

International Hydrographic Organization (IHO)

Strategic Plan for 2021-2026

November 2020

The sea, the great unifier, is man's only hope. Now as never before, the old phrase has a literal meaning: we are all in the same boat.

Jacques-Yves Cousteau, *National Geographic*, 1981

IHO



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I. PREAMBLE

Hydrography is the branch of applied science which deals with the measurement and description of the physical features of oceans, seas, coastal areas, lakes and rivers, as well as with the prediction of their change over time.

The International Hydrographic Organization (IHO), which was established in 1921 and now has 93 Member States (MS), is an inter-governmental consultative and technical organization. It primarily supports the safety of navigation and the protection of the marine environment, and coordinates on a worldwide basis the setting of hydrographic standards. It also facilitates capacity building of national hydrographic services. It provides a forum at an international level for the improvement of hydrographic services through the discussion and resolution of hydrographic issues and it assists member governments to deliver these services through their national hydrographic offices.

Purpose

The purpose of the IHO Strategic Plan is to identify specific strategic goals and targets that will direct the IHO's Work Programme in a way that will foster the IHO vision, mission, and objects.

Vision

The vision of the IHO is to be the authoritative worldwide hydrographic body which actively engages all coastal and interested States to advance maritime safety and efficiency and which supports the protection and sustainable use of the marine environment.

Mission

The mission of the IHO is to create a global environment in which States provide adequate, standardized and timely hydrographic data, products and services and ensure their widest possible use.

Object

The Organization has a consultative and technical nature. It is the object of the Organization:

- a. To promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the importance of hydrography;
- b. To improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and services;
- c. To improve global hydrographic capability, capacity, training, science and techniques;
- d. To establish and enhance the development of international standards for hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards;
- e. To give authoritative and timely guidance on all hydrographic matters to States and international organizations;
- f. To facilitate coordination of hydrographic activities among the Member States; and
- g. To enhance cooperation on hydrographic activities among States on a regional basis.

II. CHALLENGES

Hydrographic offices (HO) everywhere are facing significant and rapidly developing challenges. Some challenges impact the mission of the IHO and shape the context to be taken into account by the Organization for building its strategy to fulfil its vision.

Growing needs, for increasingly diversified customers

There is an enlarged global demand for hydrographic data either through the evolution of requirements of navigation, or for the management of the marine environment.

For navigation, safety challenges are marked by the development of harbours in many countries, and of new routes of navigation. Moreover, the core role of shipping in globalization puts pressure on its efficiency, which through digitisation and automation generates needs for new, reliable services supporting the safety and efficiency of navigation. All categories of navigators, from merchant mariners to leisure boaters, are eager to access the new services enabled by digital technology. In the same time, complexity of technologies available to mariners raises new concern regarding their appropriation.

An increasing need for marine data is strived by the development of a sustainable Blue Economy, the concern for the preservation of the marine environment, and the prevention or mitigation of consequences of marine disasters or climate change. A wide range of related data is now crucial in supporting important decisions. These data, and associated skills, are very similar to those used for supporting navigation.

Progress in technology

The pace of technological innovations, from sensors to digital services, is increasing, bolstering the need for continuous adaptation of training and standards, thus requiring strong effort from HO in investment and training. This is particularly significant for the automation of sensors carrying devices, and for new processing techniques from the field of artificial intelligence, which make it possible to handle 'big data' and augment the capacity of human teams.

Data, transforming the hydrographic ecosystem

While the demand for hydrographic data is increasing, the assets or resources available to many hydrographic offices have not increased at a similar rate. However, the accessibility to technology and the interest in citizen science (or crowd-sourced data) has given opportunities to many actors to collect valuable data. This information can be used for many purposes, including for improved navigation. These tools and techniques being used are often considered to be outside traditional hydrographic methods, and this calls for the IHO and HOs to redefine their relationships with these new sources of hydrographic data.

More generally, the crucial role of data and information in our societies entails important consequences on public policy (e.g. open data), the need for data assurance, including cyber security, all along the value chain, and on the involvement of the private sector, which are likely to have an impact on how investments in hydrography are sustained, and how standards are developed.

Increasing attention to the Ocean

The role of the Ocean in our society and in the global Earth system is increasingly understood and recognized, leading to global or regional initiatives, such as the Agenda 2030 Sustainable Development Goal 14¹ of the United-Nations and the subsequent decision of the UN Decade 2021-2030 of Ocean Sciences, the negotiation on marine biological biodiversity of areas

¹ "Conserve and sustainably use the oceans, seas and marine resources for sustainable development"

beyond national jurisdiction, or the Nippon Foundation-GEBCO Seabed 2030 project. These initiatives guide ocean sciences and frame the resources devoted to the knowledge and description of the Ocean.

III. GOALS, TARGETS FOR 2026 & STRATEGIC PERFORMANCE INDICATORS

To face these challenges, the IHO Strategic Plan for 2021-2026 is structured through three overarching goals, focusing the exercise of its mission during this period.

Under the three goals, the Organization has identified targets to be reached by 2026. The progresses towards these targets are measured by strategic performance indicators (SPI). The following tables summarize for each overarching goal the associated targets. Related object items of the IHO (Convention) are given for reference purpose. The SPI are listed in Annex A.

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

<i>Targets</i>	<i>Relation with IHO Object</i>
1.1 Deliver standards for hydrographic data and specifications of hydrographic products; support their regular production; and coordinate regional and global services for their provision.	a, d, e
1.2 Develop standards, specifications and guidelines in the areas of data assurance, including cyber security and data quality assessment.	b
1.3 Use capacity building and training to develop and increase the ability of Member States to support safety and efficiency of maritime navigation.	c

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

<i>Targets</i>	<i>Relation with IHO Object</i>
2.1 Build a portal to support and promote regional and international cooperation in marine spatial data infrastructures (MSDI).	b, g
2.2 Promote new tools and methods to accelerate and increase coverage, consistency, quality of surveys in poorly surveyed areas.	b, d
2.3 Apply UN shared guiding principles for geospatial information management in order to ensure interoperability and extended use of hydrographic data in combination with other marine-related data.	d, g

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

Targets	Relation with IHO Object
3.1 Collaborate with other bodies who deliver capacity building and training to improve effectiveness of capacity building activities and programmes	c
3.2 Improve knowledge of the world's seafloors	b, f
3.3 Implement a comprehensive IHO digital communication strategy in order to enhance its visibility and accessibility to its work	a, b, e

IV. IMPLEMENTATION FRAMEWORK

To deliver on the designated Targets and achieve the three Goals, the IHO Secretariat and the two IHO Committees – the Hydrographic Services and Standards Committee (HSSC) and the Inter-Regional Coordination Committee (IRCC) – will deliver and pursue the respective Work programmes, using the following means:

- Standardization;
- Coordination & Cooperation;
- Capacity Building; and
- Communication.

The advancement of the IHO Strategic Plan is only possible through the participation of Member States at the working group and committee levels, and by the support and directions provided by the IHO Secretariat, all supported by the IHO Budget, funded by the Member States.

The Strategic Plan is not a comprehensive description of the activity of IHO, which is fully described in its Work Programme.

Work Programme

The triennial IHO Work Programme covers the period starting on 1 January of the year following the ordinary session of the Assembly and ending on 31 December of the year of the next ordinary session.

The triennial IHO Work Programme is divided into the following three programmes:

- Corporate Affairs under the responsibility of the Secretary General,
- Hydrographic Services and Standards under the responsibility of the relevant Committee (HSSC), The HSSC programme includes the activities to be conducted by its subordinate bodies as well as by inter-organizational bodies that report to the HSSC.
- Inter-Regional Coordination and Support under the responsibility of the Inter Regional Coordination Committee (IRCC). The IRCC programme includes the activities to be conducted by its subordinate bodies as well as by the Regional Hydrographic Commissions and by inter-organizational bodies that report to the IRCC.

Review cycles

The review cycles for the Strategic Plan, the triennial Work Programme and the Budget are set out in IHO Resolution 12/2002 as amended. The IHO Work Programme is reviewed annually by the Council in liaison with the Secretary General and the Chairs of the HSSC and the IRCC.

This IHO Strategic Plan 2021-2026 has been adopted at the 2nd Session of the IHO Assembly in November 2020 (Decision A2/19 refers).

Progress monitoring

The success in achieving the Strategic Goals and Targets is measured by Strategic Performance Indicators (SPIs).

The Council determines the method for calculating the performance indicators.

Taking into account the object of the Organization and the overarching goals and targets, the success of the Work Programme will also be measured by indicators which show the progress of the various elements of the Work Programme that contribute to these objects, goals and targets.

Annex A Strategic Performance Indicators

Strategic Performance Indicators (SPI)

<i>Targets</i>	<i>SPI (measure for success)</i>	<i>Comments²</i>
Goal 1: Evolving the hydrographic support for safety and efficiency of maritime navigation, undergoing profound transformation		
1.1 Deliver standards for hydrographic data and specifications of hydrographic products; support their regular production; and coordinate regional and global services for their provision.	<p>1.1.1 Percentage of Member States having operationalized production and distribution of hydrographic data products and services based on IHO Universal Hydrographic Data Model (S-100), under an implementation framework of coordination and agreed timelines (2026: 100%).</p> <p>1.1.2 Number of hydrographic data products and services based on Universal Hydrographic Data Model that cater for the new requirements: autonomous shipping, reduction of emission.</p>	1.1.1 Percentage of MS currently (2019) providing digital products
1.2 Develop standards, specifications and guidelines in the areas of data assurance, including cyber security and data quality assessment.	<p>1.2.1 Percentage of hydrographic data products and services based on S-100 model that are covered by IHO standards, specifications and guidelines on cyber security (2026: 100%).</p> <p>1.2.2 Percentage of navigationally significant areas (e.g. charted traffic separation schemes, anchorages, channels) for which the adequacy of the hydrographic knowledge is assessed through the use of appropriate quality indicators (2026:100%).</p>	1.2.2 Calculation method to be consistent with C55 calculation
1.3 Use capacity building and training to develop and increase the ability of Member States to support safety and efficiency of maritime navigation.	1.3.1 Ability and capability of Member States to meet the requirements and delivery phases of the S100 implementation plan (2026: 50%).	

² See also comments in Annex to SPRWG CL 01/2020 dated 9 June 2020.

Targets	SPI (measure for success)	Comments²
Goal 2: Increasing the use of hydrographic data for the benefit of society		
2.1 Build a portal to support and promote regional and international cooperation in marine spatial data infrastructures (MSDI).	2.1.1 Number of hits downloading data/information from the portal.	2.1.1 Monitoring will be based on the increase of the value of the indicator and assessment of its significance
2.2 Promote new tools and methods to accelerate and increase coverage, consistency, quality of surveys in poorly surveyed areas.	2.2.1 Percentage of adequately surveyed area per coastal state. 2.2.2 Number of new applications of the new version of Standards for Hydrographic Surveys (S-44)	2.2.1 See C-55 2.2.2 Success of new edition of S-44 assessed from its applications to new fields
2.3 Apply UN shared guiding principles for geospatial information management in order to ensure interoperability and extended use of hydrographic data in combination with other marine-related data.	2.3.1 Number of HOs reporting success applying the principles in their national contexts (2026: 70%).	

Targets	SPI (measure for success)	Comments³
Goal 3: Participating actively in international initiatives related to the knowledge and the sustainable use of the Ocean		
3.1 Collaborate with other bodies who deliver capacity building and training to improve effectiveness of capacity building activities and programmes	3.1.1 Percentage of Coastal States that are capable to provide marine safety information (MSI) according to the joint IMO/IHO/WMO manual on MSI (2026 90%).	
3.2 Improve knowledge of the world's seafloors	3.2.1 Amount of data received per year by the IHO Data Centre for Digital Bathymetry (DCDB). 3.2.2 Number of contributors to DCDB who are not hydrographic offices. 3.2.3 Percentage of total sea area-that is Seabed 2030 compliant for ingestion into the GEBCO dataset and services	3.2.1 & 3.2.2 Monitoring will be based on the increase of the value of the indicators, and assessment of its significance 3.2.3 Measured annually and reported through regional hydrographic commission to IRCC and the regional Seabed 2030 coordination centers
3.3 Implement a comprehensive IHO digital communication strategy in order to enhance its visibility and accessibility to its work	3.3.1 Number of visits, likes, re-postings, etc. associated to the IHO social media sites. 3.3.2 Volume downloaded from the IHO website and Geographical Information System (GIS).	See above

³ See also comments in Annex to SPRWG CL 01/2020 dated 9 June 2020.