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Marine geospatial information

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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 eighth session, held in New York from 1 to 3 August 2018, the Committee of Experts adopted decision 8/112, in which it encouraged the Working Group to consider a use-case study on data availability and interoperability, linkages to national geospatial information infrastructure that relates to inland water bodies and waterways, coastal zones, seas and oceans, and good practices and exemplars. The Committee also requested the Working Group to take note of and consider in its activities the United Nations Decade of Ocean Science for Sustainable Development and related international initiatives, including the Seabed 2030 project. In this present report, the Working Group provides information on its progress to date, including its 1st meeting in Busan, Republic of Korea, from 7 to 9 March 2019, and its ongoing engagement with the standards development organizations to promote the development and use of internationally agreed standards across all marine activities. The Working Group also discusses progress in the development of a use-case exercise to explore issues and challenges, good practices and approaches to address the availability, accessibility and interoperability of marine geospatial information for critical analysis pertaining to the coordination, management and governance of the marine environment. In addition, the Working Group discusses updates to its workplan for 2019 and 2020 and provides an overview of its planned activities for the coming year.

* E/C.20/2020/1

I. Introduction

1. Marine geospatial information is an integral component of global geospatial information management. It is needed to support the management, administration and governance of the oceans, seas, coastal zones, inland waterways and water bodies to meet the demand for critical analysis when questions arise pertaining to the governance, management and coordination of inland water bodies and waterways, coastal zones, seas, oceans and its resources. The Working Group provides a forum for dialogue and coordination between Member States, the International Hydrographic Organization, the United Nations system, and other international organizations and experts. With a view to ensure that marine geospatial information is readily available as part of the reliable, timely and accessible location-based information, the Working Group assists Member States to develop strategic development priorities, implement the 2030 Agenda for Sustainable Development, make timely decisions, and measure and monitor outcomes, recognizing that once these marine geospatial data are created, they can be used many times to support a multiplicity of applications.

2. At its eighth session in August 2018, the Committee of Experts adopted decision 8/112, in which it commended the Working Group in addressing issues related to the availability, accessibility and application of marine geospatial information through its work plan for the biennium 2018 – 2019 and noted the activities and progress of the Working Group. The Working Group was reminded to remain focused, avoid duplication, continue to collaborate with the subcommittee, expert and working groups of the Committee, and to ensure that its activities remained technical in nature.

3. The Working Group was encouraged by the Committee of Experts to consider a use-case exercise on data availability and interoperability, including linkages to national geospatial information infrastructures and in this regard consider good practices and exemplars. The Committee requested that the Working Group note and consider the United Nations Decade of Ocean Science for Sustainable Development and related international initiatives including the Seabed 2030 project in its activities.

4. This present report provides information and updates to the Committee of Experts on the Working Group's progress and activities, including its first formal meeting. The Committee of Experts is invited to take note of the report, express its views on the updated work plan and provide guidance on the activities of the Working Group. Points for discussion and decision are provided in paragraph 22.

II. Membership of the Working Group

5. During this reporting period, Australia, Canada, Germany, Greece, India, New Zealand and Tonga (Kingdom of) joined the Working Group, as well as the Open Geospatial Consortium (Standards Development Organization) and OceanWise (Private Sector Network). The Working Group is presently composed of expert representatives from 20 Member States[1], 1 from the UN System, 1 International Organization and 3 from relevant organizations from the Committee of Experts' stakeholder community. The Working Group is presently chaired by Burkina Faso and the United States of America.

[1] Australia, Burkina Faso, Canada, Chile, China, Denmark, Germany, Greece, India, Italy, Jamaica, Republic of Korea, Malaysia, Mexico, Netherlands, New Zealand, Norway, Tonga (Kingdom of), United Kingdom and United States of America

III. First formal meeting

6. The Working Group convened its first formal meeting[2] from 7 to 9 March 2019 in Busan, Republic of Korea. This first meeting of experts of the Working Group was ably hosted by the Korea Hydrographic and Oceanographic Agency, Ministry of Oceans and Fisheries. Forty-two expert representatives from Australia, Brazil, Denmark, Germany, Italy, Jamaica, Netherlands, Norway, Republic of Korea, Singapore, the United Kingdom, the United States of America, International Hydrographic Organization, Open Geospatial Consortium, the private sector (Esri, Lynker Technologies and OceanWise) and the Secretariat participated in this meeting.

7. The meeting was officially opened by the Director-General of the Korea Hydrographic and Oceanographic Agency who, in his opening statement, stressed the need to work together to ensure sustainable development and growth, and called for intensified efforts in the coastal and marine environment to comprehensively address issues with the expertise available at the Busan meeting as well as with the Working Group. A member of the Decade of Ocean Science for Sustainable Development's Executive Planning Committee from the Republic of Korea updated the Working Group on the planning and progress for the Decade and encouraged the Working Group to be involved.

8. The agenda for the three-day meeting included a total of 22 presentations that set the context and framed the deliberations of the Working Group including on the value (or the undervaluing) of marine geospatial information, the role and relevance of marine geospatial information, not just in nautical charting but into an era where data as a service is becoming dominant, to unlock the wealth of information about the oceans, seas, coastal zones, inland waters and water bodies to address strategic and development challenges, and the evolving role of national hydrographic offices, services or departments.

9. There were many opportunities for open and frank discussions which aided in improving awareness and appreciation amongst participants of the meeting of the differing national contexts, challenges, experiences and practices. The sharing of experiences is an important component of the Working Group’s activities and some participants shared unique circumstances and sought to sensitize other participants on these unique challenges. In this regard, it should be noted that the Working Group has representations across a range of development situations and circumstances.

10. Participants shared the need for: i) dialogue between the producers and users of marine geospatial information; ii) effective communication across the spectrum of beneficiaries and users including policy makers and political masters; iii) avoidance of duplicative efforts and to ensure coordination between the Working Group, International Hydrographic Organization and standards development organizations; and iv) considerations to address the lack of capacity and capability, and for some, insufficient resourcing in some Member States.

11. The Working Group welcomed the presentation on the Integrated Geospatial Information Framework, discussed and recognized that the Framework is a mechanism for articulating and demonstrating national leadership in marine geospatial information, and its nine strategic pathways are means towards implementing integrated geospatial information systems in a way that will deliver a vision for sustainable social, economic and environmental development.

[2] http://ggim.un.org/meetings/2019/WG-MGI-Busan/

12. There is a recognition of the need for hydrographic offices, services or departments to move with the times, to ensure that marine geospatial information is reliable, timely, available and accessible as part of the comprehensive location-based information to contribute to their respective governments for evidence-based policies, decisions and actions. In this regard, the Working Group at its Busan meeting agreed:

(a) that marine geospatial information must be made available, accessible and discoverable for a multiplicity of purposes within collaborative information systems nationally to deliver reliable, timely, quality and accessible information necessary for citizens, organizations and governments to build accountable actions, make informed and evidenced-based policies and decisions;

(b) to coordinate with the International Hydrographic Organization, International Organization for Standardization Technical Committee 211 and Open Geospatial Consortium to prepare a guide on the role of standards for marine geospatial information management in plain language;

(c) to a use-case exercise to explore the issues, challenges, good practices and develop solutions in the collection and application of marine geospatial information;

(d) to further discuss the modalities of engaging and contributing to the Decade of Ocean Science for Sustainable Development and Seabed 2030 during its future online meetings;

(e) to update its current work plan to reflect completed activities and to include additional agreed activities; and

(f) that a second expert meeting be convened in the first quarter of 2020 and for the Working Group to decide on the dates and venue during its online meetings.

13. The Working Group expressed its heartfelt thanks and deep appreciation to the Government of the Republic of Korea, the Ministry of Oceans and Fisheries, and Korea Hydrographic and Oceanographic Agency for a very comfortable and conducive environment to discuss and deliberate, interact and exchange views, ideas, experiences and knowledge amongst one another, and for the generosity and warm hospitality.

III. Work plan and activities

14. The Working Group proceeded to update and revise its work plan after its Busan meeting, and at its fourth virtual meeting on 23 May 2019, agreed to its updated work plan for the biennium 2019 – 2020. The updated work plan is provided as a background document to this agenda item. The work plan comprises a list of fourteen activities with timelines and expected outcomes.

Seabed 2030

15. The Working Group noted the General Bathymetric Chart of the Ocean (GEBCO) Nippon Foundation project to map the ocean floor by 2030 (Seabed 2030), and will continue to promote, encourage, and monitor the progress of the Seabed 2030 project.

United Nations Decade of Ocean Science for Sustainable Development

16. The Working Group continues to track the planning process for the Decade of Ocean Science for Sustainable Development (Decade), having benefited from the presentation and interaction with a member of the Decade's Executive Planning Committee at its Busan meeting. The Working Group also benefited from the reporting of the Secretary General of the International Hydrographic Organization on his participation in the Decade's planning process.

Use-case

17. A proposed use-case was extensively discussed at the Busan meeting of the Working Group and it was agreed that a use-case exercise is helpful for the Working Group to explore the issues, challenges and good practices, and to develop solutions in the collection and use of marine geospatial information. There was consensus that the proposed use-case scenario be simplified, and the questions refined. The Working Group tasked an ad-hoc group coordinated by United States of America together with Australia, Denmark, Jamaica, Italy, Netherlands and Norway to review, revised and ready the use-case that will be considered by the Working Group at its virtual meeting.

18. A revised use-case showing the benefits of open (readily available and accessible) marine geospatial information, including minimum standards needed for data, was discussed and agreed by Working Group at its fourth virtual meeting. The use-case is as attached as Annex I to this present report. The Working Group embarked on this use-case exercise to identify trends, strengths, challenges, issues and possible solutions. The exercise will gather information from, initially members of the Working Group and preferably from the Committee of Experts, on the practices, challenges and issues when providing open marine geospatial information.

19. The use-case outlined a hypothetical scenario followed by five questions which are aimed at understanding the practices and challenges a jurisdiction faces when they provide open marine geospatial information. The findings from this exercise will help the Working Group to understand what challenges and issues to address and provide real-world examples of the benefits of, and need for open marine geospatial information, as well as to develop a reference for Member States on the benefits of providing easily accessible marine geospatial data and recommended data types that could be made available.

United Nations World Geospatial Information Congress

20. The Working Group contributed to a parallel session with the title "Marine Geospatial: Information Development and Applications" at the United Nations World Geospatial Information Congress held in Deqing, China from 19 to 21 November 2018. The session discussed the impact and potential of geospatial information to support the monitoring of the oceanic and arctic marine environments. While the progressive use of technology will help safeguard these crucial environments, further investment within digital and virtual geospatial information systems is needed to help maximize and manage the opportunity that is presented in the monitoring of changes in these environments.

Meetings of the Working Group

21. The Working Group convened an open meeting during the eighth session of the Committee of Experts to further engage and dialogue with delegates from Member States and

observers from related stakeholders. During this reporting period, apart from the formal meeting in Busan, Republic of Korea, the Working Group convened two virtual meetings, on 25 October 2018 and on 23 May 2019 to progress its activities in its work plan. The Working Group continued to express its belief that it could benefit from broader geographic representations and across developmental context, in particular, from island states, Africa and the Arab States.

IV. Points for discussion

22. The Committee of Experts is invited to:

(a) Take note of the present report on the activities and progress of the Working Group;

(b) Encourage members of the Regional Committees of United Nations Global Geospatial Information Management for Africa and the Arab States to consider participating in the activities of the Working Group;

(c) Express its views and provide guidance on the way forward, including on its work plan and use-case exercise.

Annex I

Use-Case on Open Marine Geospatial Information

Overview

The Working Group would like to produce a use-case showing the benefits of open (readily available and accessible) marine geospatial information, including minimum standards needed for data. The use-case will serve to identify trends, strengths, challenges, issues and possible solutions, providing a reference for Member States on the benefits of providing easy access to marine geospatial data and on the recommended data types to make available. The exercise below will gather information from participants on the practices, challenges and issues when providing open marine geospatial information. The findings from this exercise will help the Working Group to understand what challenges and issues to address and provide real-world examples of the benefits of and need for open marine geospatial information.

Use Case Exercise

Exercise Instructions

Below is a hypothetical scenario followed by five questions which are aimed at understanding the practices and challenges a jurisdiction faces when they provide open marine geospatial information. As you answer the questions, assume you are the lead hydrographer or person responsible for hydrographic surveying of Country A. Also assume the legal and policy framework of Country A is identical to that of your jurisdiction. If in your jurisdiction you are not responsible for the decisions below, answer to the best of your knowledge within your jurisdiction's laws and policies. The scenario below is meant to provide a framework for thinking about the questions posed; however, the questions can be answered without the scenario.

Scenario

Country A is demolishing a large chemical storage facility on its coast. Country A needs to design protective measures if, during the demolition, toxic chemicals are leaked into Country A's coastal waters. The hydrographic office of Country A has been asked to provide geospatial data on those coastal and nearby inland waters, so that Country A can predict if the chemicals will reach and contaminate the inland water supply. There is also a possibility that chemicals released from the storage facility will reach inland waters of neighboring Country B. Currently, Country A has no agreement on sharing geospatial information with Country B.

Questions

1. How does your country organize and manage marine geospatial information (e.g., spatial data infrastructure)?

2. How are data added to or integrated with existing geospatial data, including land-based data?

3. How can or do you share and integrate your data with other national agencies?

4. Do you have any international, cross-agency, or non-governmental partnerships that facilitate the collection, sharing, and maintenance of data?

5. What legal and logistical barriers do you know of or foresee in using a multilateral approach to managing and sharing data (i.e., marine spatial data infrastructure)?