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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

INFORMATION DOCUMENT

**CONCEPT PROPOSAL FOR AN
'IOC-COORDINATED STATE OF THE OCEAN REPORT (IOC StOR)'**

Summary

The proposed IOC StOR will be a comprehensive but concise annual report, not surpassing the length of 30 pages, and containing a 2-page executive summary. As such, the topics included in the report should be presented in a manner that succinctly introduces the issue, stresses its importance, and outlines the current state of knowledge in that issue area, with the support of appropriate visuals and online tools.

The original concept proposal that had been prepared for the information of Member States on the occasion of the 53rd session of the IOC Executive Council (online, 3–9 February 2021) ([IOC-INF/1393](#)) has been updated in the form of this document. The document reflects the needs and views of Member States following the survey launched through IOC [Circular Letter 2843](#) of 15 April 2021 and the holding of an independent expert consultation organized by the IOC Secretariat on 28 May 2021.

The IOC Secretariat will initiate a pilot exercise of the StOR, led by its Ocean Science Section and leveraging the expertise of all IOC Sections and Field Offices, as appropriate. Member States wishing to contribute resources for this pilot phases are encouraged to do so. The pilot StOR will be presented at the 55th session of the IOC Executive Council in 2022.

Introduction

In the recent years, a renewed focus on the world ocean and appreciation of its crucial role for life on Earth, the global climate, food security, human health and wellbeing, as well as its role in 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.

Various high-level assessments provide comprehensive peer-reviewed analysis of the state of the ocean and climate with varying periodicities, often once in several years. Their volume and process of preparation does not allow the actualization of information at shorter intervals. However, the state of the ocean changes rapidly while the interest of accessing more regularly updated information remains unmet.

By its mandate, IOC is the UN body responsible for ocean science and provides a first place for the world to look for ocean-related information. An annual State of the Ocean Report (StOR), to be coordinated by IOC, will update the community of stakeholders on the current state of the ocean and progress in expanding its management. This information can support actions by multiple stakeholders in the context of the UN Decade of Ocean Science for Sustainable Development and within various fora.

The multiple expert groups and networks supporting the IOC programmes and activities are in position to provide the bulk of information to describe the current state of the ocean. However, the IOC StOR should be organized to benefit from all relevant organizations willing to contribute to it. Quality assurance/control of the contents will be ensured through a peer-review process.

The Executive Secretary presented the idea of a State of the Ocean Report (StOR) to the IOC Executive Council at its 53rd session. The report intends to present a summary of key changes in the ocean state in terms of its physical, biogeochemical, biological and ecological variables, supplemented by a strategic assessment of developments with regard to integrated ocean management, such as percentage of area covered by observations, area management tools, etc. StOR will also constitute a contribution of IOC to the UN Decade of Ocean Science for Sustainable Development according to the Decade's Monitoring & Evaluation framework.

The IOC Secretariat sent a circular letter to Member States asking their views on the spatial and temporal scope of the report, focus areas, and styles of presentation (CL 2843 of 15 April 2021). Twenty-five Member States from all IOC electoral groups contributed to the survey (cf. list in Annex I).

The IOC Secretariat also organized an informal expert consultation on StOR, as anticipated in CL-2843. The meeting, held online on 28 May 2021, was attended by 15 independent experts reflecting the expertise underpinning all IOC Functions, covering all IOC regions, and taking into account gender balance (cf. list in Annex II).

Both the survey of Member States' views and the expert consultation were guided by the same set of questions, as follows:

- *What would you see as optimal scope and content of the report?*
- *What would be the optimal periodicity (annual/biannual), geographic scale, and presentation (visuals vs narrative)?*
- *How best can an IOC StOR stay science-driven and not policy prescriptive while also supporting the World Ocean Assessment and responding to the challenges of*

the UN Decade of Ocean Science for Sustainable Development?

- *To which extent should StOR provide a platform for integrating relevant findings of other UN Organizations on the state of and trends in the world ocean?*
- *Would you rather opt for a short, punchy, summary type of report or a fully-fledged assessment?*

The outputs of the survey to Member States and the expert consultation have informed the revised version of IOC/INF-1393 (this document).

Based on the analysis presented below, it is proposed that the IOC Secretariat will undertake a pilot State of the Ocean Report, for presentation at the 55th session of the IOC Executive Council in 2022.

Survey of Member States' views on a State of the Ocean Report

Following is an account of the views of Member States based on the results of the above-mentioned survey:

Scope

- All respondents stated that the StOR should have global scope in order to recognize the connectedness of the ocean and the global scale of pressures on the ocean, and so as to respond to the information needs of all Member States. The majority of responses pointed to the need for the report to also target each major ocean basin/sub-sections per geographic region in light of the different conditions, pressures and also that local livelihood systems and ocean economy activities vary widely.
- The StOR should include not only the state of the oceanic environment (physics, biochemistry, biology) but also of the human interaction with the ocean (ocean economy, ocean accounting). It should approach status and trends in the ocean from several angles: the report should focus on new findings of research and observations and new tools and success stories in sustainable management of the ocean, and be solution oriented. It should also identify issues that need further attention and provide suggestions on how to address them. The StOR design must cover the needs of all ocean stakeholders, both as information providers and users, in an integrative way. Focus on approaches to mitigation, monitoring and problem solving was considered to be important.
- The StOR should look at relevant policy fora and address their growing needs related to the importance of the ocean for the discussions in such fora. Some Member States pointed to the need for the report to also target the general public.
- There is a need for the StOR to be based on data streams from an ocean observation system, supplemented by subsequent expert analysis. The knowledge base for the report should be derived from relevant existing IOC programmes (e.g. aggregating main findings of the various GOOS projects and, in turn, of these with other IOC programmes), as well as relevant Decade activities as they will develop over the coming years.
- Some Member States suggested that the StOR be built around the Decade challenges, while also letting the experts contributing to the report identify topics of interest. It was stated that the participation of members of the international scientific community and from projects related to the Decade, beyond existing IOC groups of experts, should be promoted.

- There is a need for the StOR to rely on indicators that are defined in advance, scientifically sound and long-lasting. In this regard, reference was made to capitalizing on the workstream of GOOS related to indicators and current efforts under the G7 Future of the Seas and Ocean Initiative, in collaboration with IOC, on the definition of a core, common set of ocean indicators, building on relevant initiatives such as the Copernicus Marine Service Ocean State Report and Ocean Monitoring Indicators.
- Some Member States suggested that StOR development begins with some limited issue areas and continues to expand the contents of the report with further editions following an incremental approach.

Periodicity

- There was an equal support expressed for an annual or biennial periodicity of the StOR. Some Member States considered the biennial periodicity as the most appropriate timeframe for a policy environment.
- One Member State suggested that, considering budget constraints and the issuing of the GOSR each four years, the StOR should also be published every four years, alternatively with the GOSR.
- One Member State pointed to the risk of undermining the credibility of IOC as a body that can deliver science-based reporting mechanisms in the event that the production cycle of the StOR was hasty and stressed that the scope of the StOR must be comparable to the resourcing.
- Two Member States wrote that, if opting for a fully-fledged assessment, the frequency of the report should be extended to five-year.

Modalities and styles of presentation

- The majority of respondents stressed that the narrative and visuals in the StOR should appropriately and effectively translate scientific knowledge in order to contribute efficiently to management, decision-making and policy formulation. In this regard, almost all respondents called for a short (10 to 30 page maximum) report, with an executive summary, which should contain a comprehensive scientific and technical bibliography.
- It was suggested that scenarios should be included in the StOR, supported by graphics, a GIS platform, and with links to explanatory videos. The report should be accessible through an Internet platform providing easy access to such visual resources.
- One Member State suggested that the StOR should also provide access to the datasets that have been utilized to inform the analysis leading to its findings.
- Some Member States advocated that the StOR should act as a score card, a snapshot of climate data, ocean health metrics but also current ocean economy activities, focusing on the progress and outcomes of the Decade.

Relation with other processes and organizations

- Several respondents pointed to the opportunity for the StOR to occupy a unique niche by drawing on the strong science and observing components of IOC's programme of work. One Member State stated that, where relevant, the report should synthesize

other major ocean reports to identify scientific findings of broad consensus, areas of uncertainty, knowledge gaps, and areas of immediate opportunity and action.

- During the preparation phase of the StOR, special attention should be paid to avoiding any duplication with already well-established assessment reports. One Member State suggested that a knowledge gap analysis among the main assessment reports should be carried out as a preliminary step.
- Care was recommended in liaising with relevant products so that the content of StOR aligns with and compliments/supports reporting under the IPCC, IPBES, WOA, the Copernicus Marine Environment Monitoring Service (CMEMS) reports, etc. The StOR can support the WOA by stimulating and providing observational data streams and related indicators that initially are presented in the StOR and gradually can be taken up and used by the WOA.
- A few Member States pointed that, since IOC is the intergovernmental commission that deals with the ocean, the report should naturally be the platform for integrating the conclusions and relevant information from other UN organizations, especially those that are relevant to the Decade challenges and progress. One Member State wrote that this is already being done under the WOA and that strengthening the linkages between IPCC, IPBES, FAO reports is already being discussed across the various organizations.

Additional considerations

- Two Member States raised the question of costs engendered by the report and that technical staff will need to be dedicated to this project without overloading the human and financial resources available within the IOC.
- One Member State called for a mechanism to be established for the informal review of the report by IOC Member States, prior to its publication.
- One Member State stressed that the publication should conform, with regard to the presentation of maps and geographic references, to the standards and editorial directives of the UN, in particular, in regarding those territories subject to sovereignty disputes.

Outputs of the informal expert consultation on a State of the Ocean Report

Prior to their online consultation, the independent experts convened by the Secretariat were asked to provide inputs to the five questions as in the survey of Member States in order to maximize the efficiency of the consultation process. During the online consultation, following individual presentations, the experts were divided into breakout groups reflecting the questions. Subsequently, they had the opportunity to present the outputs of the breakout groups and to discuss these collectively. The main points of advice provided by the experts are presented below:

- The StOR should rely on original expert analyses of the kind already being produced by IOC programmes, including concise information for decision-makers, multiple ocean stakeholders and the general public, and provide links to other authoritative information, data tools and products. Strong links to the Decade will ensure that the StOR provides a mechanism to highlight and capitalize on the latest findings coming out of the Decade of Ocean Science for Sustainable Development and to rapidly and regularly transform the results of observations and research into information tools in an almost-operational sense.

- The Decade will play a role in defining the contents of the StOR, but the latter should not be limited by the current focal areas in the Decade. The report should be science-driven, along the demonstrated models of IPCC and IPBES, of a high quality, with a strong open review process aiming to provide a large group of experts to comment on its findings and their presentation. The experts authoring the report should determine the final contents of the StOR.
- The StOR should be designed so as to ensure that it complements the WOA, provide more rapid reviews of the state of the ocean than is provided by the WOA and not duplicate its intergovernmental assessment nature and review process.
- The temporal scale of the report should be annual. The report should be short and punchy, with a supporting narrative and high impact visuals. It should have a maximum length of 30 pages and present a limited number (e.g. 8 at maximum) of topics. Relevant information from science information products of other UN organizations should be incorporated. The spatial scope of the report should be global, with a focus on regional trends, as exemplified by the cases of the effects of climate change in the Arctic and the *Sargassum* phenomenon in the tropical Atlantic.
- While relying on conventional variables for measuring the state of the ocean, the StOR should be flexible in reporting on spotlight topics in the year. The report should rely on a clearly defined indicator framework using an Earth system approach, taking into account the interface between oceans, human, climate, biosphere, cryosphere, the atmosphere, and land.¹ Such indicators would report across space scales and issue areas, benefiting from co-design with communication and design experts from the outset. Indicators should be designed so as to provide online tools interlinked with existing information services, and some indicators could have an almost real-time service.
- The report should build on data metrics from the GOSR; highlight policy achievements in MSP initiatives globally; rely on quantitative indicator-based assessment of risks already applied by the IOC in the context of its early warning programme; and build on the Essential Ocean Variables developed in the context of GOOS. In addition to relevant IOC programmes, the sources of data and information should be multiple, including scientific literature, technical reports, existing assessment by other organizations, and knowledge gathered by the private sector. The report should make room for relevant indigenous and local knowledge to be captured.
- The styles and modalities of the presentation of the findings of the StOR – which can be summarized as a combination of a set of selected indicators with appropriate visualization techniques – should reflect the need to illustrate sometimes complex science and management issues to policymakers through clear messages, text that be limited and easy to digest, and the use of innovative visualizations. It will be required to implement a balancing act between simple, not too detailed messages and the need to avoid oversimplification and the consequent obliteration of important ocean issues or the banalization of the level of uncertainty associated with some aspects of our knowledge of the ocean.

¹ The experts agreed that the conceptual framework of the StOR should benefit from further discussion at the early stages of development of the report.

- Overall, the StOR should provide a scorecard approach to visualize trends in the ocean over the years to assist decision-making.
- The report should be produced in multiple languages, thus maximizing the chances of the application of its findings. The StOR should be disseminated further through social media campaigns, with images that are easy to grasp and focusing on one subject at a time. The report should be made available widely at relevant annual events and conferences.
- The design and execution of the StOR should be based on a working group with authors from multiple science organizations as well as expert practitioner organizations, acting on an individual, independent basis. Flow of relevant information from other UN organizations should be streamlined through a dedicated process by the IOC Secretariat. The StOR must have a sufficient secretariat to ensure efficiency in the delivery of annual reports.

Conclusions and further steps in the development of StOR

The analysis of the responses by Member States to the survey on the StOR and of the independent advice provided through the expert consultation show a broad agreement of the views and needs of Member States with the independent advice provided by the experts.

The general sense of the responses received by Member States to the survey on the proposed StOR was that, while the StOR must be oriented towards decision-makers, such a report should be science-based and, therefore, its development should be driven by the scientific community.

The informal expert consultation organized by the IOC Secretariat demonstrated the relevance and usefulness of setting up a committee of external experts to oversee the development and independent review process of the StOR.

Based on the processes and ensuing findings described above, it is proposed that the IOC Secretariat undertakes a pilot State of the Ocean Report, for presentation to the IOC Executive Council at its 55th session in 2022. This pilot exercise will build essentially on relevant IOC programmes and activities, benefit from conversations and collaborations with other relevant processes, and be guided by a small group of independent experts, as well as prior informal review by Member States.

The IOC Secretariat will initiate a pilot exercise of the StOR, led by its Ocean Science Section and leveraging the expertise of all IOC Sections and Field Offices, as appropriate. Member States wishing to contribute resources for this pilot phases are encouraged to do so. The pilot StOR will be presented at the 55th session of the IOC Executive Council in 2022.

ANNEX I

**List of Member States having participated in the survey
on a State of the Ocean Report (CL-2843)**

1. Argentina
2. Australia
3. Brazil
4. Chile
5. Colombia
6. Ecuador
7. Egypt
8. Fiji
9. France
10. Germany
11. Italy
12. Japan
13. Kuwait
14. Malaysia
15. Mexico
16. Morocco
17. Norway
18. Peru
19. Portugal
20. Romania
21. Russian Federation
22. Saudi Arabia
23. United Kingdom
24. United States of America
25. Uruguay

ANNEX 2

**List of experts that participated the
IOC Informal Expert Consultation on a State of the Ocean Report**

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