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## **Report by the International Hydrographic Organization (IHO)**



## Report by the International Hydrographic Organization (IHO)

### Quick overview of matters of interest for the region and some considerations on the impact of climate change and the implementation of the IMO Polar Code

#### *Report by the Secretariat of the International Hydrographic Organization as Chair of the IHO Hydrographic Commission on Antarctica*

#### **Introduction**

The International Hydrographic Organization (IHO) is an intergovernmental consultative and technical organization. It comprises 98 Member States. Each State is normally represented by its National Hydrographer.

The IHO coordinates on a worldwide basis the setting of standards for hydrographic data and the provision of hydrographic services in support of safety of navigation and the protection and sustainable use of the marine environment. The principal aim of the IHO is to ensure that all the world's seas, oceans and navigable waters are surveyed and charted.

#### **Importance of Hydrography in Antarctica**

Hydrographic information is a fundamental pre-requisite for the development of successful and environmentally sustainable human activities in the seas and oceans. Unfortunately, there is little or no hydrographic information for a number of parts of the world, especially in Antarctica.

#### **IHO Hydrographic Commission on Antarctica (HCA) and even more**

The HCA is the main body in the hands of the IHO to deal with Antarctica matters.

The HCA comprises 24 IHO Member States (Argentina, Australia, Brazil, Chile, China, Colombia, Ecuador, France, Germany, Greece, India, Italy, Japan, Republic of Korea, New Zealand, Norway, Peru, Russian Federation, South Africa, Spain, United Kingdom, Uruguay, USA, Venezuela), all of them have acceded to the Antarctic Treaty and are therefore also directly represented in the ATCM.

→ **Three IHO Member States (Netherlands, Poland, and Türkiye) have applied to become HCA Members in 2023.**

The IHO Hydrographic Commission on Antarctica (HCA) was formed in 1998 aimed at coordinating activities between its Member States to improve the quality, coverage and availability of nautical charting and other marine geospatial and hydrographic information and services covering the Antarctic region.

→ **The HCA Statutes were revised in 2021 and came into force before ATCM 44 in Berlin in May 2022. The main objective of the amendments were to better align the**

### **activities of the HCA with the Antarctic Treaty System<sup>1</sup> and the last ATCM Resolutions on hydrographic matters<sup>2</sup>.**

The IHO is engaged in Polar Regions activities in general, through the HCA for the Antarctic, but also through the Arctic Regional Hydrographic Commission (ARHC) for the Arctic Region in support of the Arctic Council and its Working Group for the Protection of the Arctic Marine Environment Working Group (PAME) in particular. This dual commitment in Polar Regions in the IHO is a key enabler for the development of synergies in various domains (seabed mapping autonomous technologies, development of new S-100 operational services and geospatial portals in support of user requirements).

- **In both Polar Regions, due to climate change effects, new unsurveyed and uncharted large areas are becoming ice-free and therefore potentially open to navigation. The HCA requests ATCM to keep the IHO informed on their geographical priorities to map these new areas, if appropriate. New strategic performance indicators have been recently implemented by the IHO to assess the adequacy of surveys and chart coverage over the world, Polar Regions included.**
- **New hydrographic data services using the IHO Universal Hydrographic Data Model (S-100) are under development. The IMO approved the introduction of new S-100 ECDIS from 2026 to 2029. Current sections and recommendations in the IMO Polar Code dealing with navigation in Polar waters are still relevant but the introduction of new S-100 services, bringing together new modern and qualified data sets for route monitoring (and planning) aimed to improve safety in particular in Polar regions. Amendments to the Polar Code will be submitted by the IHO to the IMO if appropriate, once these new S-100 data services become operational.**

### **HCA and GEBCO IBCSO**

Dr Boris Dorschel (Alfred Wegener Institute for Polar and Marine Research, Germany) is responsible for the compilation of the 2nd version of the GEBCO<sup>3</sup> International Bathymetric Chart of the Southern Ocean (IBCSO) data set, which is based on a new high resolution (500 m) gridded bathymetric model. A plea was made by the HCA early 2021 to HCA Members to share their bathymetric data holdings of the region with the project manager in order to support the compilation phase. This plea applies not only to the Hydrographic Offices representing their nations at the IHO but also to the scientific and research institutes around the world.

### **HCA and ATCM**

HCA has established good links with ATCM, the Secretariat of the Antarctic Treaty and other supporting organizations (IAATO, SCAR, COMNAP, Quantarctica, ...) for many years through data collection, information exchange, regular participation in ATCM consultative meetings as observer or running seminar and workshops back-to-back to ATCM Working Groups meetings.

Since ATCM XL in Beijing in 2017, the Executive Secretary of the Antarctic Treaty kindly invites the IHO to consider sending experts to each ATCM including ATCM XLV in Helsinki.

The IHO is pleased to confirm that the 19<sup>th</sup> Conference of the HCA (HCA-19) is planned to be held in Italy in April 2024, kindly hosted by the *Istituto Idrografico della Marina* (IIM), the Italian Hydrographic Institute.

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1 Antarctic Treaty, Article III 1.(c) in particular which states that “scientific observations and results from Antarctica shall be exchanged and made freely available”.

2 ATCM Resolutions 5 (2008), 5 (2014) and 6 (2019).

3 General Bathymetric Chart of the Oceans, an IHO-IOC programme.

From an ATCM perspective, the main outcome of this long standing cooperation between the ATCM and the IHO can be summarized simply by reminding three important ATCM Resolutions adopted from 2008 to 2019. They are:

- ATCM Resolution 5 (2008): *Improving Hydrographic Surveying and Charting to Support Safety of Navigation in the Antarctic Region.*
- ATCM Resolution 5 (2014): *Strengthening Cooperation in Hydrographic Surveying and Charting of Antarctic Waters.*
- ATCM Resolution 6 (2019): *Hydrographic Mapping of Antarctic Waters.*

There is no doubt that recommendations provided in these Resolutions are key enablers for some nations involved in scientific research in Antarctic waters.

To transform the Resolutions however into an effective operation plan that can be supported by the IHO, the 1<sup>st</sup> step is certainly to identify, collect and prioritize these requirements. This task is under the responsibility of ATCM.

- ➔ **Any requirement in the outcome of ATCM XLV having a possible impact on hydrographic activities will be considered at HCA-19.**

The 3<sup>rd</sup> Session of the IHO Assembly (A-3)<sup>4</sup>, 450 participants, is planned in Monaco from 1 to 5 May 2023.

- ➔ **The ATCM is informed that a proposal for a new IHO Resolution on the Recognition of the existence and the limits of the *Southern Ocean* around Antarctica has been submitted by the HCA Chair to A-3<sup>5</sup>. National positions and/or reservations on this Resolution are planned to be included in this Resolution.**

### ***Proposals for consideration by ATCM***

- ➔ **The ATCM is invited to note the report and recommendations and highlights in particular.**

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<sup>4</sup> [IHO 3<sup>rd</sup> Session of the Assembly.](#)

<sup>5</sup> At the date of submission of this IHO Report to the ATS, the outcome of discussions on this proposal is unknown. Useful Reference: [IHO A-3 PRO 3.3.](#)