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Item 4.2 of the Provisional Agenda

REVISED CONCEPT NOTE ON THE 'IOC STATE OF THE OCEAN REPORT' (STOR)

Summary

This document was prepared in response to the Decision IOC/EC-55/3.3 (2022) inviting the IOC Secretariat to seek further guidance from Member States on the concept note for the 'IOC State of the Ocean Report', which was first presented to the Executive Council in 2021.

The IOC Assembly is invited to review and endorse the updated concept note, outlining the production of the upcoming edition, including the themes and timeline thereof. Annexes remain in English only.

Financial and administrative implications: paragraphs 17 and 18.

The proposed decision is referenced Dec; A-32/4.2 in the Action Paper (document IOC-32/AP Prov.)

Introduction

1. In recent years, a renewed focus on the world's ocean and appreciation of its crucial role for life on Earth, the global climate, food security, human health and wellbeing, as well as its contribution to the global economy, have led to an increased demand by decision-makers and society at large for relevant, strategic, current, and easily accessible information on the state of the ocean.

2. At its 53rd session in February 2021, the IOC Executive Council (EC) considered the proposal to prepare a periodic 'IOC State of the Ocean Report (StOR)' as a response to the previously mentioned increased demand for the key information on the state of the ocean (see [IOC/INF-1393](#)). Following the 53rd session of the Executive Council, the IOC Secretariat invited Member States to express their views on the spatial and temporal scope of the report, focus areas, and style of presentation (cf. IOC Circular Letter, [2843](#)). In parallel the IOC Secretariat convened an informal expert consultation on the StOR to further discuss its main features. The results of the Member States and expert consultation are synthesized in the [IOC/INF-1393 Rev.](#) The IOC Assembly at its 31st session in June 2021 endorsed the production of a Pilot StOR, to be presented at the 55th session of the IOC Executive Council in 2022.

3. The 'State of the Ocean Report 2022 – Pilot edition' was presented to the Executive Council in June 2022. This first edition was structured around the ten initial Challenges of the UN Decade of Ocean Science for Sustainable Development, 2021–2030, and also identified an urgent need for a quantitative description of the state of the ocean and the capacity to report changes. The pilot edition consists of 21 storylines and was authored by 65 authors and peer reviewed by 40 experts (see IOC Technical Series, [173](#)). The pilot edition was presented to the wider public on the occasion of the UN Ocean Conference in Lisbon (27 June–1 July 2022) shortly after the Executive Council had welcomed the concept and sought further guidance from Member States.

StOR review process by IOC Member States and IOC Secretariat

4. Following the 55th session of the Executive Council, the IOC Secretariat invited Member States to provide further views on the pilot edition of the StOR and recommendations on how to improve future editions, focusing on its scope and publication frequency (IOC Circular Letter, [2899](#)). Eighteen (18) IOC Member States answered this call between July and September 2022 and provided advice. See inputs summarized in Annex 1 to this document.

5. A StOR Advisory Board was established in the first quarter of 2023 to support the preparation of the revised StOR concept note and to actively guide the preparation of the next StOR edition. The StOR Advisory Board is composed of seven experts from seven IOC Member States and the IOC Secretariat (Annex 2). The IOC Secretariat invited national experts, taking into account the representation of the different electoral groups. The proposed revised comments and concept note is the result of consultation with the Member States and the guidance provided by the Advisory Board.

Revised StOR objective and scope

6. The StOR has the ambition to (i) inform policy action, support decisions on research focus areas that need to be strengthened or developed, and (ii) assist in the implementation of stronger science-based ocean governance frameworks at national and global levels.

7. According to the revised concept note, the StOR will present the results of analyses of ocean-related scientific activities to describe the current and future state of the ocean, addressing physical, chemical, ecological, socio-economic and governance aspects, focusing on the seven Outcomes of the Ocean Decade, which contribute directly to the vision of the Ocean Decade and encompass the 10 Challenges of the Ocean Decade initially considered.

8. The Ocean Decade Outcomes represent the main features of the ‘ocean we want’ at the end of the Decade and are therefore well suited to serve as a framework for monitoring the state of the ocean during the Decade. Structuring the report around the Outcomes rather than the Challenges should improve the assimilation of the results presented. It will strongly complement the other elements of the Ocean Decade monitoring and evaluation framework that focus on the action-oriented Challenges of the Decade and the key elements of the enabling environment of the Ocean Decade.

9. The StOR will include contributions not only from IOC projects and affiliated programmes, but also from other UN agencies and relevant organizations, which will be identified and invited to provide storylines based on guidance provided by the StOR Advisory Board. Following the advice of Member States, the objective will be to compile a concise overview of the current state of the ocean, primarily helping policy- and decision- makers, as well as scientists, to mobilize global society to act towards ‘the ocean we need for the future we want’, contributing to the 2030 Agenda and in particular SDG 14, which reads ‘Conserve and sustainably use the oceans, seas and marine resources’, as well as other global processes such as the UNFCCC, the Convention on Biological Diversity, and the Sendai Framework.

10. There are already a number of publications which focus on the ocean or contain dedicated sections exploring ocean themes, raising awareness on the importance of the ocean for the general public, policymakers and other marine stakeholders. Among the publications highlighting the importance of the ocean is the World Ocean Assessment (WOA) first published in 2016 and then in 2021. The second assessment is a comprehensive report of over 1,000 pages written by more than 300 scientists, nominated by UN Member States. The StOR, which should be published biennially, is part of this dynamic and is intended to make a complementary contribution to the United Nations as ocean-related processes, providing a succinct summary of the latest information available with a view to achieving the Outcomes of the Ocean Decade. The StOR also complements the information presented in the UNESCO-IOC *Global Ocean Science Reports*, which focus on the enabling framework for ocean science, leading to the findings and assessments presented in the StOR.

Structure and timeline of production

11. It is expected that the next edition of the StOR, to be published in 2024, will feature multiple storylines representing topics covering global assessments relevant to each Ocean Decade Outcome.

12. Editions of the StOR shall be comprehensive but concise, with 2-5 storylines per Ocean Decade Outcome. Storylines are brief narrative description of parameters, issues describing trends and activities with figures.

13. The decision on topics and list of contributors to the storylines will be guided by the StOR Advisory Board. A preliminary list of relevant themes for each Outcome, allowing the identification of relevant topics for the different storylines, is provided in Annex 3. These themes are based on the review of Member States and the pilot StOR publication. To keep the report succinct, each storyline will not exceed 2 pages (including figures and references).

14. Like the body of the report, a 2- to 3-page executive summary will be organized around the seven Ocean Decade Outcomes, before the main body of the text, illustrating key findings highlighted by storylines.

15. The authors of each storyline are asked to provide figures and graphs that are easy to understand for a non-expert audience. Authors are advised to follow the storyline template (Annex 4) which provides guidance on content and format. Each storyline will be organized as follows: a brief introduction to the issue presented, a description of the current state of knowledge and conclusions, as well as next steps that would be required for the topic of the storyline to achieve the respective Ocean Decade Outcome.

16. An expected timeline for the production of the 2024 edition guides the preparations (Annex 5).

Financial and administrative implications

17. The StOR is part of the activities under Function D, 'Support assessment and information to improve the science-policy interface'. The allocated regular budget is insufficient to produce the StOR (RP Workplan n°802: Follow-up to SDGs, WOA & State of the Ocean Reporting).

18. The publication of a biennial StOR will require human and financial support by IOC Member States to finance coordination at the IOC Secretariat, editorial work, translation, layout, design, printing and communication.

ANNEX 1: Summary of StOR Member State review

Category	Comment
<i>Scope of the report</i>	
<p>Please advise how to improve the template in terms of format, length, inclusion of figures etc.</p>	<ul style="list-style-type: none"> ● Document needs to be shortened, potentially reduce to a subset of challenges ● Focus on quantitative information, where possible ● Recommended use of high resolution infographics, potentially videos ● Depending on length include short summary in the beginning or end ● Improve online access not only pdf and hard copy ● Identification of the audience should be clear. ● Language should be understandable by non-scientists ● Template to be improved, by instructing to have the key take-home message(s) as few short sentences or bullet points for each storyline, also provide instruction for minimum/maximum ● Structure could be as follows: (1) Current stage of knowledge; (2) Knowledge gaps; (3) Recommendations on how these gaps could be closed. ● Some Member States recommended to focus on global changes, while others recommended to include regional case studies ● Provide guidance on number of references
<p>Advise on the relevance of the existing storylines</p>	<ul style="list-style-type: none"> ● Future editions of the StOR could consider placing a greater emphasis on how science is informing solutions that can be implemented by people. In particular, the role of First Nations peoples, local communities and local industries that are reliant on a healthy ocean are important to highlight in future reporting. ● Same number of storylines for each challenge ● Identification of the key indicators for different challenges is needed and they should be highlighted in the report ● The focus on status not enabling framework
<p>Propose how to improve the currently used indicators and benchmarks</p>	<ul style="list-style-type: none"> ● No need to define new indicators and goals, rather specify the state of the ocean at the moment, in terms of well-defined variables or parameters. ● Each information concerning the state of the ocean is relevant, however the report should highlight the issues most relevant for a large audience ● The pilot edition of the StOR is structured along the Decade Challenges. This should be maintained, whereby the direct reference to the Decade is taken up/continued.
<p>Advise on how to identify new potential indicators.</p>	<ul style="list-style-type: none"> ● The StOR should not aim to identify new indicators, but rather new parameters that allow us to give the most complete vision of the state of the ocean. ● Should be aligned with the Ocean Decade process ● The report could include social indicators to show how people

Category	Comment
	<p>perceive and/or understand phenomena that occur on a day-to-day basis.</p> <ul style="list-style-type: none"> ● Reports of state of the sea/ocean for marginal and coastal seas could be consulted and considered to identify relevant parameters. ● Potentially add to each challenge, number of programmes, projects contributing to it. ● The StOR could include information on ship-originated pollution, oil spill modelling, marine traffic information.
<i>Frequency of the report</i>	
How often should the StOR be published?	<ul style="list-style-type: none"> ● 7 countries annually, 8 biennially ● It will require 2-3 years to measure progress within the storylines
Additional comments	
Please advise on relevant UN Organizations and the information they could provide and to which Decade challenges.	<ul style="list-style-type: none"> ● Align and discuss with WOA ● Challenge 1: Information on pollution observations and pollution reducing activities: UNEP, Basel Convention Secretariat, GESAMP ● Challenge 2: Information on ecosystem observations and ecosystem restoration activities: UN Decade of Ecosystem Restoration – UNEP, FAO, CBD, CMS, Ramsar, WMO, UNDP, UN-Habitat ● Challenge 3: Information on ocean food resources and activities: UNCTAD, ESCAP, FAO, ILO, UNDP, UNIDO ● Challenge 4: Information on ocean industries and economies: UNDESA, ISA, UNCTAD, ESCAP, FAO, ILO, IMO, UNIDO, IACSD, UNDP, WTO ● Challenge 5: Information on climate observations and climate activities: UNFCCC, WMO, IMO, UNIDO, UNCTAD, UNDP ● Challenge 6: Information on ocean hazards and activities: UNFCCC, WMO, IMO, FAO ● Challenge 7: Information on comprehensive ocean observations including socio-ecological and socio-economic observations: UNFCCC, WMO, IMO, FAO, UNEP, GESAMP, DOALOS, CBD, CMS, SOCA, WTO ● Challenge 8: Information needed for a digital twin of the ocean: UNFCCC, WMO, IMO, FAO, UNEP, GESAMP, DOALOS, CBD, CMS, Ramsar, SOCA, UNIDO, UNCTAD, UNDP ● Challenge 9: Information on capacity building activities, knowledge: UNFCCC, WMO, IMO, FAO, UNEP, GESAMP, DOALOS, CBD, CMS, SOCA, UNIDO, UNCTAD, UNDP, UNDESA ● Challenge 10: Information on socio-ecological and socio-economic observations and activities, literacy activities: UNDESA, ISA, UNCTAD, ESCAP, FAO, ILO, IMO, UNIDO, UNFCCC, WMO, FAO, CBD, CMS, UNEP, DOALOS, CITES, GESAMP, SOCA, WTO, UNESCO education, UN-WOMEN

Category	Comment
<p>Please suggest additional resources to be consulted to support the IOC Secretariat in the preparation of the StOR.</p>	<ul style="list-style-type: none"> ● Member States suggested to consult products of various UN organizations, NGOs and international organizations such as, International Coral Reef Initiative (ICRI) and its Global Coral Reef Monitoring Network (GCRMN), Ocean High Level Panel, SCAR, WMO statement of the state of the climate.
<p>Please let us know if you have any further advice to improve the next edition of the StOR.</p>	<ul style="list-style-type: none"> ● Incorporation of latest available knowledge ● Establish a transparent editorial process

ANNEX 2: Composition of the StOR Advisory Board

The Advisory Board is coordinated by the Ocean Science Section of the IOC Secretariat: Henrik Enevoldsen, Kirsten Isensee and Ikroh Yoon.

Country	Name	Institution
Chile	Juan, Fierro	SHOA
Germany	Wunsch, Matthias	IOC Focal Point (at the Federal Maritime and Hydrographic Agency - BSH)
Japan	Michida, Yutaka	Chief of the IOC Japanese National Committee
Kuwait	Al-Yamani, Faiza	Kuwait Institute for Scientific Research
Senegal	Dioh, Mariama	Ministère des Pêches et de l'Economie Maritime / Direction des Pêches Maritimes
USA	Naughton, Joseph	NOAA
France	Belbeoch, Mathieu	Ocean OPS
IOC	Barbière, Julian Clausen, Alison	MPR/DCU, IOC Secretariat
IOC	Heslop, Emma	OOS, IOC Secretariat
IOC	Pissierssens, Peter	CD/IODE, IOC Secretariat
IOC	Aliaga, Bernardo Chang Seng, Denis	TSR, IOC Secretariat

ANNEX 3: Seven Ocean Decade Outcomes and relevant themes for storylines

The table below lists the seven Ocean Decade Outcomes and themes potentially illustrating the status and trends towards achieving the Outcomes. Themes are supposed to assist in the identification of storyline topics. The list of themes should be considered preliminary and will develop further based on the input by the StOR Advisory Board and consultations throughout the preparation of upcoming StOR editions.

<p>A clean ocean where sources of pollution are identified and reduced or removed.</p>	<p>Status and trends of nutrients and eutrophication, plastic pollution Strategies to reduce ocean pollution</p>
<p>A healthy and resilient ocean where marine ecosystems are understood, protected, restored and managed.</p>	<p>Status and trends of ocean stressors and their impacts, e.g. ocean acidification, warming, deoxygenation, sea level rise Status and trends of marine life, e.g. biodiversity, different functional groups. Status and trends of marine protection, restoration, marine management</p>
<p>A productive ocean supporting sustainable food supply and a sustainable ocean economy.</p>	<p>Status and trends of ocean economy and blue food, such as fisheries, aquaculture, maritime transport, coastal, marine and maritime tourism, other traditional uses, coastal renewable energy, marine ecosystem services (i.e. blue carbon), seabed mining, and bioprospecting</p>
<p>A predicted ocean where society understands and can respond to changing ocean conditions.</p>	<p>Status and trends of ocean predictions Status, trends and impacts of ocean based mitigation efforts, in particular marine carbon dioxide removal technologies</p>
<p>A safe ocean where life and livelihoods are protected from ocean-related hazards.</p>	<p>Status and trends in detection, monitoring, warning and response systems of ocean-related hazards. Status, trends and impacts of harmful algae blooms</p>
<p>An accessible ocean with open and equitable access to data, information and technology and innovation.</p>	<p>Status and trends of the ocean observing system Status and trends of ocean data management Status and trends of access to technological and human resources relevant for ocean activities Status and trends of capacity building in the field of ocean science and marine management</p>
<p>An inspiring and engaging ocean where society understands and values the ocean in relation to human wellbeing and sustainable development.</p>	<p>Status and trends of ocean literacy activities' implementation Efforts to include indigenous and traditional knowledge in ocean science</p>

ANNEX 4: The StOR Template

Outcome X

[Title] maximum 80 characters

Authors: [name, first name¹, name, first name²,]

¹ [Affiliation, Country, email corresponding author]

² [Affiliation, country]

[Intro text]

150 words maximum

[Description of findings, trends, status]

300 words maximum

[Conclusion, next steps]

150 words maximum

Figure [X]. [caption text]. Source: [text].

References

examples, authors are encouraged to focus on the main publications and apply the style below

Friedlingstein, P., O'Sullivan, M., Jones, M. W., Andrew, R. M., et al. 2020. Global Carbon Budget 2020. *Earth System Science Data*, Vol. 12, pp. 3269–3340. <https://doi.org/10.5194/essd-12-3269-2020>

IPCC. 2019. *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate*. (H.-O. Pörtner, D. C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama and N. M. Weyer (eds.)). In press. <https://www.ipcc.ch/srocc/>

Additional resources

maximum 3, follow the example

IOC SDG 14.3.1 portal <http://oa.iode.org>

Global Ocean Acidification Observing Network <http://goa-on.org>

Ocean Acidification Research for Sustainability Ocean Decade Programme <http://goa-on.org/oars/overview.php>

Additional guidance:

- Number of figures maximum 2
- Footnotes should be avoided

Annex 5: Timeline for the preparation of the StOR to be published in 2024

Timeline	Actions
July – September 2022	<ul style="list-style-type: none"> ● Member States consultation on the StOR
October – December 2022	<ul style="list-style-type: none"> ● Analysis of the consultation result
January 2023	<ul style="list-style-type: none"> ● Presentation of revised concept note for the StOR – second edition to IOC officers
January – March 2023	<ul style="list-style-type: none"> ● Formation of StOR Advisory Board
April – June 2023	<ul style="list-style-type: none"> ● Consultations of the StOR Advisory Board, definitions of storyline topics ● Drafting initial structure and topics of the report in consultation with the StOR Advisory Board ● Inviting inputs from UN agencies and experts
June 2023	<ul style="list-style-type: none"> ● Presentation of the revised concept note of future StOR editions at the 32nd session of the IOC Assembly
September 2023	<ul style="list-style-type: none"> ● Deadline to receive contributions by UN agencies and expert working groups towards the second edition of the StOR
October – November 2023	<ul style="list-style-type: none"> ● Expert review
November – December 2023	<ul style="list-style-type: none"> ● Incorporation of comments by authors ● Drafting of Executive Summary
January 2024	<ul style="list-style-type: none"> ● Layout and translation
10–12 April 2024	<ul style="list-style-type: none"> ● Publication of the StOR – second edition (Launch at the Second International Ocean Decade Conference, Barcelona, Spain)