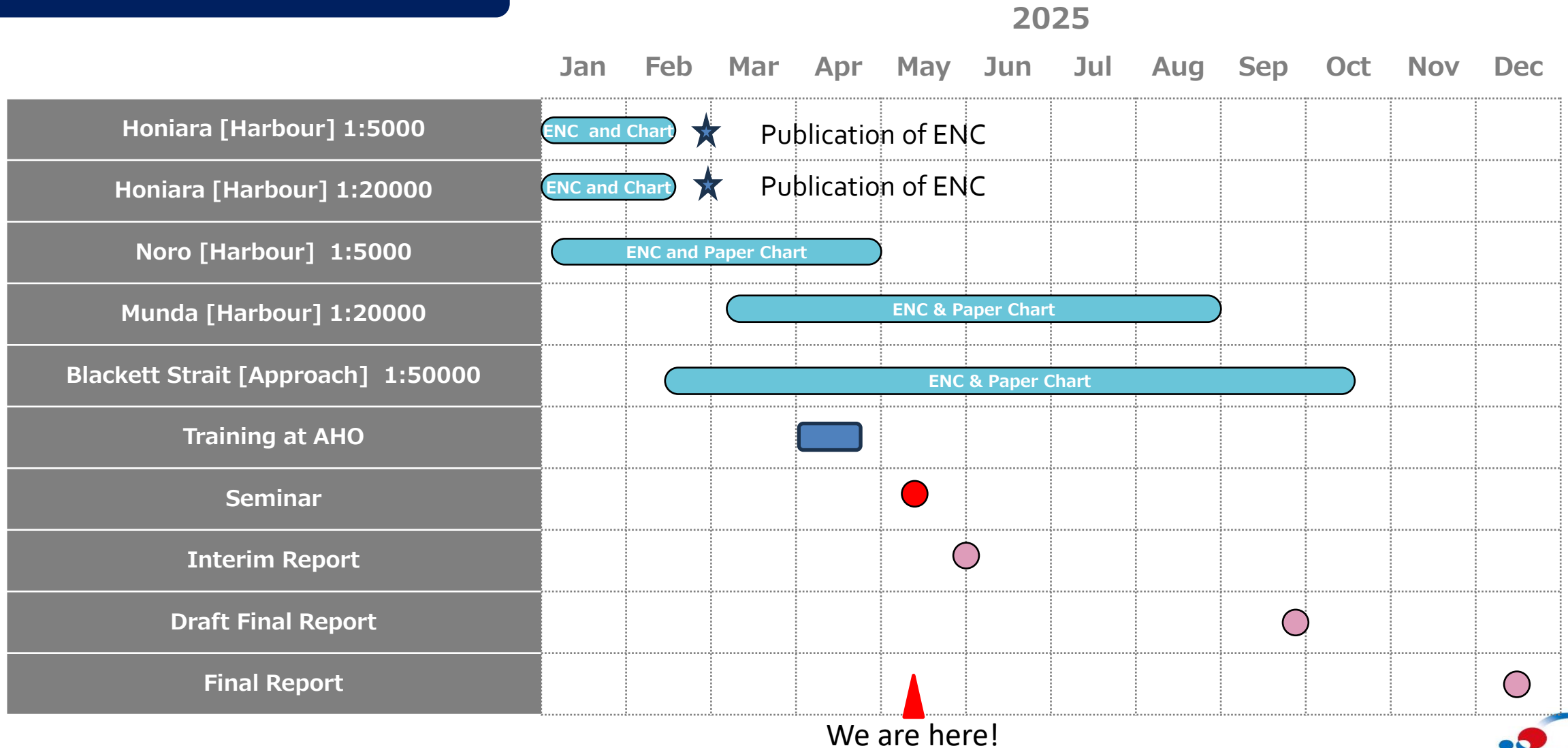
Tripartite Meeting

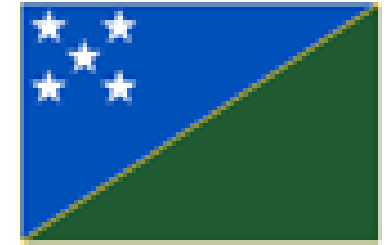
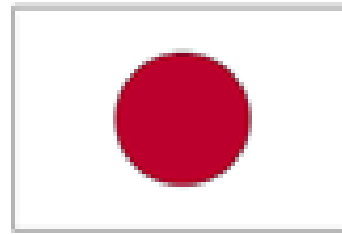


ENC Training by AHO

ENC Project in Solomon Islands

Schedule in 2025





TAGIO TUMAS

