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Item **5.3** of the Provisional Agenda

IOC AND THE FUTURE OF THE OCEAN CONSULTATION PROCESS: SUMMARY OF PHASE 1

Summary

Pursuant to IOC Resolution EC-57/2 'Governance, Programming and Budgeting Matters of the Commission' (2024), this document presents the results of the Phase 1 consultation process for 'IOC and the Future of the Ocean'. It documents a synthesis of the views and perspectives of the broad range of participants in the consultation process and the proposed approach to the Phase 2 consultation process. The results of this Phase 1 consultation will be further developed through the next two phases of the overall 'IOC and the Future of the Ocean' consultation process, which will culminate in a final analysis of the proposed future IOC role and priorities for discussion at the 34th Session of the IOC Assembly in 2027.

The proposed decision is referenced A-33/Dec.5.3 in the Action Paper (document IOC/A-33/2 Prov.). This document together with document IOC/A-33/5.3.Doc(2) 'Update on the implementation of the Action Plan in response to the IOS Evaluation of the IOC Strategic Positioning' presented under this item are subject to further examination by the Financial Committee during the session with a view of formulating a broader draft resolution for discussion in plenary under agenda item 5.4.

I. Introduction

1. At its 32nd session in June 2023, the IOC Assembly discussed the long-term sustainability and future priorities of the IOC given rapid changes in the state of the ocean, developments in ocean scientific knowledge, and the evolution of global ocean governance frameworks. Through IOC Decision A-32/5, the Assembly called for a consultation on how IOC could, on the basis of its purpose as defined in its Statutes, optimally support Member States and other stakeholders across three focus areas of: (i) science-based sustainable ocean planning, (ii) ocean science support to implementation of UN environmental conventions and frameworks, and (iii) development of a sustainable ocean economy.

2. In June 2024, the 57th Session of the Executive Council of the IOC via IOC Resolution EC-57/2 'Governance, Programming and Budgeting Matters of the Commission' requested the Secretariat to launch a three phase, three-year consultation process called 'IOC and the Future of the Ocean' structured as follows:

(i) Phase 1: June 2024–June 2025: a "demand side assessment" to identify Member State and partners' critical needs in knowledge, decision-making and support around the three focus areas identified above;

(ii) Phase 2: June 2025–June 2026: a "supply side assessment" through dialogue on the effectiveness of supply to meet identified needs via multilateral ocean frameworks, processes and other partners; and

(iii) Phase 3: June 2026–June 2027: an "integrated assessment" of 'IOC and the Future of the Ocean' identify future strategic priorities and actions for IOC.

3. The Executive Council decision stated that the consultation would be carried out in consultation with IOC programmes, Regional Subsidiary Bodies, Member States (including through the Intersessional Financial Advisory Group—IFAG and the IOC working group on sustainable ocean planning and management), and other relevant stakeholders as necessary. It requested the Executive Secretary to start the consultation process with regular reporting to IFAG, and reporting of the results of the first phase to 33rd Session of the IOC Assembly. The findings of the consultation will inform the development of IOC's next Medium-Term Strategy (2030–2037) and ongoing biennial programme and budget development processes.

4. This Working Document summarizes the results of the Phase 1 consultation process. It documents a synthesis of the views and perspectives of the broad range of participants in the consultation process and is not a statement of a definitive set of future priorities for IOC. The results of the Phase 1 consultation will be further developed through the next two phases of the overall 'IOC and the Future of the Ocean' consultation process which will culminate in a final analysis of the proposed future IOC role and priorities for discussion at the 34th Session of the IOC Assembly in 2027.

II. Methodology for the Phase 1 Consultation

5. Phase 1 of the consultation aimed to identify the underserved needs of IOC stakeholders in relation to: (i) sustainable ocean planning; (ii) ocean science support for implementation of UN environmental conventions and frameworks; and (iii) development of a sustainable ocean economy, and then to prioritize these needs through consultation on how problematic the under-served needs are to the actions of Member States and partners.

6. A mixture of data collection methods was used for the consultation including: (i) 15 in-depth interviews with Member States, multilateral and intergovernmental organizations, including UN regional economic commissions, and other and private sector actors; (ii) four focus group discussions, of which three were held during the Regional Subsidiary Body (RSB) meetings of WESTPAC, IOCARIBE and IOCAFRICA (March to May 2025) and one during the in-person meeting of the Sustainable Ocean Planning and Management Working Group (March 2025); (iii) a plenary

discussion during the IOC Sub-Commission for the Central Indian Ocean—IOCINDIO session (May, 2025); and (iv) a global survey, sent via Circular Letter 3031 to IOC Member States (with 59 individual responses from 35 Member States).

7. Data from all three sources were analyzed separately and then triangulated as a whole. The results of the survey provided a quantitative overview of opinion while the qualitative insights from discussions at the regional subsidiary body meetings and interviews were used to deepen the analysis of the survey findings. All methods were structured to address the three focus areas identified by IOC Decision A-32/5 and explored priority ocean science needs across critical elements of the ocean science value chain namely: ocean observations and data infrastructure; data, scientific research and knowledge; applications, products and tools for policy and decision making; and cross cutting support elements.

III. Results of the Phase 1 Consultation

8. This section provides an overview of the high-level findings of the consultation, followed by analyses relevant to each of the three focus areas identified in IOC Decision A-32/5, an overview of findings in relation to cross-cutting and enabling issues, and finally, information on specific issues that were identified at the regional level.

(i) High Level Messages from Consultation

9. The views of consulted participants across the three focus areas of sustainable ocean planning, UN conventions and frameworks and sustainable ocean economy reveal a strong degree of convergence around a core set of issues that are broadly relevant to multiple Member State and partner priorities. Of these sub-themes, the following were identified as both under-served and problematic and thus present persistent challenges, highlighting the need for more targeted intervention: marine biodiversity; nutrient cycles (including links to harmful algal blooms); physical oceanography; and early warning systems and disaster risk preparedness and reduction. Participants identified foundational gaps in scientific understanding, human and institutional capacity, and infrastructure in relation to these sub-themes that constrain progress across all three focus areas. The repeated identification of these sub-themes as underserved highlights a clear opportunity for IOC to lead targeted efforts to close critical science and infrastructure gaps.

10. Across all three focus areas, a recurring set of moderately problematic issues were identified including ocean acidification, marine data dissemination, and planning for Marine Protected Areas (MPAs) and Area-Based Management Tools, particularly in relation to Member State preparedness for implementation of the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement).

11. Other areas—particularly marine scientific research support; biological oceanography; and marine spatial planning (MSP)—were identified as priority needs for Member States but were rated as “Mostly Met” and relatively unproblematic. This indicates that IOC’s longstanding work in these domains has translated into more robust capacities across Member States, providing a solid foundation from which to further tailor or extend support provided that sustainable funding for these services is made available.

12. Several important cross-cutting themes emerged. These included the need for increased support to move towards enabling the use of data rather than simply collecting data; the significant challenges created by a lack of sustainable financing for ocean observation infrastructure; the need for stronger alignment between science outputs and policy needs; the need to facilitate greater engagement between science, economics and industry; opportunities for technological innovation to enhance investment; social issues such as the importance of equity; and continued scope for strengthening the autonomy and visibility of IOC including the role of IOC in regional and national

coordination. The issue of capacity development, while not always ranked among the top themes, cuts across all focal areas as a structural barrier.

13. The alignment across these common themes underscores the interconnected nature of ocean governance challenges and the growing demand for integrated, science-based solutions. It indicates that targeted investment in a small number of high-priority, cross-cutting science and capacity themes could yield significant benefits, particularly where needs intersect across planning, implementation, and economic development goals. IOC is considered by participants to be well positioned to lead these efforts through enhanced coordination, technical cooperation, and knowledge sharing, with a particular focus on helping Member States turn science into action across a rapidly evolving ocean policy landscape.

(ii) Perspectives related to Science-Based Sustainable Ocean Planning

14. While the foundational knowledge needed for sustainable ocean planning is mostly in place, participants identified gaps in the accessibility, integration, and operationalization of data and information. Effective planning requires not only sustained, core observation and data systems, but user-friendly tools and decision-support products to translate science into actionable policy and decision making. Existing systems are not yet meeting user needs for planning purposes in terms of data quality, interoperability, and usability. Participants consistently cited the need for better coverage or system functionality, coherence, and accessibility in ocean observations and data.

15. Other issues such as knowledge on marine biodiversity, invasive species, ocean acidification, and eutrophication are critical and under-integrated domains, where scientific knowledge is insufficiently embedded in planning tools and national processes.

16. The consultation confirmed IOC's crucial role in supporting Member States and other stakeholders with science-based approaches to spatial planning, including Marine Protected Areas (MPAs), Integrated Coastal Zone Management (ICZM), and broader sustainable ocean use frameworks. These findings point to the need for sustained IOC engagement to advance technical coordination and data-sharing and co-develop tools with planners, ensuring that science-based planning keeps pace with environmental change and evolving policy demands.

17. Many planning practices still assume environmental stability. However, climate-related impacts like sea-level rise, erosion, and habitat shifts increasingly demand tools that account for ecosystem dynamics. Many countries—even well-resourced ones—lack sufficient biological, ecological, and historical time-series data to inform marine spatial planning (MSP) and adaptive decision-making. This limits the ability to forecast environmental shifts and design sustainable spatial plans. More historical datasets and integrated data systems are needed to support long-term planning, particularly under changing climate conditions.

18. A persistent disconnect between sectoral data (e.g., fisheries, renewables) and policy and decision-making timelines makes it difficult to establish coherent, cross-sectoral strategies. Some countries lack mechanisms to bridge ocean planning with energy, industry, and coastal management. This issue is compounded by fragmentation between terrestrial and maritime spatial planning in coastal areas.

19. Participants underscored the growing importance of risk-related tools in supporting spatial planning, particularly in vulnerable coastal zones. They suggest a need for better-aligned and more widely accessible decision-making tools that can be leveraged for resilience in planning contexts.

20. Member States also lack access to practical guidance, scenario tools, and user-friendly toolkits that can inform adaptive, forward-looking decisions, including for MPA planning. Local co-design and stakeholder engagement are critical for building legitimacy and buy-in. Participants highlighted the need for IOC to produce more actionable, field-oriented guidance. There is strong demand for frameworks (such as those produced under the MSPGlobal programme) that offer clear

steps, templates, and implementation case studies. Participants highlighted the need to adapt these tools to local contexts and to ensure Member States have access to relevant datasets, guidance, and training.

(iii) Perspectives related to Implementation of UN Conventions and Frameworks

21. There are clear shortfalls in the scientific knowledge needed to meet evolving international obligations. Implementation of UN environmental conventions and frameworks depends on the sustained availability of ocean science, data infrastructure, and policy-relevant tools to inform action. Consultation responses identified a number of science themes—including marine biodiversity, physical oceanography, nutrient inputs that contribute to eutrophication and related pressures, and marine pollution—that Member States consider particularly relevant to advancing commitments under agreements such as the Convention on Biological Diversity (CBD), the Framework Convention on Climate Change (UNFCCC), and notably, the new Agreement under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ). These global commitments increasingly require interoperable data, predictive capability, and scalable tools to monitor, manage, and report on marine resources and threats. Implementation tools—notably planning for Marine Protected Areas (MPAs)—also surfaced as a constraint for implementation. Stakeholders see a clear leadership role for IOC in addressing these gaps—through data harmonization, cross-border scientific cooperation, technology transfer, and support for translating science into nationally actionable pathways.

22. While countries may possess relevant data, a lack of compatibility, the persistence of silos in ocean datasets, and a lack of standardized protocols impedes their use for international reporting and monitoring purposes—particularly in the context of UN conventions. Marine data dissemination emerged as a key area of concern, suggesting an increased need for attention to data accessibility and coherence.

23. Several UN conventions have very significant practical needs which IOC Member States are not necessarily equipped to meet. The new BBNJ agreement will require robust environmental impact assessments (EIAs), monitoring tools, and area-based management capacity in areas beyond national jurisdiction. However, participants emphasized that many Member States—especially SIDS and developing countries—are not ready to meet these obligations. There is a need for long-term investments in national scientific institutions and the creation of support mechanisms (e.g., clearinghouse mechanisms, guidance tools) to bridge the readiness gap. Technical capacities for design and operationalization of spatial protection and management, including MPAs and area-based management tools, remain constrained, particularly in countries with limited institutional infrastructure. The consultation results suggest that even where policy ambition exists, the technical capacity to design and implement spatial measures in line with global commitments can be constrained.

24. Participants noted a lack of coordination among global institutions. They stressed that implementation of BBNJ and climate-related frameworks cannot occur in silos and recommend that IOC actively coordinate with institutions such as the International Seabed Authority (for deep-sea mining), OECD (for economic policy), and IEA (for offshore energy) to ensure that technical guidance is harmonized, and gaps are closed through collaboration rather than duplication.

(iv) Perspectives related to Sustainable Ocean Economy

25. Delivering a sustainable ocean economy depends on the availability and integration of ocean science to support policies that balance economic development, environmental protection, and social inclusion. The consultation highlighted gaps in the integration and application of ocean science across key economic sectors, an issue exacerbated by uneven access, technical interoperability, and regional disparities in use. The consultation highlighted a diverse range of science themes considered critical to this goal, reflecting the need for data, knowledge, and applied tools that enable

Member States to pursue sustainable ocean economy opportunities without undermining marine ecosystem health.

26. Planning tools such as MSP and area-based management are widely recognized as essential for reconciling economic development with conservation, with participants indicating that MSP needs are well met in this context. However, the implementation of risk-informed decision-making—for example, through early warning systems and hazard forecasting—is uneven, reinforcing calls to scale up delivery in risk-prone regions. Underserved scientific domains, such as marine biodiversity, harmful algal blooms, and ocean acidification, reflect critical gaps in ecosystem understanding that constrain the development of resilient, nature-based economic strategies. Respondents recognized a strategic role for IOC in scaling and sustaining support to Member States in these critical areas while continuing to coordinate, strengthen and standardize global ocean observing systems.

27. Participants noted the persistent ambiguity around the concept of 'sustainable ocean economy', and there is a strong call for IOC to help develop shared sustainability metrics and assessment criteria in collaboration with global partners. Several interviewees highlighted that many infrastructure developments—offshore wind, aquaculture, deep-sea mining—lack comprehensive scientific oversight. Environmental Impact Assessments (EIAs) are often one-off, static exercises and some called for further support from IOC for methods for rolling assessments and post-deployment monitoring to track long-term ecological impacts that remain unaccounted for. Some participants noted that private investors are often hesitant to engage in emerging blue economy sectors due to the lack of scientific visibility, comprehensive risk assessments, and enabling policy frameworks and suggested that IOC could help foster partnerships with the business community to accelerate ocean tech innovation, especially in areas like autonomous sensing and data analytics. Interviewees observed that ocean science remains underleveraged in policy and investment decision-making. They emphasized the need to embed economic reasoning into scientific outputs and recommended a role for IOC in fostering stronger collaboration between scientists, national statistics offices, and innovation ministries.

(v) Views on Cross Cutting Issues

28. Several cross-cutting issues were identified across all three focus areas. Insufficient investment in ocean observations and data was repeatedly raised as an obstacle by participants. Observation systems like Global Ocean Observing System (GOOS) and Harmful Algal Blooms (HAB) networks are recognised as foundational but the lack of sustained investment and technical support undermines global monitoring, particularly in vulnerable regions like the Pacific and South Atlantic.

29. Participants in the consultation process highlighted the need for IOC to evolve its role from data collection to enabling data use for example through curating information, coordinating users, and maintaining resilient systems. Some participants described systemic breakdowns in the way science reaches decision-makers. Some respondents noted that scientific outputs, including assessment and synthesis products, are often too abstract, too slow, or misaligned with policy cycles. Several experts called for the creation of standing science–policy advisory mechanisms at regional or national levels while others emphasized the need for agile, co-designed outputs that can be rapidly absorbed into policy processes.

30. Linked to this, insufficient ocean literacy emerged as a widely cited issue. While IOC's efforts in ocean-focused education in schools were cited as a positive and needed initiative, experts from diverse regions stressed that a broader application of ocean literacy approaches across society is needed. Without such basic understanding of ocean issues by a broader range of societal actors, political will and public investment in ocean science will remain weak.

31. Capacity development was identified by multiple participants as a key bottleneck in Member States ambitions across the three focus areas. There was an emphasis that rather than generic capacity-building programmes, IOC should develop tailored initiatives to build on existing local

capacity. Experts stressed the need for sustainable, long-term models of capacity investment, including support to Early Career Ocean Professionals, and permanent institutional support. Without targeted investment in human capability, including training and knowledge exchange, to interpret, apply, and adapt ocean science, even the best data and tools may remain underutilized.

32. Participants identified a strategic opportunity for IOC to play a stronger role in working with industry and identifying needs for innovation in ocean technology—e.g. autonomous vehicles, smart buoys, and AI-enhanced forecasting—as a means of meeting challenges in equity, lack of data and expansion of observations. While IOC currently focuses on standard-setting, it could engage more proactively with the R&D ecosystem through partnerships, innovation challenges, and open-source tech development.

33. Finally, experts point out that IOC's visibility is frequently eclipsed by UNESCO, despite its leadership role in many ocean initiatives. They call for clearer branding, strengthened functional autonomy, and more active engagement with global alliances to amplify IOC's presence and legitimacy.

(vi) Regionally Specific Issues Raised in Consultation

34. The previous sections provide an aggregated synthesis of responses across all forms of consultation and all geographic regions. Participants identified specific issues in each of the regions that will require further analyses in the Phase 2 of the consultation process.

35. In the IOC Sub-Commission for the Western Pacific (WESTPAC), the discussions had a strong focus on the need for relevant and timely synthesis and assessment products to inform policy and decision making. Discussions underscored that, despite some gaps, there was a significant amount of scientific knowledge either already available or being generated in the region, but that the translation of this knowledge into forms that could be readily accessed and used by Member States was lacking. Participants noted the need for institutional strengthening of Member States and regional organizations and identified a role for IOC in catalysing joint initiatives across Member States to achieve common goals and exchange experience. The need for stronger engagement with other international organisations working in the region was identified and there was support for calls for increased resourcing and strengthening of regional subsidiary bodies to play coordination role.

36. In the IOC Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE), the diversity of needs in the region—including between continental countries and SIDS—was highlighted. There was a strong focus in the discussions on the need to build on existing regional initiatives and coordination mechanisms and the need for increased support to long-term observations and monitoring including through support to infrastructure, maintenance of equipment and training. The importance of the ocean to SIDS' economies was highlighted, yet increased efforts in ocean literacy for decision makers was identified as a need given the lack of awareness of the importance of ocean science to policy makers in relation to economic development. Participants also highlighted that given the limited human capacity of many SIDS, IOC could have an important role in helping them to navigate the requirements of different global frameworks and supporting the development of data and information that could be used for multiple purposes across different frameworks.

37. In the IOC Sub-Commission for Africa and the Adjacent Island States (IOCAFRICA), numerous knowledge gaps were identified relating to marine pollution across the land-sea interface, coastal erosion and sea level rise. Participants identified that sustainable development of ocean-based economies is a political imperative for many African Member States, but raised concern about the little understanding by policy makers of what this actually means and the critical gaps in knowledge and approaches to help integrate science into policy discussions. Consultations also noted that the education of policy makers is essential. In Africa the science-policy interface at the local community level is very important and approaches and tools to bring scientific knowledge to local community managers and decision makers are lacking. The link between local livelihoods and

a resilient ocean is very important and support for approaches to effectively working at the local level should be a priority. The consultations also concluded that datasets are dispersed, often unavailable or inaccessible and lack coherence and interoperability. There needs to be a process to identify critical gaps in data and unlock existing data and generate new data to fill these gaps. Ocean accounting was identified as a tool that could help with this especially in relation to the development of a sustainable ocean economy. Equipment for ocean observations and in-situ monitoring is lacking and is a clear support need.

38. In the IOC Sub-Commission for the Central Indian Ocean (IOCINDIO), the importance of continued and enhanced support in disaster risk reduction, coastal resilience and early warning systems was highlighted. The work of IOC in relation to seismic related tsunamis was recognised as a model that could be adopted for other types of ocean hazards.

IV. Proposed Structure for Phase 2 Consultation

39. IOC Resolution EC-57/2 decided that Phase 2 of the consultation process would take place from June 2025 to June 2026 and would include a dialogue on the effectiveness of supply to meet identified Member State and partner needs (identified in Phase 1) via multilateral ocean frameworks, processes and other partners. The proposed structure for the Phase 2 consultation is outlined below:

(i) Shortlist of the highest priority areas globally and in each region based on the findings of the Phase 1 consultation and in consideration of the discussions at the 33rd Session of the IOC Assembly (June 2025).

(ii) Mapping of key providers of ‘services’ in each of these areas at the global and regional level.

(iii) Broad review of existing and possible future IOC engagement in each area to assess appropriate scope of IOC activities and the tangible opportunities to improve IOC delivery.

(iv) Review of strategic direction and plans of key partner organizations providing services in each area including UN agencies and private sector through a structured dialogue with UN agencies and other relevant focused dialogues.

(v) Detailed analyses of options and scenarios for the added-value niche of IOC in relation to priority area now and in future and considering areas where IOC could lead and areas where partnerships could deliver more effective results.

(vi) Case studies of a small number of regions and Member States to provide insights on how the future added-value niche of IOC could be operationalized through development of strategic options and scenarios, including needs for resources, partnerships and coordination.

40. It is proposed that this process would be implemented in consultation with IFAG, as was the case for Phase 1 of the consultation, and would include consultations with Member States and external partners with a stronger focus on Member State led consultations regionally and nationally with support from the Secretariat. The results of Phase 2 would be reported to the 59th Session of the IOC Executive Council in June 2026.