

Thank you, Mr President,

I thank you and the Distinguished Representatives for allowing me to present a short background report on behalf of the 87 Member States of the IHO.

Our written report provides an overview of the purpose and the objectives of the IHO and its relevance to the International Seabed Authority.

A principal objective of the IHO that we consider is most relevant to this Authority is that of ensuring that the world's seas and oceans are properly mapped so as to benefit all human activity that takes place in, on or under the sea. This objective is now even more relevant in the context of the UN 2030 Agenda on Sustainable Development and is particularly relevant in relation to the achievement of Sustainable Development Goal 14. Your Secretary-General emphasised this very effectively at the most recent UN Ocean Conference and earlier in the year at the Assembly of the IHO.

I am here today, specifically to encourage the Authority to ensure that the depth information that is submitted as part of your contractors' protocols and obligations, is made as widely available as possible, in the common interest.

In that regard, I am very pleased to learn that you have progressing plans to develop your information technology infrastructure and your data and reporting protocols in relation to geospatial and environmental information.

The IHO, has well-established globally implemented geospatial data standards for depth and associated information. We have effective liaison and collaboration with the data sensor manufacturers and the marine data industry more generally. We are recognized as a competent technical authority to all the relevant intergovernmental organizations dealing with maritime data and information, such as the UN-GGIM, UN-DOALOS, the IMO, UNESCO-IOC, and the WMO, and now most recently with the ISA under the auspices of the agreement between our two Organizations that I signed here last year.

So, we, the IHO, stand ready to collaborate with you, the International Seabed Authority, to ensure that appropriate data transfer protocols and data exchange standards are put in place to ensure that we achieve our common aims of supporting the UN Sustainable Development Agenda and also to serve the common interests of all mankind in relation to the use of, and our understanding of, the ocean environment. In particular, we may have information useful to some of the ongoing considerations of your Legal and Technical Commission.

I welcome any questions from the Distinguished Delegates and productive discussions with the Secretariat at any time during this week and by correspondence thereafter.

Thank you, Sir.



**STATEMENT TO
THE ASSEMBLY OF THE INTERNATIONAL SEABED AUTHORITY
BY
THE INTERNATIONAL HYDROGRAPHIC ORGANIZATION**

General

1. The International Hydrographic Organization (IHO) is the inter-governmental technical and consultative organization, established in 1921, whose principal aim is to ensure that all the world's seas, oceans and navigable waters are adequately surveyed and charted. It does this through the coordinated endeavours of the world's government Hydrographic Offices. The IHO is considered by the UN Assembly and other UN bodies as the competent authority in relation to bathymetric surveying and mapping.
2. Membership of the IHO currently stands at 87 States. Each Member State is normally represented in the IHO by its national Hydrographer or the authority assigned with governmental responsibility to ensure the provision of an appropriate hydrographic service in accordance with the obligations of the relevant international treaties such as the International Convention for the Safety of Life at Sea (SOLAS) and the United Nations Convention on the Law of the Sea (UNCLOS).
3. Hydrographic information is essential for the safe, efficient and sustainable conduct of every human activity that takes place in, on or under the sea or a body of water. Knowing the depth and the shape of the seafloor is essential to the sustainable development of the oceans and seas, ensuring that the marine environment is respected and that no adverse economic or social impact is incurred.
4. Hydrography involves measuring the depth of the water (bathymetry) and fixing the position of all the navigational hazards that lie on the seafloor, such as wrecks and rocks. In deeper water, this is done mainly using specialized ships operating echo sounders and sonars, but useful information can also be obtained from mariners using the standard equipment fitted in many ships.

Knowing the depth and the shape of the seafloor

5. According to the statistics maintained by the IHO, less than fifteen percent of the world's ocean depths have been measured directly; the rest of the data used to compile seafloor maps are estimated depths. These estimated depths are largely derived from satellite gravity measurements, which can miss significant features and provides only coarse-resolution depictions of the largest seamounts, ridges and canyons. Many features, large and small, are yet to be discovered. This lack of understanding of the depth and shape of the seafloor has a significant impact on the sustainable management, development and use of the seas and oceans, including the Area.
6. Geospatial knowledge for most of the world's land mass, as well as for the surfaces of the Moon and Mars are far more detailed than for most of the world's seas and oceans. This means that providing appropriate access to the limited amount of hydrographic information and other environmental information that is available is vital.

7. A primary reason for the IHO to develop a strong relationship with the ISA is to ensure that the bathymetric data and associated information collected in relation to the activities under the purview of the ISA can be accessed and used as effectively as possible to maximise its benefit for all those with interests in the ocean environment, beyond the original reason for its collection.

Developing interoperable IHO standards, guidance, products and services

8. The IHO maintains the global standards and guidance that ensure hydrographic information is delivered to users through appropriate harmonized and interoperable products and services. Both elements require easy access to standardized high quality digital geospatial information describing the marine environment.

9. In addition to other long-standing and universally implemented standards for navigation-related products and services, standardized access to hydrographic data and information is supported by the development of newer IHO standards related to latest generation digital products and services under the framework of the IHO standard known as S-100 - *Universal Hydrographic Data Model*. S-100 is based on and is interoperable with the ISO 19100 series of geographic standards.

10. S-100 has been adopted by several UN organizations as a common geospatial data structure for data access and services, including the World Meteorological Organization (WMO), the UN Division for Ocean Affairs and the Law of the Sea (DOALOS), and the International Maritime Organization (IMO).

Promoting the marine dimension in global agendas

11. **2030 Agenda for Sustainable Development.** In September 2015, the UN General Assembly adopted its 2030 Agenda for Sustainable Development. The Agenda specifically targets the sustainability of the oceans under its Sustainable Development Goal (SDG) 14 - *Conserve and sustainably use the oceans, seas and marine resources for sustainable development*. The need for improvements in the mapping of the seas and oceans is an underlying and vital supporting element to almost all of the targets of SDG 14. SDG Target 14a, in particular, seeks to *Increase scientific knowledge, develop research capacity and transfer marine technology ...*. In this context, improving mankind's very limited knowledge of the depth and shape of the seafloor will be a vital contributing component.

12. **GEBCO Project.** The IHO, since its inception, has promoted the gathering and dissemination of depth data of the seas and oceans. This is embodied in the General Bathymetric Chart of the Ocean (GEBCO) Project that began in 1903. GEBCO was managed solely by the IHO until 1974, when the Intergovernmental Oceanographic Commission (IOC) of UNESCO joined the Project as co-collaborators. The GEBCO Project encourages all parties that are capable of collecting depth data to do so, and to make the existence of the data publicly available, and wherever possible, to make the data available as well.

13. **Seabed 2030.** Seabed 2030 is a Nippon Foundation and GEBCO collaboration that was announced at the recent UN Ocean Conference in June to comprehensively map the world's seafloor by 2030. The ultimate aim is to ensure that no seabed feature larger than 100 metres remains undiscovered.

14. **International Decade of Ocean Science.** UNESCO-IOC has proposed that the UN General Assembly adopt an International Decade of Ocean Science for Sustainable Development 2021-2030 at its 72nd session in September. The *Decade of Ocean Science* seeks to engage all relevant partners (UN Agencies, Member States, Science organizations, Academic institutions, NGOs, Private Sector) in improving, among other things, data-sharing and capacity building, in order to contribute to the achievement of the goals of the UN 2030 Agenda for sustainable development. The IHO has already indicated its strong support of the initiative.

The growing value and importance of marine geospatial information

15. The IHO recognises that fundamental geodata, particularly bathymetry, is a key enabler for economic development and the sustainable use of the marine environment. In recognition of this and the importance of making bathymetry accessible to the widest possible user community, the IHO, at its most recent Assembly held in April in Monaco, adopted Resolution 1/2017 - *Improving the Availability of Bathymetric Data Worldwide*. IHO Member States resolved that, in addition to fulfilling their international obligations to provide hydrographic information in support of safety of navigation, they should also consider implementing mechanisms that ensure the widest possible availability of all bathymetric data, so as to support the sustainable development, management and governance of the marine environment.

16. The growing value and importance of bathymetric data has been further reinforced by the proposal of the UN Committee of Experts on Global Geospatial Information (UN-GGIM) to establish a dedicated working group on marine geospatial information at its next session in August 2017.

IHO and the ISA

17. The IHO and the ISA concluded a Memorandum of Understanding (MoU) on cooperation between the two organizations in 2016. The purpose of the MoU is to acknowledge that marine scientific research in the international seabed area shall be carried out for the benefit of mankind as a whole and to promote the best possible cooperation between both organizations in areas of mutual interest in order to maximise this.

18. Of particular note, the following IHO activities directly support the work and the considerations of the ISA:

- improving the availability of authoritative bathymetric data for the oceans, in particular through the long-standing General Bathymetric Chart of the Oceans (GEBCO) Project and the IHO Data Centre for Digital Bathymetry (DCDB) that collectively provide the principal, global coverage of open-access bathymetric maps, gridded data and database for the world's oceans and seas; and
- the use of globally implemented standards for gathering, exchanging and distributing bathymetric data.

19. In addition, the IHO, in cooperation with the International Association of Geodesy (IAG) provides advice, guidance and, where applicable, offers expert interpretation of the hydrographic, geodetic and marine geo-scientific technical aspects of the Law of the Sea through its Advisory Board on the Law of the Sea (ABLOS). This contributes to determining the limits of national jurisdictions and accordingly, of the Area.

20. The IHO, as part of the GEBCO project, also selects and promulgates the names of natural undersea features and defines their limits.

Proposed areas for collaboration and coordination

21. As indicated in the Memorandum of Understanding between the IHO and the ISA concluded on 14 July 2016, the IHO stands ready to discuss and cooperate in greater detail in order to address the following:

- the development of procedures to encourage and facilitate the provision and exchange of bathymetric survey data, or metadata, collected as part of the activities in the Area that are controlled or organized by ISA;

- the development of compatible digital input formats for the representation of ISA contract areas in relation to nautical charting requirements;
- global consistency in the treatment of bathymetric data covering ISA contract areas to facilitate data reuse by hydrographic offices around the world and allow data correlation without further manipulation;
- the optimization of resources to reduce lead times from data availability from the relevant ISA contractors to the publishing of updates to nautical charts;
- the development of a global approach to the issuance of notices to mariners and related navigational warnings as may be required for the safe conduct of activities by ISA contractors;
- the development of standardized information in nautical publications that draws mariners' attention to installations used by ISA contractors; and
- the development of charting policies that address hazards related to concurrent activities in ISA contract areas.

22. In particular, the IHO wishes to collaborate with ISA on developing appropriate standards and protocols to maximise the seamless exchange of bathymetric data, or metadata held by the two Organizations. Improving such access will provide a very significant contribution to the aims of:

- The UN 2030 Agenda for sustainable development
- The GEBCO Project and *Seabed 2030 initiative*
- The proposed *International Decade of Ocean Science for Sustainable Development 2021-2030*

Conclusion

23. The non-proprietary and non-confidential data collected by the ISA through its Contractors is most important in helping to improve mankind's knowledge of the depth and shape of the seafloor.

24. The IHO stands ready to cooperate and coordinate with ISA to put practical mechanisms in place by which the two Organizations can ensure the standardisation, exchange and availability of much-needed bathymetric and other relevant information is achieved as quickly as is possible.

*July 2017
Monaco*