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# Economic and Social Council

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**Committee of Experts on**
**Global Geospatial Information Management**
**Thirteenth session**
New York, 2 – 4 August 2023
Item 13 of the provisional agenda*
**Integrated marine geospatial information**

## Integrated marine geospatial information

### Note by the Secretariat

**Summary**

The present paper contains the report of the Working Group on Marine Geospatial Information for consideration by the Committee of Experts on Global Geospatial Information Management.

At its twelfth session, held from 3 to 5 August 2022, the Committee of Experts adopted decision 12/111, in which it welcomed the report of the Working Group and noted its progress towards an updated workplan for the period 2023–2024 that would continue raising awareness, providing guidance and encouraging the availability and accessibility of marine geospatial information. The Committee expressed its appreciation to the Government of Singapore and its Maritime and Port Authority for hosting the virtual webinar series in October 2021 and the in-person meeting of the Working Group together with an international seminar on effective and integrated marine geospatial information management in Singapore in May 2022, and welcomed the Singapore Statement on Effective and Integrated Marine Geospatial Information Management. The Committee noted the continuing efforts of the Working Group to advance Integrated Geospatial Information Framework, and its nine strategic pathways, with the Working Group's Operational Framework for Integrated Marine Geospatial Information Management, which was being developed as a two-part document to leverage the guidance offered in the Integrated Geospatial Information Framework, and to provide practical guidance for countries to extend the nine strategic pathways in the hydro domain, ultimately working towards the vision of the integration of "hydro" into the global geospatial information ecosystem and to enhance the ability to make informed decisions to support the preservation and management of the ocean's resources.

The Committee welcomed and endorsed part one of the Operational Framework for Integrated Marine Geospatial Information Management, an executive summary of the Operational Framework, and emphasized that the Operational Framework must provide practical guidance that Member States could use to enhance the availability and accessibility of marine geospatial information, including but not restricted to hydrography, oceanography, marine geology, marine biology, human-related activities and maritime governance, and that future marine geospatial infrastructures should be integrated with the broader geospatial ecosystem essential for the sustainable development of the world's resources and vital for responding to the impacts of climate change, which was particularly relevant to small island developing States.

In this report, the Working Group provides information on its progress, including a review of its workplan and activities. It discusses the focus areas of its updated workplan for the period 2023–2024 as part of efforts to continue raising awareness, providing guidance and encouraging the availability, accessibility and integration of marine geospatial information for the benefit of society, the environment and the economy. Through the updated workplan, the Working Group seeks to advance its objectives and functions, including: (a) collaboration, partnerships, engagement and capacity development; (b) policy and legal frameworks and

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authoritative data, authority and custodianship; (c) the land-sea interface and coastal zones; and (d) integration of the maritime, terrestrial and cadastral domains. The updated workplan seeks to strengthen collaboration, partnerships, engagement and capacity development, including with the International Hydrographic Organization, the Open Geospatial Consortium, the Singapore-International Hydrographic Organization Innovation and Technology Laboratory, the General Bathymetric Chart of the Oceans Seabed 2030 project and the United Nations Decade of Ocean Science for Sustainable Development. The updated workplan also addresses issues related to the land-sea interface and coastal zones; integration of the maritime, terrestrial and cadastral domains; authoritative data; and promoting the use of established standards.

The aim of the Operational Framework for Integrated Marine Geospatial Information Management is the inclusion of the hydro domain when implementing the Integrated Geospatial Information Framework at the country level. In this regard, the nine strategic pathways of the Integrated Geospatial Information Framework provide the mechanism through which marine geospatial information can be integrated with any other meaningful data in order to solve societal and environmental problems and act as a catalyst for economic growth and opportunity. The two-part Operational Framework for Integrated Marine Geospatial Information Management provides the value proposition, rationale and practical guidance that countries can use to enhance the availability, accessibility and integration of marine geospatial information and achieve maximum benefit from their integrated geospatial information management arrangements for the betterment of society, the environment and the economy. The report contains an overview of the progress made by the Working Group in its development of and the global consultation process on the draft Operational Framework for Integrated Marine Geospatial Information Management Part Two, The Strategic Pathways.

This report also provides the Committee of Experts with an account of the fourth expert meeting of the Working Group, held in person in Genoa, Italy from 30 January to 3 February 2023, in conjunction with the Marine Spatial Data Infrastructures Working Group of the International Hydrographic Organization and the Marine Domain Working Group of the Open Geospatial Consortium. At the meeting, the Working Group welcomed and noted Economic and Social Council resolution 2022/24 and, in particular, the reiteration of the importance of strengthening and enhancing the effectiveness of the Committee of Experts, in particular for the achievement of its operations focused on the Sustainable Development Goals and the Integrated Geospatial Information Framework, in order to strengthen and ensure its continued effectiveness and benefits to all Member States. The Working Group welcomed and appreciated the recognition of hydrography and oceanography and land-sea and geographic information systems in the updated terms of reference of the Committee of Experts as annexed to resolution 2022/24.

# I. Introduction

1. The marine domain[1] consists of (approximately) 70% of the Earth's surface which is water-covered - lakes, rivers and tributaries, deltas, seas, and oceans. Water is critical to socio-economic development, energy and food production, healthy ecosystems, and to overall human survival. Water is at the heart of successful adaptation to climate change and serves as a crucial link between society, the global economy, and the environment. More than four billion people depend on marine waters for fish as a primary source of protein2, and an estimated 90% of the world's trade is conducted upon the seas and oceans3.

2. To sustainably manage that significant portion of the Earth's surface that is covered by water - lakes, rivers and tributaries, deltas, seas, and oceans and all that it has to offer, governments will need to ensure that marine geospatial information management is fully integrated within the wider digital information ecosystem for evidence-based policy development and decision making. This is a strategically crucial step for hydro or marine programs to make as they work to increase their value and recognition within national infrastructures. National geospatial programs that support development priorities, including the ability to track progress on the Sustainable Development Goals, must ensure that marine geospatial capabilities are integrated. It is equally important for national hydrographic or marine programs to understand, and be partners in, national integrated geospatial information management programs. Such an integrated, and well managed marine geospatial information program nationally will be a necessity to meet the challenges of governance, planning, managing and coordinating resources, transportation, coastal resilience, recreation, and other aspects of the blue economy.

3. The Committee noted the continuing efforts of the Working Group to advance the Integrated Geospatial Information Framework, and its nine strategic pathways, with the Working Group's Operational Framework for Integrated Marine Geospatial Information Management (UN-IGIF-Hydro), which was being developed as a two-part document to leverage the guidance offered in the United Nations Integrated Geospatial Information Framework (UN-IGIF), and to provide practical guidance for countries to extend the nine strategic pathways in the marine domain, ultimately working towards the vision of the integration marine geospatial information into the global geospatial information ecosystem and to enhance the ability to make informed decisions to support the preservation and management of the marine resource.

4. At its twelfth session, the Committee of Experts also welcomed and endorsed the UN-IGIF-Hydro Part One, an executive summary of the Operational Framework, and emphasized that the Operational Framework must provide practical guidance that Member States could use to enhance the availability and accessibility of marine geospatial information, including but not restricted to hydrography, oceanography, marine geology, marine biology, human-related activities and maritime governance, and that future marine geospatial infrastructures should be integrated with the broader geospatial ecosystem essential for the sustainable development of the world's resources and vital for responding to the impacts of climate change, which was particularly relevant to small island developing States.

5. The Working Group welcomed and noted the United Nations Economic and Social Council resolution 2022/24 and, in particular, the reiteration of the importance of strengthening and enhancing the effectiveness of the Committee of Experts, particularly for the achievement of its operations focused on the SDGs and the UN-IGIF to strengthen and ensure its continued effectiveness and benefits to all Member States. In particular, the Working Group welcomed and appreciated the clarification and affirmation that global geospatial information management and its many interrelated fields includes hydrography and oceanography, land/sea

[1] Encompassing inland water bodies and waterways, coastal zones, seas and oceans
[2] Food and Agricultural Organization 2014
[3] International Maritime Organization, 2015

and geographic information systems and environmental sciences, vis-à-vis, integrated marine geospatial information management.

6. This present report provides information and updates on the Working Group's development of the UN-IGIF-Hydro Part Two as well as its progress and activities during this intersessional period. The Committee of Experts is invited to take note of the report and consider and endorse the Operational Framework for Integrated Marine Geospatial Information Part Two – The Strategic Pathways (UN-IGIF-Hydro Part Two), provided as a background document to this report. The UN-IGIF-Hydro Part Two and the UN-IGIF nine strategic pathways are presented and elaborated for the marine environment, with guidance and examples of good practices for including the marine environment or the hydro domain when implementing the UN-IGIF at the country-level. It presents the "how" for the implementation of the UN-IGIF for the watered surface of the Earth, the marine environment, leveraging the nine strategic pathways of the UN-IGIF.

7. The Committee of Experts is further invited to express its views on the progress of the Working Group in its efforts to provide guidance and encourage the availability, accessibility and integration of marine geospatial information for the sustainable development of the world's resources and vital for responding to the impacts of climate and for the benefit of society, the environment and the economy. Finally, the Committee is invited to consider and adopt the combined Operational Framework for Integrated Marine Geospatial Information Management in its two parts (UN-IGIF-Hydro Part One – The Strategic Overview and UN-IGIF-Hydro Part Two – The Strategic Pathways). Points for discussions and decision are provided in paragraph 34.

# II. Operational Framework for Integrated Marine Geospatial Information Framework (UN-IGIF-Hydro)

8. The Operational Framework serves as a supplement to the Implementation Guide of the United Nations Integrated Geospatial Information Framework for the marine environment but also presents an expanded set of value propositions to justify the "why" marine geospatial information programs are integral parts of digital information ecosystems and investment in them is foundational for sustainable national development and nationally integrated geospatial information management. The UN-IGIF provides, including for the marine environment, the overarching paradigm, the basis and guide for developing, integrating, strengthening and maximizing geospatial information management and related resources in all countries, assisting countries in bridging the geospatial digital divide, secure socio-economic prosperity, and to leave no one behind.

9. UN-IGIF-Hydro Part One provides a high-level strategic overview of the Operational Framework in order to present the case for investing in (and improving) marine geospatial information management programs around the world. It serves as an introduction to assist in explaining the importance of integrated marine geospatial information management to senior level policy and decision-makers, managers, and those new to the concept of integrated marine geospatial information management. UN-IGIF-Hydro Part Two then provides a number of unique value propositions and more elaborated guidance.

10. The Working Group presented a white paper on the availability and accessibility of marine geospatial information in 2019. The paper noted the significant strides achieved in collecting, aggregating, and making marine geospatial data available. However, many initiatives still struggle to unlock the full societal, environmental, and economic potential of marine geospatial information. The ability to effectively share, use, and re-use marine geospatial information across and between diverse groups of stakeholders is dependent upon access to, and awareness of, marine geospatial data and its sources. The need for better integrated and sustained access to marine geospatial information remains high.

11. UN-IGIF-Hydro Part Two presents the "how" for the implementation of the UN-IGIF for the marine environment, leveraging the nine strategic pathways of the UN-IGIF. In this Part

Two, the UN-IGIF nine strategic pathways are elaborated, with guidance and examples of good practices, for including the marine environment when implementing the UN-IGIF at the country-level.

12. Though the development of the UN-IGIF-Hydro was widely consulted with members, partners and relevant stakeholders of the Working Group, it was necessary for the Working Group to engage the Committee of Experts and relevant stakeholders to review and comment on its draft UN-IGIF-Hydro Part Two – The Strategic Pathways. The global consultation process was initiated on 11 May 2023 with 23 June 2023 as the deadline. At the conclusion of the global consultation process, there were thirteen responses, ten were from Member States with three from relevant stakeholders. There was a total of seventy-one items to consider from the feedback, comments and suggestions provided by the respondents.

13. Many responses, especially from Member States, affirmed the importance of the UN-IGIF-Hydro and its alignment with the UN-IGIF and appreciated the practical guidance provided in UN-IGIF-Hydro Part Two. There was a suggestion from a stakeholder involving nomenclature. It was resolved that 'agreed languages'[4] take precedent and to maintain the usage of 'marine geospatial information'. Responses from Member States were supportive and complimented efforts to align an operational framework for the integration of marine geospatial information, and to provide practical guidance for countries to extend the nine strategic pathways of the UN-IGIF into the marine environment.

14. The Working Group expresses appreciation to its members and partners, and to the Committee of Experts and its relevant stakeholders for their engagement, contributions and inputs that allowed the Working Group to finalize the Operational Framework for Integrated Marine Geospatial Information Management (UN-IGIF-Hydro) for consideration and adoption by the Committee.

15. The UN-IGIF-Hydro, developed and presented as a two-part document to leverage the guidance offered in the UN-IGIF, provides practical guidance for countries to extend the nine strategic pathways in the marine environment, ultimately working towards the vision of the integration of the marine geospatial information into the global geospatial information ecosystem and to enhance the ability to make informed decisions to support the preservation and management of the inland waterways and waterbodies, seas and ocean's resources.

# III. Membership and activities

16. Presently the Working Group comprises expert representatives from twenty-six Member States, the International Hydrographic Organization (IHO), the United Nations Division for Ocean Affairs and the Law of the Seas and three relevant entities from the Committee's stakeholder community. The Working Group is presently co-chaired by Singapore (Maritime and Port Authority) the United States of America (National Oceanic and Atmospheric Administration). The Working Group will undergo a leadership transition at its fifth expert meeting to be held on the margins of this thirteenth session of the Committee of Experts, on 1 August 2023.

17. The Working Group notes an absence of membership and participation by Member States from the African continent. Therefore, the Working Group welcomes engagement by the regional committee of UN-GGIM for Africa to raise awareness and promote and enhance the availability and accessibility of integrated marine geospatial information essential for the sustainable development of the world's resources and vital for responding to the impacts of climate challenges, particularly relevant to littoral and small island developing States.

[4] The General Assembly in paragraph 388 of its resolution 77/248 of 30 December 2022, entitled "Oceans and the law of the sea" had requested the Secretary-General to prepare a publication on marine geospatial information management and the Committee of Experts, in deciding its provisional agenda for the Thirteenth session, had agreed to an agenda item on integrated marine geospatial information

18. The Working Group completed the draft version of the UN-IGIF-Hydro Part Two after its fourth expert meeting in Genoa, Italy and subsequently made it available for global consultation with Member States and relevant organizations and entities. Following valuable responses, the feedback, comments and additional inputs were included in the draft accordingly. The Working Group now seeks the endorsement of the UN-IGIF-Hydro Part Two from the Committee of Experts and has provided it as a background document to this present report, together with the UN-IGIF-Hydro Part One. The Working Group further requests the Committee of Experts to adopt the combined Operational Framework for Integrated Marine Geospatial Information Management (UN-IGIF-Hydro) presented in two parts, Part One – The Strategic Overview and Part Two – The Strategic Pathways.

19. The Working Group maintains strong working relationship with the International Hydrographic Organization (IHO) and has reported its activities and progress at several regular IHO meetings, including the IHO regional commissions. The Working Group continues to defer to the IHO with regards to capacity development, particularly for aspects related to national hydrographic offices, nautical charting and bathymetry.

20. An important part of this working relationship is the engagement with the Singapore - IHO Innovation and Technology Laboratory to advance the objectives, functions and work plan of the Working Group and address the sharing, integration and interoperability of terrestrial and marine geospatial information. Initial consideration on areas for collaboration relates to the integration of onshore and offshore datasets (the land-sea interface) and the coordination between the maritime, terrestrial and cadastral domains.

21. The Working Group continues to monitor progress on and promotes the General Bathymetric Chart of the Oceans (GEBCO) Seabed 2030 Project and the United Nations Decade of Ocean Science for Sustainable Development. The UN-IGIF-Hydro is a recognized action for the Decade of Ocean Science for Sustainable Development. The UN-IGIF-Hydro will be an important contribution to both the GEBCO Seabed 2030 and the Decade through its promotion and encouragement for the availability and accessibility of timely, reliable and quality marine geospatial information to strengthen the management of our oceans, seas and coastal zones for the benefit of humanity.

22. The Open Geospatial Consortium (OGC) Marine Domain Working Group (MDWG), the IHO Marine Spatial Data Infrastructure Working Group (MSDIWG), and the International Organization for Standardization (ISO) are three strategic working partners. The Working Group has held all four of its in-person meetings in conjunction with the IHO and OGC and welcomed the participation of the ISO in its fourth expert meeting in Genoa this year. The significant overlap in membership facilitates the optimization of resources through joint meetings, including travels amongst members of the groups and common items of interest.

**Meetings of the Working Group**

23. The Working Group convened one virtual meeting during this intersessional period, its thirteenth, on 6 July 2023. The Working Group successfully convened its formal in-person fourth expert meeting in Genoa, Italy from 30 January to 3 February 2023. During its meetings, the Working Group continued its consideration of the UN-IGIF-Hydro, its delivery of the work items within its work plan and its collaboration with the IHO, ISO and OGC to ensure synergies and avoid duplication.

24. The fourth expert meeting, a formal in-person meeting, was hosted by the Italian Hydrographic Institute and convened jointly with the fourteenth meeting of IHO-MSDIWG and the 2023 annual meeting of the OGC-MDWG. At this meeting, the Working Group considered and agreed on the content and structure for the UN-IGIF-Hydro Part Two. The UN-IGIF-Hydro will include information on the differences between terrestrial, cadastral and maritime domains, institutional arrangements, financial considerations, the maritime domain's role beyond safety of navigation, data collection, innovation in support of all levels of capacities, standards, issues regarding automation, partnerships beyond GEBCO Seabed 2030, IHO, and the Decade, capacity and education, regional engagement and additional use cases.

25. During this fourth expert meeting, a decision was made to conduct a global consultation for the UN-IGIF-Hydro Part Two and thereafter, to seek its endorsement by the Committee of Experts at its thirteenth session in August 2023.

26. The Working Group further discussed the complexity of the issues and the need to better address the land-sea interface in support of sustainable coastal zones and recognized the UN-IGIF and UN-IGIF-Hydro as important contribution for finding feasible paths forward. It also considered the Singapore - IHO Technology and Innovation Laboratory as an important partner in addressing the land-sea interface puzzle and agreed to join in a proposal to develop real-world approaches toward advancing progress on the issue.

27. The Working Group noted and discussed the importance of standards including ISO 19152, S-121 and the future of the S-100 data model. It noted the importance of standards in resolving issues related to the integration of horizontal and vertical datums/reference and institutional arrangements and interoperability.

28. The Working Group appreciated an extended discussion on authoritative data, authority and custodianship and the draft paper 'Authoritative Data in an Evolving Geospatial Landscape: An Exploration of Policy and Legal Challenges' provided by the Working Group on Policy and Legal Frameworks for Geospatial Information Management, as well as the impending global consultation for the paper.

29. The Group noted that there are presently no work items related to integrated marine geospatial information management in the regional committees of UN-GGIM, and requests regional committees to include into its next plenary meeting agendas an item related to integrated marine geospatial information management and to raise awareness, promote understanding and implementation of UN-IGIF-Hydro along with the UN-IGIF at the country-level.

30. At its thirteenth virtual meeting on 6 July 2023, the Working Group, apart from reviewing its progress and activities since its in-person meeting in Genoa, considered the result of the global consultation for the UN-IGIF-Hydro Part Two especially the feedback, comments and additional inputs from Member States and relevant stakeholders. The Working Group agreed to request the Committee of Experts to adopt the Operational Framework for Integrated Marine Geospatial Information Management (UN-IGIF-Hydro) in its two parts. The Working Group also agreed to a provisional agenda for its fifth expert meeting, in-person, to be convened on 1 August 2023 on the margins of the thirteenth session of the Committee of Experts.

31. Also at the meeting, the Working Group decided that its sixth expert meeting will be convened jointly with the fifteenth meeting of IHO-MSDIWG and the 2024 meeting of the OGC-MDWG to be hosted by Indonesia (National and Oceanographic Center, Indonesian Navy and the Geospatial Information Agency) from 19 – 23 February 2024. and requests the 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 sixth expert meeting.

# IV. Work plan 2023 – 2024

32. The Working Group reviewed its goals, activities, progress and achievements and considered the views and guidance from the Committee of Experts to ensure its updated workplan reflected the progress, views and guidance appropriately. The workplan, agreed at its fourth expert meeting in Genoa, will focus on raising awareness, exchanging knowledge and practices and encouraging the implementation of UN-IGIF-Hydro at the country-level.

33. In its update to its work plan, the Working Group includes cooperative activities with the Singapore - IHO Innovation and Technology Laboratory and appropriate engagement and awareness raising activities for effective and integrated marine geospatial information management with regional committees. In this regard, the work plan addresses the need to develop partnerships to support better understanding and coordination in the marine

environment, including pilots for the implementation of the UN-IGIF-Hydro that will meet the operational requirements at the country-level. The updated workplan for the period 2023 – 2024 provided as an annex to this present report.

# V. Points for discussion

**34. The Committee of Experts is invited to:**

**(a) Take note of the present report, express its views and provide guidance to the Working Group on its progress, activities and next steps including its work plan for the period 2023 – 2024;**

**(b) Express its appreciation to the Government of Italy and the Italian Hydrographic Institute for successfully hosting the fourth expert meeting of the Working Group from 30 January – 3 February 2023 in Genoa;**

**(c) Consider and endorse the Operational Framework for Integrated Marine Geospatial Information Management Part Two – The Strategic Pathways; and consider and adopt the Operational Framework for Integrated Marine Geospatial Information Management in its two combined parts (Part One – The Strategic Overview and Part Two – The Strategic Pathways);**

**(d) Express its views and provide guidance to the Working Group towards engaging with and encourage the regional committees of UN-GGIM and Member States to contribute in the implementation of the UN-IGIF-Hydro; and**

**(e) Take note that the next formal in-person meeting of the Working Group, its sixth expert meeting, is from 19 – 23 February 2024 and hosted by Indonesia.**

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# Annex

# Working Group on Marine Geospatial Information

# Work plan for 2023 – 2025

## Background

Water is at the core of sustainable development and is critical for socio-economic development, energy and food production, healthy ecosystems and for human survival itself. Water is also at the heart of adaptation to climate change, serving as the crucial link between society, the global economy and the environment. Approximately 70% of the Earth's surface is water, inland water bodies, rivers and tributaries, seas and oceans, it is estimated that more than three billion people depend on the seas and oceans for their primary source of protein. The International Maritime Organization (IMO) has estimated that 90% of the world's trade is carried upon seas and oceans.

Marine geospatial information including information on inland water bodies, rivers and tributaries is needed to support the administration, management and governance of these environments to meet the demand for critical analysis when questions arise pertaining to the governance, management and coordination of these environments and the resources. Such needs include information on spaces for recreation, telecommunication and transportation and for natural resources yielding food, medicine, energy and minerals. The information gathered will play a vital role in addressing issues, challenges and opportunities in oceans and seas, coastal zones, deltas and tributaries, inland waters and water bodies, and in supporting national development and strategic priorities and the implementation of the 2030 Agenda for Sustainable Development.

At its sixth session in August 2016, the Committee of Experts on Global Geospatial Information Management (UN-GGIM) recognized the need to consider the marine environment, namely, shorelines, coastal waters, seas and oceans, as a key component of the spatial data infrastructure that underpins the administration, management and governance of land and marine spaces, and the national geospatial resources of many littoral Member States. In addition to the UN-GGIM Decision 7/111 that endorsed the terms of reference and established the Working Group, this work plan recognizes two recent calls to action as foundational to its goals:

> *The United Nations General Assembly's resolution 72/73 (December 2017) recognized that hydrographic surveys and nautical charting are critical to the safety of navigation and life at sea, environmental protection, including the protection of vulnerable marine ecosystems, and the economics of the global shipping industry, and encouraging further efforts towards electronic charting, which not only provides significantly increased benefits for safe navigation and management of ship movement, but also provides data and information that can be used for sustainable fisheries activities and other sectoral uses of the marine environment, the delimitation of maritime boundaries and environmental protection; and*
>
> *The United Nations General Assembly in July 2010 recognized the human right to water and sanitation. The*

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*Assembly recognized the right of every human being to have access to sufficient water for personal and domestic uses.*

## Introduction

UN-GGIM, at its twelfth session noted that the work plan for 2023 – 2024 would continue raising awareness, providing guidance and encouraging the availability and accessibility of marine geospatial information for the wellbeing of society, environment and economy, address climate-related challenges and leave no one behind. UN-GGIM also noted that Operational Framework for Integrated Marine Geospatial Information Management (UN-IGIF-Hydro) being developed to provide practical guidance for countries to extend the nine strategic pathways of UN-IGIF into the marine environment, and to enhance the ability to make informed decisions to support the preservation and management of the marine resources. UN-GGIM further noted that the updated work plan would seek to address issues related to the land-sea interface and coastal zones; integration of the maritime, terrestrial and cadastral domains; promoting the use of established standards; and strengthening collaboration, partnerships, engagement and capacity development including with the International Hydrographic Organization, the Open Geospatial Consortium, the IHO-Singapore Innovation and Technology Laboratory, the General Bathymetric Chart of the Oceans Seabed 2030 project and the United Nations Decade of Ocean Science for Sustainable Development.

The work plan supports ECOSOC resolution 2022/24 (July 2022) aiming to strengthen and enhance the effectiveness of UN-GGIM, particularly for the achievement the Sustainable Development Goals and the United Nations Integrated Geospatial Information Framework, to strengthen and ensure its continued effectiveness and benefits to all Member States.

| SDGs with interest in marine geospatial information | | | | | | | | |
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Working Group's objectives as stated in the Terms of Reference:

- play a leading role at the policy level by raising political awareness and highlighting the importance of reliable; timely and fit-for-purpose marine geospatial information to support the administration, management, and governance of the marine and ocean environments.
- encourage the use of internationally agreed-upon geospatial information frameworks, schemas, systems and established standards to improve the growing inter-dependent relationships between people and the marine environments; and
- support the UN-GGIM in the development of norms, principles, guides and standards to significantly increase the availability of high-quality, timely and reliable geospatial information including any regional capacity development initiatives

## Goals for the Work Plan 2023-2024

Building the foundation to ensure that standardized, accessible, and easy to apply marine geospatial information is available for policy development and decision making will have to be a coordinated effort that unfolds in many steps. The work plan continues to take a graduated approach to presenting a path toward managing and promoting the utility of marine geospatial information. It continues with roll-over tasks from the previous work plan that can be completed in the short term and are critical toward delivering the business of the Working Group. It then offers steps that are more long term in nature and those that are ongoing. The work plan strives to support the UN-GGIM's mandated objectives as they relate to the marine environment (including inland waters and water bodies) within the global geospatial information management ecosystem:

| Leadership | Coordination | Capacity Development | Standards | Inclusion |
|---|---|---|---|---|
| Provide Leadership in setting the agenda for the development of global geospatial information and to promote its use to address key global challenges | Provide a forum for coordination and dialogue with and among Member States and relevant international organizations on enhanced cooperation | Provide a platform for the development of effective strategies to build and strengthen national capacity and capability concerning geospatial information, especially in developing countries | Propose work- plans, frameworks and guidelines to promote common principles, policies, methods, standards and mechanisms for the interoperability and use of geospatial data and services | Make joint decisions and set the direction for the production and use of geospatial information within and across national, regional and global policy frameworks |

## Activities and deliverables

| Goal | Timeline/ Status | Action | Expected Outcome | Person/Area Responsible | Comments<br><br>Level of effort and impact |
|---|---|---|---|---|---|
| 1<br>Coordination | Ongoing | Liaise with relevant organizations and coordination bodies | Maintain network of organizations with complementary objectives | Co-Chairs | Easy<br>Supports Requests from UN-GGIM |
| 2<br>Capacity Development and Inclusion | Ongoing | Work with IHO Joint Capacity Building Working Group to coordinate capacity development initiatives that could benefit from WG's expertise | Help the WG focus on work that will support capacity development | IHO Joint Capacity Building Working Group, All Member States | Moderate |
| 3<br>Leadership, Coordination, Capacity Development and Inclusion | Ongoing | Liaise with and participate in plenary meetings of regional committees of UN-GGIM to raise awareness and promote the objectives, functions and activities of the Working Group | Increased cooperation at the regional level and increased opportunity to raise awareness including UN-IGIF-Hydro and engage in capacity development | Co-Chairs | Moderate<br>Helps with future direction |
| 4<br>Leadership, Coordination, Standards | Ongoing | Recognize and endorse established standards for marine geospatial information – formalize in 'UN-IGIF-Hydro'5 | Users of geospatial information will have a single reference for internationally recognized standards in marine and inland waters | Ad hoc Task Group | Easy<br>Important for Standards and a foundation for WG |
| 5<br>Leadership, Coordination, Standards | 2023 | Submit a joint proposal to the IHO-Singapore Innovation and Technology Laboratory together with Expert Group on Land Administration and Management, the IHO-MSDIWG and OGC-MDWG exploring the land-sea interface and the integration of terrestrial, maritime and cadastral domains | Engages Member States to coordinate and address key global geospatial challenge on the integration of relevant domains at the land-sea interface. | Ad hoc Task Group | Moderate<br>High Impact |
| 6<br>Leadership, Coordination, Standards | 2023 - 2024 | Produce paper or publication that promotes understanding of the land-sea interface and issues of integration to provide solutions leveraging UN-IGIF and UN-IGIF-Hydro to address societal, environmental and economic challenges, and the many facets of land-sea interface including the integration of physical and human geography | Users of geospatial information will have a single reference for working with land and sea datasets including inland tributary hydrographic data | Collaborate with the Expert Group on Land Administration and the IHO-Singapore Innovation and Technology Laboratory | Difficult<br>High Impact |

5 The Working Group has embarked on a body of work to leverage the UN-IGIF and its Implementation Guide and explain/expound the need for integrated marine geospatial information to be readily available and accessible for national development priorities and the Sustainable Development Goals.

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| 7<br>Leadership, Coordination, Standards | 2024 | As part of the 'UN-IGIF-Hydro', develop understanding (and subsequently provide guidance) to connect any marine spatial data infrastructure to the national spatial data infrastructure, and to ensure the principle of "build once, use many times" | The integration of any marine spatial data infrastructure into the jurisdiction's national spatial data infrastructure and national geospatial information system provides immense benefits to Member States | All Member States, Co-Chairs | Difficult<br>High Impact |
| 8<br>Leadership, Capacity Development and Inclusion | Ongoing | Organize side events and open meetings at annual sessions of UN-GGIM | Providing a forum for exchange and dialogue with and among Member States, sharing knowledge and promoting understanding of good practices and experiences | Co-Chairs | Moderate<br>Helps with future direction |
| 9<br>Leadership, Coordination | 2023 | Leverage the 'UN-IGIF-Hydro' to explain and expound to implementors of the UN-IGIF, as well as to provide guidance to address issues and ensure that the watered/marine aspect is addressed when operationalizing the UN-IGIF at the country-level | The 'UN-IGIF-Hydro' as a reference and guidance when operationalizing the UN-IGIF at the country-level, and to include IHO/ISO/OGC standards, maritime limits and boundaries and integrated ecosystems-based data management | Co-Chairs, IHO-Singapore Technology and Innovation Laboratory | Difficult<br>High Impact |
| 10<br>Leadership, Capacity, Coordination, Development and Inclusion | 2023 | Complete one UN-IGIF-Hydro pilot implementation project in the South Pacific region | Engages Member State with the goal of collecting feedback or gaining consensus on the UN-IGIF-Hydro prior to seeking full endorsement by the Committee of Experts | Co-Chairs | Moderate<br>High Impact |
| 11<br>Leadership, Capacity, Coordination, Development and Inclusion | 2Q2023 | Finalize UN-IGIF-Hydro Part Two and subject the draft to a global consultation process involving Member States and relevant stakeholder | Engages Member States with the goal of collecting feedback or gaining consensus on the UN-IGIF-Hydro prior to seeking full endorsement by the Committee of Experts | Co-Chairs | Moderate<br>High Impact |
| 12<br>Leadership, Capacity, Coordination, Development and Inclusion | 3Q2023 | Finalize the UN-IGIF-Hydro Part Two and provide to the Thirteenth Session for consideration and endorsement | Engages Member States with the goal of collecting feedback or gaining consensus on the UN-IGIF-Hydro prior to seeking full endorsement by the Committee of Experts | Co-Chairs | Moderate<br>High Impact |
| 13<br>Leadership, Coordination, Inclusion | 2023 - 2024 | Produce UN-IGIF-Hydro Outreach Package including a generic presentation | Engages Member States with the goal of enhancing cooperation with other relevant stakeholders | Co-Chairs | Moderate<br>High Impact |

**Activity and Meeting Schedule**

*For 2023*

| **Activities** | | **Time and deadlines** |
|---|---|---|
| Reporting to UN-GGIM | Summary | Mid-May |
| | Report | End-June |
| 13th Session of UN-GGIM<br>2 – 4 August, 2023 | Side event | August 2023 |
| | Open meeting with delegates | August 2023 |
| Meetings of the Working Group | Fourth Expert Meeting<br>(face-to-face) | Jan/Feb 2023 |
| | online meeting | June 2023 |
| | in-person meeting (on the margins of the Thirteenth Session) | August 2023 |
| | online meeting | October 2023 |

*For 2024*

| **Activities** | | **Time and deadlines** |
|---|---|---|
| Reporting to UN-GGIM | Summary | Mid-May |
| | Report | End-June |
| 14th Session of UN-GGIM | Side event | August 2024 |
| | Open meeting with delegates | August 2024 |
| Meetings of the Working Group | Online meeting | January 2024 |
| | Fifth expert meeting<br>(face- to-face and to be confirmed) | Feb/Mar 2024 |
| | Online meeting | June 2024 |
| | Online meeting | October 2024 |

*(February 2023)*