



IHO UPDATE TO PGSC UNGGIM WORKSHOP

SAM HARPER – IHO ASSISTANT DIRECTOR



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OPERATIONAL CONTEXT

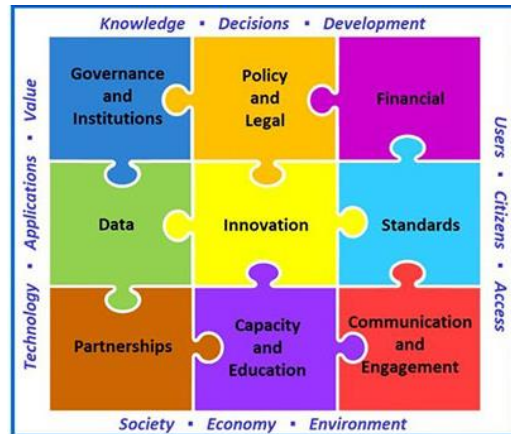


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SDGS & IHO

International Hydrographic Organization

IHO STRATEGIC PLAN 2021-2026



GOAL 1 STANDARDS

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

GOAL 2 DATA

Increasing the use of hydrographic data for the benefit of society.

GOAL 3 KNOWLEDGE

IHO's ambition is to be an effective and recognized contributor to the major Ocean related challenges identified by the international community.



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A LITTLE-KNOWN OCEAN!

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OCEANS

1903-2017: from 0% to 6,7%

2017-2024: from 6,7% to 26,1% (Note)

*Note: At best only one depth value in area ~ size of a soccer pitch
(1 x depth value in 100x100m box)*



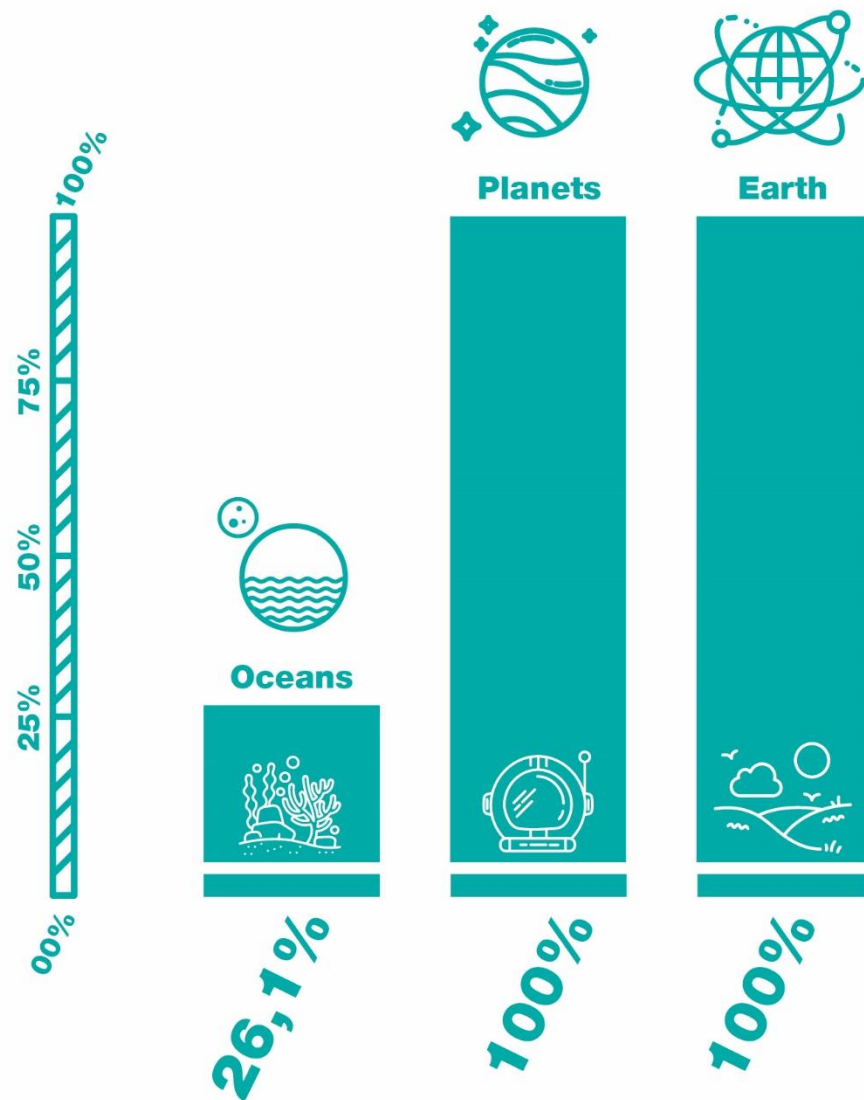
EMERGED LANDS

2005: 100% coverage of all land with DEM (Digital Elevation Model) at 10 meters



PLANETS IN THE SOLAR SYSTEM

2021: 100% detailed topographic coverage of the Moon, Venus and Mars

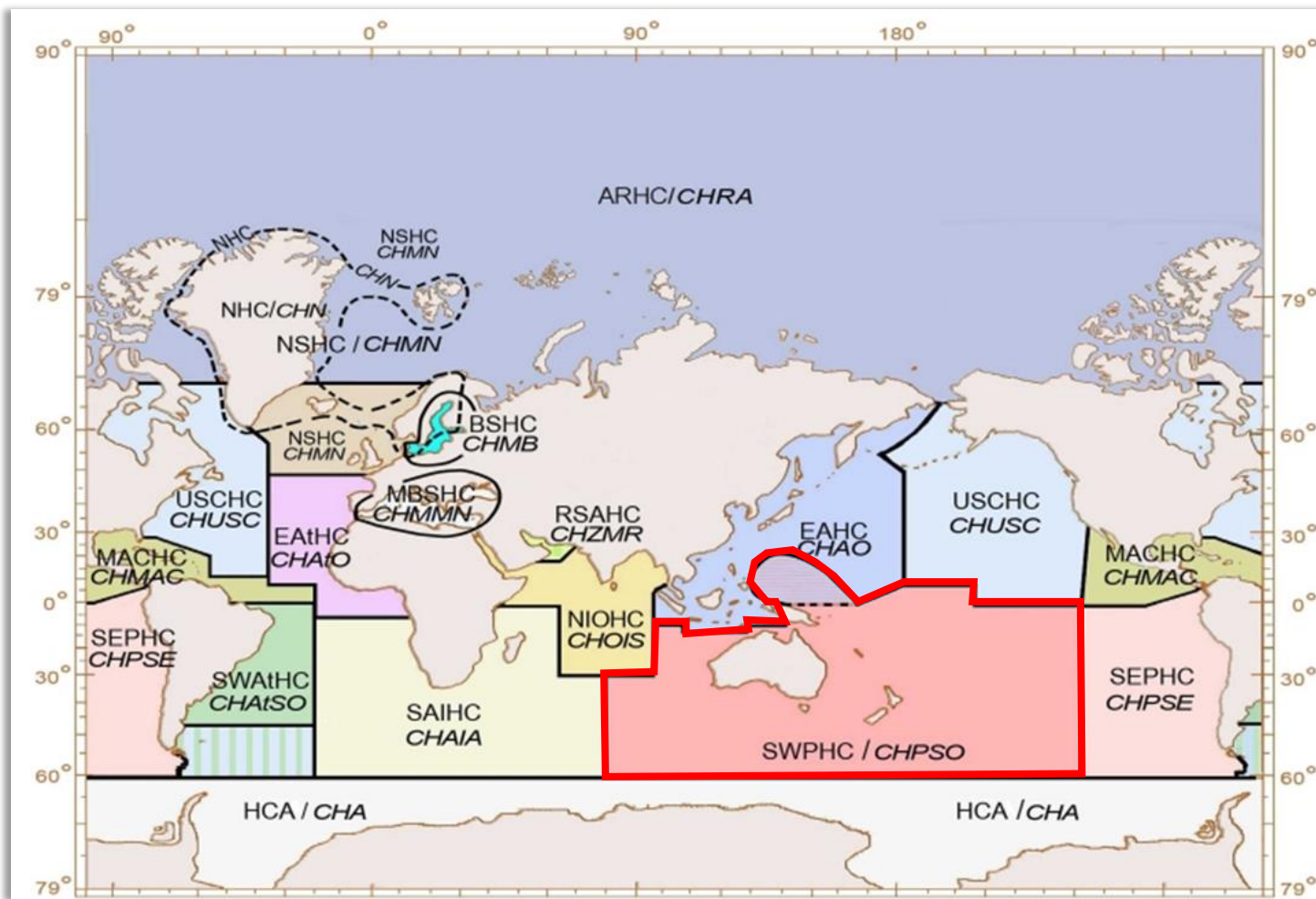




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SEAFLOOR MAPPING BY REGIONS

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RHC	% 2024
ARHC	20.34
BSHC	47.14
EAHC	12.32
EAHC-K	40.54
EAtHC	33.54
HCA	15.49
MBSHC	54.23
MACHC	29.32
NHC	46.85
NIOHC	12.11
NSHC	55.16
ROPME	6.34
SEPRHC	19.04
SWATHC Reg. c1b	26.87
SWATHC	42.27
SWPHC	16.06
SAIHC	17.27
USCHC-Pacific	26.44
USCHC-Atlantic	39.88

21st Meeting 28 February - 1 March 2024, Nadi, Fiji

2-Day Technical Workshop on Disaster Recovery, 26-27 February 2024



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INTERNATIONAL INITIATIVES

International Hydrographic Organization



EARLY WARNINGS FOR ALL

The UN Global Early Warning Initiative for the Implementation of Climate Adaptation



WORLD METEOROLOGICAL ORGANIZATION



“the United Nations will spearhead new action to ensure every person on Earth is protected by early warning systems within five years”

UN Secretary-General António Guterres on World Meteorological Day 23 March 2022



Challenge 8. Create a digital representation of the ocean



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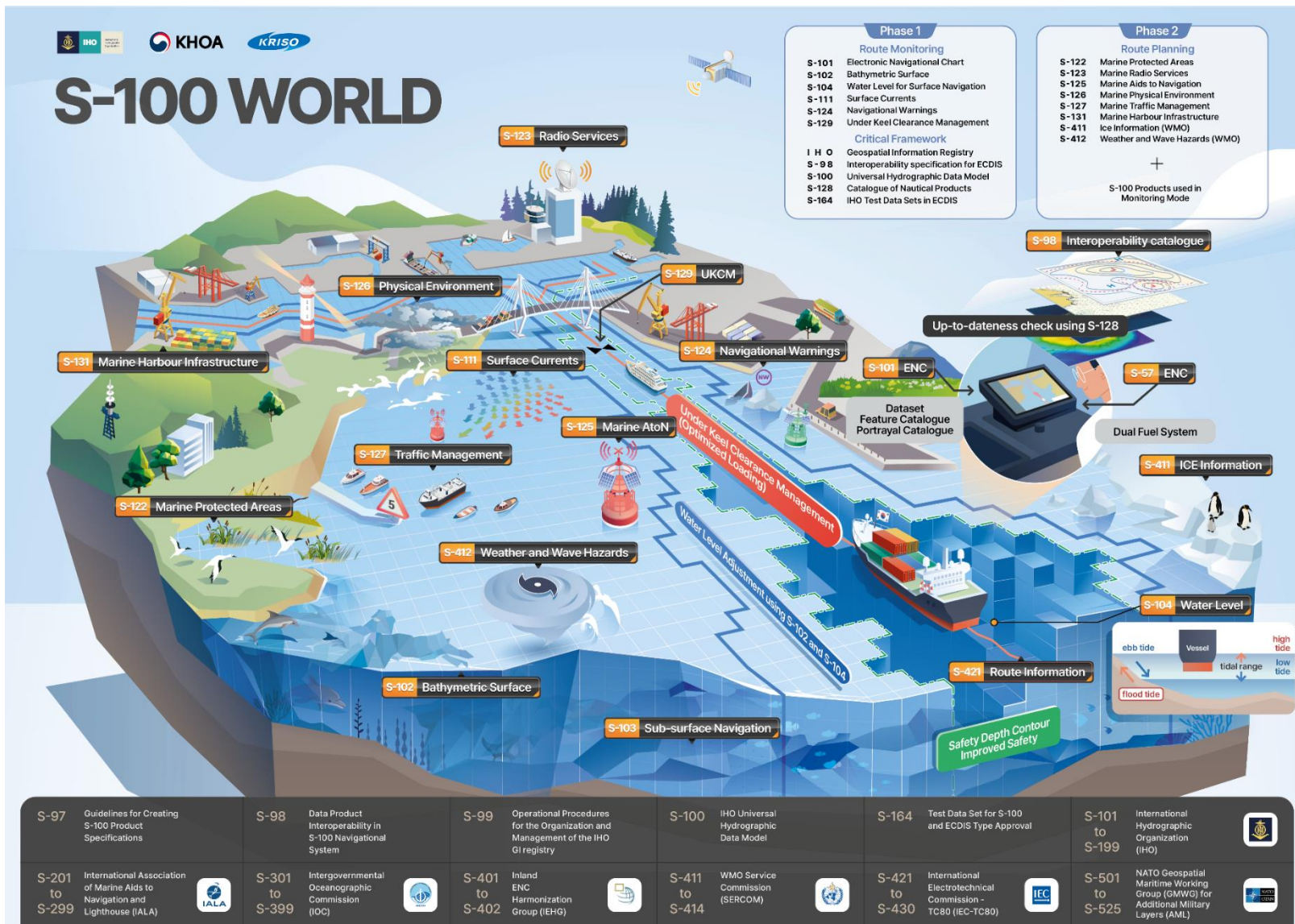
KEY ACTIVITY



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S-100 IMPLEMENTATION

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- Future of E-Navigation
- Ecosystem approach
- Interoperability at its core
- ISO Based
- Phased approach to implementation



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S-100 IMPLEMENTATION

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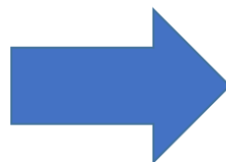
Phase 1 / Route Monitoring

Phase 1 Route Monitoring Mode

- S-101 ENC
- S-102 Bathymetry
- S-104 Water Level
- 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 Type Approval



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

Task	IHO CL issue date	MS Response Due
S-100 Phase 1 Endorsement	October 2024	December 2024



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IHO CROWDSOURCED BATHYMETRY INITIATIVE

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SUPERYACHT CROWDSOURCED DATA



DIGITAL PHILANTHROPY

Help increase knowledge of the ocean

Privately-owned ships can help increase our knowledge of the ocean by sharing depth measurements and other data collected by navigation instruments while out at sea.



Superyachts explore the world

Often in areas where data is sparse, non-existent or of poor quality. In these areas, data contributions can have the greatest impact !



Join a global initiative

No effort for the ship's crew ! Data can be shared, thanks to the built-in navigation software.



Make our ocean safer

By contributing data, superyachts can help avoid groundings and environmental damage, making the ocean safer. They are also supporting initiatives to protect the ocean.

Help reveal the deep and share your data.



www.iho.int



Scan this QR code to learn more about the IHO's crowdsourcing initiative





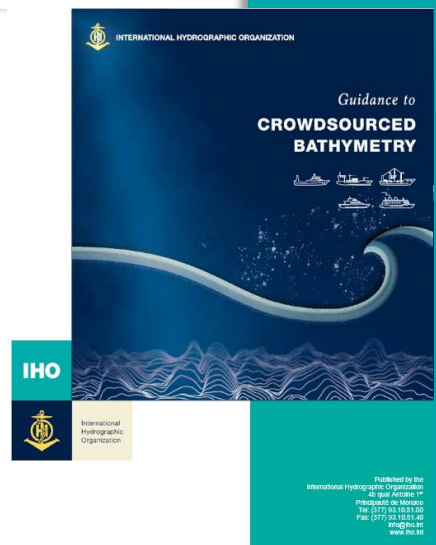
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INCREASING AVAILABILITY OF DATA

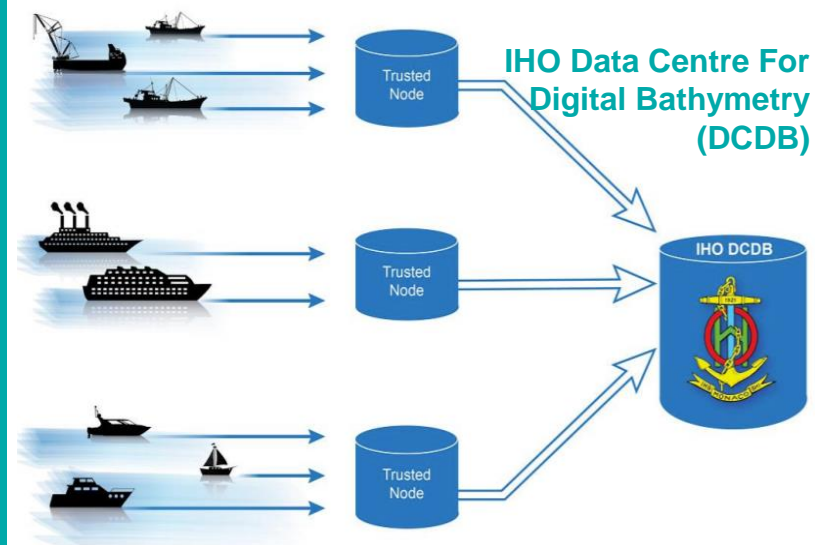
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COLLABORATION
Between major initiatives in seabed mapping



IHO CROWDSOURCED BATHYMETRY (CSB) INITIATIVE





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GEBCO GUIDING COMMITTEE AND 6TH PACIFIC OCEAN MAPPING MEETING

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GENERAL BATHYMETRIC CHART OF THE OCEAN

GEBCO

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- 121 Years old – Brainchild of HSH Prince Albert 1er Monaco
- Operated under the joint auspices of the IHO and IOC
- Reports into IRCC and IOC Executive Council
- Consists of a Guiding Committee and 5 thematic Sub-Committees
- Has two long-term partnership projects:
 - Nippon Foundation-GEBCO Seabed 2030 Project
 - Nippon Foundation-GEBCO Training Programme
- IHO Data Centre for Digital Bathymetry acts as the ultimate data repository



The General Bathymetric Chart of the Oceans

STRATEGY 2024-2030

The vision

To bring knowledge about our planet's seabed to everyone

The mission

To produce free, open and complete seabed data and information for the world's oceans. This is achieved by enabling and inspiring seabed mapping efforts through international collaboration, technological innovation, capacity development, and education.



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ncei.noaa.gov/iho-data-centre-digital-bathymetry

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IHO Data Centre for Digital Bathymetry (DCDB)

The [International Hydrographic Organization \(IHO\)](#) Data Centre for Digital Bathymetry (DCDB) was established in 1990 to steward the global collection of bathymetric data. The Centre archives and shares, freely and without restrictions, depth data contributed by mariners and other stakeholders consistent with IHO direction and guidance. The IHO DCDB is hosted by the [U.S. National Oceanic and Atmospheric Administration \(NOAA\)](#) on behalf of the IHO Member States.

The DCDB archive includes over 70 terabytes (uncompressed) of oceanic depth soundings acquired with multibeam and single beam sonars by hydrographic, oceanographic and industry vessels during surveys or while on passage.



25% of the deep ocean floor has been mapped with direct measurement and approximately 50% of the world's coastal waters remain unsurveyed. (Source: GEBCO)

[About](#)

[Multi/Singlebeam Bathymetry](#)

[Crowdsourced Bathymetry](#)



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PARTICIPATION IN 3RD UN OCEANS CONFERENCE

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- **Theme** - *“Accelerating action and mobilizing all actors to conserve and sustainably use the ocean”*
- **Format** – 10 plenary sessions and 10 Ocean Action Panels
- Focus on building upon existing instruments to support collaboration and expedite various activities that support delivery of SDG14
- The Conference will adopt an international declaration, which along with a list of voluntary commitments, will be referred to as “Nice Ocean Action Plan”
- UNOC will also be preceded by One Ocean Science Congress and a Blue Economy and Finance Forum