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Executive Summary

The International Hydrographic Organization (IHO) is the inter-governmental international

General

1. The International Hydrographic Organization (IHO) is the inter-governmental international organization whose and navigable waters are properly surveyed and charted, through the coordinated endeavours of national Hydrographic Offices that also contribute to the promulgation of Maritime Safety Information (MSI). The requirement to provide these services is set out in Regulation 9 of Chapter V of the International Convention for the Safety of Life at Sea (SOLAS) and is therefore an obligation placed on all contracting governments. Regulation 9 requires, among other things

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to the requirements of safe navigation

breaking work which was done during this period. The goal is to highlight the past, present, and future of hydrography by showing the important work of early hydrographers, progress in technology, and state of the art in technology.

Promoting the marine dimension in global agendas

17. The IHO Secretariat has continued to contribute directly to the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM). At its 10th session in August 2020 the report on the Implementation and adoption of standards for the global geospatial information community (Agenda Item 10), was brought to the attention of the Committee by the three Standard Developing Organizations ISO, OGC and IHO Group. This group being integral part of the global geospatial information management community agreed to continue the strong liaison on all levels to support the UN-GGIM process further.

18. The Working Group on Marine Geospatial Information under the leadership of John Nyberg (USA), established by UN-GGIM 7 in 2017, reported to the Committee of Experts for the third time. The Committee welcomed the report of the Working Group on Marine Geospatial Information, and noted its progress, including the initiation of a use-case exercise on data availability and interoperability. The Chair highlighted that the group has utilized the Integrated Geospatial Information Framework as mechanism for articulating and demonstrating national leadership in marine geospatial information and that its nine strategic pathways are the appropriate means towards implementing integrated marine geospatial information systems in a way that will deliver a vision for sustainable social, economic and environmental development. He insisted that marine geospatial information must be made available, accessible and discoverable for a multiplicity of purposes. The Committee invited the Working Group to consider the variety of marine data sources that may be available, and in this regard, consider capacity development activities to strengthen marine geospatial information capabilities in developing countries and Small island developing states.

Ocean bathymetry

19. The General Bathymetric Chart of the Ocean (GEBCO) programme is a joint programme that is executed under the governance of the IHO and the Intergovernmental Oceanographic Commission (IOC) of UNESCO. GEBCO is directed by a Guiding Committee made up of representatives from both IHO and IOC and is supported by a Technical Sub-Committee on Ocean Mapping (TSCOM), a Sub-Committee on Undersea Feature Names (SCUFN), a Sub-Committee on Regional Undersea Mapping (SCRUM), a Sub-Committee on Communications, Outreach and Public Engagement (SCOPE) and a Nippon Foundation/GEBCO Training Project Management Committee. SCUFN maintains close liaison with the UN Group of Experts on Geographical Names (UN-GEGN), and with international or national authorities concerned with the naming of undersea features.

20. Through the work of its organs, GEBCO produces and makes available a range of bathymetric data sets and products, including the GEBCO Gazetteer of Undersea Feature Names; the GEBCO world map; GEBCO Cook Book; Web Map Services and its lead bathymetric product: a global gridded bathymetric data set.

21. A significant source of data for these products is the IHO Data Centre for Digital Bathymetry (DCDB). One of the primary objectives of the IHO DCDB is to provide an authoritative source of bathymetry for ocean mapping requirements. In order to achieve this,

mitigation of marine disasters such as storm and tsunami inundation. IHO Member States are encouraged to contribute bathymetric data in shallower coastal areas to support the production of higher resolution gridded data products.

22. A new GEBCO 15 arc-second global grid, GEBCO_2020, was published in June 2020. This is the second GEBCO grid produced in cooperation with the Nippon Foundation-GEBCO (Nippon Foundation et al., 2014) - a fusion of land topography with measured and estimated seafloor topography. This base grid is augmented with the gridded bathymetric data sets developed by the four Seabed 2030 Regional Centers and compiled into a global bathymetric grid at the Seabed 2030 Global Center. Information on how to access the grid and the data sets included can be found on the GEBCO web site: www.gebco.net/data_and_products/gridded_bathymetry_data/.

23. Initiated at the Forum for Future Ocean Floor Mapping by Mr Sasakawa, chairman of the Nippon Foundation, in Monaco in June 2016, the Nippon Foundation-GEBCO Seabed 2030 project commenced its operational phase at the beginning of February 2018. Under the Directorship of Mr Jamie McMichael-Phillips, the project has established the four regional centres (North Pacific-Arctic Oceans, South and West Pacific Ocean, Atlantic-Indian Oceans, and Southern Ocean) and the Global Center based at the British Oceanographic Data Centre (BODC) of the National Oceanographic Centre (NOC) in the United Kingdom (UK). The Seabed 2030 project has a goal of completing the GEBCO grid by 2030, such that each grid cell at the defined target resolutions that varies by depth, will contain at least one depth sounding. The new GEBCO grid released in June 2020, contains significantly more data, and the overall coverage has increased to approximately 19%. Work continues on making additional datasets available and encouraging the IHO Crowdsourced Bathymetry (CSB) initiative to help increase the publicly available bathymetric data. The Seabed 2030 regional and global centers continue to work closely with the CSBWG.

24. The IHO established a Crowdsourced Bathymetry Working Group (CSBWG) in 2015 to