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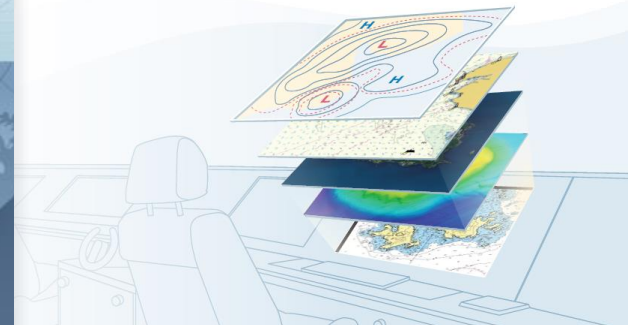
AHO S-100 Journey

SWPHC S-100 Workshop – November 2023

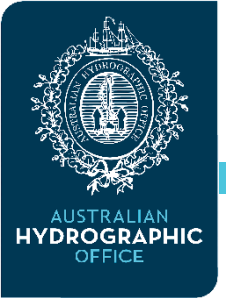
Gabriela Balla

Assistant Director S-100 Coordinator

The S-100 Universal Hydrographic Data Model

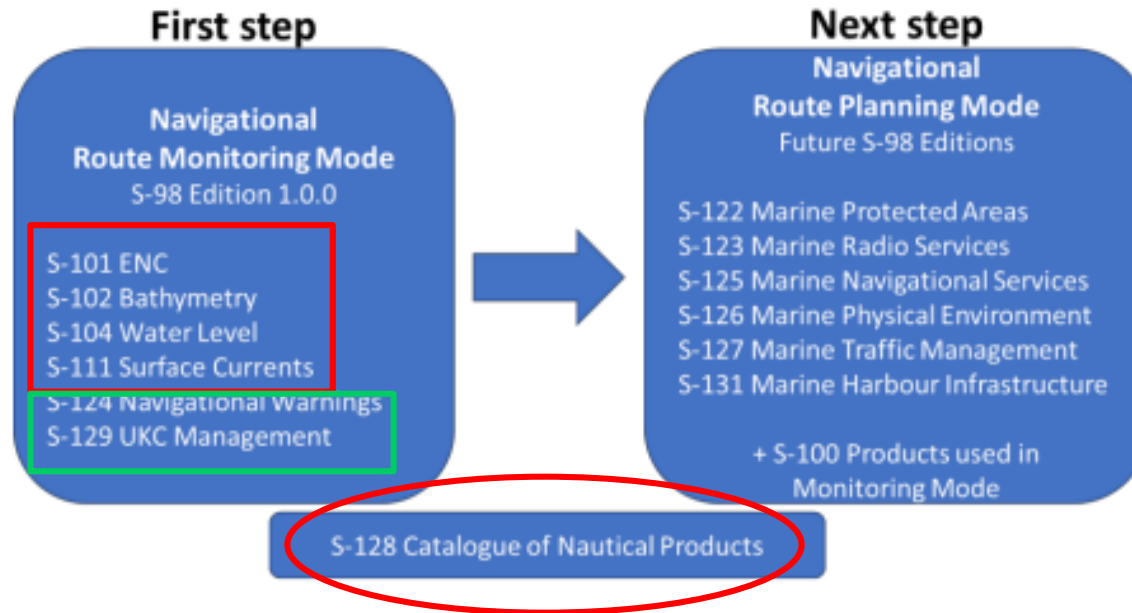


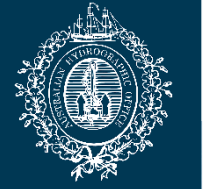
Activities October 2022 – November 2023



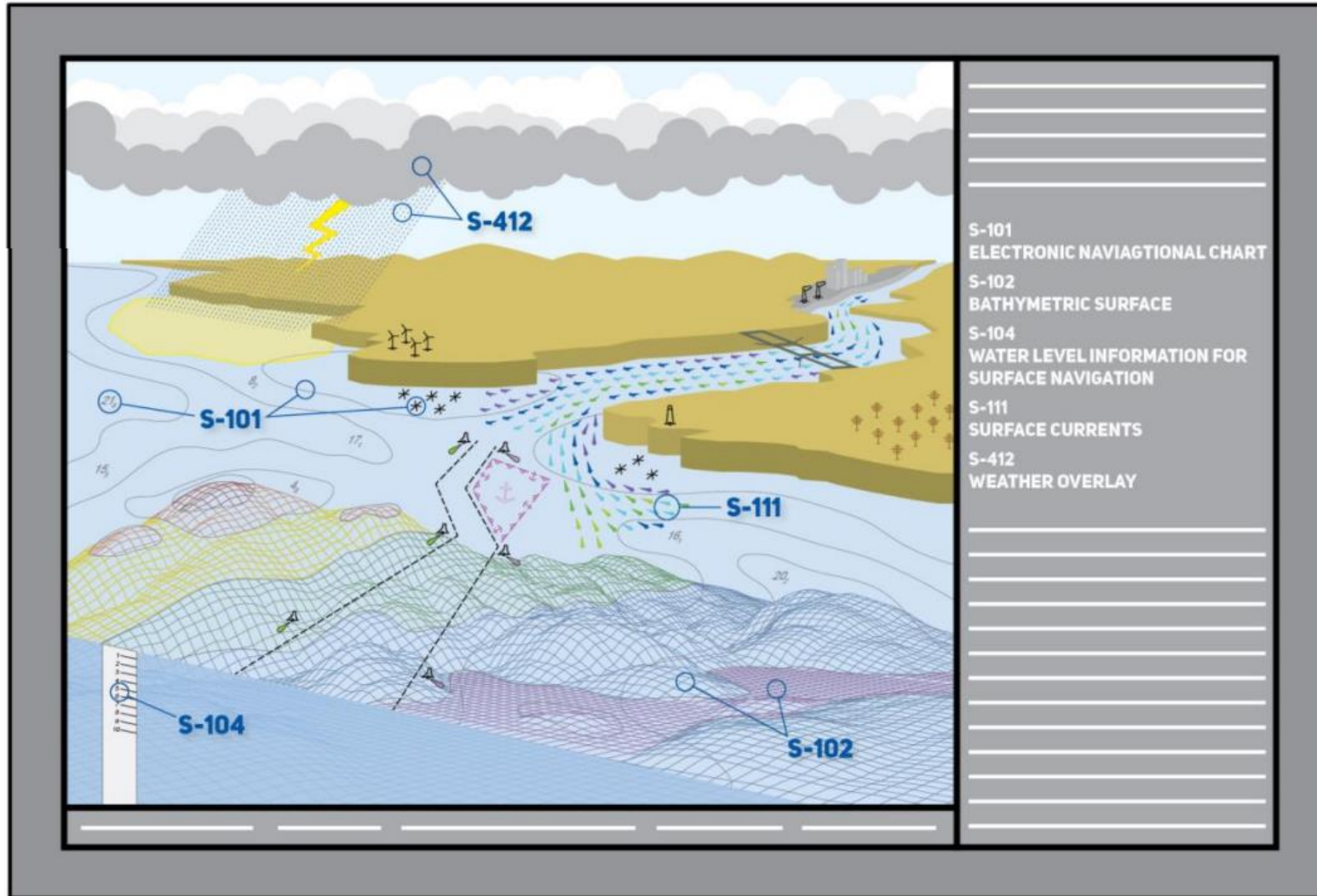
- S-100 Working Group – inaugural meeting 2nd November 2022
- <https://www.icsm.gov.au/s-100-working-group>
- AHO SMEs participation in IHO S-101PT, S-102PT, NIPWG, TWCWG, S-100WG
- New role established AD S-100 coordinator
- Testbed Focus Group – 1st meeting 17 October 2023

AHO Focus



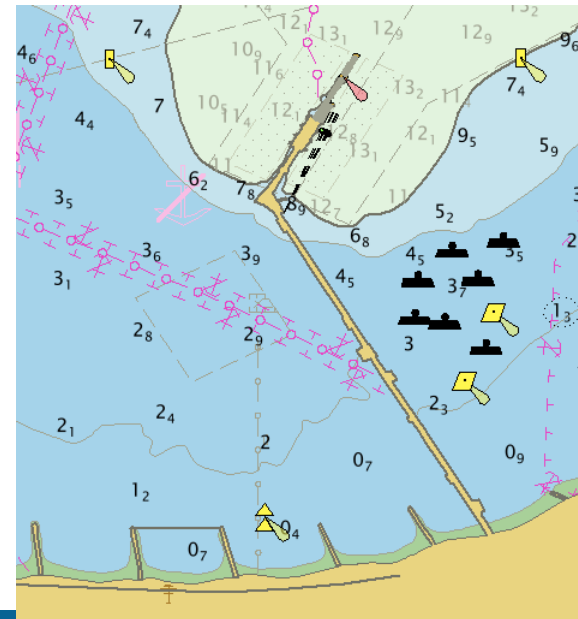


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S-101 Electronic Navigational Chart (ENC)

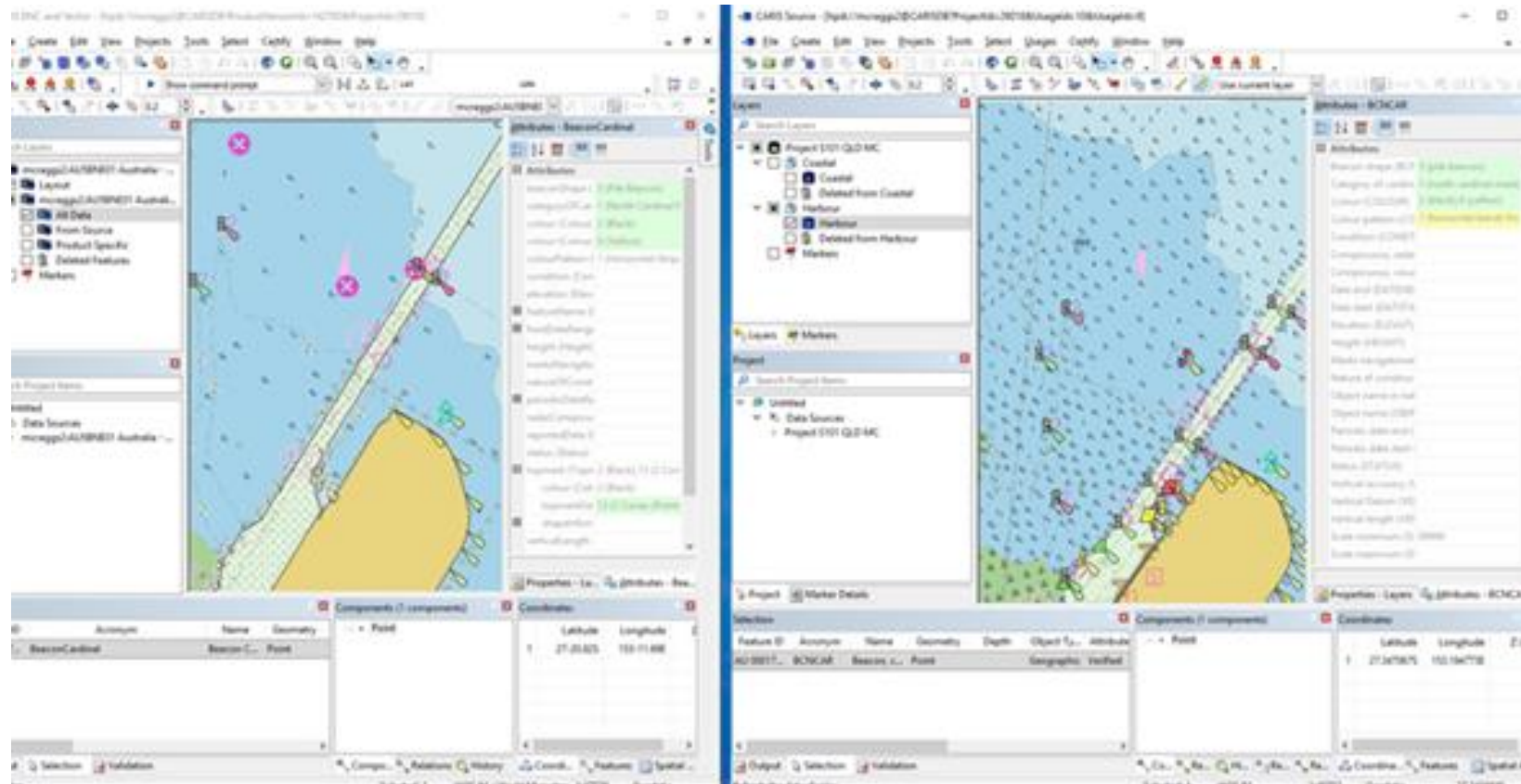
- S-101 is the next generation of ENC
- It has been designed to meet requirements for SOLAS digital chart carriage requirements
- It provides the backbone for all other S-100 based products
- S-101 Ed 2 expected in mid-2024



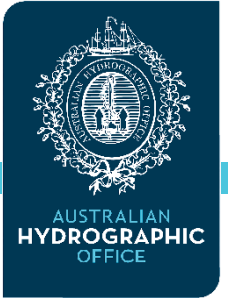
Attributes - HarbourFacility	
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Data Fuel Production

- Until the S-57 standard is removed the AHO will produce both S-57 and S-101 derived ENC's
- Production more likely to commence in early 2025 for selected areas, with full coverage to follow

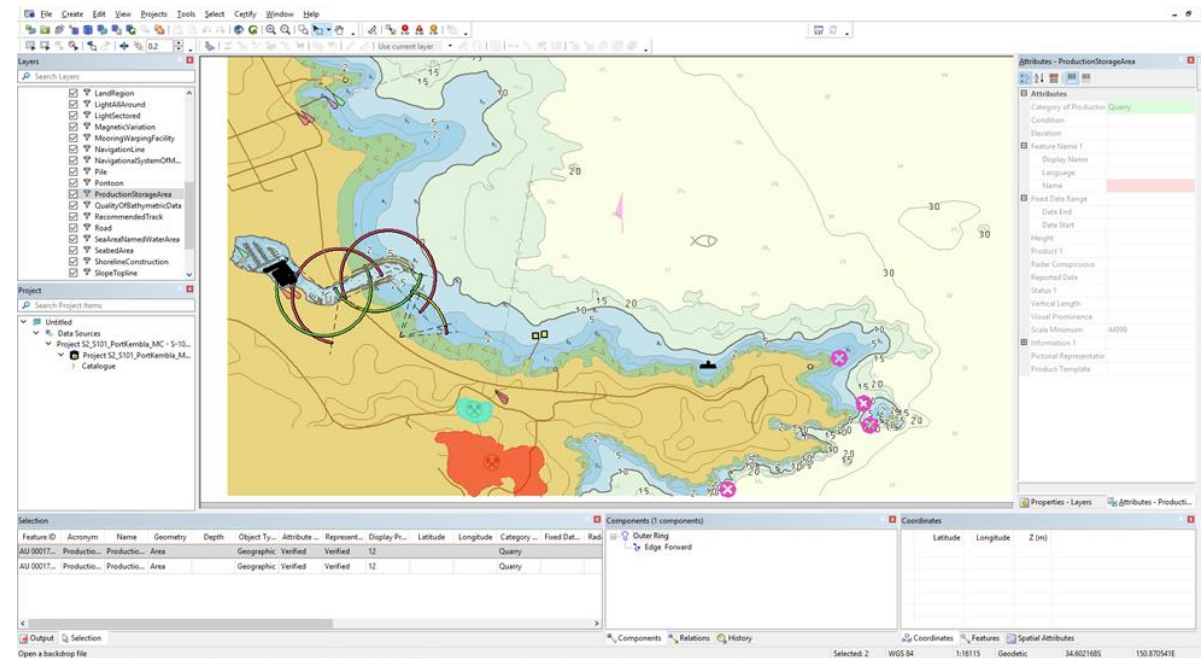


S-101 Implementation VEE

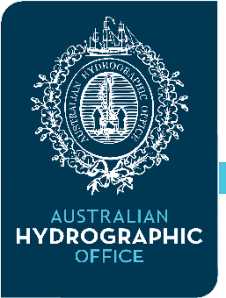


■ Currently AHO is utilising Teledyne Caris' Vender Evaluation Environment

- Based on Amazon Cloud Environment
- Contains a legacy version of AHO's Source database
- Allows rapid software update
- Provides a safe place for experimentation
- Provides rapid disaster recovery



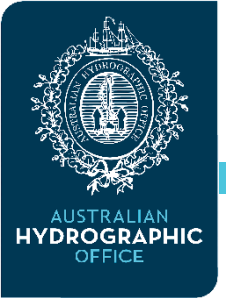
S-101 Implementation



- Using Annex A (DCEG) and Annex B (Conversion Guidance), the conversion team is completing a conversion table to enable the correct identification of conversion actions
- Once the table is complete the team will
 - Identify actions to be completed in-house
 - Identify actions to be completed via scripting on whole database
 - Identify actions to be completed by Caris

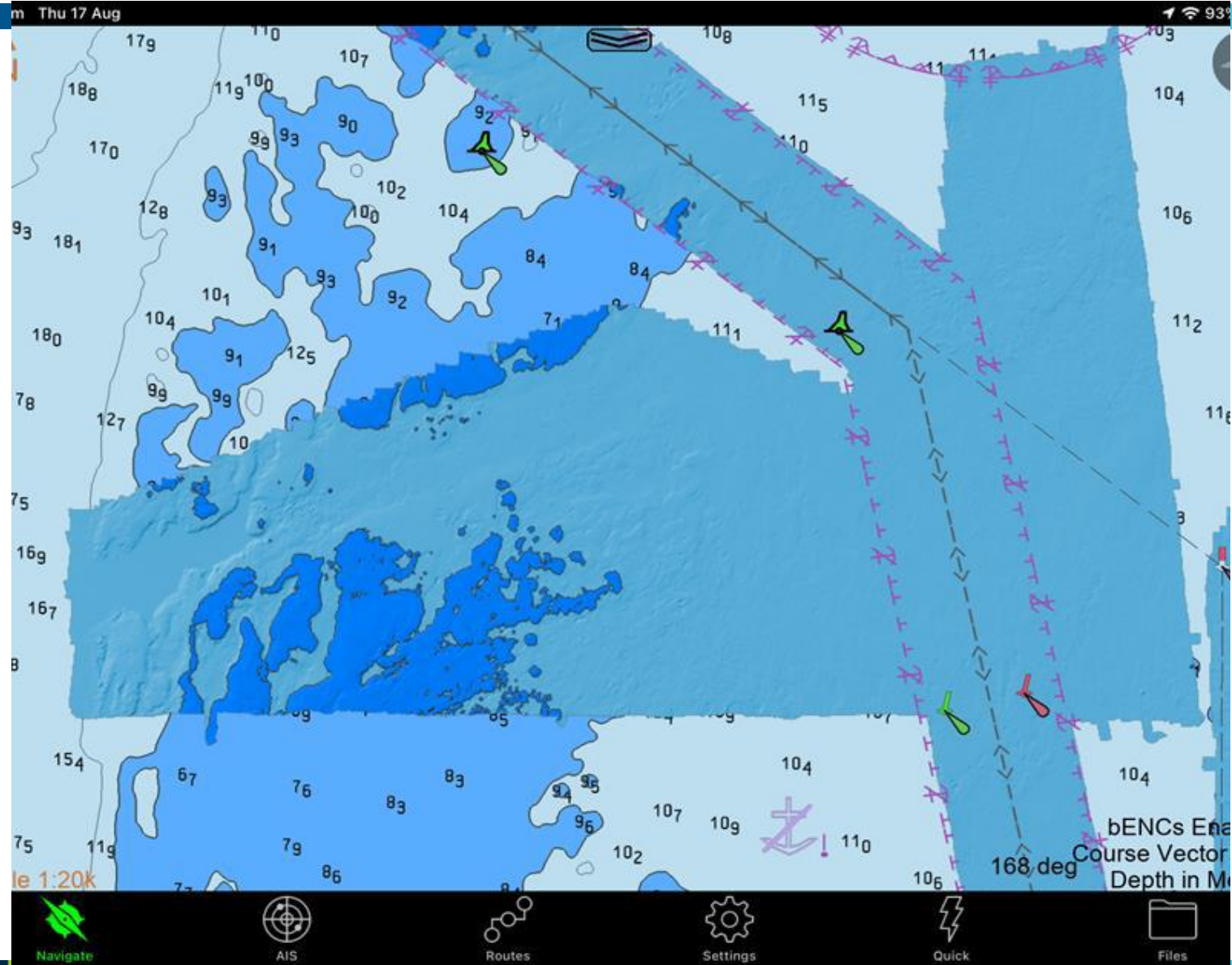
Object Class	Conversion Findings	Proposed Solution	Attribute Name	Value	Caris Bug	CST Number
ACHARE	The S-101 attribute category of anchorage includes the new enumerate value 15 (reported anchorage). This information is encoded in S-57 on ACHARE using the attribute INFORM (see clause 2.3). In order for this information to be converted across to S-101, the text string encoded in INFORM on the ACHARE should be in a standardised format, such as Reported anchorage.					
ACHBRT	All instances of encoding of the S-57 Object class ACHBRT and its binding attributes will be converted automatically to an instance of the S-101 Feature type Anchor Berth during the automated conversion process.	no action required				
ADMARE						
AIRARE	All instances of encoding of the S-57 Object class AIRARE and its attributes will be converted to S-101 feature type Airport/Airfield. STATUS attribute has a restricted list of allowable values: 1 : permanent 2 : occasional 4 : not in use 5 : periodic/intermittent 6 : reserved 7 : temporary 8 : private 12 : illuminated 14 : public	AHO to check that S-57 AIRARE in database and products has only allowable attributes for STATUS.				

S-102 Bathymetric Surface



- **Product specification for raster bathymetry – Ed 2.2.0 endorsed by IHO in April 2023**
- **Will allow raster bathymetry to be used on S-100 compliant ECDIS**
- **“Ping to Chart” can be fast**
- **AHO activity:**
 - S-102 PT
 - Monthly catch-ups
 - S-102 dataset trails sent out to AU ports for feedback

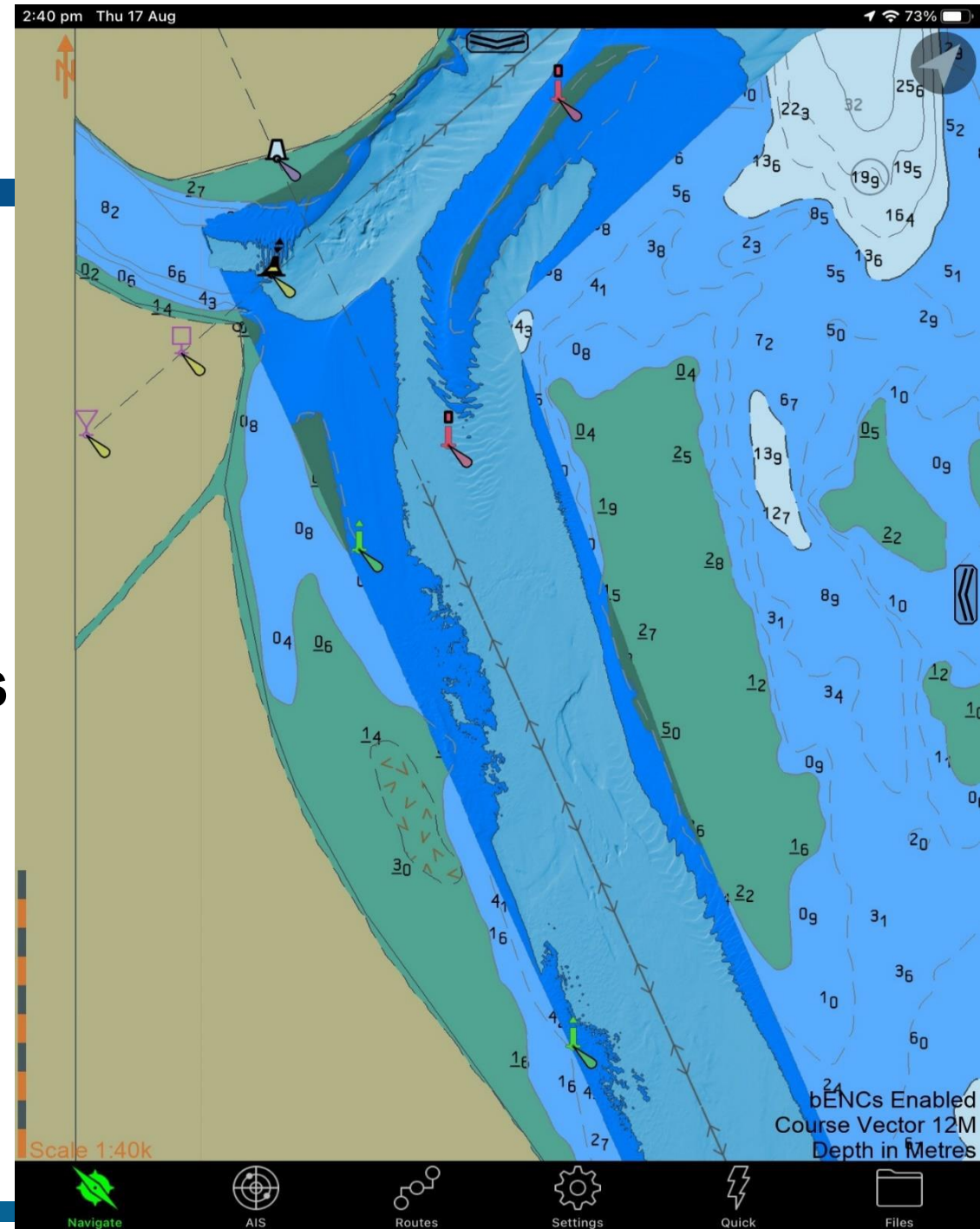
Geraldton WA – 9.5m “safety contour” – S-102 + Sea IQ



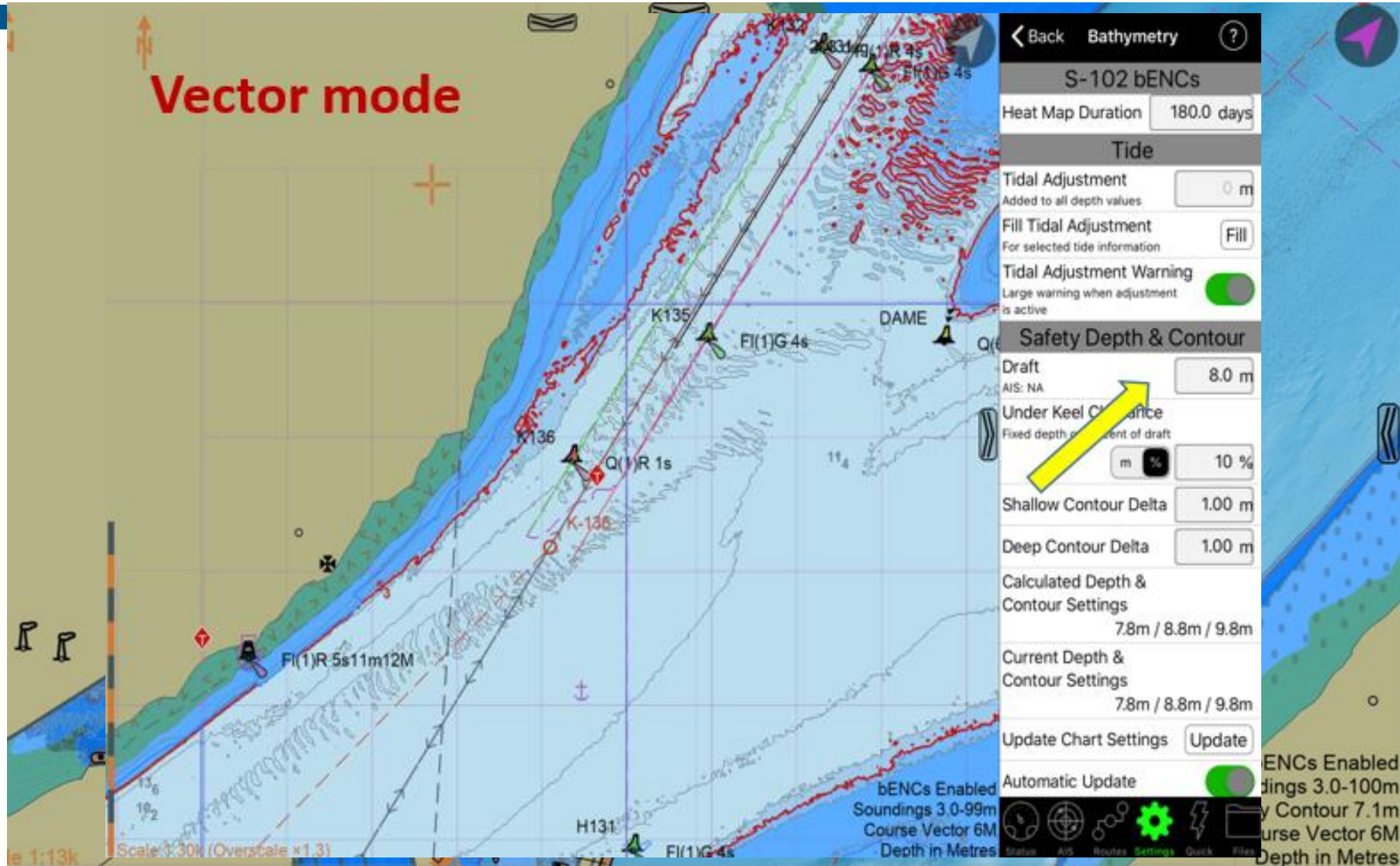
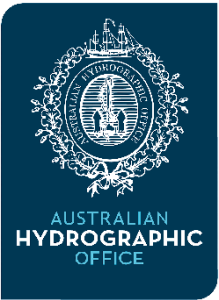
- Wyndham/Cambridge Gulf WA

7m “safety contour”

- S-102 portrayal – shows safe access is possible



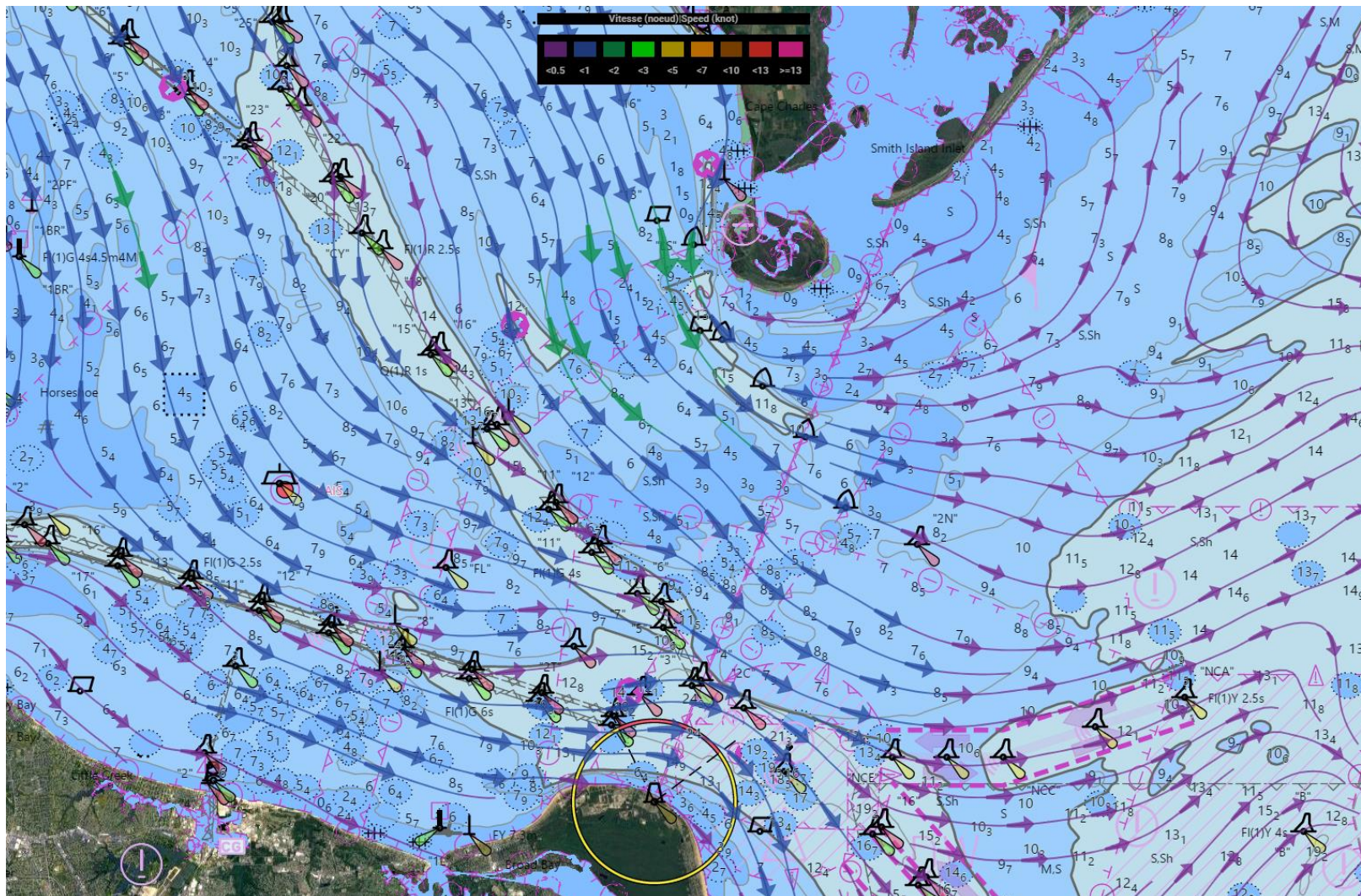
S-102 & S-104 Bathymetric Surfaces and Real Time Tides



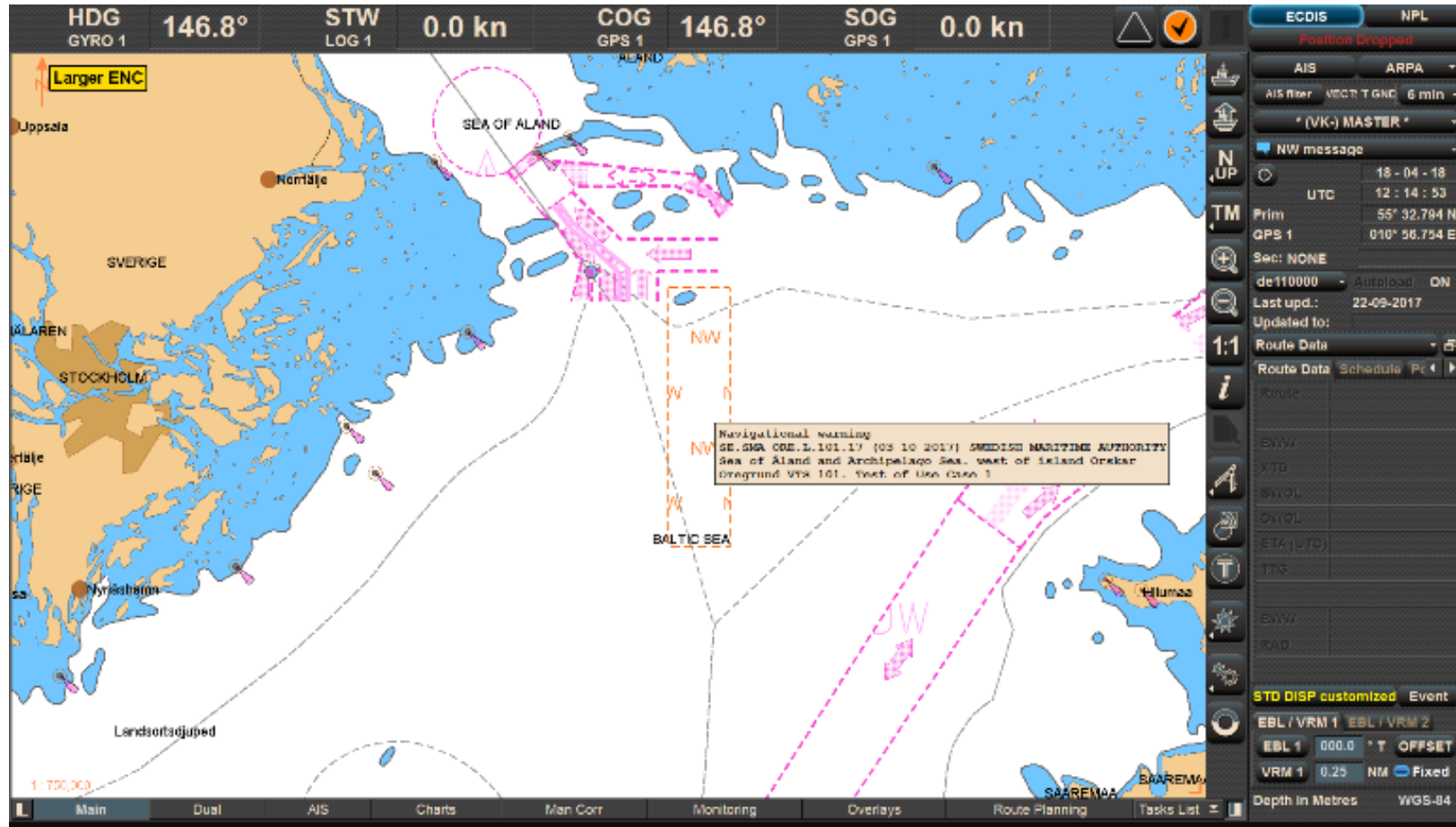
S-111 Surface Currents



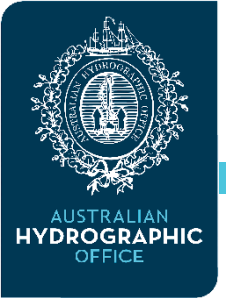
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S-124 Navigational Warnings

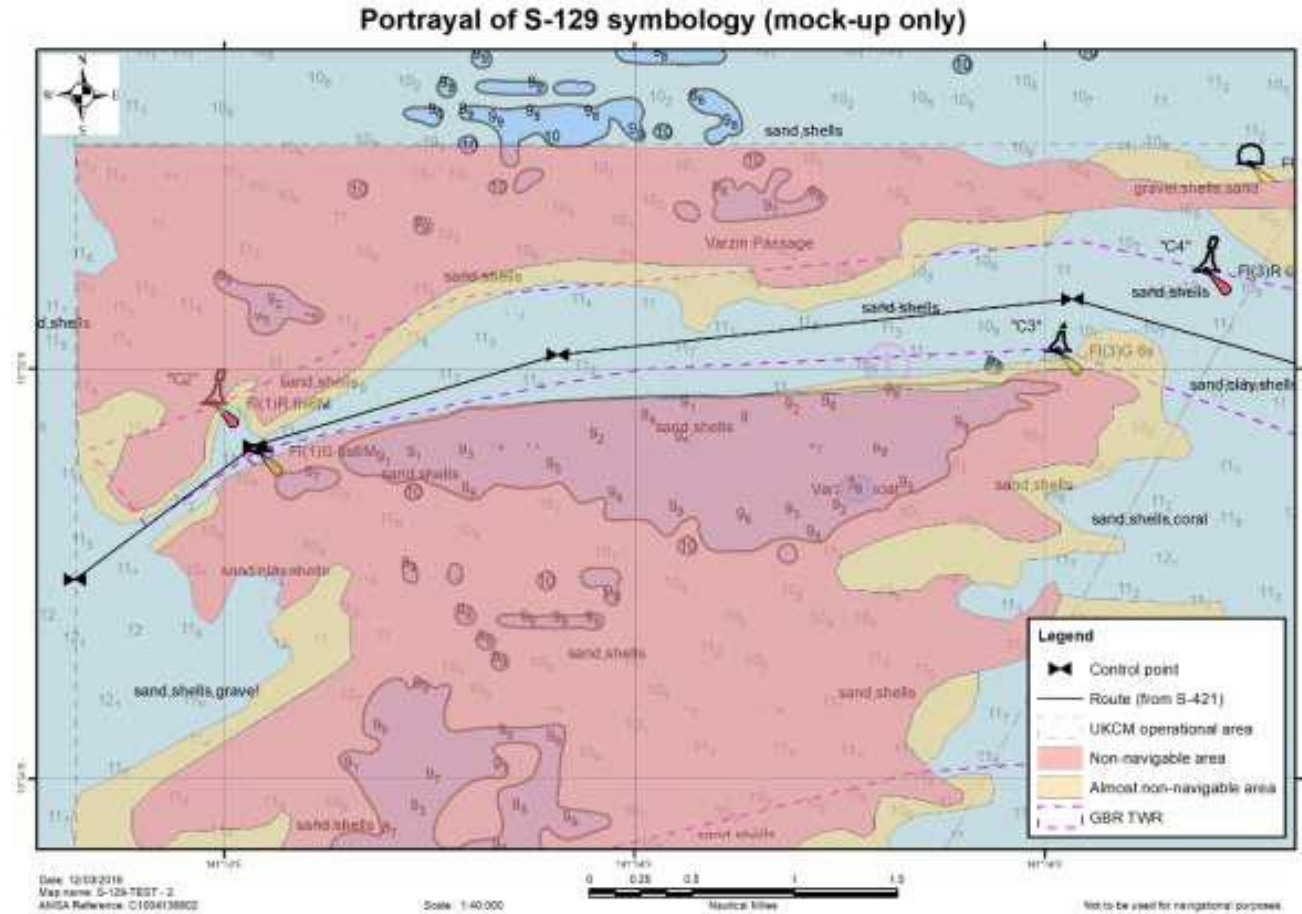


S-128 Catalogue of Nautical Products

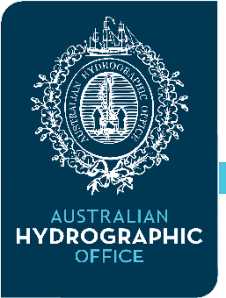


- Engaged with NIPWG to finalise the product specifications post S-100 Ed 5.2 after July 2024
- Currently exploring the system changes required to support the automation of S-128 creation
- Will finalise our approach in late 2024
- The team is currently working on some prototypes and data input

S-129 Under Keel Clearance Management

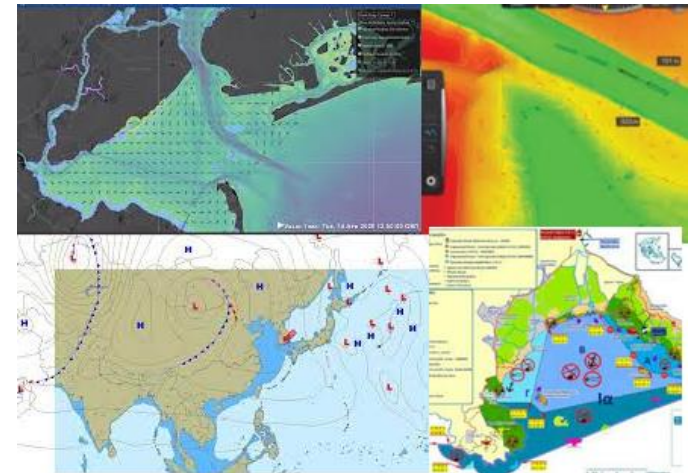


AHO Strategic Plan

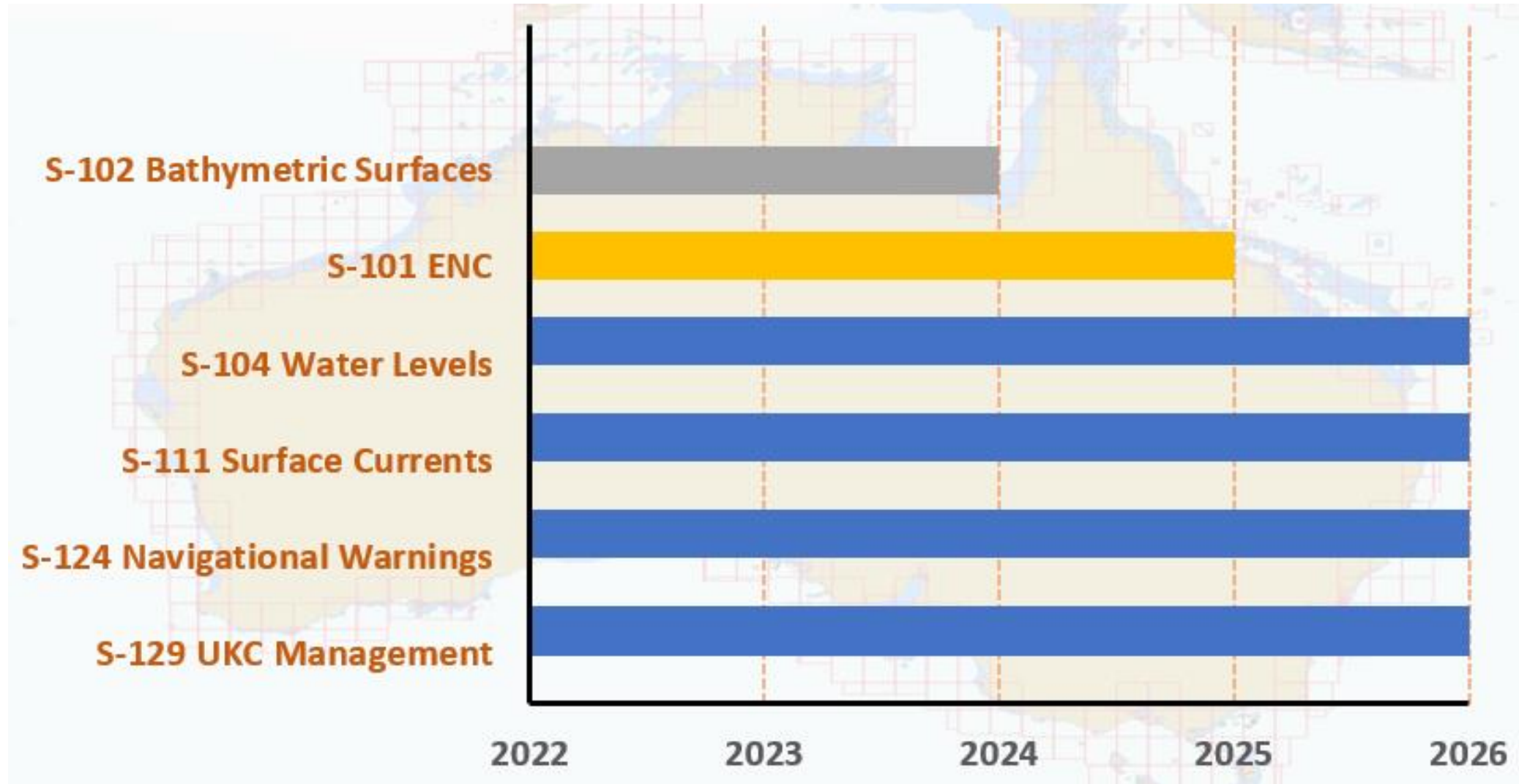


Key Initiatives:

- *DF-ENC Production from 2025*
- *Production of S-102, S-104 & S-111 from 2026*
- *Coordinate a national approach to S-100 and e-Navigation (S100WG under ICSM)*

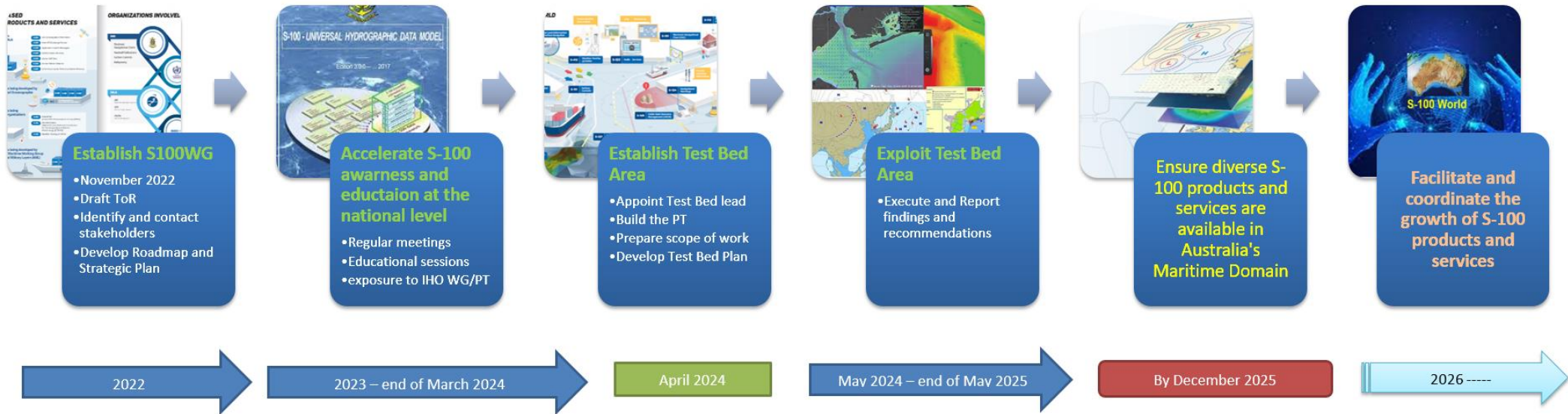


Timeline

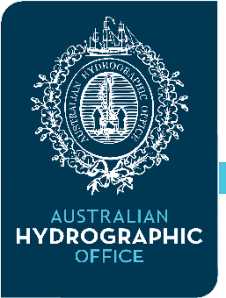


S100 Working Group

S100WG Roadmap 2022-2026

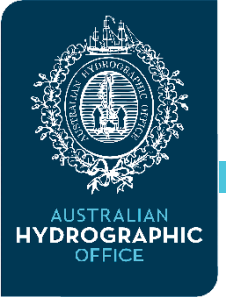


S-100 Summary

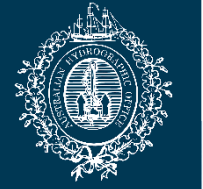


- **Underpins IMO's eNavigation strategy**
- **Is aligned with a contemporary International Geospatial standard (ISO 19100)**
- **Will enable wider use and transfer of hydrographic products than S-57**
- **Geospatial Registry - open to extension and use by a range of submitting organizations**
- **Will better support new/emerging requirements**
- **Will NOT make S-57 ENC's obsolete**

Challenges



- **Interoperability specification for ECDIS (S-10X Product overlays)**
- **Overhead associated with dual production (S-57 and S-101 ENC)s)**
- **Harmonised national production and distribution of complementary information to mariners**



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Thank you