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Paris, 18 December 2020
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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)

Fifty-third Session of the Executive Council
UNESCO, Paris, 3–9 February 2021 [Online session]

Items **5.1** and **5.2** of the 4th Revised Provisional Agenda

DRAFT PROGRAMME AND BUDGET FOR 2022–2025 (DRAFT 41 C/5)

CORRIGENDUM

1. The preliminary proposals by the Director-General of UNESCO concerning the Draft Medium-Term Strategy for 2022–2029 (41 C/4) and the Draft Programme and Budget for 2022–2025 (41 C/5) were presented to the UNESCO Executive Board at its 210th session in December 2020 through document 210 EX/22.

2. The proposals for the 41 C/4 are structured around a limited number of strategic and enabling objectives. With regard to the preparation of 41 C/5, the table in the Annex gives the thematic areas to be implemented by major programmes and IOC. In the case of the IOC, these correspond to the High Level Objectives of the IOC Draft Medium-Term Strategy for 2022–2029. Additionally, Ocean Literacy is highlighted as the main contribution to intersectoral efforts on how knowledge, education and learning can shape the future of humanity, responding to global issues such as climate change, erosion of biodiversity, the health of the oceans, accelerated technological development, and changing patterns of human mobility. It is proposed that these thematic areas would guide the formulation of future 41 C/5 '**outputs**'.

3. As a result of the foregoing, paragraphs 30 and 31 of the IOC Draft 41 C/5 document (IOC/EC-53/5.1.Doc(2)) have been amended to read as follows:

> 30. Resolution XXX-3 of the IOC Assembly requested the IOC Executive Secretary to prepare for the review by the IOC Executive Council at its 53rd session, a preliminary proposal for a Draft Programme and Budget for 2022–2025. In line with the previously adopted approach and with the preliminary proposals presented by the Director-General of UNESCO to the 210th session of the UNESCO Executive Board (210 EX/22), the IOC programme and budget shall be built around one output and consistent with the **mission statement, vision, high level objectives and functions** to be defined in the IOC Medium-Term Strategy for 2022–2029.
>
> 31. In this context, the following formulation of the **Draft Output for IOC in the draft 41 C/5** is proposed for Member States' consideration:
>
> > **Member States supported in generating knowledge, establishing and implementing science-informed policies and strengthening capacity for sustainable management of ocean-related opportunities and risks and for keeping the ocean ecosystems healthy**.

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Paris, 14 April 2020
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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (of UNESCO)

Fifty-third Session of the Executive Council
UNESCO, Paris, 30 June–3 July 2020

Items **5.1** and **5.2** of the Provisional Agenda

DRAFT PROGRAMME AND BUDGET FOR 2022–2025 (DRAFT 41 C/5)

Summary

This document presents the Secretariat's proposed approach to the preparation of the Draft Programme and Budget for 2022–2025, the first quadrennium of the new IOC Medium-Term Strategy for 2022–2029 (document IOC/EC-53/5.1.Doc(1)).

Part I contains, verbatim, the IOC section of the UNESCO's Strategic Results Report prepared in 2020 for the (postponed) 209th session of the UNESCO Executive Board. In Part II, the document also recalls the Guiding Principles adopted by the IOC Assembly in 2013 as part of Resolution XXVII-2. Document IOC/INF-1383 'IOC's programmatic contribution to the UN Decade of Ocean Science for Sustainable Development, 2021–2030' completes the information provided for Member States' decision-making on this item.

Decision proposed: After a brief introduction and discussion in plenary under item 5.1, the Executive Council is invited to take note of this report and consider the draft decision referenced as Dec. IOC/EC-53/5.1 in the Provisional Action Paper (document IOC/EC-53/AP). The document will then be subject to an in-depth review by the sessional statutory open-ended Financial Committee and the decision reflected in the Draft Resolution that the Financial Committee will be submitting to the Executive Council for adoption under item 5.2 in accordance with paragraph 15 of the Draft Revised Guidelines for the Preparation and Consideration of Draft Resolutions (IOC/INF-1315).

Introduction by the IOC Executive Secretary

1. Since 2018, IOC has been working on its Medium-Term Strategy (MTS) for 2022–2029. The key role of the ocean in very many aspects of sustainable development translates into the importance of maintaining and further developing IOC regular means of delivery through the IOC functions as defined in the current MTS 2014–2021. We live now in a period when the value of ocean for civilization is becoming much better understood. However, historically, this value has not been reflected adequately in national and international governance. The UN Decade of Ocean Science for Sustainable Development, 2021–2030 (the Decade) intends to change this situation, engage multiple stakeholders into capacitating the ocean science and directing it towards delivering on grand challenges of our time. In addition, there are high expectations of IOC providing inputs into two key UN processes, namely: the adaptation to and mitigation of climate change under the UNFCCC; and the new International Legally Binding Instrument (ILBI) under the UN Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ). Delivering under IOC Functions, the Decade, UNFCCC, and BBNJ will be the main factors shaping the new IOC MTS.

2. At the time of writing this introduction, the Covid-19 pandemic remains the main concern worldwide. Like the dramatic pandemics that hit the living world in the past centuries, Covid-19 will affect the economies of countries and the framework of thoughts of the society and decision-makers. The role of ocean in human health, the opportunity for the humankind to start acting in a much more sustainable way after the slowdown of economy caused by the pandemic, and the impacts of the lockdown on marine environment and operations in the ocean and at the coast will need to be given serious consideration.

3. Before the current pandemic, the UNESCO 40th General Conference agreed in November 2019 to the highest proposed budget scenario for 2020–2021 (40 C/5), based on the appropriated regular programme budget of US$ 534.6M (US$ 11,075,500 for the IOC). This budget basically offers to IOC a possibility to continue the work of its Secretariat similarly to the previous biennium and to allocate some very modest seed money to the Decade. The IOC total foreseen biannual budget for 2020–2021, of the order of US$ 26.9M, which is a sum of regular and anticipated extrabudgetary contributions, is composed of roughly US$ 8.3M of staff costs, US$ 2.8M for operations under the regular programme, and US$ 15.2M of expected voluntary contributions, of which US$ 2.6M were secured at the moment of the 40 C/5 preparation. These are the initial conditions for the IOC planning of the programme and budget for the quadrennium 2022–2025.

4. The crucial need of humankind in ocean science clearly manifested itself in the declaration of the Decade by 193 UN Member States and observers to the UN General Assembly in 2017. Particularly sensitive to this view, IOC Member States at the 30th Session of their Assembly (2019) adopted Resolution XXX-3 (Financial Matters of the Commission), in which they requested the Executive Secretary to produce an "*estimate of the necessary budget to effectively operate the IOC at an optimum level, to help identify how and what additional resources might be secured"*. This work has started but consultations with Member States are needed to complete this crucial strategic planning exercise. The budget and staffing requirements will be determined by the strategic directions of the IOC Medium-Term Strategy for 2022–2029 and the expectations from the IOC during that period. The emerging vision for IOC future resources and staffing will necessarily reflect the new economic, political and societal realities of the world after the Covid-19 pandemic as well as the future expected budget of UNESCO.

5. In the first quadrennium of the Medium-Term Strategy (2022–2025), IOC will continue to seek alignment between the objectives of the Decade and IOC programmes and activities, with a special focus on those that deal with critical gaps in scientific knowledge, such as understanding of multiple ocean stressors of relevance to ecosystem-based management, prediction of the ocean state, adaptation to climate change, development of solutions for ocean health and the protection of the marine environment, warning of ocean hazards threatening lives, as well as capacity development.

6. IOC is turning 60 years old in 2020. Its services are increasingly required for the world. Currently, the IOC can be characterized as an intergovernmental organization with very strong programmes but in an unstable financial situation. The Secretariat's initial analysis considers two levels of the fit-for-purpose IOC in terms of resources and staffing: the "healthy IOC" able to sustainably perform its current duties and the "optimal IOC" able to deliver in accordance with current and immediate future requirements of the world in ocean science. The IOC strategy, programme and budget for 2022–2025 require deep reflection of Member States keeping in mind IOC Statutes Articles 11.3 and 10.4. Article 11.3 outlines the possibility for IOC to act as a joint specialized mechanism in the UN system and Article 10.4 allows IOC to establish additional financial arrangements for implementation of its programme of work. Modern leadership can only be achieved through partnership. Seeking adequate strategic partnerships seems to be the way for IOC to keep and strengthen its role of authoritative coordinator and facilitator of ocean science and service for sustainable development.

7. Member States will recall that while the programme of UNESCO is defined for the quadrennial period 2022–2025, the General Conference of UNESCO decided to maintain the biennial cycle for the appropriation of the budget in a results-based budgeting approach.

8. This document consists of two parts. The first part contains verbatim the "IOC Strategic Results Report (SRR) 2020" designed to provide Member States with an analysis of the programme outcomes over the period from 2016 to 2019. The report allows Member States to review and reassess the programmatic objectives, including possible reorientation, reinforcement or termination (*'lessons learned and emerging trends'*). The second part of this document contains the proposal for one IOC Expected Result in the Draft Programme and Budget for 2022–2025 (41 C/5), in accordance with Assembly Resolution XXVIII-3, as well as the proposed guiding principles to be followed by the Secretariat in elaborating further proposals in the course of the UNESCO Programme and Budget (C/5) preparation process and for the final review and endorsement by the IOC Assembly at its 31st session in 2021.

PART I – IOC STRATEGIC RESULTS REPORT

(abstract from 209 EX/4.I.B)

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)

I. Overall Strategic Assessment

9. The importance of ocean science in the climate change debate and in global environmental governance have increased greatly in the period covered by this SRR. IOC's technical contributions and its convening power have been in stronger demand, and IOC has risen to this challenge. In the last two biennia IOC continued to deliver on its existing core mandate, but also took on new functions associated with the 2030 Agenda (SDG 14), and the recognition of the role of the Ocean in climate change and in the UNFCCC Paris Agreement. While IOC's core programmes were not evaluated in this period, a 2016 External Audit noted that IOC has a "good, even very good, image … in the eyes of Member States".

10. The increased visibility of ocean issues in global environmental governance also put the IOC at a "crossroads", to repeat the term used by UNESCO's External Auditor. Noting a solid number of achievements, the auditors invited the Commission to "*rethink its role in crosscutting issues that arise from the magnitude of ocean-related issues, while maintaining the legitimacy of its mandate*" to truly respond to rising expectations.

11. Conscious of the challenge and of the opportunity, the Commission's Governing Bodies undertook an extensive mapping exercise. They aimed to ensure synergy between the IOC's mandate and functions and the new international strategic frameworks and have secured support for the new approach. There is now also widespread appreciation for the critical need for robust ocean science to support the implementation of the 2030 Agenda. The IOC was recognised as the UN custodian agency for 2030 Agenda target indicators 14.3.1 and 14.a.1 of SDG 14, dealing with ocean acidification and ocean science capacity, respectively. It is making steady progress in supporting Member States in their implementation.

12. The SDG 14 reference to IOC Guidelines and Criteria on the transfer of marine technology is a culmination of a multi-year effort by the IOC aimed to operationalize the provisions on the transfer of marine technology under the United Convention on the Law of the Sea (UNCLOS). Transfer of marine technology is now an integral element of the IOC capacity development programme. IOC has proven its expertise and ability to play a strong coordination role in promoting the integrated nature of the Goals as well as interlinkages between them, by engaging all relevant stakeholders and, where possible, by feeding its expertise into the cycle of relevant high-level political fora. The efforts of the Commission in highlighting the dependence on science – which is the ultimate mandate of IOC – gained full recognition in December 2017 with the proclamation by the 72nd session of the United Nations General Assembly (UNGA) of the ***United Nations Decade of Ocean Science for Sustainable Development 2021-2030.***

13. In the 2018-2019 biennium the Commission focused on the preparation of the Implementation Plan for the Decade, implementing the coordination role the United Nations General Assembly gave it. IOC engaged all Member States, United Nations partners and key civil society stakeholders in regional and global consultations: it seized this once-in-a-life-time opportunity to harness advances in ocean science to achieve a better understanding of the ocean system and deliver science-based solutions to achieve the 2030 Agenda. Effective use of UN Ocean consultations reinforced the collaborative approach to ensure a meaningful division of labour among the IOC's partners in the United Nations system.

14. Going forward, the main challenge for the Commission will be to ensure its capacity to deliver on the dual task of maintaining its core, mandated work relating to ocean services, including in

tsunami warnings, in ocean research, observations and science-based ocean ecosystem management, while leading and coordinating the Decade.

II. Assessment by Strategic Objectives

Strategic Objectives 4 "Strengthening science technology and innovation systems and policies – nationally, regionally and globally" and 5: "Promoting international scientific cooperation on critical challenges to sustainable development"

Main Line of Action 1: Promoting knowledge and capacity for protecting and sustainably managing the ocean and coasts

Overview of performance

15. The IOC contributes to two of UNESCO's Strategic Objectives (SO) SO 4 "*Strengthening science technology and innovation systems and policies – nationally, regionally and globally*" and SO 5 "*Promoting* international *scientific cooperation on critical challenges to sustainable development*". IOC's vision statement also embodies these Objectives.[1]

16. New ocean-related knowledge stemming from IOC programmes was given to policy makers through global and regional assessments and processes. These include: the United Nations Regular Process-World Ocean Assessment, IPBES, United Nations Sustainable Development Goals Report 2019, IPCC Special Report on the Ocean and Cryosphere in a Changing Climate, and the Convention on Biological Diversity. IOC's inputs to the UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA) contributed to the UNFCCC COP25 decision to establish new Research dialogue on the ocean and climate. IOC's work in the area of "blue carbon" led to the refinement of the IPCC Methodology for Greenhouse Gas Inventories. The quality and value of IOC's outputs is widely recognized. International bodies have issued decisions and resolutions that expressly thank IOC and invite future technical and scientific inputs.

17. IOC's work in ocean observations and data management constitutes a foundation for ocean science and the ability to provide early warnings of ocean hazards and evidence-based policy advice. Member States maintained and expanded observing elements of the Global Ocean Observing System (GOOS), as measured by the joint centre with WMO tracking observing networks and their metadata (www.jcommops.org).

18. Concern about the decline in tropical Pacific observations led to the launch in 2016 of the "Tropical Pacific Observing System in 2020" project (www.tpos2020.org). This examines what is needed for a more capable and sustainable ocean observing system – one capable of better El Niño predictions. The OceanObs'19 conference (16-20 September 2019) had strong input from the Global Ocean Observing System, with 2400 contributing authors and 1,500 participants taking stock of the achievements of the past decade and looking to the opportunities in the future. The emerging messages and opportunities of the conference were a validation of the Global Ocean Observing System 2030 Strategy.

19. At national level, 137 Member States, of which 33 SIDS and nine African countries, have now established, with IOC's support, National Tsunami Warning Focal Points/National Tsunami Warning Centres. The performance-based community recognition programme "Tsunami Ready" is being piloted in three regions (Caribbean, Pacific and Indian Ocean). Over 20 communities in 15 countries have already met the criteria and were recognized before the end of 2019. IOC also coordinated international and national bodies to set up a dedicated Tsunami Advisory Centre for the South China

1. IOC Vision statement: "*Strong scientific understanding and systematic observations of the changing world ocean climate and ecosystems shall underpin sustainable development and global governance for a healthy ocean, and global, regional and national management of risks and opportunities from the ocean*".

Sea, a significant achievement. This serves nine countries in the region and took four years to achieve.

20. IOC reinforced its partnership with the Global Environmental Facility (GEF) through the "International Water/Large Marine Ecosystems: LEARN project". The project mid-term evaluation noted that IOC, which serves as the project's technical secretariat, has effectively facilitated exchanges of best practices across the GEF portfolio, building capacities and new management tools to support ocean management. More than 26 SIDS Member States use the ecosystem-based management approach for transboundary living marine resources. A new partnership on Marine Spatial Planning with the European Commission was launched in 2017 and presented to the United Nations Ocean Conference. Workshops, training, conference, and multi-stakeholder fora have been conducted in 25 different countries. More than 3,000 participants from 98 countries benefited from both face-to-face and online trainings.

21. IOC Regional Subsidiary Bodies (IOCAFRICA, IOCARIBE, IOC/WESTPAC and IOCINDIO) continue to play a key role in the operationalization of the IOC Capacity Development Strategy (2015-2021). The Strategy has clearly defined expected outputs, activities and actions. To help build the capacity of Member States more systematically, the IOC has obtained funding to develop a Clearing House Mechanism for the Transfer of Marine Technology (2020-2023).

22. IOC was a participant in the negotiation of the international legally binding instrument (ILBI) on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (BBNJ). IOC is well positioned to support the future agreement, particularly concerning capacity development and the transfer of marine technology, to make this instrument universal that would serve all its future Parties and developing countries in particular.

23. The second edition of the IOC's flagship Global Ocean Science Report will be launched at the second United Nations Conference on Oceans in Lisbon, June 2020.[2] The Report provides information on capacity and development trends in ocean science worldwide, analysing data on infrastructure, human resources (using sex-disaggregated data), and the level of investments. The Global Ocean Science Report is the primary source of reporting for SDG Indicator 14.a.1, for which IOC is a custodian agency. It is also a source of data on ocean science coverage, identifying where additional ocean science, and related strategic investments, are needed to meet national sustainable development agendas.

Challenges and lessons learned

24. The value of IOC's contribution to global and regional assessments has been acknowledged and recognized. However, because IOC programmatic outputs are not always clearly visible in end-products its contribution is sometimes invisible. For example, IOC facilitated the ocean observations that were critical for explaining the warming hiatus prior to the negotiations of the Paris Agreement, highlighting its temporary nature. And IOC-supported networks provided the science behind the globally significant finding that "93% of heat generated by anthropogenic activities has been absorbed by the ocean since the start of industrial revolution"[3]. IOC needs to get better at explaining its role and investment in producing the foundational research, observation and data management that end-products and high-level political decisions are based on. In turn this will help build the case for continuing to invest in IOC's work.

25. IOC will continue to strive to ensure that lessons from specific projects and programmes are integrated into global and regional intergovernmental frameworks (e.g. regional seas conventions, UNGA). This is objectively difficult, but it is necessary. Assessment and policy-relevant information

[2] The decision to postpone the Lisbon conference to a later date due to COVID-19 crisis was taken after the publication of document 209 EX/4.I.B. The launch of the 2nd edition of the GOSR has also been postponed.

[3] Ref. WCRP Strategic Plan 2020-2029

needs to be tailored to the needs of Member States. It needs to relate to their national priorities as well as those defined in global conventions and agreements and regional treaties.

26. The capacity of the IOC Secretariat to deliver is largely dependent on extrabudgetary funding. Raising these funds requires substantial secretariat efforts. The IOC's reliance on extrabudgetary funding also leaves it dependent on the continued support of a limited number of donors. IOC recognizes the need to pursue longer-term, high-level, strategically focused partnerships with Member States and donors to provide for a more stable funding situation (from project to programme-based delivery). IOC has had some success in raising its profile by developing projects and receiving funding through multilateral donor entities (e.g. GEF, European Commission). IOC will also put in place a more systematic risk-analysis approach to the choice and design of partnerships.

Emerging trends and way forward

27. The United Nations Decade of Ocean Science for Sustainable Development (2021-2030) is a challenge and an opportunity for IOC to demonstrate its value and strengthen its impact. IOC will continue to prioritize SIDS, as well as youth involvement and the value of indigenous knowledge. The Decade also offers an opportunity and a framework for enhancing existing networks and developing new synergies, working in transversal ways with other Sectors.

28. Assisting Member States to develop their institutional capacity remains a high priority for the IOC in the coming years. Most of IOC's Member States are developing countries (SIDS, LDCs or countries in economic transition). In the preparation of the draft Medium-Term Strategy of the Commission for 2022-2029, Member States highlighted the importance of including social and human sciences and welcomed the inclusion of "*scientifically-founded services for the development of the sustainable ocean economy"* in the IOC high-level objectives and priorities.

29. Notwithstanding the point made above related to the relative lack of visibility of many of IOC's outputs, IOC has made considerable progress in increasing its visibility and outreach to a broader range of stakeholders. Going forwards, IOC's communication will highlight the societal benefits its programmes bring.

One Expected Result supports the achievement of IOC's Main Line of Action 1, underpinning Strategic Objectives 4 and 5:

- Targets for IOCs Expected Result were broadly achieved.

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)

Summary Assessment by criteria

Expected Results	Past Achievements			Way Forward	
	Demonstrable Results	Capacity to Deliver	Sustainability	Relevance	Comparative Advantage
ER 1: Science-informed policies for reduced vulnerability to ocean hazards, for the global conservation and sustainable use of oceans, seas and marine resources, and increased resilience and adaptation to climate change, developed and implemented by Member States, towards the realization of the 2030 Agenda					

 High  Medium  Low

Strategic Objectives 4 "Strengthening science technology and innovation systems and policies – nationally, regionally and globally" and 5 "Promoting international scientific cooperation on critical challenges to sustainable development"

Main Line of Action 1: Promoting knowledge and capacity for protecting and sustainably managing the ocean and coasts

Expected Result 1: Science-informed policies for reduced vulnerability to ocean hazards, for the global conservation and sustainable use of oceans, seas and marine resources, and increased resilience and adaptation to climate change, developed and implemented by Member States, towards the realization of the 2030 Agenda

1. MANDATE

The United Nations Convention on the Law of the Sea (UNCLOS) recognizes the IOC as a competent international body on marine scientific research. In 2017, the United Nations General Assembly mandated IOC to coordinate the United Nations Decade of Ocean Science of Sustainable Development 2021-2030.

IOC's Medium-Term Strategy 2014-2021 aims to help ensure its Member States have the capacity to achieve four high-level objectives (HLOs):

1. *Healthy ocean ecosystems and sustained ecosystem services*
2. *Effective early warning systems and preparedness for tsunamis and other ocean-related hazards*
3. *Increased resiliency to climate change and variability and enhanced safety, efficiency and effectiveness of all ocean-based activities through scientifically-founded services, adaptation and mitigation strategies*
4. *Enhanced knowledge of emerging ocean science issues*'

2. KEY OUTCOMES/DEMONSTRABLE RESULTS 2016-2019

Expected Result targets were broadly achieved

The IOC's self-assessment mechanism "IOC and the Future of the Ocean" allows timely re-focusing of programmes to priority areas, as and if needed.

Please note that because IOC has just one Expected Result covering its entire portfolio, reporting in this table is more detailed than other sectors.

In the period 2016-2019, **IOC demonstrated impact through its influencing, coordinating and intellectual leadership work.**

- IOC led United Nations coordination of ocean sciences to support policy and action towards sustainable development. The United Nations General Assembly gave IOC the mandate to coordinate the preparation of the Implementation Plan for the "UN Decade of Ocean Science for Sustainable development 2021-2030.
- IOC was influential in the first United Nations Ocean Conference held in New York in June 2017: it organized 12 side events and submitted 10 voluntary commitments. References to ocean sciences and observation were included in the adopted High-Level Declaration. IOC contributed in the subsequent review of the SDG 14 by HLPF (July 2017), co-leading with FAO a UN-wide review paper. Further voluntary commitments to SDG 14 are being facilitated by the nine Community of Ocean Action established by UN DESA. IOC is co-leading one of these (ocean science and capacity development).

IOC developed new strategic partnerships with research networks leading ocean carbon research programmes and delivered the following outcomes, jointly with these partners:

- The SDG 14 Target Indicators 14.3.1 and 14.a.1 were upgraded to tier 2 (https://unstats.un.org/sdgs/iaeg-sdgs/tier-classification/).
- UNFCCC COP25 took the decision to establish an ocean and climate dialogue based *inter alia* on IOC's contribution to the UNFCCC SBSTA Research Dialogue (https://unfccc.int/sites/default/files/resource/4e.pdf and https://unfccc.int/sites/default/files/resource/cp2019_L10E_adv.pdf).
- IOC's work in the area of blue carbon contributed to the refinement of the IPCC Methodology for Greenhouse Gas Inventories (emissions and removals) (https://www.ipcc.ch/2019/05/13/ipcc-2019-refinement/).
- The beneficiaries of these activities were mainly Member States, as evidenced by national climate science programmes informed by the IOC co-sponsored World Climate Research Programme (https://www.wcrp-climate.org) and references to blue carbon and the IPCC Methodology in the National Determined Contributions of several Parties to the Paris Agreement https://www4.unfccc.int/sites/ndcstaging/Pages/Home.aspx).

IOC delivered improvements in ocean observations and data management, a core foundation for ocean science and the ability to provide early warnings of ocean hazards and evidence-based policy advice:

- IOC has served as the lead United Nations agency for the Global Ocean Observing System (GOOS). Member States maintained and expanded observing elements of GOOS, as measured by the joint centre with WMO tracking GOOS networks and their metadata (www.jcommops.org). Concern about the decline in tropical Pacific observations led to the launch in 2016 of the Tropical Pacific Observing System in 2020 project (www.tpos2020.org), which undertook a systematic look at requirements and designed a response for a more capable and more sustainable ocean observing system.
- IOC influenced Member States to adopt, in 2018, an expansion of the drifting profiling float (Argo) notification scheme for entry into coastal states' Exclusive Economic Zones to six new biogeochemical parameters, and a framework for piloting and eventually adopting further new variables.
- GOOS published a series of peer-reviewed publications on the expansion of ocean observing requirements to cover biological and ecological parameters important for sustaining ocean ecosystem services and adapting to climate change. One of these publications (https://doi.org/10.1111/gcb.14108) was highly cited.
- The IOC and WMO adopted a new *Global Ocean Observing System 2030 Strategy*, which has an ambitious vision that has contributed to the *UN Decade of Ocean Science for Sustainable Development* planning process and provided a framework for engagement with partners.
- GOOS and IODE embarked on their first joint project on Ocean Best Practices, promoting the harmonized development of ocean observing networks.
- GOOS made a strong contribution to the OceanObs'19 conference (16-20 September 2019), with 2400+ authors and 1500+ participants, taking stock of the achievements of the past decade, and

looking to the opportunities in the future. The emerging messages and opportunities of the conference were a validation of the *GOOS 2030 Strategy*.

- An independent review of the joint WMO-IOC technical coordination and metadata support centre (JCOMMOPS) affirmed its importance, identified the need for core IOC and WMO funding, and made specific recommendations to improve its management and delivery.
- IOC engagement with the reform of the governance of the World Meteorological Organization (WMO) strengthened the Global Ocean Observing System: IOC's engagement led to a decision to incorporate JCOMM observations and operational ocean forecasting components into GOOS, and led to the development and adoption by IOC and WMO governing bodies of a new Joint WMO-IOC Collaborative Board, focused on opportunities to bring two communities together for mutual benefit.

IOC greatly strengthened the International Oceanographic Data and Information Exchange (IOC/IODE) during the review period:

- Between 2016 and 2017, the number of IODE data centres increased to 79 (and 40 marine libraries). During 2018-2019 the network expanded further to 97 data centres. As a global programme, IODE is now increasingly providing services to other IOC programmes.
- Besides the ongoing cooperation with HAB (harmful algal bloom programme), IODE now also assists with the development of the Global Ocean Science Report (GOSR) and SDG 14 work on ocean acidification (linking with NODCs that manage OA data). An implementation plan and cost benefit analysis were prepared for the IOC Ocean Data and Information System (ODIS) which was adopted by IODE-XXV and subsequently endorsed by IOC-XXX (2019). In February 2019 a prototype was launched of the ODIS Catalogue of Sources which, by November 2019, contained 667 records that describe online sources of ocean data and information divided into 16 content categories. This inventory will be the foundation for the development of ODIS products and services.

3. CAPACITY TO DELIVER AND SUSTAINABILITY

Capacity to deliver

The GOOS secretariat was able to function with a relatively small contribution from regular programme funds by decentralizing and relying in great part on in-kind contributions. While positive overall, this adds a high coordination and management burden, and volatility that is difficult for a sustained ocean observing system.

The GOOS 2030 Strategy and OceanObs'19 reinforced certain lessons learned, which entail a focus on:

1. Planning for impact: co-design of the observing system, end-to-end, with stakeholders and users;
2. Core system integration: democratization of data, best practice, integration of biological and ecological observations, and a growing emphasis on the coast; and
3. Embracing innovation in technology and governance, and looking to the #OceanDecade as a vehicle for transformation

IOC capacity to deliver was significantly enhanced through in-kind contributions from Member States. The technical capacity to transform and analyze data into policy relevant products is an area that requires further investment, particularly in terms of assessing the societal value of ocean science.

While IOC is not a donor organization or a funding agency, it has raised its profile in developing projects and receiving funding through specific multilateral donor entities (e.g. GEF, European Commission). These generally require Member States support and evidence of sustainability beyond the lifetime of the projects, in alignment with IOC's corporate priorities. Efforts need to continue to translate these project outputs and outcomes into global and regional intergovernmental frameworks (e.g. UNGA, regional seas conventions). Ocean issues are high on the international agenda and there is a strong political willingness to increase economic and social benefits from the ocean within a sustainable development approach. The demand for science-based information, technical capacities and management tools will continue to increase. Further mainstreaming of these activities at the regional level will be required, working in close cooperation with regional organizations with an ocean management mandate (for e.g. regional seas conventions, regional fisheries organizations, large marine ecosystems bodies, etc.)

The **capacity of the IOC Secretariat to deliver on the activities is largely dependent on extrabudgetary funding** requiring substantial secretariat efforts and presenting a high degree of risk due to volatility and dependence on a limited number of donors. IOC reinforced its existing **partnership** with the Global Environmental Facility through the IW/LME: Learn project. As evidenced in the mid-term evaluation of the project, IOC is successfully providing the technical secretariat to GEF International Water Projects, facilitating exchanges of best practices across the GEF portfolio, building capacities and new management tools to support ocean management in line with the Agenda 2030 sustainable development goals. A new partnership on Marine Spatial Planning with the European Commission was launched in 2017 and presented to the UN Ocean Conference. More than 3,000 participants from 98 different countries benefited from both face-to-face and online trainings.

In the context of the Ocean Decade, a number of promising partnerships with the private sector are being pursued, including through collaboration with the United Nations Global Compact's Sustainable Ocean Business Action Platform. IOC established a partnership with the Velux Foundation to reach out to the philanthropy sector through an engagement event in February 2020 at the Royal Academy of Science and Letters of Denmark. As a commitment to Our Ocean Conference (23-24 October 2019, Oslo, Norway), IOC has announced the constitution of an Alliance for the United Nations Decade of Ocean Science for Sustainable Development (2021-2030). The Decade Alliance will recruit its members in the lead to the second United Nations Ocean Conference (2-6 June 2020, Lisbon, Portugal), where it will be officially presented as a global coalition of ocean actors working together to support, enhance and leverage commitments towards the Decade.[4]

Sustainability

Regionally-driven early warning systems can gather much more participation and interest from Member States, and underpin concrete and effective proposals that deliver tools and instruments aligned with national policies and requirements. This can facilitate some co-funding and national in-kind and cash commitments to the IOC programmes and projects.

For the Harmful Algal Bloom programme the engagement with and contributions from the scientific and managerial community worked very well in the programme activity design, implementation and application. It secures participation of and impact in Member States. However, the overall intergovernmental mechanism for dialogue between the IOC secretariat and IOC member states is firmly rooted in only a subset of Member States. It requires strengthening in a significant number of Member States to effectively function.

4. WAY FORWARD

Relevance: All main IOC programmes have the capacity to contribute and offer lead projects contributing to the **UNESCO SIDS Action Plan**, as reflected under its Priority 2 (Enhancing SIDS resilience and the sustainability of human interactions with ecological, freshwater and ocean systems. The Tsunami Programme and its Tsunami Information Centres (TICS), with the active support of UNESCO and IOC Member States have succeeded to establish a Caribbean Tsunami Information Centre (CTIC, hosted by Barbados), an Indian Ocean Tsunami Information Centre (IOTIC, supported by Indonesia) and the International Tsunami Information Centre (ITIC, established in 1965 and hosted by United States in Hawaii). Some key achievements of the period are:

- SIDS engaged in harmonizing and standardizing tsunami early warning systems including through regional/country trainings to develop or review their Tsunami Standard Operating Procedures (SOPs).
- Installation of new sea level monitoring stations to enhance sea level monitoring capabilities in the Caribbean, for tsunami and other coastal hazards.
- More than 26 SIDS Member States are using the ecosystem-based management approach for managing the transboundary living marine resources.
- More than 33 SIDS Member States developed, implemented and operationalized the tsunami and other coastal hazards warning.

IOC is recognized as the lead United Nations organization in the development of Marine Spatial Planning approach as demonstrated by the uptake of the IOC guidelines by more than 40 countries engaged in ocean management. At **regional** level, IOC Sub-commissions have a unique role in identifying regional scientific

[4] The decision to postpone the Lisbon conference to a later date due to COVID-19 crisis was taken after the publication of document 209 EX/4.I.B. The launch of the Decade Alliance has also been postponed.

priorities and addressing capacity development needs through international collaboration.

Core capacity exists in the field of integrated coastal management/ecosystem-based management, although principally at Headquarters level while it is limited in regional sub-commissions. Successful partnerships have emerged in recent years in the field of MSP and Large Marine Ecosystems through extrabudgetary funding from GEF, European Commission, and the Moore Foundation. Further partnerships need to be created at regional level in accordance with IOC regional priorities.

IOC has been effective in promoting ocean issues in various international fora. This is translated in the SDG 14 in a reference to the IOC work in relation to marine scientific research and transfer of marine technology. IOC Management guidelines are generally well disseminated and used by Member States in the development of ocean and coastal initiatives. The Secretariat is however limited in its capacity to implement operational programmes on the ground. Capacity to engage with national and regional ocean governance bodies also need to be increased to better respond to demand and increase visibility.

Comparative advantage: With a broad mandate relevant to many goals of the 2030 Agenda, given the cross-cutting nature of ocean issues, the IOC's comparative advantage in bringing together key stakeholders was recognized by the UNGA in entrusting it with the coordination role for the UN Decade of ocean Science for Sustainable Development. IOC's credibility and all-inclusive approach created a collaborative environment among the UN Oceans agencies and effective and efficient distribution of labour.

A number of core IOC programmes occupy a recognized unique niche in the United Nations. Systematic observations are being explicitly recognized as crucial to strengthening scientific knowledge on climate and supporting decision-making, IOC's main entry points into the climate change regime have been: through ocean observation contributions; through the Global Ocean Observing System (GOOS); scientific contributions to the Intergovernmental Panel on Climate Change (IPCC); through its own programmes and through contribution to and co-sponsorship of the World Climate Research Programme (WCRP).

The IOC-coordinated regional tsunami warning systems in all tsunami-prone areas of the ocean constitute a very strong contribution to the implementation of the Sendai Disaster Risk Reduction Framework. With a very modest budget the IOC coordinated a global tsunami warning system worth hundreds of millions of dollars, including actual real-time alerts, exercises enhancing preparedness, continuation of the activities of the Caribbean Tsunami Information Centre, tsunami-ready campaign in the Caribbean, support of the Indian Ocean Tsunami Information Centre by the Government of Indonesia; accreditation of four Tsunami Service Providers in the North East Atlantic, Mediterranean and connected seas region.

Within the United Nations family, IOC's IODE programme is unique in its efforts to manage, archive and curate ocean science data and information. The IOC Ocean Biogeographic Information System (OBIS), the world's leading database on ocean biodiversity, continued to contribute to the achievement of several United Nations 2020 Biodiversity Targets, FAO's Vulnerable Marine Ecosystems, and is called upon by the 193 Parties of the Convention on Biological Diversity (CBD) to support the identification of Ecologically or Biologically Significant Marine Areas. OBIS also contributed key information on biological diversity to the United Nations first World Ocean Assessment (WOA), as well as the current regional and global biodiversity assessments held under IPBES. The IOC-led Transboundary Water Assessment Programme contributed to the WOA 66 coastal assessments covering the whole coastline of the world. IOC is also recognized as the lead United Nations organization in the development of marine spatial planning, as demonstrated by the uptake of the IOC guidelines by more than 40 countries engaged in ocean management.

In terms of assessments and information for policy, IOC's comparative advantage lies it its ability to provide an effective and cost-efficient framework for developing science/policy dialogues and pooling national contributions towards common goals.

IOC took an active part in the negotiation process on an international legally binding instrument (ILBI) on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (BBNJ). With new opportunities presented by the UN Decade and the broad recognition of its Guidelines for the Transfer of Marine Technology (including in the SDG 14), IOC is well positioned to support the future agreement, particularly concerning capacity development and transfer of marine technology, to make this instrument universal, serving all its future Parties and developing countries, in particular.

For the "Decade", translating science into management-support tools is a key deliverable. With its pioneering role in Marine Spatial Planning and science-supported sustainable ocean economy, the IOC has developed a strong programme in this area and works closely with United Nations partner agencies, the European Commission and the Global Environmental Facility to implement targeted activities. Finally, with its recognized Criteria and Guidelines for the Transfer of Marine Technology and the custodianship role for the SDG target on marine research, the IOC, supported by its solid regional networks of subsidiary bodies, is uniquely placed to serve as a training hub for the United Nations and other partner organization, providing

open access training on ocean-related topics, specifically the ones linked to SDG 14, but also in relation to climate change and marine biodiversity.

Proposed adjustments: The envisioned focus is on **continued development of services to address the needs of governments and general public for warning and mitigation of coastal hazards**. The tsunami programme will focus on (i) promoting harmonization and enhancement of early warning systems, and (ii) building community resilience through the Tsunami Ready efforts. It will build on the strategy plans established by the four regional tsunami warning systems and pursue opportunities within the UN Decade of Ocean Science for Sustainable Development (2021-2030), such as transformative steps to improve tsunami warning systems (e.g. Ocean Observations Required to Minimize Uncertainty in Global Tsunami Forecasts, Warnings, and Emergency Response).

Assessments and information for policy are an essential element that support the value chain underpinning the conduct of ocean research and delivery of knowledge to decision makers and society at large. Assessment and policy-relevant information needs to be better tailored to respond to the need of Member States, in response to their national priorities as well as those defined in global conventions and agreements and regional treaties. In terms of comparative advantage, IOC provides an effective and cost-efficient framework for developing science/policy dialogues and pooling national contributions towards common goals.

Within the United Nations family, IOC's IODE programme is unique in its efforts to manage, archive and curate ocean science data and information. **IOC can also play a role in coordinating various assessments** that are addressing ocean issues to avoid duplication and fragmentation. This will require a high-level strategic focus on reaffirming rooting of the organization at governmental level in Member States. Longer-term partnership with Member States and donors should provide a more stable funding situation (from project to programme-based delivery). Focus on demonstrating the socio-economic benefits of ocean science should also be pursued. Taking into account the start of the UN Decade of Ocean Science for Sustainable Development, more efforts will need to be made to ensure that, in addition to data systems, IODE focuses more on the development of data/information services and products that respond to a wide variety of user needs. In this regard more efforts will need to be made to identify user needs.

Science related aspects of the priorities highlighted at the mid-term review of the SAMOA Pathway (SAMOA+5) will receive a boost in the course of the Decade. The Action Plan and Science Plan of the Decade is been prepared with active participation of SIDS Member States at regional workshops. With respect to the mid-term evaluation of the UNESCO SIDS Action Plan, the importance of increased and enhanced level of tsunami awareness and preparedness is taken through the community-based IOC "Tsunami Ready" recognition programme that is highly intersectoral and requires close Headquarters-field cooperation.

The contribution of **IOC global and regional assessments** has been recognized on several occasion. However, in some other processes, IOC programmatic outputs are not always clearly visible in the end-product. There is therefore a need to explain the role and investment required in the upstream efforts in terms of research, observation and data management leading to the development of end-products.

Efforts will need to continue to identify capacity development requirements of IOC Member States and to re-orient the IOC Capacity Development programme through its regional subsidiary bodies and global programme training activities and focus on the evolved requirements. This will continue to be done through the OTGA, OTGA RTCs, RTRCs as well as through the new IOC Ocean Infohub which will develop community-based regional data and information nodes.

IOC needs to pursue longer-term high-level strategically focused partnerships with Member States and donors to provide for a more stable funding situation (from project to programme-based delivery). A more systematic risk-analysis approach to the choice and design of partnership will be implemented.

PART II – IOC IN UNESCO'S DRAFT 41 C/5

Promoting knowledge and creating capacity
for protecting and sustainably managing the ocean and its coasts

30. Resolution XXX-3 of the IOC Assembly requested the IOC Executive Secretary to prepare for the review by the IOC Executive Council at its 53rd session, a preliminary proposal for a Draft Programme and Budget for 2022–2025. Consistently with the previously adopted approach, the proposal shall be built around one expected result and consistent with the **mission statement, vision, high level objectives and functions** to be defined in the IOC Medium-Term Strategy for 2022–2029.

31. In this context, the following formulation of the **Draft Expected Result for IOC in the draft 41 C/5** is proposed for Member States' consideration:

> **Member States generate knowledge, establish and implement science-informed policies and develop capacity for sustainable management of ocean-related opportunities and risks and for keeping the ocean ecosystems healthy**.

32. In accordance with Resolution XXVIII-3 of the IOC Assembly (2015), the Secretariat shall make every effort, in the draft programme and budget proposal for 2022–2025, to reflect the IOC priorities in terms of long-term sustained observations and data and information management, as well as regional activities and Member States' capacity building, which are fundamental to *inter alia*:

- Healthy ocean ecosystems and sustained ecosystem services;
- Effective early warning systems and preparedness for tsunamis and other ocean-related hazards;
- Increased resilience and adaptation to climate change and variability;
- Scientifically-founded services for the development of the sustainable ocean economy;
- Enhanced knowledge of emerging ocean science issues.

33. Furthermore, the setting of programmatic targets shall support the IOC contribution to the UN Decade of Ocean Science for Sustainable Development (2021–2030).

34. The following set of Guiding Principles, adopted by the IOC Assembly in 2013 as part of Resolution XXVII-2, shall continue to guide the Secretariat:

- Provide focused leadership on those themes where IOC has clear leadership/ ownership in the programme theme;
- Fulfil IOC's intergovernmental mandate: incompressible costs related to governing and subsidiary bodies' meetings, statutory requirements and commitments vis-à-vis partners and other United Nations agencies, including their implications in terms of staff time;
- Support governments in national activities and strengthen regional subsidiary bodies of the Commission;
- Incorporate the scope of Member States participation (inclusiveness);
- Maximize synergies with other IOC programmes and interlinked functions: e.g. Ocean observations-based early warning systems;
- Preserve/sustain core programmes, while raising extrabudgetary funds for capacity development actions;
- Provide some seed money for new high potential impact programmes and emerging issues (likely to attract extrabudgetary funding);

- Balance IOC's strong engagement with the ocean science community and its strong focus on applications and services;
- Reduce funding for programmes, if necessary, with strong partners that could carry them (also reducing IOC's stake), if they concur;
- Identify Member States willing to establish funded and staffed offices to take on an entire IOC programme based on existing good practices;
- Identify activities that can be sustained with extrabudgetary funding;
- Allow some seed money for new high potential impact programmes and emerging ocean science issues (likely to attract extrabudgetary funding); and
- Ensure that at least 25% of resources are allocated to operations under each Expected Result.

35. In allocating the funds, the Executive Secretary shall ensure that the decisions made and resolutions adopted by the Executive Council and the Assembly are optimally reflected in the budget allocations, within the resources available.