45th Conference of the US Canada Hydrographic Commission (USCHC) Ottawa, Canada, 10 June 2022

Report

IHO Secretariat's work, Council matters and Work Programme items

Dr Mathias Jonas
Secretary-General

IHO Membership

- Since the last USCHC Conference Kenya, Iraq, Angola and Albania acceded to the IHO Convention and the IHO membership now stands at 98.
- Unfortunately, Serbia, Syria and Vanuatu remain suspended from Member States rights.

- Recommendation: *USCHC is invited to further assist the Secretariat in promotion of membership to those States not yet IHO Member States.*

IHO Council decisions (October 2021)

Recommendations:

- *Invitation to continue on the implementation of the IHO Strategic Plan, elaborate on the gap analysis and support IRCC in identifying measures and values to measure those SPI of regional interest allocated to IRCC, in accordance with IRCC CL 01/2021, and attending at the 2nd IRCC Workshops (thanks for intense discussions and productive outcome).*

- *Note the appropriate HSSC's governance document on the 'dual fuel' concept.*

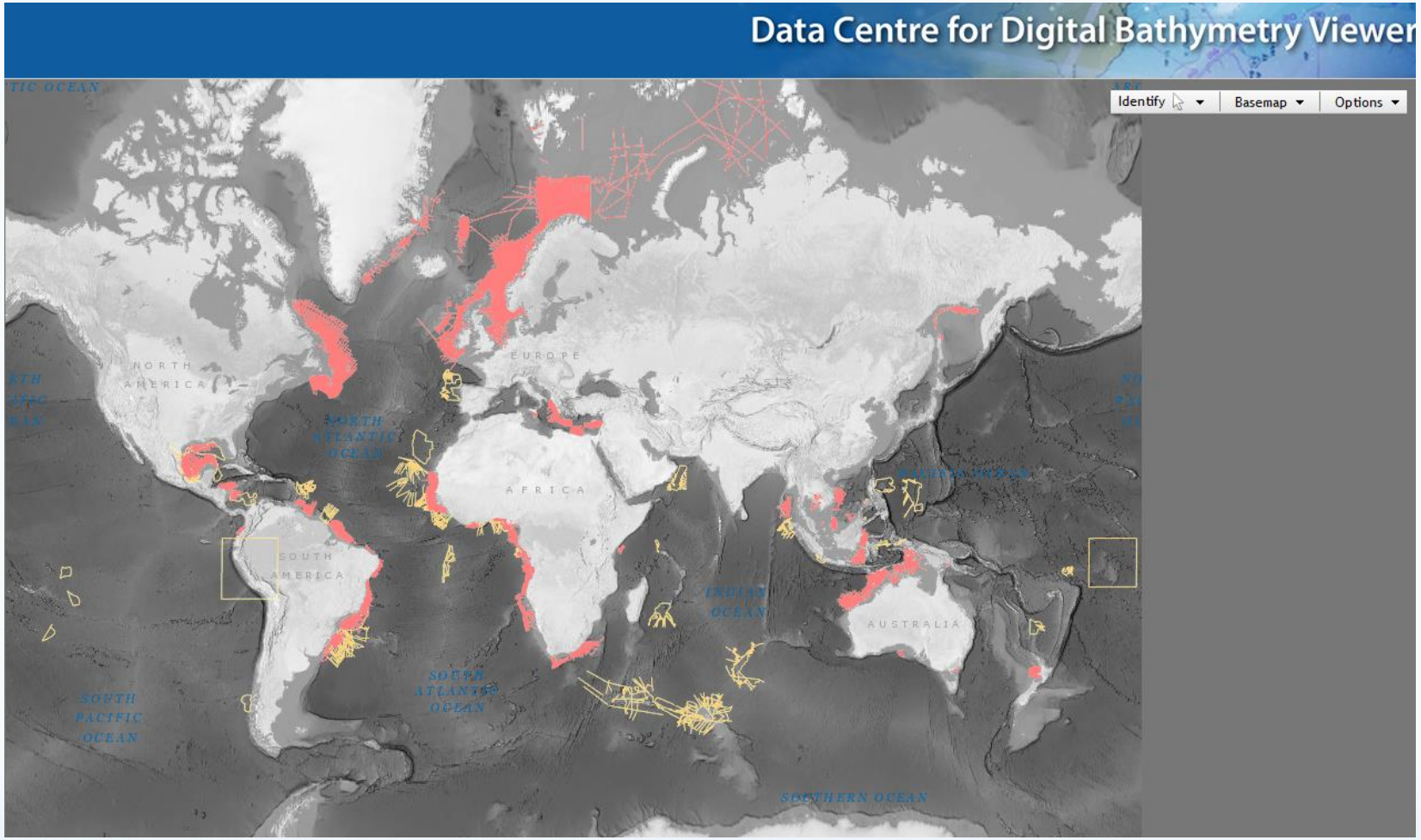
- *USCHC members are invited to continue their substantial support of the EWH project.*

- *USCHC members are invited to provide contributions of online learning material to the Project Team established for the IHO e-Learning Center at KHOA.*

GEBCO support by USCHC members

- USHC members are instrumental for the substantive quantitative and qualitative grow of the GEBCO grid over the last three years.
- A revision process for GEBCO governance has started recently.
- DCDB operations and functionalities have greatly improved. The Secretariat will propose to incorporate those functionalities better in the future IHO Portal.
- NOAA has agreed to pursue an MOU with the IHO to update and formalize the long-standing arrangement that NOAA host the DCDB.
- IHO has now formally agreed with ISA on regular data provisions for contract areas.
- Further assistance is needed to unlock existing data so far not available for GEBCO/DCDB.

GEBCO support through Crowdsourced Bathymetry and Seabed 2030



Existing data sets but not available for ingestion into DCDB

https://www.ncei.noaa.gov/maps-and-geospatial-products

International Hydrographic Review (IHR)

- To promote and modernize the distribution of the content of the IHR the IHO Secretariat has worked out a new IHR website with Geomares. Ihr.iho.int
- The IHR has a new editor Dr Patrick Westfeld from Germany.
- Papers for consideration for publication in the IHR should be forwarded directly to the editor (ihr.review@iho.int, copy to ihr.editor@iho.int.com). The deadlines are:
- End of January for the May Edition
- End of July for the November Edition
- *NHC Members are invited to submit papers for publication in the IHR.*

Forthcoming 3rd IHO Assembly 2023, established and new Council (C-7 to C-9) after

- The forthcoming third IHO Assembly is scheduled as in person event to 24 – 28 April 2023. The Council (c-6 in October 2022) is requested to discuss, endorse and finally forward the triennial Work Plan for 2024 – 2026.

- The USCHC is invited to discuss and put forward its view for strategic directions on the portfolio if work items to be incorporated into the plan.

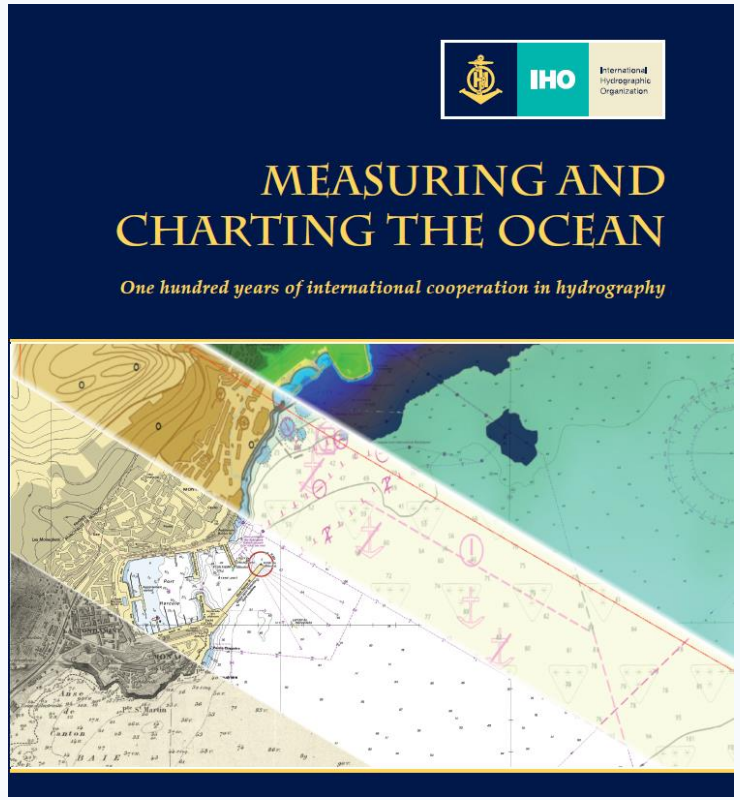
- The USHC is invited to select its candidate for the next Council period 2023 – 2026 to provide clarity for the region and associated RHCs.

IHO´s Strategic goals as core of the Work Programme 2023 - 2026

Goal 1: Evolving the hydrographic support for safety and efficiency of maritime navigation, undergoing profound transformation.

Goal 2: Increasing the use of hydrographic data for the benefit of society.

Goal 3: Participating actively in international initiatives related to the knowledge and the sustainable use of the Ocean.



Most relevant themes related to Goal 1: support for safety and efficiency of maritime navigation

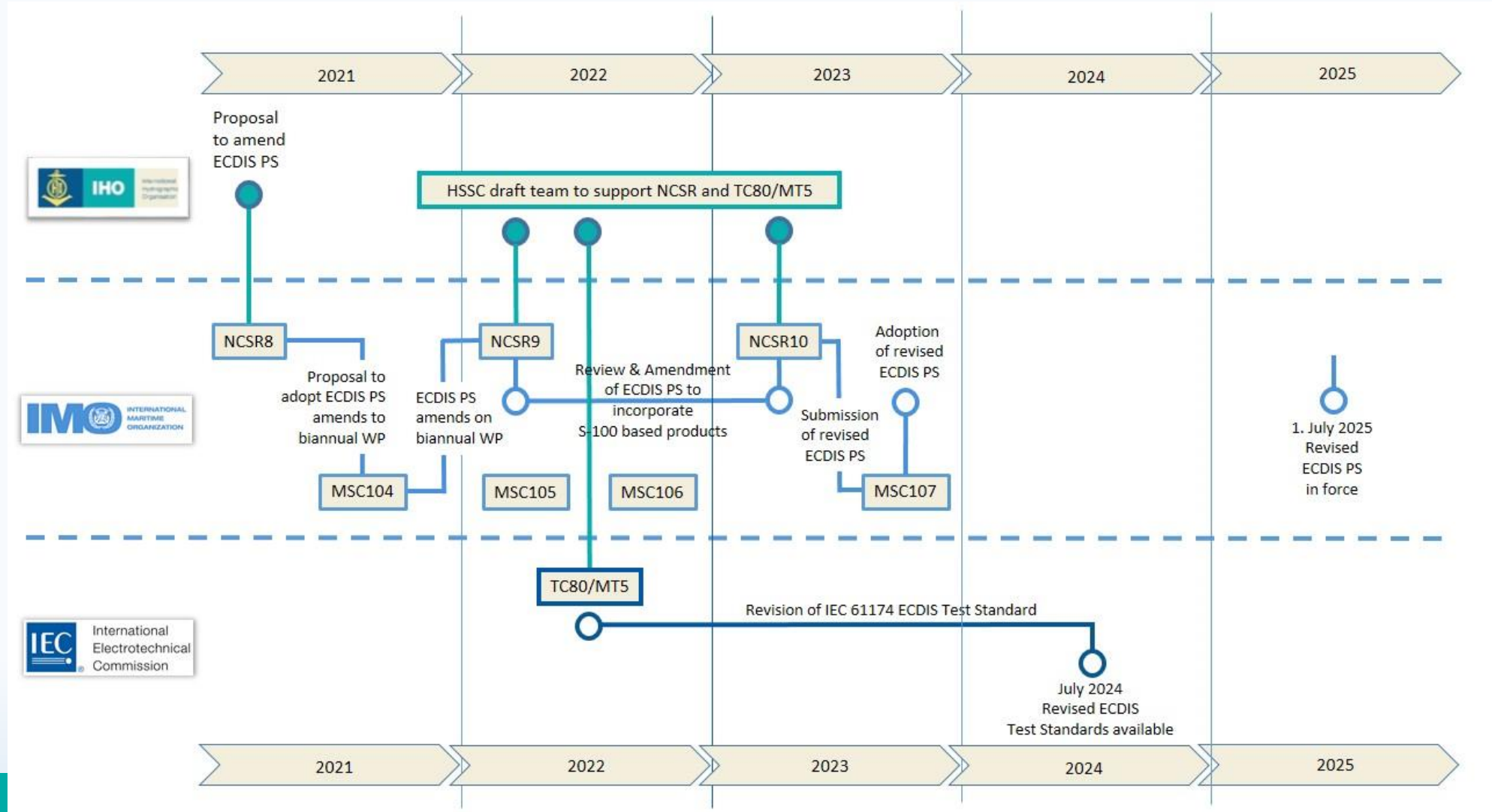
Observations:

- Safety of Navigation is currently not a main focus of IMO
- Autonomous shipping is expected for mainly short sea traffic but hydrographic survey is a main driver.

Most relevant themes related to Goal 1: support for safety and efficiency of maritime navigation

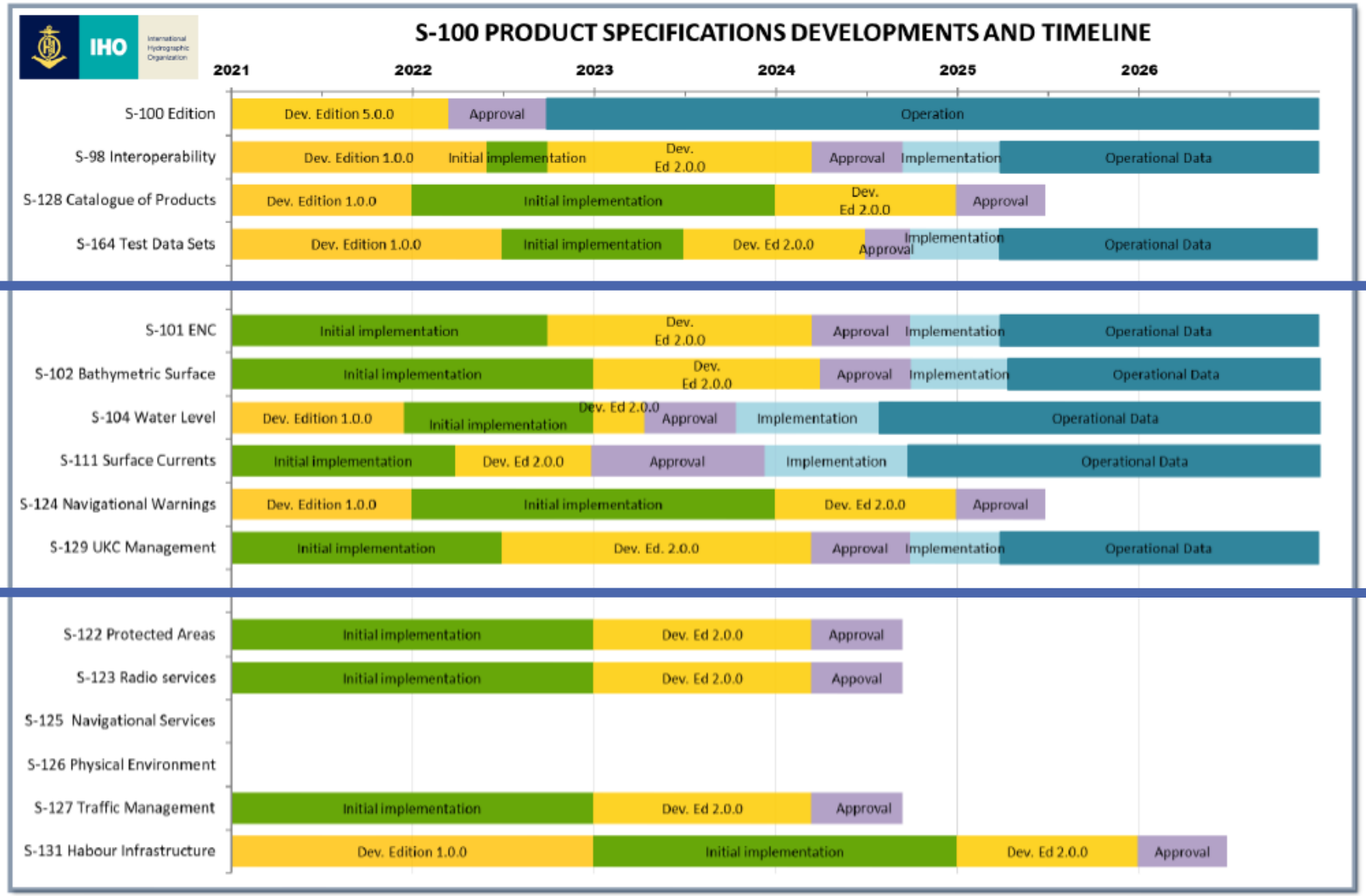
- Revision of MSC.232(82) - ECDIS Performance Standards
- Future production of S-101 ENCs in conjunction with S-57 maintenance/production
- Future production and provision of amending S-1xx products
- Future production of paper charts

The road to S-100 ECDIS – IHO committed to deliver



The S-100 eco-system is taking shape

Priority 1 Products



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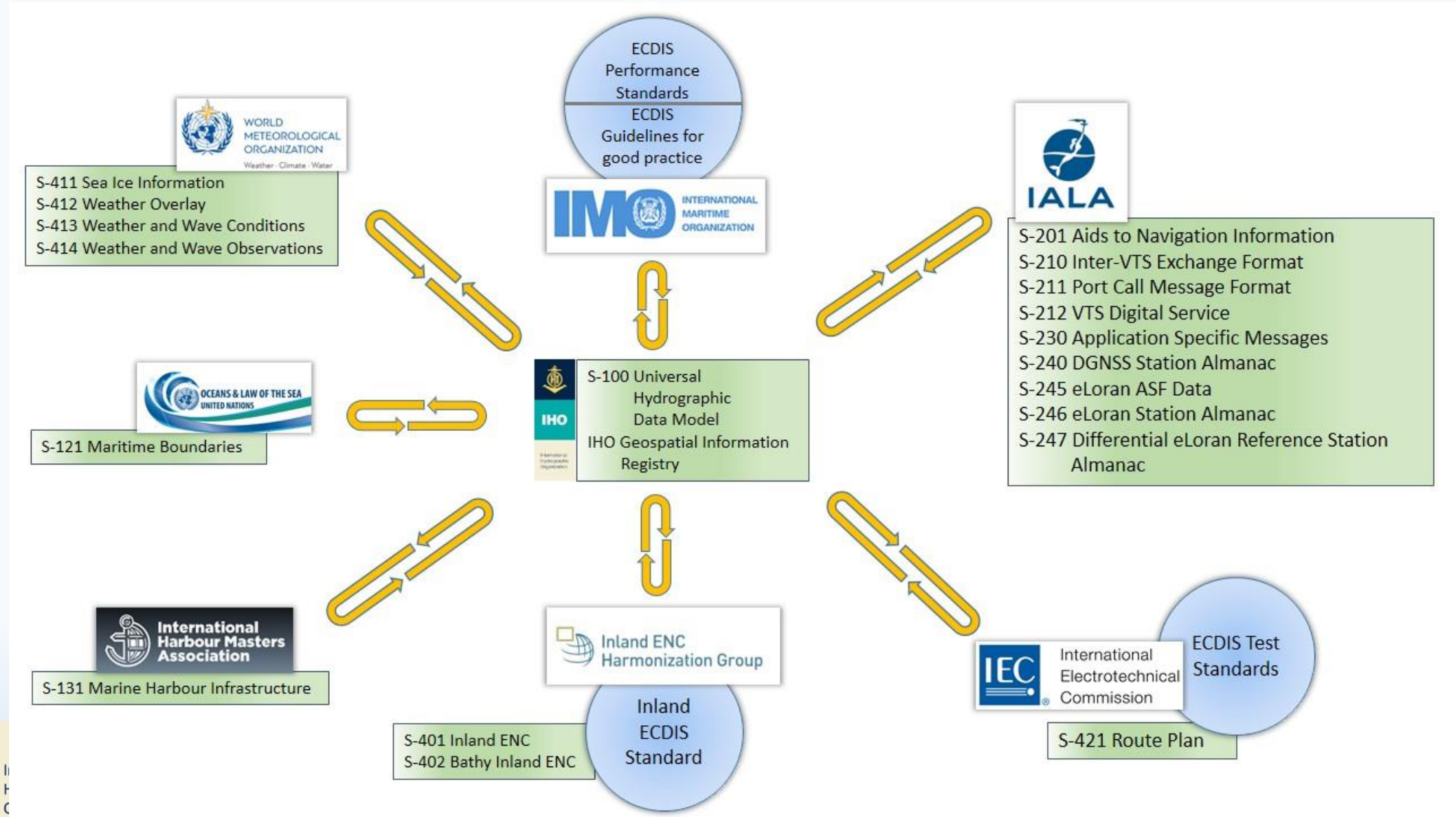


Most relevant themes related to Goal 2: Increasing the use of hydrographic data

Observations:

- Uptake of blue economy along all coasts – fish farming, sea weed etc.
- Increased request for deep ocean bathymetry for exploitation, renewable energy production, cable, pipelines etc.
- Private enterprises and digital philanthropists endeavored ocean bathymetry as an area to receive public attention
- Revitalization of the GEBCO programme with SeaBed2030 project as a booster
- The current bottle neck preventing more efficiency in sea transportation are harbor operations

Goal 1 and 2: A new IHO satellite

Two pilot projects:

- Automated conversion of the IHO S-57 ENC to the IHO S-101 ENC.
- Form the IHO S-131 Marine Harbour Infrastructure product specifications.

- The possible next: S-101 combination with S-131 based on S-100 interoperability regulations S-98 in one system

Most relevant themes related to Goal 3: Participating actively in international ocean initiatives

- UN Sustainability goals, UNESCO Decade of Ocean Science
- Regional activities: Europe – collaboration with EMODNET, Digital Twin
- Collaboration with global ocean observation programs such as ARGO and OceanOps

Observations:

- Oceans observation / modeling / forecast has entered the political agenda as being most relevant for the climate discussion
- Multitude of players – challenge to make IHO / hydrography visible
- Ocean mapping is accepted as base line information layer
- Tides, current, water level information is too less visible as hydrographic information
- S-100 is most relevant for digital twin but difficult to bring to market
- IHO member states need to consider that more can be done beyond ocean mapping and standardized data model (S-100) in support of the Ocean Decade

Forthcoming 3rd IHO Assembly 2023

What more can we do for Goal 2 and Goal 3?

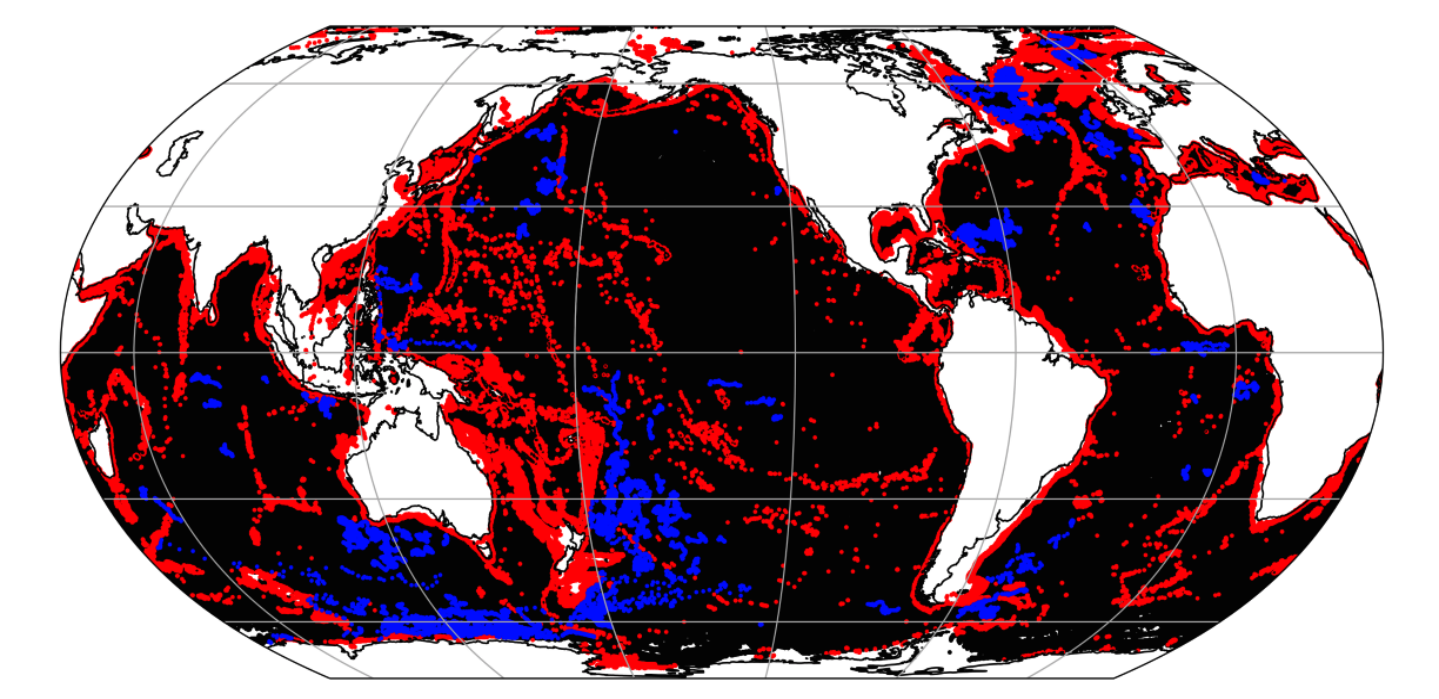
Ideas:

- *Climate Change - should the IHO be involved in monitoring and or preventive action?*
- *Additional monitoring tasks such as global water level, turbidity, micro plastics?*
- *Proactive support of OceanOps with survey vessels?*
- *Collaboration with ARGO to promote bathymetric floats*

GEBCO support through ARGO floats

Project Aims:

- Provide a validated Argo Bathymetry Data Product to contribute to GEBCO/Seabed 2030
- Validate Argo groundings and methodology
- Estimate vertical and horizontal uncertainties
  - vertical accuracy is promising
  - horizontal accuracy is challenging
- Provide routine updates as Argo array expands



Distribution:

Global Argo > 2.7 million profiles

Core Argo (red) up to 8% (216,000 profiles) are potentially grounded

Deep Argo profiles (blue) 20,000 profiles

Argo may help fill gaps in the deep ocean and in sparsely sampled regions

Red = Core Argo (< 2000 m)
Blue = Deep Argo (4000 to 6000 m)

E. van Wijk, L. Wallace, B. Halley, N. Zilberman on behalf of the Argo Bathymetry Task Team and supported by:

IHO International Hydrographic Organization

AUSTRALIAN HYDROGRAPHIC OFFICE

CSIRO

UNIVERSITY of TASMANIA AUSTRALIA

AAPP Australian Antarctic Program Partnership

Argo

GEBCO

USCHC is requested
to take note of this briefing,
and to take action as considered appropriate