

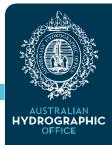
Australian Hydrographic Office

- The Australian Hydrographic Office (AHO) provides hydrographic products and services to meet Defence's obligations under the Navigation Act 2012 and international and bilateral arrangements.
 - Enable safe navigation
 - Support national infrastructure and maritime trade
 - Satisfy international obligations under SOLAS and UNCLOS
 - Support the protection of the marine environment





Australian Hydrographic Office



The Australian Hydrographic Office produces over:

- Over 900 electronic navigational charts (ENC)
- 372 paper nautical charts
- Nautical Publications
- Tide Tables for Australia, PNG and Solomon Islands
- Fact Sheets
- Mariners Handbook

www.hydro.gov.au

- Global customer base
- Fortnightly Notice to Mariner updates
- Chart Index
- HydroScheme
- ChartScheme

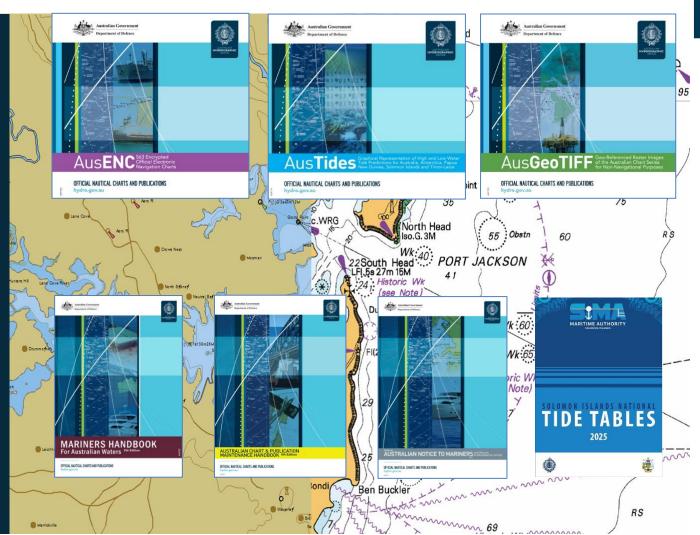
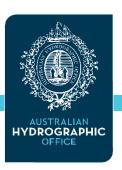
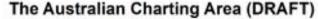
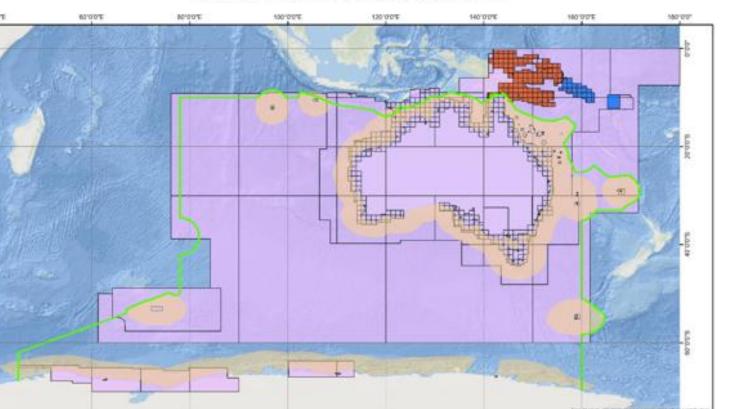


CHART COVERAGE

25/Feb/2022







120101019

160 00°E

ENC Coverage Solomon Islands (SB)

ENC Coverage Australia (AU)

ENC Coverage Papua New Guinea (PG)

100°0'0'E

The Australian Charting Area, comprising of:

Convention for the Safety of Life at Sea (SOLAS).

Australian Area of Charting Responsibility (Australia's Exclusive Economic Zone)

Area where Australia is responsible for producing International Series (INT) charts on the basis of arrangements of the International Hydrographic Organization (IHO), which are coordinated by

regional hydrographic commissions and consistent with Australia's obligations under the International

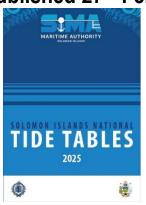
Chart Coverage
Stretches from PNG &
Solomon Islands in NE to
Indian Ocean in the
West and down to
Antarctica in the South.

Nation	Paper	ENC	Total
Australia	275	717	992
Papua New Guinea	80	168	248
Solomon Islands	17	43	60
Total	372	928	1300

Chart Production - Solomon Islands

4

- AUSTRALIAN HYDROGRAPHIC OFFICE
- The AHO is the Primary Charting Authority (PCA) for Solomon Islands and in partnership produces nautical charts and publications to support safe navigation in Solomon Islands. As the PCA for Solomon Islands, Australia maintains 17 SLB paper nautical charts and 43 SB electronic navigational charts, supporting maritime safety and environment protection in Solomon Islands waters.
- Australia is a member of IC-ENC and distributes all AHO published ENC through IC-ENC Australia.
 Australia also has a national ENC service, known as 'AusENC'. This supports vessels operating exclusively within Australian, Solomon Islands and Papua New Guinea waters.
- 2025 Tide tables were published in late 2024 for Solomon Islands.
- SLB101 with JICA Honiara Data published 21st Mar 2025.
- SB5HIR01 ENC published 27th Feb 2025.



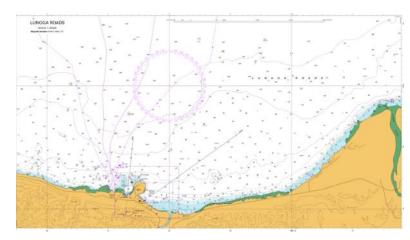
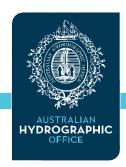




Chart Production Indexes - Solomon Islands

SR410158 SR410159 6

Australian Government



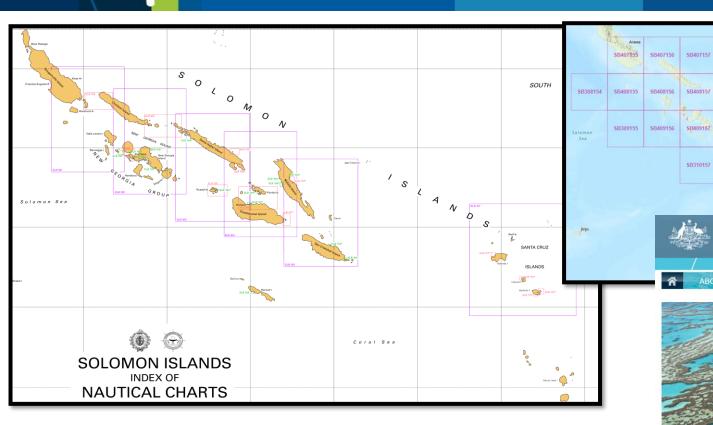


Chart No	Title	Sicurity	Chart No	Yitie	Signile
SLE 101 Anchorages in Guadalsanal Mond mates sound urbs very Lange moce urbs very	Anchorages in Quadelsanal Island		SLB 105	Russell Islands	1.60.000
	manau diduma Licca Usivi Langga Proace Licca Usivi			Note appoint in the rest of the control of the cont	
	Horiara (1:5 005)		SLB 106	Rougainville Strait	176-000
SLE 102 Plans in the New Georgia Group			SLB 107	Plans of the Soeta Cruz and Adjacent Islands	
	Blackett Strait II 50 808) Glap Harbour and Approaches (1:25 080)			Santa Cruz Islanda (1:580 800) Tikopia Island (1:50 800)	
	Part Noro (1:28 080) Ringgi Cove (1:15-800) Lever Harbour (1:7 686)			Basilisk Harbour I1 SO 600) Graciosa Bay (1:58 080)	
U.B. 103	Harbours in the Solomen Islands			Maniene and Tenel Bays (1/58 000) Pally Passage (1/50 000)	
	Lughuphi Bay II 90 800 Star Harbour II 20 800			Anata or Cherry Island (1.25 808)	
	Fallaghi Harbaur (1:To BOID VVIs Harbaur (1:To BOID)		368 201	Swaters Channel and Agonosches to Howara	1.100 000
	Kiruhine Bay (1 (10 000)		SLB 202	Marring Strait	1.100.000
	Anchorages in the Salorson Islands		SLB 301	Bouquinville Island to Chico Island	1:300 000
	Thousand Strips Bay (1:76-800) Maringe Lapson (1:76-808)		SUB 300	Choiseul Island to New Georgia Island	1:300 000
	Kwai Harkour to Liru Mand Androsage (1992 000)		848 303	Santa basket Interval to Guardatoanal Interval	1,300,000
	Sina Harbour (1:20 800) Allardyca Harbour (1:28 000)		SLB 304	Indiapensable Strait	1:300 000
	Auki Harbour (1.12 500) Ewakwaru Harbour (1.10 800)		SLB 305	San Cristobal Island to Malaita Island	1:300 000



PRODUCTS & SERVICES

SB409160 SB409161

SB311160 SB411161 SB411162

FACT SHEETS





The AHO is seeking customer feedback to help provide quality, relevant and timely information to the maritime community.

AUSTRALIAN HYDROGRAPHIC

NOTICES TO MARINERS

Fortnightly Notices to Mariners, tracings, blocks and other supplements are available in PDF format to update paper charts and paper publications.

PRODUCT DOWNLOADS

Get the latest updates to AusENC and other downloadable products here.

■ ANTT 2025

ANTT 2025 is available as an interactive web service eaturing an enhanced user experience that allows specific port discovery with the ability to view and sownload individual port tidal data.

QUICK LINKS

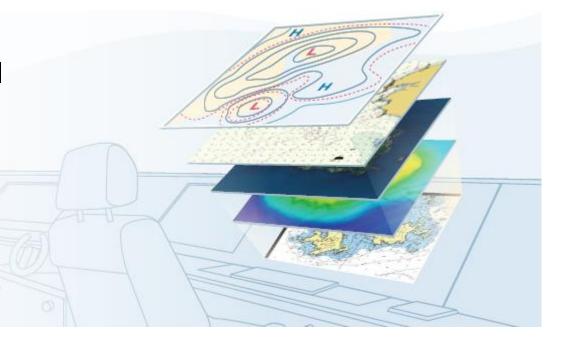
Submit a HydroNote

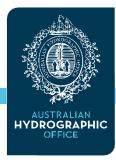
What is the IHO S-100 Standard?



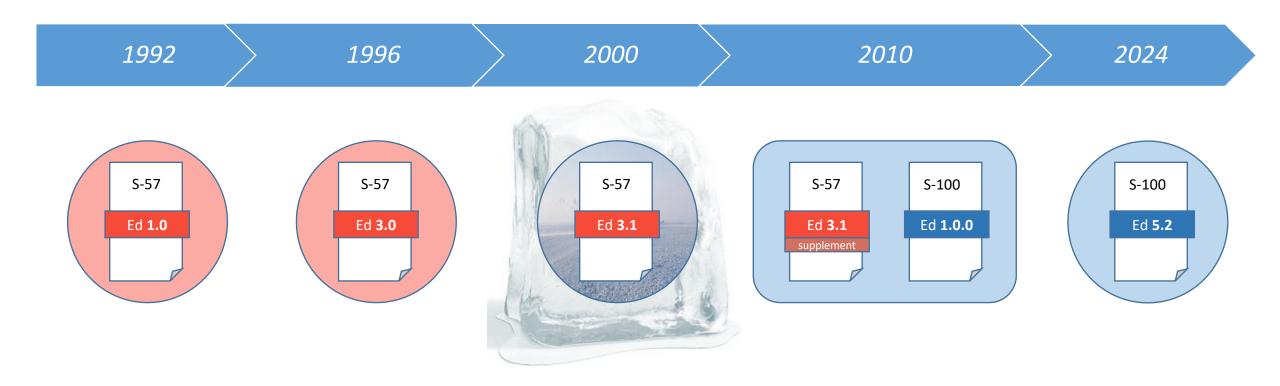
S-100 Universal Hydrographic Data Model | IHO

- The S-100 Standard is a framework document that is intended for the development of digital products and services for hydrographic, maritime and GIS communities.
- It comprises multiple parts that are based on the geospatial standards developed by the International Organization for Standardization, Technical Committee 211 (ISO/TC211).
- Is the foundation for the development of the Operational Editions of S-100 based products (Phase 1 / Route Monitoring) in 2025.
- IHO Geospatial Information Registry contains several registers containing managed lists of concepts, features attributes metadata, and other resources used to develop product specifications.





IHO S-100 Development



Why the switch to S-100

AUSTRALIAN HYDROGRAPHIC OFFICE

Characteristics of S-100

- To support a greater variety of hydrographic related digital data sources, products and customers.
- Advantages include;
 - Aligns with mainstream GIS community.
 - Enhanced data integration and usability.
 - Easier use of hydrographic data beyond Hydrographic Offices and ECDIS users (coastal zone mapping, security, inundation modelling etc.)
- Plug and play updating of data, symbology and software enhancements.
- Machine readable.
- Operational efficiency and sustainability through more accurate and detailed data, S-100 allows for better route planning and fuel management.

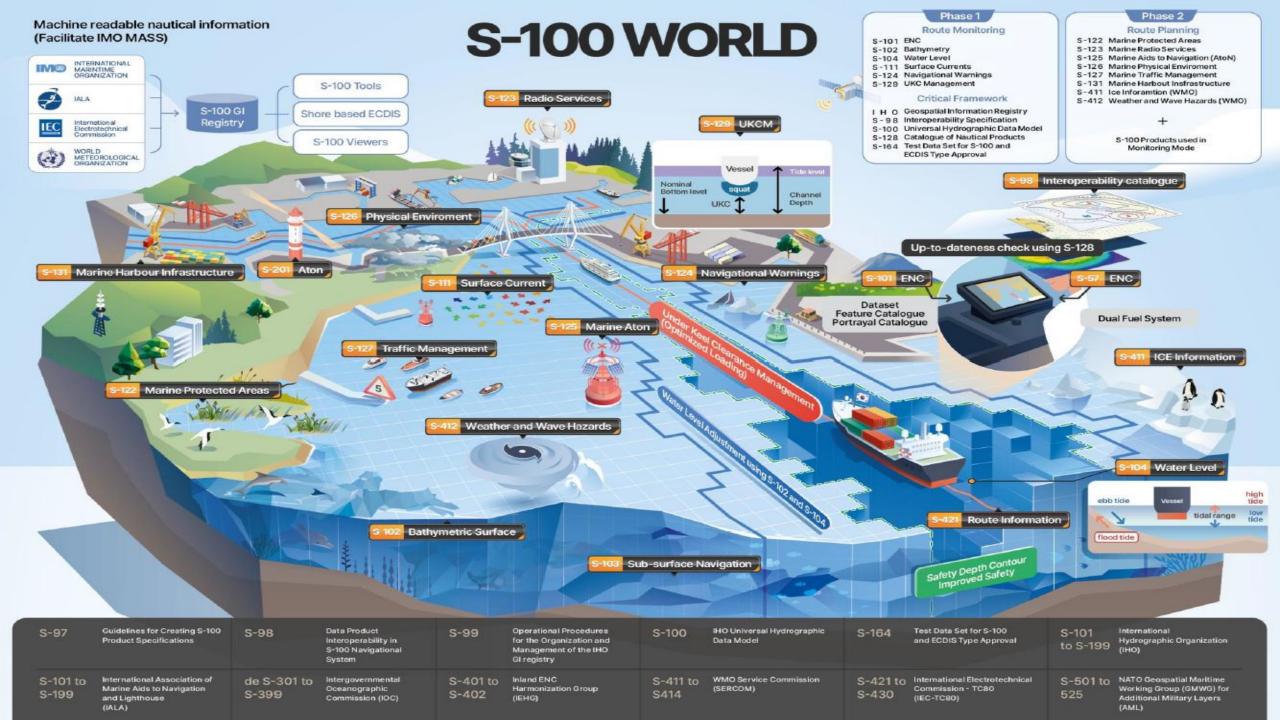
Limitations of S-57

- S-57 used almost exclusively for encoding ENCs in ECDIS.
- Not a contemporary standard that is widely used in GIS domain.
- Inflexible maintenance regime.
- Cannot support future requirements (eg. Gridded bathymetry, time varying info).

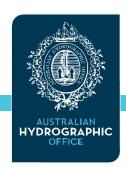
ECDIS Improvements

- ECDIS will enable interoperability with additional information layers along with ENC.
- Revised regulations enable more harmonised chart display.
- Improved Decision making and safety

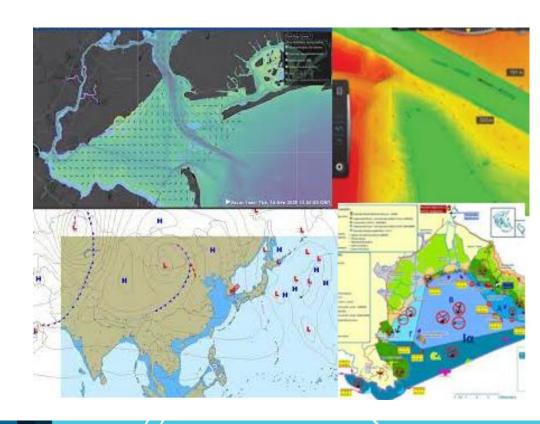




Australian Hydrographic Office S-100 Focus



- Production of S-101 and S-102 from Q4 2025
- Production of S-104, S-111 and S-128 from 2026
- Coordinate a national approach to implement S-100 products and services in the region (ICSM S-100 Working Group)
- Supporting and participating in various IHO WGs/PTs/TGs and other international engagement



S-1XX Focus



4

Phase 1 / Route Monitoring

Phase 1 Route Monitoring Mode

S-101 ENC

S-102 Bathymetry

S-104 Water Level

Type Approval

S-111 Surface Currents

S-124 Navigational Warnings

S-129 UKC Management

Critical Framework

IHO Geospatial Information Registry
S-98 Interoperability Specification
S-100 Universal Hydrographic Data Model
S-128 Catalogue of Nautical Products
S-164 Test Data Set for S-100 and ECDIS

Phase 2 / Route Planning

Phase 2 Route Planning Mode

S-122 Marine Protected Areas

S-123 Marine Radio Services

S-125 Marine Aids to Navigation (AtoN)

S-126 Marine Physical Environment

S-127 Marine Traffic Management

S-131 Marine Harbour Infrastructure

S-411 Ice Information (WMO)

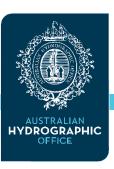
S-412 Weather and Wave Hazards (WMO)

+ S-100 Products used in Monitoring Mode

9

- AHO will maintain an S-57 database in CARIS HPD Source and extending it to a "Hybrid S-57" Catalogue where S-57 and non standard S-57 features can be maintained.
- Use conversion mapping to manage our S-101 product release
- Production likely to commence in Q4 2025 for selected areas, with full coverage to follow

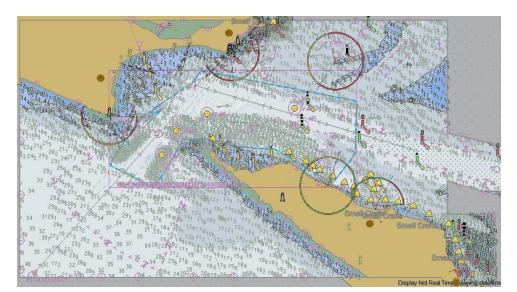
Dual Fuel Production



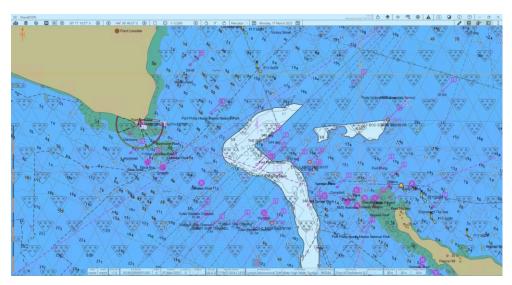
□ S-101

- The implementation team is producing test datasets to Feature Catalogue Version 2.
- Currently working with international stakeholders to provide papers and test datasets to various working groups; most recently, work around update information is being undertaken.
- Working to optimise workflow integration and staff training options.

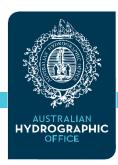
S-101 in ECPINS (OSI)

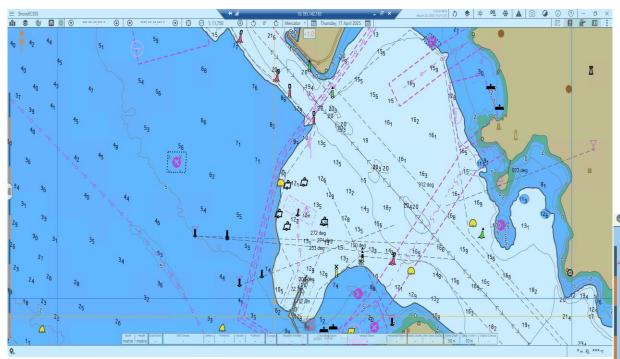


S-101 in ShoreECDIS (NIWC)



Dual Fuel Production





Port Botany S-101 in ShoreECDIS (NIWC)

Port Botany S-57 in SEAiq PPU

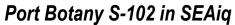


S-102 Bathymetric Surface

AUSTRALIAN HYDROGRAPHIC OFFICE

- Produced in areas covered by HDbENC (16 cells)
- Roll out will be aligned with DF-ENC production



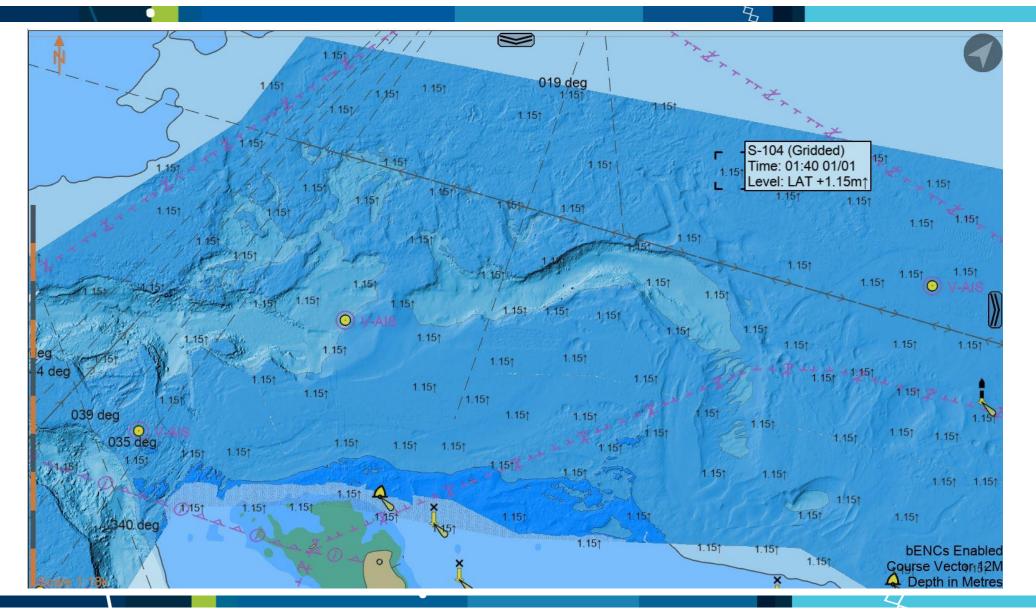




Port Botany S-102 in Qastor

S-102 (Bathymetry) and S-104 (Water Levels)

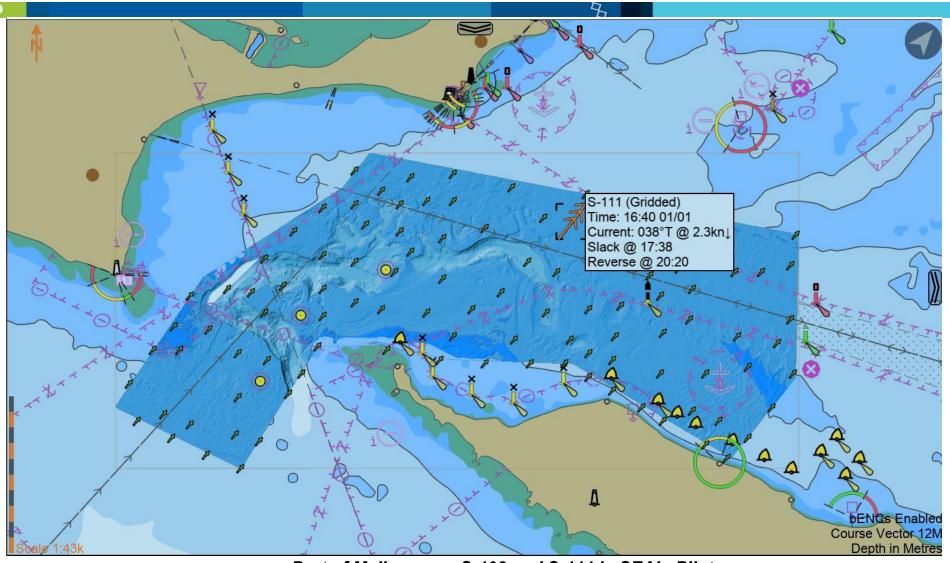




Port of Melbourne – S-102 and S-104 in SEAiq Pilot

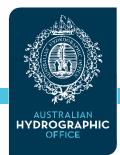
S-102 (Bathymetry) and S-111 (Surface Currents)

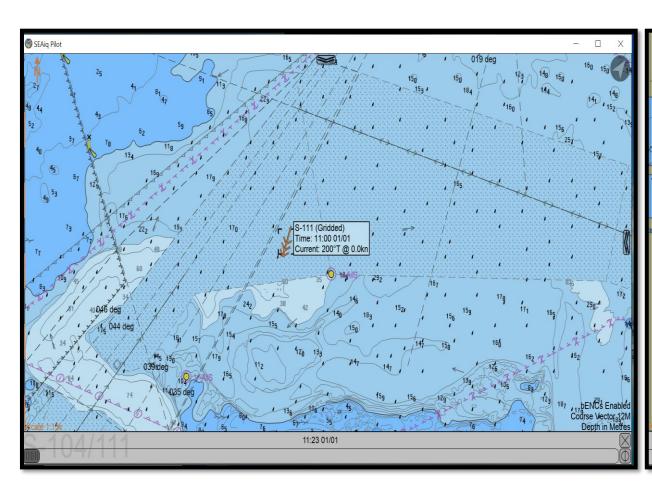


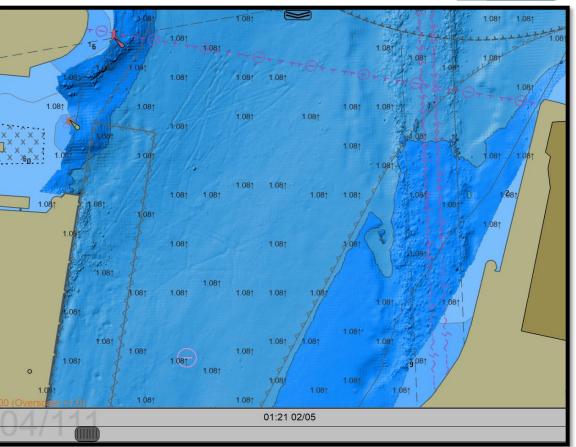


Port of Melbourne – S-102 and S-111 in SEAiq Pilot

S-101, S-102, S-104 and S-111 Test Datasets





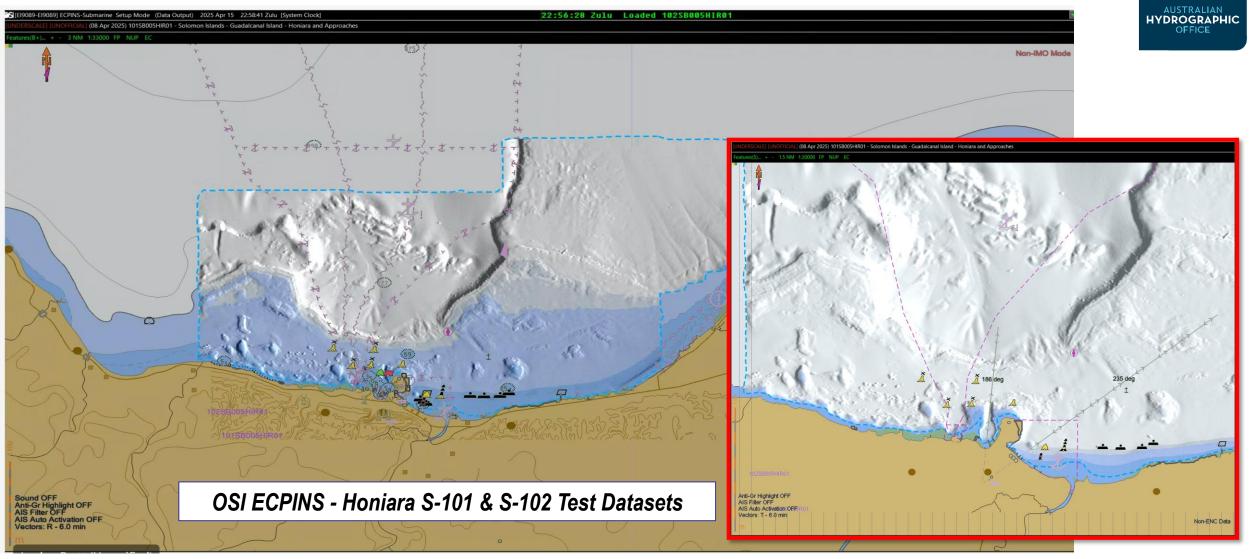


Melbourne (The Rip) S-111 Test Datasets

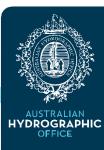
Sydney S-102 & S-104 Test Datasets

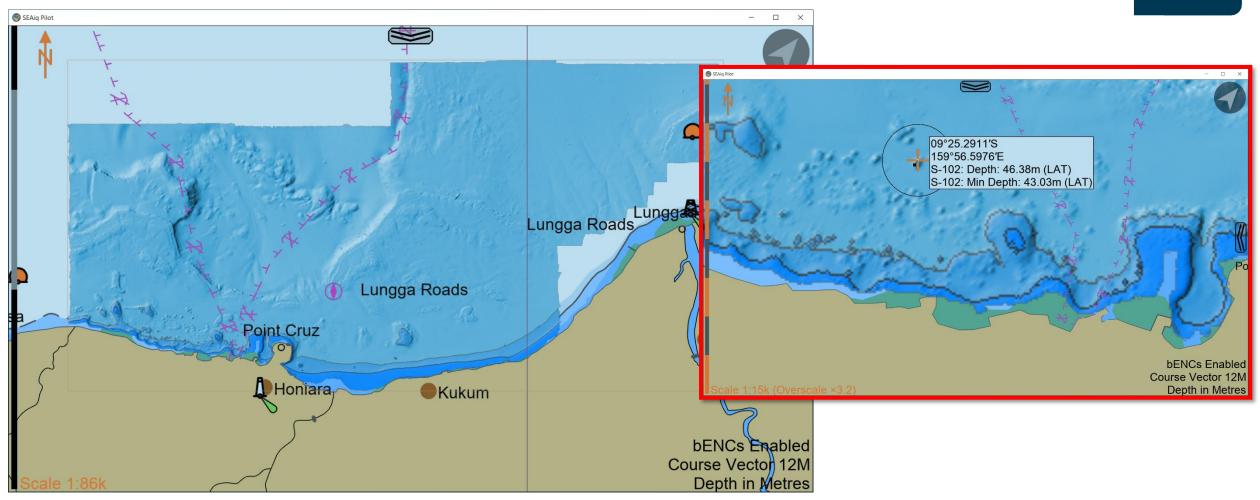
S-101, S-102, Test Datasets - HONIARA





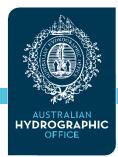
S-101, S-102, Test Datasets - HONIARA





SEAiq Software - Honiara S-101 & S-102 Test Datasets

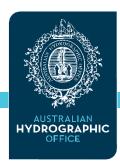
S-1XX Roll Out



The AHO plans to release an "S-100 sample area" in Port Botany (NSW) at the end of 2025. This area would include S-101, S-102, S-104 and S-111 datasets for users' familiarisation and testing.



S-1XX Roll Out

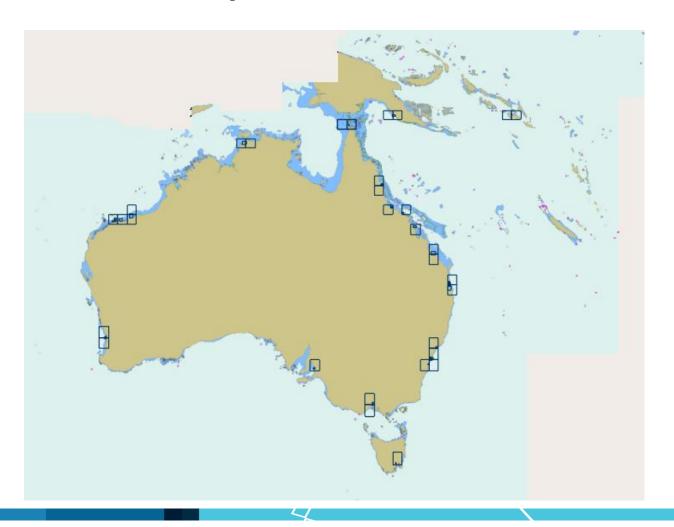


22 focus areas have been identified for the roll out plan:

- 19 Australia
- 1 Antarctica
- 1 Papua New Guinea
- 1 Solomon Islands

Overall roll out impact:

- 22 focus areas
- 74 products
 - 32 transit cells
 - 26 port cells
 - 16 S-102 bathymetric surfaces



ICSM S-100 Working Group

4

AUSTRALIAN HYDROGRAPHIC OFFICE

- The S-100 Working Group was established under the Intergovernmental Committee on Surveying and Mapping (ICSM) in 2022.
- S-100WG is responsible for coordinating and managing the timely and effective implementation of a broad range of S-100 products and services in the region
- https://www.icsm.gov.au/australian-branch-s-100
- Meetings:
 - 1st meeting was held on 2nd November 2022 (VTC)
 - 8th meeting was held on 18th March 2025 (VTC)



S-100 Working Group webpage link



ICSM S-100 Working Group

HYDROGRAPHIC

- Chair AHO
- Vice Chair AMSA
- Secretariat AHO
- Membership:
 - 86 members
 - 38 government agencies (state-own and state operated) and private industry















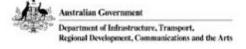






































Gladstone Ports



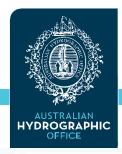








IHO Singapore Lab Project – Amerigo Vespucci

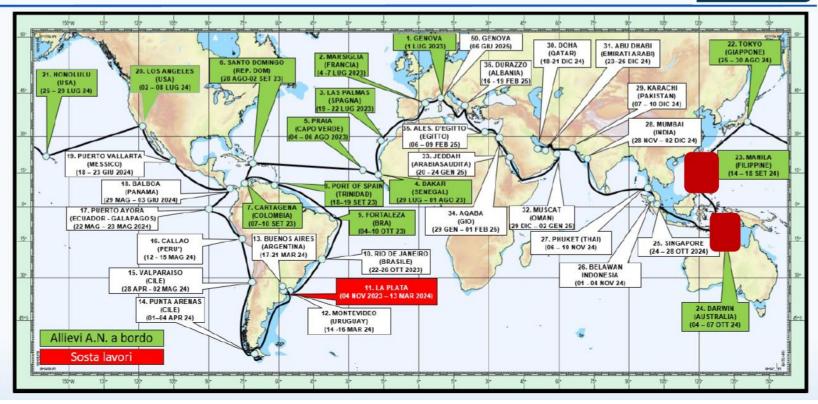






SEA TRIALS AND TESTING: MANILA - DARWIN





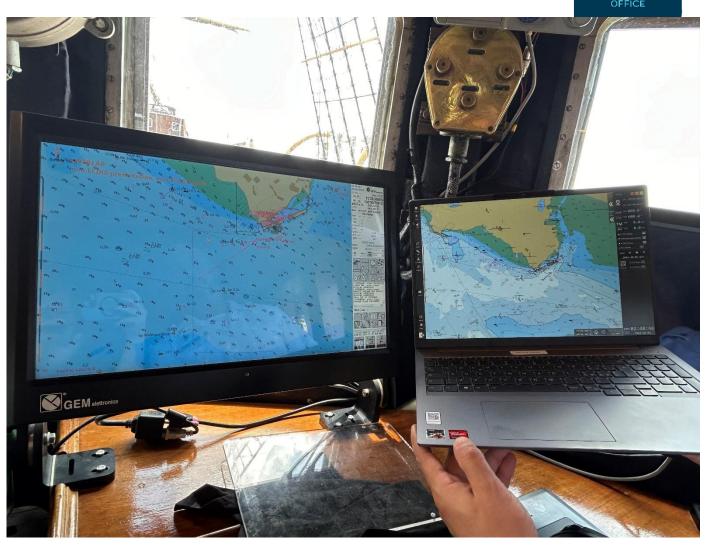
S-101 ENCs on S-100 ECDIS during Amerigo Vespucci's world tour

Darwin (AU) 4-7th October 2024

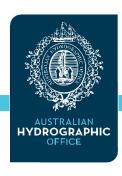
Amerigo Vespucci – S-100 ECDIS Testing

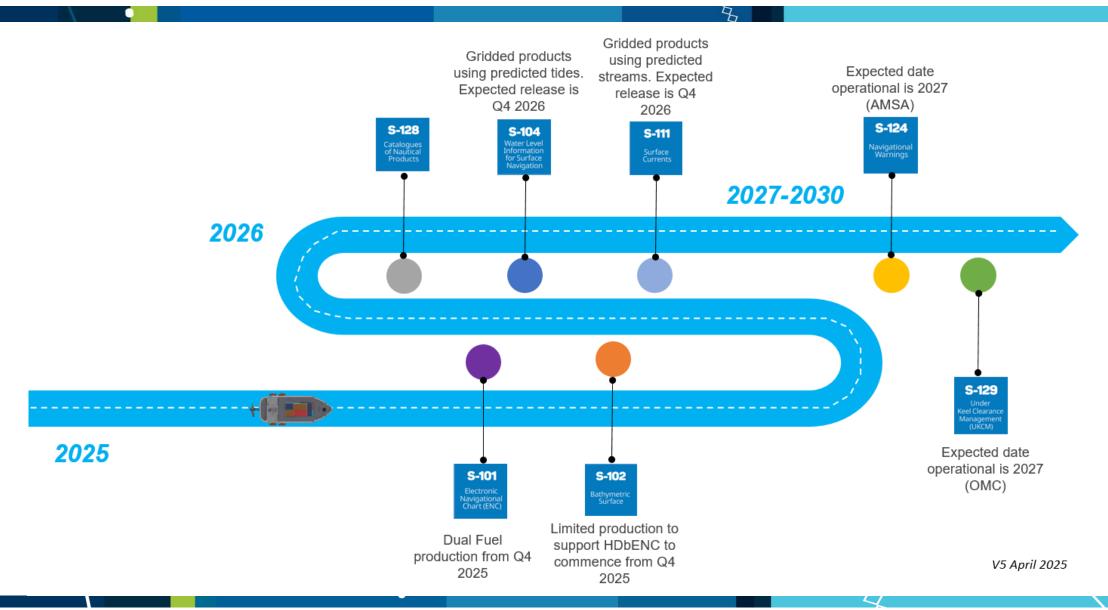
AUSTRALIAN HYDROGRAPHIC OFFICE

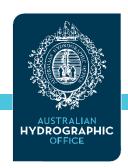
- 14 AU S-101 ENCs and updates were loaded in S-100 ECDIS;
- Demonstration test performed on three charts (101AU00413129 101AU00413130 101AU005DRW01);
- Checked the loaded updates against chart;
- Checked the S-57 and S-101 overlapping areas;
- All tests were carried out with positive result.



Australia S-100 Timeline







- S-100 Communication Strategy
- Finalise S-100 test cases and scenarios for test bed areas
- Equipment manufacturers engagement and test bed partners
- Develop test datasets Phase 1 and Phase 2 products
- On-shore testing and sea trials
- Update production tools, processes and staff training to support roll out S-1XX products
- Continue international engagement with other HOs and IHO WGs/PTs/TGs



Thank You

robert.cario@defence.gov.au