

Greeting from the IHO Directing Committee

Less than two years after the birth of the IHO, 100 years ago in 1923, the then 22 Member States of the International Hydrographic Bureau decided to launch a technical bulletin, the Hydrographic Review, with the primary purpose of communicating to their community the importance of a young science – the Hydrography - and its scientists - the Hydrographers -, unknown to most at the time, but which would in time attract the attention of the international scientific and maritime communities.

Reading from the very first issue of the International Review in 1923, it was clear how much the small hydrographic community would have to work to convince the world of the importance and usefulness of such discipline: “... to others the meaning of the word “Hydrographic” is not so evident ...” and “... Recently I asked a British graduate of Cambridge, to give me his conception of the word “Hydrographic”, but apparently he was quite unfamiliar with the expression ...”. Such statements had a bitter taste, a harbinger of enormous efforts required on the part of early 20th century hydrographers.

In its first 100 years, the journal continuously evolved, modernised and opened up to the hydrographic, maritime and scientific world. Just to mention a few milestones, in 1947, the journal changed its name and became *The International Hydrographic Review* (IHR), wearing for the first time an international dress, decidedly aimed no longer only at the narrow hydrographic community, but the introduction of subjects and disciplines resulting from the tremendous experience of the Second World War that had just ended.

It was in the 1970s that the Review began to gain true international recognition, publishing original works on all aspects of hydrography and associated subjects, ranging from the latest technical developments to history. This was mainly the result of the gradual enlargement of the membership of the IHO, the consolidation and recognition of the other international organizations involved on and for the sea that were established between the 1950s and 1960s (i.e. IMO, WMO, IALA, IOC), and the increasingly widespread and systematic use of technologies applied to positioning, navigation and sound systems in hydrographic surveys.

Since the 2000s went digital, and in 2009 to be precise, the IHR became a web-based publication, with its two annual issues accessible to all and free of charge. As the most recent evolutionary step in 2021, on the occasion of the celebrations of the IHO’s centenary, the new IHR website was launched. Today, using communication and the many social networks on which the IHO is present, the IHR and its articles are presented to the international community and commented on, with an immediate return in terms of popularity and content.

Finally, a note of credit goes to the editors who have succeeded one another over the years, to all those who have contributed in the first 100 years of the Review’s life, and to the passionate contributors and readers from all over the world, who have made the IHR’s success possible as a point of reference for national hydrographic services and the international hydrographic and maritime communities.

Happy anniversary to the IHR and fair winds to the present and future editors!



Mathias Jonas



Abri Kampfer



Luigi Sinapi



Abri Kampfer
Director



Dr Mathias Jonas
Secretary-General



Luigi Sinapi
Director

Greeting from the Intergovernmental Oceanographic Commission of UNESCO

The knowledge and understanding of ocean features and processes remain critical aspects to achieving sustainable ocean planning and management. In this sense both hydrography and oceanography, as sister disciplines of ocean science, come to play a fundamental role.

Hydrography is the science of measuring and describing the physical features of water bodies, including their depth, temperature, and currents. Oceanography, on the other hand, is the science of studying the ocean, including its physical, chemical, geological, and biological properties and processes. Both disciplines are naturally intertwined, and often involve the common use of their respective tools, techniques, and methodologies.

From ensuring the safety and efficiency of shipping routes to monitoring the impacts of climate change, and providing for early warning systems, these fields are helping us better understand, protect, and sustainably manage the ocean and its vital resources for future generations.

One of the most significant challenges facing both hydrographers and oceanographers is the vastness of the ocean. Only a small percentage of it has been surveyed or studied in detail, requiring high-quality, reliable, and accessible ocean data. In recent years, advances in technology and the development of new tools and techniques have helped to expand our understanding of the ocean and its properties. It is our responsibility to use the knowledge and information that we generate to protect our ocean and secure its future, and for that we need to continue strengthening partnerships and networks, connecting people and organizations across sectors, disciplines and regions.

The International Hydrographic Review constitutes a platform to communicate the state of development in hydrography, an enabling mechanism to link practitioners, as well as a means to interact with other communities of practice through a cross-domain approach.

The present Jubilee edition of The International Hydrographic Review comes then at a very special time. The UN Decade of Ocean Science for Sustainable Development (2021–2030) is a global initiative coordinated by the Intergovernmental Oceanographic Commission of UNESCO that aims to advance the science of the ocean, accelerate sustainable development, and support the conservation of the ocean’s resources. We have a unique opportunity to provide a transformative framework for science-based solutions to address the challenges facing our ocean. To achieve these goals, collaboration between scientists, policymakers, and other stakeholders, as well as the development of innovative technologies and approaches to ocean research and management, is crucial.

Thus, the partnership between hydrographers and oceanographers is particularly important for achieving the aspirations of the Ocean Decade. We have multiple examples and opportunities such as the development of marine spatial planning (MSP) frameworks through which, inter alia, the Ocean Decade supports with the aim to promote sustainable ocean development. These frameworks require accurate and up-to-date information on the ocean’s physical characteristics, such as the location of seafloor habitats and resources, to be effective. On the other hand, the lack of detailed mapping of the ocean seafloor constitutes a significant limitation for understanding



Ariel Hernán Troisi

the ocean's geology, biogeography, and ecosystems, as well as for identifying and managing ocean resources and potential hazards and providing the necessary early warnings. Hydrography can provide this information, while oceanography can help to interpret and analyse the data.

One major example of such collaboration is framed under the recently endorsed Decade Programme: The Nippon Foundation – GEBCO Seabed 2030 programme under the umbrella of GEBCO, a joint programme of the IOC and IHO.

In summary, hydrography plays a critical role in supporting the aspirations of the Ocean Decade by providing essential data that supports sustainable development and conservation of the ocean's resources.

By drawing on our combined and wide range of skills, knowledge, and experience, we will be in a position to provide more creative and effective solutions, breakthroughs and innovations. Joint design, development, and delivery are essential to achieving our common goals, and together, these fields of ocean science can help to unlock the full potential of the ocean for the benefit of society. I am confident that we can make a real difference in ensuring that our oceans remain healthy, vibrant, and sustainable for generations to come.



Ariel Hernán Troisi

Chair of the Intergovernmental Oceanographic Commission of UNESCO (IOC)

Greeting from the International Federation of Surveyors

As President of the International Federation of Surveyors (FIG)¹, it is my pleasure to contribute a few words to IHR's 100 year anniversary edition. One hundred years seems a long time for many of us and yet in our world there are important activities and challenges that will take a much longer time span to address. The FIG and IHO are familiar with this aspect of our profession.

Tackling the greatest challenges of our time often starts with water (ocean and terrestrial) and is reflected in the UN 2030 sustainable agenda. Water is key to future prosperity being fundamental to life; but this resource needs careful stewardship. The challenges of security of food and water supplies, climate pattern change, safe and clean seas, whilst sustaining a growing urban population on our coasts, are some of the key themes. These require the Hydrographers and Geodesists, together with other spatial domain experts and scientists, to lead and to influence through good survey practices, data governance and cooperation. IHO and FIG, through FIG Hydrography Commission IV, will play a part.

The discussion on climate actions at global level has too often neglected key aspects of the roles played by a broad range of surveyors. However, there is now a strong emerging interest in linking land use, land tenure, the blue economy and geospatial information more closely in a practical way and getting to grips with what happens on the ground, above and below the low water mark!

I've said many times before that Surveying is not only about serving the clients – our profession is just as well about serving society and their wellbeing. We are recognised experts in the areas of hydrography, geomatics, geospatial information management and connected survey disciplines. We have a responsibility to respond to this global agenda and to contribute to improving the living conditions in our societies. This is why the FIG strategy has the vision “*Surveyors serving society for the benefit of people, planet and to work in partnership*”. Over the next four years, FIG working with partners will be looking to tackle the global challenges in land, marine natural and built environment.

On the centenary year of the founding of the Royal Institution of Chartered Surveyors, in 1968, FIG first created a Hydrographic Surveying Commission, chaired by Rear Admiral Steve Ritchie of the United Kingdom. Then in 1971 the XIII Congress of FIG was hosted by the German Association of Surveyors (DWW), in the year of the 100th anniversary of DWW's existence. It was at this event that a Working Group (WG) was formed by Commission IV (Hydrography) to develop International Standards of Competence within the profession of surveying at sea.

Collaborating with IHO and other partners on blue Surveying, Geodesy and Hydrography is timely as I believe the survey profession, in each of our country and local contexts works tirelessly for the benefit of the public good and we have a huge contribution to make. The surveyors at the inception of these institutions and the later members of FIG, understood the importance and benefits of collaboration and partnerships to achieve sustainable goals and objectives in their professional sectors and to the wider community and society. This collaboration continues today between FIG and various other bodies and organizations.



Diane A. Dumashie

¹ FIG more than 100 member associations throughout the world representing more than 300,000 professional surveyors. <https://www.fig.net/members/index.asp>.

² Standards of Competence for Category “A” Hydrographic Surveyors (Edition 1.0.2, June 2018), published by International Hydrographic Organization, 4b, Quai Antoine 1er, B.P. 445, Monaco, 2018.

³ FIG Guide on the Development of a Vertical Reference Surface for Hydrography, Publication no. 37, The International Federation of Surveyors (FIG) Lindevangs Allé 4 DK-2000 Frederiksberg DENMARK, ISBN 87-90907-57-4, 2006.

A strong and sustaining link with the international Hydrographic community can be evidenced through the joint FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)²; development and adoption of global geodetic reference frames and coordinate reference systems; the development of vertical reference surfaces for surveys³ and numerous Blue Surveying related activities that support the international efforts to map our oceans, gain knowledge of our seas, their habitats and creatures and of course supporting modern digital navigation and maritime users.

Now in 2023 as we celebrate the centenary of the IHR, it is more important than ever for professional surveyors, geodesists and hydrographers to contribute, through collaboration and cooperation; by collecting information and advancing our understanding and knowledge of our seas and oceans. Publishing work, research, knowledge and learnings is critical to all our communities, the wider society and is a vital resource for the next generation.

Initiatives that elevate and promote our profession are surely common areas for our institutions. Attracting new generations of professionals, with a more diverse, equitable and inclusive demographic, into our community and showing the wider society the positive impact and roles that we have to offer must continue to develop. This is an area of recent focus for FIG with the establishment of a Task force on Diversity and Inclusion. And one that will surely develop and by FIG and IHO acting together, we empower and enable sustainability and resilience to be a core of the professional sphere and society space. FIG Commission IV and IHO can take action on the most important issues of our time and to lead, influence and to deliver together.

The IHR has played a key role in the promotion of and raising awareness of themes, trends and learnings. The good work of the IHR must continue and can complement, promote and inform on key trends and future challenges such as those outlined in the FIG strategy: Climate action and the SDGs; Digital transformation; Equality, Diversity and Inclusion, Future Workforce.

As global professional bodies, we need to respond to these challenges if we are going to ensure that our members deliver confidence in the years ahead and the IHR will play a key role. Reaching this 100 year anniversary marking the establishment of IHR, comes about due to hard work from many. On behalf of the FIG community, I applaud you and give my congratulations.

Dr Diane A. Dumashie FRICS

FIG President