



UNITED NATIONS



UN-GGIM

UNITED NATIONS
COMMITTEE OF EXPERTS ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT

Fourth Expert Meeting of the Working Group on Marine Geospatial Information

30 January to 3 February 2023

Grand Hotel Savoia Genova

Via Arsenale di Terra 5, Genova, Italy

Summary of Decisions

The Working Group on Marine Geospatial Information, at its Fourth Expert Meeting in Genoa, Italy from 30 January to 3 February 2023 –

- 1) Welcome, introductions and setting the scene
 - i) Highly appreciated the preparation, arrangement, facility and hospitality of the Italian Hydrographic Institute, Italian Navy in hosting this Fourth Expert Meeting in Genoa;
 - ii) Welcomed and immensely grateful for the attendance and statements from the Mayor of Genoa, the representative of the Governor of the Liguria Region and the Director of the Italian Hydrographic Institute and in this regard, welcomed and noted that marine geospatial information must provide the evidence for policy development, decision making and actions at the local (city), regional and national levels;
 - iii) Thanked the co-Chairs including for outlining the expectations and desired outcomes for the five-day joint meetings, for setting the scene including: recalling the Singapore Statement on Integrated Marine Geospatial Information Management, stressing the importance to ready the UN-IGIF-Hydro for submission to the Committee of Experts at its Thirteenth Session, reminding the need to address the integration of the terrestrial, maritime, built and cadastral domains, and focusing on following through the outcomes towards the future we want within a broader digital information ecosystem.
- 2) Provisional agenda and organization of the meeting
 - i) Adopted the agenda and the organization of the meeting, welcomed members of the United Nations Working Group on Marine Geospatial Information and colleagues who are members of the IHO Marine Spatial Data Infrastructure Working Group and the OGC Marine Domain Working Group.
- 3) Integrated marine geospatial information management in Italy
 - i) Highly appreciated the four presentations and contributions from the Italian Hydrographic Institute, the Italian Institute for Environmental Protection and Research, the Politecnico of Milan, and the University of Milano-Bicocca, and for sharing progress and perspectives on integrated geospatial information management in Italy;
 - ii) Appreciated the complexities in making marine geospatial information available and ready to be integrated to provide the evidence to administer, manage and safeguard the marine environment in Italy and efforts in addressing issues related to governance, environmental, technological and legal;
 - iii) Welcomed the exchange of views and perspectives, and noted the multi-disciplinary and inter-domain cooperation required for the public good.

- 4) Reports, highlights, updates, and considerations
- i) Welcomed the report of the co-Chairs on the activities and accomplishments during the period since the Third Expert Meeting, noted the energetic liaison and partnering with a number of related organizations and to expect guidance from the Committee of Experts to engage and work with the World Meteorological Organization;
 - ii) Noted that capacity and capability development or strengthening is a ‘two-way street’ and all parties involved benefit, and there are requests from regional committees of UN-GGIM to raise awareness on integrated marine geospatial information, and to brief and consult the proposed UN-IGIF-Hydro;
 - iii) Welcomed the inclusion of the UN-IGIF-Hydro as an action under the United Nations Decade for Ocean Science, to add the Decade’s logo to the UN-IGIF-Hydro document and to leverage the resources that may be available from the Decade (as an action of the Decade) to further raise awareness, educate and promote the UN-IGIF-Hydro;
 - iv) Welcomed the report of the UN-GGIM Secretariat, noted the [ECOSOC resolution 2022/24](#) and welcomed the recognition of hydrography and oceanography and land/sea and geographic information systems in the updated terms of reference of the Committee of Experts, also noted that the working group will be reporting into the Agenda Item 13 – integrated marine geospatial information at the Thirteenth Session, and further noted the decisions of the Twelfth Session and matters that arose therefrom;
 - v) Considered and agreed to accept the invitation by the Division for Ocean Affairs and the Law of the Sea in the United Nations Office of Legal Affairs (UNOLA/DOALOS) to contribute to the UN Secretary General’s publication on Marine Geospatial Information Management¹ arising from [General Assembly Resolution 77/248](#) (paragraph 388).
- 5) Implementing the UN-IGIF in the marine domain and development of the UN-IGIF-Hydro² Part Two
- i) Appreciated the sharing of experiences around the implementation of the UN-IGIF in Saudi Arabia and by the United Kingdom Hydrographic Office. In the case of UKHO, the UN-IGIF can provide national agencies a ‘balanced-approach’ towards increasing maturity in its MSDI initiative, and that UN-IGIF and its nine strategic pathways can be leveraged to strengthen institutional and operational arrangements.
 - ii) Thanked participants for their breakout group work and their written notes, for the additional contributions to the development of the UN-IGIF-Hydro Part Two, and to observe and consider:
 - Differences between the terrestrial, cadastral and maritime domains including in cost of data acquisition;
 - Principles or elements for effective institutional arrangements are preferred and not to prescribe an arrangement, and consider a checklist to evaluate and understand the applicability of some of these elements;
 - Financial matters follow or are dictated by the institutional arrangement;
 - Marine geospatial data uses should go beyond safety of navigation;

¹ The proposed publication would review the challenges of global marine geospatial information management and would increase awareness of the importance of establishing integrated marine geospatial information infrastructures, particularly with respect to managing conflicting uses within the marine environment, responding to emergencies, and improving coordination across international organizations and processes. It would also highlight the importance for quality, reliable and readily available and accessible marine geospatial information to enable an efficient, integrated, innovative, and fit-for-multi-purpose utilization of that information and for integration with any meaningful data to achieve the SDGs, address climate-related challenges and leave no one behind.

² Operational framework for integrated marine geospatial information management

- Private sector is now collecting data and whether states are up-to-date, agile and fit-for-purpose in this reality;
 - Innovation should support all levels of capacities;
 - Consider and review the recommended geospatial levels of standards use (Fig 6.6 in the UN-IGIF Implementation Guide: Strategic Pathway 6) and the different levels of knowledge and experience;
 - Issue of automation and machine learning;
 - Include examples of successful partnerships beyond GEBCO Seabed 2030 Project;
 - There are partnerships outside that of data acquisition including with the private sector and academia, and to leverage partnerships for capacity development and education;
 - Capacity and education segment of the document needed more elaboration and when addressing higher education, include the 'hydro' related component;
 - Leveraging regional committees and thematic networks for communication and engagement and include more use cases;
- iii) Noted the work needed to ready to UN-IGIF-Hydro Part Two document and agreed to entrust the co-Chairs to finalize the draft before subjecting the document to a global consultation process involving Member States and relevant stakeholders as soon as it is feasible.
- 6) Addressing issues identified by UN-GGIM at its Twelfth Session
- a) Land-sea interface and the coastal zones and the integration of the maritime, terrestrial, built, and cadastral domains
- i) Appreciated the complexity of the issues and the need to better discuss including to breakdown the issues when addressing the land-sea interface and to support the sustainability of the coastal zones, and that the UN-IGIF together with UN-IGIF-Hydro provide feasible way forward and approaches;
 - ii) Discussed the importance of standards including ISO 19152, IHO S-121 and future iteration of IHO S-122;
 - iii) Discussed the need to resolve issues related to the integration of horizontal and vertical datums/reference, and institutional arrangements and interoperability;
 - iv) Informed of a number of OGC sponsored work under its Federated MSDI initiative that will look at the land-sea interface and the integration of land and sea data;
 - v) Agreed to submit a proposal³ to the IHO-Singapore Technology and Innovation Laboratory to explore, understand and consider the multi-faceted nature of land-sea interface including key aspects of physical and human geography and to leverage the UN-IGIF to develop feasible real-world approach;
- b) Promoting the use of established standards
- vi) Reaffirmed the need and encourage the implementation of internationally developed and agreed standards, including standards for metadata to make marine geospatial data more readily available and accessible;
 - vii) Appreciated the continued contributions by IHO, ISO TC-211 and OGC in developing open standards to ensure the continued availability, accessibility and use of marine geospatial information.

³ Jointly with the UN Expert Group on Land Administration and Management, the IHO Marine Spatial Data Infrastructure Working Group and the OGC-Marine Domain Working Group

- c) Issue of authoritative data, authority, and custodianship
 - viii) Noted the work of the Working Group on Policy and Legal Frameworks for Geospatial Information Management on authoritative data, authority and custodianship and the draft paper ‘Authoritative Data in an Evolving Geospatial Landscape: An Exploration of Policy and Legal Challenges’ as well as the impending global consultation process for the paper, once it is finalized by the said working group;
- d) Availability and accessibility of marine geospatial information
 - ix) Considered the importance of communication, engagement and raising awareness and in this regard, advised the co-Chair that a generic presentation slide deck for UN-IGIF-Hydro would be useful;
 - x) Discussed various issues including the importance to understand user requirements and to engage users including inland waterways and ocean sciences, ensure that geospatial information should be easily discoverable through generic search engines (how search-friendly is the geoportal?);
 - xi) Understood that marine geospatial information includes the coastal zones, rivers and tributaries, inland water bodies and waterways, and be considered appropriately within UN-IGIF-Hydro;
 - xii) Noted that the UN-IGIF considers both the provider and user communities, strengthens national geospatial information management arrangements so that countries benefit from the maximizing of national geospatial resources.
- 7) Strengthening collaboration, partnerships, engagement, and capacity development
 - a) Regional committees of UN-GGIM
 - i) Appreciated the updates on related aspects of the activities of the regional committees of UN-GGIM, noted that there are presently no work items related to integrated marine geospatial information at the regional committees, and requests regional committees of UN-GGIM to include into its next plenary meeting agenda an agenda item related to integrated marine geospatial information and to raise awareness and promote understanding;
 - ii) Requests regional committees of UN-GGIM to invite and include participants from the marine geospatial information management community to its plenary meetings;
 - b) IHO and its regional commissions
 - iii) Appreciated the partnership with IHO and considered synergies particularly with the work of MSDIWG including its revision of the C-17v3.0 publication, thanked those who shared the status of their national MSDI including those representing regional hydrographic commissions;
 - iv) Noted that many aspects of the MSDI are increasingly aligned or being aligned with the UN-IGIF and that the UN-IGIF-Hydro will be helpful in evolving MSDI and its utility;
 - c) ISO Technical Committee 211
 - v) Appreciated the update on applicable ISO standards and the progress on the development of ISO 19152 and in particular, Part 3: Marine Georegulation, a generalization of IHO S-121, which was based on ISO 19152:2012 and the IHO S-100. The expectation is that ISO 19152: Part 3 should be ready for submission for Draft International Standard balloting by June 2023;

- vi) Thanked representatives from ISO TC-211 for its presentation on Maritime Intelligent Transport System and request to consider data elements and standards involving nautical, administrative and operational aspects for Maritime Intelligent Transport System;
- d) Open Geospatial Consortium
 - vii) Appreciated the update from OGC on its activities and program including its innovation program with testbeds, noted that OGC projects do not develop operational system, which is left to partners, and further noted that OGC has transitioned from web services to open APIs to promote better web access to geospatial content;
- e) IHO-Singapore Technology and Innovation Laboratory
 - viii) Thanked the IHO-Singapore Lab for its briefing on its establishment, governance and currently approved projects and discussed the possibility of a project to explore next generation electronic navigational chart integrated with e-Radar for positioning using conspicuous landmarks.
- 8) Development of the work plan for the period 2023–2024
 - i) Considered the co-Chairs' proposed updates to the work plan of the Working Group for the period 2023 – 2024, noted work items that were successfully accomplished and/or superseded, and accepted additional work items to be included;
 - ii) Agreed to the work plan for the period 2023 – 2024 and requested the co-Chairs to provide the work plan to the Bureau and thereafter, the Thirteenth Session of the Committee of Experts.
- 9) Next steps, summary and close
 - a) Global consultation for UN-IGIF-Hydro
 - i) Agreed to subject the finalized draft UN-IGIF-Hydro Part Two to a global consultation process in March, noted that the process should be for a period of at least two months and in this regard, requested the co-Chairs to finalize the draft within these two calendar months;
 - b) Thirteenth session of UN-GGIM
 - ii) Agreed to organize a side event during the Thirteenth Session and an open meeting for national delegates to raise awareness and promote the UN-IGIF-Hydro, considering that the draft UN-IGIF-Hydro will be brought before the Thirteenth Session for adoption;
 - iii) Requests the co-Chairs and the UN-GGIM Secretariat to seriously consider convening an in-person meeting of the Working Group on the margins of the Thirteenth Session recognizing that the UN-IGIF-Hydro will be brought before the Thirteenth Session.
 - c) Next meeting
 - iv) Requests the co-Chairs and the UN-GGIM Secretariat to explore the feasibility of convening the Second International Seminar on United Nations Global Geospatial Information Management with the theme “Integrated Marine Geospatial Information Management” in conjunction with the next expert meeting;
 - v) Decided that the next expert meeting of the Working Group be convened jointly with the fifteenth meeting of IHO-MSDIWG and a meeting of the OGC-MDWG that will be hosted by Indonesia

d) Closing

- vi) Reiterated its appreciation to the Italian Hydrographic Institute for the conducive meeting arrangement and environment and the warm hospitality, and to all participants for a cordial and productive meeting.

*Genoa, Italy
3 February 2023*